

LOS RIOS COMMUNITY COLLEGE DISTRICT

1919 Spanos Court, Sacramento, CA 95825
Phone (916) 568-3071 FAX (916) 568-3145
Purchasing Department

Sacramento City College American River College Cosumnes River College Folsom Lake College

ADDENDUM NO. 1

ISSUE DATE: AUGUST 12, 2019

ARC BOILER REPLACEMENT PHASE 2

LRCCD BID NO. 19027

Issued By:

LOS RIOS COMMUNITY COLLEGE DISTRICT
1919 Spanos Court, Sacramento, CA 95825
Phone (916) 568-3071 Fax (916) 568-3145

This addendum forms a part to the Contract Documents. The addendum items supersede and supplement all portions of the bidding documents with which it conflicts. All workmanship, materials, appliances and equipment which may be included in the following addendum items shall be of the same relative quality as described for similar work set forth in the general or main specifications of which these addendum items shall be considered a part.

This Addendum has been acknowledged in the space provided on the Bid Form and is considered part of the bid documents.

This Addendum consists of 5 pages.

- Remove & replace page 1 of Specification Section 01 1100 Summary of Work
- Remove & replace drawing cover sheet M0.0 (scope of work)
- Remove & replace sheets M5.1 and M5.2

END OF SECTION.

American River College Boiler Replacement Phase 2 – LRCCD Bid # 19027

SECTION 01 1100 – SUMMARY OF WORK

PART 1 GENERAL

1.1 SECTION INCLUDES:

- A. Work Covered by Contract Documents.
- B. Work by Others.
- C. Contractor Use of Premises.

1.2 WORK COVERED BY CONTRACT DOCUMENTS:

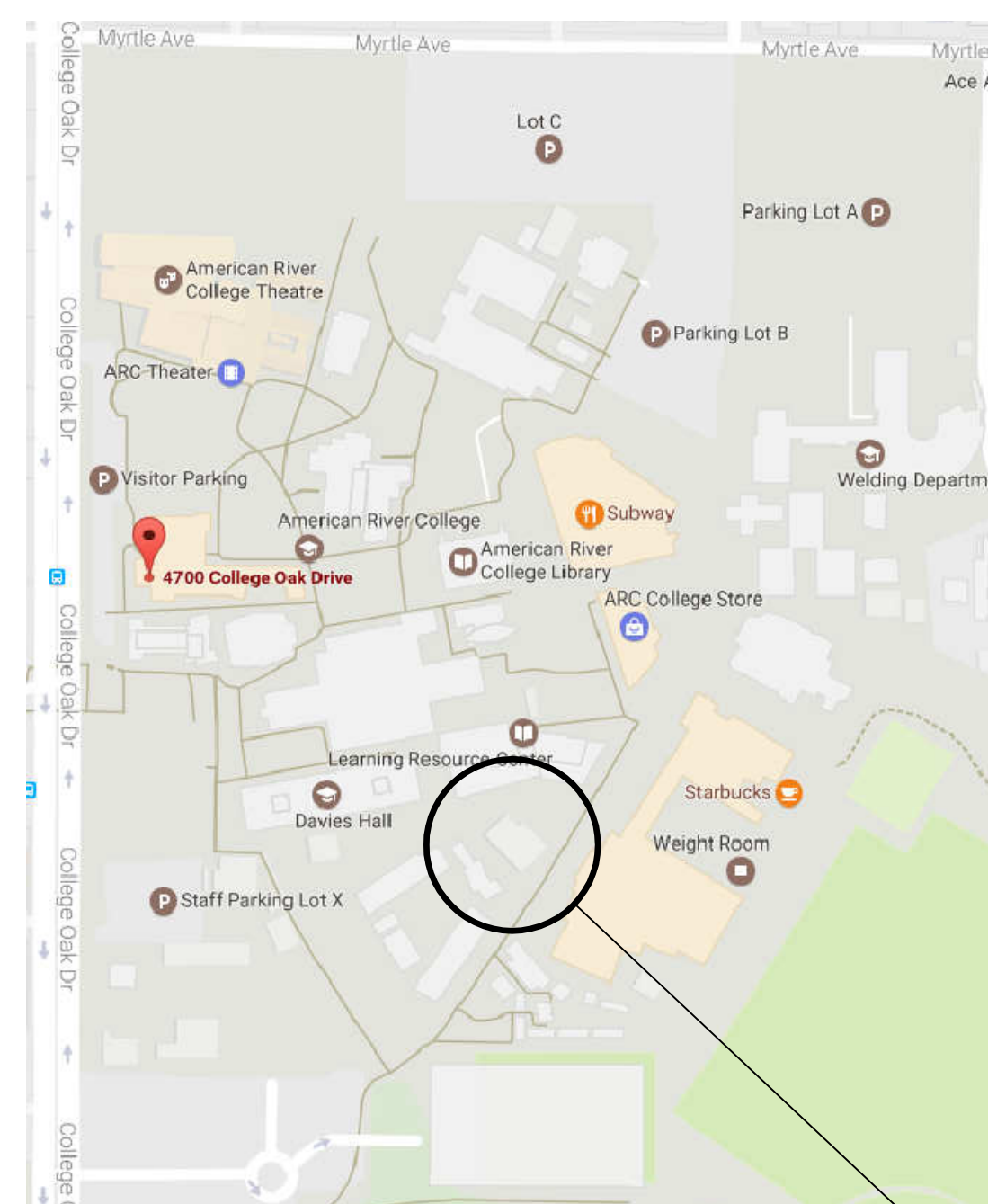
- A. **Outline of Work:** The work to be performed by Contractor shall conform to the requirements of the Contract Documents, including but not limited to, the General Conditions, specifications, drawings, and other related documents, and include the furnishing of all labor, materials, tools, equipment, plant, and services necessary therefore and incidental thereto to complete the project. Remove existing boilers B-2 and B-3. Remove existing boiler pumps B-2, B-3, C-2 and C-3. Remove and replace all associated piping and controls. Install District provided new boiler (B-3), provide and install infrastructure for future boiler B-2. Provide and install new pumps HWP-3, HWP-4 and HWP-5, new air separator, new 12 inch hot water piping loop and associated piping for the new pumps, gas and drain piping as required and all associated work shown in the contract documents.
Additional Project Requirements - Coordinate all work to insure that Boiler #1 shall be fully operational not later than October 18th, 2019.
- B. **Project Completion Date:** All work shall be completed within **90** calendar days after the construction start date specified in the Notice to Proceed.
- C. **Work Not Included:** Except for such auxiliary work as shown or specified, or is necessary as part of the construction, the following is NOT included in this contract: Any work shown but marked "Not In Contract" (NIC) or otherwise designated to be done under another Contract or by the District.
- D. **Location of Site:** The site of the work is located at **4700 College Oak Dr., Sacramento, Ca. 95841.**

1.3 CONTRACT METHOD

- A. Construct the Work under a single Lump Sum Contract.

1.4 CONTRACTOR USE OF PREMISES

- A. Contractor shall have use of the premises as described in the Construction drawings for access to and the execution of the Work. Portion of the site beyond areas in which construction operations are indicated are not to be disturbed.
- B. Coordinate use of the premises with the acceptance of the District's Project Manager.
- C. Assume full responsibility for the protection and safekeeping of products under this Contract, stored on the site.
- D. Schedule deliveries so as to minimize space and time requirements for storage of



VICINITY MAP

AMERICAN RIVER COLLEGE 4700 COLLEGE OAK DRIVE SACRAMENTO, CA. 95841

BOILER REPLACEMENT PHASE II



SITE MAP

PROJECT AREA
DSA # 15192 & 30660 & 02-116165

MECHANICAL GENERAL NOTES	
<p>PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS BRACING NOTE:</p> <p>PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.5.6, 13.6.7, 13.6.8, AND 2016 CBC, SECTIONS 1616A.1.24, 1616A.1.25 AND 1616A.1.26.</p> <p>THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G., SMACNA OR OSHPD OPM), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.</p> <p>MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):</p> <p>MP MD PP E - OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.</p> <p>MP MD PP E - OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM #) # _____.</p> <p>MP MD PP E - OPTION 3: SHALL COMPLY WITH THE SMACNA SEISMIC RESTRAINING MANUAL, OSHPD EDITION (2009), INCLUDING ANY ADDENDA, FASTENERS AND OTHER ATTACHMENTS NOT SPECIFICALLY IDENTIFIED IN THE SMACNA SEISMIC RESTRAINING MANUAL, OSHPD EDITION, ARE DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS. THE DETAILS SHALL ACCOUNT FOR THE APPLICABLE SEISMIC HAZARD LEVEL _____ AND CONNECTION LEVEL _____ FOR THE PROJECT AND CONDITIONS.</p>	

GENERAL NOTES	
<ul style="list-style-type: none"> THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATIONS, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER, OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY THE JURISDICTION HAVING AUTHORITY, BEFORE PROCEEDING WITH THE WORK. 1 COPY OF 2016 TITLE 24, PARTS 1-5 MUST BE KEPT ON SITE DURING CONSTRUCTION. FABRICATION AND INSTALLATION OF DEFERRED SUBMITTAL ITEMS SHALL NOT BE STARTED UNTIL CONTRACTOR'S DRAWINGS, SPECIFICATIONS, AND ENGINEERING CALCULATIONS FOR THE ACTUAL SYSTEMS TO BE INSTALLED HAVE BEEN ACCEPTED AND SIGNED BY THE ARCHITECT OR STRUCTURAL ENGINEER AND APPROVED BY THE DSA. LIST DEFERRED SUBMITTAL ITEMS FOR THIS PROJECT. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CONSTRUCTION CHANGED DOCUMENT (CCD) APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR. A "DSA CERTIFIED" PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CCR. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CCR, A CONSTRUCTION CHANGE DOCUMENT (CCD), OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK. (SECTION 4-317(C), PART 1, TITLE 24, CCR). 	

CONSULTANTS			
DISCIPLINE	COMPANY NAME	PHONE	FAX
MECHANICAL ENGINEERING	TURLEY & ASSOCIATES MECHANICAL ENGINEERS 2431 CAPITOL AVENUE SACRAMENTO, CA 95816 CONTACT: BRIAN PROVENCAL, M.E.	916-325-1065	916-325-1075
ELECTRICAL ENGINEERING	THE ENGINEERING ENTERPRISE 1125 HIGH STREET AUBURN, CA 95603 CONTACT SCOTT WHEELER	(530)-886-8556	(530)-886-8557
STRUCTURAL ENGINEERING	BEVER ENGINEERING 2479 SUNRISE BLVD GOLD RIVER, CA 95670 CONTACT: BILL BEVER	(916) 631-3030	(916) 631-8996

CODE REQUIREMENTS	
<p>PROVIDE ALL WORK AND MATERIALS IN ACCORDANCE WITH THE FOLLOWING CODES:</p> <p>2016 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)</p> <p>2016 CALIFORNIA BUILDING CODE PART 2, TITLE 24, CCR BASED ON 2012 INTERNATIONAL BUILDING CODE (IBC)</p> <p>2016 CALIFORNIA ELECTRICAL CODE PART 3, TITLE 24, CCR BASED ON THE 2011 NATIONAL ELECTRICAL CODE (NEC)</p> <p>2016 CALIFORNIA MECHANICAL CODE PART 4, TITLE 24, CCR BASED ON THE 2012 UNIFORM MECHANICAL CODE (UMC)</p> <p>2016 CALIFORNIA PLUMBING CODE PART 5, TITLE 24, CCR BASED ON THE 2012 UNIFORM PLUMBING CODE (UPC)</p> <p>2016 CALIFORNIA FIRE CODE PART 9, TITLE 24, CCR N/A, SEE CSFM LETTER THIS SHEET</p>	

SCOPE OF WORK	
<p>REMOVE EXISTING BOILERS B-2 & B-3. REMOVE EXISTING BOILER PUMPS B-2, B-3, C-2 AND C-3. REMOVE AND REPLACE ALL ASSOCIATED PIPING AND CONTROLS. INSTALL DISTRICT PROVIDED NEW BOILER B-3, PROVIDE AND INSTALL INFRASTRUCTURE FOR FUTURE BOILER B-2. PROVIDE AND INSTALL NEW PUMPS HWP-3, HWP-4 AND HWP-5, NEW AIR SEPARATOR, NEW 12 INCH HOT WATER PIPING LOOP, AND ASSOCIATED PIPING FOR THE NEW PUMPS. PROVIDE GAS AND DRAIN PIPING AS REQUIRED AND ALL ASSOCIATED WORK SHOWN IN THE CONTRACT DOCUMENTS.</p>	

SHEET INDEX		
No. OF SHEETS	DRAWING No.	DRAWING DESCRIPTIONS
1	M0.0	COVER SHEET
2	M0.1	MECHANICAL LEGEND, NOTES & SCHEDULES
3	M1.1	MECHANICAL DEMOLITION FLOOR PLAN
4	M2.1	PHASE II MECHANICAL NEW BOILER ROOM PLAN
5	M4.1	MECHANICAL SCHEMATICS
6	M5.1	MECHANICAL DETAILS
7	M5.2	MECHANICAL DETAILS
8	P0.1	PLUMBING LEGEND, NOTES & SCHEDULES
9	P2.1	PLUMBING NEW BOILER ROOM PLAN
10	T24	TITLE 24
11	ED.1	PHASE II ELECTRICAL SYMBOLS, LIST AND DRAWING INDEX
12	E2.1	PHASE II ELECTRICAL NEW BOILER ROOM PLAN
12		TOTAL PAGE COUNT

BUILDING CODE ANALYSIS	
<p>OCCUPANCY GROUP: A CONSTRUCTION TYPE: III 1-STORIES NON-SPRINKLERED YEAR OF CONSTRUCTION: 1952 12,135 SQUARE FEET</p>	

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES

02-117264

AC: _____ FLS: _____ SS: _____
DATE: _____

TURLEY & ASSOCIATES
MECHANICAL ENGINEERING GROUP, INC.
(916) 325-1065
2431 CAPITOL AVENUE
SACRAMENTO, CA 95816
Email: office@turleyandassociates.com

SEAL:


CONSULTANTS:
**AMERICAN RIVER COLLEGE
BOILER REPLACEMENT - PHASE II
4700 COLLEGE OAK DRIVE
SACRAMENTO, CA
95841**

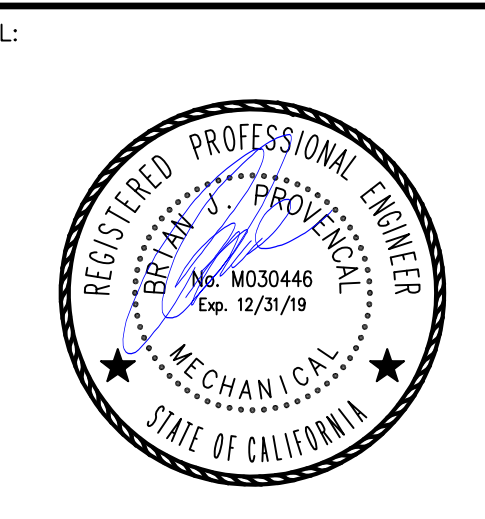
SHEET TITLE:
COVER SHEET

NO.	REVISIONS	DATE	BY
1	ADDENDUM 01	06/07/19	

SHEET NUMBER:
M0.0

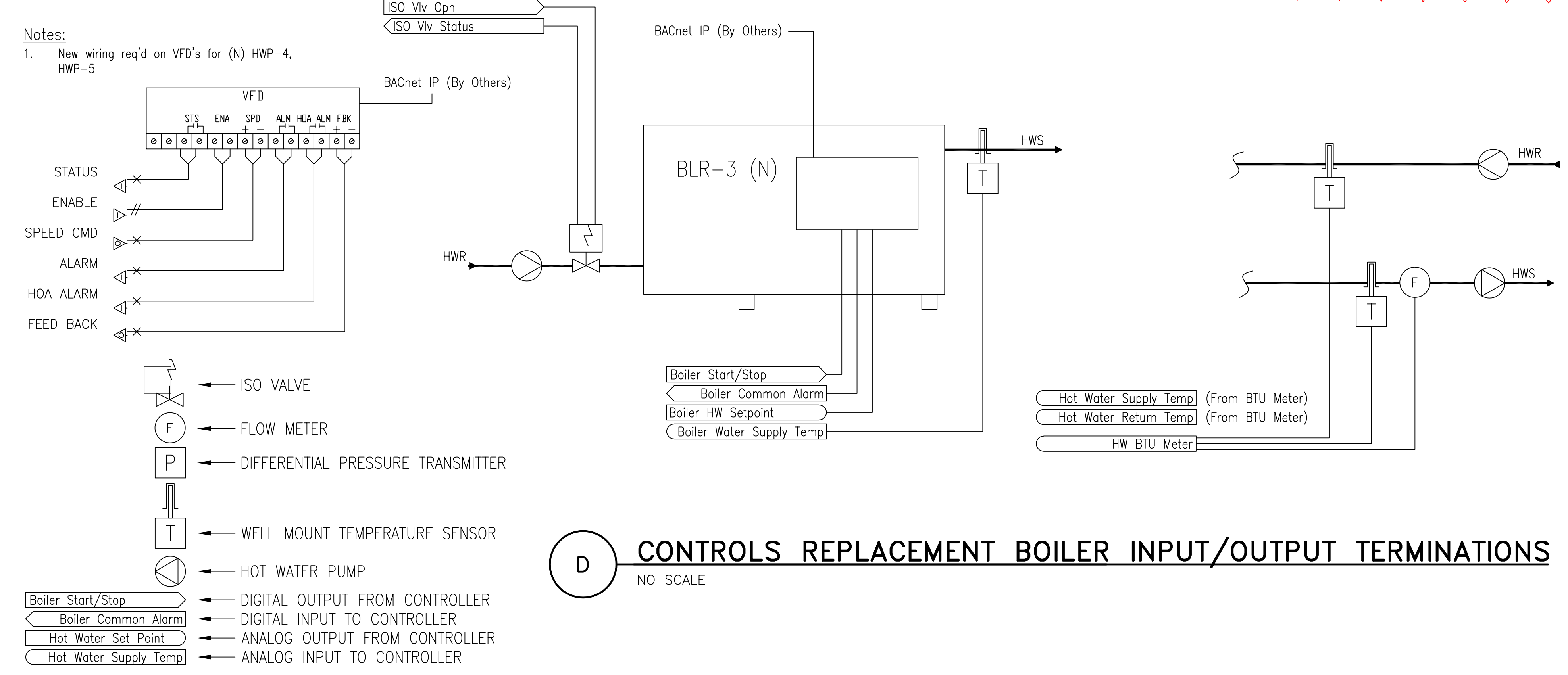
Project Engineer:	DR	Job Number:	1776
Project Manager:	DR	Per Date:	Aug 12, 2019 9:00am
Project Designer:	DR	CC:	Logan Meigs

SHEET : OF



NO.	REVISIONS	DATE	BY
1	ADDENDUM 01	8/6/2019	

SHEET NUMBER:
M5.1



D CONTROLS REPLACEMENT BOILER INPUT/OUTPUT TERMINATIONS
 NO SCALE

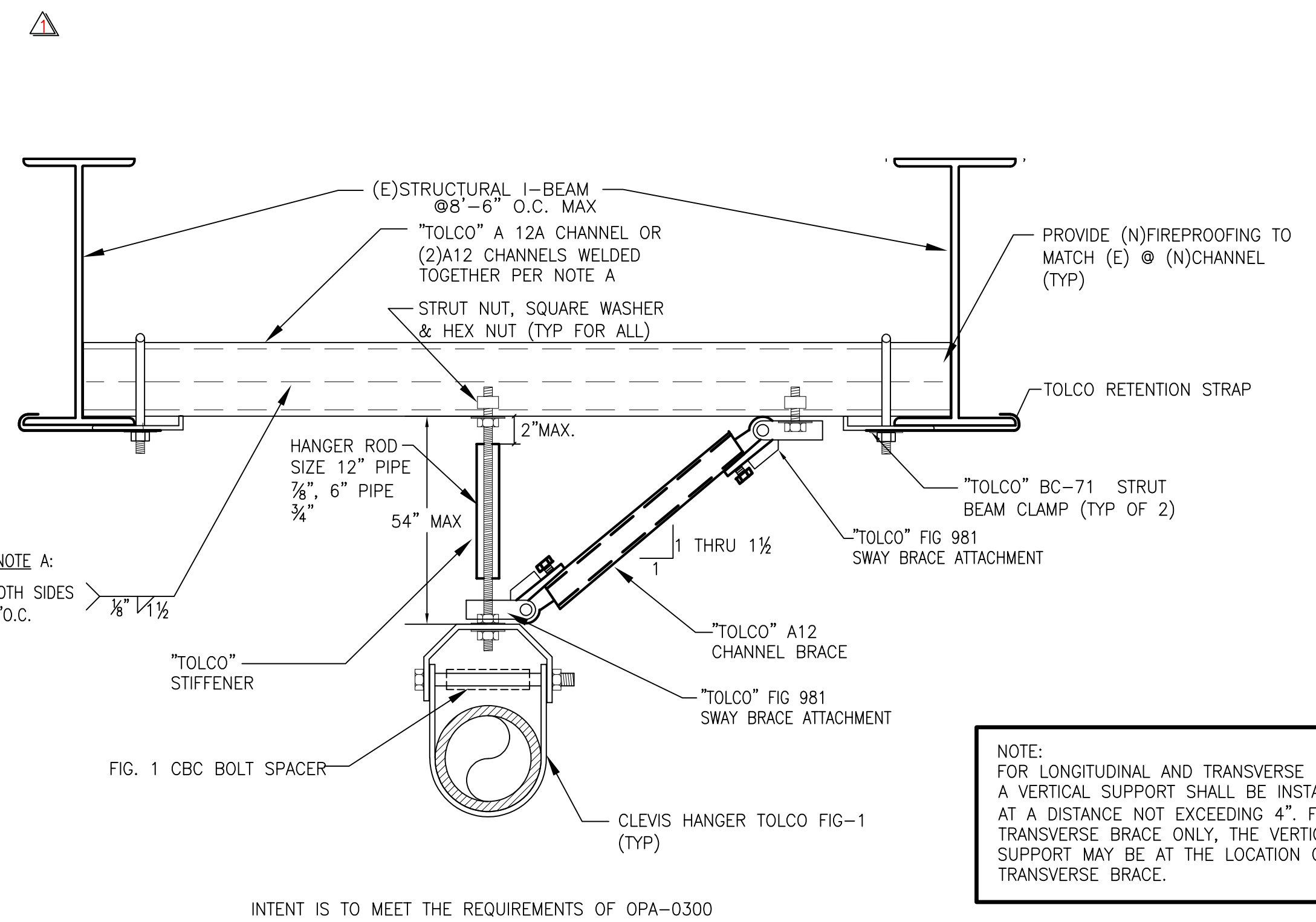
ARC Boiler Programming:
 The System will get enabled with any of the following condition exists.
 1. If OAT > OSATUL (140° Adj.)
 2. If OAT < OSATUL (140° Adj.) & If Boiler Schedule is enabled
 3. If OAT < OSATUL (140° Adj.) & Total building heating requests greater than the set point (5, Adj.)
 4. If OAT < OSAT LL 35° (Adj.)
 The building requests will be the sum of the requests coming from the following buildings:
 a. Davies Hall
 b. Campus Building
 c. For pump D6
 d. Common building heating requests for all other Buildings
 e. Library Building
 Once the System is enabled, the secondary pumps and primary pumps will be enabled.
 Primary Pump control:
 1. The primary pumps will be commanded on when the system is enabled.
 Secondary hot water set point reset:
 The secondary hot water supply temperature set point will reset based on the OAT as follows,
 OSA Reset Schedule (All Set points Adjustable)

OSAT	SHW.TSP
50	180
70	100

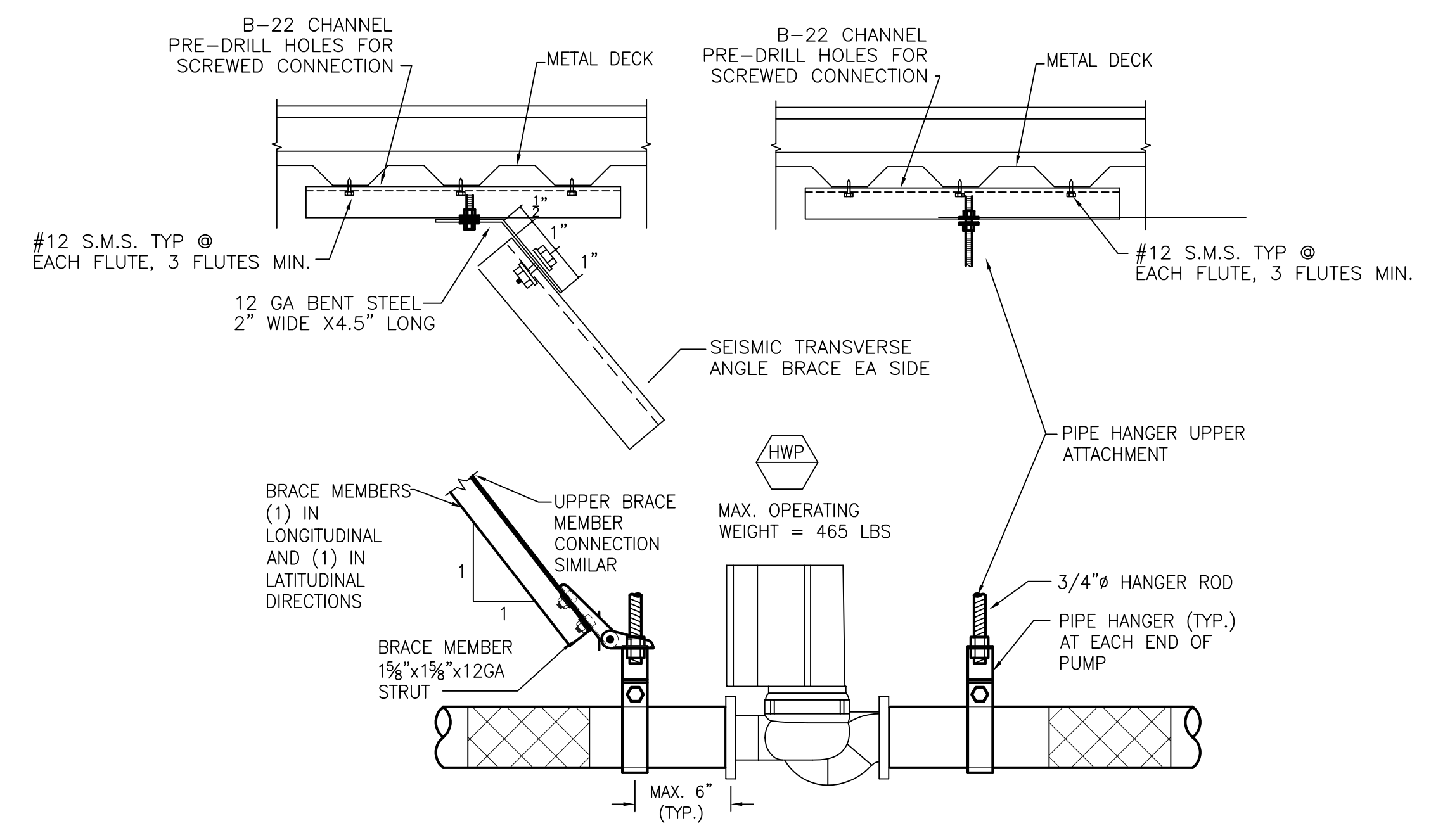
Boiler Control:
 1. Once the system is enabled, the lead boiler will be enabled.
 2. The Boilers will be staged based on the Running Boiler Load (RBL), Boiler System Load (BSL) and Boiler staging capacity of the decrement stage Boilers (BSIC.DS)
 3. Run Boiler Load = $(\frac{RBL}{MBH} + \frac{BSL}{MBH}) / (\frac{BSIC.DS}{MBH})$
 For disabled boilers, MBH value will be zero.
 4. Boiler System Load = $(\frac{RBL}{MBH} + \frac{BSL}{MBH}) / (\frac{BSIC.DS}{MBH}) / 15000$
 For disabled boilers, MBH value will be zero.
 5. BSIC.DS will be 53.8% when none of the boilers are disabled and if the Boilers are in stage 3.
 6. BSIC.DS will be 46.2% when none of the boilers are disabled and if the Boilers are in stage 2.
 7. If a boiler is in alarm after it is commanded on and its primary supply temperature is below the set point (140° Adj.) after a delay of 15 mins (Adj.), alarm will be raised at EBI and the next boiler will be commanded on.
 Boiler Staging:
 1. When the Secondary loop temperature set point deviation (SHW.TSP.DEV) is less than -2° (adj) (SHW.TSP.DEV.LL) AND Running Boiler Load (RBL) is above 95% (adj) (RBL.U.L), then the Log-1 boiler will be started.
 2. When the Secondary loop temperature set point deviation (SHW.TSP.DEV) is less than -2° (adj) (SHW.TSP.DEV.LL) AND Running Boiler Load (RBL) is above 95% (adj) (RBL.U.L), then the Log-2 boiler will be started.
 3. When the Secondary loop temperature set point deviation (SHW.TSP.DEV) is greater than 3° (adj) (SHW.TSP.DEV.U.L) AND Running Boiler Load (RBL) is less than 50% (adj) (RBL.L.L) AND Boiler System Load (BSL) is less than the Boiler stage Capacity of the Decrement Stage boilers (BSIC.DS), then the Log-2 boiler will be disabled.

4. When the Secondary loop temperature set point deviation (SHW.TSP.DEV) is greater than 3° (adj) (SHW.TSP.DEV.U.L) AND Running Boiler Load (RBL) is less than 50% (adj) (RBL.L.L) AND Boiler System Load (BSL) is less than the boiler stage Capacity of the Decrement Stage boilers (BSIC.DS), then the Log-1 boiler will be disabled.
 5. The boiler will run for 30 minutes (Adj) during staging down (Cycle-Off Time).
 6. When the system is enabled, the lead boiler will be running for 2 hours (Adj) before staging.
 7. When the system is disabled, the operating boiler will have an off delay of 30 minutes.
 8. Lead and lag boilers will be selected by operator. Boiler rotation will be disabled.
 9. If the lead boiler is in Alarm, the lag boiler will be commanded ON. Alarm will be raised on EBI. Alarm will reset automatically after the status is received.
 10. EBI operator will have the ability to take a boiler out of service, and to specify the number of boilers required at start-up.
 11. Starting and stopping stage delays will be adjustable and separate points will be provided for minutes remaining.
 Tertiary hot water Pumps & temperature control:
 1. The 2-way bypass valve "CampusV" (V-3) will modulate to maintain the Campus hot water supply temperature at its set point. Temperature set point will reset based on OAT. When the supply temperature is above the setpoint, normally closed bypass valve will open and the normally open supply valve will close.
 2. The 2-way bypass valve "DaviesV" (V-2) will modulate to maintain the Davies hot water supply temperature at its set point. Temperature set point will reset based on OAT. When the supply temperature is above the setpoint, normally closed bypass valve will open and the normally open supply valve will close.
 3. The 3-way valve with HWP-D6 will modulate to maintain the "AR23HW_HWP06SupTm" at its setpoint (120° Adj.). When the supply temperature is below the setpoint, valve will open and the hot water from Boiler will be circulated to the load side.
 4. The tertiary hot water pumps will be enabled whenever the respective building heating requests is greater than the heating request set point (2 Adj.).
 Secondary hot water pumps control:
 1. When the system is enabled, the lead pump will be commanded ON.
 2. The pumps will be staged ON/OFF to maintain the secondary hot water supply temperature (TS-3) at its set point.
 3. If lead pump is running and the temperature deviation is more than -2° (Adj.) for 15 minutes (Adj.), then the lag pump will start.
 4. If two pumps are running pump and the temperature deviation is more than +2° (Adj.) for 15 minutes (Adj.), then the lag pump will stop.
 5. The pumps will be rotated based on the weekly basis on every Wednesday at 2 PM
 6. If the lead pump fails, the lag pump will start.
 7. A pump failure alarm will be annunciated at the EBI. Pump failure reset will be automatic.
 rmp failure reset will be automatic.

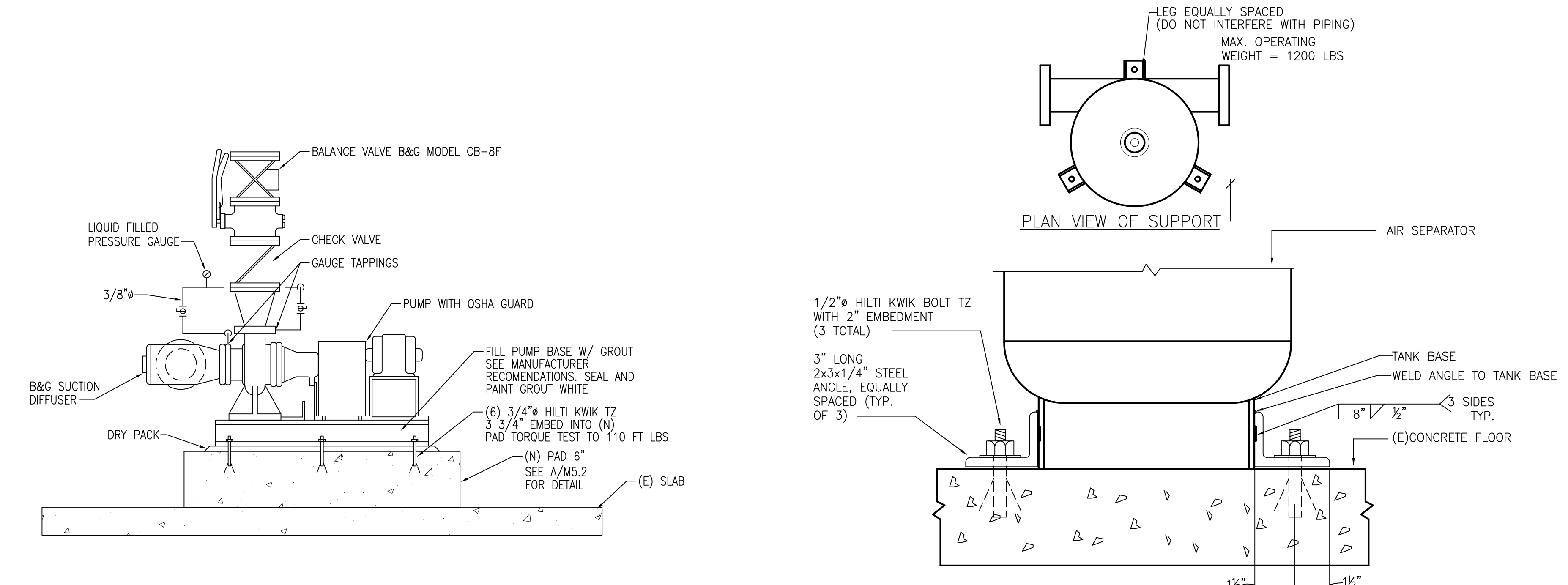
E SEQUENCE OF OPERATIONS
 NO SCALE



C PIPE SUPPORT MOUNTING DETAIL
 NO SCALE

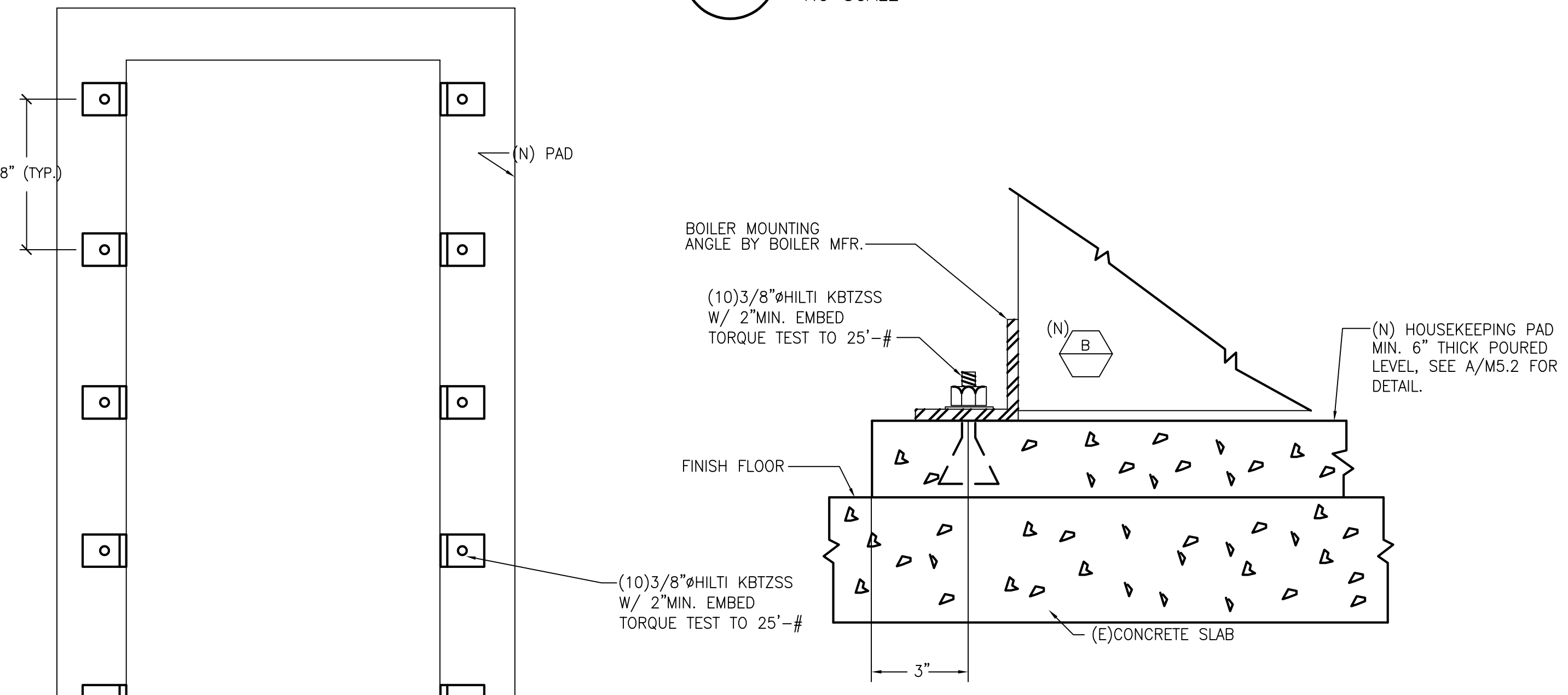


B IN-LINE PUMP SUPPORT DETAIL
 NO SCALE

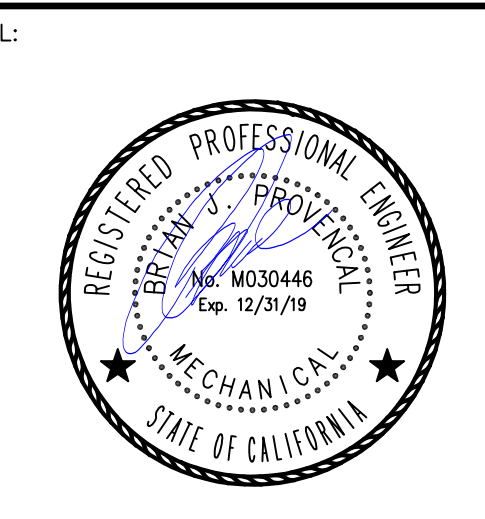


F PUMP MOUNTING DETAIL
 NO SCALE

G AIR SEPERATOR MOUNTING DETAIL
 NO SCALE



A BOILER MOUNTING DETAIL
 NO SCALE



NO.	REVISIONS	DATE	BY
1	ADDENDUM 01	8/27/2019	

