Bryant City Development Review Committee
Wednesday, March 8th, 2017
9:00 a.m.
Bryant City Complex/Administration Conference Room

AGENDA

Reynolds Centre Sign Application - 23140 I-30
Requesting Sign Permit Application Approval

Documents:

Reynolds Centre Sign Applications.pdf

Pinecrest Funeral Home
Requesting Sign Permit Application Approval

Documents:

Pinecrest Funeral Home.pdf

4302 Springhill Road Rezoning
Stuart Finley - Rezoning Application

Documents:

4302 Springhill Road Rezoning Application.pdf
4302 Springhill Road Rezoning Maps.pdf

Bryant First United Methodist Church
David Yarbrough - Site Plan Approval

Documents:

Bryant First United Methodist Church.pdf
First United Meth Specs.pdf

Hill Farm Barn
Chris Treat/Terry Harper - Requesting Site Plan Approval

Documents:

The Barn.pdf

Permit Report
Greg Huggs

City of Bryant, Arkansas
Code Enforcement, Permits and Inspections
312 Roya Lane
Bryant, Ar 72022
501-943-0943

SIGN PERMIT APPLICATION

Applicants are advised to read the sign ordinance prior to completing and signing this form. The Sign Ordinance is available at www.cityofbryant.com

Site plan showing placement of sign and any existing signs on the property. A rendering of sign showing correct dimensions of all signs are required with application. Additional documentation may be required by Sign Administrator.

Date: 3/3/2017

Note: Electrical permits may be Required, Please contact the Permits Office at 501-943-0943 for more information.

SIGN CO. OR SIGN OWNER
Name L. Graphics indoor-outdoor sign
Address 701 N. Reynolds Rd
City, State, Zip Bryant, AR 72022
Phone 501-773-0544
Alternate Phone 501-291-2310

PROPERTY OWNER
Name Allan Bubbus
Address 23140 I-30 North
City, State, Zip Bryant, AR 72022
Phone 501-653-4444
Alternate Phone 501-773-0544

GENERAL DETAILS
Name of Business (A) Pylon Sign LED
Address/Location of sign 23140 I-30 Bryant
Sign dimensions (height, length, width) 10'6" X 7'4"
Zoning Classification C.2
Aggregate Surface Area (total all signs) _____
Height of sign from lot surface: Bottom 8' Top 15' 8"

SIGN TYPE
X Pole ___ Monument
___ Wall
___ Other (type) _____
Total sq. ft. 72 Sq ft

READ CAREFULLY BEFORE SIGNING

I Joe Lam, do hereby certify that all information contained within this application is true and correct. I fully understand that the terms of the Sign Ordinance supersede the Sign Administrator's approval and that all signs must fully comply with all terms of the Sign Ordinance regardless of approval. I further certify that the proposed sign is authorized by the owner of the property and that I am authorized by the property owner to make this application. I understand that no sign may be placed in any public right of way. I understand that I must comply with all Building and Electrical Codes and that it is my responsibility to obtain all necessary permits.

Applicant's Signature — 3/3/17 Date — Sign Administrator(or Designee) Approval — Date

City of Bryant, Arkansas
Code Enforcement, Permits and Inspections
312 Roya Lane
Bryant, Ar 72022
501-943-0943

SIGN PERMIT APPLICATION

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Address 701 N. Reynolds Rd
City, State, Zip Bryant, AR 72022
Phone 501-773-0544
Alternate Phone 501-291-2310

PROPERTY OWNER
Name Allan Bubbus
Address 23140 I-30 North
City, State, Zip Bryant, AR 72022
Phone 501-653-4444
Alternate Phone 501-773-0544

GENERAL DETAILS
Name of Business (B) Pylon LED Sign
Address/Location of sign 23140 I-30 North
Sign dimensions (height, length, width) 5'3" X 7'4"
Zoning Classification C2
Aggregate Surface Area (total all signs) _____
Height of sign from lot surface: Bottom 13' Top 15'8"

SIGN TYPE
X Pole ___ Monument
___ Wall
___ Other (type) _____
Total sq. ft. 36 sqft

READ CAREFULLY BEFORE SIGNING

I Joe Lam, do hereby certify that all information contained within this application is true and correct. I fully understand that the terms of the Sign Ordinance supersede the Sign Administrator's approval and that all signs must fully comply with all terms of the Sign Ordinance regardless of approval. I further certify that the proposed sign is authorized by the owner of the property and that I am authorized by the property owner to make this application. I understand that no sign may be placed in any public right of way. I understand that I must comply with all Building and Electrical Codes and that it is my responsibility to obtain all necessary permits.

Applicant's Signature 3/3/17 Date

Sign Administrator(or Designee) Approval Date

City of Bryant, Arkansas
Code Enforcement, Permits and Inspections
312 Roya Lane
Bryant, Ar 72022
501-943-0943

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Date: 3/3/2017

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Name L. Graphics indoor-outdoor Sign
Address 701 N. Reynolds Rd
City, State, Zip Bryant, AR 72022
Phone 501-773-0544
Alternate Phone 501-291-2310

PROPERTY OWNER
Name Allan Babbus
Address 23140 I-30 North
City, State, Zip Bryant, AR 72022
Phone 501-653-4444
Alternate Phone 501-773-0544

GENERAL DETAILS
Name of Business (B) Pylon LED Sign
Address/Location of sign 23140 I-30 North
Sign dimensions (height, length, width) 10'6" x 7'4"
Zoning Classification C2
Aggregate Surface Area (total all signs) _____
Height of sign from lot surface: Bottom 8' Top 15'8"

SIGN TYPE
Y Pole ___ Monument
___ Wall
___ Other (type) _____
Total sq. ft. 72 Sq ft

READ CAREFULLY BEFORE SIGNING

I, Joe Lam, do hereby certify that all information contained within this application is true and correct. I fully understand that the terms of the Sign Ordinance supersede the Sign Administrator's approval and that all signs must fully comply with all terms of the Sign Ordinance regardless of approval. I further certify that the proposed sign is authorized by the owner of the property and that I am authorized by the property owner to make this application. I understand that no sign may be placed in any public right of way. I understand that I must comply with all Building and Electrical Codes and that it is my responsibility to obtain all necessary permits.

Applicant's Signature — 3/3/17 Date — Sign Administrator(or Designee) Approval — Date

City of Bryant, Arkansas
Code Enforcement, Permits and Inspections
312 Roya Lane
Bryant, Ar 72022
501-943-0943

SIGN PERMIT APPLICATION

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Site plan showing placement of sign and any existing signs on the property. A rendering of sign showing correct dimensions of all signs are required with application. Additional documentation may be required by Sign Administrator.

Date: 3-2-17

Note: Electrical permits may be Required, Please contact the Permits Office at 501-943-0943 for more information.

SIGN CO. OR SIGN OWNER
Name SEIZ SIGN CO
Address 1231 Central Ave
City, State, Zip Hot Springs, AR 71901
Phone 501-623-3181
Alternate Phone 501-282-4126

PROPERTY OWNER
Name Pinecrest Funeral Home
Address 7401 Hwy 5 N
City, State, Zip Bryant, AR 72002
Phone
Alternate Phone

GENERAL DETAILS
Name of Business Pinecrest Funeral Home
Address/Location of sign 7401 Hwy 5 N
Sign dimensions (height, length, width) 1'x8'

SIGN TYPE
___ Pole ___ Monument
(O) Wall
___ Other (type)
Total sq. ft.

Zoning Classification
Aggregate Surface Area (total all signs)

Height of sign from lot surface: Bottom Top

READ CAREFULLY BEFORE SIGNING

I Ronny Skipper, do hereby certify that all information contained within this application is true and correct. I fully understand that the terms of the Sign Ordinance supersede the Sign Administrator's approval and that all signs must fully comply with all terms of the Sign Ordinance regardless of approval. I further certify that the proposed sign is authorized by the owner of the property and that I am authorized by the property owner to make this application. I understand that no sign may be placed in any public right of way. I understand that I must comply with all Building and Electrical Codes and that it is my responsibility to obtain all necessary permits.

Applicant's Signature — Date: 3-2-17 — Sign Administrator(or Designee) Approval — Date

City of Bryant, Arkansas
Code Enforcement, Permits and Inspections
312 Roya Lane
Bryant, Ar 72022
501-943-0943

SIGN PERMIT APPLICATION

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Site plan showing placement of sign and any existing signs on the property. A rendering of sign showing correct dimensions of all signs are required with application. Additional documentation may be required by Sign Administrator.

Date: 3-2-17

Note: Electrical permits may be Required, Please contact the Permits Office at 501-943-0943 for more information.

SIGN CO. OR SIGN OWNER
Name SEIZ SIGN CO
Address 1231 CENTRAL AVE
City, State, Zip HOT SPRINGS, AR 71901
Phone 501·623·3181
Alternate Phone 501·282·4126

PROPERTY OWNER
Name PINECREST FUNERAL HOME
Address 7401 HWY 5 N
City, State, Zip BRYANT, AR 72002
Phone
Alternate Phone

GENERAL DETAILS
Name of Business PINECREST FUNERAL HOME

SIGN TYPE
___ Pole ___ Monument
___ Wall
___ Other (type)

Address/Location of sign 7401 HWY 5 N
Sign dimensions (height, length, width) 3' x 8' x 2'
Total sq. ft. 18

Zoning Classification
Aggregate Surface Area (total all signs)

Height of sign from lot surface: Bottom 3' Top 6'

READ CAREFULLY BEFORE SIGNING

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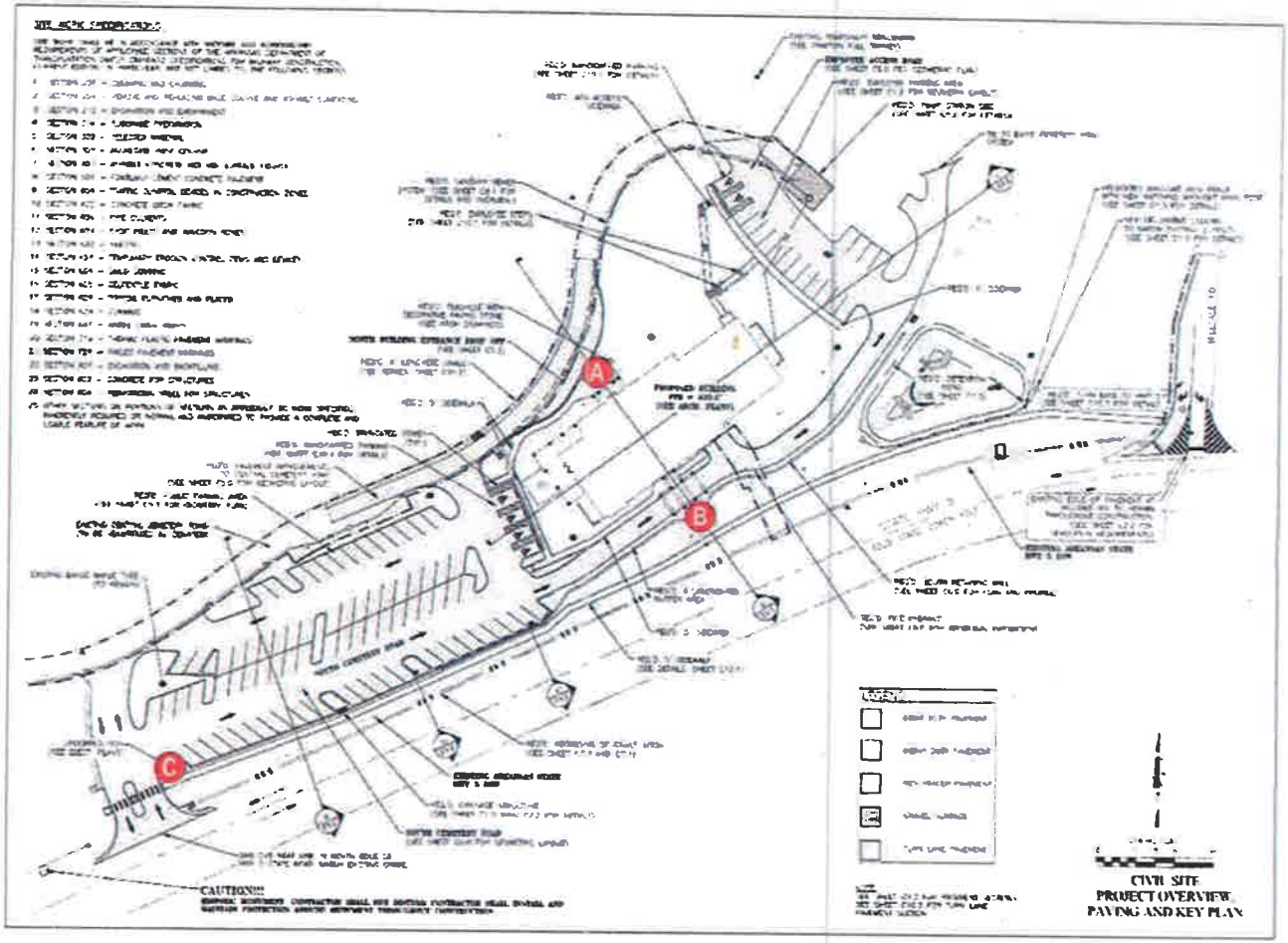
Applicant's Signature 3-2-17 Date
Sign Administrator(or Designee) Approval Date



SITE PLAN
Scale: Not to Scale

WALTON
SIGNAGE

SCI #9860
7401 HIGHWAY 5 N
ALEXANDER, AR 72002-8503
NK MSB
02.15.17 TG

Bryant

H:\SCI - DIGNITY\Locations\ARK\AR\ALEX\9860 Alexander, AR\2016 New Construction\Design\156112.cdr

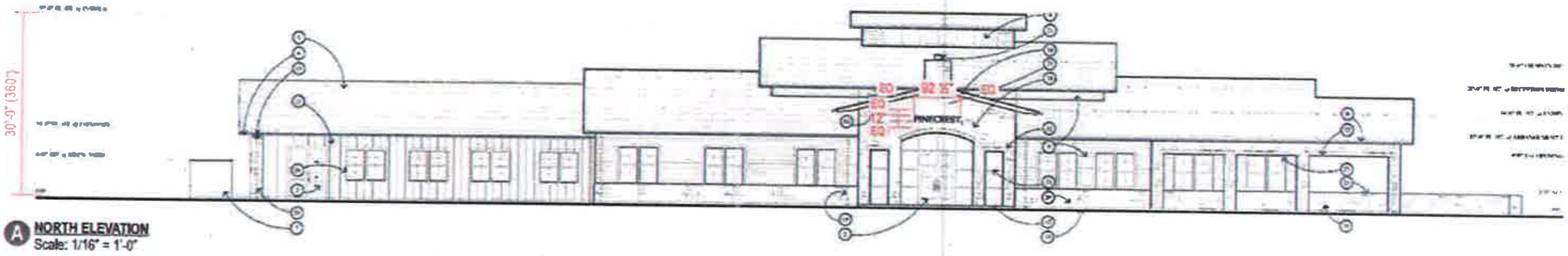
This sign is intended to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.

PAGE SIZE 11" X 17"

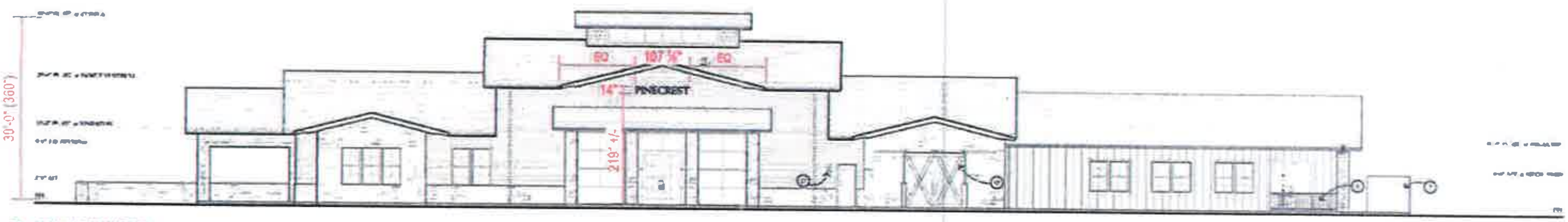
Sales:		Date:
P.M.:		Date:
Design:		Date:
Client:		Date:

CID156112

Sheet: 1 of 6



A NORTH ELEVATION
Scale: 1/16" = 1'-0"



B SOUTH ELEVATION
Scale: 1/16" = 1'-0"

WALTON SIGNAGE

SCI #8860
7401 HIGHWAY 5 N
ALEXANDER, AR 72002-8503
NK — MSB
02.15.17 — TG

This is an original drawing created by Walton. It is submitted for your personal use, however, it shall at all times remain the property of Walton. It may be used in connection with the project being planned for you by Walton, but not otherwise. You are not authorized to show these drawings to anyone outside your organization, nor is it to be reproduced, used, copied or exhibited in any fashion.

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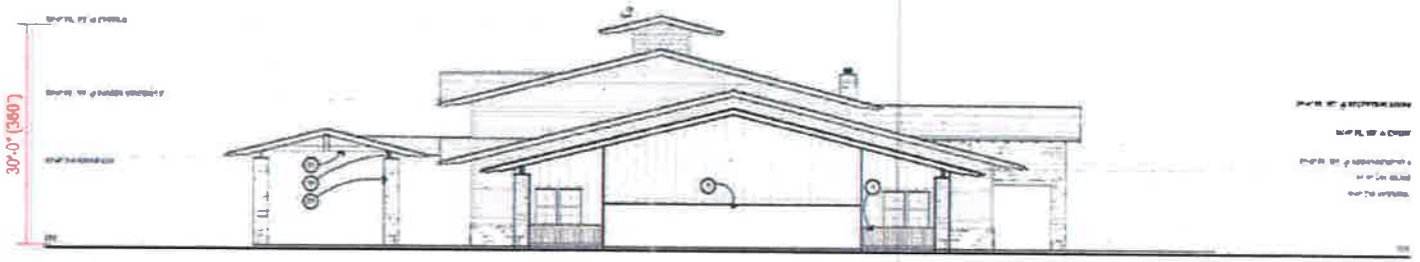
PAGE SIZE 11" X 17"

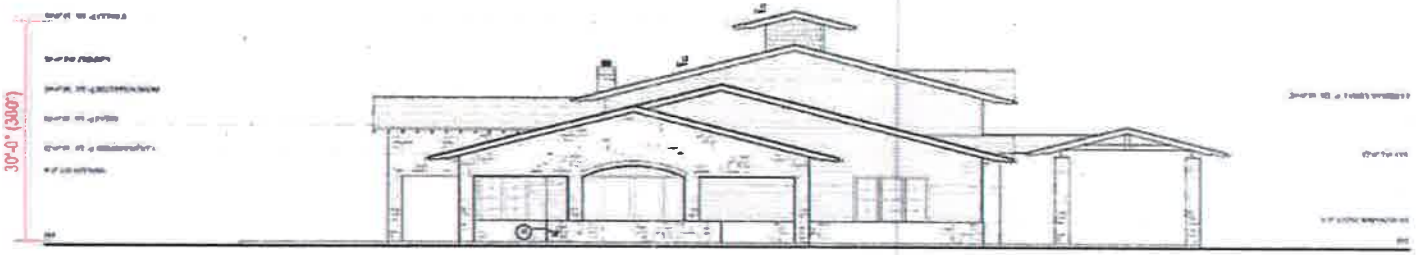
Sales: Date:
P.M.: Date:
Design: Date:
Client: Date:

CID156112

Sheet: 2 of 6



EAST ELEVATION
Scale: 1/16" = 1'-0"



WEST ELEVATION
Scale: 1/16" = 1'-0"

WALTON
SIGNAGE

SCI #9660
7401 HIGHWAY 5 N
ALEXANDER, AR 72002-8503
NK
02.15.17
MSB
TG

This is an original drawing created by Walton. It is submitted for your personal use, however, it shall at all times remain the property of Walton. It may be used in connection with the project being planned for you by Walton, but not otherwise. You may not authorized to show these drawings to anyone outside your organization, nor is it to be reproduced, used, copied or exhibited in any fashion.

H:\SCI - DIGNITY\Locations\ARK\ANSAS\#660 Alexander, AR\2016 New Construction\Design\156112.cdr

This sign is intended to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.

PAGE SIZE 11" X 17"

Sales: Date:
P.M.: Date:
Design: Date:
Client: Date:

CID156112

Sheet: 3 of 6

7'-8 ½" (92 ½")

1'-0" (12")

PINECREST

A PIN MOUNTED FCO LETTERS
Scale: 1" = 1'-0"

SCOPE OF WORK

• MANUFACTURE AND INSTALL ONE (1) NEW FLAT CUT OUT LETTERS

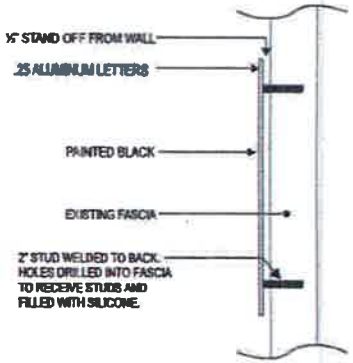
GENERAL SPECIFICATIONS

SIGN FACE TO BE .25 ALUMINUM PAINTED SATIN BLACK

COLORS:

BLACK

SURVEY NOTE:
FIELD SURVEY REQUIRED PRIOR TO MANUFACTURE



WALTON SIGNAGE

SCI #9860
7401 HIGHWAY 5 N
ALEXANDER, AR 72002-8503
NK MSB
02.15.17 TG

R0: (drawing completed - MSB
R1: 2/28/17 revised logo C - MSB
R2: 3/8/17 revised all signs - MSB

H:\SCI - DIGNITY\Locations\AR\ALEXAS\#9860 Alexander AR\2016 New Construction\Design\156112.cdr

All Primary electrical service to the sign and final connection thereof, is the responsibility of the buyer. All work is to be done in accordance with the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.

PAGE SIZE 11" X 17"

This sign is intended to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.

Sales: Date:
P.M.: Date:
Design: Date:
Client: Date:

CID156112

B PIN MOUNTED FCO LETTERS
Scale: 1" = 1'-0"

SCOPE OF WORK

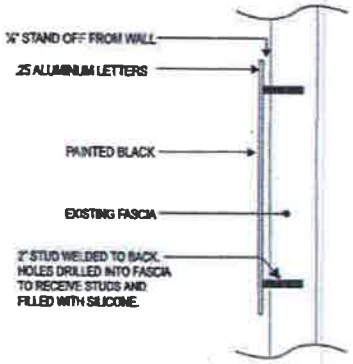
• MANUFACTURE AND INSTALL ONE (1) NEW FLAT CUT OUT LETTERS

GENERAL SPECIFICATIONS

SIGN FACE TO BE .25 ALUMINUM PAINTED SATIN BLACK

COLORS:

SURVEY NOTE:
FIELD SURVEY REQUIRED PRIOR TO MANUFACTURE



WALTON SIGNAGE

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7401 HIGHWAY 5 N
ALEXANDER, AR 72002-8503
NK — MSB
02.15.17 — TG

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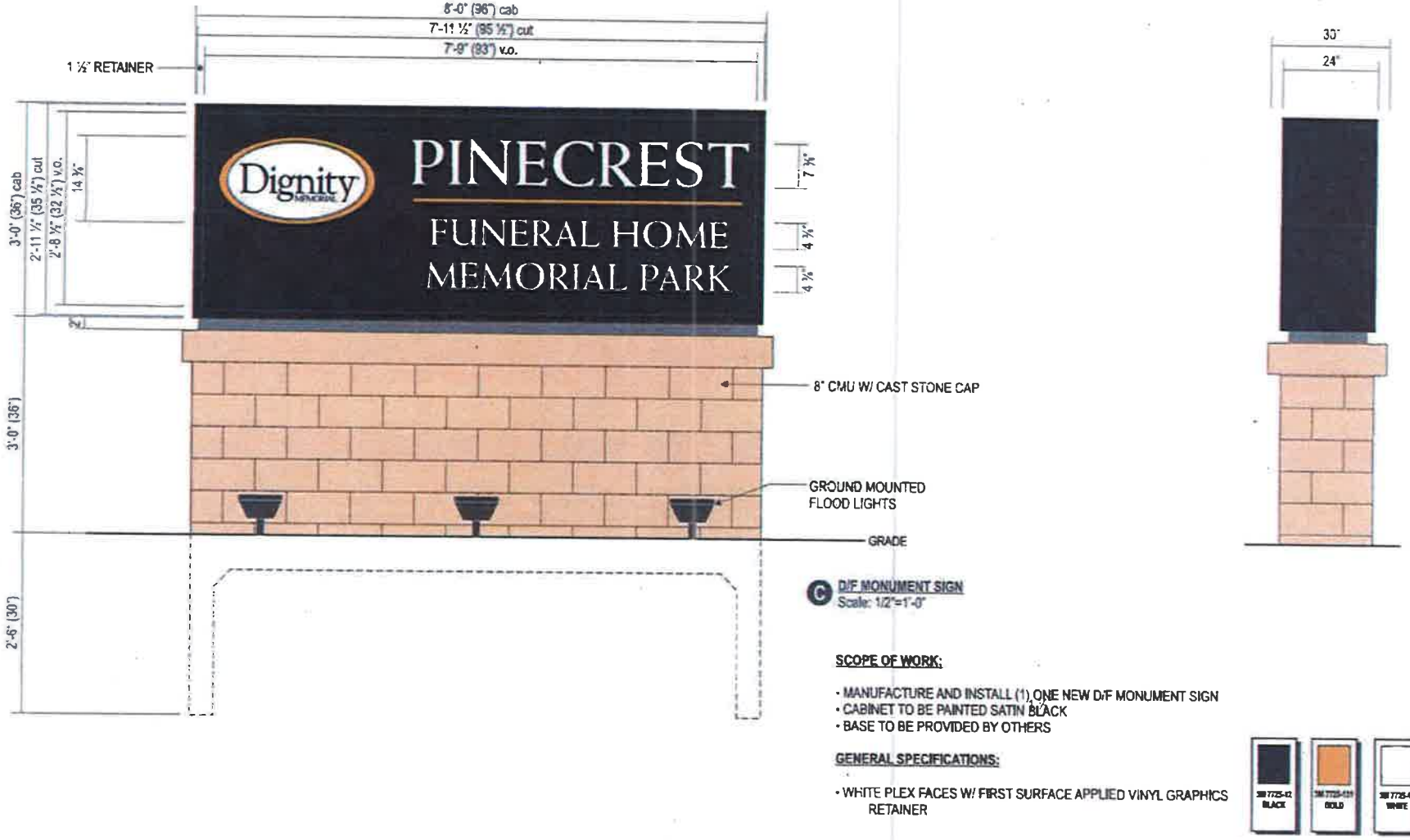
P.M.: Date:
Design: Date:
Client: Date:

This sign is requested to be installed in accordance with the requirements of Article 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.

PAGE SIZE 11" X 17"

CID156112



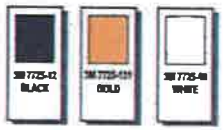
C D/F MONUMENT SIGN
Scale: 1/2"=1'-0"

SCOPE OF WORK:

- MANUFACTURE AND INSTALL (1) ONE NEW D/F MONUMENT SIGN
- CABINET TO BE PAINTED SATIN BLACK
- BASE TO BE PROVIDED BY OTHERS

GENERAL SPECIFICATIONS:

- WHITE PLEX FACES W/ FIRST SURFACE APPLIED VINYL GRAPHICS
  RETAINER



WALTON SIGNAGE

SCL#9860
7501 HIGHWAY 5 N
ALEXANDER, AR 72002-8503
NK MSB
02.15.17 TG

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Sales: Date:
P.M.: Date:
Design: Date:
Client: Date:

PAGE SIZE 11" X 17"

CID156112

10'-6" OF 3" x .216 WALL PIPE
3½ OD

DF MONUMENT SIGN

7½ CONCRETE FTG.

SCOPE OF WORK:

- MANUFACTURE AND INSTALL (1) ONE NEW DF MONUMENT SIGN
- CABINET TO BE PAINTED SATIN BLACK
- BASE TO BE PROVIDED BY OTHERS

GENERAL SPECIFICATIONS:

- WHITE PLEX FACES W/ FIRST SURFACE APPLIED VINYL GRAPHICS
  RETAINER

2'-4½" x 1'-6" CONCRETE FOOTING

WALTON

Sales:	Date:	CID156112
P.M.:	Date:	
Design:	Date:	
Client:	Date:	

Sheet 3 of 4

APPLICATION
FOR CHANGE IN
ZONING DISTRICT BOUNDARIES

Applicant Name: Stuart Finley

Spouse Name: Sarah Finley

Property Address: 4302 Springhill Rd

Legal Description: Attached

Existing Zoning Classification: R-2

Requested Change: C-2

Plat of Property is Attached ✓

Vicinity Map of property is attached ✓

The undersigned designates the following process agent or attorney to represent the applicant at all hearings:

Stuart Finley

This 31st day of January, 2017

Applicant

Spouse of Applicant

122 Pleasant Valley Dr.
Address
Little Rock AR 72212
501.258.9646
Phone

1/31/17

City of Bryant
210 SW 3rd Street
Bryant, AR. 72022

Re: Re-Zoning Request

To Whom It May Concern,

I, Jimmy Winemiller, whose address is 6140 Dovecote Ln. Memphis, TN. 38120, am requesting re-zoning of 10 acres at the corner of Springhill and Hunt roads, Bryant, AR. from R-2 to C-2. As owner of the described property, I hereby give authority to Stuart Finley as my representative to take this property through the re-zoning process with the City of Bryant.

Sincerely,

Jimmy Winemiller 1-31-17

Jimmy Winemiller Date
President – Monterrey Farms, Inc.

PROPERTY DESCRIPTION

THAT PART OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 16, TOWNSHIP 1 SOUTH, RANGE 14 WEST, SALINE COUNTY, ARKANSAS. DESCRIBED AS FOLLOWS:

COMMENCING AT A #4 REBAR, BEING THE SOUTHWEST CORNER OF SECTION 16, T-1-S, R- 15-W; THENCE NORTH 00°46'14" EAST ALONG THE WEST LINE THEREOF FOR 2499.94 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 89°48'01" EAST 1325.65 FEET TO A #3 REBAR, SAID POINT BEING ON THE EAST LINE OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER; THENCE SOUTH 00°16'36" WEST ALONG SAID EAST LINE FOR 330.69 FEET TO A 1" PIPE; THENCE NORTH 89°46'10" WEST 1328.49 FEET TO A POINT ON THE WEST LINE OF SECTION 16; THENCE NORTH 00°46'14" EAST ALONG SAID WEST LINE FOR 330.00 FEET TO THE POINT OF BEGINNING. CONTAINING 10.06 ACRES, MORE OR LESS.

SUBJECT TO AND TOGETHER WITH AN EASEMENT FOR INGRESS, EGRESS AND UTILITY PURPOSES OVER AND ACROSS THE FOLLOWING DESCRIBED PROPERTY

ALL THAT PART OF THE WEST HALF OF SECTION 16, TOWNSHIP 1 SOUTH, RANGE 14 WEST, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE WEST LINE OF SAID SECTION 16 THAT IS 2500.6 FEET NORTH OF THE SOUTHWEST CORNER THEREOF; FROM SAID POINT, RUN THENCE SOUTH 10 FEET; THENCE EAST FOR 1056 FEET, MORE OR LESS, TO A POINT THAT IS 264 FEET WEST OF THE EAST LINE OF THE WEST HALF OF THE WEST HALF OF SECTION 16; THENCE NORTH 20 FEET TO A POINT THAT IS 264 FEET WEST OF THE EAST LINE OF THE WEST HALF OF THE WEST HALF OF SECTION 16; THENCE WEST 1056 FEET TO A POINT THAT IS DUE NORTH OF THE POINT OF BEGINNING; RUN THENCE SOUTH 10 FEET TO THE POINT OF BEGINNING.

SUBJECT TO THE RIGHT OF WAY OF SPRINGHILL ROAD

1/31/17

Name
123 Address
Bryant, Ar. 72022

RE: Re-Zoning Petition

The property located at 4302 Springhill Rd. is being considered for re-zoning from R-2 to C-2. The property is more particularly described as follows:

PROPERTY DESCRIPTION

THAT PART OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 16, TOWNSHIP 1 SOUTH, RANGE 14 WEST, SALINE COUNTY, ARKANSAS. DESCRIBED AS FOLLOWS:

COMMENCING AT A #4 REBAR, BEING THE SOUTHWEST CORNER OF SECTION 16, T-1-S, R- 15-W; THENCE NORTH 00°46'14" EAST ALONG THE WEST LINE THEREOF FOR 2499.94 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 89°48'01" EAST 1325.65 FEET TO A #3 REBAR, SAID POINT BEING ON THE EAST LINE OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER; THENCE SOUTH 00°16'36" WEST ALONG SAID EAST LINE FOR 330.69 FEET TO A 1" PIPE; THENCE NORTH 89°46'10" WEST 1328.49 FEET TO A POINT ON THE WEST LINE OF SECTION 16; THENCE NORTH 00°46'14" EAST ALONG SAID WEST LINE FOR 330.00 FEET TO THE POINT OF BEGINNING. CONTAINING 10.06 ACRES, MORE OR LESS.

SUBJECT TO AND TOGETHER WITH AN EASEMENT FOR INGRESS, EGRESS AND UTILITY PURPOSES OVER AND ACROSS THE FOLLOWING DESCRIBED PROPERTY

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BEGINNING AT A POINT ON THE WEST LINE OF SAID SECTION 16 THAT IS 2500.6 FEET NORTH OF THE SOUTHWEST CORNER THEREOF; FROM SAID POINT, RUN THENCE SOUTH 10 FEET; THENCE EAST FOR 1056 FEET, MORE OR LESS, TO A POINT THAT IS 264 FEET WEST OF THE EAST LINE OF THE WEST HALF OF THE WEST HALF OF SECTION 16; THENCE NORTH 20 FEET TO A POINT THAT IS 264 FEET WEST OF THE EAST LINE OF THE WEST HALF OF THE WEST HALF OF SECTION 16; THENCE WEST 1056 FEET TO A POINT THAT IS DUE NORTH OF THE POINT OF BEGINNING; RUN THENCE SOUTH 10 FEET TO THE POINT OF BEGINNING.

SUBJECT TO THE RIGHT OF WAY OF SPRINGHILL ROAD

A petition has been filed with the City of Bryant Planning Commission to re-zone the property. As a part of this process a public hearing will be held March, 13th, 2017 at 6:00 p.m. in the Boswell Community Center, 210 Southwest 3rd Street, Bryant, Ar. 72022

Public comments will be accepted at that time regarding this re-zoning. Since you own property within 300 feet of the tract in consideration, you have been sent this letter via certified mail as required by city ordinance.

Should you have any questions regarding this matter you may contact the City of Bryant Planning Department at (501) 943-0310 and ask for Truitt Smith or by calling me at (501) 258-9646.

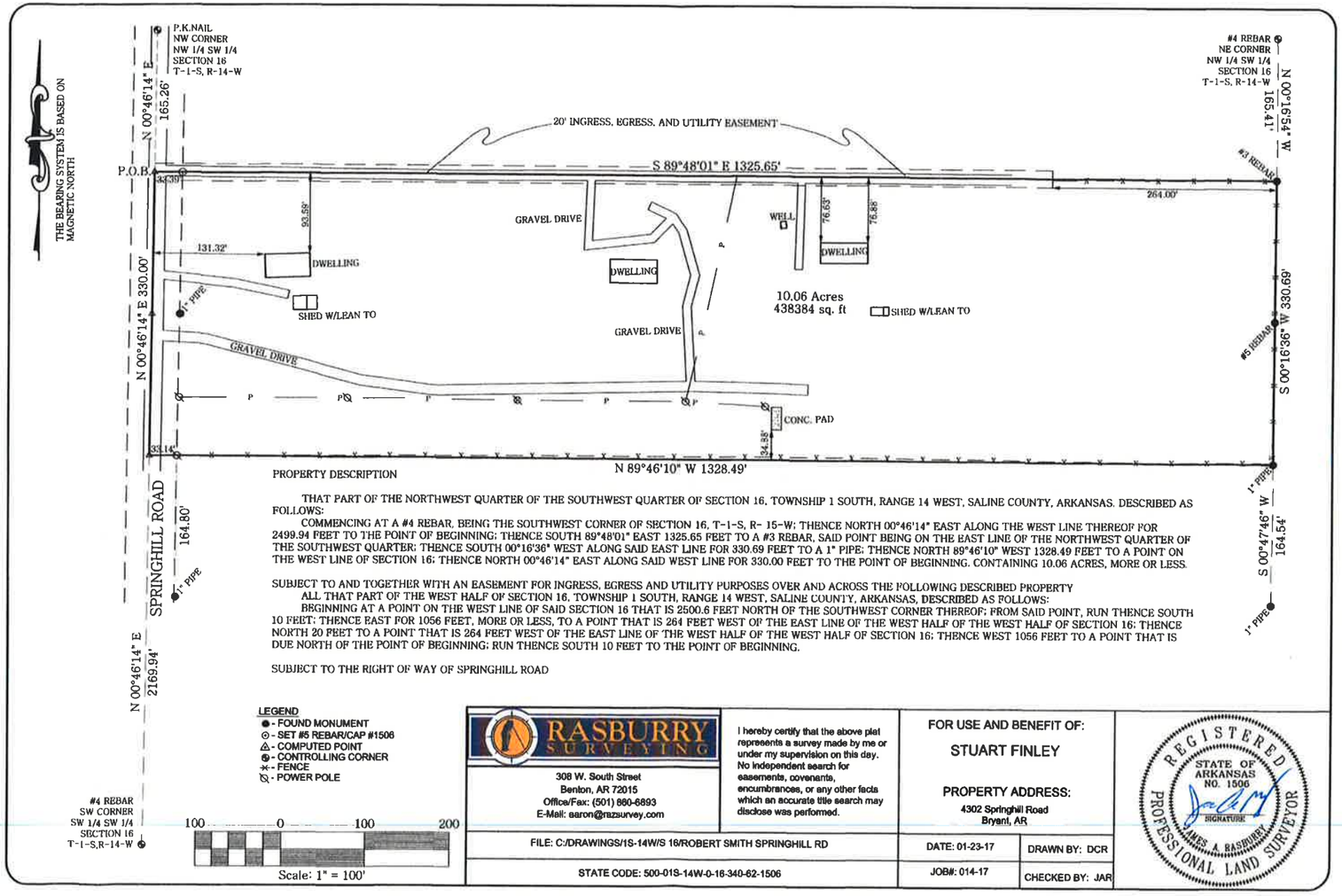
Thank you for your consideration in this matter.

Sincerely,

_____

Stuart Finley

Melissa Cv
Amber Ln
Mila
Oakdale Rd
Hilltop Rd
Miller Rd
Lombard Rd
Worth Ave
Powell Dr
Hickory Dr
Baldwin Dr
Oak Acres
Woody Dr
Hilldale Rd
Lexington Ave
Hunt Rd
Mulberry Acres
B St
A St
Monticello Dr
Severn Landing Rd
Pleasure Dr
Front Dr
Pine Dr
Stoneybrook Dr
Cedar Dr
Stivers
Ward Dr
Birch St
Vicki Dr
Price Ave
Travis Pkwy
Andrew Dr
Market Pl Ave
Indian Springs Lake
Hurricane Lake
Rolla Rd
Anderson Lake Rd
Forest Dr
W Commerce St
183
Horizon Dr
Main St
Choctaw St
Flintstone Dr
Arey Dr
Henson Pl
Pebble Lake
Hawley Rd
Hurricane Cove
Westminster
Boardwalk
Waterfall Way
Brandon Rd
5
South St
Dell Dr
Patty
Coraltree Dr
Mills Park Rd
Shobe Rd
Quail Ln
Whistle Ln
Royal Ln
Evans Loop
Neal St
Bradley St
Todd Ln
Ruth Dr
Salem Rd
Alcoa Rd
Shoal Rd
Pickett Rd
Unknown
US Hwy 70
30
1 mi



PROPERTY DESCRIPTION

THAT PART OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 16, TOWNSHIP 1 SOUTH, RANGE 14 WEST, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:

COMMENCING AT A #4 REBAR, BEING THE SOUTHWEST CORNER OF SECTION 16, T-1-S, R- 15-W; THENCE NORTH 00°46'14" EAST ALONG THE WEST LINE THEREOF FOR 2499.94 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 89°48'01" EAST 1325.65 FEET TO A #3 REBAR, SAID POINT BEING ON THE EAST LINE OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER; THENCE SOUTH 00°16'36" WEST ALONG SAID EAST LINE FOR 330.69 FEET TO A 1" PIPE; THENCE NORTH 89°46'10" WEST 1328.49 FEET TO A POINT ON THE WEST LINE OF SECTION 16; THENCE NORTH 00°46'14" EAST ALONG SAID WEST LINE FOR 330.00 FEET TO THE POINT OF BEGINNING. CONTAINING 10.06 ACRES, MORE OR LESS.

SUBJECT TO AND TOGETHER WITH AN EASEMENT FOR INGRESS, EGRESS AND UTILITY PURPOSES OVER AND ACROSS THE FOLLOWING DESCRIBED PROPERTY

ALL THAT PART OF THE WEST HALF OF SECTION 16, TOWNSHIP 1 SOUTH, RANGE 14 WEST, SALINE COUNTY, ARKANSAS, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE WEST LINE OF SAID SECTION 16 THAT IS 2500.6 FEET NORTH OF THE SOUTHWEST CORNER THEREOF; FROM SAID POINT, RUN THENCE SOUTH 10 FEET; THENCE EAST FOR 1056 FEET, MORE OR LESS, TO A POINT THAT IS 264 FEET WEST OF THE EAST LINE OF THE WEST HALF OF THE WEST HALF OF SECTION 16; THENCE NORTH 20 FEET TO A POINT THAT IS 264 FEET WEST OF THE EAST LINE OF THE WEST HALF OF THE WEST HALF OF SECTION 16; THENCE DUE NORTH OF THE POINT OF BEGINNING; RUN THENCE SOUTH 10 FEET TO THE POINT OF BEGINNING.

SUBJECT TO THE RIGHT OF WAY OF SPRINGHILL ROAD

LEGEND
- ● - FOUND MONUMENT
- ⊙ - SET #5 REBAR/CAP #1506
- △ - COMPUTED POINT
- ⊕ - CONTROLLING CORNER
- ✳ - FENCE
- ⌀ - POWER POLE

RASBURRY SURVEYING
308 W. South Street
Benton, AR 72015
Office/Fax: (501) 860-6893
E-Mail: aaron@razsurvey.com

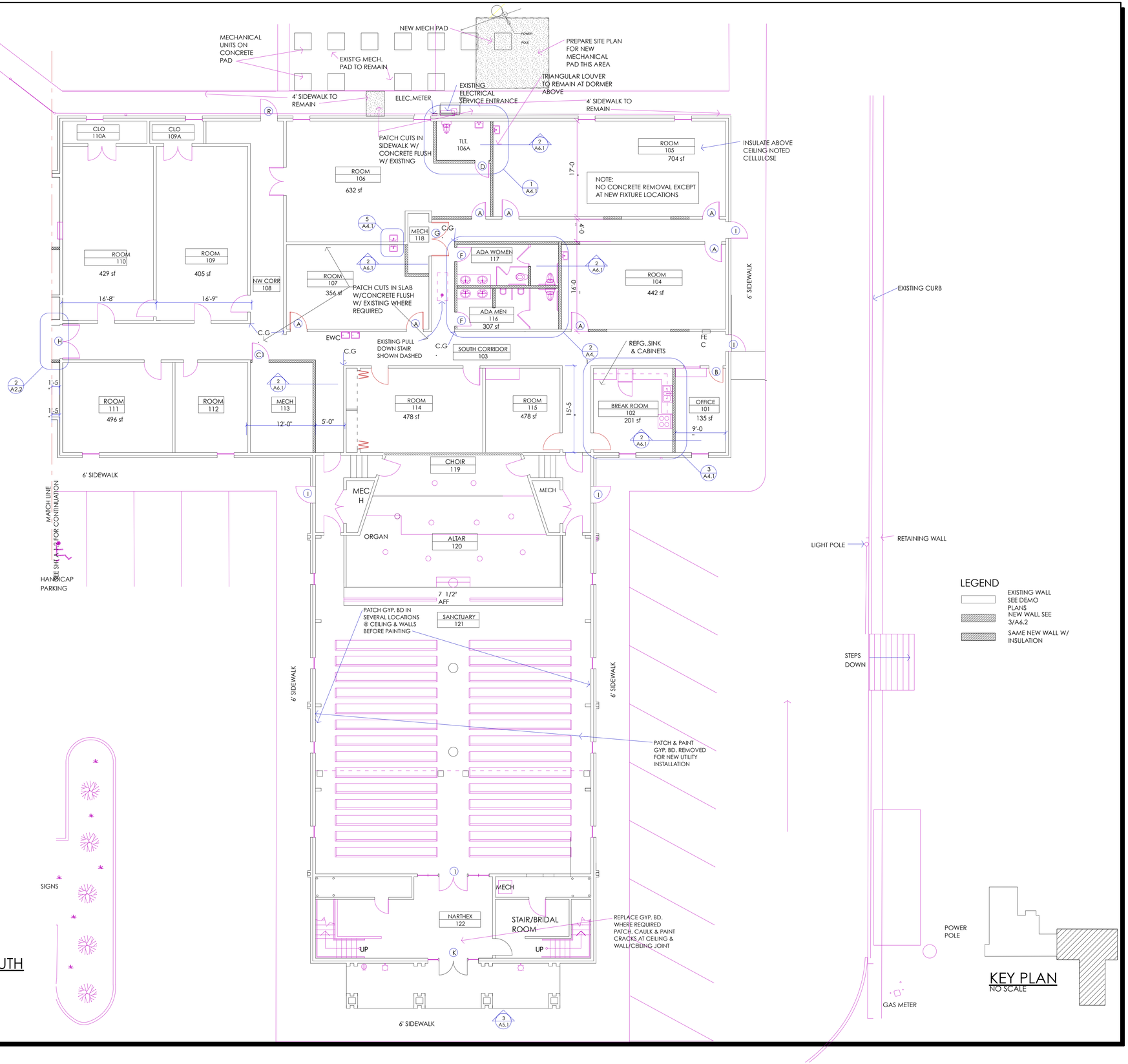
I hereby certify that the above plat represents a survey made by me or under my supervision on this day. No independent search for easements, covenants, encumbrances, or any other facts which an accurate title search may disclose was performed.

FOR USE AND BENEFIT OF:
STUART FINLEY

PROPERTY ADDRESS:
4302 Springhill Road
Bryant, AR

REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF ARKANSAS NO. 1506
SIGNATURE
JAMES A RASBURRY

FILE: C:/DRAWINGS/1S-14W/S 16/ROBERT SMITH SPRINGHILL RD
DATE: 01-23-17
DRAWN BY: DCR
STATE CODE: 500-01S-14W-0-16-340-62-1506
JOB#: 014-17
CHECKED BY: JAR



FIRST FLOOR SANCTUARY/SOUTH WING

SCALE 1/8"=1'-0"

KEY PLAN

NO SCALE

TINA A. HEIPLE
REGISTERED ARCHITECT
1079
ARKANSAS

REV	DATE	DESCRIPTION
	1/25/17	VE1

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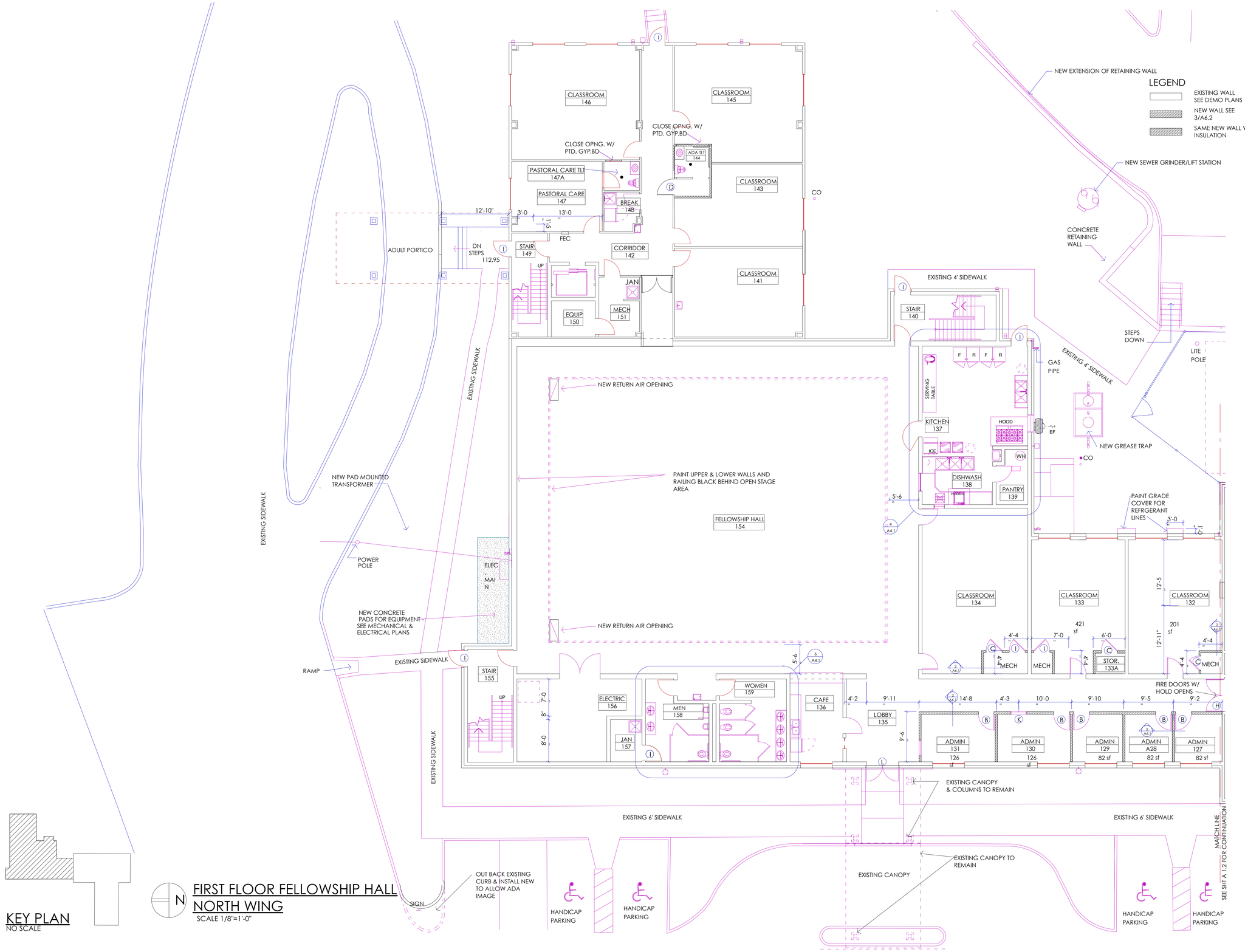
Project No: HW13-618

Date: 9/15/16

Sheet Title: 1ST FLOOR SANCTUARY / SOUTH WING

Sheet No: VE1 A1.1



KEY PLAN
NO SCALE

N

FIRST FLOOR FELLOWSHIP HALL NORTH WING
SCALE 1/8"=1'-0"

TIM A. HEIPLE REGISTERED ARCHITECT 1079 ARKANSAS

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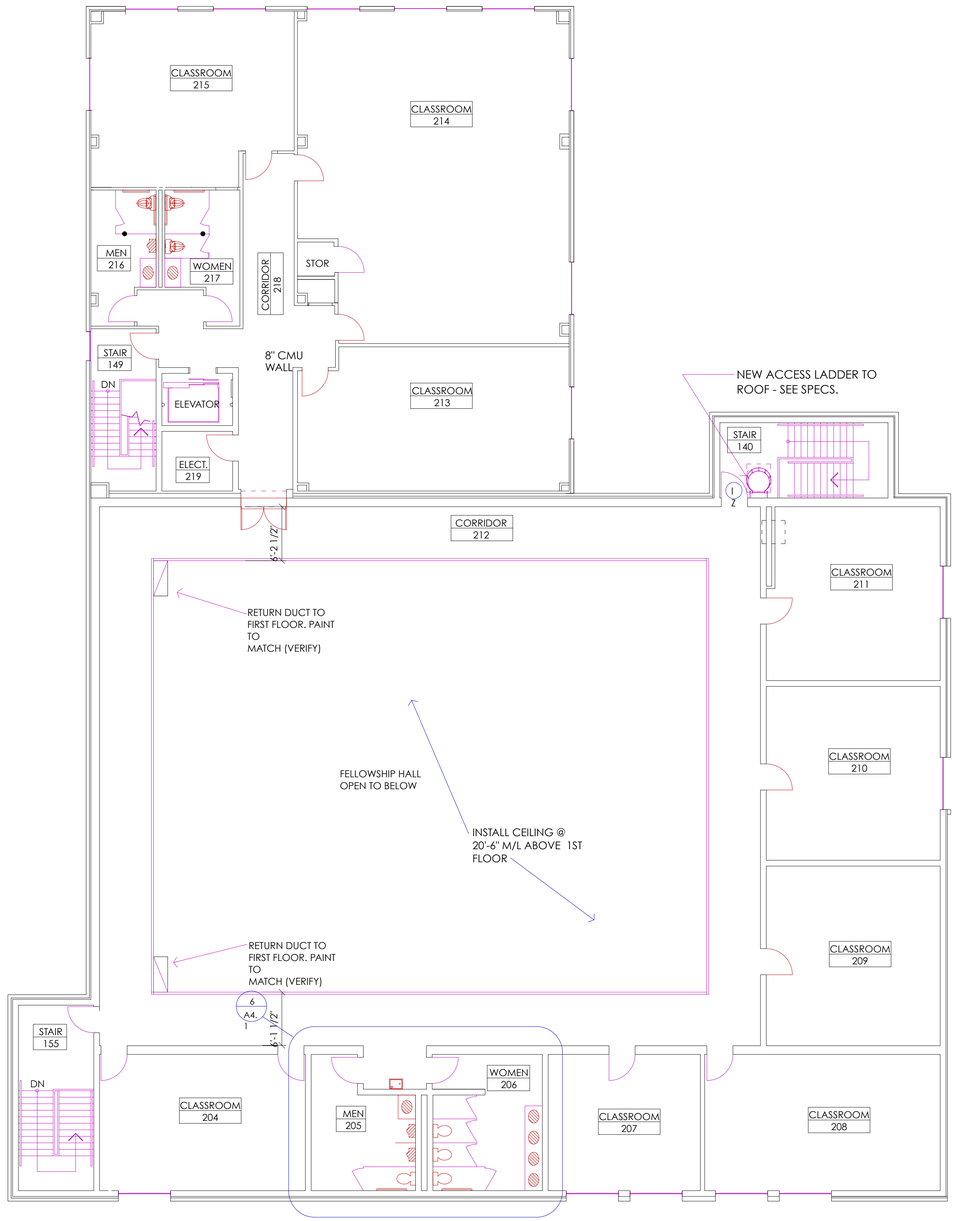
Date: 9/15/16

Sheet Title: 1ST FLOOR FAMILY LIFE / WEST WING

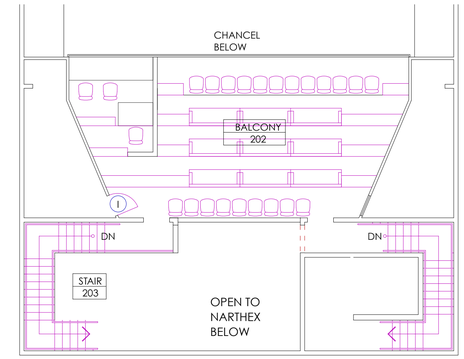
Sheet No: VE1 A1.2



N

SECOND FLOOR FELLOWSHIP HALL / NORTH WING

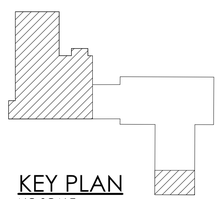
SCALE 1/8"=1'-0"



N

SECOND FLOOR BALCONY

SCALE 1/8"=1'-0"



KEY PLAN

NO SCALE

TIM A. HEIPLE
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Project No: HW13-618

Date: 9/15/16

Sheet Title: SECOND FLOOR PLAN

Sheet No: VE1 A1.3

FINISH SCHEDULE

	FLOOR								BASE						WAINSCOT							WALL								CEILING										
	LVT A	CARPET A	EXISTING TO REMAIN	BIO BASED TILE	NOT USED	EPOXY	NOT USED	SEALED CONCRETE - REMOVE EXISTING	4" RUBBER BASE	EXISTING TO REMAIN	NOT USED	NO BASE	PAINT WOOD	4" EPOXY	NONE	FRP TO 8' AFF	PAINT EXISTING				NEW PAINTED GYP BOARD	PAINT EXISTING GYP BOARD / CMU	EXISTING TO REMAIN	NO PAINT - TAPE & FLOAT ONLY	FRP TO 8'-0"				NEW STANDARD 2X2 ACOUSTICAL LAY-IN A	PAINT & SCRAPE EXISTING GYP BOARD	EXISTING TO REMAIN LAY-IN	NO CEILING	NEW PTD. GYP. BD. CEILING	NEW 2X2 SCRUBBABLE ACOUSTICAL LAY-IN B							
FIRST FLOOR																																							
OFFICE 101		X							X						X						X	X										X							8'-0"
BREAK ROOM 102			X						X						X						X	X										X							
SOUTH CORRIDOR 103			X						X						X						X	X										X							
ROOM 104			X						X						X						X	X										X							
ROOM 105			X						X						X						X	X										X							
ROOM 106			X						X						X						X	X										X							
TLT 106A			X						X						X						X											X							
ROOM 107			X						X						X						X	X										X							
NW CORRIDOR 108			X						X						X							X										X							9'-6"
ROOM 109			X						X						X						X	X										X							
CLOSET 109A			X						X						X						X	X										X							
ROOM 110			X						X						X						X											X							
CLOSET 110A			X						X						X						X	X										X							
ROOM 111			X						X						X						X	X										X							
ROOM 112			X						X						X						X											X							
MECHANICAL 113							X				X				X						X	X										X							8'-0"
ROOM 114			X						X						X						X	X										X							
ROOM 115			X						X						X						X	X										X							
ADA MEN 116			X						X						X						X	X										X							
ADA WOMEN 117			X						X						X						X	X										X							
MECHANICAL 118							X				X				X							X										X							
CHOIR 119		X								X					X							X										X							VARIES
ALTAR 120		X								X					X							X																	
SANCTUARY 121		X								X					X							X																	
NARTHEX 122		X													X																								
TOILET 123															X																								9'-0"
ADMIN 127		X							X						X						X	X						X											
ADMIN 128		X							X						X						X	X						X											
ADMIN 129		X							X						X						X	X						X											
ADMIN 130		X							X						X						X	X						X											
ADMIN 131		X							X						X						X	X						X											
CLASSROOM 132		X							X						X						X	X						X											
CLASSROOM 133		X							X						X						X	X						X											
STORAGE 133A		X							X						X						X	X						X											
BANQUET ROOM 134	X								X						X						X	X						X											
LOBBY 135	X								X						X						X	X						X											
CAFE 136			X							X					X								X						X										
KITCHEN 137						X							X			X						X													X				
DISHWASH 138						X							X			X						X													X				
PANTRY 139						X							X			X						X													X				
STAIR 140			X							X					X								X						X										
CLASSROOM 141			X							X					X							X						X										
CORRIDOR 142			X							X					X							X						X										
CLASSROOM 143			X						X	X					X						X	X						X										
ADA TOILET 144													X		X						X	X						X										
CLASSROOM 145			X						X	X					X													X										
CLASSROOM 146			X							X					X													X										
PASTORIAL CARE 147			X							X					X													X										
PASTORICAL CAFE TLT 147A			X							X					X													X										
BREAK ROOM 148			X							X					X								X					X										
STAIR 149			X							X					X								X					X										VARIES
EQUIPMENT 150			X							X					X								X					X										9'-0"
MECHANICAL 151			X							X					X								X					X										9'-0"
FELLOWSHIP HALL 154		X							X						X							X						X										20'-0 +/-"
STAIR 155			X							X					X								X							X								VARIES
ELECTRICAL 156			X							X					X								X							X								
JANITOR 157			X							X					X								X							X								
MEN 158						X							X		X							X						X										
WOMEN 159						X							X		X							X						X										

1 REMOVE EXISTING FLOOR COVERING @ ALL MECHANICAL ROOMS

NOTE: STORAGE 152, STORAGE 153 & STAGE 154A HAVE BEEN DELETED FROM THE FINISH SCHEDULE

FINISH SCHEDULE

	FLOOR								BASE						WAINSCOT							WALL								CEILING										
	LVT A	CARPET A	EXISTING TO REMAIN	NOT USED	NOT USED	EPOXY FLOORING	NOT USED	SEALED CONCRETE - REMOVE EXISTING	4" RUBBER BASE	EXISTING TO REMAIN	NOT USED	NO BASE	PAINT WOOD	4" EPOXY FLOORING	NONE	PTD., WD., CHAIR RAIL & WAINSCOT							NEW PAINTED GYP BOARD	PAINT EXISTING GYP BOARD / CMU	EXISTING TO REMAIN	NO PAINT - TAPE & FLOAT ONLY					NEW 2X2 STANDARD ACOUSTICAL LAY-IN A	PAINT & SCRAPE EXISTING TEXTURED GYP BOARD	EXISTING TO REMAIN	NO CEILING	NEW PTD. GYP. BD. CEILING	NEW 2X2 ACOUSTICAL LAY-IN B	NEW 2X2 LAY-IN C				
SECOND FLOOR																																							
STAIR 201			X							X					X									X					X									VARIES
BALCONY 202			X							X					X																X							VARIES
STAIR 203			X							X					X																X							VARIES
CLASSROOM 204			X							X					X														X									9'-0"
MENS 205					X									X	X							X	X						X										
WOMENS 206					X									X	X							X	X						X										
CLASSROOM 207			X							X					X									X					X										
CLASSROOM 208			X							X					X									X					X										
CLASSROOM 209			X							X					X									X					X										
CLASSROOM 210			X							X					X									X					X										
CLASSROOM 211			X							X					X									X					X										
CORRIDOR 212			X							X					X								X						X										
CLASSROOM 213			X							X					X									X					X										
CLASSROOM 214			X							X					X									X					X										
STORGE 214A			X							X					X									X					X										
CLASSROOM 215			X							X					X									X					X										
MENS 216														X	X														X										
WOMEN 217														X	X														X										
CORRIDOR 218			X								X				X														X										
ELECTRICAL 219			X								X				X														X										

1 REMOVE EXISTING FLOOR COVERING @ ALL MECHANICAL ROOMS

TIM P. HEIPLE
REGISTERED ARCHITECT
1079
ARKANSAS

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	1/25/17	VE1

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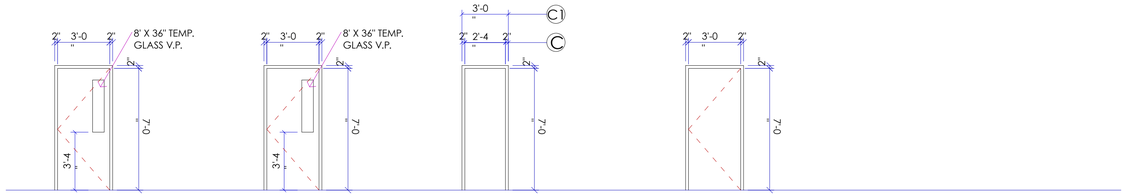
Sheet Title:
SCHEDULES

Sheet No:
VE1
A2.1



A 3'-0" X 7'-0" SC WD DOOR PAINTED IN H.M. FRAME PTD W/ VISION PANEL - HARDWARE TO BE SET #1

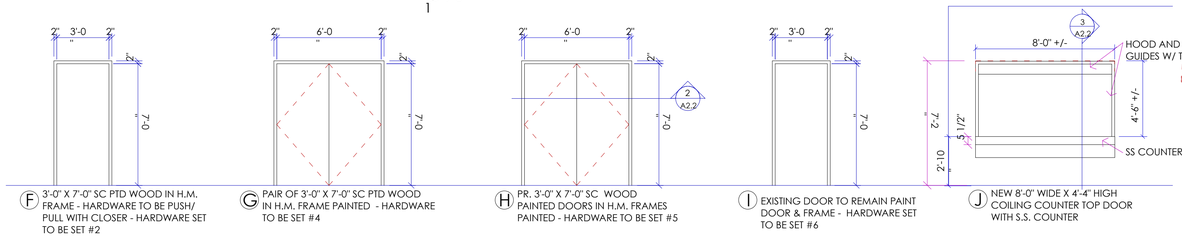
B 3'-0" X 7'-0" SC WOOD DOOR PAINTED IN H.M. FRAME PAINTED W/ VISION PANEL - HARDWARE TO BE SET #1A

C 2'-4" X 7'-0" SC WOOD PRE-HUNG DOOR IN WOOD FRAME PAINTED - HARDWARE TO SET # 1B

C 1 SAME AS C EXCEPT 3'-0" X 7'-0"

D 3'-0" X 7'-0" SC WOOD PRE-HUNG DOOR IN WOOD FRAME PAINTED - W/ HARDWARE SET TO BE SET #3

E NOT USED



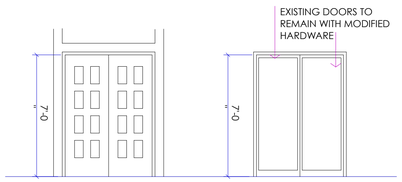
F 3'-0" X 7'-0" SC PTD WOOD IN H.M. FRAME - HARDWARE TO BE PUSH/ PULL WITH CLOSER - HARDWARE SET TO BE SET #2

G PAIR OF 3'-0" X 7'-0" SC PTD WOOD IN H.M. FRAME PAINTED - HARDWARE TO BE SET #4

H PR. 3'-0" X 7'-0" SC WOOD PAINTED DOORS IN H.M. FRAMES PAINTED - HARDWARE TO BE SET #5

I EXISTING DOOR TO REMAIN PAINT DOOR & FRAME - HARDWARE SET TO BE SET #6

J NEW 8'-0" WIDE X 4'-4" HIGH COILING COUNTER TOP DOOR WITH S.S. COUNTER

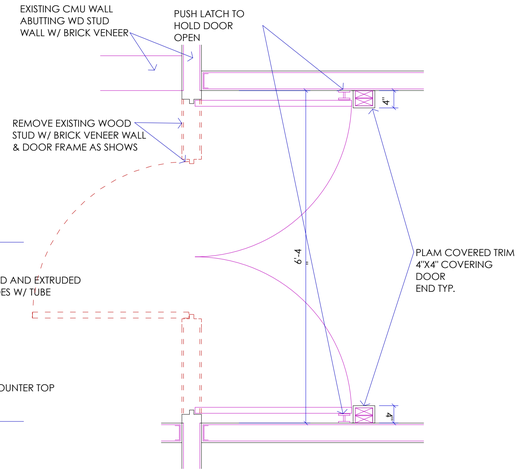


K REPLACE EXISTING S.C. RAISED PANEL HARDWOOD DOOR W/ SIMILAR DESIGN. RELOCATE EXISTING HARDWARE AS NOTED HARDWARE SET #6

L EXISTING FULL GL. ALUMINUM DOORS AND EXIST'G CLOSERS & HINGES TO REMAIN. REPLACEMENT & NEW HARDWARE TO BE SET #7

DOOR/WINDOW SCHEDULES

1/4" = 1'-0"



2 DETAIL @ DOOR FROM OFFICE CORRIDOR

3/4" = 1'-0"

3 VANITY DETAIL

3/4" = 1'-0"

4 VANITY DETAIL

3/4" = 1'-0"

TIM A. HEIPLE REGISTERED ARCHITECT 1079 ARKANSAS

REV	DATE	DESCRIPTION
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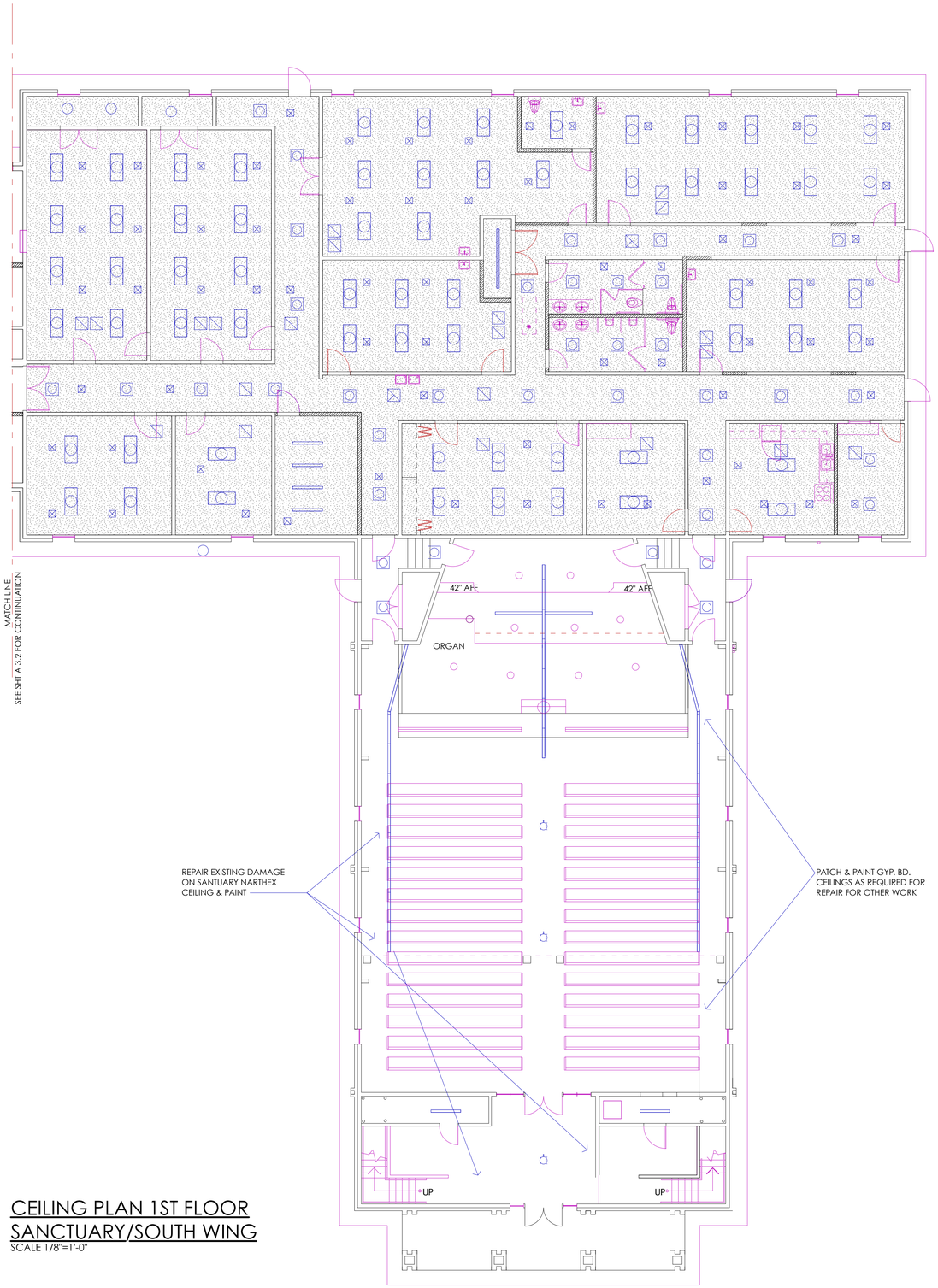
Sheet Title: OPENING SCHEDULES & DETAILS

Sheet No: VE1 A2.2



CEILING PLAN 1ST FLOOR SANCTUARY/SOUTH WING

SCALE 1/8"=1'-0"

LEGEND

- LAY-IN 2 X 4 FLUORESCENT LIGHT
- 2 X 2 RETURN AIR GRILLE
- 2 X 2 SUPPLY AIR GRILLE
- EXHAUST GRILLE
- GYP. BD. CEILING TO BE REPLACED
- EXISTING CEILING TILES TO REMAIN
- 2X2 SUSPENDED CEILING
- 2X2 SUSPENDED CEILING

TINA HEIPLE
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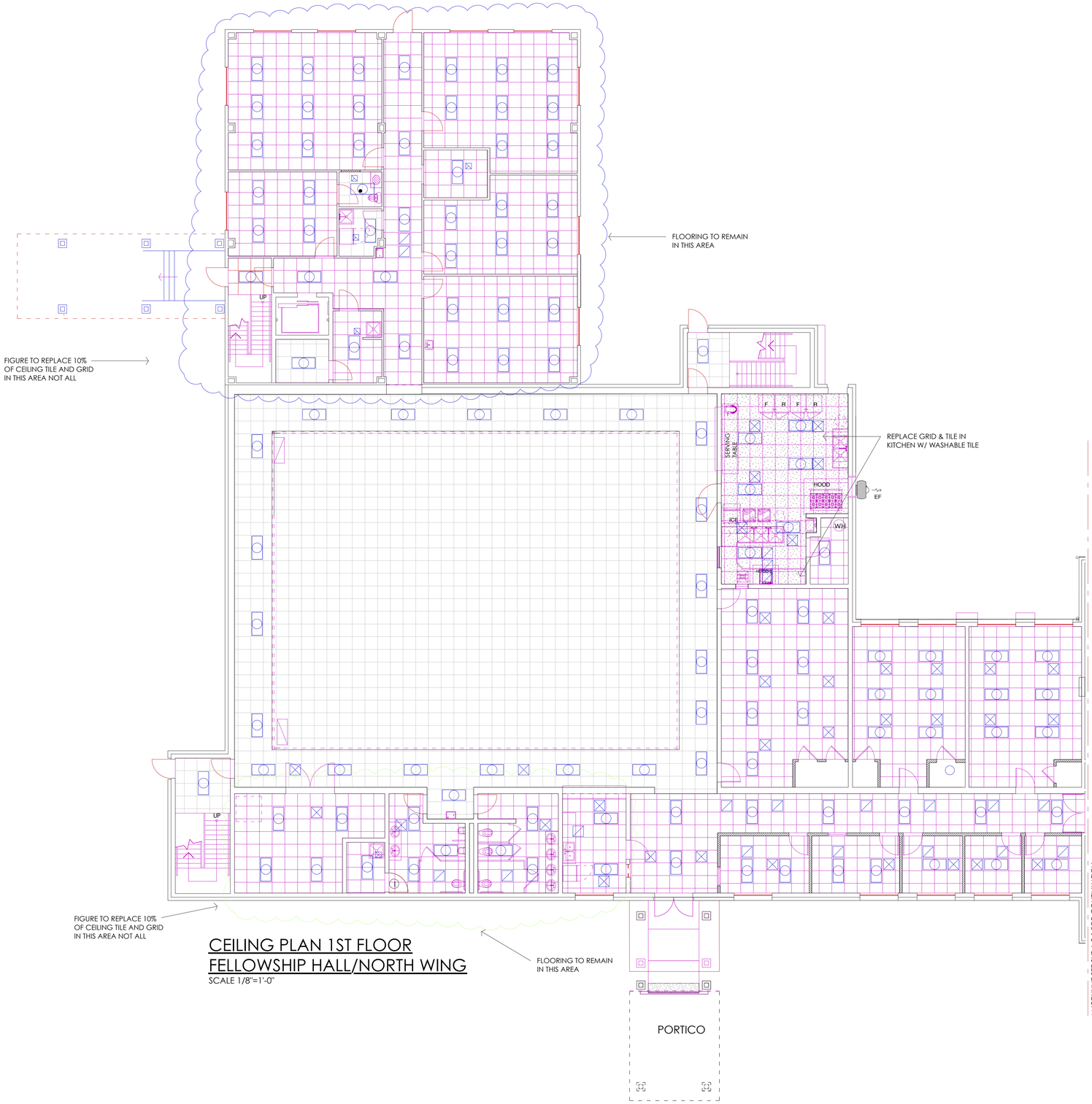
Sheet Title: 1ST FL CEILING SANCTUARY/ SOUTH WING

Sheet No: VE1 A3.1



CEILING PLAN 1ST FLOOR
FELLOWSHIP HALL/NORTH WING

SCALE 1/8"=1'-0"

LEGEND

- LAY-IN 2 X 4 FLUORESCENT LIGHT
- 2 X 2 RETURN AIR GRILLE
- 2 X 2 SUPPLY AIR GRILLE
- EXHAUST GRILLE
- EXISTING CEILING GRID & TILES TO REMAIN
- 2X2 SUSPENDED CEILING
- 2X2 SUSPENDED CEILING W/ WASHABLE TILES

TIM A. HEIPLE
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Sheet Title: 1ST FL CEILING SANCTUARY/ WEST WING

Sheet No: VE1 A3.2

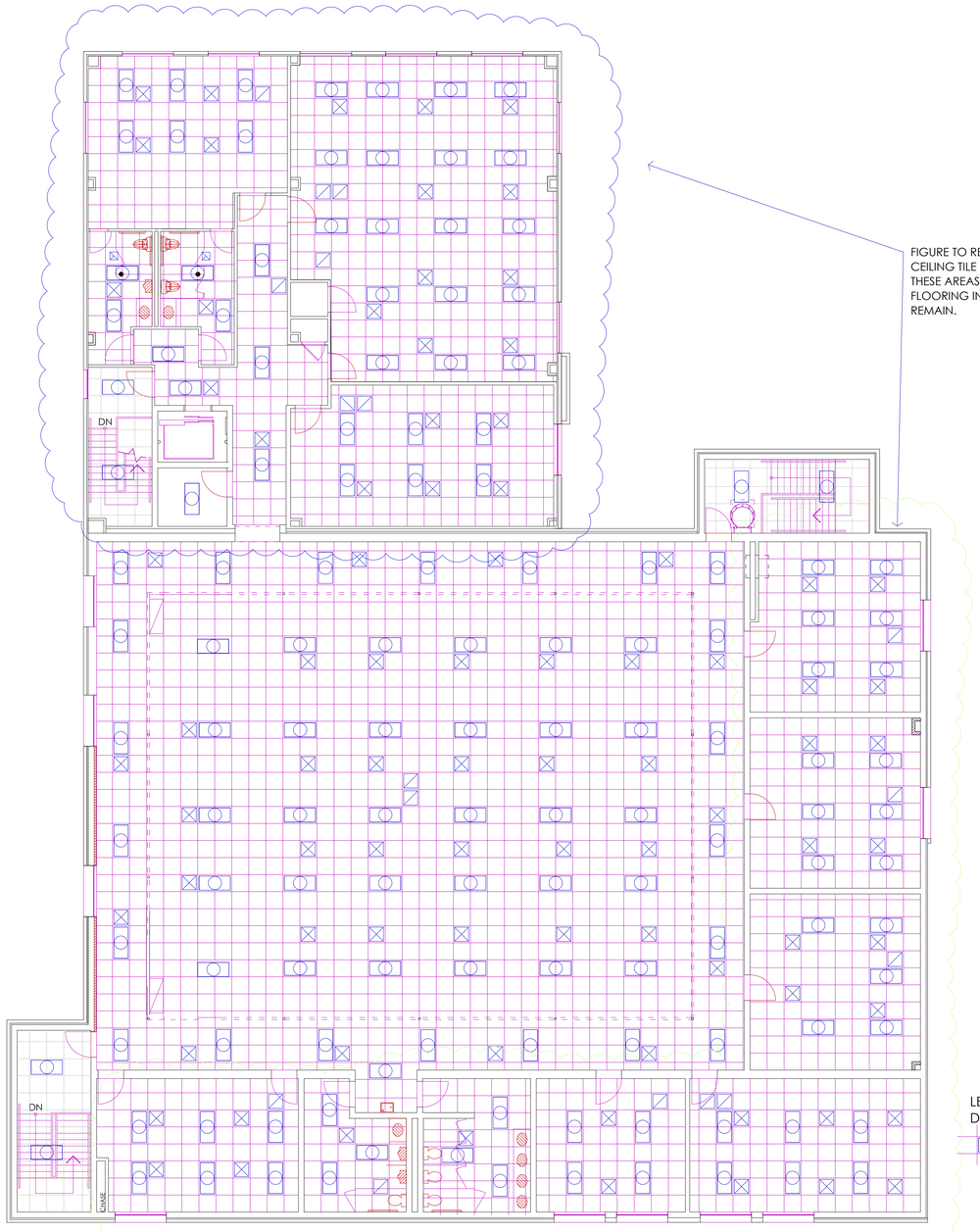
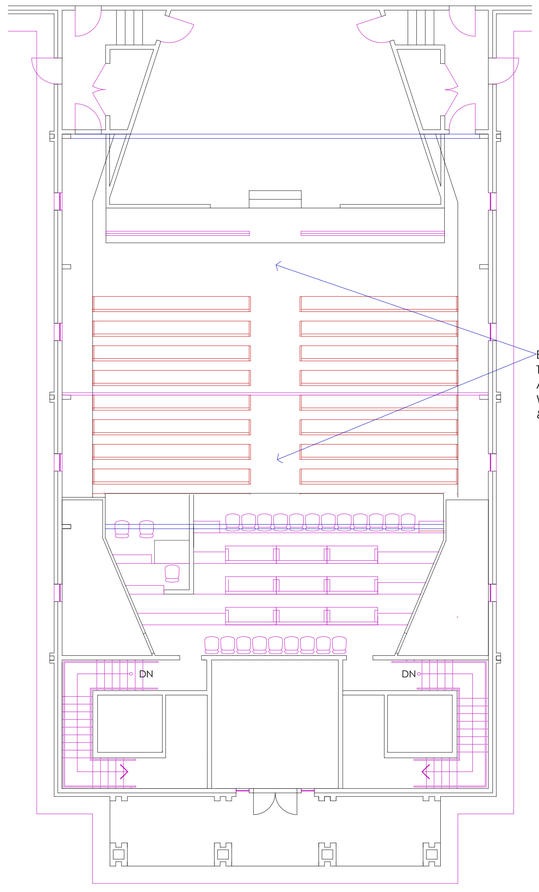


FIGURE TO REPLACE 10% OF CEILING TILE AND GRID IN THESE AREAS NOT ALL. FLOORING IN THESE AREAS TO REMAIN.

CEILING PLAN 2ND FLOOR FELLOWSHIP HALL/NORTH WING

SCALE 1/8"=1'-0"



EXISTING GYP BD CEILING TO REMAIN - REPAIR ONLY AS REQUIRED FOR OTHER WORK OR TO REPAIR DAMAGE & PAINT

LEGEND

- LAY-IN 2 X 4 FLUORESCENT LIGHT
- 2 X 2 RETURN AIR GRILLE
- 2 X 2 SUPPLY AIR GRILLE
- EXHAUST GRILLE
- EXISTING CEILING TILES TO REMAIN
- 2X2 SUSPENDED CEILING
- PTD. GYP. BD. CEILING

TIM A. HEIPLE
REGISTERED ARCHITECT
1079
ARKANSAS

REV	DATE	DESCRIPTION
	11/25/17	VE1

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Date:
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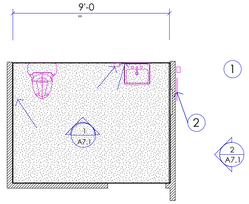
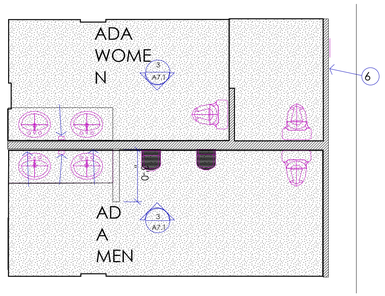
Sheet Title:
2ND FLOOR CEILING PLAN

Sheet No:
VE1
A3.3

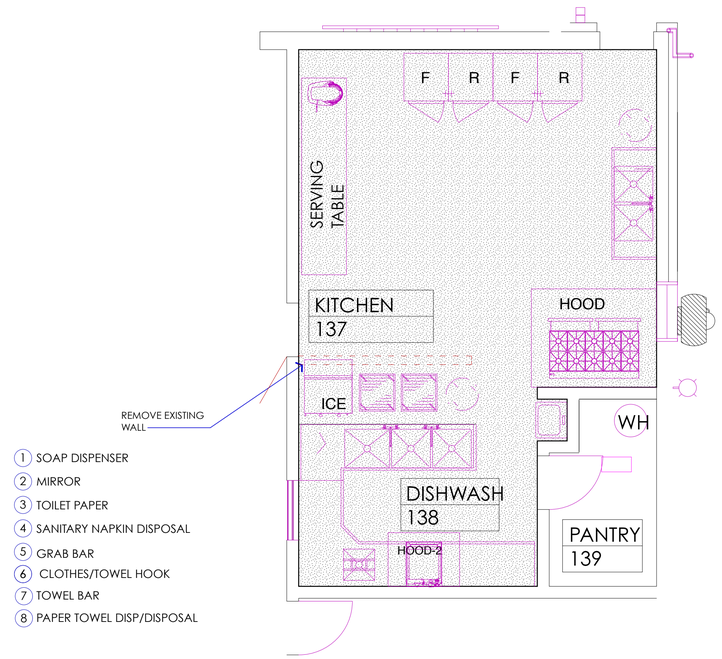


1 ENLARGED @ 106
1/4" = 1'-0"

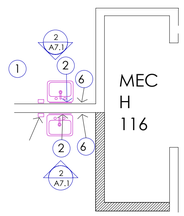


2 ENLARGED @ ADA WOMEN 114 & MEN5 115
1/4" = 1'-0"

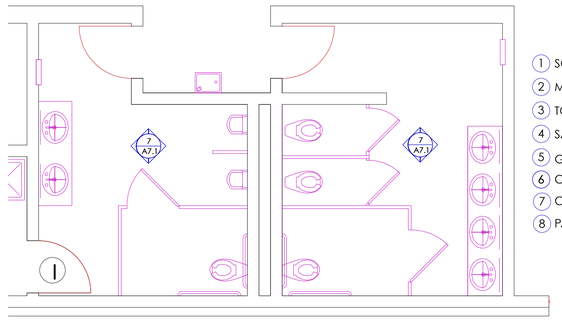
3 NOT USED
1/4" = 1'-0"



4 ENLARGED @ KITCHEN/GATHERING
1/4" = 1'-0"



5 PRE-SCHOOL SINK PLAY AREA 106 & 107
1/4" = 1'-0"



6 MENS 151& WOMENS 152 / MEN 205 & WOMENS 206
1/4" = 1'-0"

TIM A. HEIPLE
REGISTERED
ARCHITECT
1979
ARKANSAS

REV	DATE	DESCRIPTION
	1/25/17	VE1

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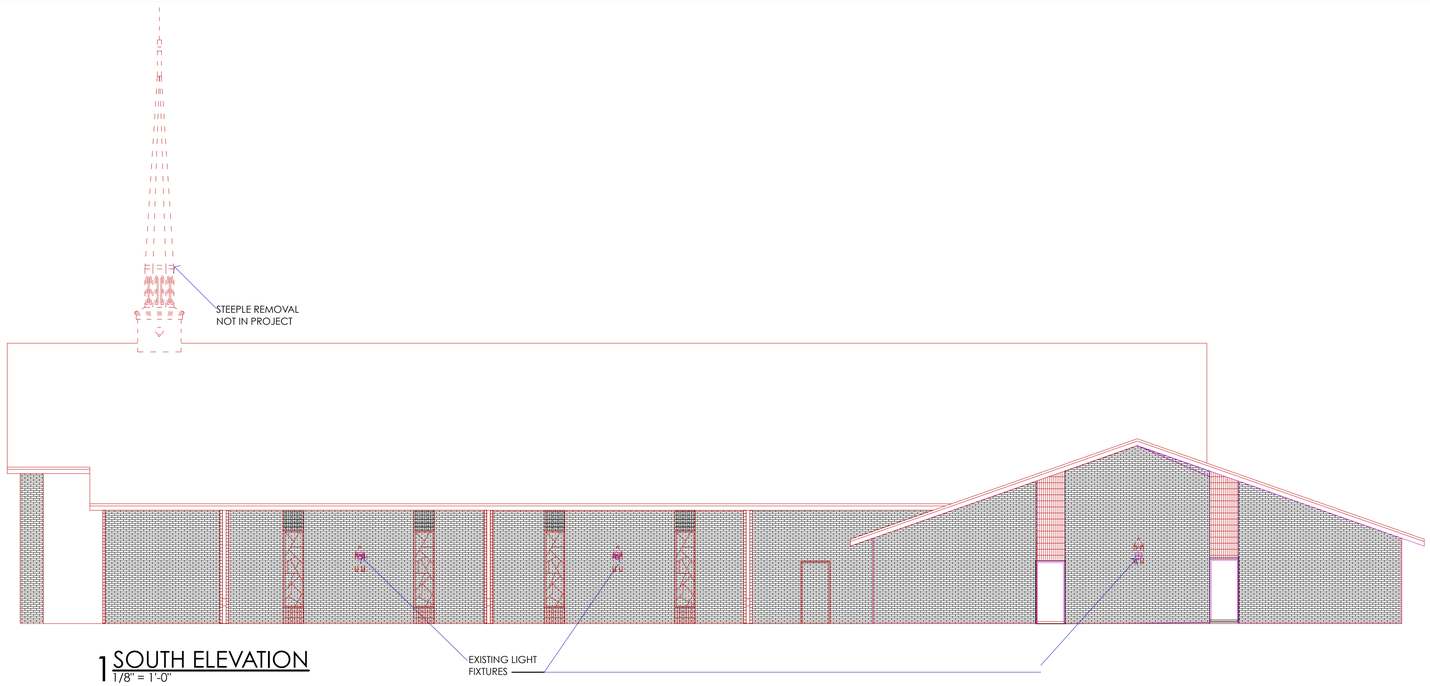
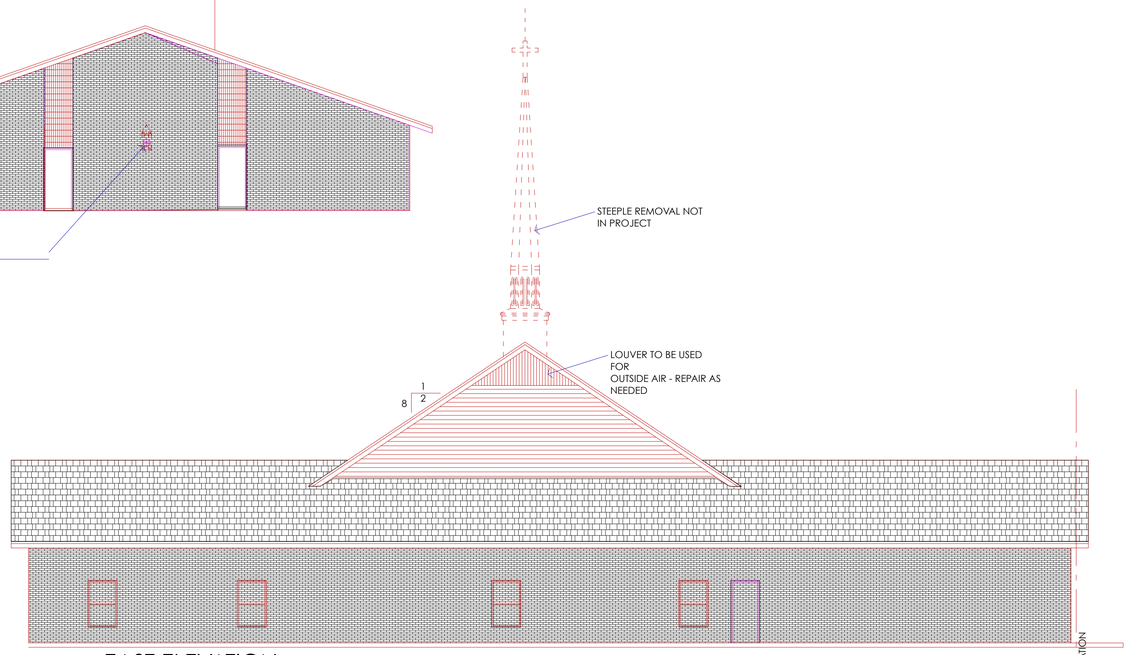
Sheet Title:
ENLARGED
PLANS

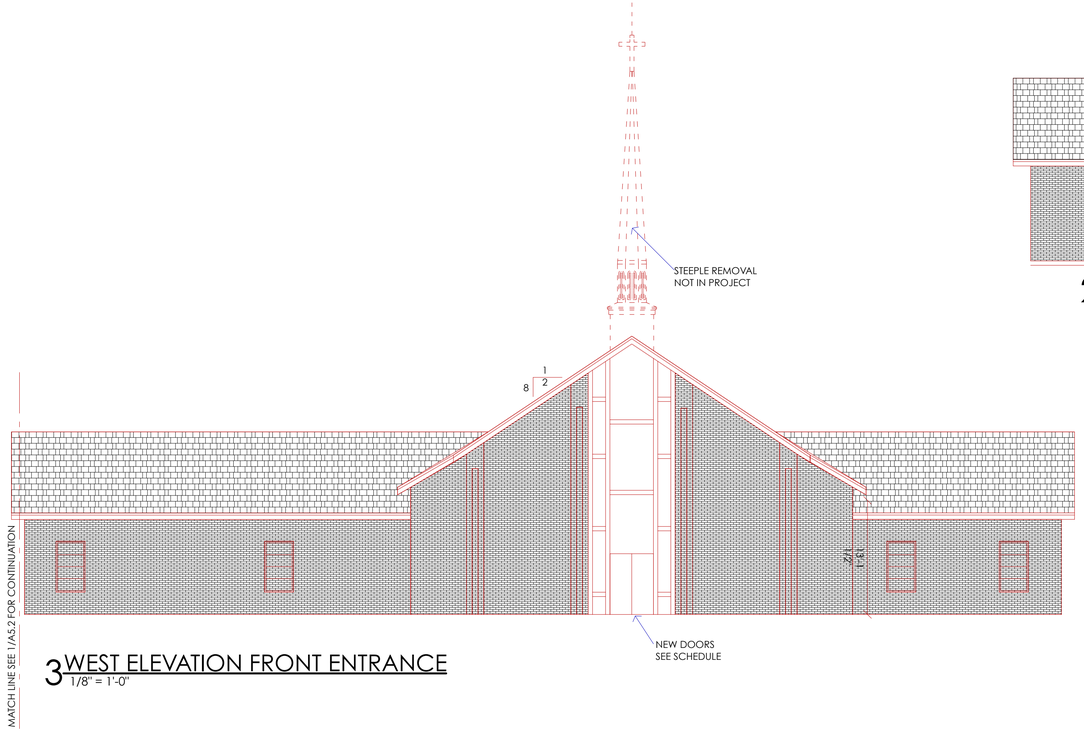
Sheet No:
VE1
A4.1



1 SOUTH ELEVATION
1/8" = 1'-0"



2 EAST ELEVATION
1/8" = 1'-0"



3 WEST ELEVATION FRONT ENTRANCE
1/8" = 1'-0"

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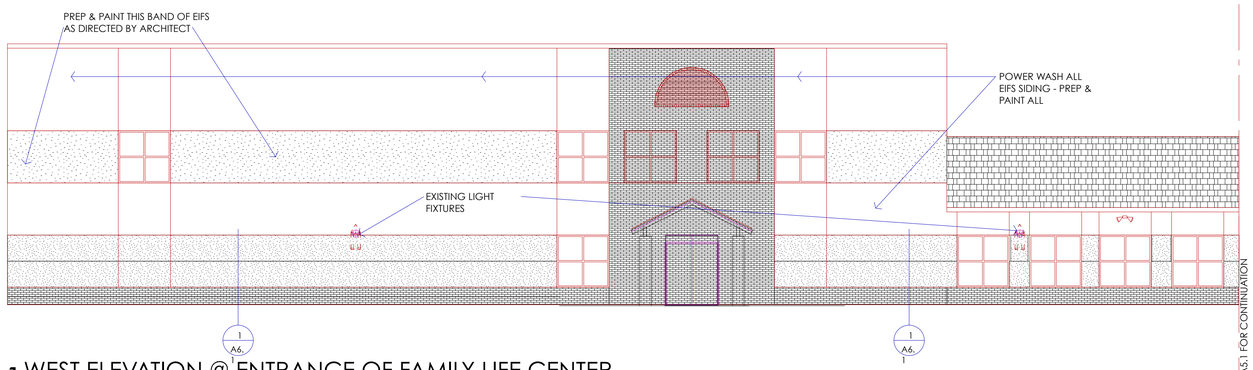
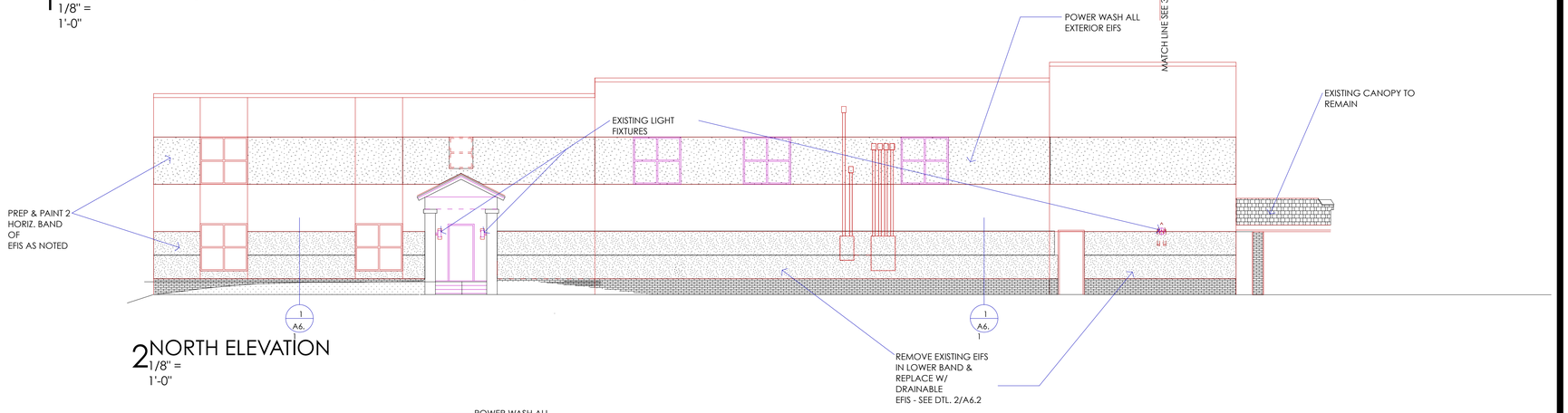
Sheet Title:
EXTERIOR
ELEVATIONS

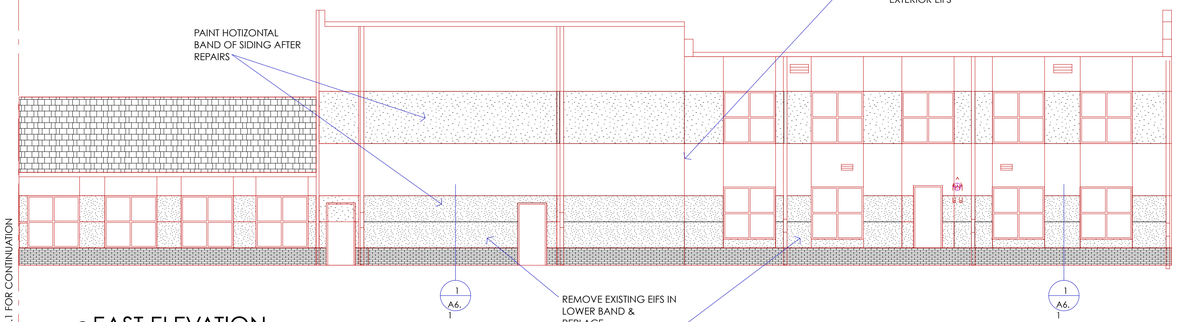
Sheet No:
VE1
A5.1



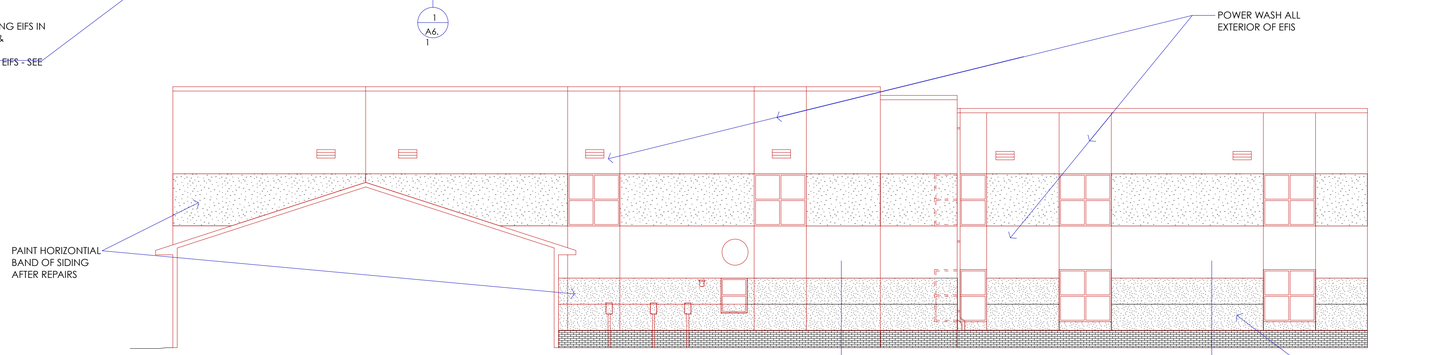
1 WEST ELEVATION @ ENTRANCE OF FAMILY LIFE CENTER
1/8" = 1'-0"



2 NORTH ELEVATION
1/8" = 1'-0"



3 EAST ELEVATION
1/8" = 1'-0"



4 SOUTH ELEVATION
1/8" = 1'-0"

TINA A. HEIPLE
REGISTERED ARCHITECT
1079
ARKANSAS

REV	DATE	DESCRIPTION
	1/25/17	VE1

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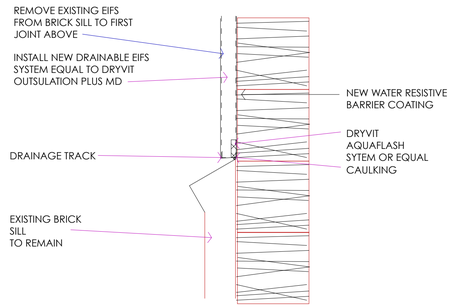
Project No: HW13-618

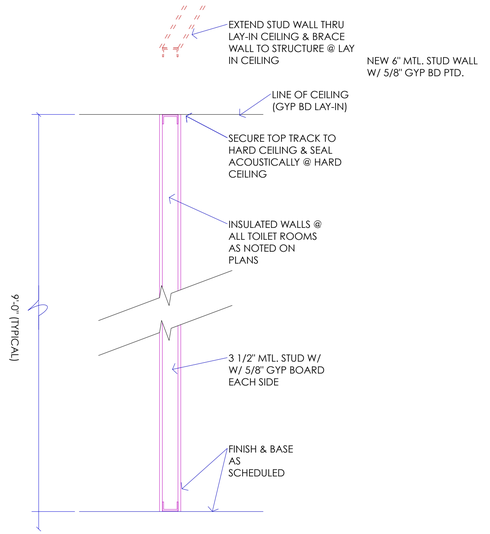
Date: 9/15/16

Sheet Title: EXTERIOR ELEVATIONS

Sheet No: VE1 A5.2



1 DETAIL @ NEW MD EIFS
3" = 1'-0"



2 DETAIL @ TYPICAL WALL - HARD & LAY-IN
3/4" = 1'-0"

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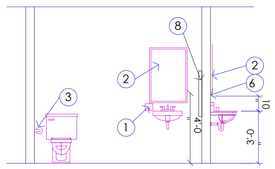
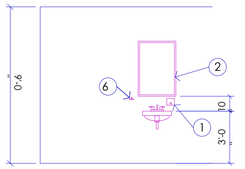
Date:
9/15/16

Sheet Title:
DETAILS

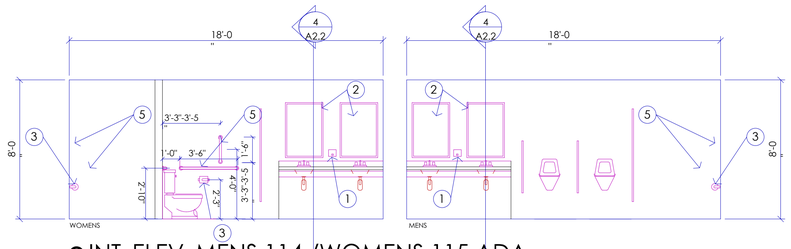
Sheet No:
VE1
A6.1



1 TLT ROOM 106A
1/4" = 1'-0"

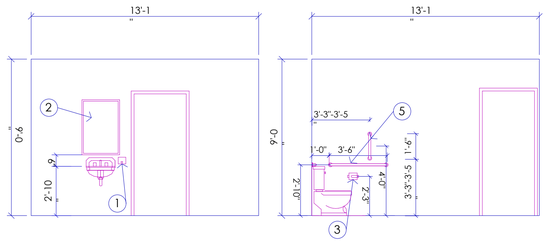


2 TYPICAL PRE-SCHOOL SINK
1/4" = 1'-0"

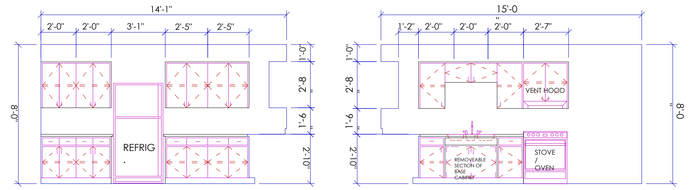


3 INT. ELEV. MENS 114 /WOMENS 115 ADA
1/4" = 1'-0"

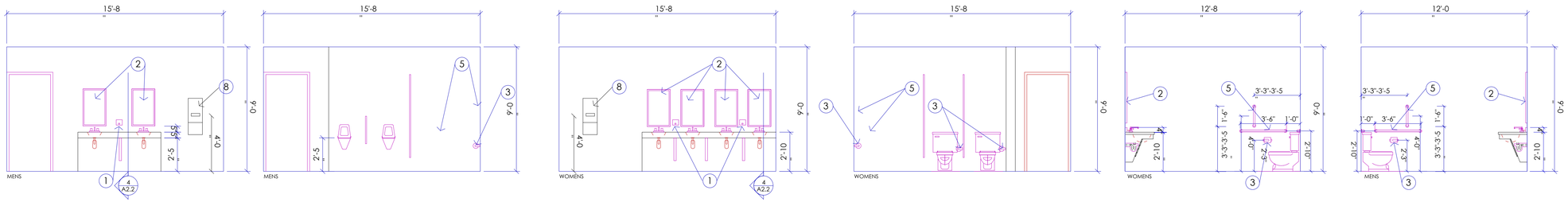
1. SOAP DISPENSER
2. MIRROR
3. TOILET PAPER
4. SANITARY NAPKIN DISPOSAL
5. GRAB BAR
6. CLOTHES HOOK
7. TOWEL BAR
8. PAPER TOWEL DISP/DISPOSAL



4 INT. ELEV. TOILET 116
1/4" = 1'-0"



5 INTERIOR ELEVATION @ BREAKROOM
1/4" = 1'-0"



6 INT. ELEV. @ MENS 151 & WOMENS 152/MENS 205 & WOMENS206 SIMILAR
1/4" = 1'-0"

TIM A. HEIPLE
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1079
ARKANSAS

REV	DATE	DESCRIPTION
	1/25/17	VE1

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Project No:
HW13-618

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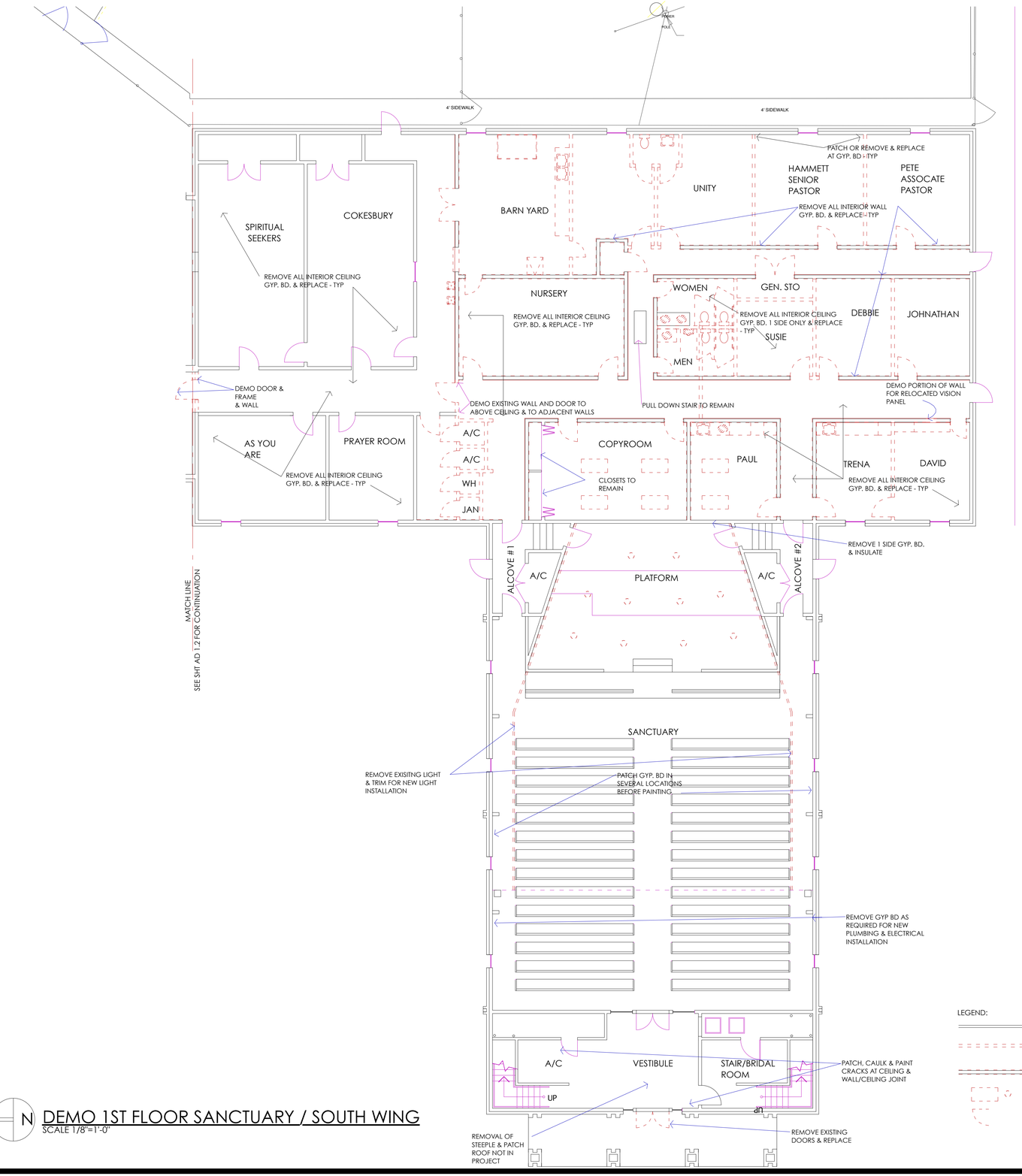
Sheet Title:
ENLARGED PLANS

Sheet No:
VE1
A7.1



DEMO 1ST FLOOR SANCTUARY / SOUTH WING

SCALE 1/8"=1'-0"

NOTES

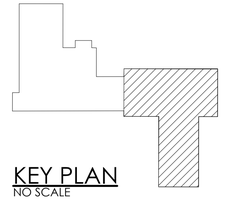
.

CAP ALL ABANDONED PLUMBING LINES BELOW FLOOR

REMOVE ALL EXISTING FLOOR COVERING & BASE IN DEMOLITION AREA

LEGEND:

- EXISTING WALL TO REMAIN - PATCH & PAINT AS REQ'D
- EXISTING WALL TO BE REMOVED - PATCH AT PERIMTER FLOOR, CLNG. & WALLS AS REQ'D
- EXISTIING STUDS TO REMAIN - REMOVE GYP. BD.
- EXISTING CEILING TO BE REMOVED - REPLACE WITH NEW LIGHTS - TYP
- EXISTING ELEMENTS TO BE REMOVED



KEY PLAN

NO SCALE

TINA A. HEIPLE REGISTERED ARCHITECT 1979 ARKANSAS

REV	DATE	DESCRIPTION
	1/25/17	VE1

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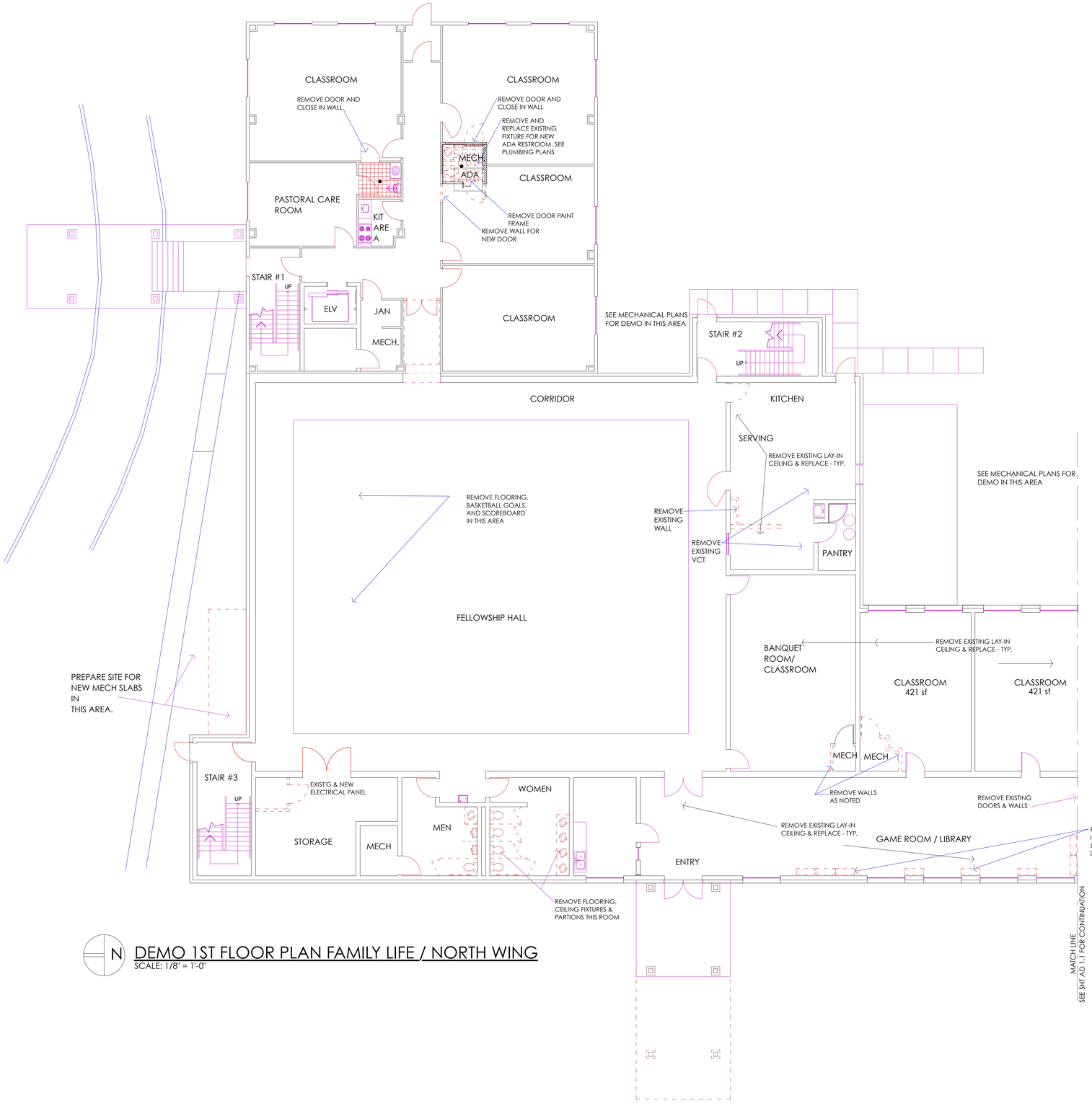
Project No: HW13-618

Date: 9/15/16

Sheet Title: DEMO 1ST FL SANCTUARY/ SOUTH WING

Sheet No: VE1

AD1.1



N

DEMO 1ST FLOOR PLAN FAMILY LIFE / NORTH WING

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

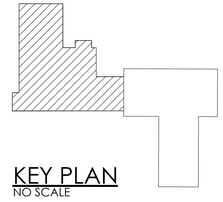
NOTES

CAP ALL ABANDONED PLUMBING LINES BELOW FLOOR

REMOVE ALL EXISTING FLOOR COVERING & BASE IN DEMOLITION AREA

LEGEND:

- EXISTING WALL TO REMAIN - PATCH & PAINT AS REQ'D
- EXISTING WALL TO BE REMOVED - PATCH AT PERIMTER FLOOR, CLNG, & WALLS AS REQ'D
- EXISTING CEILING TO BE REMOVED - TYP.



KEY PLAN

NO SCALE

TIM A. HEIPLE
REGISTERED ARCHITECT
1079
ARKANSAS

REV	DATE	DESCRIPTION
	1/25/17	VE1

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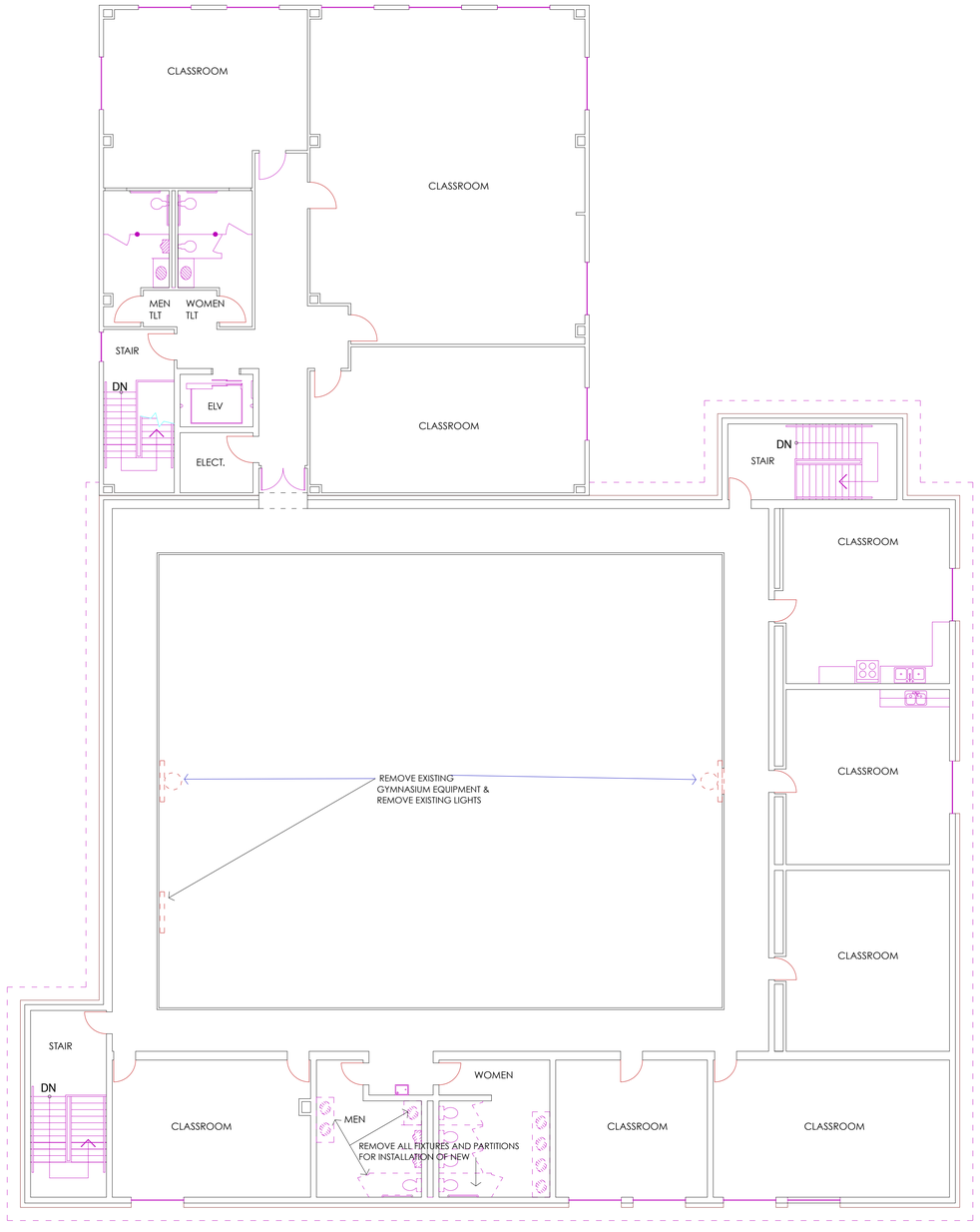
Project No: HW13-618

Date: 9/15/16

Sheet Title: DEMO 1ST FL FAMILY LIFE/ WEST WING

Sheet No: VE1 AD1.2



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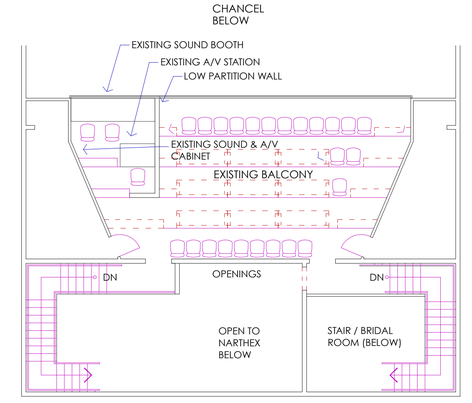
DEMO SECOND FLOOR PLAN

SCALE 1/8"=1'-0"



N

SECOND FLOOR BALCONY (NO DEMO)

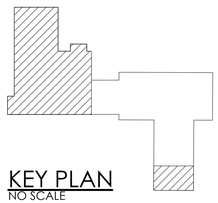
SCALE 1/8"=1'-0"

NOTES

1. CAP ALL ABANDONED PLUMBING LINES BELOW FLOOR
2. REMOVE ALL EXISTING FLOOR COVERING & BASE IN DEMOLITION AREA

LEGEND:

- EXISTING WALL TO REMAIN - PATCH & PAINT AS REQ'D
- EXISTING WALL TO BE REMOVED - PATCH AT PERIMTER FLOOR, CLNG. & WALLS AS REQ'D
- EXISTING CEILING TO BE WALL T REMOVED - AS REQ'D FOR NEW RECESSED LIGHTS



KEY PLAN

NO SCALE

TIM A. HEIPLE
REGISTERED ARCHITECT
1079
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REV	DATE	DESCRIPTION
	1/25/17	VE1

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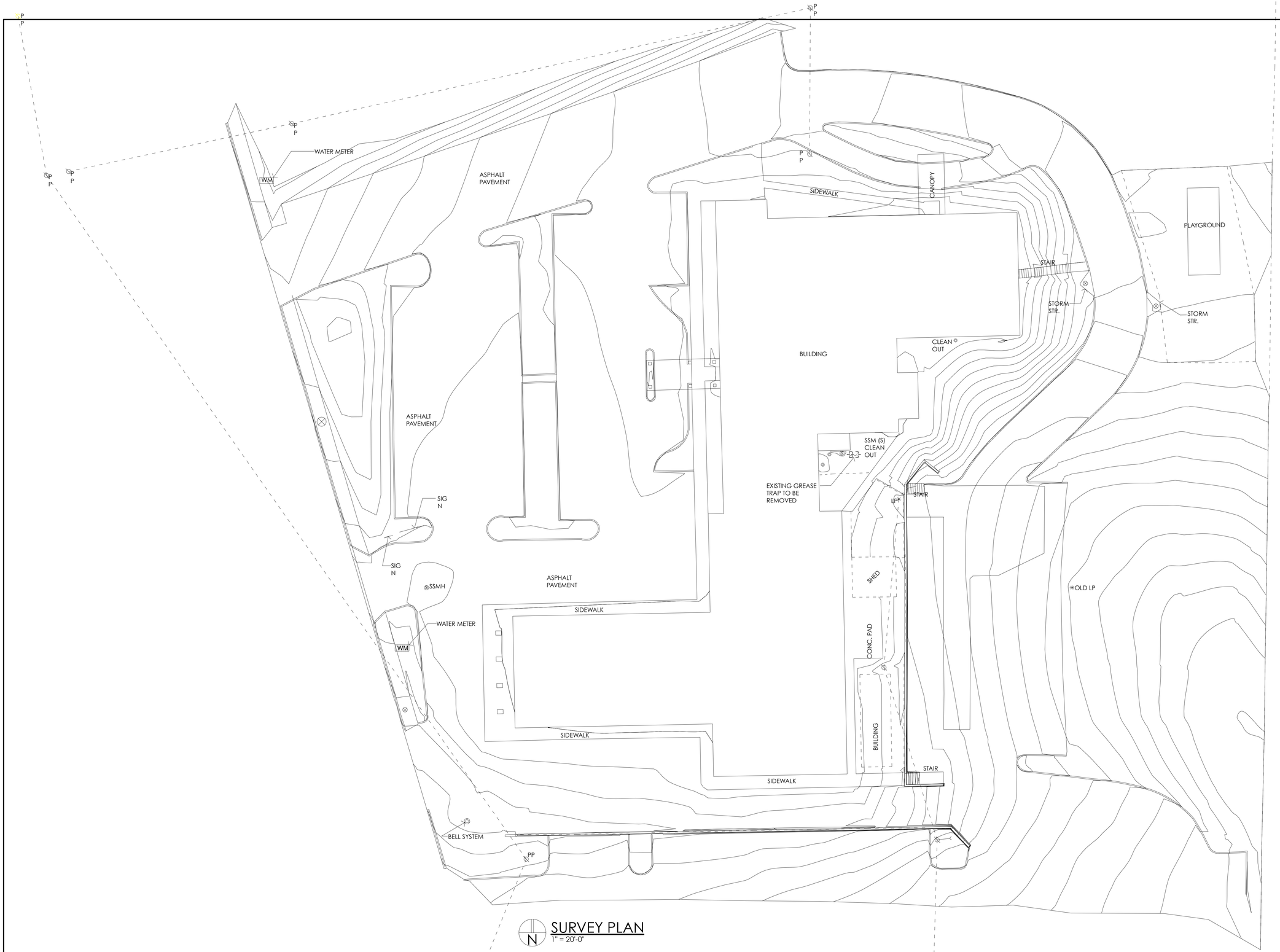
Sheet Title: DEMO 2ND FLOOR PLAN

Sheet No: VE1

AD1.3



SURVEY PLAN
1" = 20'-0"

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REV	DATE	DESCRIPTION
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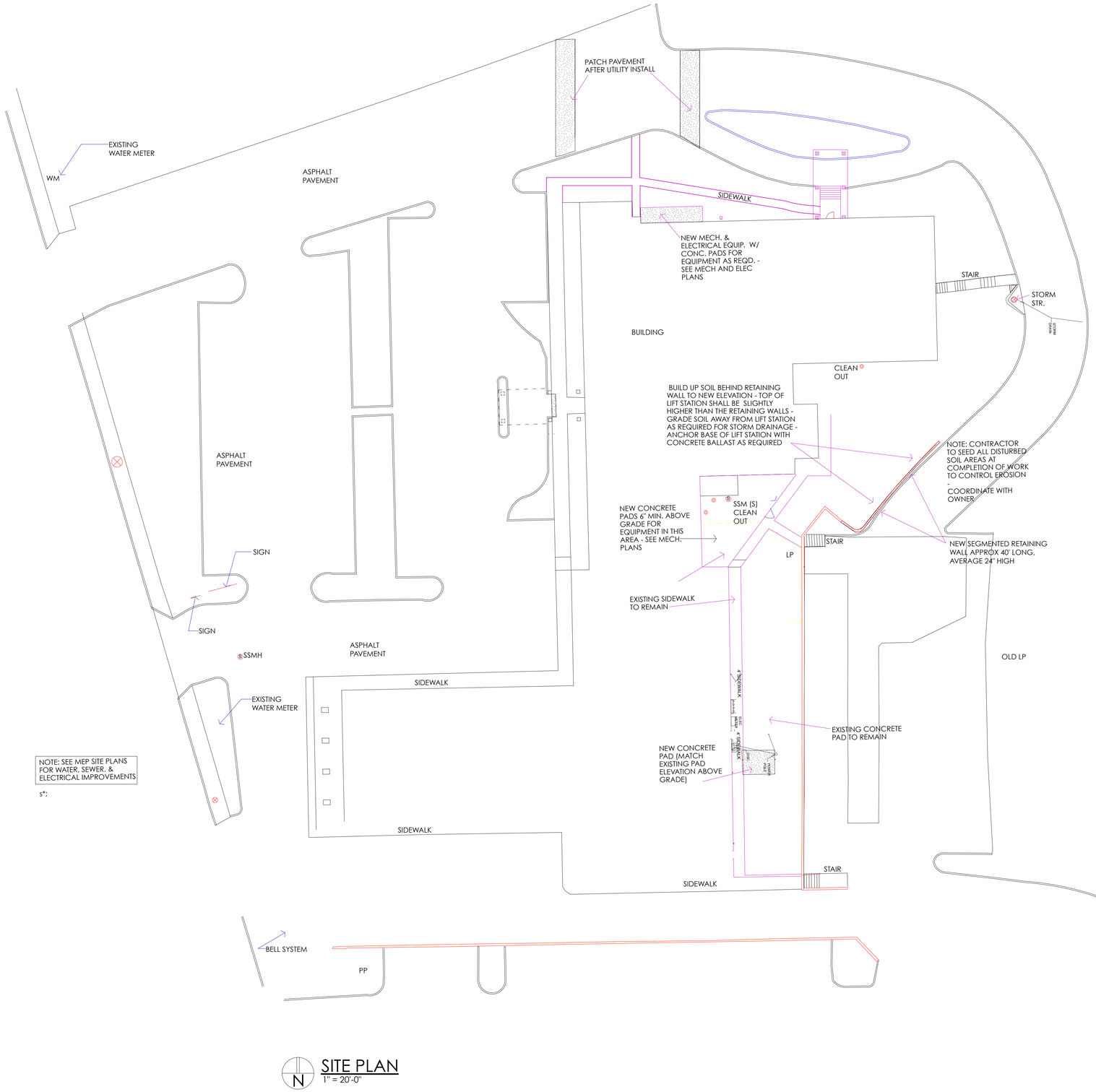
9/15/16

Sheet Title:
SURVEY

Sheet No:
VE1
AS1.1



SITE PLAN
1" = 20'-0"

TIM A. HEIPLE
REGISTERED ARCHITECT
1079
ARKANSAS

REV	DATE	DESCRIPTION
	1/25/17	VE1

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Project No:
HW13-618

Date:
9/15/16

Sheet Title:
SITE PLAN

Sheet No:
VE1
AS2.1

RENOVATION OF

BRYANT FIRST United Methodist Church

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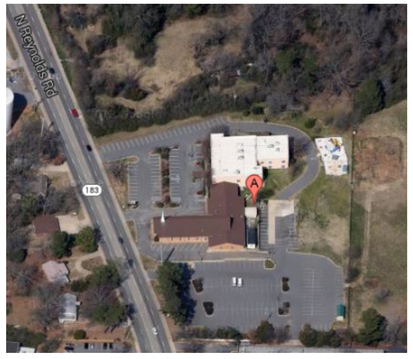
(501) 847-0226
info@fumcbryant.org | facebook.com/fumcbryant | #fumcbryant

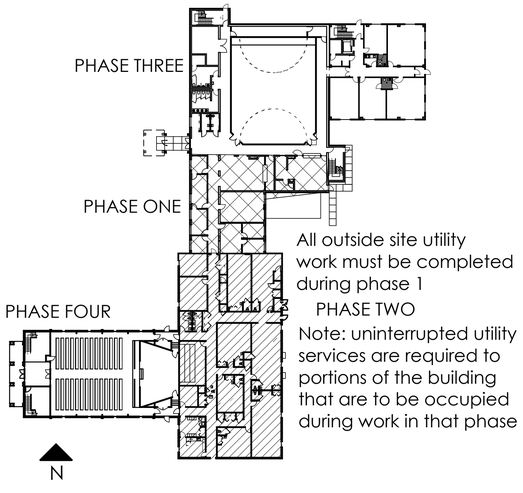
VE 1 JANUARY 25, 2017
SEPTEMBER 15, 2016

BUILDING CODE REQUIREMENTS

CHAPTER 3 USE AND OCCUPANCY CLASSIFICATION
ASSEMBLY GROUP A3 PLACES OF RELIGIOUS WORSHIP
CHAPTER 6 - TYPES OF CONSTRUCTION
TYPE V, UN-PROTECTED
CHAPTER 5 - BUILDING HEIGHTS & AREA & PROTECTION
TO REMAIN UNCHANGED IN THIS WORK
ACTUAL AREA FIRST LEVEL 24,425 SF, SECOND LEVEL 9,270 SF

CHAPTER 10 - MEANS OF EGRESS
OCCUPANT LOAD -SANCTUARY SEATING FIXED 300 SEATS
NORMALLY OCCUPANCY OF PRE-SCHOOL WOULD BE CALCULATED FOR
TABLE 1004.1.2 PRESCHOOL AREA 7200 SF @15 SF/PERSON = 480 BUT ACTUAL PRE-SCHIOOL OCCUPANCY
MANDATED BY DAY CARE STANDARDS (7 ROOMS W/ 14
CHILDREN/TEACHERS PER ROOM = 98
FELLOWSHIP HALL 2000 SF CONCENTRATED LOAD 7 SF/PERSON = 285
CLASSROOMS 6,200 NET @ 20 SF/PERSON = 310
OFFICES 4,100 SF @ 100 SF/PERSON = 41
TOTAL OCCUPANT LOAD 1020
TABLE 1003.2.3 EGRESS WIDTH PER OCCUPANT SERVED
200 OCCUPANTS (SECOND LEVEL) x .2" = 40" ACTUAL CORRIDOR WIDTH 62" TO 2 FIRESTAIRS.
FIRE DOORS IN STAIRS PROVIDED INCLUDE 3-36" DOORS FOR TOTAL OF 108"
820 OCCUPANTS (FIRST LEVEL) x .2" = 164" ACTUAL CORRIDOR WIDTH 60" TO 7 EXITS = 420"
EXIT DOORS PROVIDED INCLUDE 8-36" DOORS FOR TOTAL OF 288"
CHAPTER 11 - ACCESSIBILITY
1101.2 BUILDINGS AND FACILITIES SHALL BE DESIGNED AND CONSTRUCTED TO BE ACCESSIBLE IN ACCORDANCE WITH THIS CODE AND ICC / ANSI A117.1. (ADDING NEW ACCESSIBLE TOILETS)





VICINITY/SUGGESTED PHASING MAP

SHEET INDEX

PROJECT TABULATION

FIRST & SECOND FLOOR

GROSS SQUARE FOOTAGE - FIRST FLOOR SANCTUARY/SOUTH WING	11,500 SF
GROSS SQUARE FOOTAGE - FIRST FLOOR FAMILY LIFE WEST WING	12,925 SF
GROSS SQUARE FOOTAGE - SECOND FLOOR SANCTUARY/SOUTH WING	965 SF
GROSS SQUARE FOOTAGE - SECOND FLOOR FAMILY LIFE/WEST WING	8,305 SF
TOTAL GROSS SQUARE FOOTAGE	33,695 SF

These drawings are subject to the approval of the City of Bryant, Arkansas Department of Health, local utility companies & any other jurisdication having authority.

I, Tim Heiple, AIA, being a Licensed Architect in the State of Arkansas, #1079, do hereby certify that these plans and specifications have been prepared by me or under my supervision.

I further certify, to the best of my knowledge, information and belief, that these plans and specifications are in general compliance with applicable laws, codes, and ordinances, including the following which cover the City of Little Rock, and State of Arkansas:

1) The International Building Code, 2012
2) The National Electrical Code, 2014
3) The International Plumbing Code, 2006
4) The International Mechanical Code, 2010

Signed:

Dated: January 25, 2017

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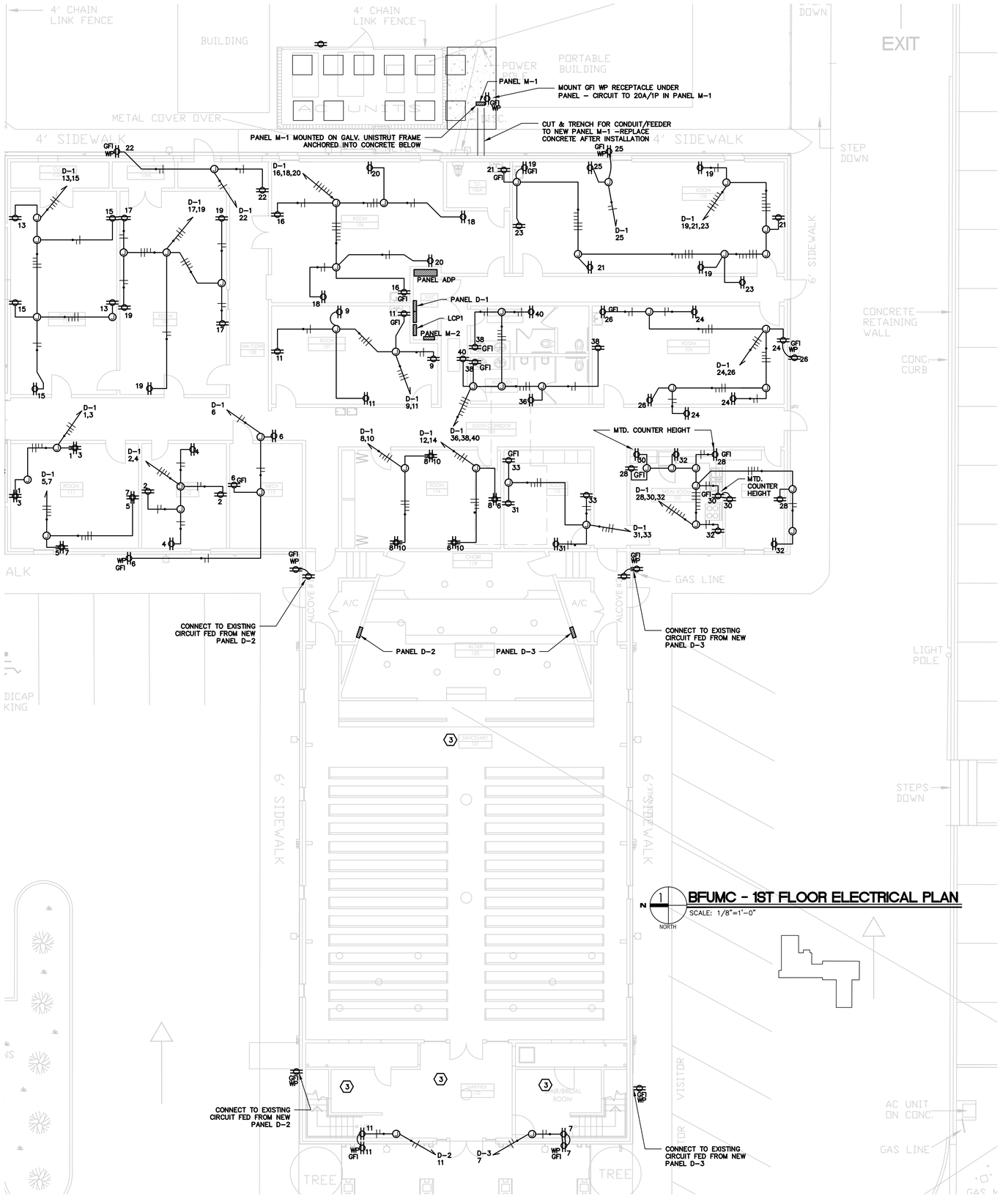
W.H. Grant & Associates, Inc.
Engineers
1122 West Second Street
Little Rock, AR
(t) 501-372-6927



BFUMC - 1ST FLOOR ELECTRICAL PLAN

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

2/21/2017 4:41:46 PM

REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

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Project No: HW13-618

Date: 9/21/16

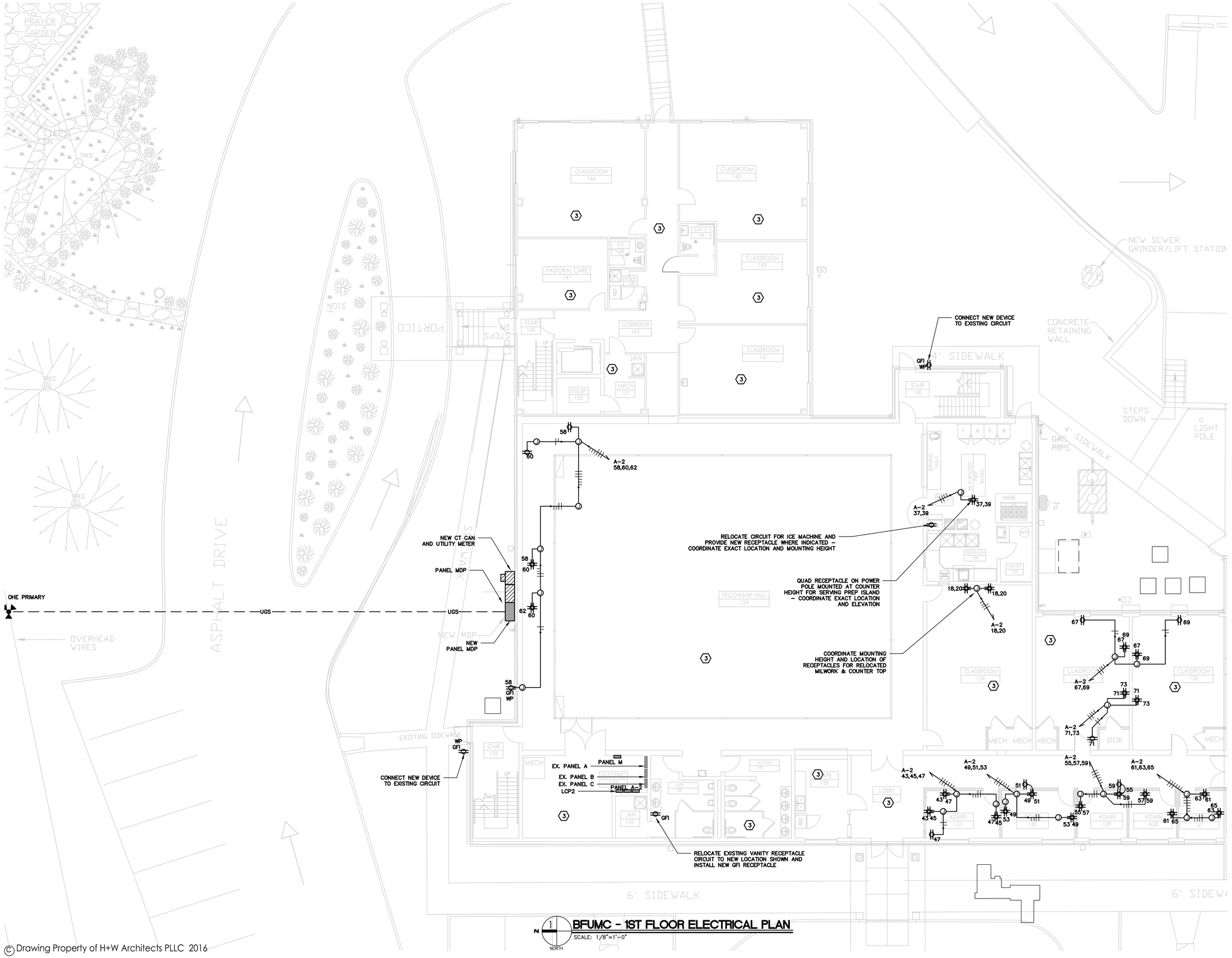
Sheet Title: FIRST FLOOR ELECTRICAL PLAN

Sheet No: VE1 E1.0

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No.15429 W. H. YARBROUGH

CERTIFICATE OF AUTHORIZATION W.H. GRANT & ASSOCIATES, INC. No.317 ARKANSAS ENGINEER

W.H.GRANT & associates, inc
Consulting Engineers
P.O. Box 242523 Little Rock, Ar 72223



N 1 NORTH

BFUMC - 1ST FLOOR ELECTRICAL PLAN

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

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REV	DATE	DESCRIPTION
	1/25/17	VE1
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Project No: HW13-618

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Sheet Title: FIRST FLOOR ELECTRICAL PLAN

Sheet No: VE1 E1.1

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No.15429 JOHN N. YARBROUGH

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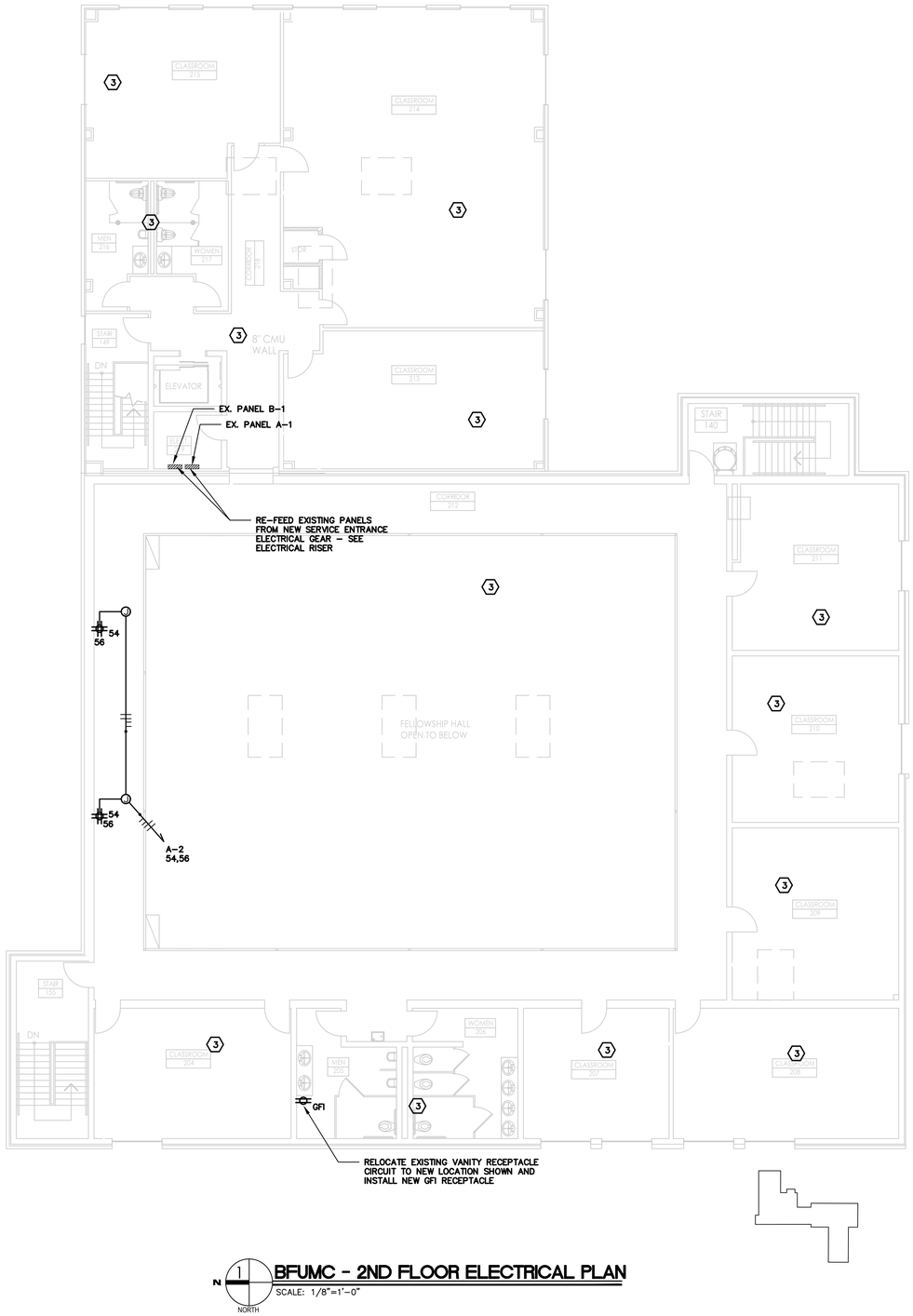

BFUMC - 2ND FLOOR ELECTRICAL PLAN

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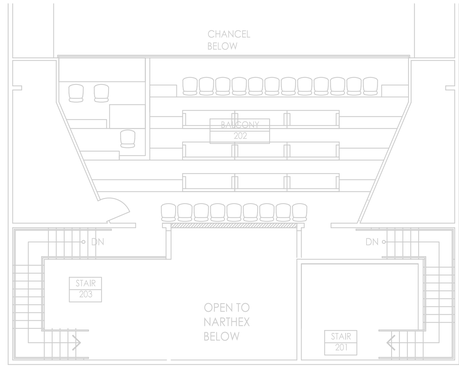

BFUMC - BALCONY ELECTRICAL PLAN

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

REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

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Project No: HW13-618

Date: 9/21/16

Sheet Title: 2ND FLOOR ELECTRICAL PLAN

Sheet No: VE1 E1.2

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No.15429 DAVID N. YARBROUGH

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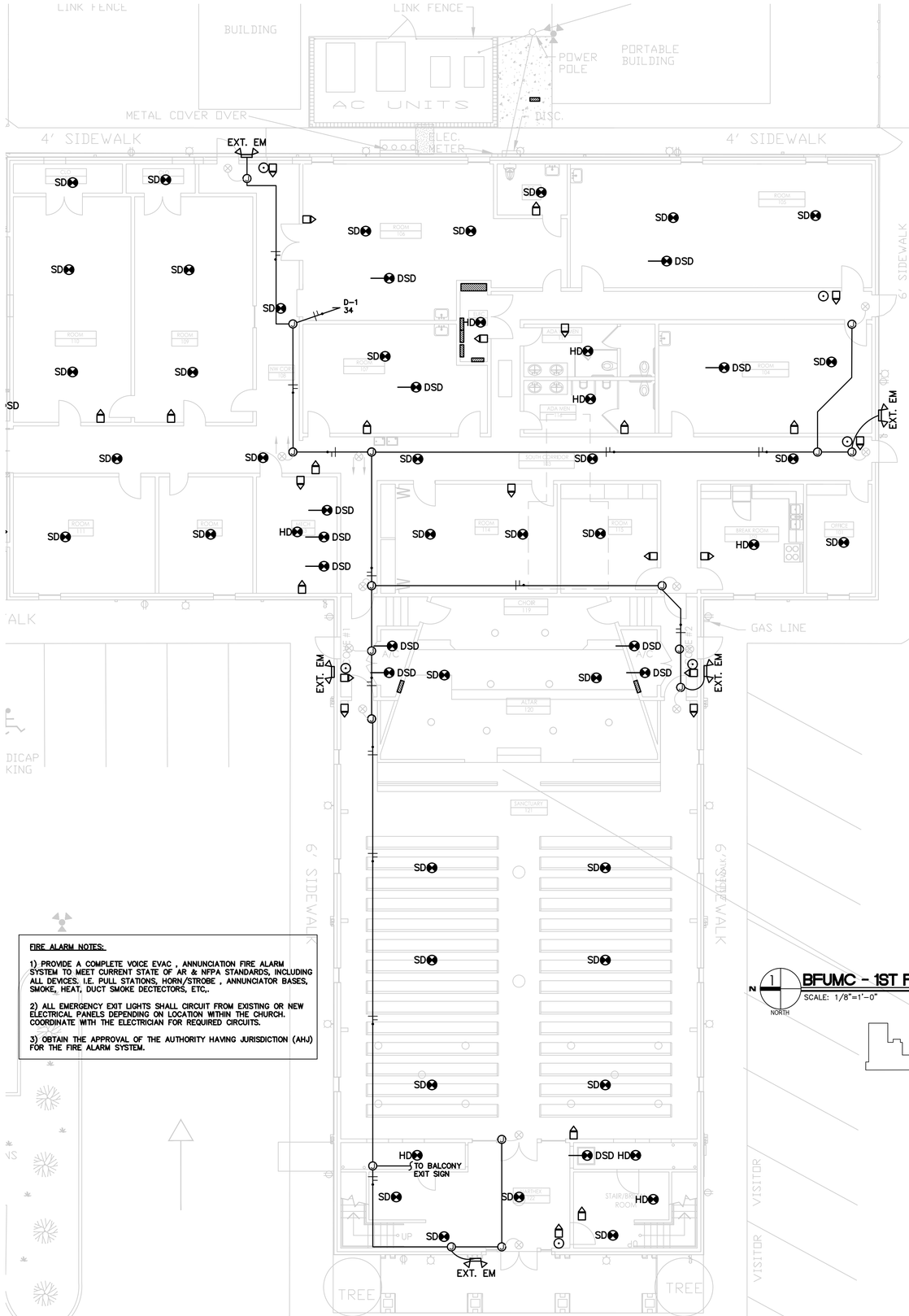

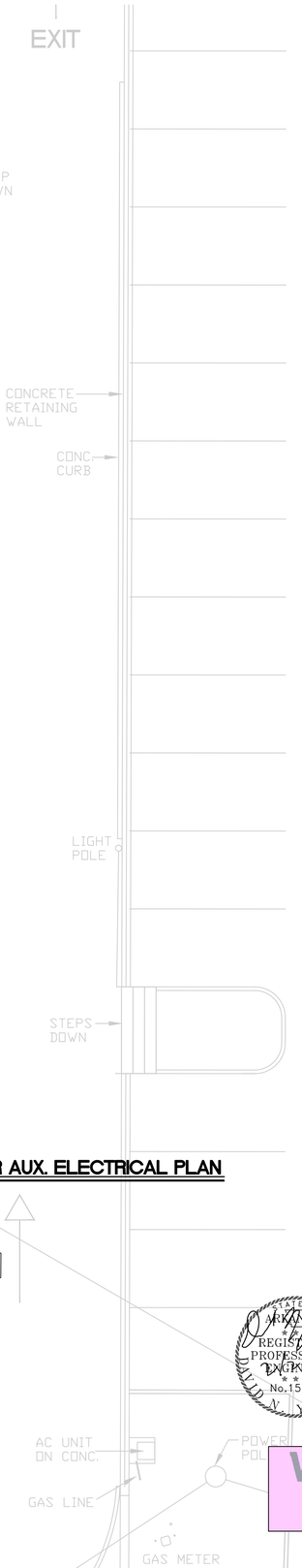

FIRE ALARM NOTES:

1) PROVIDE A COMPLETE VOICE EVAC , ANNUNCIATION FIRE ALARM SYSTEM TO MEET CURRENT STATE OF AR & NFPA STANDARDS, INCLUDING ALL DEVICES. I.E. PULL STATIONS, HORN/STROBE , ANNUNCIATOR BASES, SMOKE, HEAT, DUCT SMOKE DECTECTORS, ETC,.

2) ALL EMERGENCY EXIT LIGHTS SHALL CIRCUIT FROM EXISTING OR NEW ELECTRICAL PANELS DEPENDING ON LOCATION WITHIN THE CHURCH. COORDINATE WITH THE ELECTRICIAN FOR REQUIRED CIRCUITS.

3) OBTAIN THE APPROVAL OF THE AUTHORITY HAVING JURISDICTION (AHJ) FOR THE FIRE ALARM SYSTEM.

BFUMC - 1ST FLOOR AUX. ELECTRICAL PLAN

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

REV	DATE	DESCRIPTION
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Sheet Title: FIRST FLOOR AUX. ELECTRICAL PLAN

Sheet No: VE1 E2.0

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER DAVID N. YARBROUGH No.15429

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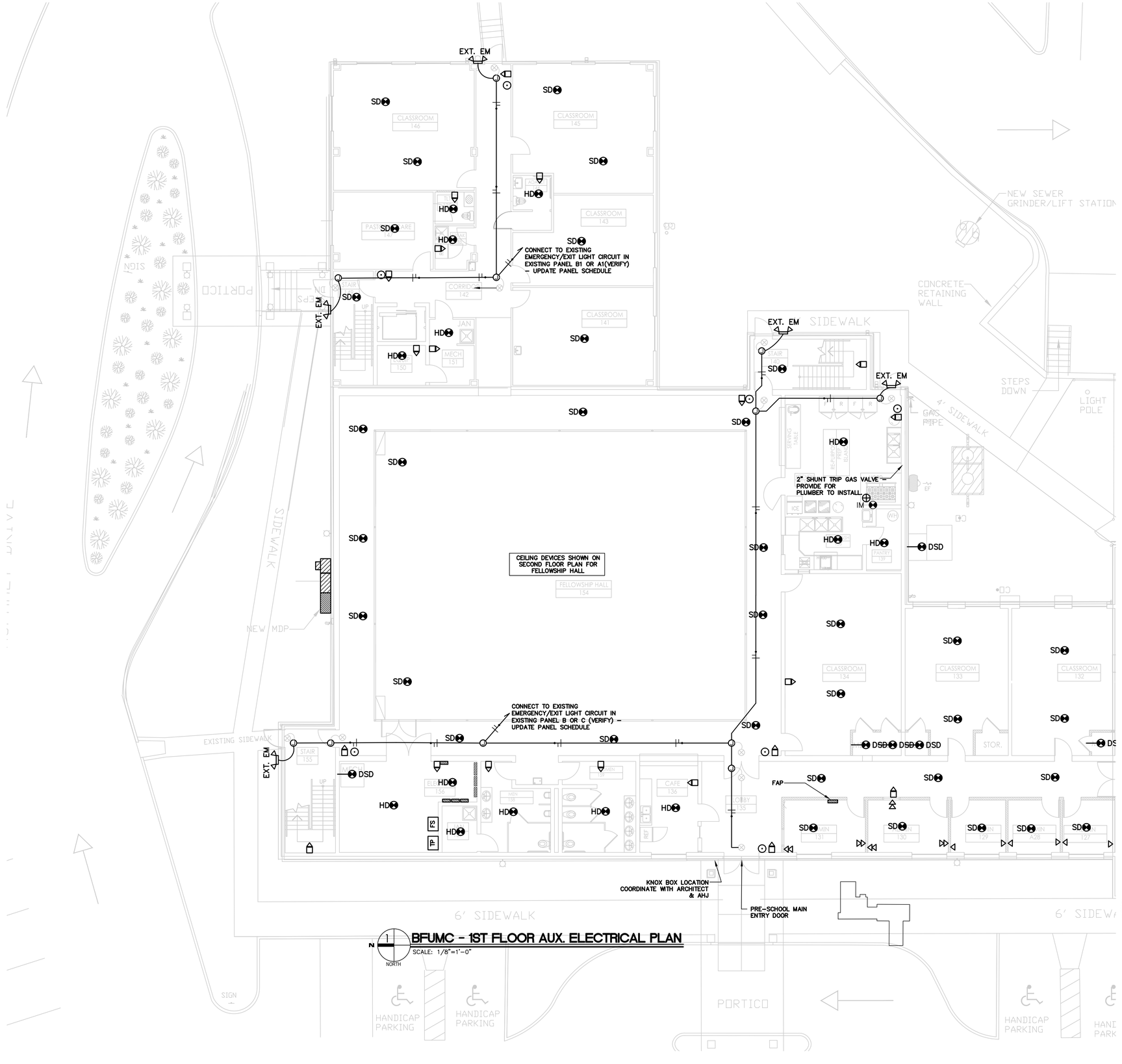

BFUMC – 1ST FLOOR AUX. ELECTRICAL PLAN

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

REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

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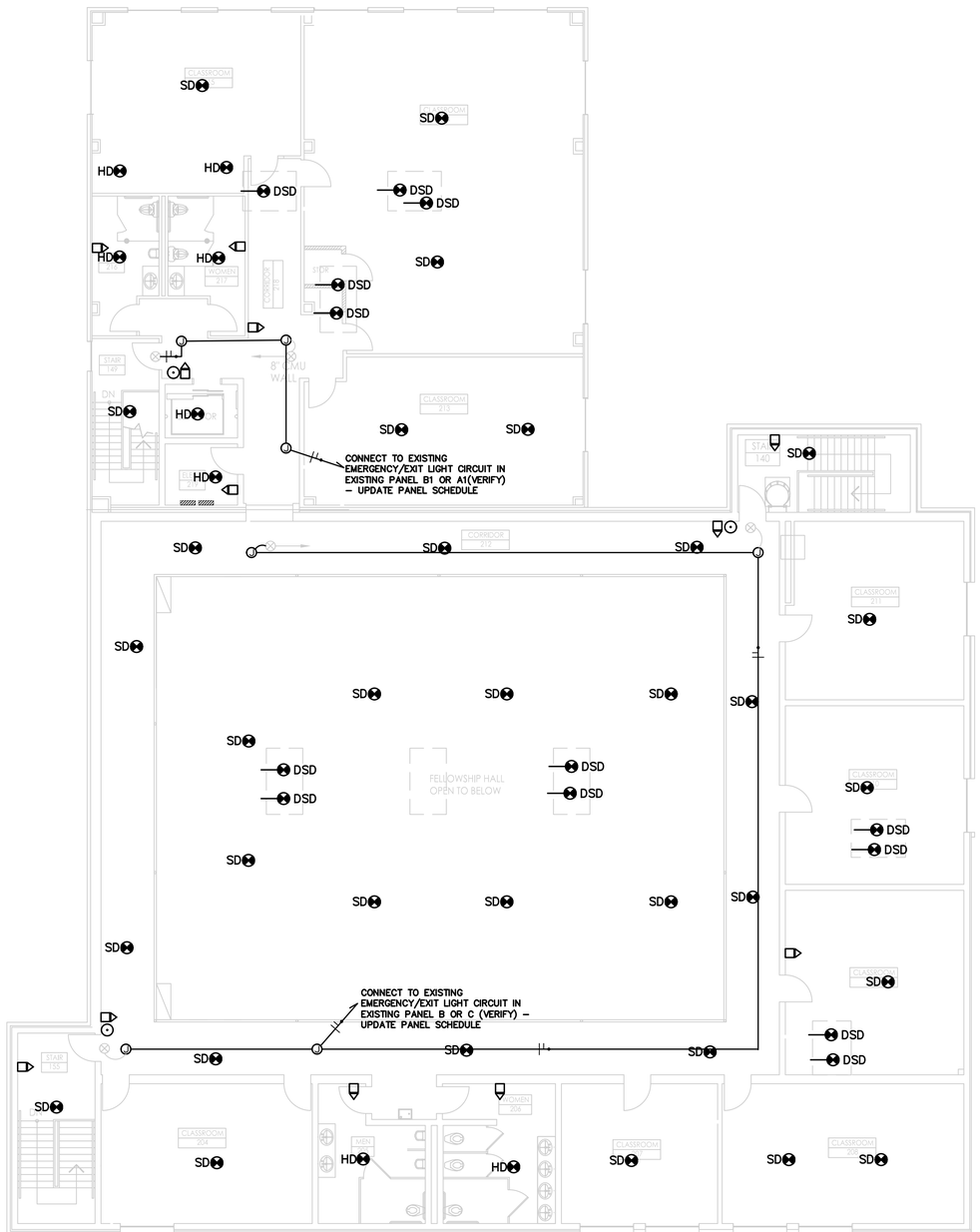

BFUMC - 2ND FLOOR AUX. ELECTRICAL PLAN

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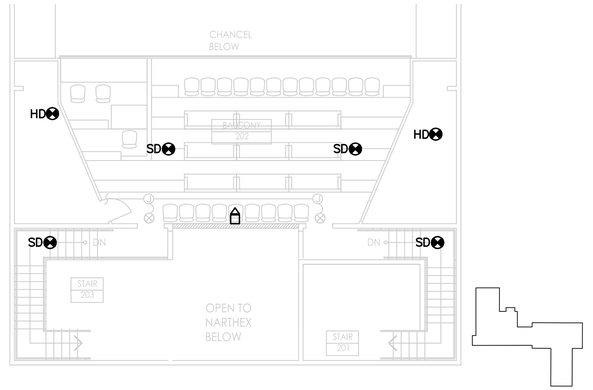

BFUMC - AUX. ELECTRICAL PLAN

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Sheet Title: 2ND FLOOR AUX. ELECTRICAL PLAN

Sheet No: VE1 E2.2

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No.15429 DULEY YARBROUGH

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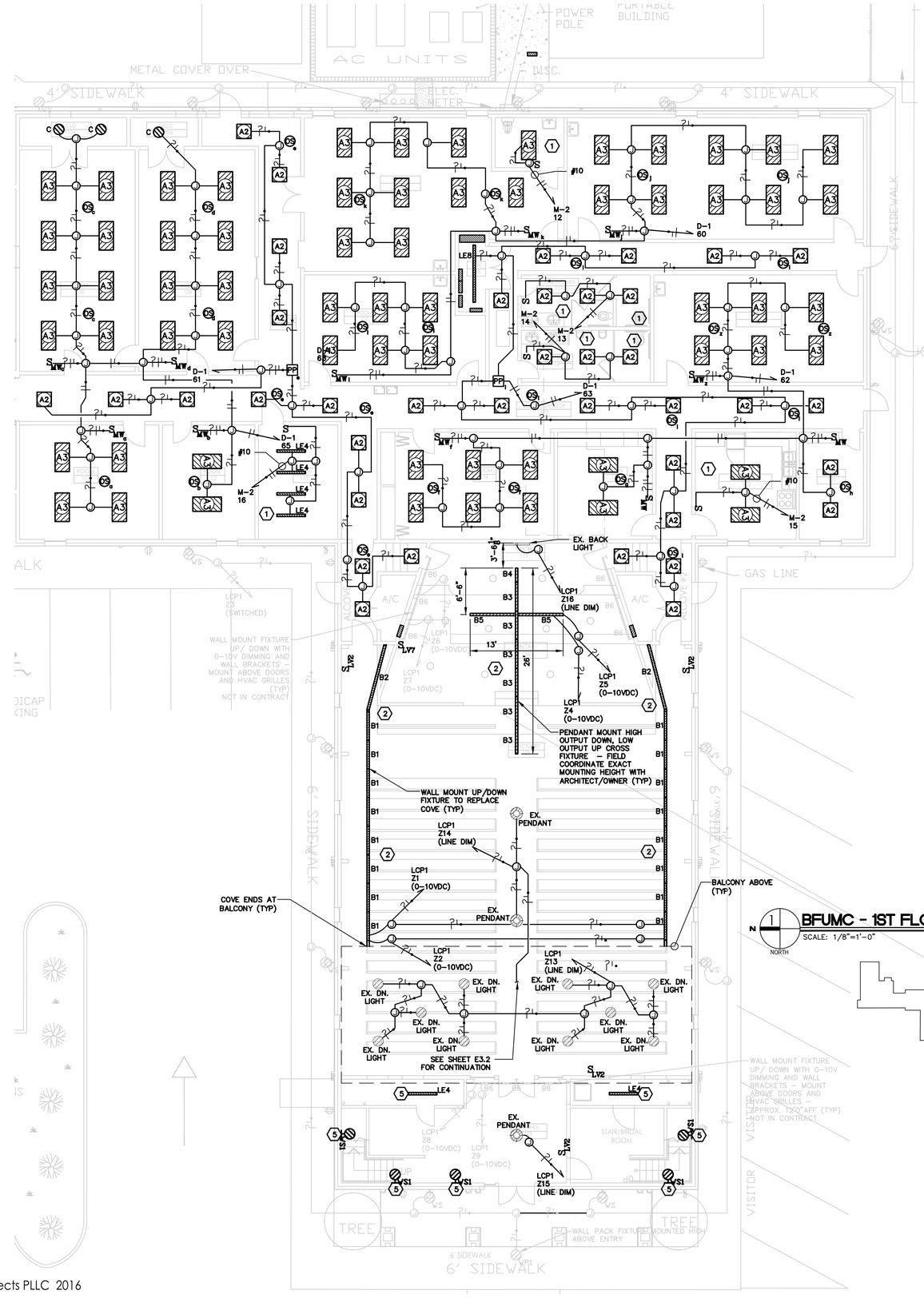

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1 BFUMC - 1ST FLOOR LIGHTING PLAN

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

LIGHTING FIXTURE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER/MODEL	LAMPS
A	LED 2'X4' 120V, 3500K, 0-10V DIMMING LAY-IN	NULITE, MODEL L2D4-50HP-L35-UNV-DIM-RPO	LED INCLUDED
A1	LED 2'X4' 120V, 3500K, 0-10V DIMMING LAY-IN	NULITE, MODEL L2D4-60-L35-UNV-DIM-RPO	LED INCLUDED
A3	LED 2'X4' 120V, 3500K, 0-10V DIMMING SURFACE MOUNT	PHILIPS DAY-BRITE CLEAR APPEAL 2-SCA-30L-835-2-DS-UNV-DIM	LED INCLUDED
A2	LED 2'X2' 120V, 3500K, 0-10V DIMMING SURFACE MOUNT	PHILIPS DAY-BRITE CLEAR APPEAL 2-SCA-36L-835-4-DS-UNV-DIM	LED INCLUDED
WS	OUTDOOR 120V LED WALL SCONCE FIXTURE, 4000K, DARK BRONZE	US ARCHITECTURAL LIGHTING 2062-8LED-NW-RAL-8019-T-SF	LED INCLUDED
WS1	120V LED WALL SCONCE FIXTURE, 3500K, DARK BRONZE	US ARCHITECTURAL LIGHTING LN20-E26-NL-RAL-8019-T	HALCO LED #H080966
WP1	LED 120V, 4000K, FORWARD THROW WALL PACK FIXTURE	SPAULDING LED WALL PACK TRP-30L4K-053-4-1-DB-PC	LED INCLUDED
C	6" LED 120V,3000K, RECESSED DOWN LIGHT	PHILIPS LIGHTOLIER CORE PRO LED DOWN LIGHT CPBRB10930W - PROVIDE WITH IC OR IC REMODEL KIT TO SUIT LOCATION (VERIFY)	LED INCLUDED
B1	FINELITE 120V, 3500K, LED LINEAR UP/DOWN LIGHT, 0-10V DIMMING	FINELITE HP-4 WM-ID-4FT-HO-HO-3500K	LED INCLUDED
B2	FINELITE 120V, 3500K, LED LINEAR UP/DOWN LIGHT, 0-10V DIMMING	FINELITE HP-4 WM-ID-9FT-HO-HO-3500K	LED INCLUDED
B3	FINELITE 120V, 3500K, LED LINEAR UP/DOWN LIGHT, 0-10V DIMMING	FINELITE HP-4 ID-4FT-B-B-8-35	LED INCLUDED
B4	FINELITE 120V, 3500K, LED LINEAR UP/DOWN LIGHT, 0-10V DIMMING	FINELITE HP-4 ID-2FT-B-B-8-35	LED INCLUDED
B5	FINELITE 120V, 3500K, LED LINEAR UP/DOWN LIGHT, 0-10V DIMMING	FINELITE HP-4 ID-6FT4IN-B-B-8-35	LED INCLUDED
B6	FINELITE 120V, 3500K, LED LINEAR UP/DOWN LIGHT, 0-10V DIMMING	FINELITE HP-4 ID-4FT-S-S-8-35	LED INCLUDED
LE4 LE8	LED 120V, 3500K, 4' OR 8' LINEAR SURFACE MOUNTED FIXTURE WITH EMERGENCY BALLAST	PHILIPS FLUXSTREAM LF-(4 OR 8)-FR-31-35-1-DZT-EMLED-PAF	LED INCLUDED
LIGHT POLE	LED 120V, 3500K, ORNAMENTAL POLE FIXTURE	STERNBERG LIGHTING 123OLED/R4PT /1RND35T5/MH/PEC/DBT. SUPPLY WITH STERNBERG RSS12F400 POLE IN DBT MATCH TO PRAIRE SERIES FIXTURE(VERIFY)	LED INCLUDED
EM	LED EMERGENCY LIGHT	ISOLITE COMPACT LED EMERGENCY MODEL: RL2LED-2-WH	LED INCLUDED
	LED EXIT LIGHT 120V - RECESSED OR SURFACE MOUNT TO SUIT LOCATION	LIGHT ALARM SIMPLICITY SERIES LED EXIT SIGN MODEL: 6UENGM	LED INCLUDED
EXT EM	120V SELF-CONTAINED EXTERIOR LED EMERGENCY LIGHTING UNIT	DUAL LIGHT PG-Z-HTR	LED INCLUDED
EXISTING 6"CAN	RE-LAMP WITH 120V BR30 LED BULBS FOR DAMP LOCATION (1 REQD. FOR EACH FIXTURE)	HALCO LED BULB, #H080877, 120V, BR30, 3000K	LED BULB

ELECTRICAL DEVICE SCHEDULE

MARK	DESCRIPTION	MAKE	MODEL	VOLTS/PH	NOTES
OS_a	WIRELESS CEILING MOUNT OCCUPANCY SENSOR	LUTRON	LRF2-OCR2B-P-WH	N/A	1,2,4
S_{MW}	WIRELESS WALL MOUNT SWITCH (NEUTRAL REQD.)	LUTRON	MRF2-6ANS-X	120V/1	1
S_{OS}	WALL MOUNT OCCUPANCY SENSOR	LUTRON	MS-OPS6M2-X	120V/1	1
PP	POWER PACK	LUTRON	RMJ-16R-DV-B	120V/1	1,2
S_{LV7}	WALL MOUNT 7 BUTTON SCENE SELECT SWITCH	LUTRON	SO-7BN-WH-EGN	120V/1	1,3
S_{LV2}	WALL MOUNT 2 BUTTON SCENE SELECT SWITCH	LUTRON	SO-2BN-WH-E03	120V/1	1
S_3 S_4	3WAY, 4 WAY SWITCH			120V/1	1
S	SINGLE POLE SWITCH			120V/1	1

DEVICE NOTES:

1. SEE PLANS FOR SENSOR AND SWITCH PAIRING. VERIFY STANDARD COLOR SELECTION.
2. POWER PACKS SWITCH LIGHTS AND EXHAUST FANS IN SOME LOCATIONS - SEE EM PLAN SHEETS AND MECHANICAL PLANS
3. INCLUDE SEETOUCH ENGRAVING SERVICE WITH SWITCHES.
4. SENSOR PAIRING INDICATED BY LOWER CASE LETTERS (i.e., a, aa, aaa, etc.)

REV	DATE	DESCRIPTION
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	2/21/17	VE1 REV

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Project No: HW13-618

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Sheet Title: FIRST FLOOR LIGHTING PLAN

Sheet No: VE1 E3.0

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No.15429 DAVID N. YARBROUGH

CERTIFICATE OF AUTHORIZATION W.H. GRANT & ASSOCIATES, INC. No.317 ARKANSAS ENGINEER

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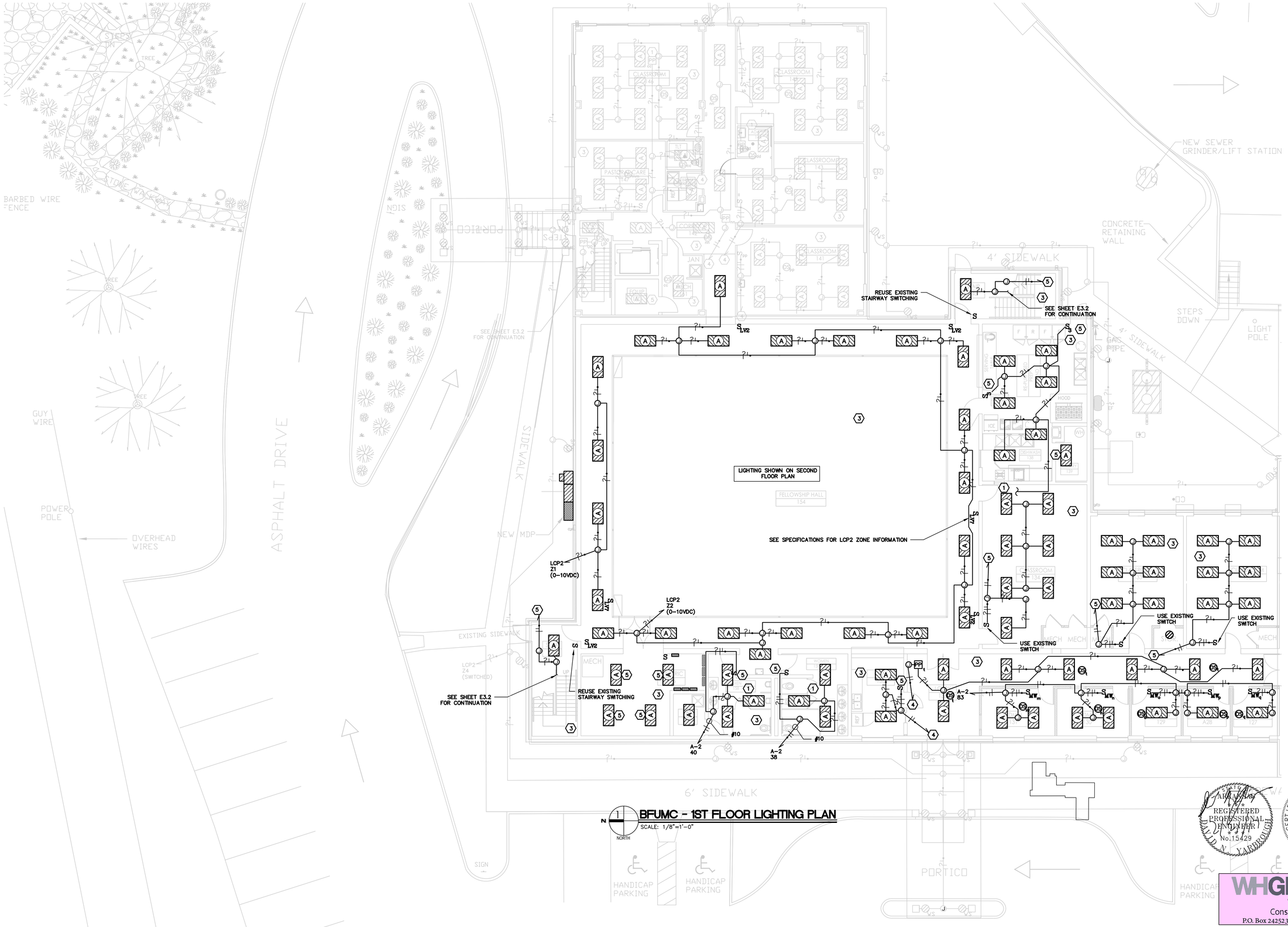

BFUMC - 1ST FLOOR LIGHTING PLAN

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

REV	DATE	DESCRIPTION
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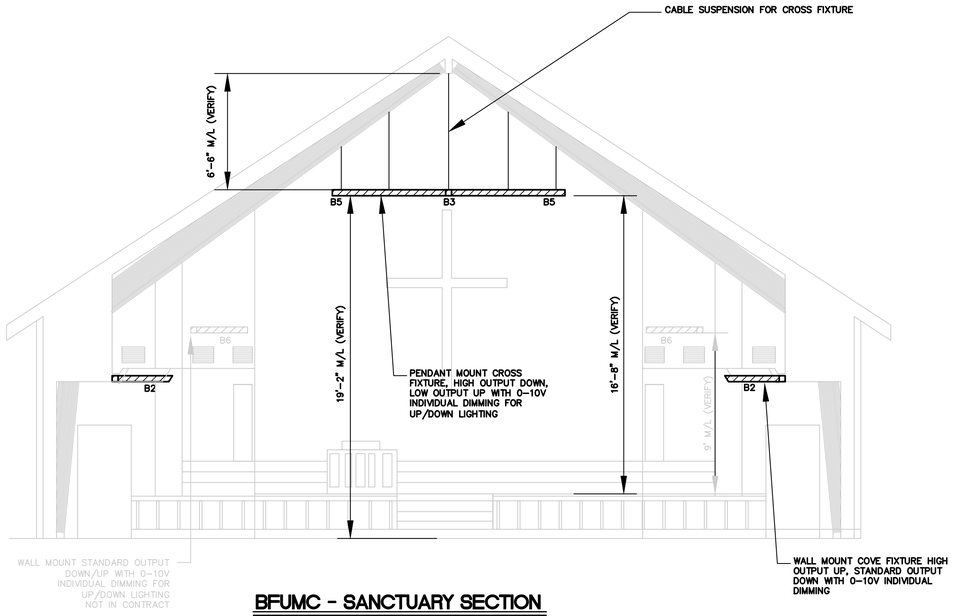

BFUMC - SANCTUARY SECTION

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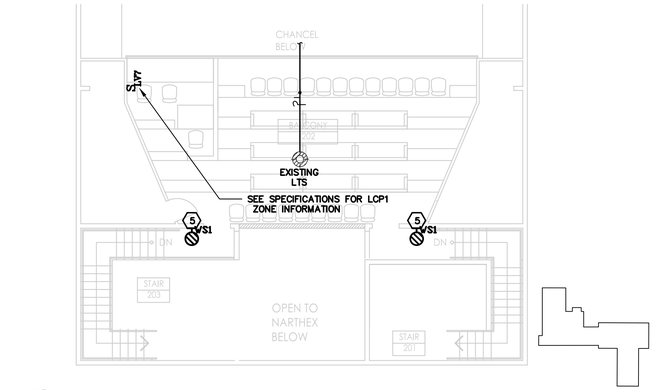

BFUMC - SANCTUARY AND BALCONY LIGHTING PLAN

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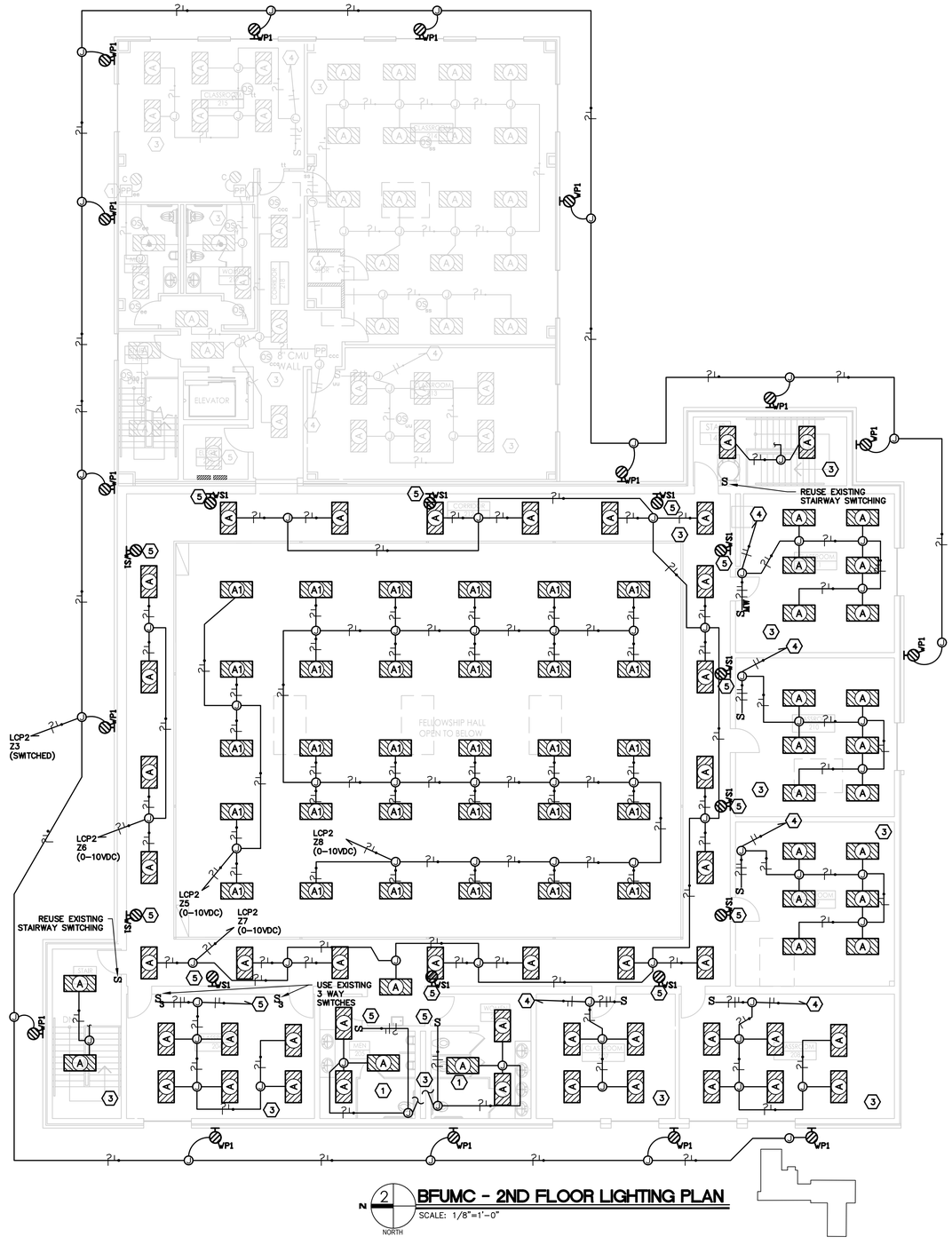

BFUMC - 2ND FLOOR LIGHTING PLAN

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

NORTH

REV	DATE	DESCRIPTION
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	2/21/17	VE1 REV

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Project No: HW13-618

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Sheet Title: 2ND FLOOR LIGHTING PLAN

Sheet No: VE1 E3.2

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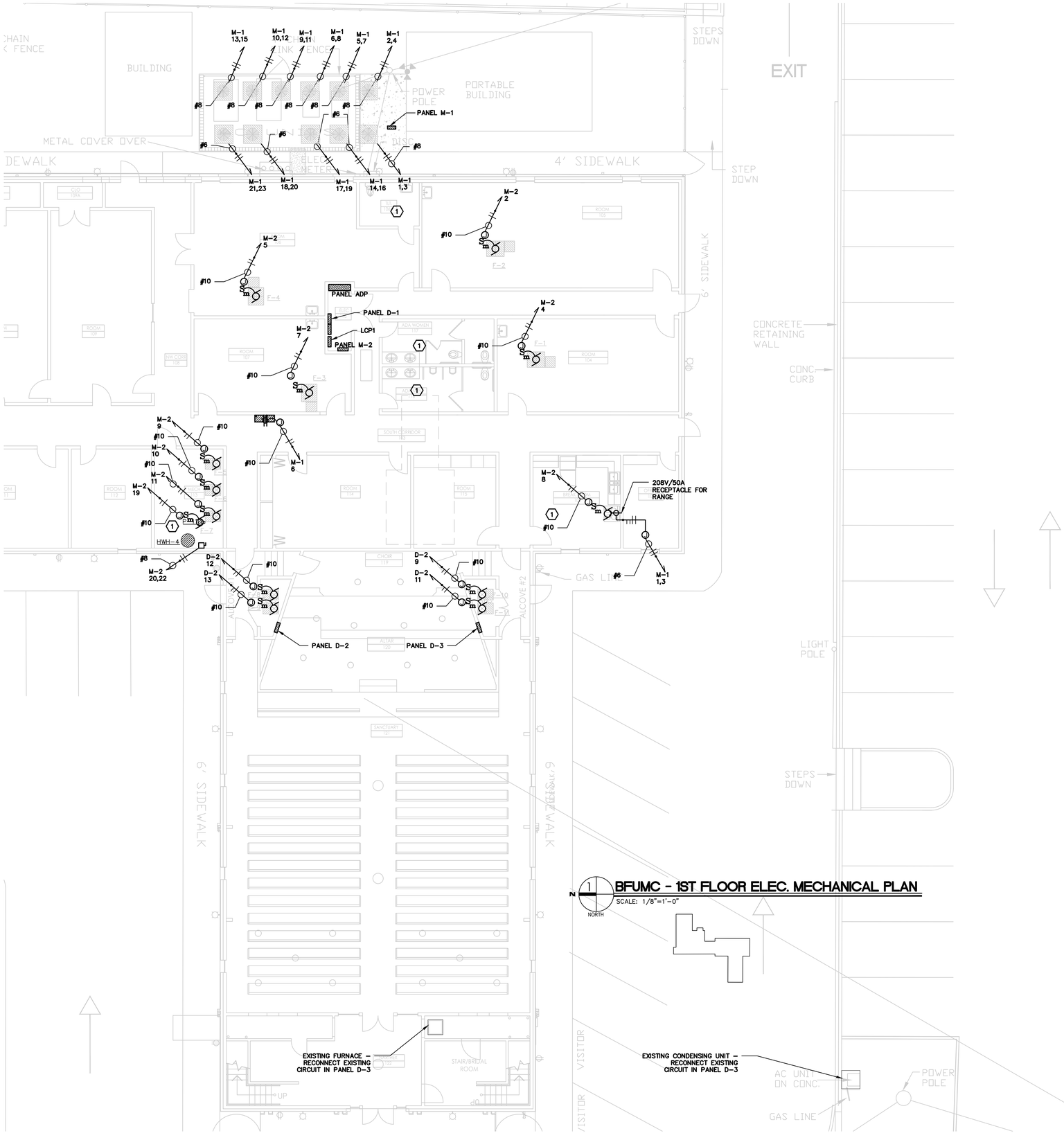

BFUMC - 1ST FLOOR ELEC. MECHANICAL PLAN

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

REV	DATE	DESCRIPTION
	1/25/17	VE1
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Project No: HW13-618

Date: 9/21/16

Sheet Title: FIRST FLOOR ELEC. MECHANICAL PLAN

Sheet No: VE1 EM1.0

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REV	DATE	DESCRIPTION
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	2/21/17	VE1 REV

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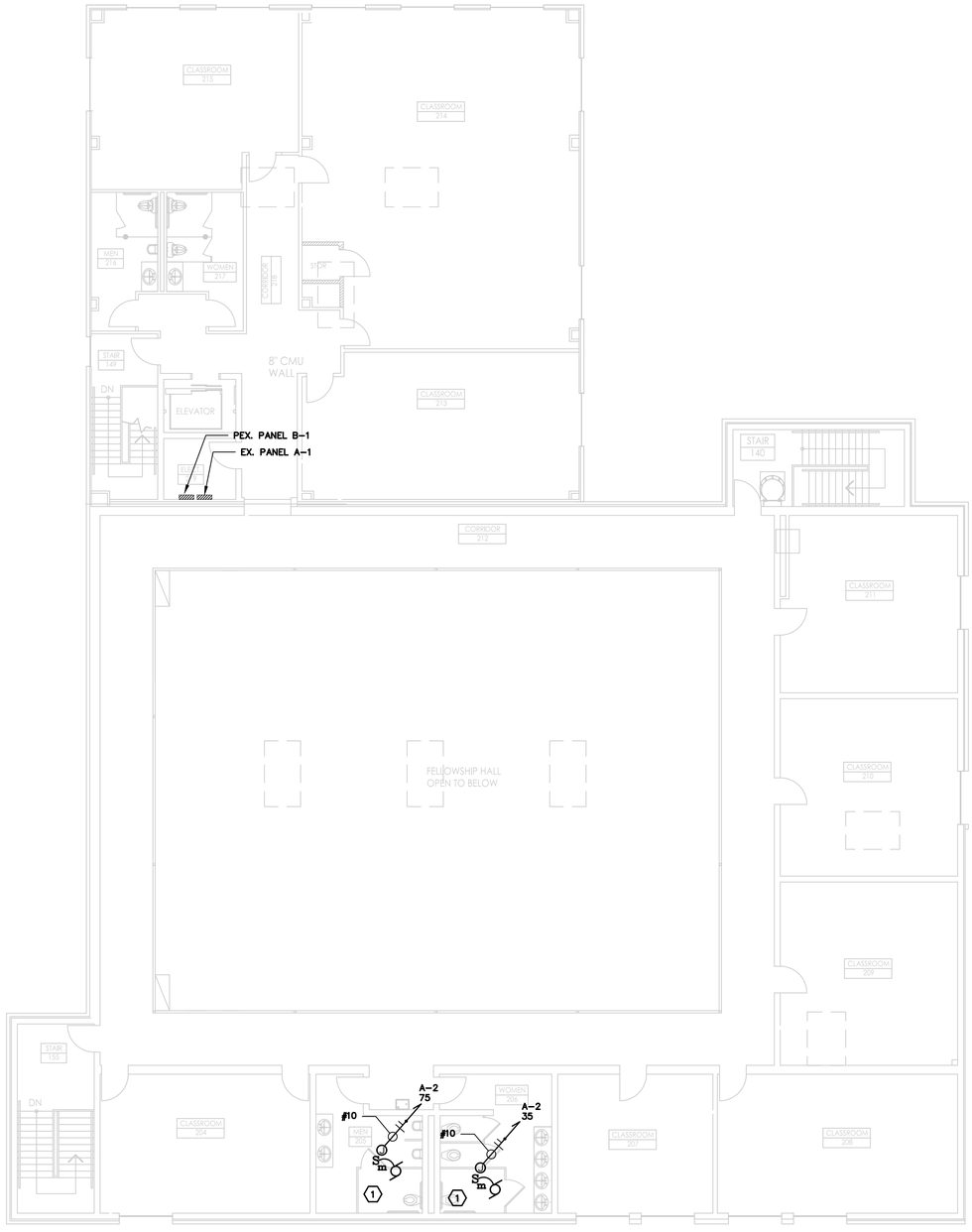

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BFUMC - 2ND FLOOR ELEC. MECHANICAL PLAN

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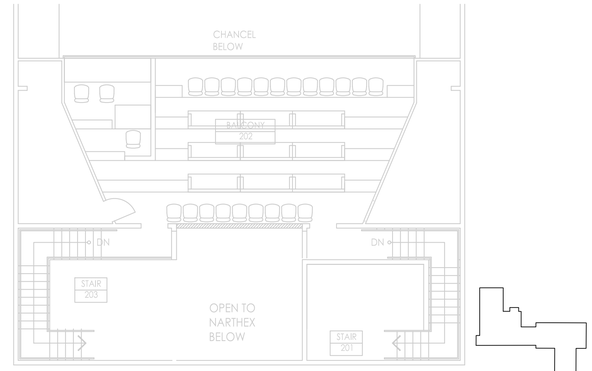

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BFUMC - BALCONY ELEC. MECHANICAL PLAN

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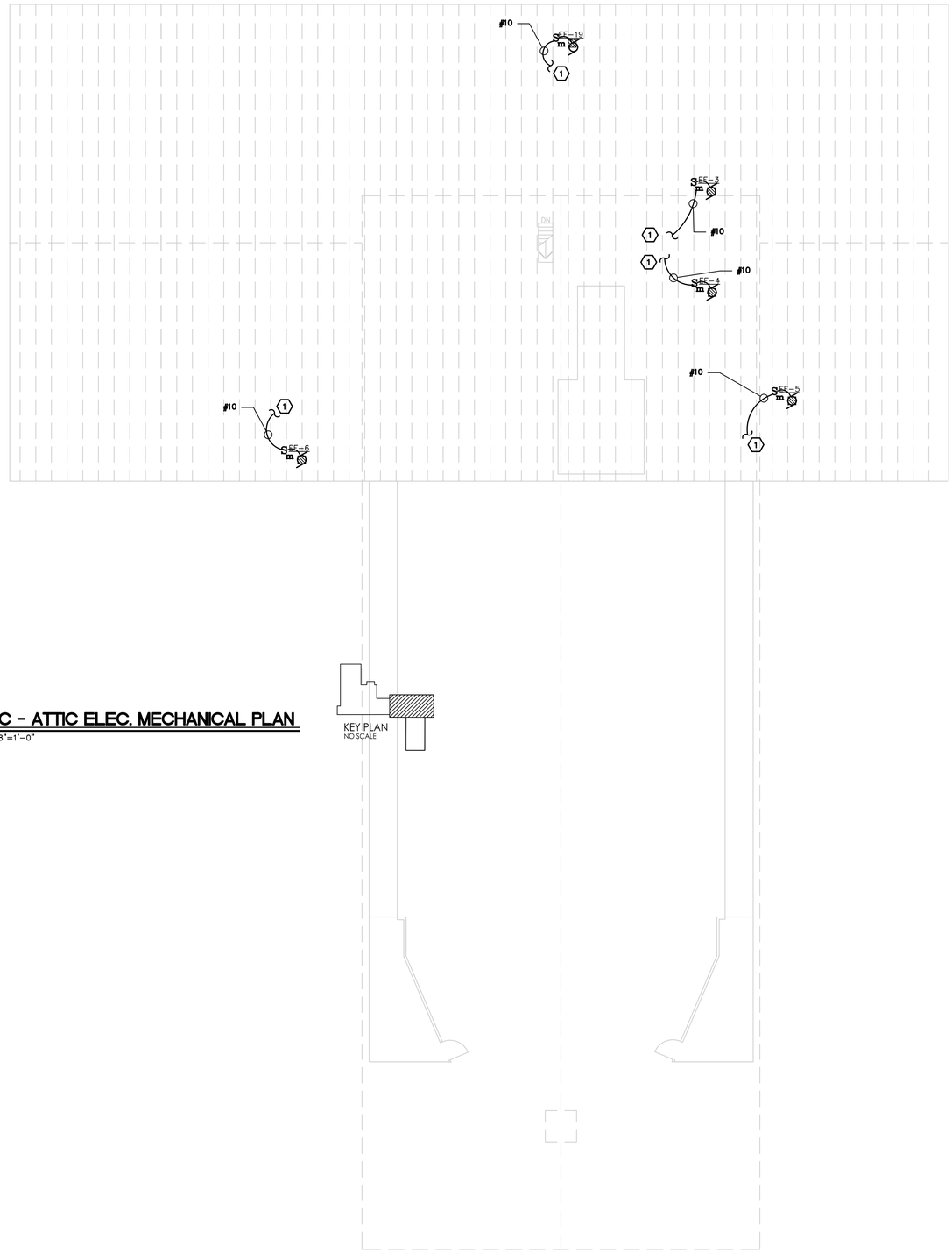

BFUMC - ATTIC ELEC. MECHANICAL PLAN

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

KEY PLAN
NO SCALE

REV	DATE	DESCRIPTION
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Sheet Title:
ATTIC ELEC. MECHANICAL PLAN

Sheet No:
VE1
EM1.3

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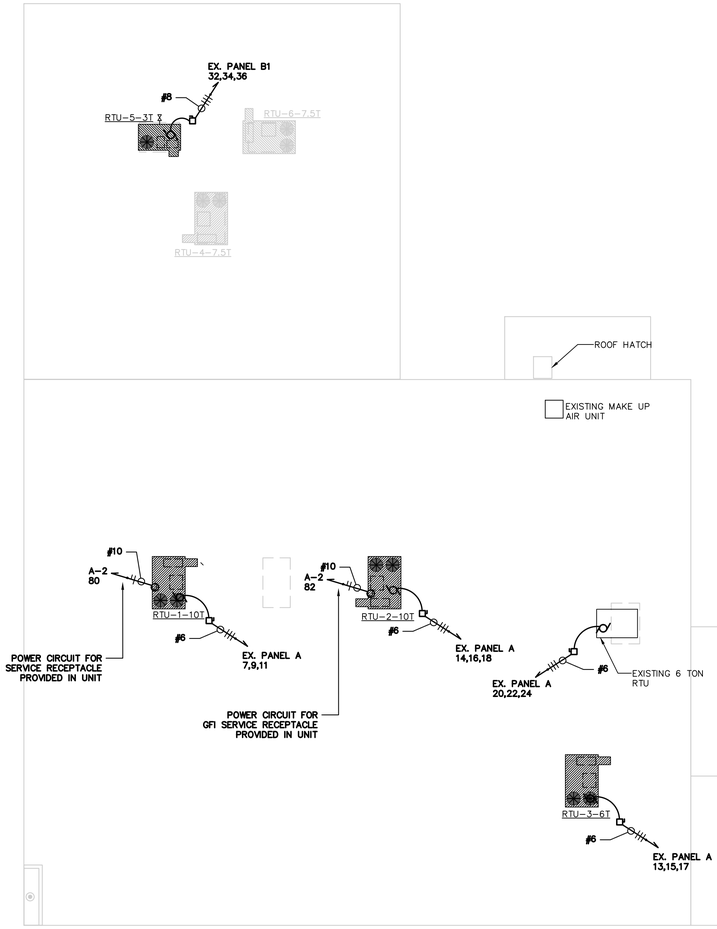

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BFUMC - ROOF ELEC. MECHANICAL PLAN

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

REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

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Project No: HW13-618

Date: 9/21/16

Sheet Title: ROOF ELEC. MECHANICAL PLAN

Sheet No: VE1 EM1.4

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No.15429
DAVID N. YARBROUGH

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ELECTRICAL LEGEND

(NOTE: NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT)

SYMBOLS	DESCRIPTIONS	SYMBOLS	DESCRIPTIONS
A	LED FIXTURE – LETTER INDICATES TYPE	OS	OCCUPANCY SENSOR – SEE WIRE DEVICE SCHEDULE
A	LED FIXTURE – LETTER INDICATES TYPE	PP	POWER PACK – SEE WIRE DEVICE SCHEDULE
WS A	LED FIXTURE – LETTER INDICATES TYPE		EMERGENCY MANUAL PULL FOR ANSUL UNITS
EXT EM	EXTERIOR EMERGENCY LIGHT	IM	INTERCONNECTOR FOR ANSUL DEVICE TO FIRE ALARM SYSTEM
	RECEPTACLE, DUPLEX – FLOOR MOUNTED	SD	FIRE ALARM SMOKE DETECTOR
	RECEPTACLE, DUPLEX – 16" AFF UNLESS OTHERWISE NOTED	HD	FIRE ALARM HEAT DETECTOR
	RECEPTACLE, QUADRAPLEX – 16" AFF UNLESS OTHERWISE NOTED	DSD	FIRE ALARM DUCT SMOKE DETECTOR
	RECEPTACLE, SINGLE – 16" AFF UNLESS OTHERWISE NOTED		FIRE ALARM MANUAL PULL STATION
	RECEPTACLE, SPECIAL RECEPTACLE (VOLTS/AMPS AS NOTED)		FIRE ALARM AUDIO VISUAL SIGNAL UNIT (STROBE/HORN)
GFI	RECEPTACLE, GROUND FAULT INTERRUPTER		EXIT LIGHT
	JUNCTION BOX – CONNECT EQUIPMENT AS REQUIRED		DATA OUTLET – 16" AFF UNLESS OTHERWISE NOTED NUMBER BESIDE OUTLET IND. NUMBER OF CAT 5E DROPS AT OUTLET LOCATION
	MOTOR		DATA OUTLET – FLOOR MOUNTED NUMBER BESIDE OUTLET IND. NUMBER OF CAT 5E DROPS AT OUTLET LOCATION
	PANELBOARD	EF	ABBREVIATION MEANS – EXHAUST FAN
	ELECTRICAL EQUIPMENT AS SCHEDULED OR NOTED	CU	ABBREVIATION MEANS – CONDENSING UNIT
	DISCONNECT SWITCH – NEMA 3R OR NEMA 1 – SIZE FOR AMPS/POLES OF CONNECTED EQUIPMENT ON PLANS	WP	ABBREVIATION MEANS – WEATHERPROOF
S	SWITCH – SINGLE POLE	GFI	ABBREVIATION MEANS – GROUND FAULT INTERRUPTING
S_{LVT} S_{LW} S_{DS}	LUTRON WALL SWITCHES – SEE WIRE DEVICE SCHEDULE	HWH	ABBREVIATION MEANS – HOT WATER HEATER
S_M	MANUAL MOTOR STARTER – EQ. TO SQ. "D" CLASS 1510 OR 2510	HP	ABBREVIATION MEANS – HEAT PUMP
C	CAMERA– SECURITY OR FILMING–AS NOTED	DS	ABBREVIATION MEANS – DISCONNECT SWITCH
CR	CARD READER ACCESS CONTROL	AFF	ABBREVIATION MEANS – ABOVE FINISHED FLOOR
	WIRE AND CONDUIT – IN CEILING OR WALL	EWC	ABBREVIATION MEANS – ELECTRIC WATER COOLER
	WIRE AND CONDUIT – IN OR UNDER FLOOR	PP	ABBREVIATION MEANS – POWER PACK
A–1	HOMERUN TO PANEL – WIRING SYMBOLS DENOTE: PHASE, SW PHASE, NEUTRAL, RUNNER, GREEN GROUND	NS	ABBREVIATION MEANS – NON SWITCHED – IND. DEVICE OR FIXTURE IS NOT SWITCHED

PANEL SCHEDULE

MARK	DESCRIPTION	C/B	SERVES
MDP	2000A/208/120/3PH/4W ZERO CLEARANCE FREE STANDING SWITCH GEAR FULL SOLID NEUTRAL, BONDED GROUND/NEUTRAL BAR, SERVICE ENTRANCE GROUND – 80% RATED 2000A/3P MAIN CB., 35kAIC INTERRUPTIBLE. EQUAL SQUARE D QED	1–2000A/3P 1–800A/3P 1–600A/3P 2–400A/3P 1–225A/3P 1–100A/3P	MAIN PANEL ADP EX. PANEL A EX. PANEL B1, PANEL M PANEL A–2 SPARE FUTURE PANEL
A–2	225A/120/208/3ϕ/4W NEMA 1 SURFACE MOUNTED MLO 84 CIRCUIT DOUBLE PANEL BOARD WITH FULL INSULATED NEUTRAL, 25% GND BAR, & 22kAIC INTERRUPTIBLE. EQUAL SQUARE D NQ PANEL	84–20A/1P	GS–1 GRINDER STATION, HP–4, AHU–4, HP–5, AHU–5, FLC EMERGENCY EXIT LIGHTS, EF–18, EF–9, EF–10, EF–19, EF–20, EF–8, RECEPTACLES, SPARES
M	400A/208/120/3ϕ/4W NEMA 1 SURFACE MOUNTED MLO 30 CIRCUIT PANEL BOARD WITH FULL INSULATED NEUTRAL, 25% GND BAR, & 22kAIC INTERRUPTIBLE. EQUAL TO SQUARE D NF PANEL	4–60A/3P 3–40A/2P 2–50A/2P 8–20A/1P	AHU–1, AHU–2, AHU–3, SPARE HP–1, HP–2, SPARE HP–3, SPARE SPARES
LCP2	PRE–ASSEMBLED LIGHTING CONTROL PANEL WITH INTEGRAL LCD BASED ASTRONOMIC TIME CLOCK CONTROLLER. 120V/1ϕ. EQUAL LUTRON LCP3X3A4T–120FT. (SEE PLANS & SPECIFICATIONS FOR ZONES & SWITCHING INFORMATION)	1–20A/1P 16–20A/1P	CONTROL CIRCUIT FED FROM PANEL A–2 SWITCHING CIRCUITS FED FROM PANEL A–2
EX. PANEL A	EXISTING SQUARE D I–LINE 600A/120/208/3ϕ/4W NEMA 1 SURFACE MOUNTED 42 CIRCUIT PANEL BOARD. 22kAIC INTERRUPTIBLE.	1–225A/3P 1–150A/3P 5–70A/3P 6–50A/3P 1–20A/3P	EXISTING PANEL B (THESE BREAKERS REMAIN – REMOVE EXISTING PANEL C ALL OTHER BREAKERS & REPLACE) RTU–1, RTU–2, RTU–4, SPARES EX. BOOSTER HTR., RTU–3, EX. RTU, RTU–7, SPARES SPARE
EX. PANEL B	EXISTING SQUARE D NQ 225A/120/208/3ϕ/4W NEMA 1 SURFACE MOUNTED 42 CIRCUIT PANEL BOARD. 22kAIC INTERRUPTIBLE.	2–30A/2P 7–20A/1P 2–30A/2P 7–20A/1P	REMOVE 10kAIC BRKRS & REPLACE AS SCHEDULED REMOVE 10kAIC BRKRS & REPLACE AS SCHEDULED 22kAIC REPLACEMENT BRKR FOR EXISTING 22KAIC REPLACEMENT BRKR FOR EXISTING
EX. PANEL C	EXISTING SQUARE D NQ 150A/120/208/3ϕ/4W NEMA 1 SURFACE MOUNTED 42 CIRCUIT PANEL BOARD. 22kAIC INTERRUPTIBLE.	1–40A/2P 2–20A/1P	REMOVE EXISTING 40A/3P TO RANGE (TO BE REMOVED) 22KAIC REPLACEMENT BREAKERS FOR REMOVED 40A/2P
EX. PANEL B1	EXISTING SQUARE D NQ 400A/120/208/3ϕ/4W NEMA 1 SURFACE MOUNTED 42 CIRCUIT PANEL BOARD. 22kAIC INTERRUPTIBLE.	2–40A/2P 1–60A/2P 1–70A/3P 1–30A/3P 1–30A/2P 1–20A/1P	REMOVE EXISTING BRKRS & REPLACE AS SCHEDULED REMOVE EXISTING BRKRS & REPLACE AS SCHEDULED RTU–6 (22kAIC) RTU–5 (22kAIC) HWH–4 (22kAIC) SPARE (22kAIC)
EX. PANEL A1	EXISTING SQUARE D NQ 225A/120/208/3ϕ/4W NEMA 1 SURFACE MOUNTED 30 CIRCUIT PANEL BOARD. 10kAIC INTERRUPTIBLE.	1–50A/2P 1–20A/2P 4–20A/1P	REMOVE EXISTING BRKR & REPLACE AS SCHEDULED RTU–6 WH–3 (10kAIC) EF–13,14,15,&16, GFI RECP.

NOTE: ALL PANELS SHALL BE FILLED WITH BREAKERS AND ALL PANEL SCHEDULES COMPLETED

PANEL SCHEDULE

MARK	DESCRIPTION	C/B	SERVES
ADP	800A/208/120/3PH/4W NEMA 1, MLO 30 CIRCUIT, SURFACE MTD. PANEL BOARD. FULLY INSULATED 100% NEUTRAL BAR, 25% GND BAR, 22kAIC INTERRUPTIBLE – EQUAL TO SQUARE D I–LINE	1–400A/3P 4–225A/3P 1–100A/2P	PANEL M–1 PANELS D–1, D–2, D–3, & M–2 PORTABLE BUILDING FEEDER TO EXISTING PANEL
M–1	400A 120/208/3P/4W NEMA 3R MLO 30 CIRCUIT SURFACE MTD. PANEL BOARD. WITH FULLY INSULATED NEUTRAL, 25% GND BAR, & 22kAIC INTERRUPTIBLE. EQUAL TO SQUARE D NF	4–50A/2P 5–40A/2P 5–70A/2P 2–20A/1P	CU–8, CU–9, CU–10, CU–11, SPARE CU–1, CU–2, CU–3, SPARE CU–4, CU–5, CU–6, CU–7, SPARE STORAGE BUILDING LIGHTS, GFI RECEP.
M–2	225A/208/120/3ϕ/4W NEMA 1 MLO 30 CIRCUIT, SURFACE MOUNTED PANEL BOARD WITH FULL INSULATED NEUTRAL, 25% GND BAR., & 22kAIC INTERRUPTIBLE. EQUAL SQUARE D NQ	1–40A/2P 1–30A/2P 26–20A/1P	BREAK ROOM ELEC. RANGE HWH–4 F–1, F–2, F–3, F–4, F–5, F–6, F–7, EF–1, EF–2, EF–3, EF–4, EF–5, EF–6, EF–19, RH–1, EWC, P–11 SPARES
D–1	225A/120/208/3ϕ/4W NEMA 1 SURFACE MOUNTED MLO 84 CIRCUIT DOUBLE PANEL BOARD WITH FULL INSULATED NEUTRAL, 25% GND BAR, & 22kAIC INTERRUPTIBLE. EQUAL SQUARE D NQ PANEL	84–20A/1P	EMERGENCY EXIT LIGHTS, RECEPTACLES, LCP1, SPARES
D–2	225A/208/120/3ϕ/4W NEMA 1 MLO 30 CIRCUIT, SURFACE MOUNTED PANEL BOARD WITH FULL INSULATED NEUTRAL, 25% GND BAR., & 22kAIC INTERRUPTIBLE. EQUAL SQUARE D NQ	30–20A/1P	EX. RECEP., EMERGENCY EXIT LIGHTS, EX. STAGE RECEP., EX. CHURCH SIGN, EX. SOUND EQUIP., EX. GFI RECEP., F–8, F–9, SPARES
D–3	225A/208/120/3ϕ/4W NEMA 1 MLO 30 CIRCUIT, SURFACE MOUNTED PANEL BOARD WITH FULL INSULATED NEUTRAL, 25% GND BAR., & 22kAIC INTERRUPTIBLE. EQUAL SQUARE D NQ	2–30A/1P 2–40A/2P 24–20A/1P	HWH–1, SPARE EX. LENNOX A/C, SPARE EX. RECEP., EMERGENCY EXIT LIGHTS, EX. SPOT LIGHTS., BATHROOM GFI RECEP, GFI RECEP, EF–7, F–10, F–11, SPARES
LCP1	PRE–ASSEMBLED LIGHTING CONTROL PANEL WITH INTEGRAL LCD BASED ASTRONOMIC TIME CLOCK CONTROLLER. 120V/1ϕ. EQUAL LUTRON LCP3X3A4T–120FT. (SEE PLANS & SPECIFICATIONS FOR ZONES & SWITCHING INFORMATION)	1–20A/1P 16–20A/1P	CONTROL CIRCUIT FED FROM PANEL D–1 SWITCHING CIRCUITS FED FROM PANEL D–1

NOTE: ALL PANELS SHALL BE FILLED WITH BREAKERS AND ALL PANEL SCHEDULES COMPLETED

ELECTRICAL PLAN KEYED NOTES

1. EXHAUST FAN SHALL BE CIRCUITED AND SWITCHED WITH LIGHTING FIXTURES, EXCEPT AS NOTED OTHERWISE. SEE MECHANICAL PLANS.
2. CONSULT FINELITE HP–4 WM INDIRECT/DIRECT STARTER/INDEPENDENT & HP–4 WM INDIRECT/DIRECT JOINER INSTALLATION INSTRUCTIONS FOR MANUFACTURER'S APPROVED INSTALLATION METHODS
3. EXISTING CIRCUITS IN THESE AREAS REMAIN TO EXISTING PANELS (NOT SHOWN). IN SOME AREAS, EXISTING CIRCUITS ARE WIRED TO NEW PANELS (E.G., SANCTUARY, FOYER, BALCONY, ETC.) NEW DEVICES WIRED TO EXISTING CIRCUITS AS NOTED, AND NEW DEVICES WIRED TO NEW PANELS AS SHOWN.
4. CONNECT NEW LIGHTING AND SWITCHING IN THIS AREA TO EXISTING CIRCUIT. UPDATE PANEL SCHEDULE.
5. NEW FIXTURE REPLACES EXISTING LIGHT. USE EXISTING CIRCUIT AND EXISTING SWITCHING.

GENERAL ELECTRICAL NOTES

1. THESE ELECTRICAL DRAWINGS SHOW THE FINISHED CONDITION OF ELECTRICAL SYSTEMS IN THE RENOVATED FACILITY. REMOVE EXISTING ELECT SYSTEMS OR EQUIPMENT THAT ARE NOT INCORPORATED IN OR CONNECTED TO NEW SYSTEMS, OR OTHERWISE REUSED FOR EXISTING BUILDING. THE DRAWINGS ARE SCHEMATIC PLANS OF THE GENERAL FINISHED ARRANGEMENT OF ELECTRICAL DEVICES, EQUIPMENT, AND APPURTENANCES. THE DRAWINGS ARE NOT INTENDED TO SHOW EVERY OFFSET, REQUIRED CLEARANCE, PHYSICAL CONNECTION, REQUIRED ACCESSORIES TO ELECTRICAL DEVICES OR EQUIPMENT.
2. THE ELECTRICAL CONTRACTOR SHALL VISIT THE SITE BEFORE BIDDING, ORDERING EQUIPMENT, OR PERFORMING ANY WORK ON THE PROJECT. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL EXISTING CONDITIONS AND SHALL COORDINATE ALL WORK TO AVOID INTERFERENCES WITH EXISTING FIXTURES AND EQUIPMENT THAT SHALL REMAIN.
3. THERE ARE TWO MAIN ELECTRICAL SERVICES FOR THIS FACILITY. ONE SHALL BE UPGRADED AND THE OTHER REMOVED. BOTH SERVICES SHALL REMAIN IN SERVICE DURING RENOVATION OF THIS FACILITY AS NEEDED. MAINTAIN SEPARATION OF THESE TWO ELECTRICAL SERVICES.
4. THIS PROJECT SHALL OCCUR IN PHASES AS COORDINATED BETWEEN THE ARCHITECT, OWNER, ENGINEER, AND GENERAL CONTRACTOR. THE ORIGINAL CHURCH BUILDING THAT HOUSES THE SANCTUARY AND CLASSROOM AREAS SHALL BE THE LAST PHASE OF CONSTRUCTION. COORDINATE ALL WORK SO AS TO MINIMIZE THE DISRUPTION OF THE CHURCH'S OPERATIONS. COORDINATE ANY DOWNTIMES (INCLUDING POWER OUTAGES) REQUIRED WITH THE ARCHITECT, OWNER, ENGINEER, AND GENERAL CONTRACTOR.
5. STRUCTURAL MODIFICATIONS TO THE EXISTING BUILDING MAY BE REQUIRED FOR THIS PROJECT (SEE STRUCTURAL PLANS & SPECIFICATIONS). ANY CONNECTIONS OR MODIFICATIONS TO NEW OR EXISTING STRUCTURAL MEMBERS FOR SUPPORT OF ELECTRICAL EQUIPMENT, CONDUIT, ETC. SHALL COMPLY WITH THE PLANS AND SPECIFICATIONS AND SHALL BE IN COMPLIANCE WITH STRUCTURAL. DO NOT CUT OR MODIFY NEW OR EXISTING STRUCTURAL MEMBERS WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD AND THE ARCHITECT OF RECORD.
6. MECHANICAL, PLUMBING, FIRE ALARM, & SITE UTILITY ADDITIONS, RENOVATIONS, AND UPGRADES ARE BEING COMPLETED IN THIS PROJECT. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID ANY INTERFERENCES AND MAINTAIN ALL REQUIRED SAFETY CLEARANCES FROM NEW AND EXISTING ELECTRICAL EQUIPMENT. COORDINATE WITH OTHER TRADES FOR CIRCUITS TO NEW AND EXISTING EQUIPMENT.
7. SOME EXISTING ELECTRICAL SHALL REMAIN. EVERY EFFORT HAS BEEN MADE TO SHOW CONNECTION TO ALL ELECTRICAL DEVICES AND EQUIPMENT SERVED, NEW AND EXISTING, IN THE PROJECT PLANS. IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO VERIFY WITH THE ARCHITECT AND OWNER THE NEW AND EXISTING ELECTRICAL SYSTEMS TO BE CONNECTED AND SERVED BY THE ELECTRICAL SERVICES AND BRANCH PANELS IN THIS FACILITY.
8. COORDINATE WITH THE GENERAL CONTRACTOR & MECHANICAL CONTRACTOR TO CAREFULLY REMOVE ALL CIRCUITS TO BASKETBALL BACKBOARD MOTOR, CABLING, SCOREBOARD, AND ALL ASSOCIATED ELECTRICAL EQUIPMENT REQUIRED TO REMOVED FROM THE FELLOWSHIP HALL IN THE FAMILY LIFE CENTER BEFORE ANY CONSTRUCTION BEGINS IN THIS AREA.

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	1/25/17	VE1
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Project No: HW13-618

Date: 9/21/16

Sheet Title: LEGENDS, SCHEDULES, & NOTES

Sheet No: VE1 E4.0

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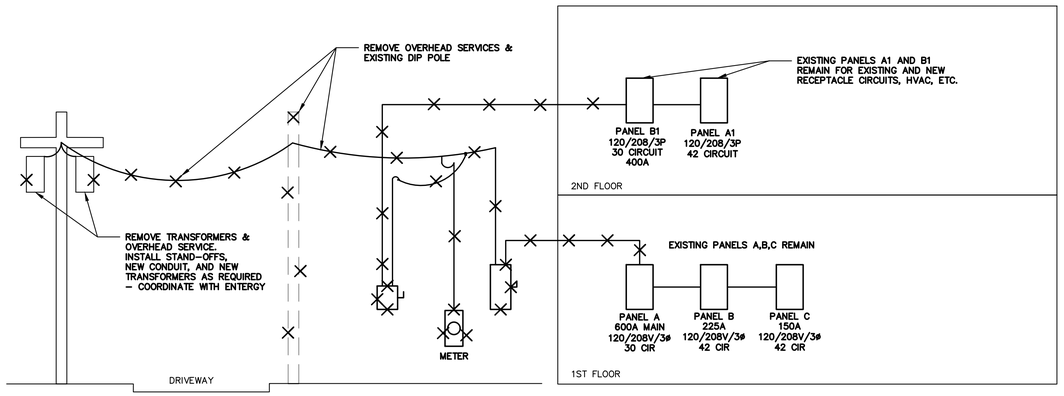

2 BFUMC -EXISTING FAMILY LIFE CENTER ELECTRICAL RISER (ELS#2)

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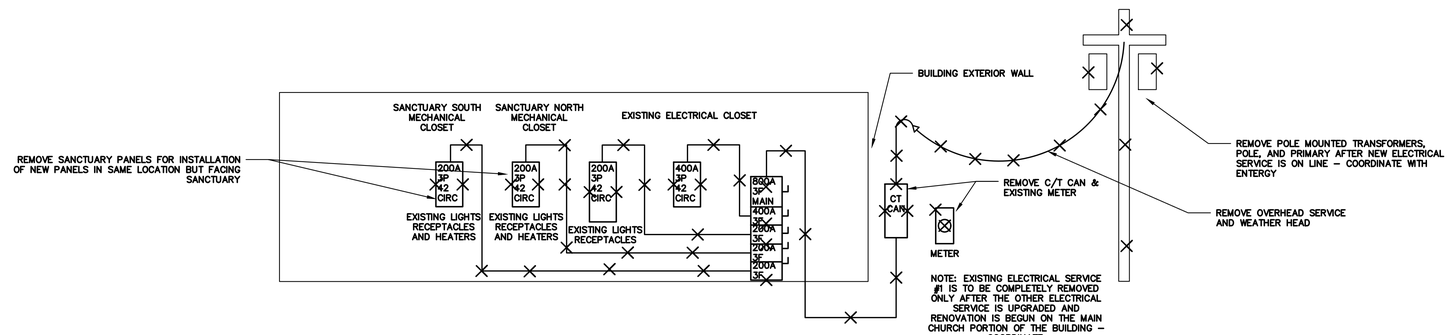

1 BFUMC -EXISTING MAIN CHURCH ELECTRICAL RISER (ELS#1)

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Sheet Title: EXISTING ELECTRICAL RISERS

Sheet No: VE1 E4.1

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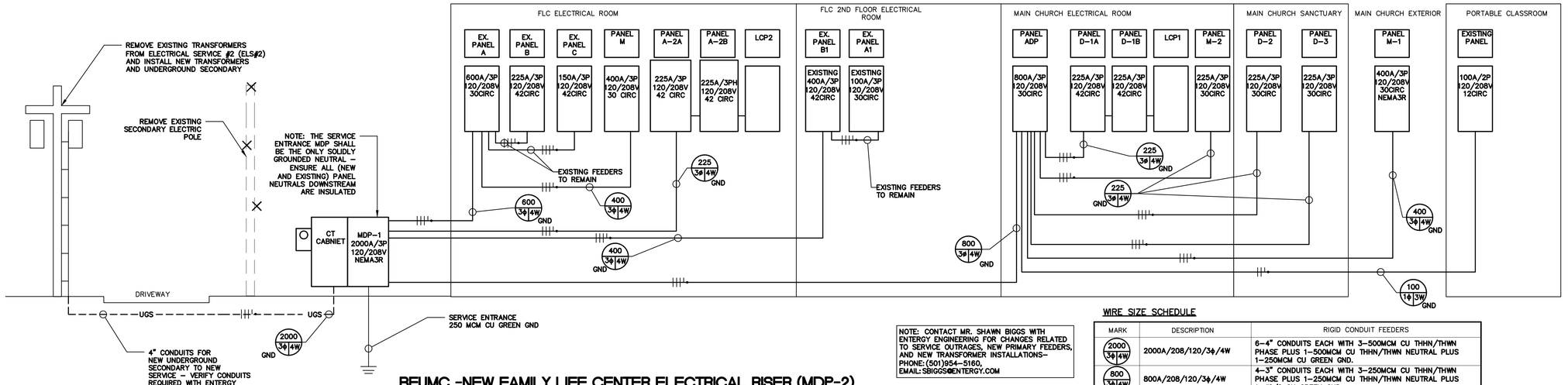

BFUMC -NEW FAMILY LIFE CENTER ELECTRICAL RISER (MDP-2)

SCALE: N.T.S.

NOTE: CONTACT MR. SHAWN BIGGS WITH ENTERGY ENGINEERING FOR CHANGES RELATED TO SERVICE OUTRAGES, NEW PRIMARY FEEDERS, AND NEW TRANSFORMER INSTALLATIONS- PHONE: (501)954-5160, EMAIL: SBIGGS@ENTERGY.COM

WIRE SIZE SCHEDULE

MARK	DESCRIPTION	RIGID CONDUIT FEEDERS
2000 3Φ 4W	2000A/208/120/3Φ/4W	6-4" CONDUITS EACH WITH 3-500MCM CU THHN/THWN PHASE PLUS 1-500MCM CU THHN/THWN NEUTRAL PLUS 1-250MCM CU GREEN GND.
800 3Φ 4W	800A/208/120/3Φ/4W	4-3" CONDUITS EACH WITH 3-250MCM CU THHN/THWN PHASE PLUS 1-250MCM CU THHN/THWN NEUTRAL PLUS 1-#2/0 CU GREEN GND.
600 3Φ 4W	600A/208/120/3Φ/4W	3-3" CONDUITS EACH WITH 3-250 MCM CU THHN/THWN PHASE PLUS 1-250 MCM NEUTRAL PLUS 1-#1/0 GREEN GND.
400 3Φ 4W	400A/208/120/3Φ/4W	2-3" CONDUITS EACH WITH 3-250 MCM CU THHN/THWN PHASE PLUS 1-250 MCM NEUTRAL PLUS 1-#3 GREEN GND.
225 3Φ 4W	200A/208/120/3Φ/4W	1-3" CONDUIT WITH 3-4/0 CU THHN/THWN PHASE PLUS 1-4/0 CU THHN/THWN NEUTRAL PLUS 1-#4 CU GREEN GND.
100 1Φ 3W	100A/208/120/1Φ/3W	1-2" CONDUIT WITH 2-#2 CU THHN/THWN PHASE PLUS 1-#2 CU THHN/THWN NEUTRAL PLUS 1-#6 CU GREEN GND.

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Sheet Title: NEW ELECTRICAL RISERS

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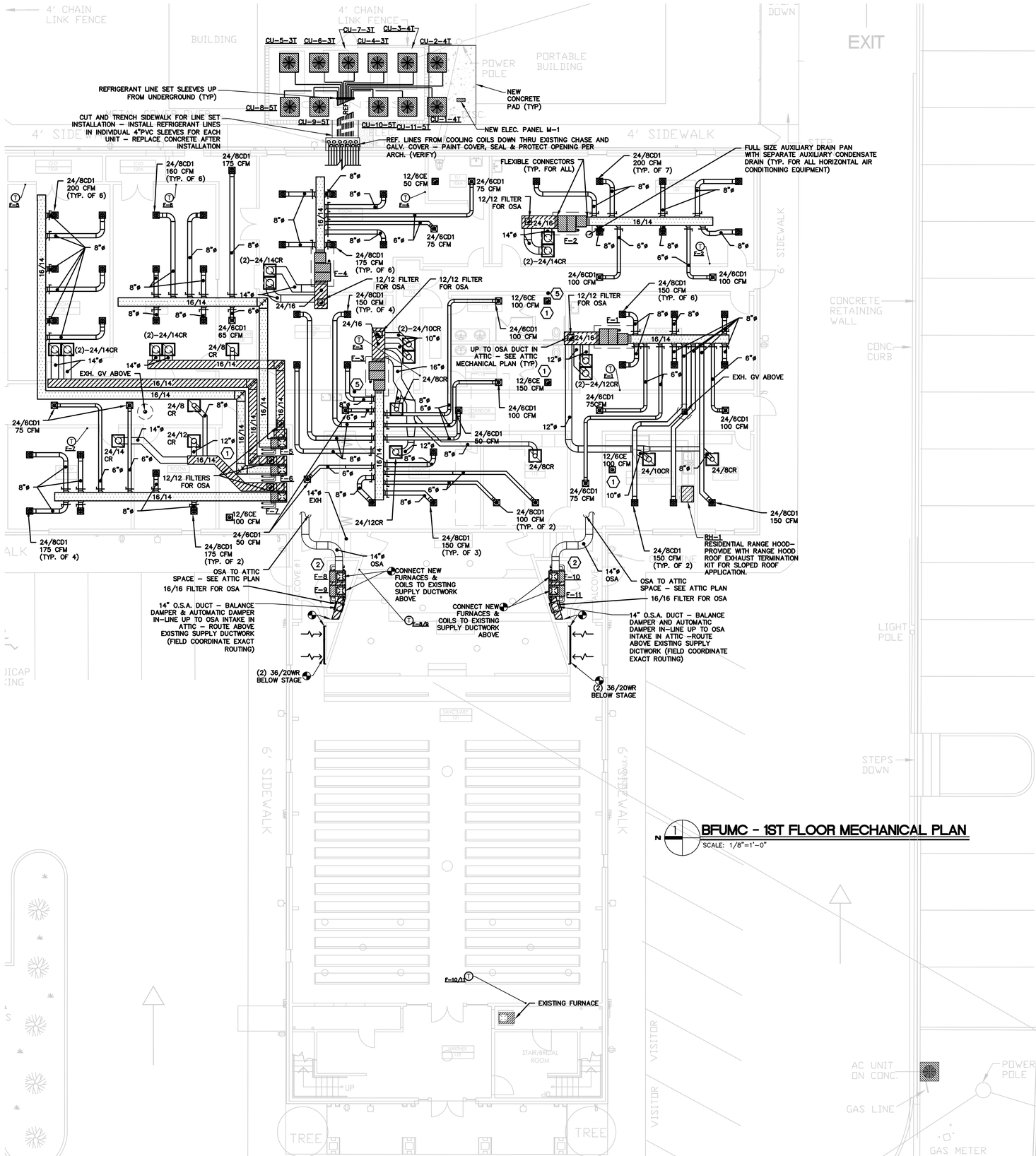

BFUMC - 1ST FLOOR MECHANICAL PLAN

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

REV	DATE	DESCRIPTION
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	2/21/17	VE1 REV

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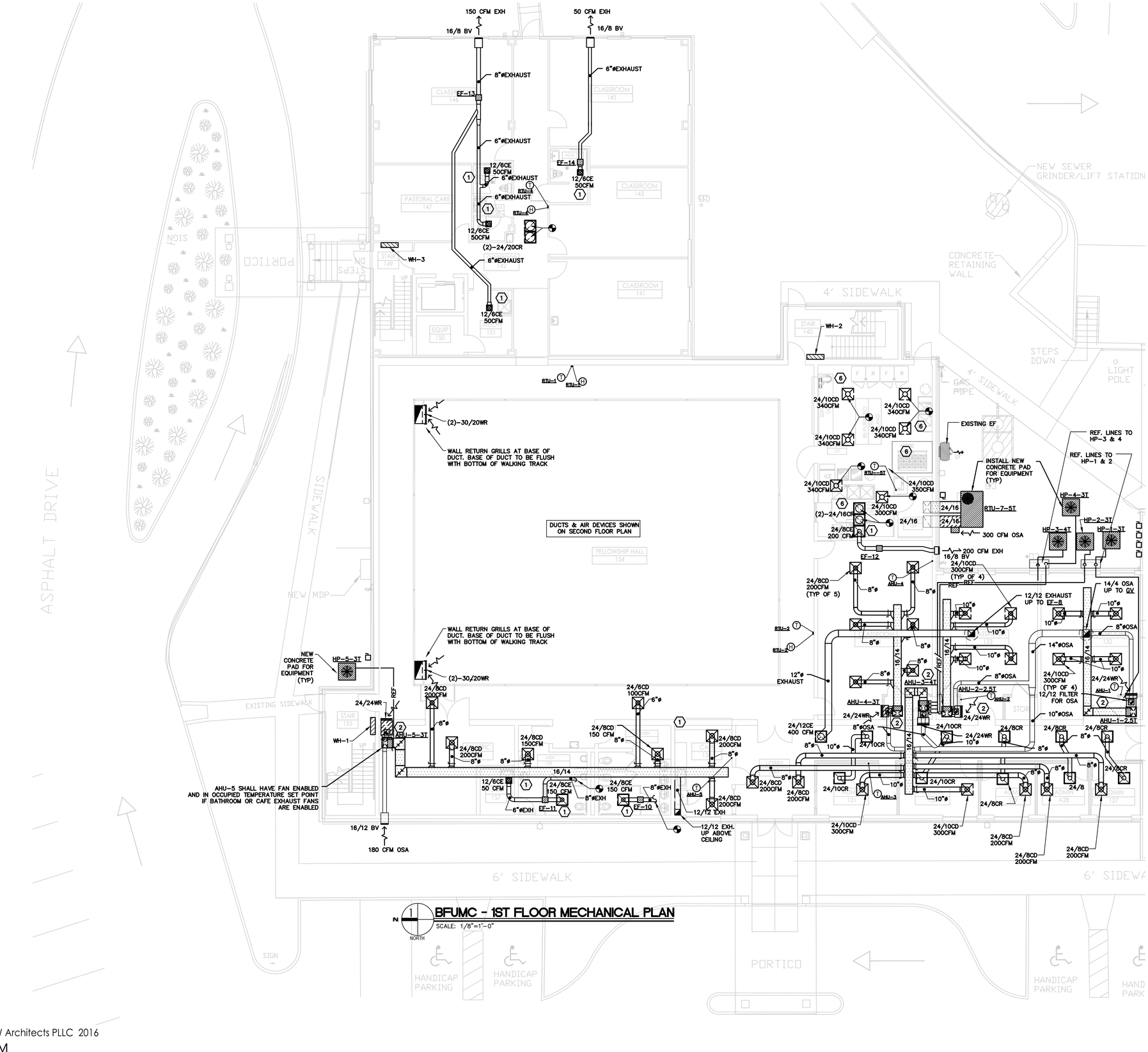

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BFUMC - 1ST FLOOR MECHANICAL PLAN

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Sheet Title: FIRST FLOOR MECHANICAL PLAN

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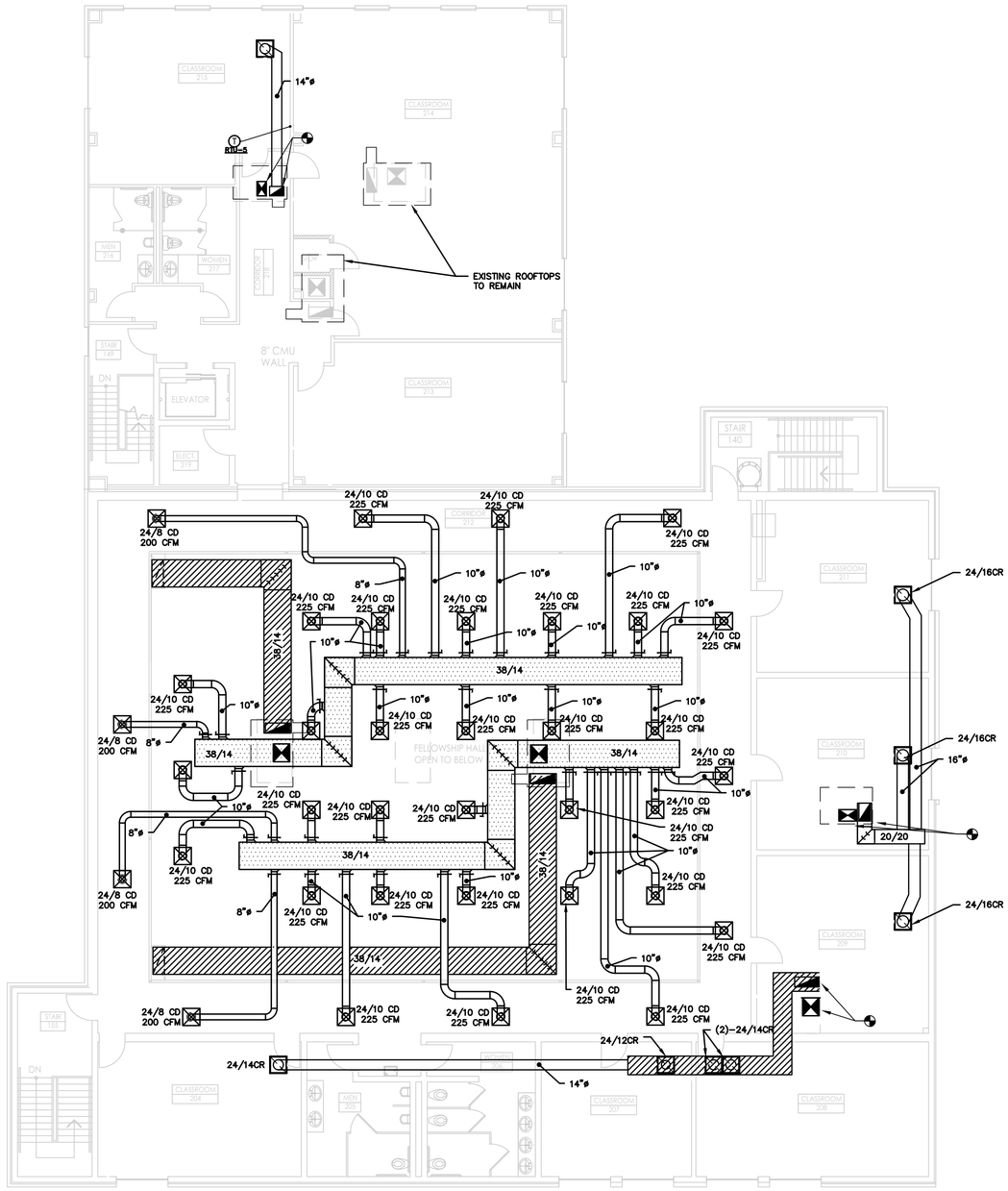
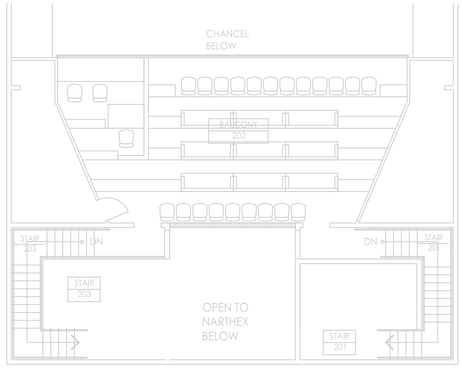


BFUMC - 2ND FLOOR MECHANICAL PLAN

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



BFUMC - BALCONY MECHANICAL PLAN

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Sheet Title: 2ND FLOOR MECHANICAL PLAN

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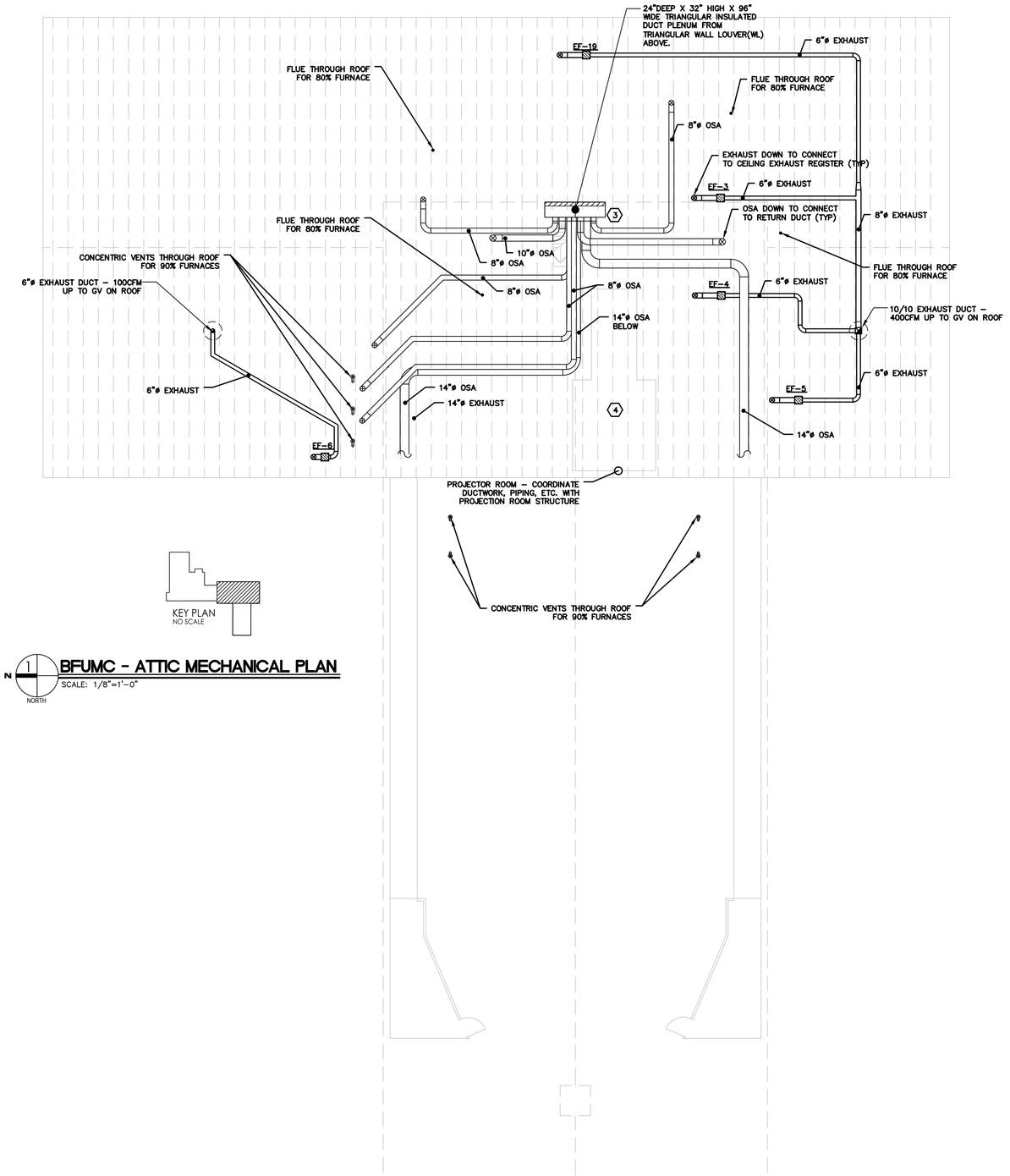
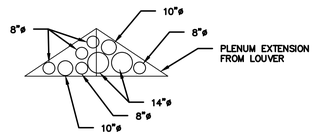


N NORTH 1

BFUMC - ATTIC MECHANICAL PLAN

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



2 **OSA DUCT TO LOUVER CONNECTION DETAIL**

SCALE: N.T.S.

REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

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Project No: HW13-618

Date: 9/21/16

Sheet Title: ATTIC MECHANICAL PLAN

Sheet No: VE1 M1.3

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No.15429 DAVID N. YARBROUGH

CERTIFICATE OF AUTHORIZATION W.H. GRANT & ASSOCIATES, INC. No.317 ARKANSAS ENGINEER

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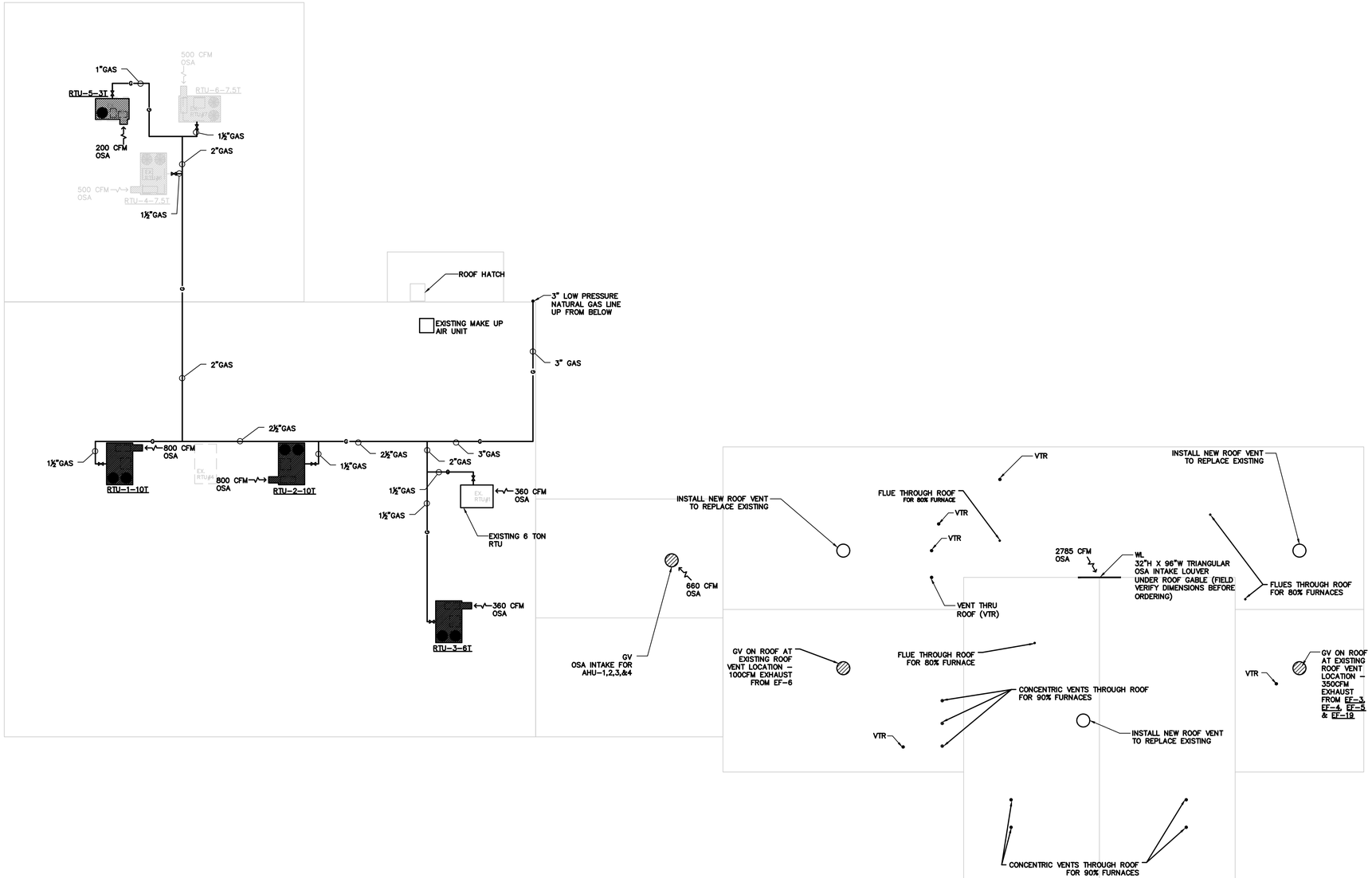

N 1 NORTH

BFUMC - ROOF MECHANICAL/PLUMBING PLAN

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

REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

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Project No: HW13-618

Date: 9/21/16

Sheet Title: ROOF MECHANICAL/ PLUMBING PLAN

Sheet No: VE1 MP1.0

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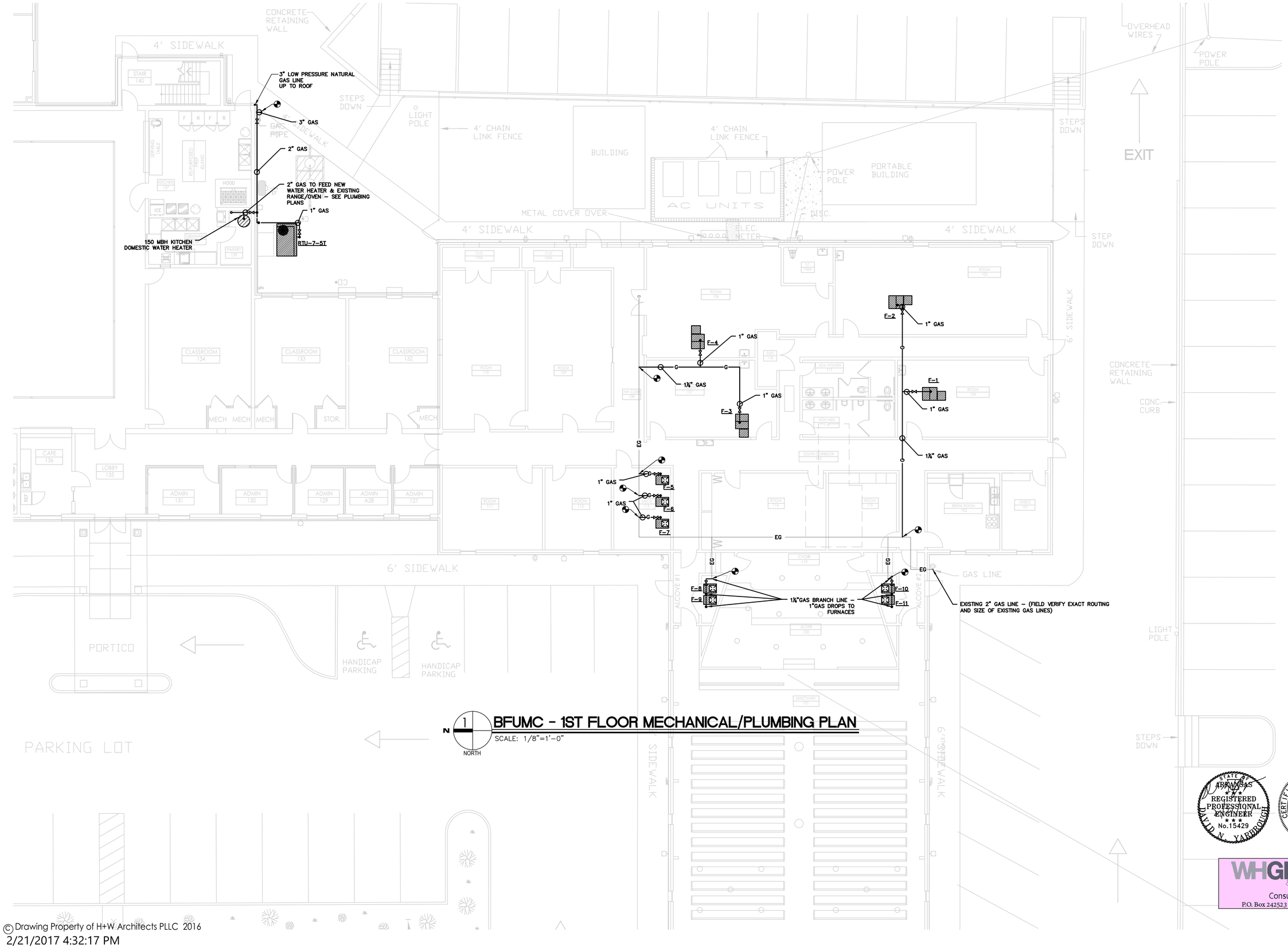

BFUMC - 1ST FLOOR MECHANICAL/PLUMBING PLAN

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

N NORTH

REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

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Project No: HW13-618

Date: 9/21/16

Sheet Title: 1ST FLOOR MECH/PLUMBING PLAN

Sheet No: VE1 MP1.1

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No.15429 DAVID N. YARBROUGH

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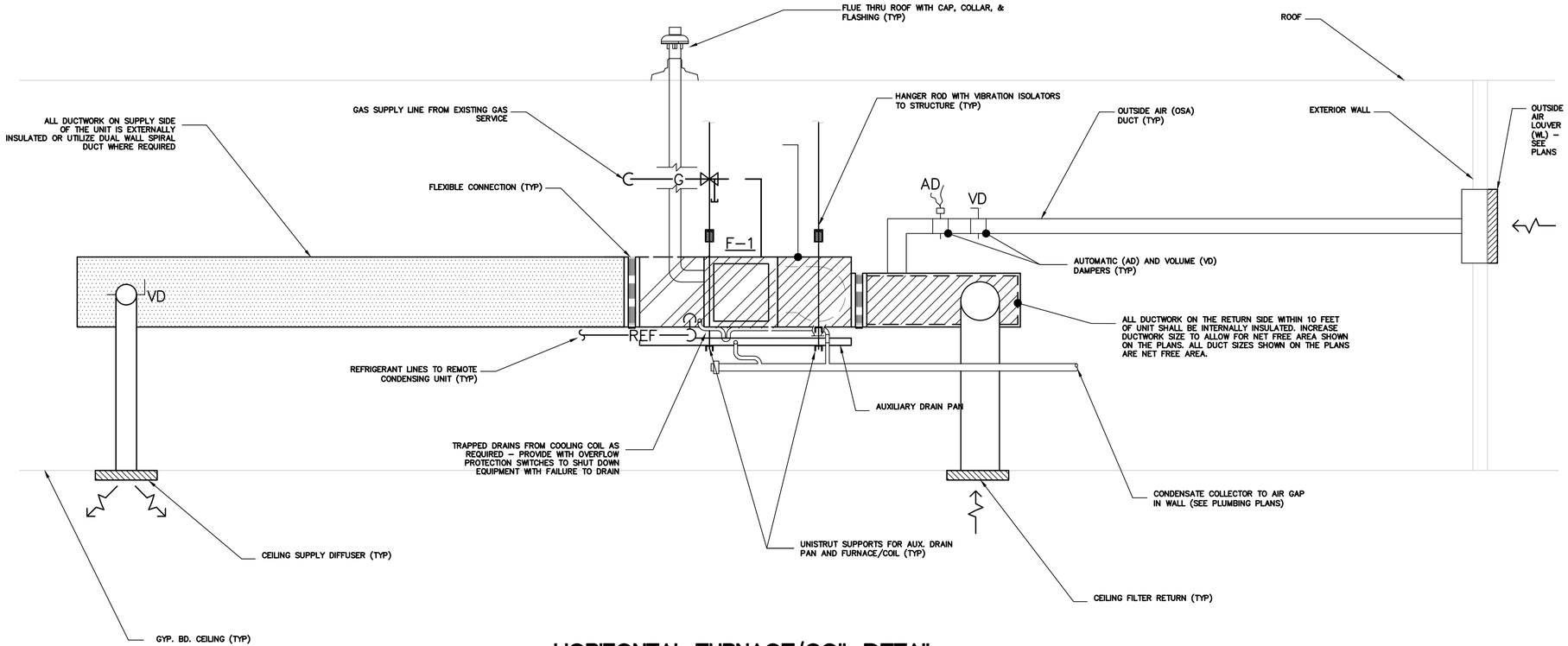
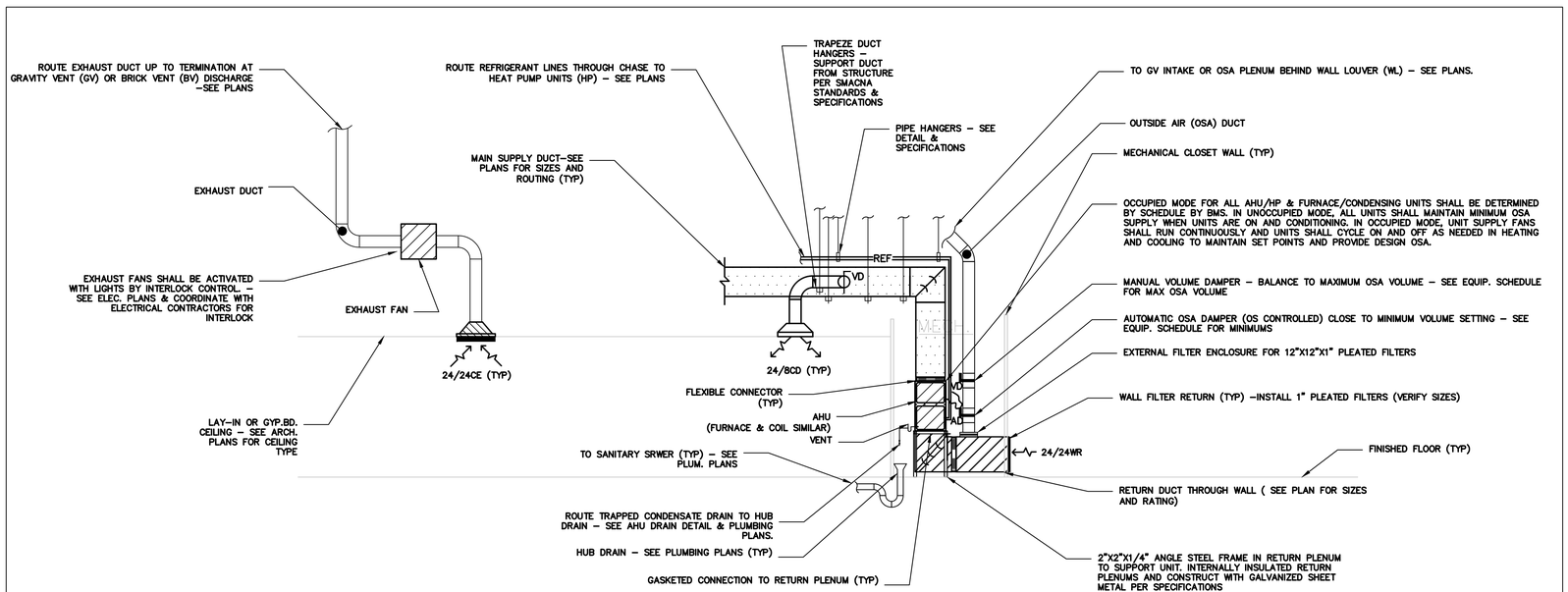


2 HORIZONTAL FURNACE/COIL DETAIL

SCALE: N.T.S.



1 UPFLOW MECHANICAL AHU/FURNACE AND IN-LINE EXHAUST FAN DETAILS

SCALE: NTS

2/21/2017 4:32:19 PM

REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

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Project No: HW13-618

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Sheet Title: MECHANICAL DETAILS

Sheet No: VE1 M2.0

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No.15429 DAVID N. YARBROUGH

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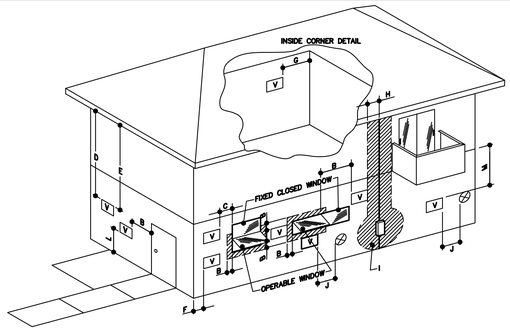


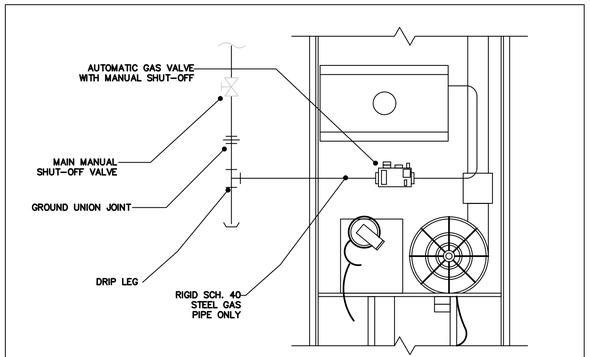
3 VENT CLEARANCE DETAIL
SCALE: NTS

NON-DIRECT VENT TERMINAL CLEARANCES

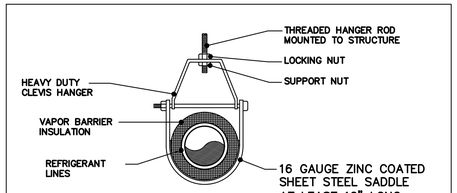
MARK	DESCRIPTION	INSTALLATION DIMS.
A	CLEARANCE ABOVE GRADE, VERANDA, PORCH, DECK, OR BALCONY	12 IN.
B	CLEARANCE TO WINDOW OR DOOR THAT MAY BE OPENED	4 FT. BELOW OR TO THE SIDE OF OPNG. 1 FT. ABOVE OPNG.
C	CLEARANCE TO PERMANENTLY CLOSED WINDOW	*
D	VERTICAL CLEARANCE TO VENTILATED SOFFIT LOCATED ABOVE THE TERMINAL WITHIN A HORIZONTAL DISTANCE OF 2 FEET FROM THE CENTER LINE OF THE TERMINAL	*
E	CLEARANCE TO UNVENTILATED SOFFIT	*
F	CLEARANCE TO OUTSIDE CORNER	*
G	CLEARANCE TO INSIDE CORNER	*
H	CLEARANCE TO EACH SIDE OF CENTER LINE EXTENDED ABOVE METER/REGULATOR ASSEMBLY	*
I	CLEARANCE TO SERVICE REGULATOR VENT OUTLET	*
J	CLEARANCE TO NONMECHANICAL AIR SUPPLY INLET TO BUILDING OR THE COMBUSTION AIR INLET TO ANY OTHER APPLIANCE	*
K	CLEARANCE TO A MECHANICAL AIR SUPPLY INLET	3 FT. ABOVE IF WITHIN TO FT. HORIZONTALLY
L	CLEARANCE ABOVE A PAVED SIDEWALK OR PAVED DRIVEWAY LOCATED ON PUBLIC PROPERTY	7 FT.
M	CLEARANCE UNDER VERANDA, PORCH, DECK, OR BALCONY	*

NOTES:
1. IN ACCORDANCE WITH THE CURRENT CSA B149.1 NATURAL GAS AND PROPANE INSTALLATION CODE.
2. IN ACCORDANCE WITH THE CURRENT ANSI Z223.1/NFPA 43 NATIONAL FUEL GAS CODE.
+ A VENT SHALL NOT TERMINATE DIRECTLY ABOVE A SIDEWALK OR PAVED DRIVEWAY THAT IS LOCATED BETWEEN TWO SINGLE FAMILY DWELLING AND SERVES BOTH DWELLINGS.
++ PERMITTED ONLY IF VERANDA, PORCH, DECK, OR BALCONY IS FULLY OPEN ON A MINIMUM OF TWO SIDES BENEATH THE FLOOR.
* CLEARANCE IN ACCORDANCE WITH LOCAL INSTALLATION CODES AND THE REQUIREMENTS OF THE GAS SUPPLIER AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

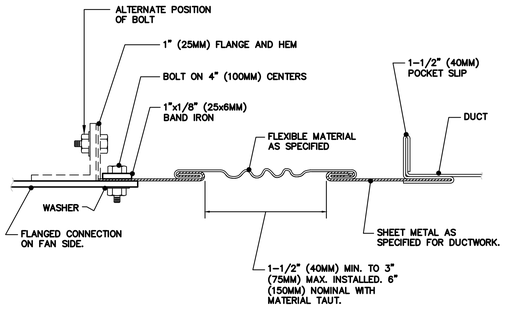
V VENT TERMINAL
AIR SUPPLY INLET
AREA WHERE TERMINAL IS NOT PERMITTED



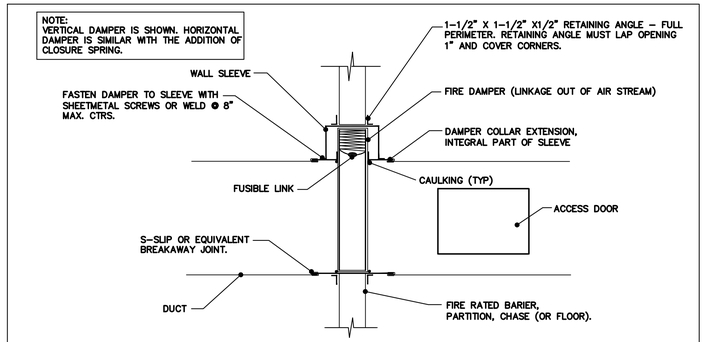
2 VERT UPFLOW GAS PIPING DETAIL*
SCALE: NTS – *SIMILAR PIPING FOR HORIZONTAL ARRANGEMENT



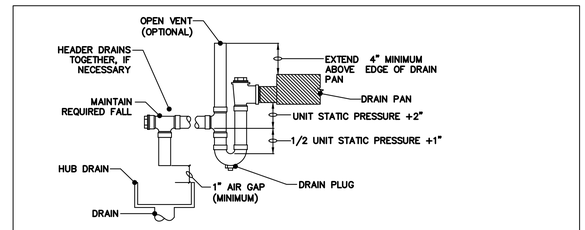
1 PIPE HANGER DETAIL
SCALE: NONE



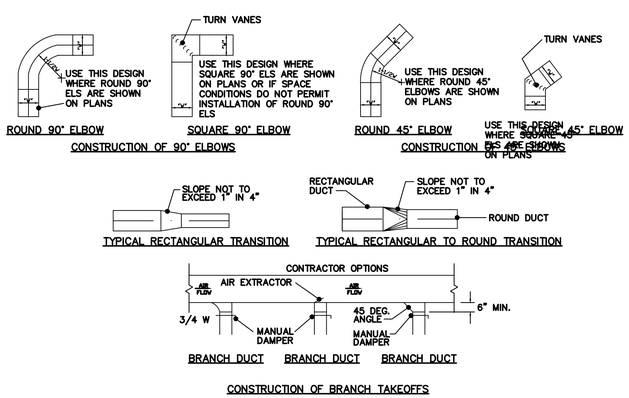
6 RECTANGULAR FLEXIBLE CONNECTION
SCALE: NONE



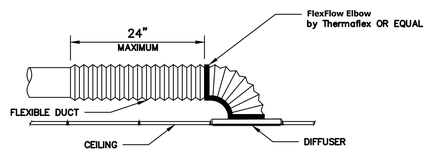
5 FIRE DAMPER DETAIL
SCALE: NONE



4 AHU DRAIN TRAP DETAIL
SCALE: N.T.S.



8 LOW VELOCITY DUCT LAYOUT DETAIL
SCALE: NONE



NOTE: INSTALL FLEXIBLE DUCTWORK SUPPORTS AT ALL ROUND NECK OUTLETS/INLETS UNLESS OTHERWISE NOTED ON DRAWINGS.

7 FLEXIBLE DUCT TO AIR OUTLET/INLET
SCALE: NONE

REV	DATE	DESCRIPTION
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	2/21/17	VE1 REV

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Sheet No: VE1 M2.1

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HEAT PUMP SPLIT SYSTEM MECHANICAL EQUIPMENT SCHEDULE - BRYANT FUMC 2016 RENOVATIONS

RHEEM HEAT PUMP CONDENSING UNITS													RHEEM AIR HANDLERS												ZONE OSA	
MARK	MODEL #	COOLING MBH @ 95°F COND.				HEATING MBH @ 47°F/17°F		ELECTRICAL				NOTES	MARK	MODEL #	ELECTRIC HEAT	ELECTRIC HEAT (KW)				ELECTRICAL			NOTES		
		TOTAL	SENSIBLE	LATENT	SEER	47°F OD	17°F OD	VOLTS	PHASE	AMPS MCA	AMPS MCB				MODEL #	CKT1	CKT2	CKT3	CKT4	VOLTS/PHASE	MCA	MOCP		(OCCUPIED)	(MINIMUM)
HP-1-3T	RP1736AJV	37.4	28.7	8.7	17.5	31.2	31.8	208	1Ø	22	35/2P	1	AHU-1	RHT2-3617SEACJC	RXBH-1724A15C	4.8	4.8	4.8		208/3Ø	49	50/3P	1	140 CFM	60 CFM
HP-2-3T	RP1736AJV	37.4	28.7	8.7	17.5	31.2	31.8	208	1Ø	22	35/2P	1	AHU-2	RHT2-3617SEACJC	RXBH-1724A15C	4.8	4.8	4.8		208/3Ø	49	50/3P	1	140 CFM	60 CFM
HP-3-4T	RP1748AJV	48	33.1	13.8	17	47.5	42.0	208	1Ø	28	45/2P	1	AHU-3	RHZT-4821MEACJC	RXBH-1724A15C	5.67	5.67	5.67		208/3Ø	51	60/3P	1	200 CFM	105 CFM
HP-4-3T	RP1736AJV	37.4	28.7	8.7	17.5	31.2	31.8	208	1Ø	22	35/2P	1	AHU-4	RHT2-3617SEACJC	RXBH-1724A15C	4.8	4.8	4.8		208/3Ø	49	50/3P	1	180 CFM	95 CFM
HP-5-3T	RP1736AJV	37.4	28.7	8.7	17.5	31.2	31.8	208	1Ø	22	35/2P	1	AHU-5	RHT2-3617SEACJC	RXBH-1724A15C	4.8	4.8	4.8		208/3Ø	49	50/3P	1	180 CFM	95 CFM

NOTES:

1. PROVIDE WITH THERMOSTAT FOR UNITS (VERIFY COMMUNICATING OR NON-COMMUNICATING FUNCTION).

SPLIT SYSTEM /GAS FURNACE MECHANICAL EQUIPMENT SCHEDULE - BRYANT FUMC 2016 RENOVATIONS

RHEEM/RUUD 2 STAGE A/C UNITS										RHEEM/RUUD CONDENSING FURNACES								EVAPORATOR COILS				
MARK	MODEL #	CAPACITY/EFFICIENCY			ELECTRICAL				NOTES	MARK	MODEL #	HEATING MBH HIGH SPEED		HEATING MBH LOW SPEED		NOTES	ELECTRICAL	MODEL #	NOTES	ZONE OSA	
		TOTAL MBH	SENSIBLE MBH	SEER	VOLTS	PHASE	MCA	MCB				IN	OUT	IN	OUT					(OCCUPIED)	(MINIMUM)
CU-1-4T	RA1748AJ2	48.0	36.2	17	208/230	1Ø	32	50/2P	1,2	F-1	R802VA100521M	100	81	70	56	1	120/1Ø	RCF6021SEA	1,2	250 CFM	118 CFM
CU-2-4T	RA1748AJ2	48.0	36.2	17	208/230	1Ø	32	50/2P	1,2	F-2	R802VA100521M	100	81	70	56	1	120/1Ø	RCF6021SEA	1,2	215 CFM	130 CFM
CU-3-4T	RA1748AJ2	48.0	36.2	17	208/230	1Ø	32	50/2P	1,2	F-3	R802VA100521M	100	81	70	56	1	120/1Ø	RCF6021SEA	1,2	250 CFM	165 CFM
CU-4-4T	RA1736AJ2	36.0	26.0	17	208/230	1Ø	21	35/2P	1,2	F-4	R802VA075317MSA	75	60	52.5	42	1	120/1Ø	RCF3617SEAM	1,2	190 CFM	130 CFM
CU-5-3T	RA1736AJ2	33.2	24.3	16	208/230	1Ø	21	35/2P	1,2	F-5	R96VA0702317MSA	70	68	49	47	1	120/1Ø	RCF3617SEAM	1,2	160 CFM	90 CFM
CU-6-3T	RA1736AJ2	33.2	24.3	16	208/230	1Ø	21	35/2P	1,2	F-6	R96VA0702317MSA	70	68	49	47	1	120/1Ø	RCF3617SEAM	1,2	160 CFM	90 CFM
CU-7-3T	RA1736AJ2	33.2	24.3	16	208/230	1Ø	21	35/2P	1,2	F-7	R96VA0702317MSA	70	68	49	47	1	120/1Ø	RCF3617SEAM	1,2	160 CFM	90 CFM
CU-8-5T	RA1460AJ1	57.7	42.9	14	208/230	1Ø	32	50/2P	1,2	F-8	R95PA1001521MSA	98	95	70	47	1	120/1Ø	RCF6024STA	1,2,3,4	700 CFM	125 CFM
CU-9-5T	RA1460AJ1	57.7	42.9	14	208/230	1Ø	32	50/2P	1,2	F-9	R95PA1001521MSA	98	95	70	47	1	120/1Ø	RCF6024STA			
CU-10-5T	RA1460AJ1	53.0	34.8	17	208/230	1Ø	42	70/2P	1,2	F-20	EXISTING FURNACE	100	92	70	64	1	120/1Ø	ALLSTYLE DUAL CIRCUIT COIL #ASM120X+V(50/50)-R410A	1,2,3,4,5	700 CFM	125 CFM
CU-11-5T	RA1460AJ1	53.0	34.8	17	208/230	1Ø	42	70/2P	1,2	F-11	EXISTING FURNACE	100	92	70	64	1	120/1Ø				

NOTES:
1. PROVIDE WITH THERMOSTAT (VERIFY WITH EQUIPMENT MANUFACTURER WHETHER THERMOSTAT PROVIDED SHOULD BE COMMUNICATING OR NON-COMMUNICATING SYSTEMS. PROVIDE AS REQUIRED).
2. PROVIDE SYSTEMS WITH ALL MANUFACTURER'S REQUIRED & RECOMMENDED EQUIPMENT FOR INSTALLATION
3. PROVIDE WITH A SINGLE COIL WITH DUAL CIRCUIT REFRIGERATION FOR CONNECTING TWO INDEPENDENT CONDENSING UNITS FOR MULTI-STAGE COOLING.
4. THESE FURNACES SHALL BE TWINNED FOR FULL CONSTANT VOLUME AIRFLOW.
5. THESE FURNACES ARE EXISTING GOODMAN 90+% AFUE FURNACES THAT CAN BE TWINNED. THESE SHALL BE RELOCATED, INSTALLED, AND UTILIZED WITH THE SPECIFIED EQUIPMENT ACCORDING TO THE PLANS.

PACKAGED GAS/ELEC. PACKAGE UNIT SCHEDULE

BRYANT FUMC 2016 RENOVATIONS

	MARK	MANUFACTURER	EQUIPMENT TYPE	MODEL	DIMENSIONS	FAN SECTION						COOLING SECTION						GAS HEATING SECTION					COMPRESSORS		ELECTRICAL			
						CFM	OSA CFM MAX/MIN	ESP	BHP	MOTOR RPM	DRIVE	VOLTS/PHASE	TOTAL CAPACITY	SENSIBLE CAPACITY	REHEAT CAPACITY	EAT (DB/WB)	LAT (DB/WB)	DESIGN OSA (DB/WB)	OUTPUT CAPACITY	INPUT CAPACITY	EAT	LAT	DESIGN OSA (DB)	TYPE	QUANTITY	VOLTS/PHASE	MCA	MOCB	NOTES
	RTU-1-10T	RHEEM	GAS/ELECTRIC PACKAGE UNIT	RKNL-B120CL15EAJA	93.7"DX58.75W"X40.2"H	3800	800/150	0.6"	1.98	853	BELT	208/3P	118 MBH	87.6	75	80°F/67°F	58.6°F/57.3°F	96°F/77°F	121.5 MBH	150 MBH	70°F	99.6°F	20°F	SCROLL	2	208/3PH	49	60	1
	RTU-2-10T	RHEEM	GAS/ELECTRIC PACKAGE UNIT	RKNL-B120CL15EAJA	93.7"DX58.75W"X40.2"H	3800	800/150	0.6"	1.98	853	BELT	208/3P	118 MBH	87.6	75	80°F/67°F	58.6°F/87.3°F	96°F/77°F	121.5 MBH	150 MBH	70°F	99.6°F	20°F	SCROLL	2	208/3PH	49	60	1
	RTU-3-6T	RHEEM	GAS/ELECTRIC PACKAGE UNIT	RKNL-B073CL15EDNA	93.7"DX58.75W"X40.2"H	2250	360/220	0.6"	1.01	993	BELT	208/3P	73.3 MBH	54.9	N/A	80°F/67°F	58.2°F/56.9°F	96°F/77°F	121.5 MBH	150 MBH	70°F	121°F	20°F	SCROLL	1	208/3PH	40	50	2
NIC	RTU-4-7.5T	RHEEM	GAS/ELECTRIC PACKAGE UNIT	RKNL-G090CT15EDPJ	93.7"DX58.75W"X40.2"H	3000	500/170	1.0"	1.65	920	BELT	208/3P	93.5 MBH	63.6	59	83°F/69°F	63°F/59°F	96°F/77°F	121.5 MBH	150 MBH	66°F	103°F	20°F	SCROLL	2	208/3PH	48	65	1
	RTU-5-3T	RHEEM	GAS/ELECTRIC PACKAGE UNIT	RKPN-A036CL08EDNA	48.06"DX76.25W"X35"H	1100	2/150	0.6"	.51	924	BELT	208/3P	33.6 MBH	23.8	N/A	80°F/67°F	60°F/57.4°F	96°F/77°F	64.8 MBH	80 MBH	70°F	124.5°F	20°F	SCROLL	1	208/3PH	16	20	2
NIC	RTU-6-7.5T	RHEEM	GAS/ELECTRIC PACKAGE UNIT	RKNL-G090CT15EDPJ	93.7"DX58.75W"X40.2"H	3000	500/170	1.0"	1.65	920	BELT	208/3P	93.5 MBH	63.6	59	83°F/69°F	63°F/59°F	96°F/77°F	121.5 MBH	150 MBH	66°F	103°F	20°F	SCROLL	2	208/3PH	48	65	1
	RTU-7-5T	RHEEM	GAS/ELECTRIC PACKAGE UNIT	RKPN-A060CM10EDNA	48.06"DX76.25W"X35"H	1850	300/80	0.6"	0.92	1107	BELT	208/3P	57.6MBH	41.1	N/A	80°F/67°F	59.4°F/57.2°F	96°F/77°F	81 MBH	100 MBH	70°F	110.5°F	20°F	SCROLL	1	208/3PH	27	40	3

1. PROVIDE UNIT WITH HGRH, NON-POWERED CONVENIENCE OUTLET, ROOM THERMOSTAT, 14" ROOF CURB, HAIL GUARD, STAINLESS STEEL HEAT EXCHANGER, LOW AMBIENT KIT, ECONOMIZER WITH BAROMETRIC RELIEF & SMOKE DETECTOR.
2. PROVIDE UNIT WITH COMFORT ALERT, NON-POWERED CONVENIENCE OUTLET, ROOM THERMOSTAT, 14" ROOF CURB, HAIL GUARD, STAINLESS STEEL HEAT EXCHANGER, LOW AMBIENT KIT, ECONOMIZER WITH BAROMETRIC RELIEF & SMOKE DETECTOR.
3. PROVIDE UNIT WITH COMFORT ALERT, NON-POWERED CONVENIENCE OUTLET, ROOM THERMOSTAT, HAIL GUARD, STAINLESS STEEL HEAT EXCHANGER, LOW AMBIENT KIT, ECONOMIZER WITH BAROMETRIC RELIEF & SMOKE DETECTOR.

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REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

BRYANT FIRST United Methodist Church
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2016 RENOVATIONS

H+W
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319 Pres. Clinton Avenue
Little Rock, AR 72201
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Project No: HW13-618

Date: 9/21/16

Sheet Title: MECHANICAL SCHEDULES

Sheet No: VE1 M3.0

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EXHAUST FAN SCHEDULE - BRYANT FUMC 2016 RENOVATIONS

	MARK	SERVES	TYPE	LOCATION	DRIVE	CFM	E.S.P. (IN W.G.)	MOTOR VOLTS/PH	MOTOR HP	MAX. SONES	MAUNFACTURER	MODEL NUMBER	WHEEL DIAMETER	NOTES
NIC	EF-1	SANCTUARY	ONBLAST	ROOF MTD.	DIRECT	1400	.25	120/1	1/2	12.3	GREENHECK	G-123-VG	13.062"	5
NIC	EF-2	CLASSROOM WING	ONBLAST	ROOF MTD.	DIRECT	600	.25	120/1	1/10	7.9	GREENHECK	G-090-VG	10.875"	5
	EF-3	TOILET	INLINE	ABV. CLG.	DIRECT	100	.25	120/1	1/10	1.5	COOK	GN-168	8.125"	1,2,4
	EF-4	TOILET	INLINE	ABV. CLG.	DIRECT	100	.25	120/1	1/10	1.5	COOK	GN-168	8.125"	1,2,4
	EF-5	BREAKROOM	INLINE	ABV. CLG.	DIRECT	100	.25	120/1	1/10	1.5	COOK	GN-168	8.125"	1,2,4
	EF-6	JANITOR/MECH.	INLINE	ABV. CLG.	DIRECT	100	.25	120/1	1/10	1.5	COOK	GN-168	8.125"	1,2,4
NIC	EF-7	TOILET	INLINE	ABV. CLG.	DIRECT	50	.25	120/1	1/10	2.7	GREENHECK	SQ-60-VG	6.125"	5
NIC	EF-8	ADMINISTRATION	ONBLAST	ROOF MTD.	DIRECT	400	.25	120/1	1/10	8.1	GREENHECK	G-080-VG	10.875"	5
NIC	EF-9	CAFE	INLINE	ABV. CLG.	DIRECT	100	.25	120/1	1/10	4	GREENHECK	SQ-60-VG	6.125"	5
	EF-10	TOILET	INLINE	ABV. CLG.	DIRECT	150	.25	120/1	1/10	3	COOK	GN-322	8.125"	1,2,4
	EF-11	TOILET	INLINE	ABV. CLG.	DIRECT	150	.25	120/1	1/10	3	COOK	GN-322	8.125"	1,2,4
	EF-12	KITCHEN GENERAL EXHAUST	INLINE	ABV. CLG.	DIRECT	200	.25	120/1	1/10	3.5	COOK	GN-342	8.125"	1,2,4
	EF-13	TOILET, JANITOR, SERVICE	INLINE	ABV. CLG.	DIRECT	150	.25	120/1	1/10	3	COOK	GN-322	8.125"	1,2,4
	EF-14	TOILET	INLINE	ABV. CLG.	DIRECT	50	.25	120/1	1/10	.8	COOK	GN-168	8.125"	1,2,4
NIC	EF-15	TOILET	INLINE	ABV. CLG.	DIRECT	100	.25	120/1	1/10	4	GREENHECK	SQ-60-VG	6.125"	1,2,4
NIC	EF-16	TOILET	INLINE	ABV. CLG.	DIRECT	100	.25	120/1	1/10	4	GREENHECK	SQ-60-VG	6.125"	1,2,4
	EF-17	TOILET	INLINE	ABV. CLG.	DIRECT	150	.25	120/1	1/10	3	COOK	GN-322	8.125"	1,2,4
	EF-18	TOILET	INLINE	ABV. CLG.	DIRECT	150	.25	120/1	1/10	3	COOK	GN-322	8.125"	1,2,4
	EF-19	TOILET	INLINE	ABV. CLG.	DIRECT	50	.25	120/1	1/10	.8	COOK	GN-168	8.125"	1,2,4
NIC	EF-20	FAMILY LIFE WORSHIP	ONBLAST	ROOF MTD.	DIRECT	1600	.25	120/1	1/2	14.5	GREENHECK	G-123-VG	13.062"	5

NOTES:
1. FACTORY MOUNTING KIT FOR SUSPENSION FROM STRUCTURE INCLUDING VIBRATION ISOLATORS.
2. PROVIDE FAN SPEED CONTROL, DISCONNECT, & BACK DRAFT DAMPER.
3. PROVIDE 0-10V FAN SPEED CONTROL, DISCONNECT, & BACK DRAFT DAMPER
4. PROVIDE FAN ROOF CURB FOR SLOPED OR FLAT ROOF (VERIFY)
5. NOT INCLUDED IN JOB

AIR DEVICE SCHEDULE (SIZES ON PLANS) - BRYANT FUMC 2016 RENOVATIONS

	FUNCTION	LOCATION	FINISH	INSTALLATION	EQUAL MFG. MODEL	MATERIAL
CD	SUPPLY	CEILING	PER ARCHITECT***	LAY-IN GRID*	KRUEGER 51450	ALUMINUM
CD1	SUPPLY	CEILING	PER ARCHITECT***	SURFACE MOUNT OR EXPOSED*	KRUEGER 51450	ALUMINUM
CR	RETIURN	CEILING	PER ARCHITECT***	LAY-IN GRID OR SURFACE*	KRUEGER EGC5	ALUMINUM
CE	EXHAUST	CEILING	PER ARCHITECT***	LAY-IN GRID OR SURFACE*	KRUEGER EGC5	ALUMINUM
WR	RETURN	WALL	PER ARCHITECT***	BLOCK, GYP. BRD., OR OTHER**	KRUEGER S80	STEEL
WL	OSA	ATTIC GABLE END	PER ARCHITECT***	EXTERIOR WALL MOUNT TRIANGULAR LOUVER - (FIELD VERIFY DIMENSIONS)	POTTORFF EFD-245	ALUMINUM
BV	OSA/EXH	SIDEWALL BRICK OR EIFS (VERIFY)	PER ARCHITECT***	SURFACE MOUNT TO WALL OPENING - PLENUMS DIRECT CONNECT TO VENTS	POTTORFF EFD-637	ALUMINUM
GV	OSA/EXH	ROOF MTD. - SLOPED SHINGLE OR CURB (VERIFY)	PER ARCHITECT***	MOUNT TO SLOPED ROOF OR ROOF CURB - DUCTS DIRECT CONNECTED TO VENTS	COOK PR	ALUMINUM

* SEE ARCHITECTURAL PLANS FOR CEILING TYPE - PROVIDE AIR DEVICES AS REQUIRED
** VERIFY CONSTRUCTION OF CHASE, MOUNTING REQUIREMENTS, AND RETURN OPENING WITH ARCHITECT
*** VERIFY ALL AIR DEVICE FINISHES WITH ARCHITECT PRIOR TO ORDERING EQUIPMENT
**** PROVIDE WITH FACE MOUNTED INSECT SCREEN

WALL MOUNTED CONVECTION HEATER SCHEDULE
BRYANT FUMC 2016 RENOVATIONS

MARK	MANUFACTURER	MODEL	DIMENSIONS (H X W X D)	WATTS/FT	VOLTS/ PHASE/AMPS	MOCP
WH-1	RAYWALL/REDD-I	8533	20"x5"x36"	750	208V/1PH	20/2P
WH-2	RAYWALL/REDD-I	8533	20"x5"x36"	750	208V/1PH	20/2P
WH-3	RAYWALL/REDD-I	8533	20"x5"x36"	750	208V/1PH	20/2P

NOTES:
1. PROVIDE WITH INTEGRAL THERMOSTAT AND POWER DISCONNECT

REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

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STATE OF ARKANSAS 15429 REGISTERED PROFESSIONAL ENGINEER No.15429 DAVID N. YARBROUGH

CERTIFICATE OF AUTHORIZATION W.H. GRANT & ASSOCIATES, INC. No.317 ARKANSAS ENGINEER

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MECHANICAL LEGEND
(NOTE: NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT)

SYMBOLS	DESCRIPTIONS	SYMBOLS	DESCRIPTIONS
	MECHANICAL EQUIPMENT – SCHEDULED, NOTED, OR LISTED IN MECHANICAL SPECIFICATIONS	(1)	KEYED NOTE
	EXISTING MECHANICAL PIPING, MECHANICAL EQUIPMENT, OR ELECTRICAL EQUIPMENT	A/C	ABBREVIATION MEANS – AIR CONDITIONING
17/15	INSULATED SUPPLY PLENUM OR DUCTWORK (LOW PRESSURE, SECONDARY DUCT)	AD	ABBREVIATION MEANS – AUTOMATIC DAMPER
75/25 75/25	NEW INSULATED RETURN, OSA, OR EXHAUST PLENUM OR DUCT – (LOW PRESSURE UNLESS NOTED – SEE SPECIFICATIONS)	AFF	ABBREVIATION MEANS – ABOVE FINISHED FLOOR
FD	AUTOMATIC FIRE DAMPER – SIZE ACCORDING TO DUCT OR TRANSFER OPENING ON DRAWINGS	AHU	ABBREVIATION MEANS – AIR HANDLING UNIT
	METAL SUPPLY OR RETURN RECTANGULAR DUCT 90° ELBOW WITH TURNING VANES	CD	ABBREVIATION MEANS – CEILING DIFFUSER
	NEW INSULATED ROUND METAL SUPPLY DUCT – (LOW PRESSURE UNLESS NOTED – SEE SPECIFICATIONS)	# CFM	ABBREVIATION MEANS – CUBIC FEET PER MINUTE (STD. AIR)
	INSULATED ROUND FLEX DUCT ONLY AT GRILLE LOCATION – (LOW PRESSURE – MAX. LENGTH 3'–0" UNLESS SHOWN OR NOTED)	CR	ABBREVIATION MEANS – CEILING RETURN
24/12	RECTANGULAR DUCT SIZE (NET FREE INSIDE AREA) – HORIZONTAL/VERTICAL DIMENSION (IN INCHES UNLESS NOTED)	CD	ABBREVIATION MEANS – CEILING DIFFUSER/CEILING SUPPLY
12"ø	ROUND DUCT DIAMETER – (IN INCHES UNLESS NOTED)	CE	ABBREVIATION MEANS – CEILING EXHAUST
AD	AUTOMATIC CONTROL OR VOLUME DAMPER – SIZE, & TYPE AS SCHEDULED OR SPECIFIED	CW	ABBREVIATION MEANS – COLD WATER (DOMESTIC)
VD	MANUAL VOLUME DAMPER IN LOW PRESSURE ROUND METAL DUCT	GV	ABBREVIATION MEANS – GRAVITY VENT (OSA INTAKE OR EXHAUST AS NOTED)
	CEILING SUPPLY DIFFUSERS – NOTED: 24/10 CD, 12CD2, ETC. (MODULE SIZE, INLET DIAMETER, DEVICE TYPE AS SCHEDULED) – LAY–IN OR SURFACE MOUNT TO SUIT LOCATION (SEE ARCH.)	MAU	ABBREVIATION MEANS – MAKE–UP AIR UNIT
	CR CEILING RETURN FILTER GRILLE – NOTED: 24/24 (MODULE SIZE),LAY–IN OR SURFACE MOUNT TO SUIT LOCATION (SEE ARCH. PLANS), ROUND OR RECTANGULAR DUCT CONNECTION BY DUCT SIZE (SEE PLANS), & 20"X20"X1" FILTER SIZE OR AS NOTED	MUA	ABBREVIATION MEANS – MAKE–UP AIR
	CE CEILING EXHAUST GRILLE – NOTED: 24/24 (MODULE SIZE), LAY–IN OR SURFACE MOUNT TO SUIT LOCATION (SEE ARCH. PLANS), ROUND OR RECTANGULAR DUCT CONNECTION BY DUCT SIZE (SEE PLANS)	FD	ABBREVIATION MEANS – FIRE DAMPER
	WR OR WS – WALL FILTER RETURN OR WALL SUPPLY GRILLE AS DESIGNATED ON PLANS – NOTED: 24/24 WR (NOMINAL DUCT HEIGHT/WIDTH, DEVICE TYPE AS SCHEDULED OR NOTED)	NIC	ABBREVIATION MEANS – NOT IN CONTRACT
	AIR FLOW DIRECTION (SUPPLY, RETURN, EXHAUST, TRANSFER, ETC.)	OAD	ABBREVIATION MEANS – OUTSIDE AIR DAMPER
(T) AHU–01	ZONE THERMOSTAT – IDENTIFIED BY RTU NUMBER OR AIR HANDLER UNIT NUMBER	OSA	ABBREVIATION MEANS – OUTSIDE (FRESH) AIR
(S) RH AHU–2	ZONE SENSOR – IDENTIFIED BY TYPE OF SENSOR (HUMIDITY) AND AIR HANDLER UNIT NUMBER	OFCI	ABBREVIATION MEANS – OWNER FURNISHED CONTRACTOR INSTALLED
HP–1, AHU–1	AIR HANDLER, HEAT PUMP, OR OTHER EQUIPMENT NUMBER/DESIGNATIONS (SEE EQUIPMENT SCHEDULES & SPECIFICATIONS)	OFOI	ABBREVIATION MEANS – OWNER FURNISHED OWNER INSTALLED
—REF—	REFRIGERANT PIPING (VAPOR, SUCTION, LIQUID, AND/OR HOT GAS LINES – SEE EQUIPMENT SCHEDULE, SPECIFICATIONS, AND CONSULT MANUFACTURER'S GUIDELINES FOR SIZING)	REF	ABBREVIATION MEANS – REFRIGERANT
— D —	CONDENSATE DRAIN LINE FROM MECHANICAL EQUIPMENT – SIZED PER MANUFACTURER'S REQUIREMENTS	SA & SF	ABBREVIATIONS MEAN – SUPPLY AIR & SUPPLY FAN
— G —	LOW PRESSURE GAS SERVICE LINE TO MECHANICAL OR PLUMBING EQUIPMENT – SEE SPECIFICATIONS & PLUMBING PLANS	TYP	ABBREVIATION MEANS – TYPICAL
	CONNECT TO EXISTING DUCT, EQUIPMENT, PIPING, CONTROLS, ETC. AT POINT INDICATED	VD	ABBREVIATION MEANS – VOLUME DAMPER
	POINT OF DISCONNECTION OF EXISTING EQUIPMENT	WR & WS	ABBREVIATION MEANS – WALL RETURN & WALL SUPPLY

MECHANICAL GENERAL NOTES:

1. THESE MECHANICAL DRAWINGS SHOW THE FINISHED CONDITION OF MECHANICAL SYSTEMS IN THE RENOVATED FACILITY. ANY EXISTING MECHANICAL SYSTEMS OR EQUIPMENT THAT ARE NOT INCORPORATED IN OR CONNECTED TO NEW SYSTEMS, OR OTHERWISE REUSED, SHALL BE COMPLETELY REMOVED. THE DRAWINGS ARE SCHEMATIC PLANS OF THE GENERAL FINISHED ARRANGEMENT OF MECHANICAL EQUIPMENT, PIPING, DUCTWORK, AND APPURTENANCES. THE DRAWINGS ARE NOT INTENDED TO SHOW EVERY OFFSET, REQUIRED CLEARANCE, PHYSICAL CONNECTION, REQUIRED ACCESSORIES TO MECHANICAL EQUIPMENT, OR EXISTING CONDITION OF EQUIPMENT. THE MECHANICAL CONTRACTOR (INCLUDING CONTROLS CONTRACTOR – NW CONTROLS) SHALL VISIT THE SITE BEFORE BIDDING, ORDERING EQUIPMENT, OR PERFORMING ANY WORK ON THE PROJECT. THE CONTRACTOR(S) SHALL BE FAMILIAR WITH ALL EXISTING CONDITIONS AND SHALL COORDINATE ALL WORK TO AVOID INTERFERENCES WITH EXISTING PIPING AND EQUIPMENT THAT SHALL REMAIN. ALL CONTRACTORS SHALL BE REQUIRED TO ATTEND A MANDATORY PRE–BID WALK–THRU IN THE FACILITY, AS DESIGNATED BY THE ARCHITECT, ENGINEERS, AND OWNER. FOR BIDDING PURPOSES, ALL QUESTIONS WILL ONLY BE ADDRESSED AT THE MANDATORY WALK THRU.
2. THIS PROJECT SHALL OCCUR IN PHASES AS COORDINATED BETWEEN THE ARCHITECT, OWNER, ENGINEER, AND GENERAL CONTRACTOR. THE ENTIRE ORIGINAL CHURCH BUILDING THAT HOUSES THE SANCTUARY AND CLASSROOM AREAS SHALL BE THE LAST PHASE OF CONSTRUCTION. COORDINATE ALL WORK SO AS TO MINIMIZE THE DISRUPTION OF THE CHURCH'S OPERATIONS. COORDINATE ANY DOWNTIMES REQUIRED WITH THE ARCHITECT, OWNER, ENGINEER, AND GENERAL CONTRACTOR.
3. STRUCTURAL MODIFICATIONS TO THE EXISTING BUILDING ARE REQUIRED FOR THIS PROJECT (SEE STRUCTURAL PLANS & SPECIFICATIONS). ANY CONNECTIONS OR MODIFICATIONS TO NEW OR EXISTING STRUCTURAL MEMBERS FOR SUPPORT OF MECHANICAL EQUIPMENT, PIPING, DUCTWORK, ETC. SHALL COMPLY WITH THE PLANS AND SPECIFICATIONS AND SHALL BE IN COMPLIANCE WITH STRUCTURAL. DO NOT CUT OR MODIFY NEW OR EXISTING STRUCTURAL MEMBERS WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD AND THE ARCHITECT OF RECORD.
4. PLUMBING, FIRE ALARM, & ELECTRICAL ADDITIONS, RENOVATIONS, AND UPGRADES ARE BEING COMPLETED IN THIS PROJECT. THE MECHANICAL (INCLUDING CONTROLS) CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO AVOID ANY INTERFERENCES AND MAINTAIN ALL REQUIRED SAFETY CLEARANCES FROM NEW AND EXISTING ELECTRICAL AND PLUMBING EQUIPMENT. COORDINATE WITH ELECTRICAL FOR CIRCUITS TO NEW MECHANICAL EQUIPMENT. THERE ARE TWO MAIN ELECTRICAL SERVICES IN THIS FACILITY. UNTIL ONE SERVICE IS UPGRADED AND THE OTHER COMPLETELY REMOVED, MAINTAIN SEPARATION OF THESE ELECTRICAL SERVICES.
5. SOME EXISTING PLUMBING SHALL REMAIN. COORDINATE DUCTWORK AND EQUIPMENT WITH NEW AND EXISTING PLUMBING.
6. ALL EXISTING MECHANICAL EQUIPMENT IS TO BE REMOVED, EXCEPT FOR THE LENNOX SPLIT SYSTEM SERVING THE NARTHEX & BALCONY, AND THE LENNOX RTU SERVING UPSTAIRS CLASSROOMS IN THE FLC. ALL OTHER HVAC EQUIPMENT SHALL BE REMOVED FROM THE BUILDING AND DISPOSED OF BY THE MECHANICAL CONTRACTOR.
7. ALL MECHANICAL EQUIPMENT SHALL BE IDENTIFIED AND TAGGED PER SPECIFICATIONS AND MECHANICAL SCHEDULES.
8. CONTROLS UPGRADES FOR MECHANICAL SYSTEMS SHALL BE COMPLETED ACCORDING TO THE PLANS AND SPECIFICATIONS. NEW CONTROL EQUIPMENT SHALL BE ADDED, AS REQUIRED TO FACILITATE CONTROL AND OPERATION OF THE FACILITY AS SHOWN ON THE PLANS AND INDICATED IN THE SPECIFICATIONS. ANY MODIFICATIONS OF CONTROLS NOT INCLUDED IN THE PLANS AND SPECIFICATIONS SHALL BE COMPLETED WITH PRIOR APPROVAL OF THE ARCHITECT, ENGINEER, & OWNER.
9. COORDINATE MECHANICAL INSTALLATIONS AND MODIFICATIONS ON THE ROOF WITH THE GENERAL CONTRACTOR, ARCHITECT & OWNER. INSTALL EQUIPMENT SUCH THAT THE INTEGRITY OF THE ROOF REMAINS IN TACT.
10. COORDINATE WITH THE GENERAL CONTRACTOR & ELECTRICAL CONTRACTOR TO CAREFULLY REMOVE THE BASKETBALL BACKBOARDS, FRAMES, BRACING, MOTOR, CABLING, SCOREBOARD, AND ALL ASSOCIATED EQUIPMENT FROM THE FELLOWSHIP HALL IN THE FAMILY LIFE CENTER BEFORE ANY CONSTRUCTION BEGINS IN THIS AREA.

KEYED NOTES:

(1) EXHAUST FANS SHALL SWITCH WITH LIGHTS/OCCUPANCY IN THESE LOCATIONS – COORDINATE WITH ELECTRICAL CONTRACTOR

(2) PROPERLY TRAPPED & VENTED CONDENSATE DRAINS SHALL ROUTE TO HUB DRAINS, COLLECTORS, STORM DRAINS, JAN. SINK, PUMPS, OR AIR GAPS – SEE PLUMBING PLANS AND FIELD COORDINATE WITH PLUMBING CONTRACTOR

(3) CONSTRUCT PLENUM FOR OUTSIDE AIR (OSA) INTAKE IN ATTIC BEHIND GABLE LOUVER. ROUTE OSA DUCTS FROM SPLIT SYSTEMS UP TO OSA PLENUM IN ATTIC (SEE OSA CONNECTION TO LOUVER DETAIL). INSTALL OSA DUCTS WITH MANUAL BALANCE DAMPER AND CONTROL DAMPER AT UNIT (SEE SPLIT SYSTEM DETAIL).

(4) COORDINATE DUCTWORK AND OTHER MECHANICAL SYSTEMS WITH THE EXISTING PROJECTION ROOM IN THIS LOCATION – DO NOT CUT OR MODIFY STRUCTURE

(5) AIR GAP IN WALL FOR CONDENSATE COLLECTION BELOW WITH ACCESS DOOR IN HALLWAY (SEE PLUMBING PLANS)

(6) REMOVE ALL KITCHEN EQUIPMENT FOR RENOVATION OF KITCHEN AND REINSTALL AFTER RENOVATION IN THE LOCATIONS SHOWN (ALSO SEE PLUMBING, ELECTRICAL, & ARCHITECTURAL PLANS). SERVICE ALL EQUIPMENT THAT REQUIRES MAINTENANCE OR REPAIR (I.E., DISHWASHER, ETC.) AND REINSTALL IN GOOD WORKING CONDITION.

REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

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Sheet Title: MECHANICAL NOTES & LEGEND

Sheet No: VE1 M4.0

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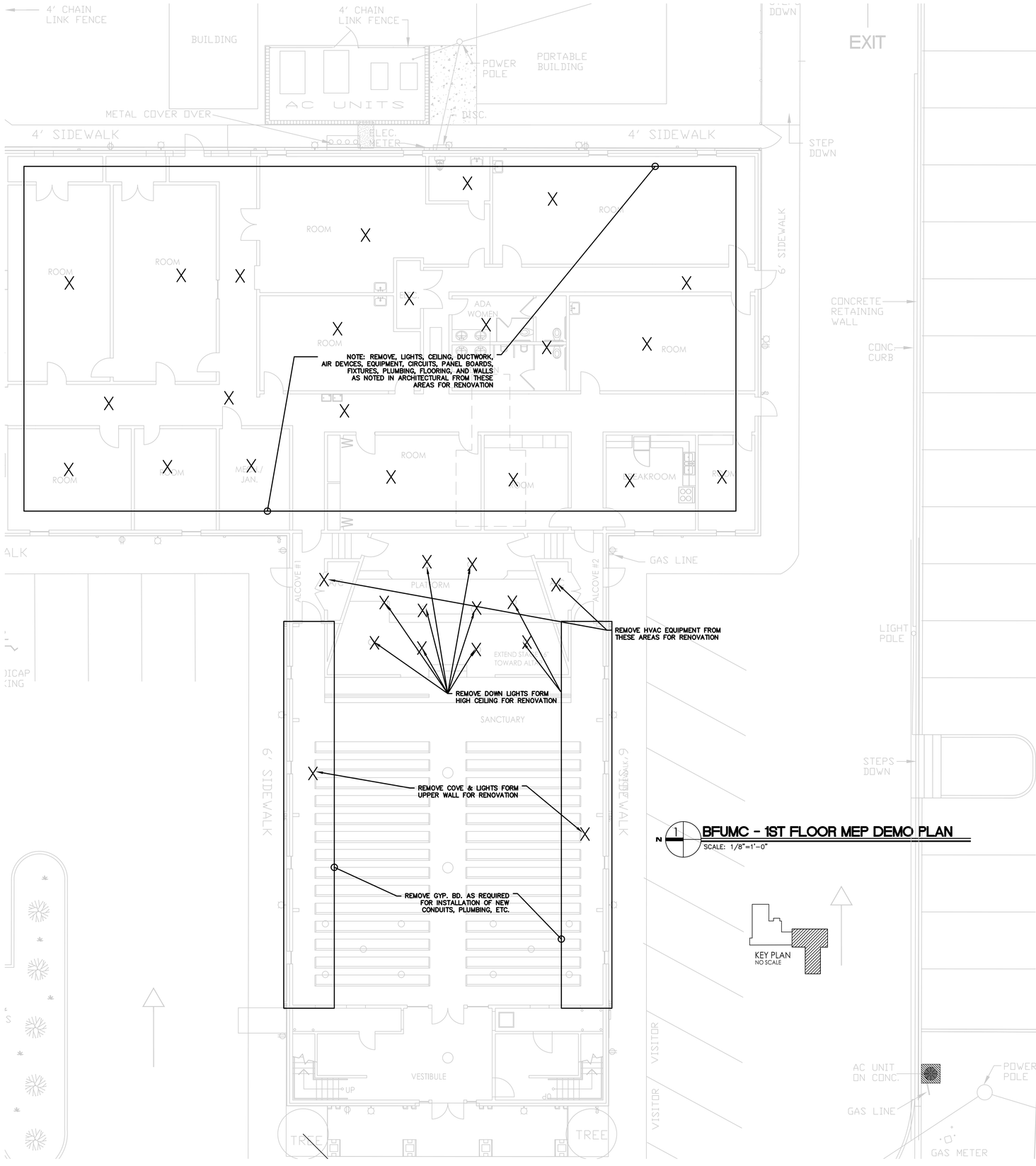

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BFUMC - 1ST FLOOR MEP DEMO PLAN

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

KEY PLAN
NO SCALE

REV	DATE	DESCRIPTION
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	2/21/17	VE1 REV

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Sheet No: VE1 MEPD1.0

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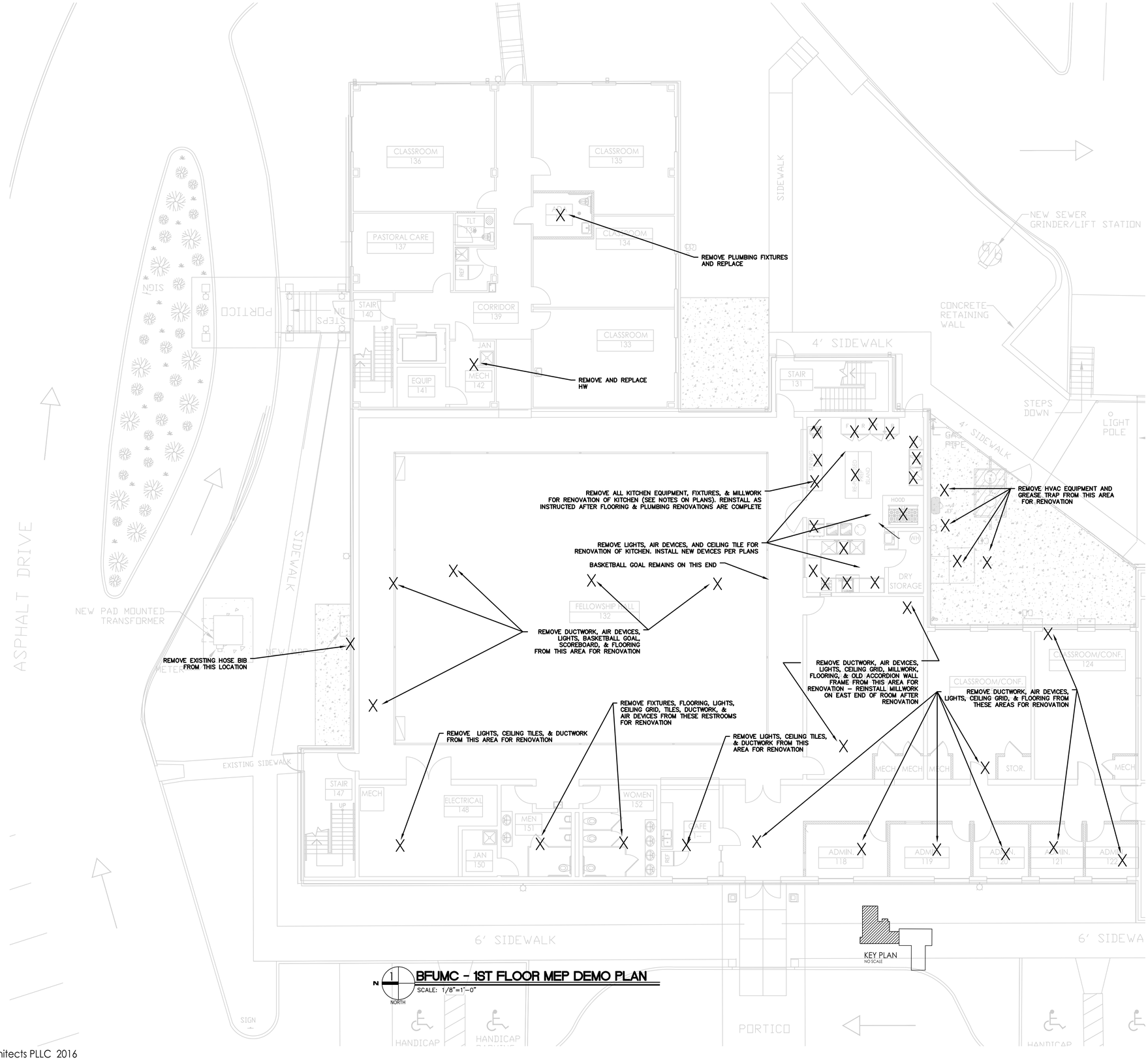

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MEPD1.1

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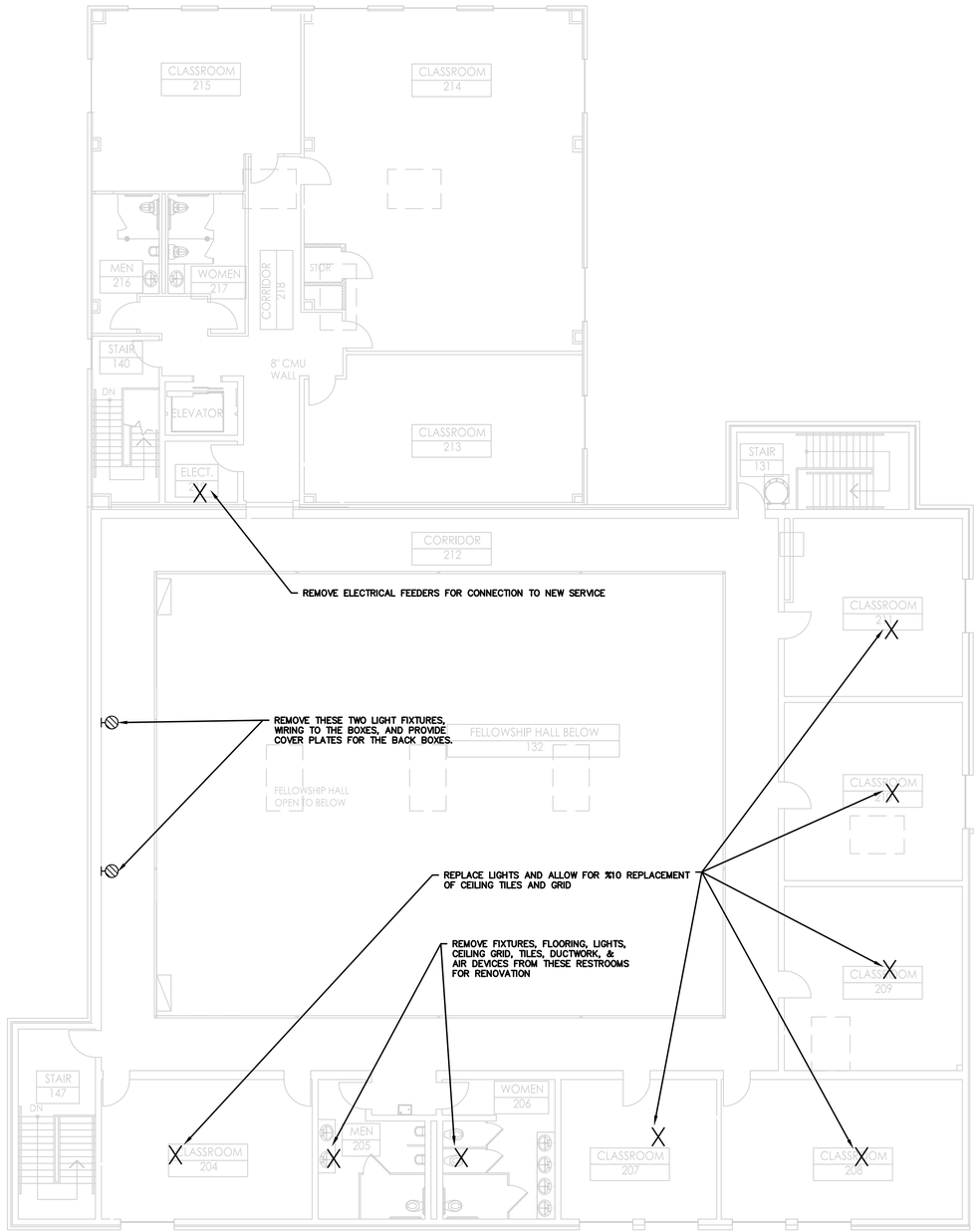
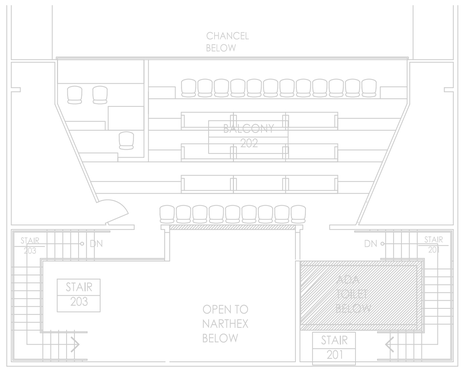
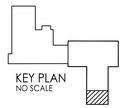


N 1 NORTH

BFUMC - 2ND FLOOR MEP DEMO PLAN

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





N 1 NORTH

BFUMC - BALCONY MEP DEMO PLAN

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

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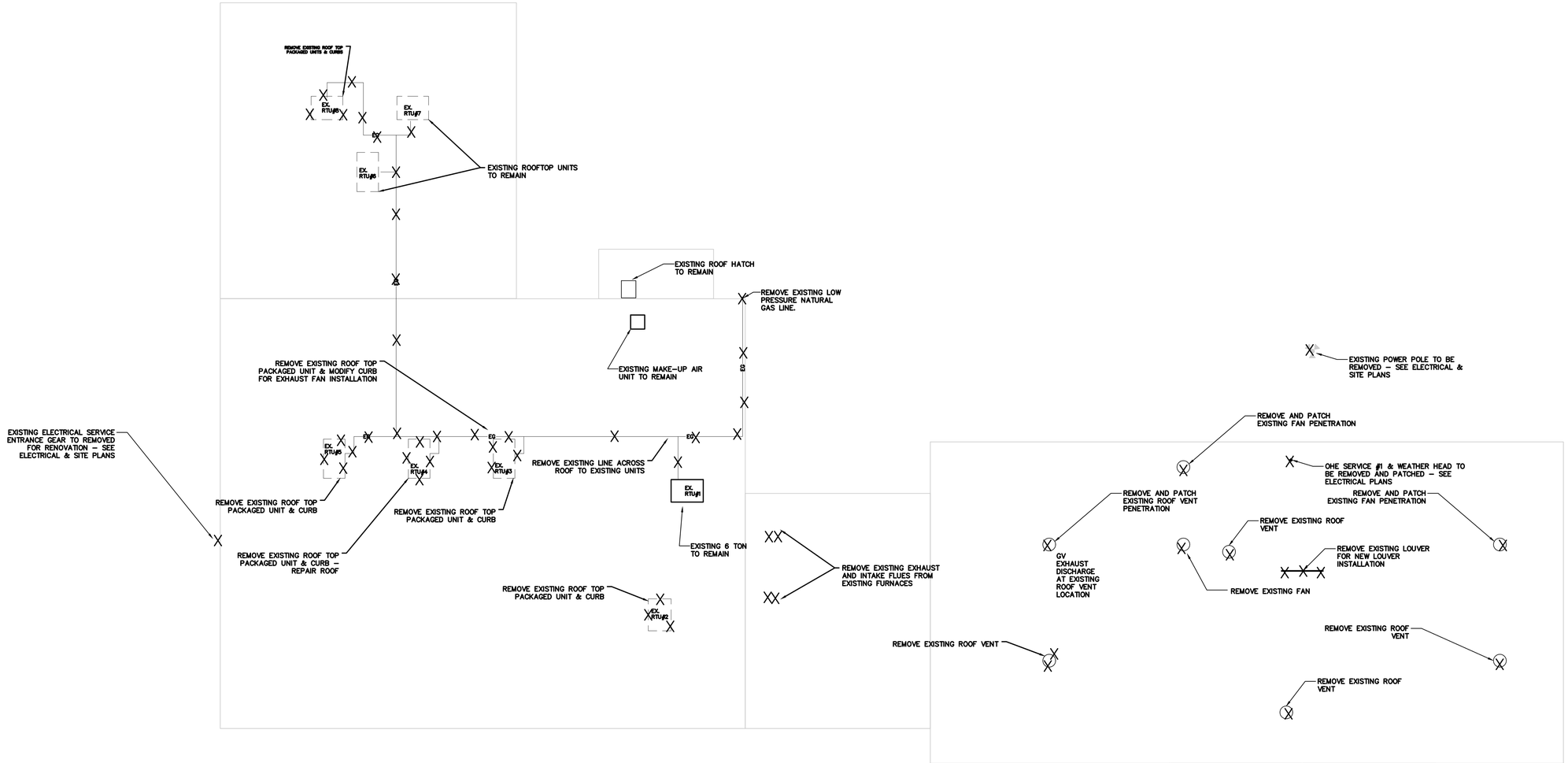

N 1 NORTH

BFUMC - ROOF/SITE MEP DEMO PLAN

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

REV	DATE	DESCRIPTION
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Sheet No: VE1 MEPD1.3

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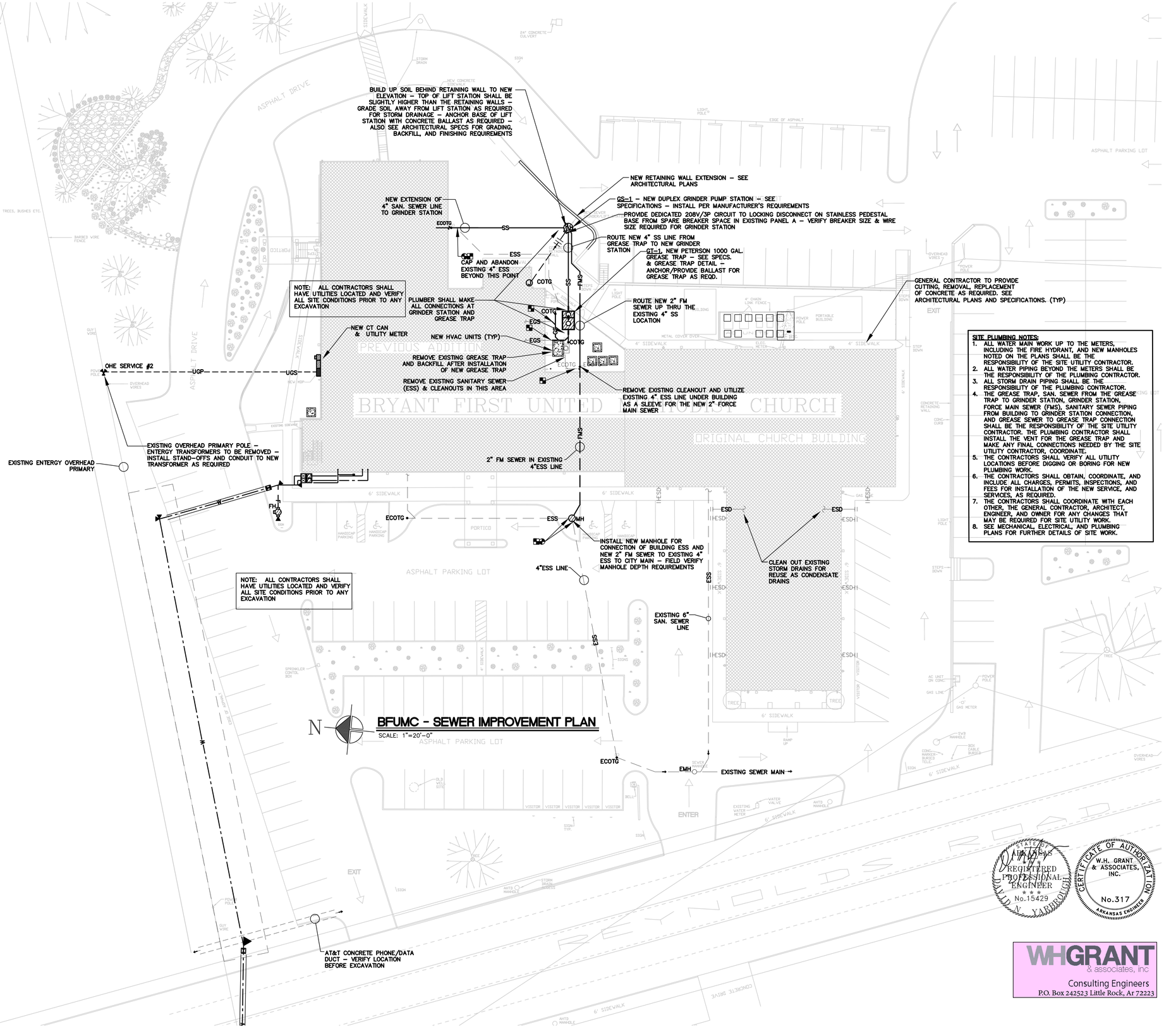

SITE PLUMBING NOTES:

1. ALL WATER MAIN WORK UP TO THE METERS, INCLUDING THE FIRE HYDRANT, AND NEW MANHOLES NOTED ON THE PLANS SHALL BE THE RESPONSIBILITY OF THE SITE UTILITY CONTRACTOR.
2. ALL WATER PIPING BEYOND THE METERS SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.
3. ALL STORM DRAIN PIPING SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.
4. THE GREASE TRAP, SAN. SEWER FROM THE GREASE TRAP TO GRINDER STATION, GRINDER STATION, FORCE MAIN SEWER (FMS), SANITARY SEWER PIPING FROM BUILDING TO GRINDER STATION CONNECTION, AND GREASE SEWER TO GREASE TRAP CONNECTION SHALL BE THE RESPONSIBILITY OF THE SITE UTILITY CONTRACTOR. THE PLUMBING CONTRACTOR SHALL INSTALL THE VENT FOR THE GREASE TRAP AND MAKE ANY FINAL CONNECTIONS NEEDED BY THE SITE UTILITY CONTRACTOR, COORDINATE.
5. THE CONTRACTORS SHALL VERIFY ALL UTILITY LOCATIONS BEFORE DIGGING OR BORING FOR NEW PLUMBING WORK.
6. THE CONTRACTORS SHALL OBTAIN, COORDINATE, AND INCLUDE ALL CHARGES, PERMITS, INSPECTIONS, AND FEES FOR INSTALLATION OF THE NEW SERVICE, AND SERVICES, AS REQUIRED.
7. THE CONTRACTORS SHALL COORDINATE WITH EACH OTHER, THE GENERAL CONTRACTOR, ARCHITECT, ENGINEER, AND OWNER FOR ANY CHANGES THAT MAY BE REQUIRED FOR SITE UTILITY WORK.
8. SEE MECHANICAL, ELECTRICAL, AND PLUMBING PLANS FOR FURTHER DETAILS OF SITE WORK.

REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

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Project No: HW13-618

Date: 9/21/16

Sheet Title: MEP PARTIAL SITE PLAN

Sheet No: VE1 MEP1.0

STATE OF ARKANSAS – REGISTERED PROFESSIONAL ENGINEER – No.15429 – LILLIAN YARBROUGH

CERTIFICATE OF AUTHORIZATION – W.H. GRANT & ASSOCIATES, INC. – No.317 – ARKANSAS ENGINEER

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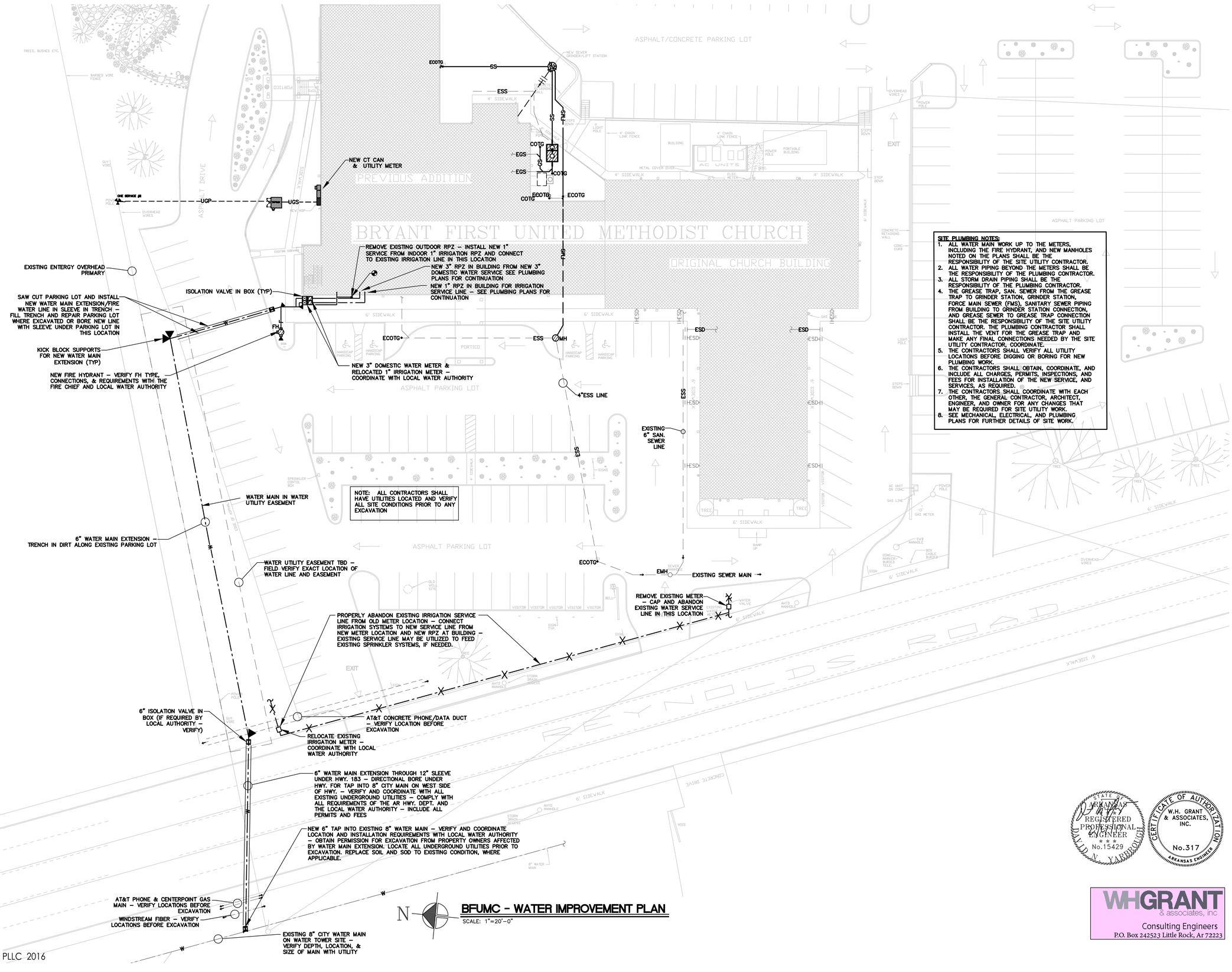

SITE PLUMBING NOTES:

1. ALL WATER MAIN WORK UP TO THE METERS, INCLUDING THE FIRE HYDRANT, AND NEW MANHOLES NOTED ON THE PLANS SHALL BE THE RESPONSIBILITY OF THE SITE UTILITY CONTRACTOR.
2. ALL WATER PIPING BEYOND THE METERS SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.
3. ALL STORM DRAIN PIPING SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.
4. THE GREASE TRAP, SAN. SEWER FROM THE GREASE TRAP TO GRINDER STATION, GRINDER STATION, FORCE MAIN SEWER (FMS), SANITARY SEWER PIPING FROM BUILDING TO GRINDER STATION CONNECTION, AND GREASE SEWER TO GREASE TRAP CONNECTION SHALL BE THE RESPONSIBILITY OF THE SITE UTILITY CONTRACTOR. THE PLUMBING CONTRACTOR SHALL INSTALL THE VENT FOR THE GREASE TRAP AND MAKE ANY FINAL CONNECTIONS NEEDED BY THE SITE UTILITY CONTRACTOR, COORDINATE.
5. THE CONTRACTORS SHALL VERIFY ALL UTILITY LOCATIONS BEFORE DIGGING OR BORING FOR NEW PLUMBING WORK.
6. THE CONTRACTORS SHALL OBTAIN, COORDINATE, AND INCLUDE ALL CHARGES, PERMITS, INSPECTIONS, AND FEES FOR INSTALLATION OF THE NEW SERVICE, AND SERVICES, AS REQUIRED.
7. THE CONTRACTORS SHALL COORDINATE WITH EACH OTHER, THE GENERAL CONTRACTOR, ARCHITECT, ENGINEER, AND OWNER FOR ANY CHANGES THAT MAY BE REQUIRED FOR SITE UTILITY WORK.
8. SEE MECHANICAL, ELECTRICAL, AND PLUMBING PLANS FOR FURTHER DETAILS OF SITE WORK.

REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

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Project No: HW13-618

Date: 9/21/16

Sheet Title: MEP PARTIAL SITE PLAN

Sheet No: VE1 MEP1.1

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No.15429 DAVID N. YARBROUGH

CERTIFICATE OF AUTHORIZATION W.H. GRANT & ASSOCIATES, INC. No.317 ARKANSAS ENGINEER

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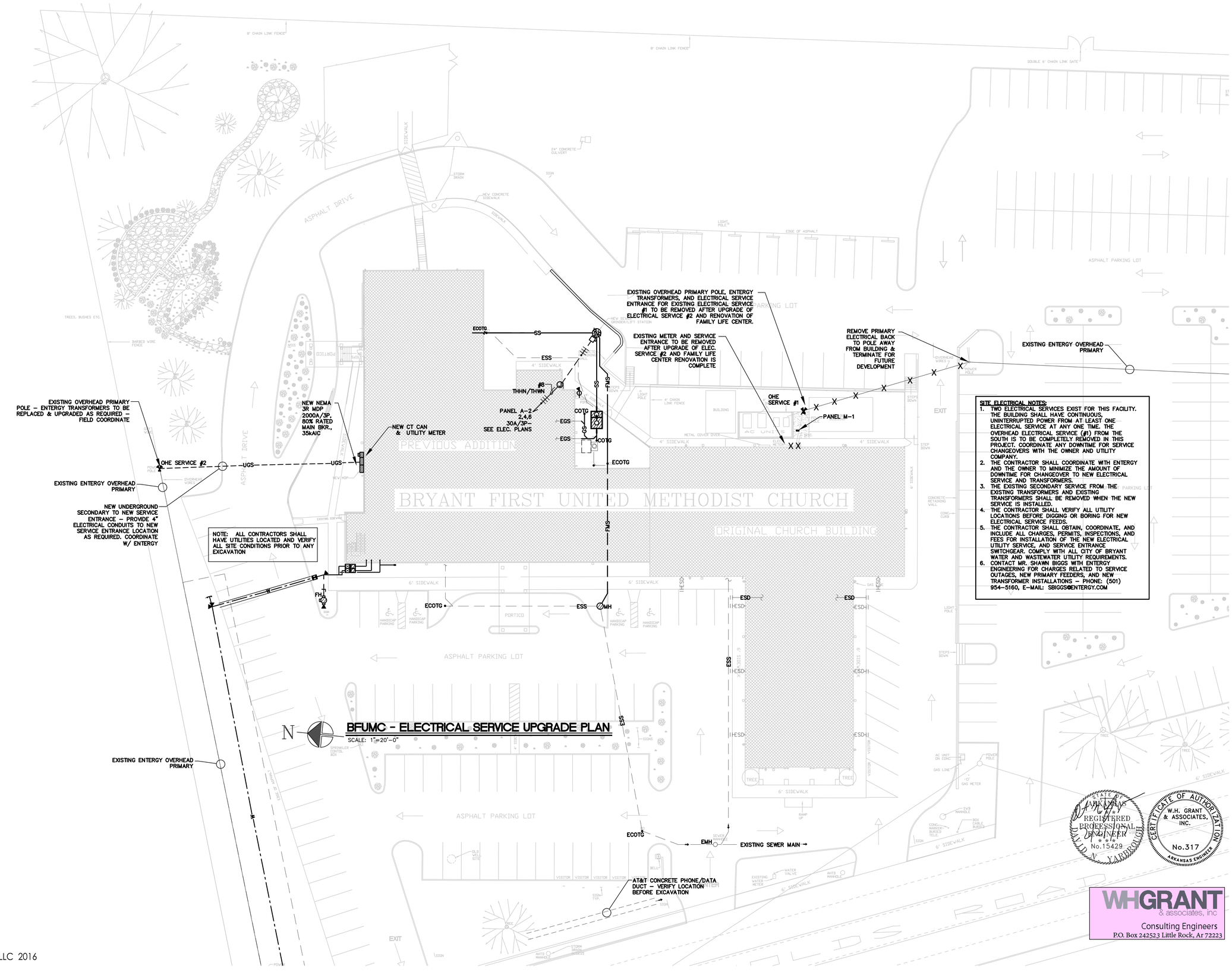

N

BFUMC - ELECTRICAL SERVICE UPGRADE PLAN

SCALE: 1"=20'-0"

SITE ELECTRICAL NOTES:

1. TWO ELECTRICAL SERVICES EXIST FOR THIS FACILITY. THE BUILDING SHALL HAVE CONTINUOUS, UNINTERRUPTED POWER FROM AT LEAST ONE ELECTRICAL SERVICE AT ANY ONE TIME. THE OVERHEAD ELECTRICAL SERVICE (#1) FROM THE SOUTH IS TO BE COMPLETELY REMOVED IN THIS PROJECT. COORDINATE ANY DOWNTIME FOR SERVICE CHANGEOVERS WITH THE OWNER AND UTILITY COMPANY.
2. THE CONTRACTOR SHALL COORDINATE WITH ENTERGY AND THE OWNER TO MINIMIZE THE AMOUNT OF DOWNTIME FOR CHANGEOVER TO NEW ELECTRICAL SERVICE AND TRANSFORMERS.
3. THE EXISTING SECONDARY SERVICE FROM THE EXISTING TRANSFORMERS AND EXISTING TRANSFORMERS SHALL BE REMOVED WHEN THE NEW SERVICE IS INSTALLED.
4. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS BEFORE DIGGING OR BORING FOR NEW ELECTRICAL SERVICE FEEDS.
5. THE CONTRACTOR SHALL OBTAIN, COORDINATE, AND INCLUDE ALL CHARGES, PERMITS, INSPECTIONS, AND FEES FOR INSTALLATION OF THE NEW ELECTRICAL UTILITY SERVICE, AND SERVICE ENTRANCE SWITCHGEAR. COMPLY WITH ALL CITY OF BRYANT WATER AND WASTEWATER UTILITY REQUIREMENTS.
6. CONTACT MR. SHAWN BIGGS WITH ENTERGY ENGINEERING FOR CHARGES RELATED TO SERVICE OUTAGES, NEW PRIMARY FEEDERS, AND NEW TRANSFORMER INSTALLATIONS – PHONE: (501) 954-5160, E-MAIL: SBIGGS@ENTERGY.COM

STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — No.15429 — CHARLES D. YARBROUGH

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REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

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Project No: HW13-618

Date: 9/21/16

Sheet Title: MEP ELEC. UPGRADE SITE PLAN

Sheet No: VE1 MEP1.2

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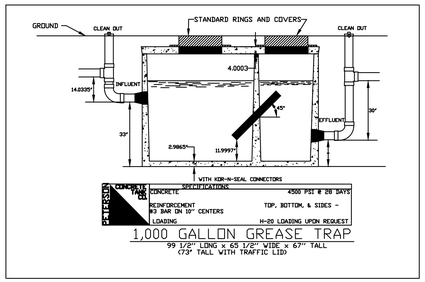
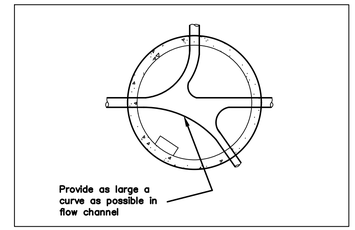


1,000 GALLON GREASE TRAP

99 1/2" LONG x 65 1/2" WIDE x 67" TALL
(73" TALL WITH TRAFFIC LID)

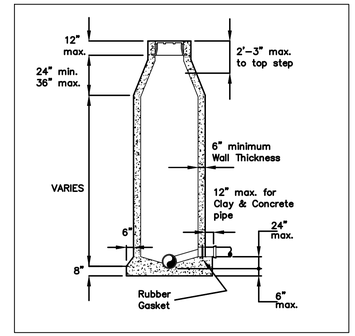
2 PETERSON GREASE TRAP DETAIL

SCALE: NONE



3 MANHOLE BOTTOM DETAIL

SCALE: NONE



1 STANDARD MANHOLE DETAIL

SCALE: NONE

MEP SITE UTILITIES LEGEND

(NOTE: NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT)

SYMBOLS	DESCRIPTIONS	SYMBOLS	DESCRIPTIONS
P	LED OUTDOOR FIXTURE – SEE ELEC. PLANS	GS	GREASE SEWER
	ELECTRICAL EQUIPMENT AS SCHEDULED OR NOTED	FMS	FORCE MAIN SEWER
	MOTOR	ESS	EXISTING SANITARY SEWER
	DISCONNECT SWITCH – SIZE AS NOTED ON PLANS OR AS REQUIRED BY CONNECTED LOAD. AMPS/POLES	EGS	EXISTING GREASE SEWER
	WIRE AND CONDUIT – UNDERGROUND OR UNDER FLOOR	SD	STORM DRAIN
UGS	UNDERGROUND SECONDARY IN CONDUIT		PLUMBING EQUIPMENT SCHEDULED OR NOTED
UGP	UNDERGROUND PRIMARY IN CONDUIT	MH	MANHOLE
A-1	HOMERUN TO PANEL – WIRING SYMBOLS DENOTE: PHASE, SW PHASE, NEUTRAL, RUNNER, GREEN GROUND		CONNECT TO EXISTING DUCT, EQUIPMENT, PIPING, CONTROLS, ETC. AT POINT INDICATED.
	EXISTING OVERHEAD PRIMARY		DISCONNECT FROM EXISTING DUCT, EQUIPMENT, PIPING, CONTROLS, ETC. AT POINT INDICATED.
W	DOMESTIC WATER SERVICE		VALVE IN BOX
F	FIRE WATER SERVICE	FH	FIRE HYDRANT
	EXISTING WATER	COTG •	CLEAN OUT TO GRADE
MPG	MEDIUM PRESSURE GAS SERVICE LINE	ECOTG •	EXISTING CLEAN OUT TO GRADE
SS	SANITARY SEWER		

REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

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STATE OF ARKANSAS
DAVID N. YARBROUGH
REGISTERED PROFESSIONAL ENGINEER
No.15429

CERTIFICATE OF AUTHORIZATION
W.H. GRANT & ASSOCIATES, INC.
No.317
ARKANSAS ENGINEER

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Project No: HW13-618

Date: 9/21/16

Sheet Title: MEP SITE PLAN DETAILS

Sheet No: VE1 MEP2.0

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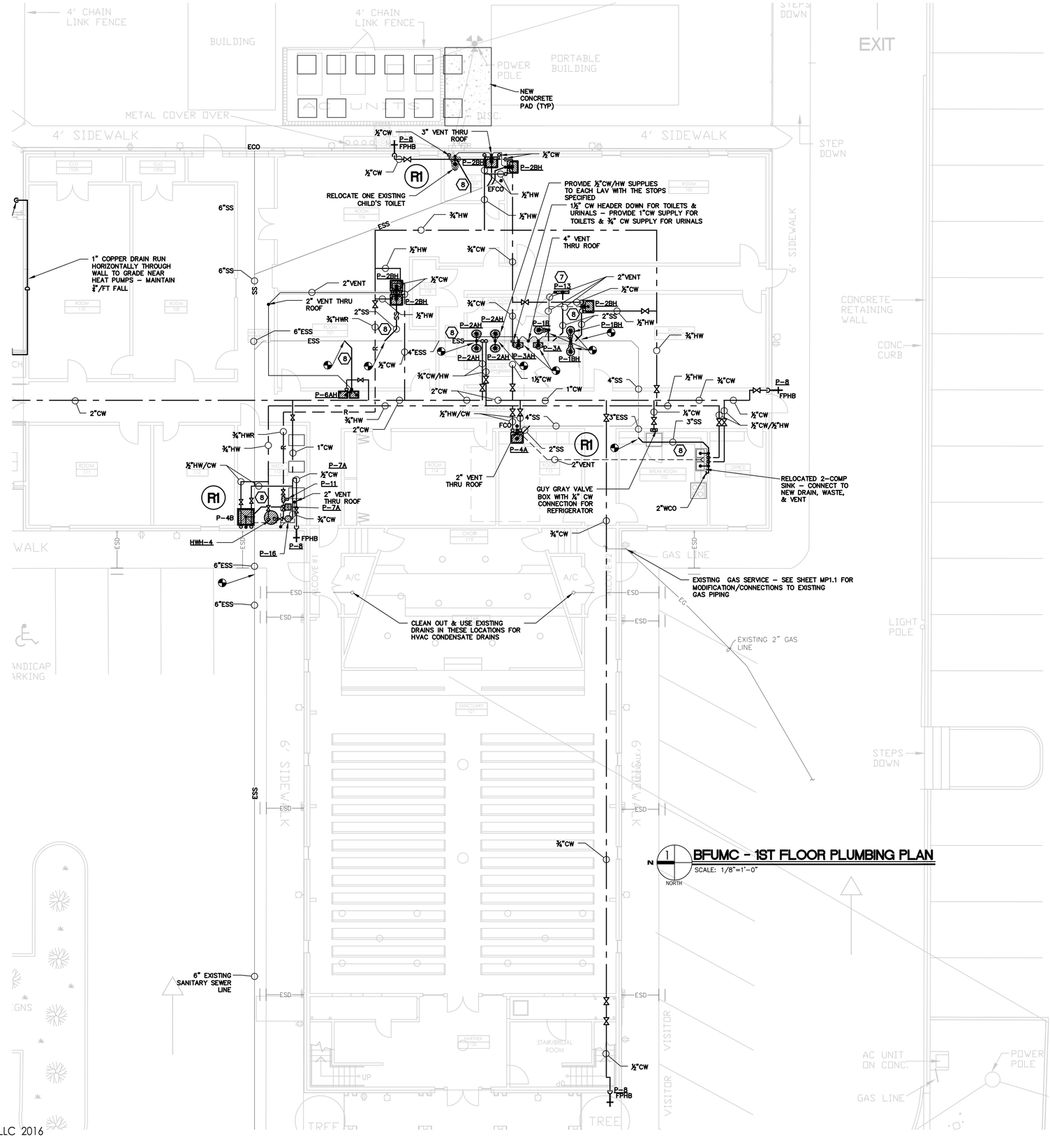

BFUMC – 1ST FLOOR PLUMBING PLAN

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

REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

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Project No: HW13-618

Date: 9/21/16

Sheet Title: FIRST FLOOR PLUMBING PLAN

Sheet No: VE1 P1.0

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No.15429
DILLON N. YARBROUGH

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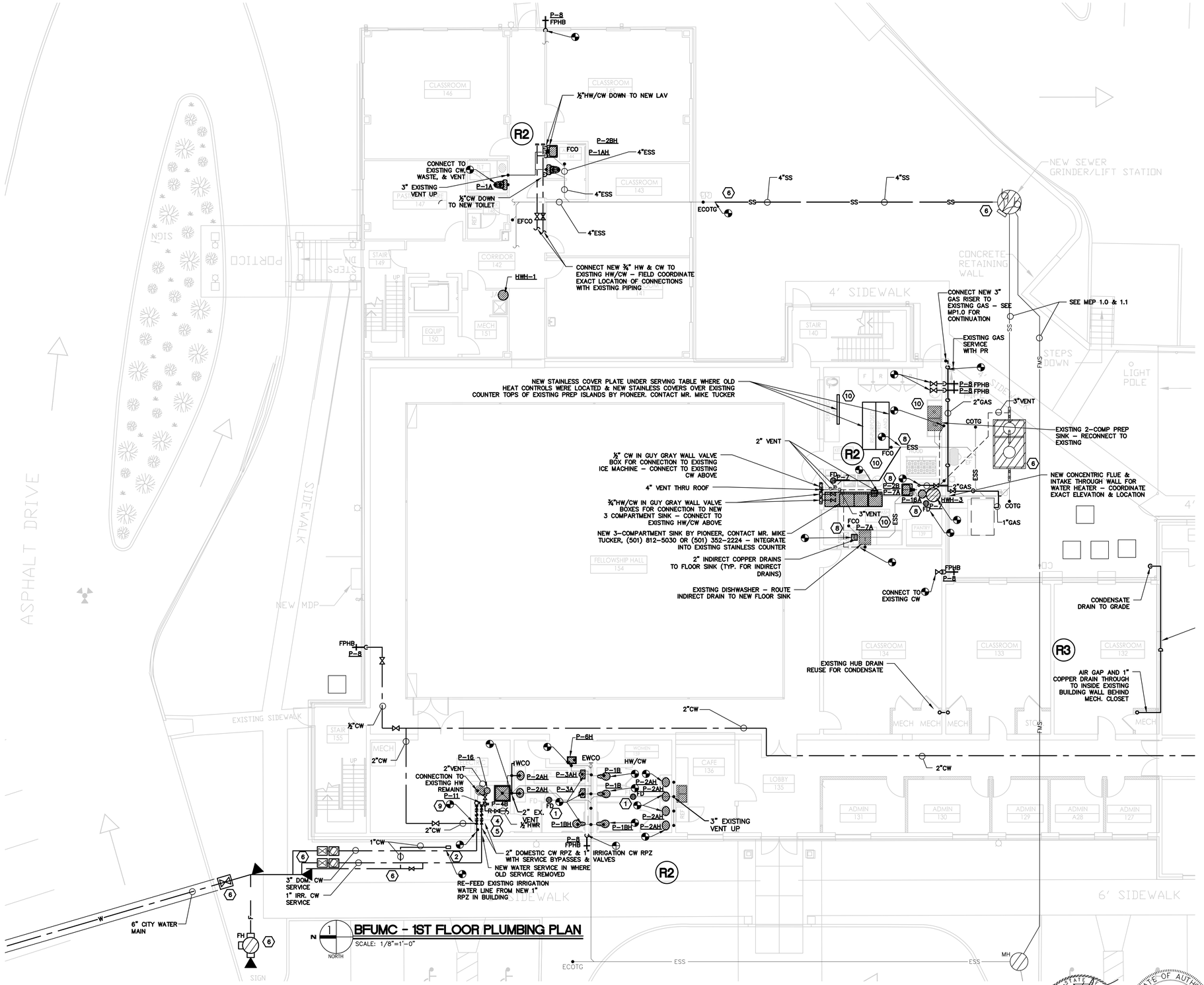

1 BFUMC - 1ST FLOOR PLUMBING PLAN
SCALE: 1/8"=1'-0"

REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

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Project No: HW13-618

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Sheet Title: FIRST FLOOR PLUMBING PLAN

Sheet No: VE1 P1.1

STATE OF ARKANSAS DAVID N. YARBROUGH REGISTERED PROFESSIONAL ENGINEER No.15429

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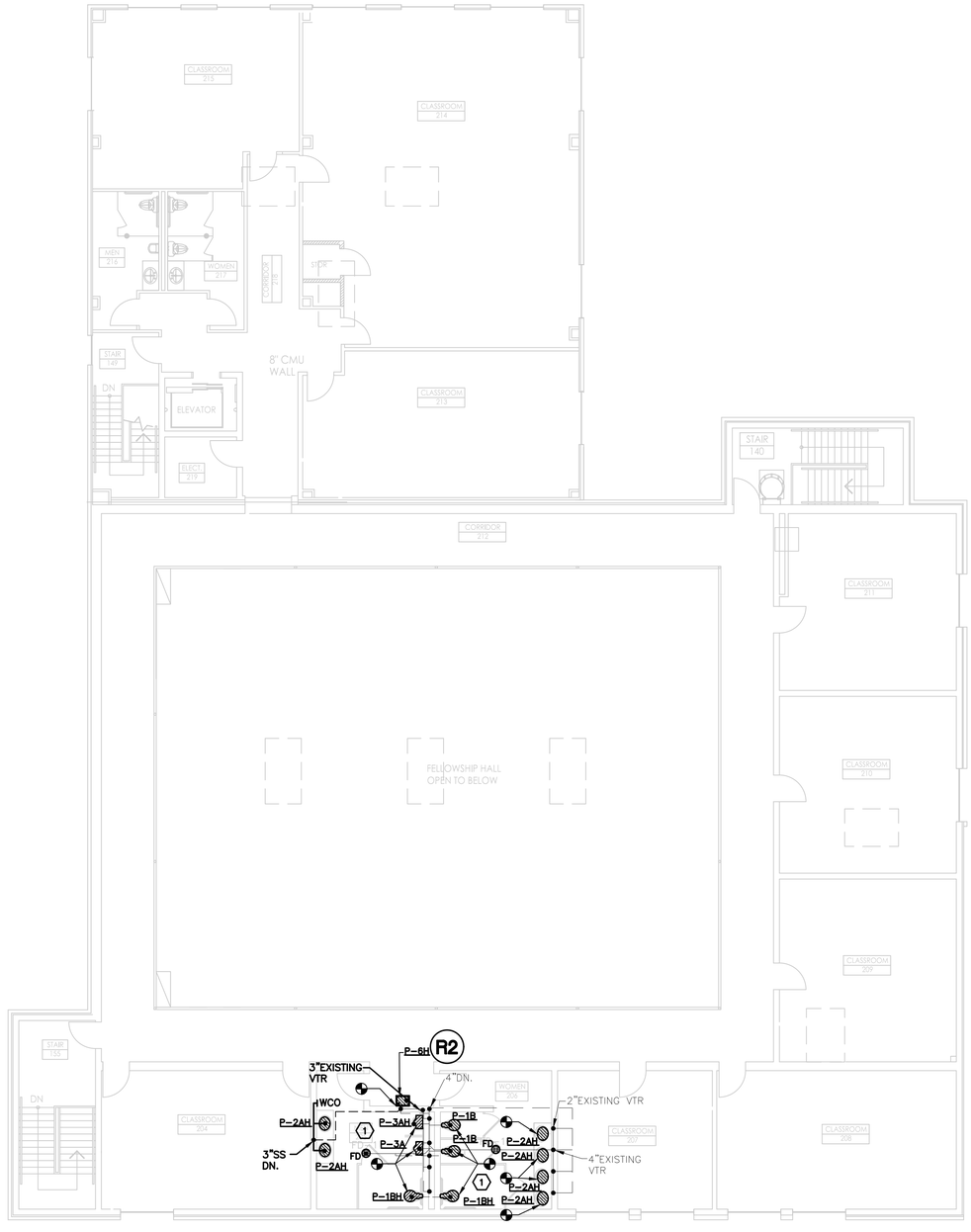
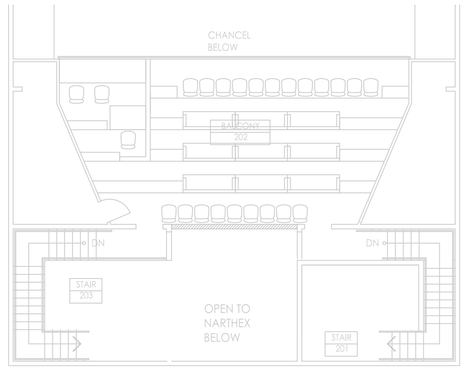


BFUMC - 2ND FLOOR PLUMBING PLAN

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



BFUMC - BALCONY PLUMBING PLAN

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

REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

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Project No: HW13-618

Date: 9/21/16

Sheet Title: 2ND FLOOR PLUMBING PLAN

Sheet No: VE1 P1.2

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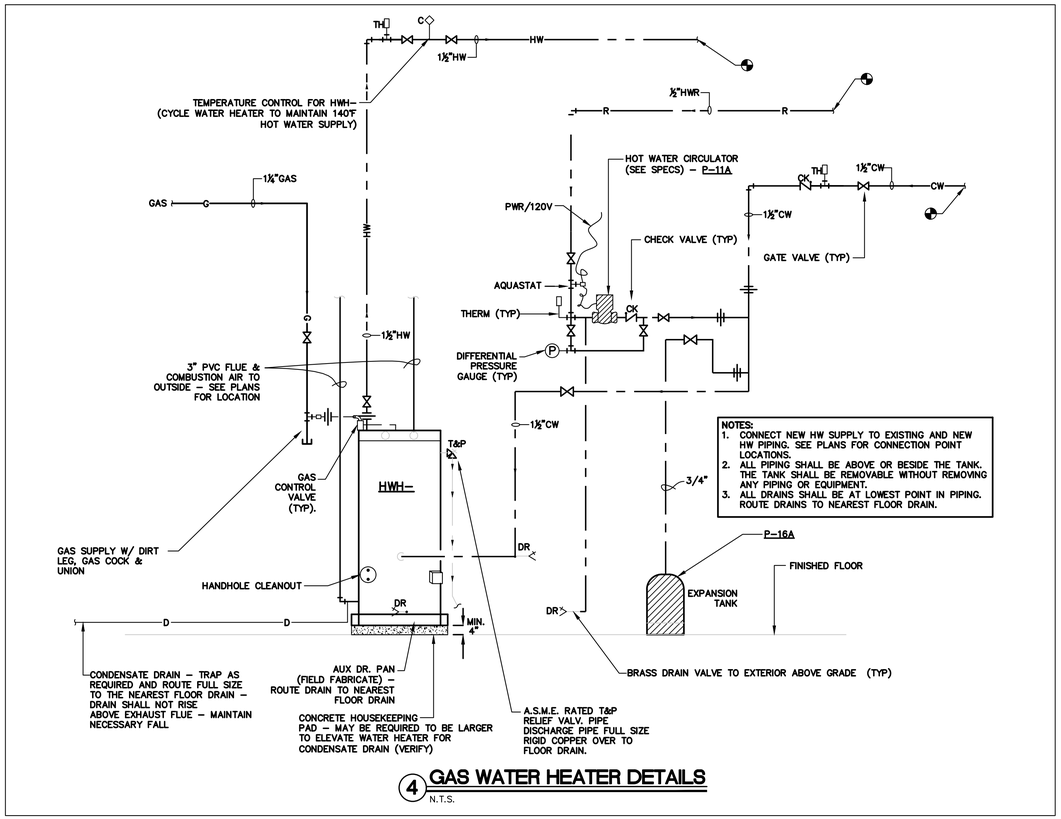
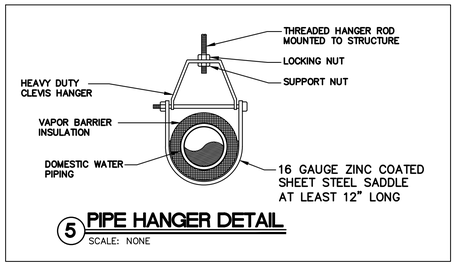
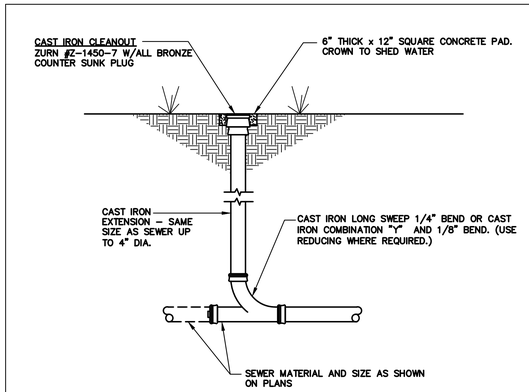


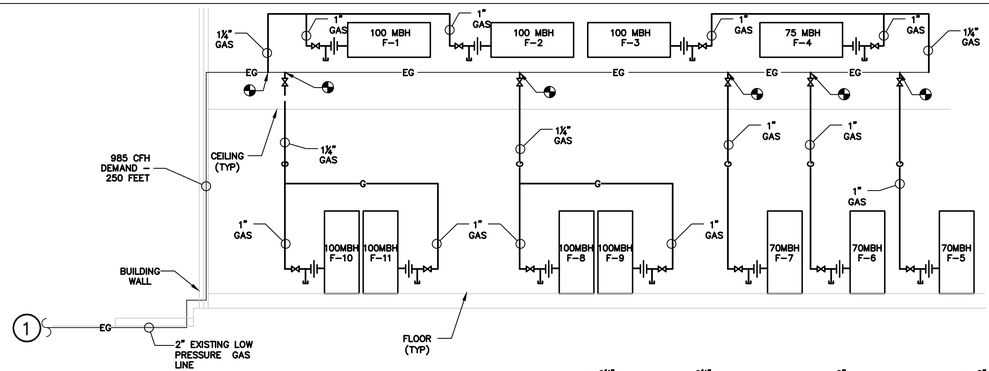
4 GAS WATER HEATER DETAILS
N.T.S.



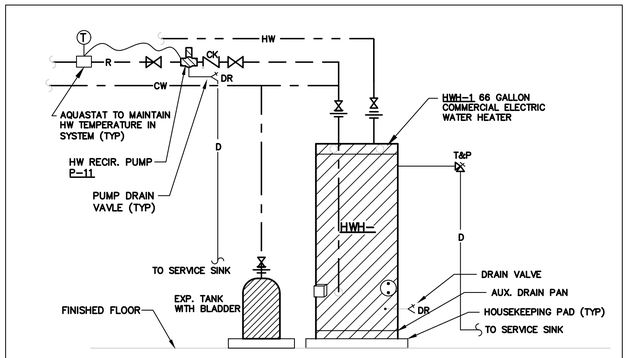
5 PIPE HANGER DETAIL
SCALE: NONE



3 CLEANOUT TO GRADE DETAIL
SCALE: NONE



2 GAS RISER
SCALE: NTS



1 ELECTRIC WATER HEATER DETAIL
N.T.S.

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REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

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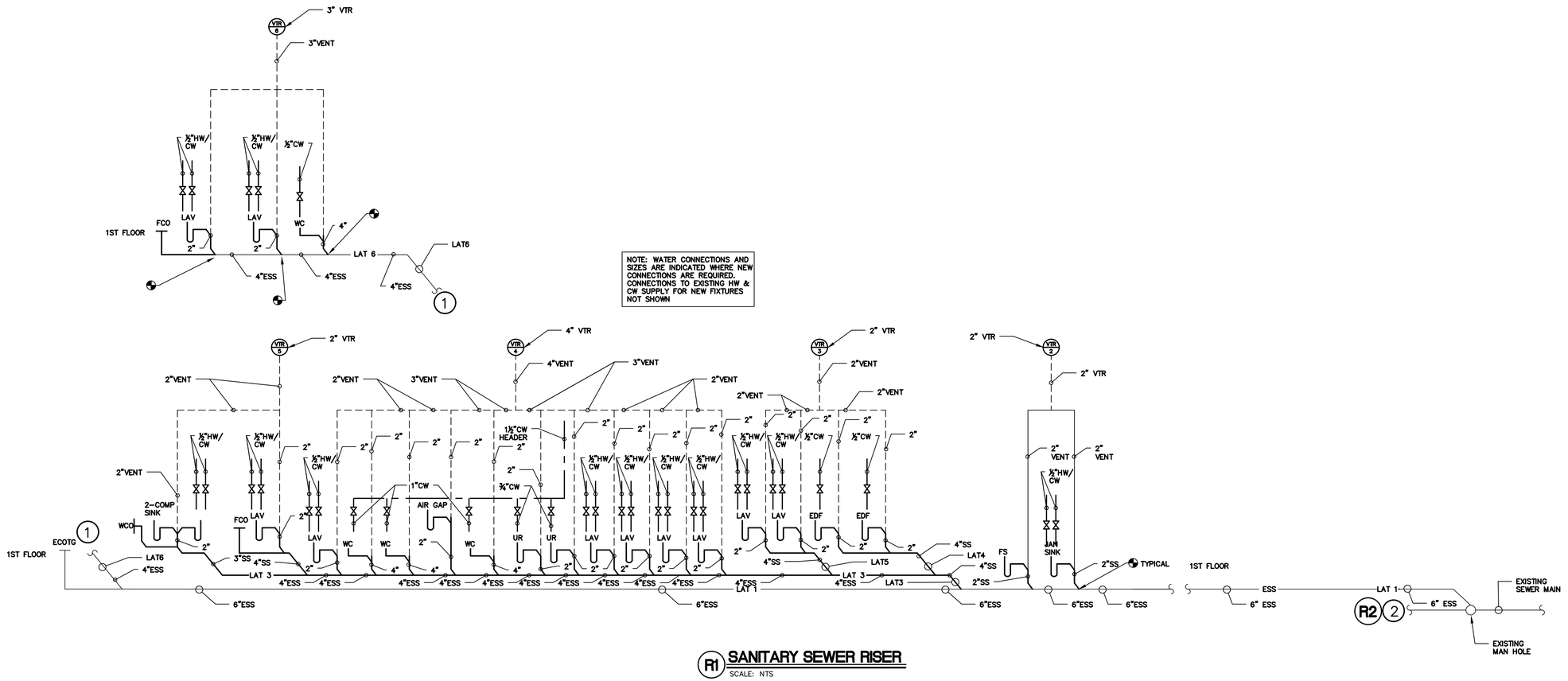
Project No: HW13-618

Date: 9/21/16

Sheet Title: PLUMBING GAS RISER & DETAILS

Sheet No: VE1 P2.0



R1 **SANITARY SEWER RISER**
SCALE: NTS

REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

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Project No: HW13-618

Date: 9/21/16

Sheet Title: PLUMBING SEWER RISERS

Sheet No: VE1 P3.0

STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — No.15429 — DAVID N. YARBROUGH

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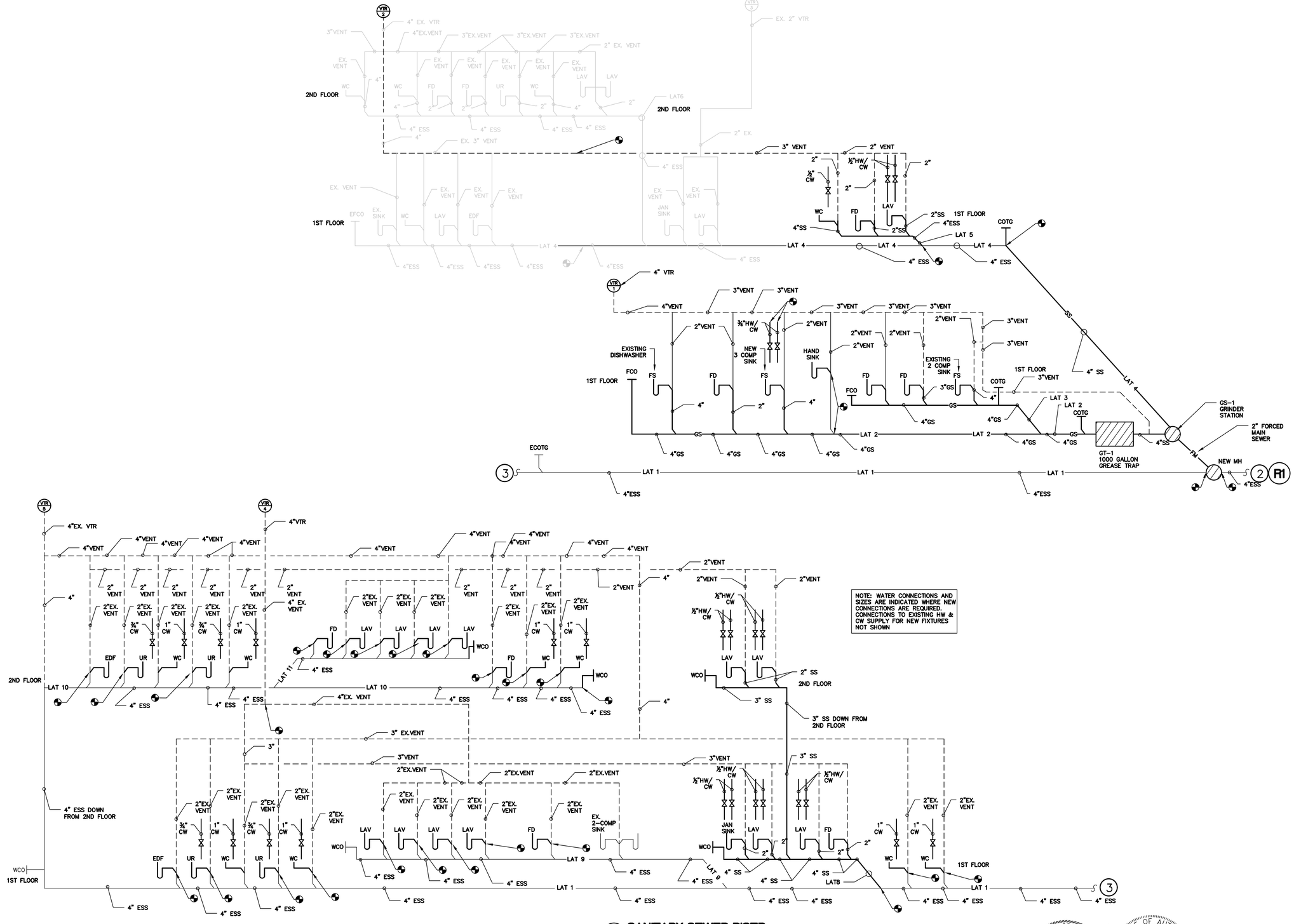

R2 **SANITARY SEWER RISER**
SCALE: NTS

REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

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Project No: HW13-618

Date: 9/21/16

Sheet Title: PLUMBING SEWER RISERS

Sheet No: VE1 P3.1

STATE OF ARKANSAS
DAVID N. YARBROUGH
REGISTERED PROFESSIONAL ENGINEER
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2/21/2017 4:30:11 PM

PLUMBING LEGEND

(NOTE: NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT)

SYMBOLS	DESCRIPTIONS	SYMBOLS	DESCRIPTIONS
—— – ——	DOMESTIC COLD WATER	A	CONNECT TO EXISTING DUCT, EQUIPMENT, PIPING, CONTROLS, ETC. AT POINT INDICATED. LETTER INDICATES NOTE#
—— – – -110-	DOMESTIC HOT WATER 110*F	A	DISCONNECT FROM EXISTING DUCT, EQUIPMENT, PIPING, CONTROLS, ETC. AT POINT INDICATED. LETTER INDICATES NOTE#
—— – – -140-	DOMESTIC HOT WATER 140*F	1	KEYED NOTE
—— – – -180-	DOMESTIC HOT WATER 180*F (DISHWASH)	WC	ABBREVIATION MEANS – WATER CLOSET
- – - – -R-	DOMESTIC HOT WATER RETURN	WCO	ABBREVIATION MEANS – WALL CLEAN OUT
P–	PLUMBING EQUIPMENT SCHEDULED OR NOTED	FPWH	ABBREVIATION MEANS – FROST PROOF WALL HYDRANT
——SS——	SANITARY SEWER	FPHB	ABBREVIATION MEANS – FROST PROOF HOSE BIBB
——AS——	ACID GRADE PIPE (HIGH SILICA IRON PIPE) – DISCHARGE SANITARY SEWER COLLECTION FROM BEVERAGE AREAS	VTR	ABBREVIATION MEANS – VENT THRU ROOF
- - - - - - - - -	SANITARY VENT LINE	EV	ABBREVIATION MEANS – EXISTING VENT
—G——	LOW PRESSURE NATURAL GAS LINE	ECW	ABBREVIATION MEANS – EXISTING DOMESTIC COLD WATER
—EG——	EXISTING NATURAL GAS LINE	EHW	ABBREVIATION MEANS – EXISTING DOMESTIC HOT WATER 110*F
	GATE VALVE OR GAS COCK	ESD	ABBREVIATION MEANS – EXISTING STORM DRAIN
	GLOBE VALVE	ESS	ABBREVIATION MEANS – EXISTING SANITARY SEWER
SOL	SOLENOID GATE VALVE	EG	ABBREVIATION MEANS – EXISTING GAS
DR	DRAIN VALVE (HOSE END)	EMPG	ABBREVIATION MEANS – EXISTING MEDIUM PRESSURE GAS
PRV	PRESSURE REDUCING VALVE	GS	ABBREVIATION MEANS – GREASE SEWER
PRV	PRESSURE REDUCING VALVE	PS	ABBREVIATION MEANS – PRESSURE SANITARY SEWER
CK	CHECK VALVE	CW	ABBREVIATION MEANS – DOMESTIC COLD WATER
BAL	BALANCING VALVE	HW	ABBREVIATION MEANS – DOMESTIC HOT WATER
T&P	TEMPERATURE & PRESSURE RELIEF VALVE FULL SIZE PIPE TO DRAIN (ASME)	HS	ABBREVIATION MEANS – SPACE HEATING HOT WATER SUPPLY
P	PRESSURE GAUGE	HR	ABBREVIATION MEANS – SPACE HEATING HOT WATER RETURN
	HAND VALVE AIR ELIMINATOR	HPS	ABBREVIATION MEANS – HEAT PUMP DOMESTIC HOT WATER SUPPLY
	UNION	HPR	ABBREVIATION MEANS – HEAT PUMP DOMESTIC HOT WATER RETURN
	PIPE CAP OR PLUG	SD	ABBREVIATION MEANS – STORM DRAIN
V	VENT NUMBER	PSI	ABBREVIATION MEANS – POUNDS PER SQUARE INCH
P–1A	PLUMBING FIXTURE # SEE SPECIFICATIONS SECTION 15440	GPM	ABBREVIATION MEANS – GALLONS PER MINUTE
~~MPG~~	~~MEDIUM PRESSURE GAS SERVICE LINE~~	OSD	ABBREVIATION MEANS – OPEN SITE DRAINS
MPG	ABBREVIATION MEANS – MEDIUM PRESSURE GAS	HD	ABBREVIATION MEANS – HUB DRAIN
LAV	ABBREVIATION MEANS – LAVATORY	AC	ABBREVIATION MEANS – ABOVE COUNTER
FD	ABBREVIATION MEANS – FLOOR DRAIN	FS	ABBREVIATION MEANS – FLOOR SINK
CO	ABBREVIATION MEANS – CLEAN OUT	EDF	ABBREVIATIONS MEANS – ELECTRIC DRINKING FOUNTAIN
COTG	ABBREVIATION MEANS – CLEAN OUT TO GRADE	AS	ABBREVIATIONS MEANS – ACID GRADE SANITARY SEWER
FCO	ABBREVIATION MEANS – FLOOR CLEAN OUT		

PLUMBING GENERAL NOTES:

1. THESE PLUMBING DRAWINGS SHOW THE FINISHED CONDITION OF PLUMBING SYSTEMS IN THE RENOVATED FACILITY. ANY EXISTING PLUMBING SYSTEMS OR EQUIPMENT IN THE AREAS OF WORK THAT ARE NOT INCORPORATED IN OR CONNECTED TO NEW SYSTEMS, OR OTHERWISE REUSED FOR EXISTING BUILDING SYSTEMS, SHALL BE COMPLETELY REMOVED. THE DRAWINGS ARE SCHEMATIC PLANS OF THE GENERAL FINISHED ARRANGEMENT OF PLUMBING FIXTURES, EQUIPMENT, PIPING, AND APPURTENANCES. THE DRAWINGS ARE NOT INTENDED TO SHOW EVERY OFFSET, REQUIRED CLEARANCE, PHYSICAL CONNECTION, REQUIRED ACCESSORIES TO PLUMBING FIXTURES OR EQUIPMENT, OR EXISTING CONDITION OF EQUIPMENT. THE PLUMBING CONTRACTOR SHALL VISIT THE SITE BEFORE BIDDING, ORDERING EQUIPMENT, OR PERFORMING ANY WORK ON THE PROJECT. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL EXISTING CONDITIONS AND SHALL COORDINATE ALL WORK TO AVOID INTERFERENCES WITH EXISTING PIPING AND EQUIPMENT THAT SHALL REMAIN. ALL CONTRACTORS SHALL BE REQUIRED TO ATTEND A MANDATORY PRE–BID WALK–THRU IN THE FACILITY, AS DESIGNATED BY THE ARCHITECT, ENGINEERS, AND OWNER. FOR BIDDING PURPOSES, ALL QUESTIONS WILL ONLY BE ADDRESSED AT THE MANDATORY WALK THRU.
2. THIS PROJECT SHALL OCCUR IN PHASES AS COORDINATED BETWEEN THE ARCHITECT, OWNER, ENGINEER, AND GENERAL CONTRACTOR. THE ORIGINAL CHURCH BUILDING THAT HOUSES THE SANCTUARY AND CLASSROOM AREAS SHALL BE THE LAST PHASE OF CONSTRUCTION. COORDINATE ALL WORK SO AS TO MINIMIZE THE DISRUPTION OF THE CHURCH'S OPERATIONS. COORDINATE ANY DOWNTIMES REQUIRED WITH THE ARCHITECT, OWNER, ENGINEER, AND GENERAL CONTRACTOR. SITE PLUMBING WORK MAY BE CONCURRENT OR PRECEDE WORK IN THE SANCTUARY PART OF THE FACILITY. IT MAY BE NECESSARY TO TEMPORARY SERVICES FOR DOMESTIC WATER, DOMESTIC HOT WATER, ETC. TO MAINTAIN OPERABILITY OF PORTIONS OF THE FACILITY. COORDINATE AND SCHEDULE AHEAD WITH OWNER, ARCHITECT, ENGINEER, AND GENERAL CONTRACTOR, IF REQUIRED.
3. STRUCTURAL MODIFICATIONS TO THE EXISTING BUILDING MAY BE REQUIRED FOR THIS PROJECT (SEE STRUCTURAL PLANS & SPECIFICATIONS). ANY CONNECTIONS OR MODIFICATIONS TO NEW OR EXISTING STRUCTURAL MEMBERS FOR SUPPORT OF PLUMBING FIXTURES OR EQUIPMENT, PIPING, ETC. SHALL COMPLY WITH THE PLANS AND SPECIFICATIONS AND SHALL BE IN COMPLIANCE WITH STRUCTURAL. DO NOT CUT OR MODIFY NEW OR EXISTING STRUCTURAL MEMBERS WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD AND THE ARCHITECT OF RECORD.
4. MECHANICAL, FIRE ALARM, & ELECTRICAL ADDITIONS, RENOVATIONS, AND UPGRADES ARE BEING COMPLETED IN THIS PROJECT. THE PLUMBING CONTRACTOR SHALL COORDINATE WITH THE OTHER TRADES TO AVOID ANY INTERFERENCES AND MAINTAIN ALL REQUIRED SAFETY CLEARANCES FROM NEW AND EXISTING EQUIPMENT AND PLUMBING EQUIPMENT. COORDINATE WITH ELECTRICAL FOR REQUIRED CIRCUITS TO NEW PLUMBING EQUIPMENT.
5. SOME EXISTING PLUMBING SHALL REMAIN. COORDINATE NEW AND EXISTING PLUMBING.
6. ALL PLUMBING EQUIPMENT (HWH, ETC.) SHALL BE IDENTIFIED AND TAGGED PER SPECIFICATIONS AND PLUMBING SCHEDULES.
7. COORDINATE PLUMBING INSTALLATIONS AND MODIFICATIONS ON THE ROOF WITH THE GENERAL CONTRACTOR, ARCHITECT & OWNER. INSTALL EQUIPMENT SUCH THAT THE INTEGRITY AND WARRANTY (IF ANY) OF THE ROOF REMAIN IN TACT.
8. COORDINATE PLUMBING CONNECTIONS TO BE PROVIDED BY PLUMBING CONTRACTOR TO EQUIPMENT ON SYSTEMS INSTALLED BY THE SITE UTILITY CONTRACTOR. ANY CONNECTIONS NOT SPECIFICALLY NOTED IN THE PLANS AND SPECIFICATIONS SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.

KEYED NOTES:

1. REPLACE EXISTING FLOOR DRAIN AND CONNECT TO EXISTING SANITARY SEWER. CONNECT NEW FIXTURES IN THESE RESTROOMS TO EXISTING WATER, WASTE, & VENT. PROVIDE 1" CW SUPPLY TO WATER CLOSETS AND ¾" CW SUPPLY TO URINALS FROM 1½" EXISTING CW HEADER.
2. REMOVE EXISTING OUTDOOR 1" RPZ – CONNECT NEW 1" IRRIGATION SERVICE TO EXISTING 1" IRRIGATION LINE THAT FEEDS ISLAND SPRINKLER ZONES. VERIFY NO LEAKS EXIST IN LINES DOWNSTREAM AND REPAIR IF REQUIRED.
3. ROUTE NEW ½" HWR (HOT WATER RETURN) TO 2ND FLOOR AND CONNECT TO END OF LINE OF EXISTING HW
4. EXISTING HOT WATER TO REMAIN IN THIS AREA – ADD EXPANSION TANK, P–16, AND HWR CIRCULATION PUMP, P–11A. REMOVE EXISTING DOMESTIC WATER BOOSTER PUMP AND EQUIPMENT FROM THIS LOCATION – CONNECT EXISTING 1½" CW SERVICE AT OR ABOVE CEILING TO NEW CW SERVICE LINE FROM ADJACENT STORAGE ROOM – SEE MEP SITE PLANS FOR NEW DOMESTIC SERVICE METER LOCATION.
5. EXTEND NEW ½"HWR TO SECOND FLOOR AND CONNECT AT END OF LINE OF EXISTING HW SUPPLY TO SECOND FLOOR RESTROOMS.
6. SEE MEP SHEETS 1.0, 1.1, & 1.2 FOR ADDITIONAL PLUMING WORK, NOTES, AND SCOPE OF WORK NOTES FOR THE PLUMBING CONTRACTOR & SITE UTILITY CONTRACTOR. FIELD COORDINATE ALL PLUMBING WORK WITH SITE UTILITY CONTRACTOR.
7. ROUTE 1" INSULATED COPPER CONDENSATE COLLECTOR DRAIN FROM FURNACE COOLING COILS DOWN THRU WALL TO AIR GAP (P–13). ACCESS COVER IN CORRIDOR WALL – SEE MECHANICAL PLANS AND COORDINATE WITH MECHANICAL CONTRACTOR.
8. SOME REMOVAL OF SLABS AND TRENCHING IS REQUIRED TO REPLACE/INSTALL SANITARY SEWER LINES IN THIS PROJECT. AVOID FOOTINGS AND OTHER STRUCTURAL REINFORCEMENT WHERE TRENCHING OF THE EXISTING SLAB FOR INSTALLATION OF THE SEWER LINE IS REQUIRED. REROUTE/RELOCATE LINES TO AVOID FOOTINGS, AS REQUIRED. SUPPLEMENT AND RESTORE THE STRUCTURAL INTEGRITY OF THE SLAB AS CLOSE TO ITS ORIGINAL CONDITION AS POSSIBLE WHERE TRENCHING IS REQUIRED. CONSULT STRUCTURAL ENGINEER FOR REPAIR WHERE REINFORCING MEMBERS ARE CUT. BACKFILL AROUND PIPE PER SPECIFICATIONS AND ENSURE THAT MOISTURE BARRIER IS COMPLETE AND RESTORED BEFORE REPLACING CONCRETE (FIELD COORDINATE).
9. CONNECT NEW 2" CW TO EXISTING 1½"CW FEED FOR BUILDING DOMESTIC CW AND TO ¾"CW FEED TO THE EXISTING WATER HEATER IN THE JANITOR'S CLOSET. REMOVE EXISTING DOMESTIC WATER BOOSTER PUMP AND TANK FROM THIS AREA AND CAP AND ABANDON THE EXISTING CW FEED INTO THE BUILDING THROUGH THE SLAB IN THIS LOCATION.
10. ALL KITCHEN EQUIPMENT IS TO BE MOVED OUT OF KITCHEN AND STORED WHILE PLUMBING AND FLOORING RENOVATION IS COMPLETED. SERVICE & REPAIR DISHWASHER DRAINS, HOSES, ETC. (AND ANY OTHER EXISTING EQUIPMENT IF REQUIRED – VERIFY) BEFORE RE–INSTALLATION IN THE KITCHEN.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No.15429 DAVID N. YARBROUGH

CERTIFICATE OF AUTHORITY W.H. GRANT & ASSOCIATES, INC. No.317 ARKANSAS ENGINEERING

REV	DATE	DESCRIPTION
	1/25/17	VE1
	2/21/17	VE1 REV

BRYANT FIRST United Methodist Church
Love God. Love Neighbor.

2016 RENOVATIONS

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Project No: HW13-618

Date: 9/21/16

Sheet Title: PLUMBING NOTES & LEGEND

Sheet No: VE1 P4.0

WHGRANT & associates, inc
Consulting Engineers
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2/21/2017 4:30:12 PM

SECTION 01300
SUBMITTALS AND SUBSTITUTIONS

PART 1 - GENERAL

1.01 SCOPE: Provide all submittals, including shop drawings, product data, samples, schedules and requests for substitutions as required by the bidding and contract documents in strict accordance with the provisions of this section.

1.02 RELATED WORK SPECIFIED IN OTHER SECTIONS:

A. Contractual Requirements for Submittals: General Conditions and Supplementary Conditions.

PART 2 - PRODUCTS

2.01 SUBSTITUTIONS:

A. Prior to bidding approval is required only on those items so specified in each section. Other materials do not require prior to bidding approval.

B. After Award of Contract substitution Requests:

1. Substitution requests will be considered only under one of the following conditions:

a. Unavailability of specified product due to a strike, lockout, bankruptcy, discontinuance of the manufacture of a product or natural disasters. Submit proof that orders were placed within ten days after review by the Architect for the item listed in the specifications. Failure to order materials in time for proper delivery is not an acceptable condition.

b. When guarantee of performance is required and, in the judgment of the contractor, the specified product or process will not produce the desired result.

2. Submit request for such substitutions in writing to the Architect within ten days of the date of ascertaining unavailability of material or equipment specified, or that the performance cannot be guaranteed.

3. If any substitution will affect a correlated function, adjacent construction or the work of other trades or contractors, the necessary changes and modifications to the affected work will be considered as part of the substitution, to be accomplished without additional cost to the Owner, if and when accepted.

4. Approved substitutions will be affected by a change order. Under no circumstances shall the Architect's acceptance of any such substitution relieve the contractor from timely, full and proper performance of the work.

C. No substitutes allowed: Some materials specified are the only acceptable products allowed. No substitutions will be allowed. These products are identified by a no-substitution clause in that section of this specification.

2.02 SHOP DRAWINGS:

A. Submit required shop drawings drawn to a scale sufficiently large to show all pertinent features of the item and its method of connection to the work. Submit related shop drawings together, partial submittals will not be accepted. Provide manufacturer's name and model number of prefabricated items and indicated methods of attachment and clearances required relative to other trades affecting all elements of the work. Identify deviations from the contract documents (if any). check dimensions, check that trades have been coordinated and that no conflict will develop in this installation. After reviewing the shop drawings, indicate contractor's approval by signing and dating on contractor's stamp. Failure to follow these procedures will result in rejection of the submission and no additional contract time will be allowed for the delay from this cause.

B. Submit one transparency and one print of contractor's stamped and approved shop drawings for Architect's review. The Architect will review the transparency and stamp it with indication of action as appropriate. The Architect will retain the print for his record, and will return the transparency to the Contractor. For transparencies returned "Return for Correction - Re-Submit" correct the original drawings, make a new transparency reproduction and print, and re-submit. For transparencies returned "Approved Subject to Contract Requirements" or "Approved as Noted", provide each number of prints of the transparency as may be needed for field distribution.

2.03 PRODUCT DATA AND SAMPLES: Submit 3 copies of product date for Architect's review for items specified in the various specification sections (five copies required for mechanical and electrical data). Make all submissions affecting color selection within thirty days after singing the contract. Mark data clearly to indicate exact items submitted, and note deviations from contract documents (if any). After reviewing the submittals, indicate approval by signing and dating on contractor's stamp, and submit to the Architect for review.

2.04 PROJECT SCHEDULE:

A. Within 7 days after Notice to Proceed, submit to the Architect a bar chart type progress schedule indicating a time bar for each trade or operation of work to be performed at the site. Time bar shall demonstrate planned work, properly sequenced and intermeshed for expeditious completion of work. Identify phases, if required.

B. Submit with bar chart a tabulation (by date) of all submittals required, either by date period relation in contract documents or as necessitated by lead time related to individual time bar shown on progress schedule for the associated work. At contractor's option, submittal dates may be shown on bar chart schedule, in lieu of being tabulated.

C. Submit monthly updates of bar chart accurately depicting actual progress to the first day of the month. Indicate percentage of completion on time bars at 10% increase.

D. Submit progress schedule on transparency or other reproducible stock.

E. Distribute progress schedule including all updates to Architect, Owner, subcontractors, suppliers, fabricators, and others with a need to know schedule compliance requirements. Post copy in field office.

2.05 SCHEDULE OF VALUES: Submit schedule of values on AIA Document G703 (Continuation Sheet for G702). Itemize separate line cost for each major item of work and each subcontracted item of work (use Sections under Division 2 through 16 in Table of Contents as a basis for listed).

2.06 APPLICATION AND CERTIFICATE FOR PAYMENT: Submit Application and Certificate for Payment on AIA Document G702 and G703 (4/78 edition).

2.07 CHANGE ORDERS: Submit standard form provided by Architect for submitting proposals for Change Orders.

2.08 MANUAL: Upon completion of work, and prior to the final payment, submit to the Architect a loose leaf hard cover binder with the project name printed on it, containing five indexed sections as follows:

A. Subcontractors; A listing of all subcontractors for the project, including portions of work done, address and telephone number of the firm familiar with the project.

B. Guarantee and Warranty: One fully executed copy of each guarantee and warranty period.

C. Certificates: One fully executed copy of each certificate specified.

D. Instructions: One operating service and maintenance manual or instruction sheet for each item specified.

E. List of As-Built Drawings, Record Drawings, Shop Drawings, Product Data and Samples.

2.09 DRAWINGS AND SUBMITTALS PACKAGE: Upon completion of the work and prior to the final payment, submit to the Architect a package labeled with the project name and containing one copy of all final record drawings, specifications, shop drawings, product data and samples (see AIA A201, Paragraph 4.111.). This package and the manual will be presented by the Architect to the Owner upon completion of the project. In addition, submit one set of record drawings to be retained by the Architect.

PART 3 - EXECUTION

3.01 IDENTIFICATION OF SUBMITTALS: Completely identify each submittal and re-submittal by showing at least the following information.

A. Name and address of submitter, plus name and telephone number of the individual who may be contracted for further information.

B. Name of project as it appears on each page of these specifications.

C. Drawing number and specifications section number to which the submittal applies.

D. Whether this is an original submittal or re-submittal.

3.02 TIMING OF SUBMITTALS:

A. General: Make all submittals far enough in advance of scheduled dates of installation to provide all required time for reviews, for securing necessary approvals, for possible revision and re-submittal and for placing orders and securing delivery.

B. Delays: Costs of delays due to late submittals may be back charged as necessary and shall not be borne
by the Owner.

END OF SECTION 01300

SECTION 02060
SELECTIVE DEMOLITION

PART 1- GENERAL

1.01 SUMMARY: Provide building demolition work, complete. Work includes:

A. Demolition and removal of sections of existing wall as shown on the drawings. Demolition work for Phase 1 should be done just preceding Phase 1 and likewise for Phase 2.

B. Remove ceiling grids and/or tiles as shown on the drawings.

C. Removal of cabinets, finishes and other items shown on the drawings. Remove Cabinets and other items noted to be relocated with care, store and reinstall as noted.

D. Removal of doors, frames and windows from existing locations as shown on the drawing and preparation for reuse in other locations.

E. Provide dust and significant demolition noise separation between work areas of different Phases.

F. Removal of floor finishes and prep for new finishes.

G. Fill voids, holes and depressions with concrete material to provide smooth flooring surface.

H. Removal of mechanical equipment as shown on the mechanical drawings.

I. Removal of light fixtures, conduit and electrical equipment as shown on the electrical drawings.

J. Removal of plumbing as shown on the drawings.

K. Removal of existing canopies as shown on the drawings.

L. Removal of plants, planter beds and sidewalks for adequate drainage as shown on the drawings.

M. Removal of concrete slabs, sidewalks, curbs and foundation wall for installation of new trenches, structures and paving elevations.

1.02 WORK BY OWNER: Disconnecting of utilities.

1.03 SUBMITTALS: Comply with Section 01300.

A. Schedule of Demolition Activities: Provide schedule which Indicates the following:

1. The demolition work in this project will be completed so that work can proceed according to schedule. Demolition work will follow Phasing schedule of other work.

2. Detailed sequence of demolition and removal work, with starting and ending dates for each activity.

3. Describe aspects of Life Safety and Emergency Egress from this area during demolition.

4. Interruption of utility services.

5. Coordination for shutoff and continuation of utility services.

1.04 QUALITY ASSURANCE:

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI A10.6 and NFPA 241.

1.05 PROJECT CONDITIONS:

A. Building will be occupied immediately adjacent to demolition area. Conduct building demolition so other occupants operations will not be disrupted.

1. Provide not less than 72 hours' notice to other occupants of activities that will affect Owner's operations.

B. Hazardous Materials: It is not expected that hazardous materials will be encountered in the work.

1. Asbestos and lead based paint will be removed by the owner before the start of work.

C. Damages: Promptly repair damages caused to adjacent utilities and facilities by demolition operations at no cost to the owner.

PART 2- PRODCUST (NOT APPLICABLE)

PART 3- EXECUTION

3.01 EXAMINATION: Survey existing conditions and correlate with requirements indicated to determine extent of building demolition required.

3.02 PREPARATION:

A. Existing Utilities:

1. Arrange for shut off of indicated utilities with owner.

2. If utility services are required to be removed, related or abandoned, before proceeding with building demolition provide temporary utilities that bypass buildings and structures to be demolished and that maintain continuity of service to other buildings and structures.

3.03 PROTECTION:

A. Existing Items to Remain: Protect items indicated to remain against damage and soiling during demolition.

B. Existing Utilities: Maintain utility services indicated to remain and protect them against damage during demolition operations.

1. Do not interrupt existing utilities serving adjacent occupied and operating facilities unless authorized in writing by Owner.

2. Provide temporary services during interruptions to existing utilities, as acceptable to Owner.

a. Provide at least 72 hours notice to Owner if shutdown of service is required.

3.04 DEMOLITION, GENERAL:

A. General: Demolish indicated items completely. Use methods required to complete the work within limitations of governing regulations.

B. Site Access and Temporary Controls: Conduct building demolition and debris-removal operations to ensure minimum interferences with roads, streets, walks and other adjacent occupied and used facilities.

3.05 DISPOSAL OF DEMOLISHED MATERIALS:

A. Disposal: Transport demolished materials off property and legally dispose of them. Note required recycled materials.

SECTION 02511
ASPHALTIC CONCRETE PAVING

PART 1 - GENERAL

1.01 SCOPE: Provide asphalt concrete paving work, complete

1.02 RELATED WORK SPECIFIED IN OTHER SECTIONS:

A. Traffic and Lane Markings: As indicated on the site plan as existing.

1.03 Job Conditions:

A. Weather Limitations: Do not apply prime and tack coats when temperature is below 50 F or when base is wet. Apply asphalt concrete paving surface course only when temperature is above 40F and when base is dry.

B. Grade Control: Establish and maintain required lines and elevations.

1.04 REFERENCES

A. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO).

B. AMERICAN SOCIETY FOR TESTING AND MATERIAL (ASTM).

C. ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT (AHTD)

1. STAND SPECIFICATION FOR HIGHWAY CONSTRUCTION LATEST EDITION.

PART 2 - PRODUCTS

2.01 MATERIALS: Use locally available materials and gradations which exhibit a satisfactory record of previous installations.

A. Base Course Aggregate: Sound, angular crushed stone, crushed gravel, or crushed slag, sand, stone or slag screenings.

B. Surface Course Aggregate: Crushed stone, crushed gravel, crushed slag, and sharp-edged natural sand.

C. Mineral Filler: Limestone dust, portland cement, or other inert material complying with ASTM D242 or AASHTO M17.

D. Asphalt Cement: Comply with ASTM D946 for 85-100 penetration grade.

E. Prime Coat: Cut-back asphalt type.

F. Tack Coat: Emulsified asphalt, diluted with one part to one part emulsified asphalt.

2.02 Asphaltic Concrete Hot Mix Surface Course: Provide in accordance with Section 408 of the Arkansas State Highway Commission Standard Specification for Highway Construction.

PART 3 - EXECUTION

3.01 INSPECTION: Examine the areas and conditions under which asphalt concrete paving is to be installed. Do not proceed with the work until satisfactory conditions have been corrected.

3.02 SUBSURFACE PREPARATION:

A. Remove loose material from the compacted sub-base surface immediately before applying prime coat. Proof roll prepared sub-base surface to check for unstable areas and areas requiring additional compaction. Do not begin paving work until deficient sub-base areas have been.

B. Prime Coat: Apply at the rate of 0.2 to 0.5 gal. per sq. yd., over compacted sub-grade. Apply sufficient material to penetrate and seal, but not flood surface. Cure and dry as long as necessary to obtain penetration and evaporation of volatile. Keep traffic off primed surfaces to the greatest extent possible.

C. Tack Coat: Apply to contact surfaces of previously constructed asphalt or portland cement concrete and surfaces abutting or projecting into asphalt concrete pavement. Distribute at rate of 0.05 to 0.15 gal. per sq. yd. of surface. Allow to dry until at proper condition to receive paving.

3.03 Placing the Mix: Place asphalt concrete mixture on prepared surface, spread and strike-off. Spread mixture at minimum temperature of 225F. Place inaccessible and small areas by hand. Place each course to required grade, cross-section, and compacted thickness.

A. Paved Placing: Place in strips not less than 10' wide, unless otherwise acceptable to Architect. After first strip has been placed and rolled, place succeeding strips and extend rolling to over lap previous strips. Complete base course for a section before placing surface course.

B. Joints: Make joints between old and new pavements, or between successive days' work, to ensure continuous bond between adjoining work. Construct joints to have same texture, density and smoothness as the sections of asphalt concrete course. Clean contact surface and apply tack coat.

3.04 Rolling: Begin rolling when mixture will bear roller weight without immediately following rolling of joints and outside edge. Check surface after breakdown rolling, and repair displaced areas by loosening and filling, if required, with hot material.

A. Breakdown Rolling: Accomplish breakdown or initial rolling immediately following rolling of joints and outside edge. Check surface after breakdown rolling, and repair displaced areas by loosening and filling, if required, with hot material.

B. Second Rolling: Follow breakdown rolling as soon as possible, while mixture is hot. Continue second rolling until mixture has been thoroughly compacted.

C. Finish Rolling: Perform finish rolling while mixtures is still warm enough for removal of roller marks.
Continue rolling until all roller marks are eliminated and the course has attained maximum density.

D. Patching: Remove and replace paving areas mixed with foreign materials and defective areas. Cut out such areas and fill with fresh hot asphalt concrete. Compact by rolling to maximum density and smoothness.

E. Protection: After final rolling, do not permit vehicular traffic on pavement until I has cooled and hardened. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.06 Paving Tolerances: In-place compacted asphalt concrete paving will not be acceptable if exceeding following allowable tolerance.

A. Thickness of base course, not more than 1/2 ", plus or minus.

B. Thickness of surface course, not more than 1/4", plus or minus.

C. Base course surface smoothness, not more than 1/4" when measured with a 10' straightedge, applied parallel with, and at right angles to centerline of paved area.

D. Wearing course surface smoothness, not more than 3/16" when measured with a 10' straightedge, applied parallel with, and at right angles to centerline or paved areas.

END OF SECTION 02511

SECTION 02513
CONCRETE PAVING

PART 1 - GENERAL

1.01 SCOPE: Provide concrete paving, complete.

1.02 RELATED WORK SPECIFIED IN OTHER SECTIONS:

A. Sealants: Section 07900

1.03 SUBMITTALS: Submit mix designs and reports as required for concrete.

PART 2 - PRODUCTS

2.01 MATERIALS: Provide concrete materials, forms, reinforcing, and expansion joint fillers as required for concrete.

2.02 CONCRETE MIX, DESIGN TESTING:

A. Comply with requirements of Section 03300 for concrete mix design, sampling testing, and quality control, and as specified below.

B. Design the mix to produce standard-weight concrete consisting of Portland cement, aggregate, air-entraining admixture and water to produce the following properties.

1. Compressive Strength: 3000 psi min. @ 28 days.
2. Slump Range: 4" +/-1". Air Content: 5% to 7%
3. Flexural Strength: ASTM C 78, 550 psi min. @ 28 days

PART 3 - EXECUTION

3.01 INSPECTION: Examine the areas and conditions under which concrete paving is to be installed. Do not proceed with the work until satisfactory conditions have been corrected.

3.02 SUBSURFACE PREPARATION: Remove loose material from the compacted sub-base surface immediately before placing concrete.

3.03 FORM CONSTRUCTION:

A. Set forms to the required grades and lines, rigidly braced and secured. Install sufficient quantity of forms to allow continuous progress of the work, and so that forms can remain in place at least 24 hours after concrete placement.

B. Clean forms after each use, and coat with form release agent as often as required to ensure separation from concrete without damage.

3.04 REINFORCEMENT: Locate, place and support reinforcement as specified in Section 03300 unless otherwise shown on the drawings or herein specified.

3.05 CONCRETE PLACEMENT: Comply with the requirements of Section 03300 for mixing and placing concrete, and as specified below.

A. Do not place concrete until sub-base and forms have been checked for line and grade. Moisten sub-base if required to provide a uniform dampened condition at the time concrete is placed.

B. Spread concrete as soon as it is deposited on the sub-base if, using methods which prevent segregation of the mix. Consolidate concrete along the face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels, for hand-spreading and consolidation. Consolidate with care to prevent dislocation or reinforcing, dowels, and joint devices. Deposit and spread concrete in a continuous operation between transverse joints, as far as possible. If interrupted for more than 1/2 hour, place a construction joint.

3.06 JOINTS: Construct expansion and construction joints true to line with face perpendicular to surface of the pavement, unless otherwise indicated. Construct transverse joints at right angles to the pavement centerline, unless otherwise indicated. When the pavement is laid in partial-width slabs, of if joining existing pavement, place transverse joints to align with previously placed joints, unless otherwise indicated.

A. Construction Joints: Provide type construction joint as indicated. Locate joints as indicated, at the end of pours, and at locations where placement operations are stopped for more than 1/2 hour (except where such pours terminate at expansion joints).

B. Expansion Joints: Provide type of expansion joint as indicated. Locate joints as indicated. Extend joint fillers full width and depth of the joint, and not less than 1/2" or more than 1" below the finished pavement surface where joint sealer is indicated. furnish joint fillers in one-piece lengths for the full width.

3.07 CONCRETE FINISHING:

A. Perform concrete finishing using machine or hand methods as required.

B. After striking off and consolidating concrete, smooth the surface by screeding and floating. Use hand methods only where mechanical floating is not possible. Adjust the floating to compact the surface and produce a uniform texture.

C. After floating, test surface for trueness with a 10' straightedge. distribute concrete as required to remove surface irregularities, and refloat repaired areas to provide a continuous, smooth finish.

D. Work edges of slabs, transverse joints, and construction joints with an edging tool, and round to 1/4" radius, unless otherwise indicated. Eliminate any tool marks on concrete surface.

E. After completion of floating and when excess moisture or surface sheen has been disappeared, broom finish by drawing a fine-hair broom across the concrete surface, perpendicular to the line of traffic. Repeat operation if required to provide a fine line texture acceptable to the Architect.

F. Do not remove forms for 24 hours after concrete has been placed, After form removal, clean ends of joints and point-up any minor honeycombed areas. Remove and replace areas or sections of major honeycombing, as directed by the Architect.

3.08 CURING: Protect and cure finished concrete paving, complying with applicable requirements of Section 03300.

A. Repair or replace broken defective paving, as directed by the Architect.

B. Protect the pavement from damage until acceptance of the work. Exclude traffic from pavement for at least 14 days after placement.

C. Sweep concrete pavement and wash free of stains, discolorations, dirt and other foreign material just prior to final inspection.

END OF SECTION 02513

SECTION 02832
SEGMENTAL RETAINING WALL SYSTEMS

PART 1- GENERAL

1.01 SCOPE: Provide segmental retaining wall to provide retention specified, complete. Extent of retaining wall required is shown on the plans.

1.02 QUALITY ASSURANCE: Comply with structural requirements of material to be retained.

1.03 JOB CONDITIONS: Do not install retaining wall until excavating, filling and grading operations prepared for wall installation.

1.04 MANUFACTURER'S DATA: In compliance with Section 01300, submit manufacturer's technical data, size and type of wall materials installation instructions. Transmit copy of installation instruction to Installer.

1.05 GUARANTEE: Provide guarantee that wall will retain earth as required.

PART 2- PRODUCTS:

2.01 MODULAR CONCRETE RETAINING WALL:

A. Provide retaining wall units from a manufacturer that can provide total retaining system.

B. Wall units to be of 3000 psi concrete, be a minimum of 6" thick and be of integral color.

C. Manufacturer to be Venture, Rockwood or equal.

PART 3- EXECUTION:

3.01 INSPECTION: Examine the areas and conditions segmental retaining walls are to be installed. Do not proceed until unsatisfactory conditions have been corrected.

3.02 INSTALLATION:

A. Surface Preparation: A minimum of 6" of crushed gravel or 3" of concrete required as pad for retaining wall.

B. Unit Fill: Fill for wall units to meet requirements of manufacturer.

C. Backfill: Acceptable fill material to be used for backfill. Product to be approved by the segmented retaining wall manufacturer.

END OF SECTION 02832

SECTION 03310
CONCRETE WORK

PART 1 - GENERAL

1.01 SCOPE: Provide all cast in place concrete work, unless otherwise specified. Provide all reinforcing steel, dowels, chairs, and accessories for concrete work.

1.02 RELATED DOCUMENTS: Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.03 DESCRIPTION OF WORK:

A. Extent of concrete work is shown on drawings.

1.04 QUALITY ASSURANCE:

A. Codes and Standards: Comply with provisions of following codes specifications and standards, except where more stringent requirements are shown or specified:

1. ACI 301 "Specifications for Structural Concrete for Buildings".

2. ACI 318 "Building Code Requirements for Reinforced Concrete".

3. Concrete Reinforcing Steel Institute, "Manual of Standard Practice".

B. Concrete Testing Service: Engage a testing laboratory acceptable to Architect to perform material evaluation tests and to design concrete mixes.

C. Materials and installed work may require testing and re-testing, as directed by Architect, at any time during progress of work. Allow free access to material stockpiles and facilities. Tests, in addition to those specified herein, when required by Architect, shall be paid for by the Owner, if, and only if the tested materials prove to be satisfactory. If tested materials fail to meet the specified requirements, a all costs associated with the testing shall be paid by the contractor.

1.05 SUBMITTALS:

A. Product Data: Submit data for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, water-stops, joint systems, curing compounds, and other as requested by Architect.

B. Shop Drawings; Reinforcement: Submit shop drawings for fabrication, bending, and placement of concrete reinforcement. Comply with ACI 315 " Manual of Standard Practice for Detailing Reinforced Concrete Structures" showing bar schedules, stirrup spacing, diagrams of bent bars, arrangement of concrete reinforcement. Include special reinforcement required and openings through concrete structures. Include details of all joints and a plan identifying and locating all joints.

C. Samples: Submit samples of materials as specified and as otherwise requested by Architect, including names, sources, and descriptions.

D. Laboratory Test Reports: Submit laboratory test reports for concrete materials and mix design test as specified.

E. Material Certificates: Provide materials certificates in lieu of materials laboratory test reports when permitted by Architect. Material certificates shall be signed by manufacturer and Contractor, certifying that each material item complies with, or exceeds, specified requirements.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. Form Materials:

1. Forms for Exposed Finish Concrete: Unless otherwise indicated, construct formwork for exposed concrete surfaces with plywood, metal, metal - framed plywood faced or other acceptable panel - type surfaces. Furnish in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings. Provide form material with sufficient thickness to withstand pressure of newly-placed concrete without bow or deflection.

2. Forms for Unexposed Finish Concrete: Form concrete surfaces which will be unexposed in finished structure with plywood, lumber, metal or other acceptable material. Provide lumber dressed on at least 2 edges and one side for tight fit.

B. Form Coatings: Provide commercial formulation form-coating compounds that will not bond with, stain nor adversely affect concrete surfaces, and will not impair subsequent treatment of concrete surfaces.

C. Reinforcing Materials:

1. Reinforcing Bars: ASTM A 615, Grade 60, deformed.

2. Steel Wire: ASTM A 82, plain, cold-drawn, steel.

3. Welded Wire Fabric: ASTM A 185, welded steel wire fabric.

4. Supports for Reinforcement: Provide supports for reinforcement including bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcing bars and welded wire fabric in place. Use wire bar type supports complying with CRSI specifications, unless otherwise acceptable.

a. For slabs-on-grade, use supports with sand plates or horizontal runners where base material will not support chair legs.

5. Provide materials for grounding reinforcing as required. See Section 16450 - Grounding.

D. Concrete Materials:

1. Portland Cement: ASTM C 150 , Type I, unless otherwise acceptable to Architect:

2. Fly Ash: ASTM 618, Type C or Type F.

a. The Contractor may, at his option, use fly ash as an addictive to the concrete mix. Limit use of fly ash to not exceed 25% of cement content by weight.

3. Normal Weight Aggregates: Clean, washed aggregate complying with ASTM C 33, and as herein specified. Provide aggregates from a single source for exposed concrete. Aggregate shall be uniformly graded so that a graph of the percentage of each aggregate size is a smooth line or curve.

   a. Fine Aggregate: Clean, sharp, natural or manufactured sand free from loam, clay, lumps or other deleterious substances.

   b. Coarse Aggregate: Clean, uncoated, processed, locally available aggregate, containing no clay, mud, loam or foreign matter. The maximum size of coarse aggregate shall be 1 1/2".

4. Water: Drinkable, free from injurious amounts of impurities.

5. Air-Entraining Admixture: ASTM C 260. 5 1/2% + 1 1/2% for all concrete with exterior exposure.

6. Water-Reducing Admixture: ATM C 494,and contain not more than 0.1% chlorideions.

7. High-Range Water-Reducing Admixture (Super Plasticizer): ASTM C 494, and contain not more than 0.1% chloride ions.

8. Certification: Provide admixture manufacturer's written certification that chlorid ion content complies with specified requirements.

9. Calcium chloride or admixture containing more than 0.1%chloride ions are not permitted.

E. Related Materials:

1. Moisture Barrier: Provide moisture barrier cover over prepared base material where indicated. Use only materials which are resistant to decay when tested in accordance with ASTM E 154, follows:

   a. Polyethylene sheet not less than 6 mils thick.

2. Non-Shrink Grout: CRD-C 621, factory pre-mixed grout.

3. Absorptive Cover: Burlap cloth made from jute or kenaf, weighing approximately 9 oz.per sq. yd., complying with AASHTO M 182, Class 2.

4. Moisture-Retaining Cover: One of the following, complying with ASTM C 171.

   a. Waterproof paper.

   b. Polyethylene film.

   c. Polyethylene-coated burlap.

5. Bonding Compound: Polyvinyl acetate or acrylic base, rewettable type.

6. A clear, water-soluable sprayable inorganic silicate designed for surface application to cure, harden and dustproof. Product should comply with ASTM C-309-81, Type 1, class A or B.

   a. Sonosil by Sonneborn or equal.

2.02 PROPORTIONING AND DESIGN OF MIXES:

A. Prepare design mixes for each type and strength of concrete by either laboratory trial batch or field experience methods as specified in ACI 301. If trial batch method used, use an independent testing facility acceptable to Architect for preparing and reporting proposed mix designs. The testing facility shall not be the same as used for field quality control testing unless otherwise acceptable to Architect.

B. Submit written reports to Architect of each proposed mix for each class of concrete at least 15 days prior to start of work. Do not begin concrete production until mixes have been reviewed by Architect.

C. Design mixes to provide concrete with the following properties. as indicated on drawings and schedules:

1. 4000 psi 28 day compression strength: normal weight concrete, W/C ratio, 0.45 maximum.

D. Admixtures:

1. Use water-reducing admixture or high range water-reducing admixture (super plasticizer) in concrete as required for placement and workability.

2. Use non-chloride accelerating admixture in concrete slabs placed at ambient temperatures below 50 degrees F (10 deg. C).

E. Slump Limits: Proportion and design mixes to result in concrete slump at point of placement as follows:

1. Ramps, Slabs, and sloping surfaces: Not less than 2" and nor more than 4".

2. Reinforced foundation systems: Not less than 2" and not more than 4'.

3. Concrete containing HRWR admixture (super plasticizer): Not more than 8" after addition of HRWR to verified 2"- 3" slump concrete. In other cases, Engineer must approve water reducer and slump limit.

4. Other concrete: Not more than 4".

2.03 CONCRETE MIXES:

A. Job-Site mixing: Mix materials for concrete in appropriate drum type batch machine mixer. For mixers of one cu. yd., or smaller capacity, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer before any part of batch is released. For mixers of capacity larger than on cu. yd., each additional cu. yd., or fraction thereof. Provide batch ticket for each batch discharged and used in work, indicating project identification name and number, date, mix type, mix time, quantity, and amount of water introduced.

B. Ready-Mix Concrete: Comply with requirements of ASTM C 94, and as herein specified.

1. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C 94 may be required.

2. When air temperature is between 85 degrees F (30 deg. C) and 90 degrees F (32 deg. C), reduce maximum mixing and delivery time from 90 minutes to 75 minutes, and when air temperature is above 90 degrees F(32 deg. C), reduce maximum mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.01 FORMS:

A. Design, erect, support, brace and maintain formwork to support vertical and lateral loads that might be applied until such loads can be supported by concrete structure. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation and position.

B. Design formwork to be readily removable without impact, shock or damage to cast- in -place concrete surfaces and adjacent materials.

C. Construct forms to sizes, shapes, lines and dimensions shown, and to obtain accurate alignment, location, grades, level and plumb work in finished structures. Provide for openings, offsets, sinkages, keyways, recesses, moldings, rustications, reglets, chamfers, blocking, screeds, bulk heads, anchorage's and inserts, and other required finishes. Solidly butt joints and provide back - up at joints to prevent leakage of cement paste.

D. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only. Kerf wood inserts for forming keyways, reglets, recesses, and the like, to prevent swelling and for easy removal.

E. Provide temporary openings where interior area of formwork is inaccessible for cleanout, for inspection before concrete placement, and for placement of concrete. Securely brace temporary openings and set firmly to forms to prevent loss of concrete mortar. Locate temporary openings on forms at inconspicuous locations.

F. Chamfer exposed corners and edges as indicated, using wood, metal, PVC or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.

G. Form Ties: Factory-fabricated, adjustable-length, removable or snapoff metal form ties, designed to prevent form deflection, and to prevent spalling concrete surfaces upon removal.

1. Unless otherwise indicated, provide ties so portion remaining within concrete after removal is 1" inside concrete and will not leave holes larger than 1" diameter in concrete surface.

H. Provisions for Other Traces: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before concrete is placed. Re - tighten forms and bracing after concrete placement is completed to eliminate mortar leaks and maintain proper alignment.

I. Cleaning and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt or other debris just before concrete is placed. Re - tighten forms and bracing after concrete placement is completed to eliminate mortar leaks and maintain proper alignment.

3.02 PLACING REINFORCEMENT:

A. Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars", for details and methods of reinforcement placement and supports, and as herein specified.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other materials which reduce or destroy bond with concrete.

C. Accurately position, support and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers, as required.

D. Place reinforcement to obtain at least minimum coverage for concrete protection. Arrange, space and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations. Set wire ties so ends are directed to concrete, not toward exposed concrete surfaces.

E. Install welded wire fabric in as long lengths as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset end laps in adjacent widths to prevent continuous laps in either direction.

3.03 JOINTS:

A. Construction Joints: Locate and install construction joints as indicated or if not indicated, locate so as not to impair strength and appearance of the structure, as acceptable to Architect. Joints in sidewalks to be at 5' - 0 " o.c. maximum.

B. Provide keyways at least 1-1/2" deep in construction joints in walls, slabs and between walls and footings: accepted bulkheads designed for this purpose may be used for slabs.

C. Place construction joints perpendicular to main reinforcement. Use smooth dowels across construction joints.

D. Contraction (Control) Joints in Slabs-on-Ground: Construct contraction joints in slabs-on -ground to form panels or patterns as shown. The width of cut is 1/8" x 1/4 of slab depth, unless otherwise indicated.

1. To allow the saw blade to cut cleanly and joint cutting to completed before random shrinkage cracks could occur, cutting should be scheduled for between 8-12 hours after the concrete was placed. Unless otherwise noted joints should be maximum x 30' o.c. and occur at structural Bays.

E. Form contraction joints by inserting pre-molded plastic, hardboard or fiberboard strip into fresh concrete until top surface of strip is flush with slab surface. Tool slab edges round on each side of insert. After concrete has cured, remove inserts and clean groove of loose debris.

1. Contraction Joints may be formed by saw cuts made as soon as possible after slab finishing as may be safely done without dislodging aggregate.

2. Fill joint with joint sealant materiel is specified in Division-7 sections of these specifications.

3.04 INSTALLATION OF EMBEDDED ITEMS:

A. General: Set and build into work anchorage devices and other embedded items required for other work that is attached to, or supported by, cast-in -place concrete. Use setting drawings,diagrams, instructions and directions provided by suppliers of items to be attached there to. Coordinate with other trades to incorporate inserts.

B. Edge Forms and Screed Strips for Slabs: Set edge forms of bulkheads and intermediate screed strips for slabs to obtain required elevations and contours in finished slab surface. Provide and secure units sufficiently strong to support the types of screeds being used.

3.05 PREPARATION OF FORM SURFACES:

A. Clean re-used forms of concrete matrix residue, repair and patch as required to return forms to acceptable surface condition.

B. Coat contact surfaces of forms with a form-coating compound before reinforcement is placed.

C. Thin form-coating compounds only with tinning agent of type, and in amount, and under conditions of form-coating compound manufacture's directions. Do not allow excess form-coating material to accumulate in forms or to come into contact with in-place concrete surfaces against which fresh concrete will be placed. Apply in compliance with manufacturer's instructions.

D. Coat steel forms with a non-staining, rust-preventative form oil or otherwise protect against rusting. Rust-stained steel formwork is not acceptable.

3.06 CONCRETE PLACEMENT:

A. Notify the Architect at least 24 hours before any concrete pour is to allow for proper observation for compliance of concrete placement requirements.

B. Pre-placement Inspection: Before placing concrete, inspect and complete formwork installation, reinforcing steel, and items to be embedded or cast- in. Notify other crafts to permit installation of their work; cooperate with other trades in setting such work . Moisten wood forms immediately before placing concrete where form coating are not used.

C. Coordinate the installation of joint materials and moisture barriers with placement of forms and reinforcing steel.

D. General: Comply with ACI 304 " Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete", and as herein specified.

E. Deposit concrete continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as herein specified. Deposit concrete as nearly as practicable to its final location to avoid segregation. Do not drop concrete more than 8' without taking measures to prevents separation that have been approved by the Architect.

F. Placing Concrete in Forms: Deposit concrete in forms in horizontal layers not deeper than 24" and in a manner to avoid inclined construction joints. Where placement consists of several layer, place each layer while the preceding layer is still plastic to avoid cold joints.

G. Consolidate placed concrete by mechanical vibrating equipment supplemented by hand – spading, rodding or tamping. Use equipment and procedures for consolidation of concrete in accordance with ACI recommended practices.

H. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations not farther than visible effectiveness of machine. Place vibrators to rapidly penetrate placed layer and at least 6" into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to set. At each insertion limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing segregation of mix.

I. Placing Concrete Slabs: Deposit and consolodate concrete slabs in a continuous operation, within limits of construction joints, until the placing of a panel or section is completed

J. Consolidate concrete during placing operations so that concrete is thoroughly worked around reinforcement and other embedded items and into corners.

K. Bring slab surfaces to correct level with straightedge and strikeoff. Use bull floats or darbies to smooth surface, free of humps or hollows. Do not disturb slab surfaces prior to beginning finishing operations.

L. Maintain reinforcing in proper position during concrete placement operations.

M. Cold Weather Placing: Protect concrete work from physical damage or reduced strength which could be caused by frost, freezing actions, or low temperatures, in compliance with ACI 306 and as herein specified.

1. When air temperature has fallen to or is expected to fall below 40 degrees F (4 deg. C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 degrees F (10 deg. C) and not more than 80 degrees F (27 deg. C) at point of placement.

2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen sub-grade or on sub-grade containing frozen materials.

3. Do not use calcium chloride, salt and other materials containing antifreeze agents or chemical accelerators, unless otherwise accepted in mix designs.

N. Hot Weather Placing:

1. Comply with requirements of ACI 305, "Hot Weather Concreting" and as herein specified. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90 degrees F (32 deg. C). Mixing water may be chilled, or chopped ice maybe used to control temperature provided water equivalent of ice is calculated to total amount of mixing water. Use of liquid nitrogen to cool concrete is Contractor's option.

2. Cover reinforcing steel with water - soaked burlap if it becomes too hot, so that steel temperature will not exceed the ambient air temperature immediately before embedment in concrete.

3. Fog spray forms, reinforcing steel and subgrade just before concrete is placed.

4. Use water - reducing retarding admixture when required by high temperatures, low humidity, or other adverse placing conditions.

3.07 Finish of Formed Surfaces:

A. Rough Form Finish: For formed concrete surface not exposed-to-view in the finish work or by other construction, unless otherwise indicated. This is the concrete surface having texture imparted by form facing material used, with tie holes and defective areas repaired and patched and fins and other projections exceeding 1/4 " in height rubbed down or chipped off.

B. Smooth Form Finish: For formed concrete surfaces exposed-to-view, or that are to be covered with a coating material applied directly to concrete, or covering material applied directly to concrete, such as waterproofing, dampprofring, painting or other similar system. This is as - cast concrete surface obtained with selected form facing material, arranged orderly and symmetrically with a minimum of seams. Repair and patch defective areas with fins or other projections completely removed and smoothed.

C. Grout Cleaned Finish: Provide grout cleaned finish to scheduled concrete surfaces which have received smooth form finish treatment.

1. Combine one part portland cement to 1-1/2 parts fine sand by volume, and mix with water to consistency of thick paint. Proprietary additives may be used at Contractor's option. Blend standard portland cement and white portland cement, amounts determined by trail patches, so that final color of dry grout will match adjacent surfaces.

2. Thoroughly wet concrete surfaces and apply grout to coat surfaces and fill small holes. Remove with clean burlap. Keep damp by fog spray for at least 36 hours after rubbing.

D. Relating Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces occurring adjacent to formed surfaces, strike-off smooth and finish with texture matching adjacent formed uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.08 MONOLITHIC SLAB FINISHES:

A. Float Finish: Apply float finish to monolithic slab surfaces to receive trowel finish and other finishes as hereinafter specified, and slab surfaces which are to be covered with membrane or elastic waterproofing, membrane or elastic roofing, or sand-bed terrazzo, and as otherwise indicated.

1. After screeding at the proper level with a vibratory screed, consolidating, and leveling concrete slabs, do not work surface until ready for floating. Begin floating when surface water has disappeared or when concrete has stiffened sufficiently to permit floating without drainage to the surface. Consolidate surface with power-driven floats, or by hand-floating if area in small or inaccessible to power units. Check and level surface plane so that depressions between high spots do not exceed 1/4" under a 10' straightedge. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. immediately after leveling, refloat surface to a uniform, smooth, granular texture.

B. Trowel Finish: Apply trowel finish to monolithic slab surfaces to be exposed-to-view, and slab surfaces to be covered with resilient flooring, carpet, ceramic or quarry tile, paint or other thin film finish coating system.

1. After floating, begin first trowel finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over surface. Consolidate concrete surface by final hand - troweling operation, free of trowel marks, uniform in texture and appearance, and with a level surface plans so that depressions between high spots do not exceed 3/16" under a 10' straightedge. Grind smooth surface defects which would telegraph through applied floor covering system.

C. Trowel and Fine Broom Finish: Where ceramic or quarry tile is to be installed with thin-set mortar, apply trowel finish as specified, the immediately follow with slightly scarifying surface by fine brooming.

D. Non-Slip Aggregate Finish: Apply non-slip aggregate finish to concrete stair treads, platforms, ramps, sloped walks, and elsewhere as indicated.

1. After completion of float finishing, and before starting trowel finish, uniformly spread 25 lbs. of dampened non-slip aggregate per 100 sq. ft. of surface. Tamp aggregate flush with surface using a steel trowel, but do not force below surface. After broadcasting and tamping, apply trowel finishing as herein specified.

2. After curing, lightly work surface with a steel wire brush, or an abrasive stone, and water to expose non-slip aggregate.

3.09 CONCRETE CURING AND PROTECTION:

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Start initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Weather permitting, keep continuously moist for not less than 7 days.

C. Begin final curing procedures immediately following initial curing and before concrete has dried. Continue final curing for at least 7 days in accordance with ACI 301 procedures. Avoid rapid drying at end of final curing period.

D. Curing Methods: Perform curing of concrete by curing and sealing compound, by moist curing, by moisture-retaining cover curing, and by combinations thereof, as herein specified.

1. Provide moisture curing by any following methods.

a. Keep concrete surface continuously wet by covering with water.

b. Continuous water - fog spray.

c. Covering concrete surface with specified absorptive cover, thoroughly saturation cover with water and keeping continuously wet. Place absorptive cover to provide coverage of concrete surfaces and edges, with 4" lap over adjacent absorptive covers.

2. Provide moisture-cover curing as follows:

a. Cover concrete surfaces with moisture - retaining cover forcuring concrete, placed in widest practicable width with sides and end lapped at least 3" and sealed by waterproof

tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

3. Provide curing and sealing compound to interior slabs with resilient flooring, carpet over cushion, or left exposed; and as follows:

   a. Apply specified curing and sealing compound to concrete slabs as soon as final finishing operations are complete (within 2 hours). Apply uniformly in continuous operation by power - spray or roller in accordance with manufacturer's directions. Re-coat areas subjected to heavy rainfall within 3 hours after initial application. Maintain continuity of coating and repair damage during curing period.

4. Do not use membrane curing compounds on surfaces which are to be covered with coating material applied directly to concrete, liquid floor hardener, waterproofing, dampproofing, membrane roofing, flooring (such as ceramic or quarry tile, glue - down carpet), painting, and other coatings and finish materials, unless otherwise acceptable to Architect.

5. Curing Formed Surfaces: Cure formed concrete surfaces, including undersides of beams, supported slabs and other similar surfaces by moist curing with forms in place for full curing period or until forms are removed. If forms are removed, continue curing by methods specified above, as applicable.

6. Curing Unformed Surfaces: Cure unformed surfaces, such as slabs, floor topping, and other flat surfaces by application of appropriate curing method.

7. Sealer and Dustproofer: Apply a second coat of specified curing and sealing compound only to surfaces given a first coat and not receiving another finish floor material.

3.10 SHORES AND SUPPORTS:

A. Comply with ACI 347 for shoring and restoring in multistory construction, and as herein specified.

B. Extend shoring form ground to roof for structures 4 stories or less, unless otherwise permitted.

C. Remove shores and reshore in a planned sequence to avoid damage to partially cured concrete. Locate and provide adequate restoring to safely support work without excessive stress or deflection.

   1. Keep reshores in place a minimum of 15 days after placing upper tier, and longer if required, until concrete has attained its required 28 - day strength and heavy loads due to construction operations have been removed.

3.11 REMOVAL OF FORMS:

A. Formwork not supporting weight of concrete, such as sides of beams, walls, columns, and similar parts of work, may be removed after cumulatively curing at not less than 50 degrees F (10 deg. C) for 24 hours after placing concrete, provided concrete is sufficiently hard to not be damaged by form removal operations, and provided curing and protection operations are maintained.

B. Formwork supporting weight of concrete, such as beam soffits, joints, slabs and other structural elements, may not be removed in less than 14 days and until concrete has attained design

minimum compressive strength at 28 days. Determine potential compressive strength in - place concrete by testing field - cured specimens representative of concrete location or members.

C. Form facing material may be removed 4 days after placement, only if shores and other vertical supports have been arranged to permit removal of form facing material without loosening or disturbing shores and supports.

3.12 RE-USE OF FORMS:

A. Clean and repair surfaces of forms to be re - used in work. Split frayed,delaminated or otherwise damaged form facing material will not be acceptable for exposed surfaces. Apply new form coating compound as specified for new formwork.

B. When forms are extended for successive concrete placement, thoroughly clean surfaces, remove fins and laitance, and tighten forms to close joints. Align and secure joints to avoid offsets. Do not use "patched" forms for exposed concrete surfaces, except as acceptable to Architect.

3.13 MISCELLANEOUS CONCRETE ITEM:

A. Filling - In: Fill-in holes and openings left in concrete structures for passage of work by other trades, unless otherwise shown or directed, after work of other trades is in place. Mix, place and cure concrete as herein specified, to blend with in-place construction. Provide other miscellaneous concrete filling shown or required to complete work.

B. Curbs: Provide monolithic finish to interior curbs by stripping forms while concrete is still green and steel - troweling surfaces to a hard, dense finish with corners, intersections and termination's slightly rounded.

C. Equipment Base and Foundations: Provide machine and equipment bases and foundations, as shown on drawings. Set anchor bolts for machines and equipment to template at correct elevations, complying with certified diagrams or templates of manufacturer furnishing machines and equipment.

D. Grout base plates and foundations as indicated, using specified non-shrink grout. Use non-metallic grout for exposed conditions, unless otherwise indicated.

E. Reinforced Masonry: Provide concrete grout for reinforced masonry lintels and bond beams where indicated on drawings and as scheduled. Maintain accurate location of reinforcing steel during concrete placement.

3.14 CONCRETE SURFACE REPAIRS:

A. Patching Defective Areas: Repair and patch defective areas with cement mortar immediately after removal of forms, when acceptable to Architect.

1. Cut out honeycomb, rock pockets, voids over 1/4" in any dimension, and holes left by tie rods and bolts, down to solid concrete but, in no case to depth of less than 1". Make edges of cuts perpendicular to the concrete surface. Thoroughly clean, dampen with water and brush-coat the area to be patched with specified boding agent. Place patching mortar after bonding compound has dried.

B. For exposed-to-view surfaces, blend white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Provide test areas at inconspicuous location to verify mixture and color match before proceeding with patching. Compact mortar in place and strike-off slightly higher than surrounding surface.

C. Repair of Formed Surfaces: Remove and replace concrete having defective surfaces if defects cannot be repaired to satisfaction of Architect. Surface defects, as such, include color and texture irregularities, cracks, spalls, air bubbles, honeycomb, rock pockets: fins and other projections on surface; and stains and other discoloration's that cannot be removed by cleaning. Flush out form tie holes, fill with dry pack mortar, or precast cement cone plugs secured in place with bonding agent.

D. Repair concealed formed surfaces, where possible, that contain defects that affect the durability of concrete. If defects cannot be repaired, remove and replace concrete.

E. Repair of Unformed Surfaces: Test unformed surfaces, such as monolithic slabs, for smoothness and verify surface plane to tolerances specified for each surface and finish. Correct low and high areas as herein specified. Test unformed surfaces sloped to drain for trueness of slops, in addition to smoothness using a template having required slope.

F. Repair finished unformed surfaces that contain defects which affect durability of concrete. Surface defects, as such, include crazing, cracks in excess of 0.01" wide or which penetrate to reinforcement or completely through non-reinforced sections regardless of width, spalling, pop-outs, honeycomb, rock pockets and other objectionable conditions.

G. Correct high areas in unformed surfaces by grinding, after concrete has cured at least 14 days.

H. Correct low areas in unformed surfaces during, or immediately after completion of surface finishing operations by cutting out low areas and replacing with fresh concrete. Finish repaired areas to blend into adjacent concrete. Proprietary patching compounds may be used when acceptable to Architect.

I. Repair defective areas, except random cracks and single holes not exceeding 1" diameter, by cutting out and replacing with fresh concrete. Remove defective areas to sound concrete with clean, square cuts and expose reinforcing steel with at least 3/4" clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding compound. Mix patching concrete of same materials to provide concrete of same type or class as original concrete. Place, compact and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.

J. Repair isolated random cracks and single holes not over 1" in diameter by dry - pack method. Groove top of cracks and cut - out particles. Dampen cleaned concrete surfaces and apply bonding compound. Mix dry - pack, consisting of one part portland cement of 2-1/2 parts fine aggregate passing a No. 16 mesh sleeve, using only enough water as required for handling and placing. Place dry pack after bonding compound has dried. Compact dry - pack mixture in place and finish to match adjacent concrete. Keep patched area continuously moist for not less than 72 hours.

K. Perform structural repairs with prior approval of Architect for method and procedure, using specified epoxy adhesive and mortar.

L. Repair methods not specified above may be used, subject to acceptance of Architect.

3.15 QUALITY CONTROL TESTING DURING CONSTRUCTION:

A. The Contractor will employ a testing laboratory to perform tests and to submit test reports.

B. Sampling and testing for quality control during placement of concrete should include the following, as directed by Architect.

1. Sampling Fresh Concrete: ASTM C 172, except modified for slump to comply with ASTM C 94.

2. Slump: ASTM C 143; at least one test at point of discharge for each day's pour of each type of concrete; additional tests when concrete consistency seems to have changed.

3. Air Content: ASTM C 173, volumetric method for lightweight or normal weight concrete; ASTM C 231 pressure method for normal weight concrete; at least one for each day's pour of each type of air- entrained concrete.

4. Concrete Temperature: Test hourly when air temperature is 40 degrees F (4 deg. C) and test specimens made.

5. Compressive Test Specimen: ASTM C 31; one set of 3 standard cylinders for each compressive strength test, unless otherwise directed. Mold and store cylinders for laboratory cured test specimens except when field - cure test specimens are required.

6. Compressive Strength Test: ASTM C 39; one set for each day's pour exceeding 5 cu. yds. plus additional sets of each 50 cu. yds. over and above the first 25 cu. yds. of each concrete class placed in any one day; one specimen tested at 7 days, two specimens tested at 28 days.

a. When frequency of testing will provide less than 5 strength tests for a given class of concrete, conduct testing from at least 5 randomly selected batches or from each batch if fewer than 5 are used.

b. When strength of field-cured cylinders is less than 85% of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.

c. Strength level of concrete will be considered satisfactory if it meets the requirements of ACI 318. Should the laboratory analysis indicated that the proper concrete mix has not been used by the Contractor, all concrete placed that is represented by such tests shall be subject to rejection. The concrete thus rejected shall be removed from the project and replaced by the Contractor at no additional cost to the Owner. The Architect may elect to have additional cost to the Owner. The Architect may elect to have additional tests performed to determine if the in -place concrete meets these Specifications.

7. Test results will be reported in writing to Architect within 48 hours of when tests are made. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days,

concrete mix proportions and materials; compressive breaking strength and type of bread for both 7-day test and 28-day test.

8. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted but shall not be used as the sole basis for acceptance or rejection.

9. Additional Tests: The testing service will make additional tests of In-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained the structure, as directed by Architect. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed. Owner shall pay for such tests conducted, and any other additional testing as may be required, when acceptable concrete is verified. If the additional tests indicate that concrete does not meet these Specifications, all costs of additional tests shall be paid by the Contractor.

10. The Contractor shall keep a calibrated thermometer, slump cone (mold), and rod apparatus performing random slump tests and temperature tests on the jobsite at any time concrete is being placed.

END OF SECTION 03310

SECTION 05120
STRUCTURAL STEEL

PART 1 - GENERAL

1.01 SCOPE: Provide all structural steel, complete, as indicated.

1.02 RELATED DOCUMENTS: Drawings and general provisions of Contract, including General and Supplementary Conditions and Division - 1 Specification sections, apply to work of this section.

1.03 DESCRIPTION OF WORK:

A. Extent of structural steel work is shown on drawings, including schedules, notes, and details to show size and location of members, typical connections, and type of steel required.

B. Structural steel is that work defined in AISC "Code of Standard Practice" and as otherwise shown on drawings.

C. Miscellaneous metal fabrications are specified elsewhere in Division 5.

1.04 QUALITY ASSURANCE:

A. Codes and Standards: Comply with provisions of following, except as otherwise indicated:

1. AISC "Code of Standard Practice for Steel Buildings and Bridges".

a. Paragraph 4.2.1 of the above code is hereby modified by deletion of the following sentence: "This approval constitutes the owner's acceptance of all responsibility for the design adequacy of any connections designed by the fabricator as a part of his preparation of these shop drawings."

2. AISC "Specifications for the Design, Fabrication, and Erection of Structural Steel for buildings", including "Commentary " and supplements there to as issued.

3. AISC "Specifications for Structural Joints using ASTM A 325 or A 490 Bolts" approved by the Research Council on Riveted and Bolted Structural Joints of the Engineering foundation.

4. AWS D1.1 "Structural Welding Code".

5. ASTM A 6 "General Requirements for Delivery of Rolled Steel Plates, Shapes, Sheet Piling and Bars for Structural Use".

B. Qualifications for Welding Work: Qualify welding processes and welding operators in accordance with AWS "Standard Qualification Procedure".

1. Provide certification that wielders to be employed in work have satisfactorily passed AWS qualification test. If recertification of welders is required, retesting will be Contractor's responsibility.

1.04 SUBTITLES:

A. Product Data: Submit producer's or manufacturer's specifications and installation instructions for following products. Include laboratory test reports and other data to show compliance with specifications (including specified standards).

1. Structural steel (each type), including certified copies of mill reports covering chemical and physical properties.

2. High-strength bolts (each type), including nuts and washers.

3. Structural steel primer paint.

4. Shrinkage-resistant grout.

B. Shop Drawings: Submit shop drawings prepared under supervision of a Registered Professional Engineer, licensed in the State of Arkansas, including complete details and schedules for fabrication and assembly of structural steel members procedures and diagrams.

1. Include details of cuts, connections, camber, holes, and other pertinent data. Indicate welds by standard AWS symbols, and show size, length, and type of each weld.

2. Provide setting drawings, templates, and direction for installation of anchor bolts and other anchorages to be installed by others.

C. Test Reports: Submit copies of reports of tests conducted on shop and field bolted and welded connections. Include data on type(s) if tests conducted and test results.

1.05 DELIVERY, STORAGE AND HANDLING:

A. Deliver materials to side at such intervals to insure uninterrupted progress of work.

B. Deliver anchor bolts and anchorage devices, which are to be embedded in cast-in-place concrete or masonry, in ample time so not to delay work.

C. Store materials to permit easy access for inspection and identification. Keep steel members off ground, using pallets, platforms, or other supports. Protect steel members and packaged materials from erosion and deterioration.

D. Do not store materials on structure in a manner that might cause distortion or damage to members or supporting structures. Repair or replace damaged materials or structures as directed.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. Metal Surfaces, General: For fabrication of work which will be exposed to view, use only materials which are smooth and free of surface blemishes including pitting, seam marks, roller marks, rolled trade names and roughness. Remove such blemishes by grinding, or by welding and grinding, prior to cleaning, treating and application of surface finishes.

B. Structural Steel Shapes, Plates and Bars: ASTM A 36.

C. Cold-Formed Steel Tubing: ASTM A 500, Grade B.

D. Steel pipe: ASTM A 53, Type E or S, Grade B.

1. Finish: Black, except where indicated to be galvanized.

E. Steel Castings: ASTM A 27, Grade 65-35 , medium-strength carbon steel.

F. Anchor Bolts: ASTM A 307, nonheaded type unless otherwise indicated.

G. Unfinished Threaded Fasteners: ASTM A 307, Grade A, regular lowcarbon steel bolts and nuts.

1. Provide hexagonal heads and nuts for all connections.

H. High-Strength Threaded Fasteners: Heavy hexagon structural bolts, heavy hexagon nuts, and hardened washers, as follows:

1. Quenched and tempered medium-carbon steel bolts, nuts and washers, complying with ASTM A 325.

a. For high-strength low-alloy steel, provide Type 3 fasteners of similar composition as members to be connected.

2. Direct tension indicator washers may be used at Contractor's option.

I. Electrodes for Welding: Comply with AWS Code.

J. Structure Steel Primer Paint: Lead free, alkyd primer, Tnemec 10-99 Series, Southern Coatings Enviro-Guard 1-2900, or approved equal, meeting performance requirements of TT-P-86, Type I and passing ASTM B117 after 500 hours with no blistering, cracking, softening, delimitation or rust creepage at scribe and rusting at edges.

K. Non-metallic Shrinkage-Resistant Grout: Pre-mixed, non-metallic, non-corrosive, non-staining product containing selected silica sands, portland cement, shrinkage compensating agents, plasticizing and water reducing agents, complying with CRD-C621.

2.02 FABRICATION:

A. Shop Fabrication and Assembly: Fabricate and assemble structural assemblies in shop to greatest extent possible. Fabricate items of structural steel in accordance with AISC

Specifications and as indicated on final shop drawings. Provide camber in structural members where indicated.

B. Properly mark and match-mark materials for field assembly. Fabricate for delivery sequence which will expedite erection and minimize field handling of materials.

C. Where finishing is required, complete assembly, including welding of units, before start of finishing operation. Provide finish surfaces of members exposed in final structure free of markings, burrs, and other defects.

D. Connections: Weld or bolt shop connections, as indicated.

1. Bolt field connections, except where welded connections or other connections are indicated.

a. Provide high-strength threaded fasteners for principal bolted connections, except where unfinished bolts are indicated.

b. Provide unfinished threaded fasteners for only bolted connections of secondary framing members to primary members (including purlins, grits, and other framing members taking only nominal stresses) and for temporary bracing to facilities erection.

2. High-Strength Bolted Construction: Install high-strength threaded fasteners in accordance with AISC "Specifications for Structural Joints using ASTM A 325".

3. Welded Construction: Comply with AWS Code for procedures, appearance and quality of welds, and methods used in correcting welding work.

4. Steel Wall Framing: Select members which are true and straight for fabrication of steel wall framing. Straighten as required to provide uniform, square and true members in completed wall framing.

a. Build up welded door frames attached to structural steel framing. Weld exposed joints continuously and grind smooth. Plug weld steel bar stops o frames, except where shown removable. Secure removable stops to frames with countersunk, cross-recessed head machine screws, uniformly spaced not more than 10" o.c., unless otherwise indicated.

5. Holes for Other Work: Provide holes required for securing other work to structural steel framing, and for passage of other work through steel framing members, as shown on final shop drawings.

a. Provide threaded nuts welded to framing, and other specialty items as indicated to receive other work.

b. Cut, drill, or punch holes perpendicular to metal surfaces. Do not flame cut holes or enlarge holes by burning. Drill holes in bearing plates.

2.03 SHOP PAINTING:

A. General: Shop paint structural steel, except those members or portions of members to be embedded in concrete or mortar. Paint embedded steel which is partially exposed on exposed portions and initial 2" of embedded areas only.

1. Do not paint surfaces which are to be welded or high-strength bolted with friction-type connections.

2. Do not paint surfaces which are scheduled to receive spayed-on fireproofing.

3. Apply 2 coats of paint to surfaces which are inaccessible after assembly or erection. Change color of second coat to distinguish it from first.

B. Surface Preparation: After inspection and before shipping, clean steelworks to be painted. Remove loose rust, loose mill scale, and spatter, slag or flux deposits. Clean steel in accordance with Steel Structures Painting Council (SSPC) as follows:

1. SP-1 "Solvent Cleaning".

C. Painting: Immediately after surface preparation, apply structural steel primer paint in accordance with manufacturer's instructions and at a rate to provide dry film thickness of not less than 1.5 mils. Use painting methods which result in full coverage of joints, corners, edges and exposed surfaces.

PART 3 - EXECUTION

3.01 ERECTION:

A. Temporary Shoring and Bracing: Provide temporary shoring and bracing members with connections of sufficient strength to bear imposed loads. Remove temporary members and connections when permanent members are in place and final connections are made. Provide temporary guy lines to achieve proper alignment of structures as erection proceeds.

B. Temporary Planking: Provide temporary planking and working platforms as necessary to effectively complete work.

C. Anchor Bolts: Furnish anchor bolts and other connectors required for securing structural steel to foundations and other in-place work.

1. Furnish templates and other devices as necessary for presetting bolts and other anchors to accurate locations.

a. Refer to Division 3 of these specifications for anchor bolt installation requirements in concrete, and Division 4 for masonry installation.

D. Setting Base and Bearing Plates: Clean concrete and masonry bearing surfaces of bond-reducing materials and roughen to improve bond surfaces. Clean bottom surface of base and bearing plates. Set loose and attached base plates and bearing plates for structural members on wedges or other adjusting devices.

E. Tighten anchor bolts after supported members have been positioned and plumbed. Do not remove wedges or shims, but if protruding, cut off flush with edge of base or bearing plate prior to packing with grout.

F. Pack grout solidly between bearing surfaces and bases or plates to ensure that no voids remain. Finish exposed surfaces, protect installed materials, and allow to cure.

1. For proprietary grout materials, comply with manufacturer's instructions.

G. Field Assembly: Set structural frames accurately to lines and elevations indicated. Align and adjust various members forming part of complete frame or structure before permanently fastening. Clean bearing surfaces and other surfaces which will be in permanent contact before assembly. Perform necessary adjustments to compensate for discrepancies in elevations and alignment. Level and plumb individual members of structure within specified AISC tolerances.

1. Establish required leveling and plumbing measurements on mean operation temperature of structure. Make allowances for difference between temperature at time of erection and mean temperature at which structure will be when completed and in service.

2. Splice members only where indicated and accepted on shop drawings.

H. Erection Bolts: On exposed welded construction, remove erection bolts, fill holes with plug welds and grind smooth at exposed surfaces.

I. Comply with AISC Specifications for bearing, adequacy of temporary connections, alignment, and removal of paint on surfaces adjacent to filed welds.

J. Field Bolted Connections: Inspect in accordance with AISC specifications.

K. Field Welding: Inspect and test during erection of structural steel as follows:

1. Certify welders and conduct inspections and tests as required. Record types and locations of defects found in work. Record work required and performed to correct deficiencies.

2. Perform visual inspection of all welds.

END OF SECTION 05120

SECTION 05400
LIGHTGAGE METAL FRAMING

PART 1 GENERAL

1.01 RELATED DOCUMENTS: Drawings and general provisions of Contract including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

1.02 DESCRIPTION OF WORK:

A. Extent of Light gage framing is shown on drawings.

B. Types of Light gage metal framing units include the following: "C" shaped non-load-bearing steel studs, 3-various depths in 18 gage and furring channels, as required.

1.03 QUALITY ASSURANCE:

A. Component Design: Compute structural properties of studs and joists in accordance with AICS " Specification for Design of Cold-Formed Steel Structural Members."

1.04 SUBMITTALS: Product Data - Submit manufacturers product information and installation instructions for each item of light gage framing and accessories.

1.05 DELIVERY AND STORAGE: Protect metal framing units from rusting and damage. Deliver to project site in manufacturer's unopened containers or bundles, fully identified with name, brand, type and grade. Store off ground in a dry ventilated space or protect with suitable waterproof coverings.

PART 2 PRODUCTS

2.01 METAL FRAMING:

A. System Components: With each type of metal framing required, provide manufacturer's 16 gage steel runners (tracks), blocking, lintels, clip angles, shoes, reinforcements, fasteners, and accessories as recommended by manufacturer for applications indicated, as needed to provide a complete metal framing system.

B. Materials and Finishes:

1. For 18-gage units, fabricate metal framing components of structural quality steel sheet with a minimum yield point of 33,000 psi; ASTM A 446, A 570, or A611.

2. Provide galvanized finish to metal framing components complying with ASTM A 525 or minimum G 60 coating.

3. "C" -Shape Studs: Manufacturer's standard non-load-bearing steel studs of size, shape, and gage indicated.
4. Furring channels in depth and gage required.

5. Manufacturer: Subject to compliance with requirements, provide "C" -shaped, load-bearing steel studs of one of the following:

Ceco Corporation, Inryco/Milcor, U.S. Gypsum
Wheeling Corrugating Company

2.02 FABRICATION:

A. General: Framing components may be prefabricated into panels prior to erection. Fabricate panels plumb, square, true to line and braced against racking with joints welded. Perform lifting of prefabricated panels in a manner to prevent damage or distortion.

B. Fastenings: Attach similar components by welding. Attach dissimilar components by welding, bolting, or screw fasteners, as standard with manufacturer.

C. Wire tying of framing components is not permitted.

PART 3 EXECUTION

3.01 INSTALLATION:

A. Manufacturer's Instructions: Install metal framing systems in accordance with manufacture's printed or written instructions and recommendations, unless otherwise indicated.

B. Runner Tracks: Install continuous tracks sized to match studs. Align tracks accurately to layout at base and tops of studs. Secure tracks as recommended by stud manufacturer for type of construction involved, except do not exceed 24" o.c. spacing for nail or powder-driven fasteners, or 16" o.c. for other types of attachment. Provide fasteners at corners and ends of tracks.

C. Set studs plumb, except as needed for diagonal bracing or required for non-plumb walls or warped surfaces and similar requirements.

D. Where stud system abuts structural columns or walls, including masonry walls, anchor ends of stiffeners to supporting structure.

E. Install supplementary framing, blocking and bracing in metal framing system wherever walls or partitions are indicated to support fixtures, equipment, services, casework, heavy trim and furnishings, and similar work requiring attachment to the wall or partition. Where type of supplementary support is not otherwise indicated, comply with stud manufacturer's recommendations and industry standards in each case, considering weight or loading resulting from item supported.

F. Installation of Wall Stud System: Secure studs to top and bottom runner tracks by either welding or screw fastening at both inside and outside flanges.

G. Frame wall openings larger than 2'-0" square with double stud at each jamb of frame except where more than 2 are either shown or indicated in manufacturer's instructions. Install runner tracks and jack studs above and below wall openings. Anchor tracks to jamb studs with stud shoes or by welding, and space jack studs same as full-height studs of wall. Secure stud system wall opening frame in manner indicated.

H. Frame both sides of expansion and control joints, with separate studs; do not bridge the joint with components of study system.

I. Install horizontal stiffeners in stud system, spaced (vertical distance) at not more than 4' - 6" o.c. Weld at each intersection.

J. Field Painting: Touch-up shop-applied protective coatings damaged during handling and installation. Use compatible primer for prime coated surface; use galvanizing repair paint for galvanized surfaces.

END OF SECTION 05400

SECTION 05500
MISCELLANEOUS METAL WORK

PART 1 GENERAL

1.01 SCOPE: Provide miscellaneous metal work, complete, including:

A. Steel supports for work of other trades.

B. Furnish miscellaneous metal steel attachments, anchors, plates, angles.

C. Include all anchors, angles, bolts, expansion shields for items in this section, and other accessories shown in details and or required for the complete installation of all work.

PART 2 PRODUCTS

2.04 MATERIALS:

A. Miscellaneous Steel Bars, Rods and Shapes: ASTM A 36, A283, A 108,A 663, A 501, and A 575 as applicable.

B. Bolts and Nuts: ASTM A 307, grade A. High strength bolts; ASTM A 325. Hot-dip galvanized all items in accordance with ASTM A 153.

C. Expansion Bolts; Hilti "Kwik bolt".

D. Expansion Shields: F.S. FF-S-325.

E. Anchor Bolts: Furnish and deliver to site, anchor bolts and other items to be embedded in concrete. Provide necessary shop details and diagrams for concrete forms and, accurate locations and setting of anchor bolts.

F. Toggle Bolts: tumble-wing type F.S. FF-b-588 type, class and style as required.

G. Lock Washers: F.S. FF-W-84, helical spring type carbon steel.

H. Miscellaneous Items: Furnish bent or otherwise custom fabricated bolts, plates, Z-clip at studs, anchors, hangers, dowels and other miscellaneous steel shapes as required for framing and supporting wood work and for anchoring or securing woodwork to concrete or other structures. Straight bolts and other stock rough hardware items are specified in Section 06100.

2.02 STEEL PIPE RAILINGS AND HANDRAILS:

A. Fabricate steel pipe supports handrails and cable rails to design, dimensions, and details indicated. Provide railing handrail members formed of pipe of sizes and wall thickness indicated.

B. Interconnect railing and handrail members by butt-welding or welding with Internal connectors, at fabricator's option, unless otherwise indicated.

C. At tee and cross intersections provide coped joints.

D. Form bends by use of prefabricated elbow fittings and radius bends or by bending pipe, at fabricator's expense.

E. All cabling, connections, turnbuckles and take-ups to be as manufactured by cablerail.

F. Brackets, Flanges, Fittings and Anchors: provide wall brackets, end closures, flanges, miscellaneous fittings and anchors for interconnections of pipe and attachment of railings and hand rails to the work. Furnish inserts and other anchorage devices for connecting railings and handrails to concrete or masonry work.

G. For railing posts set in concrete, provide sleeves of galvanized steel pipe not less than 6" long and with an inside diameter not less than 1/2" greater than the outside diameter of pipe. Provide steel plate closure welded to bottom of sleeve and width and length not less than 1" greater than outside diameter of sleeve.

H. Galvanize exterior steel railings, including pipe, fittings, brackets, fasteners and other ferrous components.

2.02 SHOP PAINT FOR FERROUS METAL: Fast curing, lead free, abrasion resistant, rust inhibitive primer selected for compatibility with substrates and with types of alkyd-type finish paint systems specified, complying with performance requirements of F.S. TT-P-86, types I, II and III.

2.03 FABRICATION:

A. Workmanship: Use materials of size and thickness shown or, if not shown, of required size and thickness to produce strength and durability in finished product, Work to dimensions shown or accepted on shop drawings, using proven details of fabrication and support. Use type of materials shown or specified for various components of work.

B. Form exposed work true to line and level with accurate angles and surface and straight sharp edges. Ease exposed edges to a radius of approximately 1/32" unless otherwise shown. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.

C. Weld corners and seams continuously, complying with AWS recommendations. At exposed connections, grind exposed weld smooth and flush to match and blend with adjoining surfaces.

D. From exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of type shown or , if not shown, Philips flat-head (countersunk) screws or bolts. Provide for anchorage of type shown, Coordinated with supporting structure. Fabricate and space anchoring devices to provide adequate support for intended use. Cut reinforce, drill and tap miscellaneous metal work as indicated to receive finish hardware and similar items.

2.04 SHOP PAINTING:

A. Shop paint miscellaneous metal work, except concealed metal work, members or portion of members to be embedded in concrete, surfaces and edges to be field welded, and galvanized surfaces, unless otherwise specified.

B. Remove scale, rust and other deleterious materials before applying shop coat. Clean off heavy rust and loose mill scale in accordance with SSPC SP-2 or SSPC SP-3.

C. Remove oil, grease and similar contaminants in accordance with SSPC SP-1.

D. Immediately after surface preparation, brush or spray on primer in accordance with manufacturer's instructions, and at rate to provide uniform dry film thickness of 2.0 mils for each coat. Use painting methods which will result in full coverage of joint, corners, edges, and exposed surfaces.

PART 3 EXECUTION

3.01 PREPARATION: Furnish setting drawings, diagrams, templates, instructions and directions for installation of anchorage. Coordinate delivery of such items to site.

3.02 INSTALLATION: Perform cutting, drilling and fitting required for installation; set work accurately in location, alignment and elevation, measured from established lines and levels. Provided anchorage devices and fasteners where necessary for installation to other work.

3.03 TOUCH-UP SHOP PAINTING: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material as used for shop painting. Use galvanizing repair paint on damaged galvanized surfaces.

END OF SECTION 05500

SECTION 06100
ROUGH CARPENTRY

PART 1 - GENERAL

1.01 Scope: Provide all rough carpentry, and installation of items specified in other sections which are installed by the carpenters. In general, this work includes the following:

A. Concealed framing studs, etc.

B. All braces, stripping, cants, grounds, and nailers indicated or necessary to install all work, including architectural woodwork, toilet room accessories, medical equipment, fire extinguisher wall bracket, and to receive or back of other trades.

1.02 Quality Assurance:

A. Grading Marks: Factory-mark each piece of lumber and plywood with type grade, mill and grading agency identification; and submit mil certificate that material has been inspected and graded in accordance with requirements if it cannot be marked on a concealed surface.

B. Wood Preservative Treatment: Label each piece of pressure treated lumber and plywood with the Quality Control mark of the American Wood Preserver Bureau showing compliance with the appropriate.

1.03 Product Handling: Keep carpentry materials dry during delivery, storage and handling. Store lumber and plywood in stacks for air circulation within stacks. Protect bottom of stacks against contact with damp surface. Protect bottom of stacks against contact with damp surface. Protect exposed materials against weather. Do not store dressed or treated lumber or plywood outdoors.

PART 2 - PRODUCTS

2.01 Softwood: Comply with the standards of WCLIB, "Standard Grading Rules for West Coast Lumber", for Douglas fir, and SPIB " Standard Grading, Rules for Southern Pine Lumber", for Southern Pine. For light framing and studs 2" - 4" wide, use SAS Douglas fir or Southern pine; construction grade or stud grade. For wood deck comply with the standards of WWPA "Standard Grading Rules". All blocking, etc. to be fire treated.

2.02 Rough Hardware: Nails, metal connectors, bolts, screws, and other fasteners (except as specified or noted otherwise); hot-dip galvanized steel.

2.03 Wood Preservative Treatments: Pressure treat with water-borne preservatives complying with AWPB -LP-2 all concealed wood (including lumber, grounds, nailers, blocking, backing, rough framing) in a closed cylinder using the vacuum-pressure process to a net dry retention of .35 lbs. per cu. ft. Dry to maximum moisture content of 19% after treatment. Brush two coats of same preservative used in treatment, to end cuts, holes, notches, splits, etc. Dry all lumber.

2.04 Fire Retardant Treatment: All concealed lumber, and other material to be fire treated to have Fire Retardant Treatment, pressure impregnated, and complying with AWPA C20 and C27.

Identify all fire treated lumber with appropriate classification marking of Underwriter's Laboratories, Inc. or inspecting agency acceptable to authorities having jurisdiction.

2.05 Gypsum Sheathing: sheathing board complying with FS-1-30, Class 2, Grade "W" (Water-resistant treated core). Provide 1/2" x 4' x 8' panels with square edges.

PART 3 - EXECUTION

3.01 Workmanship: Erect all work accurately to required lines, level, plumb, to true planes, and rigidly secured.

3.02 Rough Carpentry: provide wood grounds, strips, backing and blocking of thickness and shape required to secure work and equipment in place, as indicated on the drawings or required by conditions. Fasten wood grounds, furring and other engaging woodwork to various types of walls with approved types and sizes of nails, ties, and inserts spaced to provide rigid secure supports.

3.03 Rough Hardware: Provide all rough hardware necessary or required for installation of the work specified. Use sufficient size and number of spikes, nails, screws, bolts, etc. to insure rigidity, security , and permanence.

3.04 Installation of Items Specified in Other Sections:

A. Specialties: Install all metal and specialty items (including those specified in Division 10) as indicated on the drawings and/or as recommended by the manufacturer's printed instruction, subject to modification on the job at the Architect's direction.

3.06 Clean-Up: Remove from the premises all rubbish, debris, and unused materials which may be accumulated during the progress of the work.

END OF SECTION 06100

SECTION 06200
FINISH CARPENTRY

PART 1- GENERAL

1.01 SCOPE: Provide all labor and materials as required for the installation of all wood finish materials, doors, millwork, hardware, shelving cabinets and incidentals necessary to finish carpentry.

1.02 RELATED WORK SPECIFIED IN OTHER SECTIONS:

A. Wood Doors- Section 08250

1.03 QUALITY ASSURANCE:

A. Standards:

1. Architectural Woodwork Institute, Architectural Woodwork Quality Association.

2. American Plywood Association

1.04 PROTECTION: Pile lumber to insure proper ventilation and drainage. Protect millwork against dampness during and after delivery. Store in well ventilated building where not exposed to extreme changes of temperature and humidity.

PART 2- PRODUCTS

2.01 GENERAL

A. Grades shall conform to the most recent grading rules of the Association or Bureau under whose rules lumber is produced.

B. Lumber shall be kiln dried to 10% to 12% moisture content.

2.02 MATERIALS

A. Finishing lumber: S4S KD Douglas Fir or Southern Pine C and better vertical gain.

B. Interior Woodwork: Chair rail and Base, finish to match existing doors and Board Room table.

C. Wood veneer wall covering

PART 3- EXECUTION

3.01 All work shall be accurately and neatly installed without hammer marks or other defacement. All finish nailing shall be set below the surface of finish, all cuts, miters and connections to adjacent work shall be accurately fitted and scribed into place. Sand wood work as required to remove irregularities and machine marks. Leave work free from defects and blemishes.

3.02 Install interior and exterior millwork and finish trim with tight joints securely nailed. Set exposed heads of nails for putty. Sand interior woodwork as required to remove defects and blemishes.

Make joints tight and form to conceal shrinkage. Make outside joints to exclude water. Miter corners unless otherwise indicated. Install running and standing trim in longest available lengths, join only where solid fastening can be made. Distribute joints in built-up members. Miter exterior corners and cope interior angles. Where required, scribe woodwork to adjacent woodwork.

3.03 Wood doors shall be trimmed to fit snugly without binding, with approximately 1/8" clearance at side jambs and head. Hang plumb and true, free from warp, with joints undamaged and surfaces prepared to painting.
After hanging and fitting door, remove and have painted tops and bottoms with two coats of paint on sealer.

Undercut door as shown or required to give proper operating clearance over all floor finishes.

3.04 INSTALLATION OF ITEMS SPECIFIED IN OTHER SECTIONS:

A. Cabinetwork: Install cabinet work where indicated. Install trim in as long as feasible pieces; miter, glue all joints with waterproof glue. Use finish nails, set for puttying, except where screws are required. Clean up after installation with fine sandpaper or steel tool.

B. Finish Hardware: Install finish hardware in accordance with the best standard practice and as directed by the Architect. Remove and store as required for painting and refit at completion. Adjust moving parts to operate free and easy without binding. All hardware shall be in perfect working order and keys tagged on deliver to Architect.

C. Specialties: Install all metal and specialty items (including those specified in Division 10), as indicated on the drawings and/or as recommended by the manufacturer's printed instruction, subject to modification on the job at the Architect's directions.

3.05 CLEAN-UP: Remove from the premises all rubbish, debris and unused materials which may be accumulated during the progress of the work.

END OF SECTION 06200

SECTION 06400
ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.01 Scope: Provide all architectural woodwork items, complete, including cabinetwork, countertops, and hardware.

1.02 Related Work specified in Other Sections:

A. Installation; Section 06100.

B. Finishing; Section 09900.

1.03 Quality Assurance:

A. Cabinet Material and Fabrication Standards: Custom grade for natural and laminated plastic finish as indicated, in accordance with the latest edition of the Architectural Woodwork Institute Quality Standards and Guide Specifications, conforming to the following sections except where modified elsewhere in this section.

1. Section 100 - Lumber Grades
2. Section 200 - Plywood & Particleboard Grades
3. Section 400 - Casework
4. Section 600 - Closet & Storage Shelving

B. Fabrication of architectural woodwork to be by a single firm.

1.04 Shop Drawings: Prior to fabrication, submit shop drawings indication location, material quality and species, fabrication and assembly details.

1.05 Delivery, Storage and Handling: Deliver, store, and handle architectural woodwork in a manner to prevent damage and deterioration. Protect all surfaces of items subject to damage during transit. Coordinate delivery and storage with trade providing installation.

PART 2 - PRODUCTS

2.01 Materials: Conform to Section 100 and 200 of reference standard, except as modified below.

A. Cabinets to be fabricated of high density grade 471b water resistant particleboard meeting ANSI A208.1-1993, M-3 requirements.

B. Solid or pattern high pressure decorative laminates GP50 (.50) meeting NEMA test LD3-1995 for horizontal.

C. Solid Wood for Concealed Members: Douglas fir or Southern Pine

D. Exposed Solid Wood for Paint Finish: Birch or Douglas Fir, Custom Grade.

E. Solid Wood for Semi-Exposed Members: Same as exposed members.

F. Laminate colors and patterns to be as selected by architect.

G. Exposed Plywood for Laminated Plastic Finish: Hardwood. Use plywood bonded with exterior glue.

H. Exposed Plywood for Paint Finish: Birch, A-C Douglas Fir or Southern Pine.

I. Semi-Exposed Plywood: Same as exposed plywood.

J. Concealed Plywood: Douglas fir or Southern pine.

K. Laminated Plastic: 1/32" thick (cabinets) and .042" thick (countertops), Formica, Wilson Art, Nevamar, or acceptable equal, colors as selected by architect. Submit for approval

L. Adhesive: Complying with CS 35, Type I.

2.02 Fabrication and Manufacture: Comply with specified sections of referenced standard, except do not use staples in exposed millwork construction.

2.03 Countertops: Laminated plastic, waterproof glued to Douglas fir Exterior Grade plywood or, where structurally adequate, mounted on 3/4" particleboard with waterproof adhesive recommended by the plastic manufacturer. Provide with self-edged exposed edges. Install laminated plastic in single pieces up to the limits of the sheet sizes; small patches will not be accepted. Install Granite countertops as per manufacturers recommendations.

2.04 Hardware:

A. Adjustable Shelves: KV 255 w/256 clips

B. Cabinet Doors:

1 pair Hinges:	Stanley #15854, 1586, 1587, 1588, 1589 or 1590 as appropriate
1 Magnetic Catch:	Stanley 41
1 Pull:	Stanley 4483 - 1/2 US26D
1 lock (where noted):	CR Lawrence cam lock for wood cabinet doors LK-56, US 10B

C. Drawer:

1 pair Slides:	Accuride #214
1 Pull:	Stanley 4483 - 1/2 US26D

PART 3 - EXECUTION

3.01 Installation:

A. Fabricate all woodwork true, square, plumb and level and firmly anchor to structure.

B. Final Inspection: Check operation of all woodwork at final acceptance. If inspection reveals non-compliance, Contractor is to pay all costs of making corrections for compliance.

END OF SECTION 06400

SECTION 07200
INSULATION

PART 1 GENERAL

1.01 SCOPE: Provide building insulation, complete. Fiberglass batt building insulation, and rigid polystyrene board are included in project.

1.02 RELATED WORK SPECIFIED IN OTHER SECTIONS:

A: Unit Masonry: Section 04200
B: Rough Carpentry: Section 06100
C: Roof Insulation: Section 07500

1.03 SUBMITTALS: Comply with Section 01300. Submit manufacturer's instructions for insulation. Include data substantiating that materials comply with physical and thermal properties, and other requirements of specified insulation.

1.04 PRODUCT HANDLING: Do not allow insulation materials to become wet or soiled. Comply with manufacturer's instructions for handling, storage and protection during installation.

1.05 JOB CONDITIONS: Do not proceed with installation of insulation until the work which follows is scheduled to follow immediately.

PART 2 PRODUCTS

2.01 FIBERGLASS BATT INSULATION: Provide batt insulation of fiberglass on kraft facing in widths to conform to spacing of attachment members. Thickness to be 3 ½" providing sound separation between rooms.

2.03 RIGID INSULATION BOARD: Provide rigid insulation board by DOW CHEMICAL Co., or equal in 2" thickness with minimum R rating of 10 as called out on the drawings.

2.05 MISCELLANEOUS MATERIALS: Provide adhesive for bonding insulation, mechanical anchors, or other required items, as recommended by the insulation manufacturer.

PART 3 EXECUTION

3.01 INSTALLATION: Comply with manufacturer's instructions. Extend insulation full thickness over entire surface to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Cavity wall insulation to be cut for use with metal wall ties.

END OF SECTION 07200

SECTION 07245
EXTERIOR INSULATION AND FINISH SYSTEM
EXTERIOR FINISH SYSTEM (EIFS/EFS)

PART 1 GENERAL

1.01 RELATED DOCUMENTS:

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specifications, apply to work of this section.

1.02 DESCRIPTION OF WORK:

A. Extent of exterior insulation and finish/exterior finish system is shown on drawings, and includes patching and removing and replacing deteriorated EIFS with new MD (moisture drainable) EIFS system.

B. Provide metal framing and gypsum sheathing for support of this system, as designated on drawings, to install all support required on wall areas, and any related framing designated.

1.03 QUALITY ASSURANCE:

A. Single Source Responsibility: Obtain exterior finish system products form a single manufacturer, or from a manufacturer recommended by the prime manufacturer of the exterior finish system.

B. Warranty: EIFS system shall come with a 5 year warranty on materials.

C. Special Project Warranty: Provide a written warranty, signed by the Manufacturer (as arranged by the Installer) and Installer, agreeing in writing, to repair or replace at no cost to the Owner those areas of Exterior Insulation and Finnish/Exterior Finish System (EIFS/EFS) showing finish cracking not directly traceable to substrate settlement conditions, or those areas exhibiting flaking, peeling, delimitation, chipping, denting, peeling, blistering, bulging or other undesirable characteristics including abnormal aging, unsightly discoloration or deterioration.

Bidders shall submit with their proposal a copy of the written warranty indicating compliance with the provisions of the special project warranty specified herein, as well as name and address of Guarantor.

D. Special Job Mock-up: Provide mock-up, on site, of system indicating color and texture as selected by Owner.

E. The EIFS shall be recognized by EDCA, JCCI and ICBD.

F. The EIFS shall be tested for fire performance in accordance with modified ASTM EIDE, MSTM EII9, ULC-SIDI and UBC 17-6 multi-story test.

G. The EIFS shall be tested for: accelerated weathering, mildew resistance and salt spray resistance.

H. Installer: A firm with successful experience in installation of exterior finish systems similar to those required for this project, and which is acceptable to or licensed by manufacturer of primate finish coat materials.

1.04 SUBMITTALS:

A. Product Data: Submit specifications, application instructions and general recommendations form manufacturers of primary finish system materials.

1.05 JOB CONDITIONS:

A. Store all materials protected from another and direct sunlight and temperatures above 40 F.

B. Weather: Proceed with system application only when existing and forecaster weather conditions will permit work to be performed in accordance with manufacturers recommendations and warranty requirements. Minimum ambient temperature during installation steel minimum of 40 F and shall remain so for 24 hours after installation.

PART 2 PRODUCTS

2.01 GENERAL:

A. Performance: Provide a Moisture Drainable EIF system consisting of water resistive coating, insulation board, accommodations for drainage including drainage track, backstop NT , water flashing,adhesive, reinforcing mesh, base coat and finish coat equal to Dryrit Outsulation Plus MD System.

2.03 EIFS/EFS:

A. Acceptable Systems (No Substitutions): Subject to compliance with these specifications, provide products by Dryvit Systems. Products of Insul/Crete Company, STO, Thorowall or Senergy are acceptable. The Dryvit System specified is outsulation MD with drainage and vent and water and air-tight membrane.

Provide minimum insulation thickness (to match existing thickness and to be flush with existing face of wall) over metal framing/gypsum sheathing, with fasteners and reinforcing.

Provide special, non-standard factory-mixed color designated on Drawings. Provide control jointing of non-rusting, non-staining material as shown, of profile thin enough to match total system without causing bulging or variation in surface. Provide 6 year guarantee per Special Project Warranty requirements. Comply with all other provisions of this section.

B. Insulation shall be thickness of polystyrene board, as shown on drawings.

C. Fasteners for insulation to metal studs/gypsum sheathing shall be manufacturer's standard corrosion resistant steel screws and washers.

D. Reinforcing mesh shall be manufacturer's standard, to allow no visibility of CMU joints or insulation joints through to finish surface.

E. Base Coat: Base coat shall be polymer-modified portland cement and silica sand to function as base coat for coating application and mixed with base coat liquid admixture as supplied by system manufacturer.

F. Finish Coat: Finish coat shall be polymer-modified portland cement and silica sand, compatible with the base coat, and mixed with a colored, liquid admixture as supplied system manufacturer.

G. Colored Sealer: Colored sealer for textured finish coat shall be acrylic based, factory mixed sealer compatible with finish coat. Color shall be as designated on Drawings.

H. Trim Accessories: Provide control joint, stop bead and drip bead made of vinyl or zinc, as indicated and as recommended by the system manufacturer.

I. Total finish system thickness shall be 1/2" as indicated on drawings.

PART 3 EXECUTION

3.01 SUBSTRATE PREPARATION:

A. Inspect the substrate to ensure that it is free of all foreign material that would effect adhesion of EIFS.

B. Application over Insulation/Gypsum Sheathing/Metal Framing. Install insulation, reinforcing, base coats and finish coats and sealers as recommended and warranted and guaranteed by the Primary System Manufacturer and Installer.

3.02 CLEANING AND PROTECTION:

A. Remove temporary covering used to protect other work.

B. Remove material overage or spillage's immediately from adjacent work and repair surfaces which have been damaged by EIFS/EFS work.

END OF SECTION

SECTION 07312
FIBERGLASS SHINGLES

PART 1- GENERAL

1.01 SCOPE: Provide fiberglass shingle roofing, complete.

1.02 RELATED WORK SPECIFIED IN OTHER SECTIONS: Roof decking, Section 06100.

1.03 QUALITY ASSURANCE: Provide labeled materials which have been tested and listed by UL for class and rating indicated for specified shingle.

1.04 SUBMITTALS: Comply with Section 01300.

A. Manufacturer's Data: Submit technical product data, installation instruction, and recommendations from shingle manufacturer, including data substantiating that materials comply with requirements. Transmit a copy of installation instructions to Installer.

B. Samples: Submit full range of samples for color and texture to the Architect.

C. Warranty: On completion of work, submit executed copy of warranty.

1.05 DELIVERY, STORAGE AND HANDLING:

A. Deliver materials in manufacturer's unopened, labeled container.

B. Store materials to avoid water damage, and store rolled goods on end. Comply with manufacturer's recommendations for job site storage and protection.

1.06 JOB CONDITIONS:

A. Substrate: Proceed with shingle work only after substrate construction and penetrating work have been completed.

B. Weather Conditions: Proceed with shingle work only when weather conditions are in compliance with manufacturer's recommendations and when substrate is completely dry.

1.07 WARRANTY: Provide shingle manufacturer's warranty on installed work, agreeing to pay for repair or replacement of defective shingles as necessary to eliminate leaks. Period of warranty is 20 years from date of substantial completion.

PART 2- PRODUCTS

2.01 MATERIALS:

A. Fiberglass Shingles: Mineral-surfaced, self-sealing, algae resistant, square tab shingles, bearing UL class A external fire exposure label and UL "Wind Resistance" label, weighing not less than 225 lbs. per square. Colors as selected by Architect.

SECTION 07600
FLASHING AND SHEET METAL

PART 1- GENERAL

1.01 SCOPE: Provide all sheet metal work, complete, including flashing and counter-flashing (except metal drip edge in conjunction with roofing).

1.02 RELATED WORK SPECIFIED IN OTHER SECTIONS: Sealants: Section 07900.

1.03 SUBMITTALS: Comply with Section 01300.

A. Shop Drawings: Prior to fabrications, submit shop drawings for each typical sheet metal item indicating materials, gages, jointing and fastening.

1.04 JOB CONDITIONS: Coordinate work of this section with interfacing and adjoining work for proper sequencing of each installation. Ensure best possible weather resistance and durability of the work and protection of materials and finishes.

PART 2- PRODUCTS

2.01 MATERIALS:

A. Steel Sheets: ASTM A 526, 24 gage steel sheets, hot-dip galvanized in compliance with ASTM A 525, mill phosphatized.

B. Nails, Screws and Rivets: Same metal as flashing/ sheet metal or other noncorrosive metal as recommended by sheet metal manufacturer. Match finish of exposed heads with materials being fastened.

C. Solder: ASTM B32, 50% tin and 50% lead, used with rosin flux.

D. Roofing Cement: F.S. SS-C-153, Type I, Class A (summer grade) or Class B (winter grade) as applicable.

E. Bitumastic Coating: F.S. TT-C-494, MIL-C-18480, or SSPC- Paint 12, cold applied solvent type bitumastic coating for application in dry film thickness of 15 mils per coat.

F. Metal Accessories: Sheet metal clips, cleats, straps, anchoring devices and similar accessory units as required for installation of work, matching or compatible with material being installed, noncorrosive, size and gage required for performance.

G. Sealants: As specified in Section 07900.

H. Thru-Wall Flashing over lintels, beams, at sills, window head weeps, bed joints with weeps, and elsewhere as shown on drawings shall be 20 mil PVC, "Wascoseal Type 20" as manufactured by York Flashing, or Nervastral "Seal-Pruf 300".

2.02 FABRICATION:

A. Fabricate metal flashings, counter flashings, trim and similar items to comply with the profiles and sizes indicated.

B. Fabricate to comply with SMACNA "Architectural Sheet Metal Manual", metal manufacturer's recommendations and recognized industry practices.

C. Fabricate waterproof and weather-resistant performance; with expansion provisions for running work, sufficient to permanently prevent leakage, damage or deterioration of the work. Form work to fit substrates. Form exposed sheet metal work without excessive oil-canning, buckling and tool marks, true to line and levels as indicated, with exposed edges folded back to form hems.

D. Seams: Fabricate nonmoving seams in sheet metal with flat-lock seams. Tin edges to be seamed, form seams and solder.

E. Expansion Provisions: Where lapped or bayonet-type expansion provisions cannot be used, or would not be sufficiently water/weatherproof, form expansion joints of intermeshing hooked flanges, not less than 1" deep, filled with mastic sealant (concealed within joints).

F. Separate dissimilar metals from each other by painting each metal surface in are of contact with a heavy application of bitumastic coating, or by other permanent separation as recommended by manufacturers of dissimilar metals.

PART 3- EXECUTION

3.01 INSPECTION: Examine substrates and conditions under which metal flashing and trim will be installed. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.02 INSTALLATION:

A. SMACNA Details: Except otherwise indicated or specified, comply with applicable recommendations and details of "Architectural Sheet Metal Manual" by SMACNA.

B. Manufacturer's Recommendations: Except as otherwise indicated or specified, comply with recommendations and instructions of manufacturer of sheet metal being installed.

C. Anchor units of work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints and seams which will be permanently watertight and weatherproof.

D. Retainers: Where shown, provide saw cuts for securing edges of flashings to other work. Insert flashings into saw cuts and seal. Where required, provide wedges of lead or other compatible metal, spaced 2' o.c., and drive well into saw cut so as to be completely covered by sealant.

E. Roofing Cement Edges: Where indicated or required, bed flanges and seal edges of metal flashings to substrates with roofing cement; install bed or bead cement in manner which will maintain a watertight seal.

3.03 CLEAN UP: After completion of work, clean roofing cement, sealant and bituminous paint from flashing, floors and all surfaces so defaced. Removal all excess materials and scraps from the job and leave all surfaces neat and clean.

END OF SECTION 07600

SECTION 07900
JOINTS SEALANTS

PART 1 - GENERAL

1.01 Scope: Completely close with calking compound or sealant at all joints, including joints around frames of doors, windows, or other openings in exterior walls, flooring joints, joints at penetrations of walls, decks, and floors by piping and other services and equipment, joints between items of equipment and other construction. Recalk all control joints between concrete wall panels and other joints indicated or specified to be calked or sealed.

1.02 Related Work specified in Other Sections:

A. N/A

1.03 QUALITY ASSURANCE: Obtain elastomeric materials only from manufacturer who will, if required, send a qualified technical representative to project site, for the purpose of advising the Installer or proper procedures and precautions for the use of the material.

1.04 SUBMITTALS: Comply with Section 01300

A. Manufactuer's Data: Submit manufacturer's specifications, recommendations, and installation instructions for each type of sealant, calking compound and miscellaneous materials. Include letter of certification, or certified test laboratory reports indicating that each material complies with the requirements and is intended for the applications indicated. Transmit a copy of recommendations and instructions to the Installer.

B. Samples: Submit 1/2" long sample of each color required (except black) for each type of sealant of calking compound exposed to view. Install sample between 2 strips of material similar to or representative of typical surfaces where sealant or calking compound will be used, held apart to represent typical joint widths. Samples will be viewed for color and texture only.

1.05 Job Conditions:

A. Examine joint surfaces, backing , and anchorage of units forming sealant rabbet. Do not proceed with work until unsatisfactory conditions have been corrected.

B. Do not proceed with installations of sealant under adverse weather conditions, or when temperatures are above or below manufacturer's recommended limitations for installation. Proceed with the work only when forecasted weather conditions are favorable for proper cure and development of high early bond strength

PART 2 - PRODUCTS

2.01 Materials:

A. Acrylic Latex Calk: Tremco "Acrylic Latex Caulk" Sonneborn "Sonolac", Pecora Corp. "Ac-20", or acceptable equal.

B. Sealant: One component silicone sealant conforming to F.S. TT-S-1543, S Class A.

C. Concrete Joint Sealant: Tilt up concrete joints to be caulked with Sonolastic NP-1 Sealant by Sonoborn, or equal. Preparation as recommended by manufacturer for service intended.

D. Concrete Slab Joint Sealant: Concrete slab Control Joint Sealant to be self-leveling, Sonolastic SL-1 by Sonoborn, or equal. Preparation as recommended by manufacturer for service intended.

E. Miscellaneous Materials:

1. Joint Cleaner: Type of joint cleaning compound recommended by the sealant or calking compound manufacturer for the joint surfaces to be cleaned.

2. Joint Prime/Sealer: Type recommended by the sealant manufacture for the joint surfaces to be primed or sealed.

3. Bond Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer, to be applied to sealant-contact surfaces where bond to the substrate or joint filler must be avoided for proper performance of sealant. Provide self-adhesive tape wherever applicable.

4. Sealant Backer Rod: Compressible rod stock polyethylene foam, polyethylene jacketed polyurethane foam, butyl rubber foam, neoprene foam or other flexible, permanent, durable non-absorptive material as recommended for compatibility either sealant by the sealant manufacturer. Provide size and shape of rod which will control the joint depth for sealant placement, break bond of sealant at bottom of joint, form optimum shape of sealant bond on back side, and provide a highly compressible backer to minimize the possibility of sealant extrusion when joint is compressed.

PART 3 - EXECUTION

3.01 Joint Types and Usages: Calking and sealant usage is specified below.

A. Calking: All interior joints.

B. Sealants: At exterior vertical joints use polyurethane sealant and at horizontal pavement joints use self leveling polyurethane sealants as specified.

3.02 Joint Surface Preparation:

A. Clean joint surfaces immediately before installation of sealant or calking compound. Remove dirt, insecure coatings, moisture, and other substances which would interfere with bond of sealant or calking compound.

B. For sealants, do not proceed with installation of sealant over joint surfaces which have been painted, lacquered, waterproofed or treated with water repellent or other treatment or coating. Remove coating or treatment from joint surfaces before installing sealant.

C. Etch concrete and masonry joint surfaces to remove excess alkalinity. Etch with 5% solution, rinse thoroughly with water and allow to dry before sealant installation.

D. Roughen joint surfaces on vitreous coated and similar non-porous materials, wherever sealant manufacturer's data indicates lower bond strength than for porous surfaces. Rub with fine abrasive cloth or wool to produce a dull sheen.

E. See manufacturer's information for preparation and application of epoxy joint sealant.

3.03 INSTALLATION:

A. Comply with sealant manufacturer's printed instructions and except where more stringent requirements are indicated or specified and except where manufacture's technical representative directs otherwise.

B. Prime or seal the joint surfaces wherever shown or recommended by the sealant manufacturer. Do not allow primer/sealer to spill or migrate onto adjoining surfaces.

C. Install sealant backer rod for liquid sealants, except where shown to be omitted or recommended to be omitted by sealant manufacturer for the application shown.

D. Install bond breaker tape wherever shown and wherever required by manufacturer's recommendations to ensure that elastomeric sealants will perform properly.

END OF SECTION

SECTION 08110
HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL

1.01 Scope: Provide all metal frames, hollow metal doors, land related items required to complete the work.

1.02 Related Work Specified in Other Sections:

A. Furnishing of Finish Hardware: Section 08710

B. Finish Painting: Section 09900.

C. Glass and Glazing: Section 08800.

1.03 Quality Assurance: Provide metal doors and frames manufactured by a single firm; Mesker Brothers, Steelcraft, Republic Steel, Ceco, Curries, or acceptable equal.

A. Use adequate number of skilled workmen who are thoroughly trained and experienced in the necessary crafts for the proper performance.

B. All label doors and frames to comply with UL specifications and shall have labels affixed.

1.04 Submittals: Comply with Section 01300

A. Manufacturer's Data: Submit a copy of manufacturer's technical data and installation instructions. Transmit a copy of installation instructions to Installer

B. Shop Drawings: Prior to fabrication of any work, submit shop drawings indicating gage of metals, details of construction, profile of moldings, connections to other work, fastenings and anchors.

1.05 Product Delivery, Storage and Handling

A. Deliver, handle, and store all metal doors and frames in a manner to prevent damage and deterioration.

B. Provide packaging such as cardboard or other containers, separators, banding, spreaders, and paper wrappings as required to completely protect all metal doors and frames during transportation and storage.

C. Store doors upright, in a protected dry area, at least 1" off ground and with at least 1/4" air space between individual pieces. Protect all primed and hardware surfaces as required.

PART 2 - PRODUCTS

2.01 Materials

A. Steel Sheet:

1. Frames: 16 gage hot rolled, pickled and oiled, or cold rolled as specified above. At exterior openings provide frames with minimum .10 oz/sq. ft. zinc coating.

B. Hollow Core: Continuously reinforced with a full core of a solid slab of expanded polystyrene. Bond core to inside of both face sheets.

C. Primer: Manufacture's standard rust inhibitive primer.

D. Anchors, Fasteners, Accessories: Manufacturer's standard hot-dipped galvanized at exterior.

E. Provide doors complete with glazed panels where indicated.

2.02 FABRICATION:

A. General Requirements:

1. Fabricate steel doors and frames rigid, neat in appearance and free from defects, warp, or buckle. Provide clean cut, straight and true molded members, well formed and aligned miters, dressed and ground smooth, and where applicable, concealed fasteners. Reinforce at corners as required to prevent sagging. Accurately form metal to required sizes and profiles.

2. Fit, assemble, and weld units at factory or shop.

B. Frames: Combination stop and frame channel section, rabbeted for doors, of type and styles indicated.

1. Anchors/Fasteners: Supply the proper fastenings and/or anchors to secure frames in each type of structural framing indicated.

2. Silencers/Mutes: Drill stops to receive a minimum of 3 silencers on strike jamb.

2.03 Hardware:

A. Preparation: Prepare hollow metal units to receive mortised and concealed finished hardware, including cutouts, reinforcing, drilling and tapping, in accordance with final Finish Hardware Schedule and templates provided by the hardware supplier. Reinforce hollow metal units to receive surface-applied hardware. Drilling and tapping for surface-applied hardware will be done on the job site.

B. Location of Hardware: Locate finish hardware as indicated in final shop drawings and/or in compliance with NBHA publication "Recommended Location for Builder's Hardware".

2.04 Finish: Dress tool marks and surface imperfections to smooth surfaces and remove irregularities. Chemically treat and clean doors and frames. Apply manufacturer's standard baked-on rust inhibitive primer.

PART 3 - EXECUTION

3.01 Installation:

A. Install hollow metal units and accessories in compliance with final shop drawings, manufacturer's instructions, and as specified below.

B. Set frames accurately in position, plumb and aligned, and securely anchor to adjacent construction.

C. Clearances: Provide clearances of not more than 1/8" at jambs and heads and not more than 3/4" from floor or 3/16" from thresholds.

D. Hardware: Install hardware, adjust as required to provide smooth and proper operation with secure latching or locking.

3.02 Prime Coat Touch-Up: Immediately after erection, sand smooth any rusted or damaged areas of prime coat and apply touch-up with compatible air-drying primer.

END OF SECTION 08110

SECTION 08210
WOOD DOORS

PART 1 GENERAL

1.01 RELATED DOCUMENTS: Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work specified in this section.

1.02 DESCRIPTION OF WORK:

A. Extent and location of each type of wood door is shown on drawings and in schedules.

B. Types of doors required including the following:

Solid core veneer wood doors stained to match existing.

1.03 RELATED WORK SPECIFIED IN OTHER SECTIONS:

A. Finishing of Wood Doors

B. Hardware; Section 08710.

1.04 QUALITY ASSURANCE:

A. NWMA Quality Marking: Mark each wood door with NWMA Wood Flush Door Certification Hallmark certifying compliance with applicable requirements of ANSI/NWMA I.S. 1 Series. For manufacturers not participating in NWMA Hallmark Program, a certification of compliance may be substituted for marking of individual doors.

B. Manufacturer: Obtain doors form a single manufacturer to ensure uniformity in quality of appearance and construction, unless otherwise indicated.

1.05 REFERENCES:

A. Comply with the applicable requirements of the following standards unless otherwise indicated:

1. ANSI/NWMA I.S. 1, " Industry Standard for Wood Flush Doors" published by National Woodwork Manufacturers Association (NWMA.

B. AWI Quality Standard: Section 1300 of "Architectural Woodwork Quality Standards" published by the Architectural Woodwork Institution (AWI). Designations for grade and core construction under types of doors reefer to this standard.

1.06 SUBMITTALS:

A. Product Data: Submit door manufacture's product data, specifications and installation instructions fore each type of wood door.

B. Shop Drawings: Submit shop drawings indicating location and size of each door, elevation of each kind of door, details of construction, location and extent of hardware blocking, fire ratings, requirements for factory finishing and other pertinent data.

C. Specific Product Warranty: Submit written agreement in door manufacturer's standard form signed by Manufacturer, Installer and Contractor, agreeing to repair or replace defective doors which have awarded (bow, cup or twist) or which show telegraphing of core construction below in face veneers, or do not conform to tolerances limitations of NWMA and AWI.

1.07 PRODUCT DELIVERY, STORAGE AND HANDLING:

A. Protect wood doors during transit, storage and handling to prevent damage, soiling and deterioration. Comply with the " On-Site Care " recommendations of NWMA pamphlet "Care and Finishing of Wood Doors" and with manufacturer's instructions, and as otherwise indicated.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:

Algoma Hardwoods Inc.
Cal-Wood Door Div., Timberland Ind,. Inc,
Eggere Hardwood Products Corp.
Glen-Mar Door Mfg. Co.
Weyerhauser Company.

2.02 MATERIALS AND COMPONENTS:

A. General: Provide wood doors complying with applicable requirements of referenced standards for kinds and types of doors indicted and as specified.

B. Face Panels: Manufacturer's standard 2-or 3-ply panels, unless otherwise indicated.

C. Exposed Surfaces: Provide kind shown or scheduled and as further specified. Provide same exposed surface material on both faces of each door, unless otherwise indicated.

2.03 INTERIOR FLUSH WOOD DOORS:

A. Solid Core Doors for stained finish:

1. Faces to be wood to match existing doors.

2.04 FINISHING: Field finishing shall be done in accordance with Section 09900. All existing natural finished wood doors to be refreshed before reusing. Refreshed implies

removing damage, reinstalling a color and or sealer to provide fresh appearance.

2.05 PREFITTING AND PREPARATION FOR HARDWARE:

A. Doors shall be furnished pre-filled or unfilled at the option of the Contractor.

B. Comply with tolerance requirements of AWI for pre-fitting. Machine doors for hardware requiring cutting of doors. Comply with final hardware schedules and doorframe shop drawings and with hardware templates and other essential information required to ensure proper fit of doors and hardware.

PART 3 - EXECUTION

3.01 INSPECTION: Installer must examine doorframes and verify that frames are correct type and have been installed as required for proper hanging of corresponding doors and notify Contractor in writing of conditions detrimental to roper and timely installation of wood doors. Do not proceed with installation until unsatisfactory conditions have been corrected in a manner acceptable to Installer.

3.02 INSTALLATION OF DOORS:

A. Installation of Standard Doors: Doors shall be fit, hung, and trimmed as required. Door shall have a clearance of 1/8-inch at the sides and top and shall have a bottom clearance of 1/4-inch over thresholds and 1/2-inch at other locations unless otherwise shown. The lock edge or both edges of doors shall be beveled at the rate of 1/8-inch in 2 inches. Cuts make on the job shall be sealed immediately after cutting, using a clear varnish or sealer.

3.03 ADJUST AND CLEAN:

A. Operation: Re-hang or replace doors which do not swing or operate freely, as directed by Architect.

B. Finished Doors: Refinish or replace doors damaged during installation, as directed by Architect.

C. Protection and Completed Work: Advise Contractor of proper procedures required for protection of installed wood doors form damage or deterioration until acceptance of work.

END OF SECTION 08210

SECTION 08331
SPECIAL DOORS

PART 1 GENERAL

1.01 RELATED DOCUMENTS: Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division -1 Specification sections, apply to work specified in this section.

1.02 DESCRIPTION OF WORK: Provide overhead rolling counter door with chain operation. The relocation of one existing overhead rolling counter door is also a part of this contract.

1.03 QUALITY ASSURANCE:

A. Provide each type door as a complete unit produced by one manufacturer including frames, sections, brackets, guides, tracks, hardware, operators and installation accessories, to suit openings and head room available.

B. Inserts and Anchorages: Furnish inserts and anchoring devices which must be set in concrete or built into masonry for installation of units. Provide setting drawings, templates, and directions for installation of anchorage devices. Coordinate delivery with other work to avoid delay.

1.04 SUBMITTALS:

A. Product Data: Submit manufacturer's product data, roughing-in diagrams, and installation instructions for each type and size of door. Include manufacturer's operating instructions and maintenance data.

B. Shop Drawings: Submit shop drawings for special components and installations which are not fully dimensioned or detailed in manufacturer's data.

1.05 WARRANTY: All doors will be warranted for a period of 12 months from data of substantial completion.

PART 2 - PRODUCTS

2.01 Rolling Counter Door:

A. Product to be equal to rolling counter door model ESC10 as manufactured by Cornell Iron Works.

B. Door to be mounted between jambs and crank operated.

C. Slats to be interlocked flat-faced slats, 22ga galvanized steel with aluminum bottom bar.

D. Guides to be heavy duty extruded aluminum with tube included for crank operation.

E. Counter balance shaft assembly to have steel pipe, spring balance and reinforced steel brackets.

F. Finish to be powder crate selected by Architect from manufacturers standard color.

G. Hood to be 24 ga. galvanized steel with powder coat.

H. Lock to be by locking thumb wing located in bottom bar. Keying to match both counter doors.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Install door, track, and operating equipment complete with necessary hardware, jamb and head mold stops, anchors, inserts, hangers and equipment supports in accordance with final shop drawings, manufacturer's instructions and as herein specified. Provide attachment and bracing as required for proper operation.

B. Install hardware and doors in accordance with the manufacturer's recommendations so that doors swing easily without rack or bind. Hang doors plumb and true to accurate fit with proper clearances.

C. Upon completion of installation, including work by other trades, lubricate, test and adjust doors to operate trades, free from warp, twist, or distortion and fitting weathertight for entire perimeter

END OF SECTION 08331

SECTION 08710
FINISH HARDWARE

PART 1 GENERAL

1.01 CONDITIONS:

A. The General Conditions, Supplementary General Conditions, and all other Contract Documents are a part of this division of the Specifications and all provisions contained in them are as binding as though incorporated Submission of proposal implies that the Bidder is fully familiar with all requirements of said documents.

1.02 SCOPE:

A. The finish hardware supplier shall furnish all necessary items for completion of this project, as specified in Paragraph 3.05, Hardware Sets, or as necessary to complete this building excepting the items specifically excluded.

B. New hardware required to match existing and to be keyed and function properly with reused hardware and locks. When replacing partial hardware sets, match existing as much as practical..

1.03 WORK NOT INCLUDED:

A. Window Hardware

B. Cabinet and Millwork Hardware

1.04 QUALITY ASSURANCE:

A. The hardware supplier shall submit six (6) typewritten hardware schedules to the Architect through the General Contractor for approval on any set requiring new hardware. Each schedule shall contain the door index listing or opening on the project and the hardware for said opening. Each item of hardware listed is to be clearly identified by number and finish.

B. The Architect retains his authority to approve or reject any schedule based upon his knowledge of the supplier's experience and capabilities, the general quality of the products submitted and compliance with the specifications.

C. If requested, the supplier shall provide working samples of any items he proposes to substitute. Samples will be returned to the jobsite for installation.

D. The hardware supplier shall forward template information to all related traces within ten (10) days after receipt of approved hardware schedules. Template submission shall be made in accordance with the latest standards as published by the Door and Hardware Institute.

E. The supplier shall forward wiring diagrams to all affected trades within ten (10) days after receipt of approved hardware schedule.

F. All hardware shall be installed to meet the requirements of the Americans with Disabilities Act including mounting heights and operation limitations.

1.05 DELIVERY, STORAGE AND HANDLING:

A. All items of hardware shall be clearly marked with door number, key symbol and heading number to correspond with the approved hardware schedule.

B. The General Contractor will be responsible for providing a dry, clean locked room of adequate size for storage of hardware.

1.06 GUARANTEE:

A. The hardware supplier shall guarantee that all materials furnished under this division will be free from defects and blemishes for a period of one (1) year from date of acceptance. The supplier shall repair or replace at his expense, including labor, when instructed to do so by the Architect and/or Owner any item of finish hardware which may prove to be defective within said period.

PART 2- PRODUCTS

2.01 MANUFACTURERS:

A. Product's numbers listed in the following specifications are taken from the catalogs of manufacturers listed as follows:

(TB)Triangle Bass/ Mfg. Co.
(Mc) McKinney Hinge Co.
(C) Corbin Russwin
(NG) National Guard Products.
(M) Monarch Hardware & Mfg. Co.
(P) PDQ Industries
(N) Norton Door Controls

If manufacturer is not noted, product numbers are taken from the following manufacturer's catalogs: Schlage, The Stanley Works, L.C.N. Closers, Burns Mfg. Co., Sealeze Mfg. Co., American Device Mfg. Co., H. B. Ives, Glen Johnson, Bradley Corporation.

2.02. FINISH:

A. Oil rubbed bronze (US10B) will be provided unless otherwise noted. (To match existing)

B. Door closers shall be painted aluminum (BHMA689).

C. Kick plates and push plates shall be Kydex.

D. Thresholds and weather-strip shall be bronze finish aluminum.

2.03 FASTENERS:

A. Where hex nut bolts are specified in Paragraph 3.05, furnished hex bolts sized to the thickness of the door.

B. Wood screws are to be threaded to the head.

C. Material of fasteners shall be ferrous or non-ferrous matching the product being applied.

D. Length of fasteners shall be sufficient to afford adequate thread engagement.

2.04 KEYING: Keys, construction and permanent cylinders are to match master keying system of the Owner.

A. All locks are to be master keyed in groups as directed the Architect. Locks are to be keyed alike in groups or keyed different as required.

B. Furnish four (4) keys per keyed alike set and two (2) keys each for all new locks.

2.05 CLOSERS: All closers and door operators to be adjustable to allow for closing speed and timing as well as opening force requirements of ADA.

2.06 ELECTRONIC DOOR OPERATION: Doors noted to have electronic operation of door opener to have power connected, push button operation and connectivity to all existing security and access systems at that door..

PART 3-EXECUTION

3.01 INSPECTION:

A. Conditions of opening size shall be verified as to door frames being plumb and of correct tolerances to receive doors and hardware.

3.02 INSTALLATION:

A. The installer shall be competent and have knowledge of hardware.

B. Mounting heights for all hardware shall be as recommended by the Door and Hardware Institute.

C. All hardware shall be installed for easiest use for disabled persons.

3.03 HARDWARE SETS:

A. The following is a general listing of the minimum hardware requirements. Any item of hardware normally required by good practice, to meet fire rated partition requirements or as to meet state or local codes, shall be furnished even though it may not be specifically mentioned. Standard lockset and trim to match style and finish of existing hardware.

SET # 1

1 ½ Pr. Butts Hagar BB 1270 4 ½ x 4 ½

1 Classroom Lockset with Lever Handle	CR CL 3557
1 set Silencers	Triangle Brass 1229A
1 Door Stop	Triangle Brass 121ORP

SET # 1A
Same as 1 except with Office Lockset

SET # 1B

Same as 1 except with Storage Lockset

SET # 2

1 ½ Pr. Butts	Hagar BB 1270 4 ½ x 4 ½
1 Closer	Corbin Russwin DC 6400 690
1 set silencers	Triangle Brass 1229A

1 Push Plate & Pull to match sets on existing Toilet Rooms 151,152,205. 206, 216 & 217

SET #3

1 ½ Pr. Butts	Hagar BB 1270 4 ½ x 4 ½
1 Latchset with Lever Handle	CR CL 3310
1 Deadbolt w/ Occupied Indicator	CR
1 set Silencers	Triangle Brass 1229A
1 Door Stop	Triangle Brass 121ORP

SET #4

3 Pr. Butts	Hagar BB 1270 4 ½ x 4 ½
1 Storage Lockset with Lever Handle	CR CL 3557
1 Deadbolt into inactive leaf	Corbin Russwin
1 Head & Floor Bolt on inactive leaf	Triangle Brass
2 set Silencers	Triangle Brass 1229A

SET #5

3 Pr. Butts	Hagar BB 1279 4 ½ x 4 ½
2 Closers	Corbin Russwin DC 6400 690
2 Pushpad exit devices w/ concealed vertical rod & passage set latches	Corbin Russwin ED 5860
2 set silencers	Triangle Brass 1229A
2 magnet holdopens	Magnets connected to fire alarm – doors to be held open at all times except in alarm, when magnets release doors to close & latch

SET # 6

Existing hardware noted this set to remain on existing doors. This hardware to be checked for proper operation before completion of work. New hardware on Set #6 to include the lockset cylinder. At the completion of this work all exterior doors locksets to have new cylinders that allow all the exterior doors to be keyed alike and operated by the building master key system.

SET #7

Existing hardware noted this set to remain on existing aluminum door. This hardware is to be checked for proper operation before completion of work. Change out lock cylinder to match new building master, and add:

2 magnetic locks	Sargent – 1200 lb electromagnetic lock for single swing doors, series1584 fail safe, compatible w/ door hardware, operated by timer, card key, occupancy sensor and push button. Connect mag locks to fire alarm.

SECTION 09250
GYPSUM DRYWALL

PART 1 - GENERAL

1.01 Scope: Provide all non-load bearing metal stud and gypsum wallboard partitions and metal trim and accessories.

1.02 Related Work Specified in Other Sections:

A. Taping and finishing of gypsum wallboard joints; Section 09900.

1.03 Quality Assurance:

A. Manufacturer: U.S. Gypsum system is specified. Equivalent systems of Gold Bond and Bestwall Gypsum are acceptable. Obtain gypsum board, trim accessories, and adhesives from a single manufacturer.

B. Qualification of Installers: Use only skilled and experienced gypsum drywall installers for laying up gypsum board.

C. Allowable Tolerance: 1/8" offsets between planes or board faces, and 1/4" in 8 ft. for plumb, level, warp, and bow.

1.04 Product Handling: Deliver gypsum drywall materials in sealed containers and bundles, fully identified with manufacturer's name, brand, type and grade. Store in dry, well ventilated space, protected from the weather under cover and off the ground.

PART 2 -PRODUCTS

2.01 Materials:

A. Studs, Channels and Runners: Roll-formed, 25 gage electro-galvanized steel, 1-1/2" carrying channels and 7/8" furring channels. Stud sizes 3-5/8" wide, as indicated. Punch holes near each end of the stud to facilitate installation of horizontal electrical wiring or conduit; punch as required for piping.

B. Hangers: 8 gage galvanized soft annealed wire.

C. Tie Wire: 18 gage galvanized soft annealed wire.

D. Gypsum Wallboard: All gypsum wallboard shall conform to requirements of ASTM C 36, shall have tapered edges and be furnished in largest sheet that is practical.

1. 5/8" Regular Sheetrock is specified on standard partitions.

2. 5/8" Fire Code "C" Sheetrock is specified on fire rated partitions.

E. Trim Accessories: Provide manufacturer's standard trim accessories of types indicated for drywall work, formed of galvanized steel unless otherwise indicated, with either knurled and perforated or expanded flanges or nailing or stapling, and beaded for concealment of flanges in joint compound. Provide all corner beads, edge trim-beads, and one-piece control joint beads.

F. Fasteners: Self-drilling, self-tapping screws for power driving with special head design for gypsum board attachment (Type S), producing surface depression for proper concealment; 1" for single ply and 1- 5/8" long for 2 ply. Space 12" o.c. staggered at vertical joints. Use other fasteners as required.

H. Laminating Adhesive: Type recommended by gypsum wallboard manufacturer.

I. Acoustical Sealant: U.S.G. Acoustical Sealant, or acceptable equal.

PART 3 - EXECUTION

3.01 Installation: Comply with manufacturer's instructions, as specified and/or as indicated on the drawings.

A. Ceiling Installation: Furring channels for ceilings for ceilings shall be attached to steel joists or suspended on runner channels as required. Furring and main runner channels shall be spaced as follows:

1. Furring channels: Where span is 4'-0" or less, the 7/8" furring channels shall be 16" o.c.. Where span is over 4'-0", the channels shall be 12" o.c.

2. Main runner channels: Where 1 1/2" channels are supported at 4' - 0" o.c. or less, the channels shall be 4' - 0" o.c., the channels shall be 3' - 0" o.c.

B. Apply gypsum board parallel to studs with single panels in longest length available.

C. Provide casing beads where edges of gypsum board meet dissimilar materials.

D. Fasten gypsum board to metal studs with U.S.G. Drywall Screws Type S power driven, spaced as per manufacturer's instructions.

E. Cooperate with the carpenter in placing of backing and blocking required as backing for all millwork, fixtures, fittings, and accessories. Reinforce and brace studs in partitions supporting fixtures, to provide firm backing and prevent deflection of the wall.

F. Arrange gypsum board joints on opposite sides of partitions to occur on different studs.

G. Treat all internal angles formed by the intersection of either wallboard surfaces with metal trim and/or a taped joint system as indicated or required.

H. Treat all vertical and horizontal external corners with metal bend corners reinforcement applied in accordance with manufacturer's instructions.

END OF SECTION 09250

SECTION 09510
ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.01 Scope:

A. Provide and install acoustical ceilings, complete, including all elements of the suspension system, trim and facilities for the support and attachment of lighting fixtures, air diffusers, etc.

B. The **recycling of existing ceiling tiles and grid** is required by this section. The new ceiling tile manufacturer is required to coordinate with the general contractor to take the existing tile and grid from the building loading dock and recycle that material.

1.02 APPLICABLE STANDARDS:

A. ASTM

1. Metal Suspension System for Acoustical Tile and Lay-In Panel System, ASTM C 635.

2. Installation of Metal Ceiling Suspension System for Acoustical Tile and Lay-In Panels, ASTM C 636.

B Federal Specification SS-S118A.

C. Suspended acoustical ceiling systems shall be installed in accordance with the provisions of ASTM C 635-87, Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings and ASTM C 636-86. Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels.

1.03 SUBMITTALS: Comply with requirements of Section 01300.

A. Shop Drawings: Submit shop drawings, for the Architect's review, indicating location of ceiling units and items of work which are to be coordinated with the ceilings, and framing and support details for all work supported by the suspension system.

B. Samples: Prior to ordering, submit one 12" x 12" sample of each type of acoustical material and one sample each of main runner, cross tee, and wall molding specified for Architect's acceptance.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING: Deliver acoustical units in manufacturer's original unopened packages, fully identified with type, finish, performance data and compliance labels. Handle and store in accordance with manufacturer's instructions and recommendations.

1.05 JOB CONDITIONS: Do not install interior acoustical units until space has been enclosed and is weather tight, until wet work has been completed and is dry, until work above ceiling is complete, and until temperature and humidity conditions will be continuously maintained at values near those indicated for final occupancy.

PART 2 -PRODUCTS

2.01 ACOUSTICAL PANELS:

A. Standard Mineral Fiber Panels: Class A Flame Resistance, Class 1 Flame Spread, Minimum STC 35, by U.S. Gypsum, Conwed Corp., Armstrong Cork, Co, or acceptable equal. Normal 24"x 24" mineral fiber tegular (FLB, or equal) units, in non-directional fissured pattern, with factory applied white vinyl latex paint finish.

B. Food Service Ceiling Gypsum Board Panels to be Sheetrock Lay-In Ceiling Panel ClimaPlus by USG, or equal, in 24" x 24" x ½" square edge units.

2.02 SUSPENSION SYSTEM MATERIALS:

A. Provide suspension system materials by the acoustical unit manufacturer, Chicago Metallic, Donn Products, Lok Products, or acceptable equal.

B. Attachment Devices: Type recommended by suspension system manufacturer for attachment or anchorage of ceiling hangers to structure above ceiling, sized for not less than 5 times the hanger design load for the structural classification indicated.

C. Suspension members to be of sufficient strength and rigidity to carry ceiling units at true and level plane without exceeding a deflection of 1/32" in 2 feet of span. Fabricate suspension system of cold rolled sheet steel conforming to ASTM A 366. Galvanized all surfaces.

D. Standard Exposed Grid System: Steel members, treated and protected against rust and corrosion and factory finished with baked-on white enamel, with intermediate structural classification. Attachment and hanger wires as recommended by manufacturer. Standard 9/16" (DXT by Donn, or equal) suspended system for standard ceiling system.

E. Food Service Ceiling Grid to be to DX by Donn, or equal.

F. Hanger Wire: Minimum No. 12 gage, galvanized annealed steel wire.

G. Wall Moldings: Provide wall moldings of type and profile required and of same material and finish as suspension system.

PART 3 - EXECUTION

3.01 INSTALLATION AND WORKMANSHIP: Install mechanical suspension system and acoustical units in strict accordance with the manufacturer's directions, except as otherwise specified, using experienced acoustical mechanics.

A. Install in the patterns indicated on the drawings in such a manner to permit border units of the greatest possible size, unless otherwise indicated on the Reflected Ceiling Plan.

B. Refer to the Plans for the location of lighting fixtures, air supply and return diffusers, grilles, and registers and sprinkler heads, which will be installed in the ceilings, and which will replace and/or pierce the acoustical unit. Refer to electrical and mechanical drawings for quantities.

C. Suspension Grid:

1. Install acoustical ceiling suspension system level and true to line, with neat and close-fitting joints between spliced and intersecting members. Grid to be square, and ends and cross tees tightly butted, and all faces in the same plane. Do not rest flanges of the cross tees on the flanges of the main runners.

2. Neatly and accurately cut and place acoustical panels to fit snugly into the main and cross tees, with no space between the bottom of the acoustical panels and grid system, and without gaps or panel edges showing in the finished installation.

3. Install all panels with directional fissured patterns in one direction.

302 Cleaning: Clean soiled or discolored acoustical units, trim, moldings, and suspension members after installation. Touch up scratches, abrasions, voids, and other defects in painted surfaces. Remove and replace work which cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 09510

SECTION 09650
RESILIENT FLOORING

PART 1 - GENERAL

1.01 Scope: Provide all resilient flooring and accessories, complete. See Finish Schedule for locations and extent of floor covering and accessories.

1.02 Quality Assurance:

A. Provide each type of resilient flooring and accessories as produced by a single manufacturer, including recommended primers, adhesives, sealants, and leveling compounds.

B. All materials specified in this section shall be non-asbestos containing, including adhesives, tile, base and accessories

1.03 SUBMITTALS: Comply with requirements of Section 01300.

A. Manufacturer's Data: Submit copy of manufacturer's technical data, installation instructions, and maintenance instructions for each type of resilient flooring and accessory. Transmit a copy of each installation instruction to Installer.

B. Samples: Submit full color range samples for each type and pattern of resilient flooring and accessory specified for Architect's selection.

C. Maintenance Instructions: Submit 2 copies of manufacturer's recommended eminence practices for each type of resilient flooring and accessory required.

1.04 Delivery and Storage:

A. Delivery: Deliver materials to the project site in the manufacturer's original unopened containers, clearly marked to indicate pattern gage, lot number and sequence of manufacturer.

B. Storage: Store in original container at not less than 70 deg. F for at least 48 hours before start of installation.

1.05 JOB CONDITIONS: Maintain minimum temperature of 70 deg. F. for minimum of 48 hours prior to installation Maintain 70 deg. F. temperature continuously during and after installation as recommended by the flooring manufacturer, but in any case not less than 48 hours.

PART 2 –PRODUCTS

2.01 LVT to be from the Mannington Commercial, Nature's Paths Collection, in .18" x 36" tiles, ,100" thickness, 750 PSI rated, UL Class 3, Type B.

2.02 Accessories:

A. Rubber Base: 4" high Burke, Roppe, or acceptable equal top set cove, with standard length and type base used in all locations, in colors as selected by the Architect.

B. Provide transition strips, edge strips and other trim and accessories as required to make complete and finished installation of vc tile, base and other flooring.

2.03 Other Materials: Provide adhesives, primers, seam sealers, crack fillers and other materials required but not specifically described, as recommended by the resilient flooring and accessories. Non-asbestos containing materials only.

PART 3 - EXECUTION

3.01 Inspection: Examine the areas and conditions under which resilient tile and accessory work is to be places. Moisture content of concrete slabs, building air temperature and relative humidity must be within limits recommended by flooring manufacturer. Do not proceed until unsatisfactory conditions have been corrected.

302 Preparation of Surfaces: Provide surfaces to receive resilient flooring and accessories broom clean and free of any foreign material which would inhibit bond.

3.03 Tile Installation:

A. Layout: Align joints tile directly over any control joints in concrete floor.

B. General: Install flooring after operations, including painting have been completed and permanent heating system is operating. Place flooring with adhesive cement in strict compliance with manufacturer's recommendations. Butt tightly to vertical surfaces, theshholds, nosings, and edgings. Scribe around obstructions and to produce neat joints, laid tight, even and straight. Extend flooring into tow spaces door reveals, and into closets and similar openings. Maintain reference markers. holes, or openings that are in place or plainly marked for future cutting by repeating on finish flooring as marked on subfloor. Use chalk or other non-permanent marking device. Install flooring on covers for telephone and electrical ducts, and other such items as occur within finished floor areas. Maintain overall continuity of covers. Tightly cement edges to perimeter of floor around covers and to covers. Tightly cement flooring to sub-base without open cracks. voids, raising and puckering at joints, telegraphing of adhesive spreader marks, or other surface imperfections.

C. Tile Floors: Lay tile from center marks established with principal walls, discounting minor offset, so that tile at opposite edges of room are of equal width. Adjust as necessary to avoid use of cut widths less than 1/2 tile at room perimeters. Lay tile square to room axis, unless otherwise shown. Match tiles for color and pattern by sing tile from cartons in same sequence as manufactured and packaged. Cut tile neatly to and around all fixtures. Broken, cracked, chipped or deformed tile are not acceptable. Lay tile in checkerboard pattern with grain reversed on alternate tiles and in staggered "running bond" pattern.

D. Lay tile in pattern shown on drawings.

E. Accessories:

1. Resilient Base: Apply resilient base to walls, columns, pilasters, casework and other permanent fixtures in rooms or areas where base is indicated. Install base in as long lengths as practicable. Tightly bond base to backing

throughout the length of each piece, with continuous contact at horizontal and vertical surfaces. Do not stretch resilient base during installation.

2. Resilient Edge Strip: Place edge strips tightly butted and secured to flooring with adhesive. Install edge strips at all unprotected edges of flooring unless otherwise shown.

3.04 Cleaning, Waxing and Polishing: Clean with damp mop. Do not wash or scrub for at least 4 days after installation. Protect floor with building paper as necessary. On total completion of building, thoroughly clean resilient flooring and accessories with mild soap and water. No waxing required.

END OF SECTION 09650

SECTION 09670
FLUID APPLIED LIQUID FLOORING

PART 1- GENERAL

1.01 RELATED DOCUMENTS: Drawings and general provision of the contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to the work of this section.

1.02 DESCRIPTION OF WORK

A. Definitions: Epoxy Decorative Quartz Flooring system includes a primer, epoxy, aggregate flooring and epoxy topcoat.

1.03 QUALITY ASSURANCE:

A. Installer Qualifications: Engage an Installer who has successfully completed within the last five years flooring applications similar in type and size to that of this project and who will assign mechanics from these earlier applications to this project, of which one will serve as lead mechanic.

1.04 SUBMITTALS:

A. Product Data: Submit manufacturer's technical data, installation instructions and general recommendations for each resinous flooring material required in accordance with Section 01300. Include certification indicating compliance of materials with requirements.

B. Samples: Submit, for verification purposes 6" square samples of each type of resinous flooring required, applied to a rigid backing, in color and finish indicated.

1.05 PROJECT CONDITIONS:

A. Environmental Conditions: Comply with resinous flooring manufacturer's directions for maintenance of substrate temperatures, ventilation and other conditions required to execute and protect work.

1.06 DELIVERY, STORAGE AND HANDLING:

A. Deliver materials in original packages and containers with seals unbroken and bearing manufacturer's labels containing brand name and directions for storage and mixing with other components.

B. Store materials to comply with manufacturer's directions to prevent deterioration from moisture, heat, cold, direct sunlight and other causes.

1.07 SITE CONDITIONS:

A. Do not apply materials if floor or air temperature is below 60ºF (15ºC).

B. Do not apply materials if relative humidity is above 85 percent or within 5º of dew point at time of application

C. Utilities, including electric, water, heat and finished lighting to be supplied by General Contractor

D. Maintain room temperature between 60º – 85ºF (15º - 30ºC) for 48 hours before, during and 48 hours after installation, or until cured.

E. At the time of application ensure the minimum substrate temperature is above 60°F(15°C) and the substrate temperature is 5°F (3°C) above the measured dew point at the time of application.

F. Erect suitable barriers and post legible signs at points of entry to prevent traffic and trades from entering the work area during application and cure period of the floor.

G. Protection of finished floor from damage by subsequent trades shall be the responsibility of the General Contractor.

1.08 WARRANTY

A. Provide a warranty covering materials and workmanship for a period of 1 year after date of installation.

PART 2- PRODUCTS

2.01 MATERIALS:

A. Two component liquid epoxy flooring with decorative broadcast color equal to Tnemec 222 Deco-Tread.

B. Sealer and surface slip-resistant surface to be as recommended by manufacturer for safety and protection.

PART 3- EXECUTION

3.01 EXAMINATION

A. Examine surfaces to receive epoxy decorative quartz flooring. Notify Architect if moisture, repair, or leveling not of the same Manufacturer. Moisture tests are the responsibility of the installer and results must meet the technical data sheets of the manufacturer.

B. Do not apply epoxy decorative quartz flooring to concrete less than 60 days old. Consult Technical Service prior to application when concrete has not cured for 60 days.

C. Do not apply epoxy decorative quartz flooring to sand-cement setting beds, regardless of condition. Sand-cement beds shall be removed to structural concrete substrate and re-leveled/sloped as necessary to achieve grade and/or adequate drainage.

D. Do not apply to asphaltic or bitumen membranes, soft wood, aluminum, copper or fiberglass reinforced polyester/vinyl ester composites.

E. Application to glazed or vitrified brick and tile, structural wood, or steel shall be

approved only with the Manufacturer's written recommendation

3.2 SURFACE PREPARATION

A. Prepare concrete surfaces in accordance with manufacturer's instructions and ASTM D 4258.

B. Remove dirt, oil, grease, wax, laitance, curing compounds, water-soluble concrete hardeners, and other surface contaminants.

C. Remove sealers, finishes, and paints.

D. Remove unsound concrete by scarifying, sand blasting, shot blasting, or high pressure water blasting.

E. Chemical Surface Preparation:

1. Chemical surface preparation (acid etching) is unacceptable and will void Manufacturer's warranty.

F. Mechanical Surface Preparation:

1. Mechanically abrade concrete surface in accordance with manufacturer's instructions.
2. Leave concrete surface with an aggressive texture.
3. Remove concrete dust.
4. Conform to ASTM D-4259.
5. Surface profile shall conform to IRCI Guideline 03732 CSP 3, minimum.

3.3 CONTROL JOINTS, CRACKS

A. Provide repair and treatment of control joints and surface cracks utilizing manufacturer's standard materials and installation details.

3.4 APPLICATION

A. Repair concrete substrate as required using the recommended repair/resurfacer in accordance with Manufacturer's instructions.

B. Do not add thinners to materials. No thinners shall be approved or allowed.

C. For coverage rates, consult data sheet for epoxy decorative quartz flooring.

D. Finish surface to be smooth, with uniform texture, free of surface defects, and without porous areas.

E. Follow Manufacturer's recommendations on terminations and connections to walls, drains, doorways, columns and floor-to-floor transitions.

3.4 CLEANUP

A. Remove masking, draping, and other protection from adjacent surfaces.

B. Remove remaining materials and debris from job site and dispose of them in according with local rules and regulations. Leave area in clean condition free of debris.

3.5 PROTECTION

A. Protect epoxy decorative flooring during curing from traffic and chemical spillage. Based on air temperature of 73ºF/23ºC

1. Foot Traffic: 12 to 16 hours.
2. Medium Wheeled Load 24 hours.
3. Full Cure: 72 hours

END OF SECTION

SECTION 09680
CARPETING

PART 1 - GENERAL

1.01 Scope: Provide carpeting complete, including carpet, adhesive, seaming, anchorage, edge treatment, and accessories, as indicated. Refer to Finish Schedule for carpet locations.

1.02 Related Work Specified on Other Sections: Reducer/Transition Strips; Section 09650

1.03 Quality Assurance:

A. Installation: Use only thoroughly trained and experienced carpet installers who are completely familiar with the materials specified and the manufacturer's recommended methods of installation for specified materials.

B. Certification: Provide carpet manufacturer's (mill's) certification that carpet supplied complies with specified requirements.

1.04 Submittals: Comply with Section 01300

A. Manufacturer's Data: Submit manufacturer's technical data, including test laboratory reports, installation instructions and maintenance instructions. Transmit a copy of installation instructions of Installer.

B. Samples: Submit minimum 18" x 27" carpet squares in manufacturer's complete range of standard colors, and 6" length of edge guards.

C. Shop Drawings: Prior to ordering carpet, submit carpet layout drawings at same scale as contract drawings, showing carpet seam locations, direction of pattern, and location and type of edge treatment.

D. Maintenance Materials: Deliver usable scrap materials at Owner's designated storage space as directed, property packed/protected and identified.

1.05 Product Delivery and Storage: Deliver materials in protective wrapping and store inside, protected from weather, moisture and soiling.

PART 2 -PRODUCTS

2.01 Carpet:

A. Carpet A, (in all areas with carpet on Finish Schedule) is to be from the Mid-Century Pop Collection, as manufactured by Patcraft modular. Carpet to meet the following characteristics.

Fiber: Eco solution Q Nylon

Dye Method: 100% Solution dyed
Tufted Yarn Weight: 16 oz
Pile construction: Multi-Level Pattern Loop

D. Testing includes flooring radiant panel (class 1), pill test (passes), smoke density (less than 450), static generation (less than 3.0kv) and ADA compliance

2.02 Carpet Accessories:

A. Carpet Edge Guard: Extruded or molded rubber carpet edge guard of size and profile indicated, in colors selected by Architect from manufacturer's standard colors.

B. Adhesive: Provide adhesive recommended by carpet manufacturer for adequate adhesion and water resistance, but which will allow removal of carpet with minimum damage to carpeting materials and substrate, and which complies with requirements for overall flammability rating for carpeting installation. Non-Asbestos containing adhesives required.

C. Carpet Reducer Strip: Trim and reducer strip between carpet and V.C.T. to be Mercer Tile and Carpet Joiner Stock No. 15 or equal Color as selected by Architect.

PART 3 - EXECUTION

3.01 Inspection: Examine substrates and conditions under which carpeting is to be installed. Do not proceed with installation of carpeting until unsatisfactory conditions have been corrected. Do not install carpet over concrete with either excess moisture, or dust producing surface which is not adequately sealed.

302 Preparation :

A. Clean surfaces to be carpeted immediately prior to installation of carpeting materials, by vacuum cleaning.

B. Dimensions: Prior to start of carpet installation, check critical dimensions of spaces to be carpeted, to ensure that planned use of materials will fulfill requirements, including locations for seam joints, and edging.

C. Comply with manufacturer's instruction and recommendations for installation. Lay carpet to provide as few seams as possible. Cross seams are not acceptable. Maintain direction of pattern and texture. Do not seam weft to warp, except as specifically indicated for a direction change.

D. Install carpet edge guard at locations where edge of carpet is exposed to traffic, except where another device, such as a threshold or reducer/transition strip is indicated. Anchor edge guard to substrate.

E. Doors: Where seams relate to doors, center seams under door thickness. Do not place carpet seams in traffic direction in doorways.

3.03 Glue-Down Installation:

A. Utilize Patcraft Lok Dots installation system at carpet tile installation for an aggressive, pressure sensitive adhesive installation. Low odor and zero VOCs are required.

B. Follow manufacturers recommended methods for installation. Fit sections of carpet into each room or space prior to application of adhesive. Maintain straight seams, true to lines of building.

C. Follow general direction of architect and plan showing installation and type of carpet required in each area. Mixes of styles are required in some areas as noted on the plans.

3.04 Cleaning: Remove debris from installation, carefully sorting pieces to be saved from scraps. Vacuum carpet with a commercial machine, with rotating agitator or beater nozzles; remove spots, and replace carpet where spots cannot be removed.

3.05 PROTECTION: In all public areas, provide a temporary non-staining paper pathway in the direction of traffic.

END OF SECTION 09680

SECTION 09900
EXTERIOR PAINTING

PART 1 - GENERAL

1.01 Scope:

A. Provide painting and finishing of all interior and exterior items and surfaces throughout the project, except as otherwise indicated. Provide field painting of hangers, exposed steel and iron work, of primed metal surfaces and exposed-to-view prefinished metal surfaces of items required to match adjacent surfaces, and equipment installed under mechanical and electrical work. Provide touch-up of damaged pre-finished items as required to match original finish. Provide painted identification of piping as required by application codes.

B. Do not paint acoustical ceilings, anodized aluminum, toilet partitions (except as noted), laminated plastic, pre-finished items except as noted above, or surfaces to receive wall covering, or other decorative coating.

1.02 Submittals: Comply with Section 01300.

A. Paint Schedule: Submit paint schedule listing each material cross-referenced to the specific paint and finish system and application. Identify by manufacturer's catalog number and general classification.

B. Samples: Before any work is done, submit samples of finishes available in type and color on specified materials. Two samples of each color on proper material will be submitted after Architect's color selection.

1.03 Delivery and Storage: Deliver materials to the job site in original, new and unopened packages and containers bearing manufacturer's name and label

PART 2 - PRODUCTS

2.01 Acceptable Manufacturers: Provide all paints, enamels, stains, varnishes, admixtures and coatings of first line quality as manufactured by Sherwin Williams, Pratt and Lambert, Glidden, Benjamin Moore, Pittsburgh, Devoe, or acceptable equal.

2.02 Materials: See paragraph 3.05, SCHEDULE OF PAINT TREATMENT for materials. All finish coats shall contain midewcides. Grind in the factory all exterior colors and interior deep tone colors. Shop mixing is not permitted. Colors as selected by the Architect, and subject to modification on the job at the Architect's discretion.

PART 3 - EXECUTION

3.01 Inspection: Examine the areas and conditions under which painting work is to be performed. Do not proceed with the work or it will be construed as acceptance of the surfaces within any particular areas.

3.02 Surface Preparation: Perform all preparation and cleaning procedures in strict accordance with the paint manufacturer's instructions and as herein specified. Remove all hardware,

plates, lighting fixtures, and similar items in place and not to be finish painted, or provide protection prior to surface preparation and painting operations. Remove, if necessary, for the complete painting of the items and adjacent surfaces. Reinstall the removed items by workmen skilled in the trades involved, after painting is completed.

A. Cemetitious and Masonry Materials: Prepare cemetitious and masonry surfaces of brick, concrete block and cement plaster to be painted by removing all chalk, dust, dirt, grease, oils and roughening as required to remove glaze. Determine alkalinity and moisture content of surfaces to be painted by performing appropriate tests. If surfaces are found to be sufficiently alkaline to cause blistering and burning of the finish paint, correct this condition before application of paint.

B Wood: Clean wood surfaces to be painted of all dirt, oil, or other foreign substances with scraper, mineral spirits, and sandpaper, as required. Sandpaper smooth those surfaces exposed to view, and dust off. Prime, stain, or seal wood required to be job painted immediately upon delivery to job. Prime edges, ends, faces, undersides, and backsides of such wood, including cabinets, counters, cases, etc. Scrape and clean small, dry seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer, before application of the priming coat. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood-filler. Sandpaper smooth when dried.

C. Ferrous Metals: Touch-up shop-applied prime coats which have damaged or bare areas. Wire-brush, solvent clean, and touch up with the same primer as the shop coat.

E. Galvanized Surfaces: Clean free of oil and surface contaminates with an acceptable non-petroleum based solvent.

3.03 Application:

A. Apply paint to brush, roller, spray, or other acceptable practice in accordance with the manufacturer's directions. use brushes best suited for the type of material being applied. Use rollers of carpet, velvet back, or high pile sheeps wool as recommended by the manufacturer for material and texture required.

B. The number of coats and paint film thickness required is the same regardless of the application method. do not apply succeeding coats until the previous coat has completed dried. sand between each enamel or varnish coat application with fine sand paper, or but surfaces with pumice stone where required to produce an even smooth surface in accordance with the coating manufacturer's directions.

C. Apply additional coats when undercoats, stains, or other conditions show through the final coat of paint, until the paint film, is of uniform finish, color and appearance.

D. Give special attention to insure that all surfaces, including edges, corners, crevices welds, and exposed fasteners receive a film thickness equivalent of that of flat surfaces.

3.04 Clean-Up Thoroughly clean all spots, smears, spills, etc., remove from the site all discarded paint materials, rubbish cans and rags at the end of each work day.

3.05 Schedule of Paint Treatments:

TREATMENT NO.	LOCATION	COATS	MATERIALS
1	Ext. & Int. Ferrous		Shop Priming specified under the respective metal section 1st Coat: Rustprimer 2nd/3rdAlkyd semi-gloss paint.
2	Ext. & Int. Galvan-ized Metal	2	Shop priming is under the respective metal section. Pretreatment: Chemical wash. 1st Coat:Galvanized iron primer. 2ndCoat:Ext. Alkyd semi-gloss paint.
3	Other metal surfaces	2	Clean and prime abraded spots as, specified in metal sections
4	Ext. plywood & wood (ptd)	3	1st Coat: Wall and wood primer. 2nd/3rd Coats:Sem-Gloss alkyd enamel.
5	Parking Lines	2	1st/2nd Coats: Chlorin-ated rubber base paint quick & non-bleeding

END OF SECTION 09900

SECTION 09901
INTERIOR PAINTS ONLY

PART 1 GENERAL

1.01 SUMMARY

A. This Section is applicable to Interior painting and surface preparation only.

B. Refer Section 09900 for Exterior Painting and surface preparation.

1.02 RELATED SECTIONS

A. Related Sections: The following Sections contain requirements that relate to this Section:

1. Section 07900 Sealants

1.03 SUBMITTALS

A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.

B. Samples: Submit two representative samples of each material specified indicating visual characteristics and finish. Include range samples if variation of finish is anticipated.

1. Include manufacturers full range of color and finish options if additional selection is required.

C. Extra Stock: Submit 2 unopened gallons of each paint and color used in the project.

1.04 QUALITY ASSURANCE

A. Comply with governing codes and regulations. Provide products of acceptable manufacturers with VOC and chemical component limits which do not exceed limits of Green Seal's GS-11 requirements for Interior Paints, and which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

B. Regulations: Compliance with VOC and environmental regulations.

1.05 QUALITY CONTROL

A. Provide primer coat that is specifically recommended by the Paint Manufacturer for the substrate to be painted.

B Provide finish coats that are compatible with prime paints used in accordance with Paint Manufacturer's recommendations.

C. Review other sections of these Specifications in which prime paints are to be provided to ensure compatibility of the total coatings system for the various substrates.

D. Upon request from other subcontractors, furnish information on the characteristics of the finish materials proposed to use, to ensure that compatible prime coats over incompatible primers are removed and reprimed as required. Notify the Architect in writing of any anticipated problems using the coating systems as specified with substrate primed by others.

1.07 DELIVERING AND STORING

A. Deliver painting materials to site in manufacturer's original, sealed and labeled containers.
B. Store and handle materials to prevent damage to materials or to work in place and to eliminate unnecessary fire hazard.

1.06 ENVIRONMENTAL REQUIREMENTS

A. Provide continuous ventilation and heating facilities to maintain surface and ambient temperatures above 45 deg. F for 24 hours before, during, and 48 hours after application of finishes, unless required otherwise by manufacturer's instructions.

B Minimum Application Temperatures for Latex Paints: 50 deg. F unless required otherwise by manufacturer's instructions.

C. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MATERIALS

A. VOC and chemical component limits must not exceed limits of Green Seal's GS-11 requirements for Interior Paints

B. Refer to Drawings for paint types and color selections.

C. Painting Applications:

1. Application: Interior unfinished surfaces.
2. Application: Exposed mechanical and electrical items.
3. Primary Coating Type: Zero VOC paints.
4. Primary Paint Systems: 1 coat Primer plus two finish coats.

D. By acceptance of this paint and coatings subcontract, this contractor agrees to follow all good painting practices.

E. As different types of paints and coatings have specified surface preparation and application requirements peculiar to that product, each manufacturer's instructions must be adhered to at all times.

F. All materials not specified but required for the successful application of any specified paint or coating must be of the brand and type recommended by the approved paint or coatings manufacturer.

G. Materials selected for coating systems for each type of surface shall be the product of a single manufacturer.

PART 3 - EXECUTION

3.01 GENERAL

A. Examine. surfaces to receive painting, report unsatisfactory conditions.

B. Do not start painting until unsatisfactory conditions have been corrected.

C. Proceeding with painting will be construed as evidence of acceptance of conditions under which painting work will be done.

D. Painting contractor and his workmen shall be constantly aware that they are applying the finish surface to this building. Their skill in securing the highest quality appearance for each surface is required.

E. All surfaces must be free of foreign matter before applying any paint or coating. Removal of foreign matter from painting surfaces left by other trades shall be the responsibility of the general contractor.

F. The general contractor shall maintain an ambient temperature not less than 60 degrees F. for 24 hours prior to and a minimum of 24 hours after completion of paint or coating application to all interior surfaces.

G. Contractor will remove and reinstall, or provide acceptable in-place protection, for all installed hardware, accessories, lighting and electric components, factory finished materials, plumbing fixtures and fittings and any other materials that may become splattered or damaged by the painter coating materials.

H. All electrical service, transformers, pipes, insulated pipes, duct work and equipment in exposed areas shall be painted.

J. General contractor will furnish a minimum of **80** foot candles illumination for all surfaces to be painted. and coated.

3.01 INSTALLATION

A. Inspect surfaces, report unsatisfactory conditions in writing; beginning

B. Beginning work means acceptance of substrate.

C. Comply with manufacturer's instructions and recommendations for preparation, priming and coating work. Coordinate with work of other sections.

D. Clean up, touch up and protect work.

3.02 PREPARATION OF SURFACES

A. Painting Contractor shall call to the attention of the general contractor any imperfections that would interfere with the uniform appearance, adhesion and quality of the finished paint or coating.

B. Steel door frames must be made smooth by filling or sanding before applying any paint or coating.

C. Remove all rust or mill scale from ferrous metal surfaces requiring exposed finish coat of paint or coating. After removal, spot prime with inhibitive Red Primer.

D. Metal door frames are to have countersunk screws filled and sanded smooth before prime coat or undercoat is applied.

E Galvanized steel surfaces requiring painting must be solvent cleaned to remove all traces of grease or oil before priming as per Project Manual.

F. Aluminum surfaces requiring painting are to be solvent washed to remove all traces of grease, oil, ink stamping or contaminants from surfaces before priming.

G. Wood Surfaces must be sanded smooth, dust removed before the application of any paint or coating.

3.04 MIXING AND COLORS

A. Use factory mixed colors, shades and tints except as indicated. Job mixing permitted only with specific approval.

B. Match approved color chips or approved samples. Do not proceed with finish painting until colors have been approved.

3.05 PROTECTION

A. Contractor must not only protect his work, but also that of other trades. Contractor must assume responsibility for all repairs and replacement at no expense to the Owner.

B. Contractor is responsible for removal of all paint or coating splatters, spills, etc. on floors or adjacent color materials, glass, hardware and other finished surfaces.

C. Contractor must leave premises clean and free from all rubbish and accumulated material left from his work.

3.06 APPLICATION

A. Apply paint at consistency recommended with application procedures recommended by the manufacturer, additional thinning permitted only as recommended by paint manufacturer.

B. Final coat of paint and/or coating must have visual evidence of solid hiding and uniform appearance.

C. There shall be no visible evidence of runs, sags, curtains or other evidence of poor application.

D. All coats shall be thoroughly dry before applying succeeding coats, unless specifically exempted by material manufacturer.

E. Make edges of paint or coating adjoining other materials or colors sharp and clean with no overlapping.

F. When paint or coating is brush applied, each coat must be brushed out uniformly to eliminate laps, skips and excess brush marks.

G. When paint is roller applied, proper skill must be used to avoid all signs of lapping and excess paint lines from edge of roller. When cutting in with a brush is required, the areas must be of same texture, color and hiding as adjacent to assure good appearance.

H. When paint is applied by spray or dry fall, it must be done before the installation of fixtures, hardware, flooring another finish items unless thoroughly protected. It shall be applied only by skilled painters to assure a uniform finish with no evidence of poor or improper application.

I. Each coat of clear finish or enamel shall be lightly sanded and wiped free of dust before applying next coat.

J. Spot painting to correct soiled or damaged paint surfaces will be allowed only when touch up spot is blended into surrounding finish and is invisible to normal viewing. Otherwise, re-do entire section to corners or visible stopping point.

K. Factory primed surfaces must be determined paintable in a normal manner by contractor or treated properly to secure adequate adhesion of Job site paint or coating, prior to application.

L. In general painting of all surfaces is to be a three (3) coat application process, one coat primer (minimum) and two (2) finish coats. Additional finish coats may be required to fully cover and form a finished surface uniform in appearance, texture, color and thickness.

3.07 PAINT SCHEDULE

A. Refer to Drawings for paint schedules.

1. The interior painting contractor is required to submit and provide paint products that meet the VOC requirements as specified in this section, and the related referenced LEED sections.

END OF SECTION

SECTION 09986
DECORATIVE FIBERGLASS REINFORCED WALL PANELS

PART 1 - GENERAL

1.01 Scope: Provide FRP panels as shown on the drawings. Installation in the Kitchen, Dishwashing and Pantry and Coffee area to 8'-0" aff at walls as described in the finish schedule.

1.02 Submittals: Comply with Section 01300.

A. Product Data: Submit manufacturer's technical data and installation instructions.

B. Sample: Submit finish samples on metal in full color range for Architect's selection.

1.03 Product Delivery, Storage and Handling: Do not deliver FRP panels until building in enclosed and ready for their installation. Protect from damage during delivery, handling, storage and installation. Stack panels on flat smooth surface away from moisture.

PART 2 - PRODUCTS

2.01 Manufacturers: FRP panels to be "Marlite FRP – P-151" as manufactured by Marlite or approved equal.

2.02 Panels:

A. Materials & Construction: To be 4' -0" wide by 8'-0" long with a thickness of 0.090" panels with high impact, stain resistant and easily cleaned surface or reinforced fiberglass on one side.

B. Finish: Panel to have finish acceptable to local Health Department and Building Code officials. Finish surface to be "pebble finish and color to be as selected by architect from standard colors.

2.03 Trim, Molding and Joint Covers:

A. Joint and trim covers to be made specifically for panel and shall form smooth, cleanable and moisture tight joint between panels and at edge.

B. Outside Corner Guard:

1. F 560 Stainless Steel with #4 satin finish.

C. Edge and Joint cover/trim to be extruded PVC Trim Profiles for .090 inch thick panels in color as selected by architect.

1. M 350 Inside Corner
2. M 365 Division
3. M 370 Edge
4. M360 Outside Corner

2.04 ACCESSORIES

A. Fasteners: Non-staining nylon drive rivets.
1. Match panel colors.
2. Length to suit project conditions.

B. Adhesive: Either of the following construction adhesives complying with ASTM C 557.
1. Marlite C-551 FRP Adhesive - Water- resistant, non-flammable adhesive
2. Marlite C-375 Construction adhesive flexible, water-resistant, solvent based adhesive formulated for fast, easy application.

C. Sealant:
1. Marlite Brand MS-250 Clear Silicone Sealant
2. Marlite Brand MS-251 White Silicone Sealant
. 3. Marlite Brand - Color Match Sealant,

2.04 Fabrication: Fabricate panels square, rigid, and without warp, with trim and panels free of defect of damage.

PART 3 - EXECUTION

3.01 Installation:

A. Install FRP panels in strict accordance with manufacturer's instructions for a plumb, level, rigid, and flush installation.

B. Install trim, molding and joint covers to provide flush, moisture resistant surface in compliance with code requirements for Kitchens.

3.02 Adjust and Clean:

A. Repair or replace marred finishes and clean all surfaces when complete.

END OF SECTION 09986

SECTION 01010
SUMMARY OF WORK

PART 1- GENERAL

1.01 SCOPE:

A. The scope of the work for this Project includes major interior renovations of the Classroom and Office area of the old Church Building and very minor renovation of the Sanctuary. The Fellowship Hall Building has new offices constructed, major renovation of Restrooms and substantial work within the Fellowship Hall. The Kitchen gets finish upgrades. Most classrooms have ceiling work. The exterior receives EIFS upgrades and utility upgrades are included.

1.02 WORK PERFORMED UNDER SEPARATE CONTRACTS:

A. Plumbing, Electrical, Mechanical, & Fire Alarm Upgrades

1.03 DESCRIPTION OF THE WORK:

A. Plumbing: A complete new water service line is being run to improve domestic water service in the facility, to locate a fire hydrant closer to the facility, and to provide for future water additions on this side of Reynolds Rd. Some storm drainage piping is being added on the site to extend roof drains. A new grease trap, grease sewer, some sanitary sewer work, and a grinder/lift station are being added to improve sewer drainage for the Family Life Center. Plumbing fixture replacements and some additions and being made in the FLC, and some new water piping is being added to support the changes. The old Church Building has sanitary sewer work under slab in the same location as the existing sewer to add and upgrade restroom facilities, add some hand wash sinks, and construct a break room utilizing existing millwork and fixtures that are being relocated within the church. New domestic hot and cold water is being run for the old Church Building. A new ADA toilet is being added adjacent to the Narthex.

B. Electrical: Two electric services exist for the Church. The FLC electric service is being upgraded to serve the entire facility, and the old Church electric service will be removed once renovation is complete. Some new panels and circuits are being added to the FLC, and all of the existing panels remain. All new panels are being added to the old Church Building. In the Sanctuary and Foyer, many of the existing circuits (receptacles, etc.) will be reconnected to two (2) of the new electrical panels that are being installed in existing locations. Lighting is being replaced and upgraded to LED throughout the Church.

C. Mechanical: Rooftop HVAC units are being replaced and upgraded in the FLC to meet code and current needs. Some split systems in the FLC are being replaced with Heat Pump Split Systems, and some Heat Pump Split Systems are being added to meet new office needs for the renovated facility. Some Exhaust Fan systems are being added and some replaced throughout the facility. In the old Church Building gas/electric HVAC split systems are being replaced with more, smaller units to create smaller conditioning zones, meet code requirements, and meet the needs for the renovated facility. Some HVAC equipment will remain or be reused as noted on the plans.

D. A complete voice evacuation fire alarm system is being added the entire facility to meet code and improve life safety in the facility.

1.06 CONTRACTOR USE OF PREMISES:

A. Confine operations at the site to areas permitted under Contract.

1. Keep existing driveways and entrances serving premises clear and available to Owner and his employees at all times. Do not use these areas for parking or storage of materials.

2. Lock automotive type vehicles, such as passenger cars and trucks and other mechanized or motorized construction equipment, when parked and unattended, to prevent unauthorized use. Do not leave vehicles or equipment unattended with motor running or ignition key in place.

3. Coordinate all work schedule with the Visitor Center and with understanding that this building is open to the public and safety for the public is the highest priority.

B. Smoking and other tobacco products will not be permitted within building enclosures or within legal distances of confined spaces.

C. Open fires will not be permitted on premises.

1.07 INDUSTRY STANDARDS:

A. Applicability of Standards: Except where more explicit or stringent requirements are written into the contract documents, applicable construction industry standards have the same force and effect as if bound into or copied directly into contract documents. Such industry standards are made a part of the contract documents by reference. Individual specification sections indicate which codes and standards the Contractor must keep available at project site for reference.

B. Conflicting Requirements: Where compliance with two or more standards is specified, and where these standards establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced, unless the contract documents specifically indicate otherwise. Refer requirements that are different, but apparently equal, and uncertainties as to which quality level is more stringent to the Architect for a decision before proceeding.

C. Copies of Standards: The Contract Documents require that each entity performing work be experienced in that part of the work being performed. Each entity is also required to be familiar with industry standards applicable to that part of the work. Copies of applicable standards are not bound with the contract documents. Where copies of standard are needed for proper performance of the work, the Contractor is required to obtain such copies directly from the publication source.

D. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. Where acronyms or abbreviations are used in the specifications or other contract documents they are defined to mean the recognized name of the trade association, standards generating organization, governing authority, or other entity applicable to the context of the text provisions.

1.08 PROJECT MEETINGS:

A. Pre-Construction Meeting: Within 15 days after execution of agreement, the Architect will prepare an agenda and schedule a pre-construction meeting. Written notice of meeting date, time and place and agenda items will be sent to the Owner,

Contractor. The Contractor shall be responsible for notifying major subcontractors of meeting.

B. Progress Meetings: The Contractor shall schedule and hold regular (weekly or bi-weekly as deemed necessary) progress meetings to coordinate, expedite and schedule work of all contracts.

END OF SECTION

SECTION 10160
TOILET PARTITIONS

PART 1 - GENERAL

1.01 Scope: Drawings and provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections apply to work of this section.

1.02 DESCRIPTION OF WORK:

A. Extent of toilet partitions is indicated on drawings.

B. Types of toilet partitions required are metal, overhead braced and wall supported.

C. Types of screens required are wall hung.

1.03 Quality Assurance:

A. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication where possible, to ensure proper fitting of work. However, allow for adjustments within specified tolerance whenever taking of field measurements before fabrication might delay work.

B. Coordination: Furnish inserts and anchorage's which must be built into other work for installation of toilet partitions and related work; coordinate delivery with other work to avoid delay.

1.04 Submittals:

A. Product Data: Submit manufacturer's detailed technical data for materials, fabrication and installation, including catalog cuts of anchors hardware, fastenings and accessories.

B. Shop Drawings: Submit shop drawings for fabrication and erection of toilet partition assemblies not fully described by product drawings, templates, and instructions for installation of anchorage devices built into other work.

C. Samples: Submit full range of color samples for each type of unit required. Submit 6" square samples of each color and finish on same substrate to be used in work, for color verification after selections have been made.

PART 2 - PRODUCTS

2.01 Acceptable Manufacturers:

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following.

Accurate Partitions Division, United States Gypsum Company
All American Metal Corporation
American Sanitary Partition Corporation
Ampco Products, Inc.
Flush-Metal Partition Corporation
General Partitions Manufacturing Corporation
Gloval Steel Products Corporation
Knickerbocker Partition Corporation
Metpar Steel Products Corporation
Sanymetal Products Company

2.02 MATERIALS:

A. General: Provide materials which have been selected for surfaces flatness and smoothness. Exposed surfaces which exhibit pitting, seam marks, roller marks, stains, discoloration, telegraphing of core material, or other imperfections on finished units are not acceptable.

B. Steel Sheets for Baked Enamel Finish: ASTM A 591, Class C, galvanized-bonderized, of following minimum thickness:Pilasters (overhead braced), 20 gage; panels and screens, 20 gage; doors, 22 gage.

C. Concealed Anchorage Reinforcement: Minimum 12-gage galvanized steel sheet.

D. Concealed Tapping Reinforcement: Minimum 14-gage galvanized steel sheet.

E. Core Material for Metal Partitions: Manufacturer's standard sounddeadening honey comb of impregnated Kraft Paper, in thickness to provide finished dimension of 1" minimum for doors, panels and screens, 1-1/4" minimum for pilasters.

F. Pilaster Shoes: ASTM A 167, Type 302/304 stainless steel, not less than 3" high, 20 gage, finished to match hardware.

G. Stirrup Brackets: Manufacturer's standard design for attaching panels to walls and pilaster, either chromium plated non-ferrous cast alloy ("Zamac") or anodized aluminum.

H. Hardware and Accessories: Manufacturer's standard design,heavy-duty operating hardware and accessories of chromium plated non-ferrous cast allow ("Zamac").

I. Overhead-Bracing: Continuous extruded aluminum tubing in anti-grip profile, with clear anodized finish.

J. Anchorages and Fasteners: Manufacturer's standard exposedfasteners of stainless steel, chromium plated steel or brass finished to match hardware, with theft-resistant type heads and nuts. For concealed anchors, use hot-dip galvanized, cadmium plated, or other rust resistant protective coated steel.

2.03 Fabrication:

A. General: Furnish standard doors, panels, screens and pilasters fabricated for partition system, unless otherwise indicated. Furnish units with cutouts, drilled holes, and internal reinforcement to receive partition mounted hardware, accessories, and grab bars, as indicated.

B. Door Dimensions: Unless otherwise indicated, furnish 24" wide in-swinging doors for ordinary toilet stalls and 32" wide (clear opening) outswinging doors at stalls equipped for use by handicapped.

C. Overhead Braced Partitions: Furnish galvanized steel supports and leveling bolts at pilasters, as recommended by manufacturer to sit floor conditions. Make provisions for setting and securing continuous aluminum overhead bracing tube at top of each pilaster. Furnish shoe at each pilaster to conceal supports and leveling mechanism.

D. Furnish pilasters not less than 1" in thickness, panels and pilasters of same construction and finish as toilet partitions. Furnish galvanized steel anchorage devices, complete with threaded rods,lock washers and level adjusting nuts at pilasters, to permit structural connection to floor. Furnish shoe at pilaster to conceal anchorage.

E. Hardware: Furnish hardware for each compartment in partition system, as follows:

1. Hinges: Cutout inset type adjustable to hold door open at any angle to 90%. Provide gravity type, spring action cam type, or concealed torsion rod type to suit manufacture's standards.

2. Latch and Keeper: Recessed latch unit, designed for emergency access, with combination rubber-faced door strike and keeper.

3. Coat Hook: Manufacture's standard unit, combination hook and rubber tipped bumper.

4. Door Pull: Manufacturer's standard unit.

F. Finishes:

1. Baked Enamel Finish: Clean galvanized steel surfaces after fabrication and before application of enamel coating system, to remove processing compounds, oils, and other contaminants. Prime metal with baked-on rust inhibitive primer. Apply two coats of thermosetting enamel finish, applied by electrostatic process and baked in accordance with paint manufacturer's instructions.

2. Color: One of manufacturer's standard colors, as indicated, or if not indicated, as selected by Architect.

PART 3 - EXECUTION

3.01 General:

A. Comply with manufacturer's recommended procedures and installation sequence. Install partitions rigid, straight, plumb and level. Provide clearances of not more than

1/2' between panels and not more than 1" between panels and walls. Secure panels to walls with not less than two stirrup brackets attached near top and bottom of panel. Locate wall brackets so that holes for wall anchorages occur in masonry or tile joints. Secure panels to pilasters with not less than two stirrup brackets located to align with stirrup brackets at wall. Secure panels in position with manufacture's recommended anchoring devices.

B. Overhead-Braced Partitions: Secure pilasters to floor and level plumb, and tighten installation with devices furnished. Secure overhead-brace to each pilaster with not less than two fasteners. Hang doors and adjust so that tops of doors are parallel with overhead-brace when doors are in closed position.

C. Wall-Supported Partitions: Secure divider panels to built-in anchorage devices using concealed fasteners. Level, plumb and tighten installation with devices furnished. Hang doors and adjust so that bottoms of doors are level with bottoms of pilasters when doors are in closed position.

D. Screens: Attach with concealed anchoring devices, as recommended by manufacturer to suit supporting structure. Set units to provide support and to resist lateral impact.

E. Accessories: Mount accessories to partition units in accordance with manufacturer's instructions.

3.02 ADJUST AND CLEAN:

A. Hardware Adjustment: Adjust and lubricate hardware for proper operation. Set hinges on in-swinging doors to hold open approximately 30% from closed position when unlatched. Set hinges on outswinging doors (and entrance swing doors) to return to fully closed position.

B. Clean exposed surfaces of partition systems using materials and methods recommended by manufacturer, and provide protection as necessary to prevent damage during remainder of construction period.

END OF SECTION 10160

SECTION 10800
TOILET ACCESSORIES

PART 1 - GENERAL

1.01 Scope: Provide all accessories, complete, for each toilet room, as indicated on the drawings

1.02 Related Work Specified in Other Sections:

A. All mirrors to be wood framed in sizes noted on the drawings. Stained wood color to be selected by architect. Mirror material is specified in Section 08800.

B. Installation of accessories; Section 06100.

1.03 Submittals: Comply with Section 01300.

A. Manufacturer's Data: Submit technical data and installation instructions for each toilet accessory. Transmit copies of installation instructions to the Installer.

B. Shop Drawings: Submit shop drawings showing grab bars installation. Provide setting drawings, instructions and directions for installation of anchorage devices in other work.

PART 2 - PRODUCTS

2.01 Manufacturer: Bobrick Washroom Equipment, Bradley Corporation Products, Accessory Specialties, Inc., and A&J Washroom Accessories are approved. Bobrick & Bradley are specified. Equivalent products from other manufacturers will be considered. Submit substitution request in compliance with Section 01300.

2.02 Accessories Numbers in parentheses correspond to numbers on drawings. Refer to drawings for locations and mounting heights.

A. (1) Soap Dispenser: Bobrick B-2112, surface mounted, or equal.
B. (2) Mirrors: Wood Framed as noted above and Section 8800
C. (3) Paper Towel Disposal: Bobrick B 43644, or equal.
D. (4) Toilet Paper Dispenser: Bobrick B-685 surface mounted, or equal.
E. (5) Grab Bars: Provide vertical and horizontal bars in lengths and locations as shown on the drawings.
F. (6) Sanitary Napkin Disposal Unit: Bobrick B 4353, or equal
G. (7) Mop & Broom Holder: Bradley Model 9953, or equal
H. (8) Paper Towel Dispenser: Bobrick B-3942 semi-recessed or equal

PART 3 - EXECUTION

3.01 Installation:

A. Examine each mounting surface for proper installation and support of accessories.

B. Install each item in proper location, mount securely, level and plumb in accordance with manufacturer's recommendations.

C. Replace all damaged items and clean all accessories before final acceptance.

END OF SECTION 10800

SECTION 10950
MISCELLANEOUS SPECIALTIES

PART 1 - GENERAL

1.01 SCOPE: Provide interior signage as described in this section, as shown on the drawing and as required for proper completion of the project.

1.02 SUBMITTALS:

A. Provide color chips or color samples of all finishes on these items for color selection by the Architect.

B. Guarantees: When installation is complete, deliver to the Architect all guarantees, warranties, operating and maintenance manuals.

1.03 PRODUCT HANDLING: Protection: Use all necessary means to protect all specialty items before, during and after installation. If item is damaged, replacement or repair to take place immediately and at no cost to the owner.

PART 2 - PRODUCTS

2.01 SIGNAGE

A. Interior Signage: Provide plastic 8" x 8" unframed acrylic sign plaques, where lettering and symbols require and 2" x 8" unframed acrylic sign plaques in other locations. Signs to be ADA complying with 1" text and raised letters. Each interchangeable sign to have the Braille information included. Interior signage to be mounted 60" aff (to center) adjacent to the strike side of the door frame.

The signs required are as follows:

1. 6 Signs with International Symbol of Accessibility with Braille, 1" raised letters reading "Women (2), Men (2), & Toilet (2)". Plaques to have Woman, Man & both woman & man symbols included on all signs.
2. 12 Signs in unframed acrylic with Braille, 1" raised letters plaque signs reading as follows:
   Toilet (1)
   Miscellaneous (6)
   Church Offices (9)
   Classrooms (16)
2. Exact wording of text will be determined later. Allow number of letters as shown above.

2.02 Knox Box Fire Access: Provide 1 Knox Lock Key Switch Model (15-013) by American Access Systems Inc., or equal. Color to be bright red and key cylinder will be provided by Little Rock Fire Department. Contractor to securely mount box to building wall as shown on the drawings and as approved by LRFD.

2.03 Fire Extinguisher and Cabinet: Larsen's is specified. Equivalent products of J.L. Industries, Allenco, and Poetter-Roemer are acceptable.

A. Cabinet: Series 2409-R3 stainless steel finished cabinet for semi-recessed installation. Provide Vertical Duo Panel door, glazed with clear acrylic. Provide in manufacturer's standard stainless steel finish. Provide bracket for extinguisher.

B. Extinguisher: Model MP-10, multi-purpose, 10 lb. heavy duty steel extinguisher.

C. Provide four new extinguishers in new in locations as shown on the drawings.

2.04 Corner Guards to be stainless steel as manufactured by Marlite Company, or equal.

A. Outside Corner Guard:

1. M 961 PVC Outside corner guard in standard color & finish as selected by architect. Guard to extend from base to 4' aff.

PART 3 - EXECUTION

3.01 GENERAL

A. Existing conditions: Verify that all miscellaneous specialty items may be installed in accordance with manufacturer's recommendations before beginning work.

B. Installation: Install all specialties in strict accordance with manufacturer's recommendations.

C. Clean and adjust all specialties after installation and remove all labels and packing materials form premises.

D. Mount all miscellaneous specialties in accordance with ADA regulations

End of Section

SECTION 15010 – BASIC MECHANICAL REQUIREMENTS

PART 1 – GENERAL

1. General Conditions

   The General conditions, Supplementary General Conditions, Information to Bidders, Division A and all other pertinent documents issued by the Architect, are a part of these specifications and shall be complied with in every respect.

2. Scope and Conditions of Work

   The mechanical work consists of furnishing all labor and materials, and performing all operations necessary in the installation of the mechanical systems in accordance with the Drawings and Specifications. In case of conflict between the Mechanical Drawings and Specifications the most stringent shall govern. In case of conflict between this section and other sections of Division 15 the most stringent shall govern.

3. Special Inspection

   The Architect will inspect the piping systems, duct systems and equipment systems when they are ready for testing. The Mechanical Contractor shall notify the Architect 24 hours prior to this time so that the Architect can make inspection and give approval of or indicate corrective action before systems are concealed.

4. Painting

   Unless otherwise specified, job finish painting will be done by the General Contractor, and mechanical equipment shall be baked enamel finish. The Mechanical Contractor shall restore damaged painted surfaces of mechanical equipment to its original condition.

5. Codes and Standards

   Materials and workmanship shall comply with the Contract Documents and applicable codes and standards. If applicable

codes and standards and the Contract Documents differ, the Contractor shall promptly notify the Architect in writing of such difference. If the Contractor performs any work that does not comply with the requirements of applicable codes and standards, he shall bear all costs in correcting such defect. Applicable codes and standards shall include all state laws, local ordinances, utility company regulations and applicable requirements of nationally accepted codes and standards. All pressure vessels, including hot water storage containers, shall be constructed in compliance with the rules and regulations of the Boiler Inspection Division of the State of Arkansas, and installation of such equipment shall be made by firms licensed by the Boiler Inspection Division.

6. Coordination of Work

   A. The Mechanical Drawings show the general arrangement of piping, equipment and appurtenances, and shall be followed as closely as practicable. The Mechanical work shall conform to the requirements shown on all of the drawings. General and Structural Drawings shall take precedence over Mechanical Drawings. It is not practical to indicate all offsets, fittings, and accessories required. The Contractor shall study the structural and finish conditions affecting the work, and arrange his work accordingly, providing fittings, valves, and accessories required. The Contractor shall study the structural and finish conditions affecting the work, and arrange his work accordingly, providing fittings, valves, and accessories required to meet such conditions.

   B. The Contractor shall compare the Mechanical Drawings and Specifications with the Drawings and Specifications for other trades and report any discrepancies between them to the Architect and obtain from him written instructions for changes necessary in the Mechanical work. The Mechanical work shall be installed in cooperation with other trades installing interrelated work. Before installation, the Contractor shall make proper provisions to avoid interferences. Changes required in the work of the contractor caused by his neglect to do so shall be made by him at his own expense.

C. Anchor bolts, sleeves, inserts, and supports for the Mechanical work shall be furnished and installed by the Mechanical Contractor.

D. Slots, chases, openings and recesses through floors, walls, ceilings and roofs in new construction will be provided by the various trades in their respective materials, but the trade requiring them shall see that they are properly located and shall do any cutting and pay for any patching caused by the neglect to do so.

E. Locations of pipes, ducts, equipment, fixtures, etc., shall be adjusted to accommodate the work to interferences anticipated and encountered. The contractor shall determine the exact route and location of each pipe and duct prior to fabrication.

F. Lines that pitch shall have the right of way over those which do not pitch. For example, plumbing drains shall normally have right of way. Lines whose elevations cannot be changed shall have the right of way over lines whose elevations can be changed.

G. Transitions and changes in direction in pipe and ducts shall be made as required to maintain proper head room and pitch of sloping lines. The contractor shall furnish and install traps, air vents, sanitary vents, etc., required to effect these offsets and changed in directions.

H. The contractor shall provide access panels in walls, ceilings, equipment, ducts, etc., as required for inspection of interiors and for proper maintenance.

7. Fees, Permits, and Inspection

Fees, permits, and inspections shall be obtained and paid for by the Contractor under the section of the Specifications for which they are required. The Contractor shall furnish a certificate of final inspection to the Architect from the inspection department having jurisdiction.

8. Equipment and Materials

A. Materials shall be new and bear the manufacturer's name, trademark, and the UL label in every case where a standard has been established for the particular material. Equipment shall e the standard product of a manufacturer regularly engaged in the production of that type of equipment, and shall be the manufacturer's latest approved design.

B. Equipment shall be protected against moisture, dirt, damage and theft. Fixtures, equipment and materials shall be cleaned and polished and turned over to the owner in a condition satisfactory to the Architect. Rusted surfaces shall be refinished.

C. The contractor shall make field measurements to ascertain space requirements, including those for connections, and shall furnish and install such sizes and shapes of equipment that the final installation shall suit the intent of the Drawings and Specifications.

D. Manufacturer's directions shall be followed in the delivery, storage, protection and installation of equipment and materials. The contractor shall promptly notify the Architect in writing of any conflict between any requirement of the Contract Documents and the manufacturer's directions, and shall obtain the Architect's written instruction before proceeding with the work. Should the Contractor perform any work that does not comply with the manufacturer's directions or such written instructions from the Architect, he shall bear all cost arising in correcting deficiencies.

E. All products for this project shall be compliant with the 2009 ARRA Buy American Act, as interpreted by the Authority Having Jurisdiction.

9. Equipment Accessories

A. The Contractor shall furnish and install equipment, accessories, connections, and incidental items necessary to complete the work, ready for use, occupancy and operation by the Owner.

B. Where equipment requiring different arrangement or connections from those shown is approved, it shall be the responsibility of the Contractor to install the equipment to operate properly. He shall provide additional motors, controllers, supports, bases, valves, fittings, and other equipment, including required changes in affected trades. The contractor shall be responsible for the proper location of rough-ins and connections by other trades. All changes shall be made at no increase in the Contract amount or additional costs to other trades.

C. The contractor shall support work and equipment plumb, rigid, and true to line. The Contractor shall study the General, Structural, Mechanical and Electrical Drawings, shop drawings, and catalog data to determine how equipment, fixtures, piping, ductwork, etc., are to be installed. The Contractor shall provide bolts, inserts, pipe stands, brackets, and accessories for proper support. When directed, the Contractor shall submit drawings showing supports for approval.

10. Cutting and Patching

A. The contractor shall be responsible for digging, cutting, etc., incident to his work, and shall make repairs thereafter to the satisfaction of the Architect, but no structural element, beam or column shall be cut without the written approval of the Architect.

B. Pavements, sidewalks, roads, and curbs shall be cut, patched, repaired and/or replaced as required to permit the installation of underground work of the various trades and such cutting, patching, repairing and replacing shall be the responsibility of, and paid for by, the Contractor under the section of the Specifications of the trade requiring the work.

C. Each trade shall bear the expense of cutting, patching, repairing or replacing of the work of other trades required because of his fault, error, or tardiness.

11. Excavation and Backfilling

A. Separate trenches shall be provided for each utility or service to the building unless otherwise noted or approved. All excavations shall be made by open cut. Banks of trenches shall be kept as nearly vertical as practicable, and trenches over 5 feet deep (and where required) shall be properly sheeted and braced.

B. Water shall be removed as necessary to fully protect workmen and adjacent structures, and to permit proper installation of work. Under no circumstances shall pipe be laid or appurtenances installed in water; trenches shall be kept free from water until pipe joint material has hardened. Presence of ground water in soil or necessity of sheeting or bracing trenches shall not constitute a condition for which any increase may be made in contract price. Sheeting left in place shall be cut off not less than two feet below finished grade.

C. Material to be excavated shall be unclassified, and shall include all earth or other material encountered. Contract shall include removal of all such materials to depth and extent as required.

D. Trenches shall be graded evenly on bottom to insure uniform bearing for full length of pipe. Bell holes shall be cut for joint making. Where bottom of trench is rock, cement, gravel or other similar hard materials, trench shall be excavated to an overdepth of at least three inches below trench depth otherwise required. Overdepth in the excavation shall be filled with firmly compacted sand or fine gravel, or with concrete.

E. Trenches shall not be backfilled until all required tests have been performed and section tested meets requirements as specified herein. Trenches shall be carefully backfilled with excavated materials consisting of earth, loam, sandy clay, sand and gravel, soft shale, or other approved materials free from large clods of earth or stone, deposited in thoroughly compacted six-inch layers, loose thickness, until pipe has a cover of not less than one foot. Remainder of pipe shall be backfilled and compacted thoroughly with a runner of suitable weight, or with an approved mechanical tamper or if

backfill material is granular, settling with water will be permissible. Areas which are subsequently to receive pavements, walks, or other surfacing shall be tamped solidly in layers not to exceed six inches loose thickness. Along all portions of trenches, except areas to receive pavements, walks, or other surfacing, ground shall be graded to a reasonable uniformity and mounding over the trenches left in a uniform and neat condition. Trenches under floor slabs shall be backfilled and compacted as directed by the Architect.

12. General Piping Installation

A. The Contractor shall furnish and install a complete system of piping, valved as indicated and necessary to control the entire apparatus and appurtenances. The piping drawings are diagrammatic and indicate the general location and connections.

B. Piping shall be properly supported, and adequate provisions made for expansion, contraction, slope and anchorage. Piping shall be cut accurately for fabrication to the measurements taken at the site, and shall be worked into place without springing or farcing, clearing windows, doors, and other openings and equipment. Pipes shall have burr and cutting slag removed by reaming or other cleaning methods.

C. Piping shall be arranged to permit removal of equipment, access to openings, removal of coils, filters, etc., so that there will be no interference with the installation of equipment, ducts, etc., and to insure noiseless circulation. Valves and specialties shall be placed to permit easy operation and access, and valves shall be regulated, packed and glands adjusted so as to avoid liquid or air pockets. Eccentric reducers shall be used where changes in pipe sizes occur, and the reducers shall be located approximately 18" beyond the nearest upstream branch. Expansion and contraction of piping shall be provided by expansion loops, bends, and/or expansion joints top prevent injury to connections, piping, equipment or the building.

D. Minimum slope of piping shall be in accordance with the following, unless otherwise required:

1. Waste and vent piping ¼" per foot.
2. Main building sewer and storm sewer, 4" and larger. 1/8" per foot (Minimum).
3. Water piping (where practical). 1" in 40 ft. to drain points.

E. Unions or flanges shall be installed on bypasses, ahead of traps, and at all equipment connections to permit removal of equipment.

F. Sleeves shall be provided around pipes passing through walls, floors, ceilings, partitions, structural members or other building parts. Sleeves through floors or walls below grade and exterior walls shall be schedule 40 galvanized iron pipes two sizes larger that the pipe or insulation, so that pipe or insulation shall pass through freely with space for movement. Sleeves through floors shall be extended ¼' above floor finish in toilets or in rooms where domestic water is used. In other rooms, sleeves shall be flush with the floor. Sleeves through outside walls and floor shall be sealed with Non-Asbestos fireproof and watertight packing. Sleeves through inside walls and floors above grade may be 18-gauge galvanized steel.

G. Plates: Spring clamp plates (escutcheons) shall be provided where pipes are exposed through walls, floors, or ceilings, except in concealed spaces. Plates shall be chrome-plated spun brass, set tight on the pipe and to the building surface.

H. Flashing: Piping passing through new built-up roof shall be flashed with a square sheet of 4-pound soft lead or 16 oz. Copper extended to the top of pipe and turned over top and into pipe ½" or extended to flashing collar where pipe continues beyond roof.

Flashings through metal building roofs and existing roofs shall be as directed by the Architect.

I. Protection: Ends of pipes and equipment shall be capped to keep foreign matter out of the system. Plugs of rags, waste, or similar materials shall not be used.

J. Hangers and Supports: Pipe hooks, chains or perforated iron shall not be used for pipe support. Hangers shall be attached to floor inserts or expansion shields.

1. Hangers, support rods, and other support accessories for bare copper tubing shall be copper plated.

2. Vertical Piping: Riser clamps shall be placed at each floor and at each coupling or fitting. Clamps shall be supported by structural members which are supported directly from the building structure. Clamps for bare copper tubing shall be copper plated.

K. Cleaning: Remove dirt, grease, and other foreign matter from pipe before making connections.

L. Installation of Underground Pipe: Each pipe shall be laid true to line and grade and in such manner as to form a close concentric joint with adjoining pipe and to prevent sudden offset to flow line.

M. Pipe Sizes: If pipe sizes are not clearly evident, the Contractor shall request instructions as to proper sizing. Changes resulting from the Contractor's failure to request clarification shall be at his own expense.

N. Pressure Regulators: Where water supply pressure can exceed 75 psi, the Contractor shall install two (2) pressure-reducing valves sized for 1/3 and 2/3 flow to maintain a maximum of 75 psi.

13. Electrical Wiring

A. Electrical wiring for mechanical equipment is separated into two main wiring divisions: "Power Wiring" and "Control Wiring."

1. Power Wiring – Shall be the energy source and includes circuit protective devices, motor starters or controllers, conduit, wiring and safety disconnects beginning at the

Power Supply and terminating at the motor or terminals on equipment.

2. Control Wiring – Comprises conduit and wiring not included in power wiring, including automatic temperature control wiring, interlock wiring, pilot light and signal wiring, etc., that is not included as part of prewired equipment, but necessary for the proper operation and safety of the equipment.

B. Unless otherwise noted, Power wiring shall be done by the Electrical Contractor under the supervision of the equipment supplier, and Control Wiring shall be done by the Contractor furnishing the equipment. All wiring shall be done in compliance with the Electrical Division of these Specifications.

14. Motor and Equipment Control

A. Each motor, electrical equipment or group of motors and equipment shall be provided with starters and pilot devices that will perform the functions as specified. Starters and pilot devices shall conform to NEMA Standard LCL and UL Standard for Industrial Control Equipment.

B. Manual Starter shall be provided for manually started single phase motors under ½ horsepower or as noted on the Drawings. Starters shall be single or two pole with selector switches, push button, pilot lights and interlocking attachments are required. Contactors may be used in lieu of manual starter if motor has integral overload protections.

C. Magnetic starters shall be provided for motors ½ horsepower and larger, and motors started by pilot devices. Starters shall have necessary control devices in cover, three interlocking contacts, and low-voltage protection.

D. Starters shall have overload relays in all ungrounded conductors. Overload relays shall be sized to protect the motor with consideration given to ambient temperature of the motor and controller.

E. Starters, pushbutton stations, selector switches, pilot lights, relays, automatic temperature controllers, safety devices, solenoids, and similar devices that are not a part of a motor control center or switchgear, shall be furnished and installed by the Contractor furnishing the equipment, except starters and contactors in individual enclosures shall be furnished to the Electrical Contractor for his installation.

F. Starters, pilot lights, contactors, pushbuttons, and similar devices located in finished spaces shall be flush-mounted and surface-painted to match surrounding finish.

15. Electrical Motors

A. Motors shall be of recognized American manufacturer and shall conform to latest standards of manufacture and performance of NEMA and AIEE. Motors shall be highest efficiency and shall meet the current energy code requirements.

B. Motors shall be rated for continuous duty at 100 percent of rated capacity, and temperature rise shall be 40 degrees C open type: 50 degrees C drip and splash proof: 55 degrees C explosion proof and totally enclosed, above an ambient of 40 degrees C.

C. Unless otherwise required, integral horsepower polyphase motors shall be Class B, general purpose, squirrel cage, open type induction motors.

D. Motors ½ horsepower or less shall have integral overcurrent protection.

E. Motors 10 horsepower and above shall have positive temperature coefficient thermistors embedded in the phase windings of the motor. 120 mechanical degrees part. P.T.C. thermistors, or Westinghouse Guardistor.

F. Motors inside building or suitable housing shall be open type drip-proof. Motors exposed to weather shall be totally

enclosed. Fan-cooled. Motors in hazardous locations of duty shall be explosion proof of the type required for the service.

16. System Operating Tests

    During these tests, the Contractor shall balance circulating or water, air and other fluids to provide proper quantities to spaces or items of equipment. He shall adjust valves, dampers, and similar items to insure that the Mechanical systems perform as intended. A report shall be provided containing a summary of all tests.

17. Instructions of Owner's Representative

    The Contractor shall instruct the representative of the Owner in the operation and maintenance of the Mechanical Systems.

18. Submittals

    The Contractor shall submit within thirty days after the awarding of the contract, six brochures of descriptive data of proposed material and equipment. Failure by the Contractor to comply shall make him liable to the expense of delays and changes in construction. Also, if the Contractor fails to comply, the Architect may go directly to the manufacturer and obtain any details necessary. Cost of changes in connection with this shall be borne by the Contractor. Thermofax copies are not acceptable; only permanent-type prints will be allowed. Submittals shall designate the exact item offered. Submittals shall not cover detailed installation drawings prepared for the Contractor's own use, but shall be limited to necessary departures from the Contract Drawings.

19. Substitution of Materials

    Competition is requested and where a definite material or equipment is specified, it is not the intent to discriminate against any "approved equal" product. However, no substitution shall be made unless authorized in writing by the Architect.

20. Utilities Location

    Location and elevations of utilities are offered as a guide only, without guarantee as to accuracy. The contractor shall verify

location and elevation of utilities and their relation to the work with the Owner before starting any work.

21. Guarantee

    The Contractor shall guarantee his materials, equipment, and labor to be fee of defects for one year from date of final acceptance, and should any defects appear within this period, the defect will be replaced or repaired without additional expense to the Owner. This guarantee shall include the replacement of drive belts, bearings, seals, and other similar items whose improper installation, or lack of attention could be cause for failure within the one-year period. This guarantee does not include the replacement of air filters, lamps or similar expendable items.

22. As-Built Drawings

    The Mechanical Contractor shall prepare as-built drawings to be delivered to the Architect prior to final acceptance. These drawings shall show systems as installed, including location, medium conveyed, pipe size, pipe material of all underground lines. Also, shown location, size, medium conveyed, pressure, material of al existing underground lines encountered during installation of systems under this contract.

End of Section

SECTION 15120 - VALVES

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Valves specified in this section are for general use. See specifications for specific system for special valves.

B. Submit brochures and other data for approval of all items differing from those specified.

PART 2 PRODUCTS

2.01 GATE VALVES

A. 1/4" through 2": NIBCO Scott T-113, 125 lb. SWP, 200 lb. WOG, bronze, screw-in bonnet, threaded ends, non-rising stem, solid wedge.

B. 2-1/2" through 12": NIBCO Scott F-619, 125 lb. SWP, 200 lb. WOG, iron body, inside screw, bronze mounted. Flanged ends, non-rising stem, solid wedged.

2.02 GLOBE VALVES

A. 1.8" through 2" NIBCO Scott T-211, 215 lb., SWP, 200 lb. WOG. Bronze, screw-in bonnet, threaded ends, Buna-N seat disc for water, oil, or gas (W). Teflon seat disc for steam (y).

2.03 SWING CHECK VALVES

A. 1/4" Through 2": NIBCO Scott T-413, 125 lb. SWP. 200 lb. WOG, bronze, threaded ends, Buna-N seat disc for water, oil or gas (@), Teflon seat disc for steam (S).

2.04 BALL VALVES

A. 1/4" Through 1-1/2": NIBCO Scott T-595. 150 lb. steam. 400 lb. WOG, bronze, full port, threaded ends, Buna-N seat for water, oil, or gas (W), Teflon seat for steam (Y).

2.05 BALANCING VALVES

A. 3/4" and Below: Sarco Sarcofow balancing fittings, 20 psi cold liquid, 175 psi at 150 degrees F, brass, screwdriver slot adjustment, screwed ends, air vent if required.

2.06 GAS COCKS

A. 2 inch and smaller: Bronze body, bronze tapered plug, nonlubricated, teflon packing, threaded ends.

B. Gas cock Larger than 2 inch and those on medium pressure gas line shall be Nordstrom or equal lubricated plug valves.

PART 3 EXECUTION

3.01 ARRANGEMENT OR LOCATION

A. Locate valves in an accessible position. Where several valves are related as to function, group in a battery.

B. No valve shall be installed with stem below horizontal position without prior approval.

C. Provide special handles or operators as might be required or as indicated on the drawings.

D. Valves specified under specific systems shall take precedence over those as specified herein.

E. Valves in copper pipe shall have threaded ends (except where size dictates flanged ends), use copper to MPT adapters.

F. The use of threaded ends of flanged ends is the Contractor's option within the size listed.

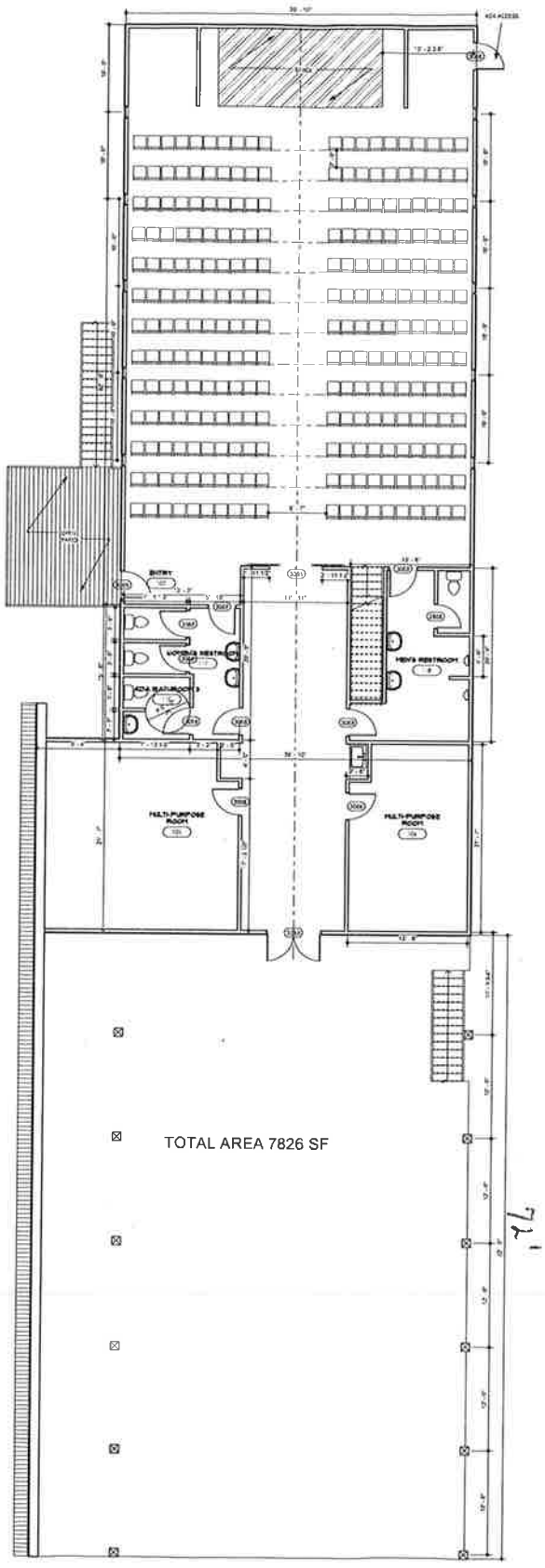
3.02 VALVE BOXES

A. All valves located below slabs or grade shall be housed in cast iron boxes with covers. Covers shall be properly identified as to the services controlled by the valve.

B. Furnish Owner with proper key and valve-operator extensions.

END OF SECTION

40'



72'

1 First Floor Plan
3/16" = 1'-0"

SB2 · 6 LAYER COMPACTED