

Lander University Cooling Tower Pumps & Piping Relocation

1. Scope:

The cooling tower condenser water loop developed a severe water leak under the concrete of the dock and the mechanical yard. The leaking water made its way back into the building. Temporary measures have been put in place to keep the building HVAC operational, rendering the underground piping no longer in use. Temporary piping has been put in place, across the concrete mechanical yard, to restore the condenser water loop.

This project will provide new, insulated, welded, overhead black steel condenser loop water piping, relocate the existing cooling tower electric motors and pumps, provide electrical service, as well as provide new controls. Measures will be implemented to cap and abandon the existing under-ground condenser water loop piping.

Lander University has contracted with Peritus Engineers & Associates and Burdette Engineering to develop project drawings to complete the project scope. Please refer to Mechanical Drawings T-1, DM-1, M-1, M-2, and Electrical Drawings E-1, E-2, ED-1 for project scope, details, and notes.

Due to the summer season timing of this project, and the scheduled occupancy of the building, the tie-in scope of work will have to be coordinated with the university. The tie-in will have to occur during building vacancy, to include a possible weekend.

Contractor to be issued a daily "Burn Permit" prior to attempting any welding. Contractor to assess all field conditions where the welding is to take place and is responsible for implementing all safeguards to prevent the possibility of any ignition of a nearby flammable material.

2. Bid Structure:

Base Bid:

Provide equipment, materials, and labor to complete the project scope as defined in the project drawings and specifications:

Mechanical Drawings T-1, DM-1, M-1, M-2

Electrical Drawings E-1, E-2, ED-1

3. Design Engineers:

Mr. Jody Parker

Peritus Engineers & Associates

P.O. Box 16598

Greenville, South Carolina 29606

864-277-8287

864-277-8290 (Fax)

10 E. Dorchester Blvd.

Greenville, South Carolina 29605

Mr. Don Burdette
Burdette Engineering, Inc.
bei@burdetteengr.com
200 Regent Park Court
Greenville, SC 29607
Phone (864) 297-8717
Fax (864) 297-8719

4. Lander University Department of Engineering Services:

Mr. Jeff Beaver
320 Stanley Ave. (US Mail) / 204 West Henrietta Ave. (shipping)
Greenwood, SC 29649
(864) 388-8208
jbeaver@lander.edu

5. Project Location:

Lander University Campus (see page 4 map)

6. Inspections:

Lander University will be providing a State Approved, 3rd Party Inspection Firm to perform the necessary construction inspections, to include welding. The 3rd Party Special Inspection Firm will provide the final judgement on quality assurance for acceptable welds.

The welding piping system will undergo a 24 hour pressure test, to ensure zero loss of pressure.

The owner and/or representatives of the Peritus Engineers or Burdette Engineering reserves the right to make spot checks throughout the duration of the project. The owner and/or representatives of the Peritus Engineers and Burdette Engineering possess the authority to stop the project.

7. Project Timeline:

Lander University's intent is to award the project to the most Responsive, Responsible, and Insured contractor. Due to the expected value of this project, the State Procurement Code Mandatory 7 Business Day Protest Period will be observed, following the bid opening and posting of Intent to Award. The project may commence as soon as possible thereafter.

The completion date is no later than the close of business on Friday, July 29, 2022.

If there are documented material supply-chain issues, Lander University will compensate for project contract time.

8. Pre-Bid Meeting:

The Pre-Bid meeting is scheduled for Wednesday, June 01, 2022 at 10 am.

Location: Facility Operations Building
2nd Floor Conf. Room
204 West Henrietta Ave.
Greenwood, SC 29649

However, contractors are welcomed to contact the Lander University project manager for a site visit / walk-through contact for a site visit, before or after the Pre-Bid Meeting.

9. Standard Operating Procedures:

- a. Primary contractor and sub-contractors will be properly licensed for the type of work and the value of the work. Lander University will verify with LLR the licensing qualifications before work is awarded
- b. Primary contractor and sub-contractors will be properly insured for the type of work and the value of the work. Lander University will verify insurance before work is awarded
- c. Primary contractor and sub-contractors are required to be properly licensed with the City Of Greenwood.
- d. Contractor to coordinate with the Lander University Project Manager for issues such as start date, daily schedule, weekend work.
- e. Contractor responsible for enlarging the project documents.
- f. Contractor has the responsibility to provide waste containers and ensure the proper disposal for all waste generated.
- g. Lander University has a zero tolerance standard for allegation that contractor personnel acted in ways considered un-becoming to the university, have partaken in activity including, but not limited to, harassment, intimidation, cat-calling, threatened, and/or undertaken an unwelcomed approach towards university faculty, staff, students, and camp attendees.
- h. Lander University is a tobacco product free campus. The university project manager will handle violations.
- i. Contractor is responsible for providing an on-site facility for restroom use, if needed.
- j. Contractor is responsible for maintaining a clean project site throughout the project and once the work is complete.
- k. Lander University's project manager, design engineer and the contractor superintendent will walk the project site together, prior to acceptance by the owner.
- l. The contractor is responsible for resolving all punch-list items, prior to the university making the final payment.
- m. The Lander University Police Department is empowered to enforce state law on the university campus. Any violators of state law will be handled accordingly.

10. Technical Specifications

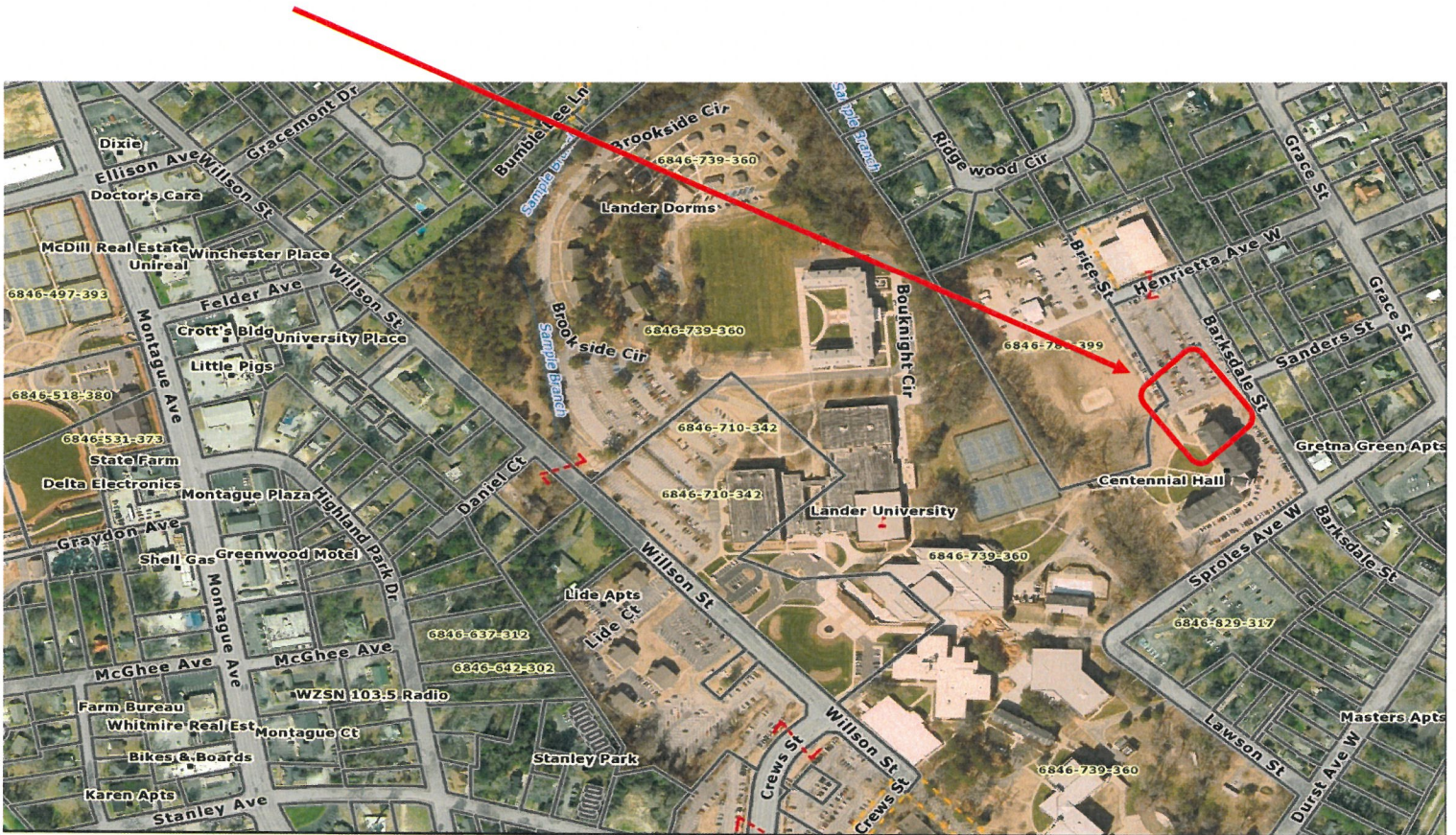
Engineering Technical Specifications are included on the project drawings.

11. Project Documents

- a. Mechanical Drawings T-1, DM-1, M-1, M-2
- b. Electrical Drawings E-1, E-2, ED-1
- c. Project Narrative (this document)

12. Project Location

Lander University Campus
Centennial Hall
202 West Sproles Avenue
Greenwood, SC 29649



CENTENNIAL HALL COOLING TOWER PUMPS & PIPING RELOCATION

Lander University

320 STANLEY AVENUE
GREENWOOD, SOUTH CAROLINA, 29649
Delivery Order No. P014-001

DESIGN TEAM

OWNER

LANDER UNIVERSITY
320 STANLEY AVENUE
GREENWOOD, SC 29649 (864) 388-8000

MECHANICAL (HVAC) ENGINEER

PERITUS ENGINEERS & ASSOCIATES, INC.
10 E. DORCHESTER BLVD.
GREENVILLE, SC 29605 (864) 277-8287
JODY PARKER, P.E.

ELECTRICAL ENGINEER

BURDETTE ENGINEERING, INC.
102 PILGRIM ROAD
GREENVILLE, SC 29607 (864) 297-8717
DON BURDETTE, P.E.



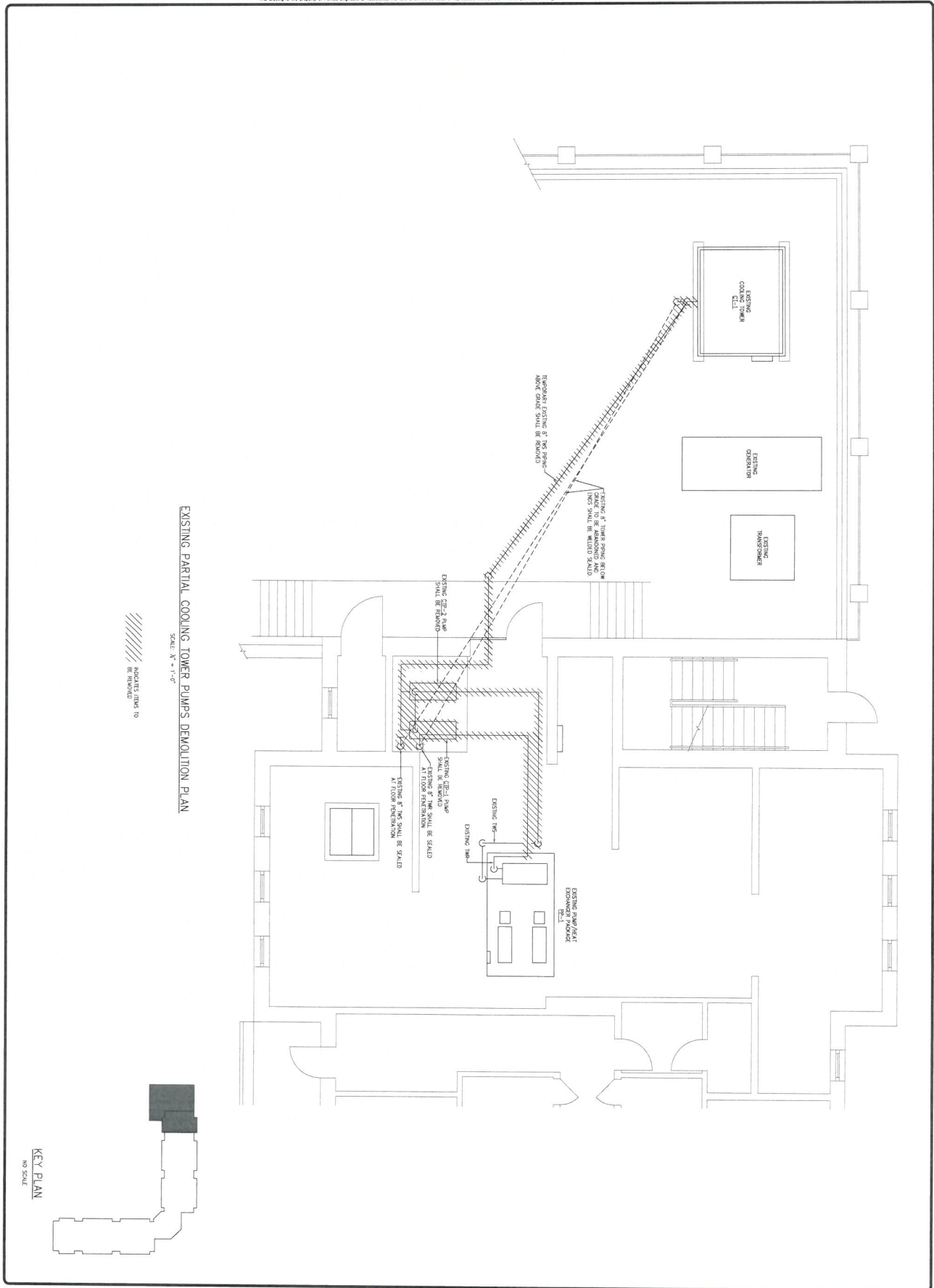
PROJECT SITE

VICINITY MAP

INDEX OF DRAWINGS

DWG. #	SHEET TITLE
T-1	PROJECT TITLE SHEET
MECHANICAL DRAWINGS	
DM-1	EXISTING PARTIAL COOLING TOWER PUMPS DEMOLITION PLAN
M-1	NEW PARTIAL COOLING TOWER PUMPS PLAN
M-2	SCHEDULES AND DETAILS
ELECTRICAL DRAWINGS	
ED-1	ELECTRICAL DEMOLITION PLAN
E-1	ELECTRICAL LEGEND AND SCHEDULES
E-2	ELECTRICAL POWER PLAN

1 OF 3 SHEETS T-1	Delivery Order No. P014-001				NO. 4-14-22		SEM	ISSUE FOR PRICING
	DATE				BY	DESCRIPTION		
	REVISIONS							
	PROJECT TITLE SHEET							

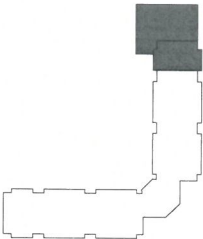


EXISTING PARTIAL COOLING TOWER PUMPS DEMOLITION PLAN

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

/// INDICATES ITEMS TO BE REMOVED

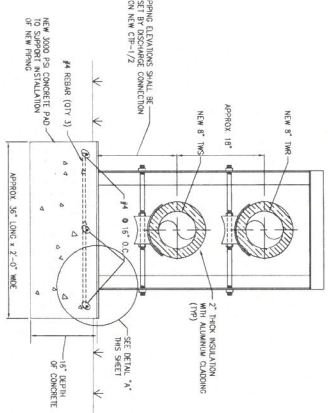
KEY PLAN



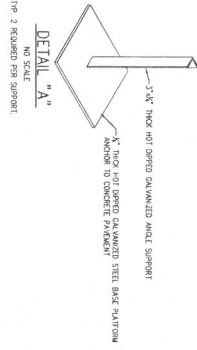
DM-1 1" = 1'-0"	Delivery Order No. P014-001 Cooling Tower Pumps & Piping Relocation CENTENNIAL HALL - LANDER UNIVERSITY Greenwood, South Carolina	 PERITUS ENGINEERS & ASSOCIATES, INC. SIGNED IN THE ART OF ENGINEERING 2022 PERITUS ENGINEERS & ASSOCIATES, INC.		NO. 4-14-22 DATE BY SEM		ISSUE FOR PRICING
	NO. 4-14-22 DATE BY SEM			DESCRIPTION		
	NO. 4-14-22 DATE BY SEM			REVISIONS		
	NO. 4-14-22 DATE BY SEM			REVISIONS		

TOWER WATER PIPING SUPPORT DETAIL

NO SCALE



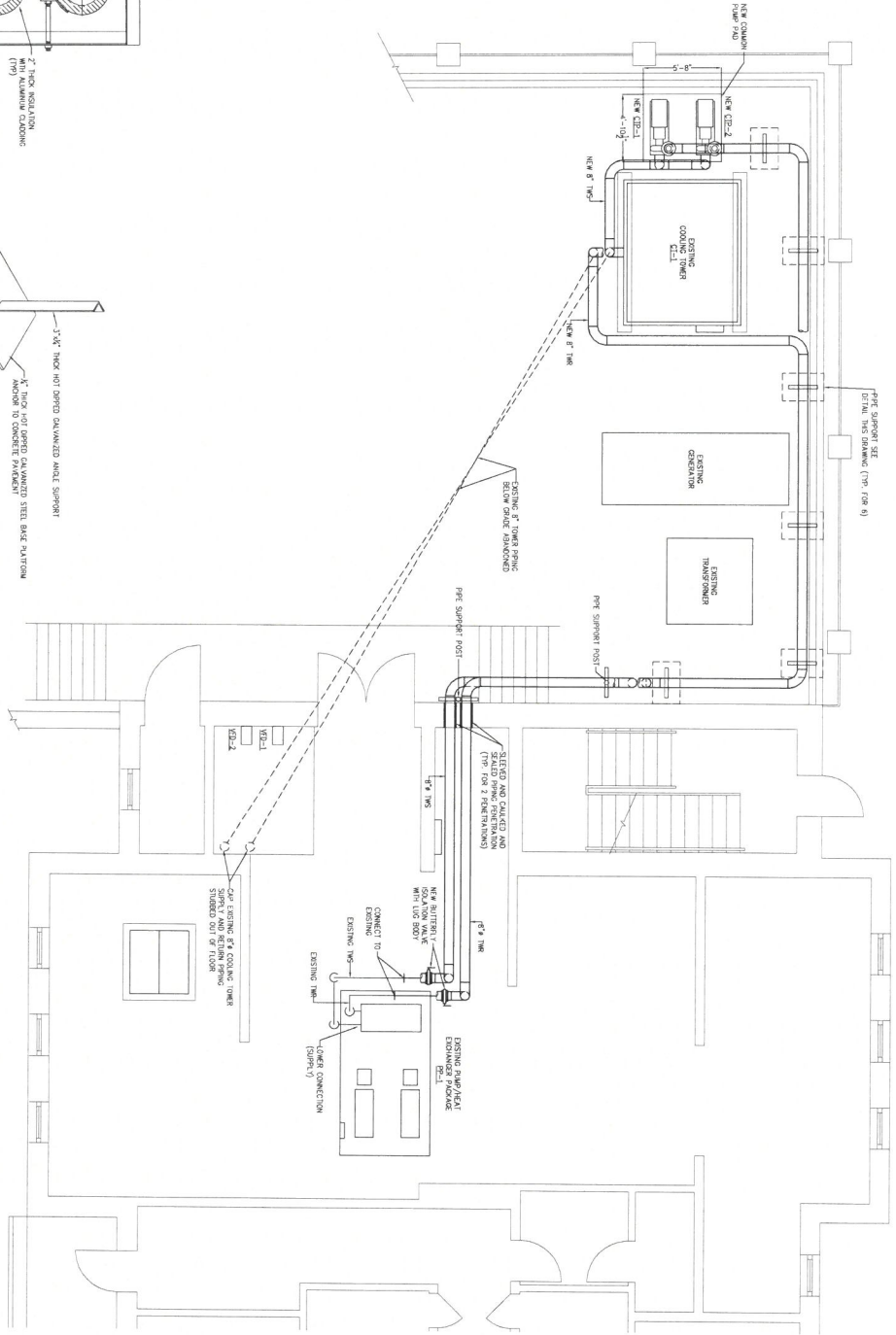
DETAIL "A"
NO SCALE



NEW PARTIAL COOLING TOWER PUMPS PLAN

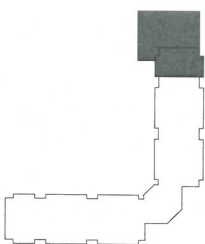
SCALE: 1/4" = 1'-0"

SEE PUMP FLOW DIAGRAM ON DRAWING M-1 FOR REQUIRED VALVES AND ACCESSORIES.



KEY PLAN

NO SCALE



Delivery Order No. P014-001 Cooling Tower Pumps & Piping Relocation CENTENNIAL HALL - LANDER UNIVERSITY Greenwood, South Carolina		 PERITUS ENGINEERS & ARCHITECTS REGISTERED IN THE STATE OF SOUTH CAROLINA NO. 0000000000		 J. C. PARRIS PROFESSIONAL ENGINEER STATE OF SOUTH CAROLINA NO. 25190		<table border="1"> <tr> <td>DATE</td> <td>4-14-22</td> <td>SEM</td> <td>ISSUE FOR PRICING</td> </tr> <tr> <td>NO.</td> <td>DATE</td> <td>BY</td> <td>DESCRIPTION</td> </tr> </table>		DATE	4-14-22	SEM	ISSUE FOR PRICING	NO.	DATE	BY	DESCRIPTION
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NEW PARTIAL COOLING TOWER PUMPS PLAN				REVISIONS											

PIPE AND TUBE

- [illegible]

MATERIALS SPECIFICATIONS

PIPELINE HANGERS AND SUPPORTS

- A. ORIGINAL: EXISTING INDICATED, PROVIDE FACILITY-ASSOCIATED ORIGINAL Piping AND
 AND SUPPORTS OF WSS TYPE AND SIZE INDICATED, BOTS (IF ANY) AND MASTERS, COMPANY WSS
 SP-28.
 1. ADJUSTABLE CLAMP HANGER: WSS TYPE 1, FABRICATED FROM STEEL, HANGER TO BE LARGE
 ENOUGH TO BE ON 30/32 OF PIPE INDICATION.
 B. VERTICAL SPACING AND CLAMPS: ORIGINAL: EXISTING AS INDICATED, PROVIDE
 SP-28 AND UNADJUSTABLE'S HUBBARD PRODUCT OF INDICATION.
 1. TWO-BOLT HANGER CLAMP: WSS TYPE 8.
 C. REFER TO DRAWING DETAILS FOR PIPING SUPPORTS.

PIPING VALVES

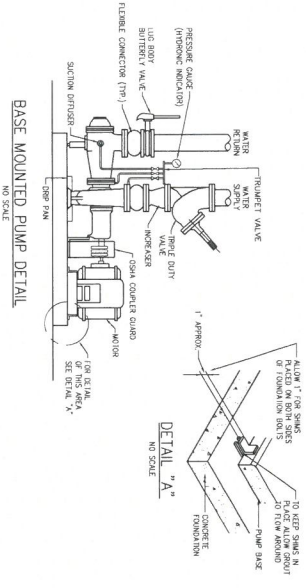
- [illegible]

PIPE INSULATION

- A. AS DESCRIBED BELOW SHALL BE INSTALLED WITH ONE-PIECE MOLDED GROSS GRASS INSULATION (40 LBS DENSITY) WITH PAPER FLEEce AND MOIST BARRIER SELF-SEALING LAP AND THICKNESS AS FOLLOWS:
1. LOWER WATER SUPPLY AND RETURN PIPING OUTSIDE BUILDING.
 - a. ALL SIZES - 2" THICK

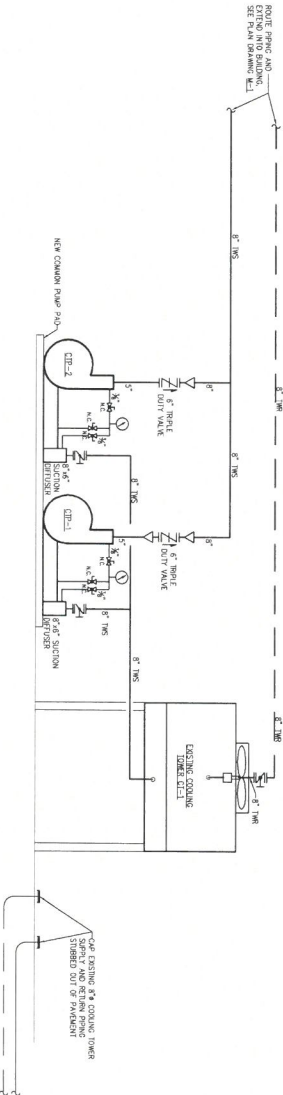
9

ROUTE PIPING AND ---
EXTEND INTO BUILDING,
SEE PLAN DRAWING M-1



BASE MOUNTED PUMP DETAIL

COOLING TOWER PIPING FLOW DIAGRAM



TEST AND BALANCE

- [illegible]

BUILDING AUTOMATION SYSTEM AND CONTROLS

- BUILDING AUTOMATION SYSTEM AND CONTROLS**
- THE EXISTING COOLING TOWER AND NEW TOWER PUMPS SHALL BE ENERGIZED, START/STOP, AND SEQUENCED BY THE EXISTING JOHNSON CONTROLS. THE BUILDING AUTOMATION SYSTEM, THE CONTROLS SUBCONTROLLER SHALL UTILIZE THE EXISTING BUILDING AUTOMATION SYSTEM SOFTWARE/STRUCTURE. THE EXISTING CONTROL SIGNAL FROM THE EXISTING SFC PUMP PACKAGE SHALL BE USED TO START/STOP NEW OUTDOOR COOLING TOWER PUMPS.
- EACH NEW PUMP SHALL BE OPERATED RELIANTLY ON A ROTATIONAL BASE, IN ORDER TO ACHIEVE EQUAL OPERATING HOURS ON THE PUMPS.

BUILDING AUTOMATION SYSTEM AND CONTROLS

- THE EXISTING COOLING TOWER AND KEE TOWER PUMPS SHALL BE ENERGIZED, STARTED/STOPPED, AND MONITORED BY THE EXISTING CONTROL SYSTEM. THE EXISTING COOLING TOWER PUMP SHALL BE ENERGIZED, STARTED/STOPPED, AND MONITORED BY THE EXISTING CONTROL SYSTEM. THE EXISTING KEE TOWER PUMP SHALL BE ENERGIZED, STARTED/STOPPED, AND MONITORED BY THE EXISTING CONTROL SYSTEM. THE EXISTING COOLING TOWER PUMP SHALL BE USED TO START/STOP NEW OUTSIDE COOLING TOWER PUMPS. OPERATING PUMPS ON THE PUMPS.

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- 6" BORE SHUT OFF VALVE
- GAS FURNACE COOKING
- BURNER (L.F.)

-

Chemical structure showing a benzene ring substituted with a methyl group (CH_3), a nitro group (NO_2), and a diazonium group (N_2^+).

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- COOLING TOWER PIPING FLOW DIAGRAM

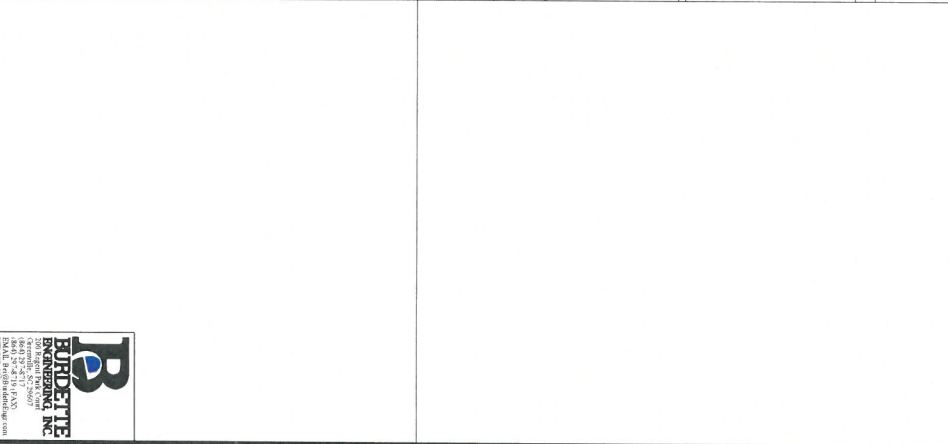
COOLING TOWER

- COOLING TOWER PIPING FLOW DIAGRAM
NO SCALE
ALL PIPING OUTSIDE AND AT TOWER TO BE ELECTRIC TAPE TRACED

-

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ENGINEERING, INC.
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(854) 26-7819 FAX
EMAIL: Bob@burdetteeng.com
BBB BIZ NO. 2725A

1 OF 2 SHEET	E-1	3/14/22 PERMITS 201108 ECU	0.00 1.00 2.00 3.00 4.00 5.00 6.00 7.00 8.00 9.00 10.00 11.00 12.00 13.00 14.00 15.00 16.00 17.00 18.00 19.00 20.00 21.00 22.00 23.00 24.00 25.00 26.00 27.00 28.00 29.00 30.00 31.00 32.00 33.00 34.00 35.00 36.00 37.00 38.00 39.00 40.00 41.00 42.00 43.00 44.00 45.00 46.00 47.00 48.00 49.00 50.00 51.00 52.00 53.00 54.00 55.00 56.00 57.00 58.00 59.00 60.00 61.00 62.00 63.00 64.00 65.00 66.00 67.00 68.00 69.00 70.00 71.00 72.00 73.00 74.00 75.00 76.00 77.00 78.00 79.00 80.00 81.00 82.00 83.00 84.00 85.00 86.00 87.00 88.00 89.00 90.00 91.00 92.00 93.00 94.00 95.00 96.00 97.00 98.00 99.00 100.00	Delivery Order No. P014-001		 PERITUS CALLED IN THE ART OF ENGINEERING 101 SOUTH WATKINSVILLE RD. SUITE 200 GREENWOOD, SC 29615 TEL: 803.781.1111 FAX: 803.781.1112 WWW.PERITUSENGINEERS.COM © 2012 PERITUS ENGINEERS & ASSOCIATES, INC.			<table><tr><td></td><td></td><td></td><td></td></tr><tr><td>0</td><td>4-14-22</td><td>DJB</td><td>ISSUE FOR PRICING</td></tr><tr><td>NO.</td><td>DATE</td><td>BY</td><td>DESCRIPTION</td></tr></table>					0	4-14-22	DJB	ISSUE FOR PRICING	NO.	DATE	BY	DESCRIPTION	REVISIONS
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Cooling Tower Pumps & Piping Relocation CENTENNIAL HALL - LANDER UNIVERSITY Greenwood, South Carolina		ELECTRICAL LEGEND AND SCHEDULES																				



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