1.0 CODES AND STANDARDS:

1.1 "2018 North Carolina State Building Code" and "International Building Code", 2015.

1.2 "Minimum Design Loads for Buildings and other Structures" SEI/ASCE 7-10.

1.3 "Building Code Requirements for Structural Concrete (ACI 318-14)" American Concrete Institute 2014.

1.4 "Manual of Standard Practice", Concrete Reinforcing Steel Institute, latest edition.

1.5 "Specification for Structural Steel Buildings (AISC 360-10)" American Institute of Steel Construction, 2011 - 14th Edition

1.6 "Structural Welding Code - Steel (AWS D1.1)" and "Structural Welding Code - Reinforcing Steel (AWS D1.4)", American Welding Society.

1.7 "Building Code Requirements for Masonry Structures", ACI 530-13, ASCE 5-13, TMS 402-13.

1.8 "Standard Specifications for Joist Girders (JG-10)", "Standard Specifications for Open Web Steel Joists, K-Series (k-10)", "Standard Specifications for Long Span Steel Joist, LH Series and Deep Longspan Steel Joists, DLH Series (LH/DLH-1.1)", Steel Joist Institute

1.9 "Design Manual For Floor Decks and Roof Decks", Steel Deck Institute, latest edition.

2.0 DESIGN LOADS:
Project Located in: City of Wilmington, County of New Hanover, State of North Carolina.

2.1 Gravity Loads: (Reduced where allowed)

GRAVITY LOADS		
Location	Uniform (psf)	Concentrated (lbs) (over 2.5'x2.5')
Roof Loads:		
Dead Load	20	
Live Load	20	300
Floor Live Loads:		
Office	81	2000
Assembly	100	
Mechanical & Electrical Rooms	150	
Storage	125	

2.2 Drifting Snow Loads per N.C. Building Code.

Pg = 10 psf
I = 1.0
Ce = 1.0
Ct = 1.0

2.3 Risk Category = II

2.4 Wind Loads per N.C. State Building Codes, 2018 edition (IBC 2015) & ASCE 7-10 (3-second gust)

Main Wind Force Resisting System:
V 146 mph
Exposure Category "B"

Building is enclosed & Internal Pressure coefficient (GCpi) = +0.18 & -0.18
Topographic Factor Kzt = 1.0
Wind Directionality Factor, Kc = 0.85

Calculated Wind Base Shear (For MWFRS)
Vx = N/A Vy = N/A

Components and Cladding:
V 146 mph
Exposure Category "B"

Components and Cladding Wind Pressure (psf)										
Walls	Area < 10ft²		< 20ft²		Area < 50ft²		Area < 100ft²		Area < 500ft²	
Zone 4	38.4	-41.6	36.7	-39.9	34.4	-37.7	32.6	-35.9	28.6	-31.9
Zone 5	38.4	-51.4	36.7	-47.9	34.4	-43.3	32.6	-39.9	28.6	-31.9
Roof	Area < 10ft²		Area < 20ft²		Area < 50ft²		Area < 100ft²		Area < 500ft²	
Zone 1	15.6	-38.4	14.6	-37.4	13.4	-36.1	12.4	-35.1	12.4	-35.1
Zone 2	15.6	-64.4	14.6	-57.6	13.4	-48.5	12.4	-41.6	12.4	-41.6
Zone 3	15.6	-96.9	14.6	-80.3	13.4	-58.3	12.4	-41.6	12.4	-41.6

Notes:
1. Areas noted are effective wind areas as per ASCE 7-10, 26.2 definitions.
2. See figures below for Zone locations.
3. Plus and minus signs signify pressures acting toward and away from surfaces, respectively.
4. Design pressures shown in table are strength design wind pressures. Allowable stress design wind pressures may be calculated by factoring the pressures by 0.6.
5. Design pressures for effective wind areas between those noted in schedule may be interpolated.
6. Tributary area = greater of LxW or LxL/3.
7. Deflections may be calculated based on 42% of these loads.

2.5 Seismic Loads per 2018 North Carolina State Building Code (IBC 2015) & ASCE 7-10

Risk Category = II
Site class = "D" (Per Geotechnical Report)
Spectral Response Coefficients:
SDS = 0.235g
SD1 = 0.148g
Cs = 0.157g

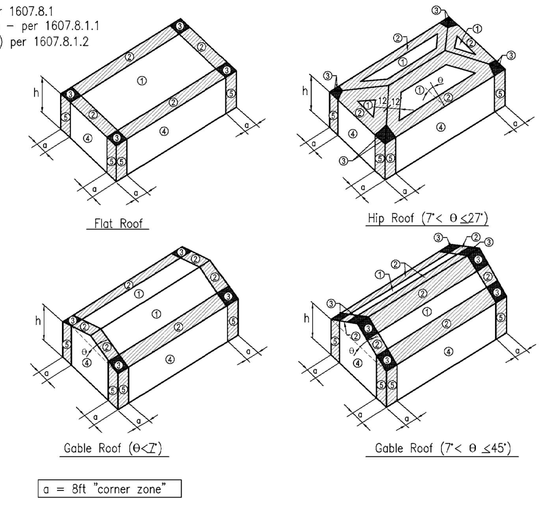
Seismic Design Category = C
Seismic Importance Factor = 1.0
Basic Seismic - Force - Resisting System
Bearing Wall System - Ordinary Plain Masonry Shear Walls

RX=RY=1.5, ΩX=ΩY=2.5, CDX=CDY=1.25
Design Base Shear Vx = NA Vy = NA
Building Height Limit = 160'
Analysis Procedure - 12.6.1 ASCE 7-10
Equivalent Lateral Force Procedure

2.6 Guardrail designed per North Carolina State Building Code, Section 1607.8

Guardrail:
Uniform load = 50 plf, any direction - per 1607.8.1
Concentrated load = 200 lbs, any direction - per 1607.8.1.1
Intermediate Rail: (all those expect handrail) per 1607.8.1.2

2.7 Flood Loads:
Project is not located in a flood zone.



3.0 FOUNDATIONS:

3.1 Foundation design is based on geotechnical report #22:28462 by ECS Southeast, LLP, Wilmington, NC dated October 24, 2019. This report is available for inspection at the office of the architect or owner. The recommendations contained in this report are herein made part of the requirements of these contract documents.

3.2 Footings shall bear on strata capable of sustaining a minimum bearing pressure of 3,000 psf.

3.3 Top of footing (T/FTG) elevations are shown on the drawings or are to be determined by the Contractor in the field in accordance with the guidelines set forth in the drawings.

3.4 Bottom of exterior footings, grade beams and walls shall bear at a minimum depth of 1'-0" below final grade for frost protection.

3.5 Testing and Inspection:
a. All areas to have slabs on grade shall be proof rolled in accordance with and under observation fo the Geotechnical Engineer and approved prior to preparation for concrete placement.
b. All foundation bearing strata shall be inspected and approved by the Geotechnical Engineer prior to any concrete placement.
c. Geotechnical Engineer shall be the sole judge as to suitability of all foundation and/or slab bearing strata.
d. Footing bearing elevations shall be adjusted in the field as required to meet the design bearing pressures by additional excavation or compaction and/or backfilling or by other means acceptable to the Geotechnical Engineer.

3.6 Undercutting to remove existing fill beneath footings and slab shall be performed at the direction of the Geotechnical Engineer.

3.7 Engineered Fill: All fill material shall be selected in accordance with the Geotechnical Report Material shall be a clean, low plastic soil with a plasticity index less than 30 (less than 15 is preferred), liquid limit less than 50, and unit weight of 120 pcf (+ 5 pcf)

3.8 Compaction: All fill shall be placed in loose lifts not exceeding 8 inches in thickness and compacted to a minimum of 96 percent Standard Proctor (ASTM D-698) except that the top 12 inches shall be compacted to a minimum of 98 percent Standard Proctor. Moisture shall be controlled to within 3 percent above or below optimum content.

3.9 Remove all topsoil and organic materials. The stripping should extend at least 10' beyond the proposed construction limits.

3.10 Contractor shall review all construction considerations as outlined in the Geotechnical report and bid accordingly.

4.0 CONCRETE:

4.1 Concrete Strength:
All concrete shall be in accordance with the American Concrete Institute (ACI) 301 and 318.

4.2 Concrete shall have a 28 day compressive strength and density as follows:
a. Footings, Grade Beams, and Stem Walls.....3,000psi, Density = ±145pcf
b. Interior and Exterior Slab on Grade.....4,000psi, Density = ±145pcf
c. CMU Grout Fill.....3,000psi pea gravel mix, Density = ±145pcf, Slump 8"-11" or grout per Structural Masonry Notes, this sheet.

4.3 Concrete Mix Designs:
a. Submittals: Submit written reports of each proposed concrete mix not less than 15 days prior to the start of work.
b. Mix designs, including water, cement ratios and slumps, shall be prepared in accordance with ACI 301-05, Section 4, Cement shall conform to ASTM C 150 Type 1 or at contractor's option, ASTM C 595 Type IP where fly ash is permitted. Normal weight aggregate shall conform to ASTM C 33 and light weight aggregate shall conform to ASTM C 330. No admixtures containing calcium chloride shall be permitted in any concrete.
c. Aggregate size shall be #67 stone for supported slabs or other formed concrete elements; #57 stone for slabs on grade and footings or other concrete elements formed from and poured against earth; #89 stone for masonry grout.
d. Water reducing admixture shall be used in all concrete.
e. Air entraining admixture in accordance with ACI 301 shall be used in all concrete exposed freezing and thawing during construction or service conditions.
f. Concrete subjected to freezing/thawing shall have a maximum water/cement ratio of 0.45 and shall contain the amount of air entraining agent specified in ACI 301-05 Section 4.

4.4 Curing:
See specifications for curing method options and apply within two (2) hours after completion of finishing to all concrete flatwork and walls, U.N.O., other than footings and grade beams.

4.5 Use a non-corrosive, non-chloride accelerating admixture in concrete exposed to temperatures below 40 degrees. Uniformly heat the water and aggregates to a temperature of not less than 50 degrees. Place and cure concrete in accordance with ACI 306.

4.6 When hot weather conditions exist, place and cure concrete in accordance with ACI 301. Cool ingredients before mixing to maintain concrete temp. at time of placement below 90 degrees.

4.7 Reinforcing in all abutting concrete, including footings shall be continuous through or around all corners or intersections. Dowels or splices shall be equal in size and spacing to the reinforcing in the abutting members.

4.8 Refer to architectural drawings for door and window openings, drips, reglets, washes, masonry anchors, brick ledge elevations, slab depressions and miscellaneous embedded plates, bolts, anchors, angles, etc.

4.9 Refer to plumbing, mechanical and electrical drawings for underfloor, perimeter and other drains and for sleeves, outlet boxes, conduit, anchors, etc. The various trades are responsible for their items.

4.10 Base plates, anchor rods, support angles and other steel exposed to earth or granular fill shall be covered with a minimum of 3" of concrete.

4.11 Fill slabs, not shown on the structural drawings, shall be reinforced with a minimum of 3.0 lbs/yd³ of synthetic macro-fibers - see plan notes, unless noted otherwise on other drawings.

4.12 Finish surfaces to the following tolerances, according to ASTM E 1155, for a randomly trafficked floor surface:
a. Specified overall values of flatness, F(F) 25; and of levelness, F(L) 20; with minimum local values equal to ⅔ of the overall flatness and levelness values.
b. The composite F(F) and F(L) numbers shall be measured and reported within 72 hours after completion of slab concrete finishing operations and before removal of any supporting shores.

4.13 Non-shrink grout shall be pre-mixed, non-corrosive, non-metallic, non-staining containing silica sands, Portland cement, shrinkage compensating and water reducing agents. Product shall only require the addition of water. Minimum compressive strength shall be 2500 psi after one day and 7000 psi after 28 days. Grout shall be free of gas producing or air releasing and oxidizing agents and contain no corrosive iron, aluminum or gypsum.

4.14 Provide concrete grout - not mortar - for reinforced masonry lintel and bond beams where indicated on drawing or as scheduled.

4.15 Tolerance for anchor rods and other embedded items shall be per the AISC Code of Standard Practice Section 7.5.

4.16 Unless otherwise shown in the architectural drawings, provide 3/4-inch chamfers at all column, wall, slab or beam edges that are exposed to view in the finished structure.

4.17 Concrete cover for cast-in-place concrete reinforcement:
Concrete cast against & permanently exposed to earth:.....3 Inches
Concrete exposed to earth or weather:
No. 6 through No. 18 Bars:.....2 Inches
No. 5 Bar and smaller:.....1½" Inches
Concrete not exposed to weather or in contact with ground:
Slabs, Walls, Joists:
No. 11 Bar and smaller:.....¾" Inches
Beams, Columns:
Primary Reinforcement, Ties, Stirrups:.....1½" Inches

5.0 REINFORCING STEEL:

5.1 Reinforcing shall be domestic new billet steel conforming to ASTM A615, Grade 60 or 60S including stirrups and ties, except that reinforcing which is required to be welded shall conform to ASTM A706.

5.2 Field bending of concrete reinforcing steel is not permitted.

5.3 Welded wire mat and fabric shall conform to ASTM A184 and A185 respectively and shall be provided in flat sheets. Welded wire mat/fabric shall be lapped 0'-6" at all splices.

5.4 Bar Splices:

	f'c = 3,000psi		f'c = 4,000psi		f'c = 5,000psi	
Bar Size	Ld (in)	Class "B" Lap Splice (in)	Ld (in)	Class "B" Lap Splice (in)	Ld (in)	Class "B" Lap Splice (in)
#3	17	22	15	19	13	17
#4	22	29	19	25	17	23
#5	28	36	24	31	22	28
#6	33	43	29	37	26	34
#7	48	63	42	54	38	49
#8	55	72	48	62	43	56

1. Values are based on normal weight concrete.
2. Ld = minimum embed of rebar
3. Class "B" lap splice refers to minimum distance bars must be lapped for a full tension splice.

6.0 STEEL JOISTS:

6.1 All steel joists shall be designed, fabricated, and erected in accordance with the SJI Specifications.

6.2 Joist ends shall be fixed and bridging shall be placed prior to application of any loads.

6.3 End Support:
a. Minimum bearing requirements shall be in accordance with the SJI Specification. Extended joist ends for bearing on masonry shall be provided by the joist manufacturer where required to accommodate bearing conditions shown on the drawings.
b. K Series joists shall be welded to supports with 1/8" fillet welds, one each side, 2" long.
c. Bolt joists as indicated below to structural steel supports at column centerlines or where joists do not space on centerlines, bolt connections for each joist adjacent to centerline. K Series: 2 @ 1/2-inch diameter bolts (minimum)

6.4 Joist bridging:
a. Shall be placed in accordance with the SJI Specification U.N.O. and shall be horizontal rods or angles at top & bottom chords for all K Series joists.
b. Bridging that terminates at or is interrupted by structural steel members, shall be welded or bolted thereto. Provide diagonal ("X") bridging for ends of bridging lines terminating at walls/beams.

6.5 Holes in joist chords are not permitted, except at bearing and bolted connections.

6.6 All joists (40) forty feet and longer shall require a row of bolted bridging to be in place before slackening of hoisting lines.

7.0 STRUCTURAL STEEL:

7.1 All structural steel shall be of the grades indicated below, unless noted otherwise on plans or details.
Rolled shapes ASTM A992 Gr. 50
Steel pipe ASTM A53, Type E or S, Grade B, Fy-35ksi
Structural tubing ASTM A500, Grade B, Fy-46ksi
Plates and bars ASTM A36 U.N.O.
Anchor rods ASTM F1554, Grade 36 U.N.O.
Miscellaneous ASTM A36 U.N.O.

7.2 All structural steel shall be detailed, fabricated and erected in accordance with the AISC Code of Standard Practice. The fabricator is responsible for the design of connections not shown on the structural drawings. For the purpose of the connection design, the fabricator shall retain a professional engineer registered in the state where the project is located. The engineer shall seal and sign each shop drawing containing connection design. A note shall accompany the drawings stating that the seal is for "Connection Design Only".

7.3 Connection Design:
a. Generally, connections shown on the drawings are schematic and are intended to show the relationship of the members.
b. Connections shall be designed for one-half (1/2) the allowable uniform load on the member, as defined in Part 3, "Allowable Loads on Beams" tables in the AISC "Manual of Steel Construction", 14th Edition, See plan notes for design methodology and minimum reactions.

7.4 Bolted connections:
a. Bearing type connections shall be snug tight with A325N or A490N bolts, U.N.O. Oversized and long-slotted holes are NOT permitted U.N.O. At single shear plate connections, provide bearing type fasteners with horizontal short slotted holes. All bolts shall be snug tight. DO NOT over torque bolts.
b. Protruding bolt heads, shafts or nuts shall not extend nor prohibit the application of architectural finishes or placement of steel deck at its correct location and elevation.
c. Connection Designer is responsible for verifying the axial capacity after a section is reduced for bolt holes. Member size may be increased or plates added to maintain required capacity.
d. Bolted connections shall be assembled and inspected in accordance with RCSC-2009 (Specification for Structural Joints Using High-Strength Bolts).

7.5 Welded connections:
a. All welding shall be in accordance with the "Structural Welding Code - Steel" (AWS D1.1) of the American Welding Society, Latest Edition.
b. Electrodes for welding shall comply with the requirements of Table 4.1.1 of the AWS code.
c. At Moment Connections and Braced Frames Provide filler Metal that has a minimum CVN Toughness of 20 ft-lbs at minus 20 degrees F, As determined by AWS classification or Manufacturer Certification.
d. Proof of welder certification shall be available at the job site during times of inspection.

7.6 Minimum plate thickness shall be 3/8" U.N.O.; minimum bolt diameter shall be 3/4-inch U.N.O.; minimum shop weld shall be 3/16" and minimum field weld shall be 1/4-inch U.N.O.

7.7 All re-entrant corners (such as copes and blocks) shall be cut and shaped notch free with c radius of at least 1/2-inch.

8.0 STEEL DECK:

8.1 Steel roof deck shall be galvanized, Type B, 1 1/2" deep, 20 gauge, U.N.O.
Steel roof deck shall be galvanized, Type N, 3" deep, 18 gauge, U.N.O.

8.2 For steel roof deck spans, mechanically fasten side laps at mid-span using "Buildex", self-topping TEKS No. 10 or larger machine screws or as noted on plan.
Provide additional sidelap fasteners where noted on plan.
Fasten roof deck to supporting members as noted on plan.

8.3 Do not hang pipes or ducts from steel roof deck. Fasten roof deck to supporting members as noted on plan.

9.0 PRE-ENGINEERED METAL BUILDING (PEMB):

9.1 Design the building system(s) in accordance with the 2018 North Carolina state building code.

9.2 Design the roof system(s) for the live loads or snow loads (whichever is greater) indicated and a collateral load of 3 psf in addition to the roof dead loads (including roof- and ceiling-mounted equipment, such as A.V. loads, lighting, stage equipment, etc.), wind loads, and seismic loads.

9.3 Load combinations shall be in accordance with ASCE 7-10 unless the MBMA Metal Building Systems Manual (2006) load combinations are more stringent.

9.4 Design the building system(s) with hinged/pinned column bases.

9.5 Building Lateral deflections/racking/drift limits shall be in accordance with "Serviceability Considerations" summary tables contained in AISC Steel Design Guide Series 3 "Serviceability Design Considerations for Low Rise Buildings" (1990). Frame drift shall be limited to max H/60. Deflection limits shall not exceed deflection tolerances of equipment supported by the building.

9.6 Design and provide structural members for the support of HVAC units, ducts, fans, piping, electrical components, supported partitions, etc.

9.7 Submit final calculations sealed by the PEMB Structural Engineer. Final calculations shall include the combined maximum reaction for each column (i.e. the maximum reaction determined by the controlling load combination).

10.0 CONSTRUCTION AND SAFETY:

10.1 Woods Engineering P.A.'s responsibility is limited to the details and information shown on these drawings. It is the responsibility of the Contractor to provide adequate safety measures required by local codes as well as OSHA Standards for the Construction Industry.
This should include, but not be limited to the following:
Shoring to protect new as well as existing structures.
Necessary Scaffolding.
Material Handling Equipment.
Trench Boxing.

ABBREVIATIONS

@	AT	HT	HIP TRUSS
&	AND	IFM	INSIDE FACE OF MASONRY
AB	ANCHOR BOLTS	INT	INTERIOR
ACI	AMERICAN CONCRETE INSTITUTE	JBE	JOIST BEARING ELEVATION
ADDL	ADDITIONAL	JT	JOINT
AFF	ABOVE FINISHED FLOOR	K	KIP-S
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	KB	KICKER BRACE
AISI	AMERICAN IRON AND STEEL INSTITUTE	KSI	KIPS PER SQUARE INCH
ALT	ALTERNATE	(L)	LONG SIDE REINFORCEMENT
ARCH	ARCHITECTS - ARCHITECTURAL	LB	LONG BAR
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	LBS	POUNDS
AWS	AMERICAN WELDING SOCIETY	LLH	LONG LEG HORIZONTAL
B, BOTT	BOTTOM	LLV	LONG LEG VERTICAL
BCX	BOTTOM CHORD EXTENSION	LO	LOW
BFF	BELOW FINISHED FLOOR	LOC	LOCATION
BLDG	BUILDING	LWC	LIGHT WEIGHT CONCRETE
BM	BEAM	MAX	MAXIMUM
BOS	BOTTOM OF STEEL	MC	MOMENT CONNECTION
BRG	BEARING	MECH	MECHANICAL
BTWN	BETWEEN	MFR	MANUFACTURER
CFS	COLD FORMED STEEL	MID	MIDDLE
CJ	CONTRACTION JOINT	MIN	MINIMUM
CL	CENTERLINE	MISC	MISCELLANEOUS
CLR	CLEAR	MOW	MIDDLE OF WALL
CMU	CONCRETE MASONRY UNITS	MP	MASONRY PILASTER
COL	COLUMN	d	NAILS - PENNY
CONC	CONCRETE	No	NUMBER
CONN	CONNECTION	NS	NEAR SIDE
CONST JT	CONSTRUCTION JOINT	NTS	NOT TO SCALE
CONT	CONTINUOUS	NWC	NORMAL WEIGHT CONCRETE
CONTR	CONTRACTOR	OC	ON CENTER
CSJ	COMPOSITE STEEL JOIST	OFB	OUTSIDE FACE OF BRICK
CTRD	CENTERED	OFM	OUTSIDE FACE OF MASONRY
DBA	DEFORMED BAR ANCHOR	OFS	OUTSIDE FACE OF STUD
DD	DELEGATED DESIGN	OPNG	OPENING
DEFL	DEFLECTION	OPP	OPPOSITE HAND
DEPR	DEPRESSION - DEPRESSED	PEBS	PRE-ENGINEERED BUILDING SUPPLIER
DET	DETAIL	PED	PEDESTAL
DIAG	DIAGONAL	PL	PLATE
ø	DIAMETER	PSF	POUNDS PER SQUARE FOOT
DIM	DIMENSION	PSI	POUNDS PER SQUARE INCH
DIST	DISTANCE	PSL	PARALLEL STRAND LUMBER
DWG(S)	DRAWING(S)	PLF	POUNDS PER LINEAR FOOT
DWL(S)	DOWEL(S)	PT	PRESSURE TREATED
EA	EACH	REF	REFERENCE
ELEV	ELEVATION	REINF	REINFORCING
EMBED	EMBEDDED - EMBEDMENT	REQD	REQUIRED
ENG	ENGINEER	(S)	SHORT SIDE REINFORCEMENT
EOR	ENGINEER OF RECORD	SB	SHORT BAR
EQ	EQUAL	SCHD	SCHEDULE
EQUIP	EQUIPMENT	SF	STEP FOOTING
EF	EACH FACE	SIM	SIMILAR
EJ	EXPANSION JOINT	SOG	SLAB ON GRADE
EOD	EDGE OF DECK	SPEC(S)	SPECIFICATION(S)
EOM	EDGE OF MASONRY	SPF	SPRUCE PINE FUR
EOS	EDGE OF SLAB	SQ	SQUARE
EOW	EDGE OF WALL	STD	STANDARD
EW	EACH WAY	STIFF	STIFFENER
EXIST	EXISTING	STIRR	STIRRUP
EXP	EXPANSION	STL	STEEL
EXT	EXTERIOR	STR	STRUCTURAL
FDN	FOUNDATION	SW	SHEAR WALL
FFE	FINISHED FLOOR ELEVATION	SYP	SOUTHERN YELLOW PINE
FS	FAR SIDE	T	TOP
FTG	FOOTING	TCX	TOP CHORD EXTENSION
GA	GAUGE	TOC	TOP OF CONCRETE
GALV	GALVANIZED	TOS	TOP OF STEEL
GT	GIRDER TRUSS	TOW	TOP OF WALL
HD	HEADED	TYP	TYPICAL
HI	HIGH	UNO	UNLESS NOTED OTHERWISE
HORIZ	HORIZONTAL	VB	VEHICLE BARRIER
HSS	HOLLOW STRUCTURAL SECTION	VERT	VERTICAL
		VIF	VERIFY IN FIELD
		W	WITH
		WWF	WELDED WIRE FABRIC

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TRU COLORS ROOF REPAIR

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DN: cn=dwoods@woodseng.com, CN="Don R. Woods, PE", O="Woods Engineering, PA", L=Wilmington, S=North Carolina, C=US
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No.	Description	Date

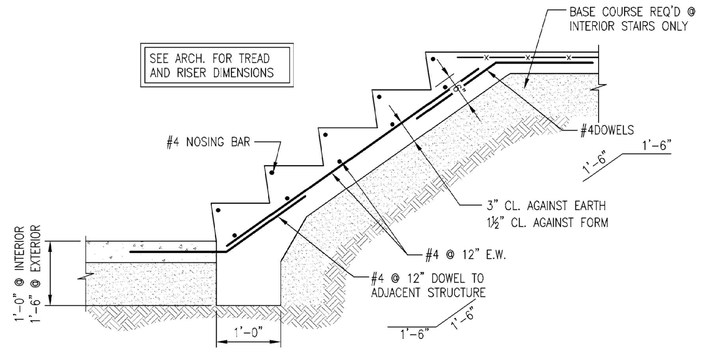
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DATE: 12-10-2019
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GENERAL NOTES & MATERIAL SPECS.

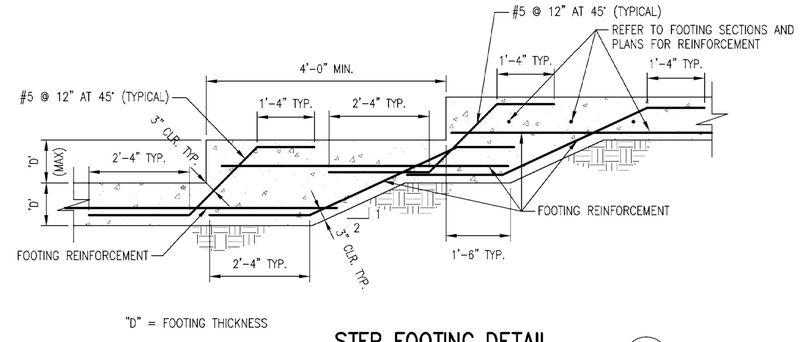
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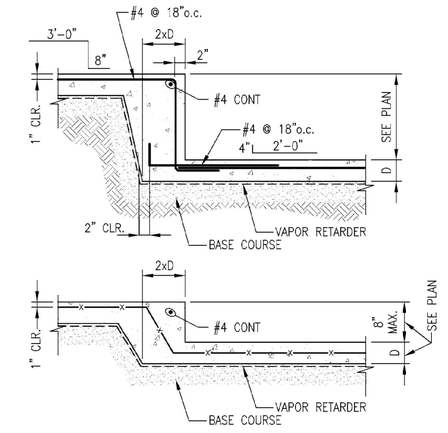


TYPICAL STAIR ON GRADE
SCALE: 3/4" = 1'-0"

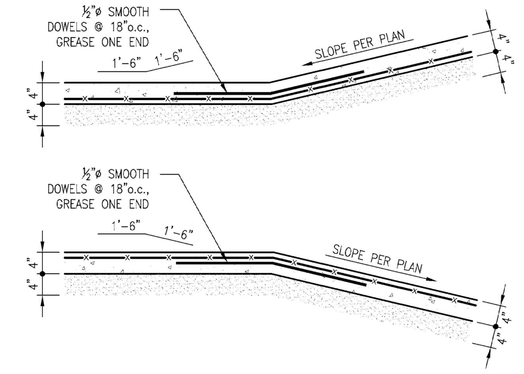


"D" = FOOTING THICKNESS

STEP FOOTING DETAIL
SCALE: 1/2" = 1'-0"

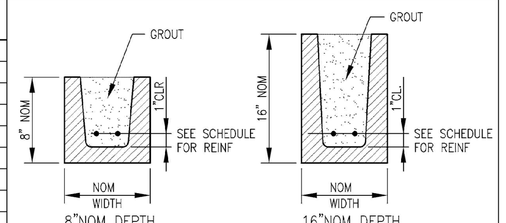


TYPICAL SLAB STEP
SCALE: 3/4" = 1'-0"

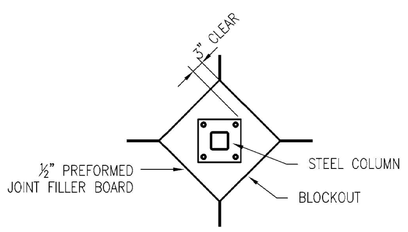


TYPICAL RAMP AT SLAB ON GRADE
SCALE: 3/4" = 1'-0"

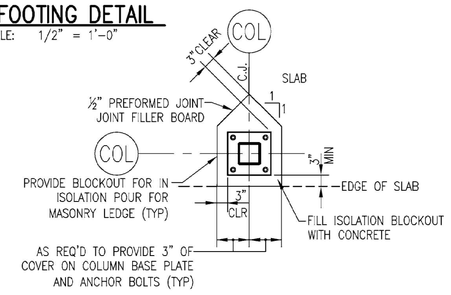
CMU LINTEL SCHEDULE						
CLEAR OPENING	DEPTH	REINFORCING 6" CMU	REINFORCING 8" CMU	REINFORCING 12" CMU	MIN. BRG.
0'-8" TO 3'-4"	8"	1#4	1#4	2#5	8"
3'-4" TO 4'-8"	8"	1#4	1#4	2#5	8"
4'-8" TO 6'-0"	8"	1#4	1#5	2#5	8"
6'-0" TO 8'-0"	8"	1#4	2#5	2#5	8"
8'-0" TO 10'-0"	16"	1#4	2#5	2#5	12"
10'-0" TO 12'-0"	16"	–	–	2#5	12"



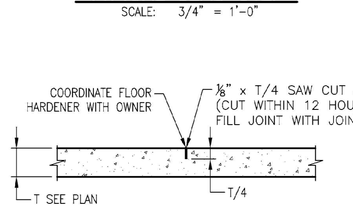
NOTES:
1. BEAR REINFORCING 4" (MIN) EACH END.
2. FILL BLOCK CORES WITH GROUT TO A DEPTH OF 48"(MIN) BELOW LINTEL BEARING.
3. SEE BEAM SCHEDULE FOR LINTELS FOR CLEAR SPANS OVER 12' AND LINTELS SUPPORTING FLOOR OR ROOF LOADS.
4. THESE LINTELS ARE NOT DESIGNED FOR MASONRY WALLS THAT CARRY FLOOR OR ROOF LOAD.



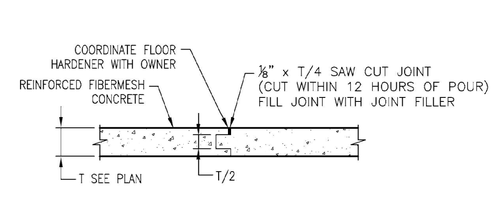
ISOLATION JOINT DETAIL
NOT TO SCALE



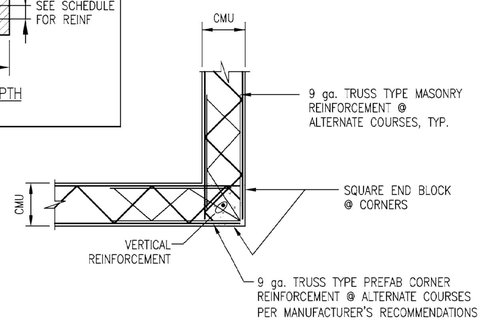
TYPICAL ISOLATION JOINT AT SLAB EDGE
NOT TO SCALE



CONTRACTION JOINT
SCALE: 1" = 1'-0"



CONSTRUCTION JOINT
SCALE: 1" = 1'-0"

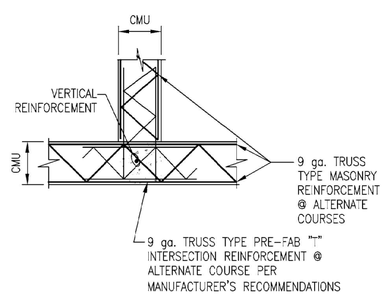


TYPICAL CMU CORNER

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

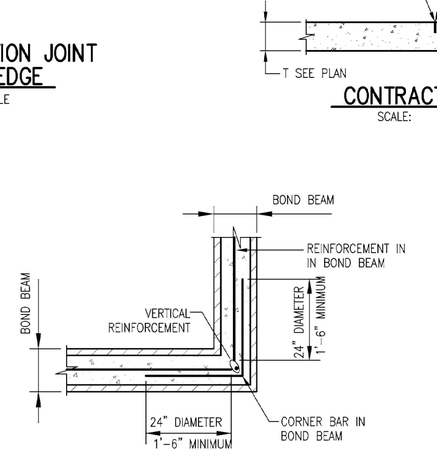
NOTE: COORDINATE CONTROL JOINT LOCATION W/ARCHITECTURAL MAXIMUM SPACING OF 25' OR 3 TIMES THE WALL HT.

DO NOT PROVIDE CONTROL JOINTS IN SHEAR WALLS



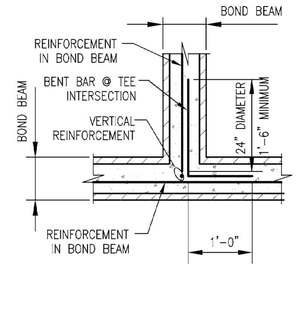
TYPICAL CMU INTERSECTION

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



TYPICAL BOND BEAM REINFORCING

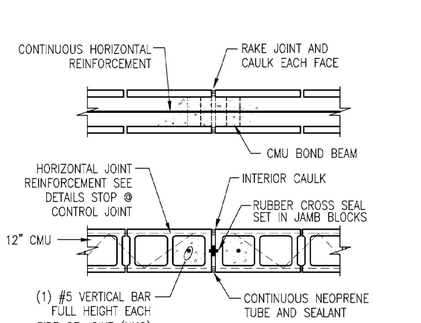
DETAIL "D"
SCALE: 3/4" = 1'-0"



TYPICAL BOND BEAM INTERSECTION REINFORCING

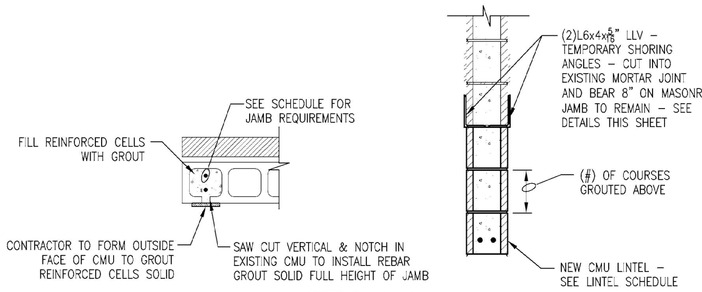
DETAIL "E"
SCALE: 3/4" = 1'-0"

NOTE: TRUSS TYPE REINFORCEMENT SHOWN, HOWEVER LADDER OR TRUSS TYPES ARE ACCEPTABLE.

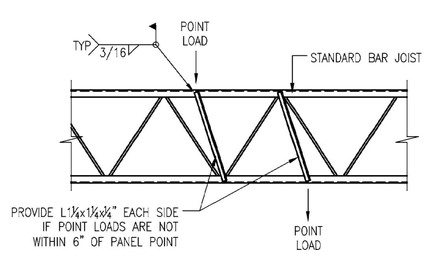


TYPICAL CONTROL JOINT

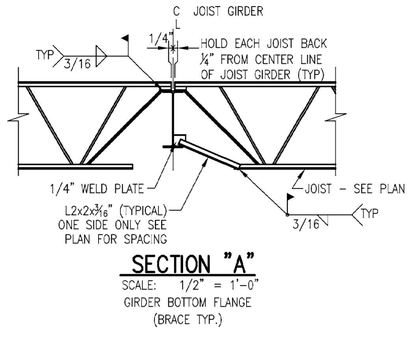
DETAIL "F"
SCALE: 3/4" = 1'-0"



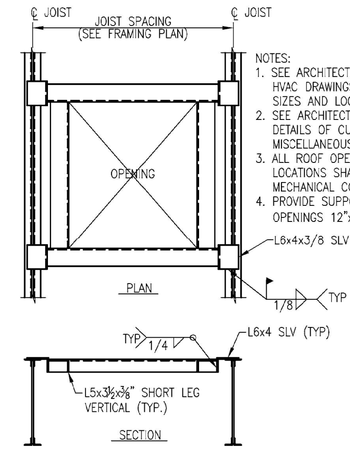
DETAIL A–A
NEW LINTEL IN EXISTING WALL
SCALE: 3/4" = 1'-0"



DETAIL OF TYPICAL JOIST REINFORCEMENT
NOT TO SCALE



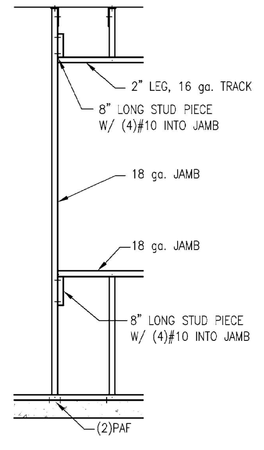
SECTION "A"
SCALE: 1/2" = 1'-0"
GIRDER BOTTOM FLANGE (BRACE TYP.)



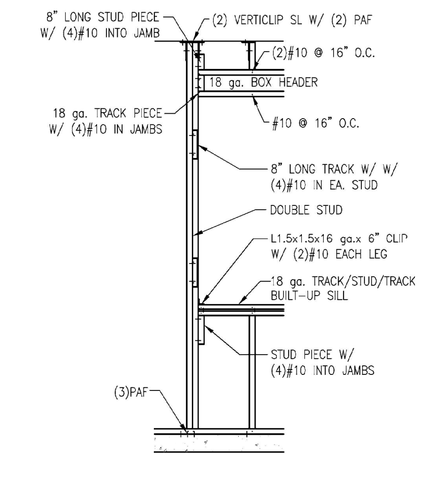
NOTES:
1. SEE ARCHITECTURAL, MECHANICAL AND HVAC DRAWINGS FOR ROOF OPENING SIZES AND LOCATIONS.
2. SEE ARCHITECTURAL DRAWINGS FOR DETAILS OF CURBING AND MISCELLANEOUS STEEL.
3. ALL ROOF OPENING SIZES AND LOCATIONS SHALL BE VERIFIED WITH MECHANICAL CONTRACTOR.
4. PROVIDE SUPPORT FRAMING FOR ROOF OPENINGS 12"x12" AND LARGER.

DETAIL OF TYPICAL ROOF OPENING
NOT TO SCALE

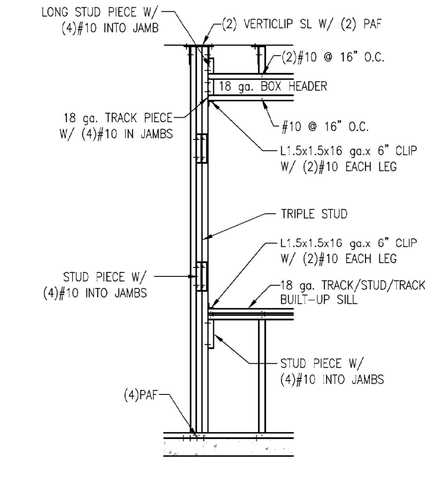
AT CONTRACTOR'S OPTION: USE QUICKFRAMES. WWW.QUICKFRAMES.US



TYPICAL EXTERIOR WALL FRAMING AT WINDOW OPENING UP TO 3'–4"
SCALE: 1/2" = 1'-0"



TYPICAL EXTERIOR WALL FRAMING AT WINDOW OPENING UP TO 6'–4"
SCALE: 1/2" = 1'-0"



TYPICAL EXTERIOR WALL FRAMING AT WINDOW OPENING UP TO 8'–8"
SCALE: 1/2" = 1'-0"

TYPICAL LIGHT GAUGE CONSTRUCTION DETAILS FOR NON–LOAD BEARING EXTERIOR WALLS

NOTE: THESE DETAILS ARE GENERIC AND ARE FOR GENERAL INFORMATION AND BUDGET PRICING. ACTUAL DESIGN BY LIGHT GAUGE SUPPLIER AND ENGINEER.

GENERAL NOTE:
DETAILS SHOWN ON THIS SHEET ARE GENERIC IN NATURE AND MAY NOT PORTRAY EXACT CONDITIONS. THESE DETAILS ARE INTENDED TO PROVIDE GENERAL GUIDELINES FOR TYPICAL CONSTRUCTION CONDITIONS.

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NORTH CAROLINA ENGINEER CORPORATE SEAL No. C-1806 NORTH CAROLINA

NORTH CAROLINA PROFESSIONAL SEAL 19475 ENGINEER DON R. WOODS

Digitally signed by Don R. Woods, PE
DN: c=donwoods@woodseng.com, cN=Don R. Woods, PE", O="Woods Engineering, PA", L=Wilmington, St=North Carolina, C=US
Date: 2019.12.11 16:55:15-05'00'

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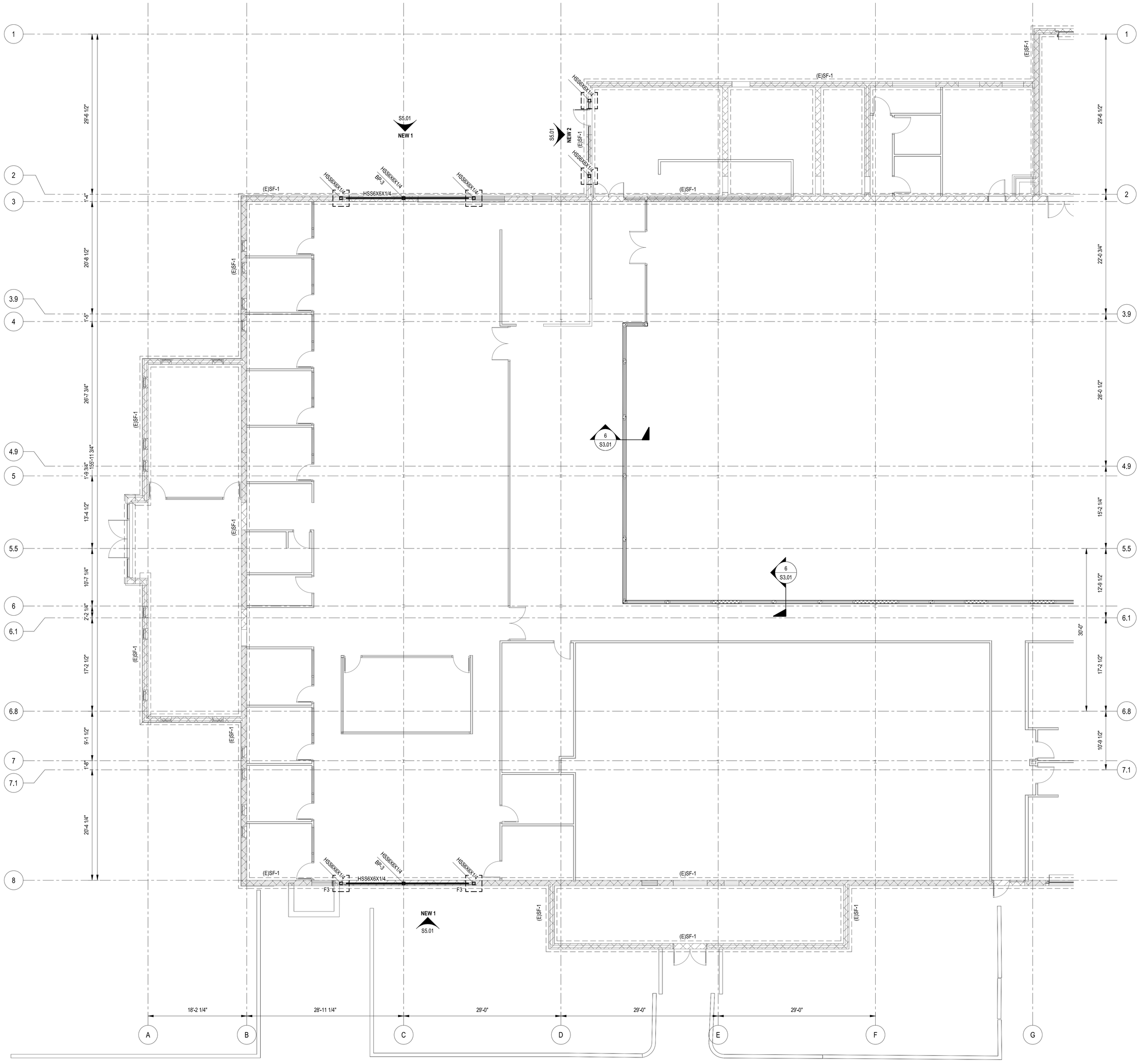
PROJECT: Project Number
DATE: 12-10-2019
DRAWN BY: MBK
CHECKED BY: DW

TYPICAL SECTIONS & DETAILS

S1.02

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LEFT FOUNDATION PLAN

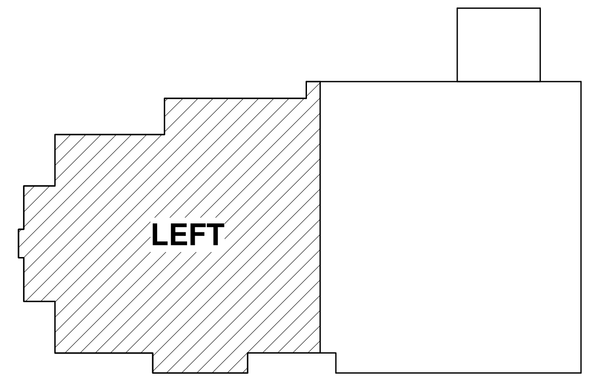
SCALE: 1/8" = 1'-0"

LEGEND - FOUNDATION

- FX — SPREAD FOOTING DESIGNATION SEE SCHEDULE THIS SHEET
- 0 — GRID DESIGNATION FOR CENTERLINE OF COLUMN
- GRID DESIGNATION FOR OUTSIDE FACE OF STUD OR CMU
- EXISTING CMU WALL AND FOOTING
- NEW CMU WALL AND FOOTING

NOTES - FOUNDATION PLAN

1. SEE SHEET S1.01 FOR ADDITIONAL GENERAL NOTES, FOUNDATION NOTES, CONCRETE NOTES, AND REINFORCING STEEL NOTES. ALSO, SEE SHEET S1.03 & S1.04 FOR TYPICAL DETAILS. TYPICAL DETAILS ARE GENERALLY NOT SHOWN ON PLAN BUT RATHER ARE INTENDED TO DEFINE TYPICAL CONSTRUCTION CONDITIONS.
2. DATUM ELEVATION = TOP OF SLAB ELEVATION = +_____" AS SHOWN ON SURVEY BY _____ = ASSUMED 0'-0". OTHER ELEVATIONS ARE NOTED AS (+ OR -) FROM DATUM ELEVATION.
3. TOP OF FOOTINGS SHALL BE (-1'-4") FROM DATUM ELEVATION, U.N.O. ON PLAN AS (+/- X'-X") FROM DATUM ELEVATION.
4. SLAB-ON-GRADE SHALL BE 4" OR 6" THICK (SEE PLAN) 3000 psi CONCRETE WITH 3.0 lbs/yd.^{3} OF SYNTHETIC MACRO-FIBERS (TUF-STRAND SF BY EUCLID, FIBER MAC SERIES BY BASF, FORTA-FERRO BY FORTA CORP, OR APPROVED EQUAL) ON 10 mil VAPOR BARRIER, ON 4" CRUSHED STONE ON WELL COMPACTED SUB GRADE. SEE S1.01 FOUNDATION NOTES FOR COMPACTION REQUIREMENTS, VERIFY COMPACTION w/QUALIFIED GEOTECHNICAL ENGINEER.
5. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER DISCIPLINE DRAWINGS FOR OPENINGS AND DEPRESSIONS NOT SHOWN ON THESE DRAWINGS.
6. G.C. TO COORDINATE STEPS IN FOUNDATION FOR PLUMBING, ELECTRICAL, AND MECHANICAL.
7. PROVIDE STEEL SLEEVE FOR PLUMBING LINES UNDER FOUNDATIONS. SLEEVE SHALL BE 2" LARGER IN DIAMETER THAN PLUMBING LINE AT THAT LOCATION.
8. DIMENSIONS ARE FROM EDGE OF SLAB (E.O.S.) AND OUTSIDE FACE OF STUD (O.F.S.) / CURTAINWALL (O.F.CW.) TO COLUMN CENTERLINE UNLESS NOTED OTHERWISE.



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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19475 DON R. WOODS

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DN: E=donwoods@woodseng.com, CN=Don R. Woods, PE, OU=Woods Engineering, PA*, L=Wilmington, S=North Carolina, C=US
Date: 2019.12.11 16:54:58-05'00'

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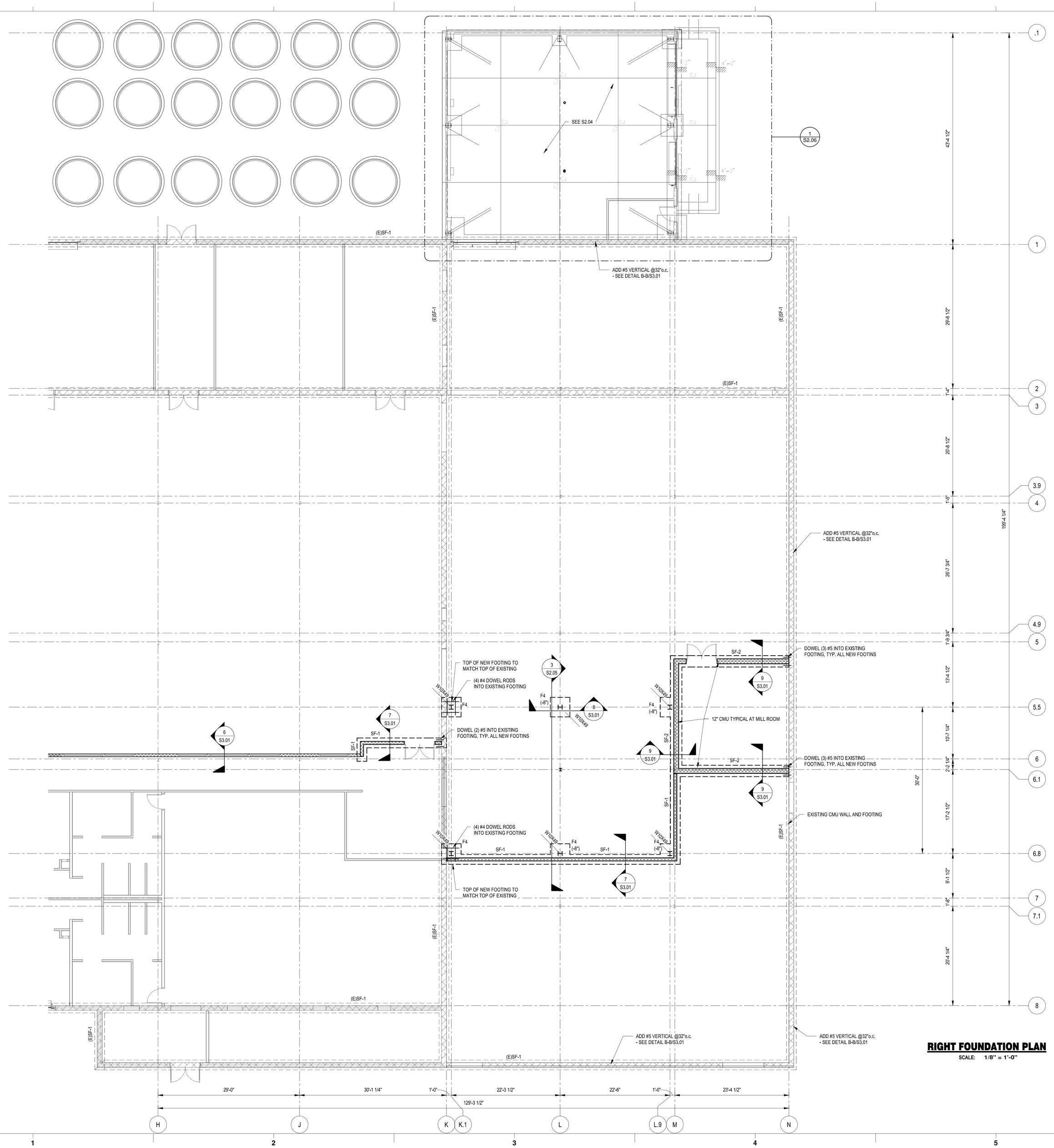
PROJECT: 19-2987
DATE: 12/10/2019
DRAWN BY: Author
CHECKED BY: Checker

SLAB AND FOUNDATION PLAN - LEFT

S2.01

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RIGHT FOUNDATION PLAN

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

LEGEND - FOUNDATION

- FX — SPREAD FOOTING DESIGNATION SEE SCHEDULE THIS SHEET
- 0 — GRID DESIGNATION FOR CENTERLINE OF COLUMN
- GRID DESIGNATION FOR OUTSIDE FACE OF STUD OR CMU
- EXISTING CMU WALL AND FOOTING
- NEW CMU WALL AND FOOTING

NOTES - FOUNDATION PLAN

1. SEE SHEET S1.01 FOR ADDITIONAL GENERAL NOTES, FOUNDATION NOTES, CONCRETE NOTES, AND REINFORCING STEEL NOTES. ALSO, SEE SHEET S1.03 & S1.04 FOR TYPICAL DETAILS. TYPICAL DETAILS ARE GENERALLY NOT SHOWN ON PLAN BUT RATHER ARE INTENDED TO DEFINE TYPICAL CONSTRUCTION CONDITIONS.
2. DATUM ELEVATION = TOP OF SLAB ELEVATION = +_____" AS SHOWN ON SURVEY BY _____ = ASSUMED 0'-0". OTHER ELEVATIONS ARE NOTED AS (+ OR -) FROM DATUM ELEVATION.
3. TOP OF FOOTINGS SHALL BE (-1'-4") FROM DATUM ELEVATION, U.N.O. ON PLAN AS (+/- X'-X") FROM DATUM ELEVATION.
4. SLAB-ON-GRADE SHALL BE 4" OR 6" THICK (SEE PLAN) 3000 psi CONCRETE WITH 3.0 lbs/yd.³ OF SYNTHETIC MACRO-FIBERS (TUF-STRAND SF BY EUCLID, FIBER MAC SERIES BY BASF, FORTA-FERRO BY FORTA CORP. OR APPROVED EQUAL) ON 10 mil VAPOR BARRIER, ON 4" CRUSHED STONE ON WELL COMPACTED SUB GRADE. SEE S1.01 FOUNDATION NOTES FOR COMPACTION REQUIREMENTS, VERIFY COMPACTION w/QUALIFIED GEOTECHNICAL ENGINEER.
5. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER DISCIPLINE DRAWINGS FOR OPENINGS AND DEPRESSIONS NOT SHOWN ON THESE DRAWINGS.
6. G.C. TO COORDINATE STEPS IN FOUNDATION FOR PLUMBING, ELECTRICAL, AND MECHANICAL.
7. PROVIDE STEEL SLEEVE FOR PLUMBING LINES UNDER FOUNDATIONS. SLEEVE SHALL BE 2" LARGER IN DIAMETER THAN PLUMBING LINE AT THAT LOCATION.
8. DIMENSIONS ARE FROM EDGE OF SLAB (E.O.S.) AND OUTSIDE FACE OF STUD (O.F.S.) / CURTAINWALL (O.F.CW.) TO COLUMN CENTERLINE UNLESS NOTED OTHERWISE.

SPREAD FOOTING (Fx) SCHEDULE

MARK	WIDTH x LENGTH x THICKNESS	REINFORCEMENT		COMMENTS
		TOP BARS EACH WAY (U.N.O.)	BOTTOM BARS EACH WAY (U.N.O.)	
F4	4'-0" x 4'-0" x 1'-0"	(4) #4	(4) #5	

STRIP FOOTING (SF-x) SCHEDULE

MARK	WIDTH x THICKNESS x LENGTH	REINFORCEMENT		COMMENTS
		TOP BARS	BOTTOM BARS	
SF-1	2'-0" x 1'-0" x CONT.	(2) #5	(2) #5	
SF-2	2'-4" x 1'-0" x CONT.	(3) #5	(3) #5	

RIGHT

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NORTH CAROLINA PROFESSIONAL SEAL 19475 ENGINEER DON R. WOODS

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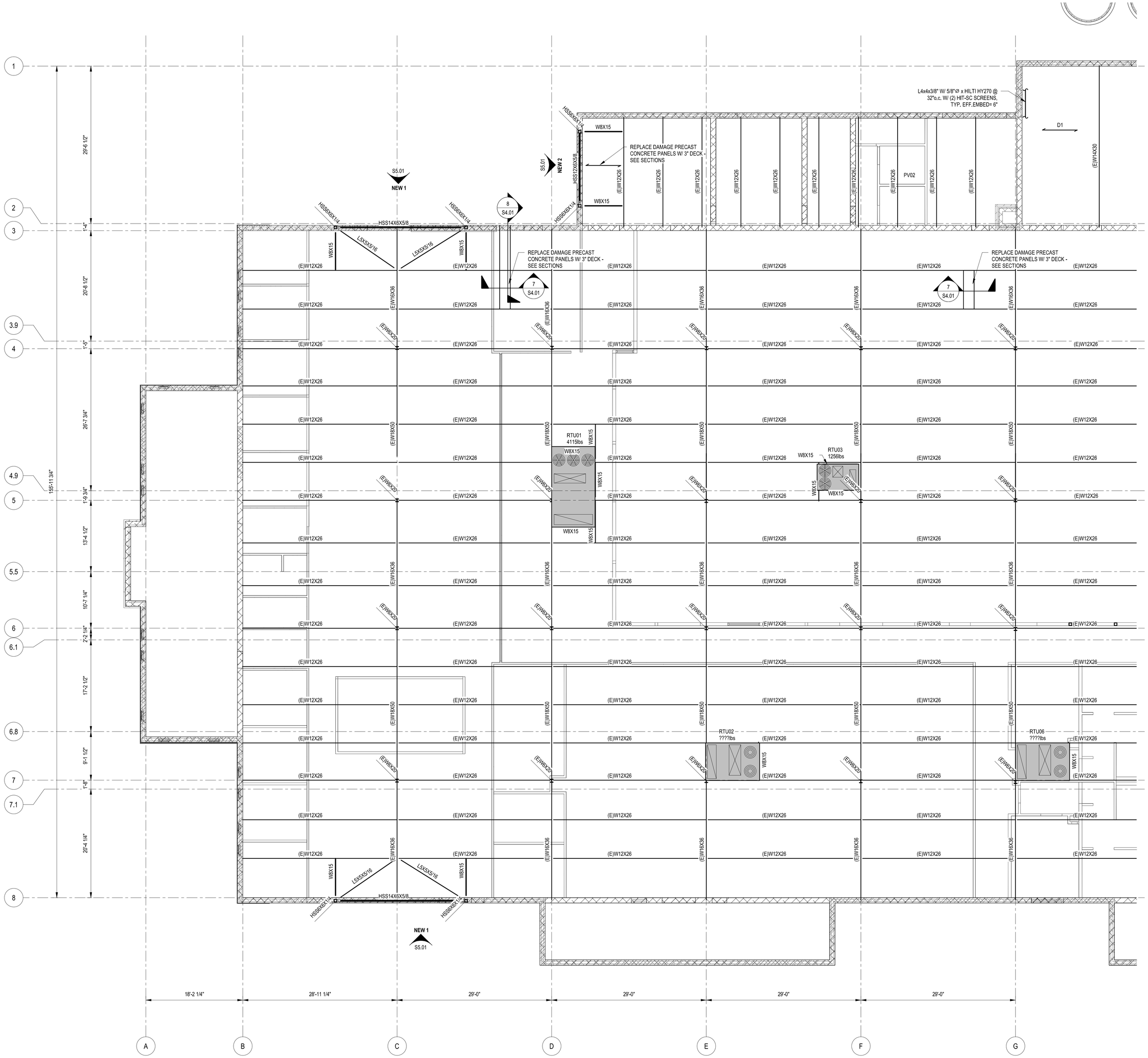
PROJECT: 19-2987
DATE: 12/10/2019
DRAWN BY: MBK
CHECKED BY: DW

SLAB AND FOUNDATION PLAN - RIGHT

S2.02

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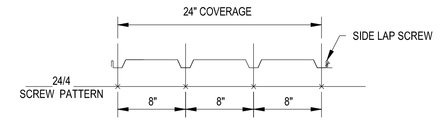


LEGEND - ROOF FRAMING

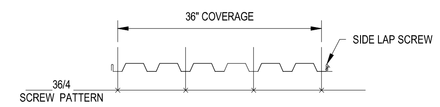
- INDICATES 12" CMU
- HSS #x#x# — INDICATES STEEL COLUMN, SEE S3.0X FOR BASE PLATE
- 0 — GRID DESIGNATION FOR CENTERLINE OF COLUMN
- GRID DESIGNATION FOR OUTSIDE FACE OF STUD OR CMU
- W_x_ — STEEL BEAM, SEE PLAN FOR SIZE AND LCOATION
- (E)W_x_ — EXISTING STEEL BEAM TO REMAIN
- STEEL BAR JOIST, SEE PLAN FOR SIZE AND LOCATION
- KB — JL 3x3x5/8" KICKER BRACE
- BFB — L2x2X5/16"
- D1 - SEE ROOF FRAMING NOTE #3
- D2 - SEE ROOF FRAMING NOTE #4
- EXISTING CMU WALL
- NEW CMU WALL

NOTES - ROOF FRAMING

1. ALL NEW TOP OF STEEL ELEVATIONS SHALL MATCH EXISTING. FIELD VERIFY EXACT DIMENSIONS PRIOR TO STEEL FABRICATION.
2. SEE SHEET S1.01 FOR GENERAL STEEL, JOIST, DECK AND LIGHT GAUGE FRAMING NOTES.
3. TYPICAL D1 ROOF DECK IS 3" DEEP, 18 ga., GALVANIZED, TYPE 'N' METAL ROOF DECK (U.N.O.), SEE PLAN FOR LOCATIONS.
   METAL ROOF DECK SHALL BE ATTACHED TO SUPPORTING MEMBERS WITH HILTI X-HSN24 PAFs IN A 24/4 PATTERN. PROVIDE (8) HILTI SLC SIDELAP SCREW PER SPAN, U.N.O. ON PLAN.



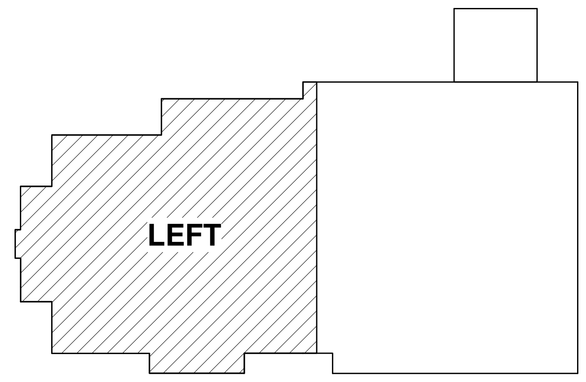
4. TYPICAL D2 ROOF DECK IS 1 1/2" DEEP, 20 ga., GALVANIZED, TYPE 'B' METAL ROOF DECK (U.N.O.), SEE PLAN FOR LOCATIONS.
   METAL ROOF DECK SHALL BE ATTACHED TO SUPPORTING MEMBERS WITH HILTI X-HSN24 PAFs IN A 36/4 PATTERN. PROVIDE (8) HILTI SLC SIDELAP SCREW PER SPAN, U.N.O. ON PLAN.



5. SHORE EXISTING ROOF GIRDER, CUT AND REMOVE STEEL FROM NOTED AREA, INSTALL NEW FOOTINGS AND COLUMNS, THEN RECONNECT EXISTING GIRDER TO NEW COLUMN.
6. NEW STEEL COLUMN CONNECTION TO LOW ROOF TBD.

LEFT ROOF FRAMING PLAN

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



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NORTH CAROLINA PROFESSIONAL ENGINEER CORPORATE SEAL No. C-1806

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19475 DON R. WOODS

Digitally signed by Don R. Woods, PE
DN: E=donrwoods@woodseng.com, CN=Don R. Woods, PE, O=Woods Engineering, PA*, L=Wilmington, S=North Carolina, C=US
Date: 2019.12.11 16:54:27-05'00'

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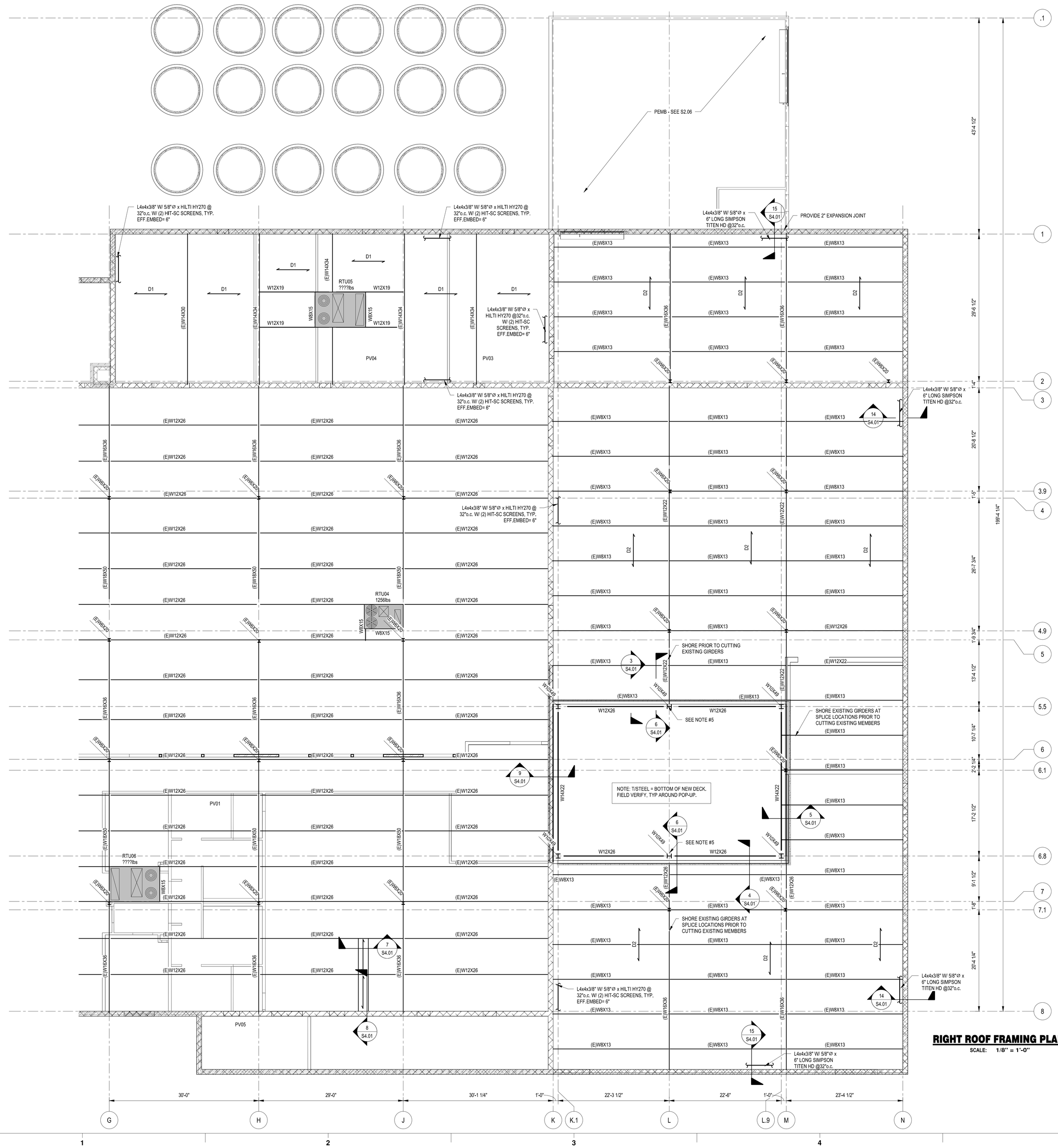
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DATE: 12/10/2019
DRAWN BY: MBK
CHECKED BY: DW

ROOF FRAMING PLAN - LEFT

S2.03

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RIGHT ROOF FRAMING PLAN

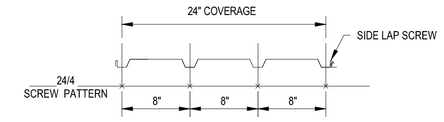
SCALE: 1/8" = 1'-0"

LEGEND - ROOF FRAMING

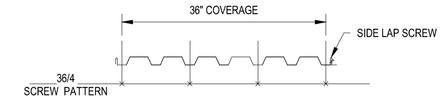
- INDICATES 12" CMU
- HSS 8x8x1/4 — INDICATES STEEL COLUMN, SEE S3.0X FOR BASE PLATE
- 0 — GRID DESIGNATION FOR CENTERLINE OF COLUMN
- GRID DESIGNATION FOR OUTSIDE FACE OF STUD OR CMU
- W_x_ — STEEL BEAM, SEE PLAN FOR SIZE AND LOCATION
- (E)W_x_ — EXISTING STEEL BEAM TO REMAIN
- STEEL BAR JOIST, SEE PLAN FOR SIZE AND LOCATION
- KB — JL 3x3x5/16" KICKER BRACE
- BFB — L2x2X5/16"
- EXISTING CMU WALL
- NEW CMU WALL

NOTES - ROOF FRAMING

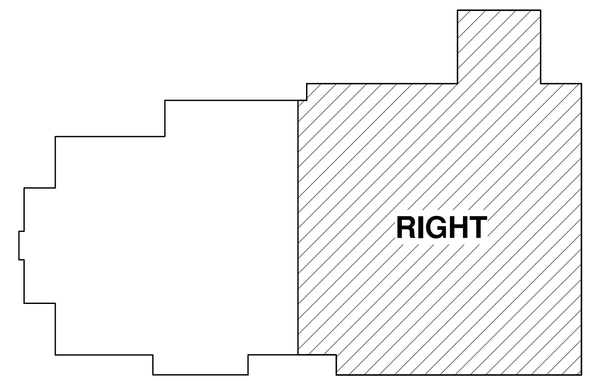
1. ALL NEW TOP OF STEEL ELEVATIONS SHALL MATCH EXISTING. FIELD VERIFY EXACT DIMENSIONS PRIOR TO STEEL FABRICATION.
2. SEE SHEET S1.01 FOR GENERAL STEEL, JOIST, DECK AND LIGHT GAUGE FRAMING NOTES.
3. TYPICAL D1 ROOF DECK IS 3" DEEP, 18 ga., GALVANIZED, TYPE 'N' METAL ROOF DECK (U.N.O.), SEE PLAN FOR LOCATIONS.
   METAL ROOF DECK SHALL BE ATTACHED TO SUPPORTING MEMBERS WITH HILTI X-HSN24 PAFs IN A 24/4 PATTERN. PROVIDE (8) HILTI SLC SIDELAP SCREW PER SPAN, U.N.O. ON PLAN.



4. TYPICAL D2 ROOF DECK IS 1 1/2" DEEP, 20 ga., GALVANIZED, TYPE 'B' METAL ROOF DECK (U.N.O.). SEE PLAN FOR LOCATIONS.
   METAL ROOF DECK SHALL BE ATTACHED TO SUPPORTING MEMBERS WITH HILTI X-HSN24 PAFs IN A 36/4 PATTERN. PROVIDE (8) HILTI SLC SIDELAP SCREW PER SPAN, U.N.O. ON PLAN.



5. SHORE EXISTING ROOF GIRDER, CUT AND REMOVE STEEL FROM NOTED AREA, INSTALL NEW FOOTINGS AND COLUMNS, THEN RECONNECT EXISTING GIRDER TO NEW COLUMN.



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NORTH CAROLINA PROFESSIONAL SEAL 19475 ENGINEER DON R. WOODS

Digitally signed by Don R. Woods, P.E.
DN: cn=donwoods@woodseng.com, C=US, O="Don R. Woods, PE", OU="Woods Engineering, PA", L=Wilmington, S=North Carolina, C=US
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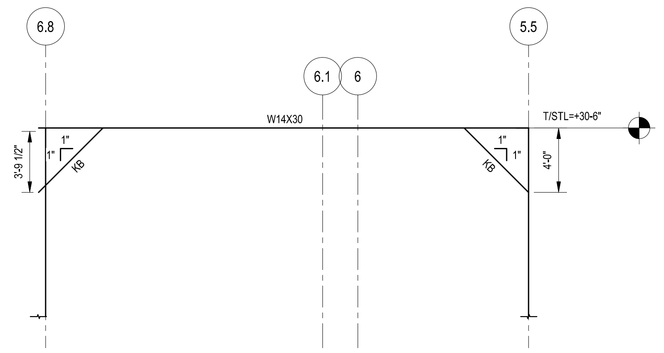
PROJECT: 19-2987
DATE: 12/10/2019
DRAWN BY: MBK
CHECKED BY: DW

ROOF FRAMING PLAN - RIGHT

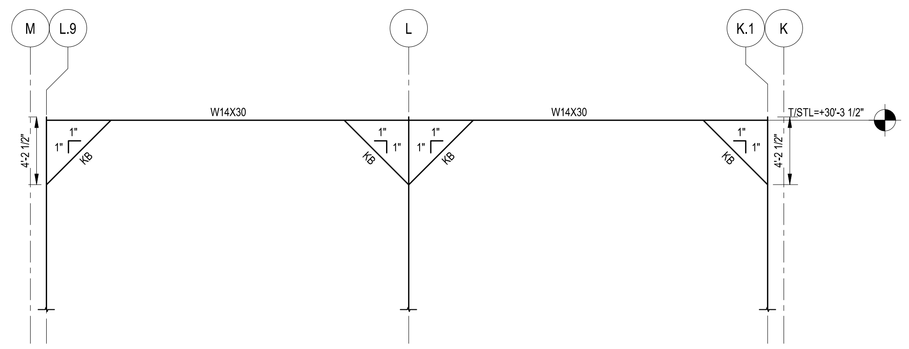
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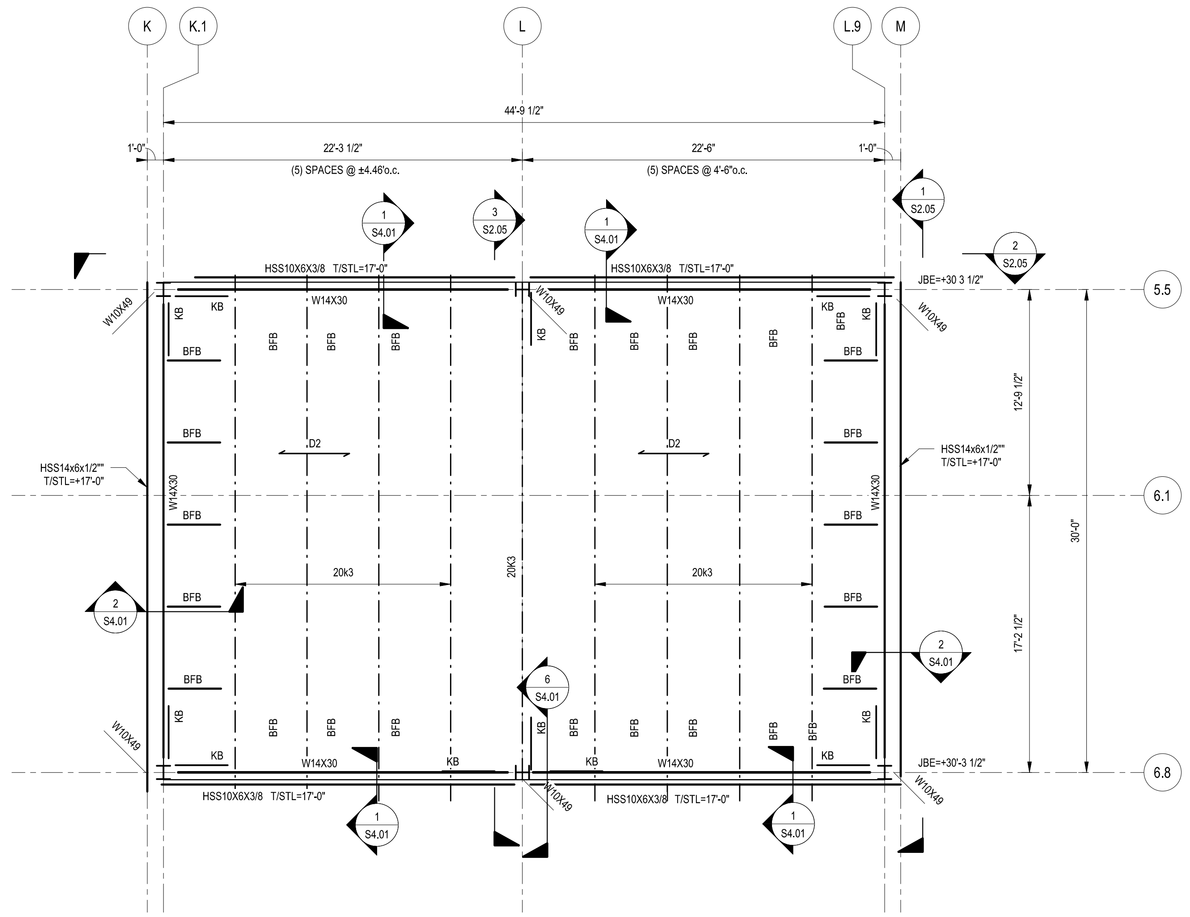
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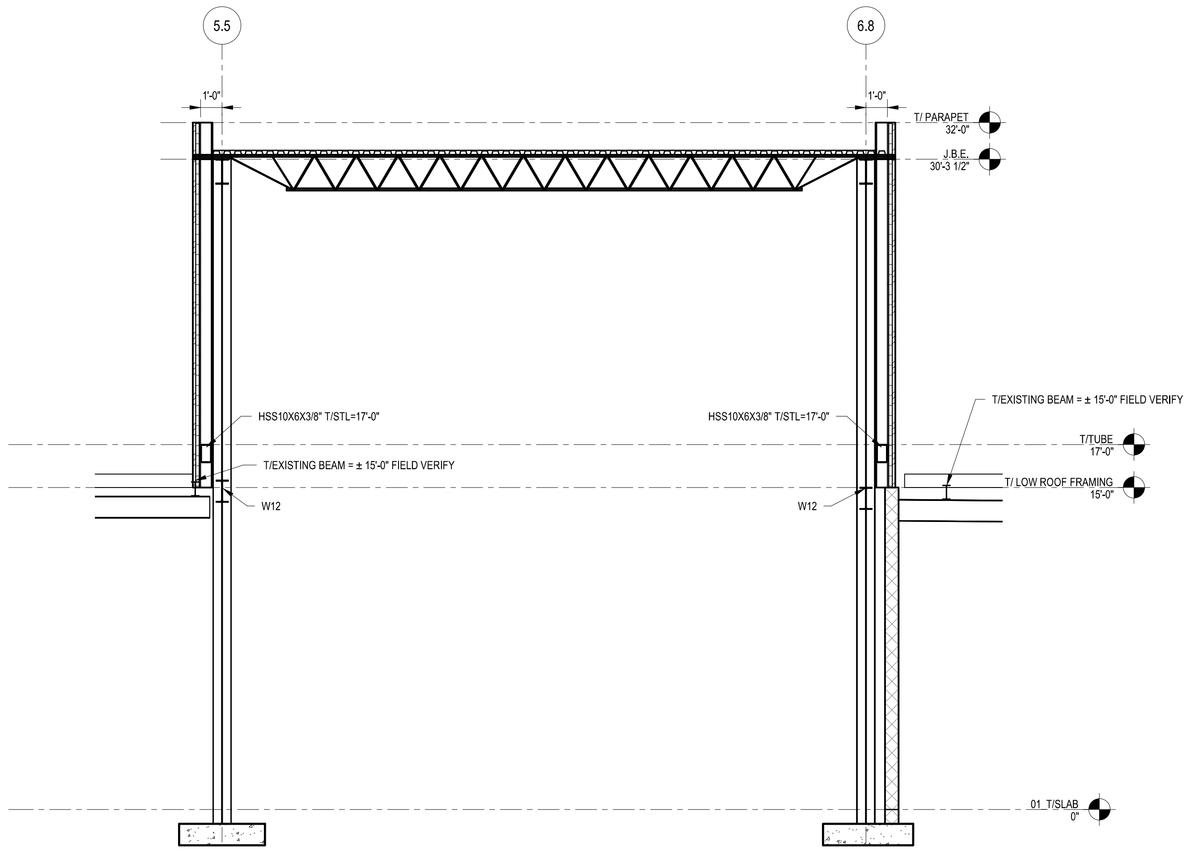
SECTION 1
SCALE: 3/16" = 1'-0"



SECTION 2
SCALE: 3/16" = 1'-0"



POP UP ROOF FRAMING PLAN
SCALE: 3/16" = 1'-0"



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

LEGEND - ROOF FRAMING

- INDICATES 12" CMU
- HSS Ref. BP-# — INDICATES STEEL COLUMN, SEE S3.0X FOR BASE PLATE
- 0 — GRID DESIGNATION FOR CENTERLINE OF COLUMN
- GRID DESIGNATION FOR OUTSIDE FACE OF STUD OR CMU
- W_x_ — STEEL BEAM, SEE PLAN FOR SIZE AND LCOATION
- (E)W_x_ — EXISTING STEEL BEAM TO REMAIN
- STEEL BAR JOIST, SEE PLAN FOR SIZE AND LOCATION
- KB — JL 3x3x5/8" KICKER BRACE W/ 3/8" GAP T=C=25K (LRFD)
- BFB — L2x2X5/16"
- D1 - SEE ROOF FRAMING NOTE #3
- D2 - SEE ROOF FRAMING NOTE #4

NOTES - ROOF FRAMING

1. ALL NEW TOP OF STEEL ELEVATIONS SHALL MATCH EXISTING. FIELD VERIFY EXACT DIMENSIONS PRIOR TO STEEL FABRICATION.
2. SEE SHEET S1.01 FOR GENERAL STEEL, JOIST, DECK AND LIGHT GAUGE FRAMING NOTES.
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4. TYPICAL D2 ROOF DECK IS 1 1/2" DEEP, 20 ga., GALVANIZED, TYPE 'B' METAL ROOF DECK (U.N.O.), SEE PLAN FOR LOCATIONS.
   METAL ROOF DECK SHALL BE ATTACHED TO SUPPORTING MEMBERS WITH HILTI X-HSN24 PAFs IN A 36/4 PATTERN, PROVIDE (8) HILTI SLC SIDELAP SCREW PER SPAN, U.N.O. ON PLAN.

5. SHORE EXISTING ROOF GIRDER, CUT AND REMOVE STEEL FROM NOTED AREA, INSTALL NEW FOOTINGS AND COLUMNS, THEN RECONNECT EXISTING GIRDER TO NEW COLUMN.
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NORTH CAROLINA PROFESSIONAL SEAL 19475 ENGINEER DON R. WOODS

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Date: 2019.12.11 16:53:44-05'00'

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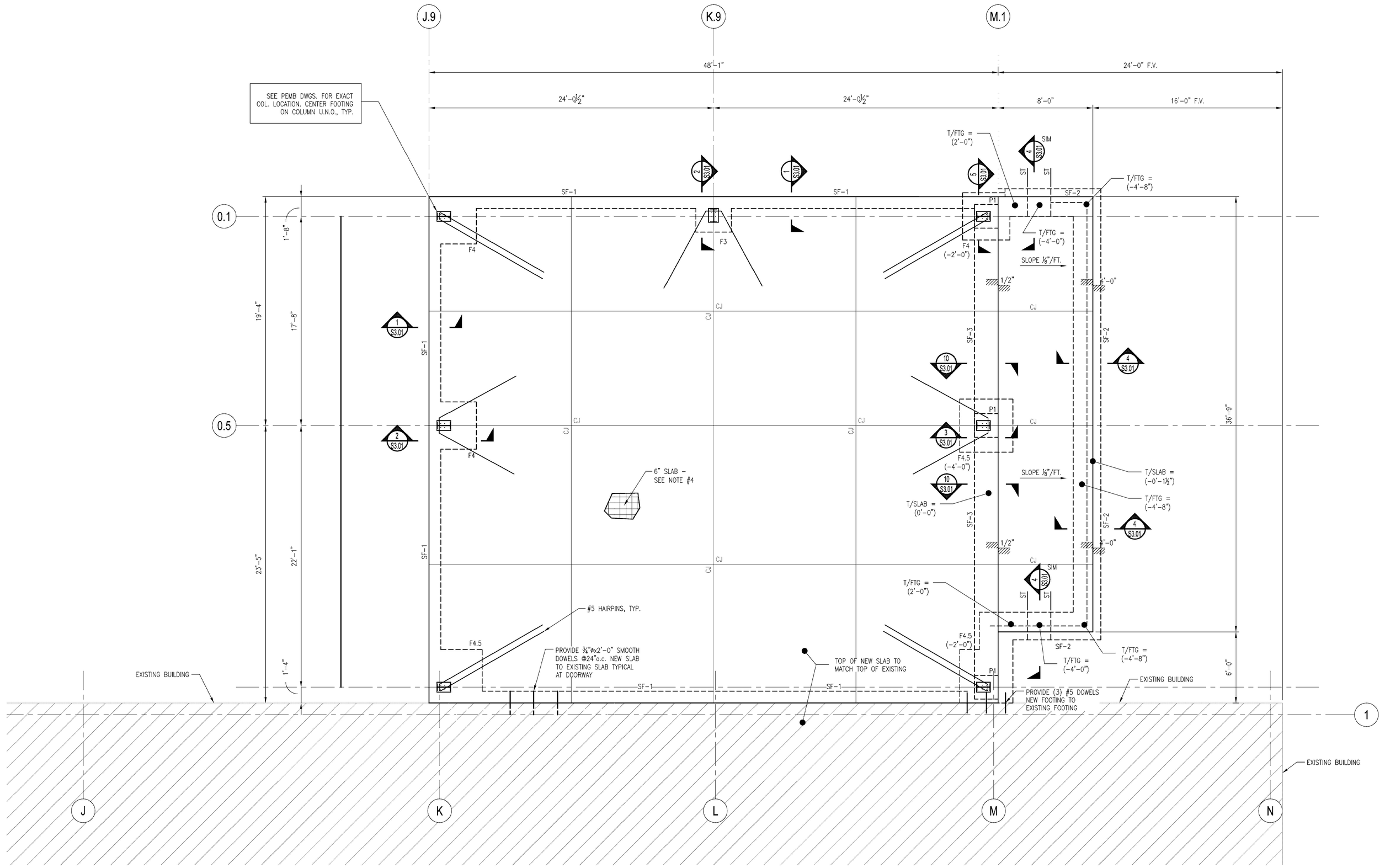
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POP UP ROOF FRAMING PLAN

S2.05

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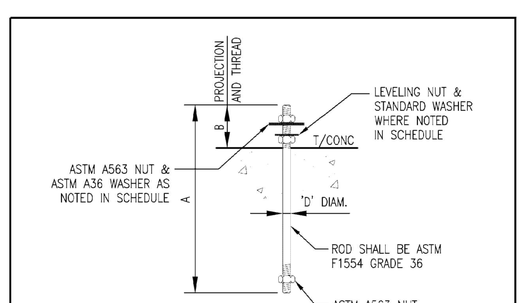


FOUNDATION AND SLAB PLAN

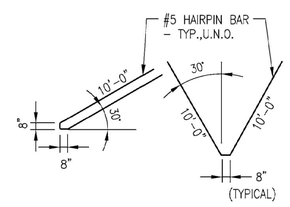
SCALE: 1/4" = 1'-0"

SPREAD FOOTING SCHEDULE			
MARK	SIZE length x width x thickness	TOP BARS	BOTTOM BARS
F3	3'-0" x 3'-0" x 2'-0"	(4)#4	(4)#5
F4	4'-0" x 4'-0" x 2'-0"	(5)#4	(5)#5
F4.5	4'-6" x 4'-6" x 2'-0"	(6)#4	(6)#5

STRIP FOOTING (SF-X) SCHEDULE			
MARK	SIZE width x thickness x length	REINFORCEMENT	REMARKS
SF-1	2'-0" x 1'-0" x CONT.	(2) #5 BOTT. CONT. & (1) #4 TOP CONT.	SEE DETAIL 1/S3.01
SF-2	1'-0" x 2'-4" x CONT.	(1) #5 BOTT. CONT. & (3) #5 TOP CONT. & #4 @16"o.c. SHORT TOP	SEE DETAIL 4-4/S3.01
SF-3	1'-6" x 2'-0" x CONT.	#4 @16"o.c. SHORT TOP & (2) #5 BOTT. CONT.	SEE DETAIL 10-10/S3.01



ANCHOR BOLT SCHEDULE							
MARK	BOLT DIAM. D	HOLE DIAMETER	A	B	TOP WASHER O.D. x t	LEVELING NUT	REMARKS
AB-1	¾"	1⅜"	1'-4"	3"	2" x ¼"	NO	-



FOUNDATION PLAN NOTES:

1. SEE (THIS?) SHEET FOR ADDITIONAL GENERAL NOTES, FOUNDATION NOTES, CONCRETE NOTES, AND REINFORCING STEEL NOTES. ALSO, SEE SHEET S1.01 & S1.02 FOR TYPICAL DETAILS. TYPICAL DETAILS ARE GENERALLY NOT SHOWN ON PLAN BUT RATHER ARE INTENDED TO DEFINE TYPICAL CONSTRUCTION CONDITIONS.
2. DATUM ELEVATION = TOP OF EXISTING SLAB ELEVATION = ASSSUMED 0'-0" AS SHOWN ON CIVIL DRAWINGS = ASSUMED 0'-0". OTHER ELEVATIONS ARE NOTED AS (+ OR -) FROM DATUM ELEVATION.
3. SPREAD FOOTINGS ARE MONOLITHIC WITH SLAB UNLESS NOTED ON PLAN AS (+/-X'-X") FROM DATUM ELEVATION.
4. SLAB-ON-GRADE SHALL BE 6" THICK 4000 psi CONCRETE WITH 5.0lbs/yc.[3] OF SYNTHETIC MACRO-FIBERS (TUF-STRAND SF BY EUCLID, FIBER MAC SERIES BY BASF, FORTA-FERRO BY FORTA CORP, OR APPROVED EQUAL) ON 15 mil VAPOR BARRIER, ON CLEAN SANDS WITH LESS THAN 3% FINES, ON WELL COMPACTED SUB GRADE. SEE S1.01 FOUNDATION NOTES FOR COMPACTION REQUIREMENTS. VERIFY COMPACTION w/QUALIFIED GEOTECHNICAL ENGINEER.
5. RELOCATE ANY UTILITY LINES THAT CONFLICT WITH THE FOUNDATIONS OR DROP THE FOUNDATIONS TO AN ELEVATION BELOW THE PROPOSED UTILITIES. RELOCATE ANY GRAVITY FLOW LINES THAT CONFLICT WITH SPREAD FOOTINGS AS SHOWN ON STRUCTURAL FOUNDATION PLANS. IF A GRAVITY FLOW LINE TRAVELS UNDER A CONTINUOUS STRIP FOOTING EITHER
   a. DROP THE FOOTING ELEVATION BELOW THE PROPOSED LINE
   b. ENCASE THE LINE IN A STEEL PIPE 2" LARGER IN DIAMETER THAN THE LINE AND EXTEND THE PIPE 1'-0" PAST EACH SIDE OF THE CONCRETE FOOTING. BACKFILL THE TRENCH WITH #57 STONE. THE BEARING CAPACITY OF THIS AREA MUST MEET OR EXCEED THE ALLOWABLE SOIL BEARING CAPACITY
6. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, ADN OTHER DISCIPLINE DRAWINGS FOR OPENINGS AND DEPRESSIONS NOT SHOWN ON THESE DRAWINGS.
7. GC TO COORDINATE STEPS IN FOUNDATION FOR PLUMBING, ELECTRICAL AND MECHANICAL.

LEGEND:

- FX — SPREAD FOOTING DESIGNATION SEE SCHEDULE THIS SHEET
- SF-X — STRIP FOOTING DESIGNATION SEE SCHEDULE THIS SHEET
- SF — INDICATES STEP FOOTING - SEE S1.03 FOR TYPICAL DETAIL
- I — PRE-ENGINEERED METAL BUILDING STEEL COLUMN - SEE PEMB BASE PLATE INFO AND S3.01 FOR ANCHOR BOLT INFO
- P1 — CONCRETE PIER - SEE S3.01 FOR DETAILS - TOP OF PIER @ 0'-0", U.N.O.
- INDICATES 2" SLAB RECESS - COORDINATE W/ ARCH. & PLUMBING DWGS.
- 0 — GRID DESIGNATION FOR CENTERLINE OF COLUMN
- 0 — GRID DESIGNATION FOR OUTSIDE FACE OF STUD OR CMU
- C3 / C3 — SLAB CONTROL OR CONSTRUCTION JOINT - SEE DETAILS ON S1.01

TRU COLORS

TRU COLORS PEMB

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 19475 DON R. WOODS

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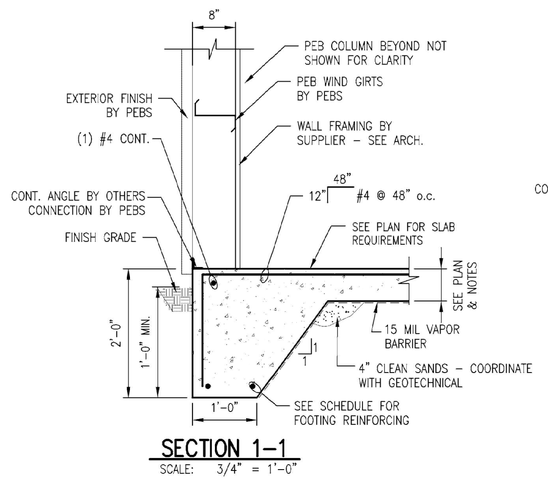
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PEMB FOUNDATION & SLAB PLAN

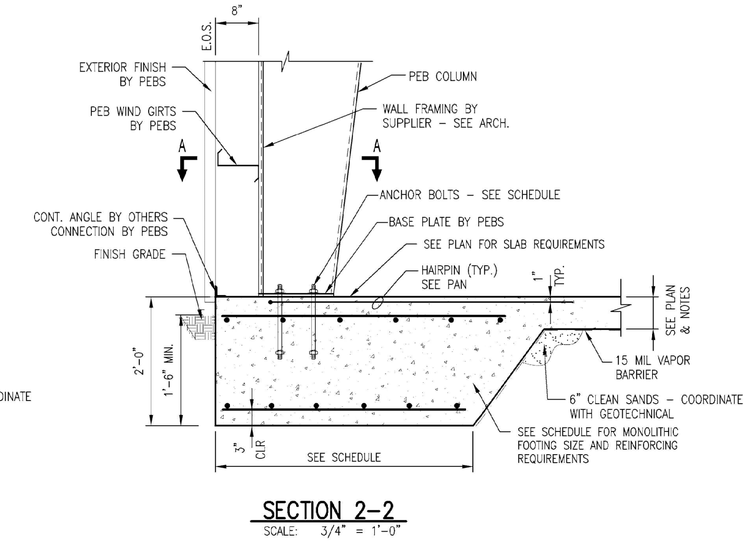
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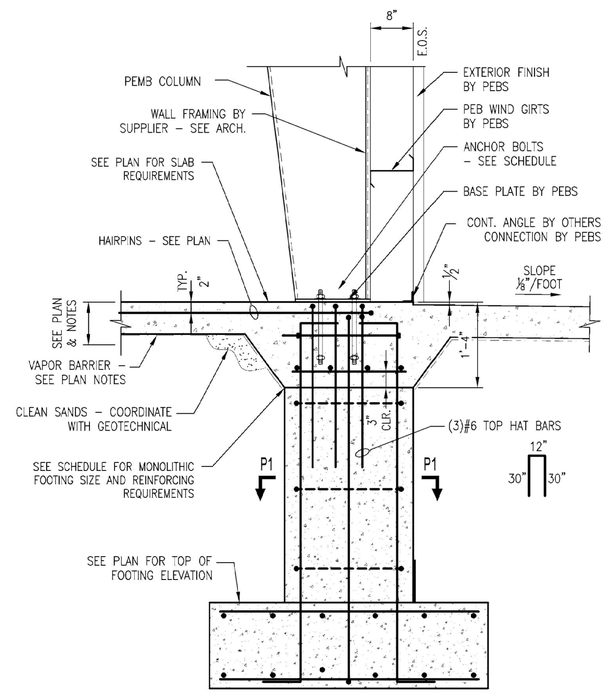
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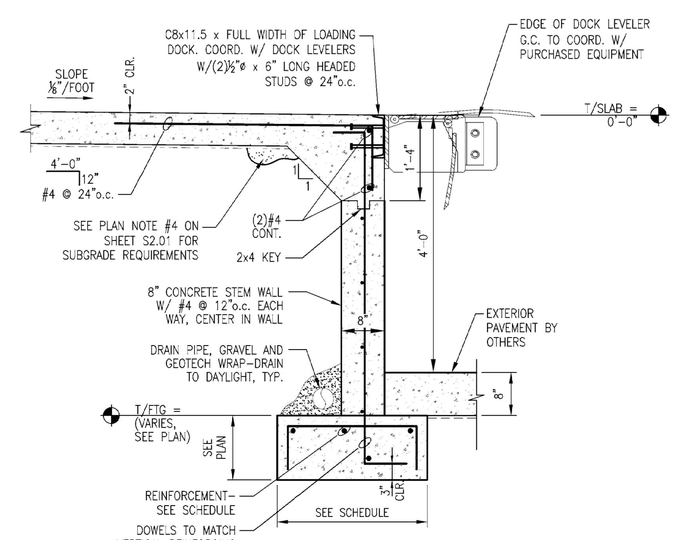
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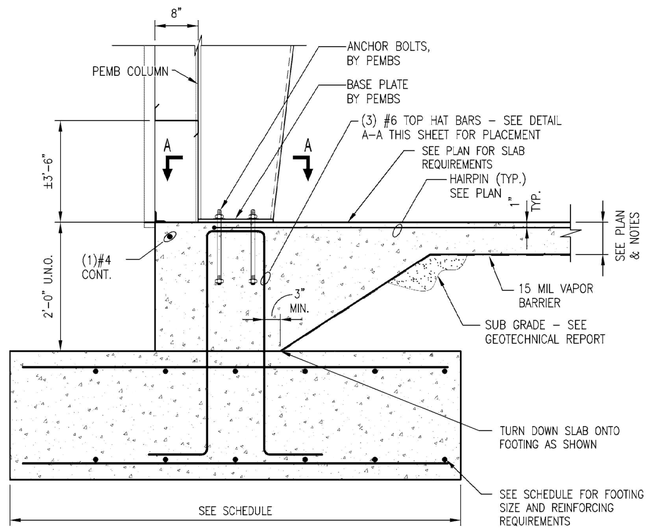
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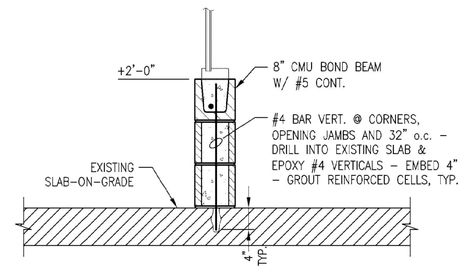
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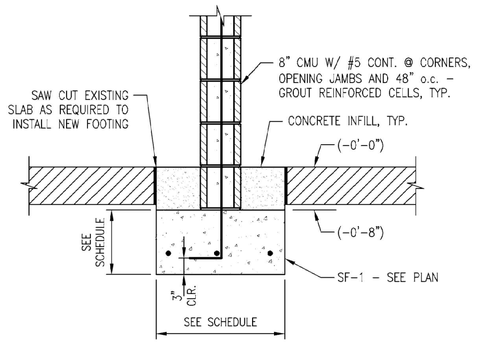
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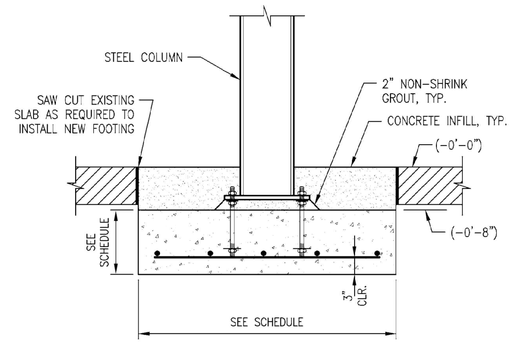
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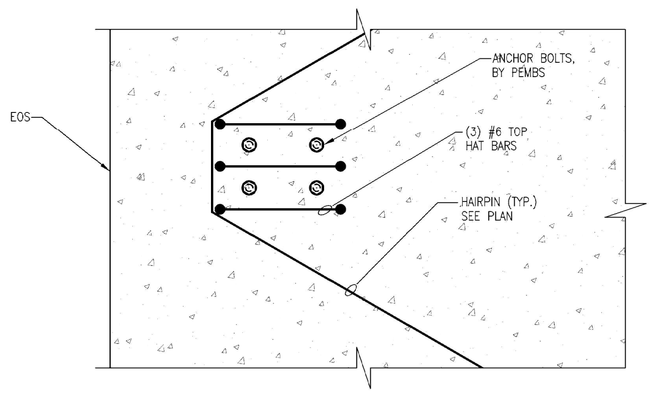
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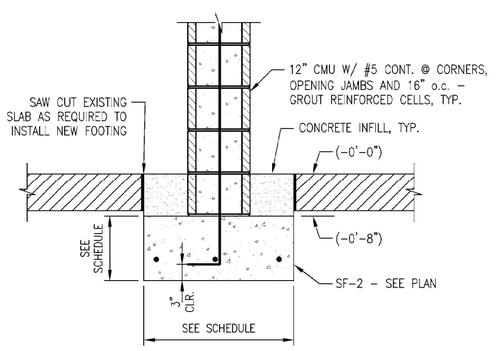
SECTION 7–7
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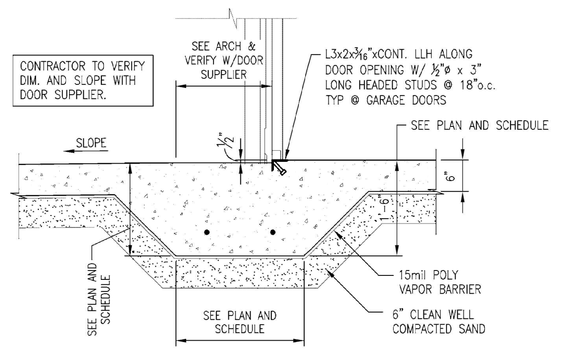
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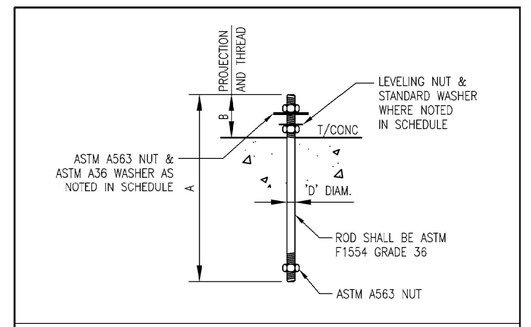
DETAIL A–A
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SECTION 9–9
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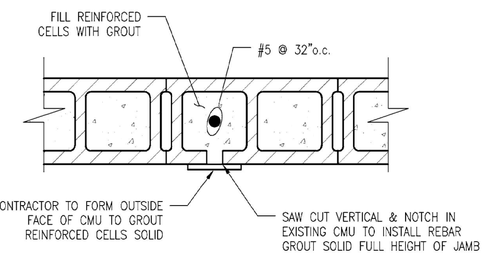


SECTION 10–10
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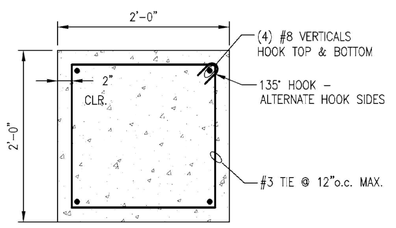


ANCHOR BOLT SCHEDULE							
MARK	BOLT DIAM. D	HOLE DIAMETER	A	B	TOP WASHER O.D. x t	LEVELING NUT	REMARKS
AB–1	¾"	1⅜"	1'–2"	5"	2" x ¼"	YES	2" LEVELING GROUT

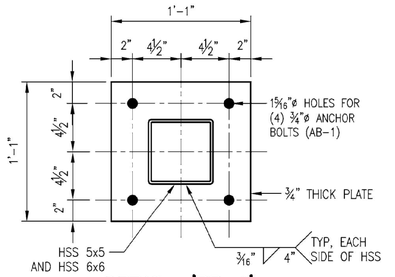
NOTE: ALL ANCHOR BOLTS GREATER OR EQUAL TO 1½"ø NEED TO HAVE HEAVY HEX HEAD NUTS.



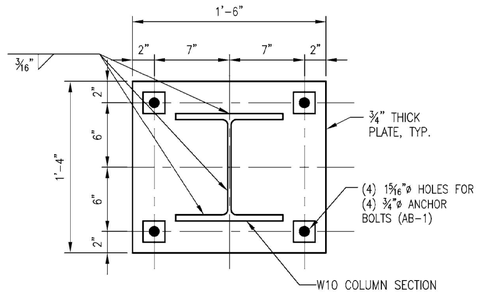
DETAIL B–B
NEW LINTEL IN EXISTING WALL
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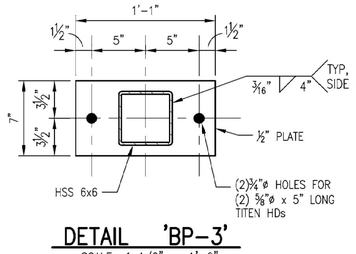
P1
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24"x24" CONCRETE PIER



DETAIL 'BP–1'
SCALE: 1 1/2" = 1'-0"
(HSS 5x5 & HSS 6X6 BASEPLATE)
TYP/CAL. UNO



DETAIL 'BP–2'
SCALE: 1 1/2" = 1'-0"
(W10x49 BASEPLATE)



DETAIL 'BP–3'
SCALE: 1 1/2" = 1'-0"

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NORTH CAROLINA PROFESSIONAL ENGINEER CORPORATE SEAL No. C-1806

NORTH CAROLINA PROFESSIONAL SEAL 19475 ENGINEER DON R. WOODS

Digitally signed by Don R. Woods, PE
DN: cn=donwoods@woodseng.com, OU=Don R. Woods, PE", O="Woods Engineering, PA", L=Wilmington, S=North Carolina, C=US
Date: 2019.12.11 16:53:11-05'00'

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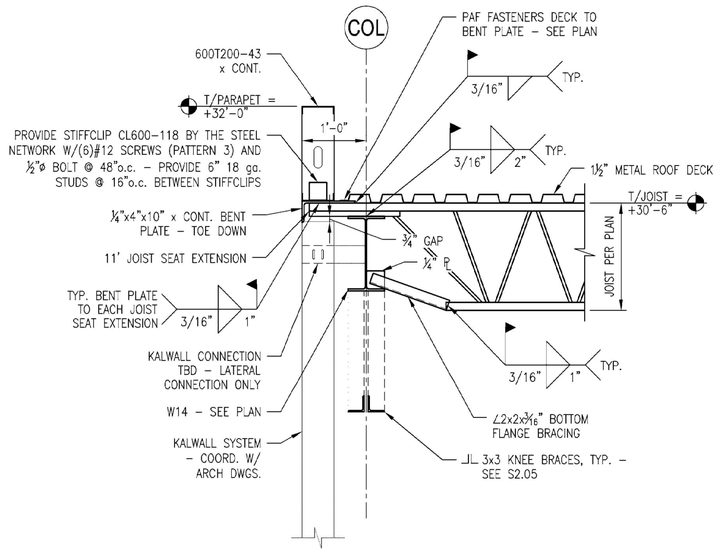
PROJECT: Project Number
DATE: 12-10-2019
DRAWN BY: MBK
CHECKED BY: DW

FOUNDATION SECTIONS & DETAILS

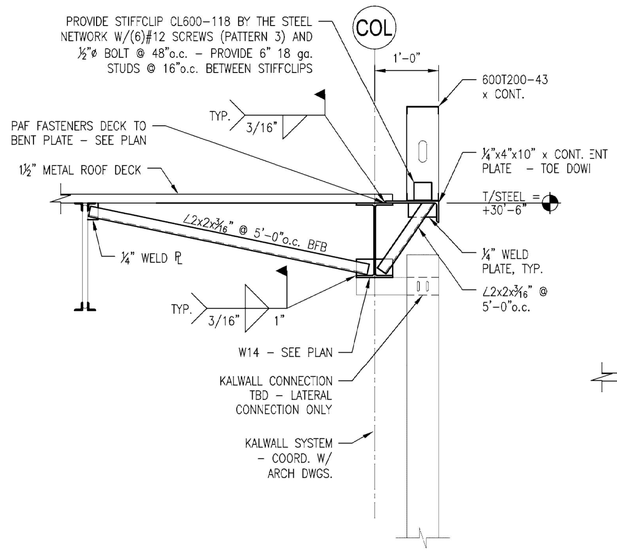
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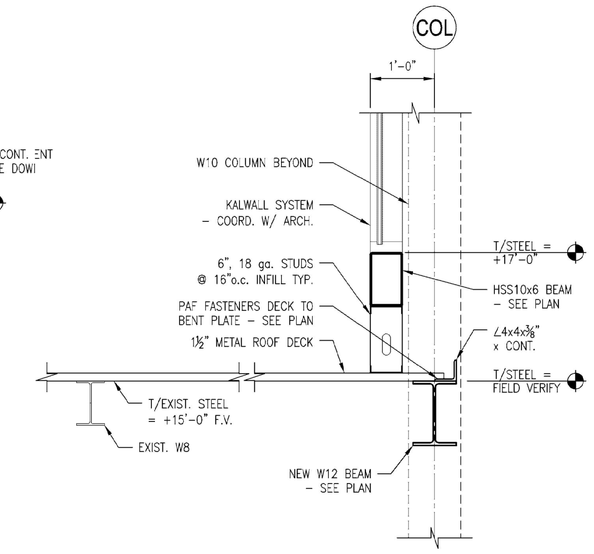
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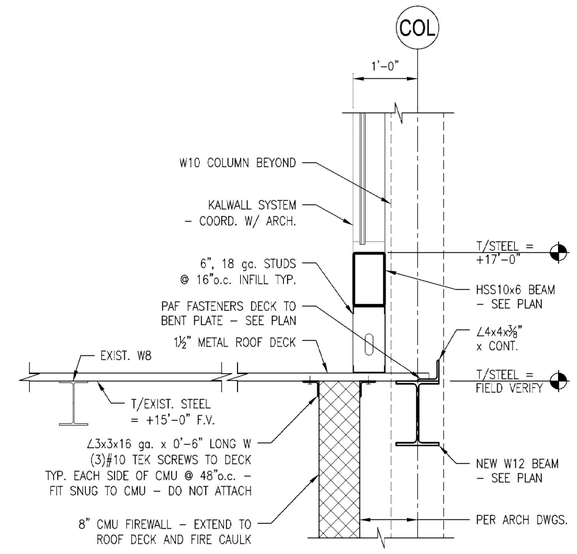
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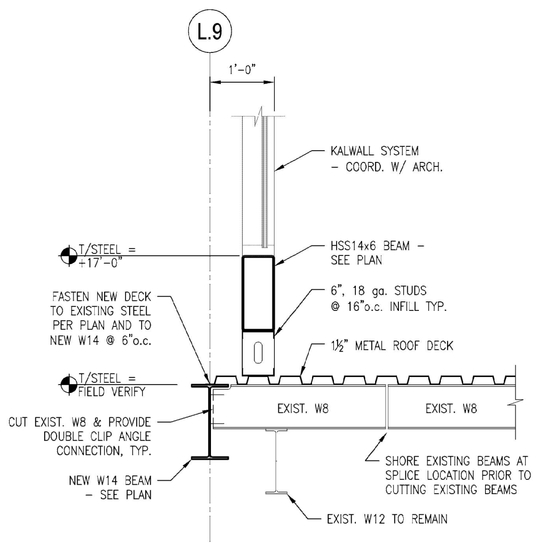
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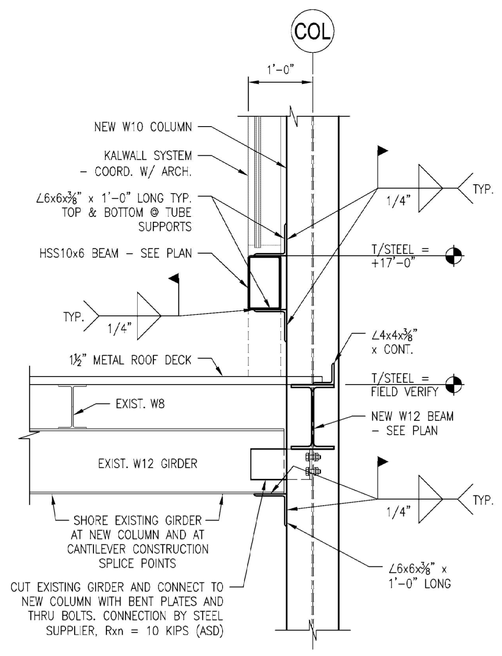
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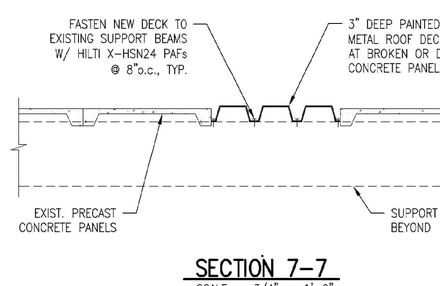
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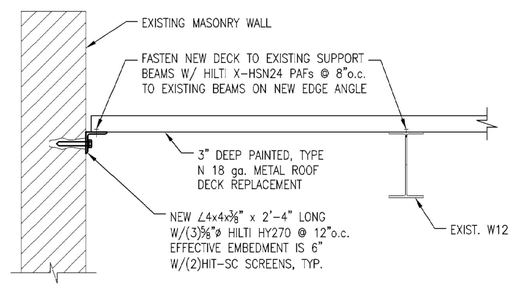
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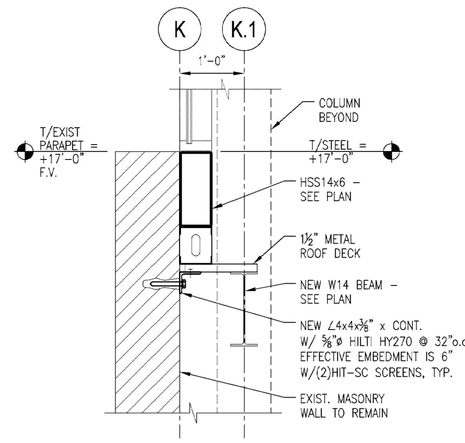
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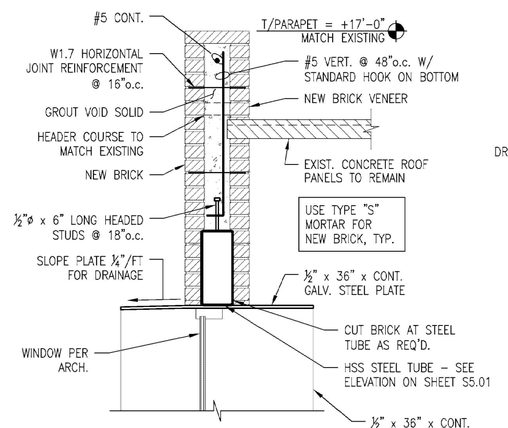
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PRECAST DECK REPLACEMENT



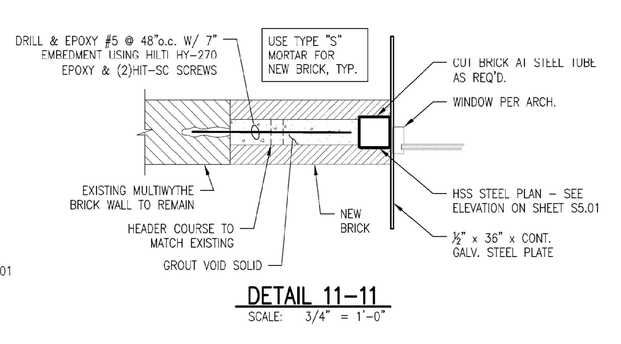
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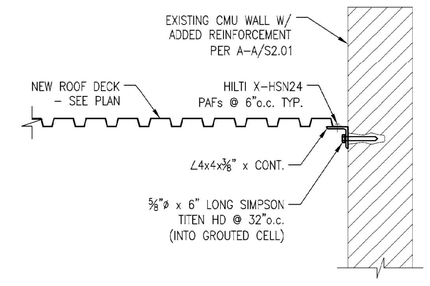
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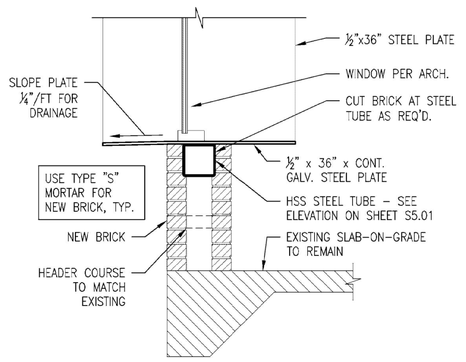
DETAIL 10-10
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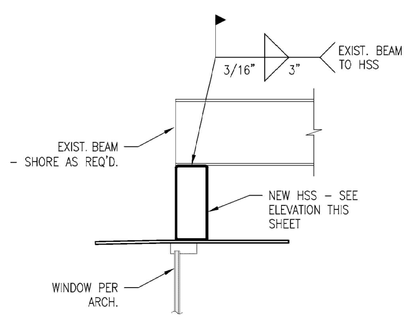
DETAIL 11-11
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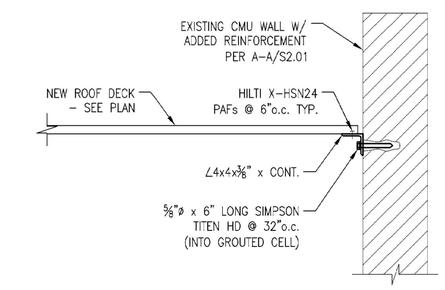
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DETAIL 12-12
SCALE: 3/4" = 1'-0"



DETAIL 13-13
SCALE: 3/4" = 1'-0"



SECTION 15-15
SCALE: 3/4" = 1'-0"

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NORTH CAROLINA PROFESSIONAL SEAL 19475 ENGINEER DON R. WOODS

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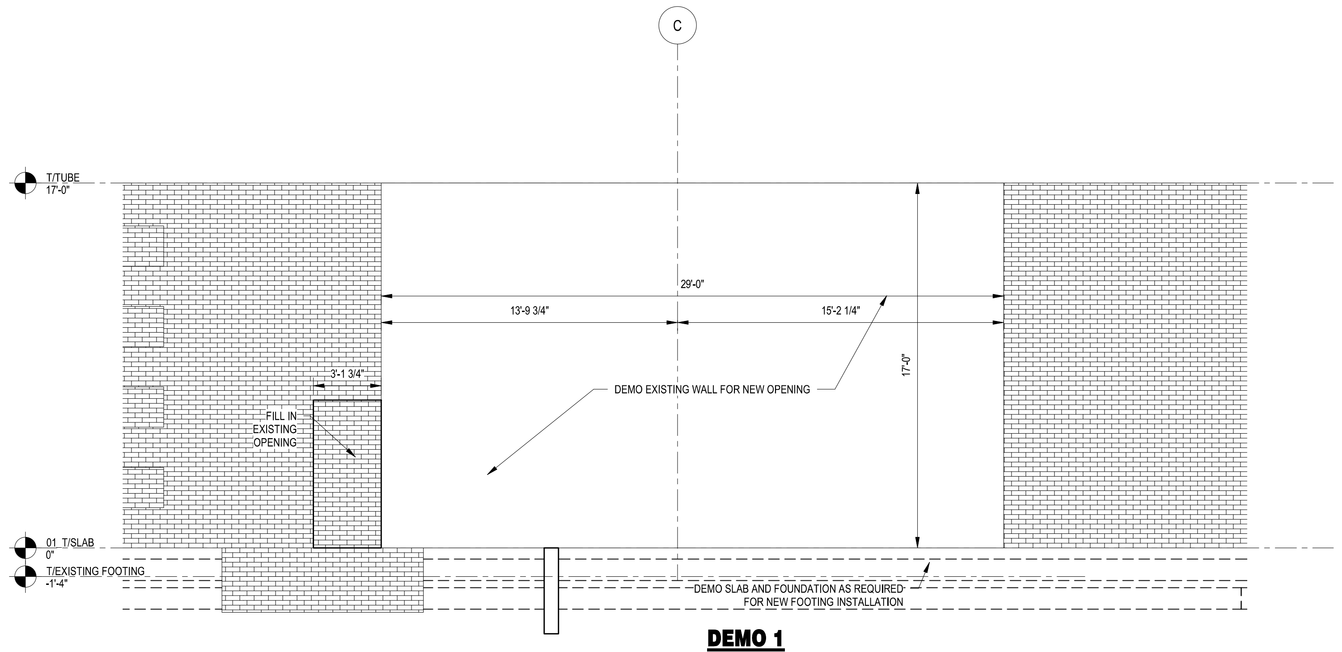
PROJECT: Project Number
DATE: 12-10-2019
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FRAMING SECTIONS & DETAILS

S4.01

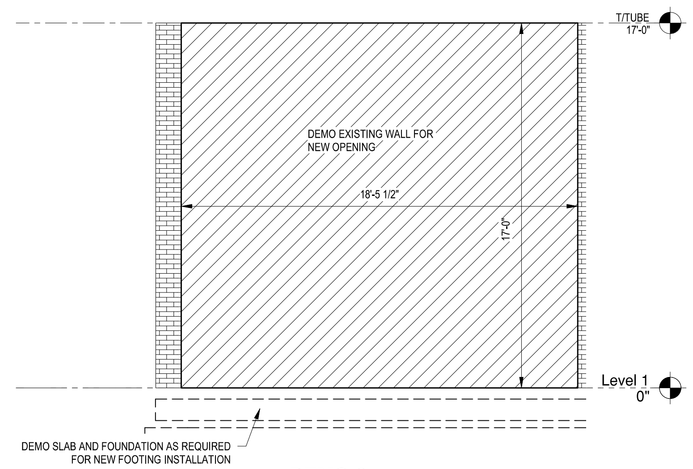
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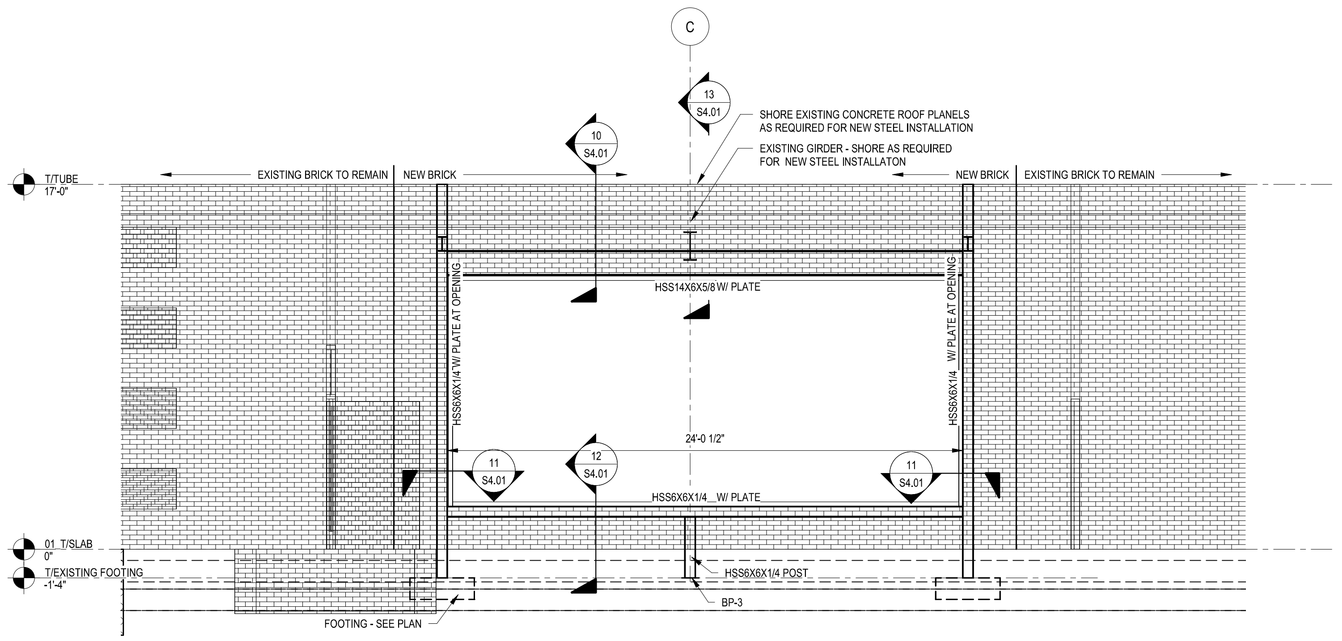
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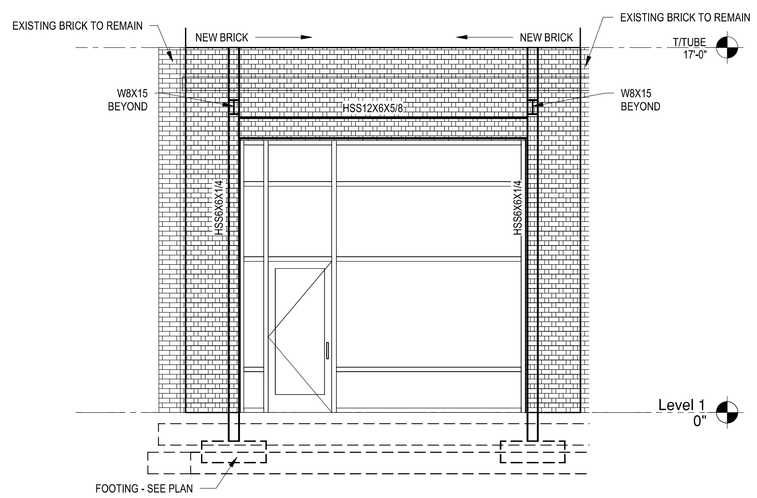
DEMO 2

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



NEW 1

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



NEW 2

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

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WOODS ENGINEERING CORPORATE SEAL No. C-1806 NORTH CAROLINA

NORTH CAROLINA PROFESSIONAL SEAL 19475 ENGINEER DON R. WOODS

Digitally signed by Don R. Woods, PE
DN: cn="Don R. Woods, PE", o="Woods Engineering, PA", l=Wilmington, s=North Carolina, c=US
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No.	Description	Date

PROJECT: 19-2987
DATE: 12/10/2019
DRAWN BY: MBK
CHECKED BY: DW

STRUCTURAL BUILDING ELEVATIONS

S5.01

PERMIT SET

MANUAL FIRE ALARM SYSTEM (SPECIFICATION/NOTES)

1. AS A MINIMUM THE FIRE ALARM SYSTEM SHALL INCLUDE DETECTORS, PULL STATIONS, PANEL HORN/STROBES AND SPRINKLER MONITORING WITH FIRE RATED CABLE. THE FIRE ALARM SYSTEM SHALL MEET NFPA REQUIREMENTS, THE NATIONAL ELECTRICAL CODE, THE STATE CODES, AND THE LOCAL BUILDING CODES.

2. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CABLE, MATERIALS AND EQUIPMENT AS SHOWN ON THE DRAWINGS/OR HEREIN SPECIFIED. ALL SYSTEM COMPONENTS SPECIFIED HEREIN, AS WELL AS THEIR INSTALLATION, SHALL COMPLY WITH APPLICABLE STANDARDS OF THE NATIONAL ELECTRICAL CODE, NATIONAL FIRE PROTECTION ASSOCIATION, AND LOCAL CODES HAVING AUTHORITY. ALL EQUIPMENT SHALL BE UL LISTED FOR FIRE ALARM SYSTEM USE.

3. THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SHALL BE INSTALLED AND CONNECTED UNDER THE DIRECTION AND SUPERVISION OF A MANUFACTURER'S REPRESENTATIVE. UPON COMPLETION OF INSTALLATION, THE MANUFACTURER'S REPRESENTATIVE SHALL PERFORM ALL OPERATIONAL TESTS AND ADJUSTMENTS AND CERTIFY IN WRITING THAT THE SYSTEM IS PROPERLY INSTALLED AND FUNCTIONS AS SPECIFIED.

4. ALL WIRING SHALL BE SYSTEM OR UL LISTED FIRE RATED CABLE AND COLOR CODED TO ALLOW EASE OF IDENTIFICATION OF THE DIFFERENT CIRCUITRY REQUIRED FOR THE SYSTEM. NO CIRCUIT SHALL CHANGE COLOR AT ANY POINT END TO END.

5. THE. MANUFACTURER'S AUTHORIZED REPRESENTATIVE SHALL PROVIDE SUPERVISION OF FINAL SYSTEM PANEL CONNECTIONS, PERFORM A COMPLETE FUNCTIONAL TEST OF THE SYSTEM, AND A WRITTEN REPORT TO THE CONTRACTOR ATTESTING THE PROPER OPERATION OF THE COMPLETED SYSTEM.

6. THE CONTRACTOR SHALL PROVIDE A ONE YEAR WARRANTY FOR THE ALARM SYSTEM, ALONG WITH OTHER FORMS OR CERTIFICATE REQUIRED BY THE LOCAL JURISDICTION.

7. SYSTEM OPERATION

7.1 THE OPERATION OF ANY MANUAL PULL STATION, OR ANY OTHER SYSTEM ALARM INDICATOR, SHALL CAUSE ALL ALARM SIGNALS, BOTH AUDIBLE AND VISUAL TO ENERGIZE.

7.2 THE DEVICE FROM WHICH THE ALARM ORIGINATED SHALL BE INDICATED AT THE CONTROL PANEL, BOTH AUDIBLY AND VISUALLY. THE APPROPRIATE ALARM LED SHALL PULSE AND SHALL BE ILLUMINATED CONTINUOUSLY AFTER IT HAS BE ACKNOWLEDGED AT THE CONTROL PANEL.

7.3 FIRE ALARM SYSTEM SHALL USE A 120 VOLT POWER SOURCE WITH BATTERY BACK-UP. FIRE ALARM SYSTEM SHALL BE 24 VOLT.

7.4 THE SYSTEM SHALL BE A MONITORED ALARM SYSTEM.

8. EQUIPMENT SHALL CONSIST OF THE FOLLOWING:

8.1 MASTER FIRE ALARM CONTROL PANEL WITH BATTERY BACK-UP.

8.2 MANUAL STATIONS: MANUAL STATIONS SHALL BE CONSTRUCTED OF HIGH IMPACT, RED LEXAN WITH RAISED LETTERING. MANUAL STATIONS SHALL BE LOCATED NOT MORE THAN FOUR FEET ABOVE THE FINISHED FLOOR TO THE CENTER OF THE BOX. STATIONS SHALL BE LOCATED NOT MORE THEN FIVE FEET FROM EACH DESIGNATED EXIT-WAY AND THE TRAVEL DISTANCE SHALL NOT EXCEED 200 FEET.

8.3 COMBINATION AUDIO AND VISUAL SIGNAL: AUDIO VISUAL FIRE ALARM SIGNAL SHALL BE SURFACE MOUNTED WITH FLASHER. UNITS SHALL BE RED IN COLOR. THE LEXAN LENS SHALL BE TRIANGULAR IN SHAPE TO SIGNIFICANTLY IMPROVE SIDE VIEWING VISIBILITY. THE UNIT SHALL MOUNT ON A STANDARD FOUR INCH ELECTRICAL BOX. A MATCHING TRIM PLATE SHALL BE SUPPLIED. THE LENS SHALL BE LETTERED RED "FIRE". THE AUDIO VISUAL SIGNALS SHALL MEET REQUIREMENTS OF ADA.

8.4 SMOKE DETECTOR: PROVIDE SOLID STATE PHOTO ELECTRIC TYPE WITH TWO WIRE OPERATION AND 360° SMOKE ENTRY FOR FACP.

8.5 DUCT MOUNTED SMOKE DETECTORS: NFPA 72, ANALOG/INTELLIGENT/ADDRESSABLE PHOTOELECTRIC TYPE WITH REMOTE ALARM INDICATING LIGHT, DUCT SAMPLING TUBES EXTENDING WIDTH OF DUCT, AND VISUAL INDICATION OF DETECTOR ACTUATION, IN DUCT-MOUNTED HOUSING.

9. PROVIDE FIRE ALARM CONTROL PANEL.

9.1 IN THE EVENT OF A VALVE CLOSURE THAT ACTIVATES A TAMPER SWITCH, THE TROUBLE SIGNALS (BOTH AUDIBLE AND VISUAL) SHALL ACTIVATE AT THE CONTROL PANEL. IN ADDITION, THE ASSOCIATED CIRCUIT TROUBLE LED SHALL ILLUMINATE TO INDICATE THE TAMPER SWITCH CLOSURE, BY MEANS OF A SILENCING SWITCH, IT SHALL BE POSSIBLE TO TEMPORALLY SILENCE THE AUDIBLE ALARM, THE AUDIBLE ALARM SHALL REACTIVATE AUTOMATICALLY ON A PERIODIC BASIS UNTIL THE SYSTEM IS CORRECTED. IT SHALL NOT BE POSSIBLE TO EXTINGUISH THE TROUBLE LIGHT UNTIL THE SYSTEM IS CORRECTED.

10.1 ALL WIRING SHALL BE INSTALLED IN COMPLIANCE WITH N.E.C., NFPA 72, ALL STATE AND LOCAL REQUIREMENTS AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

10.2 SLEEVE AND SEAL ALL PENETRATIONS THROUGH FIRE WALLS.

10.3 WIRING SHALL BE A MINIMUM OF NO. 14 AWG UNLESS OTHERWISE NOTED.

11. ALL WORK PERFORMED AND ALL MATERIAL FURNISHED UNDER THIS CONTRACT SHALL BE FREE FROM DEFECTS AND SHALL REMAIN SO FOR A PERIOD OF AT LEAST ONE YEAR FROM THE DATE OF ACCEPTANCE.

12. THE SMOKE DUCT DETECTOR SHALL BE FURNISHED AND TERMINATED BY THE FIRE ALARM CONTRACTOR, INSTALLED BY THE MECHANICAL CONTRACTOR.

13. SHOP DRAWINGS MUST BE SUBMITTED BY THE FIRE ALARM CONTRACTOR COMPLYING WITH THE FIRE ALARM PLAN REVIEW REQUIREMENTS POLICY - JANUARY 2006 BEFORE PERMITTING BY THE WILMINGTON FIRE DEPT. THESE DRAWINGS DO NOT CONSTITUTE APPROVAL AND MAY CHANGE AFTER A FULL REVIEW BY THE WILMINGTON FIRE DEPT. A SEPARATE PERMIT MUST BE OBTAINED PRIOR TO INSTALLATION.

14. IN CORRIDORS WHERE MORE THAN TWO VISIBLE NOTIFICATION APPLIANCES ARE IN ANY FIELD OF VIEW, THEY SHALL FLASH IN SYNCHRONIZATION.

15. FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR MODULES TO SHUTDOWN HVAC EQUIPMENT DURING ALARM CONDITION.

16. PROVIDE (1) 2" CONDUIT FOR A DEDICATED PHONE LINE FOR FIRE PROTECTION DIALER AND BACKUP LINE FROM EXTERIOR CABINET TO FACP.

17. ALL FIRE ALARM WORK AND DEVICES SHALL BE INSTALLED AND TERMINATED BY A NICET LEVEL 2 FIRE ALARM TECHNICIAN.

18. IN THE EVENT OF AN ALARM THERE SHALL BE A "GLOBAL" SHUT DOWN OF ALL AIR HANDLERS.

19. PROVIDE MOTORIZED DAMPER CONTROL RELAY MODULE TO ACTIVATE MOTORIZED SMOKE DAMPER

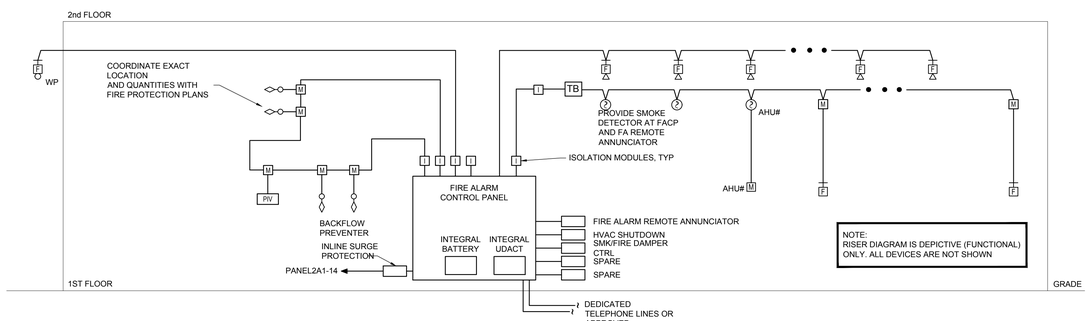
20. ELECTRICAL CONTRACTOR SHALL INTERLOCK HOOD SUPPLY FAN INTO FIRE SUPPRESSION SYSTEM SO THAT IT SHUTS DOWN WHEN THE FIRE ALARM SYSTEM ACTIVATES.

21. THE FIRE ALARM CONTROL PANEL SHALL MONITOR THE KITCHEN HOOD AND SOUND THE ALARM IF FIRE SUPPRESSION SYSTEM ACTIVATES, FIRE ALARM SYSTEM SHALL ALSO SHUT DOWN HOOD SUPPLY FAN IN CASE OF ALARM CONDITION.

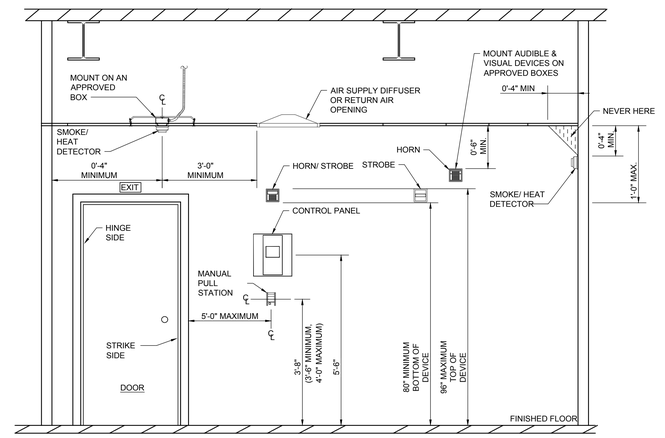
FIRE ALARM LEGEND

SYMBOL	DESCRIPTION
F	FIRE ALARM MANUAL STATION, 48" AFF
F	HORN ONLY (MINI-HORN)
15cd F	FIRE ALARM HORN/VISUAL DEVICE, 80" AFF, "15cd" INDICATES CANDELA RATING
15cd F	FIRE ALARM VISUAL (ONLY) DEVICE, 80" AFF, "15cd" INDICATES CANDELA RATING
15cd F	FIRE ALARM VISUAL (ONLY) DEVICE, CEILING MOUNTED, "110cd" INDICATES CANDELA RATING
15cd F	FIRE ALARM BELL W/STROBE, 80" AFF, "15cd" INDICATES CANDELA RATING
110cd F	FIRE ALARM HORN/VISUAL DEVICE, CEILING MOUNTED, "110cd" INDICATES CANDELA RATING
FS	FIRE ALARM SPEAKER, 80" AFF
15cd FS	FIRE ALARM SPEAKER W/STROBE, 80" AFF, "15cd" INDICATES CANDELA RATING
15cd F	FIRE ALARM CHIME W/STROBE, 80" AFF, "15cd" INDICATES CANDELA RATING
2	SMOKE DETECTOR, CEILING MOUNTED
2	DUCT MOUNTED SMOKE DETECTOR
E	DUCT SMOKE DETECTOR, REMOTE INDICATING DEVICE (RAIL), WALL MOUNTED
M	ISOLATION MODULE
F D	WATER BELL
	SPRINKLER TAMPER SWITCH
	SPRINKLER FLOW SWITCH
J	JUNCTION BOX - FLOOR MOUNTED
FACP	FIRE ALARM CONTROL PANEL (FACP)
ANN	FIRE ALARM REMOTE ANNUNCIATOR PANEL

(SYMBOLS SHOWN FOR REFERENCE ONLY AND MAY NOT IMPLY CONTRACTUAL REQUIREMENTS)



A1 **FIRE ALARM RISER DIAGRAM**
NOT TO SCALE



NOTE:
DETAIL SHOWN FOR REFERENCE ONLY, NOT ALL DEVICES ARE INDICATED ON PLANS.

A4 **FIRE ALARM DEVICES - MOUNTING HEIGHT DETAIL**
NOT TO SCALE

ISSUED FOR PERMIT	12.10.2019
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NORTH CAROLINA
053311
ENGINEER
ALLEN CRITES
12/10/2019

208 Princess Street
Wilmington, North Carolina

MONTEITH CONSTRUCTION CORP

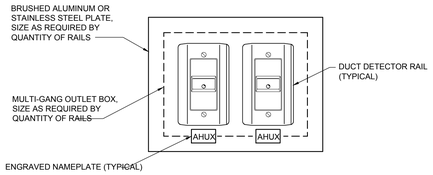
TRU Colors Brewery
715 Greenfield Street
Wilmington, North Carolina

LEGEND
FIRE ALARM
LEGEND

JOB NO.:	19109
DRAWN:	MDM
DESIGNED:	MDM
CHECKED:	WAC

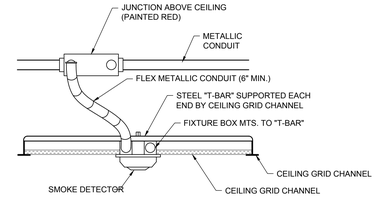
DRAWING NO:
F-001

REVISION:
A



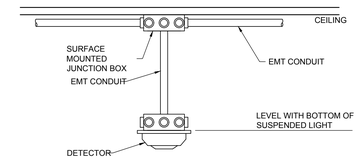
D1 AHU FA RAIL INSTALLATION DETAIL

NOT TO SCALE



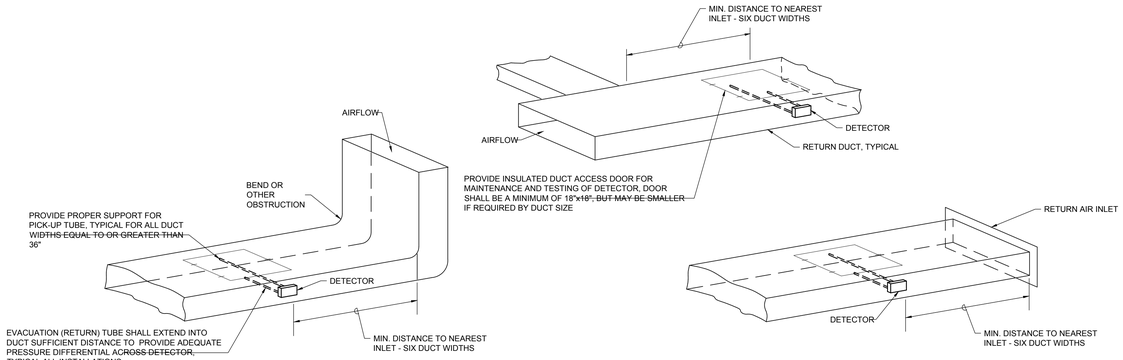
D3 TYPICAL CEILING MOUNTED SMOKE DETECTOR MOUNTING DETAIL

NOT TO SCALE



D5 TYPICAL SUSPENDED HORN STROBE

NOT TO SCALE



NOTE:
DUCT DETECTORS SHALL BE INSTALLED AS RECOMMENDED BY THE DEVICE MANUFACTURER

C3 TYPICAL DUCT DETECTOR PLACEMENT DETAILS

NOT TO SCALE



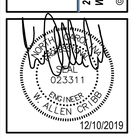
A1 FACP PLACARD DETAIL

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REVISIONS	
Issue/Rev. No.	

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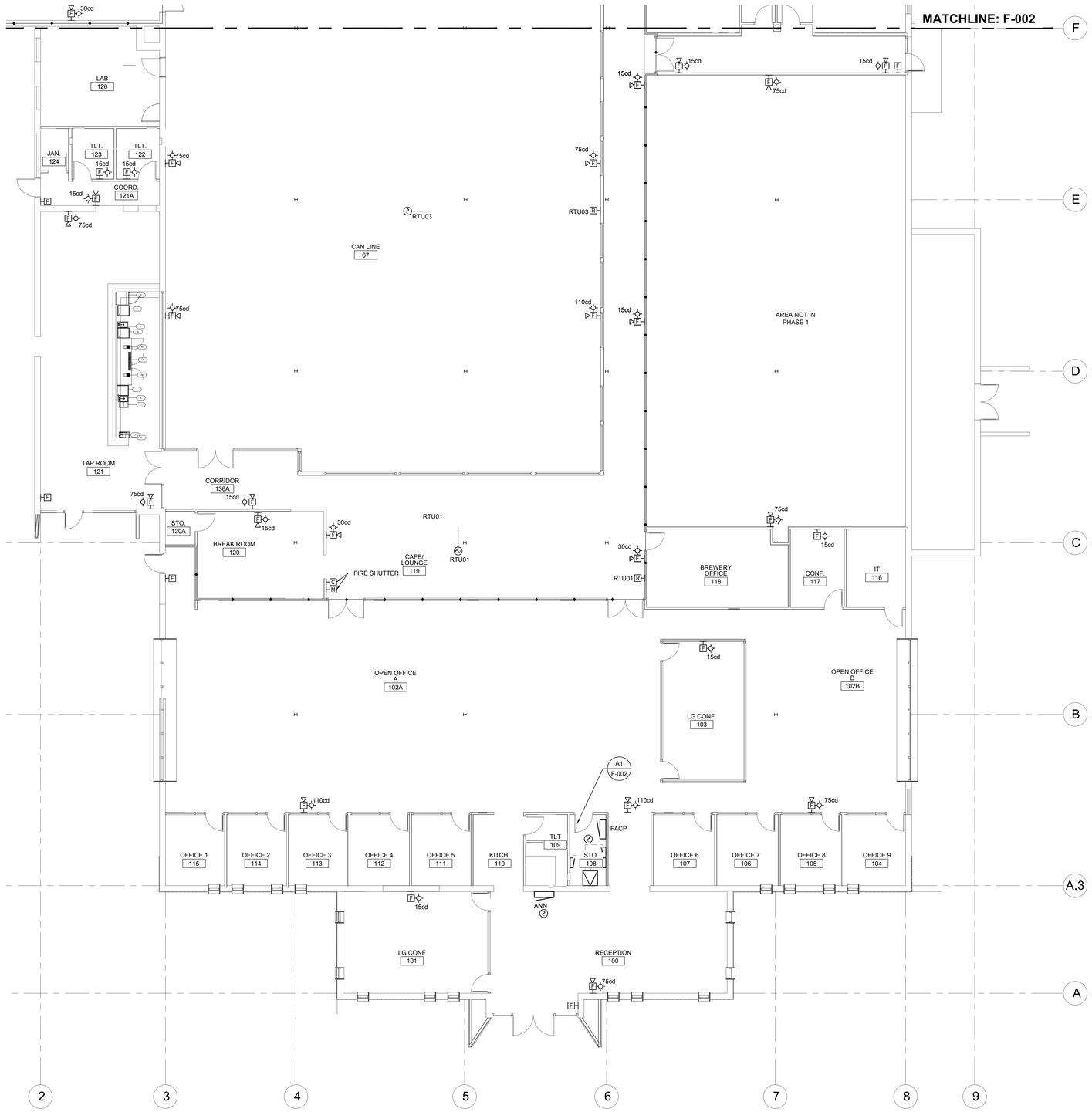
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FIRE ALARM DETAILS

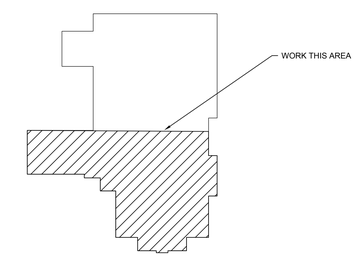
JOB NO.:	19109
DRAWN:	MDM
DESIGNED:	MDM
CHECKED:	WAC

DRAWING NO:
F-002

REVISION:
A



A1 POWER PLAN
1/8" = 1'-0"
0 4' 8' 16'
PLAN NORTH



A5 KEYPLAN
NOT TO SCALE
PLAN NORTH

No.	Description	Date
A	ISSUED FOR PERMIT	12/10/2019

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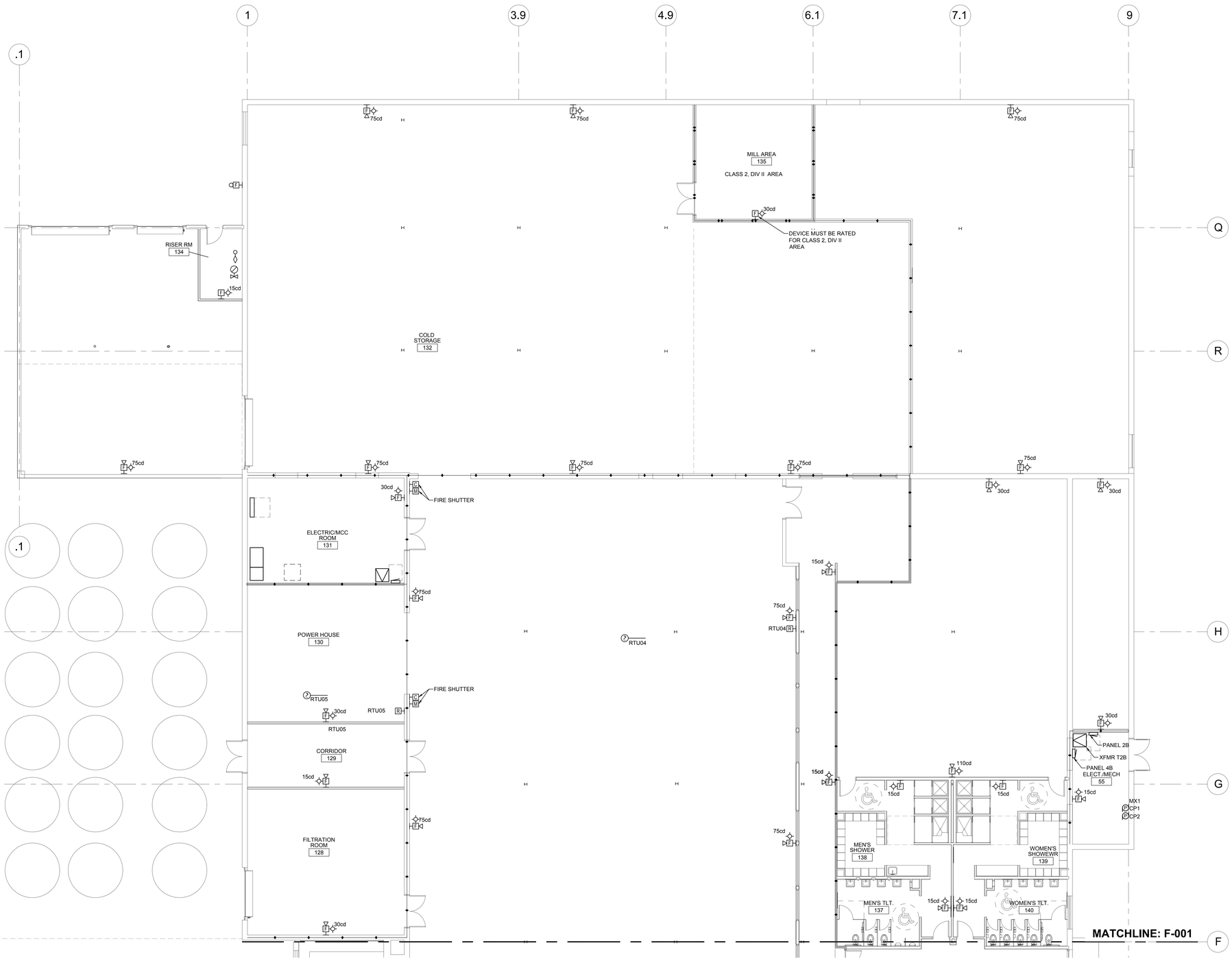
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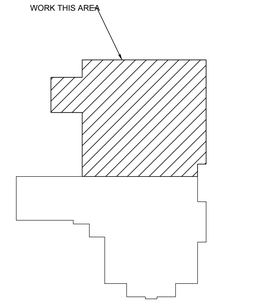
FIRE ALARM FLOOR PLAN

JOB NO.:	19109
DRAWN:	MDM
DESIGNED:	MDM
CHECKED:	WAC

DRAWING NO:
F-101

REVISION:
A





A5 **KEYPLAN**
NOT TO SCALE

PLAN NORTH

A1 **POWER PLAN**
1/8" = 1'-0"
0 4' 8' 16'

PLAN NORTH

No.	Description	Date
1	ISSUED FOR PERMIT	12.10.2019

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 053311 ENGINEER ALLEN CRITES

12/10/2019

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FIRE ALARM FLOOR PLAN

JOB NO.:	19109
DRAWN:	MDM
DESIGNED:	MDM
CHECKED:	WAC

DRAWING NO:

F-102

REVISION:
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PLUMBING GENERAL NOTES

1. SCOPE OF WORK: THESE DRAWINGS AND ACCOMPANYING SPECIFICATIONS DESCRIBE SCOPE OF WORK REQUIRED FOR PLUMBING SYSTEMS. LABOR AND MATERIAL SHALL BE PROVIDED AS REQUIRED FOR A COMPLETE, WORKMANLIKE INSTALLATION OF ALL SYSTEMS SHOWN ON DIAGRAMMATIC DRAWINGS AND/OR AS SPECIFIED HEREIN.
2. CONTRACTOR: THE WORD "CONTRACTOR", "PLUMBING CONTRACTOR", AND "P.C." AS USED HEREIN SHALL MEAN THE PLUMBING INSTALLER UNLESS OTHERWISE QUALIFIED.
3. DRAWINGS: DRAWINGS ARE DIAGRAMMATIC AND MAY NOT COMPLETELY DESCRIBE EVERY DETAIL OF THE INSTALLATION. HOWEVER, CONTRACTOR IS RESPONSIBLE FOR FURNISHING COMPLETE SYSTEMS INCLUDING ALL REQUIRED EQUIPMENT AND ACCESSORIES TO OBTAIN FULLY FUNCTIONING PLUMBING SYSTEMS.
4. CODE COMPLIANCE: COMPLY WITH THE LATEST EDITIONS OF THE FOLLOWING STANDARDS AND CODES, INSOFAR AS THEY APPLY:

   NORTH CAROLINA STATE BUILDING CODE (CODE), LATEST EDITION AND REVISIONS.

   LOCAL JURISDICTION REQUIREMENTS.
5. PERMITS AND INSPECTIONS: OBTAIN ALL PERMITS, LICENSES, INSPECTIONS, ETC., REQUIRED FOR THE WORK AND PAY FOR SAME. FURNISH A FINAL CERTIFICATE OF INSPECTION AND APPROVAL FROM THE AUTHORITY HAVING JURISDICTION PRIOR TO ACCEPTANCE OF THE WORK.
6. SUPERVISION: PROVIDE SKILLED SUPERINTENDENTS TO SUPERVISE THE WORK FROM THE BEGINNING TO COMPLETION AND FINAL INSPECTION.
7. PROGRESS OF WORK: PERFORM WORK IN ACCORDANCE WITH SCHEDULE AND REQUIREMENTS OF THE GENERAL CONTRACTOR. UNDER NO CIRCUMSTANCES SHALL THIS CONTRACTOR DELAY THE OVERALL PROJECT SCHEDULE.
8. COORDINATION: COORDINATE PLUMBING WORK WITH THE WORK OF OTHER TRADES. LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE UNLESS SPECIFICALLY DIMENSIONED. ARRANGE PLUMBING SO AS NOT TO INTERFERE WITH THE WORK OF OTHER TRADES. VERIFY ACTUAL BUILDING STRUCTURE PRIOR TO DUCT FABRICATION AND ADJUST LAYOUT AS REQUIRED. INCLUDE ALL OFFSETS IN DUCTS, FITTINGS, PIPING, ETC. AS REQUIRED TO PROPERLY INSTALL EQUIPMENT.
9. EQUIPMENT LOCATIONS: DETERMINE EXACT EQUIPMENT AND MATERIALS LOCATIONS TO PROVIDE BEST ARRANGEMENT AND TO FACILITATE PROPER MAINTENANCE AND SERVICING OF EQUIPMENT.
10. LISTING AND LABELING: ALL EQUIPMENT SHALL BE LABELED OR LISTED BY UL OR OTHER APPROVED TESTING AGENCY WHERE REQUIRED.
11. STORAGE SPACE: CONSULT WITH THE GENERAL CONTRACTOR REGARDING JOB SITE STORAGE FOR PLUMBING MATERIALS TO BE INSTALLED UNDER THIS PROJECT. STORAGE SPACE MUST BE SECURED AND CONTRACTOR'S REPRESENTATIVE MUST BE ON JOB BEFORE ANY MATERIAL MAY BE RECEIVED.
12. CLEANUP: REMOVE ALL DEBRIS GENERATED IN THE ACCOMPLISHMENT OF WORK UNDER THIS PROJECT. CLEAN, REPLACE OR REPAIR ALL SURFACES SOILED OR DAMAGED DURING THE COURSE OF THE WORK. REMOVE DEBRIS DAILY SO TO MAINTAIN SAFE WORKING CONDITIONS.
13. RECORD DRAWINGS: MAINTAIN ONE SET OF "RED-LINED" RECORD DRAWINGS ON SITE AT ALL TIMES AND PROVIDE DRAWINGS TO ARCHITECT/ENGINEER PRIOR TO FINAL INSPECTION.
14. EXISTING BUILDINGS AND CONSTRUCTION:
    - A. WORK UNDER THIS CONTRACT IS TO BE PERFORMED IN AN EXISTING BUILDING. BUILDING LAYOUT INDICATED IS DEVELOPED FROM [EXISTING RECORD DOCUMENTS AND] LIMITED FIELD VERIFICATION FOR THE PURPOSES OF DESCRIBING THE WORK. VERIFY ALL EXISTING CONDITIONS AND ADJUST WORK AS REQUIRED TO SUIT ACTUAL FIELD CONDITIONS.
    - B. PERFORM ALL WORK IN ACCORDANCE WITH SAFETY REGULATIONS.
    - C. DO NOT CUT ANY STRUCTURAL MEMBERS WITHOUT EXPRESS WRITTEN INSTRUCTIONS FROM [ARCHITECT/]ENGINEER. PROVIDE CUTTING AND PATCHING FOR EXISTING FINISHES AS REQUIRED.
    - D. COORDINATE INSTALLATION OF NEW PLUMBING SYSTEMS WITH EXISTING BUILDING SYSTEMS. ADJUST ARRANGEMENTS AS REQUIRED TO ACCOMMODATE INTERFERENCES.

PLUMBING ABBREVIATIONS

(X)	EXISTING
AAV	AIR ADMITTANCE VALVE
A.F.F.	ABOVE FINISHED FLOOR
A.R.C.I.	ACID RESISTANT CAST IRON
ADA	AMERICANS WITH DISABILITIES ACT
BRZ.	BRONZE
BT	BATHTUB
C.I.	CAST IRON
CO	CLEANOUT
CONC.	CONCRETE
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DIA.	DIAMETER
E.C.I.	ENAMELED CAST IRON
EC	ELECTRICAL CONTRACTOR
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FS	FLOOR SINK
GA.	GAUGE
GAL.	GALLON
GC	GENERAL CONTRACTOR
GCO	GRADE CLEANOUT
GPF	GALLONS PER FLUSH
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GWH	GAS-FIRED WATER HEATER
HB	HOSE BIBB
INCL.	INCLUDED
KS	KITCHEN SINK
LAV	LAVATORY
LP	LIQUID PROPANE
MS	MOP SERVICE BASIN
NAT.	NATURAL GAS
NKL.	NICKEL
NON SIMULT.	NON SIMULTANEOUS
O.F.L.C.	OPEN FRONT LESS COVER
OB	OUTLET BOX
OC	ON CENTER
ORDL	OVERFLOW ROOF DRAIN LEADER
PC	PLUMBING CONTRACTOR
PRESS. BAL.	PRESSURE BALANCED
RCVY.	RECOVERY
RDL	ROOF DRAIN LEADER
SA	WATER HAMMER ARRESTOR
SH	SHOWER
SK	SINK
SLD.	SLIDE
SS	STAINLESS STEEL
TDH	TOTAL DYNAMIC HEAD
UR	URINAL
V	VENT
VB	VACUUM BREAKER
VC	VITREOUS CHINA
VR	VANDAL RESISTANT
VTR	VENT THROUGH ROOF
W	WASTE
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WALL HYDRANT

NOTE: ALL ABBREVIATIONS MAY NOT BE USED IN PROJECT.

PLUMBING LEGEND

CA	COMPRESSED AIR PIPING
C	CONDENSATE PIPING
140°F	DOMESTIC 140°F WATER PIPING
140R	DOMESTIC 140°F RETURN WATER PIPING
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER CIRCULATION PIPING
	DOMESTIC HOT WATER PIPING
F	FILTERED WATER PIPING
SP	FIRE SPRINKLER PIPING
FM	FORCE MAIN PIPING
NG	GAS PIPING (NAT. OR LP)
GW	GREASE WASTE PIPING
N2	NITROUS OXIDE PIPING
O2	O2 (OXYGEN) PIPING
OD	OVERFLOW ROOF DRAIN PIPING
RD	ROOF DRAIN PIPING
	SANITARY VENT PIPING
	SANITARY WASTE PIPING
T	TEPID WATER PIPING
VAC	VACUUM PIPING
	BACKFLOW PREVENTION DEVICE
	BALL VALVE
	CHECK VALVE
	CIRCUIT SETTER (BALANCING VALVE)
	CIRCULATION PUMP
	CONTROL VALVE
	EXTENT OF DEMOLITION
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FS	FLOOR SINK
	GAS-REGULATOR VALVE
	GATE VALVE
	GATE VALVE IN RISER
GCO	GRADE CLEANOUT
HB	HOSE BIBB
	PIPE CAP
	PIPE ELBOW
	PIPE ELBOW DOWN
	PIPE ELBOW UP
	PIPE TEE
	PIPE TEE DOWN
	PIPE TEE UP
SP FM	SUMP PUMP
1	DEMOLITION KEYED NOTE TAG
1	NEW WORK KEYED NOTE
	POINT OF CONNECTION - NEW TO EXISTING
	PRESSURE REDUCING VALVE
	SOLENOID VALVE
140°F	THERMOSTATIC MIXING VALVE
WCO	WALL CLEANOUT
WH	WALL HYDRANT
	WASHING MACHINE BOX
SA	WATER HAMMER ARRESTOR

NOTE: ALL ITEMS LISTED IN THIS SCHEDULE MAY NOT BE USED IN PROJECT

PLUMBING LOADS

WASTE (DRAINAGE FIXTURE UNITS)	74
WATER	81 GPM
FUTURE PROCESS LOAD	57 GPM
TOTAL SUPPLY	138 GPM

12/7/2019 Date

ISSUED FOR PERMIT Description

REVISIONS

Remark No.

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NORTH CAROLINA REGISTERED SEAL 043801 ENGINEER ROBERT O. GRAY

12/10/2019

208 Princess Street
Wilmington, North Carolina

MONTEITH CONSTRUCTION CORP.

TRU Colors Brewery
715 Greenfield Street
Wilmington, North Carolina

PLUMBING LEGEND, ABBREVIATIONS LOADS AND GENERAL NOTES

JOB NO.:	19109
DRAWN:	JBS
DESIGNED:	JBS
CHECKED:	TOG

DRAWING NO:

P-001

REVISION:
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GENERAL NOTES

1. PC TO COORDINATE DRAIN LOCATIONS WITH BREWERY CONSULTANT/SUPPLIER.

MATCH-LINE

MATCH-LINE

LAB 126

JAN. 124

TLT. 123

TLT. 122

CORRIDOR 121A

FD

FCO

E3 P-401

TAP ROOM 121

C1 P-401

CAN LINE 125

TD

2"VTR

TD

FD

CORRIDOR 136B

E2 P-401

STOR. 120A

BREAK ROOM 120

CAFE/ LOUNGE 119

OPEN OFFICE 102A

LARGE CONFERENCE 103

OPEN OFFICE B 102B

E1 P-401

OFFICE 1 115

OFFICE 2 114

OFFICE 3 113

OFFICE 4 112

OFFICE 5 111

KITCH. 110

TLT. 109

ELEC. RM. 108

OFFICE 6 107

OFFICE 7 106

OFFICE 8 105

OFFICE 9 104

LARGE CONFERENCE 101

RECEPTION 100

C

B

A.3

A

1 2 3 4 5 6 7 8 9

A2 WASTE-VENT FLOOR PLAN

1/8" = 1'-0"

0 4' 8' 16'

PLAN NORTH

WORK THIS AREA

A5 KEYPLAN

NOT TO SCALE

PLAN NORTH

No.	Description	Date
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12/10/2019

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PLUMBING FLOOR PLAN

JOB NO.:	19109
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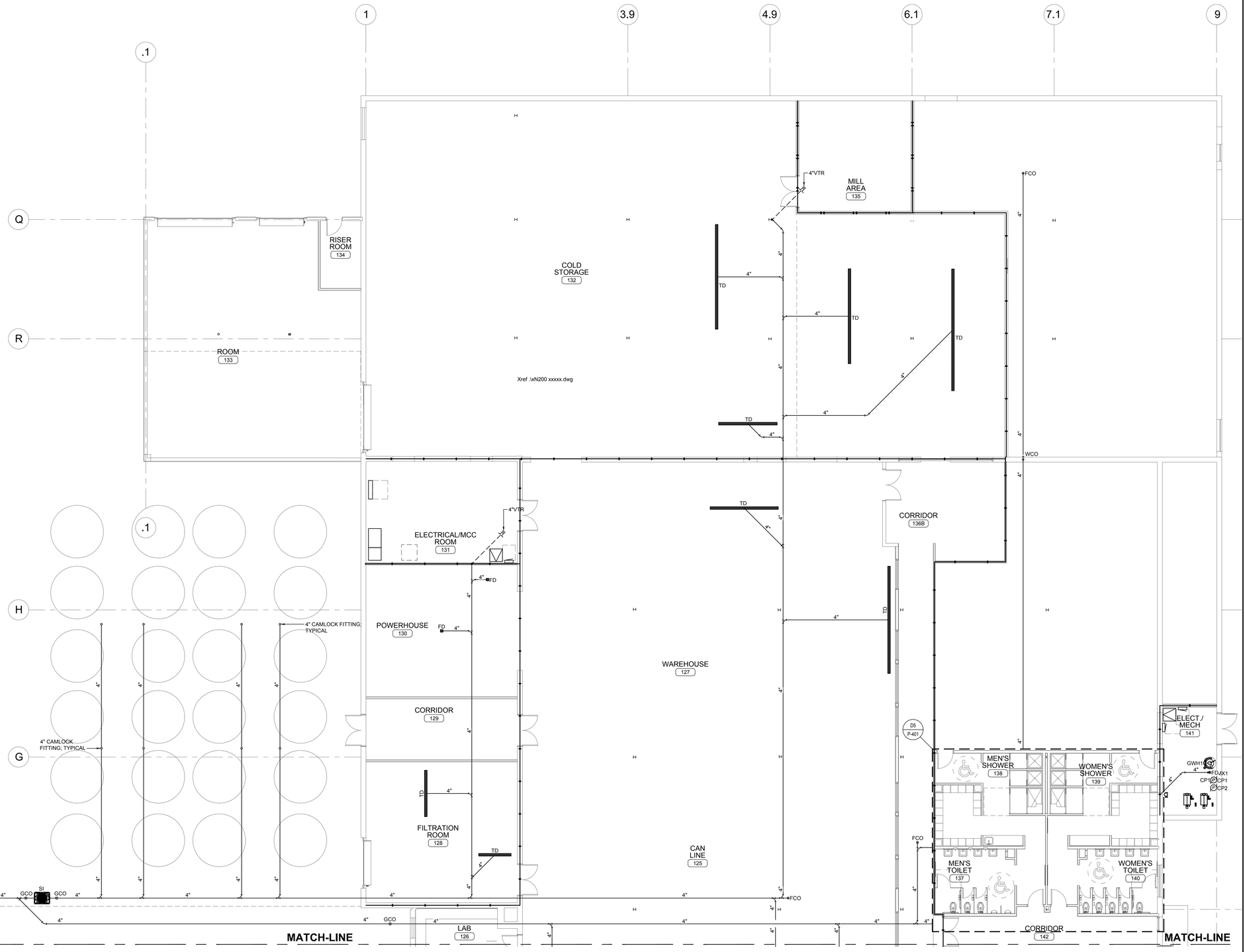
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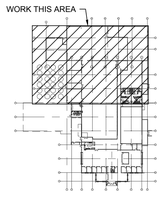
REVISION:
A

GENERAL NOTES

1. PC TO COORDINATE DRAIN LOCATIONS WITH BREWERY CONSULTANT/SUPPLIER.



A1 **WASTE-VENT FLOOR PLAN**
1/8" = 1'-0"
0 4' 8' 16'
PLAN NORTH



A5 **KEYPLAN**
NOT TO SCALE
PLAN NORTH

1	12.10.2019 Date
	ISSUED FOR PERMIT Description
	Revision No. REVISIONS

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12/10/2019

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PLUMBING FLOOR PLAN

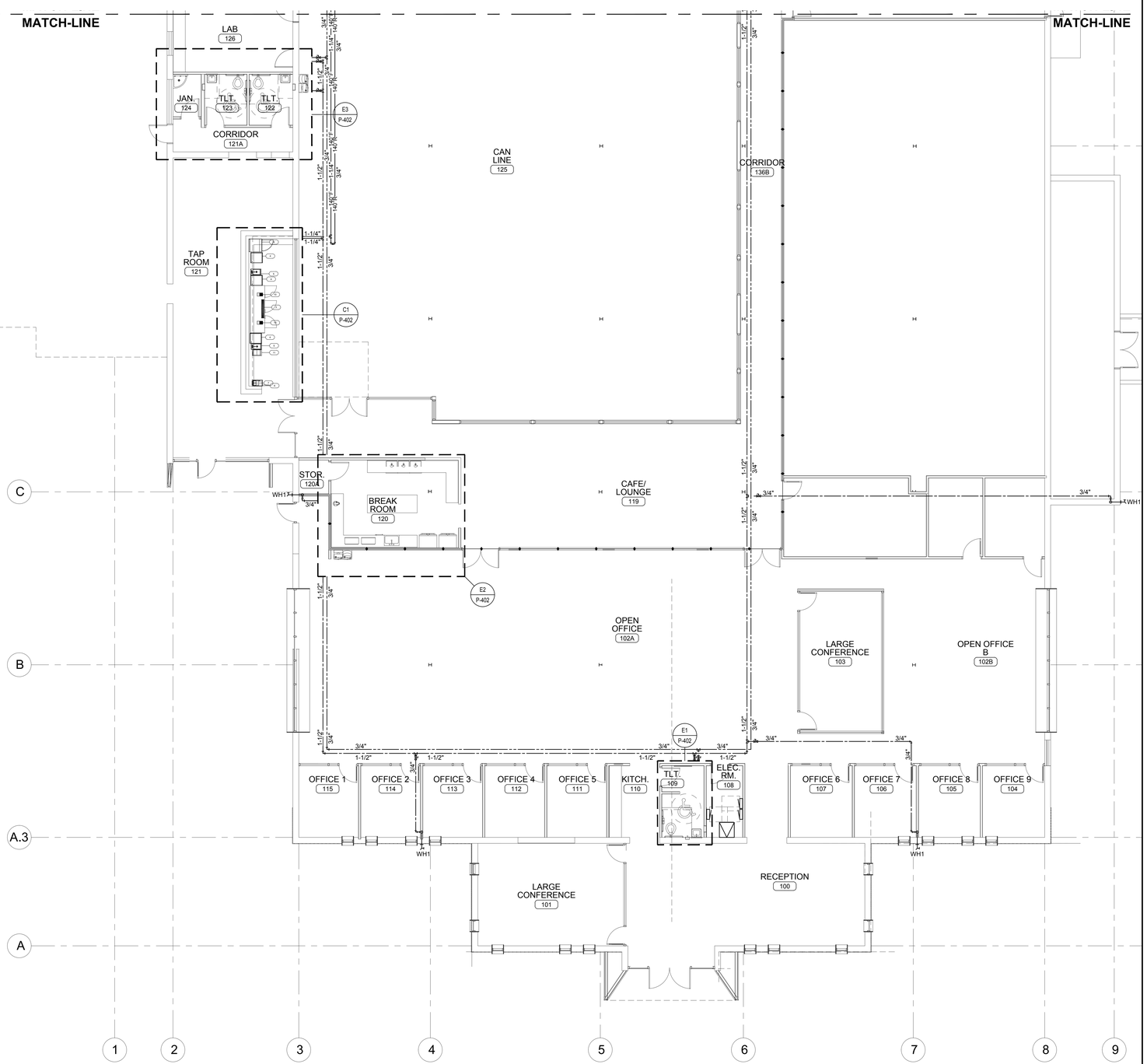
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DRAWN:	JBS
DESIGNED:	JBS
CHECKED:	TOG

DRAWING NO:
P-102

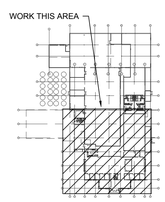
REVISION:
A

GENERAL NOTES

1. PC TO COORDINATE SUPPLIES FOR TAP ROOM EQUIPMENT WITH KITCHEN EQUIPMENT VENDOR.



A2 DOMESTIC WATER FLOOR PLAN
1/8" = 1'-0"
0 4' 8' 16'
PLAN NORTH



A5 KEYPLAN
NOT TO SCALE
PLAN NORTH

No.	Description	Date
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NORTH CAROLINA PROFESSIONAL SEAL 043801 ENGINEER JEFFREY O. GRAY
12/10/2019

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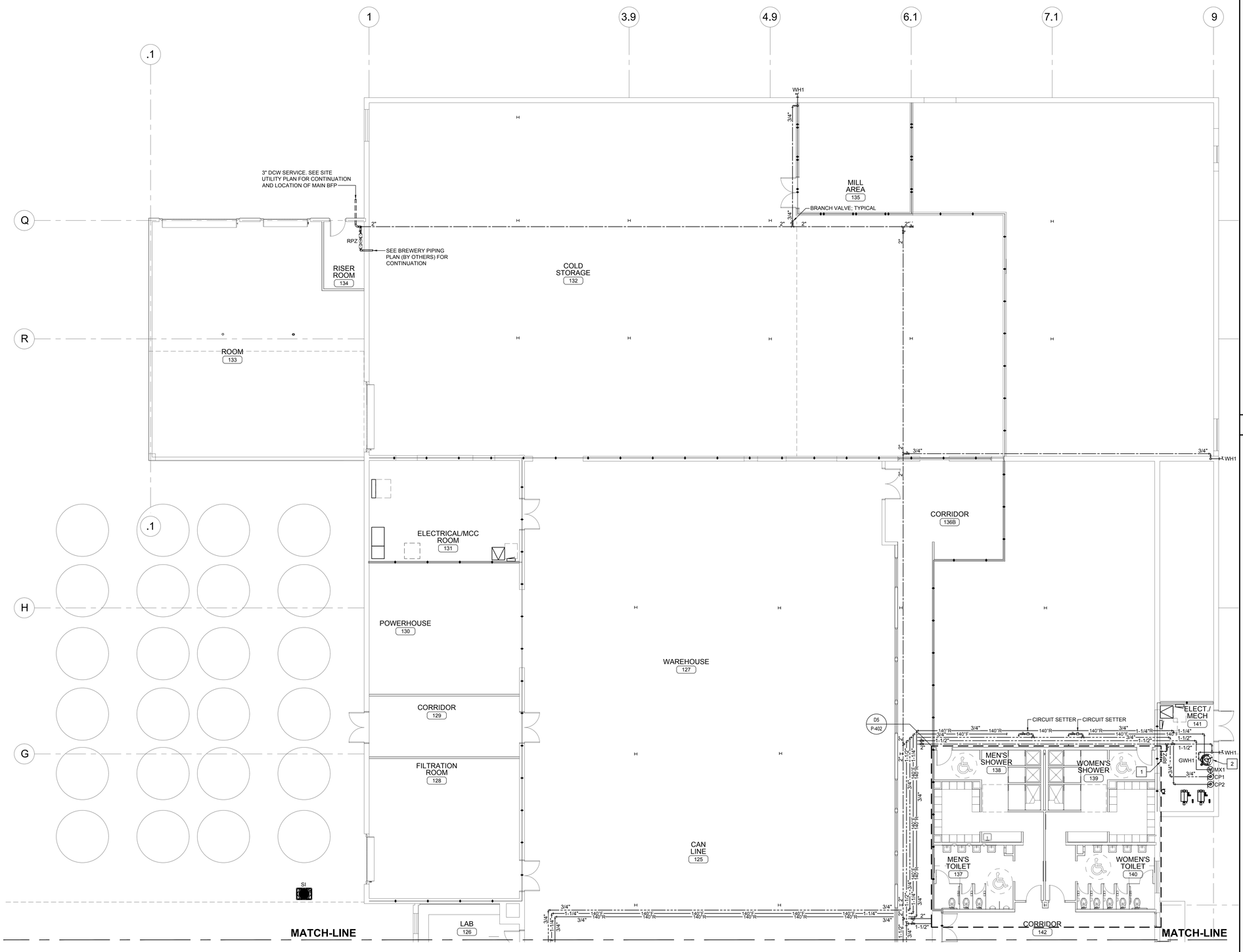
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715 Greenfield Street
Wilmington, North Carolina

PLUMBING FLOOR PLAN

JOB NO.:	19109
DRAWN:	JBS
DESIGNED:	JBS
CHECKED:	TOG

DRAWING NO:
P-201

REVISION:
A



A1 DOMESTIC WATER FLOOR PLAN

1/8" = 1'-0"

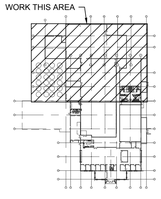
0 4' 8' 16'

PLAN NORTH

GENERAL NOTES

KEYED NOTES

1. 3/4" MAKE-UP. REFER TO MECHANICAL DRAWINGS FOR FURTHER INFORMATION.
2. GAS-FIRED WATER HEATER. REFER TO DETAIL D4/P-501 FOR FURTHER INFORMATION.



A5 KEYPLAN

NOT TO SCALE

PLAN NORTH

No.	Description	Date
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NORTH CAROLINA PROFESSIONAL SEAL 043801 ENGINEER TROY O. GRADY
12/10/2019

208 Princess Street
Wilmington, North Carolina

MONTEITH CONSTRUCTION CORP

TRU Colors Brewery
715 Greenfield Street
Wilmington, North Carolina

PLUMBING FLOOR PLAN

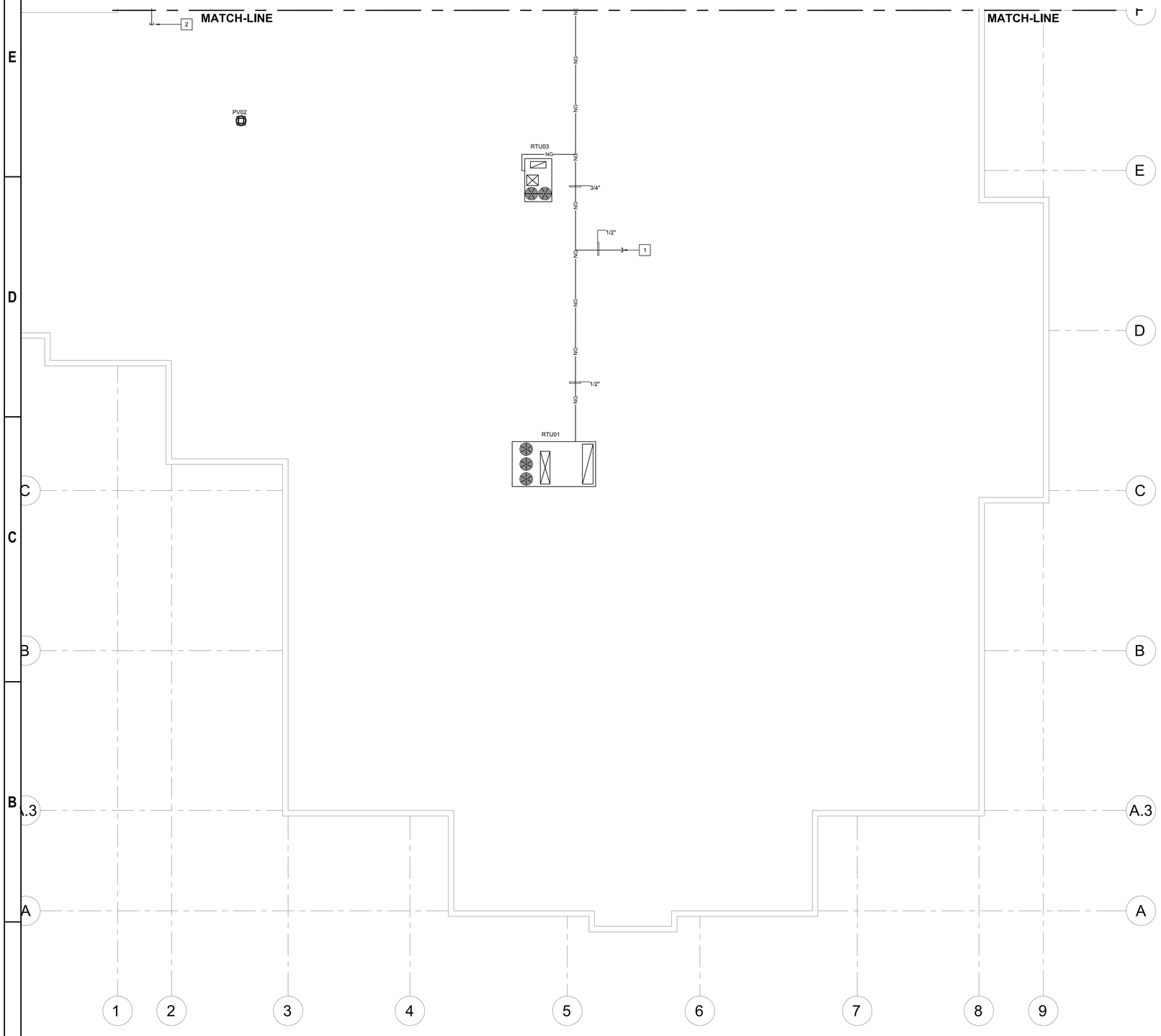
JOB NO.:	19109
DRAWN:	JBS
DESIGNED:	JBS
CHECKED:	TOG

DRAWING NO:

P-202

REVISION:

A



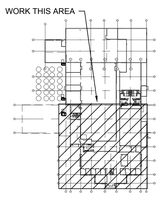
A2 **GAS PIPING FLOOR PLAN**
1/8" = 1'-0"
0 4' 8' 16'

PLAN NORTH

GENERAL NOTES

KEYED NOTES

1 BRANCH CAPPED FOR FUTURE CONNECTION.



A5 **KEYPLAN**
NOT TO SCALE

PLAN NORTH

No.	Description	Date
A	ISSUED FOR PERMIT	12.20.2019

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12/10/2019

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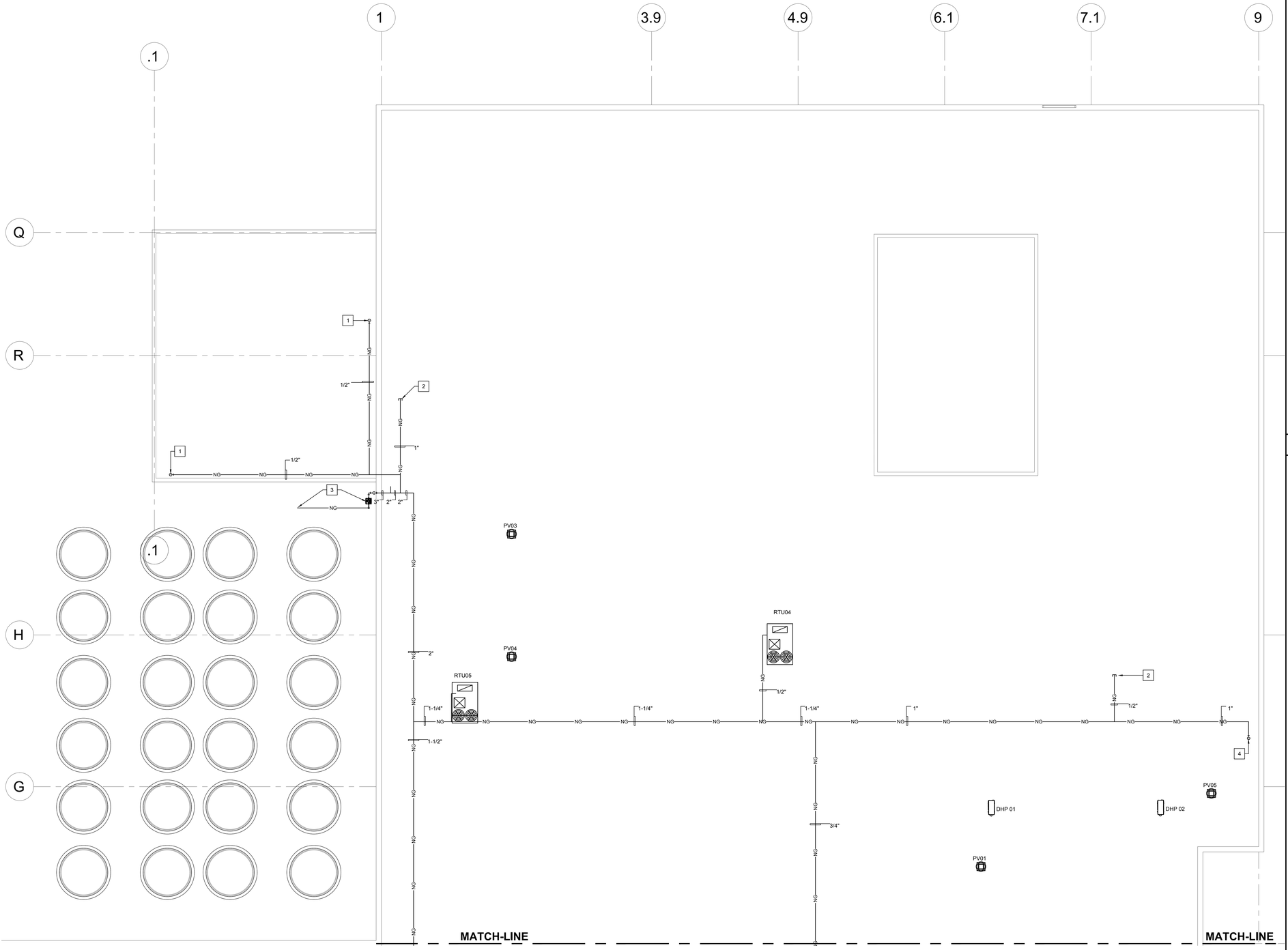
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FIRST FLOOR
GAS PIPING PLAN

JOB NO.:	19169
DRAWN:	JBS
DESIGNED:	JBS
CHECKED:	TOG

DRAWING NO:
P-301

REVISION:
A



GENERAL NOTES

KEYED NOTES

1. GAS PIPING DOWN THRU ROOF TO UNIT HEATER BELOW.
2. BRANCH CAPPED FOR FUTURE CONNECTION.
3. GAS METER AND SUPPLY BY GAS COMPANY.
4. GAS SUPPLY DOWN THRU ROOF TO MECHANICAL ROOM.

A1 **GAS PIPING FLOOR PLAN**
1/8" = 1'-0"
0 4' 8' 16'

PLAN NORTH

WORK THIS AREA

A5 **KEYPLAN**
NOT TO SCALE

PLAN NORTH

No.	Description	Date
A	ISSUED FOR PERMIT	12.10.2019

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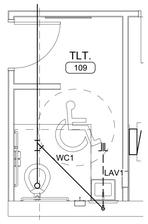
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SECOND FLOOR GAS PIPING PLAN

JOB NO.:	19109
DRAWN:	JBS
DESIGNED:	JBS
CHECKED:	TOG

DRAWING NO:
P-302

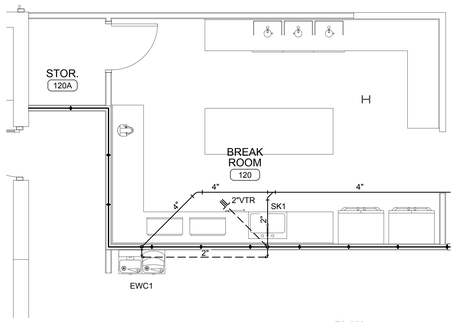
REVISION:
A



PLAN NORTH

E1 ENLARGED WASTE-VENT PLAN

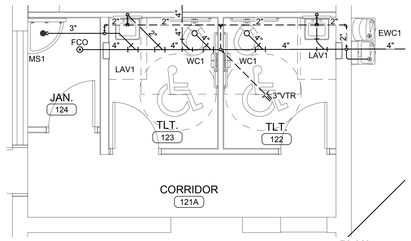
1/8" = 1'-0"



PLAN NORTH

E2 ENLARGED WASTE-VENT PLAN

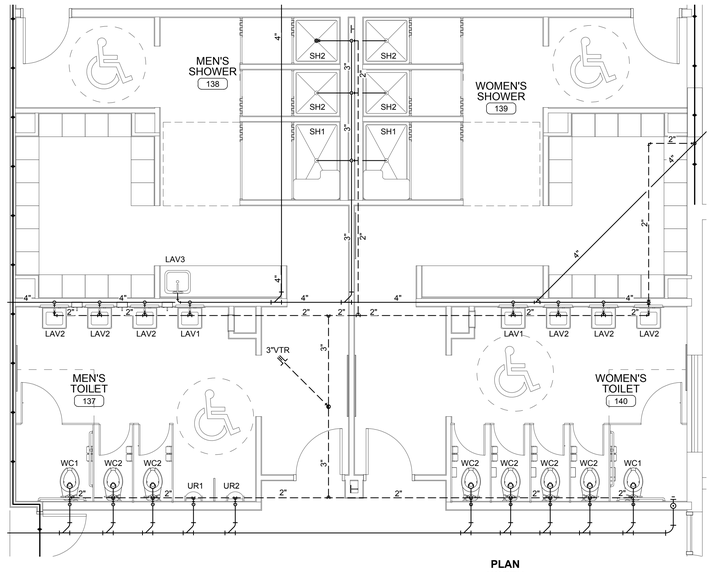
1/8" = 1'-0"



PLAN NORTH

E3 ENLARGED WASTE-VENT PLAN

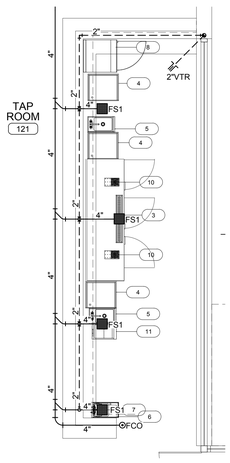
1/8" = 1'-0"



PLAN NORTH

D5 ENLARGED WASTE-VENT PLAN

1/8" = 1'-0"



PLAN NORTH

C1 ENLARGED WASTE-VENT PLAN

1/8" = 1'-0"

12/10/2019	Date
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NORTH CAROLINA REGISTERED SEAL 043801 ENGINEER SCOT O. GRADY

12/10/2019

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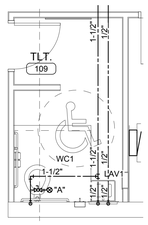
PLUMBING ENLARGED PLANS

JOB NO.:	19109
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DESIGNED:	JBS
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DRAWING NO:

P-401

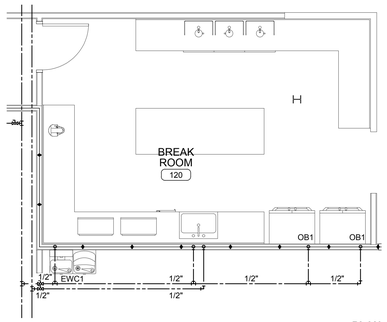
REVISION:
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PLAN NORTH

E1 ENLARGED DOMESTIC WATER PLAN

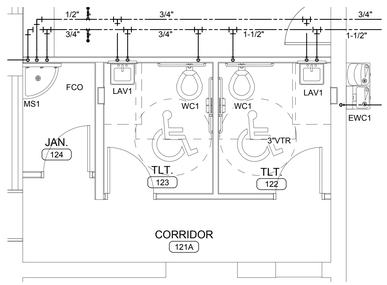
1/8" = 1'-0"



PLAN NORTH

E2 ENLARGED DOMESTIC WATER PLAN

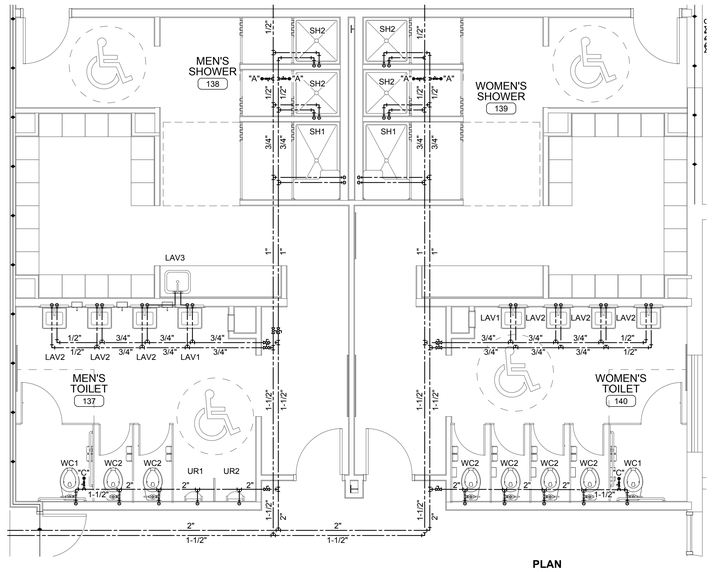
1/8" = 1'-0"



PLAN NORTH

E3 ENLARGED DOMESTIC WATER PLAN

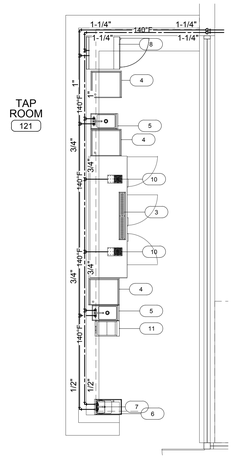
1/8" = 1'-0"



PLAN NORTH

D5 ENLARGED DOMESTIC WATER PLAN

1/8" = 1'-0"



PLAN NORTH

C1 ENLARGED DOMESTIC WATER PLAN

1/8" = 1'-0"

12/10/2019	Date
ISSUED FOR PERMIT	REVISIONS Description
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12/10/2019

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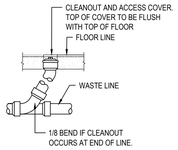
PLUMBING
ENLARGED PLANS

JOB NO.:	19109
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DESIGNED:	JBS
CHECKED:	TOG

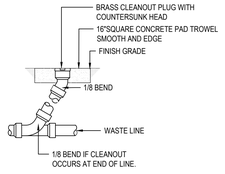
DRAWING NO:

P-402

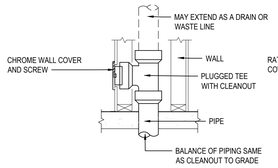
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FLOOR CLEANOUT (FCO)

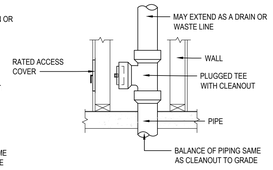


GRADE CLEANOUT (GCO)



NOTE: CLEANOUT TO BE FLUSH WITH FINISHED WALL.

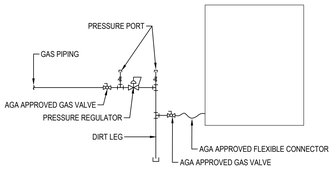
WALL CLEANOUT (WCO)



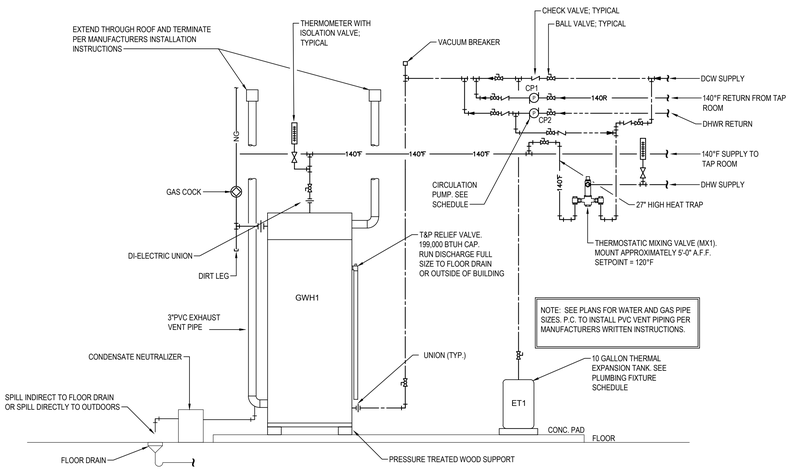
NOTE: CLEANOUT TO BE FLUSH WITH FINISHED WALL.

WALL CLEANOUT (WCO) RATED WALL

D1 CLEANOUT DETAILS
NOT TO SCALE



D3 GAS APPLIANCE CONNECTION DETAIL
NOT TO SCALE



D4 GAS-FIRED WATER HEATER DETAIL
NOT TO SCALE

JOSAM NO.	P.D.I. SYMBOL	FIXTURE UNIT RATING	A SIZE
7501-S	A	1-11	1/2
7502-S	B	12-32	3/4
7503-S	C	33-60	1
7504-S	D	61-113	1 1/4
7505-S	E	114-154	1 1/2
7506-S	F	155-330	2

C1 HAMMER ARRESTOR SCHEDULE / DETAIL
NOT TO SCALE

C1 RPZ BACKFLOW PREVENTER DETAIL
NOT TO SCALE

12.10.2019 Date
ISSUED FOR PERMIT Description
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NORTH CAROLINA PROFESSIONAL SEAL 043801 ENGINEER JOSEPH T. GRADY
12/10/2019

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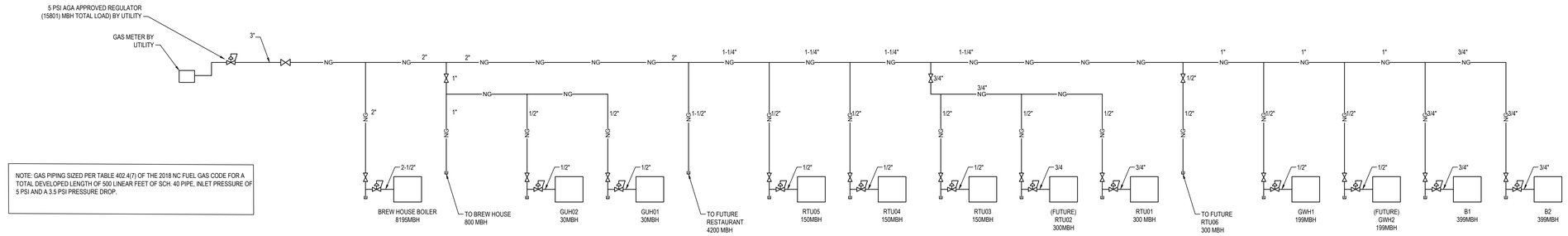
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PLUMBING DETAILS

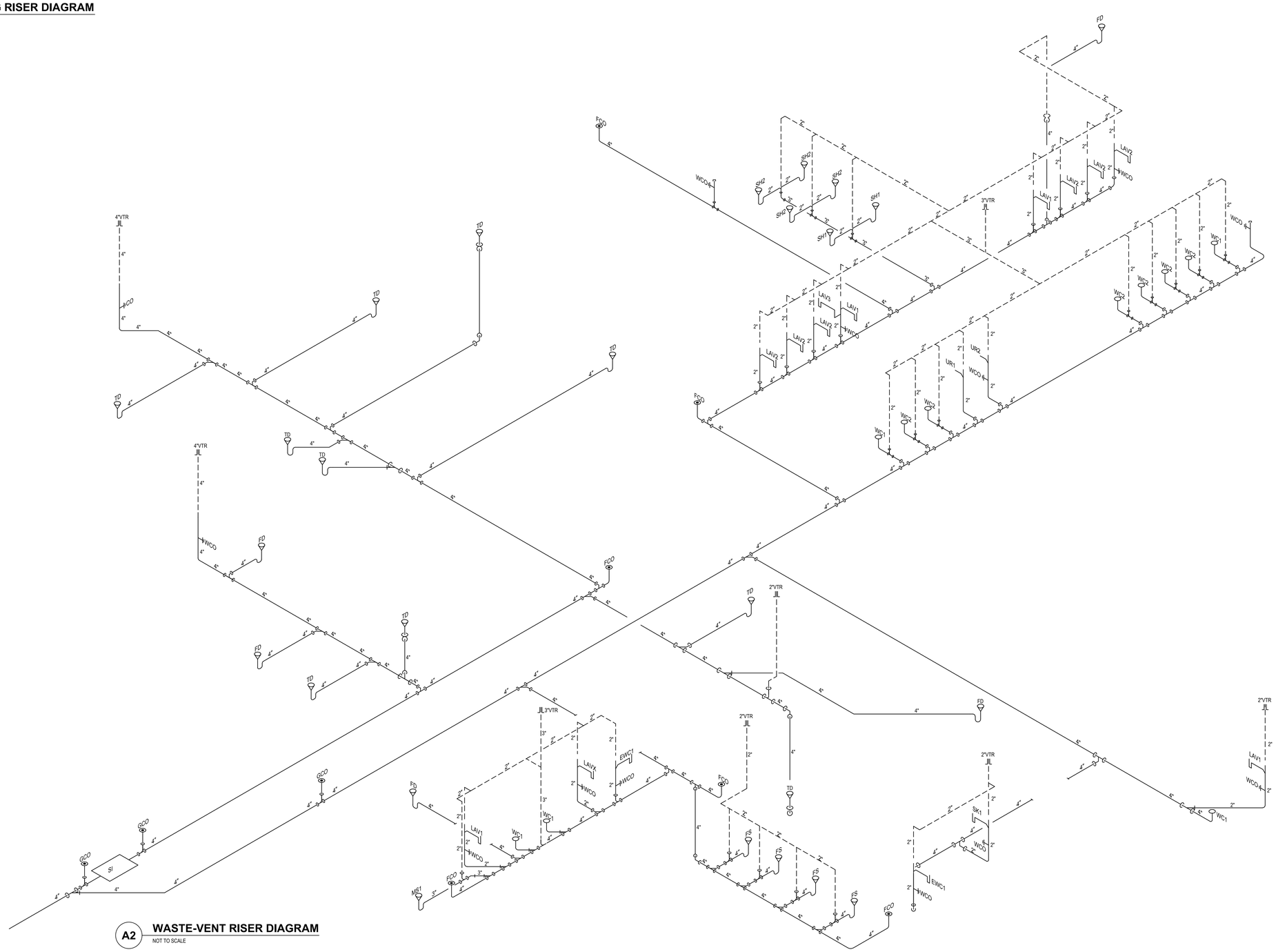
JOB NO.:	19109
DRAWN:	JBS
DESIGNED:	JBS
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DRAWING NO:
P-501

REVISION:
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E1 **GAS PIPING RISER DIAGRAM**
NOT TO SCALE



A2 **WASTE-VENT RISER DIAGRAM**
NOT TO SCALE

No.	Description	Date
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12/10/2019

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PLUMBING
RISER DIAGRAMS

JOB NO.:	19109
DRAWN:	JBS
DESIGNED:	JBS
CHECKED:	TOG

DRAWING NO:
P-502

REVISION:
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PLUMBING FIXTURE SCHEDULE

DRAWING CODE	FIXTURE		DESCRIPTION	MANUFACTURER	MODEL	ALTERNATE APPROVED MANUFACTURERS	NOTES	PIPE SIZE			
								DCW	DHW	WASTE	VENT
WC1	FLUSH VALVE WATER CLOSET, FLOOR MTD., 1.28GPF, ADA	BOWL	16.5" HIGH BOWL, ELONGATED, V.C., 2-1/8" TRAPWAY; TOP SPUD; MADERA	AMERICAN STANDARD	3043.001	ZURN, KOHLER	6	1"	-	4"	2"
		FLUSH VALVE	11.5" HIGH, 1.28GPF	SLOAN	111-1.28 YBYC	ZURN, TEC					
		SEAT	OFLC w/ SELF-SUSTAINING S.S. CHECK HINGE; HEIGHT 17-1/9" AFF	CHURCH	295SSCT	BEMIS, OLSONITE					
WC2	FLUSH VALVE WATER CLOSET, FLOOR MTD, 1.28GPF	BOWL	15" HIGH BOWL, ELONGATED, V.C., 2-1/8" TRAPWAY; TOP SPUD; MADERA	AMERICAN STANDARD	2234.001	ZURN, KOHLER					
		FLUSH VALVE	16" HIGH, 1.28GPF	SLOAN	113-1.28 YBYC	ZURN, TEC		1"	-	4"	2"
		SEAT	OFLC w/ SELF-SUSTAINING S.S. CHECK HINGE	CHURCH	295SSCT	BEMIS, OLSONITE					
UR1	URINAL WALL HUNG, 0.125GPF, ADA	BOWL	VITREOUS CHINA, WASHOUT, ELONGATED RIM MTD. 17 A.F.F. MAX., 3/4"TOP SPUD	AMERICAN STANDARD	6590.001	ZURN, KOHLER	1	3/4"	-	2"	2"
		FLUSH VALVE	11.5 HIGH	SLOAN	186-0.125-YBYC	ZURN, TEC					
UR2	URINAL, WALL HUNG, 0.125SGPF	BOWL	VITREOUS CHINA, WASHOUT, ELONGATED RIM MTD. 21 A.F.F. MAX., 3/4"TOP SPUD	AMERICAN STANDARD	6590.001	ZURN, KOHLER	1	3/4"	-	2"	2"
		FLUSH VALVE	11.5 HIGH	SLOAN	186-0.125-YBYC	ZURN, TEC					
LAV1	LAVATORY WALL HUNG, 0.5GPM, ADA	BOWL	20x18 VITREOUS CHINA, RIM 34" AFF MAX.	AMERICAN STANDARD	0355.012	ZURN, CRANE	1,2,3,9,	1/2"	1/2"	2"	2"
		FAUCET	4" CENTERSET, SINGLE LEVER HANDLE, SOLID BRASS CONSTRUCTION, CERAMIC CARTRIDGE, HIGH TEMP LIMIT STOP	MOEN	8413F05	ZURN, DELTA					
		DRAIN	GRID STRAINER	MCGUIRE	155A	DEARBORN, DELTA					
		MIXING VALVE	LEAD FREE THERMOSTATIC MIXING VALVE - SETPOINT = 90°F. INSTALL ON HOT WATER SUPPLY, ASSE 1070	CASH ACME	HG-135	LEONARD, WATTS					
LAV2	LAVATORY WALL HUNG, 0.5GPM	BOWL	20x18 VITREOUS CHINA	AMERICAN STANDARD	0355.012	ZURN, CRANE	1,2,9,	1/2"	1/2"	2"	2"
		FAUCET	4" CENTERSET, SINGLE LEVER HANDLE, SOLID BRASS CONSTRUCTION, CERAMIC CARTRIDGE, HIGH TEMP LIMIT STOP	MOEN	8413F05	ZURN, DELTA					
		DRAIN	GRID STRAINER	MCGUIRE	155A	DEARBORN, DELTA					
		MIXING VALVE	LEAD FREE THERMOSTATIC MIXING VALVE - SETPOINT = 90°F. INSTALL ON HOT WATER SUPPLY, ASSE 1070	CASH ACME	HG-135	LEONARD, WATTS					
SK1	1-COMPARTMENT COUNTERTOP SINK, 8" DEEP	BOWL	31x22x8, 18 GA S.S.	ELKAY	LR3122	JUST, ACORN	2,4,5,9,	1/2"	1/2"	2"	2"
		FAUCET	180° SWING SPOUT, SINGLE LEVER HANDLE, 3 HOLE, 1.5GPM, SOLID BRASS CONSTRUCTION, CHROME FINISH	MOEN	8701	DELTA, ZURN					
		DRAIN	BASKET STRAINER	ELKAY	LK35	ZURN, MOEN					
MS1	MOP SINK	BASIN	28x28x12 TERRZZO, WITH 6" CURVED DROOP FRONT w/ GRID STRAINER	FIAT	TSBCR1000	FLORESTONE, ZURN	10	1/2"	1/2"	3"	2"
		FAUCET	BRASS CONSTRUCTION, ROUGH CHROME FINISH, INTEGRAL VACUUM BREAKER, INTEGRAL CHECK STOPS, 3/4"THREADED SPOUT, SERVICE STOPS, WALL MOUNT, VANDAL RESISTANT, LEVER HANDLES	MOEN	8124	DELTA, ZURN					
		ACCESSORIES	HOSE/BRACKET, MOP HANGER	MOEN	8198, 8199	DELTA, ZURN					
SH1	JOB-BUILT SHOWER, ADA	ENCLOSURE	JOB-BUILT BY G.C. W/ GRAB BARS per ADA	-	-	-		1/2"	1/2"	2"	2"
		VALVE	PRESS. BALANCED MIXING VALVE, LEVER HANDLE. DIVERTER, HEAD W/ ARM, FLANGE, WALL/HAND SHOWER, FLEXIBLE METAL HOSE, IN-LINE VAC. BREAKER, 30"SLIDE BAR, 1.5GPM	MOEN	8342EP15	DELTA, SYMMONS					
		DRAIN	4-3/8" DIA. NICKEL BRONZE STRAINER, PVC	SIOUX CHIEF	821	SMITH, ZURN					
SH2	JOB-BUILT SHOWER	ENCLOSURE	JOB-BUILT BY G.C.	-	-	-		1/2"	1/2"	2"	2"
		VALVE	PRESS. BALANCED MIXING VALVE, LEVER HANDLE, HEAD W/ ARM, FLANGE, 1.5GPM	MOEN	8375EP15	DELTA, SYMMONS					
		DRAIN	4-3/8" DIA. NICKEL BRONZE STRAINER, PVC	SIOUX CHIEF	821	SMITH, ZURN					
EWC1	WALL HUNG WATER COOLER, ADA	FIXT	SPLIT LEVEL, S.S. TOP, LIGHT GREY BODY, BOTTLE FILLING STATION, 8 GPH @ 50/80/90, 120V/1PH, NON-FILTERED	ELKAY	EEZSTL8WSLK	HALSEY TAYLOR, OASIS	1,11	1/2"	-	2"	2"
GWH1	GAS WATER HEATER, 100 GAL, DIRECT VENT	FIXT	GLASS LINED, NAT GAS, 199 MBH INPUT, 230 GPH RCVY. @ 100 DEG RISE	A.O. SMITH	BTH-199	BRADFORD WHITE, RHEEM	8	3/4"	3/4"	-	-
		EXP TANK	10 GAL DIAPHRAGM		TW-10					-	-
FCO	FLOOR CLEANOUT	FIXT	C.I. BODY, 6-1/2"TOPS, ADJUSTABLE, SCORIATED, NICKEL BRONZE TOP	SIOUX CHIEF	834	ZURN, SMITH		-	-	MATCH	-
GCO	GRADE CLEANOUT	FIXT	C.I. BODY, RECESSED BRONZE PLUG.	SIOUX CHIEF	877	ZURN, SMITH		-	-	MATCH	-
WCO	WALL CLEANOUT	FIXT	ROUND S/S ACCESS COVER & SCREW, RECESS BRONZE THRD. PLUG	SIOUX CHIEF	870	ZURN, SMITH		-	-	MATCH	-
FD1	FLOOR DRAIN	FIXT	FINISHLINE ADJUSTABLE, SCH. 40 HUB CONNECTION, ABS/PVC BASE ADAPTOR, ROUND NICKLE BRONZE STRAINER	SIOUX CHIEF	832	ZURN, SMITH	-	-	-	MATCH	-
FS1	FLOOR SINK	FIXT	8x8x6 A.R.C.I. RECEPTOR, MEMBRANE CLAMP, DOME STRAINER, 1/2 GRATE	SIOUX CHIEF	861	ZURN, SMITH		-	-	MATCH	-
SI1	SOLIDS INTERCEPTOR	FIXT	INDOOR/OUTDOOR POLYETHYLENE SOLIDS INTERCEPTOR.	SCHIER	PS-50-S			-	-	MATCH	-
CP1	HOT WATER RECIRCULATION PUMP	FIXT	IN-LINE WET ROTOR, STAINLESS STEEL VOLUTE, 3-SPEED, 115/1/60, 125W. BUILT IN THERMAL PROTECTION. 10GPM@10'TDH	GRUNDFOS	UPS 15-55	B&G, MYERS		-	MATCH	-	-
CP2	HOT WATER RECIRCULATION PUMP	FIXT	IN-LINE WET ROTOR, STAINLESS STEEL VOLUTE, 3-SPEED, 115/1/60, 125W. BUILT IN THERMAL PROTECTION. 10GPM@10'TDH	GRUNDFOS	UPS 15-55	B&G, MYERS		-	MATCH	-	-
HB1	INTERIOR HOSE BIBB	FIXT	POLISHED CHROME, VACUUM BREAKER, WHEEL HANDLE, 3/4" HOSE THREAD	WOODFORD	24	ZURN, WATTS		1/2"	-	-	-
WH1	WALL HYDRANT	FIXT	CHROME PLATED BRASS, ANTI-SIPHON, VACUUM BREAKER, REMOVABLE TEE HANDLE, 3/4" HOSE THREAD	WOODFORD	65	ZURN, WATTS		3/4"	-	-	-
OB1	ICE MAKER BOX	FIXT	ABS HOUSING, 1/4 TURN BALL VALVE, CHROME PLATED BRASS, SHOCK ARRESTORS	SIOUX CHIEF	696	OATEY, IPS		1/2"	-	-	-
RPZ	BACKFLOW PREVENTER	FIXT	REDUCED PRESS. ZONE TYPE, LEAD FREE	WATTS	LF009	FEBCO, WILKINS		MATCH			
MV1	THERMOSTATIC MIXING VALVE	FIXT	THERMOSTATIC MIXING VALVE WITH THERMOMETER AND SHUT OFF VALVE	LAWLER	802	WATTS, LEONARD		1"	1"	-	-

NOTES
1. PROVIDE MATCHING WALL HANGER. COORDINATE WITH G.C. FOR WALL REINFORCING.
2. PROVIDE BRASS 1-1/2" TAILPIECE, CAST BRASS SLIP JOINT P-TRAP WITH CLEANOUT; PROVIDE ADA OFFSET ARRANGEMENT WHERE REQUIRED.
3. PROVIDE ADA INSULATION KIT
4. COORDINATE WITH MILLWORK.
5. COORDINATE ADA MILLWORK ENCLOSURE FOR WATER AND DRAIN PIPING UNDER SINK.
6. TRIP LEVER OR FLUSH HANDLE TO BE LOCATED ON WIDE SIDE OF STALL OR TOILET ROOM.
7. -
8. PROVIDE AND INSTALL CONDENSATE NEUTRALIZATION KIT. SPILL INDIRECT INTO FLOOR DRAIN.
9. PROVIDE 1/2" IPS X 3/8" OD ANGLE BRASS STOP(S) WITH RIGID COPPER RISERS. ALL EXPOSED PIPING SHALL BE CHROME PLATED.
10. PROVIDE INLINE CHECK VALVES FOR WATER SUPPLY LINES.
11. PROVIDE 1/2"IPS x 3/8" O.D. BRASS STOP CONCEALED BEHIND CABINET.

KITCHEN EQUIPMENT SCHEDULE

MARK	FIXTURE	PIPE SIZE					REMARKS
		CW	HW 140°F	WASTE	VENT	GAS	
3	DRIP TROUGH	-	-	ID	-	-	
4	GLASS RACK	-	-	ID	-	-	
5	UNDERBAR DUMP SIK	1/2"	1/2"	ID	-	-	
6	UNDERBAR HAND SINK	1/2"	1/2"	ID	-	-	
8	GLASSWASHER	1/2"	1/2"	ID	-	-	
10	GLASS RINSER	1/2"	-	ID	-	-	
11	ICE BIN	-	-	ID	-	-	

NOTES:
1. ID INDICATES INDIRECT DRAIN
2. PLUMBING CONTRACTOR TO ROUGH-IN AND MAKE FINAL PLUMBING CONNECTIONS TO ALL KITCHEN EQUIPMENT. COORDINATE w/ KITCHEN EQUIPMENT SUPPLIER.

GAS LOAD SCHEDULE

FIXTURE TAG	DESCRIPTION	BTUH RATING	QUANTITY	TOTAL
GWH1	GAS-FIRED WATER HEATER	199,000	1	199,000
GWH2 (FUTURE)	GAS-FIRED WATER HEATER	199,000	1	199,000
RTU01	PACKAGED ROOFTOP GAS PACK	300,000	1	300,000
RTU02 (FUTURE)	PACKAGED ROOFTOP GAS PACK	300,000	1	300,000
RTU03	PACKAGED ROOFTOP GAS PACK	150,000	1	150,000
RTU04	PACKAGED ROOFTOP GAS PACK	150,000	1	150,000
RTU05	PACKAGED ROOFTOP GAS PACK	150,000	1	150,000
RTU06 (FUTURE)	PACKAGED ROOFTOP GAS PACK	300,000	1	300,000
B01	BOILER	399,000	1	399,000
B02	BOILER	399,000	1	399,000
GUH1	GAS-FIRED UNIT HEATER	30,000	1	30,000
GUH2	GAS-FIRED UNIT HEATER	30,000	1	30,000
(FUTURE)	BREW HOUSE BOILER	8,195,000	1	8,195,000
(FUTURE)	BREW HOUSE	800,000	1	800,000
(FUTURE)	FUTURE RESTAURANT	4,200,000	1	4,200,000
TOTAL LOAD				15,801,000
BUILDING SERVICE GAS PRESSURE				5 psi

12.10.2019 Date
ISSUED FOR PERMIT Description
REVISIONS
No. Remarks

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12/10/2019

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TRU Colors Brewery
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PLUMBING SCHEDULES

JOB NO.: 19109
DRAWN: JBS
DESIGNED: JBS
CHECKED: TOG

DRAWING NO:
P-601

REVISION:
A

MECHANICAL PIPE SYMBOLS

	3-WAY CONTROL VALVE
	2-WAY CONTROL VALVE
	BALL VALVE
	BLOCK VALVE / SHUTOFF VALVE
	GAUGE
	PUMP
	ANGLE VALVE
	DRAIN
	CHECK VALVE
	GLOBE VALVE
	FLOW TRANSMITTER
T	STEAM TRAP
RPZ	RPZ
NC	NORMALLY CLOSED
	BOILER BLOWDOWN VALVE (SUPPLIED WITH BOILER)
	BOILER STOP CHECK VALVE
	FLANGED BUTTERFLY VALVE
	FLANGE
	FLOW MEASURING ORIFICE

NOTE: ALL ITEMS MAY NOT BE USED IN PROJECT.

MECHANICAL LEGEND

T	TEMPERATURE SENSOR
TH	TEMPERATURE/HUMIDITY SENSOR
D	DUCT SMOKE DETECTOR
	INDICATES TO DEMOLISH
GM	GAS METER
	GAS SHUTOFF VALVE
	EXTENT OF DEMOLITION
	POINT OF CONNECTION
	DIFFUSER/ REGISTER/ GRILLE NO. AS SHOWN ON PLAN AND SCHEDULE
	SG,RG,TG,EG
	AIRFLOW, CFM
	FIRE DAMPER
	1 HR. RATED PARTITION
	2 HR. RATED PARTITION

NOTE: ALL ITEMS MAY NOT BE USED IN PROJECT.

MECHANICAL PIPE LEGEND

HWS	HEATING HOT WATER SUPPLY
HWR	HEATING HOT WATER RETURN
HPS	HIGH PRESSURE STEAM
(X)HPS	EXISTING HIGH PRESSURE STEAM
HPC	HIGH PRESSURE CONDENSATE
(X)HPC	EXISTING HIGH PRESSURE CONDENSATE
BBD	BOTTOM BLOW DOWN
CBD	CONTINUOUS BLOW DOWN
BFW	BOILER FEED WATER
(X)PC	EXISTING PUMPED CONDENSATE
NG	NATURAL GAS
(X)CS	EXISTING CHEMICAL FEED SUPPLY

MECHANICAL DUCTWORK LEGEND

BD	BALANCING DAMPER
	CEILING RETURN OR TRANSFER REGISTER/GRILLES
	EXHAUST GRILLES
	CEILING SUPPLY DIFFUSERS
	CONICAL TEE
FD	HORIZONTAL FIRE DAMPER
FD	VERTICAL FIRE DAMPER
SD	VERTICAL SMOKE DAMPER
F/SD	VERTICAL FIRE/SMOKE DAMPER
	FLEXIBLE DUCT CONNECTION
DROP	DECLINED DROP WITH RESPECT TO AIRFLOW
RISE	INCLINED RISE WITH RESPECT TO AIRFLOW
Ø	INDICATES ROUND DUCTWORK
	MITERED ELBOW WITH TURNING VANES
M	MOTORIZED CONTROL DAMPER
	RADIUS ELBOW
	SUPPLY DUCT TURNING UP (ROUND OR RECTANGULAR)
	RETURN DUCT TURNING UP (ROUND OR RECTANGULAR)
	EXHAUST DUCT TURNING UP (ROUND OR RECTANGULAR)
	OUTSIDE AIR DUCT TURNING UP (ROUND OR RECTANGULAR)
	SUPPLY DUCT TURNING DOWN (ROUND OR RECTANGULAR)
	RETURN DUCT TURNING DOWN (ROUND OR RECTANGULAR)
	EXHAUST DUCT TURNING DOWN (ROUND OR RECTANGULAR)
	OUTSIDE AIR DUCT TURNING DOWN (ROUND OR RECTANGULAR)
10X10	SQUARE OR RECTANGULAR DUCTWORK
	VOLUME DAMPER
	TAKEOFF WITH 45° THROAT
	RETURN, EXHAUST OR TRANSFER AIR FLOW
	SUPPLY AIR FLOW
	DUCT CROSSING
	RECTANGULAR DUCT TURNING DOWN WITH CHANGE OF DIRECTION
	ROUND DUCT TURNING DOWN WITH CHANGE OF DIRECTION
	TERMINATION OF DUCT WITH BRANCH CONNECTIONS
	RECTANGULAR TO ROUND DUCT TRANSITION
SA	SUPPLY AIR DUCTWORK
RA	RETURN AIR DUCTWORK
EA	EXHAUST AIR DUCTWORK
OA	OUTSIDE AIR DUCTWORK
MA	MAKEUP AIR DUCTWORK
SD	DUCT SMOKE DETECTOR
P	STATIC PRESSURE SENSOR
DPT	DIFFERENTIAL PRESSURE TRANSDUCER

NOTE: ALL ITEMS MAY NOT BE USED IN PROJECT.

MECHANICAL GENERAL NOTES:

1. ALL MECHANICAL WORK SHALL BE IN STRICT COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND STANDARDS.
2. ALL DIMENSIONS AND ELEVATIONS FOR NEW EQUIPMENT, DUCTWORK, PIPING AND APPARATUS ARE APPROXIMATE AND ARE ONLY FOR CONTRACTOR'S GUIDANCE. CONTRACTOR SHALL SUBMIT DIMENSIONS AND ELEVATIONS VERIFIED IN THE FIELD. DUCTWORK AND PIPING INDICATED ON THE DRAWINGS, SECTIONS AND PROSPECTIVE VIEWS ARE SHOWN DIAGRAMMATICALLY. DUCT AND PIPE ELEVATIONS IN EXACT LOCATIONS SHALL BE DETERMINED BY THE INSTALLING CONTRACTOR AND DETAILED ON THE SHOP DRAWINGS.
3. ALL DUCT DIMENSIONS INDICATED ON PLAN ARE CLEAR INSIDE DIMENSIONS. CONTRACTOR MUST ACCOUNT FOR THE THICKNESS OF EXTERIOR INSULATION WHEN DETERMINING INSTALLATION CLEARANCES.
4. THE CONTRACTOR SHALL TEMPORARILY COVER ALL EXPOSED DUCT AND PIPE OPENINGS WITH A NON-COMBUSTIBLE MATERIAL, AND SEAL THEM AIR TIGHT TO PREVENT CONTAMINATION OF THE RESPECTIVE SYSTEMS DURING CONSTRUCTION.
5. CONTRACTOR SHALL REMOVE AND DISPOSE OF OFFSITE ALL DEMOLISHED WORK IN ACCEPTABLE AND SAFE MANNER AND SHALL KEEP ALL NON-WORK AREAS CLEAN AND SAFE.
6. ALL EXISTING EQUIPMENT AND CONNECTIONS THAT NEED TO BE TEMPORARILY DEMOLISHED FOR RIGGING AND / OR INSTALLATION SHALL BE REINSTALLED AND BROUGHT BACK TO ORIGINAL CONDITIONS PRIOR TO TEMPORARY REMOVAL.
7. INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

CLIMATE ZONE	3A - WARM/HUMID
WINTER DRY BULB:	23°F
SUMMER DRY BULB	95°F
INTERIOR DESIGN CONDITIONS	
WINTER DRY BULB	70°F
SUMMER DRY BULB	75°F
RELATIVE HUMIDITY	60% RH*
	*DESIGN- NOT CONTROLLED
BUILDING HEATING LOAD:	664 MBH
BUILDING COOLING LOAD:	734 MBH
MECHANICAL SPACING CONDITIONING SYSTEM	SEE SCHEDULES
UNITARY	
DESCRIPTION OF UNIT:	SEE SCHEDULES
HEATING EFFICIENCY:	SEE SCHEDULES
COOLING EFFICIENCY:	SEE SCHEDULES
SIZE CATEGORY OF UNIT:	SEE SCHEDULES
BOILER	
SIZE CATEGORY, IF OVERSIZED STATE REASON:	SEE SCHEDULES
CHILLER	
SIZE CATEGORY, IF OVERSIZED STATE REASON:	N/A
LIST EQUIPMENT EFFICIENCIES:	SEE SCHEDULES

MECHANICAL ABBREVIATIONS

ABBREVIATION	TERM
ADJ	ADJUSTABLE
AMCA	AIR MOVEMENT AND CONTROL ASSOCIATION
AMP	AMPERE (AMP, AMPS)
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
CFM	CUBIC FEET PER MINUTE
CIP	CAST IN PLACE
CMU	CONCRETE MASONRY UNIT
COP	COEFFICIENT OF PERFORMANCE
DB	DRY BULB
DEG OR °	DEGREE
EA	EXHAUST AIR
EG	EXHAUST GRILLE
EAT	ENTERING AIR TEMPERATURE
ECM	ELECTRONICALLY COMMUTATED MOTOR
EER	ENERGY EFFICIENCY RATIO
ESP	EXTERNAL STATIC PRESSURE
F	FAN
°F	FAHRENHEIT
FLA	FULL LOAD AMPS
FT	FEET
HC	HOT WATER COIL
HGT OR H	HEIGHT
HP	HORSEPOWER
HR	HOUR(S)
IN.	INCH
IN.-WG	INCHES WATER GAUGE
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
L	LOUVER
MAX	MAXIMUM
MBH	1000 BTUH
MCA	MINIMUM CIRCUIT AMPACITY
MCWB	MEAN COINCIDENT WET BULB
MIN.	MINIMUM
MOCP	MAXIMUM OVER CURRENT PROTECTION
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
OZ	OUNCE
OA	OUTSIDE AIR
%	PERCENT
RA	RETURN AIR
RG	RETURN GRILLE
RPM	REVOLUTIONS PER MINUTE
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SF	SQUARE-FEET
SG	SUPPLY GRILLE
SQ	SQUARE
TG	TRANSFER GRILLE
TYP	TYPICAL
UH	UNIT HEATER
V/PH/HZ	VOLT/PHASE/HERTZ
VTR	VENT THROUGH ROOF
W	WIDTH
WB	WET BULB

NOTE: ALL ABBREVIATIONS MAY NOT BE USED IN PROJECT.

NO.	DESCRIPTION	DATE
	ISSUED FOR PERMIT	12.10.2019

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12/10/2019

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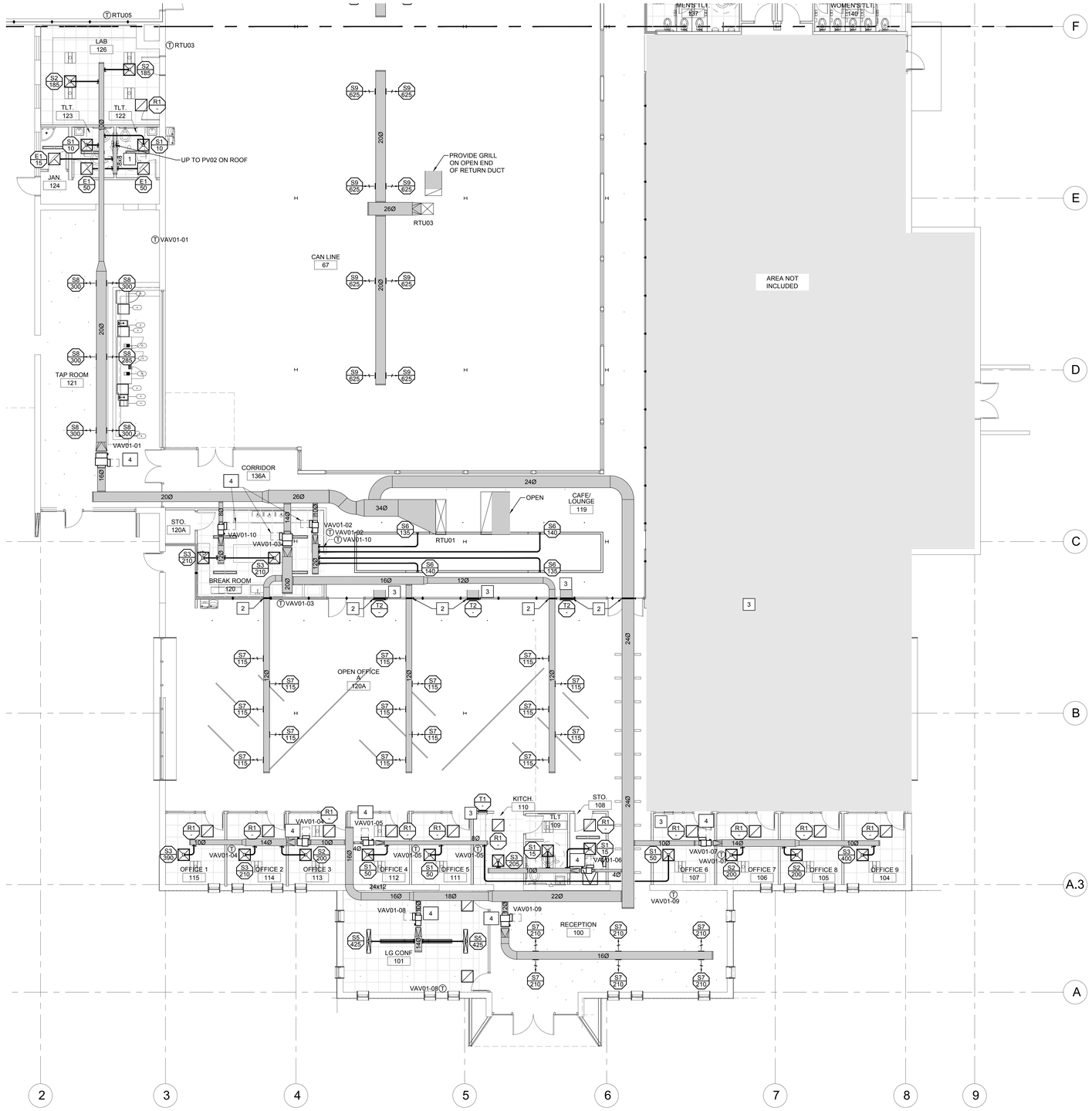
HVAC NOTES, ABBREVIATIONS, SUMMARY AND LEGEND

JOB NO.:	19109
DRAWN:	WTB
DESIGNED:	WTB
CHECKED:	TOG

DRAWING NO:

M-001

REVISION:
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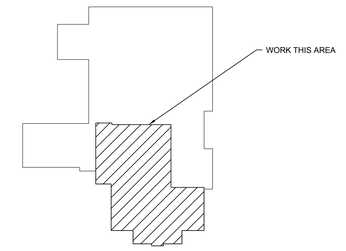


KEYED NOTES

1. ROUTE EXHAUST DUCTWORK TO EXHAUST FAN ON ROOF WHILE MAINTAINING MANUFACTURERS INSTALLATIONS RECOMMENDATIONS.
2. INSTALL FIRE DAMPER IN DUCTWORK THAT PENETRATES FIRE RATED WALLS.
3. OPEN ENDED DUCTWORK FOR PLENUM RETURN.
4. INSTALL VAV BOX WITH REHEAT COILS IN LOCATION SHOWN MAINTAINING MANUFACTURERS REQUIRED CLEARANCES FOR MAINTENANCE.

GENERAL NOTES

1. COORDINATE ROOF PENETRATIONS WITH STRUCTURAL DRAWINGS.



A5 **KEYPLAN**
NOT TO SCALE

PLAN NORTH

A1 **MECHANICAL HVAC PLAN**
1/8" = 1'-0"
0 4' 8' 16'

PLAN NORTH

No.	Description	Date
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MECHANICAL FLOOR PLAN

JOB NO.:	19109
DRAWN:	WTB
DESIGNED:	WTB
CHECKED:	TOG

DRAWING NO:
M-101

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KEYED NOTES

1. ROUTE EXHAUST DUCTWORK TO EXHAUST FAN ON ROOF WHILE MAINTAINING MANUFACTURERS RECOMMENDED INSTALLATION INSTRUCTIONS.
2. SUSPEND GAS FIRED UNIT HEATER FROM STRUCTURE ABOVE WHILE MAINTAINING MANUFACTURERS RECOMMENDED SERVICE CLEARANCE. ROUTE VENT PIPING UP AND THRU ROOF.
3. SUSPEND ELECTRIC UNIT HEATER FROM STRUCTURE ABOVE WHILE MAINTAINING MANUFACTURERS SERVICE CLEARANCE.
4. ROUTE CONDENSATE PIPING FROM INDOOR AIR HANDLER UNIT TO EXTERIOR WALL AND SPILL TO GRADE.

GENERAL NOTES

1. COORDINATE ROOF PENETRATIONS WITH STRUCTURAL DRAWINGS.

AREA NOT INCLUDED

RISER RM 134 · ROOM 131 · ELECTRIC/MCC ROOM 131 · POWER HOUSE 130 · CORRIDOR 129 · FILTRATION ROOM 128 · LAB · WAREHOUSE AREA 68 · MEN'S SHOWER 138 · WOMEN'S SHOWER 139 · MEN'S TLT 137 · WOMEN'S TLT 140 · ELECT./MECH 55

EUH1 · EUH2 · EUH3 · EUH4 · GUH1 · GUH2 · RTU04 · RTU05 · DAH01 · DAH02

UP TO PV03 ON ROOF · UP TO PV04 ON ROOF · UP TO PV01 ON ROOF

PROVIDE GRILL ON OPEN END OF RETURN DUCT

WORK THIS AREA

A1 **MECHANICAL HVAC PLAN** 1/8" = 1'-0" (0 4' 8' 16')

A5 **KEYPLAN** NOT TO SCALE

PLAN NORTH

No.	Description	Date
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12/10/2019

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MONTEITH ARCHITECTURE

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MECHANICAL FLOOR PLAN

JOB NO.:	19109
DRAWN:	WTB
DESIGNED:	WTB
CHECKED:	TOG

DRAWING NO: **M-102**

REVISION: A

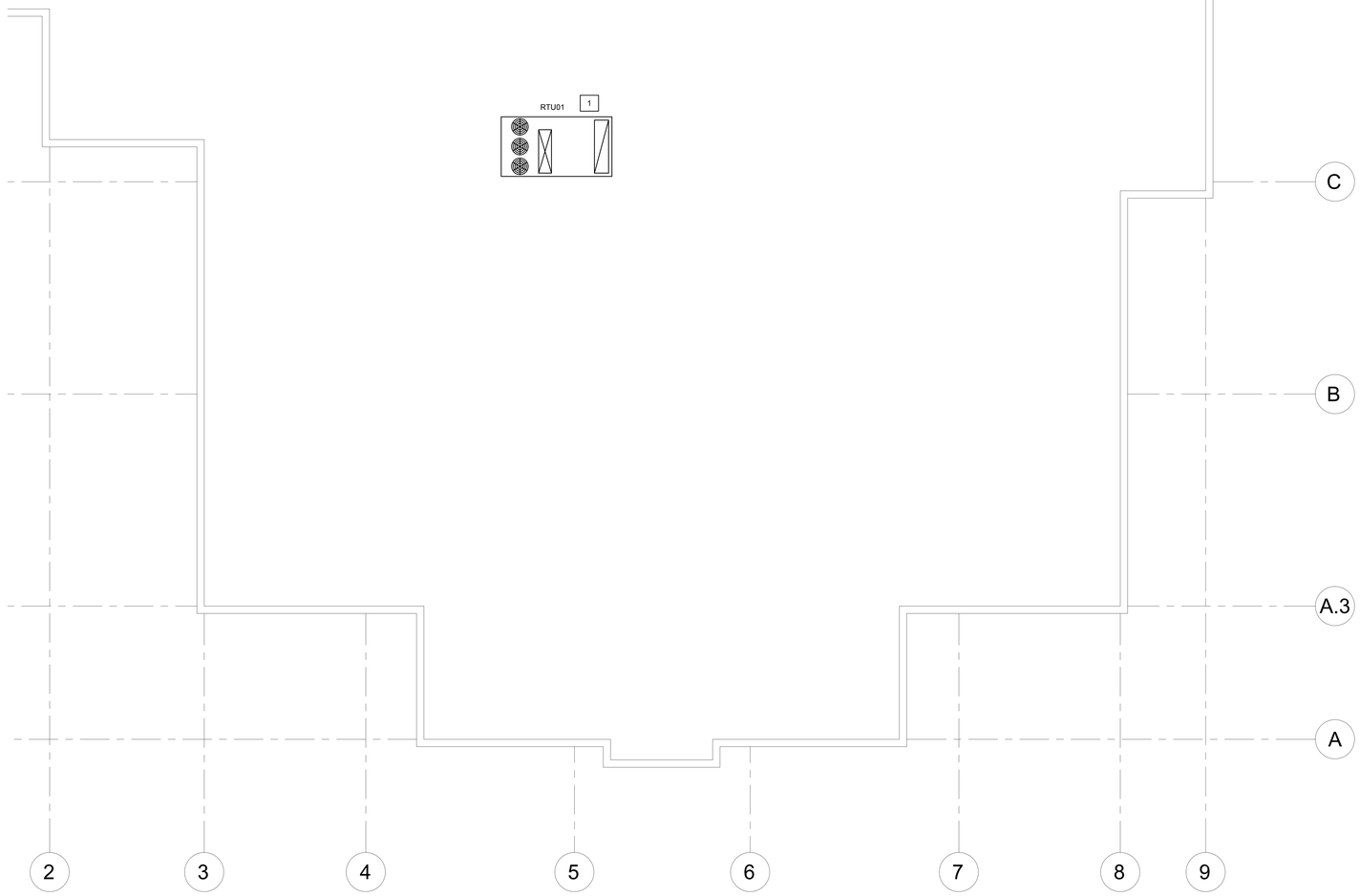
KEYED NOTES

1. INSTALL ROOF TOP UNIT ON ROOF CURB. SEAL WEATHER TIGHT. ROUTE CONDENSATE PIPING TO GUTTER. PIPE MUST BE SUPPORTED BY STANDS AND SLOPED TO GUTTER. MAINTAIN MANUFACTURERS RECOMMENDED CLEARANCES.
2. INSTALL POWER VENTILATOR ON ROOF CURB.

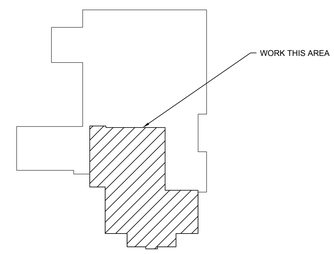
PV02 2

RTU03 1

RTU01 1



A1 ROOF PLAN
1/8" = 1'-0" 4' 8' 16'
PLAN NORTH



A5 KEYPLAN
NOT TO SCALE
PLAN NORTH

1	ISSUED FOR PERMIT
Revision No.	Description

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Date

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12/10/2019

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MECHANICAL ROOF PLAN

JOB NO.:	19109
DRAWN:	WTB
DESIGNED:	WTB
CHECKED:	TOG

DRAWING NO:
M-103

REVISION:
A

KEYED NOTES

1. INSTALL ROOF TOP UNIT ON ROOF CURB. SEAL WEATHER TIGHT. ROUTE CONDENSATE PIPING TO GUTTER. PIPE MUST BE SUPPORTED BY STANDS AND SLOPED TO GUTTER. MAINTAIN MANUFACTURERS RECOMMENDED CLEARANCES.
2. INSTALL POWER VENTILATOR ON ROOF CURB.
3. MOUNT OUTDOOR UNIT ON ROOF RAILS WHILE MAINTAINING MANUFACTURERS RECOMMENDED CLEARANCES. ROUTE REFRIGERATION PIPING TO RESPECTIVE INDOOR UNIT. PIPE CONDENSATE TO GUTTERS. PIPE MUST BE SUPPORTED BY STANDS AND SLOPED TO GUTTER.

PV03 2
PV04 2
RTU05 1
RTU04 1
DHP 01 3
3 DHP 02
PV05 2
PV01 2
WORK THIS AREA

A1 ROOF PLAN
1/8" = 1'-0" 0' 4' 8' 16'
PLAN NORTH

A5 KEYPLAN
NOT TO SCALE
PLAN NORTH

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MONTEITH CONSTRUCTION

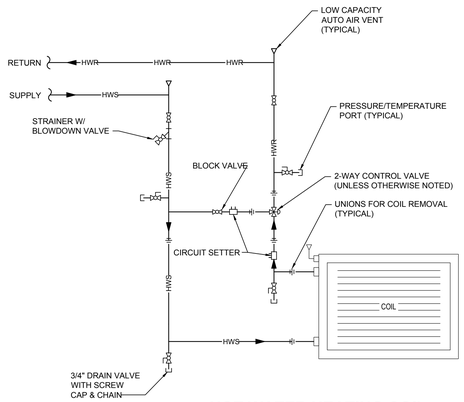
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MECHANICAL ROOF PLAN

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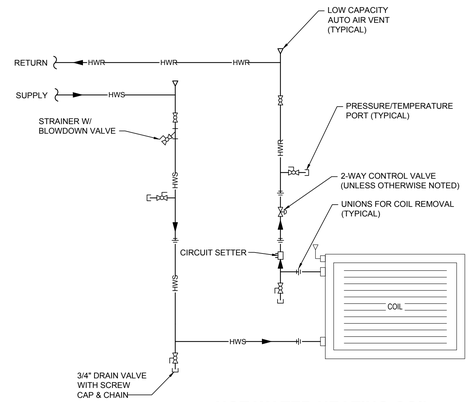
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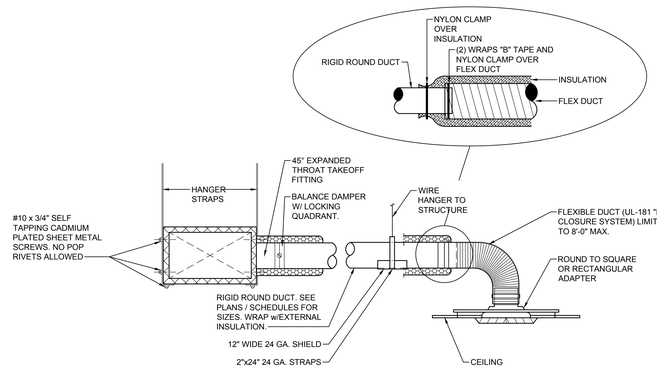
HOT WATER HEATING COIL 3-WAY VALVE PIPING DETAIL

D1 NOT TO SCALE



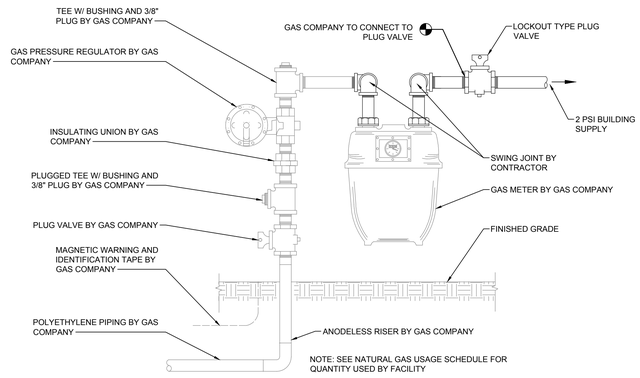
HOT WATER HEATING COIL 2-WAY VALVE PIPING DETAIL

D3 NOT TO SCALE



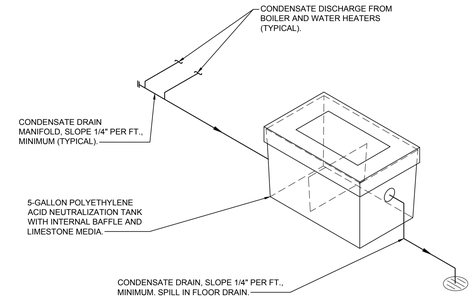
DIFFUSER CONNECTION DETAIL

D5 NOT TO SCALE



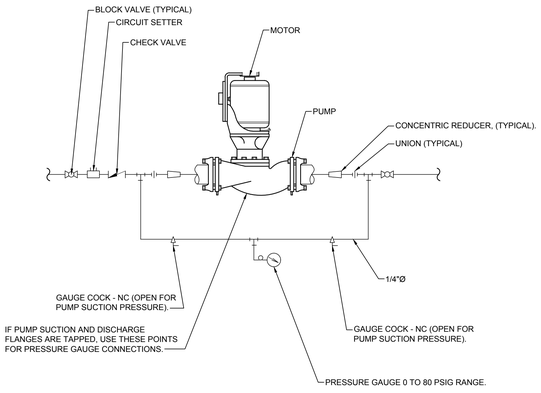
GAS SERVICE DETAIL

C1 NOT TO SCALE



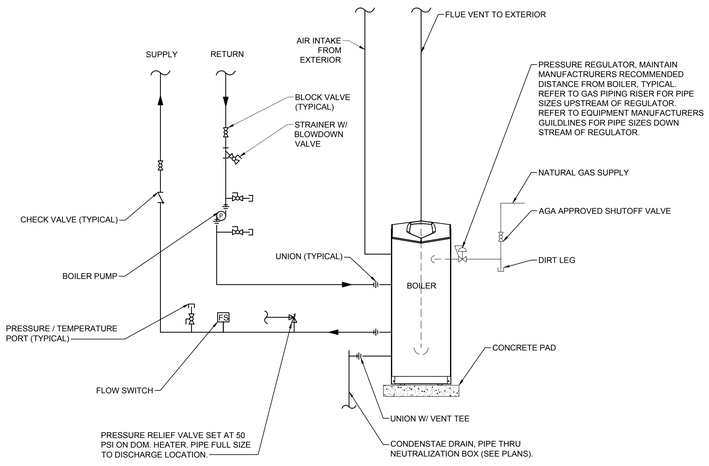
CONDENSATION NEUTRALIZATION TANK DETAIL

C3 NOT TO SCALE



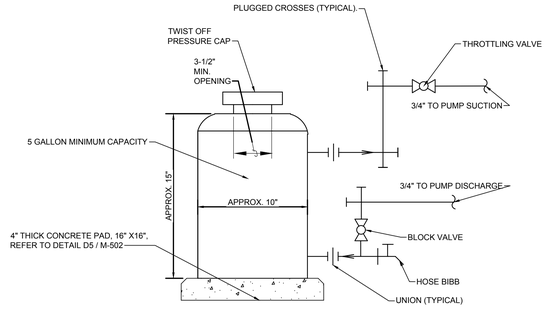
INLINE CENTRIFUGAL PUMP DETAIL

C4 NOT TO SCALE



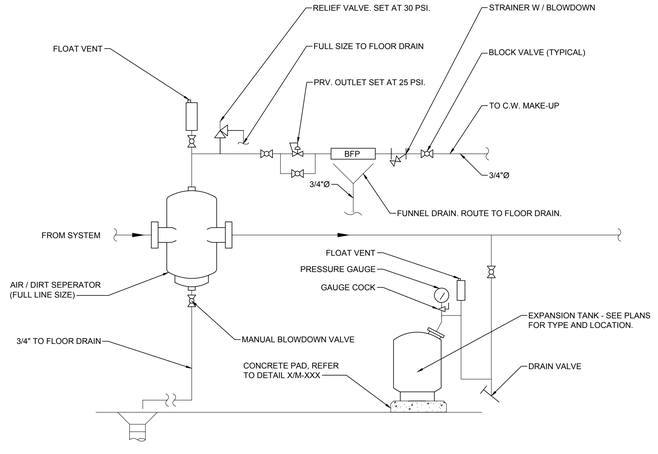
GAS-FIRED HOT WATER BOILER DETAIL

A1 NOT TO SCALE



SHOT FEEDER DETAIL

A3 NOT TO SCALE



AIR / DIRT SEPERATOR DETAIL

A5 NOT TO SCALE

1	12.10.2019
Date	
Issued	ISSUED FOR PERMIT
Description	REVISIONS
Remarks	

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NORTH CAROLINA REGISTERED SEAL 043801 ENGINEER ROY O. GRAY
12/10/2019

208 Princess Street
Wilmington, North Carolina

MONTEITH CONSTRUCTION CORP

TRU Colors Brewery
715 Greenfield Street
Wilmington, North Carolina

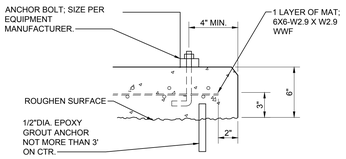
HVAC DETAILS

JOB NO.:	19109
DRAWN:	WTB
DESIGNED:	WTB
CHECKED:	TOG

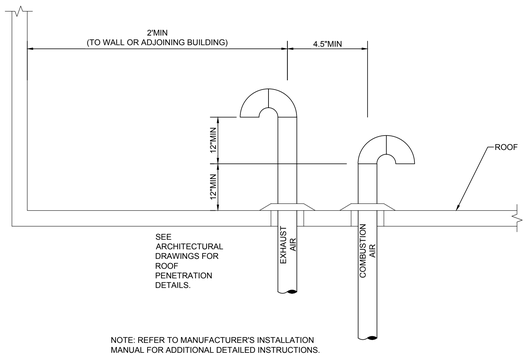
DRAWING NO:
M-501

REVISION:
A

NOTE:
1. MESH SHALL BE FURNISHED IN SHEETS.
2. ALL PAD EDGES SHALL BE CHAMFERED.
3. CONCRETE COMPRESSIVE STRENGTH SHALL BE 3,000 PSI AT 28 DAYS
4. ONLY ANCHOR EQUIPMENT WITH MANUFACTURER SUPPLIED ANCHOR MOUNTS

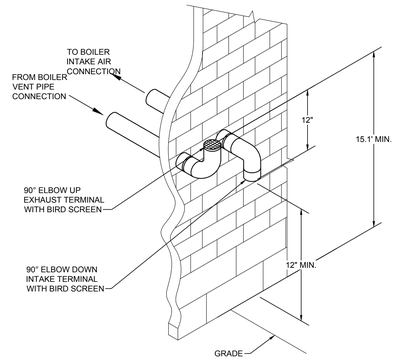


D1 EQUIPMENT PAD DETAIL
NOT TO SCALE

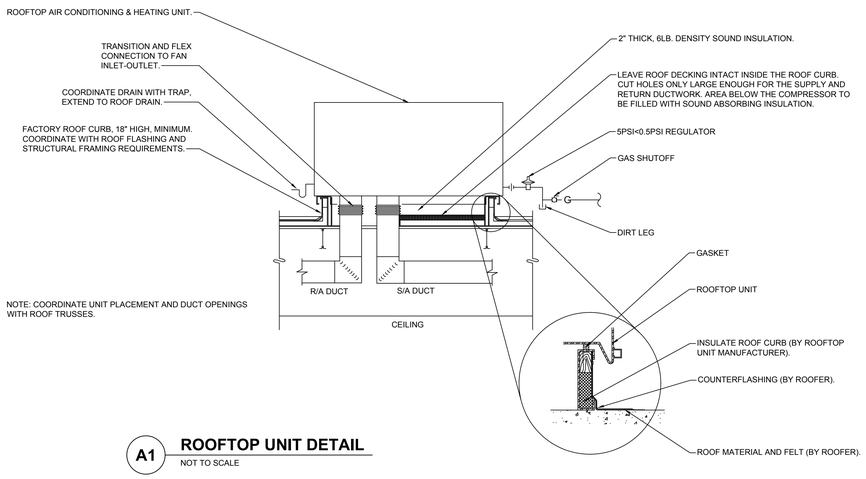


NOTE: REFER TO MANUFACTURER'S INSTALLATION MANUAL FOR ADDITIONAL DETAILED INSTRUCTIONS.

D3 COMBUSTION AIR/EXHAUST ROOF DETAIL
NOT TO SCALE

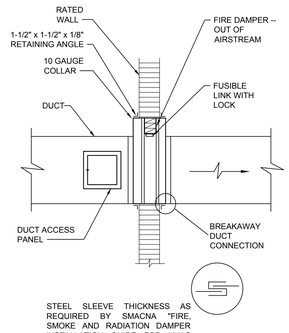


D4 COMBUSTION AIR/EXHAUST WALL DETAIL
NOT TO SCALE



NOTE: COORDINATE UNIT PLACEMENT AND DUCT OPENINGS WITH ROOF TRUSSES.

A1 ROOFTOP UNIT DETAIL
NOT TO SCALE



NOTE: FOR GENERAL REFERENCE ONLY. INSTALL IN STRICT ACCORDANCE WITH UL LISTED MANUFACTURERS WRITTEN INSTALLATION INSTRUCTIONS.

A4 FIRE DAMPER DETAIL
NOT TO SCALE

12/10/2019 Date
ISSUED FOR PERMIT Description
REVISIONS
Revision No.

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NORTH CAROLINA PROFESSIONAL SEAL 043801 ENGINEER ROY O. GRIFFIN
12/10/2019

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HVAC DETAILS

JOB NO.: 19109
DRAWN: WTB
DESIGNED: WTB
CHECKED: TOG

DRAWING NO:
M-502

REVISION:
A

PACKAGED ROOFTOP UNIT SCHEDULE

DRAWING CODE	BASIS OF DESIGN MANUFACTURER	ALTERNATE APPROVED MANUFACTURER	BASIS OF DESIGN MODEL	SYSTEM TYPE	SUPPLY AIR FAN					EXHAUST FAN			SUPPLY AIR REFRIGERANT COIL						HOT GAS REHEAT COIL			SUPPLY AIR GAS FURNACE								EFFICIENCY		ELECTRICAL			WEIGHT (LBS.)	NOTES	ACCESSORIES
					TOTAL AIRFLOW (CFM)	OUTSIDE AIRFLOW (CFM)	ESP (IN. WG.)	TSP (IN. WG.)	MOTOR (HP)	AIRFLOW (CFM)	ESP (IN. WG.)	MOTOR (HP)	NET TOTAL (MBH)	NET SENSIBLE (MBH)	EAT (F DB)	EAT (F WB)	LAT (F DB)	LAT (F WB)	NET TOTAL (MBH)	EAT (F DB)	LAT (F DB)	AGA INPUT (MBH) MAXIMUM	AGA INPUT (MBH) MINIMUM	AGA OUTPUT (MBH) MAXIMUM	GAS CONNECTION (IN.)	INLET GAS PRESSURE (IN. WG)	FUEL TYPE	EAT (F DB)	LAT (F DB)	EER	IEER	POWER SUPPLY (V/PH/HZ)	MCA	MOCP			
RTU01	DAIKIN	TRANE, CARRIER	MPS030F	VARIABLE AIR VOLUME	9,000	1,967	1.00	1.67	5	9,000	0.50	1	327	219	77.9	66.40	54.80	53.90	-	-		300	-	240.0	3/4	7 - 14	NATURAL GAS	53.90	79.50	10.2	12.6	460/3/60	67.00	80	4,115	1,2,3	A,B,C,D,E,F,G,H,I,J,K,L,M,N,O,P,Q,R,S,T
RTU03	DAIKIN	TRANE, CARRIER	MPSA12D	GAS-PACK	5,000	1,307	0.50	1.19	5	-	-	-	155	124	78.4	64.80	55.40	54.40	68,110	55.4	68.00	150	-	121.5	1/2	7 - 14	NATURAL GAS	63.70	86.10	10.8	14.0	460/3/60	34.00	40	1,256	1,2,3	B,F,G,I,K,L,M,N,O,P,Q,S,T,U,V,W
RTU04	DAIKIN	TRANE, CARRIER	MPSA12D	GAS-PACK	5,000	1,307	0.50	1.19	5	-	-	-	155	124	78.4	64.80	55.40	54.40	68,110	55.4	68.00	150	-	121.5	1/2	7 - 14	NATURAL GAS	63.70	86.10	10.8	14.0	460/3/60	34.00	40	1,256	1,2,3	B,F,G,I,K,L,M,N,O,P,Q,S,T,U,V,W
RTU05	DAIKIN	TRANE, CARRIER	MPSA07D	GAS-PACK	2,200	148	0.50	0.71	2	-	-	-	89	61	80.0	67.00	54.40	53.80	37,196	54.4	70.00	150	-	121.5	1/2	7 - 14	NATURAL GAS	54.40	70.00	11	14.6	460/3/60	17.00	25	944	1,2,3	B,F,G,I,K,L,M,N,O,P,Q,S,T,U,V,W

NOTES:
1. REFER TO SPECIFICATION SECTION 237416.13 - PACKAGED, LARGE-CAPACITY, ROOFTOP AIR-CONDITIONING UNITS FOR ADDITIONAL INFORMATION.
2. AMBIENT DESIGN TEMPERATURE: 95F DB.
3. OUTSIDE AIRFLOW SHALL REMAIN CONSTANT AS SCHEDULED DURING OCCUPIED SCHEDULE.

ACCESSORIES:
A. DOUBLE WALLED CONSTRUCTION WITH HINGED ACCESS DOORS.
B. PLEATED MEDIA TYPE, 2 INCH THICKNESS, MERV 8.
C. DOUBLE-INLET, FORWARD CURVED SUPPLY FANS WITH 2 INCH DEFLECTION SPRING ISOLATION.
D. INTERNAL SHAFT GROUNDING RING.
E. EXTENDED GREASE LINES
F. DOUBLE SLOPING STAINLESS STEEL DRAIN PAN.
G. VARIABLE CAPACITY REFRIGERATION SYSTEM.
H. MODULATING EXHAUST FAN WITH CONTROL SYSTEM TO MODULATE VFD TO CONTROL BUILDING PRESSURE.
I. 0-100 PERCENT MODULATING COMPARATIVE ENTHALPY ECONOMIZER.
J. FACTORY MOUNTED AIRFLOW MEASUREMENT STATION TO MAINTAIN CONSTANT OUTSIDE AIR VENTILATION.
K. LOW LEAK ECONOMIZER DAMPERS HAVING A LEAKAGE RATE OF 1% AT 1.0 IN WC PRESSURE DIFFERENTIAL.
L. FACTORY DDC MICROPROCESSOR CONTROLS
M. FACTORY BASCNET MS/TP BUILDING MANAGEMENT SYSTEM CONTROL INTERFACE.
N. WIND RATED ROOF CURB WITH 2" SPRING ISOLATION.
O. DUCT SMOKE DETECTORS.
P. CORROSION COATED CONDENSER AND EVAPORATOR COIL TO MEET ASTM B117 6000 HOUR SALT SPRAY TEST.
Q. PROVIDE 5 YEAR PARTS AND LABOR WARRANTY BY EQUIPMENT MANUFACTURER.
R. ULTRA MODULATING GAS HEAT WITH 10:1 TURNDOWN
S. PROVIDE SINGLE POINT POWER CONNECTION.
T. LOW AMBIENT CONTROL TO 0 °F.
U. HOT GAS REHEAT.
V. TWO STAGE HEAT
W. STAINLESS STEEL HEAT EXCHANGER.
X. 2 SPEED AIR FLOW

GAS-FIRED UNIT HEATER SCHEDULE

DRAWING CODE	DESIGN BASIS MFR	MODEL	ALTERNATE APPROVED MFRS	FUEL	TYPE			GAS			FLUE & INTAKE (IN)	MIN. AIRFLOW (CFM)	MOUNTING HEIGHT (FT)	MOTOR		VOLTAGE (V/PH/HZ)	FLA (AMPS)	MCA (AMPS)	MOCP (AMPS)	WEIGHT (LBS)	NOTES	ACCESSORIES
					FAN	COMBUSTION / CONTROL	VENTING	INPUT (MBH)	OUTPUT (MBH)	EFF.(%)				HP	RPM							
GUH1	STERLING	GG-30	MODINE, TRANE	NATURAL GAS	PROPELLER	ENCLOSED / SINGLE STAGE	POWERED	30	25	83	4	370	10	1/20	1650.0	120/1/60	3.2	3.7	-	60	1,2	A,B,C
GUH2	STERLING	GG-30	MODINE, TRANE	NATURAL GAS	PROPELLER	ENCLOSED / SINGLE STAGE	POWERED	30	25	83	4	370	10	1/20	1650.0	120/1/60	3.2	3.7	-	60	1,2	A,B,C

NOTES:
1. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
2. VENT IN ACCORDANCE WITH BUILDING CODE AND MANUFACTURER'S INSTRUCTIONS.

ACCESSORIES:
A. PROVIDE SINGLE STAGE THERMOSTAT AND AGA APROVED REGULATOR.
B. PROVIDE DOWNBLAST DISCHARGE VENT.
C. PROVIDE WITH VERTICAL LOUVERS FOR 4-WAY DEFLECTION.

DUCTED MINI-SPLIT HEAT PUMP SYSTEM SCHEDULE

DRAWING CODE	BASIS OF DESIGN MANUFACTURER	MODEL	ALTERNATE APPROVED MANUFACTURERS	ARI COOLING 80/67/95		ARI HEATING 70/47	MIN SEER	MIN HSPF	INDOOR UNIT				OUTDOOR UNIT				REFRIGERANT PIPING		NOTES	ACCESSORIES
									FAN	ELECTRICAL		WEIGHT	ELECTRICAL			WEIGHT	MAXIMUM LENGTH (FT.)	MAXIMUM HEIGHT DIFFERENTIAL (FT.)		
				TOTAL	MIN.	TOTAL			SA MIN-MAX	VOLTAGE	MCA		VOLTAGE	MCA	MOCP					
(IDU / ODU)		(IDU / ODU)		(MBH)	(MBH)	(MBH)			(CFM)	(V/PH/HZ)	(AMPS)	(LBS)	(V/PH/HZ)	(AMPS)	(AMPS)	(LBS)				
DAH01 / DHP01	DAIKIN	FDMQ09RVJU / RX09RMVJU9	MITSUBISHI, YORK	9	3.9	9	11.1	10.3	290-343	208/1/60	1	64	208/1/60	9	15	60	65.6	49.2	1	A,B,C
DAH02 / DHP02	DAIKIN	FDMQ09RVJU / RX09RMVJU9	MITSUBISHI, YORK	9	3.9	9	11.1	10.3	290-343	208/1/60	1	64	208/1/60	9	15	60	65.6	49.2	1	A,B,C

NOTES:
1. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.

ACCESSORIES:
A. ELECTRICAL CONTRACTOR TO PROVIDE CONDUIT AND CONDUCTOR FROM OUTDOOR UNIT TO INDOOR UNIT.
B. PROVIDE ASPEN MINI WHITE CONDENSATE PUMP AND RESERVOIR OR EQUAL WITH CAPACITY OF 1.6 GAL/HR AT 33 FT OF HEAD. INTERLOCK TO SHUTDOWN UNIT.
C. WALL-MOUNTED REMOTE CONTROLLER.

LOUVER SCHEDULE

DRAWING CODE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	ALTERNATE APPROVED MANUFACTURERS	TYPE	FRAME	DESCRIPTION	MATERIAL	LOUVER DEPTH (IN.)	SIZE (W x H) (IN.)	SERVICE	AIRFLOW (CFM)	PERFORMANCE RATINGS		NOTES	ACCESSORIES
												FREE AREA (SF)	S.P. LOSS (IN.H20)		
L1	RUSKIN	ELM6375DX	GREENHECK, POTTORFF	OPERABLE	CHANNEL	HORIZONTAL, DRAINABLE-BLADE	ALUMINUM	6	30 x 30	INTAKE	2,030	3.20	0.06	1,2	A,B
L2	RUSKIN	ELM6375DX	GREENHECK, POTTORFF	OPERABLE	CHANNEL	HORIZONTAL, DRAINABLE-BLADE	ALUMINUM	6	30 x 30	INTAKE	2,030	3.20	0.06	1,2	A,B
L3	RUSKIN	ELM6375DX	GREENHECK, POTTORFF	FIXED	CHANNEL	HORIZONTAL, DRAINABLE-BLADE	ALUMINUM	6	14 X 24	INTAKE	570	2.00	0.07	1,2	A,B

NOTES:
1. REFER TO SPECIFICATION SECTION 239119 - LOUVERS.
2. FINISH AS SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE OF COLOR AND GLOSS.

ACCESSORIES:
A. BIRD SCREENING (MATERIAL TO MATCH LOUVER MATERIAL)
B. MOTORIZED ACTUATOR.

POWER VENTILATOR SCHEDULE

DRAWING CODE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	ALTERNATE APPROVED MANUFACTURERS	FAN TYPE	SERVICE	CAPACITIES					ELECTRICAL			SONES	WEIGHT (LBS.)	NOTES	ACCESSORIES
						AIRFLOW (CFM)	ESP (IN. WG.)	DRIVE ARRANGEMENT	FAN RPM	MOTOR RPM	MOTOR TYPE	MOTOR SIZE (HP)	V/PH/HZ				
PV1	GREENHECK	G-103-VG	TWIN CITY, PENNBARRY	CENTRIFUGAL ROOF VENTILATORS	EXHAUST	680	0.50	DIRECT	1725	1725	ECM	1/4	120/1/60	4.7	46	1	A,B,C,D,E
PV2	GREENHECK	G-060-VG	TWIN CITY, PENNBARRY	CENTRIFUGAL ROOF VENTILATORS	EXHAUST	100	0.50	DIRECT	1725	1725	ECM	1/15	120/1/60	3.4	28	1	A,B,C,D,E
PV3	GREENHECK	G-143-VG	TWIN CITY, PENNBARRY	CENTRIFUGAL ROOF VENTILATORS	EXHAUST	2030	0.50	DIRECT	1300	1300	ECM	3/4	120/1/60	11.5	62	1	A,B,C,D,F
PV4	GREENHECK	G-163-VG	TWIN CITY, PENNBARRY	CENTRIFUGAL ROOF VENTILATORS	EXHAUST	1940	0.50	DIRECT	1200	1200	ECM	1	120/1/60	8.6	70	1	A,B,C,D,F
PV5	GREENHECK	G-103-VG	TWIN CITY, PENNBARRY	CENTRIFUGAL ROOF VENTILATORS	EXHAUST	570	0.50	DIRECT	1725	1725	ECM	1/4	120/1/60	4.7	46	1	A,B,C,D,F

NOTES:
1. REFER TO SPECIFICATION SECTION 233423 - HVAC POWER VENTILATORS FOR FURTHER INFORMATION.

ACCESSORIES:
A. BIRDSCREEN.
B. MOTORIZED DAMPER.
C. ROOF CURB.
D. HIGH WIND RATING
E. FAN TO RUN ON OCCUPIED SCHEDULE.
F. ON/OFF/AUTO SWITCH LOCATED NEAR DOOR IN ROOM.

ELECTRIC UNIT HEATER SCHEDULE

DRAWING CODE	DESIGN BASIS MANUFACTURER	MODEL	ALTERNATE APPROVED MANUFACTURERS	TYPE		ELECTRIC COIL		SUPPLY AIR	ELECTRICAL			WEIGHT (LBS)	MOUNTING HEIGHT (FT)	NOTES	ACCESSORIES
				FAN	DISCHARGE	CAPACITY (KW)	STEPS	AIRFLOW (CFM)	POWER (V/PH/HZ)	FLA	MOCP				
EUH1	INDEECO	925U05000VA	QMARK, MARKEL	PROPELLER	HORIZONTAL	3.75	1	300.0	208/1/60	18.4	-	20	8	1	A,B
EUH2	INDEECO	925U05000VA	QMARK, MARKEL	PROPELLER	HORIZONTAL	3.75	1	300.0	208/1/60	18.4	-	20	8	1	A,B
EUH3	INDEECO	925U05000VA	QMARK, MARKEL	PROPELLER	HORIZONTAL	3.75	1	300.0	208/1/60	18.4	-	20	8	1	A,B
EUH4	INDEECO	925U05000VA	QMARK, MARKEL	PROPELLER	HORIZONTAL	3.75	1	300.0	208/1/60	18.4	-	20	8	1	A,B

NOTES:
1. REFER TO SPECIFICATION 238239.16 PROPELLER UNIT HEATERS FOR FURTHER INFORMATION.

ACCESSORIES:
A. PROVIDE INTEGRAL UNIT-MOUNTED HEATING THERMOSTAT.
B. PROVIDE MOUNTING BRACKET.

SINGLE DUCT VAV TERMINAL BOX SCHEDULE

DRAWING MARK	DESIGN BASIS MFR	MODEL	ALTERNATE APPROVED MFRS	PRIMARY AIRFLOW				HEATING COIL								WEIGHT OPERATING (LBS.)	RTU SERVED FROM	NOTES	ACCESSORIES
				MAX (CFM)	MIN (CFM)	INLET DIA (IN)	AIR PRESSURE DROP (IN H2O)	CFM	CAPACITY (MBH)	ROWS	EAT (°F)	LAT (°F)	EWT (°F)	FLOW (GPM)	WPD (FT H2O)	RUNOUT SIZE (SUP/RET)			
VAV01-01	TRANE	VCWF	PRICE, TITUS	2,200	1095	16"	0.640	1095	69.6	3 ROW	52.0	93.0	130.0	4.75	1.22	7/8"	67	RTU01	1,2,3	A
VAV01-02	TRANE	VCWF	PRICE, TITUS	600	280	9"	0.480	280	11.7	2 ROW	52.0	93.3	130.0	1.00	0.26	7/8"	37	RTU01	1,2,3	A
VAV01-03	TRANE	VCWF	PRICE, TITUS	1,800	515	14"	0.660	515	35.9	2 ROW	52.0	91.1	130.0	3.00	1.05	7/8"	60	RTU01	1,2,3	A
VAV01-04	TRANE	VCWF	PRICE, TITUS	800	240	10"	0.560	240	34.6	3 ROW	52.0	94.9	130.0	2.50	0.83	7/8"	37	RTU01	1,2,3	A
VAV01-05	TRANE	VCWF	PRICE, TITUS	150	75	4"	0.030	75	2.9	1 ROW	52.0	90.0	130.0	0.50	0.17	3/8"	24	RTU01	1,2,3	A
VAV01-06	TRANE	VCWF	PRICE, TITUS	250	75	4"	0.070	75	2.9	1 ROW	52.0	90.0	130.0	0.50	0.17	3/8"	24	RTU01	1,2,3	A
VAV01-07	TRANE	VCWF	PRICE, TITUS	800	250	9"	0.560	250	34.6	3 ROW	52.0	94.9	130.0	1.50	0.19	7/8"	37	RTU01	1,2,3	A
VAV01-08	TRANE	VCWF	PRICE, TITUS	850	250	9"	0.630	250	35.1	3 ROW	52.0	94.2	130.0	1.50	0.19	7/8"	37	RTU01	1,2,3	A
VAV01-09	TRANE	VCWF	PRICE, TITUS	1,300	380	12"	0.580	380	52.5	3 ROW	52.0	93.4	130.0	1.50	0.39	7/8"	48	RTU01	1,2,3	A
VAV01-10	TRANE	VCWF	PRICE, TITUS	450	210	8"	0.520	210	14.1	2 ROW	52.0	92.4	130.0	1.00	0.61	7/8"	28	RTU01	1,2,3	A

NOTES:
1. REFER TO DIVISION 23 SPECIFICATIONS FOR FURTHER INFORMATION.
2. COIL CONNECTION AND CONTROL ENCLOSURE SHALL BE ON SAME SIDE OF THE UNIT.
3. REFER TO DRAWING M6.1 FOR CONTROL VAVLE TYPE (2-WAY VS 3-WAY)

ACCESSORIES:
A. CONTRACTOR SHALL PROVIDE 120 VAC TO 24 VAC TRANSFORMER TO POWER UNITS ALONG WITH WIRING FROM TRANSFORMER TO UNITS. REFER TO ELECTRICAL DRAWINGS FOR CIRCUIT LOCATION.

DIFFUSERS, REGISTERS AND GRILLES SCHEDULE

DRAWING CODE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	ALTERNATE APPROVED MANUFACTURERS	TYPE	SERVICE	NECK SIZE (IN.)	BRANCH CONN. SIZE (IN.)	MODULE SIZE (IN.)	MATERIAL	FINISH	MOUNTING	NOTES	ACCESSORIES
S1	PRICE	SCD	METALAIRE, TITUS	SQUARE CEILING DIFFUSER	SUPPLY	6Ø	-	24 X 24	ALUMINUM	WHITE	T-BAR	1,2	A
S2	PRICE	SCD	METALAIRE, TITUS	SQUARE CEILING DIFFUSER	SUPPLY	8Ø	-	24 X 24	ALUMINUM	WHITE	T-BAR	1,2	A
S3	PRICE	SCD	METALAIRE, TITUS	SQUARE CEILING DIFFUSER	SUPPLY	10Ø	-	24 X 24	ALUMINUM	WHITE	T-BAR	1,2	A
S4	PRICE	TBD3	METALAIRE, TITUS	LINEAR BAR GRILLES	SUPPLY	8Ø	-	24 X4	ALUMINUM	WHITE	T-BAR	1,2	A
S5	PRICE	TBD3	METALAIRE, TITUS	LINEAR BAR GRILLES	SUPPLY	12Ø	-	24 X 4	ALUMINUM	WHITE	T-BAR	1,2	A
S6	PRICE	SDS	METALAIRE, TITUS	LINEAR BAR GRILLES	SUPPLY	6Ø	8	48 X 4	ALUMINUM	ANODIZED ALUMINUM	CEILING SURFACE	1,3	
S7	PRICE	SDGE	METALAIRE, TITUS	SPIRAL DUCT GRILLE	SUPPLY	-	-	18 X 4	ALUMINUM	WHITE	DUCT SURFACE	1	B
S8	PRICE	SDGE	METALAIRE, TITUS	SPIRAL DUCT GRILLE	SUPPLY	-	-	18 X 6	ALUMINUM	WHITE	DUCT SURFACE	1	B
S9	PRICE	SDGE	METALAIRE, TITUS	SPIRAL DUCT GRILLE	SUPPLY	-	-	16 X 8	ALUMINUM	WHITE	DUCT SURFACE	1	B
T1	PRICE	630	METALAIRE, TITUS	FIXED FACE GRILLE	TRANSFER	-	-	18 X 12	ALUMINUM	WHITE	WALL SURFACE	1	
T2	PRICE	630	METALAIRE, TITUS	FIXED FACE GRILLE	TRANSFER	-	-	24 X 12	ALUMINUM	WHITE	WALL SURFACE	1	
R1	PRICE	630	METALAIRE, TITUS	FIXED FACE GRILLE	RETURN	20 X 20	-	24 X 24	ALUMINUM	WHITE	T-BAR	1	C
R2	PRICE	SDGE	METALAIRE, TITUS	FIXED FACE GRILLE	RETURN	-	-	18 X 4	ALUMINUM	WHITE	DUCT SURFACE	1	
R3	PRICE	630	METALAIRE, TITUS	FIXED FACE GRILLE	RETURN	-	-	30 X 22	ALUMINUM	WHITE	WALL SURFACE	1	
E1	PRICE	630	METALAIRE, TITUS	FIXED FACE GRILLE	EXHAUST	8Ø	-	24 X 24	ALUMINUM	WHITE	T-BAR	1	
E2	PRICE	630	METALAIRE, TITUS	FIXED FACE GRILLE	EXHAUST	10Ø	-	24 X 24	ALUMINUM	WHITE	T-BAR	1	
E3	PRICE	535	METALAIRE, TITUS	FIXED FACE GRILLE	EXHAUST	-	-	12 X 10	ALUMINUM	WHITE	DUCT SURFACE	1	
E4	PRICE	535	METALAIRE, TITUS	FIXED FACE GRILLE	EXHAUST	-	-	14 X 12	ALUMINUM	WHITE	DUCT SURFACE	1	

NOTES:
1. REFER TO SPECIFICATION SECTION 233713 - DIFFUSERS, REGISTERS, AND GRILLES FOR FURTHER INFORMATION.
2. DUCT BRANCH CONNECTION SIZE TO BE EQUAL TO THE NECK SIZE OF DIFFUSER UNLESS NOTED OTHERWISE ON PLANS.
3. PROVIDE ADDITIONAL INOPPERABLE/BLANKED OFF SECTIONS AND CORNERS TO PROVIDE THE APPEARANCE OF A CONTINUOUS DIFFUSER.

ACCESSORIES:
A. VOLUME DAMPER.
B. AIR SCOOP.
C. PROVIDE FLEXIBLE RETURN AIR KIT TYPE 6M WITH MINIMUM LENGTH OF 7FT

12/7/2019 ISSUED FOR PERMIT
Date Description
REVISIONS
Revision No.

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NORTH CAROLINA PROFESSIONAL SEAL 043801 ENGINEER ROY O. GRAY
12/10/2019

208 Princess Street
Wilmington, North Carolina

MONTEITH CONSTRUCTION

TRU Colors Brewery
715 Greenfield Street
Wilmington, North Carolina

HVAC SCHEDULES

JOB NO.: 19109
DRAWN: WTB
DESIGNED: WTB
CHECKED: TOG

DRAWING NO: M-601

REVISION: A

PUMP SCHEDULE

DRAWING CODE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	ALTERNATE APPROVED MFRS	PUMP TYPE	SERVICE	FLUID	CAPACITY (GPM)	TOTAL DYNAMIC HEAD (FT)	INLET AND OUTLET SIZE (IN.)	MOTOR					NOTES	ACCESSORIES
										ENCLOSURE		SPEED (RPM)	HP	ELECTRICAL V/PH/HZ		
										TYPE	MATERIALS					
BP01	B&G	PL55	TACO, ARMSTRONG	INLINE	BOILER CIRC	WATER	25.00	25.00	1-1/2"	ODP	CAST IRON	1750	2/5	120/1/60	1	B, D
BP02	B&G	PL55	TACO, ARMSTRONG	INLINE	BOILER CIRC	WATER	25.00	25.00	1-1/2"	ODP	CAST IRON	1750	2/5	120/1/60	1	B, D
HWP01	B&G	SERIES E90-200AAC	TACO, ARMSTRONG	INLINE	HEATING SUPPLY	WATER	80.00	40.00	2"	ODP	CAST IRON	3600	2	460/3/60	1, 2	A, B, C
HWP02	B&G	SERIES E90-200AAC	TACO, ARMSTRONG	INLINE	HEATING SUPPLY	WATER	80.00	40.00	2"	ODP	CAST IRON	3600	2	460/3/60	1, 2	A, B, C

NOTES:
1. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
2. PUMP TO BE SUPPLIED WITH A VFD.

ACCESSORIES:
A. PREMIUM EFFICIENT MOTOR.
B. BRONZE FITTED.
C. SERIES E90 STANDARD BUNA/CARBON-CERAMIC SEAL.
D. STANDARD BUNA/CARBON-CERAMIC SEAL.

CONDENSING BOILER SCHEDULE

DRAWING CODE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	ALTERNATE APPROVED MFRS	BURNER	HEATING MEDIUM	DESIGN WATER PRESSURE RATING (PSIG)	AGA INPUT (MBH)		AGA OUTPUT (MBH)	CONNECTIONS					ELECTRICAL			WEIGHT (LBS.)	NOTES	ACCESSORIES
							MINIMUM	MAXIMUM	MAXIMUM	GAS (IN.)	INLET GAS PRESSURE (IN WG)	WATER (IN.)	INTAKE (IN.)	VENT (IN.)	POWER SUPPLY (V/PH/HZ)	MCA	MOCP			
B01	LOCHINVAR	KBN400	LAARS, PEERLESS	NATURAL GAS	HOT WATER	160	80	400	372	1	14	2	4	4	120/1/60	1.5	15	280	1,2,3,4	A,B,C,D
B02	LOCHINVAR	KBN400	LAARS, PEERLESS	NATURAL GAS	HOT WATER	160	80	400	372	1	14	2	4	6	120/1/60	1.5	15	280	1,2,3,4	A,B,C,D

NOTES:
1. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
2. REFER TO PLANS FOR VENTING ARRANGEMENT.
3. ROUTE CONDENSATE THROUGH CONDENSATE NEUTRALIZATION KIT. REFER TO PLANS FOR LOCATION AND ARRANGEMENT.
4. MOUNT BOILER ON 6" HIGH CONCRETE HOUSE KEEPING PAD. PROVIDE SINGLE PAD FOR MULTIPLE BOILERS WHERE INDICATED ON PLANS.

ACCESSORIES:
A. BMS INTERFACE TO BACNET.
B. HIGH AND LOW GAS PRESSURE SWITCHES WITH MANUAL RESET.
C. LOW WATER CUTOFF WITH MANUAL RESET AND TEST.

EXPANSION TANK SCHEDULE

DRAWING CODE	DESIGN BASIS MFR	MODEL	ALTERNATE MFR	VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	CONFIGURATION	DIM. H/D (IN.)	WEIGHT (LBS)	NOTES	ACCESSORIES
ET01	WESSELS	NLA-85	TACO, B&G	23	13	VERTICAL	37/16	90	1	-

NOTES: 1. ASME CODE, DIAPHRAGM EXPANSION TANK.

ACCESSORIES A. N/A

AIR/DIRT SEPARATOR SCHEDULE

DRAWING CODE	DESIGN BASIS MFR	MODEL	ALTERNATE MFR	FLOW GPM	WORKING PRES. PSIG	WORKING TEMP (°F)	SIZE (IN)	WEIGHT (LBS)	NOTES	ACCESSORIES
AS1	B & G	CRS-3F	TACO, WESSELS	80	125	350	3	183	1	-

NOTES: 1. PROVIDE AUTOMATIC AIR VENT.

ACCESSORIES: A. N/A

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NORTH CAROLINA PROFESSIONAL SEAL 043801 ENGINEER TROY O. GRADY
12/10/2019

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MONTEITH CONSTRUCTION CORP

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715 Greenfield Street
Wilmington, North Carolina

HVAC CONTROL DIAGRAMS AND SEQUENCE OF OPERATIONS

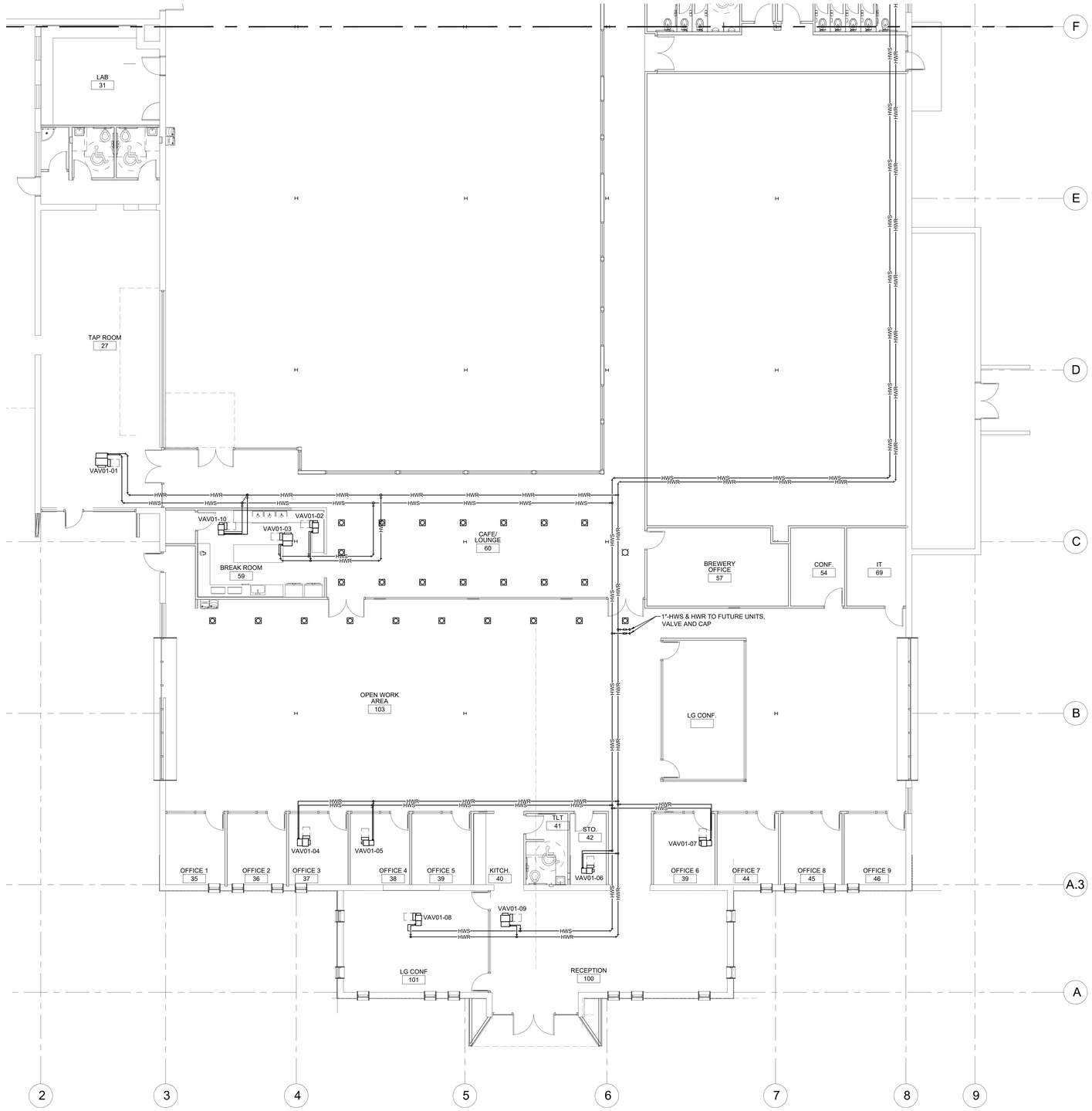
JOB NO.:	19109
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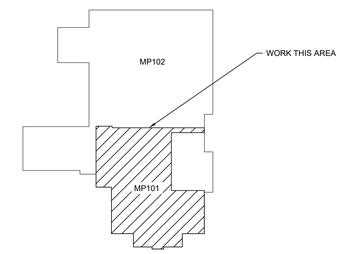
DRAWING NO:
M-602

REVISION:
A

GENERAL NOTES

1. FOR PIPE SIZES NOT SHOWN, REFER TO A1/MP401.





A5 **KEYPLAN**
NOT TO SCALE

PLAN NORTH

A1 **MECHANICAL PIPING PLAN**
1/8" = 1'-0"
0 4' 8' 16'

PLAN NORTH

No.	Description	Date
	ISSUED FOR PERMIT	12/10/2019
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12/10/2019

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715 Greenfield Street
Wilmington, North Carolina

MECHANICAL
HYDRONIC PIPING PLAN

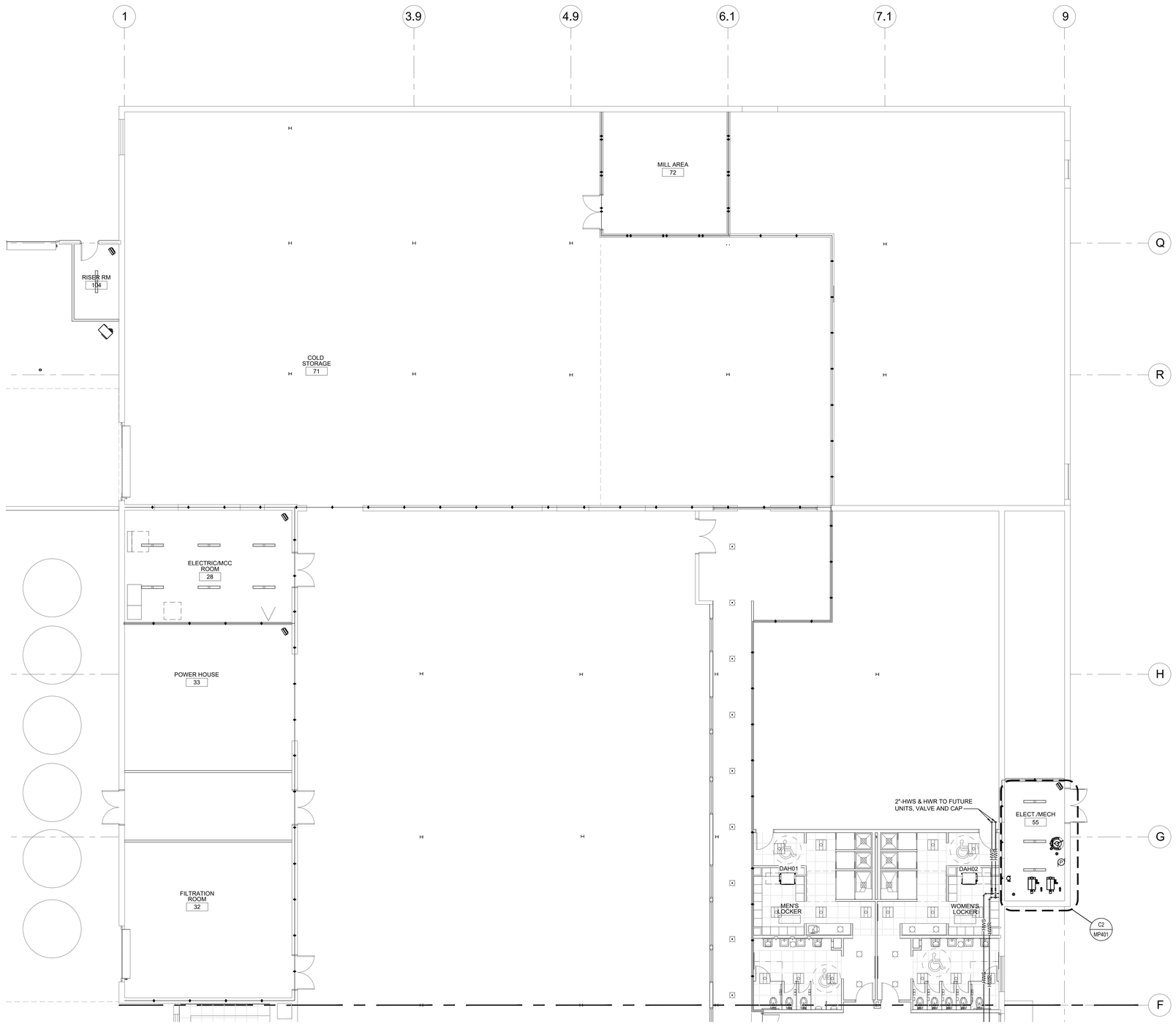
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DRAWN:	RWC
DESIGNED:	RWC
CHECKED:	TOG

DRAWING NO:
MP101

REVISION:
A

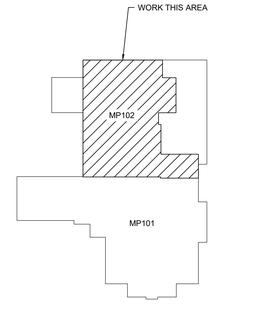
GENERAL NOTES

1. FOR PIPE SIZES NOT SHOWN, REFER TO A1/MP401.



A1 **MECHANICAL PIPING PLAN**
1/8" = 1'-0"
0 4' 8' 16'

PLAN NORTH



A5 **KEYPLAN**
NOT TO SCALE

PLAN NORTH

No.	Description	Date
A	ISSUED FOR PERMIT	12/10/2019

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NORTH CAROLINA PROFESSIONAL SEAL 043801 ENGINEER ROY O. FRANK
12/10/2019

208 Princess Street
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MONTEITH ARCHITECTURE

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Wilmington, North Carolina

MECHANICAL HYDRONIC PIPING PLAN

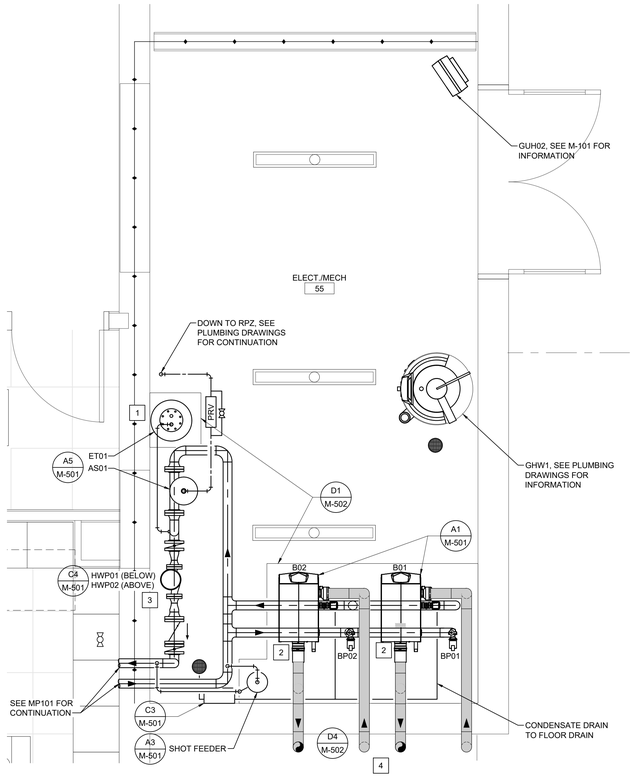
JOB NO.:	19109
DRAWN:	RWC
DESIGNED:	RWC
CHECKED:	TOG

DRAWING NO:
MP102

REVISION:
A

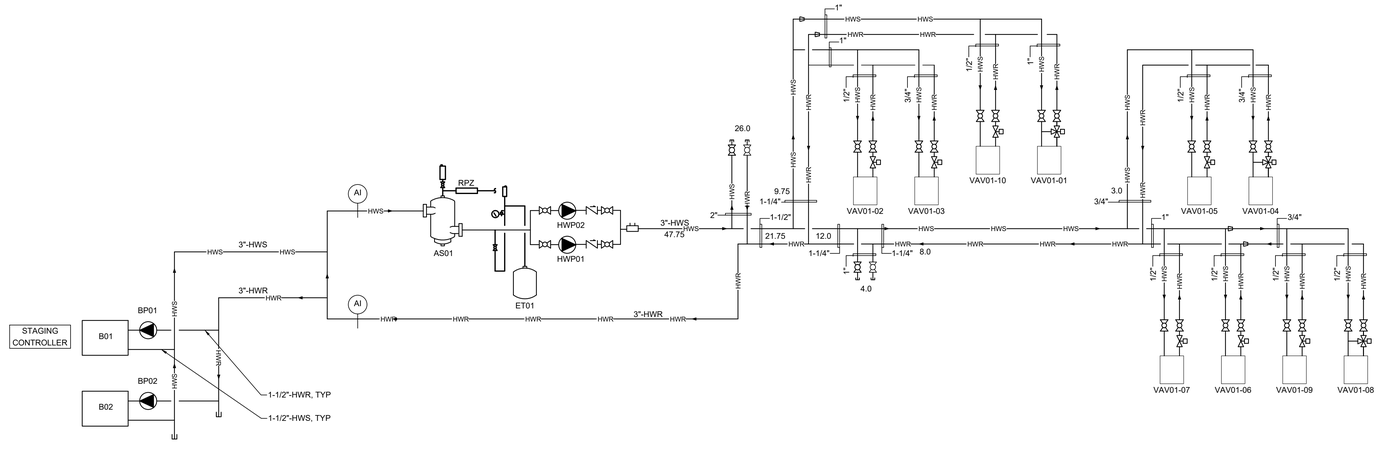
KEYED NOTES

1. INSTALL 3/4" MAKEUP WATER PIPING FROM BACKFLOW PREVENTER (BY PLUMBING CONTRACTOR) TO AIR SEPARATOR. INSTALL PRESSURE REDUCING VALVE AND BY-PASS PIPE.
2. INSTALL BOILER ON NEW 6" CONCRETE PAD. FIELD ROUTE CONDENSATE THROUGH NEUTRALIZATION TANK TO EXISTING FLOOR DRAIN. REFER TO A1/MP401 FOR PIPING SIZES. REFER TO DETAILS ON SHEET M-501.
3. MOUNT HOT WATER PUMPS ON WALL HWP01(BELOW) AND HWP02(ABOVE).
4. ROUTE EXHAUST AND MAKE-AIR PIPING TO EXTERIOR WALL. CONTRACTOR SHALL FOLLOW MANUFACTURERS INSTALLATION RECOMMENDATION. REFER TO DETAIL ON M5.1.



PLAN NORTH

C2 ENLARGED MECHANICAL ROOM PLAN
1/2" = 1'-0"
0 1' 2' 4'



A1 HEATING HOT WATER FLOW DIAGRAM
NOT TO SCALE

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 043801 ENGINEER ROBERT O. CRAIG 12/10/2019

No.	Description	Date
1	ISSUED FOR PERMIT	12/10/2019

REVISIONS

Issue A

208 Princess Street
Wilmington, North Carolina

MONTEITH CONSTRUCTION

TRU Colors Brewery
715 Greenfield Street
Wilmington, North Carolina

MECHANICAL
ENLARGED HYDRONIC PIPING PLAN AND HOT WATER FLOW DIAGRAM

JOB NO.:	19109
DRAWN:	RWC
DESIGNED:	RWC
CHECKED:	TOG

DRAWING NO:
MP401

REVISION:
A

ELECTRICAL LEGEND

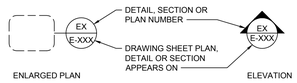
SYMBOL	DESCRIPTION
	2x2 LIGHT FIXTURE, RECESSED OR SURFACE MOUNTED LETTER INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	4FT OR 8FT LIGHT FIXTURE, RECESSED OR SURFACE MOUNTED LETTER INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	4FT OR 8FT CHANNEL LIGHT FIXTURE, SUSPENDED OR SURFACE MOUNTED LETTER INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	DIRECT/INDIRECT FIXTURE, SUSPENDED INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	RECESSED LIGHT FIXTURE LETTER INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	SURFACE LIGHT FIXTURE LETTER INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	WALL MOUNTED LIGHT FIXTURE LETTER INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	POWER & SWITCH LEG
	UNSWITCHED LEG
	EXIT SIGN, SINGLE FACE, CEILING, ARROW INDICATES DIRECTION. LETTER INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	EXIT SIGN, DOUBLE FACE, CEILING MOUNTED, ARROW INDICATES DIRECTION. LETTER INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	EXIT SIGN W/EMERGENCY LIGHTING UNIT, CEILING MOUNTED, ARROW INDICATES DIRECTION. LETTER INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	EXIT SIGN, SINGLE FACE, WALL/END MOUNTED, ARROW INDICATES DIRECTION. LETTER INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	EXIT SIGN, DOUBLE FACE, WALL/END MOUNTED, ARROW INDICATES DIRECTION. INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	EXIT SIGN W/EMERGENCY LIGHTING UNIT, WALL/END MOUNTED, ARROW INDICATES DIRECTION. INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	EMERGENCY LIGHTING UNIT, 2-HEAD WITH BATTERY BACK-UP, WALL MOUNTED, "NOT SWITCHED" LETTER INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
	EMERGENCY LIGHTING UNIT, 2-HEAD WITH BATTERY BACK-UP, CEILING MOUNTED, "NOT SWITCHED" LETTER INDICATES FIXTURE TYPE (SEE FIXTURE SCHEDULE)
$	SWITCH, SINGLE POLE, 120/277VAC, 20A, MOUNTED AT 46" AFF UNLESS OTHERWISE NOTED (SEE ELECTRICAL MOUNTING HEIGHT DETAIL). LOWER CASE LETTER INDICATES FIXTURE SWITCHING (WHEN INDICATED)
$3	3-WAY SWITCH, SINGLE POLE 120/277 VAC, 20A, MOUNTED AT 46" AFF UNLESS OTHERWISE NOTED
$WP	WEATHERPROOF SWITCH, SINGLE POLE 120/277 VAC, 20A, MOUNTED AT 46" AFF UNLESS OTHERWISE NOTED
D	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR, 360° COVERAGE 2 = SECOND CONTACT TO BE PROVIDED FOR CONNECTION TO BUILDING MANAGEMENT
D	CEILING MOUNTED OCCUPANCY SENSOR, LONG RANGE COVERAGE 2 = SECOND CONTACT TO BE PROVIDED FOR CONNECTION TO BUILDING MANAGEMENT
D	WALL MOUNTED OCCUPANCY SENSOR, 180° COVERAGE 2 = SECOND CONTACT TO BE PROVIDED FOR CONNECTION TO BUILDING MANAGEMENT
D$	WALL MOUNTED OCCUPANCY SENSOR, SINGLE BUTTON ON/OFF CONTROL, 180° COVERAGE, MOUNTED AT 46" AFF UNLESS OTHERWISE NOTED.
D$2	WALL MOUNTED OCCUPANCY SENSOR, DUAL BUTTON ON/OFF CONTROL, 180° COVERAGE, MOUNTED AT 46" AFF UNLESS OTHERWISE NOTED.
D$F	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR, DUAL BUTTON ON/OFF CONTROL, 180° COVERAGE, ADDITIONAL POWER SUPPLY FOR FAN OPERATION, MOUNTED AT 46" AFF UNLESS OTHERWISE NOTED.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	RECESSED SINGLE/DOUBLE GANG BOX WITH BLANK COVER PLATE, MOUNTED 16" AFF, UNLESS OTHERWISE NOTED
	RECEPTACLE, DUPLEX, 120VAC, 20A, MOUNTED 16" AFF, UNLESS OTHERWISE NOTED. (SEE ELECTRICAL MOUNTING HEIGHT DETAIL) WP - LISTED WEATHER-RESISTANT TYPE DEVICE WITH WEATHERPROOF IN USE COVER GFI - GROUND FAULT CIRCUIT INTERRUPTER TYPE, 120VAC, 20A, MOUNTED 24" AFF LOCATE GFI TEST SWITCH IN A READILY ACCESSIBLE LOCATION TR - TAMPER RESISTANT
	RECEPTACLE, DUPLEX, 120VAC, 20A, MOUNTED 6" ABOVE COUNTER TOP OR BACK SPLASH. +## - INDICATES MOUNTING HEIGHT OF DEVICE IN INCHES AFF (IF GIVEN) (SEE ELECTRICAL MOUNTING HEIGHT DETAIL)
	RECEPTACLE, QUADPLEX, 120VAC, 20A MOUNTED 16"AFF UNLESS OTHERWISE NOTED (SEE ELECTRICAL MOUNTING HEIGHT DETAIL) WP - LISTED WEATHER-RESISTANT TYPE DEVICE WITH WEATHERPROOF, EXTRA DUTY, QWHILE IN USE COVER GFI - GROUND FAULT CIRCUIT INTERRUPTER TYPE, 120VAC, 20A, MOUNTED 24" AFF LOCATE GFI TEST SWITCH IN A READILY ACCESSIBLE LOCATION TR - TAMPER RESISTANT
	RECEPTACLE, QUADPLEX, 120VAC, 20A, MOUNTED 6" ABOVE COUNTER TOP OR BACK SPLASH. +## - INDICATES MOUNTING HEIGHT OF DEVICE IN INCHES AFF (IF GIVEN) (SEE ELECTRICAL MOUNTING HEIGHT DETAIL)
	RECEPTACLE, 208VAC, 2 POLE, 3 WIRE, WALL MOUNTED, SIZE AS INDICATED ON DRAWING
	RECEPTACLE, 480VAC, 2 POLE, 3 WIRE, WALL MOUNTED, SIZE AS INDICATED ON DRAWING
	RECEPTACLE, DUPLEX, 120VAC, 20A CEILING MOUNTED (LAY-IN / GYPBOARD / SUSPENDED)
	RECEPTACLE, DUPLEX, 120VAC, 20A RECESSED FLOOR MOUNTED.
30A/3/3R, W/ 30AF	DISCONNECT SWITCH, FUSED, HEAVY DUTY, SIZE AS INDICATED ON DRAWINGS (SIZE AS INDICATED IN THE EQUIPMENT CONNECTION SCHEDULE) ##A = DISCONNECT SIZE / # = NUMBER OF POLES / # = NEMA RATING, /##AF = FUSE SIZE
CB	ENCLOSED BREAKER, HEAVY DUTY, SIZE AS INDICATED ON DRAWINGS ##A = BREAKER SIZE / # = NUMBER OF POLES / # = NEMA RATING,
	VARIABLE FREQUENCY DRIVE (VFD)
"Equip" #AMP, HMCP, (#HP), NEMA #	COMBINATION STARTER WITH CIRCUIT BREAKER DISCONNECT, FULL VOLTAGE, NON-REVERSING, (600V, 3P, NEMA) SIZE AS INDICATED ON DRAWINGS
M##	MANUAL MOTOR STARTER, ELECTRICAL CONTRACTOR SHALL COORDINATE POLES AND SIZE WITH EQUIPMENT ## = AMPERAGE RATING WHEN INDICATED ON DRAWING
208/120V 480/277V	PANELBOARD, SURFACE OR RECESSED MOUNTED AS SHOWN. SIZE, RATINGS, AND MOUNTING AS INDICATED ON PANEL SCHEDULE. CONTRACTOR IS RESPONSIBLE FOR REQUIRED CLEARANCE IN FRONT OF ELECTRICAL PANEL. SEE NEC TABLE 110.26 WORKING SPACES FOR ADDITIONAL CLEARANCE CONDITIONS.
	TRANSFORMER, SIZE AS INDICATED ON DRAWING
M	ELECTRICAL MOTOR
	METER
	CONDUIT, HOME RUN TO PANEL BOARD
WP WAP	WIRELESS ACCESS POINT, 2 DATA IN A DUAL GANG BOX WITH A SINGLE GANG PLASTER RING, OWNER SHALL PROVIDE SURGE PROTECTOR AND WAP DEVICE, THE ELECTRICAL CONTRACTOR SHALL INSTALL. WP - LISTED WEATHER-RESISTANT TYPE DEVICE
1V/1D	COMBINATION DATA/TELEPHONE OUTLET, MOUNTED 18" AFF UNLESS OTHERWISE NOTED. PROVIDE 1" CONDUIT TO ABOVE GRID CEILING W/PULL STRING. OUTLETS LOCATED BELOW HARD(GYPBOARD) CEILINGS, ROUTE 1" CONDUIT BACK TO TELEPHONE/DATA ROOM. #V = NUMBER OF VOICE CONNECTIONS / #D = NUMBER OF DATA CONNECTIONS
1V/1D	COMBINATION DATA/TELEPHONE OUTLET, RECESSED CEILING MOUNTED (LAY-IN / GYPBOARD) PROVIDE 1" CONDUIT TO ABOVE GRID CEILING W/PULL STRING. OUTLETS LOCATED BELOW HARD(GYPBOARD) CEILINGS, ROUTE 1" CONDUIT BACK TO TELEPHONE/DATA ROOM. #V = NUMBER OF VOICE CONNECTIONS / #D = NUMBER OF DATA CONNECTIONS
VHD	FLOOR BOX, ROUND PVC CONCRETE FLOOR BOX, BRASS UNIVERSAL COVER, (1)DUPLEX GFI RECEPTACLE, (2) CAT6 MODULAR JACKS. SIMILAR TO HUBBELL SYSTEM ONE S1PFB-S1CFCBRS-S1SP CONTRACTOR SHALL VERIFY MODEL NUMBERS WITH CURRENT MANUFACTURERS NUMBERS.
P	ONE PIECE FURNITURE FEED FOR MODULAR FURNITURE POWER CONNECTION. HUBBELL "S1PFB" WITH ALUMINUM COVER, VERIFY FINISH WITH ARCHITECT.
T	ONE PIECE FURNITURE FEED FOR MODULAR FURNITURE DATA CONNECTION. PROVIDE 2" CONDUIT WITH NYLON PULL STRING TO IT ROOM FOR TELECOM CABLES, CABLES PROVIDED AND INSTALLED BY OWNER. HUBBELL "S1PFB" WITH ALUMINUM COVER, VERIFY FINISH WITH ARCHITECT.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	JUNCTION BOX - WALL MOUNTED +## - INDICATES MOUNTING HEIGHT OF DEVICE IN INCHES AFF (if given)
	JUNCTION BOX - CEILING/ABOVE CEILING MOUNTED
	JUNCTION BOX - FLOOR MOUNTED
	GROUND BUS, "E" INDICATES ELECTRICAL GROUND BAR, "TG" INDICATES TELECOMMUNICATIONS GROUND BAR, "CG" INDICATES CAMERA GROUND BAR,
	1 HOUR RATED FIRE WALL
	2 HOUR RATED FIRE WALL
	3 HOUR RATED FIRE WALL



2018 APPENDIX B BUILDING CODE SUMMARY
ELECTRICAL SUMMARY
ELECTRICAL SYSTEMS AND EQUIPMENT

METHOD OF COMPLIANCE:

ENERGY CODE:	☑ PRESCRIPTIVE	☐ PERFORMANCE
ASHRAE 90.1:	☐ PRESCRIPTIVE	☐ PERFORMANCE

LIGHTING SCHEDULE (EACH FIXTURE TYPE)
- LAMP TYPE REQUIRED IN FIXTURE: SEE FIXTURE SCHEDULE
- NUMBER OF LAMPS IN FIXTURE: SEE FIXTURE SCHEDULE
- BALLAST TYPE USED IN THE FIXTURE: SEE FIXTURE SCHEDULE
- NUMBER OF BALLASTS IN FIXTURE: SEE FIXTURE SCHEDULE
- TOTAL WATTAGE PER FIXTURE: SEE FIXTURE SCHEDULE

TOTAL INTERIOR WATTAGE: (WHOLE BUILDING OR SPACE BY SPACE)

ALLOWED =	64,350	WATTS
ADDITIONAL 10% =	57,915	WATTS
SPECIFIED =	6,497	WATTS

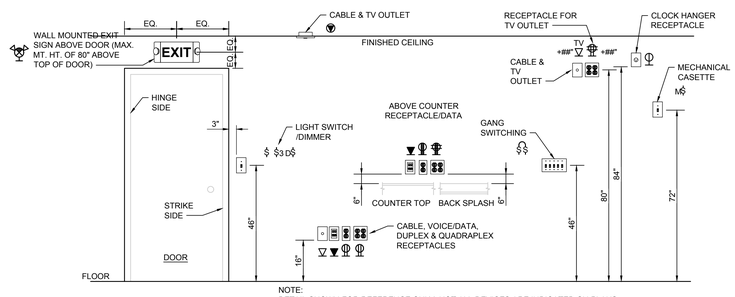
EXTERIOR ALLOWANCE:
(TRADEABLE SURFACES)

ALLOWED =	930	WATTS
SPECIFIED =	45	WATTS

ADDITIONAL PRESCRIPTIVE COMPLIANCE
- ☐ 506.2.1 MORE EFFICIENT MECHANICAL EQUIPMENT
- ☑ 506.2.2 REDUCED LIGHTING POWER DENSITY
- ☐ 506.2.3 ENERGY RECOVERY VENTILATION SYSTEMS
- ☐ 506.2.4 HIGHER EFFICIENCY SERVICE WATER HEATING
- ☐ 506.2.5 ON-SITE SUPPLY OF RENEWABLE ENERGY
- ☐ 506.2.6 AUTOMATIC DAYLIGHTING CONTROL SYSTEMS

TYPICAL ABBREVIATIONS:

A, AMP	AMPERE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BOF	BOTTOM OF FIXTURE
BRKR	BREAKER
C, CND	CONDUIT
CAB	CABINET
CAT	CATALOG
CL	CHLORINE
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CLG	CEILING
CP	CONTROL PANEL
CR	CONTROL RELAY, CORROSION RESISTANT
CS	CONTROL SWITCH
CV	CONTROL VALVE
CT	CURRENT TRANSFORMER
CU	COPPER
EF	EXHAUST FAN
EMER	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EPRF	EXPLOSION PROOF
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FLA	FULL LOAD AMPS
FLUOR	FLUORESCENT
FLR	FLOOR
FWE	FURNISHED WITH EQUIPMENT
GEN	GENERATOR
G, GND	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
HH	HANDHOLE
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTO
HP	HORSE POWER
HPF	HIGH POWER FACTOR
HPS	HIGH PRESSURE SODIUM
HTR	HEATER
HV	HIGH VOLTAGE
Hz	HERTZ
IMC	INTERMEDIATE METALLIC CONDUIT
INCAND	INCANDESCENT
JB	JUNCTION BOX
K	THOUSAND
KCMIL	THOUSAND CIRCULAR MILLS
KVA	KILOVOLT AMPERE
KW	KILOWATTS
KWH	KILOWATT-HOURS
LP	LIGHTING PANEL, LIGHT POLE
LTG	LIGHTING
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MH	MANHOLE
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
N, NEUT	NEUTRAL
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
P	POLE
PA	PUBLIC ADDRESS
PB	PULL BOX, PUSH-BUTTON
PF	POWER FACTOR
PH, ϕ	PHASE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PP	POWER PANEL, POWER POLE
PT	POTENTIAL TRANSFORMER
PWR	POWER
RECPT, RCP	RECEPTACLE
REQ'D	REQUIRED
RGS	RIGID GALVANIZED STEEL CONDUIT
RM	ROOM
RTU	REMOTE TELEMETRY UNIT
SCR	DC MOTOR DRIVE
SH	SHEET
SM	SURFACE MOUNTED
SPEC	SPECIFICATION
SS	SELECTOR SWITCH
SST	STAINLESS STEEL
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCH GEAR
TEL	TELEPHONE
TPS	TWISTED PAIR SHIELDED
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSER
TYP	TYPICAL
UGND	UNDERGROUND
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
UTIL	UTILITY
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
W	WIRE, WATT
WH	WATT-HOUR
WP	WEATHERPROOF
XFMR	TRANSFORMER
(X)	EXISTING



NOTE:
DETAIL SHOWN FOR REFERENCE ONLY, NOT ALL DEVICES ARE INDICATED ON PLANS.

A5 ELECTRICAL DEVICES - MOUNTING HEIGHT DETAIL
NOT TO SCALE

12.07.2019	DATE
ISSUED FOR PERMIT	REVISIONS
Item/Rev. No.	

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 053311 ALLEN CHESTER HOLLOWAY
12/10/2019

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ELECTRICAL LEGEND, ABBREVIATIONS AND DETAIL

JOB NO.:	19109
DRAWN:	MDM
DESIGNED:	MDM
CHECKED:	WAC

DRAWING NO:
E-001

REVISION:
A

ELECTRICAL GENERAL NOTES:

1. ALL ELECTRICAL WORK SHALL BE IN FULL COMPLIANCE WITH NFPA 70 (SPECIFICALLY INCLUDING ART. 500, etc) FOR SPECIAL OCCUPANCIES IN CHAPTER 5, THE NORTH CAROLINA STATE BUILDING CODE, ALL LOCAL CODES AND ORDINANCES AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
2. ALL EQUIPMENT PROVIDED BY THE CONTRACTOR SHALL BE LISTED AND LABELED BY A NATIONALLY-RECOGNIZED TESTING AGENCY, ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION, FOR THE CONDITIONS OF INSTALLATION. ALL MATERIAL, EQUIPMENT AND DEVICES SHALL BE NEW CURRENT PRODUCTS OF MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTION OF SUCH PRODUCTS. EQUIPMENT SHALL BE SUITABLE FOR ITS APPLICATION (E.G. WHEN INSTALLED OUTDOORS, IT SHALL BE WEATHERPROOF, ETC.)
3. THE CONTRACTOR SHALL REVIEW ALL DRAWINGS AND SPECIFICATIONS FOR WORK REQUIREMENTS, THE AMOUNT OF SPACE AVAILABLE FOR ELECTRICAL EQUIPMENT, AND LAYOUT HIS WORK IN A COMPATIBLE AND COMPLEMENTARY MANNER.
4. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THOROUGHLY FAMILIARIZING HIMSELF WITH ANY CONTRACTUAL REQUIREMENTS AS MAY BE SET FORTH IN THE OTHER DIVISIONS OF THE PROJECT SPECIFICATIONS.
5. UNLESS SPECIFICALLY NOTED OTHERWISE, SYSTEMS PROVIDED OR INSTALLED BY THE ELECTRICAL CONTRACTOR SHALL BE COMPLETE AND FULLY-FUNCTIONING AFTER INSTALLATION. INCIDENTAL COMPONENTS MAY NOT BE SHOWN, AND ALL WORK WHICH MAY BE REASONABLY IMPLIED AS BEING INCIDENTAL TO THIS WORK, BUT REQUIRED FOR THE PROPER OPERATION OF THE EQUIPMENT OR SYSTEM, SHALL BE PROVIDED BY THE CONTRACTOR AND INCLUDED IN THE BID. ADDITIONAL CIRCUITS SHALL BE INSTALLED WHEREVER NEEDED TO CONFORM TO THE SPECIFIC REQUIREMENTS OF EQUIPMENT.
6. TEMPORARY POWER CONNECTIONS AS REQUIRED SHALL BE PROVIDED BY THE CONTRACTOR AND INCLUDED IN THE BID. ALL TEMPORARY EQUIPMENT WIRING SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. THE CONTRACTOR SHALL PROVIDE DETAILS, METHODS, MATERIALS, ETC. FOR REVIEW PRIOR TO MAKING TEMPORARY CONNECTIONS. FURNISH AND INSTALL ALL EQUIPMENT AND MATERIALS INCLUDING CONTROL EQUIPMENT, MOTOR STARTERS, BRANCH AND FEEDER CIRCUIT BREAKERS, PANELBOARDS, TRANSFORMERS, ETC. FOR TEMPORARY POWER. COORDINATE WITH THE ELECTRICAL UTILITY COMPANY AS REQUIRED.
7. THE WORK SHALL INCLUDE COMPLETE TESTING OF ALL EQUIPMENT AND WIRING AT THE COMPLETION OF WORK AND ANY MINOR CORRECTIONS, CHANGES OR ADJUSTMENTS NECESSARY FOR THE PROPER FUNCTIONING OF THE SYSTEM AND EQUIPMENT.
8. ALL EQUIPMENT SHOWN DOTTED OR DASHED IS BY OTHERS OR IS EXISTING, AS NOTED.
9. ALL ELECTRICAL EQUIPMENT SHALL, AT ALL TIMES DURING CONSTRUCTION, BE ADEQUATELY PROTECTED AGAINST MECHANICAL INJURY, OR DAMAGE BY WATER AND/OR THE ELEMENTS. ELECTRICAL EQUIPMENT SHALL NOT BE STORED OUT OF DOORS, BUT SHALL BE STORED IN DRY PERMANENT SHELTERS. IF AN APPARATUS HAS BEEN DAMAGED, OR HAS BEEN SUBJECT TO POSSIBLE INJURY BY WATER OR THE ELEMENTS, SUCH DAMAGE SHALL BE REPLACED AT NO ADDITIONAL COST.
10. DO NOT SCALE ELECTRICAL DRAWINGS. REFER TO THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS. FIELD VERIFY ALL DIMENSIONS.
11. CIRCUIT LAYOUTS ARE NOT INTENDED TO SHOW THE NUMBER OF FITTINGS, OR OTHER INSTALLATION DETAILS, UNLESS NOTED OTHERWISE, THE EXACT ROUTING OF FEEDER AND BRANCH CIRCUIT RACEWAYS AND CABLES IS THE RESPONSIBILITY OF THE CONTRACTOR. RISER AND GENERAL CIRCUIT ARRANGEMENTS ARE SHOWN SCHEMATICALLY/DIAGRAMMATICALLY ONLY. THE CONTRACTOR SHALL ROUTE CONDUITS AS REQUIRED BY THE CONDITIONS OF THE INSTALLATION.
12. UNLESS DIMENSIONED, DEVICE LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE. ADJUST EXACT LOCATIONS AS REQUIRED TO SERVE THE INTENDED PURPOSE AND TO AVOID CONFLICTS AND INTERFERENCES WITH OTHER TRADES. EXACT DEVICE LOCATIONS SHALL BE AS INDICATED ON THE ARCHITECTURAL DRAWINGS OR AS DIMENSIONED. IF NOT SHOWN ON THE ARCHITECTURAL DRAWINGS OR DIMENSIONED ON THE ELECTRICAL DRAWINGS, VERIFY EXACT LOCATION WITH THE ARCHITECT/ENGINEER PRIOR TO ROUGH-IN.
13. CONDUIT TERMINATING IN PRESSED STEEL BOXES SHALL HAVE DOUBLE LOCKNUTS AND INSULATED BUSHINGS. CONDUITS TERMINATING IN GASKETED ENCLOSURES SHALL BE TERMINATED WITH GROUNDING TYPE CONDUIT HUBS.
14. DEVICE BOXES SHOWN BACK-TO-BACK SHALL BE OFFSET A MINIMUM OF TWELVE (12) INCHES TO REDUCE SOUND TRANSMISSION BETWEEN ROOMS.
15. BRANCH CIRCUIT HOMERUNS SHOWN ON DRAWINGS INDICATE PHASE CONDUCTORS, NEUTRAL, EQUIPMENT GROUND CONDUCTORS AS REQUIRED. ADDITIONAL CONDUCTORS REQUIRED FOR CONTROL SHALL BE INCLUDED EVEN IF NOT EXPLICITLY SHOWN.
16. SEAL ALL CONDUIT OPENINGS THROUGH EXTERIOR BUILDING WALLS WATERTIGHT.
17. IN WET LOCATIONS AND EXTERIOR, ALL WIRING DEVICES SHALL BE WEATHER-RESISTANT LISTED WITH WEATHERPROOF WHILE IN USE COVER. LIGHTING FIXTURES SHALL BE APPROPRIATELY RATED AND LISTED FOR THE ENVIRONMENT.
18. RACEWAYS PENETRATING FLOORS, CEILINGS OR WALLS SHALL BE PROPERLY SEALED SMOKETIGHT.
19. RACEWAYS PENETRATING RATED FLOOR, CEILING OR WALL ASSEMBLIES SHALL BE PROPERLY SEALED IN ACCORDANCE WITH THE CORRESPONDING UNDERWRITERS LABORATORIES (OR OTHER APPROVED THIRD PARTY TESTING AGENCY) APPROVED AND LISTED FIRESTOPPING MATERIALS AND MANUFACTURER APPROVED INSTALLATION TECHNIQUES COMPLYING WITH ALL APPLICABLE CODES. SEE ARCHITECTURAL DRAWINGS FOR IDENTIFICATION OF RATED WALLS AND CEILINGS.
20. LIGHTING FIXTURES, SPEAKER ASSEMBLIES, ETC. MOUNTED IN FIRE-RATED CEILINGS SHALL BE PROVIDED WITH UL-LISTED, PRE-FABRICATED OR FIELD FABRICATED SHROUDS/ACCESSORIES NECESSARY TO MAINTAIN THE CEILING FIRE RATING.
21. ALL RACEWAYS SHALL BE CONCEALED WHERE POSSIBLE IF APPLICABLE.
22. INSTALL EXPOSED RACEWAYS PARALLEL TO OR AT RIGHT-ANGLES TO NEARBY SURFACES OR STRUCTURAL MEMBERS, AND FOLLOW THE SURFACE CONTOURS AS MUCH AS POSSIBLE. NO DIAGONAL RUNS WILL BE ALLOWED. ALL CONDUITS SHALL BE RUN STRAIGHT AND TRUE. RUN PARALLEL OR BANKED RACEWAYS TOGETHER ON COMMON SUPPORTS WHERE PRACTICAL. MAKE BENDS IN PARALLEL OR BANKED RUNS FROM SAME CENTERLINE TO MAKE BENDS PARALLEL.
23. PROVIDE AND PLACE ALL SLEEVES FOR CONDUITS PENETRATING WALLS, FLOORS, PARTITIONS, ETC. LOCATE ALL NECESSARY SLOTS FOR ELECTRICAL WORK AND FORM BEFORE CONCRETE IS POURED.
24. PATCHING OF WATERPROOFED SURFACES SHALL RENDER THE AREA OF THE PATCHING COMPLETELY WATERPROOF.
25. ALL MOTORS, DRY TYPE TRANSFORMERS AND OTHER VIBRATING EQUIPMENT SHALL BE CONNECTED TO THE CONDUIT SYSTEM BY MEANS OF A SHORT SECTION (18 INCH MINIMUM) OF FLEXIBLE CONDUIT UNLESS OTHERWISE INDICATED. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED INSIDE THE FLEXIBLE CONDUIT AND TERMINATE AT THE LOAD END WITH AN APPROVED GROUNDING CLAMP OR LUG.
26. SURFACE MOUNTED PANELBOARDS, JUNCTION, OUTLET AND PULL BOXES, RACEWAYS, ETC., INSTALLED ON EXTERIOR SURFACES OR INSIDE ON EXTERIOR WALLS SHALL BE SUPPORTED BY SPACERS TO PROVIDE A 1/4" MINIMUM CLEARANCE BETWEEN THE WALL AND EQUIPMENT.
27. CEILING MOUNTED DEVICES INSTALLED IN ACOUSTICAL TILE CEILING AREAS SHALL BE SUPPORTED FROM THE STRUCTURE ABOVE WITH RODS OF SUFFICIENT SIZE TO PREVENT VERTICAL MOVEMENT OF THE OUTLET BOX. BRIDGES ALONE ARE NOT ADEQUATE UNLESS SPECIFICALLY APPROVED. CEILING MOUNTED EXIT LIGHT FIXTURES SHALL BE INSTALLED LEVEL. DO NOT SUPPORT DEVICES FROM ACCOUSTICAL CEILING TILE.
28. EXCAVATION AND TRENCHING REQUIRED FOR THE INSTALLATION OF ELECTRICAL POWER AND TELECOMMUNICATIONS RACEWAYS SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF DIVISION 26 OF THE PROJECT SPECIFICATIONS.
29. PRIOR TO TRENCHING IN ANY AREA, THE CONTRACTOR SHALL CONTACT ELECTRICAL, COMMUNICATIONS/DATA/FIBER, CABLE TELEVISION, GAS AND WATER UTILITY PROVIDERS AND HAVE ALL UTILITIES IN THE AREA IDENTIFIED. DAMAGE TO ANY UNDERGROUND UTILITIES OR STRUCTURES SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT.
30. ALL UNDERGROUND RACEWAYS SHALL BE IDENTIFIED BY UNDERGROUND LINE MARKING TAPE LOCATED DIRECTLY ABOVE THE RACEWAY AT 6 TO 8 INCHES BELOW FINISHED GRADE. SEE SPECIFICATIONS SECTION 260553.
31. PROVIDE ADHESIVE BACKED RECEPTACLE DEVICE PLATE LABELS IDENTIFYING THE CIRCUIT FEEDING THE DEVICE. LABELS SHALL INDICATE PANEL AND CIRCUIT NUMBER. ALSO PROVIDE IDENTIFICATION FOR MULTIWIRE BRANCH CIRCUIT PHASE CONDUCTORS IN PANELBOARD. SEE SPECIFICATIONS SECTION 260553 FOR REQUIREMENTS.
32. FINAL TYPED PANELBOARD DIRECTORIES INSTALLED IN THE PANELBOARD DOOR POCKET SHALL INCLUDE FINAL ACTUAL ROOM NAMES AND NUMBERS IN ADDITION TO THE GENERAL DESCRIPTION SHOWN ON THE PANEL SCHEDULES ON THE DRAWINGS.
33. ALL EQUIPMENT, MATERIALS, AND INSTALLATION TECHNIQUES USED IN AREAS DESIGNATED AS HAZARDOUS ON THE DRAWINGS, SHALL BE IN STRICT ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE ARTICLES 500, 501, 502 AND 503. ALL EQUIPMENT AND MATERIALS USED IN HAZARDOUS AREAS SHALL BE U.L. LISTED FOR THE APPROPRIATE HAZARDOUS AREA CLASSIFICATION. OBSERVE CLASSIFIED AREAS MOUNTING HEIGHT REQUIREMENTS AND PROVIDE CONDUIT SEALING FITTINGS AS REQUIRED BY NFPA 70.
34. CONDUCTOR SIZING IS BASED ON 75 DEGREE C. COPPER NEC RATINGS, UNLESS NOTED OTHERWISE. THE CONTRACTOR SHALL VERIFY, PRIOR TO INSTALLATION OF CONDUCTORS OR CONDUIT FEEDING ANY EQUIPMENT, THE ELECTRICAL EQUIPMENT IS RATED FOR USE WITH 75 DEGREE C. WIRING. IF ANY EQUIPMENT IS RATED FOR USE WITH LESS THAN 75 DEGREE C. CONDUCTORS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY FOR EVALUATION/CORRECTION.
35. DO NOT PULL CONDUCTORS UNTIL THE CONDUIT SYSTEM IS COMPLETE IN EVERY DETAIL. IN THE CASE OF CONCEALED WORK, "COMPLETE" MEANS UNTIL ALL ROUGH PLASTERING OR MASONRY HAS BEEN COMPLETED.
36. WHERE SIZE IS NOT SHOWN ON THE DRAWINGS, BRANCH CIRCUITS SHALL CONSIST OF #12 OR #10 AWG MINIMUM PHASE, NEUTRAL AND EQUIPMENT GROUND CONDUCTORS IN 1/2" MINIMUM RACEWAY.
37. USE #10 AWG CONDUCTORS FOR 20 AMPERE, 120 VOLT BRANCH CIRCUITS WITH A TOTAL INSTALLED LENGTH GREATER THAN 75 FEET AND/OR BRANCH CIRCUIT HOMERUNS LONGER THAN 50 FEET, I.E.; #12 AWG INCREASED TO #10 AWG FOR RECEPTACLE BRANCH CIRCUITS OVER 75 FEET TOTAL LENGTH (INCLUDING THE HOMERUN SEGMENT) AND HOMERUNS OVER 50 FEET. IF 277 VOLT CIRCUITS ARE SHOWN, USE #10 AWG CONDUCTORS FOR 20 AMPERE, 277 VOLT BRANCH CIRCUITS WITH TOTAL INSTALLED LENGTH GREATER THAN 200 FEET AND/OR BRANCH CIRCUIT HOMERUNS LONGER THAN 125 FEET, I.E.; #12 AWG INCREASED TO #10 AWG FOR RECEPTACLE BRANCH CIRCUITS OVER 75 FEET TOTAL LENGTH (INCLUDING THE HOMERUN SEGMENT) AND HOMERUNS OVER 50 FEET.
38. PROVIDE SEPARATE, INDIVIDUAL NEUTRAL CONDUCTORS FOR ALL CIRCUITS.
39. KEEP CONDUCTOR SPLICES TO A MINIMUM. INSTALL SPLICES AND TAPES THAT POSSESS EQUIVALENT OR BETTER MECHANICAL STRENGTH AND INSULATION RATINGS THAN CONDUCTORS BEING SPLICED. USE SPLICE AND TAP CONNECTORS COMPATIBLE WITH CONDUCTOR MATERIAL. INSTALL CONDUCTORS AT EACH OUTLET WITH AT LEAST 6 INCHES OF SLACK. CONNECT OUTLETS AND COMPONENTS TO WIRING AND TO GROUND AS INDICATED AND INSTRUCTED BY THE MANUFACTURER.
40. DO NOT SPLICE BRANCH CIRCUIT HOMERUNS WITHOUT THE PERMISSION OF THE ARCHITECT/ENGINEER. HOMERUNS SHALL BE CONTINUOUS FROM THE LAST OUTLET BOX TO THE SERVING PANELBOARD.
41. DO NOT COMBINE BRANCH CIRCUIT HOMERUNS UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS.
42. DO NOT CHANGE CIRCUITING SHOWN WITHOUT PERMISSION OF THE ARCHITECT/ENGINEER.
43. TROUGH TAPS SHALL BE AT SWITCH AMPACITY, UNLESS NOTED OTHERWISE.
44. INSTALL WIRING DEVICES AT HEIGHTS AS SHOWN ON THE DRAWINGS. ALSO COORDINATE MOUNTING HEIGHTS WITH THE ARCHITECTURAL DRAWINGS AND CASEWORK DETAILS. IF CONFLICTING, ARCHITECTURAL DRAWINGS AND DETAILS SHALL GOVERN.
45. PROVIDE GROUND FAULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL IN ACCORDANCE WITH THE NEC INCLUDING ALL ELECTRIC WATER COOLERS, EXTERIOR RECEPTACLES AND RECEPTACLES IN AREAS SUBJECT TO POSSIBLE WET CONDITIONS. ALL RECEPTACLES INSTALLED WITHIN 6 FEET OF A SINK SHALL BE GFI PROTECTED. ALL RECEPTACLES IN NON-RESIDENTIAL KITCHENS SHALL BE GFI PROTECTED.
46. IN AREAS IN WHICH DUAL LEVEL SWITCHING IS INDICATED (TYPICALLY BY 2 OR MORE ADJACENT, GANGED SWITCHES), PROVIDE THE APPROPRIATE NUMBER OF CONDUCTORS TO FACILITATE THIS FUNCTION (AS TYPICALLY SHOWN).
47. CONNECT BATTERY PACK TYPE EMERGENCY AND EXIT LIGHTING TO THE UNSWITCHED LIGHTING CIRCUIT SERVING THE SPACE LIGHTED BY THE EMERGENCY AND EXIT FIXTURES. THESE CONNECTIONS ARE INTENTIONALLY NOT SHOWN TO MAINTAIN DRAWING FOR CLARITY.
48. COORDINATE LIGHTING FIXTURE LOCATIONS WITH THE ARCHITECTURAL REFLECTED CEILING PLAN. IF CONFLICTS ARE NOTED, REQUEST CLARIFICATION FROM THE ARCHITECT/ENGINEER BEFORE PROCEDING.
49. ADJACENT SWITCHES SHALL BE GANGED. INSTALL BARRIERS BETWEEN UNLIKE VOLTAGE SECTIONS.
50. SEPARATE NEUTRALS ARE REQUIRED FOR ALL DIMMED LIGHTING CIRCUITS.
51. WHERE THE DRAWINGS INDICATE A LIGHTING FIXTURE IS TO BE PROVIDED WITH SPECIAL FEATURES/SWITCHING (DIMMING, EMERGENCY BATTERY BALLAST, MULTI-LEVEL, ETC), THE CONTRACTOR SHALL PROVIDE THESE FIXTURES WITH THE APPROPRIATE BALLASTING TO ACCOMMODATE THE SPECIAL FEATURE. THE CONTRACTOR SHALL PROVIDE THE FIXTURES AS INDICATED IN THE LIGHTING FIXTURE SCHEDULE WITH MODIFICATIONS AS REQUIRED BY DRAWING NOTES.
52. COORDINATE LOCATIONS OF PLUMBING, MECHANICAL, ELEVATOR, FOOD SERVICE, DATA AND TELEPHONE AND AUDIO/VISUAL EQUIPMENT AND OF OWNER-PROVIDED EQUIPMENT WITH THE RESPECTIVE CONTRACTORS AND VENDORS AND THE OWNER BEFORE ROUGH-IN. ADJUST LIGHTING FIXTURES, RECEPTACLES AND ELECTRICAL EQUIPMENT TO ACCOMMODATE THIS EQUIPMENT. ADVISE THE ARCHITECT/ENGINEER OF CONFLICTS BEFORE ROUGH-IN.
53. BEFORE COMMENCING WORK OR ORDERING MATERIALS, THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES AND VERIFY THE NAMEPLATE RATINGS OF ALL EQUIPMENT (MOTORS, HEATERS, COMPRESSORS, ETC.) AND ADJUST THE RATINGS OF THE ELECTRICAL EQUIPMENT (SWITCHES, FUSES, CIRCUIT BREAKERS, FEEDERS, ETC.) AS APPROPRIATE TO SERVE THIS EQUIPMENT.
54. ENERGIZE EQUIPMENT ONLY AFTER OBTAINING PERMISSION FROM THE CONTRACTOR PROVIDING THE EQUIPMENT.
55. UNLESS SPECIFICALLY NOTED OTHERWISE, THE ELECTRICAL CONTRACTOR SHALL MAKE FINAL CONNECTIONS TO ALL UTILIZATION EQUIPMENT SHOWN ON THE DRAWINGS. VERIFY THE TYPE OF FINAL CONNECTION AND PROVIDE APPROPRIATE WIRING METHOD. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL, PLUMBING AND GENERAL CONTRACTORS, PRIOR TO ORDERING OR INSTALLATION OF ANY EQUIPMENT, TO VERIFY MECHANICAL AND PLUMBING EQUIPMENT REQUIREMENTS ARE PROVIDED IN THE ELECTRICAL DESIGN. THE CONTRACTOR WILL NOT BE COMPENSATED FOR COSTS ASSOCIATED WITH CHANGING THE ELECTRICAL SYSTEMS TO MATCH UTILIZATION EQUIPMENT, EVEN IF THE ELECTRICAL WORK IS INSTALLED PER THE ELECTRICAL DRAWINGS.
56. THE MECHANICAL AND PLUMBING CONTRACTORS SHALL FURNISH ALL STARTERS AND CONTROLS FOR THEIR EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL MOUNT STARTERS FURNISHED BY THE MECHANICAL AND PLUMBING CONTRACTORS, THE ELECTRICAL CONTRACTOR PROVIDE ALL SAFETY SWITCHES, WIRING AND CONNECTIONS TO LINE SIDE AND LOAD SIDE OF STARTERS AND SAFETY SWITCHES COMPLETE TO MECHANICAL EQUIPMENT. FOR RESISTANCE TYPE LOADS WHERE STARTERS OR CONTACTORS ARE NOT REQUIRED, THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL POWER WIRING AND CONNECTIONS COMPLETE TO EQUIPMENT. THE MECHANICAL AND PLUMBING CONTRACTORS SHALL PROVIDE ALL CONTROL WIRING AND CONNECTIONS AND DEVICES FOR THEIR EQUIPMENT.
57. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL EQUIPMENT TERMINATIONS, PLUGS AND CORDSETS WITH VENDOR EQUIPMENT AND VERIFY ALL DEVICE LOCATIONS FOR SPECIALITY EQUIPMENT WITH CASEWORK PRIOR TO ROUGH-IN.
58. THE LAYOUT AND PLACEMENT OF ELECTRICAL DISTRIBUTION EQUIPMENT IN ELECTRICAL AND MECHANICAL EQUIPMENT ROOMS IS BASED ON PUBLISHED EQUIPMENT SIZES AND SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE. DEVIATIONS FROM CONFIGURATIONS SHOWN IS THE RESPONSIBILITY OF THE CONTRACTOR. PROVIDE NATIONAL ELECTRIC CODE REQUIRED CLEARANCES FOR ALL ELECTRICAL EQUIPMENT, PANELBOARDS, TRANSFORMERS, SAFETY SWITCHES, SWITCHBOARDS, ETC. COORDINATE RESOLUTION OF CONFLICTS WITH OTHER TRADES. ADVISE THE ARCHITECT/ENGINEER OF CONFLICTS BEFORE ROUGH-IN.
59. LAYOUT AND PLACEMENT OF ELECTRICAL DISTRIBUTION EQUIPMENT IN ELECTRICAL AND MECHANICAL EQUIPMENT ROOMS IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. IF ARRANGEMENT DIFERS FROM THAT SHOWN ON THE DRAWINGS, PROVIDE NATIONAL ELECTRICAL CODE REQUIRED CLEARANCES FOR ALL ELECTRICAL EQUIPMENT, PANELBOARDS, TRANSFORMERS, SAFETY SWITCHES, SWITCHBOARDS, ETC. COORDINATE RESOLUTION OF CONFLICTS WITH OTHER TRADES
60. COORDINATION WITH THE UTILITY COMPANY FOR PLACEMENT OF THE UTILITY'S FACILITIES AND THE CONTRACTOR'S SERVICE ENTRANCE RACEWAYS AND CONNECTIONS TO THE CONTRACTOR'S SERVICE ENTRANCE CONDUCTORS IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
61. COORDINATION WITH THE UTILITY COMPANY IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. ALL ELECTRICAL DISTRIBUTION EQUIPMENT (PANELBOARDS, CIRCUIT BREAKERS, SAFETY SWITCHES, ETC.) SHALL, AS A MINIMUM, BE PROVIDED WITH SHORT CIRCUIT WITHSTAND AND INTERRUPTING RATINGS AS SHOWN IN THE DRAWINGS. COORDINATE ACTUAL FAULT CURRENT AVAILABLE WITH THE SERVING UTILITY COMPANY AND ADJUST RATINGS AS APPROPRIATE. PROVIDE DEVICES WITH CURRENT LIMITING CHARACTERISTICS AS REQUIRED TO SAFELY FUNCTION AND PROTECT THE DISTRIBUTION SYSTEM
62. TELECOMMUNICATIONS AND DATA CABLES WILL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. LEAVE PULL WIRES OR ROPES OF ADEQUATE TENSILE STRENGTH IN ALL EMPTY CONDUITS.
63. PROVIDE TELEPHONE, CABLE TELEVISION, FIBER AND DATA SERVICE ENTRANCE CONDUIT IN SIZES AND LOCATIONS AS REQUIRED BY THE OWNER AND THE SERVICE UTILITIES. UTILITY SERVICE ENTRANCE CABLES WILL BE PROVIDED AND INSTALLED BY THE OWNER'S SERVICE UTILITIES. LEAVE PULL WIRES OR ROPES OF ADEQUATE TENSILE STRENGTH IN ALL EMPTY CONDUITS.
64. EXACT SPACING OF SMOKE AND HEAT DETECTORS AND A/V DEVICES SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE WITH POSITIONS SHOWN ON THE DRAWINGS. DETECTOR SPACING IS BASED UPON NFPA 72 INCLUDING APPENDIX A. SLIGHT ADJUSTMENTS MAY BE MADE IN SPACING IF REQUIRED BY FIELD CONDITIONS, BUT SPACING SHALL NOT EXCEED ADA, NFPA AND EQUIPMENT MANUFACTURERS SPACING CRITERIA. DO NOT INSTALL SMOKE DETECTORS WITHIN 3 FEET OF SUPPLY AIR DIFFUSERS OR RETURN GRILLES. PROVIDE FLEX CONDUIT CONNECTION TO SMOKE AND HEAT DETECTORS OF ADEQUATE LENGTH TO ALLOW HORIZONTAL ADJUSTMENT OF FOUR FEET FROM POSITION INDICATED ON DRAWINGS.
65. SHOP DRAWINGS MUST BE SUBMITTED BY THE FIRE ALARM CONTRACTOR COMPLYING WITH THE FIRE ALARM PLAN REVIEW REQUIREMENTS POLICY - JANUARY 2006 BEFORE PERMITTING BY THE WILMINGTON FIRE DEPARTMENT. THESE DRAWINGS DO NOT CONSTITUTE APPROVAL AND MAY CHANGE AFTER A FULL REVIEW BY THE WILMINGTON FIRE DEPARTMENT. A SEPARATE PERMIT MUST BE OBTAINED PRIOR TO INSTALLATION.
66. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR FIRE ALARM WORK ON THIS PROJECT.
67. INSTALLATION INFORMATION PACKED WITH LIGHTING FIXTURES, DEVICES AND EQUIPMENT SHALL BE RETAINED FOR INCLUSION IN THE OPERATIONS AND MAINTENANCE MANUALS.
68. SAFETY: COMPLY WITH OSHA AND NEC ARC FLASH PROTECTION REQUIREMENTS.
69. ALL SWITCHES, RECEPTACLE AND LIGHTS SHALL COMPLY WITH ANSI 117.2 FOR ADA REQUIREMENTS.

12.10.2019	DATE
	REVISIONS
ISSUED FOR PERMIT	
Item/Spec	
Remarks	

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NC# P-0656

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 053311 ALLEN CRITTER
12/10/2019

208 Princess Street
Wilmington, North Carolina

MONTEITH CONSTRUCTION

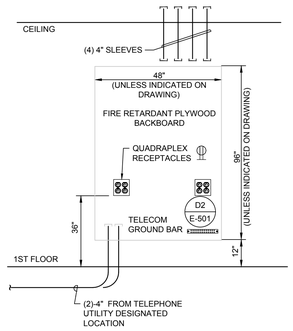
TRU Colors Brewery
715 Greenfield Street
Wilmington, North Carolina

ELECTRICAL GENERAL NOTES

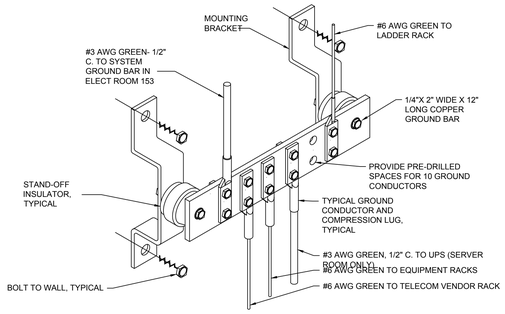
JOB NO.:	19109
DRAWN:	MDM
DESIGNED:	MDM
CHECKED:	WAC

DRAWING NO:
E-002

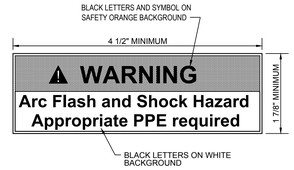
REVISION:
A



D1 TELECOM BACKBOARD DETAIL
NOT TO SCALE



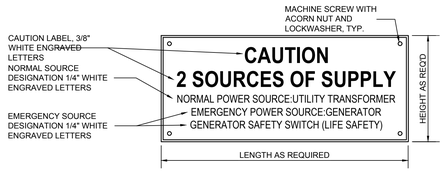
D2 TELECOMMUNICATIONS GROUND BAR DETAIL
NOT TO SCALE



NOTES:
1. LABEL SHOWN CAN BE SOURCED FROM SAFETYSIGN.COM, OTHER SUPPLIERS ARE COMPLIANTSIGNS.COM & SETON.COM

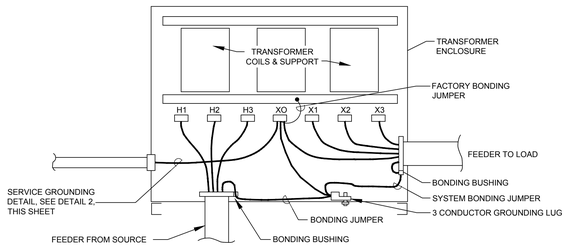
2. THIS WARNING LABEL MINIMALLY COMPLIES WITH NEC, HOWEVER IF ELECTRICAL EQUIPMENT IS LIKELY TO REQUIRE EXAMINATION OR MAINTENANCE WHILE ENERGIZED A DETAILED SHORT CIRCUIT AND ARC FLASH HAZARD ANALYSIS IS RECOMMENDED.

D4 ELECTRICAL EQUIPMENT WARNING LABEL DETAIL
NOT TO SCALE

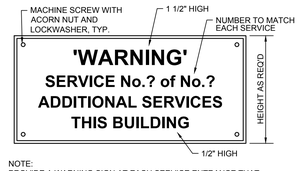


NOTE: SEE SPECS. SECTION 260553 FOR NAMEPLATE MATERIAL AND ENGRAVING COLORS.

D5 CAUTION NAMEPLATE DETAIL
NOT TO SCALE

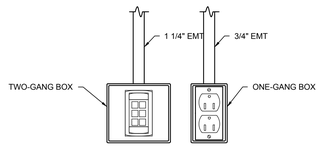


C3 TRANSFORMER GROUNDING DETAIL
NOT TO SCALE

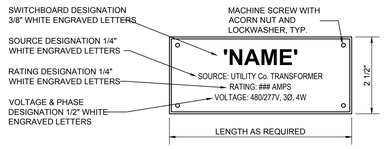


NOTE:
PROVIDE A WARNING SIGN AT EACH SERVICE ENTRANCE THAT INDICATES AN ADDITIONAL SERVICE AT INDICATED LOCATION. THE SIGNS SHALL BE 1/2" WIDER THAN TEXT WIDTH AND HEIGHT (RED FACE). LETTERS ARE TO BE WHITE WITH SIZES AS INDICATED. LABEL PER NEC 230.2(E)

C5 WARNING LABEL DETAIL (TYPICAL EACH SERVICE)
NOT TO SCALE

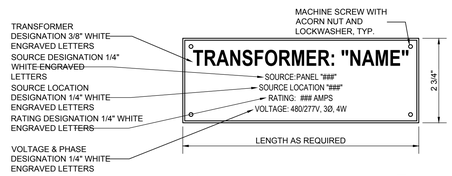


B1 SURFACE DATA OUTLET DETAILS
NOT TO SCALE



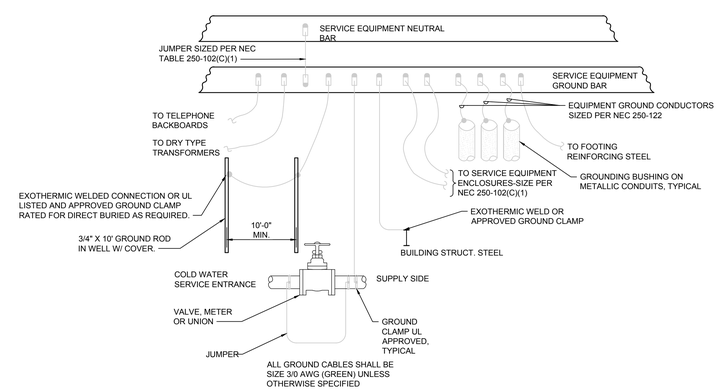
NOTE: SEE SPECS. SECTION 260553 FOR NAMEPLATE MATERIAL AND ENGRAVING COLORS.

B3 SWITCHBOARD NAMEPLATE DETAIL
NOT TO SCALE

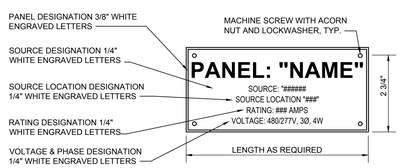


NOTE: SEE SPECS. SECTION 260553 FOR NAMEPLATE MATERIAL AND ENGRAVING COLORS.

B5 TYPICAL TRANSFORMER NAMEPLATE DETAIL
NOT TO SCALE

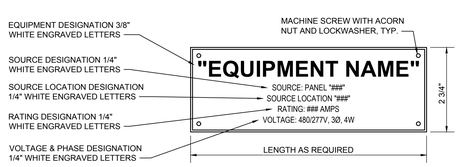


A1 SERVICE GROUNDING DETAIL
NOT TO SCALE



NOTE: SEE SPECS. SECTION 260553 FOR NAMEPLATE MATERIAL AND ENGRAVING COLORS.

A3 TYPICAL PANELBOARD NAMEPLATE DETAIL
NOT TO SCALE



NOTE: SEE SPECS. SECTION 260553 FOR NAMEPLATE MATERIAL AND ENGRAVING COLORS.

A5 TYPICAL EQUIPMENT NAMEPLATE DETAIL
NOT TO SCALE

12.10.2019	DATE
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 053311 ALLEN CRITZ
12/10/2019

208 Princess Street
Wilmington, North Carolina
MOUNTEITH ARCHITECTURE

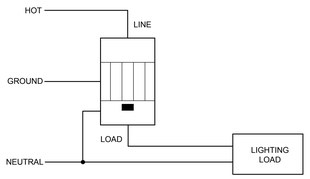
TRU Colors Brewery
715 Greenfield Street
Wilmington, North Carolina

ELECTRICAL DETAILS

JOB NO.:	19109
DRAWN:	MDM
DESIGNED:	MDM
CHECKED:	WAC

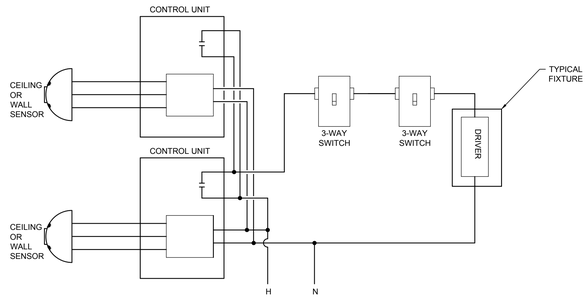
DRAWING NO:
E-501

REVISION:
A



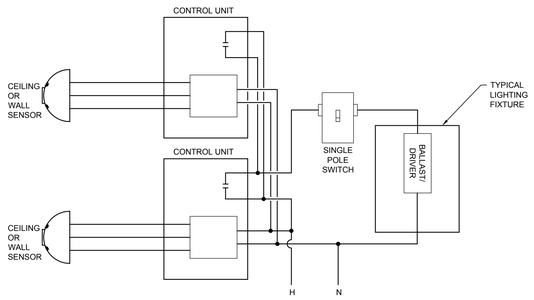
E1 OCCUPANCY SENSOR WALL SWITCH DIAGRAM

NOT TO SCALE



D3 OCCUPANCY SENSOR 3 WAY CIRCUIT, DUAL LEVEL SWITCHING WITH MULTIPLE CEILING SENSOR WIRING DIAGRAM

NOT TO SCALE



B1 OCCUPANCY SENSOR SINGLE CIRCUIT, SINGLE LEVEL SWITCHING WITH MULTIPLE CEILING SENSOR WIRING DIAGRAM

NOT TO SCALE

LIGHTING FIXTURE SCHEDULE

MARK	DESCRIPTION	NOM. SIZE	TEMP(oK)	LAMPS	VOLTS	DELIVERED LUMENS	WATTS	LENS	COLOR	MOUNTING HEIGHT	BALLAST/ DRIVER	REMARKS
A	SUSPENDED DECOTRATIVE LED FIXTURE	5"	2700	4.5	120	300	17	N/A	BY ARCHITECT	VARIOUS	LED DRIVER	SELECTION BY ARCHITECT
B	SUSPENDED LED FIXTURE	4'L x 3.5" W x 3.5" D	3000	LEDS	120	3000	50	N/A	BY ARCHITECT	7'-6"	DIMMING	SELECTION BY ARCHITECT
C	LED CYLINDER	6"	2700	LEDS	MULTI	1550	29	NONE	WHITE	9'-9"	DIMMING	
D	NOT USED											
E	EMERGENCY LIGHTING UNIT WITH 90 MINUTE EMERGENCY BATTERY BACKUP	15"x4"x6"	N/A	LEDS	120	N/A	5	N/A	WHITE	8'-6" AFF		
F6	BEAM STYLE SUSPENDED FIXTURE	6'L x 1.5"W x 4.5" D	3000	LEDS	MULTI	4300	43.5	N/A	BY ARCHITECT	10'-0"	DIMMING	
F10	BEAM STYLE SUSPENDED FIXTURE	10'L x 1.5"W x 4.5" D	3000	LEDS	MULTI	7100	72.5	N/A	BY ARCHITECT	10'-0"	DIMMING	
F16	BEAM STYLE SUSPENDED FIXTURE	16'L x 1.5"W x 4.5" D	3000	LEDS	MULTI	11,400	116	N/A	BY ARCHITECT	10'-0"	DIMMING	
F24	BEAM STYLE SUSPENDED FIXTURE	24'L x 1.5"W x 4.5" D	3000	LEDS	MULTI	17,100	174	N/A	BY ARCHITECT	10'-0"	DIMMING	
G	LED DIRECT / INDIRECT LAY-IN	2' x 2'	3000	LEDS	MULTI	2000	20	N/A	WHITE	RECESSED GRID	DIMMING	
H	SUSPENDED / SURFACE LED STRIP FIXTURE	4'L x 3"W x 3" D	4000	LEDS	MULTI	7000	60	RIBBED	WHITE	10'-0" UNO	DIMMING	
H1	SUSPENDED / SURFACE LED STRIP FIXTURE	4'L x 3"W x 3" D	4000	LEDS	MULTI	4500	41	RIBBED	WHITE	10'-0" UNO	DIMMING	
I	RECESSED LED FIXTURE	4" SQUARE		LEDS	MULTI	1000	14	N/A	WHITE	RECESSED	DIMMING	
J	RECESSED LED FIXTURE	4'L x 5"W x 4" D		LEDS	MULTI	4000	32	N/A	WHITE	RECESSED	DIMMING	
K	WALL MOUINTED EXTERIOR LIGHTING UNIT WITH 90 MINUTE EMERGENCY BATTERY	11"L x 5"W x 3.75" D	N/A	LEDS	MULTI	700	5	N/A	BRONZE	7'-6" AFF	DIMMING	8
L	SUSPENDED LED FIXTURE	12"L x 3" W x 4.5"D	3000	LEDS	MULTI	605	6	N/A	WHITE	14'-0"	LED DRIVER	8
S	RECESSED LED SHOWER FIXTURE	4" DIA	N/A	LEDS	MULTI	750	10	N/A	WHITE	RECESSED	LED DRIVER	8
X	COMBINATION EXIT SIGN AND LIGHTING UNIT WITH 90 MINUTE EMERGENCY BATTERY	19"x8"	N/A	LEDS	MULTI	N/A	5	N/A	WHITE	8'-0" UNO	LED DRIVER	6

REMARKS:

1. BI-LEVEL SWITCHING
2. DAMP LOCATION
3. WET LOCATION
4. WIREGUARD
5. LED REQUIRED SURGE PROTECTION
6. VERIFY FINAL MOUNTING HEIGHT WITH ARCHITECT
7. FINAL COLOR SELECTION BY ARCHITECT
8. INTEGRAL PE
9. USER DEFINED

GENERAL NOTES:

A. THE CONTRACTOR SHALL VERIFY THE LEAD TIME OF ALL PRODUCTS SPECIFIED IN THIS SCHEDULE AT THE TIME OF PACKAGE QUOTE.
B. DURING THE BID PROCESS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY DELIVERY/SCHEDULING ISSUES.
C. NO SUBSTITUTIONS WILL BE ALLOWED DUE TO THE LACK OF COORDINATION OF DELIVERY DATES AND CONSTRUCTION SCHEDULE AFTER BID.
D. ALL EXPEDITED EXPENSES SHALL BE THE RESPONSIBILITY OF THE CONTRACTORS.
E. FIXTURES TO BE INSTALLED IN CEILINGS, INDICATE ON THE ARCHITECTURAL PLANS AS HAVING INSULATION IN CONTACT WITH THE CEILING SURFACE, SHALL BE IC RATED BY MANUFACTURER.
F. LIGHTING FIXTURES SHALL MEET THE AESTHETICS, DESCRIPTION AND SPECIFICATIONS, SUBSTITUTIONS SHALL INCLUDE PT. BY PT. CALCULATIONS.
G. LIGHTING FIXTURES, AS SPECIFIED, HAVE BEEN SO SELECTED TO ACHIEVE REQUIRED/DESIRED FOOTCANDLE LEVELS IN THEIR RESPECTIVE AREA. HENCE SPECIFIC FIXTURE CHARACTERISTICS WHICH MAY CREATE PARTICULAR ILLUMINATION RESULTS ARE ESSENTIAL. ANY DEVIATIONS FROM SPECIFIED FIXTURES SHALL DEEM THE SUBMITTING AGENT AND CONTRACTORS RESPONSIBLE IN PROVIDINGSUCH DEVIATION FOR THE ARCHITECT/ ENGINEER AND OWNER TO MAKE AN INFORMED DECISION.
H. SUBSTITUTIONS ARE ACCEPTABLE AS LONG AS THEY ARE EQUAL TO THE FIXTURE SPECIFIED, UNLESS OTHERWISE NOTED THIS INCLUDES LENS, COLORS, REFLECTORS, PHOTOMETRICS, HOUSING MATERIAL, FINISHES, ETC. ALL
J. ANY FIXTURE WITH THE TEXT "NL" ADJACENT TO IT SHALL INDICATE THAT THAT FIXTURE IS A NIGHT LIGHT (24HR LIGHT). THE FIXTURE SHALL BE CONNECTED TO THE UNSWITCHED HOT LEG OF THE INDICATED CIRCUIT.
K. ALL EXIT AND EMERGENCY FIXTURES SHALL COMPLY WITH NCSBC STANDARDS AND HAVE AUTOMATIC TESTING DEVICES.
L. LED EMERGENCY BATTERY SHALL PROVIDE 1400 MINIMUM LUMENS OUTPUT FROM 1 LAMP FOR 90 MINUTES MINIMUM.
M. LED MODULES SHALL BE REPLACEABLE.
N. SEE SPECIFICATIONS SECTIONS 265100 AND 265200 FOR ADDITIONAL REQUIREMENTS. ELECTRICAL CONTRACTOR SHALL RECEIVE APPROVAL FOR ALL LIGHTING FIXTURES FROM ARCHITECT/OWNER PRIOR TO PURCHASE AND ROUGH-IN.
O. ALL LIGHTING FIXTURES PENETRATING RATED FLOOR/CEILING ASSEMBLY SHALL BE PROVIDED WITH ACCESSORIES TO MAINTAIN ASSEMBLY FIRE RATING. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL RATINGS.
P. PROVIDE MANUFACTURER INSTALLED NEC 2014 ARTICLE 410.130 (G) COMPLIANT DISCONNECTING MEANS FOR ALL APPLICABLE FIXTURES.

12/7/2019 Date
REVISIONS
ISSUED FOR PERMIT Description
Remark No.

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NC# P-0656
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 053311 ALLEN C. CRITZ
12/10/2019

208 Princess Street
Wilmington, North Carolina

MONTEITH CONSTRUCTION CORP.

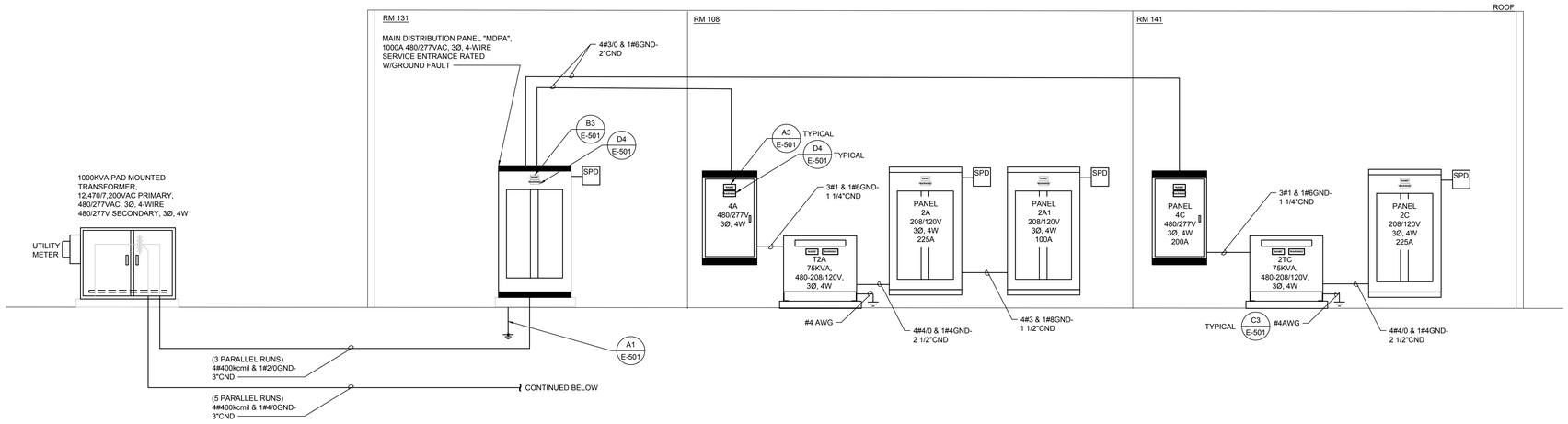
TRU Colors Brewery
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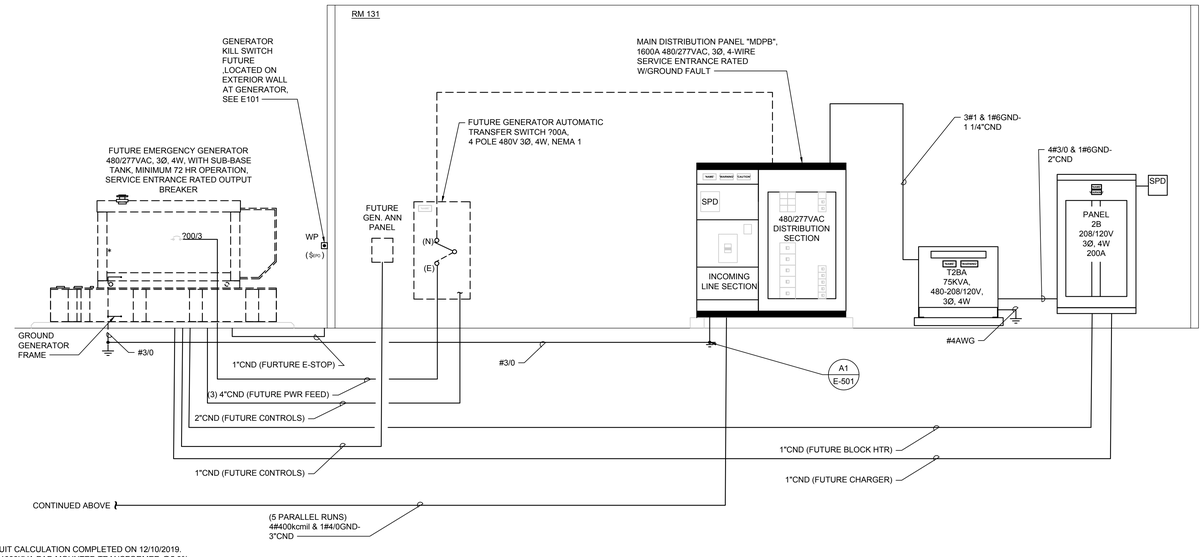
LIGHTING DETAILS AND SCHEDULE

JOB NO.: 1918
DRAWN: MDM
DESIGNED: MDM
CHECKED: WAC

DRAWING NO: E-502

REVISION: A





NOTE:
1. SHORT CIRCUIT CALCULATION COMPLETED ON 12/10/2019. BASED ON A 1000KVA PAD MOUNTED TRANSFORMER @5.3% IMPEDANCE, AND 7.3 X/R. WITH 50 FEET OF SERVICE ENTRANCE CONDUCTOR. VERIFY ACTUAL PARAMETERS WITH UTILITY COMPANY PRIOR TO INSTALLATION

2. SERVICE EQUIPMENT SHALL BE LEGIBLY MARKED WITH MAX. AVAILABLE FAULT CURRENT, INCLUDING THE DATE THE FAULT CURRENT CALCULATIONS WERE PERFORMED, PER NEC 110.24

B1 RISER DIAGRAM

NOT TO SCALE

No.	Description	Date
1	ISSUED FOR PERMIT	12/10/2019

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Wilmington, NC 28401
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Fax: 910.791.5266
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NC# P-0606

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 033311 ENGINEER ALLEN CRITTER 12/10/2019

208 Princess Street
Wilmington, North Carolina

MONTEITH CONSTRUCTION

TRU Colors Brewery
715 Greenfield Street
Wilmington, North Carolina

ELECTRICAL
DETAILS AND RISER DIAGRAM

JOB NO.:	19109
DRAWN:	MDM
DESIGNED:	MDM
CHECKED:	WAC

DRAWING NO:
E-601

REVISION:
A

MDPA LOAD SUMMARY

VOLTAGE	PHASE
480	3
LARGEST MOTOR APPROX. AMPS	54 AMPS
LARGEST MOTOR APPROX. AMPS x .25	13 AMPS
HVAC	
RTU01	44,563 VA
FUTURE HVAC 15,603 SF @ 6.5 Watts/SF	101,420 VA
VAVs CONTROL POWER	750 VA
DAH01 / DHP01	1,498 VA
DAH01 / DHP02	1,498 VA
PV01, PV02, PV03, PV04 & PV05	2,338 VA
EHU (3 TOTAL)	11,482 VA
SUB-TOTAL HVAC DEMAND	163,548 VA
SUB-TOTAL HVAC DEMAND	197 AMPS
EQUIPMENT	
REFRIGERATOR (2 TOTAL)	2,000 VA
MICROWAVE (2 TOTAL)	2,400 VA
KEGERATOR (3TOTAL)	450 VA
COFFEE BREWER	1,000 VA
ICE MAKER	1,300 VA
DISHWASHER	1,200 VA
COPIER	1,100 VA
B01 & BP01	744 VA
B02 & BP02	744 VA
DRAFT BEER COOLER	660 VA
BOTTLE COOLER	168 VA
REFRIGERATED MERCHANDISER	1,020 VA
GLASSWASHER	3,120 VA
HWP01 & HWP02 (REDUNDANT)	2,827 VA
FAUCET & FLUSH VAVLES	1,000 VA
GWH1	500 VA
MISCELLANEOUS FUTURE EQUIPMENT	50,000 VA
SUB-TOTAL EQUIPMENT DEMAND	70,233 VA
SUB-TOTAL EQUIPMENT DEMAND	84 AMPS
ADD FOR LARGEST MOTOR	13 AMPS
TOTAL EQUIPMENT DEMAND	98 AMPS
FUTURE RESTAURANT EQUIPMENT	
6000 SF X 25 Watts/SF	150,000 VA
SUB-TOTAL EQUIPMENT DEMAND	150,000 VA
DEMAND FACTOR 65% (6 UNITS OR OVER)	97,500 VA
SUB-TOTAL EQUIPMENT DEMAND	180 AMPS
TOTAL EQUIPMENT DEMAND	117 AMPS
LIGHTING	
LIGHTS (INTERIOR, BASED ON NEC 220.12)	60,843 VA
LIGHTS (EXTERIOR) + FUTURE	5,000 VA
SIGN	3,600 VA
TOTAL LIGHTING LOAD	69,443 VA
LIGHTING LOAD x 1.25	86,803 VA
TOTAL DEMAND FOR LIGHTING	104 AMPS
RECEPTACLES	
RECEPTACLES + FUTURE RECEPTACLES	63,906 VA
FIRST 10000VA	10,000 VA
REMAINDER @ 50%	26,953 VA
TOTAL DEMAND FOR RECEPTACLE/POWER PANELS	36,953 VA
TOTAL DEMAND FOR RECEPTACLE/POWER PANELS	44 AMPS
TOTAL DEMAND BUILDING AMPS	561 AMPS
TOTAL DEMAND BUILDING AMPS	466,177 VA
TOTAL BUILDING CONNECTED LOAD	367,129 VA

PANEL MDPA — SERVICE EQUIPMENT LISTED

TYPE: NEMA 1 | 480 V, 3 PH, 4 WIRE | PROVIDE IF XX | EQUIP. GROUND BUS
BOLT-ON | MOUNT: FLOOR | CHECKED: XX | NEUTRAL BUS
DOOR-IN-DOOR WITH-IN HINGED TRIM FRONT COVER | FEED: BOTTOM | GUTTER TAPS | SUB-FEED LUGS

LOAD SERVED	LOAD VA	CKT BKR	CKT #	LOAD VA A	LOAD VA B	LOAD VA C	CKT #	CKT BKR	LOAD VA	LOAD SERVED
PREPARDE SPACE			1				2			PREPARED SPACE
SPARE		50/3	3				4			PREPARED SPACE
SPARE		100/3	5				6	30/3		SPD
SPARE		200/3	7				8	100/3		SPARE
PANEL 4A	33,580 35,670 32,076	200/3	9	33,580	35,670	32,076	10	200/3		SPARE
SPARE		200/3	11				12	300/3		FUTURE RESTAURANT
PANEL 4C	6,371 6,370 6,616	200/3	13	6,371	6,370	6,616	14	125/3		SPARE
				39,952	42,041	38,693	TOTAL VOLT AMPS		1,000	A. BUS (COPPER)
				144	152	140	CONN. AMPS		1,000	A. MAIN CIRCUIT BREAKER

NOTE:
1. HVAC EQUIPMENT SHALL USE TYPE HACR BREAKERS.
2. ARC ENERGY REDUCTION REQUIRED AT ALL BREAKERS
   THAT CAN BE ADJUSTED TO 1200AMPS OR MORE PER NEC 240.87.

*GROUND FAULT PROTECTION REQUIRED AT MAIN.

65 KAIC MIN.

PANEL: 4A

TYPE: NEMA 1 | 480 V, 3 PH, 4 WIRE | PROVIDE IF XX | EQUIP. GROUND BUS
BOLT-ON | MOUNT: SURFACE | CHECKED: XX | NEUTRAL BUS
DOOR-IN-DOOR WITH-IN HINGED TRIM FRONT COVER | FEED: TOP | GUTTER TAPS | SUB-FEED LUGS

LOAD SERVED	LOAD VA	CKT BKR	CKT #	LOAD VA A	LOAD VA B	LOAD VA C	CKT #	CKT BKR	LOAD VA	LOAD SERVED
RTU01	14,854	80/3	1	33,580			2	125/3	18,726	PANEL 2A VIA XFMR T2A
|	14,854	|	3		35,670		4	|	20,816	|
|	14,854	|	5			32,076	6	|	17,222	|
SPARE		20/1	7				8	20/1		SPARE
SPARE		20/1	9				10	20/1		SPARE
SPARE		20/1	11				12	20/1		SPARE
SPARE		20/1	13				14	20/1		SPARE
SPARE		20/1	15				16	20/1		SPARE
SPARE		20/1	17				18	20/1		SPARE
SPARE		20/1	19				20	20/1		SPARE
SPARE		20/1	21				22	20/1		SPARE
SPARE		20/1	23				24	20/1		SPARE
SPARE		20/1	25				26	20/1		SPARE
SPARE		20/1	27				28	20/1		SPARE
SPARE		20/1	29				30	20/1		SPARE
				33,580	35,670	32,076	TOTAL VOLT AMPS		200	A. BUS (COPPER)
				121	129	116	CONN. AMPS		200	A. MAIN CIRCUIT BREAKER

NOTES:
1. HVAC & REFRIGERATION EQUIPMENT SHALL USE TYPE HACR BREAKERS.
2. ARC ENERGY REDUCTION REQUIRED AT ALL BREAKERS
   THAT CAN BE ADJUSTED TO 1200AMPS OR MORE PER NEC 240.87.
3. PROVIDE CIRCUIT BREAKER LOCKING DEVICE FOR FACU ALONG WITH
   IDENTIFYING CIRCUIT BREAKER IN ACCORDANCE WITH NEC 760.41

25 KAIC MIN.

PANEL: 4C

TYPE: NEMA 1 | 480 V, 3 PH, 4 WIRE | PROVIDE IF XX | EQUIP. GROUND BUS
BOLT-ON | MOUNT: SURFACE | CHECKED: XX | NEUTRAL BUS
DOOR-IN-DOOR WITH-IN HINGED TRIM FRONT COVER | FEED: TOP | GUTTER TAPS | SUB-FEED LUGS

LOAD SERVED	LOAD VA	CKT BKR	CKT #	LOAD VA A	LOAD VA B	LOAD VA C	CKT #	CKT BKR	LOAD VA	LOAD SERVED
SPARE		20/1	1				2	20/1		SPARE
SPARE		20/1	3				4	20/1		SPARE
SPARE		20/1	5				6	20/1		SPARE
SPARE		20/1	7				8	20/1		SPARE
SPARE		20/1	9				10	20/1		SPARE
SPARE		20/1	11				12	20/1		SPARE
SPARE		20/1	13				14	20/1		SPARE
SPARE		20/1	15				16	20/1		SPARE
SPARE		20/1	17				18	20/1		SPARE
SPARE		20/1	19				20	20/1		SPARE
SPARE		20/1	21				22	20/1		SPARE
SPARE		20/1	23				24	20/1		SPARE
SPARE		20/1	25				26	20/1		SPARE
SPARE		20/1	27				28	20/1		SPARE
SPARE		20/1	29				30	20/1		SPARE
HWP01	942	15/3	31	942			32	20/1		SPARE
|	942	|	33		942		34	20/1		SPARE
|	942	|	35			942	36	20/1		SPARE
HWP02	942	15/3	37	5,429			38	125/3	4,487	PANEL 2C VIA XFMR T2C
|	942	|	39		5,428		40	|	4,486	|
|	942	|	41			5,674	42	|	4,732	|
				6,371	6,370	6,616	TOTAL VOLT AMPS		200	A. BUS (COPPER)
				23	23	24	CONN. AMPS		200	A. MAIN CIRCUIT BREAKER

NOTES:
1. HVAC & REFRIGERATION EQUIPMENT SHALL USE TYPE HACR BREAKERS.
2. ARC ENERGY REDUCTION REQUIRED AT ALL BREAKERS
   THAT CAN BE ADJUSTED TO 1200AMPS OR MORE PER NEC 240.87.
3. PROVIDE CIRCUIT BREAKER LOCKING DEVICE FOR FACU ALONG WITH
   IDENTIFYING CIRCUIT BREAKER IN ACCORDANCE WITH NEC 760.41

25 KAIC MIN.

PANEL: 2A

TYPE: NEMA 1 | 208 V, 3 PH, 4 WIRE | PROVIDE IF XX | EQUIP. GROUND BUS
BOLT-ON | MOUNT: SURFACE | CHECKED: XX | NEUTRAL BUS
DOOR-IN-DOOR WITH-IN HINGED TRIM FRONT COVER | FEED: TOP | GUTTER TAPS | SUB-FEED LUGS

LOAD SERVED	LOAD VA	CKT BKR	CKT #	LOAD VA A	LOAD VA B	LOAD VA C	CKT #	CKT BKR	LOAD VA	LOAD SERVED
FURNITURE RM 102A	1,080	20/1	1	1,080			2	30/3		SPD
FURNITURE RM 120A	1,080	20/1	3		1,080		4	|		|
FURNITURE RM 120A	1,080	20/1	5			1,080	6	|		|
FURNITURE RM 120A	1,080	20/1	7	1,620			8	20/1	540	RCP: RM 108 & 111
FURNITURE RM 120A	1,080	20/1	9		1,620		10	20/1	540	RCP: RM 107 & 108
FURNITURE RM 120A	1,080	20/1	11			1,620	12	20/1	540	RCP: RM 106 & 108
FURNITURE RM 120A	1,080	20/1	13	1,440			14	20/1	360	RCP: RM 109
FURNITURE RM 120A	1,080	20/1	15		1,440		16	20/1	360	RCP: RM 103
FURNITURE RM 120A	1,080	20/1	17			1,380	18	20/1	300	RCP: TV RM 103
FURNITURE RM 120A	1,080	20/1	19	2,080			20	20/1	1,000	REFRIGERATOR RM 120
FURNITURE RM 120A	1,080	20/1	21		2,080		22	20/1	1,000	REFRIGERATOR RM 120
FURNITURE RM 120A	1,080	20/1	23			2,280	24	20/1	1,200	MICROWAVE RM 120
FURNITURE RM 120A	1,080	20/1	25	2,280			26	20/1	1,200	MICROWAVE RM 120
FURNITURE RM 120A	1,080	20/1	27		1,620		28	20/1	540	RCP: RM 120
FURNITURE RM 102B	1,080	20/1	29			1,080	30	20/1		SPARE
FURNITURE RM 120B	1,080	20/1	31	2,280			32	20/1	1,200	DISHWASHER RM 120
FURNITURE RM 120B	1,080	20/1	33		2,380		34	20/1	1,300	ICE MACHINE
FURNITURE RM 120B	1,080	20/1	35			2,080	36	20/1	1,000	COFFEE BREWER RM 120
FURNITURE RM 120B	1,080	20/1	37	1,230			38	20/1	150	KEGERATOR
FURNITURE RM 120B	1,080	20/1	39		1,680		40	20/1	600	EWC RM 120A (SEE NOTE 4)
RCP RM 102A	180	20/1	41			1,280	42	20/1	1,100	COPIER RM 120A
RCP: RM 100	180	20/1	43	330			44	20/1	150	KEGERATOR
RCP: RM 100	720	20/1	45		870		46	20/1	150	KEGERATOR
RCP: RM 101	360	20/1	47			360	48	20/1		SPARE
RCP: RM 101	360	20/1	49	6,366			50	100/3	6,026	PANEL 2A1
RCP: TV RM 101	300	20/1	51		8,046		52	|	7,746	|
RCP RM 120A	180	20/1	53			6,062	54	|	5,882	|
				18,726	20,816	17,222	TOTAL VOLT AMPS		225	A. BUS (COPPER)
				156	173	144	CONN. AMPS		225	A. MAIN CIRCUIT BREAKER

NOTES:
1. HVAC & REFRIGERATION EQUIPMENT SHALL USE TYPE HACR BREAKERS.
2. ARC ENERGY REDUCTION REQUIRED AT ALL BREAKERS
   THAT CAN BE ADJUSTED TO 1200AMPS OR MORE PER NEC 240.87.
3. PROVIDE CIRCUIT BREAKER LOCKING DEVICE FOR FACU ALONG WITH
   IDENTIFYING CIRCUIT BREAKER IN ACCORDANCE WITH NEC 760.41
4. PROVIDE GFI BREAKER

22 KAIC MIN.

PANEL: 2A1

TYPE: NEMA 1 | 208 V, 3 PH, 4 WIRE | PROVIDE IF XX | EQUIP. GROUND BUS
BOLT-ON | MOUNT: SURFACE | CHECKED: XX | NEUTRAL BUS
DOOR-IN-DOOR WITH-IN HINGED TRIM FRONT COVER | FEED: TOP | GUTTER TAPS | SUB-FEED LUGS

LOAD SERVED	LOAD VA	CKT BKR	CKT #	LOAD VA A	LOAD VA B	LOAD VA C	CKT #	CKT BKR	LOAD VA	LOAD SERVED
RCP RM 116	360	20/1	1	1,354			2	20/1	994	LTG: RM 100 & 101
RCP RM 116	360	20/1	3		1,447		4	20/1	1,087	LTG: RM 102A
RCP RM 116	360	20/1	5			1,029	6	20/1	669	LTG: RM 102B, 103, 104, 105, 106 & 107
SPARE		20/1	7	297			8	20/1	297	LTG: RM 109, 110, 111, 112, 113, 114 & 115
RCP: RM 117	180	20/1	9		948		10	20/1	769	LTG: RM 116, 117, 118, 119 & 120
RCP: TV RM 117	300	20/1	11			345	12	20/1	45	EXTERIOR LTGS
RCP: TV RM 118	300	20/1	13	900			14	20/1	600	FACP
RCP: TV RM 118	300	20/1	15		300		16	20/1		SPARE
RCP: RM 117 & 118	720	20/1	17			720	18	20/1		SPARE
RCP: RM 118	180	20/1	19	180			20	30/2		RCP: RM 116
RCP: RM 118 & 120B	540	20/1	21		540		22	|		|
RCP: RM 119	180	20/1	23			180	24	30/2		RCP: RM 116
RCP: RM 121	720	20/1	25	720			26	|		|
RCP: RM 136A	720	20/1	27		900		28	20/1	180	RCP RM 118
VAV CONTROL POWER	600	20/1	29			1,140	30	20/1	540	RCP: ROOF
VAV CONTROL POWER	375	20/1	31	475			32	20/1	100	RCP: RM 139 MIRRORS (SEE NOTE 4)
PV02	250	20/1	33		910		34	15/1	660	RCP: DRAFT BEER COOLER
FAUCET & FLUSH VALVES	200	20/1	35			368	36	15/1	168	RCP: BOTTLE COOLER
RCP: ROOF	540	20/1	37	1,560			38	15/1	1,020	RCP: REFRIGERATED MERCHANDISER
RCP: RM 114 & 115	540	20/1	39		2,100		40	20/1	1,560	GLASSWASHER
RCP: RM 113 & 114	540	20/1	41			2,100	42	|	1,560	|
RCP: RM 112 & 113	540	20/1	43	540			44	20/1		SPARE
FIRE SHUTTER	600	20/1	45		600		46	20/1		SPARE
SPARE		20/1	47				48	20/1		SPARE
SPARE		20/1	49				50	30/3		SPD
SPARE		20/1	51				52	|		|
SPARE		20/1	53				54	|		|
				6,026	7,746	5,882	TOTAL VOLT AMPS		100	A. BUS (COPPER)
				50	65	49	CONN. AMPS		100	A. MAIN LUGS

NOTES:
1. HVAC & REFRIGERATION EQUIPMENT SHALL USE TYPE HACR BREAKERS.
2. ARC ENERGY REDUCTION REQUIRED AT ALL BREAKERS
   THAT CAN BE ADJUSTED TO 1200AMPS OR MORE PER NEC 240.87.
3. PROVIDE CIRCUIT BREAKER LOCKING DEVICE FOR FACU ALONG WITH
   IDENTIFYING CIRCUIT BREAKER IN ACCORDANCE WITH NEC 760.41
4. PROVIDE GFI BREAKER

22 KAIC MIN.

PANEL: 2C

TYPE: NEMA 1 | 208 V, 3 PH, 4 WIRE | PROVIDE IF XX | EQUIP. GROUND BUS
BOLT-ON | MOUNT: SURFACE | CHECKED: XX | NEUTRAL BUS
DOOR-IN-DOOR WITH-IN HINGED TRIM FRONT COVER | FEED: TOP | GUTTER TAPS | SUB-FEED LUGS

LOAD SERVED	LOAD VA	CKT BKR	CKT #	LOAD VA A	LOAD VA B	LOAD VA C	CKT #	CKT BKR	LOAD VA	LOAD SERVED
RCP: RM 138	180	20/1	1	180			2	30/3		SPD
RCP: RM 139	180	20/1	3		180		4	|		|
RCP: RM 139	180	20/1	5			180	6	|		|
RCP: ROOF	540	20/1	7	1,363			8	20/1	823	LTG: COORD. 136A, 136B & 142
SPARE		20/1	9		600		10	20/1	600	LTG: RM 55, 137, 138, 139 & 140
SPARE		20/1	11				12	20/1		SPARE
SPARE		20/1	13				14	20/1		SPARE
SPARE		20/1	15				16	20/1		SPARE
SPARE		20/1	17				18	20/1		SPARE
SPARE		20/1	19				20	20/1		SPARE
SPARE		20/1	21				22	20/1		SPARE
RCP: RM 138 FAUCET VALVES	200	20/1	23			200	24	20/1		SPARE
RCP: RM 138 FLUSH VALVES	150	20/1	25	250			26	20/1	100	RCP: RM 139 MIRRORS (SEE NOTE 4)
RCP: RM 139 FAUCET VALVES	200	20/1	27		300		28	20/1	100	RCP: RM 139 MIRRORS (SEE NOTE 4)
RCP: RM 139 FLUSH VALVES	250	20/1	29			946	30	20/1	696	PV05
GWH1 & CP1	500	20/1	31	1,249			32	15/2	749	DAH01 / DHP01
B01 & BP01	744	20/1	33		1,493		34	|	749	|
B02 & BP02	744	20/1	35			1,493	36	15/2	749	DAH02 / DHP02
PV01	696	20/1	37	1,445			38	|	749	|
EUH2	1,913	25/2	39		1,913		40	20/1		SPARE
|	1,913	|	41			1,913	42	20/1		SPARE
SPARE		20/1	43				44	20/1		SPARE
SPARE		20/1	45				46	20/1		SPARE
SPARE		20/1	47				48	20/1		SPARE
SPARE		20/1	49				50	20/1		SPARE
SPARE		20/1	51				52	20/1		SPARE
SPARE		20/1	53				54	20/1		SPARE
				4,487	4,486	4,732	TOTAL VOLT AMPS		225	A. BUS (COPPER)
				37	37	39	CONN. AMPS		225	A. MAIN CIRCUIT BREAKER

NOTES:
1. HVAC & REFRIGERATION EQUIPMENT SHALL USE TYPE HACR BREAKERS.
2. ARC ENERGY REDUCTION REQUIRED AT ALL BREAKERS
   THAT CAN BE ADJUSTED TO 1200AMPS OR MORE PER NEC 240.87.
3. PROVIDE CIRCUIT BREAKER LOCKING DEVICE FOR FACU ALONG WITH
   IDENTIFYING CIRCUIT BREAKER IN ACCORDANCE WITH NEC 760.41
4. PROVIDE GFI BREAKER

22 KAIC MIN.

12.17.2019 — ISSUE
REVISIONS
ISSUED FOR PERMIT — Issue/Rev.
Rev. No.

CBHF Engineers, PLLC
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NC# P-0656
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NORTH CAROLINA — 053311 — ENGINEER — ALLEN C. CRITTER — 12/10/2019

208 Princess Street
Wilmington, North Carolina

MONTEITH CONSTRUCTION

TRU Colors Brewery
715 Greenfield Street
Wilmington, North Carolina

ELECTRICAL PANEL SCHEDULES

JOB NO.:	19109
DRAWN:	MDM
DESIGNED:	MDM
CHECKED:	WAC

DRAWING NO: **E-602**

REVISION: **A**

MDBP PRELIM. LOAD SUMMARY

VOLTAGE	PHASE	
480	3	
LARGEST MOTOR APPROX. AMPS	370	AMPS
LARGEST MOTOR APPROX. AMPS x .25	93	AMPS
HVAC ESTIMATE		
RTU03	22,614	VA
RTU04	22,614	VA
RTU05	11,307	VA
FUTURE HVAC (ESTIMATE: 8636SF X 13 WATTS /SF)	112,268	VA
SUB-TOTAL HVAC DEMAND	168,804	VA
SUB-TOTAL HVAC DEMAND	203	AMPS
EQUIPMENT		
Brewing Equipment Preliminary Load List	904,699	VA
Miscellaneous (23405 SF X 2 Watt/SF)	46,810	VA
SUB-TOTAL EQUIPMENT DEMAND	951,509	VA
SUB-TOTAL EQUIPMENT DEMAND	1,145	AMPS
ADD FOR LARGEST MOTOR	93	AMPS
TOTAL EQUIPMENT DEMAND	1,237	AMPS
LIGHTING		
LIGHTS (INTERIOR, BASED ON NEC 220.12)	46,810	VA
LIGHTS (EXTERIOR)	5,000	VA
SIGN	1,200	VA
TOTAL LIGHTING LOAD	53,010	VA
LIGHTING LOAD x 1.25	66,263	VA
TOTAL DEMAND FOR LIGHTING	80	AMPS
RECEPTACLES		
RECEPTACLES + FUTURE RECEPTACLES	46,810	VA
FIRST 10000VA	10,000	VA
REMAINDER @ 50%	18,405	VA
TOTAL DEMAND FOR RECEPTACLE/POWER PANELS	28,405	VA
TOTAL DEMAND FOR RECEPTACLE/POWER PANELS	34	AMPS
TOTAL DEMAND BUILDING AMPS	1,554	AMPS
TOTAL DEMAND BUILDING AMPS	1,291,881	VA
TOTAL BUILDING CONNECTED LOAD	1,220,133	VA

PANEL MDPB

SERVICE EQUIPMENT LISTED

TYPE: NEMA 1 | 480 | 277 V, | 3 PH, | 4 WIRE | PROVIDE IF CHECKED: XX / XX | EQUIP. GROUND BUS, NEUTRAL BUS, GUTTER TAPS, SUB-FEED LUGS
BOLT-ON | MOUNT: FLOOR | FEED: BOTTOM

LOAD SERVED	LOAD VA	CKT BKR	CKT #	LOAD VA A	LOAD VA B	LOAD VA C	CKT #	CKT BKR	LOAD VA	LOAD SERVED
			1				2			
			3				4			
			5				6	60/3		SPD
			7				8			
	7,538			7,538						
RTU03	7,538	40/3	9		7,538		10			
	7,538					7,538				
	7,538			7,538						
RTU04	7,538	40/3	11		7,538		12			
	7,538					7,538				
	3,769			9,590					5,821	
RTU05	3,769	25/3	13		9,160		14	125/3	5,391	PANEL 2BA VIA XFMR T2BA
	3,769					12,761			8,992	
				24,666	24,236	27,837	TOTAL VOLT AMPS		1,600	A. BUS (COPPER)
				89	87	100	CONN. AMPS		1,600	A. MAIN CIRCUIT BREAKER

NOTE:
1. HVAC EQUIPMENT SHALL USE TYPE HACR BREAKERS.
2. ARC ENERGY REDUCTION REQUIRED AT ALL BREAKERS THAT CAN BE ADJUSTED TO 1200AMPS OR MORE PER NEC 240.87.

*GROUND FAULT PROTECTION REQUIRED AT MAIN.
**ARC ENERGY REDUCTION REQUIRED AT ALL BREAKERS 1200AMPS OR MORE.
65 KAIC MIN.

PANEL: 2B

TYPE: NEMA 1 | 208 | 120 V, | 3 PH, | 4 WIRE | PROVIDE IF CHECKED: XX / XX | EQUIP. GROUND BUS, NEUTRAL BUS, GUTTER TAPS, SUB-FEED LUGS
BOLT-ON | MOUNT: SURFACE | DOOR-IN-DOOR WITH-IN HINGED TRIM FRONT COVER | FEED: TOP

LOAD SERVED	LOAD VA	CKT BKR	CKT #	LOAD VA A	LOAD VA B	LOAD VA C	CKT #	CKT BKR	LOAD VA	LOAD SERVED
RCP: R133	540	20/1	1	540			2	30/3		SPD
RCP: RM 131	540	20/1	3		540		4	|	|	|
SPARE		20/1	5				6	|	|	|
RCP: RM 133 & RM 134	540	20/1	7	1,064			8	20/1	524	LTG: 131
FIRE SHUTTER	600	20/1	9		641		10	20/1	41	LTG: 134
FIRE SHUTTER	600	20/1	11			1,597	12	20/1	997	LTG: RM 121, 121A, 122, 123 & 124
SPARE		20/1	13				14	20/1		SPARE
SPARE		20/1	15				16	20/1		SPARE
SPARE		20/1	17				18	20/1		SPARE
SPARE		20/1	19				20	20/1		SPARE
SPARE		20/1	21				22	20/1		SPARE
SPARE		20/1	23				24	20/1		SPARE
SPARE		20/1	25				26	20/1		SPARE
SPARE		20/1	27				28	20/1		SPARE
SPARE		20/1	29				30	20/1		SPARE
GUH1	384	15/1	31	384			32	20/1		SPARE
GUH2	384	15/1	33		384		34	20/1		SPARE
PV03	1,656	20/1	35			3,569	36	25/2	1,913	EUH3
PV04	1,920	20/1	37	3,833			38	|	1,913	|
EUH1	1,913	25/2	39		3,826		40	25/2	1,913	EUH4
|	1,913	|	41			3,826	42	|	1,913	|
				5,821	5,391	8,992	TOTAL VOLT AMPS		225	A. BUS (COPPER)
				49	45	76	CONN. AMPS		225	A. MAIN CIRCUIT BREAKER

NOTES:
1. HVAC & REFRIGERATION EQUIPMENT SHALL USE TYPE HACR BREAKERS.
2. ARC ENERGY REDUCTION REQUIRED AT ALL BREAKERS THAT CAN BE ADJUSTED TO 1200AMPS OR MORE PER NEC 240.87.
3. PROVIDE CIRCUIT BREAKER LOCKING DEVICE FOR FACU ALONG WITH IDENTIFYING CIRCUIT BREAKER IN ACCORDANCE WITH NEC 760.41

22 KAIC MIN.

REVISIONS		
No.	Description	Date
1	ISSUED FOR PERMIT	12.10.2019

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NORTH CAROLINA PROFESSIONAL SEAL 033311 ENGINEER WILLIAM ALLEN CUTLER
12/10/2019

208 Princess Street
Wilmington, North Carolina

MONTEITH CONSTRUCTION

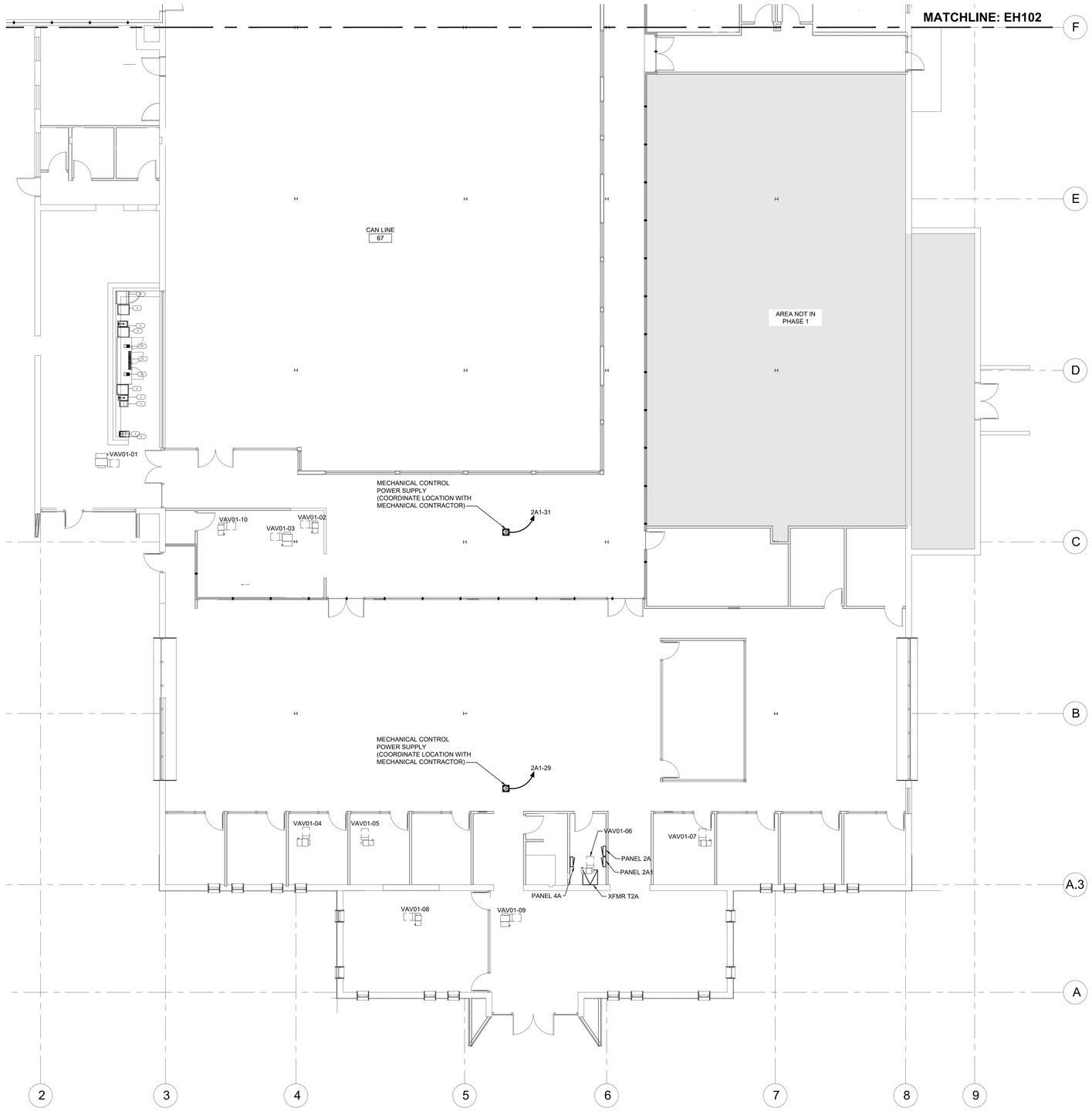
TRU Colors Brewery
715 Greenfield Street
Wilmington, North Carolina

ELECTRICAL PANEL SCHEDULES

JOB NO.:	19109
DRAWN:	MDM
DESIGNED:	MDM
CHECKED:	WAC

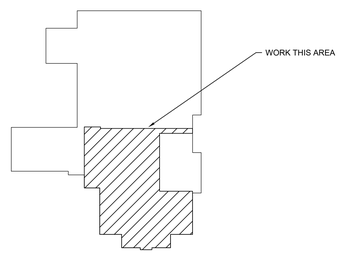
DRAWING NO:
E-603

REVISION:
A



A1 **POWER PLAN**
1/8" = 1'-0"
0 4' 8' 16'

PLAN NORTH



A5 **KEYPLAN**
NOT TO SCALE

PLAN NORTH

No.	Description	Date
A	ISSUED FOR PERMIT	12.10.2019

REVISIONS

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 053311 ALLEN CRITES
12/10/2019

208 Princess Street
Wilmington, North Carolina

MONTEITH CONSTRUCTION

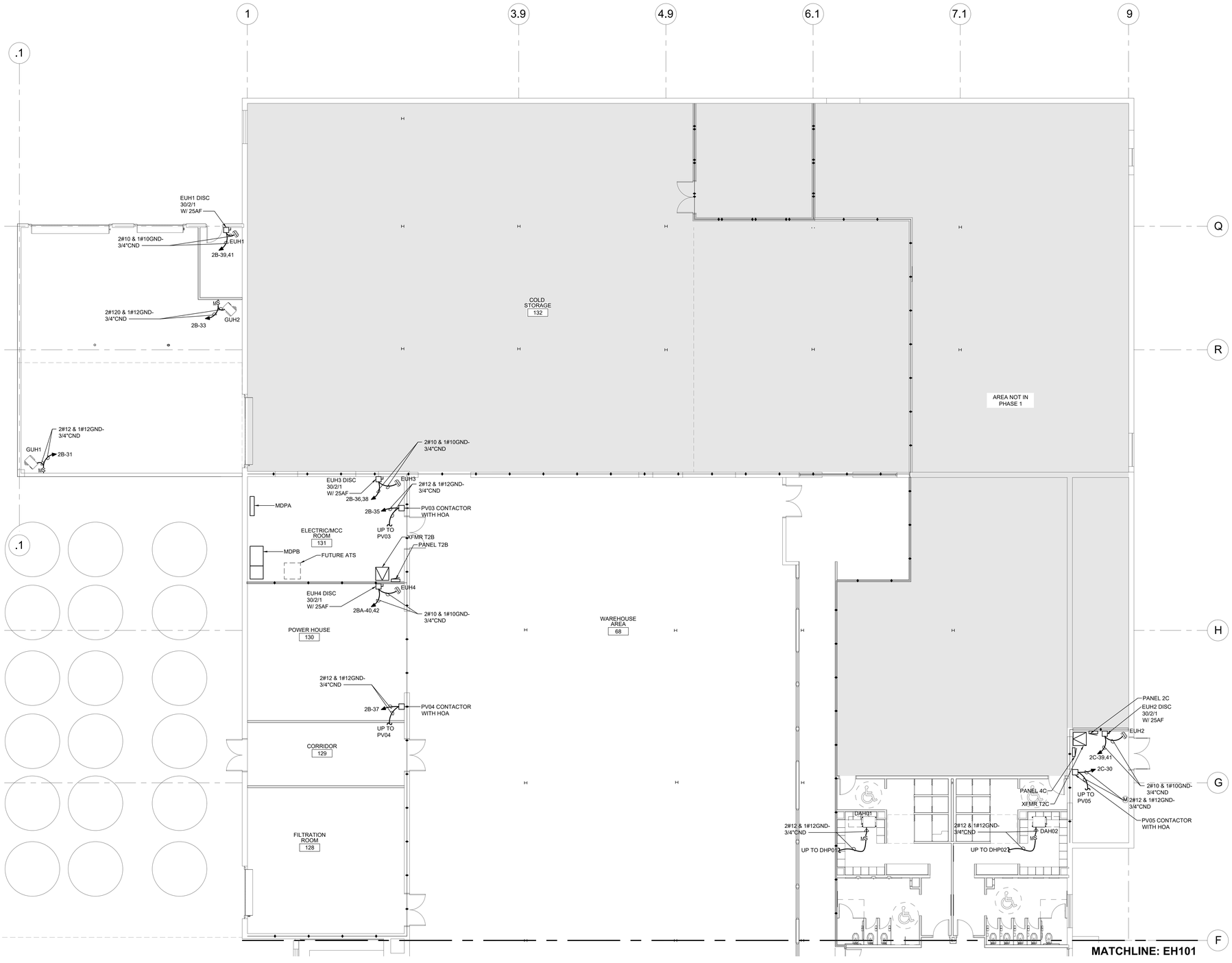
TRU Colors Brewery
715 Greenfield Street
Wilmington, North Carolina

FIRST FLOOR PLAN POWER

JOB NO.:	19109
DRAWN:	MDM
DESIGNED:	MDM
CHECKED:	WAC

DRAWING NO:
EH101

REVISION:
A



No.	Date
1	12/10/2019

REVISIONS

ISSUED FOR PERMIT

Issued for:

Permit No.

CBHF Engineers, PLLC
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ALLEN CRITES

12/10/2019

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Wilmington, North Carolina

TRU Colors Brewery
715 Greenfield Street
Wilmington, North Carolina

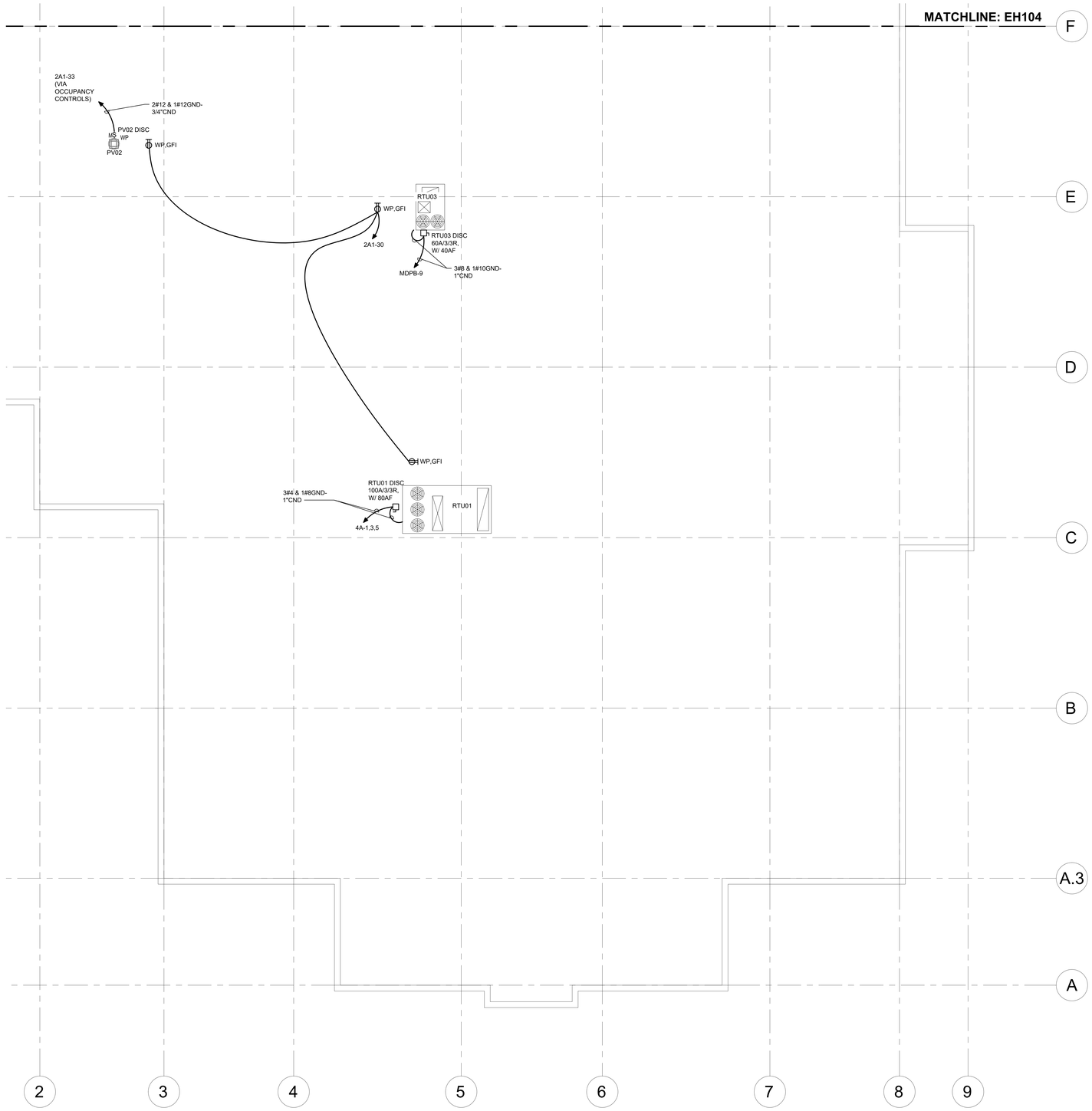
FIRST FLOOR PLAN
POWER

JOB NO.:	19109
DRAWN:	MDM
DESIGNED:	MDM
CHECKED:	WAC

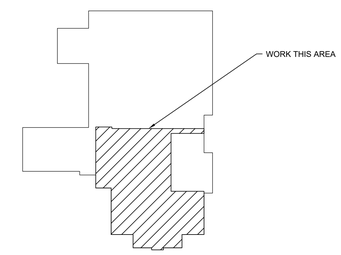
DRAWING NO:

EH102

REVISION:
A



A1 ROOF PLAN
1/8" = 1'-0" 4' 8' 16'
PLAN NORTH



A5 KEYPLAN
NOT TO SCALE
PLAN NORTH

No.	Description	Date
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12/10/2019

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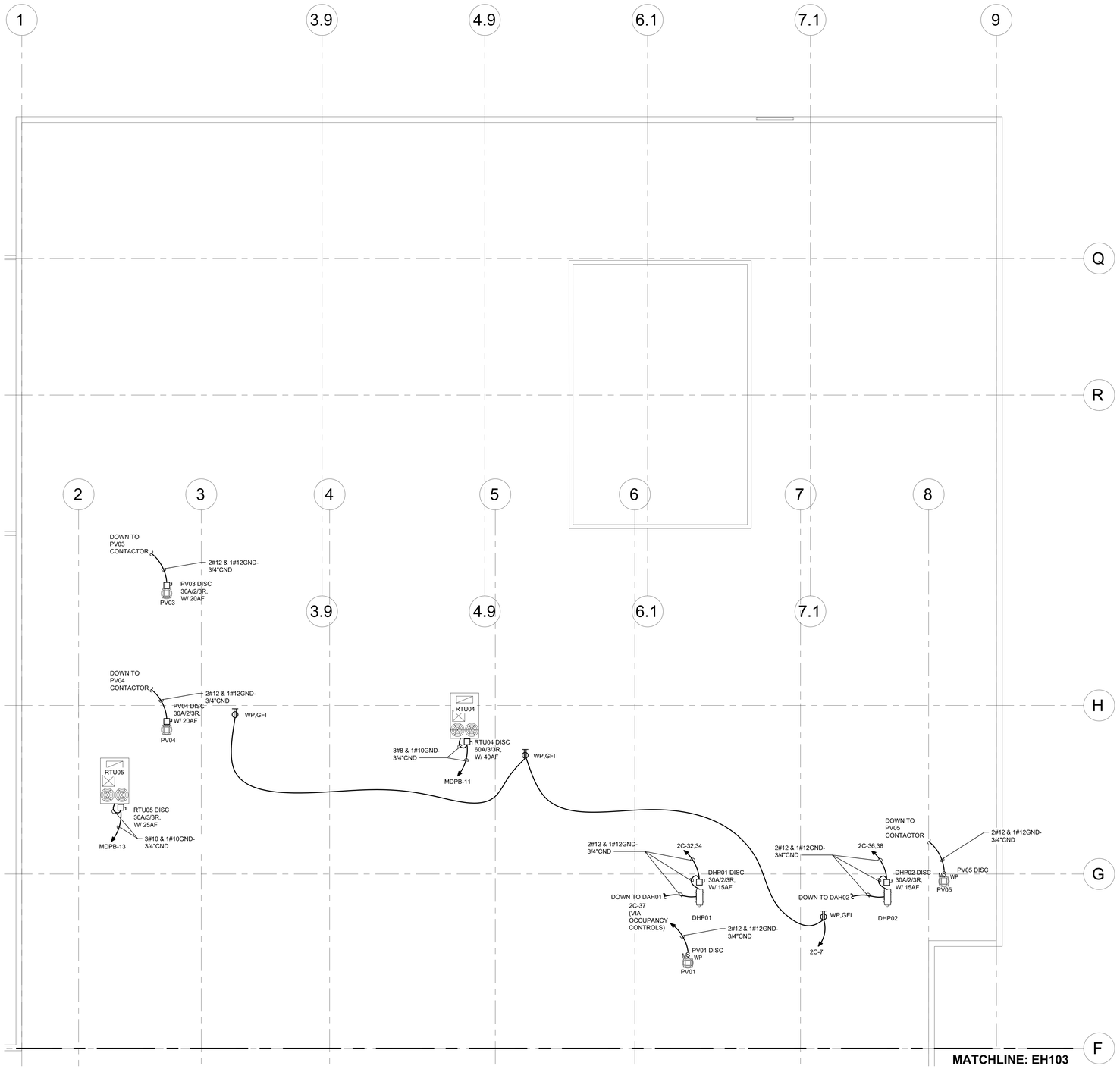
TRU Colors Brewery
715 Greenfield Street
Wilmington, North Carolina

ROOF PLAN
HVAC POWER

JOB NO.:	19109
DRAWN:	MDM
DESIGNED:	MDM
CHECKED:	WAC

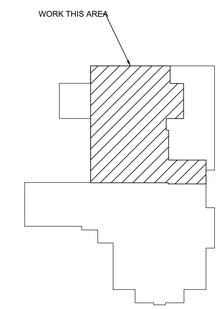
DRAWING NO:
EH103

REVISION:
A



A1 **ROOF PLAN**
1/8" = 1'-0" 4' 8' 16'

PLAN NORTH



A5 **KEYPLAN**
NOT TO SCALE

PLAN NORTH

REVISIONS			
Item/Dr.	Issue/Dr.	Description	Date
A		ISSUED FOR PERMIT	12.10.2019

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ROOF PLAN
HVAC POWER

JOB NO.:	19109
DRAWN:	MDM
DESIGNED:	MDM
CHECKED:	WAC

DRAWING NO:
EH104

REVISION:
A

MATCHLINE: EL102

MEN'S TLT. 137
WOMEN'S TLT. 140
CORRIDOR 142
CORRIDOR 136B
JAN. 124
TLT. 123
TLT. 122
COORD. 121A
AREA NOT IN PHASE 1
2B-6
TAP ROOM 121
CORRIDOR 136A
STO. 120A
BREAK ROOM 120
CAFE/ LOUNGE 119
BREWERY OFFICE 118
CONF. 117
IT 116
OPEN OFFICE B 102B
2C-8
2A1-10
OPEN OFFICE A 102A
F6
F10
F24
F16
LG CONF. 103
2A1-6
2A1-4
KITCH. 110
STO. 108
2A1-8
OFFICE 1 115
OFFICE 2 114
OFFICE 3 113
OFFICE 4 112
OFFICE 5 111
OFFICE 6 107
OFFICE 7 106
OFFICE 8 105
OFFICE 9 104
TLT 109
PANEL 4A
PANEL 2A
PANEL 2A1
XFMR T2A
2A1-2
RECEPTION 100
LG CONF 101
2A1-12

A1 LIGHTING PLAN
1/8" = 1'-0"
0 4' 8' 16'
PLAN NORTH

WORK THIS AREA

A5 KEYPLAN
NOT TO SCALE
PLAN NORTH

ISSUE	12.10.2019
REVISIONS	ISSUED FOR PERMIT
Issue/Rev. No.	Description

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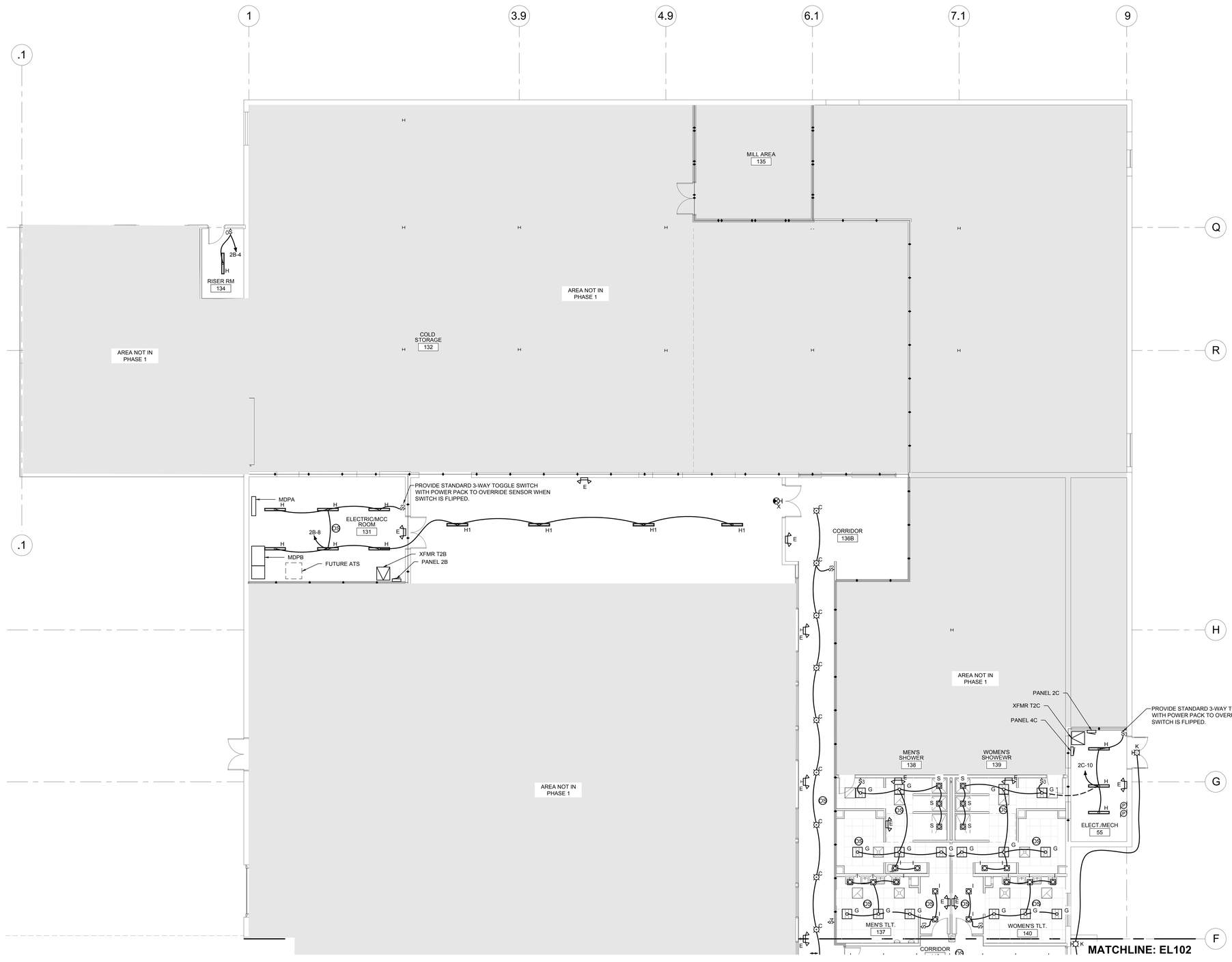
TRU Colors Brewery
715 Greenfield Street
Wilmington, North Carolina

LIGHTING FLOOR PLAN

JOB NO.:	19109
DRAWN:	MDM
DESIGNED:	MDM
CHECKED:	WAC

DRAWING NO:
EL101

REVISION:
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12/10/2019

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MONTEITH CONSTRUCTION

TRU Colors Brewery
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Wilmington, North Carolina

LIGHTING FLOOR PLAN

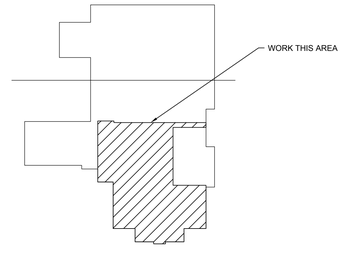
JOB NO.:	19109
DRAWN:	MDM
DESIGNED:	MDM
CHECKED:	WAC

DRAWING NO:
EL102

REVISION:
A

MATCHLINE: EP102

LAB 126
JAN. 124
TLT 123
TLT 122
D5 EP401
AREA NOT IN PHASE 1
A5 EP401 (BAR EQUIPMENT)
2A1-25
TAP ROOM 121
CORRIDOR 136A
2A1-27
AREA NOT IN PHASE 1
D1 E-501
(KEGERATORS)
2A-28
2A-36 (COFFEE BREWER)
2A-38
2A-44
2A-46
BREAK ROOM 120
2A-24 2A-26
2A-34 (ICE MAKER)
2A-20
2A-22
2A1-45
CAFE / LOUNGE 119
2A1-23
2A-32 (DISH WASHER)
MICROWAVE
2A-40
2A-42 (COPIER)
(FRIG.) (FRIG.)
FIRE SHUTTER
BREWERY OFFICE 118
+84 +84
2A1-15
2A1-17
2A1-13
2A1-11
2A1-19
2A1-28
2A1-9
IT 116
2A1-1
2A1-24,26
2A1-5
2A1-20,22
2A1-3
2A1-21
CONF. 117
+84
2A-18
2A-16
LG CONF. 103
2A-41
2A-53
OPEN OFFICE A 102A
OPEN OFFICE B 102B
2A-1, 2A-3, 2A-5, 2A-7
2A-9, 2A-11, 2A-13, 2A-15
2A-17, 2A-19, 2A-21,2A-23
2A-25, 2A-27
2A-29, 2A-31, 2A-33, 2A-35
2A-37, 2A-39
2A1-39
OFFICE 1 115
OFFICE 2 114
2A1-41
OFFICE 3 113
2A1-42
OFFICE 4 112
OFFICE 5 111
2A-8
KITCH. 110
TLT 109
STO. 108
PANEL 2A
PANEL 2A1
PANEL 4A
XFMR T2A
2A-10
OFFICE 6 107
OFFICE 7 106
2A-12
OFFICE 8 105
2A-14
OFFICE 9 104
SM
LG CONF 101
2A-51
+84 SM
+84 SM
2A-49
2A-47
RECEPTION 100
2A-45
2A-43
2 3 4 5 6 7 8 9
F E D C B A.3 A



A5 KEYPLAN
NOT TO SCALE

PLAN NORTH

A1 POWER PLAN
1/8" = 1'-0"
0 4' 8' 16'

PLAN NORTH

No.	Issue/Description	Date
1	ISSUED FOR PERMIT	12.10.2019

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12/10/2019

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MONTEITH ARCHITECTS

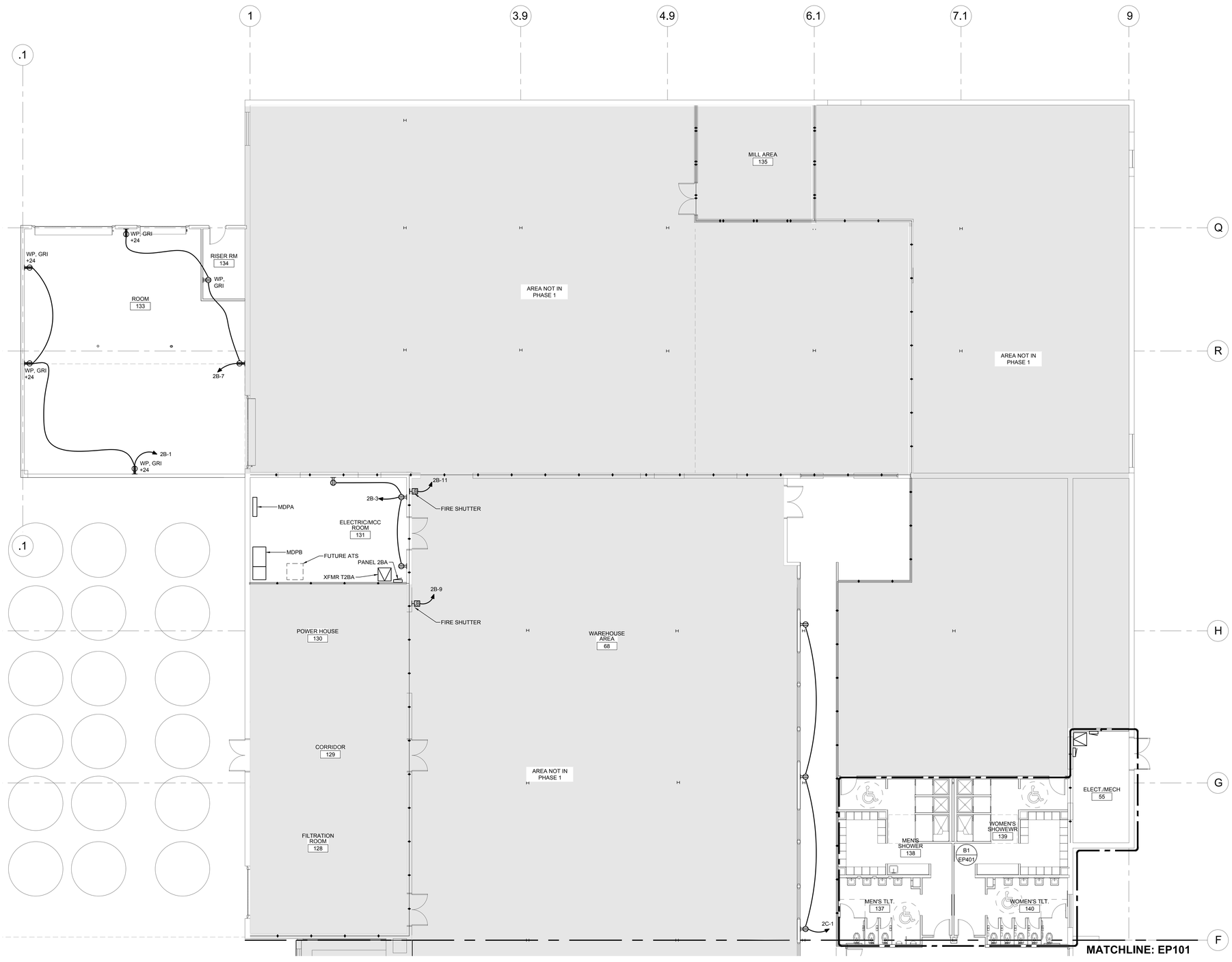
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Wilmington, North Carolina

ELECTRICAL POWER FLOOR PLAN

JOB NO.:	19109
DRAWN:	MDM
DESIGNED:	MDM
CHECKED:	WAC

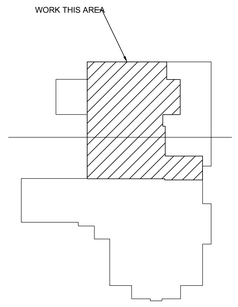
DRAWING NO:
EP101

REVISION:
A



A1 **POWER PLAN**
1/8" = 1'-0"
0 4' 8' 16'

PLAN NORTH



A5 **KEYPLAN**
NOT TO SCALE

PLAN NORTH

No.	Description	Date
A	ISSUED FOR PERMIT	12/10/2019

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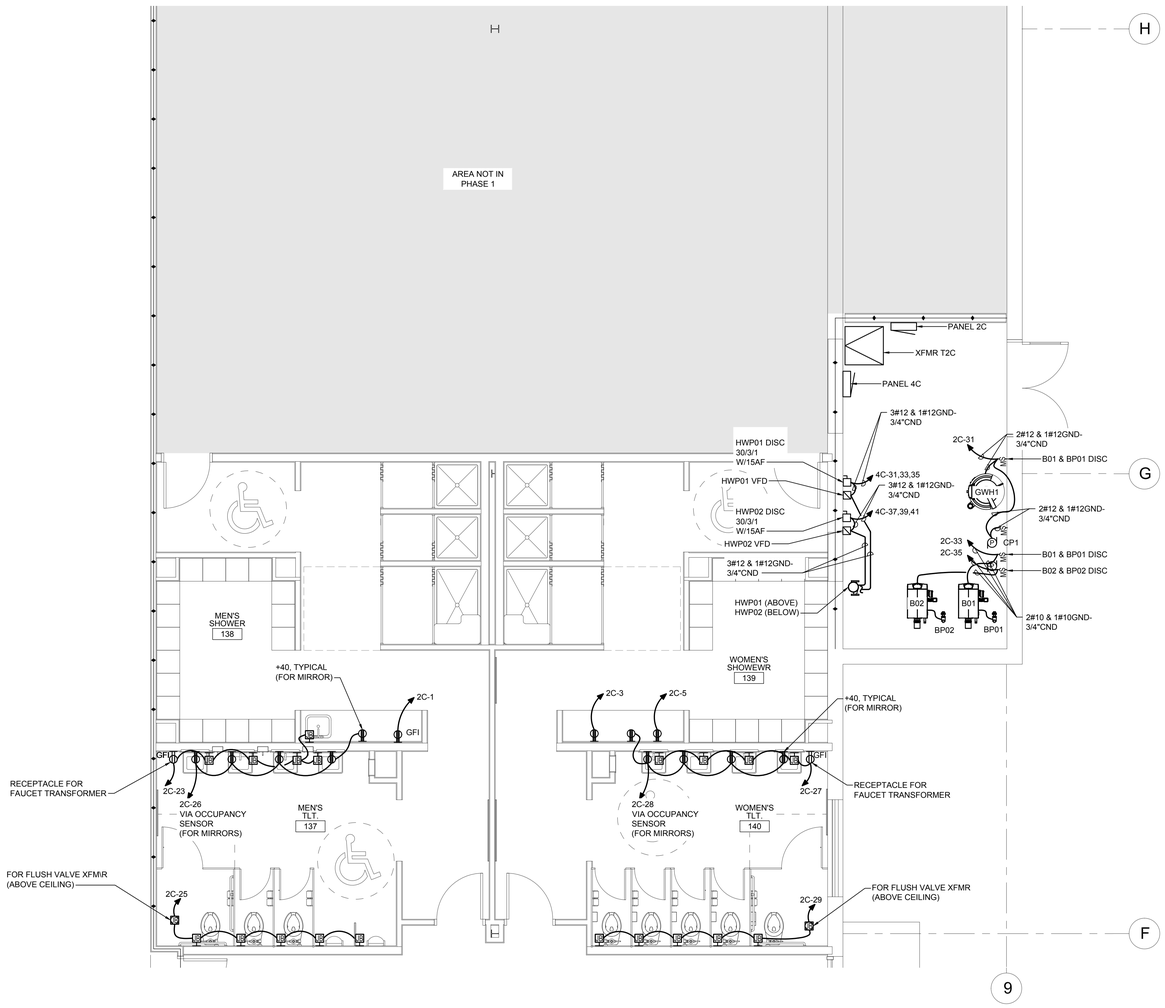
TRU Colors Brewery
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ELECTRICAL POWER FLOOR PLAN

JOB NO.:	19109
DRAWN:	MDM
DESIGNED:	MDM
CHECKED:	WAC

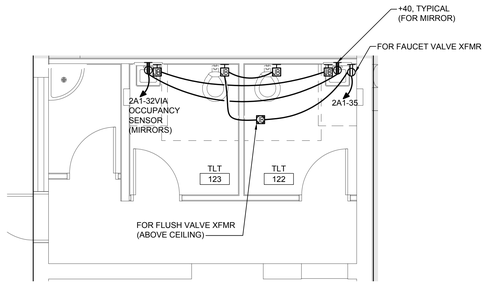
DRAWING NO:
EP102

REVISION:
A



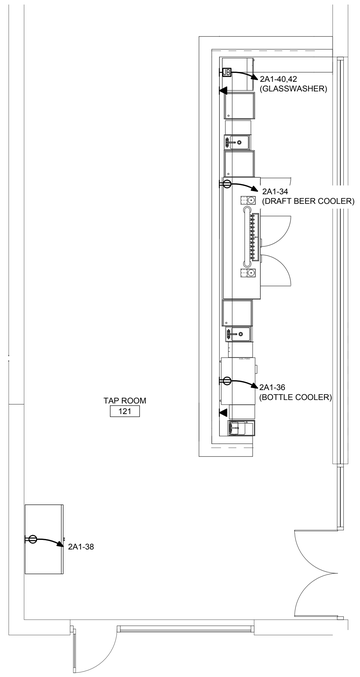
B1 ENLARGED PLAN
1/4" = 1'-0"

PLAN NORTH



D5 ENLARGED PLAN
1/4" = 1'-0"

PLAN NORTH



A5 TAP ROOM EQUIPMENT ENLARGED PLAN
1/4" = 1'-0"

PLAN NORTH

No.	1
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MONTEITH CONSTRUCTION CORP.

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Wilmington, North Carolina

ELECTRICAL POWER
ENLARGED PLAN

JOB NO.:	19109
DRAWN:	MDM
DESIGNED:	MDM
CHECKED:	WAC

DRAWING NO:
EP401

REVISION:
A