

BUILDING PLANS
FOOD LION DISTRIBUTION EMPLOYEE SHELTER

301 HIGHWAY
DUNN NORTH CAROLINA

PREPARED FOR

Mark Davis
% RLT CONSTRUCTION
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SHEET INDEX

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001.... APPENDIX B / BUILDING CODE SUMMARY
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**2012 APPENDIX B
BUILDING CODE SUMMARY
FOR ALL COMMERCIAL PROJECTS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)**
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: THE DIRT BAG BREWERY GRILL
Address: CORPORATION DRIVE Zip Code 28312
Proposed Use: BREWERY
Owner/Authorized Agent: GREG BAGLEY Phone # (919) 609 - 0300 E-Mail GDB.GREG@GMAIL.COM
Owned By: City/County Private State
Code Enforcement Jurisdiction: City County State
FAYETTEVILLE, NORTH CAROLINA

LEAD DESIGN PROFESSIONAL:

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural					
Civil	C. Gregory Bagley, Engineer	Greg Bagley	12276	919-609-0300	GDB.GREG@GMAIL.COM
Electrical	C. Gregory Bagley, Engineer	Greg Bagley	12276	919-609-0300	GDB.GREG@GMAIL.COM
Fire Alarm	C. Gregory Bagley, Engineer	Greg Bagley	12276	919-609-0300	GDB.GREG@GMAIL.COM
Plumbing	C. Gregory Bagley, Engineer	Greg Bagley	12276	919-609-0300	GDB.GREG@GMAIL.COM
Mechanical	C. Gregory Bagley, Engineer	Greg Bagley	12276	919-609-0300	GDB.GREG@GMAIL.COM
Sprinkler-Standpipe					
Structural	C. Gregory Bagley, Engineer	Greg Bagley	12276	919-609-0300	GDB.GREG@GMAIL.COM
Retaining Walls >5' High					
Other					

2012 EDITION OF NC CODE FOR: New Construction Addition Upfit
 Reconstruction Alteration Repair Renovation
EXISTING: Reconstruction Alteration Repair Renovation
CONSTRUCTED: (date) VACANT **ORIGINAL USE(S)** (Ch. 3):
RENOVATED: (date) VACANT **CURRENT USE(S)** (Ch. 3):
PROPOSED USE(S) (Ch. 3): EMPLOYEE SHELTER

BASIC BUILDING DATA
Construction Type: I-A II-A III-A IV V-A
 I-B II-B III-B V-B
Sprinklers: No Partial Yes NFPA 13 NFPA 13R NFPA 13D
Standpipes: No Yes Class I II III Wet Dry
Fire District: No Yes (Primary) **Flood Hazard Area:** No Yes
Building Height: (feet) _____

Gross Building Area:

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
6 th Floor			
5 th Floor			
4 th Floor			
3 rd Floor			
2 nd Floor			
Mezzanine			
1 st Floor		500	500
Basement			
TOTAL			500

ALLOWABLE AREA

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

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

Incidental Uses (Table 508.2.5):
 Furnace room where any piece of equipment is over 400,000 Btu per hour input
 Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower
 Refrigerant machine room
 Hydrogen cutoff rooms, not classified as Group H
 Incinerator rooms
 Paint shops, not classified as Group H, located in occupancies other than Group F
 Laboratories and vocational shops, not classified as Group H, located in a Group E or I-2 occupancy
 Laundry rooms over 100 square feet
 Group I-3 cells equipped with padded surfaces
 Group I-2 waste and linen collection rooms
 Waste and linen collection rooms over 100 square feet
 Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons, or a lithium-ion capacity of 1,000 pounds used for facility standby power, emergency power or uninterrupted power supplies
 Rooms containing fire pumps
 Group I-2 storage rooms over 100 square feet
 Group I-2 commercial kitchens
 Group I-2 laundries equal to or less than 100 square feet
 Group I-2 rooms or spaces that contain fuel-fired heating equipment

Special Uses: 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427
Special Provisions: 509.2 509.3 509.4 509.5 509.6 509.7 509.8 509.9
Mixed Occupancy: No Yes Separation: _____ Hr. Exception: _____
 Incidental Use Separation (508.2.5)

This separation is not exempt as a Non-Separated Use (see exceptions).

OCCUPANCY LOADS			
A-2 GATHERING AREA	UNCONCENTRATED TABLES AND CHAIRS	15 NET	500/15 = 33 OCC.

This separation is not exempt as a Non-Separated Use (see exceptions).
 Non-Separated Use (508.3)
The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.
 Separated Use (508.4) - See below for area calculations
For each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.
$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

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

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 503 ¹ AREA	(C) AREA FOR FRONTAGE INCREASE ²	(D) AREA FOR SPRINKLER INCREASE ²	(E) ALLOWABLE AREA OR UNLIMITED ³	(F) MAXIMUM BUILDING AREA ⁴
1	SHELTER	500	6000	4500	0		10500

¹ Frontage area increases from Section 506.2 are computed thus:
a. Perimeter which fronts a public way or open space having 20 feet minimum width = 280 (F)
b. Total Building Perimeter = 280 (P)
c. Ratio (F/P) = 1 (F/P)
d. W = Minimum width of public way = 40 (W)
e. Percent of frontage increase $I_1 = 100 [F/P - 0.25] \times W/30 = \underline{.75}$ (%)
² The sprinkler increase per Section 506.3 is as follows:
a. Multi-story building $I_1 = 200$ percent
b. Single story building $I_1 = 300$ percent
³ Unlimited area applicable under conditions of Section 507.
⁴ Maximum Building Area = total number of stories in the building x E (506.4).
⁵ The maximum area of open parking garages must comply with Table 406.3.5. The maximum area of air traffic control towers must comply with Table 412.1.2.

8160 ALLOWABLE HEIGHT		8160	
ALLOWABLE (TABLE 503)	INCREASE FOR SPRINKLERS	SHOWN ON PLANS	CODE REFERENCE
Type of Construction	Type <u>V-B</u>	Type <u>V-B</u>	
Building Height in Feet	12'	Feet = H + 20' = <u>32'</u>	
Building Height in Stories	1	Stories + 1 = <u>2</u>	

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)		RATING PROVIDED (+ REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	DESIGN # FOR PENETRATION	DESIGN # FOR RATED JOINTS
	REQ'D	PROVIDED					
Structural Frame, including columns, girders, trusses	10	0	0002	NR			
Bearing Walls	0	0	0002	NR			
Exterior	0	0	0002	NR			
North	0	0	0002	NR			
East	0	0	0002	NR			
West	0	0	0002	NR			
South	0	0	0002	NR			
Interior							
Nonbearing Walls and Partitions	0	0	0002	NR			
Exterior walls	0	0	0002	NR			
North	0	0	0002	NR			
East	0	0	0002	NR			
West	0	0	0002	NR			
South	0	0	0002	NR			
Interior walls and partitions							
Floor Construction							
Including supporting beams and joists	0	0	0002	NR			
Roof Construction							
Including supporting beams and joists	0	0	0002	NR			
Shaft Enclosures - Exit							
Shaft Enclosures - Other							
Corridor Separation							
Occupancy Separation							
Party/Fire Wall Separation	0	0	NR				
Smoke Barrier Separation							
Tenant Separation							
Incidental Use Separation							

LIFE SAFETY SYSTEM REQUIREMENTS
Emergency Lighting: No Yes
Exit Signs: No Yes
Fire Alarm: No Yes
Smoke Detection Systems: No Yes Partial
Panic Hardware: No Yes

LIFE SAFETY PLAN REQUIREMENTS
Life Safety Plan Sheet #: CODE SHEET
 Fire and/or smoke rated wall locations (Chapter 7)
 Assumed and real property line locations
 Exterior wall opening area with respect to distance to assumed property lines (705.8)
 Existing structures within 30' of the proposed building
 Occupancy types for each area as it relates to occupant load calculation (Table 1004.1.1)
 Occupant loads for each area
 Exit access travel distances (1016)
 Common path of travel distances (1014.3 & 1028.8)
 Dead end lengths (1018.4)
 Clear exit widths for each exit door
 Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.1)
 Actual occupant load for each exit door

A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
 Location of doors with panic hardware (1008.1.10)
 Location of doors with delayed egress locks and the amount of delay (1008.1.9.7)
 Location of doors with electromechanical egress locks (1008.1.9.8)
 Location of doors equipped with hold-open devices
 Location of emergency escape walkways (1029)
 The square footage of each fire area (902)
 The square footage of each smoke compartment (407.4)
 Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS (SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED
0							

ACCESSIBLE PARKING (SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	PROVIDED	# OF ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE PROVIDED
			REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	9' ACCESS AISLE	
Main Parking	8	8	1		1	1
TOTAL						

STRUCTURAL DESIGN

DESIGN LOADS:
Importance Factors: Wind (I_w) .87
Snow (I_s) .8
Seismic (I_e) 1
Live Loads: Roof 20 psf
Mezzanine psf
Floor 125 psf
Ground Snow Load: 10 psf
Wind Load: Basic Wind Speed 120 mph (ASCE-7)
Exposure Category C
Wind Base Shears (for MWFRS) V_x = -8.77 V_y = -7.38

SEISMIC DESIGN CATEGORY: A B C D
Provide the following Seismic Design Parameters:
Occupancy Category (Table 1604.5) I II III IV
Spectral Response Acceleration S₁ 2.7 %g S₂ 3.7 %g
Site Classification (Table 1612.5.2) A B C D E F
Data Source: Field Test Presumptive Historical Data
Basic structural system (check one)
 Bearing Wall Dual w/Special Moment Frame
 Building Frame Dual w/Intermediate R/C or Special Steel
 Moment Frame Inverted Pendulum
Seismic base shear: V_x = _____ V_y = _____
Analysis Procedure: Simplified Equivalent Lateral Force Dynamic
Architectural, Mechanical, Components anchored? Yes No

LATERAL DESIGN CONTROL: Earthquake Wind

SOIL BEARING CAPACITIES:
Field Test (provide copy of test report) _____ psf
Presumptive Bearing capacity 2000 psf
Pile size, type, and capacity _____

SPECIAL INSPECTIONS REQUIRED: Yes No

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

SPACE	EXISTING	WATERCLOSETS		URINALS		LAVATORIES		SHOWERS/TUBS	DRINKING FOUNTAINS	
		MALE	FEMALE	MALE	FEMALE	MALE	FEMALE		REGULAR	ACCESSIBLE
NEW	1	UNISEX	0	1	UNISEX				0	
REQUIRED	1			1						

SPECIAL APPROVALS

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

Exterior wall opening area with respect to distance to assumed property lines (705.8)
 Existing structures within 30' of the proposed building
 Occupancy types for each area as it relates to occupant load calculation (Table 1004.1.1)
 Occupant loads for each area
 Exit access travel distances (1016)
 Common path of travel distances (1014.3 & 1028.8)
 Dead end lengths (1018.4)
 Clear exit widths for each exit door
 Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.1)
 Actual occupant load for each exit door

ENERGY REQUIREMENTS:

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

Climate Zone: 3 4 5
Method of Compliance:
 Prescriptive (Energy Code)
 Performance (Energy Code)
 Prescriptive (ASHRAE 90.1)
 Performance (ASHRAE 90.1)

THERMAL ENVELOPE

Roof/Ceiling Assembly (each assembly)
Description of assembly: _____
U-Value of total assembly: METAL
R-Value of insulation: _____
Skylights in each assembly: _____
U-Value of skylight: _____
total square footage of skylights in each assembly: _____

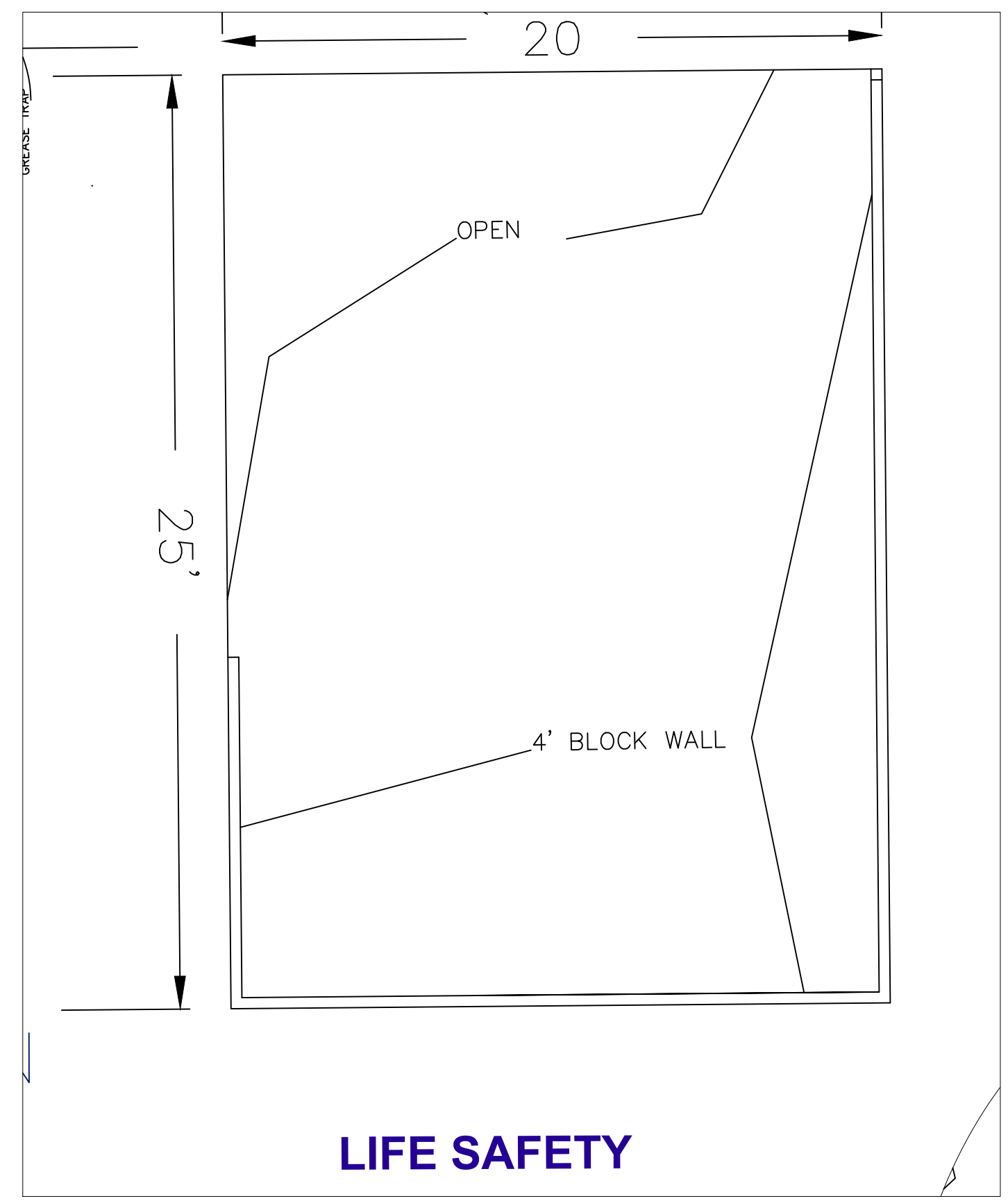
Exterior Walls (each assembly)
Description of assembly: 4' CONCRETE WALLS ON TWO SIDES
U-Value of total assembly: N/A
R-Value of insulation: R-15
Openings (windows or doors with glazing)
U-Value of assembly: N/A
Solar heat gain coefficient: _____
projection factor: _____
Door R-Values: N/A

Walls below grade (each assembly) N/A
Description of assembly: _____
U-Value of total assembly: _____
R-Value of insulation: _____

Floors over unconditioned space (each assembly)
Description of assembly: CONCRETE 3000 LB
U-Value of total assembly: _____
R-Value of insulation: _____

Floors slab on grade
Description of assembly: N/A
U-Value of total assembly: _____
R-Value of insulation: _____
Horizontal/vertical requirement: _____
slab heated: _____

Fire SEPERATION IS 1 HR AS SHOWN ON TABLE 508.4 OF CODE BETWEEN F-2 AND A-2



MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

Thermal Zone
winter dry bulb: 20 F
summer dry bulb: 95 F
Interior design conditions
winter dry bulb: 70 F
summer dry bulb: 74 F
relative humidity: 63%
Building heating load: 24000
Building cooling load: 24000
Mechanical Spacing Conditioning System
Unitary
description of unit: DUCTLESS SYSTEM
heating efficiency: 14 SEER
cooling efficiency: 14 SEER
size category of unit: 24000
Boiler
Size category. If oversized, state reason: _____
Chiller
Size category. If oversized, state reason: _____
List equipment efficiencies: 63%

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance:
Energy Code: Prescriptive Performance
ASHRAE 90.1: Prescriptive Performance
Lighting schedule (each fixture type)
1-8 lamp type required in fixture
4 number of lamps in fixture
F9678 ballast type used in the fixture
1 number of ballasts in fixture
40-60 total wattage per fixture
.48 vs. .40 total interior wattage specified vs. allowed (whole building or space by space)
250 total exterior wattage specified vs. allowed
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

REVISIONS

NO.	DATE	BY

GREG BAGLEY ENGINEER
Engineering / Planning / Surveying
805 COKEBURY ROAD
FUQUAY VARINA, NC 27526
Office (919) 609-0300
Email: gbg.greg@gmail.com

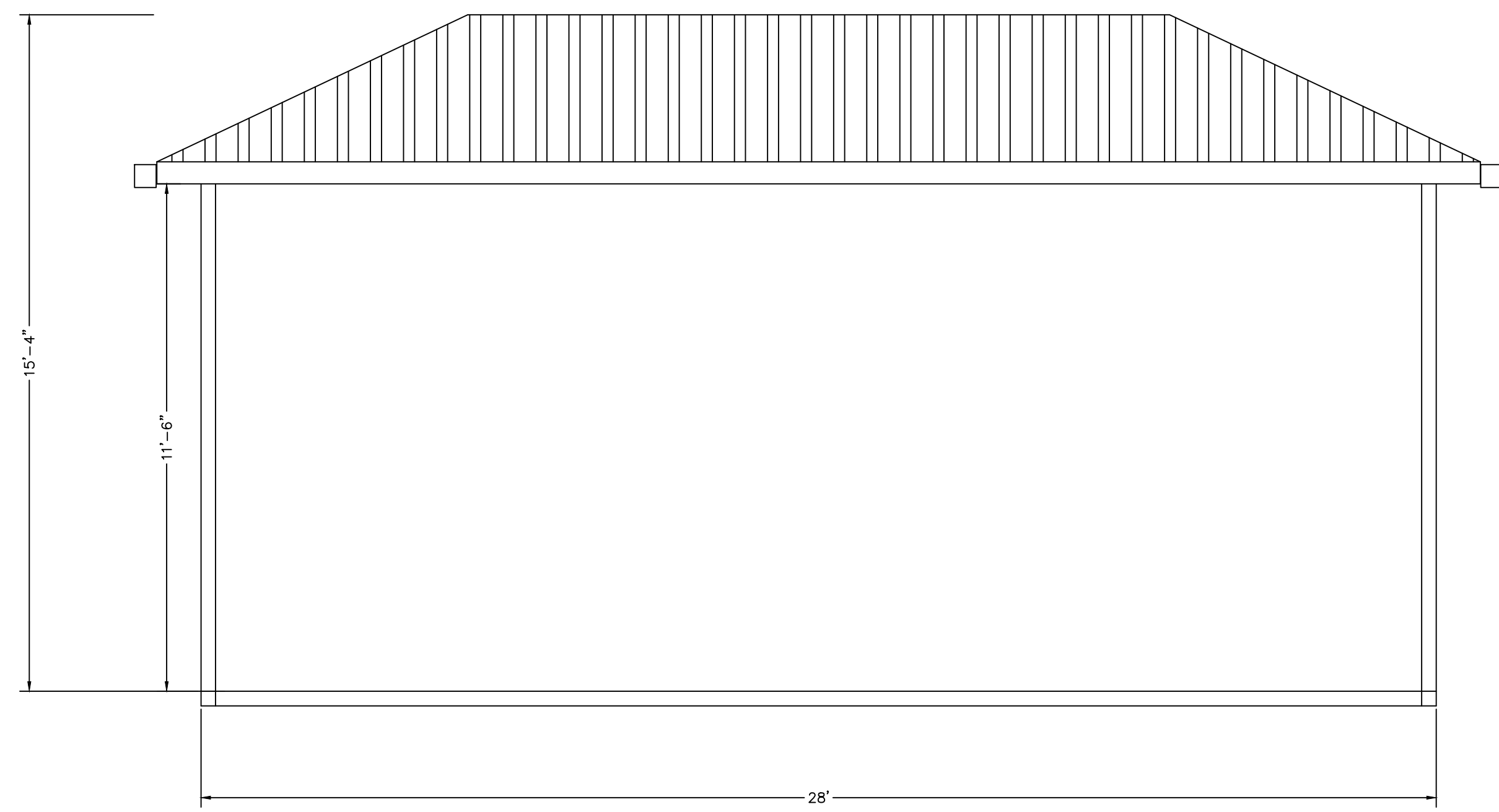
SEAL
12776
6-18-22
N.C. REGISTERED PROFESSIONAL ENGINEER

ELEVATIONS

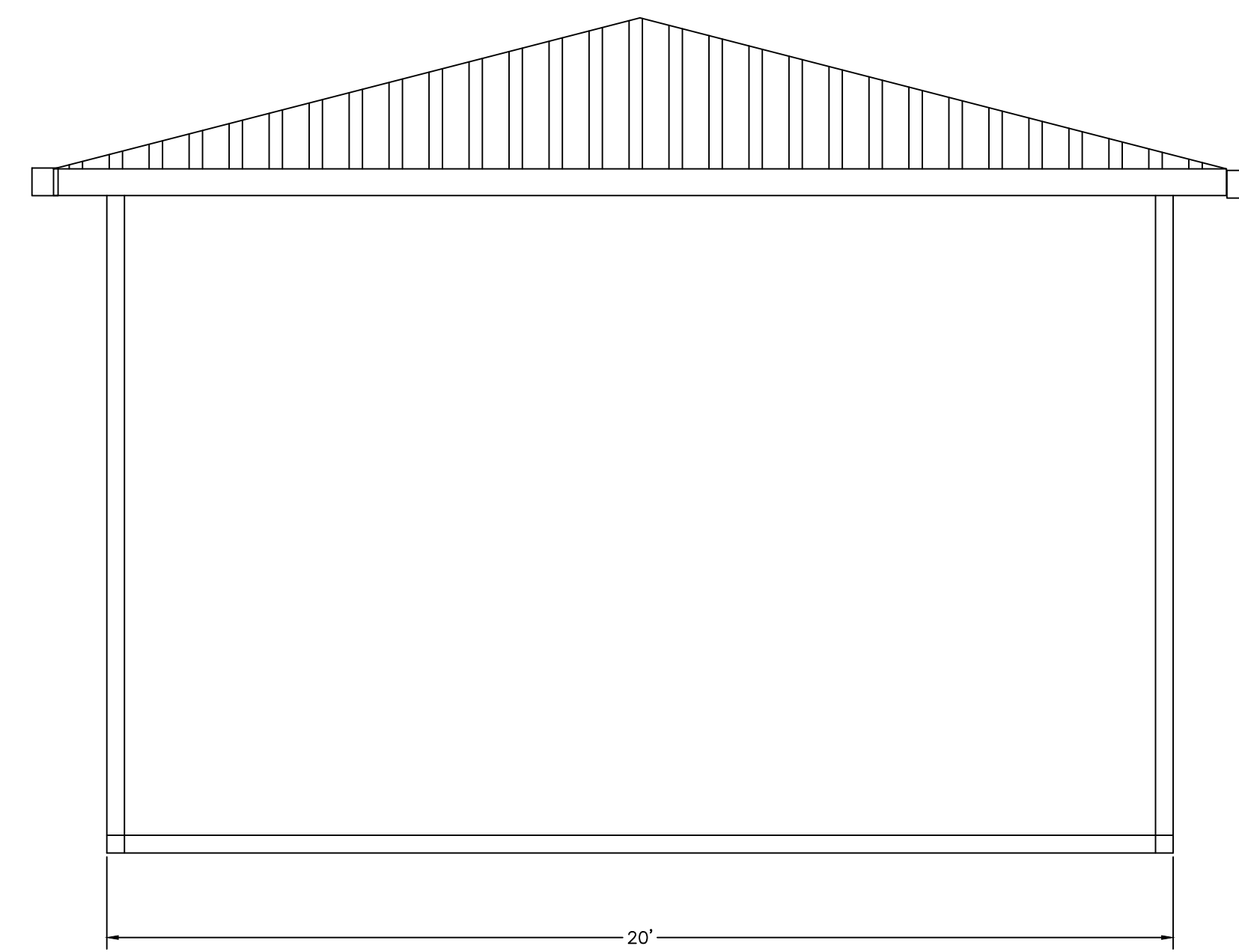
FOOD LION DISTRIBUTION CENTER
DEVELOPED FOR
MARK DAVIS
HARNETT COUNTY N.C.

DUNN

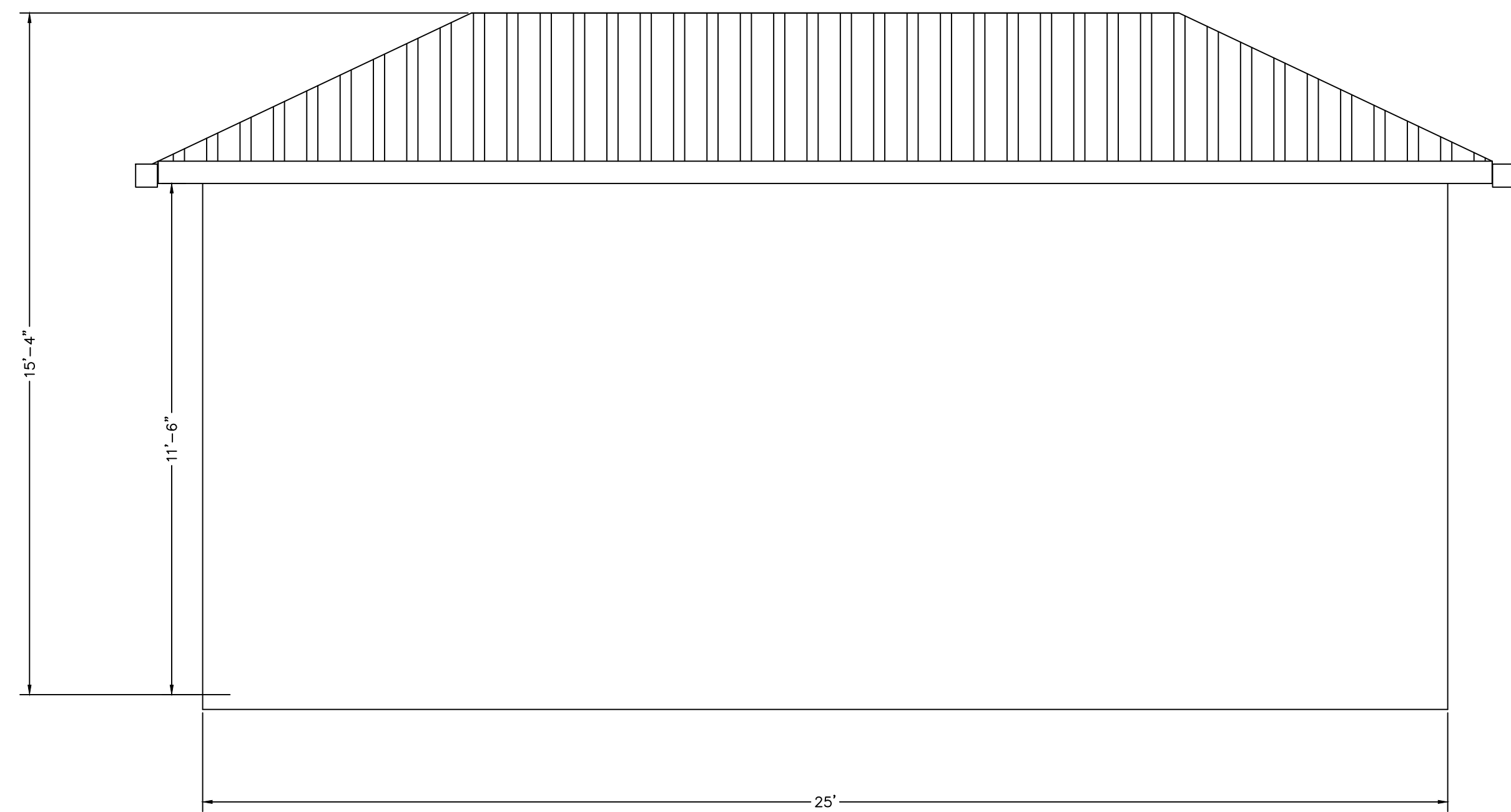
DATE: 2-7-2018
SCALE: 3/8"=1'-0"
DESIGNED BY: CGB
DRAWN BY: _____
SHEET: _____
0001 FP</



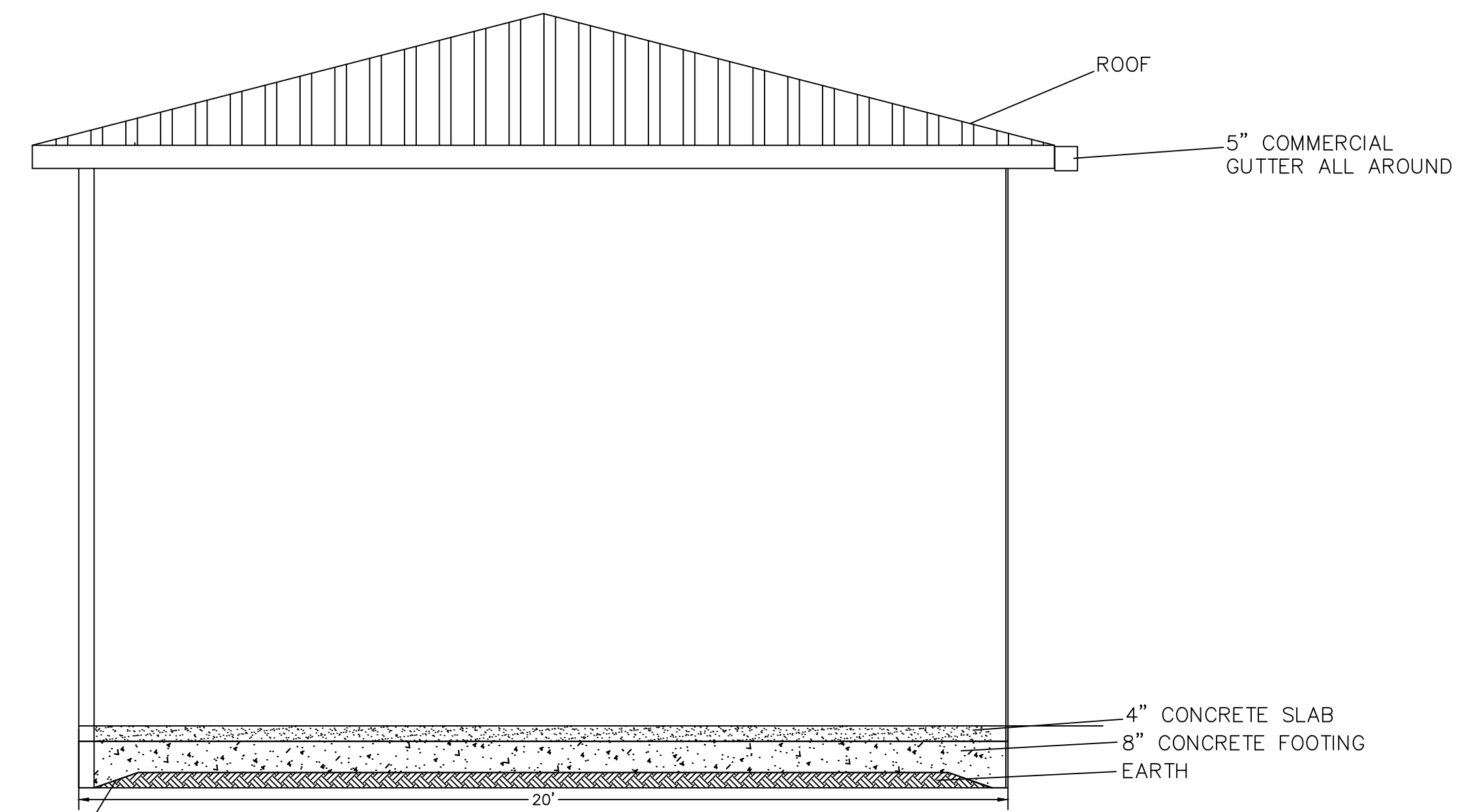
FRONT



LEFT SIDE



REAR



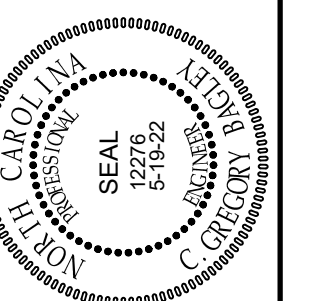
RGHT SIDE

10"x10" x 1/2" BASE PLATE
3/4"x18" J BOLTS CONNECTED
TO 2'x2'x16" FOOTER.

FILL AROUND 5" COLUMN A 2'x2' FOOTER

REVISIONS	BY

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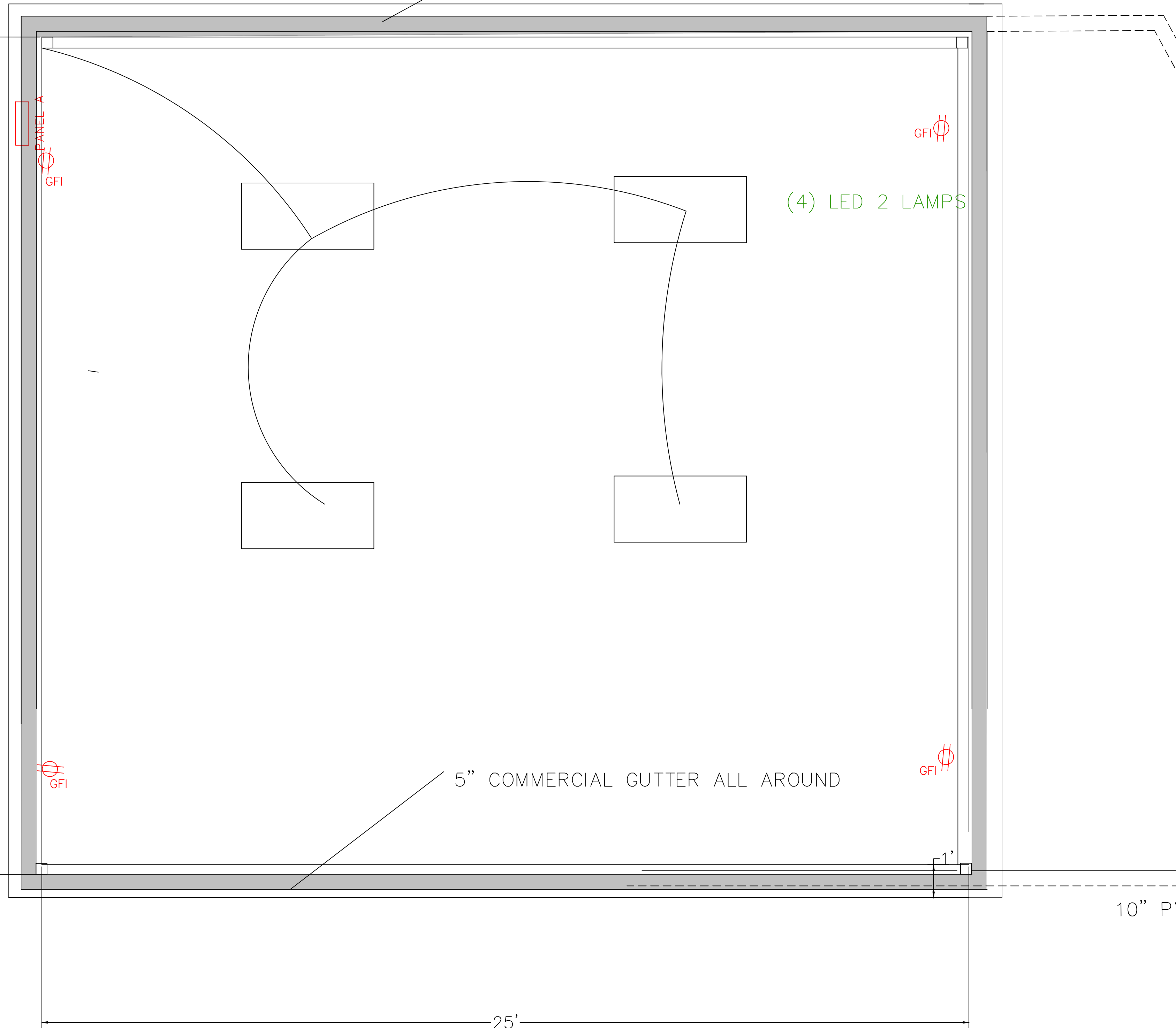


ELEVATIONS

FOOD LION DISTRIBUTION CENTER
 DEVELOPED FOR
MARK DAVIS
 HARNETT COUNTY N.C.
 DUNN

DATE	2-7-2018
SCALE	3/8"=1'-0"
DESIGNED BY	CGB
DRAWN BY	
SHEET	004 ELEV 1

5" COMMERCIAL GUTTER ALL AROUND



25'

10" PA

ELECTRICAL

ELECTRICAL

100 AMP SERVICE PANEL A
VOLTAGE 208/120V 3 PHASE : 4 WIRE

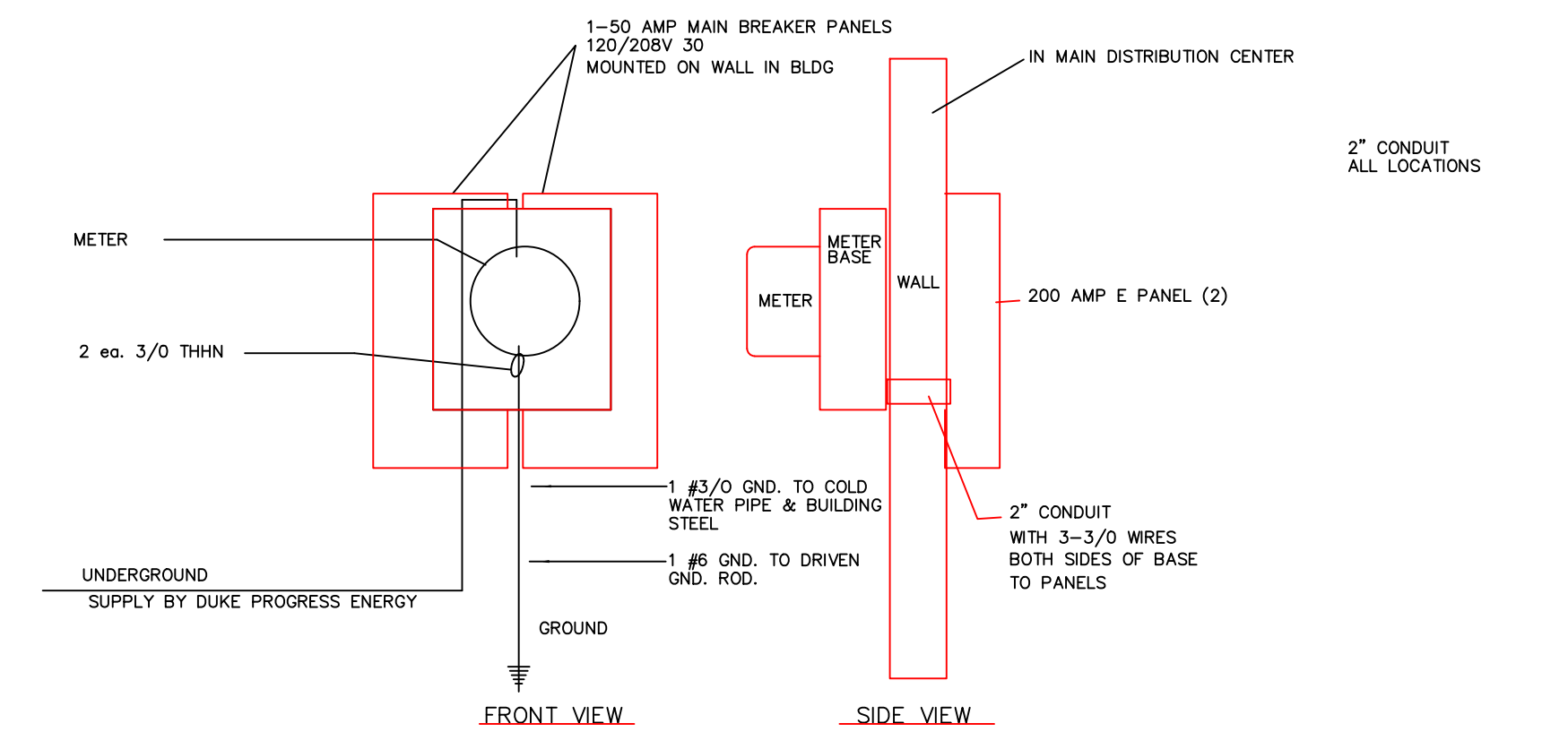
CIRCUIT	DEVICES	BRANCH CIRCUIT	PHASE						BRANCH CIRCUIT	DEVICES				
			1	2	3	4	5	6						
12	20	1	RECEPT	1		10		10		2	RECEPT	1	20	12
12	20	1	RECEPT	3		10		12		4	RECEPT BATH GFI	1	20	12
12	20	1	LIGHTING	5		10		10		6		1	20	12
12	20	2	LIGHTING	7		15		15		8		2	20	12
12	20	2	LIGHTING	9	15			15	10			2	40	8
12	20	1	LIGHTING BATH	11		7		7		12	BATH FAN	1	20	12
12	20	1	EXHAUST FAN/ VENT	13	8			15		14	WATER HTR.	2	30	10
12	20	1		15	7			7		16		1	20	12
8	40	1	HVAC	17		8		35		18	HVAC	2	50	8
8	40	1	COOLER		35			35			FREEZER	2	40	8
TOTAL				30	27	33	44	50	32					
TOTAL CONNECTED AMPS A -74 B-71 C- 65														

NOTE: ELECTRICAL CONTRACTOR TO PROVIDE AIC RATING PER 2014 NEC

LOAD CALCS.				LIGHTING LOAD CALCS.			
LOAD	CONN (KW)	DEMAND FACTOR	DEMAND LOAD	AREA TABLE 5.5.4 MIN WATTS	50 FT	MAX ALLOWED	PROVIDED
LIGHTING	4.1	125% ****	5.125	OFFICE ENCLOSED	1.11	620	600
RECEPT	8.4	1ST 10 KV - 100% REM -50%	8.4	KITCHEN	1.59	1780	2830
HVAC	38.5	100%	38.5	EXTERIOR	N/A	N/A	1300
SIGN	1.2	125% ****	1.5				
WT	25	125%	31.25				
TOTAL			78.1	TOTAL 84.8			

ELECTRICAL NOTES

1. ALL RECEPTACLES TO COMPLY WITH NEC 406.14
2. AVAILABLE FAULT CURRENT AT PANEL A IS 9,623 A



ELECTRICAL DIAGRAM

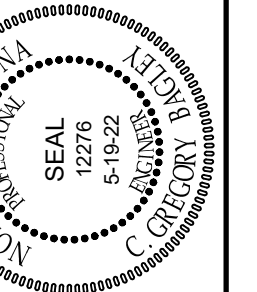
NO NM CABLE ABOVE CEILING-- CONDUIT ONLY

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ELECTRICAL

FOOD LION DISTRIBUTION CENTER
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DUNN

DATE 2-7-2018
SCALE 1/2"=1'-0"
DESIGNED BY CGB
DRAWN BY

SHEET
007 ELEC