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GREENWOOD SCHOOL DISTRICT 50

DR. BENJAMIN MAYS ELEM. SCHOOL

COOLING TOWER UPGRADES

GREENWOOD, SOUTH CAROLINA

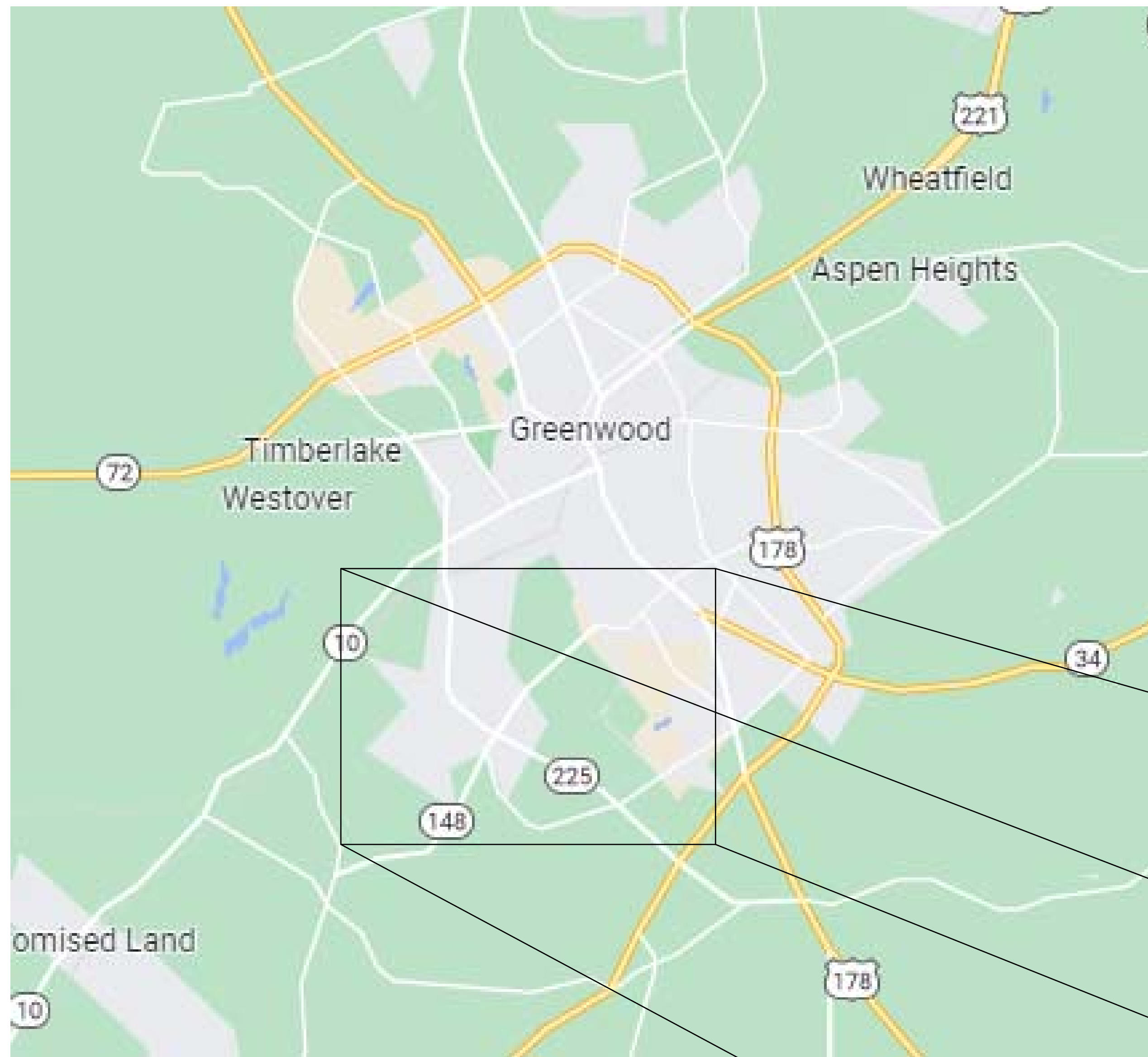
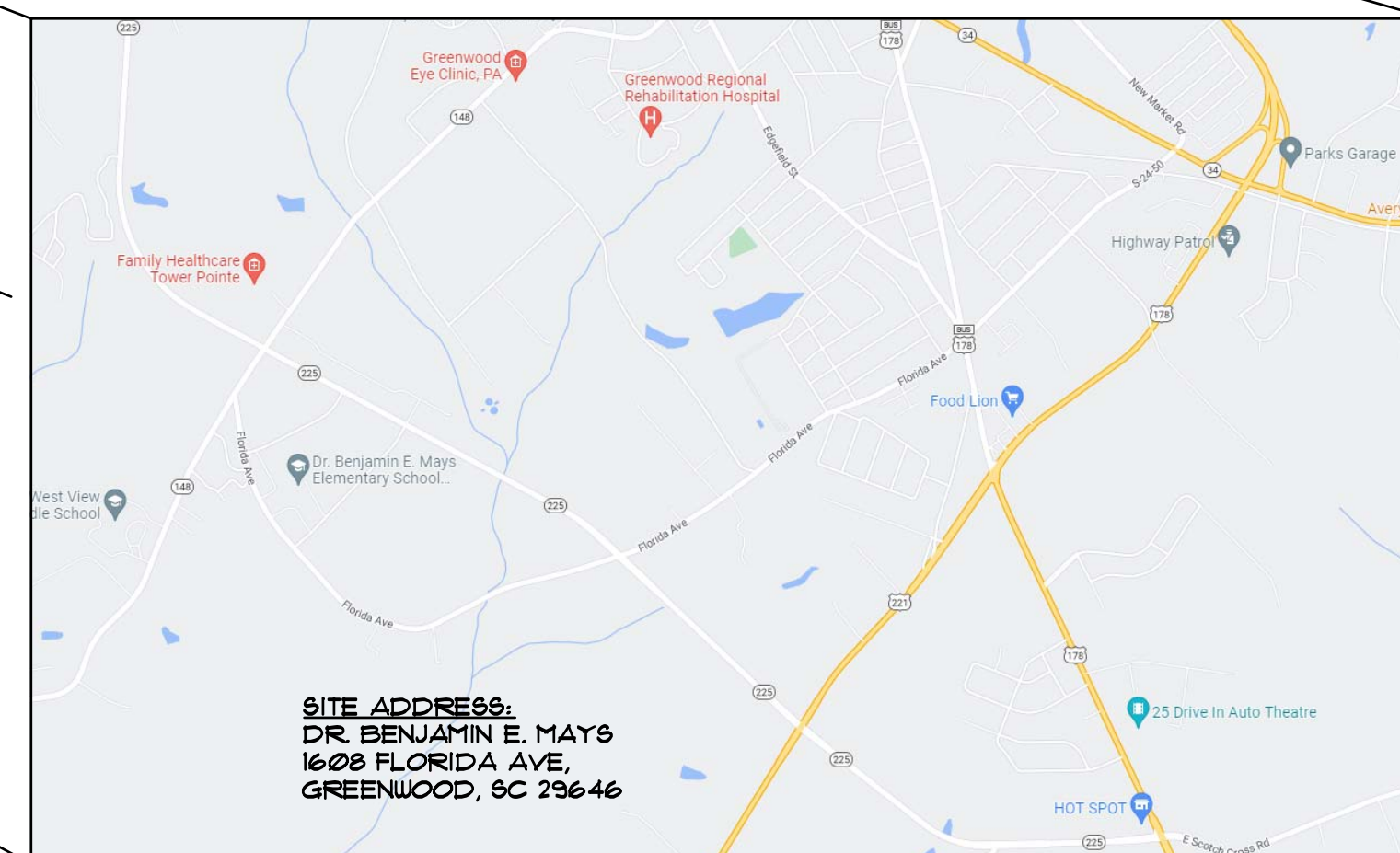


IMAGE PROVIDED BY GOOGLEMAPS.COM



SPECIAL NOTE:
 IT IS HIGHLY RECOMMENDED THAT THE CONTRACTOR VISIT THE PROJECT SITE PRIOR TO SUBMITTING A BID AND THOROUGHLY FAMILIARIZE HIMSELF WITH ALL EXISTING CONDITIONS RELATING TO THIS PROJECT. SUBMISSION OF A BID WILL BE CONSIDERED AS EVIDENCE THAT THE CONTRACTOR HAS VISITED THE SITE OF WORK.



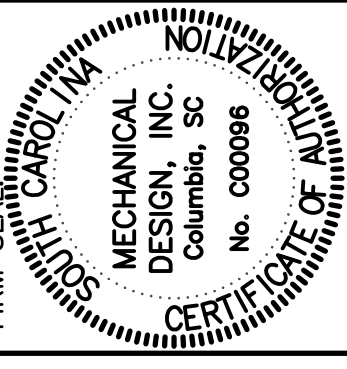
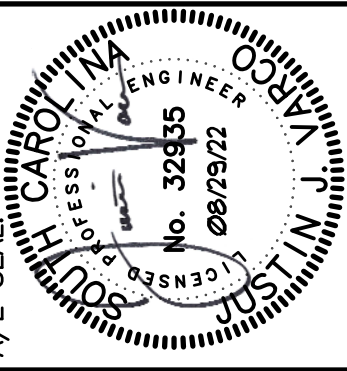
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MECHANICAL DESIGN, INC.
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ELECTRICAL ENGINEER
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STRUCTURAL ENGINEER
TIMMERMAN STRUCTURAL ENGINEERING GROUP
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INDEX OF DRAWINGS	
C001	COVER SHEET
C801	CODE SHEET "FORM F3"
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S101	STRUCTURAL PLANS AND DETAILS
M1001	MECHANICAL DEMOLITION FLOOR PLANS
M101	MECHANICAL RENOVATION FLOOR PLANS
M1301	MECHANICAL SCHEDULES, NOTES, AND SCHEDULES
M1401	MECHANICAL DETAILS
E101	ELECTRICAL DEMOLITION PLANS
E102	ELECTRICAL PLANS
E102	ELECTRICAL SCHEDULES AND DETAILS

NO.	REMARKS:	DATE:	ISSUED BY:



MECHANICAL DESIGN INC.
 4403 Broad River Road
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 (803) 731-9834
 (803) 731-9837 FAX
 CONTACT: JUSTIN VARCO COMM. NO. 213735

PROJECT TITLE:
**GREENWOOD SCHOOL DISTRICT 50
 MAYS ES - COOLING TOWER UPGRADES**

SHEET TITLE:
COVER SHEET

SHEET NO:
C001

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Form F3 - Building Code Analysis
 Date: 08/29/2022
 SUBMITTAL: Schematic Design Development Construction Document
 SC CODE EDITION: 2018 ICC CODE EDITION: 2018 ICC A117.1 EDITION: 2017 OSF GUIDE EDITION: 2020
 PROJECT DESCRIPTION: [Brief Scope of Work & Include project delivery method (i.e. CMR, etc.)]
 REPLACE EXST. COOLING TOWER

BASIC BUILDING CODE INFORMATION

DESIGNATED AREAS OF BUILDING	Building Code	Area 1	Area 2	Area 3	Area 4	Area 5
CONSTRUCTION CLASSIFICATION TYPE:	Section 602	<input type="checkbox"/> SCBC <input checked="" type="checkbox"/> R SCBC	<input type="checkbox"/> SCBC <input type="checkbox"/> SCBC	<input type="checkbox"/> SCBC <input type="checkbox"/> SCBC	<input type="checkbox"/> SCBC <input type="checkbox"/> SCBC	<input type="checkbox"/> SCBC <input type="checkbox"/> SCBC
OCCUPANCY GROUP (indicate all)						
MOST RESTRICTIVE OCCUPANCY GROUP	Table 504.3, 504.4 & 506.2					
Does building require Incident Use Area Separation?	Table 509	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Does building have Accessory Occupancy (AO)?	Section 506.2	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
What is the aggregate square footage of the accessory occupancy (AO)?	Section 506.2	SF	SF	SF	SF	SF
What percent of the story in the aggregate of the accessory occupancy (AO)?	Section 506.2	%	%	%	%	%
Mixed Occupancy	Section 506	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Nonsequenced <input type="checkbox"/> Separated	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Nonsequenced <input type="checkbox"/> Separated	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Nonsequenced <input type="checkbox"/> Separated	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Nonsequenced <input type="checkbox"/> Separated	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Nonsequenced <input type="checkbox"/> Separated

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Form F3 - Building Code Analysis

EXISTING BUILDING CODE INFORMATION (SCEBC)

DESIGNATED AREAS OF BUILDING	Area 1	Area 2	Area 3
Method of Compliance (Check only one Option and all items that apply under that Option)	<input type="checkbox"/> Option 1: Prescriptive Compliance Method (Ch. 3, 5) <input type="checkbox"/> Alteration <input type="checkbox"/> Addition <input type="checkbox"/> Change of Occupancy <input type="checkbox"/> Historic Building	<input type="checkbox"/> Option 1: Prescriptive Compliance Method (Ch. 3, 5) <input type="checkbox"/> Alteration <input type="checkbox"/> Addition <input type="checkbox"/> Change of Occupancy <input type="checkbox"/> Historic Building	<input type="checkbox"/> Option 1: Prescriptive Compliance Method (Ch. 3, 5) <input type="checkbox"/> Alteration <input type="checkbox"/> Addition <input type="checkbox"/> Change of Occupancy <input type="checkbox"/> Historic Building
Aggregate area of building: SF			
Original Building Code and Edition (Applicable at the time of Construction)			
Existing Sprinkler System?	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Existing Fire Alarm System?	<input type="checkbox"/> Manual <input type="checkbox"/> Auto	<input type="checkbox"/> Manual <input type="checkbox"/> Auto	<input type="checkbox"/> Manual <input type="checkbox"/> Auto
Seismic Evaluation Required?	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO

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Form F3 - Building Code Analysis

EXISTING BUILDING CODE INFORMATION (SCEBC)

DESIGNATED AREAS OF BUILDING	Area 4	Area 5
Method of Compliance (Check only one Option and all items that apply under that Option)	<input type="checkbox"/> Option 1: Prescriptive Compliance Method (Ch. 3, 5) <input type="checkbox"/> Alteration <input type="checkbox"/> Addition <input type="checkbox"/> Change of Occupancy <input type="checkbox"/> Historic Building	<input type="checkbox"/> Option 1: Prescriptive Compliance Method (Ch. 3, 5) <input type="checkbox"/> Alteration <input type="checkbox"/> Addition <input type="checkbox"/> Change of Occupancy <input type="checkbox"/> Historic Building
Aggregate area of building: SF		
Original Building Code and Edition (Applicable at the time of Construction)		
Existing Sprinkler System?	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Existing Fire Alarm System?	<input type="checkbox"/> Manual <input type="checkbox"/> Auto	<input type="checkbox"/> Manual <input type="checkbox"/> Auto
Seismic Evaluation Required?	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO

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Form F3 - Building Code Analysis

SUMMARY - BUILDING DESIGN OCCUPANT LOAD

DESIGNATED AREAS OF BUILDING	Area 1	Area 2	Area 3	Area 4	Area 5
1 st FLOOR					
2 nd FLOOR					
3 rd FLOOR					
4 th FLOOR					
TOTAL:	0	0	0	0	0

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Form F3 - Building Code Analysis

ALLOWABLE BUILDING AREA

DESIGNATED AREAS OF BUILDING	Area 1	Area 2	Area 3	Area 4	Area 5
HEIGHT	DESIGNED	ALLOWED	DESIGNED	ALLOWED	DESIGNED
In Feet	Table 504.3				
In Stories	Table 504.4				

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Form F3 - Building Code Analysis

ALLOWABLE BUILDING AREA

DESIGNATED AREAS OF BUILDING	Area 1	Area 2	Area 3	Area 4	Area 5
HEIGHT	DESIGNED	ALLOWED	DESIGNED	ALLOWED	DESIGNED
In Feet	Table 504.3				
In Stories	Table 504.4				

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Form F3 - Building Code Analysis

ALLOWABLE BUILDING AREA

DESIGNATED AREAS OF BUILDING	Area 1	Area 2	Area 3	Area 4	Area 5
HEIGHT	DESIGNED	ALLOWED	DESIGNED	ALLOWED	DESIGNED
In Feet	Table 504.3				
In Stories	Table 504.4				

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Form F3 - Building Code Analysis

ALLOWABLE BUILDING AREA

DESIGNATED AREAS OF BUILDING	Area 1	Area 2	Area 3	Area 4	Area 5
HEIGHT	DESIGNED	ALLOWED	DESIGNED	ALLOWED	DESIGNED
In Feet	Table 504.3				
In Stories	Table 504.4				

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Form F3 - Building Code Analysis

GENERAL FIRE PROTECTION REQUIREMENTS

DESIGNATED AREAS OF BUILDING	Building Code	Area 1	Area 2	Area 3	Area 4	Area 5
Fire Wall Required	Section 706	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Fire Barrier Required	Section 707	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Fire Partition Required	Section 708	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Smoke Barriers Required	Section 709	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Smoke Partitions Required	Section 710	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Fireblocking	Section 711.2	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Door Latching	Section 711.3 & 711.4	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Incidental Use Area One hour fire barrier	Section 509.4	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Sprinkler system plus smoke resistance		<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO

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Form F3 - Building Code Analysis

OTHER FIRE AND LIFE SAFETY FEATURES

DESIGNATED AREAS OF BUILDING	Building Code	Area 1	Area 2	Area 3	Area 4	Area 5
Smoke Control System	Section 909	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Smoke & Heat Removal Required	Section 910	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Fire Department Connections	Section 912	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Carbon Monoxide Detectors	Section 915	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Gas Detection Systems	Section 916	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Emergency Responder Radio Coverage	Section 917	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Fire Apparatus Access and Water Line	Section 918 & 919	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
2-way Communication Required	Section 1009.8	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Area of Refuge (e.g. Separation, Two-Way Communication, and Egress)	Section 1009.6, 1009.8, 1009.10 & 1009.11	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Elevator Area for Ambulances (e.g. Separation, Operation, and Restrictions)	Section 1009.7	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Safe Disposal Area (Add others as needed)	Section 1028.5	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO

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Form F3 - Building Code Analysis

FIRE RESISTANCE RATING OF BUILDING ELEMENTS

DESIGNATED AREAS OF BUILDING	Building Code	Area 1	Area 2	Area 3	Area 4	Area 5
Primary Structural Frame	As Designed, Hrs Testing Agency & Design No.(U.L., FM, etc) Wall/Partition Key Code	Table 601				
Bearing Walls, Exterior	As Designed, Hrs Testing Agency & Design No.(U.L., FM, etc) Wall/Partition Key Code	Table 601				
Bearing Walls, Interior	As Designed, Hrs Testing Agency & Design No.(U.L., FM, etc) Wall/Partition Key Code	Table 601				
Nonbearing Walls and Partitions, Interior	As Designed, Hrs Testing Agency & Design No.(U.L., FM, etc) Wall/Partition Key Code	Table 601				

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Form F3 - Building Code Analysis

FIRE RESISTANCE RATING OF BUILDING ELEMENTS

DESIGNATED AREAS OF BUILDING	Building Code	Area 1	Area 2	Area 3	Area 4	Area 5
Nonbearing Walls and Partitions, Exterior	As Required, Hrs Testing Agency & Design No.(U.L., FM, etc) Wall/Partition Key Code	Table 602				
Floor Construction and associated secondary members	As Required, Hrs Testing Agency & Design No.(U.L., FM, etc) Wall/Partition Key Code	Table 601				
Roof Construction and associated secondary members	As Required, Hrs Testing Agency & Design No.(U.L., FM, etc) Wall/Partition Key Code	Table 601				
Fire Walls	As Designed, Hrs Testing Agency & Design No.(U.L., FM, etc) Wall/Partition Key Code	Section 706				

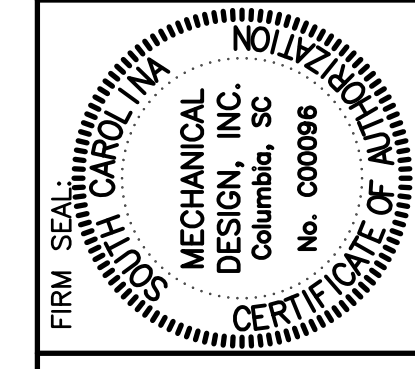
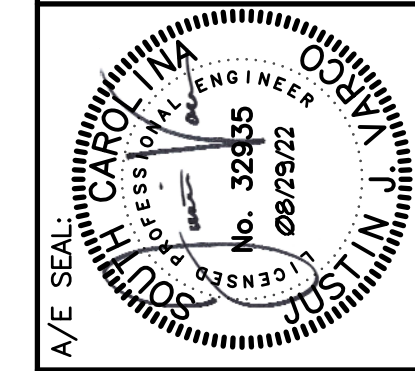
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REMARKS:

NO:

DATE:

ISSUED BY:



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 Columbia, S.C. 29210
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 (803) 731-9837 FAX
 CONTACT: JUSTIN VARCO
 COMM. NO. 213735

PROJECT TITLE:
 GREENWOOD SCHOOL DISTRICT 50
 MAYS ES - COOLING TOWER UPGRADES
 SHEET TITLE:
 CODE SHEET "FORM F3"
 SHEET NO.:
 CS01

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Form F3 – Building Code Analysis

FIRE RESISTANCE RATING OF BUILDING ELEMENTS

Designated Areas of Building	Building Code	Area 1	Area 2	Area 3	Area 4	Area 5
Fire Barriers	Section 707					
Fire Partitions	Section 708					
Smoke Barriers	Section 709					
Smoke Partitions	Section 710					

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Form F3 – Building Code Analysis

FIRE RESISTANCE RATING OF BUILDING ELEMENTS

Designated Areas of Building	Building Code	Area 1	Area 2	Area 3	Area 4	Area 5
Horizontal Assemblies	Section 711					
Shall Enclosures	Section 712 & 713					
Opening & Protective Listing by Category (for shutters, doors, etc.)	Section 716					
Others (as required by Designer)						

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Form F3 – Building Code Analysis

FLOOD HAZARD INFORMATION and FLOOD LOADS

ENERGY INFORMATION

INSULATION

Roof	Cavity	R
	Continuous	R
Walls	Driftly	R
	Continuous	R
Underlath		R
		R

GLAZING (each type)

Window to wall ratio	North	%
	East	%
	South	%
	West	%

Class Type

U Factor	SHG

Summary of data from approved ASHRAE 90.1 compliance sheets.

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Form F3 – Building Code Analysis

STRUCTURAL DESIGN INFORMATION, AREA

Building Code Table 1604.5	Area 1	Area 2	Area 3	Area 4	Area 5

OCCUPANCY CATEGORY

Area	PSF	PSF	PSF	PSF	PSF
Floor Live Load, F _a					
Roof Live Load, F _r					
Ground Snow Load, P _s					

MISCELLANEOUS LOADS BY SPECIAL USE AREA (ARCHITECTURAL, MECHANICAL, DATA CENTER, ETC.)

Area	PSF	PSF	PSF	PSF	PSF
ASCE 7					

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Form F3 – Building Code Analysis

SOILS & SITE

STRUCTURAL DESIGN INFORMATION, BUILDING

WIND LOADS

SEISMIC LOADS/EARTHQUAKE

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Form F3 – Building Code Analysis

STATEMENT OF SPECIAL INSPECTIONS

MATERIAL	TYPE OF INSPECTION	FREQUENCY	SPECIFICATION REFERENCE	INSPECTION BY
TOWER PIERS	CH-1 / I1	AS REQ'D	SPECIAL INSP.	THIRD-PARTY
ELECTRICAL	CH-1	AS REQ'D	SPECIAL INSP.	THIRD-PARTY

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Form F3 – Building Code Analysis

PLUMBING INFORMATION

WATER SYSTEM

SANITARY SEWER SYSTEM

SUMMARY OF FIXTURES (SCPC Section 403 & Table 403.1)

Water Closets	Male-Required	Female-Provided
Lavatories	Male-Required	Female-Provided
Shower	Male-Provided	Female-Provided
Drinking Fountain	Required	Provided
Family or Assisted-Use Toilet	Required	Provided
Service Sink	Required	Provided
Others (list)	Required	Provided

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Form F3 – Building Code Analysis

MECHANICAL INFORMATION

ELECTRICAL INFORMATION

OUTSIDE AIR NOT APPLICABLE

REPLACE EXST. COOLING TOWER

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Form F3 – Building Code Analysis

Occupancy Load and Fixture Count Worksheet

(Provide this table for new construction and addition/renovations with multiple occupancies)

Room Number	Classification/Description	Room Area	Area per Person	Number of Occupants	Male		
					WC	UR	LAV
700	Educational	1040	20	52	0.52		0.52
702	Educational	1887	20	94.35	0.9435		0.9435
803	Assembly - Place of worship	5000					
804	Assembly - Gym	50,000					
N/A	Assembly - Stadium & Bleacher						

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Form F3 – Building Code Analysis

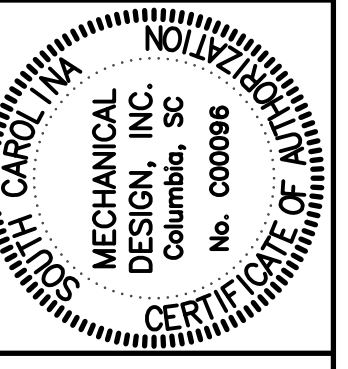
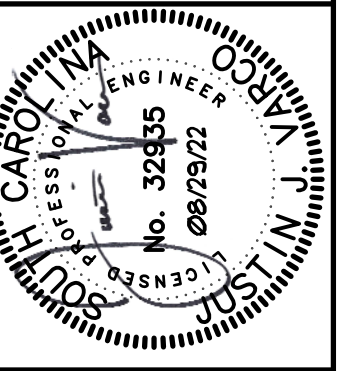
22 of 22 Version April 2021

DATE: _____

ISSUED BY: _____

REMARKS: _____

NO. _____



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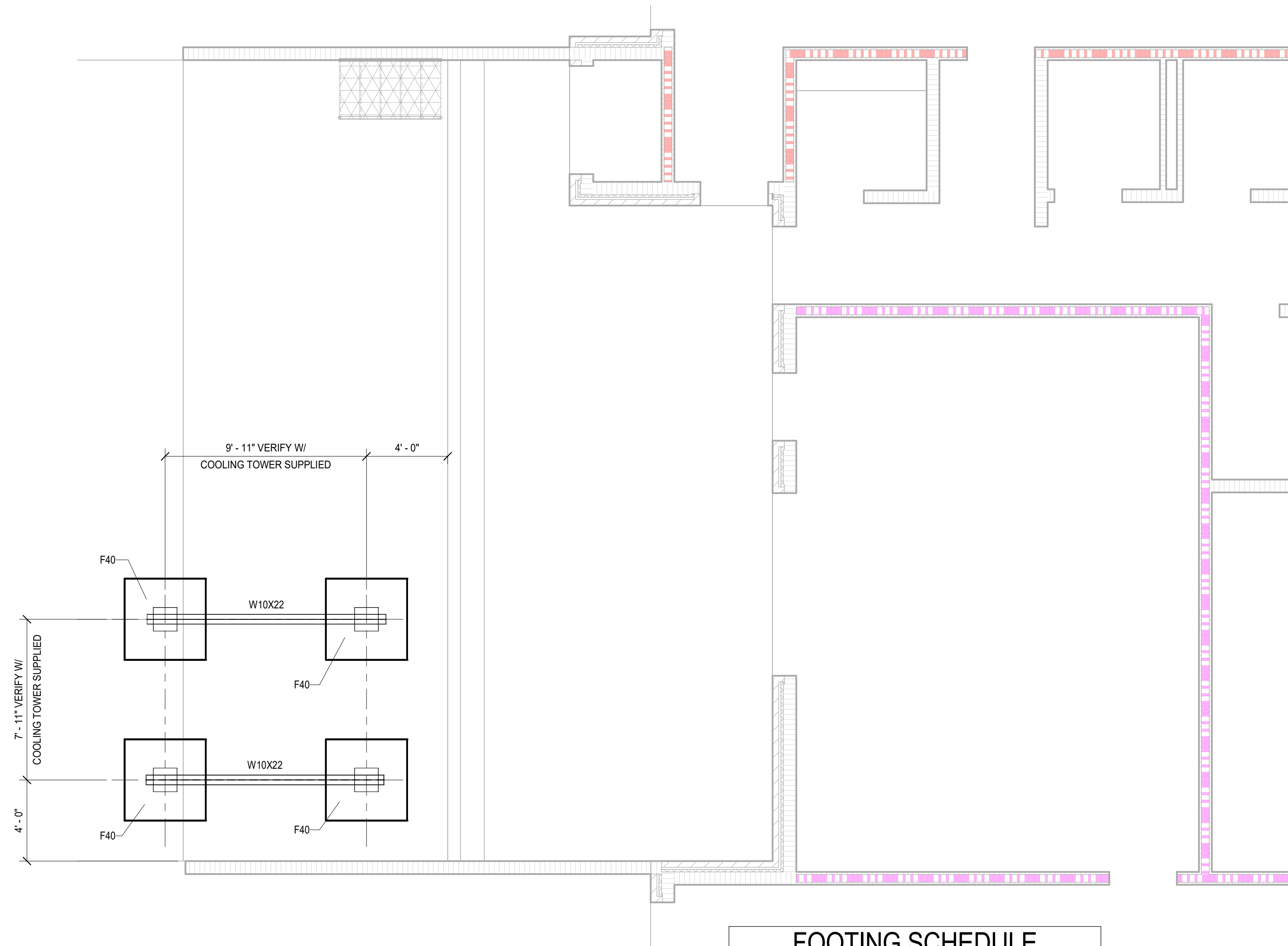
CONTACT: JUSTIN VARCO
COMM. NO. 213735

PROJECT TITLE:
GREENWOOD SCHOOL DISTRICT 50
MAYS ES - COOLING TOWER UPGRADES

SHEET TITLE:
CODE SHEET "FORM F3" CONTINUED

SHEET NO:
CS02

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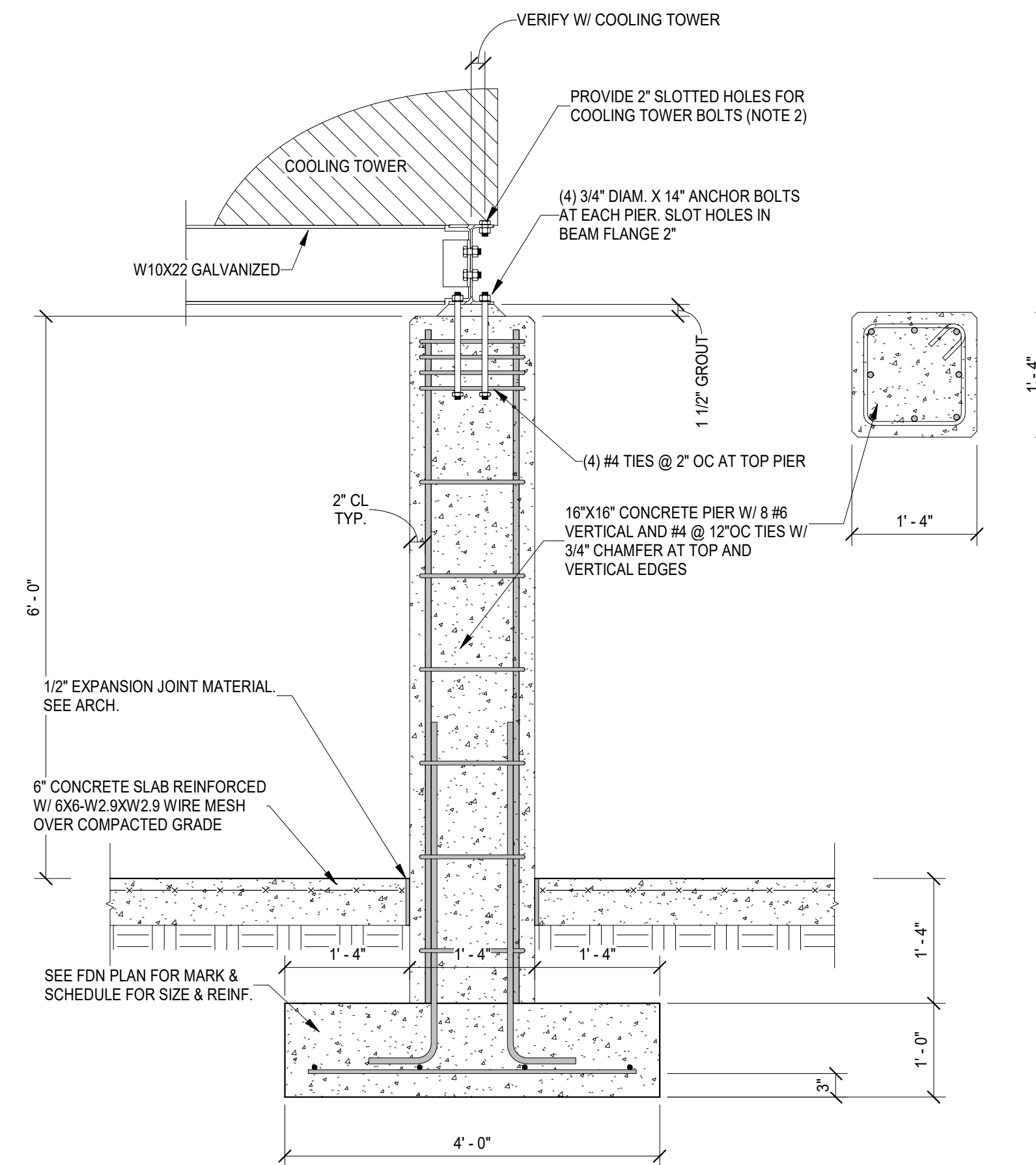


1 COOLING TOWER
S101 1/4" = 1'-0"

MARK	SIZE	THICKNESS	REINFORCING EACH WAY
F40	4'-0" X 4'-0"	12"	4 #5

CONCRETE POST-INSTALLED ANCHOR TABLE			
TYPE	MANUFACTURER	PRODUCT	DIAMETER/SIZE
SCREW ANCHOR	HILTI	KWIK HUS-EZ (KH-EZ)	1/4" TO 3/4"
	POWERS	WEDGE-BOLT+ w/ WEDGE BIT	3/8" TO 3/4"
ROD ANCHOR	SIMPSON	TITEN HD	3/8" TO 3/4"
	HILTI	KWIK HUS-EZ -1	3/8" TO 1/2"
	POWERS	VERTIGO + w/ WEDGE BIT	1/4" TO 1/2"
	SIMPSON	TITEN HD ROD HANGER	3/8", 1/2"
EXPANSION ANCHOR	HILTI	KWIK BOLT TZ	1/4" TO 1"
	POWERS	POWER-STUD + SD1	3/8" TO 1"
ADHESIVE ANCHOR	HILTI	HIT-HY 200 V3 SAFE SET	ALL THREAD ROD 3/8" TO 1 1/4"
			REBAR #3 TO #8
	HIT-RE 500 V3 SAFE SET	ALL THREAD ROD	3/8" TO 1 1/4"
		REBAR	#3 TO #10
	POWERS	PE1000+	ALL THREAD ROD 1/2" TO 7/8"
			REBAR #3 TO #7
SIMPSON	SET-3G	ALL THREAD ROD 3/8" TO 1 1/4"	
	AT-XP	ALL THREAD ROD 3/8" TO 1 1/4"	
		REBAR	#3 TO #10

- NOTES:
- THIS SELECTION TABLE SHALL BE USED WHEN ANCHOR RODS OR REBARS WITH ANCHOR ADHESIVE, EXPANSION ANCHORS OR SCREW ANCHORS ARE CALLED OUT ON THE DRAWINGS. THE ADHESIVES SHOWN SHALL ALSO BE USED WHERE THE TERM "EPOXY" IS USED ON THE STRUCTURAL DRAWINGS.
 - ADHESIVE ANCHORS HOLES SHALL BE CLEANED PER THE MANUFACTURER RECOMMENDATIONS INCLUDING USING A BRUSH AND 100 PSI MINIMUM OR THE MANUFACTURER'S REQUIRED COMPRESSED AIR.
 - ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. (MP11)
 - SCREW AND EXPANSION ANCHORS SHALL MEET THE EMBEDMENT DEPTHS AS SPECIFIED IN THE DRAWINGS BUT NOT LESS THAN THE MINIMUM OF 7 TIMES THE ANCHOR DIAMETER.
 - ADHESIVE ANCHORS SHALL MEET THE EMBEDMENT DEPTHS AS SPECIFIED IN THE DRAWINGS. IF NO EMBEDMENT IS SPECIFIED, EMBED 12 TIMES THE ANCHOR DIAMETER.
 - CONTACT THE ENGINEER OF RECORD FOR APPROVAL OF ANY OTHER ANCHOR TYPE OR DIAMETER PRIOR TO INSTALLATION.



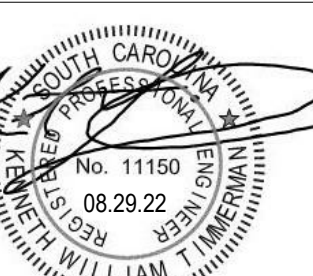
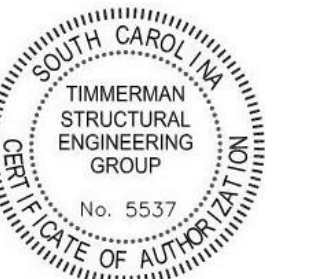
2 COOLING TOWER DETAIL
S101 3/4" = 1'-0"

- NOTES:
- ALL STEEL FOR COOLING TOWER SUPPORT SHALL BE HOT DIPPED GALVANIZED.
 - CONTRACTOR MUST VERIFY ALL DIMENSIONS WITH CERTIFIED COOLING TOWER DRAWINGS. DETERMINE DIMENSION BETWEEN PIERS BASED ON COOLING TOWER DIMENSIONS AND 2 3/4" FOR BOLT GAGE SHOWN ABOVE. COOLING TOWER MUST BE BOLTED TO OUTSIDE OF BEAM FLANGE AS SHOWN ABOVE. PROVIDE DIMENSIONS TO STEEL FABRICATOR FOR BOLT HOLES IN TOP FLANGES OF BEAMS.
 - PROVIDE RUBBED FINISH ON CONCRETE PIERS.

GENERAL NOTES

- IN CASE OF DISCREPANCY BETWEEN THE MECHANICAL AND STRUCTURAL DRAWINGS, CONSULT WITH THE MECHANICAL. FOR DIMENSIONS AND DETAILS NOT SHOWN, SEE THE MECHANICAL DRAWINGS. VERIFY ALL MECHANICAL OPENINGS AND SUPPORTS WITH THE MECHANICAL EQUIPMENT. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS RELATED TO EXISTING CONSTRUCTION.
- DESIGN CRITERIA
 - BUILDING CODE: 2018 INTERNATIONAL BUILDING CODE
 - RISK CATEGORY: III
 - SEISMIC DESIGN DATA:
 - IMPORTANCE FACTOR: 1.25
 - $S_s = 0.306$ $S_1 = 0.098$
 - $SD_0 = 0.317$ $SD_1 = 0.156$
 - ASSUMED SITE CLASS D, SEISMIC DESIGN CATEGORY C
 - ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE
 - WIND VELOCITY 120 MPH, EXPOSURE C, INTERNAL PRESSURE COEFFICIENT +/- 0.18. SEE DIAGRAM AND CHART AT LEFT FOR COMPONENTS AND CLADDING DESIGN PRESSURES.
 - GROUND SNOW LOAD: 10 PSF
- FOUNDATION DESIGN IS BASED ON THE ASSUMED ALLOWABLE BEARING PRESSURE LISTED BELOW. CONTRACTOR SHALL HIRE AN INDEPENDENT TESTING LABORATORY, ACCEPTABLE TO THE OWNER, TO VERIFY THE ALLOWABLE BEARING PRESSURE BEFORE FOOTINGS ARE CONSTRUCTED OR REINFORCING IS FABRICATED.
 - ASSUMED ALLOWABLE BEARING PRESSURE = 2500 PSF
 - STEP FOOTINGS AS REQUIRED TO LET UTILITIES PASS OVER FOOTINGS.
 - CONCRETE: 28-DAY COMPRESSIVE STRENGTHS SHALL BE AS FOLLOWS:
 - ALL CONCRETE: 4000 PSI, NORMAL WEIGHT
 - CONCRETE REINFORCING STEEL
 - ASTM A615, GRADE 60, EXCEPT WHERE REINFORCING IS SHOWN TO BE WELDED. USE ASTM A706 WELDABLE REINFORCING. DO NOT WELD OR TACK WELD ANY REINFORCING NOT SHOWN ON THE DRAWINGS TO BE WELDED.
 - DETAIL IN ACCORDANCE WITH ACI DETAILING MANUAL, LATEST EDITION.
 - LAP ALL BARS WITH CLASS B SPLICES UNLESS NOTED OTHERWISE.
 - PROVIDE CORNER BARS OF SAME SIZE AND SPACING AS HORIZONTAL REINFORCING AT ALL WALLS AND FOOTING INTERSECTIONS. LAP WITH CLASS B SPLICES.
- STRUCTURAL STEEL
 - MATERIALS:
 - PIPE: ASTM A53, GRADE B
 - TUBE: ASTM A500, GRADE C
 - WIDE FLANGES AND TEES: ASTM A992, GRADE 50
 - OTHER: ASTM A36
 - FABRICATION SHALL BE IN ACCORDANCE WITH AISC SPECIFICATIONS.
 - BOLTED CONNECTIONS: ASTM A325, 3/4" DIAMETER, SNUG-TIGHTENED, BEARING TYPE CONNECTIONS WITH THREADS IN THE SHEAR PLANE UNLESS NOTED OTHERWISE.
 - WELDED CONNECTIONS: E70XX ELECTRODES. ELECTRODES USED FOR WELDING A992 STEEL SHALL BE LOW HYDROGEN ELECTRODES.
- POST INSTALLED ANCHORS INSTALLED IN MASONRY OR HARDENED CONCRETE SHALL BE SHOWN IN THE TABLES ON S101.

NO.	REMARKS:	DATE:	ISSUED BY:



TSEG #22-543

4403 Broad River Road
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MECHANICAL DESIGN INC.

CONTACT: Justin Varco
COMM. NO. 221735

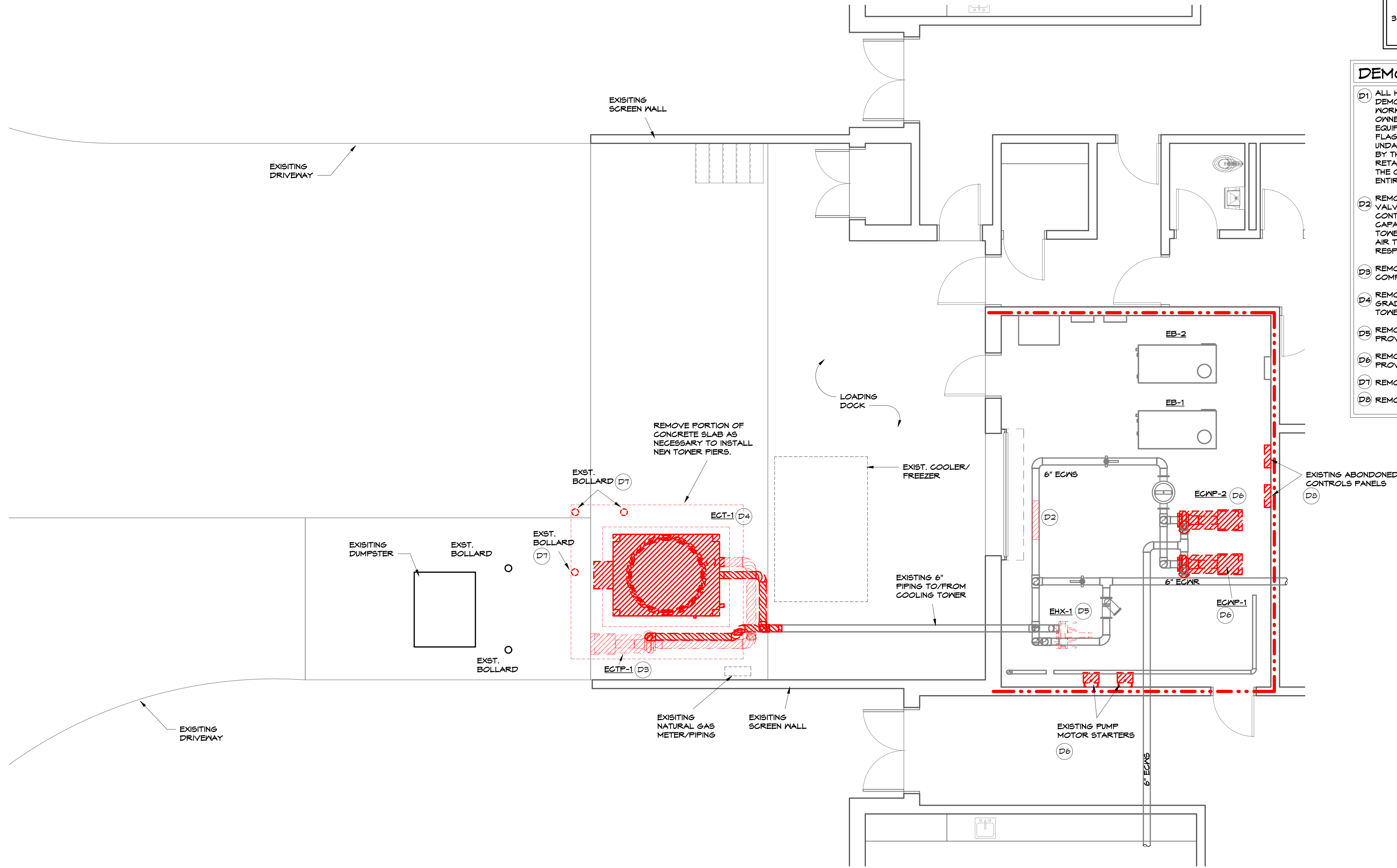
PROJECT TITLE:
GREENWOOD SCHOOL DISTRICT 50
MAYS ES - COOLING TOWER UPGRADES

SHEET TITLE:
STRUCTURAL PLANS AND DETAILS

SHEET NO.:

S101

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RATED WALL INDICATIONS	
	1 HOUR WALL
	2 HOUR WALL
	3 HOUR WALL
	SMOKE-RATED WALL SEALED TO DECK

NOTES:

1. VERIFY RATED FLOOR AND WALL ASSEMBLY TYPES AND LOCATIONS WITH ARCHITECTURAL FLOOR PLANS.
2. SEAL ALL DUCT AND PIPE PENETRATIONS THROUGH FLOORS AND SMOKE RATED WALL ASSEMBLIES WITH ANGLE AND CAULK.
3. PROVIDE UL RATED ASSEMBLIES ON ALL DUCT AND PIPE PENETRATIONS THROUGH RATED WALL AND FLOOR ASSEMBLIES.

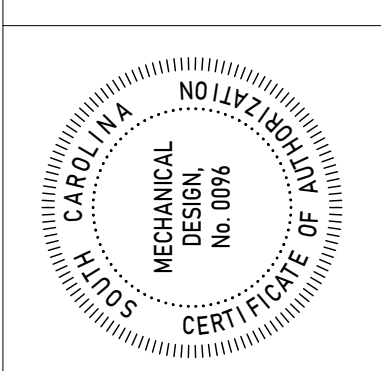
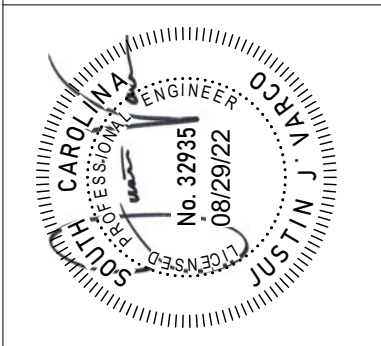
DEMOLITION NOTES

- D1** ALL HVAC MATERIAL AND EQUIPMENT REQUIRED TO BE DEMOLISHED OR MADE OBSOLETE BY THE SCOPE OF THIS WORK SHALL BE REMOVED FROM THE WORK SPACE. THE OWNER HAS THE FIRST RIGHT TO REFUSAL FOR ALL EQUIPMENT AND MATERIAL OF VALUE. TURN OVER ANY ITEMS FLAGGED BY THE OWNER TO KEEP AND DELIVER UNHARMAGED TO THE LOCATION ON SITE WHERE DIRECTED BY THE OWNER. ALL OTHER DEMOLISHED ITEMS NOT RETAINED BY THE OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE REMOVED FROM THE SITE IN ITS ENTIRETY.
- D2** REMOVE SECTION OF PIPE AS NEEDED AND PROVIDE NEW 6" VALVES FOR CONNECTION OF A TEMPORARY CHILLER. CONTRACTOR SHALL PROVIDE A MINIMUM OF 100 TONS OF CAPACITY WITH A RENTAL CHILLER DURING ALL PERIODS THE TOWER/HEAT EXCHANGER ARE DOWN AND THE OUTDOOR AIR TEMP IS HIGHER THAN 60F. RENTAL COMPANY SHALL BE RESPONSIBLE FOR TEMPORARY HOSES AND POWER WIRING.
- D3** REMOVE AND REPLACE EXISTING COOLING TOWER PUMP COMPLETE. PROVIDE NEW PUMP AND PIPING AS INDICATED.
- D4** REMOVE AND REPLACE EXISTING COOLING TOWER FROM GRADE LEVEL TO NEW COOLING PIERS. PROVIDE NEW TOWER AND PIPING AS INDICATED.
- D5** REMOVE AND REPLACE EXISTING HEAT EXCHANGER. PROVIDE NEW AS INDICATED.
- D6** REMOVE CONDENSER WATER PUMP AND MOTOR STARTERS. PROVIDE NEW PUMPS, VFD'S, AND CONTROLS.
- D7** REMOVE EXISTING BOLLARDS AND CONCRETE SLAB.
- D8** REMOVE ABANDONED CONTROLS CABINETS AND WIRING.

HVAC DEMOLITION FLOOR PLAN
1/4" = 1'-0"

NO.	REMARKS:	DATE:	ISSUED BY:

50 GREENWOOD SCHOOL DISTRICT 50



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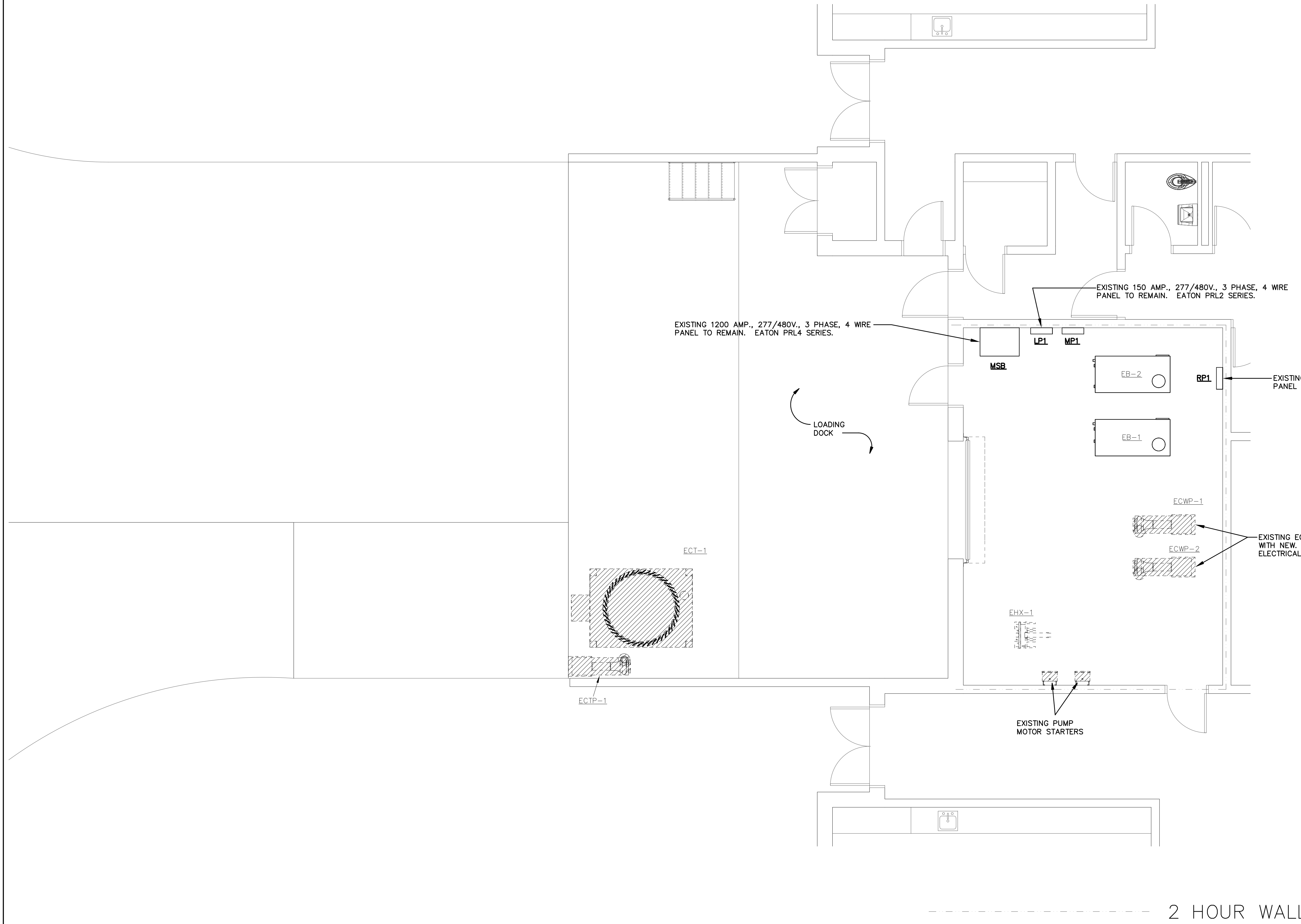
PROJECT TITLE:
**GREENWOOD SCHOOL DISTRICT 50
MAYS ES - COOLING TOWER UPGRADES**

SHEET TITLE:
HVAC DEMO FLOOR PLAN

SHEET NO.:

M001

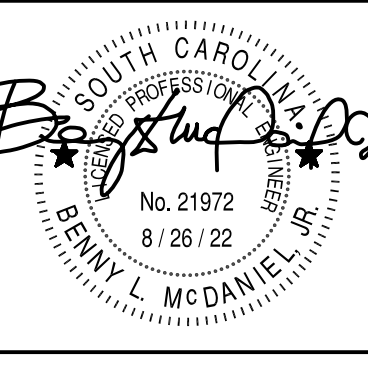
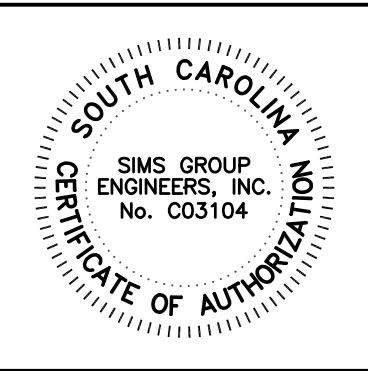
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- ELECTRICAL DEMOLITION NOTES**
- A. IT IS THE GENERAL INTENTION OF THESE DRAWINGS TO COVER ALL SITUATIONS WHERE AN ITEM IS TO BE REMOVED, WHETHER IT HAPPENS TO BE A LIGHT FIXTURE, DUPLEX RECEPTACLE, LIGHT SWITCH, FIRE ALARM DEVICE, OR OTHER ELECTRICAL ITEM. THE ELECTRICAL CONTRACTOR SHALL ASSIST THE MECHANICAL AND GENERAL CONTRACTORS IN REMOVAL OF EQUIPMENT WITH ELECTRICAL CONNECTIONS BEING REMOVED BY THESE CONTRACTORS.
 - B. PRIOR TO SUBMITTING BID, THE CONTRACTOR SHALL SURVEY THE EXISTING BUILDING AND MAKE NOTE OF ANY ADDITIONAL DEMOLITION AND/OR ANY ADDITIONAL REMOVAL AND RELOCATION WHICH MAY BE REQ'D IN ORDER TO ACCOMPLISH RENOVATIONS INDICATED IN CONTRACT DOCUMENTS. NO CHANGE ORDER WILL BE ISSUED FOR ADDITIONAL WORK REQUIRED FOR DEMOLITION, REMOVAL, OR RELOCATION WORK NOT INDICATED ON THESE DRAWINGS BUT NECESSARY TO COMPLETE WORK.
 - C. IN ALL AREAS WHERE EXISTING WALLS ARE BEING REMOVED, NEW WALLS ARE BEING ADDED, AND WHERE OTHER DEMOLITION WORK IS OCCURRING, REMOVE ALL EXISTING RECEPTACLES, LIGHTS, AND OTHER ELECTRICAL DEVICES, AND ALL WIRING AND CONDUIT NOT BEING REUSED. EXISTING CONDUIT RUN CONCEALED IN EXISTING WALLS NOT BEING REMOVED AND/OR REPLACED MAY BE ABANDONED. ALL DEMOLITION MUST BE COORDINATED WITH THE ARCHITECT AND WITH ALL OTHER TRADES TO AVOID CONFLICTS. REFER TO THE ARCHITECTURAL DEMOLITION PLAN.
 - D. NO EXISTING ELECTRICAL MATERIALS, EQUIPMENT, WIRING, OR CONDUIT BEING REMOVED MAY BE REUSED ON THIS PROJECT UNLESS SPECIFICALLY NOTED OTHERWISE ON THESE DRAWINGS. ALL EXISTING ELECTRICAL MATERIALS AND EQUIPMENT NOT BEING REUSED SHALL BE DISPOSED OF AS INDICATED IN GENERAL NOTES.

1 ELECTRICAL DEMOLITION PLAN
SCALE: 1/4"=1'-0"

NO.	REMARKS:	DATE:	ISSUED BY:



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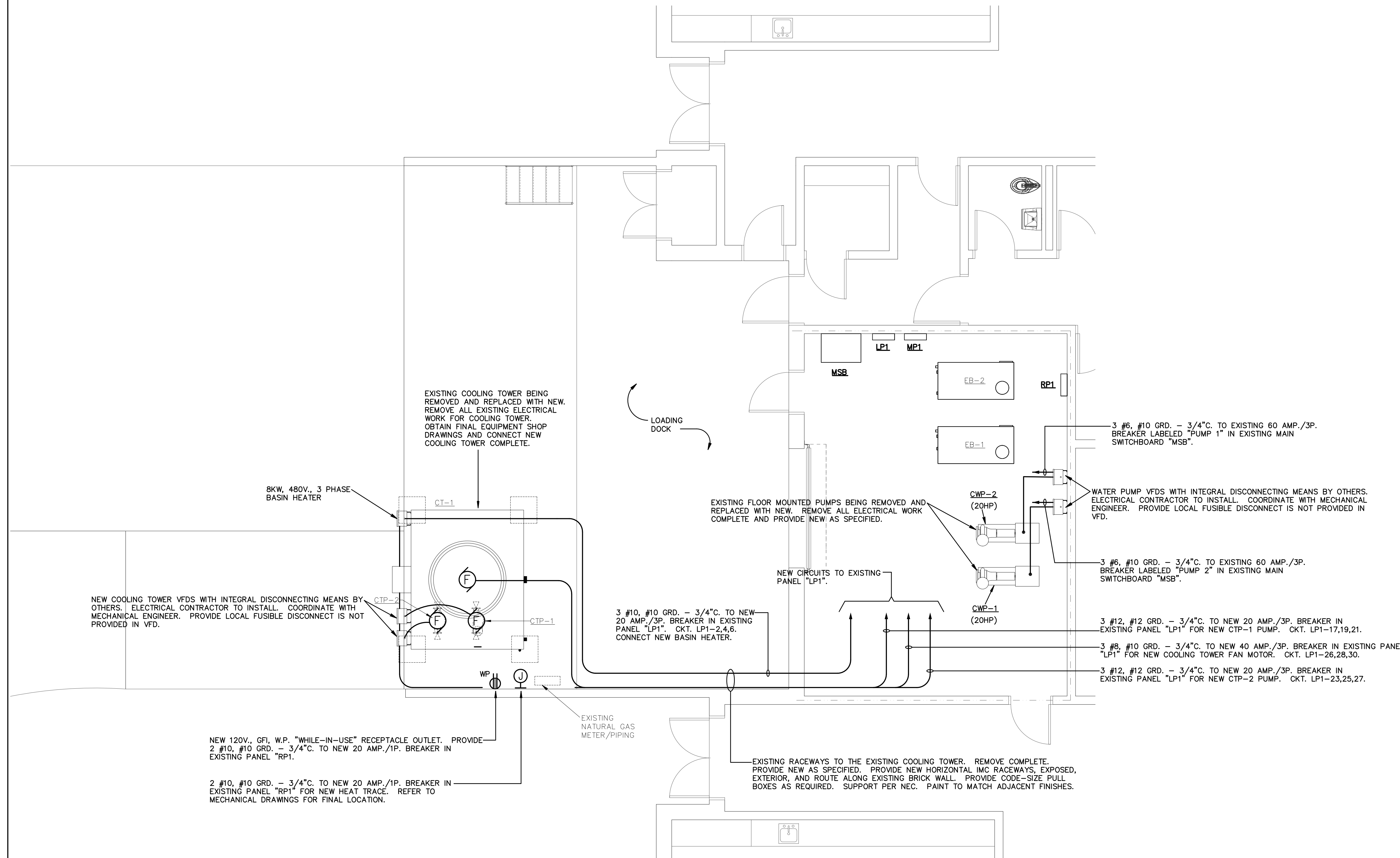
PROJECT TITLE:
**GREENWOOD SCHOOL DISTRICT 50
MAYS ES - COOLING TOWER UPGRADES**

SHEET TITLE:
ELECTRICAL DEMOLITION PLAN

SHEET NO:
E101

SHEET 1 OF 3

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EXISTING COOLING TOWER BEING REMOVED AND REPLACED WITH NEW. REMOVE ALL EXISTING ELECTRICAL WORK FOR COOLING TOWER. OBTAIN FINAL EQUIPMENT SHOP DRAWINGS AND CONNECT NEW COOLING TOWER COMPLETE.

8KW, 480V, 3 PHASE BASIN HEATER

NEW COOLING TOWER VFDs WITH INTEGRAL DISCONNECTING MEANS BY OTHERS. ELECTRICAL CONTRACTOR TO INSTALL. COORDINATE WITH MECHANICAL ENGINEER. PROVIDE LOCAL FUSIBLE DISCONNECT IS NOT PROVIDED IN VFD.

NEW 120V, GFI, W.P. "WHILE-IN-USE" RECEPTACLE OUTLET. PROVIDE 2 #10, #10 GRD. - 3/4\"C. TO NEW 20 AMP./1P. BREAKER IN EXISTING PANEL "RP1".

2 #10, #10 GRD. - 3/4\"C. TO NEW 20 AMP./1P. BREAKER IN EXISTING PANEL "RP1" FOR NEW HEAT TRACE. REFER TO MECHANICAL DRAWINGS FOR FINAL LOCATION.

3 #10, #10 GRD. - 3/4\"C. TO NEW 20 AMP./3P. BREAKER IN EXISTING PANEL "LP1". CKT. LP1-2,4,6. CONNECT NEW BASIN HEATER.

EXISTING FLOOR MOUNTED PUMPS BEING REMOVED AND REPLACED WITH NEW. REMOVE ALL ELECTRICAL WORK COMPLETE AND PROVIDE NEW AS SPECIFIED.

NEW CIRCUITS TO EXISTING PANEL "LP1".

EXISTING RACEWAYS TO THE EXISTING COOLING TOWER. REMOVE COMPLETE. PROVIDE NEW AS SPECIFIED. PROVIDE NEW HORIZONTAL IMC RACEWAYS, EXPOSED, EXTERIOR, AND ROUTE ALONG EXISTING BRICK WALL. PROVIDE CODE-SIZE PULL BOXES AS REQUIRED. SUPPORT PER NEC. PAINT TO MATCH ADJACENT FINISHES.

3 #6, #10 GRD. - 3/4\"C. TO EXISTING 60 AMP./3P. BREAKER LABELED "PUMP 1" IN EXISTING MAIN SWITCHBOARD "MSB".

WATER PUMP VFDs WITH INTEGRAL DISCONNECTING MEANS BY OTHERS. ELECTRICAL CONTRACTOR TO INSTALL. COORDINATE WITH MECHANICAL ENGINEER. PROVIDE LOCAL FUSIBLE DISCONNECT IS NOT PROVIDED IN VFD.

3 #6, #10 GRD. - 3/4\"C. TO EXISTING 60 AMP./3P. BREAKER LABELED "PUMP 2" IN EXISTING MAIN SWITCHBOARD "MSB".

3 #12, #12 GRD. - 3/4\"C. TO NEW 20 AMP./3P. BREAKER IN EXISTING PANEL "LP1" FOR NEW CTP-1 PUMP. CKT. LP1-17,19,21.

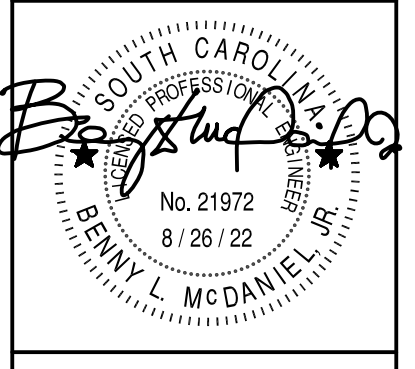
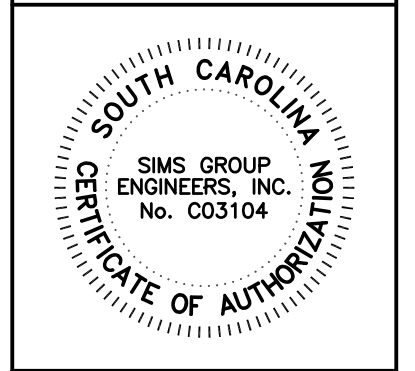
3 #8, #10 GRD. - 3/4\"C. TO NEW 40 AMP./3P. BREAKER IN EXISTING PANEL "LP1" FOR NEW COOLING TOWER FAN MOTOR. CKT. LP1-26,28,30.

3 #12, #12 GRD. - 3/4\"C. TO NEW 20 AMP./3P. BREAKER IN EXISTING PANEL "LP1" FOR NEW CTP-2 PUMP. CKT. LP1-23,25,27.

2 HOUR WALL

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

NO.	REMARKS:	DATE:	ISSUED BY:



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PROJECT TITLE:
**GREENWOOD SCHOOL DISTRICT 50
MAYS ES - COOLING TOWER UPGRADES**

SHEET TITLE:
ELECTRICAL PLAN

SHEET NO:
E102

SHEET 2 OF 3

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MSB (EXISTING)							
ROOM		VOLTS 480Y/277V 3P 4W		AIC EXISTING			
MOUNTING FLOOR		BUS AMPS 1200		MAIN BKR 1200			
FED FROM UTILITY		NEUTRAL 100%		LUGS STANDARD			
NOTE EXISTING EATON PRL4 SERIES MAIN SWITCHBOARD							
CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	225/3	0.00	EXISTING CIRCUIT	a 2	225/3	0.00	EXISTING CIRCUIT
3				b 4			
5				c 6			
7	70/3	0.00	PANEL RP1 VIA XFMR	a 8	100/3	0.00	EXISTING SPARE
9				b 10			
11				c 12			
13	100/3	0.00	EXISTING SPARE	a 14	150/3	0.00	PANEL LP1
15				b 16			
17				c 18			
19	150/3	0.00	PANEL LP2	a 20	150/3	0.00	PANEL LP3
21				b 22			
23				c 24			
25	60/3	0.00	PUMP 1	a 26	60/3	0.00	PUMP 2
27				b 28			
29				c 30			
31	200/3	0.00	PANEL MP3A	a 32	200/3	0.00	PANEL MP2
33				b 34			
35				c 36			
37	250/3	0.00	PANEL MP1	a 38	250/3	0.00	EXISTING CIRCUIT
39				b 40			
41				c 42			
43	600/3	0.00	EXISTING CIRCUIT	a 44	-/3	0.00	SUB-FEED
45				b 46			
47				c 48			

CONN KVA	CALC KVA	CALC KVA
		TOTAL LOAD
		BALANCED 3-PHASE LOAD
		PHASE A
		PHASE B
		PHASE C

EXISTING MAIN SWITCHBOARD LOAD DATA: MAXIMUM KVA DEMAND AT 332 KVA PER LOCAL POWER UTILITY COMPANY. (GREENWOOD CPW)

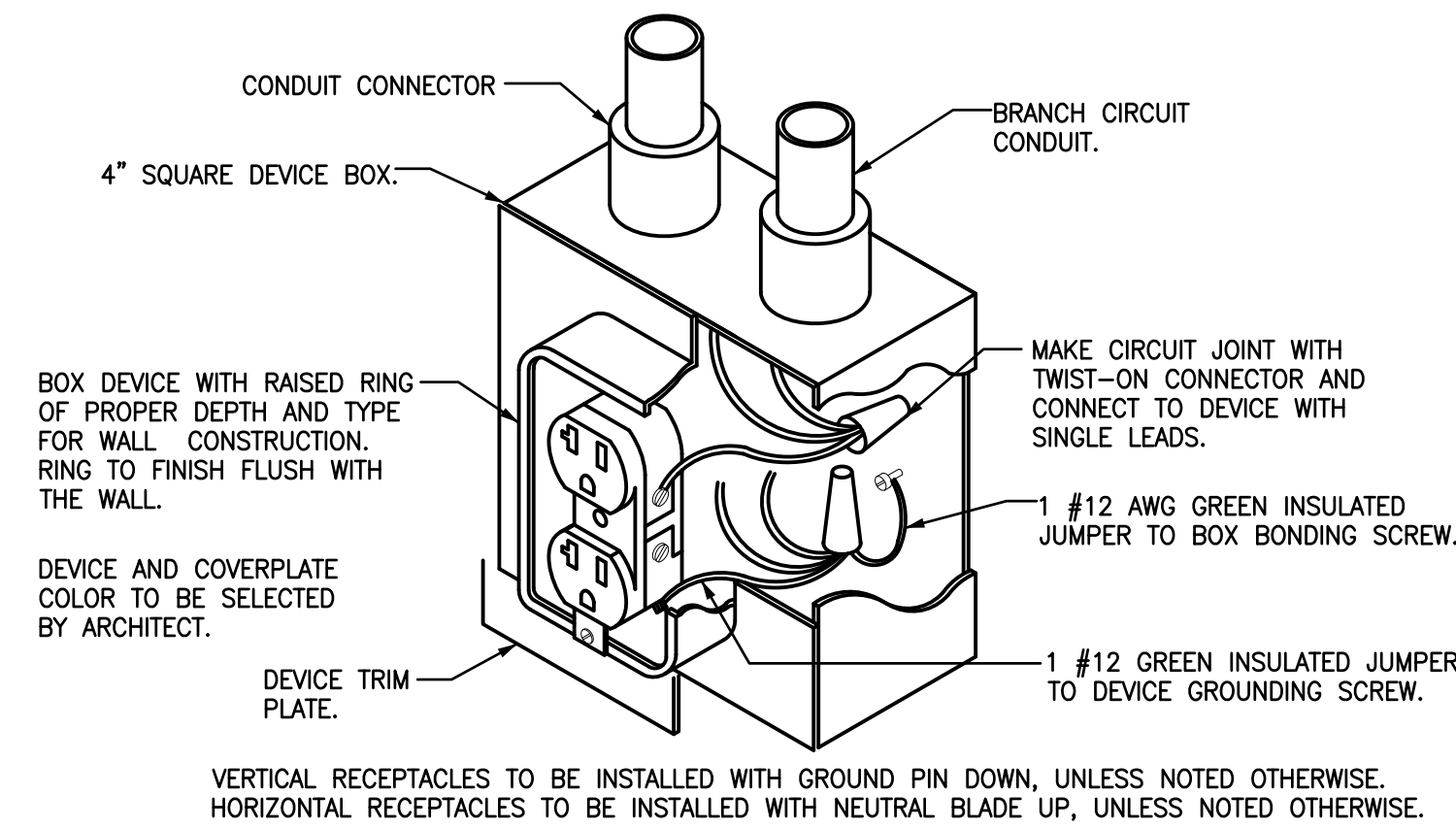
LP1 (EXISTING)							
ROOM		VOLTS 480Y/277V 3P 4W		AIC EXISTING			
MOUNTING SURFACE		BUS AMPS 225		MAIN BKR MLO			
FED FROM UTILITY		NEUTRAL 100%		LUGS STANDARD			
NOTE EXISTING EATON PRL2 SERIES PANEL							
CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION	CKT #	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
1	20/1	0.00	SPARE	a 2	20/3	8.00	NEW CT-1 BASIN HEATER
3	20/1	0.00	SPARE	b 4			
5	20/1	0.00	SPARE	c 6			
7	20/1	4.00	EXISTING LTG (ESTIMATED)	a 8	20/1	4.00	EXISTING LTG (ESTIMATED)
9	20/1	4.00	EXISTING LTG (ESTIMATED)	b 10	20/1	4.00	EXISTING LTG (ESTIMATED)
11	20/1	4.00	EXISTING LTG (ESTIMATED)	c 12	20/1	4.00	EXISTING LTG (ESTIMATED)
13	20/1	4.00	EXISTING LTG (ESTIMATED)	a 14	20/1	4.00	EXISTING LTG (ESTIMATED)
15	20/1	4.00	EXISTING LTG (ESTIMATED)	b 16	20/1	0.00	SPARE
17	20/3	7.50	NEW CTP-1 PUMP	c 18	20/1	4.00	EXISTING LTG (ESTIMATED)
19				a 20	20/1	0.00	SPARE
21				b 22	20/1	0.00	SPARE
23	20/3	7.50	NEW CTP-2 PUMP	c 24	20/1	0.00	SPARE
25				a 26	40/3	15.00	NEW COOLING TOWER FAN
27				b 28			
29	20/1	0.00	EXISTING SPACE	c 30			

CONN KVA	CALC KVA	CALC KVA
LIGHTING	40.00	50.00 (125%)
CONTINUOUS	38.00	47.50 (125%)
		TOTAL LOAD
		BALANCED 3-PHASE LOAD
		PHASE A
		PHASE B
		PHASE C

PROVIDE NEW BREAKER, WIRING, AND CONDUIT FOR NEW CIRCUITS AS SPECIFIED.

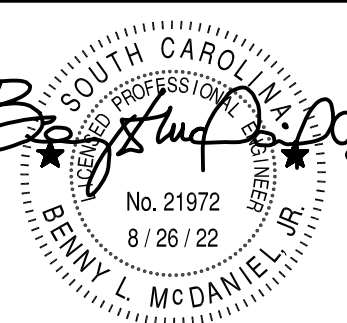
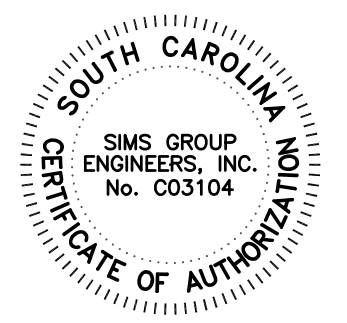
RECESSED BOXES IN MASONRY WALLS: SAW-CUT OPENING FOR BOX IN CENTER OF CELL OF MASONRY BLOCK, AND INSTALL BOX FLUSH WITH SURFACE OF WALL.

RECESSED BOXES IN STUD WALLS: SUPPORT BOXES FROM MORE THAN ONE SIDE BY SPANNING TWO FRAMING MEMBERS OR MOUNTING ON BRACKETS SPECIFICALLY DESIGNED FOR THE PURPOSE. BOX BRACKETS RELIANT ON SUPPORT LEGS PRESSED AGAINST BACK OF OPPOSING WALL ARE NOT ACCEPTABLE.



1 TYPICAL DUPLEX RECEPTACLE INSTALLATION
NOT TO SCALE

DATE:	ISSUED BY:
REMARKS:	
TNO:	



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PROJECT TITLE:
**GREENWOOD SCHOOL DISTRICT 50
MAYS ES - COOLING TOWER UPGRADES**

SHEET TITLE:
ELECTRICAL SCHEDULES AND DETAILS

SHEET NO:
E103
SHEET 3 OF 3