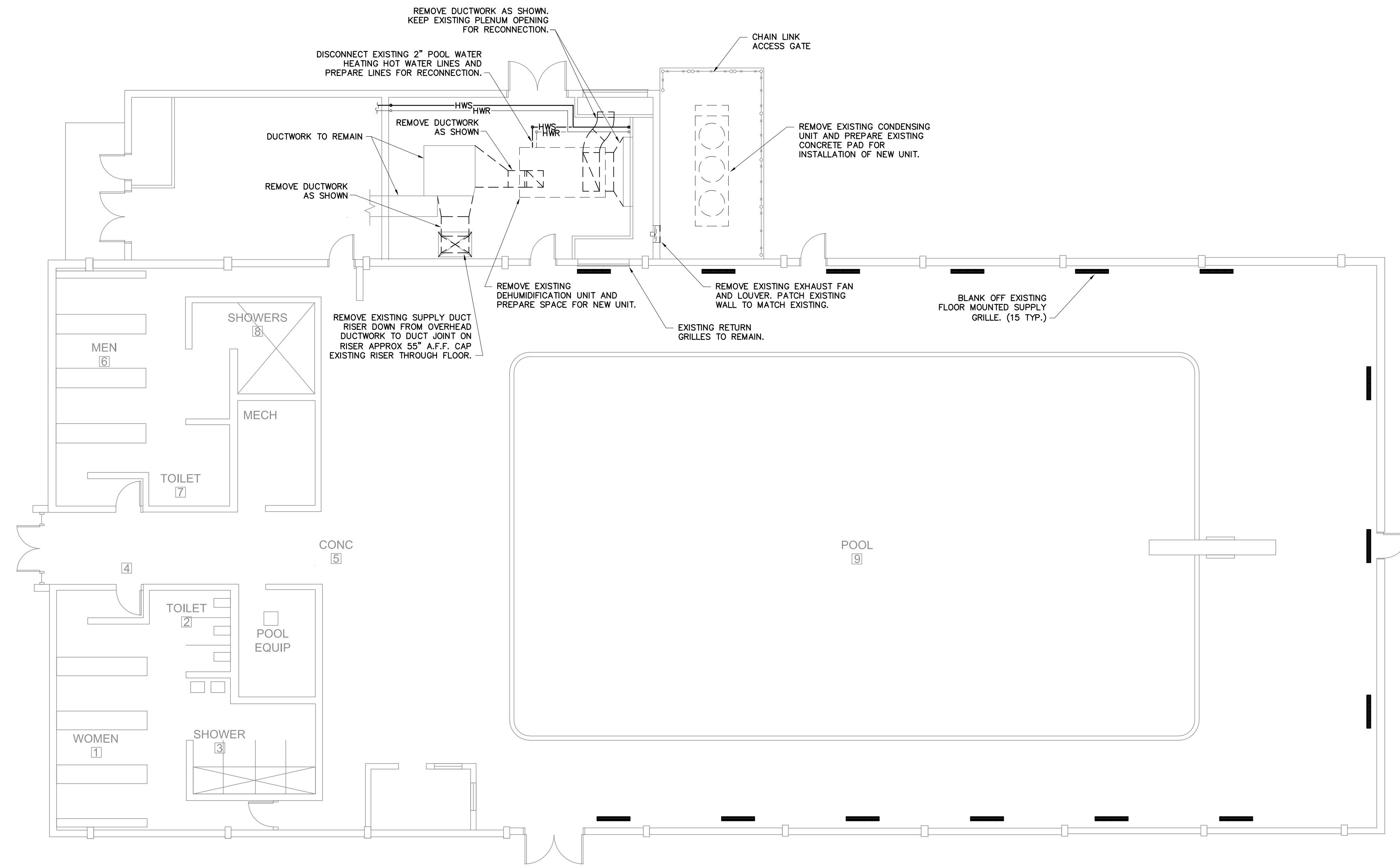


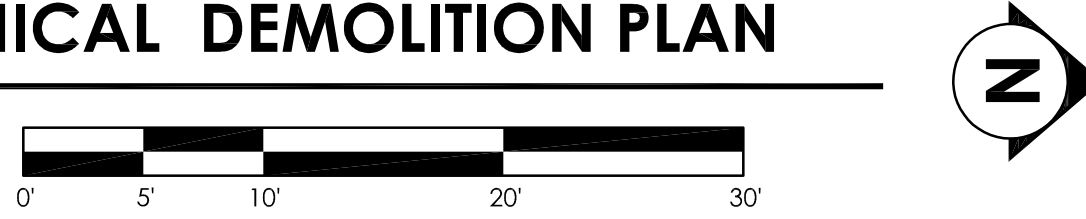
OWNER:
CITY OF CEDAR RAPIDS
Facilities Maintenance Services
City of Cedar Rapids 500 15th Ave SW, Cedar Rapids, Iowa 52404

ENGINEER OF RECORD:
IE INNOVATIVE ENGINEERS, INC.
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A
M01 **MECHANICAL DEMOLITION PLAN**

SCALE 1/8" = 1'-0"



GENERAL MECHANICAL DEMOLITION NOTES:

- MC IS RESPONSIBLE FOR DEMOLITION OF ALL EQUIPMENT AND DUCTWORK AS INDICATED.
- MC CONTRACTOR TO CORRDINATE REQUIRED DEMOLITION OF MECHANICAL SYSTEMS WITH ALL OTHER TRADES..
- MC TO RETURN TO OWNER ANY EQUIPMENT REMOVED AS REQUESTED BY OWNER. ANY EQUIPMENT NOT RECLAIMED BY OWNER IS TO BE DISPOSED OF BY MC.
- MC IS ADVISED THAT ALL LOCATIONS ARE APPROXIMATE. VERIFY EXACT LIMITS ON SITE.
- MC IS RESPONSIBLE FOR HIS OWN DEMOLITION WORK AND SHALL PROTECT EXISTING EQUIPMENT AND STRUCTURES TO REMAIN FROM DAMAGE. ANY DAMAGE INCURRED TO EXISTING EQUIPMENT TO REMAIN OR TO SURROUNDING STRUCTURE NOT INDICATED FOR DEMOLITION BY THIS CONTRACTOR IS TO BE REPAIRED AT THIS CONTRACTOR'S EXPENSE.
- THESE DRAWINGS ARE NECESSARILY DIGRAMMATIC IN NATURE AND INDICATE DESIGN INTENT. NOT ALL FITTINGS, OFFSETS, VENTS, DRAINS, ETC., ARE SHOWN. CONTRACTOR SHALL PROVIDE ALL FITTINGS, OFFSETS, DRAINS, VENTS, ACCESSORIES, ETC. AS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONING SYSTEM.

**CITY OF CEDAR RAPIDS
BENDER POOL HVAC PROJECT
CEDAR RAPIDS, IOWA
PROJECT # 3602203-01**

DESIGNED BY:	MNA
DRAWN BY:	JJH
CHECKED BY:	MNA
DOCUMENT DATE:	07-17-2018
PROJECT NO.:	18-101213
CLIENT NO.:	

REVISIONS				
NO.	DATE	DESCRIPTION	BY	DWN
0	07-17-2018	OFB DRAWINGS	MNA	JJH
1	08-03-2018	ADDENDUM #1	MNA	JJH

MECHANICAL-DEMOLITION

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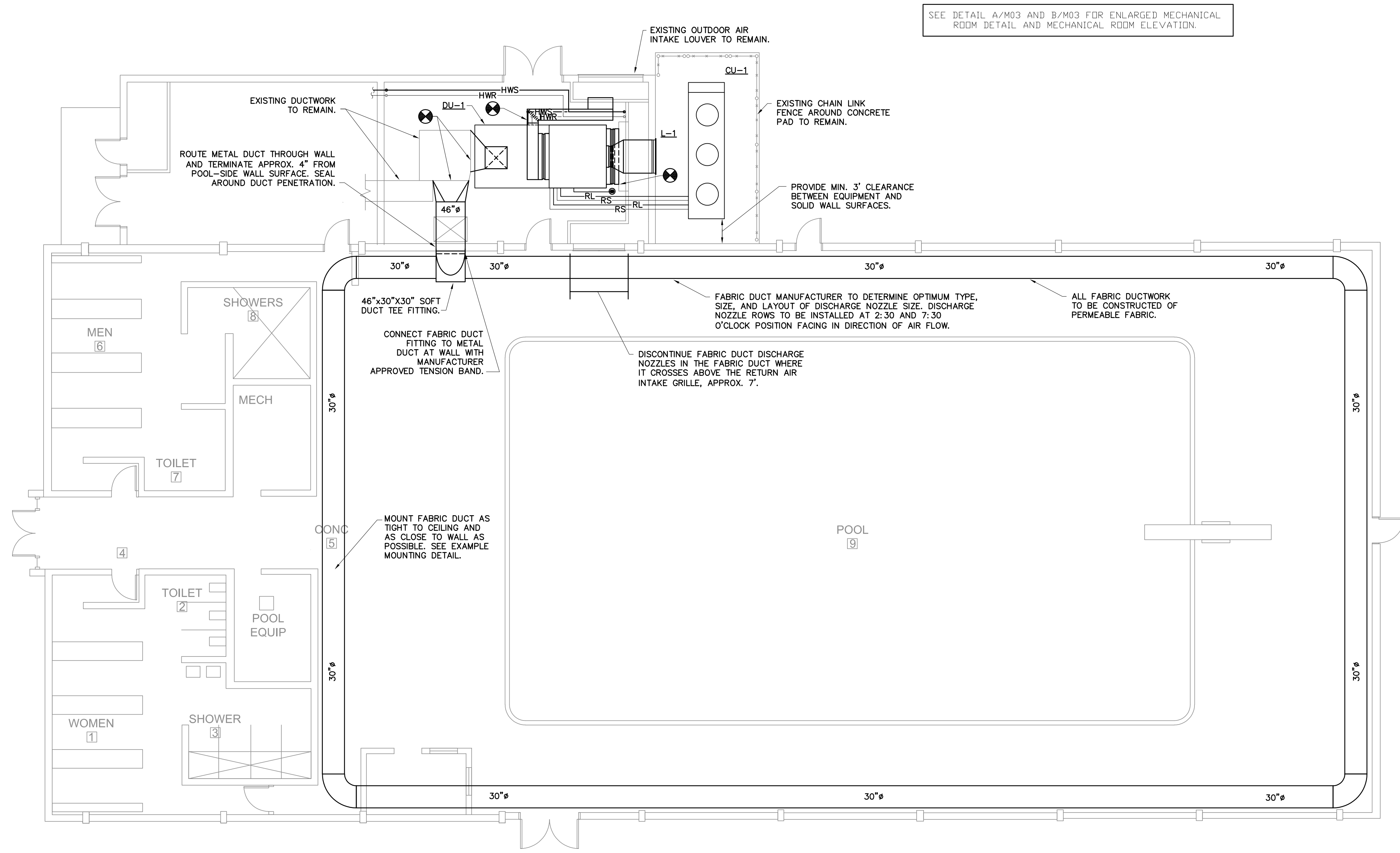
**CITY OF CEDAR RAPIDS
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1	08-03-2018	ADDENDUM #1	MNA	JJH

MECHANICAL-PLAN

SHEET: **1** **M02** REV: **1**



SEE DETAIL A/M03 AND B/M03 FOR ENLARGED MECHANICAL ROOM DETAIL AND MECHANICAL ROOM ELEVATION.

A
M02 MECHANICAL PLAN
SCALE 1/8" = 1'-0"
0' 5' 10' 20' 30'
N

GENERAL HVAC NOTES:

1. MC IS RESPONSIBLE FOR INSTALLING MECHANICAL SYSTEMS ACCORDING TO ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES.
2. MC TO CORRDIANATE INSTALLATION OF MECHANICAL SYSTEMS WITH ALL OTHER TRADES.
3. MC IS ADVISED THAT ALL LOCATIONS ARE APPROXIMATE. COORDINATE FINAL LOCATIONS WITH ALL OTHER TRADES AND WITH OWNER WHERE REQUIRED.
4. MC IS ADVISED THAT ALL LOCATIONS ARE APPROXIMATE. COORDINATE FINAL LOCATIONS WITH ALL OTHER TRADES AND WITH OWNER WHERE REQUIRED.
5. MC IS RESPONSIBLE FOR HIS OWN WORK AND SHALL PROTECT THE WORK OF OTHER TRADES ALREADY INSTALLED FROM DAMAGE. ANY DAMAGE INCURRED TO WORK OF OTHER TRADES BY THIS CONTRACTOR IS TO BE REPAIRED AT THIS CONTRACTOR'S EXPENSE.
6. THESE DRAWINGS ARE NECESSARILY DIGRAMMATIC IN NATURE AND INDICATE DESIGN INTENT. NOT ALL FITTINGS, OFFSETS, VENTS, DRAINS, ETC., ARE SHOWN. CONTRACTOR SHALL PROVIDE ALL FITTINGS, OFFSETS, DRAINS, VENTS, ACCESSORIES, ETC. AS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONING SYSTEM.

**CITY OF CEDAR RAPIDS
BENDER POOL HVAC PROJECT**

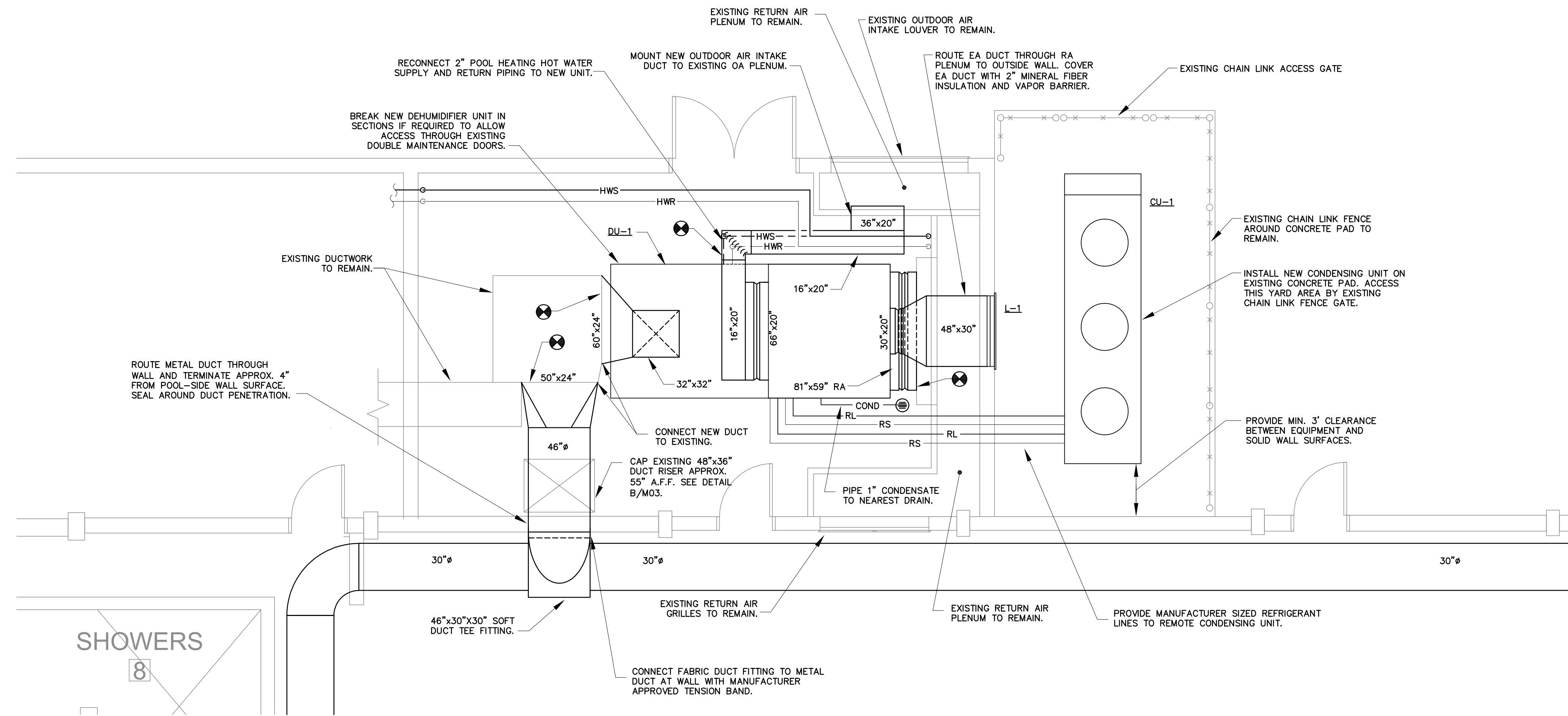
**CEDAR RAPIDS, IOWA
PROJECT # 3602203-01**

DESIGNED BY: MNA
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PROJECT NO.: 18-101213
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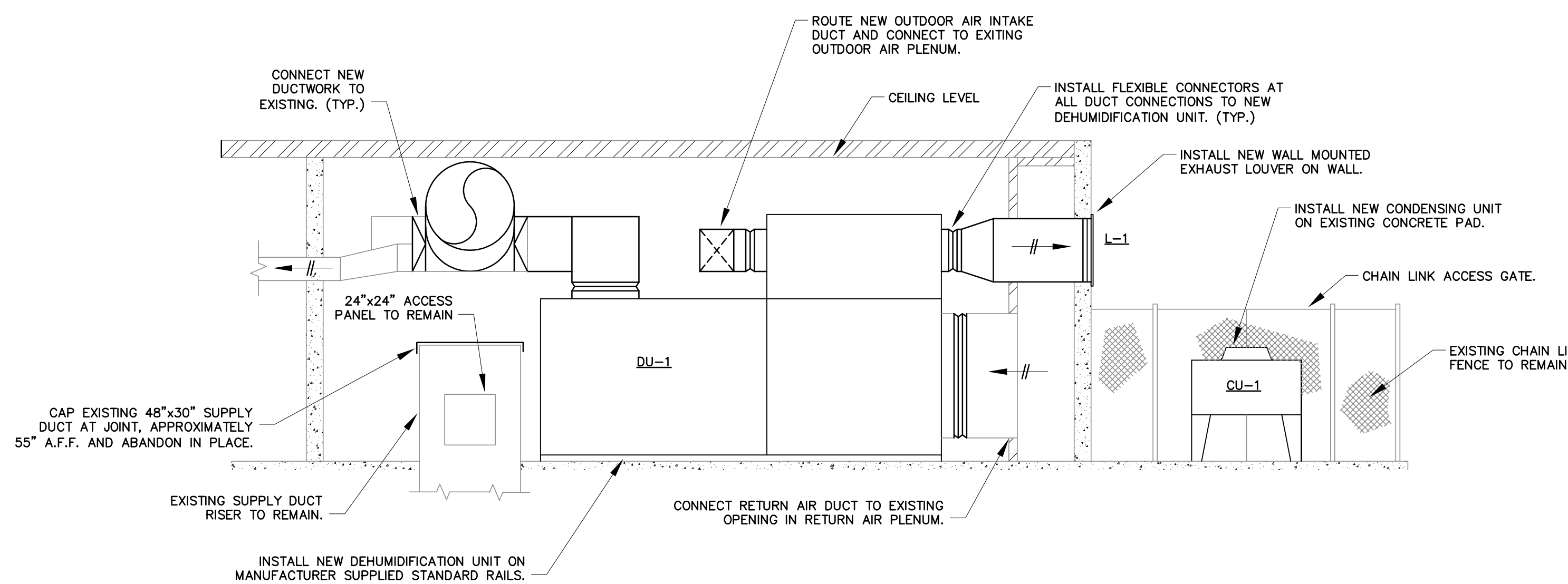
REVISIONS				
NO.	DATE	DESCRIPTION	BY	DWN
0	07-17-2018	OFB DRAWINGS	MNA	JJH
1	08-03-2018	ADDENDUM #1	MNA	JJH

**MECHANICAL-
DETAILS**

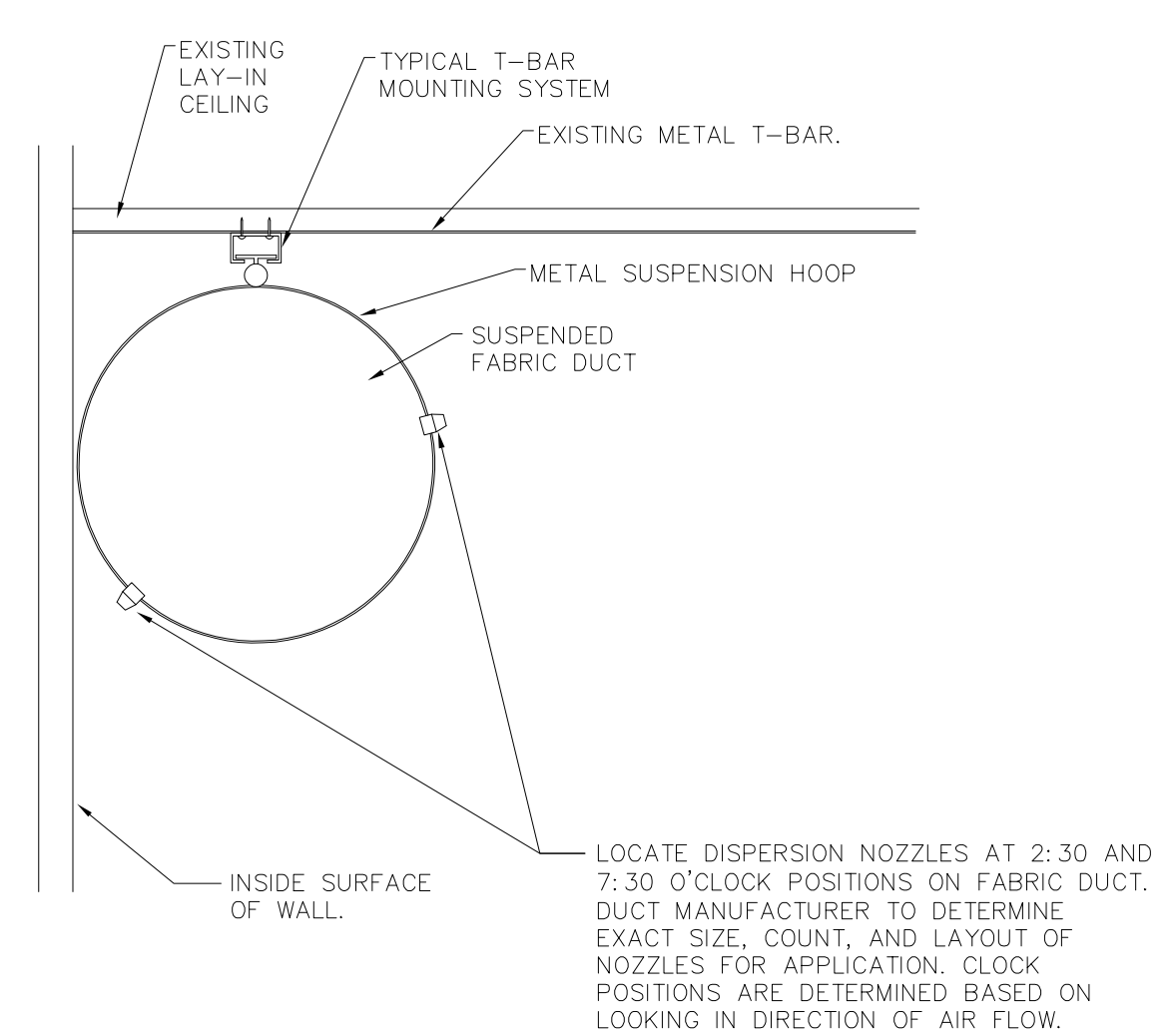
SHEET: **M03** REV: **1**



A ENLARGED MECHANICAL ROOM PLAN
M03 SCALE 1/4"=1'-0"



B MECHANICAL ROOM ELEVATION
M03 SCALE 1/4"=1'-0"



C FABRIC DUCT DETAIL
M03 NO SCALE

POWER SYSTEMS	
SYMBOL	DESCRIPTION
	DISTRIBUTION PANEL WITH DESIGNATION
	BRANCH PANEL WITH DESIGNATION
	MECHANICAL EQUIPMENT CONNECTION WITH DESIGNATION
	MOTOR WITH DESIGNATION
	DISCONNECT SWITCH
	JUNCTION BOX

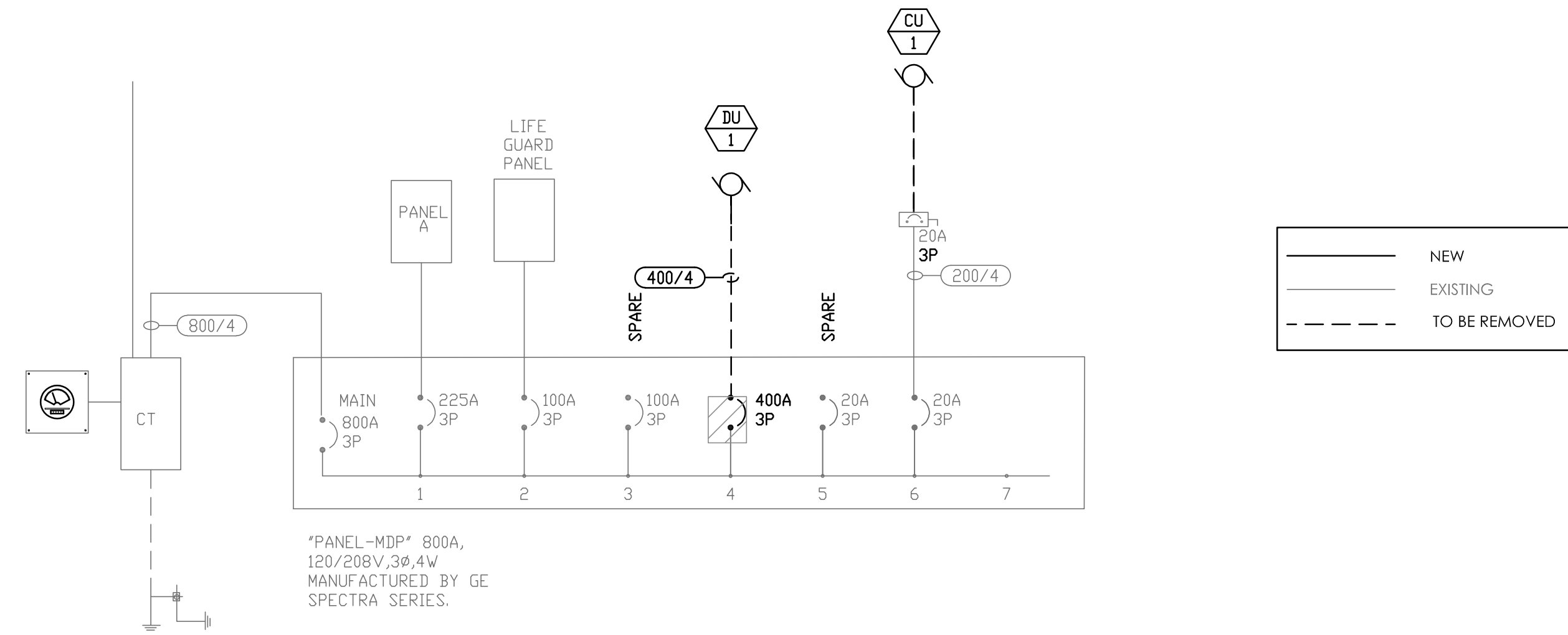
GENERAL ELECTRICAL NOTES

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (N.E.C.) AND GOVERNING MUNICIPAL, STATE AND LOCAL CODES. ALL MATERIAL SHALL BE NEW AND SHALL BEAR THE U.L. LABEL WHERE APPLICABLE.
- CONTRACTOR SHALL MAKE ALL NECESSARY CUTTING AND DO ALL THE REPATCHING AS NECESSARY FOR THE PROPER EXECUTION OF THIS WORK.
- AFTER COMPLETION OF THE INSTALLATION, THE SYSTEM SHALL TEST FREE FROM SHORT CIRCUITS AND GROUNDS.
- WHERE ELECTRICAL CONDUCTORS ARE INSTALLED IN CONDUIT, THE CONDUIT SHALL COMPLY WITH THE N.E.C. REQUIREMENTS.
- ALL CONDUCTOR SHALL BE COPPER. NO CONDUCTOR SHALL BE SMALLER THAN #12 AWG AND SHALL BE RATED FOR 600VOLTS THWN OR THHN INSULATION. INSTALL A GROUNDING CONDUCTOR WITH ALL CIRCUITS, UNLESS NOTED OTHERWISE, SIZED PER N.E.C.250-122.
- VERIFY BREAKER AND CORRESPONDING WIRE SIZES FOR ALL ELECTRICAL EQUIPMENT. DONOT ORDER MATERIAL BEFORE VERIFYING BREAKER & WIRE SIZE. REPORT ANY DISCREPANCY IMMEDIATELY TO THE ENGINEER OF RECORD.
- VERIFY AVAILABLE INTERRUPTING CURRENT(AIC) WITH POWER COMPANY. EQUIPMENT AIC RATING MUST BE LARGER THAN THE POWER COMPANY AIC OR MUST BE PROTECTED ON THE LINE SIDE WITH A CURRENT LIMITING DEVICE.
- SAFETY SWITCHES SHALL BE SQUARE 'D', GENERAL ELECTRIC, OR WESTINGHOUSE, FUSED OR NON-FUSED AND SIZED AS INDICATED. NEMA 3R WHEN EXPOSED TO WEATHER
- PANELS SHALL BE SQUARE 'D', GENERAL ELECTRIC OR EQUAL, TYPE AND NUMBER OF BREAKERS AS INDICATED ON PANEL SCHEDULE. STENCIL PANEL DESIGNATION ON INSIDE OF PANEL. ALL TWO-POLE BREAKERS SHALL BE COMMON TRIP. PROVIDE TYPE WRITTEN SCHEDULE IN EACH LOAD CENTERS. CONNECTION TO MAIN BUS SHALL BE WITH BURNDY ANNULAR COMPRESSION LUGS.
- ALL EXTERIOR ELECTRICAL EQUIPMENT SHALL BE ANCHORED TO COMPLY WITH LOCAL CODE FOR WIND RESISTANCE.
- IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS NECESSARY FOR EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.
- ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND ACCEPTED BY THE OWNER.
- LOAD DATA IS BASED ON INFORMATION GIVEN ENGINEER AT TIME OF DESIGN. VERIFY ALL EQUIPMENT AND PANEL SIZES BEFORE ORDERING AND BEFORE INSTALLATION.
- ALL BRANCH CIRCUITS SHALL HAVE GROUND CONDUCTORS.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE, IF REQUIRED, ADJUSTMENTS (±) 6"-0" IN THE LOCATION OF ALL SYSTEM DEVICES, FIXTURES, OUTLETS, PANELS, ETC. IN ORDER TO EXPEDITE THE ELECTRICAL WORK. THE POSITION OF ALL WORK AS SHOWN IS INTENDED TO BE FIXED AND IN THE PROPER LOCATION. SUCH REQUIRED ADJUSTMENT SHALL BE DETERMINED BY THE A/E.
- PROVIDE SEPARATE NEUTRAL FOR EACH BRANCH CIRCUIT PHASE CONDUCTOR.

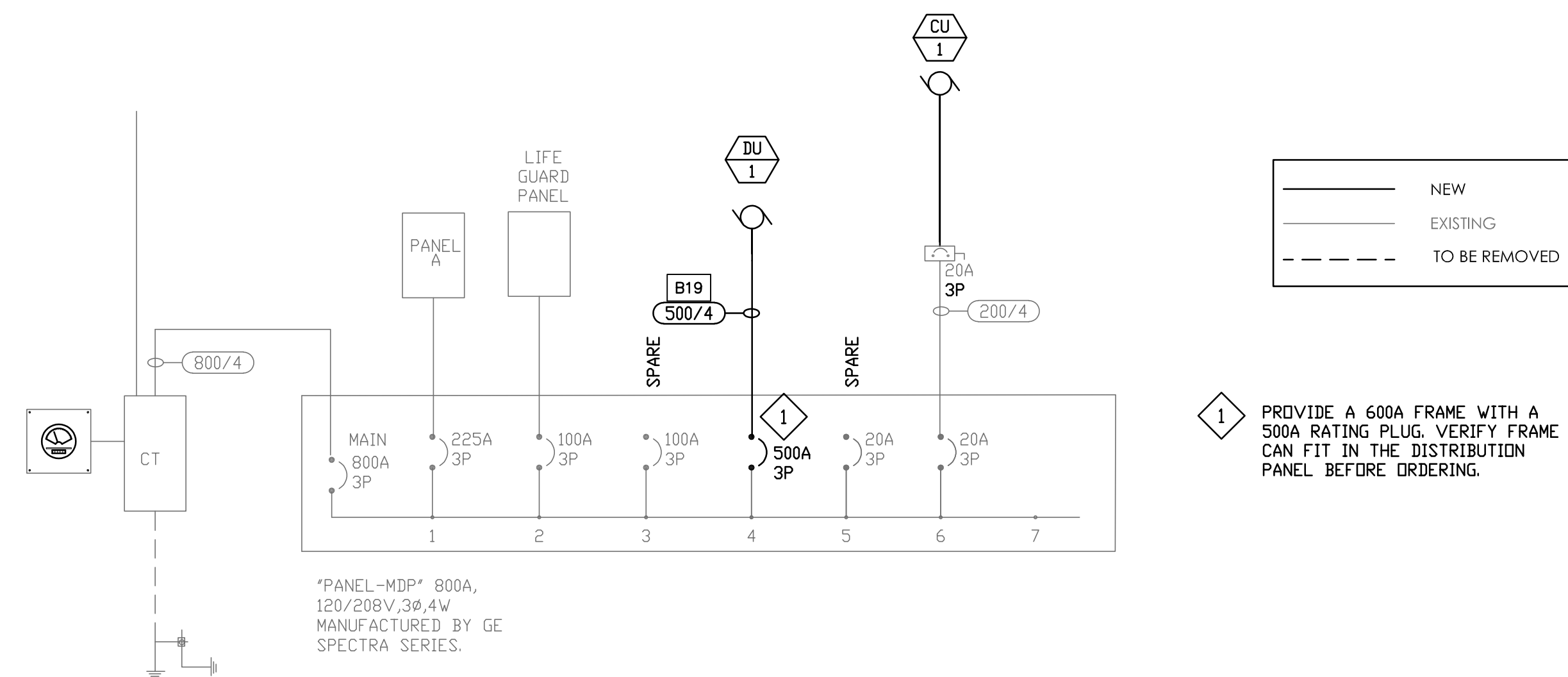
ELECTRICAL ONE-LINE FEEDER SCHEDULE

FEEDER AMPACITY	NO. OF SETS	FEEDER CONDUCTOR SIZE (75°C)				CONDUIT SIZE (EMT)					
		COPPER CONDUCTORS (THWN)		ALUMINUM CONDUCTORS (XHHW-2)		3 PHASE CONDUCTORS AND GROUND			3 PHASE CONDUCTORS, NEUTRAL, AND GROUND		
		PHASE & NEUTRAL	GROUND	PHASE & NEUTRAL	GROUND	NO.	COPPER FEEDERS	ALUMINUM FEEDERS	NO.	COPPER FEEDERS	ALUMINUM FEEDERS
30	1	10	10	-	-	A1	1/2"	-	B1	1/2"	-
50	1	8	10	6	6	A2	3/4"	3/4"	B2	3/4"	1"
60	1	6	10	4	6	A3	3/4"	1"	B3	1"	1"
65	1	6	8	4	6	A4	3/4"	1"	B4	1"	1"
85	1	4	8	2	6	A5	1"	1-1/4"	B5	1-1/4"	1-1/4"
100	1	3	8	1	6	A6	1"	1-1/4"	B6	1-1/4"	1-1/4"
115	1	2	6	1/0	4	A7	1-1/4"	1-1/4"	B7	1-1/4"	1-1/2"
130	1	1	6	2/0	4	A8	1-1/4"	1-1/2"	B8	1-1/2"	2"
150	1	1/0	6	3/0	4	A9	1-1/2"	1-1/2"	B9	1-1/2"	2"
175	1	2/0	6	4/0	4	A10	1-1/2"	2"	B10	2"	2"
200	1	3/0	6	250kcmil	4	A11	2"	2"	B11	2"	2-1/2"
230	1	4/0	4	300kcmil	2	A12	2"	2"	B12	2-1/2"	2-1/2"
250	1	250kcmil	4	350kcmil	2	A13	2"	2-1/2"	B13	2-1/2"	2-1/2"
300	2	1/0	4	3/0	2	A14	1-1/2"	1-1/2"	B14	2"	2"
350	2	2/0	3	4/0	1	A15	1-1/2"	2"	B15	2"	2"
380	1	500kcmil	3	750kcmil	1	A16	2-1/2"	3"	B16	3"	3-1/2"
400	2	3/0	3	250kcmil	1	A17	2"	2"	B17	2"	2-1/2"
460	2	4/0	2	300kcmil	1/0	A18	2"	2-1/2"	B18	2-1/2"	2-1/2"
500	2	250kcmil	2	350kcmil	1/0	A19	2"	2-1/2"	B19	2-1/2"	2-1/2"
600	2	350kcmil	1	500kcmil	2/0	A20	2-1/2"	2-1/2"	B20	2-1/2"	3"
760	2	500kcmil	1/0	750kcmil	3/0	A21	2-1/2"	3"	B21	3"	3-1/2"
800	3	300kcmil	1/0	400kcmil	3/0	A22	2-1/2"	2-1/2"	B22	2-1/2"	2-1/2"

NOTES: 1. CONDUIT SIZE BASED ON CONDUCTOR PROPERTIES LISTED IN THE CURRENT NEC EDITION, CHAPTER 9, TABLES 5 AND 5A, AND CONDUIT AREAS LISTED CHAPTER 9, TABLE 4 FOR EMT WITH 40% FILL. OTHER CONDITIONS MAY REQUIRE A LARGER CONDUIT, SIZED PER NEC.
2. COORDINATE SIZE, TYPE, AND QUANTITY OF LUGS WITH EQUIPMENT VENDOR



EXISTING ELECTRICAL ONE-LINE DIAGRAM
NTS



NEW ELECTRICAL ONE-LINE DIAGRAM
NTS



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CEDAR RAPIDS, IOWA
PROJECT # 3602203-01

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REVISIONS				
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0	07-17-2018	CFB DRAWINGS	MNA	JJH
1	08-03-2018	ADDENDUM #1	MNA	JJH

ELECTRICAL ONE-LINE & NOTES

SHEET: **E02** REV: **1**