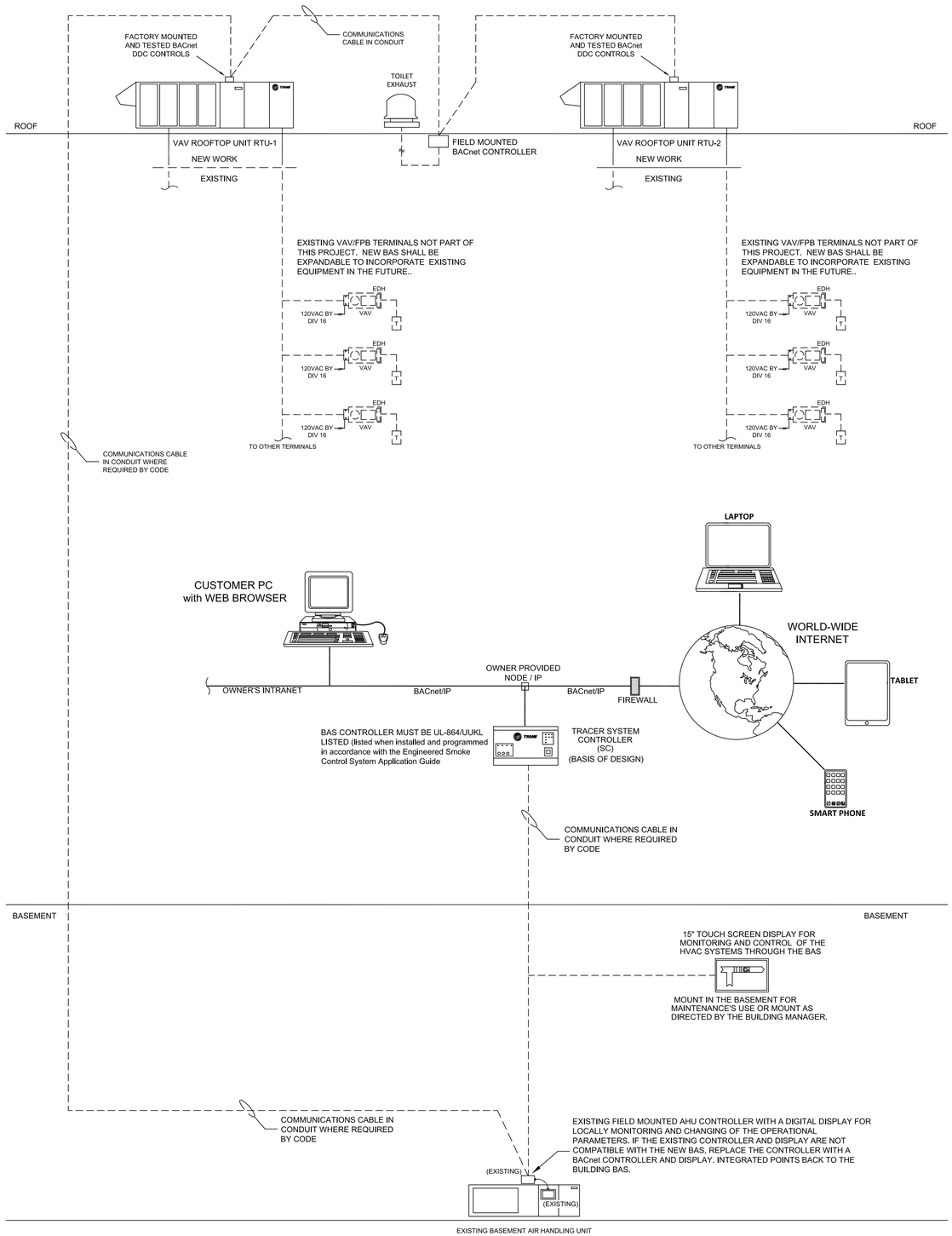

CONTROL SYSTEM ARCHITECTURE

HVAC CONTROLS GENERAL:

THE TRANE TRACER SYSTEM CONTROLLER (SC) IS THE BUILDING AUTOMATION SYSTEM (BAS) BASIS OF DESIGN.

- THE CONTROLS CONTRACTOR MUST HAVE AT LEAST TWO QUALIFIED FULL TIME TECHNICIAN WORKING IN THE TALLAHASSEE AREA (AND LIVING WITHIN 50 MILES OF THE PROJECT SITE).

- THE CONTROLS CONTRACTOR SHALL COORDINATE WITH THE OWNER'S INFORMATION TECHNOLOGY (IT) AND MAINTENANCE STAFFS AS WELL AS THE MECHANICAL AND ELECTRICAL CONTRACTORS.

- THE CONTROL SYSTEM SHALL CONSIST OF A HIGH-SPEED PEER-TO-PEER NETWORK OF DDC CONTROLLERS, A LOCAL OPERATOR CONTROL SYSTEM GRAPHIC INTERFACE, AND A WEB BASED OPERATOR INTERFACE. THE EXISTING TRANE CONTROLS, EQUIPMENT, SOFTWARE MAY BE USED WHERE PRACTICAL. REDUNDANT INSTALLATIONS NOT REQUIRED.

- SYSTEM SOFTWARE SHALL BE BASED ON A SERVER/THIN-CLIENT ARCHITECTURE, DESIGNED AROUND THE OPEN STANDARDS OF WEB TECHNOLOGY. THE CONTROL SYSTEM SERVER SHALL BE ACCESSED USING A WEB BROWSER OVER THE CONTROL SYSTEM NETWORK, THE OWNER'S LOCAL AREA NETWORK (LAN), AND OVER THE INTERNET.

- CONTROLS FOR THE NEW HVAC EQUIPMENT (UOS) SHALL OPERATE VIA NATIVE BACNET MS/TP PROTOCOL. THE CONTRACTOR SHALL INSTALL A NEW BACNET MS/TP NETWORK AND CONNECT IT VIA ROUTER TO THE OWNER'S EXISTING (LAN).

- PROVIDE AND INSTALL A NEW MINIMUM 15" LOCAL OPERATOR GRAPHIC DISPLAY INTERFACE. OPERATOR INTERFACE FROM THE MAINTENANCE BUILDING FACILITY SERVICE MANAGER'S OFFICE IS TO BE VIA WEB BROWSER.

- ALL CONTROLS WIRING AND RACEWAYS SHALL COMPLY WITH DIVISION 16; WIRE JACKET SHALL BE GREEN, WHEN FREE WIRED; AND JUNCTION BOX COVERS PAINTED GREEN.

- THE CONTROLS CONTRACTOR WILL PROVIDE HIS OWN TRANSFORMERS FOR BAS PANELS AND ASSOCIATED EQUIPMENT. THE ELECTRICAL CONTRACTOR WILL TERMINATE POWER WIRING TO EACH TRANSFORMER.

- PROVIDE BATTERY BACKUP FOR ALL CONTROL PANEL POWER SUPPLIES.

- MOUNT NEW ROOM TEMPERATURE SENSORS AT 48-54" AFF.

- THE CONTROLS CONTRACTOR SHALL PERFORM DEMOLITION OF EXISTING CONTROLS, INCLUDING AFFECTED PNEUMATICS, TUBING, PANELS, ETC., WHERE POSSIBLE.

- EQUIPMENT TO BE CONTROLLED INCLUDES:
2 @ ROOFTOP CHILLED WATER HOT WATER VAV AIR HANDLING UNITS
1 @ BUILDING TOILET EXHAUST
1 @ EXISTING DDC CONTROLLED AHU IN THE BASEMENT IS TO BE INCORPORATED INTO THE NEW BAS SYSTEM. PROVIDE NEW EQUIPMENT CONTROLLER IF NECESSARY. CONTROL DEVICES MAYBE REUSED WHERE APPROPRIATE.

- IN ADDITION TO CONTROLLERS AND CONTROL DEVICES, THE CONTROLS CONTRACTOR SHALL PROVIDE THE FOLLOWING EQUIPMENT AND COORDINATE INSTALLATION WITH THE MECHANICAL AND ELECTRICAL CONTRACTORS:
1. COOLING AND HEATING COIL CONTROL VALVES. (SELECT CONTROL VALVES FOR PRESSURE DROP NOT TO EXCEED COIL PRESSURE DROP.)
2. 5 ZONE TEMPERATURE, CO2, RELATIVE HUMIDITY SENSORS WITH UNOCCUPIED OVERRIDE PER NEW AHU.

- THE CONTROLS CONTRACTOR SHALL INDICATE ON THE AS-BUILTS AND GRAPHICS THE LOCATION OF EACH DUCT AND ZONE SENSOR.

- THE CONTROLS CONTRACTOR SHALL PROVIDE A COMPREHENSIVE GRAPHICS PACKAGE THAT INCLUDES ALL THE AFFECTED AREAS WITHIN THE SCOPE OF THE PROJECT. THE GRAPHICS PACKAGE SHALL BE EXPANDABLE TO ACCOMMODATE FUTURE PROJECT PHASES AND CHANGES TO THE OVERALL SITE PLAN AS BUILDINGS TRANSITION TO DDC.

- THE CONTROLS CONTRACTOR SHALL COORDINATE WITH THE OWNER AND PROGRAM THE SYSTEM TO ACCOMMODATE HIS/HER NEEDS, INCLUDING TREND DATA LOGS, REPORTS, FREQUENCY, ETC.

- THE CONTROLS CONTRACTOR SHALL PROVIDE A TREND DATA REPORTS 3 DAYS IN ADVANCE OF SUBSTANTIAL COMPLETION AND AGAIN FOR FINAL COMPLETION. THE ENGINEER WILL REVIEW AND COMMENT ON THE DATA WHICH SHALL BE INCLUDED IN THE MECHANICAL PUNCHLIST.

- THE CONTROLS CONTRACTOR SHALL PROVIDE OWNER TRAINING AND OPERATOR ACCESS TO THE BAS SYSTEM OPERATOR INTERFACES TO ACHIEVE SUBSTANTIAL COMPLETION STATUS.

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ROOFTOP HVAC REPLACEMENT
DOYLE CONNER LAB ADMIN BUILDING
TALLAHASSEE, FLORIDA

FL. DEPT. OF AGRICULTURE & CONSUMER SERVICES

DATE:
November 10, 2017

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DESIGNED BY:	DRAWN BY:
PJM	TEP

SUBMITTAL:
CONSTRUCTION DOCUMENTS

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CONTROLS GENERAL

SHEET:
M5.0

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1712