SYMBOL SCHEDULE

SYMBOL	DESCRIPTION
GENERAL SYMBOLS	
	CONDUIT RUN CONCEALED ABOVE CEILINGS OR IN WALLS.
	CONDUIT RUN CONCEALED IN OR BELOW FLOORS OR UNDERGROUND.
	CONDUIT RUN EXPOSED.
	CONDUIT TURNING UP
	CONDUIT TURNING DOWN
	SQUARE ON CONDUIT SYMBOL INDICATES THAT CIRCUIT CONTINUES BUT NOT SWITCHLEG.
	HOMERUN TO PANEL AND CIRCUIT(S) DESIGNATED. ARROW(S) INDICATE QUANTITY OF CIRCUITS.
J	JUNCTION BOX PER N.E.C.
◇1	SPECIAL NOTE, NUMERALS IDENTIFY, SEE SCHEDULE.
(1)	SPECIAL CONNECTION TO A SPECIFIC ITEM OF EQUIPMENT. SEE CONNECTION SCHEDULE.
	MOTOR CONNECTION. RATING AS NOTED.
DISTRIBUTION	
	ELECTRICAL PANELBOARD, FLUSH MOUNTED.
	ELECTRICAL PANELBOARD, SURFACE MOUNTED.
	CONTROL CABINET, FLUSH OR SURFACE MOUNTED.
	DISCONNECT SWITCH, NON-FUSIBLE.
	DISCONNECT SWITCH, FUSIBLE.
	DISCONNECT SWITCH PROVIDED WITH EQUIPMENT.
	GROUND CONNECTION.
FIRE ALARM SYSTEM	
S	FIRE ALARM SYSTEM DUCT MOUNTED PHOTOELECTRIC TYPE SMOKE DETECTOR.
WIRING DEVICES	
	DUPLEX RECEPTACLE, 125V, 3-WIRE GROUNDING TYPE.
GFI	DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTING.
WP	DUPLEX GFCI RECEPTACLE. PROVIDE WITH OPERABLE, IN-USE WEATHERPROOF COVER.

EQUIPMENT CONNECTION SCHEDULE

SYMBOL	EQUIPMENT	LOAD	VOLTAGE/ PHASE	DISCONNECT TYPE	DISCONNECT RATING	DISCONNECT POLES	DISCONNECT TRIP/FUSE	DISCONNECT ENCLOSURE	CONDUCTORS	RACEWAY TYPE	RACEWAY SIZE	NOTES
(1)	RTU-1-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(2)	RTU-2-5	–	480/3	NFDS	60	3	–	3R	3#8,1#10G	LFMC	3/4"	
(3)	RTU-3-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(4)	RTU-4-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(5)	RTU-5-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(6)	RTU-6	NOT USED	–	–	–	–	–	–	–	–	–	
(7)	RTU-7-3	–	480/3	NFDS	30	3		3R	3#10,1#10G	LFMC	1/2"	
(8)	RTU-8-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(9)	RTU-9-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(10)	RTU-10-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(11)	RTU-11-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(12)	RTU-12-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(13)	RTU-13-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(14)	RTU-14-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(15)	RTU-15-4	–	480/3	NFDS	60	3	–	3R	3#8,1#10G	LFMC	3/4"	
(16)	RTU-16	NOT USED	–	–	–	–	–	–	–	–	–	
(17)	RTU-17	NOT USED	–	–	–	–	–	–	–	–	–	
(18)	RTU-18-7.5	–	480/3	FDS	100	3	50	3R	3#8,1#10G	LFMC	3/4"	
(19)	RTU-19-5	–	480/3	NFDS	60	3	–	3R	3#8,1#10G	LFMC	3/4"	
(20)	RTU-20-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(21)	RTU-21-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(22)	RTU-22-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(23)	RTU-23	NOT USED	–	–	–	–	–	–	–	–	–	
(24)	RTU-24-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(25)	RTU-25-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(26)	RTU-26-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(27)	RTU-27-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(28)	RTU-28-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(29)	RTU-29-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(30)	RTU-30-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(31)	RTU-31-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(32)	RTU-32-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(33)	RTU-33-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(34)	RTU-34-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(35)	RTU-35-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(36)	RTU-36-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(37)	RTU-37-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(38)	RTU-38-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(39)	RTU-39-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(40)	RTU-40-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(41)	RTU-41-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(42)	RTU-42-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(43)	RTU-43-3	–	480/3	NFDS	30	3	–	3R	3#10,1#10G	LFMC	1/2"	
(44)	RTU-44	–	480/3	FDS	100	3	70	3R	3#4,1#8G	LFMC	1-1/4"	
(45)	RTU-45-10	–	480/3	FDS	100	3	70	3R	3#4,1#8G	LFMC	1-1/4"	
(46)	RTU-46-10	–	480/3	FDS	100	3	70	3R	3#4,1#8G	LFMC	1-1/4"	
(47)	RTU-47-5	–	480/3	NFDS	60	3	–	3R	3#8,1#10G	LFMC	3/4"	
(48)	RTU-48-5	–	480/3	NFDS	60	3	–	3R	3#8,1#10G	LFMC	3/4"	
(49)	NOT USED	–	–	–	–	–	–	–	–	–	–	
(50)	EXISTING 5 TON	–	480/3	NFDS	60	3	–	3R	3#8,1#10G	LFMC	3/4"	
(51)	EXISTING 5 TON	–	480/3	NFDS	60	3	–	3R	3#8,1#10G	LFMC	3/4"	
(52)	EXISTING 7.5 TON	–	480/3	FDS	100	3	50	3R	3#8,1#10G	LFMC	3/4"	
(53)	FAU-1	–	480/3	FDS	100	3	60	3R	3#8,1#10G	LFMC	3/4"	
(54)	FAU-2	–	480/3	FDS	200	3	110	3R	3#2,1#6G	LFMC	1-1/4"	
(55)	AH-18, CU-18	17.1 MCA	208/1	FDS	30	2	◇2	3R	2#12,1#12G	LFMC	1/2"	◇3

LEGEND

DISCONNECT TYPES
- ETCB = ELECTRONIC-TRIP CIRCUIT BREAKER
- FDS = FUSIBLE DISCONNECT SWITCH
- MCP = MOTOR CIRCUIT PROTECTOR
- NFDS = NON-FUSIBLE DISCONNECT SWITCH
- ST/DS = COMBINATION STARTER/DISCONNECT SWITCH
- TMCB = THERMAL-MAGNETIC CIRCUIT BREAKER
- TOG = TOGGLE SWITCH
- C/DS = COMBINATION CONTACTOR/DISCONNECT SWITCH

DISCONNECT ENCLOSURE TYPES
- 1 = NEMA 1 ENCLOSURE
- 3R = NEMA 3R ENCLOSURE
- 4 = NEMA 4 ENCLOSURE
- 4X = NEMA 4X ENCLOSURE

RACEWAY TYPES
- EMT = ELECTRIC METALLIC TUBING
- FMC = FLEXIBLE METAL CONDUIT
- IMC = INTERMEDIATE METAL CONDUIT
- LFMC = LIQUID-TIGHT FLEXIBLE METAL CONDUIT
- PVC = NON-METALLIC PVC CONDUIT
- RMC = RIGID METAL CONDUIT

STARTER TYPES
- CFVNR = COMBINATION FULL VOLTAGE, NONREVERSING

CONTROL DEVICES
- HOA = HAND-OFF-AUTO
- RPL = RED PILOT LIGHT
- AUX = AUXILLARY CONTACTS (2 N.O., 1 N.C.)
- CT50 = 50 VA CONTROL TRANSFORMER

NOTES

ALL ELECTRICAL CHARACTERISTICS SCHEDULED ABOVE ARE BASED ON INFORMATION AVAILABLE AT THE TIME OF DESIGN. ELECTRICAL CONTRACTOR SHALL VERIFY ELECTRICAL CHARACTERISTICS OF ALL EQUIPMENT WITH EQUIPMENT SUPPLIER(S) PRIOR TO ROUGHING, AND SHALL VERIFY EXACT LOCATION AND EXACT TYPE OFCONNECTION. ALL EQUIPMENT SHALL BE PROPERLY AND SECURELY GROUNDED. ANY SIGNIFICANT CHANGES IN LOCATION, ELECTRICAL REQUIREMENTS, OR TYPE OF CONNECTION REQUIRED FOR ANY EQUIPMENT SCHEDULED ABOVE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING PRIOR TO PROCEEDING.

CONDUCTORS AND RACEWAY SPECIFIED IN THE ABOVE SCHEDULE ARE FOR FINAL CONNECTION TO UNIT AND SHALL BE EXTENDED FROM THE DISCONNECT SHOWN ON THE FLOOR PLANS TO THE EQUIPMENT TERMINATION BOX.

CONDUIT AND BOXES REQUIRED FOR EQUIPMENT CONNECTIONS SHALL BE INSTALLED IN SUCH A WAY AS TO NOT COVER UP EQUIPMENT NAMEPLATES, SERVICE AREAS, AIR FLOW AREAS, ETC.

◇1 UTILIZE ONLY ONE POLE OF TWO POLE DISCONNECT SWITCH FOR CIRCUIT DISCONNECTION. DO NOT SWITCH CIRCUIT NEUTRAL.

◇2 FUSE PER MANUFACTURERS RECOMMENDATION.

◇3 INDOOR UNIT AH-18 POWERED FROM OUTDOOR UNIT CU-18. UNITS REMAIN UNDER BASE BID AND REPLACED UNDER ALTERNATE.

H1 SYMBOLS AND SCHEDULES
E100 SCALE: NO SCALE

McKNIGHT · SMITH
WARD · GRIFFIN
ENGINEERS, INCORPORATED
PO Box 240826 · 4223 South Boulevard
Charlotte, NC
704/527-2112 19-191

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
McKNIGHT · SMITH WARD · GRIFFIN ENGINEERS, INC. No. C00926

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
No. 18963
MARK P. ARRINGTON
03-15-2020

Owner:

Horry County Schools

Horry County School District
Facilities
1160 East Highway 501
Conway, South Carolina 29526

NORTH MYRTLE BEACH HIGH SCHOOL ADDITIONS AND RENOVATIONS
HORRY COUNTY SCHOOLS
Little River, South Carolina

PROJECT NO.: 19-191
PHASE OF WORK: BD
DATE: 3/15/2020
BID DOCUMENTS

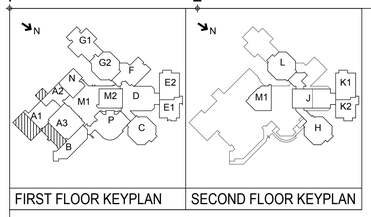
REVISIONS:

TITLE:

SYMBOLS, SCHEDULES AND ABBREVIATIONS

SHEET:

E100



FIRST FLOOR KEYPLAN

SECOND FLOOR KEYPLAN

HATCHED AREA NOT IN SCOPE OF WORK.

RTU-48-5 (48)
SUPPLY CIRCUIT TO BE VERIFIED IN FIELD

RTU-A-10
RTU-A-11
RTU-A-9B
MUA-A-1
EXIST. DRYER VENT ROOF CAP
MSHP-A-1
RTU-A-8
RTU-A-7
MSHP-A-1
RTU-A-6
RTU-A-17
VF-4
LE-13
VF-3
LE-13
RTU-47-5 (47)
HE-13,15,17
RTU-A-5
RTU-A-16
ERV-A-16
RTU-46-10 (46)
HE-20,22,24
ERV-A-15
RTU-A-15
HE
LE
LOCATION OF EXISTING PANELS BELOW
RTU-45-10 (45)
HE-19,21,23
ERV-A-14
RTU-44 (44)
HE-26,28,30
VF-1
MSHP-B-1

oVTR

FINAL SELECTION OF BRANCH CIRCUIT OVER CURRENT PROTECTION DEVICE AND WIRE SIZE SHALL BE BASED ON ACTUAL NAMEPLATE DATA ON UNIT

NOTES:

1. CONNECT NEW RTU TO EXISTING CONDUCTORS AT LOCATION. PROVIDE NEW NON-FUSIBLE DISCONNECT AS INDICATED.
2. CHANGE EXISTING 40/3 CIRCUIT BREAKER IN SUPPLY PANEL TO 45/3 CIRCUIT BREAKER AND CONNECT TO EXISTING CONDUCTORS.
3. CONNECT NEW VENT FAN TO EXISTING CONDUCTORS AT LOCATION. REUSE EXISTING 20/1 CIRCUIT BREAKER.
4. CONNECT NEW RTU TO EXISTING CONDUCTORS AT LOCATION. LEAVE EXISTING 90/3 CIRCUIT BREAKER AND PROVIDE NEW FUSIBLE DISCONNECT SWITCH AS INDICATED.

H1 PARTIAL ROOF PLAN - AREA A
E201 SCALE: 1/8" = 1'-0"

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19-191

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MARK F. ARRINGTON
03-15-2020

Owner:

HCS Horry County Schools

Horry County School District
Facilities
1160 East Highway 501
Conway, South Carolina 29526

NORTH MYRTLE BEACH HIGH SCHOOL ADDITIONS AND RENOVATIONS

HORRY COUNTY SCHOOLS
Little River, South Carolina

PROJECT NO.: 19-191
PHASE OF WORK: BD
DATE: 3/15/2020
BID DOCUMENTS

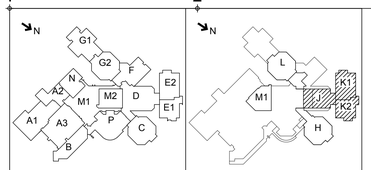
REVISIONS:

TITLE:

PARTIAL ROOF PLAN - AREA A RENOVATION

SHEET:

E201



FIRST FLOOR KEYPLAN

SECOND FLOOR KEYPLAN

MUA-F-1

VRFHP-F-2

VRFHP-F-1

HATCHED AREA NOT IN SCOPE OF WORK.

MSHP-L-2

LOCATION OF EXISTING PANELS BELOW

2LA-2LA1
2HD
2HC
2HB
2HA

VF-14
2LA-44

VF-13
2LA-44

RTU-14-3
2HB-32,34,36

RTU-31-3
2HC-31,33,35

RTU-32-3
2HC-32,34,36

RTU-13-3
2HB-31,33,35

RTU-12-3
2HB-26,28,30

RTU-30-3
2HC-26,28,30

RTU-29-3
2HC-25,27,29

RTU-11-3
2HB-25,27,29

RTU-10-3
2HB-20,22,24

RTU-27-3
2HC-19,21,23

RTU-28-3
2HC-20,22,24

RTU-9-3
2HB-19,21,23

RTU-7-3
2HB-13,15,17

RTU-8-3
2HB-14,16,18

RTU-26-3
2HC-14,16,18

RTU-25-3
2HC-13,15,17

RTU-18-7.5
2HA-26,28,30

RTU-37-3
2HD-13,15,17

RTU-35-3
2HD-7,9,11

RTU-33-3
2HD-1,3,5

EXISTING
5 TON
2HD-32,34,36

RTU-41-3
2HD-25,27,29

RTU-39-3
2HD-19,21,23

FAU-1
2HD-37,39,41

EXISTING CONDENSING UNIT TO REMAIN UNDER BASE BID AND REPLACED UNDER ALTERNATE, REPLACEMENT INCLUDES EXISTING INDOOR UNIT AH-18 ON FIRST FLOOR

CU-18

RTU-42-3
2HD-26,28,30

RTU-40-3
2HD-20,22,24

RTU-38-3
2HD-14,16,18

RTU-36-3
2HD-8,10,12

RTU-34-3
2HD-2,4,6

EXISTING
5 TON
2HD-31,33,35

RTU-43-3

SUPPLY CIRCUIT TO BE VERIFIED IN FIELD

RTU-15-4
2HD-38,40,42

VF-10
2LA-44

RTU-24-3
2HC-38,40,42

FAU-2
2HC-43,45,47

VF-11
2LA-46

VF-12
2LA-46

RTU-5-3

SUPPLY CIRCUIT TO BE VERIFIED IN FIELD

RTU-4-3
2HB-8,10,12

RTU-21-3
2HC-7,9,11

RTU-22-3
2HC-8,10,12

RTU-3-3
2HB-7,9,11

RTU-2-5
2HB-2,4,6

RTU-19-5
2HC-1,3,5

RTU-20-3
2HC-2,4,6

RTU-1-3
2HB-1,3,5

EF-H-1

MSHP-H-2

HATCHED AREA NOT IN SCOPE OF WORK.

NOTES:

1. CONNECT NEW RTU TO EXISTING CONDUCTORS AT LOCATION. PROVIDE NEW NON-FUSIBLE DISCONNECT AS INDICATED.
2. CHANGE EXISTING 25/3 CIRCUIT BREAKER IN SUPPLY PANEL TO 30/3 CIRCUIT BREAKER AND CONNECT TO EXISTING CONDUCTORS.
3. CHANGE EXISTING 40/3 CIRCUIT BREAKER IN SUPPLY PANEL TO 45/3 CIRCUIT BREAKER AND CONNECT TO EXISTING CONDUCTORS.
4. CONNECT NEW VENT FAN TO EXISTING CONDUCTORS AT LOCATION. REUSE EXISTING 20/1 CIRCUIT BREAKER.
5. PROVIDE UNDER ALTERNATE: CONNECT NEW AH-18 AND CU-18 TO EXISTING CONDUCTORS AT LOCATION. PROVIDE NEW FUSED DISCONNECT AS INDICATED.
6. CONNECT NEW RTU TO EXISTING CONDUCTORS AT LOCATION. LEAVE EXISTING 70/3 CIRCUIT BREAKER AND PROVIDE NEW FUSIBLE DISCONNECT SWITCH AS INDICATED.
7. CONNECT NEW FAU-1 TO EXISTING CONDUCTORS AT LOCATION. LEAVE EXISTING 70/3 CIRCUIT BREAKER AND PROVIDE NEW FUSIBLE DISCONNECT SWITCH AS INDICATED.
8. CONNECT NEW FAU-2 TO EXISTING CONDUCTORS AT LOCATION. LEAVE EXISTING 125/3 CIRCUIT BREAKER AND PROVIDE NEW FUSIBLE DISCONNECT SWITCH AS INDICATED.

FINAL SELECTION OF BRANCH CIRCUIT OVER CURRENT PROTECTION DEVICE AND WIRE SIZE SHALL BE BASED ON ACTUAL NAMEPLATE DATA ON UNIT

H1 PARTIAL ROOF PLAN - AREAS J & K

E202 SCALE: 1/8" = 1'-0"

McKNIGHT · SMITH
WARD · GRIFFIN
ENGINEERS, INCORPORATED
PO Box 240826 • 4223 South Boulevard
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19-191

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NORTH MYRTLE BEACH HIGH SCHOOL ADDITIONS AND RENOVATIONS

HORRY COUNTY SCHOOLS
Little River, South Carolina

PROJECT NO.: 19-191

PHASE OF WORK: BD

DATE: 3/15/2020
BID DOCUMENTS

REVISIONS:

TITLE:

PARTIAL ROOF PLAN - AREAS J & K RENOVATION

SHEET:

E202

ELECTRICAL GENERAL REQUIREMENTS

1.1 SCOPE:

a. Applicable requirements of the General Conditions of the Contract, Amendments, Supplementary General Conditions, and Special Conditions govern work under this Division.

b. Work covered by this Division consists of providing all labor, equipment, supplies, and materials; and performing all operations, including trenching, backfilling, cutting, patching, and chasing necessary for the installation of complete electrical systems in strict accordance with these specifications and the applicable drawings.

c. Minor details not usually shown or specified, but necessary for the proper installation and operation, shall be included in the work, the same as if herein specified or shown.

d. This Contractor is referred to the General and Special Conditions of the contract which shall form a part and be included in this section of the specification and shall be binding on this Contractor.

e. Some items of equipment are specified in the singular; however, the Contractor shall provide and install the number of items or equipment as indicated on the drawings, and as required for complete systems.

1.2 RECORD DRAWINGS:

a. During construction of this project, the Contractor shall maintain one complete set of electrical contract drawings, on which shall be recorded all significant changes. This set of drawings shall be used for no other purpose. Upon completion of the work, the Contractor shall submit these drawings to the Architect/Engineer for approval and presentation to the Owner.

1.3 REGULATIONS AND COMPLIANCE:

a. The requirements of the International Building Code which includes the National Electrical Code, and of all other State and Local codes, ordinances, regulations and interpretations by authorities having jurisdiction are binding upon this Contractor, and nothing contained in, or inferred by, these specifications or the applicable drawings may be construed as waiving those requirements. The latest edition of the National Electrical Code, referred to herein and on the drawings as "N.E.C.", forms a part of these specifications; and under no circumstances may the installation fail to meet the minimum requirements therein.

b. This Contractor shall secure and pay for all permits, fees, inspections and licenses required. It is the responsibility of the Contractor to notify the Local Electrical Inspector to schedule the required inspections. Upon completion of the project and prior to his request for final payment he shall present to the Architect/Engineer a certificate of inspection and approval from the inspection authorities.

c. All materials and equipment shall bear the approval label, and shall be listed by the Underwriters' Laboratories, Inc.

2.1 GENERAL:

a. Except where reuse of existing items are specifically indicated or permitted, all materials and equipment shall be new and shall conform with the standards of the National Electrical Manufacturer's Association and Underwriter's Laboratories, Inc. in every instance where such a standard has been established for the item involved.

b. Materials shall be inspected by the Contractor upon their arrival at the site to be sure they are correct. Material and equipment stored on the site shall be protected against physical damage, dirt and damage caused by precipitation, wind, condensation, excessive humidity, and extremes of temperature. Materials shall be stored in their original cartons within substantial, clean and dry storage facilities provided under this Contract. Conduit, large galvanized boxes, and lighting poles may be stored outdoors on suitable blocks or racks clear of the earth and undergrowth, and pitched to drain. Large electrical equipment intended for ultimate installation outdoors may be stored in the weather on suitable blocks or platforms clear of the earth and undergrowth, and with interior lamps or space heaters continuously energized to prevent condensation. Alternate storage provisions may be submitted to the Architect/Engineer for approval prior to the arrival of the material. Under no circumstances shall equipment be stored in the weather under a cover of polyethylene or tarpaulin. The Architect/Engineer will be the sole judge as to the acceptability of storage facilities, and when directed by the Architect/Engineer, improperly stored or damaged material shall be removed from the site and replaced with new material.

c. The Contractor shall coordinate the work and equipment of this Division with the work and equipment specified elsewhere in order to assure a complete and satisfactory installation. Work such as excavation, backfill, concrete, flashing, wiring, etc., which is required by the work of this section shall be performed in accordance with the requirements of the applicable section of the specifications.

d. It is the intention of these specifications and drawings to call for finished work, tested and ready for operation. Whenever the work "provide" is used, it shall mean "furnish and install complete and ready for use".

3.1 COORDINATION:

a. This Contractor coordinate the work of all subs and shall furnish any information necessary to permit the work of all trades to be installed satisfactorily and with the least possible interference or delay.

b. Where the work will be installed in close proximity to, or may interfere with the work of other trades, the Contractor shall assist in working out space conditions to make a satisfactory adjustment. If so directed by the Engineer, the Contractor shall prepare composite working drawings and sections at a suitable scale not less than 3/8" = 1'-0", clearly showing how his work is to be installed in relation to the work of other trades. If the Contractor installs his work before coordination, or so as to cause any interference with work of any subs, he shall make the necessary changes in his work to correct the condition without extra charge.

c. The Contractor shall furnish to other trades, as required, all necessary templates, patterns, setting plans, and shop details for the proper installation of work and for the purpose of coordinating adjacent work.

3.2 EXCAVATION:

a. Required excavation for installation of all electrical work shall be provided by the Electrical Contractor. Particular care shall be taken not to disturb or damage work of other trades.

b. Trenching and shoring shall comply with requirements of North Carolina State Department of Labor's regulations entitled "Safeguards During Construction", and "Trenching and Shoring".

c. In backfilling pipe trenches, approved fill shall first be compacted firmly and evenly on both sides of pipe in 6" layers to a depth of 12" over the top of the pipe. Remainder of trench shall be backfilled to established grade in 6" layers. Compact between each layer with a high-frequency vibrator tamper such as Dart Soil Compactor (as manufactured by Dart Manufacturing Company, Denver, Colorado). Fill shall be compacted to density specified in Earthwork Section for the area through which trench is cut. Where compaction requirements are not established for an area, compact fill to 95% maximum density at optimum moisture content.

d. Excess earth shall be deposited on the site as directed by the Architect/Engineer.

e. Where ditches occur outside of building, the surface shall be finished to match existing surfaces. Any existing work, or work of other trades, which is damaged or disturbed shall be repaired or replaced, and left in good order.

3.3 SLEEVES, CUTTING, AND PATCHING:

a. Contractor shall place his own sleeves and advise other trades of required chases and openings so they can be properly built in. Where any raceway supports installed under this Contract pierce the roof, suitable pitch pockets shall be provided and coordinated with the roofing contractor as necessary to be acceptable to the Architect. Provide suitable fittings where any raceways or equipment cross expansion joints.

b. Permitted cutting or patching necessary shall be done by Contractor. Structural members shall not be cut except by written permission of Architect/Engineer.

3.4 PROTECTION AND CLEAN-UP:

a. Protect all material and work from damage during construction. Equipment installed in the building prior to its being closed in and dried out shall be protected from the elements in the same manner as previously specified for stored materials. Protect finished surfaces from splattering of mortar, paint, dirt, plaster, etc.. Do not install device plates, face plates, canopies, flush cabinet trims, or fixtures on walls or ceilings until after painting or cleaning of the surface has been completed, and arrange for such items that are required to be field painted to be painted before being mounted. Repair, clean and touch-up or replace, all damaged material. At the completion of the project, remove all dust from finished surfaces, including lighting fixtures, lenses and lamps.

b. The Contractor shall keep premises free of debris resulting from his work.

3.5 PAINTING AND FINISHING:

a. Suitable finishes shall be provided on all items of electrical equipment and materials which are exposed. This shall consist of either an acceptable finish as manufactured and supplied to the job or application of suitable finishes after installation.

b. Where installed in finished areas, exposed equipment and materials shall be supplied with prime coat, and shall be professionally painted or enameled as directed to match or blend with adjacent surfaces.

c. In unfinished areas such as equipment rooms, exposed equipment shall be furnished with suitable factory applied finishes (e.g. standard gray enamel finish for panelboards, etc.).

3.6 OBSERVATION:

a. The project will be observed periodically as construction progresses.The Contractor will be responsible for notifying the Architect at least 72 hours in advance when any work to be covered up is ready for inspection. No work will be covered up until after observation has been completed on such items as piping and insulation, etc.

EQUIPMENT CONNECTIONS AND COORDINATION

1.1 GENERAL:

a. Heating, Ventilating, Air Conditioning, Refrigeration and Plumbing Equipment: Unless otherwise indicated, provide all power wiring, including feeders and branch circuits, to the terminals of the equipment, including mounting of motor starters; feeder and branch circuit over-current protection; disconnecting means within sight of each motor and each starter, whether of not specifically indicated on drawings; and Motor Control Centers indicated, complete as scheduled and specified.

BASIC MATERIALS AND METHODS

1.1 WIRING METHOD:

a. Unless otherwise indicated or specified, the Wiring Method for this project shall consist of copper conductors with 600 volt insulation installed in metal raceways.

b. The word "Raceway" and the word "Conduit" (or abbreviation "C") used herein or on the drawings indicate Rigid Metal Conduit, and where permitted, Intermediate Metal Conduit, Electrical Metallic Tubing, Rigid Nonmetallic Conduit, Flexible Metal Conduit, or Liquidtight Flexible Metal Conduit.

c. Reference to "Rigid Conduit" or "RMC" indicates heavy-wall Rigid Metal Conduit only.

d. Reference to "IMC" indicates Intermediate Metal Conduit.

e. Reference to "PVC" indicates Rigid Nonmetallic Conduit.

f. Reference to "EMT" or "Tubing" indicates Electrical Metallic Tubing.

g. Reference to "Flex" or "Flexible Conduit" indicates Flexible Metal Conduit, or, where required, Liquidtight Flexible Metal Conduit.

1.2 FASTENINGS METHODS:

a. Acceptable fastening methods include wood screws and nails on wood construction, toggle bolts on hollow masonry, expansion bolts and lead anchors on brick and concrete, and machine screws on metal surfaces.

b. Explosive fasteners may be used in steel and concrete in accordance with the manufacturer's recommendations.

c. Wire, perforated metal strap, and wooden plugs are not acceptable as fastening material.

d. Materials used shall be good quality, made of zinc or cadmium coated steel or other non-corroding material.

e. Materials, whether exposed or concealed, shall be firmly and adequately held in place. Fastening and support shall afford safety factor of three or higher, and shall be in full compliance with the seismic protection requirements of the N.C. State Building Code.

f. Fixtures, raceways, and equipment shall be supported from the structure. Nothing may be supported on suspended ceiling unless definitely noted so on the Drawings or specifically permitted by the Architect/Engineer.

g. Equipment and raceways attached to outside walls, or interior walls subject to permanent moisture, shall be shimmed out with non-corrodible material so as to provide 1/4" air space between wall and equipment or raceway.

1.3 NAMEPLATES:

a. Suitable nameplates shall be provided for the identification of electrical equipment including Switchboards, Panelboards, Motor Control Centers, Motor Starters, Safety Switches, and Circuit Breakers.

b. Nameplates shall be of engraved white core plastic laminate, not less than 1/16" thick. For 120/208 volt systems, nameplates shall have white letters on black backgrounds. For 277/480 volt systems, nameplates shall have white letters on red background.

c. Engraving shall be of professional quality, with block style letters, minimum 1/4" high.

d. Nameplates shall be attached with sheet metal screws. They shall be sized to allow for installation of screws without obscuring text.

RACEWAYS AND FITTINGS

1.1 MATERIALS AND APPLICATIONS:

a. Rigid Metal Conduit shall be zinc coated steel or alloy 6063-T42 aluminum with threaded couplings and fittings. Termination at sheet metal enclosures shall consist of double locknuts and insulating bushings. Rigid Steel conduit shall be used for all exposed and concealed work except where other raceways are indicated or permitted. Aluminum conduit complete with aluminum fittings may be used in lieu of steel conduit except in wet locations, underground, or in poured concrete. Steel and aluminum shall not be mixed in the same run of conduit.

b. Intermediate Metal Conduit (IMC) with threaded couplings and fittings may be used for exposed and concealed work in lieu of rigid metal conduit except underground outside the building foundation, or where supporting lighting fixtures, or in hazardous locations, or where exposed to severe impact or injury. Termination at sheet metal enclosures shall consist of double locknuts and insulating bushings.

c. Electrical Metallic Tubing (EMT) of 2" maximum size may be used for concealed work in lieu of Rigid Metal Conduit except underground or in poured concrete. EMT of 2" maximum size may be used for exposed work in lieu of Rigid Metal Conduit except outdoors, or above a roof, or where supporting lighting fixtures, or where exposed to severe impact or injury, or in hazardous locations, or less than 10 feet above a floor or platform in other than in electrical, mechanical, or communications closets or equipment rooms.

d. Flexible Metal Conduit shall be of zinc coated steel of minimum length, and shall be used in lieu of Rigid Metal Conduit for connections to moving or vibrating apparatus, recessed lighting fixtures, dry-type transformers, and motors. Flexible Metal Conduit may be used where rigid connections are impractical due to obstructions or space limitations. Flexible Metal Conduit used in wet, damp, or corrosive location shall be PVC jacketed liquid-tight complete with liquid-tight connectors.

e. Fittings for steel conduit and tubing shall be of zinc coated steel or malleable iron. Insulating bushings of plastic provided for Rigid and Intermediate Metal Conduits shall be rated for 150oC. Bonding bushings shall be steel or malleable iron with non-removable plastic throats rated 150oC. EMT fittings shall be of the compression type. Set-screw, indentor, pressure cast, and die cast fittings are not acceptable. Connectors for EMT, Flexible Metal Conduit and Liquid-tight Flexible Metal Conduit shall be the insulated throat type. Connectors for Flexible Metal Conduits shall be of the "Tite-Bite" design.

f. Conduit expansion fittings shall be of zinc coated cast or malleable iron and steel conduit, complete with flexible bonding straps. Expansion fittings shall allow longitudinal conduit movement of 4 inches.

g. Minimum raceway size shall be 1/2". Other raceway sizes, unless indicated on the drawings, shall be determined by the Contractor in accordance with NEC requirements for type THW insulated conductors, or the actual insulation used if it is thicker than type THW.

2.1 INSTALLATION:

a. Rigid and Intermediate Metal Conduits shall be made up with full threads, to which a conductive pipe compound (T & B Kopr-Shield or equal) has been applied, and butted in coupling. Terminations at sheet metal enclosures in indoor dry locations shall be made with double locknuts and an insulating bushing. Terminations at sheet metal enclosures in outdoor, damp, and wet locations shall be made with threaded conduit hubs of zinc coated malleable iron.

b. Conduits shall be rigidly supported not more than 8 feet on center and shall be concealed within walls, ceilings, and floors, except as indicated or specifically approved by the Architect/Engineer; kept at least 6" from flues and steam or hot water pipes; and protected against the entry of dirt, plaster, or trash. Raceways shall be supported independently of suspended ceiling members and suspension wires.

c. Suspended EMT shall be provided with additional hangers at elbows and bends, and where necessary to avoid strain at couplings and connectors.

d. Exposed conduits, where permitted, shall be run parallel or perpendicular to walls, structural members and ceilings; with right-angle turns consisting of symmetrical bends or cast metal fittings with threaded hubs. Offsets may be used where necessary provided that they are of minimum length.

e. Conduits crossing expansion and contraction joints shall cross perpendicular to the joint and shall be provided with expansion fittings. Conduits shall not be embedded in the concrete slabs at the expansion and contraction joints.

CONDUCTORS

1.1 MATERIALS:

a. Unless otherwise indicated, all wire and cable conductors shall be copper.

b. Conductors shall be not smaller than #12 AWG except that #10 AWG minimum is required for the entire length of 120 volt branch circuits whose distance to the center of the load exceeds 75 feet. #14 AWG may be used for signal and remote control circuits. #16 AWG may be used for taps to individual recessed lighting fixtures on circuits protected by over-current devices rated at 20 amperes or less and contained within flexible metal conduits that do not exceed 6 feet in length. Other conductors smaller than #14 AWG may be used only where specifically indicated on the drawings or specified herein.

c. Conductors #10 AWG and smaller shall be solid, dual rated type THWN/THHN.

d. Conductors #8 AWG and larger shall be stranded, dual rated type THWN\THHN.

e. Each conductor shall bear easily readable markings along entire length, indicating size and insulation type.

f. Insulation on conductors #10 AWG and smaller shall be suitably colored in manufacture.

g. Conductors in any location subject to abnormal temperature shall be furnished with an insulation type suitable for temperature encountered.

h. Where no indication is made of wire size, the conductor shall be of N.E.C. size to match its overcurrent protective device, but in no case smaller than #12 AWG.

2.1 SPLICES, TAPS, AND CONNECTIONS:

a. Splices in conductors #10 AWG and smaller shall be made with twist-on spring steel devices UL listed as Pressure Cable Connectors, with integral insulating covers rated 75oC. at 600 volts.

b. Splices in copper conductors #8 AWG and larger shall be made with mechanical devices UL listed as Pressure Cable Connectors and insulated with thermoplastic tape UL listed for use as sole insulation. Tape may be omitted from connectors supplied with securely fastened insulating covers which completely enclose the connector and the conductors. Insulating covers shall be rated 75oC at 600 volts.

2.2 COLOR CODING:

a. All wiring shall be color coded.

b. On 120/208V, 3 phase, 4 wire power systems, conductors shall be color coded Black (Phase A), Red (Phase B), Blue (Phase C), and White (Neutral). On 277/480V, 3 phase, 4 wire systems, conductors shall be color coded Brown (Phase A), Orange (Phase B), Yellow (Phase C), and Gray (Neutral).

c. Conductors #8 AWG and larger may be identified with two or more bands of proper color plastic tape applied near each splice and termination. Painting of wire will not be acceptable.

d. Phase sequence shall be "A", "B" and "C" from left to right, top to bottom or front to back when facing equipment.

2.3 BRANCH CIRCUIT RACEWAY WIRING:

a. Three-phase circuits shall be limited to one such circuit per raceway. They shall consist of three different phase wires, and a neutral where required.

b. A neutral shall not serve more than one circuit. The neutral carrying all or any part of the current of any specific load shall be contained in the same raceway or enclosure with the phase wire or wires also carrying that current.

c. Circuits shall be connected to panels as shown in the panel schedules.

2.4 SERVICE & FEEDER CONDUCTORS:

a. Unless specifically shown otherwise, each feeder and each set of service conductors shall be installed in a separate raceway.

b. Where paralleling of conductors is shown for feeders or service entrance, it is absolutely required they be exactly the same length between terminations.

c. Where service or feeder conductors are so installed that the conductor markings cannot be read without moving or twisting conductors, they shall be provided with suitable tags indicating the conductor size and insulation.

GROUNDING AND BONDING

1.1 SCOPE:

a. The electric system neutral, the neutral of each separately derived system, and all non-current-carrying metal parts, raceways, and enclosures shall be permanently and effectively grounded.

b. Grounding and bonding shall be provided in strict accordance with the National Electrical Code, and as specified herein and on the drawings.

c. The Contractor shall note that required grounding conductors and connections are not all shown on the drawings. NEC requirements apply.

2.1 MATERIALS AND APPLICATIONS:

a. Grounding conductors shall be of THWN insulated copper, unless otherwise indicated.

b. Grounding bus bars in distribution equipment shall be bare copper.

c. Clamps for attaching conductors to water pipes and ground rods shall be of bronze. Ground rod clamps shall be U.L. listed for direct burial.

d. Clamps for attaching conductors to building steel shall be of steel, bronze, or malleable iron.

e. Threaded hubs for bonding metal raceways to the contained grounding electrode conductors and to the water pipe clamps shall be of bronze or malleable iron. Similar hubs shall be used to bond the same raceways to the conductors and to sheet metal equipment enclosures.

f. Driven grounding electrodes shall consist of copper clad steel rods. Rods shall be 8 feet long and 5/8" diameter unless otherwise indicated.

g. Bonding bushings shall be of steel or malleable iron with non-removable plastic throats rated 150°C.

h. Bonding locknuts and wedges for service conduits shall be of zinc coated steel.

3.1 EQUIPMENT GROUNDING:

a. All non-current-carrying metal parts, raceways, and enclosures of the electrical system and of equipment supplied through the electrical system shall be permanently and effectively grounded.

b. Equipment grounding conductors shall be provided for each feeder and for each branch circuit and shall be contained within the same raceways as the feeder and branch circuit conductors. The equipment grounding conductor shall be THWN insulated copper, not smaller than #12 AWG.

c. Copper bonding strips normally included in small sizes of liquid-tight flexible metal conduit and dependent upon the terminal connectors for bonding continuity will not be accepted in lieu of the equipment grounding conductors specified herein.

d. Where metal raceways enter sheet metal enclosures through knockouts provide bonding bushings and jumpers to the enclosure under any of the following conditions:

1. Voltage exceeds 250 volts to ground.

2. Branch circuit conduit exceeds 1" in size.

3. Feeder conduit regardless of voltage and size.

SECONDARY DISTRIBUTION EQUIPMENT

1.1 OVERCURRENT PROTECTION DEVICES:

a. Unless otherwise indicated, circuit breakers shall be provided as the overcurrent protection devices for services, separately derived systems, feeders, and branch circuits. Fuses may be used only where indicated on the drawings, or required by the nameplate for equipment connected, or specified herein.

b. Molded-case and insulated-case circuit breakers shall be the static or thermal-magnetic type, quick-make and quick-break for manual and automatic operation. Multipole breakers shall be common trip. Circuit breakers shall be bolted in place where possible. Thermal-magnetic breakers shall be calibrated at 40oC. or ambient compensated. Ampere ratings, frame sizes, and short circuit ratings shall be as indicated on the drawings. Series ratings may be applied only where specifically indicated on the drawings. Individual enclosures shall be NEMA 1 indoors, 3R outdoors, unless otherwise indicated. Other circuit breakers shall be suitable for installation in Switchboards, Panelboards, and Motor Control Centers as hereinafter specified.

c. Single-pole 15 and 20 amp circuit breakers shall be SWD rated.

d. Fuses shall be the non-renewable, time delay, cartridge type, UL Class RK5 unless otherwise indicated; for installation in Safety Switches, Panelboards, Switchboards, and/or Motor Control Centers as hereinafter specified.

1.2 SWITCHING EQUIPMENT:

a. Fusible switches shall be incorporated into Safety Switches, as hereinafter specified. Manual operation shall be quick-make and quick-break. Fuse holders shall be the Class R rejection type unless otherwise indicated.

b. Safety Switches shall be the NEMA heavy duty type, horsepower rated, with interlocked covers, non-fusible except where fused switches are indicated or fuses are required. Switch mechanisms shall be quick-make and quick-break. Enclosures shall be NEMA 1 indoors, NEMA 3R outdoors unless otherwise indicated. Fuse holders, where required, shall be as specified above for fusible switches.

c. Switches for disconnecting small single-phase motors and appliances shall comply with SECTION 16150 WIRING DEVICES.

2.1 INSTALLATION:

a. Distribution Equipment shall be installed in strict accordance with the manufacturer's instructions for handling, support, connections, assembly, protection, energization, adjustment, and similar procedures.

b. Fastening methods shall comply with SECTION 16100 BASIC MATERIALS AND METHODS.

c. Floor mounted equipment such as Switchboards, Motor Control Centers, and Dry-Type Transformers shall be provided with 4" high concrete pads and shall be secured to the concrete pad. Pads shall have a 3/4 inch chamber on each accessible side.

d. Equipment interiors shall be thoroughly cleaned of dust, dirt, trash, and other foreign material prior to energization of the equipment.

e. Exterior Safety Switches that are readily accessible to unauthorized persons shall have their covers padlocked closed by the Contractor. Keys shall be identified and delivered to the Owner.

f. Upon completion or the project, furnish to the Owner one complete set of replacement fuses, consisting of three fuses of each type and rating used.

g. Directory cards for Panelboards and for group mounted Switchboard sections shall be neatly filled-in with a typewriter to indicate the type and location of the load on each circuit or feeder.

H1 SPECIFICATIONS
E300 SCALE: NO SCALE

McKNIGHT·SMITH WARD · GRIFFIN
ENGINEERS, INCORPORATED
PO Box 240826 · 4223 South Boulevard
Charlotte, NC
704/527-2112
19-191

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
McKNIGHT · SMITH WARD · GRIFFIN ENGINEERS, INC. No. C00926

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
No. 18963
MARK P. ARRINGTON
03-15-2020

Owner:

Horry County Schools

Horry County School District
Facilities
1160 East Highway 501
Conway, South Carolina 29526

NORTH MYRTLE BEACH HIGH SCHOOL
ADDITIONS AND RENOVATIONS
HORRY COUNTY SCHOOLS
Little River, South Carolina

PROJECT NO.: 19-191

PHASE OF WORK: BD

DATE: 3/15/2020
BID DOCUMENTS

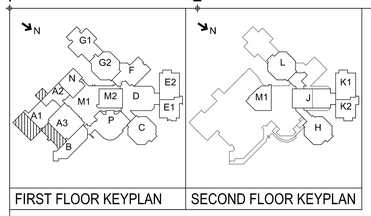
REVISIONS:

TITLE:

SPECIFICATIONS

SHEET:

E300



FIRST FLOOR KEYPLAN

SECOND FLOOR KEYPLAN

HATCHED AREA NOT IN SCOPE OF WORK.

REPLACE EXISTING RTU WITH NEW RTU, (TYPICAL).

RTU-48-5

RTU-A-10

RTU-A-11

RTU-A-9B

MUA-A-1

EXIST. DRYER VENT ROOF CAP

MSHP-A-1

RTU-A-7

RTU-A-8

MSHP-A-1

RTU-A-6

RTU-A-17

REPLACE EXISTING VENTILATOR FAN WITH NEW VENTILATOR FAN, (TYPICAL).

VF-4

VF-3

RTU-47-5

RTU-A-5

RTU-A-16

ERV-A-16

RTU-46-10

ERV-A-15

RTU-A-15

RTU-45-10

ERV-A-14

REPLACE EXISTING RTU WITH NEW RTU, (TYPICAL).

RTU-44-13

VF-1

MSHP-B-1

VTR

H1	PARTIAL ROOF PLAN - AREA A
M101	SCALE: 1/8" = 1'-0"

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McKNIGHT · SMITH WARD · GRIFFIN ENGINEERS, INC.
No. C00926

SOUTH CAROLINA PROFESSIONAL ENGINEER
No. 20133
CRAIG CHAMPION
3-15-2020

Owner:

HCS Horry County Schools

Horry County School District
Facilities
1160 East Highway 501
Conway, South Carolina 29526

NORTH MYRTLE BEACH HIGH SCHOOL ADDITIONS AND RENOVATIONS

HORRY COUNTY SCHOOLS
Little River, South Carolina

PROJECT NO.: 19-191

PHASE OF WORK: BD

DATE: 3/15/2020
BID DOCUMENTS

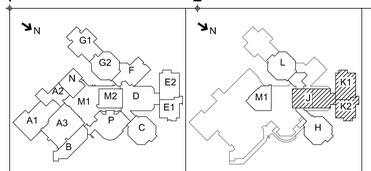
REVISIONS:

TITLE:

PARTIAL ROOF PLAN - AREA A RENOVATION

SHEET:

M101



FIRST FLOOR KEYPLAN

SECOND FLOOR KEYPLAN

MUA-F-1

VRFHP-F-2

VRFHP-F-1

HATCHED AREA NOT IN SCOPE OF WORK.

MSHP-L-2

REPLACE EXISTING RTU WITH NEW RTU, (TYPICAL).

RTU-18-7.5

RTU-37-3

RTU-35-3

RTU-39-3

RTU-41-3

RTU-40-3

RTU-42-3

RTU-43-3

RTU-15-4

FAU-1

RTU-38-3

RTU-36-3

EXISTING 7.5 TON

REPLACE EXISTING FAU UNIT WITH NEW FAU UNIT, (TYPICAL).

RTU-33-3

EXISTING 5 TON

VF-14

VF-13

EXISTING CONDENSING UNIT TO REMAIN UNDER BASE BID AND REPLACED UNDER ALTERNATE, REPLACEMENT INCLUDES EXISTING INDOOR UNIT AH-18 ON FIRST FLOOR

CU-18

RTU-34-3

EXISTING 5 TON

VTR

REPLACE EXISTING RTU WITH NEW RTU, (TYPICAL).

RTU-31-3

RTU-14-3

RTU-32-3

RTU-13-3

RTU-12-3

RTU-30-3

RTU-29-3

RTU-11-3

RTU-10-3

RTU-27-3

RTU-28-3

RTU-9-3

RTU-7-3

RTU-8-3

RTU-26-3

RTU-25-3

REPLACE EXISTING FAU UNIT WITH NEW FAU UNIT, (TYPICAL).

FAU-2

VF-10

REPLACE EXISTING VENTILATOR FAN WITH NEW VENTILATOR FAN, (TYPICAL).

VF-11

RTU-24-3

RTU-6-2

VF-12

RTU-4-3

RTU-21-3

RTU-22-3

RTU-3-3

RTU-2-5

RTU-20-3

RTU-19-5

RTU-1-3

REPLACE EXISTING RTU WITH NEW RTU, (TYPICAL).

EF-H-1

MSHP-H-2

HATCHED AREA NOT IN SCOPE OF WORK.

H1	PARTIAL ROOF PLAN - AREAS J & K
M102	SCALE: 1/8" = 1'-0"

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Owner:

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NORTH MYRTLE BEACH HIGH SCHOOL ADDITIONS AND RENOVATIONS

HORRY COUNTY SCHOOLS
Little River, South Carolina

PROJECT NO.: 19-191

PHASE OF WORK: BD

DATE: 3/15/2020
BID DOCUMENTS

REVISIONS:

TITLE:

PARTIAL ROOF PLAN - AREAS J & K RENOVATION

SHEET:

M102

FRESH AIR HEAT PUMP UNIT SCHEDULE

Unit Tag	Area Served	Supply Fan			Exhaust Fan			Cooling Coil					Heat Pump				Electric Heat			Energy Recovery Wheel												Electrical Data				Approx. Weight (Lbs.)	Model	Remarks
																				Summer Performance					Winter Performance														
		CFM	ESP	HP	CFM	ESP	HP	Gross Total MBH	Entering Coil (F) DB/WB	Leaving Coil (F) DB/WB	Leaving Reheat (F) DB/WB	Leaving Unit (F) DB (TS)	Gross Total MBH	Entering Coil (F) DB/WB	Leaving Coil (F) DB/WB	COP at 34 (F)	Capacity KW	Entering Coil (F) DB/WB	Leaving Coil (F) DB/WB	Outside (F) DB/WB	Supply (F) DB/WB	Return (F) DB/WB	Exhaust (F) DB/WB	Total Cap. MBH	Sensible Cap. MBH	Outside (F) DB/WB	Supply (F) DB/WB	Return (F) DB/WB	Exhaust (F) DB/WB	Total Cap. MBH	Sensible Cap. MBH	Volts	Phase	MCA	MOCP			
FAU-1	AREA J	3600	1.25	3	3283	1.25	2	231.3	82.6/69.8	48.5/48.5	74.4/59.22	75.8/59.8	218.8	56.5	111.3	3.7	20	56.5	74.1	93.0/78.0	82.6/69.8	78.0/65.0	89.1/74.4	116.26	43.37	25.0/21.0	56.5/44.8	72.0/54.4	37.3/31.8	163.71	131.42	460	3	47.7	60	4682	OADG020C3	1-15, 18-20
FAU-2	AREA K	6400	1	5	5488	1	5	468.4	83.2/70.3	45.6/45.6	69.21/55.95	70.7/56.6	498.1	55.6	125.8	2.8	40	55.6	75.3	93.0/78.0	83.2/70.3	78.0/65.0	89.7/75.1	200.66	68.81	25.0/21.0	55.6/44.3	72.0/54.4	35.5/30.3	279.59	215.67	460	3	101.3	110	10742	OANE600A4	1, 3-7, 9-20

1. MODEL NUMBERS BASED ON TRANE. EQUALS BY MUNTERS / DES CHAMPS WRINGER UNIT, GREENHECK, SEMCO.
2. DIGITROL SCROLL COMPRESSOR ON 1ST CIRCUIT ONLY.
3. COMPLETE PACKAGE WITH SINGLE POINT ELECTRICAL CONNECTION, NON-FUSED DISCONNECT, AND CONVENIENCE OUTLET.
4. ROOF MOUNTED, VERTICAL DISCHARGE/RETURN
5. FIN AND TUBE MODULATING HGRH
6. ACTIVE (VFD) HEAD PRESSURE CONTROL.
7. SCR MODULATING ELECTRIC HEAT.
8. R410a REFRIGERANT AND 6-ROW DX COIL.
9. DIRECT DRIVE FANS WITH VFDS ON EACH FAN WITH PIEZO RINGS AND TAPS.
10. MODULATING OA & RA DAMPERS W/ECONOMIZER AND BAROMETRIC RELIEF DAMPERS.
11. ROOF CURB ADAPTOR AS REQUIRED, FIELD COORDINATE SIZE, ORIENTATION, AND DUCT CONNECTIONS PRIOR TO SUBMITTAL AND PURCHASE.
12. PROVIDE BACNET CARD FOR INTERFACE WITH OWNER-SUPPLIED CMI BUILDING AUTOMATION SYSTEM.
13. HAILGUARDS
14. PROVIDE FROSTAT AND SUPPLY DISCHARGE AIR SENSOR
15. 2-INCH DOUBLE WALL CONSTRUCTION AND STAINLESS STEEL DRIP PAN
16. DIGITAL SCROLL COMPRESSORS ON BOTH CIRCUITS.
17. R410a REFRIGERANT AND 4-ROW DX COIL.
18. MERV-8 FILTERS.
19. ENERGY RECOVERY WHEEL.
20. PROVIDE SEA COAST COATINGS ON ALL ROOFTOP AND EXTERIOR EXPOSED EQUIPMENT.

PACKAGED HEAT PUMP SCHEDULE

Unit Tag	Nom. Tons	SEER (EER)	COP	CFM	O.A. CFM	Served by ERV / MUA	ESP	Fan Motor		Cooling Performance			Heating Performance			Auxiliary Heating				Electrical Data									Model	Approx. Weight (lbs.)	Detail	Remarks
								HP	Volts	EAT DB/WB	MBH Net Total	MBH Net Sens.	EAT	MBH	Amb. Temp.	kW	Steps	Volts	Phase	Fan		Compressor		MCA	MOCP	Volts	Phase				
																				No.	FLA	No.	LRA	RLA								
RTU-1-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-2-5	5	14.3	3.4	2000	250	NOTE 7	0.5	1	460	80/67	59.36	47.10	70	35.24	17	18.0	2	460	3	1	0.8	1	-	7.8	41	45	460	3	WSC060H4	800		1-6
RTU-3-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-4-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-5-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-6	NOT USED																															
RTU-7-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-8-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-9-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-10-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-11-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-12-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-13-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-14-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-15-4	4	14.3	3.4	1600	0	NOTE 9	0.5	1	460	80/67	48.7	37.2	70	25.31	17	12.0	2	460	3	1	0.7	1	-	6.3	30	30	460	3	WSC048H4	800		1-6
RTU-16	NOT USED																															
RTU-17	NOT USED																															
RTU-18-7.5	7.5	12.2	3.07	3000	500	NOTE 7	0.5	1	460	80/67	92.07	71.36	70	85.81	47	18.0	1	460	3	1	1.6	2	-	11.67	45	50	460	3	WSC092H4	1050		1-6
RTU-19-5	5	14.3	3.4	2000	250	NOTE 7	0.5	1	460	80/67	59.36	47.10	70	35.24	17	18.0	2	460	3	1	0.8	1	-	7.8	41	45	460	3	WSC060H4	800		1-6
RTU-20-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-21-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-22-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-23	NOT USED																															
RTU-24-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-25-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-26-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-27-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-28-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-29-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-30-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-31-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-32-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-33-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-34-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-35-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-36-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-37-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-38-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-39-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-40-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-41-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-42-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-43-3	3	14.3	3.4	1200	250	NOTE 7	0.5	3/4	460	80/67	38.64	28.64	70	22.04	17	12.0	2	460	3	1	0.55	1	-	6.6	29	30	460	3	WSC036H4	700		1-6
RTU-44	15	(10.6)	-	5000	500	NOTE 10	1	3	460	75.5/65.5	169.6	104.1	62.9	170.1	17	18.0	3	460	3	2	1.6	2	-	12.2/12.5	64	70	460	3	WSD180E	2,800		1-6
RTU-45-10	10	12.2	3.23	4000	1000	NOTE 8	0.5	3	460	80/67	116.12	89.88	60	110.34	47	27.0	2	460	3	1	1.6	2	-	7.8/7.8	64	70	460	3	WSC120H4	1200		1-6
RTU-46-10	10	12.2	3.23	4000	1000	NOTE 8	0.5	3	460	80/67	116.12	89.88	60	110.34	47	27.0	2	460	3	1	1.6	2	-	7.8/7.8	64	70	460	3	WSC120H4	1200		1-6
RTU-47-5	5	14.3	3.4	2000	0	NOTE 10	0.5	1	460	80/67	59.36	47.10	70	35.24	17	18.0	2	460	3	1	0.8	1	-	7.8	41	45	460	3	WSC060H4	800		1-6
RTU-48-5	5	14.3	3.4	2000	300	NOTE 10	0.5	1	460	80/67	59.36	47.10	70	35.24	17	18.0	2	460	3	1	0.8	1	-	7.8	41	45	460	3	WSC060H4	800		1-6
EXISTING 5 TON	5	14.3	3.4	2000	375	NOTE 10	0.5	1	460	80/67	59.36	47.10	70	35.24	17	18.0	2	460	3	1	0.8	1	-	7.8	41	45	460	3	WSC060H4	800		1-6
EXISTING 5 TON	5	14.3	3.4	2000	375	NOTE 10	0.5	1	460	80/67	59.36	47.10	70	35.24	17	18.0	2	460	3	1	0.8	1	-	7.8	41	45	460	3	WSC060H4	800		1-6
EXISTING 7.5 TON	7.5	12.2	3.07	3000	500	NOTE 10	0.5	1	460	80/67	92.07	71.36	70	85.81	47	18.0	1	460	3	1	1.6	2	-	11.67	45	50	460	3	WSC092H4	1050		1-6

1. MODEL NUMBERS BASED ON TRANE. EQUALS BY CARRIER, YORK.
2. SINGLE POINT ELECTRICAL CONNECTION.
3. UNIT CONTROLS SHALL BE OWNER SUPPLIED, SIEMENS CONTROL SYSTEM AS INSTALLED BY CMI.
4. ROOF CURB ADAPTOR AS REQUIRED, FIELD COORDINATE SIZE, ORIENTATION, AND DUCT CONNECTIONS PRIOR TO SUBMITTAL AND PURCHASE.
5. HOT GAS REHEAT AND UNITS 7.5 TONS AND LARGER SHALL BE DUAL COMPRESSOR.
6. PROVIDE SEA COAST COATING FOR ALL UNITS.
7. OUTSIDE AIR FOR THIS ZONE IS PROVIDED BY DEDICATED FRESH AIR UNIT DUCTED DIRECTLY TO RETURN DUCT.
8. OUTSIDE AIR FOR THIS ZONE IS PROVIDED BY RTU MANUFACTURER'S BOLT-ON ERV UNIT FOR DIRECT CONNECTION TO RTU WITHOUT ADDITIONAL DUCTWORK.
9. PROVIDE MANUAL OUTSIDE AIR DAMPER, BALANCE OUTSIDE AIR AS INDICATED IN SCHEDULE.
10. PROVIDE ECONOMIZER, BALANCE OUTSIDE AIR AS INDICATED IN SCHEDULE.

FAN SCHEDULE

Unit Tag	Area Served	CFM	ESP (IN.)	Fan RPM	Sones	Drive	BHP	HP (Watts)	Volts	Phase	Type	Model	Remarks
VF-3	TOILET ROOMS	200	0.25	1376	3.2	DIRECT	0.02	1/30	115	1	ROOF MOUNTED DOWNBLAST	G-070-D	1-7, 9
VF-4	STORAGE ROOM	180	0.25	1332	3	DIRECT	0.02	1/30	115	1	ROOF MOUNTED DOWNBLAST	G-070-D	1-7, 9
VF-10	2ND FLOOR STORAGE ROOM	100	0.25	1489	3.3	DIRECT	0.01	1/60	115	1	ROOF MOUNTED DOWNBLAST	G-060-D	1-7, 9
VF-11	1ST FLOOR GANG TOILETS	1460	0.25	1325	11.2	DIRECT	0.2	1/2	115	1	ROOF MOUNTED DOWNBLAST	G-123-A	1-7, 9
VF-12	2ND FLOOR GANG TOILETS	1460	0.25	1325	11.2	DIRECT	0.2	1/2	115	1	ROOF MOUNTED DOWNBLAST	G-123-A	1-7, 9
VF-13	2ND FLOOR STORAGE ROOM	300	0.25	991	3.8	DIRECT	0.03	1/30	115	1	ROOF MOUNTED DOWNBLAST	G-095-E	1-7, 9
VF-14	2ND FLOOR STORAGE ROOM	300	0.25	991	3.8	DIRECT	0.03	1/30	115	1	ROOF MOUNTED DOWNBLAST	G-095-E	1-6, 8, 9

1. MODEL NUMBERS BASED ON GREENHECK. EQUALS BY CARNES, COOK, TWIN CITY.
2. STARTER BY E.C. / DISCONNECT BY MFG.
3. PROVIDE BIRDSCREEN AND BACKDRAFT DAMPER.
4. ROOF CURB ADAPTOR AS REQUIRED, FIELD COORDINATE SIZE, ORIENTATION, AND DUCT CONNECTIONS PRIOR TO SUBMITTAL AND PURCHASE.
5. PROVIDE 277V STEP-DOWN TRANSFORMER AS REQUIRED.
6. UNIT MOUNTED SOLID STATE SPEED CONTROL.
7. CONTROLLED BY LIGHT SWITCH, COORDINATE WITH ELECTRICAL CONTRACTOR.
8. WALL MOUNTED THERMOSTAT, COORDINATE WITH ELECTRICAL CONTRACTOR.
9. PROVIDE SEA COAST COATINGS ON ALL ROOFTOP AND EXTERIOR EXPOSED EQUIPMENT.

ALTERNATE BID - SPLIT SYSTEM AIR CONDITIONING UNIT SCHEDULE

Unit Tag	AREA SERVED LOCATION	Weight (lbs)	CFM Hi/Lo	Fan Motor			Cooling Performance			Fan Coil Type	INDOOR UNIT MODEL	Outdoor Unit							Remarks
				MCA	Volts	Phase	EAT	MBH Total	MBH Sens.			Unit Tag	MCA	MOCP	Volts	Phase	Weight (lbs)	Model	
AH-18	CLOSET	37	661/347	1	208	1	80/67	22.5	16.9	WALL-MOUNTED	MSY-GL24NA	CU-18	17.1	20	208	1	119	MUY-GL24NA	1 - 7

1. MODELS BY MITSUBISHI. EQUALS BY LENNOX, RHEEM, AND SANYO. CONTRACTOR SHALL VERIFY SERVICE CLEARANCES FOR ALL SUBSTITUTIONS.
2. COOLING CAPACITIES BASED ON A 95 DEGREE OUTDOOR AIR TEMPERATURE
3. COMPLETE REFRIGERANT PIPING SYSTEM PER UNIT MFG.
4. COORDINATE INDOOR AND OUTDOOR UNIT ELECTRICAL CONNECTIONS WITH ELECTRICAL CONTRACTOR. BASIS OF DESIGN IS INDOOR UNIT POWERED FROM OUTDOOR UNIT.
5. PROVIDE MANUFACTURER'S CONTROLS AS REQUIRED FOR COMPLETE STAND ALONE OPERATION. CONTROLS SHALL INCLUDE ALL THERMOSTAT, EQUIPMENT, ETC. AS REQUIRED. PROVIDE REMOTE WIRED WALL MOUNTED THERMOSTAT.
6. UNITS SHALL BE MINIMUM 15 SEER RATING COOLING MODE AND 10 HSPF RATING HEATING MODE.
7. PROVIDE SEA COAST COATINGS ON ALL ROOFTOP AND EXTERIOR EXPOSED EQUIPMENT.

McKNIGHT · SMITH WARD · GRIFFIN
ENGINEERS, INCORPORATED
PO Box 240826 • 4223 South Boulevard
Charlotte, NC
704/527-2112
19-191

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION — McKNIGHT · SMITH WARD · GRIFFIN ENGINEERS, INC. No. C00926

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER No. 20133 — CRAIG CHAMPION — 3-15-2020

Owner:

Horry County Schools

Horry County School District
Facilities
1160 East Highway 501
Conway, South Carolina 29526

NORTH MYRTLE BEACH HIGH SCHOOL ADDITIONS AND RENOVATIONS

HORRY COUNTY SCHOOLS
Little River, South Carolina

PROJECT NO.: 19-191

PHASE OF WORK: BD

DATE: 3/15/2020
BID DOCUMENTS

REVISIONS:

TITLE:

SCHEDULES

SHEET:

M201

McKNIGHT · SMITH
WARD · GRIFFIN
ENGINEERS, INCORPORATED
PO Box 240826 • 4223 South Boulevard
Charlotte, NC
704/527-2112
19-191

SOUTH CAROLINA
McKNIGHT · SMITH
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CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
PROFESSIONAL ENGINEER
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CRAIG CHAMBERS
3-15-2020

Owner:

HCS
Horry County Schools

Horry County School District
Facilities
1160 East Highway 501
Conway, South Carolina 29526

NORTH MYRTLE BEACH HIGH SCHOOL ADDITIONS AND RENOVATIONS

HORRY COUNTY SCHOOLS
Little River, South Carolina

PROJECT NO.: 19-191
PHASE OF WORK: BD
DATE: 3/15/2020
BID DOCUMENTS

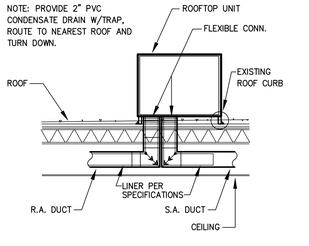
REVISIONS:

TITLE:

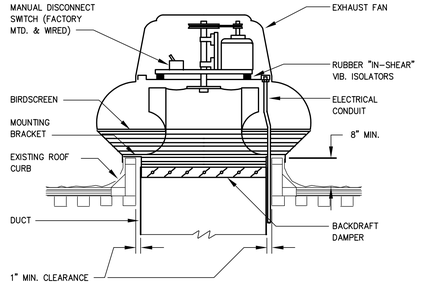
DETAILS

SHEET:

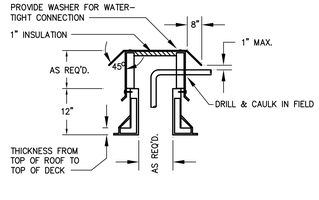
M301



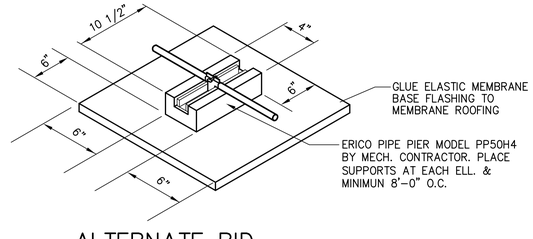
1 SECTION @ ROOFTOP UNIT
SCALE: N.T.S.
NOTE: SEE PLANS FOR SIZES



2 ROOF MTD. EXHAUST FAN DETAIL
SCALE: N.T.S.



3 ALTERNATE BID
PIPE THRU ROOF DETAIL
SCALE: N.T.S.



4 ALTERNATE BID
PIPING ROOF SUPPORT DETAIL
SCALE: N.T.S.