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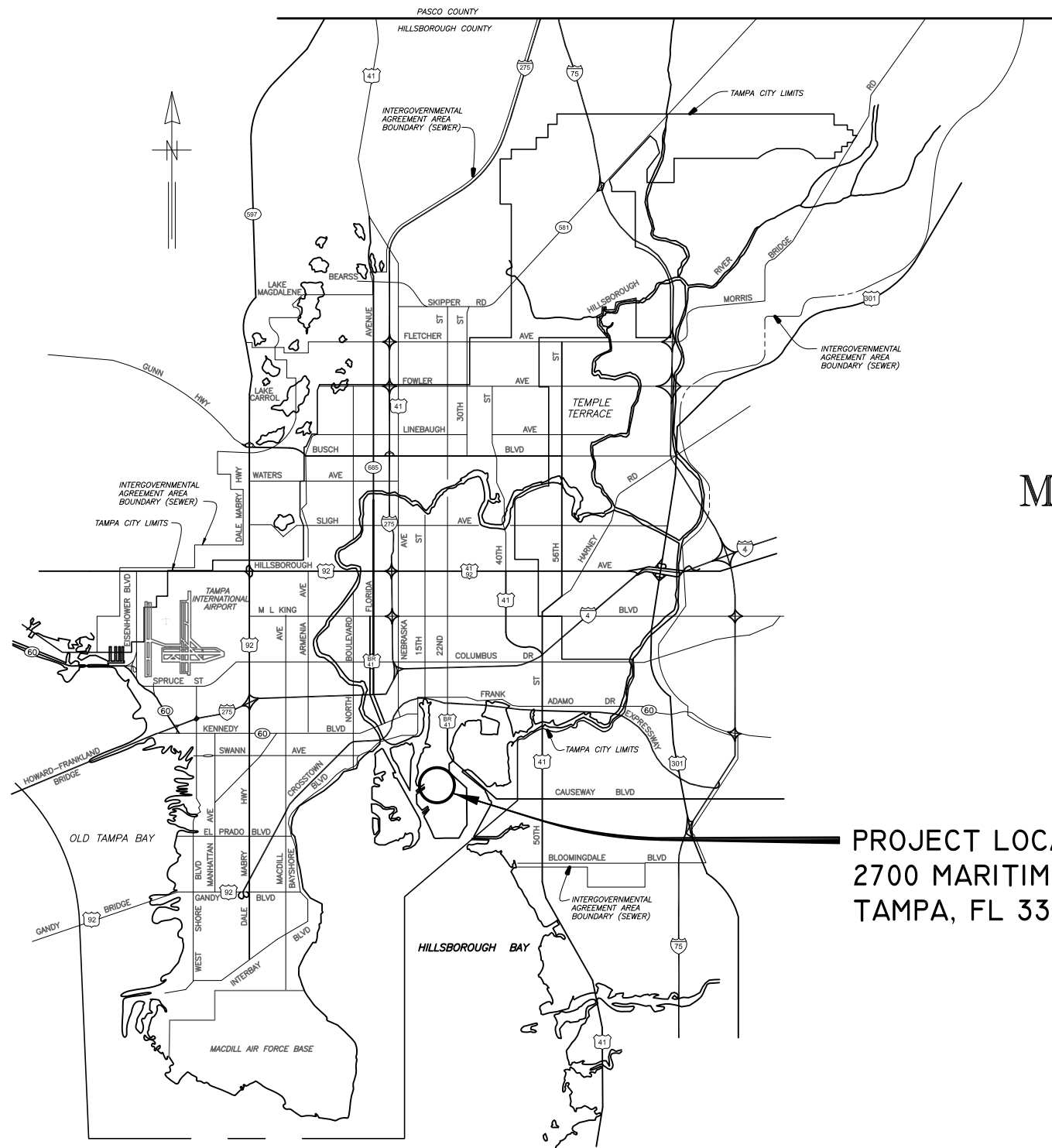
Please Email ALL Questions:

[MailTo:ContractAdministration@TampaGov.net](mailto:ContractAdministration@TampaGov.net)

Please Let Us Know If You Plan To Bid

City of Tampa
Contract Administration Department
306 E. Jackson St. #280A4N
Tampa, FL 33602
(813)274-8456

LOCATION MAP



PROJECT LOCATION
2700 MARITIME BLVD.
TAMPA, FL 33605

PLANS

FOR

CITY OF TAMPA FLORIDA
WASTEWATER DEPARTMENT

FOR

THE CONSTRUCTION OF THE

HOWARD F. CURREN
FILTER BUILDING
MOTOR CONTROL CENTER REPLACEMENT
- BUILDING NO. 1 MCC 58

CONTRACT: 17-C-00020

APRIL 2017



TRICON
CONSULTING ENGINEERS

777 S. Harbour Island Blvd,
Suite 250
Tampa, FL 33602
813.227.9190
Certificate of Authorization No. 8363

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TEMPORARY EQUIPMENT NOTES	
TEMPORARY EQUIPMENT SHALL BE PROVIDED DURING THE REMOVAL THE OLD MCC-58 AND THE INSTALLATION OF THE NEW MCC-58. REFER ALSO TO SHEET 3 FOR THE TEMPORARY POWER SEQUENCE OF INSTALLATION ON MCC-58 THE WORK CONSIST OF FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, AND TECHNICAL SUPERVISION TO INSTALL NEW MCC-58 AS INDICATED AND SHOWN. THE WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:	
1.	THE TEMPORARY EQUIPMENT SHALL BE NEW, OR IF USED, BE IN EXCELLENT WORKING CONDITION.
2.	THE TEMPORARY EQUIPMENT PROVIDED MAY BE RENTAL EQUIPMENT. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE CITY OF TAMPA FOR APPROVAL ALL RENTAL EQUIPMENT TO BE PROVIDED. SHOP DRAWINGS SHALL INDICATE THE SPECIFICATIONS FOR THE PROPOSED EQUIPMENT AND THE RENTAL FACILITY SUPPLYING THE EQUIPMENT.
3.	THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE CITY OF TAMPA FOR APPROVAL OF ALL TEMPORARY EQUIPMENT TO BE UTILIZED.
4.	THE CONTRACTOR SHALL MAINTAIN ALL TEMPORARY EQUIPMENT TO BE PROVIDED FOR THE DURATION OF THE TIME THE TEMPORARY EQUIPMENT IS IN SERVICE.
5.	THE CONTRACTOR SHALL PROVIDE 24 HOUR ON SITE EMERGENCY SERVICE FOR ANY MALFUNCTION OF THE TEMPORARY EQUIPMENT PROVIDED.

SCOPE OF WORK	
THE WORK CONSISTS OF FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TRANSPORTATION, AND PERFORMING ALL OPERATIONS REQUIRED TO SUPPORT THE INSTALLATION AND COMMISSIONING OF THE ELECTRICAL PORTION OF THE HFC AWTP MCC-58 REPLACEMENT. THE WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:	
1.	SUBMIT WORKING DRAWINGS, PARTS SCHEDULES AND CUT-SHEETS TO THE ENGINEER.
2.	FURNISH AND INSTALL ALL EQUIPMENT AS SHOWN ON THE PLANS AND DESCRIBED IN THE SPECIFICATIONS.
SPECIFICALLY:	
A. <u>DEMOLITION</u>	
1)	PRIOR TO DEMOLITION, THE PROPOSED MCC SHALL BE ON SITE AND READY FOR INSTALLATION. TEMPORARY POWER SHALL BE AS DESCRIBED IN THE TEMPORARY POWER SEQUENCE OF WORK (SHOWN ON SHEET 3). THE CONTRACTOR SHALL SUPPLY AND INSTALL ANY AND ALL CONDUIT, CABLING, ETC. THAT MAY BE REQUIRED TO FACILITATE THE TEMPORARY POWER CONNECTIONS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CUT SHEETS DETAILING HIS TEMPORARY POWER SYSTEM PROPOSAL FOR ENGINEER'S APPROVAL. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR MAINTAINING POWER AT ALL TIMES TO THE SAID FACILITIES AND PERFORMING ALL ASSOCIATED MAINTENANCE FUNCTIONS. IF DURING HIS PRECONSTRUCTION INVESTIGATION, THE CONTRACTOR UNCOVERS AN ALTERNATE METHOD FOR SUPPLYING TEMPORARY POWER TO ALL, OR PART OF, THE REQUIRED LOADS; HE WILL NOTIFY THE ENGINEER, IN WRITING, THROUGH THE RFI PROCESS. AFTER ENGINEER'S PRELIMINARY APPROVAL, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND CUT SHEETS FOR THE PROPOSED TEMPORARY POWER SYSTEM AS WELL AS THE AMOUNT OF CREDIT OFFERED TO THE CITY FOR FINAL APPROVAL.
2)	VERIFY EXISTING POWER CONNECTIONS IN THE FIELD PRIOR TO COMMENCING DEMOLITION WORK.
3)	LABEL ALL MAIN AND FEEDER CONDUCTORS ATTACHED TO THE EXISTING MOTOR CONTROL CENTER 58 (MCC-58). ALL CONDUCTORS ARE TO BE RECONNECTED TO THE NEW MCC. REMOVE EXISTING MCC-58 AND PREPARE EXISTING CONCRETE PAD AS REQUIRED TO INSTALL THE NEW MCC.
4)	INSTALL MCC AND MAKE CABLE CONNECTIONS AS SHOWN.
5)	PERFORM A SHORT CIRCUIT AND COORDINATION STUDY AS DETAILED IN SECTION 16085 OF THE SPECIFICATIONS. THE STUDY SHALL BE USED TO DETERMINE THE PROPER SETTINGS FOR THE MCC-58 CIRCUIT BREAKERS, ETC. THE SHORT CIRCUIT STUDY SHALL BE SIGNED, SEALED AND APPROVED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.

GENERAL NOTES	
THE WORK CONSIST OF FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, AND TECHNICAL SUPERVISION TO INSTALL NEW MCC-58 AS INDICATED AND SHOWN. THE WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:	
1.	CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO PURCHASING EQUIPMENT OR COMMENCING CONSTRUCTION.
2.	ALL WIRING SHALL BE IDENTIFIED WITH NUMBERS AT ALL TERMINALS AND ON WIRING DIAGRAMS.
3.	FIELD VERIFY ALL EQUIPMENT LOCATIONS AND CONNECTIONS PRIOR TO COMMENCING CONSTRUCTION.
4.	ALL NEW EQUIPMENT SHALL BE PERMANENTLY IDENTIFIED WITH A BLACK ON WHITE LAMACOID TAG ENGRAVED WITH MINIMUM 3/16 INCH LETTERING.
5.	ALL CONDUCTOR LENGTHS SHALL BE CONTINUOUS. NO SPLICES OR CONDUCTOR TERMINATIONS SHALL BE PERMITTED UNLESS SPECIFICALLY DESIGNATED IN THE DRAWINGS.
6.	ALL EXISTING INSTALLATIONS DENOTED ON THE DRAWINGS ARE FOR THE CONTRACTORS REFERENCE ONLY. ALL EXISTING INSTALLATIONS SHALL BE FIELD VERIFIED PRIOR TO SUBMITTING A BID AND PRIOR TO COMMENCING CONSTRUCTION.
7.	REPLACE THE EXISTING MOTOR CONTROL CENTER 58 (MCC-58) AS SHOWN AND SPECIFIED.
8.	ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2011 NATIONAL ELECTRICAL CODE (NEC) AND CHAPTER 5 OF THE CITY OF TAMPA CODE.
9.	TEST AND START-UP REPORTS FOR THE PROPOSED MCC SHALL BE INCLUDED IN THE OPERATION AND MAINTENANCE (O&M) MANUALS PROVIDED UNDER THIS CONTRACT. ALL CIRCUIT BREAKER SETTINGS SHALL BE TABULATED AND INCLUDED IN THE O&M MANUAL.



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DATE	4/2017	No.	DATE	BY	APP	REVISION	DESCRIPTION		

SCALE	
NOT TO SCALE	

City of Tampa Wastewater Department
HOWARD F. CURREN
FILTER BUILDING MOTOR CONTROL CENTER REPLACEMENT -
BUILDING NO. 1 MCC 58

**INDEX, SCHEDULES AND
GENERAL NOTES**

SHEET NUMBER	
2	
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171604942E01

TEMPORARY POWER SEQUENCE OF WORK

THE CONTRACTOR SHALL COORDINATE ALL REQUIRED OUTAGES/WORK WITH THE CITY OF TAMPA. PRIOR TO ANY OUTAGE, THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST TO THE CITY OF TAMPA. THE REQUEST SHALL DETAIL THE NATURE OF THE OUTAGE, ALL EQUIPMENT AFFECTED BY THE OUTAGE, THE AMOUNT OF TIME REQUIRED FOR THE OUTAGE AND A CONTINGENCY PLAN FOR THE OUTAGE. THE OUTAGE REQUEST SHALL BE SUBMITTED TO THE CITY A MINIMUM OF 2 WEEKS PRIOR TO THE DATE OF THE REQUESTED OUTAGE. THE CONTRACTOR SHALL NOT BE ALLOWED TO INITIATE THE OUTAGE PRIOR TO RECEIVING WRITTEN APPROVAL FROM THE CITY OF TAMPA.

THE SEQUENCE OF WORK FOR PROVIDING TEMPORARY POWER DURING THE INSTALLATION OF MCC-58 SHALL BE AS FOLLOWS:

1. FOR EACH OF THE STEPS IDENTIFIED BELOW, THE CONTRACTOR SHALL SUBMIT TO THE CITY OF TAMPA, IN WRITING, A REQUEST TO COMMENCE WITH THE PROCEDURE. THE CONTRACTOR SHALL NOT BEGIN ANY OF THE PROCEDURES LISTED BELOW WITHOUT WRITTEN AUTHORIZATION FORM THE CITY OF TAMPA.
2. PROVIDE AND INSTALL ALL TEMPORARY POWER AND TEMPORARY CONTROL EQUIPMENT. THIS SHALL INCLUDE ALL CABLE TRAY AND ASSOCIATED CABLES TO BE UTILIZED SOLELY BETWEEN THE TEMPORARY POWER EQUIPMENT (TEMPORARY PANELBOARD 'A', TEMPORARY PANELBOARD 'B', TEMPORARY MOTOR STARTERS AND TEMPORARY VARIABLE FREQUENCY DRIVES (VFD'S)), AND TEMPORARY CONTROL EQUIPMENT (TEMPORARY MOTOR CONTROL PANEL 'A' AND TEMPORARY MOTOR CONTROL PANEL 'B'). THE CONTRACTOR SHALL MEGGER ALL TEMPORARY CABLES AFTER INSTALLATION.
3. OPEN THE CIRCUIT BREAKERS IN SWITCHGEAR 56 WHICH FEED MCC-58 BUS A AND MCC-58 BUS B. LOCKOUT CIRCUIT BREAKERS. DISCONNECT THE ASSOCIATED FEEDER CONDUCTORS FROM THE LOAD SIDE OF THE ASSOCIATED CIRCUIT BREAKERS.
4. DISCONNECT FEEDER CONDUCTORS FROM ASSOCIATED CIRCUIT BREAKERS WITHIN MCC-58. COIL AND TAPE CONDUCTORS INSIDE MCC-58 (IN PREPARATION FOR THE REMOVAL OF MCC-58) AND PROTECT FROM DAMAGE.
5. UTILIZE EXISTING PULL BOX 'A' (REFER SHEETS E-19, E-31 AND E-32) TO REMOVE MCC-58 BUS A AND MCC-58 BUS B FEEDER CONDUCTORS FROM SWITCHGEAR 56 BACK TO AND OUT OF EXISTING PULL BOX. COIL AND TAPE CONDUCTORS AND PROTECT FROM DAMAGE.
6. UTILIZING TEMPORARY CABLE TRAY AND CONDUIT/PULL BOXES VACATED BY THE REMOVAL OF THE MCC-58 BUS A AND MCC-58 BUS B FEEDERS, INSTALL NEW TEMPORARY TYPE W CABLE FROM SWITCHGEAR 56 MCC-58 BUS A AND MCC-58 BUS B CIRCUIT BREAKERS TO THE TEMPORARY PANELBOARDS A AND B RESPECTIVELY. THE CONTRACTOR SHALL MEGGER THE TEMPORARY POWER CABLES AFTER INSTALLATION. AFTER A SUCCESSFUL MEGGER TEST, CLOSE SWITCHGEAR 56 MCC-58 BUS A AND MCC-58 BUS B CIRCUIT BREAKERS, THEREBY ENERGIZING TEMPORARY PANELBOARD A AND TEMPORARY PANELBOARD B.
7. OPEN THE CIRCUIT BREAKER IN MCC-58 WHICH FEEDS MCC-58A BUS A. LOCKOUT THE CIRCUIT BREAKER. DISCONNECT THE ASSOCIATED FEEDER CONDUCTORS FROM THE LOAD SIDE OF THE ASSOCIATED CIRCUIT BREAKER. COIL AND TAPE CONDUCTORS INSIDE MCC-58 (IN PREPARATION FOR THE REMOVAL OF MCC-58) AND PROTECT FROM DAMAGE.
8. DISCONNECT FEEDER CONDUCTORS FROM ASSOCIATED CIRCUIT BREAKER WITHIN MCC-58A. UTILIZE EXISTING PULL BOX 'B' (REFER TO SHEETS E-19, E-31 AND E-32) TO REMOVE MCC-58A BUS A CONDUCTORS FROM MCC-58A BUS A BACK TO AND OUT OF EXISTING PULL BOX. COIL AND TAPE CONDUCTORS AND PROTECT FROM DAMAGE.
9. UTILIZING TEMPORARY CABLE TRAY AND CONDUIT/PULL BOXES VACATED BY THE REMOVAL OF THE MCC-58A BUS A FEEDER, INSTALL NEW TEMPORARY TYPE W CABLE FROM MCC-58A BUS A CIRCUIT BREAKER TO TEMPORARY PANELBOARD A. THE CONTRACTOR SHALL MEGGER THE TEMPORARY POWER CABLES AFTER INSTALLATION . AFTER A SUCCESSFUL MEGGER TEST, CLOSE MCC-58A BUS A FEEDER CIRCUIT BREAKER, THEREBY ENERGIZING MCC-58A BUS A.
10. REPEAT THE PREVIOUSLY OUTLINED PROCESS TO PROVIDE TEMPORARY POWER TO MCC-58A BUS B.
11. OPEN THE CIRCUIT BREAKER IN MCC-58 WHICH FEEDS NORMAL POWER TO THE AUTOMATIC TRANSFER SWITCH (ATS) SERVING PANELBOARD LP-53'S STEP-DOWN TRANSFORMER. LOCKOUT THE CIRCUIT BREAKER. DISCONNECT THE ASSOCIATED FEEDER CONDUCTORS FROM THE LOAD SIDE OF THE ASSOCIATED CIRCUIT BREAKER. COIL AND TAPE CONDUCTORS INSIDE MCC-58 (IN PREPARATION FOR THE REMOVAL OF MCC-58) AND PROTECT FROM DAMAGE.
12. DISCONNECT THE ASSOCIATED FEEDER CONDUCTORS FROM THE LINE SIDE OF THE ATS. COIL AND TAPE CONDUCTORS AND PROTECT FROM DAMAGE.
13. INSTALL NEW TEMPORARY TYPE W CABLE FROM TEMPORARY PANELBOARD A TO PANELBOARD LP-53 ATS. DUE TO THE LOCATION AND ROUTING OF THIS CABLE, THE CONTRACTOR SHALL PROVIDE AN APPROPRIATELY SIZED CHanneled CABLE PROTECTOR TO BE INSTALLED ON THE FINISHED FLOOR. THE CONTRACTOR SHALL MEGGER THE TEMPORARY CABLE AFTER INSTALLATION. AFTER A SUCCESSFUL MEGGER TEST, CLOSE THE ASSOCIATED TEMPORARY PANELBOARD A CIRCUIT BREAKER, THEREBY ENERGIZING THE NORMAL POWER SIDE OF PANELBOARD LP-53'S ATS.
14. REPEAT THE PREVIOUSLY OUTLINED PROCESS TO PROVIDE TEMPORARY POWER TO THE EMERGENCY POWER SIDE OF PANELBOARD LP-53'S ATS.
15. OPEN THE CIRCUIT BREAKER IN MCC-58 WHICH FEEDS PUMP MOTOR FB-GPP-4. LOCKOUT THE CIRCUIT BREAKER. DISCONNECT THE ASSOCIATED FEEDER CONDUCTORS FROM THE LOAD SIDE OF THE ASSOCIATED CIRCUIT BREAKER. COIL AND TAPE CONDUCTORS INSIDE MCC-58 (IN PREPARATION FOR THE REMOVAL OF MCC-58) AND PROTECT FROM DAMAGE.
16. DISCONNECT THE ASSOCIATED FEEDER CONDUCTORS FROM THE PUMP MOTOR.
17. UTILIZE EXISTING PULL BOX 'A' (REFER TO SHEETS E-19, E-31 AND E-32) TO REMOVE FB-GPP-4 FEEDER CONDUCTORS FROM FB-GPP-4 BACK TO AND OUT OF EXISTING PULL BOX. COIL AND TAPE CONDUCTORS AND PROTECT FROM DAMAGE.
18. UTILIZING TEMPORARY CABLE TRAY AND CONDUIT/PULL BOXES VACATED BY THE REMOVAL OF THE FB-GPP-4 FEEDER, INSTALL NEW TEMPORARY TYPE W CABLE FROM TEMPORARY PANELBOARD A TO PUMP MOTOR FOR FB-GPP-4. THE CONTRACTOR SHALL MEGGER THE TEMPORARY POWER CABLE AFTER INSTALLATION.
19. DISCONNECT THE ASSOCIATED CONTROL CONDUCTORS FROM THE FB-GPP-4 JUNCTION BOX. COIL AND TAPE CONDUCTORS AND PROTECT FROM DAMAGE.
20. DISCONNECT THE ASSOCIATED CONTROL CONDUCTORS FROM MCC-58. COIL AND TAPE CONDUCTORS INSIDE MCC-58 (IN PREPARATION FOR THE REMOVAL OF MCC-58) AND PROTECT FROM DAMAGE.
21. UTILIZING TEMPORARY CABLE TRAY AND EXISTING CONDUIT TRAPEZE SUPPORTS, FIELD ROUTE TEMPORARY TYPE SO CONTROL CABLES FROM TEMPORARY FB-GPP-4 STARTER TO THE EXISTING FB-GPP-4 JUNCTION BOX. THE CONTRACTOR SHALL MEGGER THE TEMPORARY CONTROL CABLE AFTER INSTALLATION.
22. AFTER SUCCESSFUL MEGGER TESTS ON BOTH TEMPORARY POWER AND CONTROL CABLES, CLOSE THE ASSOCIATED TEMPORARY PANELBOARD A CIRCUIT BREAKER AND TEST MOTOR FOR PROPER OPERATION.
23. REPEAT THE PREVIOUSLY OUTLINED PROCEDURE FOR FB-GPP-3.
24. REPEAT THE PREVIOUSLY OUTLINED PROCEDURE FOR CF GPEW-1, CF GPEW-2, BWP-1, BWP-2, BWP-3, PP201A AND PP201S. THE EXCEPTIONS TO THESE INDIVIDUAL PUMP MOTORS WILL BE THE INSTALLATION (ROUTING) OF THE TEMPORARY POWER AND CONTROL CABLES.
25. WHILE THE PREVIOUSLY OUTLINED METHODS SHALL APPLY, INSTALLATION OF THE TEMPORARY POWER AND TEMPORARY CONTROL CABLES FOR BWP-1, BWP-2, BWP-3, PP201A AND PP201S SHALL UTILIZE THE EXISTING SUPPORT STRUCTURES FOR THE CURRENTLY INSTALLED POWER AND CONTROL CONDUITS.
26. WHILE THE PREVIOUSLY OUTLINED METHODS SHALL APPLY, INSTALLATION OF THE TEMPORARY POWER AND TEMPORARY CONTROL CABLES FOR CF GPEW-1 AND CF GPEW-2 SHALL UTILIZE THE EXISTING CONDUIT TRAPEZE SUPPORT STRUCTURES.
27. FOR ALL TEMPORARY CABLE INSTALLATIONS, THE TRANSITION FROM THE PUMPS (LOCATED ON ELEVATION 3'-6") TO THE ASSOCIATED TEMPORARY PANELBOARDS AND TEMPORARY MOTOR CONTROL PANELS (LOCATED ON ELEVATION 11'-0") SHALL BE VIA THE OPENING IN THE ELEVATION 11'-0" FLOOR SLAB (REFER TO DRAWINGS). ALL TEMPORARY CABLES SHALL BE SECURED TO CONDUIT TRAPEZE SUPPORT SYSTEM, HANDRAILS, OR OTHER MEANS AS APPROVED BY THE CITY OF TAMPA.
28. AT NO TIME SHALL MORE THAN ONE (1) PUMP BE REMOVED FROM SERVICE IN ORDER TO INSTALL TEMPORARY CONNECTIONS. TEMPORARY CONNECTIONS TO PUMP MOTORS SHALL NOT BE MADE CONCURRENTLY.
29. THE PREVIOUSLY OUTLINED MEANS AND METHODS SHALL APPLY TO THE INSTALLATION OF THE TEMPORARY POWER CABLES REQUIRED FOR THE MONORAIL HOIST, PILOT PLANT, TRANSFORMER T-LCP-54 AND TRANSFORMER T-LCP-55.
30. ONCE ALL TEMPORARY POWER AND TEMPORARY CONTROL CABLES HAVE BEEN INSTALLED AND ALL PUMPS AND EQUIPMENT ARE OPERATIONALLY SOUND, THE CONTRACTOR SHALL OPEN AND LOCK OUT THE CIRCUIT BREAKERS IN THE SECONDARY COMPARTMENTS OF TRANSFORMERS T-5A-7 AND T-5B-7 (RESPECTIVELY). THE CONTRACTOR SHALL THEN OPEN MCC-58'S MAIN CIRCUIT BREAKER BUS A AND MAIN CIRCUIT BREAKER BUS B. THE EXISTING MCC-58 WILL NOW BE READY TO BE REMOVED.
31. ONCE THE PHYSICAL INSTALLATION OF THE NEW MCC-58 IS COMPLETE, AND ALL TESTS HAVE BEEN ACCEPTED/APPROVED, THE CONTRACTOR SHALL REMOVE THE ASSOCIATED LOCKS ON THE CIRCUIT BREAKERS IN THE SECONDARY COMPARTMENTS OF TRANSFORMERS T-5A-7 AND T-5B-7 AND THEN CLOSE THE CIRCUIT BREAKERS IN THE TRANSFORMERS. THE CONTRACTOR SHALL THEN CLOSE MCC-58'S MAIN CIRCUIT BREAKER BUS A AND MAIN CIRCUIT BREAKER BUS B.
32. CONDUCTORS DISCONNECTED PREVIOUSLY SHALL BE RECONNECTED AND THE FEEDER SHALL BE MEGGER TESTED. WHERE REQUIRED, NEW CONDUCTORS SHALL BE INSTALLED AND MEGGER TESTED. THE ORDER OF THE TEMPORARY CONNECTION PROCESSES SHALL BE REVERSED WITH EACH TEMPORARY CONNECTION BEING REPLACED IN KIND WITH THE PROPOSED PERMANENT CONNECTION. THEREFORE, THE LAST PERMANENT CONNECTIONS TO BE MADE SHALL BE THE MCC-58 BUS A AND MCC-58 BUS B FEEDERS FROM SWITCHBOARD 56. THIS SHALL ALLOW FOR POWER TO TEMPORARY PANELBOARD A AND TEMPORARY PANELBOARD B TO BE THE LAST TEMPORARY CONNECTION.
33. ONCE TESTING IS COMPLETE AND MCC-58 HAS BEEN ACCEPTED BY THE CITY, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EQUIPMENT, CABLE TRAY, CONDUIT AND CONDUCTORS.



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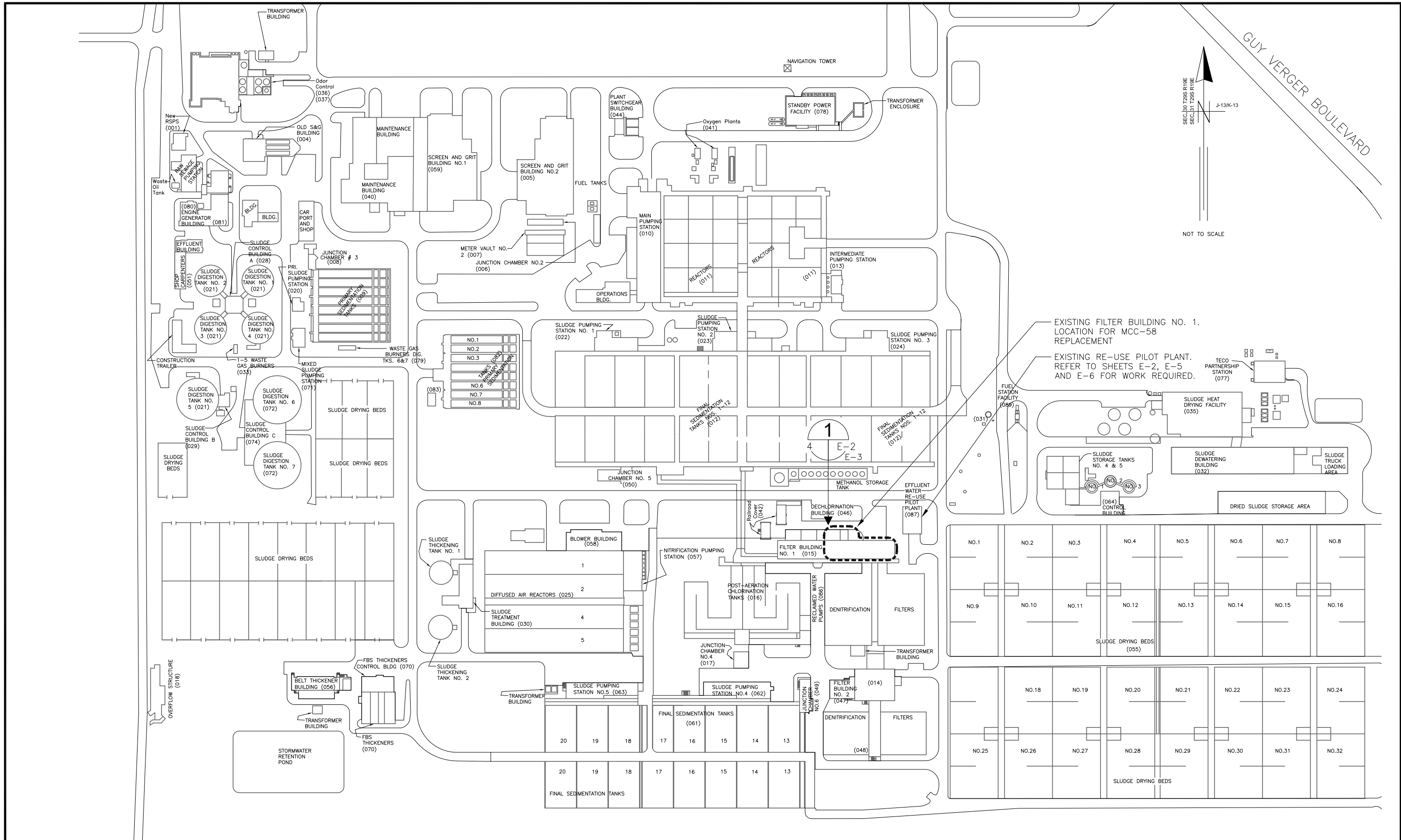
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City of Tampa Wastewater Department
HOWARD F. CURREN
FILTER BUILDING MOTOR CONTROL CENTER REPLACEMENT –
BUILDING NO. 1 MCC 58

TEMPORARY POWER SEQUENCE OF WORK

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER
3
FILE: 171604942E01



EXISTING FILTER BUILDING NO. 1.
LOCATION FOR MCC-58
REPLACEMENT

EXISTING RE-USE PILOT PLANT.
REFER TO SHEETS E-2, E-5
AND E-6 FOR WORK REQUIRED.

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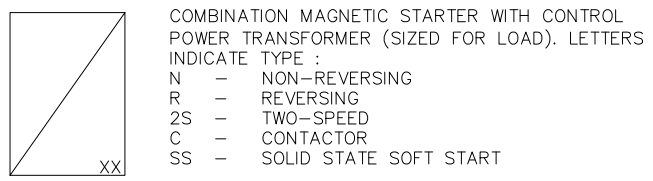
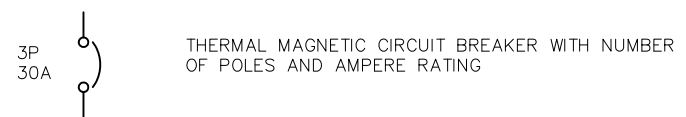
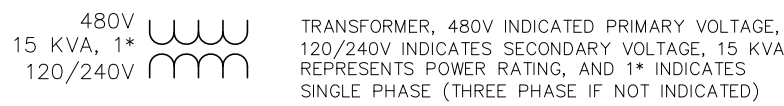
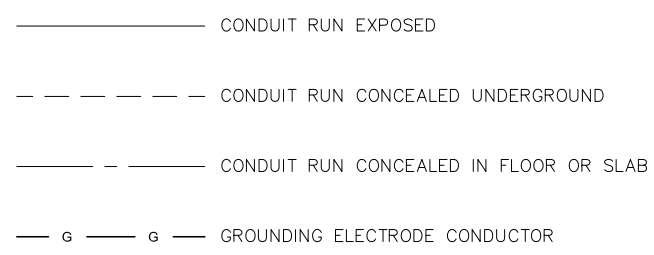
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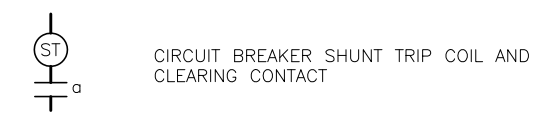
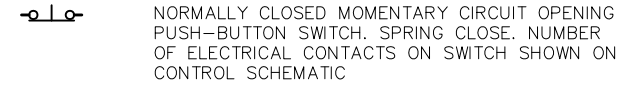
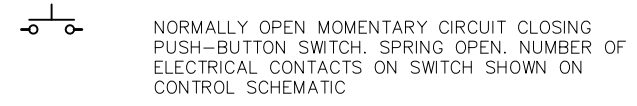
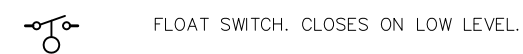
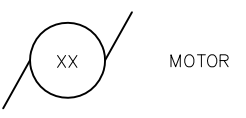
HOWARD F. CURREN
FILTER BUILDING MOTOR CONTROL CENTER REPLACEMENT -
BUILDING NO. 1 MCC 58

**SITE PLAN FOR
MCC-58 REPLACEMENT**

SHEET NUMBER	4
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171604942E01



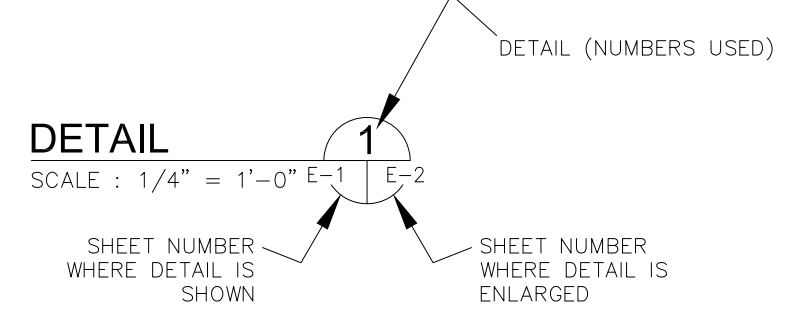
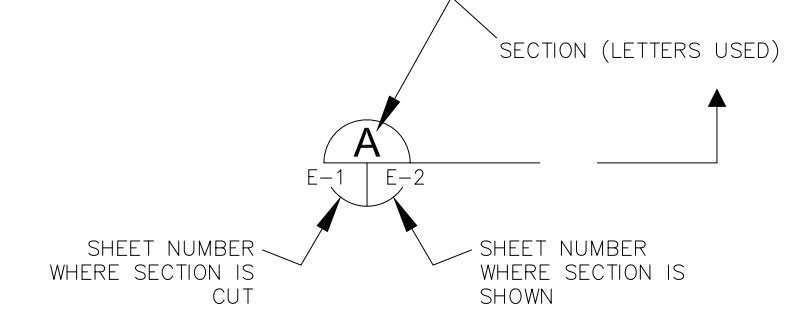
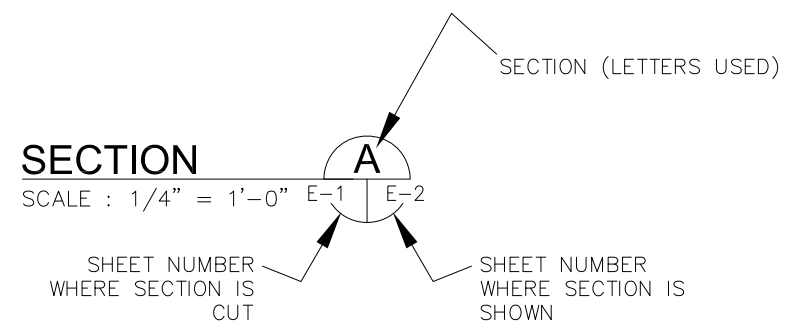
XXX	XXX_DEVICE	DESCRIPTION
HLS		HIGH LEVEL SWITCH
HOA		HAND-OFF-AUTO
LD		LEAK DETECTION
LLS		LOW LEVEL SWITCH
LOR		LOCAL-OFF-REMOTE
PB		PUSH BUTTON
RTU		REMOTE TERMINAL UNIT
SS		SOFT STARTER
SS/B		SOFT START OR BYPASS
TS		TEMPERATURE SWITCH
TVSS		TRANSIENT VOLTAGE SURGE SUPPRESSOR
ZS		POSITION SENSOR (LIMIT SWITCH)



ABBREVIATIONS:

4C	4 CONDUCTOR
A	AMPS
AF	AMPERE FRAME
AM	AMMETER
AT	AMPERE TRIP
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ATL	ACROSS-THE-LINE
C	CONDUIT
CLF	CURRENT LIMITING FUSE
CT	CURRENT TRANSFORMER
CTY	CTY
CU	COPPER
EX	EXISTING
ELEC	ELECTRICAL
ELEV	ELEVATION
EXP	EXPLOSION PROOF
FU	FUSE
GF1	GROUND FAULT INTERRUPTER
GND	GROUNDING CONDUCTOR
HP	HORSEPOWER
HZ	HERTZ
IG	ISOLATED GROUND
KVA	KILOVOLT AMPERES
KW	KILOWATTS
MAX	MAXIMUM
MIN	MINIMUM
N/A	NOT APPLICABLE
PH	PHASE
PM	POWER MONITOR
RECP	RECEPTACLE
RPM	REVOLUTIONS PER MINUTE
RTU	REMOTE TERMINAL UNIT
RVSS	REDUCED VOLTAGE SOFT STARTER
SPD	SURGE PROTECTION DEVICE
SS	STAINLESS STEEL
TYP	TYPICAL
V	VOLTS
W	WIRE
WP	WEATHERPROOF

EXAMPLE OF SECTION CUT AND DETAIL



	EXISTING 3-PHASE, 480V CAPACITOR TO BE REUSED
	EXISTING ON-OFF/L TO BE REUSED
	EXISTING ON-OFF SELECTOR SWITCH TO BE REUSED
	PUSHBUTTON
	SOFTSTARTER CONTROLS
	EXISTING BENTLEY NEVADA MOTOR VIBRATION CONTROLLER TO BE REUSED
	EXISTING MOTOR VIBRATION SENSOR TO BE REUSED
	EXISTING BENTLEY NEVADA PUMP VIBRATION CONTROLLER TO BE REUSED
	EXISTING PUMP VIBRATION SENSOR TO BE REUSED
	EXISTING PRESSURE SWITCH TO BE REUSED
	EXISTING MOTOR SPACE HEATER TO BE REUSED
	SCHWEITZER ENGINEERING LABORATORIES MOTOR MANAGEMENT RELAY. TYPE SEL-849. 120V AC POWER SUPPLY AND ARC FLASH SENSOR

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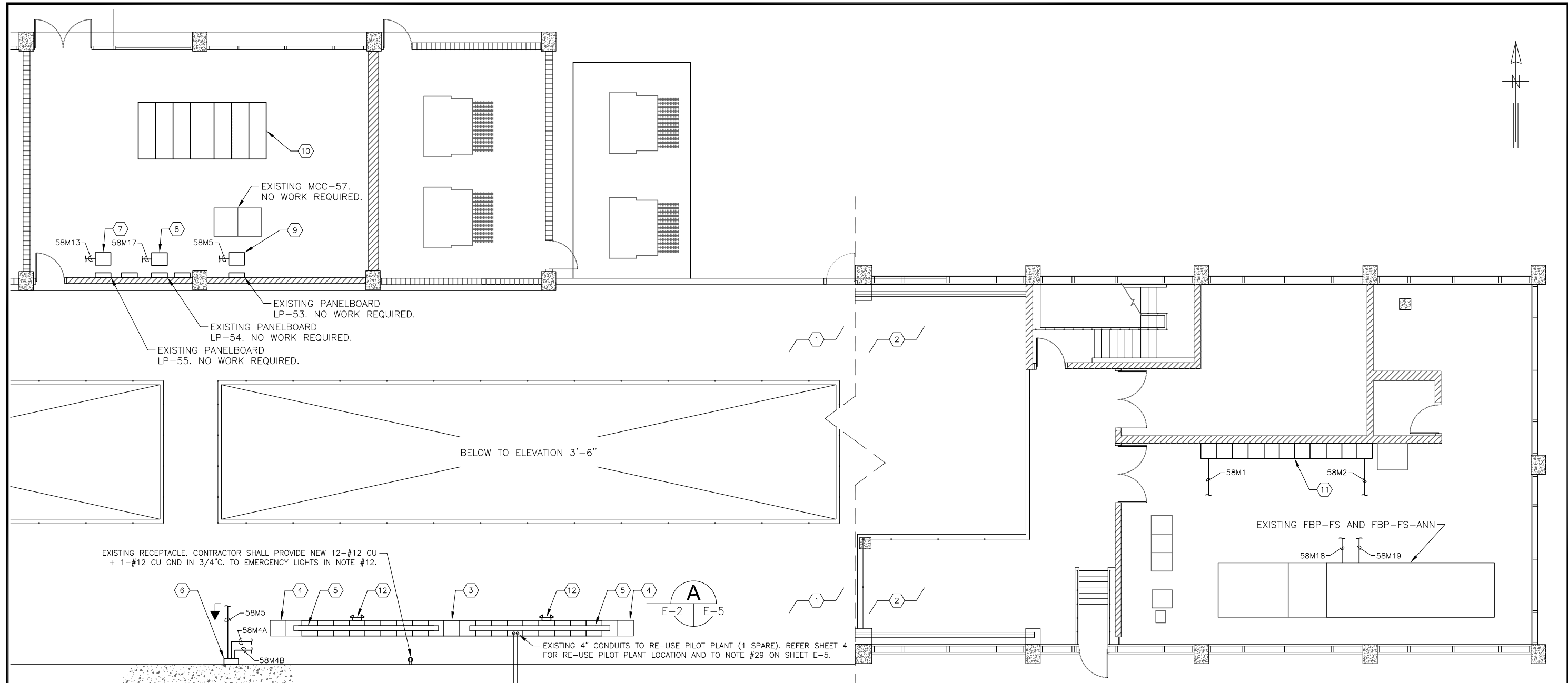
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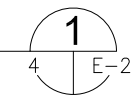
ELECTRICAL LEGEND AND ABBREVIATIONS

SHEET NUMBER	E-1
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171604942E01



FILTER BUILDING NO.1 (015) : FLOOR PLANS

SCALE : 3/32" = 1'-0"



NOTE:
 CONTRACTOR SHALL FIELD VERIFY EXISTING MCC DIMENSIONS, AS WELL AS, ALL EXISTING CONDUIT LOCATIONS, ROUTING AND DISTANCES PRIOR TO COMMENCING CONSTRUCTION OR ORDERING MATERIALS.

KEYED NOTES:	
1	EXISTING PLAN AT ELEVATION 11'-0".
2	EXISTING PLAN AT ELEVATION 23'-6".
3	EXISTING 480V, 1,200A MCC-58. THE MAJORITY OF MCC-58 SHALL BE REPLACED. REFER TO SHEET E-5 FOR EXISTING ELEVATION AND WORK REQUIRED. REFER TO SHEETS E-18, E-19, E-20 AND E-21 FOR PROVIDING TEMPORARY POWER TO MCC-58 DURING CONSTRUCTION.
4	EXISTING 1,200A MAIN CIRCUIT BREAKER TO REMAIN AND BE REUSED. REFER TO ELEVATIONS ON SHEETS E-5 AND E-6 FOR DETAILS.
5	EXISTING 1,200A BUS DUCT TO REMAIN AND BE REUSED. REFER TO ELEVATIONS ON SHEETS E-5 AND E-6 FOR DETAILS.
6	EXISTING AUTOMATIC TRANSFER SWITCH (ATS) FOR PANELBOARD LP-53 TO REMAIN AND BE REUSED.
7	EXISTING TRANSFORMER T-LP-55 TO REMAIN. TRANSFORMER TO BE REFEED VIA NEW CONDUCTORS IN EXISTING CONDUIT.
8	EXISTING TRANSFORMER T-LP-54 TO REMAIN. TRANSFORMER TO BE REFEED VIA NEW CONDUCTORS IN EXISTING CONDUIT.
9	EXISTING TRANSFORMER T-LP-53 TO REMAIN. NO WORK REQUIRED.
10	EXISTING SWITCHGEAR NO. 56 TO REMAIN. REFER TO SHEETS E-18, E-19, E-20 AND E-21 FOR PROVIDING TEMPORARY POWER DURING CONSTRUCTION.
11	EXISTING MCC-58A LOCATED ON ELEVATION 23'-6". MCC-58A TO BE REFEED VIA NEW CONDUCTORS IN EXISTING CONDUIT.
12	EXISTING EMERGENCY LIGHTS TO BE REPLACED. CONTRACTOR SHALL PROVIDE NEW LED EMERGENCY LIGHTS (LITHONIA EU2 LED HO M6). SECURE EMERGENCY LIGHTS TO WALL AND MCC VIA SS UNISTRUT.

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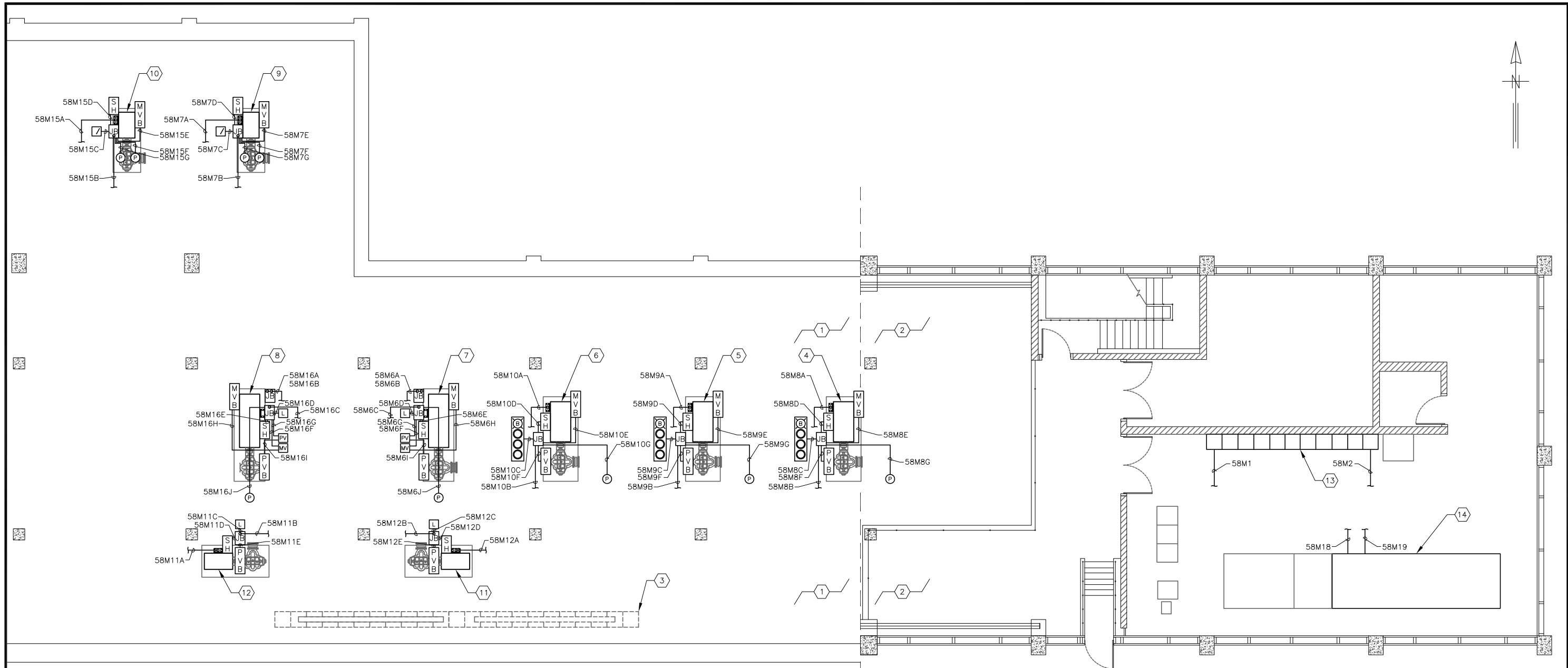
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EXISTING CONDITIONS PLAN
ELEVATIONS 11'-0" & 23'-6"

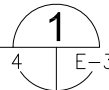
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171604942E01
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SHEET NUMBER
E-2



FILTER BUILDING NO.1 (015) : PLAN ELEVATIONS

SCALE : 3/32" = 1'-0"



KEYED NOTES:

- ① EXISTING PLAN AT ELEVATION 3'-6".
- ② EXISTING PLAN AT ELEVATION 23'-6".
- ③ EXISTING 480V, 1,200A MCC-58 LOCATED AT ELEVATION 11'-0" ABOVE. REFER TO SHEET E-2 FOR WORK REQUIRED. REFER TO SHEETS E-18, E-19, E-20 AND E-21 FOR PROVIDING TEMPORARY POWER TO MCC-58 DURING CONSTRUCTION.
- ④ EXISTING BACKWASH WATER PUMP 1 (FB-BWP-1)
- ⑤ EXISTING BACKWASH WATER PUMP 2 (FB-BWP-2)
- ⑥ EXISTING BACKWASH WATER PUMP 3 (FB-BWP-3)
- ⑦ EXISTING GENERAL PURPOSE PUMP 2 (PP201S)
- ⑧ EXISTING GENERAL PURPOSE PUMP 1 (PP201A)
- ⑨ EXISTING GENERAL PURPOSE EFFLUENT WATER PUMP 4 (FB-GPP-4)
- ⑩ EXISTING GENERAL PURPOSE EFFLUENT WATER PUMP 3 (FB-GPP-3)
- ⑪ EXISTING GENERAL PURPOSE EFFLUENT WATER PUMP CF-GPEW 1
- ⑫ EXISTING GENERAL PURPOSE EFFLUENT WATER PUMP CF-GPEW 2
- ⑬ EXISTING MCC-58A LOCATED ON ELEVATION 23'-6". MCC-58A TO BE REFEED VIA NEW CONDUCTORS IN EXISTING CONDUIT.
- ⑭ EXISTING FBP-FS AND FBP-FS-ANN

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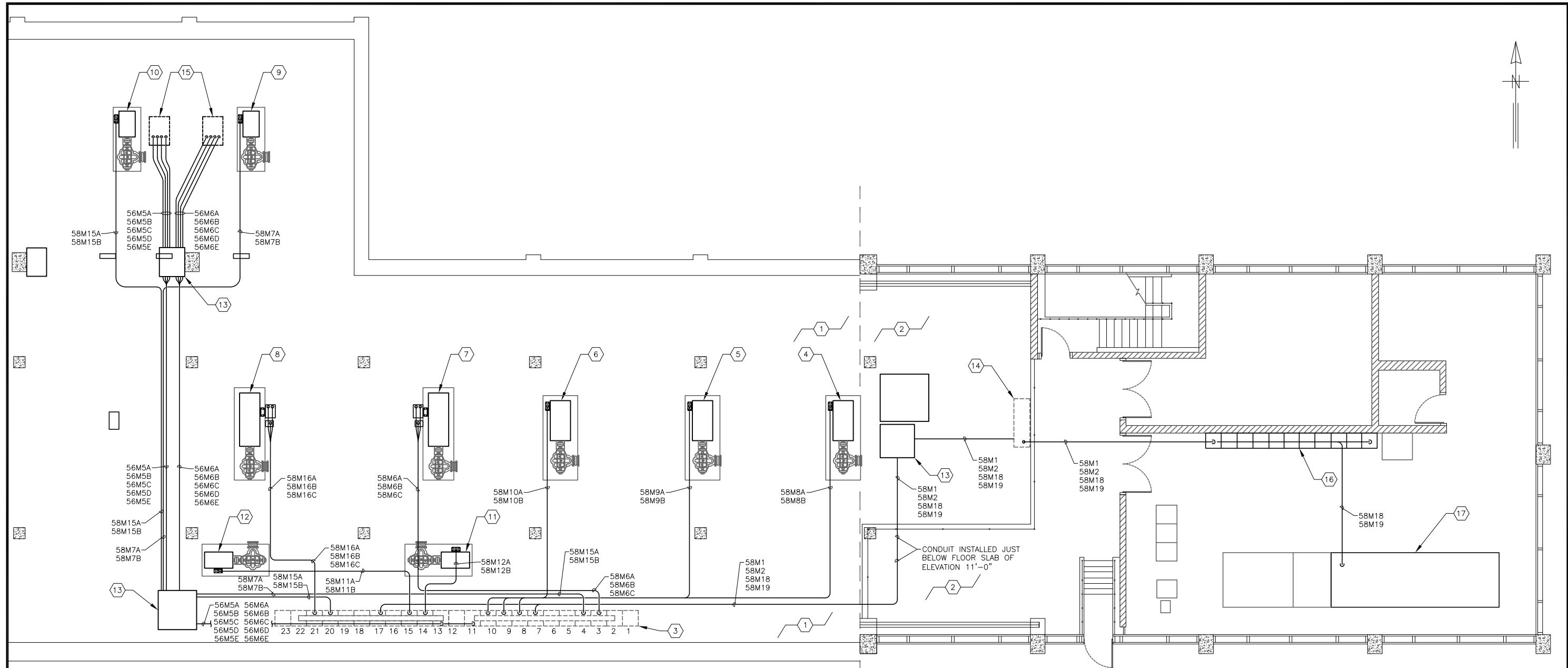
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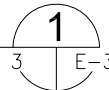
**EXISTING CONDITIONS PLAN
ELEVATION 3'-6" & 23'-6"**

SHEET NUMBER	E-3
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171604942E01



FILTER BUILDING NO.1 (015) : PLAN ELEVATIONS

SCALE : 3/32" = 1'-0"

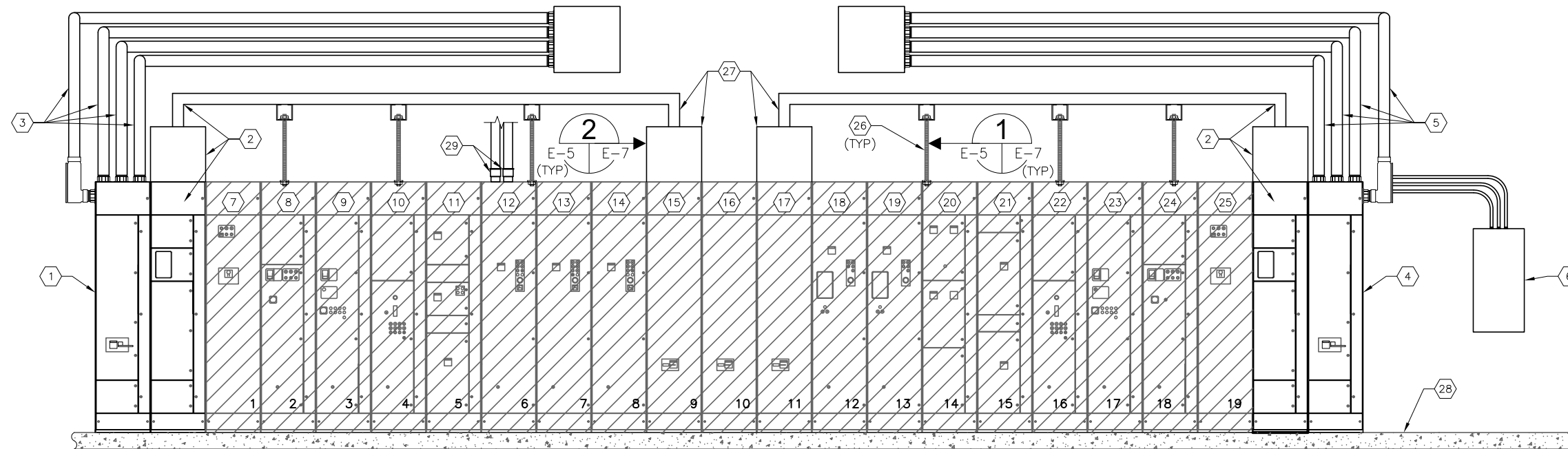


KEYED NOTES:

- | | | | |
|--|--|--|--|
| ① EXISTING PLAN AT ELEVATION 3'-6". | ⑤ EXISTING BACKWASH WATER PUMP 2 (FB-BWP-2). | ⑩ EXISTING GENERAL PURPOSE EFFLUENT WATER PUMP 3 (FB-GPP-3). | ⑭ EXISTING PULL BOX INSTALLED ON ELEVATION 11'-0". |
| ② EXISTING PLAN AT ELEVATION 23'-6". | ⑥ EXISTING BACKWASH WATER PUMP 3 (FB-BWP-3). | ⑪ EXISTING GENERAL PURPOSE EFFLUENT WATER PUMP CF-GPEW 1. | ⑮ EXISTING OPENINGS IN ELEVATION 11'-0" SLAB TO PASS SWITCHGEAR 56 CONDUITS. |
| ③ EXISTING 480V, 1,200A MCC-58 LOCATED AT ELEVATION 11'-0" ABOVE. REFER TO SHEET E-2 FOR WORK REQUIRED. REFER TO SHEETS E-18 AND E-30 FOR PROVIDING TEMPORARY POWER TO MCC-58 DURING CONSTRUCTION. | ⑦ EXISTING GENERAL PURPOSE PUMP 2 (PP201S). | ⑫ EXISTING GENERAL PURPOSE EFFLUENT WATER PUMP CF-GPEW 2. | ⑯ EXISTING MCC-58A LOCATED ON ELEVATION 23'-6". MCC-58A TO BE REFEED VIA NEW CONDUCTORS IN EXISTING CONDUIT. |
| ④ EXISTING BACKWASH WATER PUMP 1 (FB-BWP-1). | ⑧ EXISTING GENERAL PURPOSE PUMP 1 (PP201A). | ⑬ EXISTING PULL BOX INSTALLED ON CEILING OF ELEVATION 3'-6". | ⑰ EXISTING FBP-FS AND FBP-FS-ANN ON ELEVATION 23'-6". |
| | ⑨ EXISTING GENERAL PURPOSE EFFLUENT WATER PUMP 4 (FB-GPP-4). | | |

NOTE:

CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDUIT LOCATIONS, ROUTING AND DISTANCES PRIOR TO COMMENCING CONSTRUCTION OR ORDERING MATERIALS.



EXISTING MCC-58 FRONT ELEVATION A
 SCALE : N.T.S. E-2 | E-5

KEYED NOTES:

- | | | |
|---|--|--|
| <p>① EXISTING MCC-58 MAIN CIRCUIT BREAKER (BUS A SIDE) FED FROM TRANSFORMER T-5A-7. MAIN CIRCUIT BREAKER TO REMAIN AND BE REUSED.</p> <p>② EXISTING MCC-58 METERING SECTION AND TOP HAT TO ACCOMMODATE EXISTING 1,200A BUS DUCT. METERING SECTION, TOP HAT AND BUS DUCT TO REMAIN AND BE REUSED.</p> <p>③ EXISTING FEEDERS FROM TRANSFORMER T-5A-7 (IT5A7-1, IT5A7-2, IT5A7-3 AND IT5A7-4) TO BE REUSED. NO WORK REQUIRED.</p> <p>④ EXISTING MCC-58 MAIN CIRCUIT BREAKER (BUS B SIDE) FED FROM TRANSFORMER T-5B-7. MAIN CIRCUIT BREAKER TO REMAIN AND BE REUSED.</p> <p>⑤ EXISTING FEEDERS FROM TRANSFORMER T-5B-7 (IT5B7-1, IT5B7-2, IT5B7-3 AND IT5B7-4) TO BE REUSED. NO WORK REQUIRED.</p> <p>⑥ EXISTING AUTOMATIC TRANSFER SWITCH (ATS) FOR PANELBOARD LP-53. ATS TO REMAIN AND BE REUSED.</p> <p>⑦ EXISTING CUBICLE FOR PP201S (ALSO KNOW AS GPP-2) STARTER TO BE REMOVED.</p> <p>⑧ EXISTING CUBICLE FOR GPP-4 STARTER TO BE REMOVED.</p> <p>⑨ EXISTING SPARE CUBICLE TO BE REMOVED.</p> <p>⑩ EXISTING CUBICLE FOR PP201S CONTROLS TO BE REMOVED.</p> | <p>⑪ EXISTING CUBICLE FOR PILOT PLANT CIRCUIT BREAKER, LP-53 ATS FEEDER AND MCC-58A BUS 'A' FEEDER TO BE REMOVED.</p> <p>⑫ EXISTING CUBICLE FOR FB-BWP-1 STARTER TO BE REMOVED.</p> <p>⑬ EXISTING CUBICLE FOR FB-BWP-2 STARTER TO BE REMOVED. NOTE: BACKWASH WATER PUMP 2 (FB-BWP-2) STARTER TO BE RELOCATED TO BUS 'B' OF PROPOSED MCC-58. THIS RELOCATION SHALL REQUIRE THAT THE NEW FEEDER CONDUCTORS FOR FB-BWP-2 BE ROUTED UNDER PROPOSED MCC-58 VIA PROPOSED BOX CHANNEL, I-BEAM, OR WIREWAY TO ELEVATE MCC-58 6 INCHES. REFER ALSO TO SHEET E-6.</p> <p>⑭ EXISTING CUBICLE FOR FB-BWP-3 STARTER TO BE REMOVED.</p> <p>⑮ EXISTING CUBICLE FOR SWITCHGEAR 56 BUS 'A' FEEDER CIRCUIT BREAKER TO BE REMOVED.</p> <p>⑯ EXISTING CUBICLE FOR TIE CIRCUIT BREAKER TO BE REMOVED.</p> <p>⑰ EXISTING CUBICLE FOR SWITCHGEAR 56 BUS 'B' FEEDER CIRCUIT BREAKER TO BE REMOVED.</p> <p>⑱ EXISTING CUBICLE FOR CF-GPEW 2 STARTER TO BE REMOVED.</p> <p>⑲ EXISTING CUBICLE FOR CF-GPEW 1 STARTER TO BE REMOVED.</p> <p>⑳ EXISTING CUBICLE FOR LP-53 ATS FEEDER, LP-55 FEEDER AND MONORAIL HOIST (FB-MH-3) FEEDER TO BE REMOVED.</p> | <p>㉑ EXISTING CUBICLE FOR LP-54 FEEDER AND MCC-58A BUS 'B' FEEDER TO BE REMOVED.</p> <p>㉒ EXISTING CUBICLE FOR PP201A CONTROLS TO BE REMOVED.</p> <p>㉓ EXISTING SPARE CUBICLE TO BE REMOVED.</p> <p>㉔ EXISTING CUBICLE FOR GPP-3 STARTER TO BE REMOVED.</p> <p>㉕ EXISTING CUBICLE FOR PP201A (ALSO KNOWN AS GPP-1) STARTER TO BE REMOVED.</p> <p>㉖ TYPICAL BUS DUCT SUPPORT. BUS DUCT SUPPORT MAY BE REUSED IF PHYSICALLY POSSIBLE. REFER TO DETAIL AND NOTES ON SHEET E-7.</p> <p>㉗ EXISTING TOP HAT FOR ENCLOSED BUS DUCT TRANSITION. TYPICAL OF TWO (2). REFER TO DETAIL ON SHEET E-7. BUS DUCT TRANSITION MAY BE REUSED IF PHYSICALLY POSSIBLE. REFER TO DETAIL AND NOTES ON SHEET E-7.</p> <p>㉘ EXISTING FLOOR SLAB AT ELEVATION 11'-0".</p> <p>㉙ EXISTING 4" CONDUIT LB'S AND ASSOCIATED CONDUIT (1 SPARE) WITH 3-4/0 CU + 1-#4 CU TO RE-USE PILOT PLANT FIELD VERIFY. CONTRACTOR SHALL MODIFY CONDUIT TO INSTALL TEMPORARY POWER FEEDER TO RE-USE PILOT PLANT DURING THE INSTALLATION OF THE NEW MCC-58. AFTER MCC-58 IS INSTALLED, THE CONTRACTOR SHALL RECONNECT THE EXISTING CONDUCTORS TO THE NEW RE-USE PILOT PLANT CIRCUIT BREAKER IN MCC-58.</p> |
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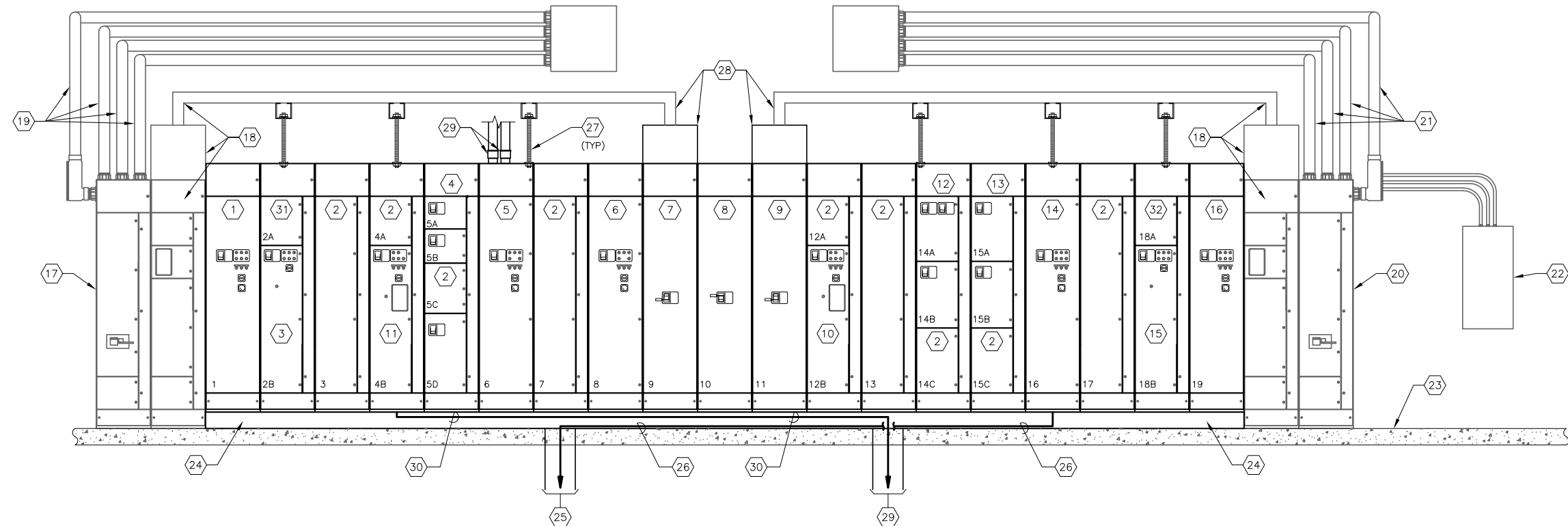
EXISTING MCC-58 ELEVATION

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER

E-5

FILE: 171604942E01



PROPOSED MCC-58 FRONT ELEVATION

SCALE : N.T.S.

KEYED NOTES:

- | | | |
|---|--|---|
| <p>① PROPOSED CUBICLE SPACE FOR PP201S (ALSO KNOWN AS GPP-2) 400 HP SOFTSTARTER.</p> <p>② PROPOSED PREPARED SPACE.</p> <p>③ PROPOSED CUBICLE SPACE FOR GPP-4 150 HP ACROSS-THE-LINE STARTER.</p> <p>④ PROPOSED BUCKET SPACES FOR PILOT PLANT 5A CIRCUIT BREAKER, LP-53 ATS 70A CIRCUIT BREAKER (ATS FEEDER) AND MCC-58A BUS 'A' 250A CIRCUIT BREAKER.</p> <p>⑤ PROPOSED CUBICLE SPACE FOR FB-BWP-1 200 HP SOFTSTARTER.</p> <p>⑥ PROPOSED CUBICLE SPACE FOR FB-BWP-3 200 HP SOFTSTARTER.</p> <p>⑦ PROPOSED CUBICLE SPACE FOR SWITCHGEAR 56 BUS 'A' 1200A FEEDER CIRCUIT BREAKER.</p> <p>⑧ PROPOSED CUBICLE SPACE FOR 1200A TIE CIRCUIT BREAKER.</p> <p>⑨ PROPOSED CUBICLE SPACE FOR SWITCHGEAR 56 BUS 'B' 1200A FEEDER CIRCUIT BREAKER.</p> <p>⑩ PROPOSED CUBICLE SPACE FOR CF GPEW 2 100 HP ACROSS-THE-LINE STARTER.</p> <p>⑪ PROPOSED CUBICLE SPACE FOR CF GPEW 1 100 HP ACROSS-THE-LINE STARTER.</p> <p>⑫ PROPOSED CUBICLE SPACES FOR LP-53 70A CIRCUIT BREAKER (ATS FEEDER), MONORAIL HOIST (FB-MH-3) 30A CIRCUIT BREAKER AND LCP-55 100A CIRCUIT BREAKER.</p> | <p>⑬ PROPOSED BUCKET SPACES FOR LP-54 200A CIRCUIT BREAKER AND MCC-58A BUS 'B' 250A CIRCUIT BREAKER.</p> <p>⑭ PROPOSED CUBICLE SPACE FOR FB-BWP-2 200 HP SOFTSTARTER. REFER ALSO TO NOTE #26 FOR CONDUCTOR ROUTING.</p> <p>⑮ PROPOSED CUBICLE SPACE FOR GPP-3 150 HP ACROSS-THE-LINE STARTER.</p> <p>⑯ PROPOSED CUBICLE SPACE FOR PP201A (ALSO KNOWN AS GPP-1) 400 HP SOFTSTARTER.</p> <p>⑰ EXISTING MCC-58 MAIN CIRCUIT BREAKER (BUS A SIDE) FED FROM TRANSFORMER T-5A-7. MAIN CIRCUIT BREAKER TO REMAIN AND BE REUSED.</p> <p>⑱ EXISTING MCC-58 METERING SECTION AND TOP HAT TO ACCOMMODATE EXISTING 1,200A BUS DUCT. METERING SECTION, TOP HAT AND BUS DUCT TO REMAIN AND BE REUSED.</p> <p>⑲ EXISTING FEEDERS FROM TRANSFORMER T-5A-7 (IT5A7-1, IT5A7-2, IT5A7-3 AND IT5A7-4) TO BE REUSED. NO WORK REQUIRED.</p> <p>⑳ EXISTING MCC-58 MAIN CIRCUIT BREAKER (BUS B SIDE) FED FROM TRANSFORMER T-5B-7. MAIN CIRCUIT BREAKER TO REMAIN AND BE REUSED.</p> <p>㉑ EXISTING FEEDERS FROM TRANSFORMER T-5B-7 (IT5B7-1, IT5B7-2, IT5B7-3 AND IT5B7-4) TO BE REUSED. NO WORK REQUIRED.</p> <p>㉒ EXISTING AUTOMATIC TRANSFER SWITCH (ATS) FOR PANELBOARD LP-53. ATS TO REMAIN AND BE REUSED.</p> | <p>㉓ EXISTING FLOOR SLAB AT ELEVATION 11'-0".</p> <p>㉔ PROPOSED MCC-58 TO BE PROVIDED WITH BOX CHANNEL, I-BEAM, OR WIREWAY TO ELEVATE MCC 6 INCHES IN ORDER TO ALLOW FOR PROPOSED CONDUCTOR ROUTING. REFER ALSO TO SPECIFICATIONS.</p> <p>㉕ EXISTING LOCATION OF CONDUIT STUBUP FOR FB-BWP-2. REFER ALSO TO SHEET E-5 FOR EXISTING FB-BWP-2 STARTER LOCATION.</p> <p>㉖ CONTRACTOR TO UTILIZE PROPOSED WIREWAY (NOTE 24) TO INSTALL CONDUCTORS FOR FB-BWP-2. CONDUCTORS 58M9A AND 58M9B.</p> <p>㉗ TYPICAL BUS DUCT SUPPORT. BUS DUCT SUPPORT MAY BE REUSED IF PHYSICALLY POSSIBLE. REFER TO DETAIL AND NOTES ON SHEET E-7.</p> <p>㉘ EXISTING TOP HAT FOR ENCLOSED BUS DUCT TRANSITION. TYPICAL OF TWO (2). REFER TO DETAIL ON SHEET E-7. BUS DUCT TRANSITION MAY BE REUSED IF PHYSICALLY POSSIBLE. REFER TO DETAIL AND NOTES ON SHEET E-7.</p> <p>㉙ EXISTING LOCATION OF CONDUIT STUBUP FOR CF-GPEW-1. REFER ALSO TO SHEET E-5 FOR EXISTING CF GPEW-1 STARTER LOCATION.</p> <p>㉚ CONTRACTOR TO UTILIZE PROPOSED WIREWAY (NOTE 24) TO INSTALL CONDUCTORS FOR CF-GPEW-1. CONDUCTORS 58M12A AND 58M12B.</p> <p>㉛ SPACE FOR BUS A CONTROL POWER TRANSFORMER.</p> <p>㉜ SPACE FOR BUS B CONTROL POWER TRANSFORMER.</p> <p>㉝ REWORKED 4" CONDUIT LB'S AND ASSOCIATED CONDUIT WITH 3-4/0 CU + 1-#4 CU TO RE-USE PILOT PLANT. REFER ALSO TO SHEET E-5 KEYED NOTE #29. APPROXIMATE CONDUCTOR LENGTH TO RE-USE PILOT PLANT IS 400'. CONTRACTOR TO FIELD VERIFY PRIOR TO ORDERING MATERIALS.</p> |
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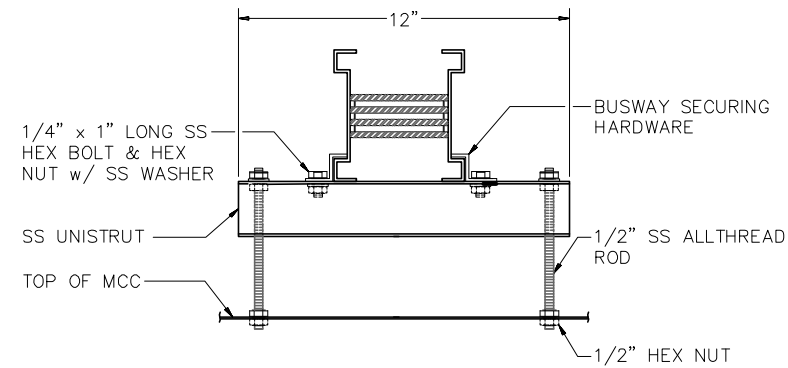
PROPOSED MCC-58 ELEVATION

SHEET NUMBER

E-6

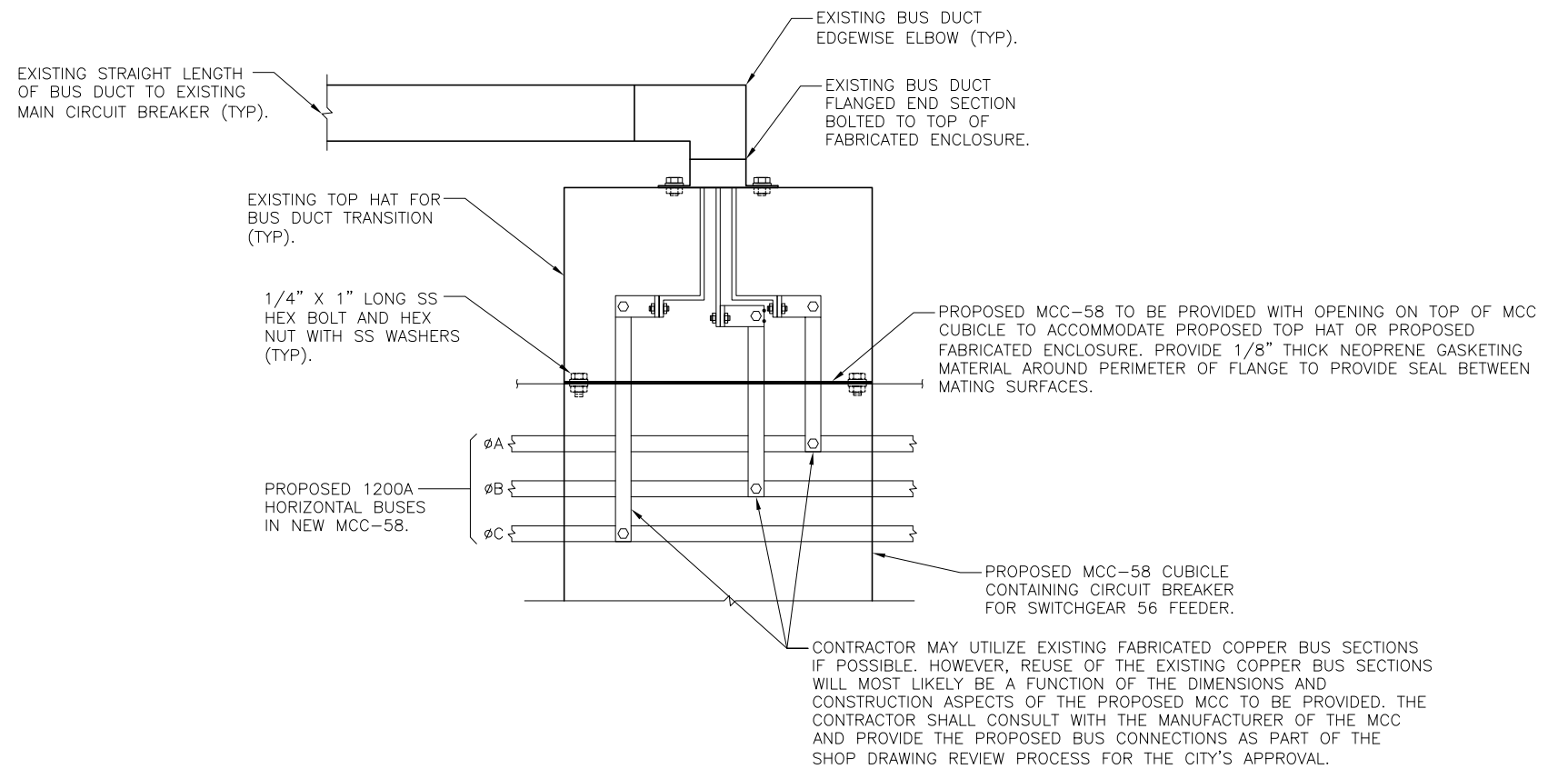
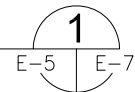
TIMOTHY THOMAS, P.E. No. 47079

FILE: 171604942E01



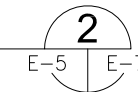
**TYPICAL DETAIL OF EXISTING
BUS DUCT SUPPORT**

SCALE : N.T.S.



**TYPICAL DETAIL OF EXISTING
BUS DUCT TRANSITION**

SCALE : N.T.S.



BUS DUCT SUPPORT GENERAL NOTES:

1. CONTRACTOR MAY REUSE THE EXISTING BUS DUCT SUPPORTS IF THEY CAN BE MADE FULLY FUNCTIONAL AND THE HIGHEST LEVEL OF WORKMANSHIP CAN BE MAINTAINED. THE DIMENSIONS, TYPE OF CONSTRUCTION AND OTHER FACTORS WILL BE A FUNCTION OF THE MCC PROVIDED. THE CONTRACTOR SHALL CONSULT WITH THE MANUFACTURER OF THE MCC AND SUBMIT SHOP DRAWINGS OF THE PROPOSED DUCT SUPPORTS TO THE CITY FOR APPROVAL FOLLOWING THE PROCEDURE OUTLINED IN THE SPECIFICATIONS.
2. PROVIDE SUPPORTS AT A MINIMUM OF 5'-0" OR AS DIRECTED BY THE MANUFACTURER.
3. THE CONTRACTOR SHALL MINIMIZE THE NUMBER OF MCC PENETRATIONS TO BE CREATED BY THE BUS DUCT SUPPORTS.
4. ENSURE BUS DUCT SUPPORT HARDWARE DOES NOT VIOLATE MCC BUS CLEARANCE. MAINTAIN A MINIMUM CLEARANCE AS DIRECTED BY THE MCC MANUFACTURER.

BUS DUCT TRANSITION GENERAL NOTES:

1. EXISTING GROUNDING CONNECTION NOT SHOWN FOR CLARITY. CONTRACTOR SHALL BOND PROPOSED BUS DUCT GROUND BUS TO MCC-58 HORIZONTAL GROUND BUS.
2. IF NEW FABRICATED BUS DUCT SECTION(S) ARE REQUIRED, PROPOSED BUS DUCT SECTIONS SHALL BE TIN PLATED COPPER.



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FILTER BUILDING MOTOR CONTROL CENTER REPLACEMENT -
BUILDING NO. 1 MCC 58

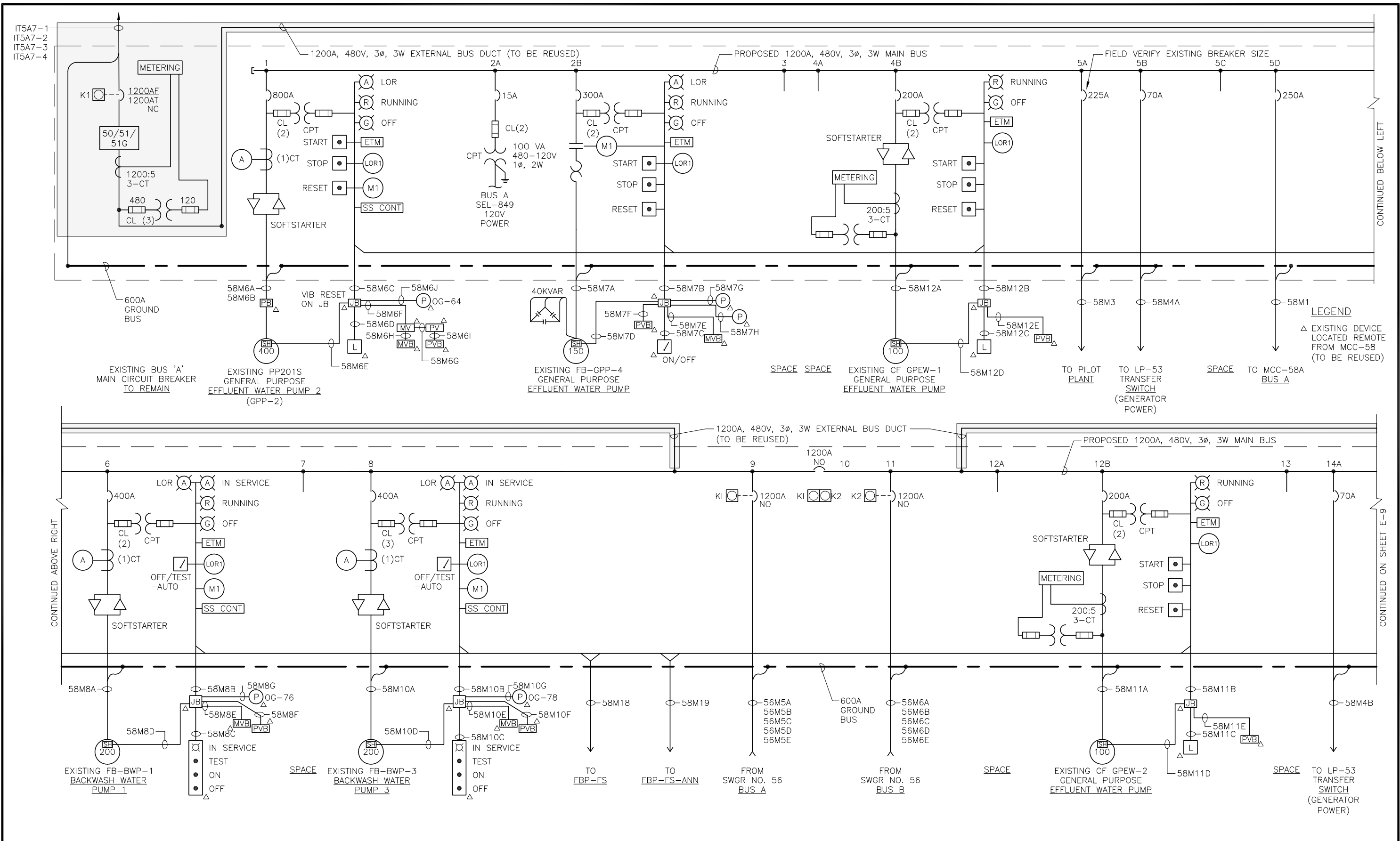
**EXISTING MCC-58
BUS DUCT DETAILS**

SHEET NUMBER

E-7

TIMOTHY THOMAS, P.E. No. 47079

FILE: 171604942E01



CONTINUED BELOW LEFT

CONTINUED ON SHEET E-9

LEGEND
 Δ EXISTING DEVICE LOCATED REMOTE FROM MCC-58 (TO BE REUSED)

TRICON CONSULTING ENGINEERS
 777 S. Harbour Island Blvd.
 Suite 250
 Tampa, FL 33602
 813.227.9190
 Certificate of Authorization No. 8363

JOB No.	171604942				
DESIGNED	TDT				
DRAWN	JLH				
CHECKED	TDT				
DATE	4/2017	No.	DATE	BY	APP
		REVISION DESCRIPTION			

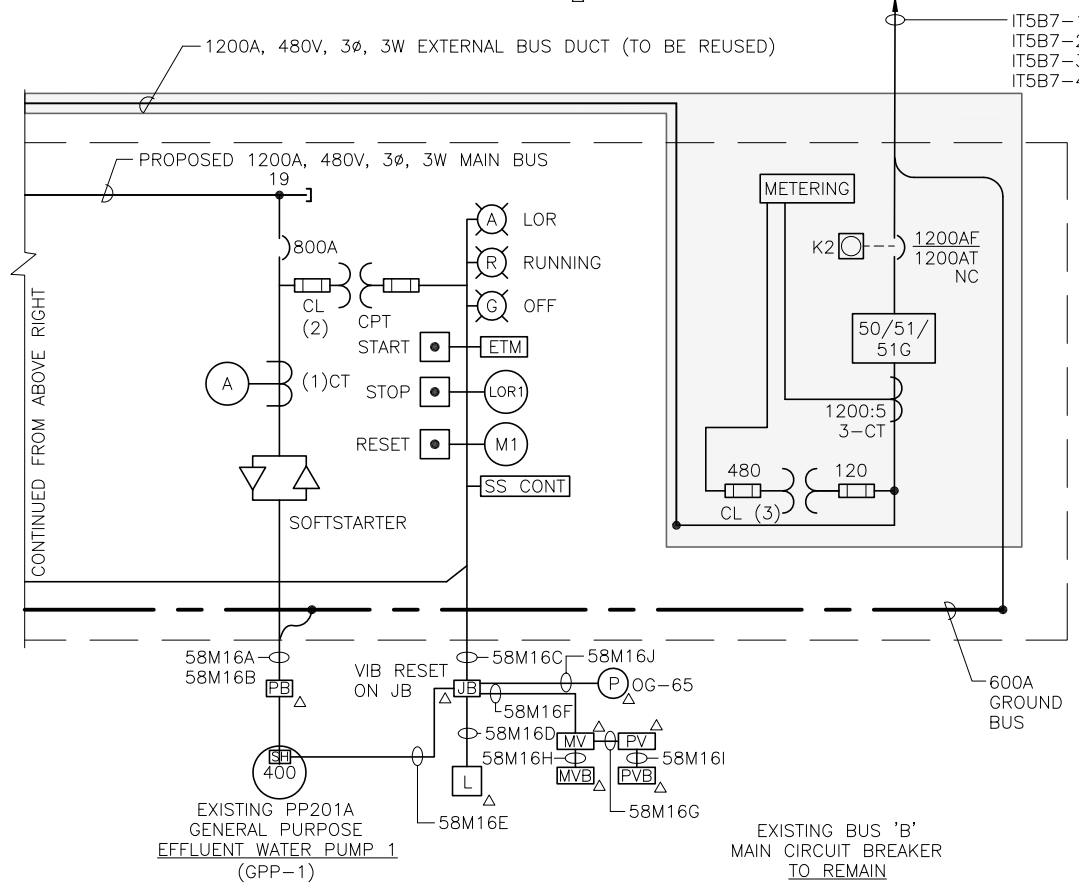
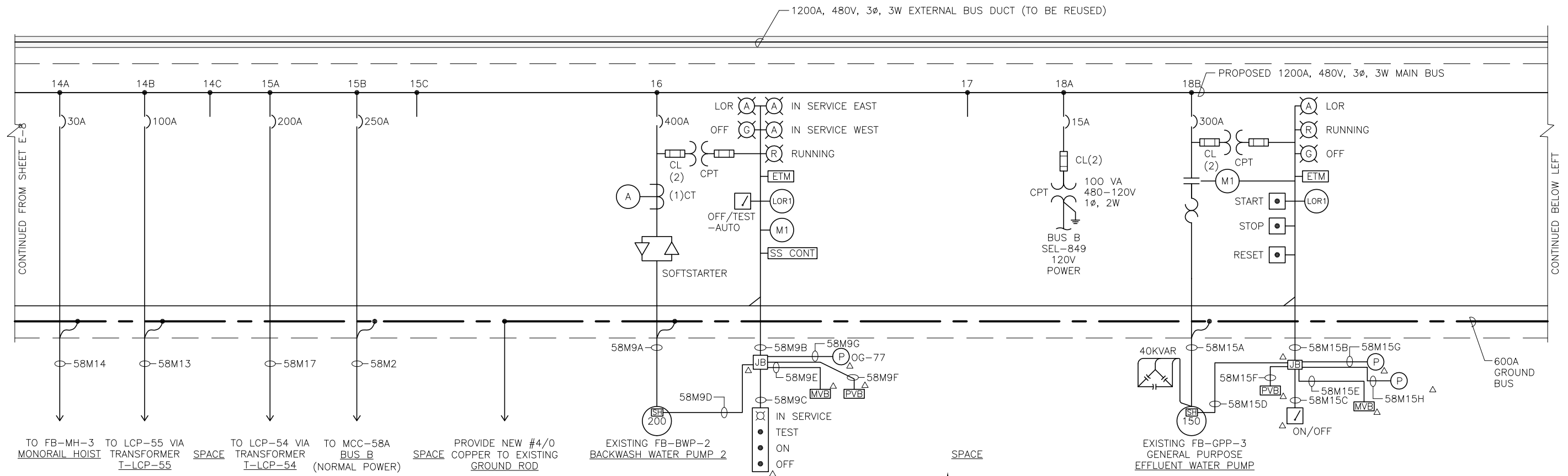
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City of Tampa Wastewater Department
 HOWARD F. CURREN
 FILTER BUILDING MOTOR CONTROL CENTER REPLACEMENT -
 BUILDING NO. 1 MCC 58

MCC-58 ELECTRICAL ONE-LINE DIAGRAM (SHEET 1 OF 2)

SHEET NUMBER	E-8
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171604942E01



LEGEND
 Δ EXISTING DEVICE LOCATED REMOTE FROM MCC-58 (TO BE REUSED)



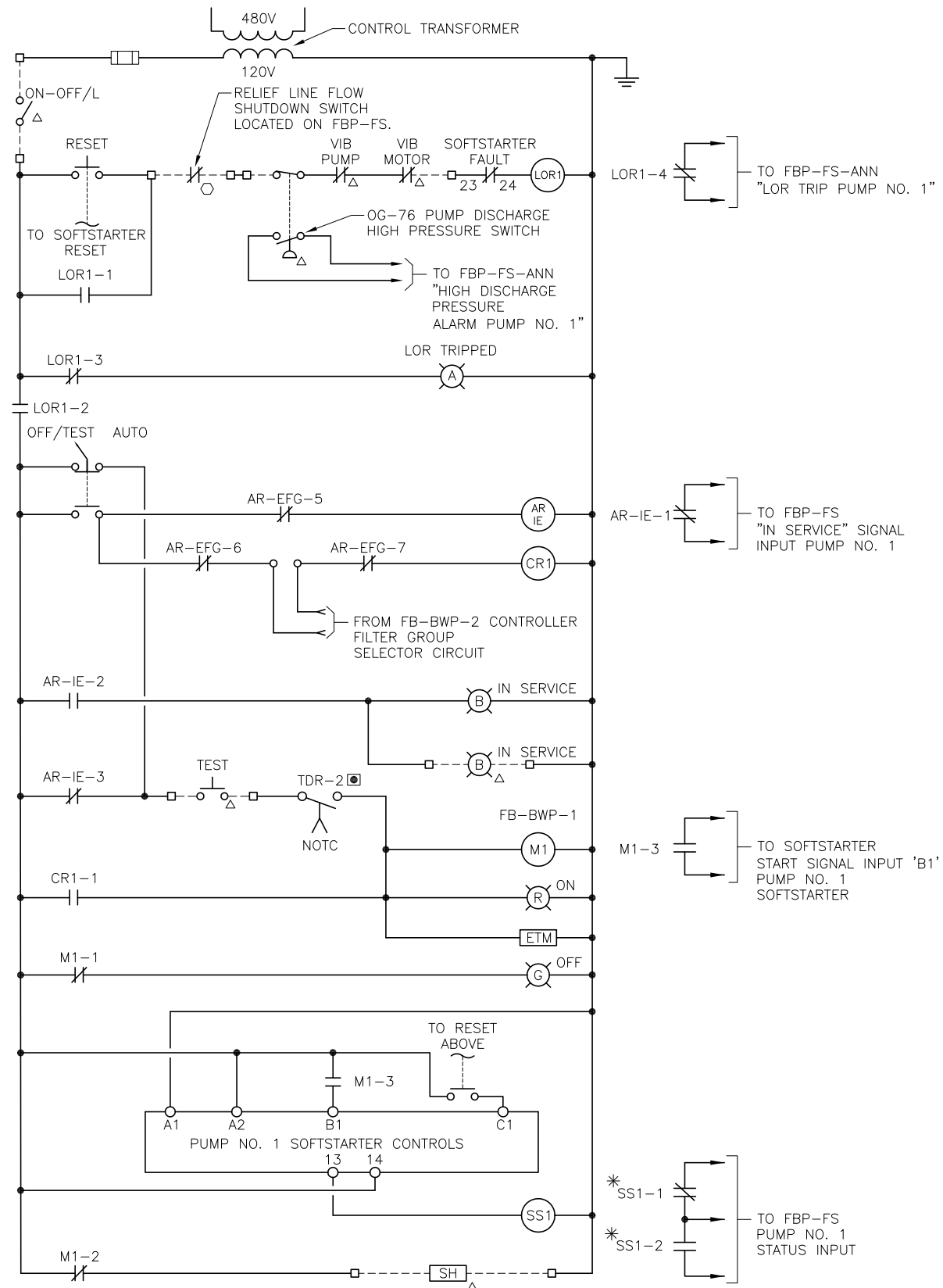
JOB No.	171604942						
DESIGNED	TDT						
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DATE	4/2017	No.	DATE	BY	APP	REVISION	DESCRIPTION

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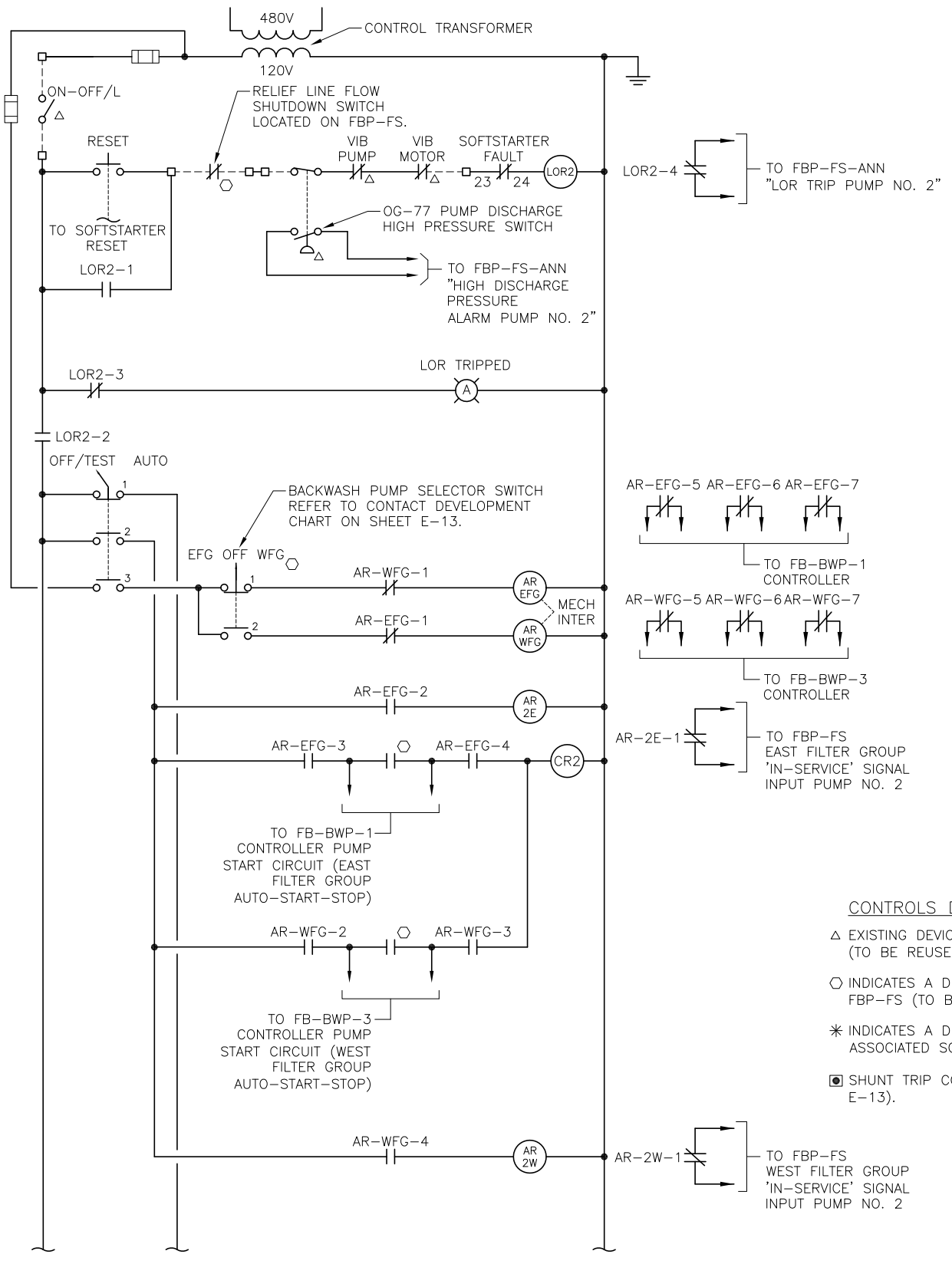
City of Tampa Wastewater Department
 HOWARD F. CURREN
 FILTER BUILDING MOTOR CONTROL CENTER REPLACEMENT -
 BUILDING NO. 1 MCC 58

MCC-58 ELECTRICAL ONE-LINE DIAGRAM (SHEET 2 OF 2)

SHEET NUMBER	E-9
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171604942E01



BACKWASH WATER PUMP FB-BWP-1
(MCC-58)



CONTINUED ON SHEET E-11

- CONTROLS DESIGNATIONS**
- △ EXISTING DEVICE LOCATED REMOTE FROM MCC-58 (TO BE REUSED)
 - INDICATES A DEVICE LOCATED ON OR WITHIN FBP-FS (TO BE RECONNECTED)
 - * INDICATES A DEVICE LOCATED ON OR WITH ASSOCIATED SOFT STARTER (REFER TO SHEET E-13)
 - ◻ SHUNT TRIP CONTROL CIRCUIT TIME DELAY (REFER TO SHEET E-13).



JOB No.	171604942						
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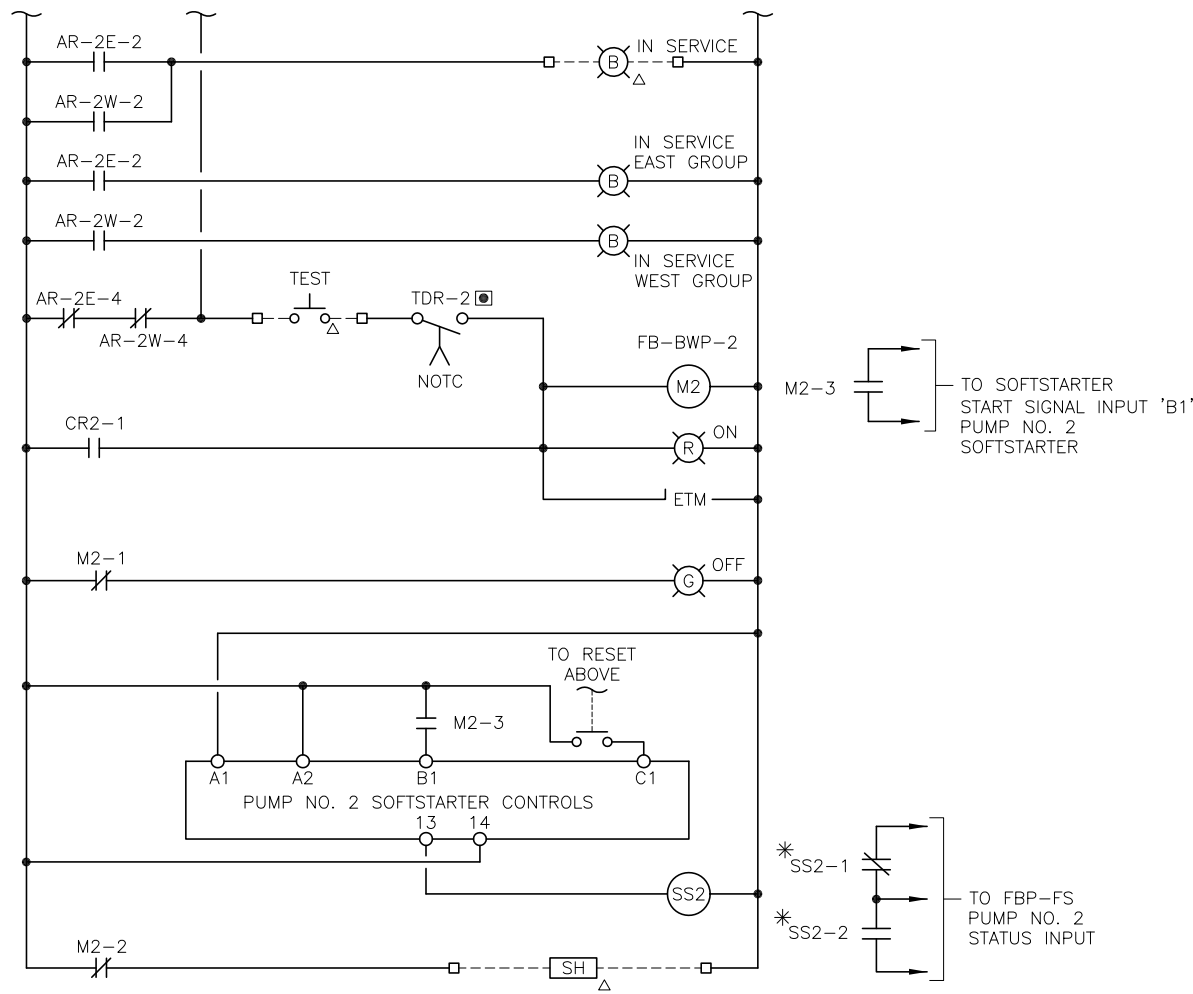
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BUILDING NO. 1 MCC 58

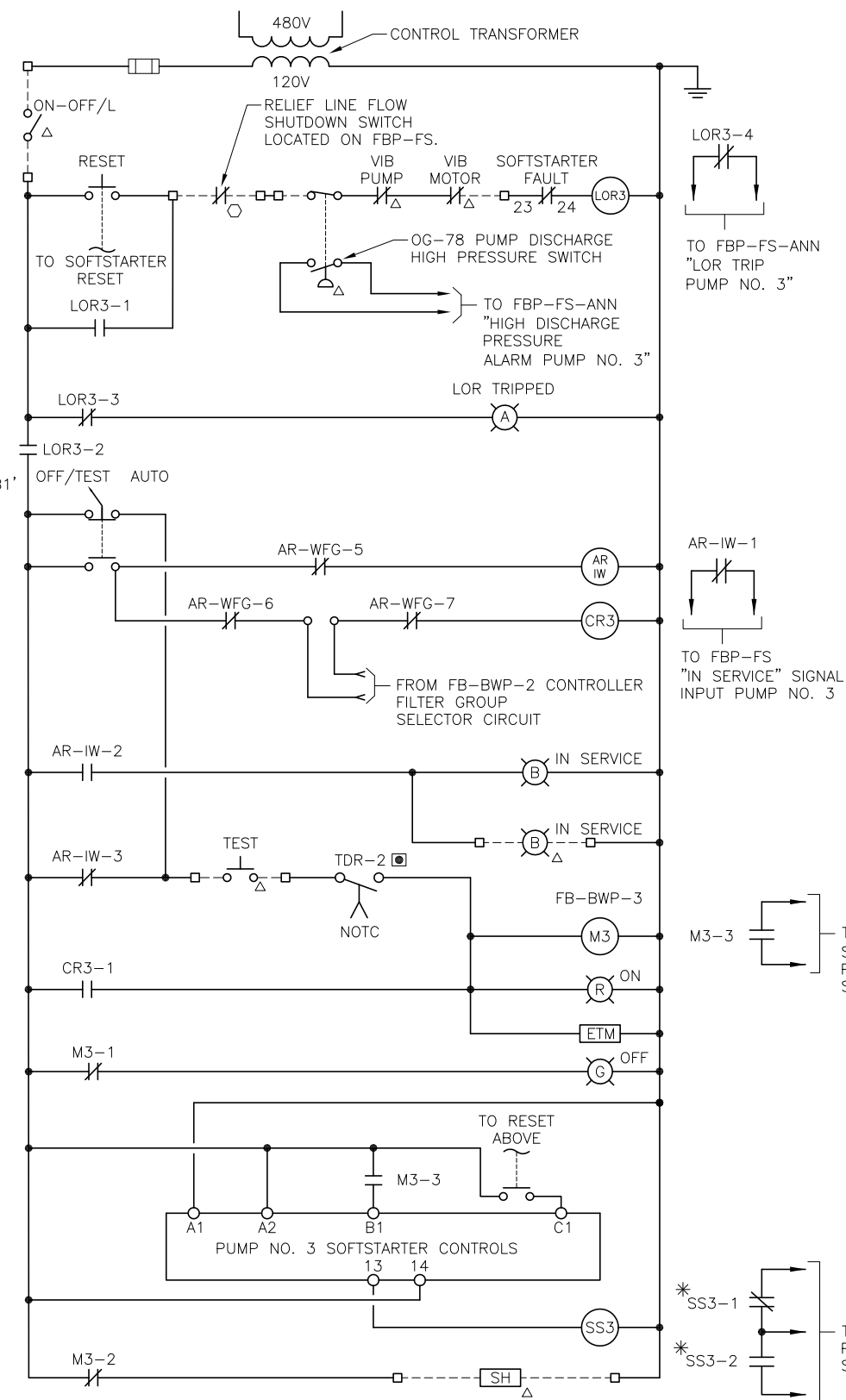
BACKWASH WATER PUMP CONTROL SCHEMATICS (SHEET 1 OF 2)

SHEET NUMBER	E-10
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171604942E01

CONTINUED FROM SHEET E-10



BACKWASH WATER PUMP FB-BWP-2
(MCC-58)



BACKWASH WATER PUMP FB-BWP-3
(MCC-58)

BACKWASH AIR BLOWERS FB-BWB-1 & FB-BWB-2 CONTACT DEVELOPMENT CHART SELECTRO SWITCH AUXILIARY RELAY SES-AR1 (SES-AR2 SIMILAR)			
CONTACT NO.	CONTACT POSITION		CONTACT FUNCTION & REMARKS
	COIL ENERGIZED	COIL DE-ENERGIZED	
SES-AR1-1 (SES-AR2-1)	0	X	COIL LOCKOUT SES-AR2 (COIL LOCKOUT SES-AR1)
SES-AR1-2 (SES-AR2-2)	X	0	"IN SERVICE" SIGNAL TO FBP-FS
SES-AR1-3 (SES-AR2-3)	X	0	"CR1 (CR2) COIL CIRCUIT SELECTION
SES-AR1-4 (SES-AR2-4)	X	0	"CR1 (CR2) COIL CIRCUIT SELECTION
SES-AR1-5 (SES-AR2-5)	0	X	TEST CIRCUIT PERMISSIVE CONTACT
SES-AR1-6 (SES-AR2-6)	X	0	"IN SERVICE" INDICATING LIGHT
SES-AR1-7 (SES-AR2-7)	0	X	SPARE
SES-AR1-8 (SES-AR2-8)	X	0	SPARE

CONTROLS DESIGNATIONS

- △ EXISTING DEVICE LOCATED REMOTE FROM MCC-58 (TO BE REUSED)
- INDICATES A DEVICE LOCATED ON OR WITHIN FBP-FS (TO BE RECONNECTED)
- * INDICATES A DEVICE LOCATED ON OR WITH ASSOCIATED SOFT STARTER (REFER TO SHEET E-13)
- SHUNT TRIP CONTROL CIRCUIT TIME DELAY (REFER TO SHEET E-13).

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CONSULTING ENGINEERS

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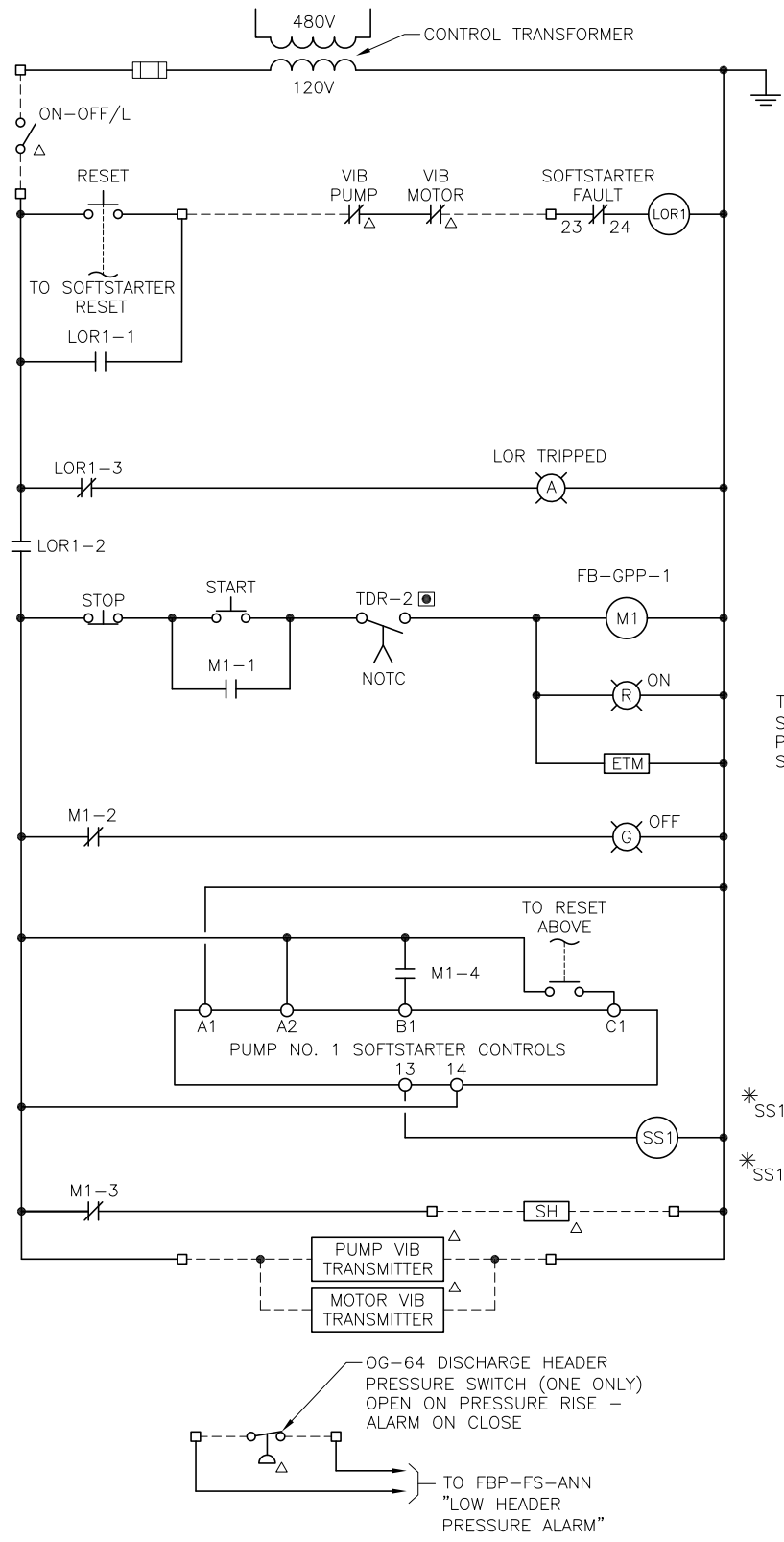
NOT TO SCALE

City of Tampa Wastewater Department

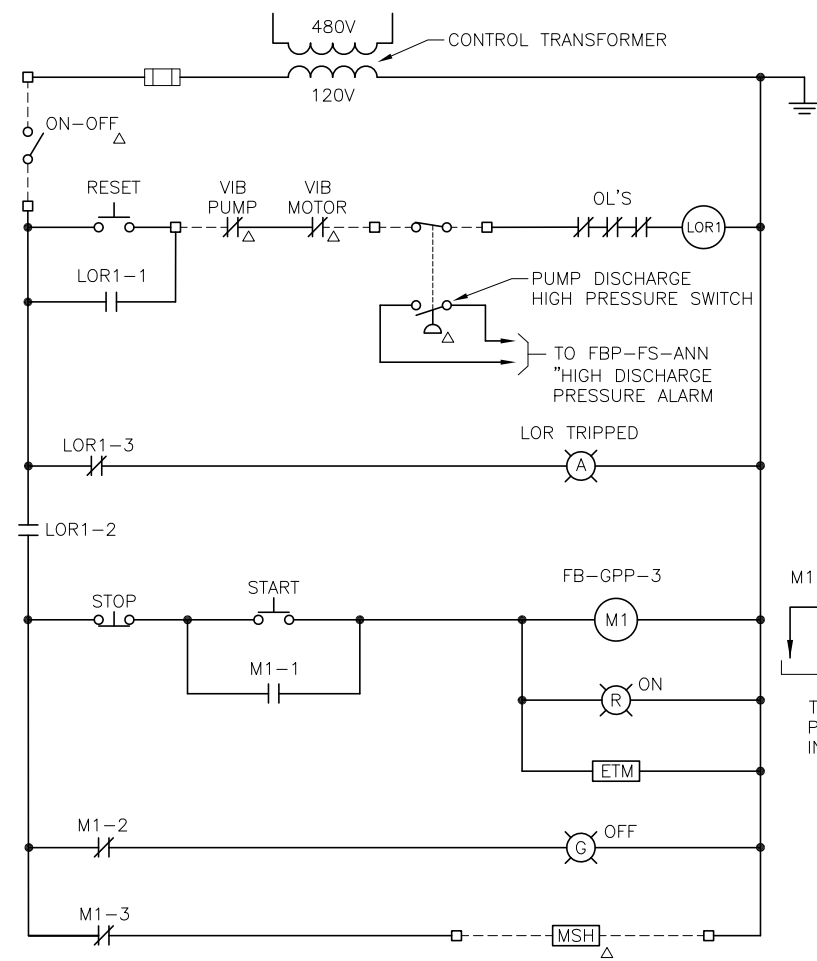
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BUILDING NO. 1 MCC 58

BACKWASH WATER PUMP
CONTROL SCHEMATICS
(SHEET 2 OF 2)

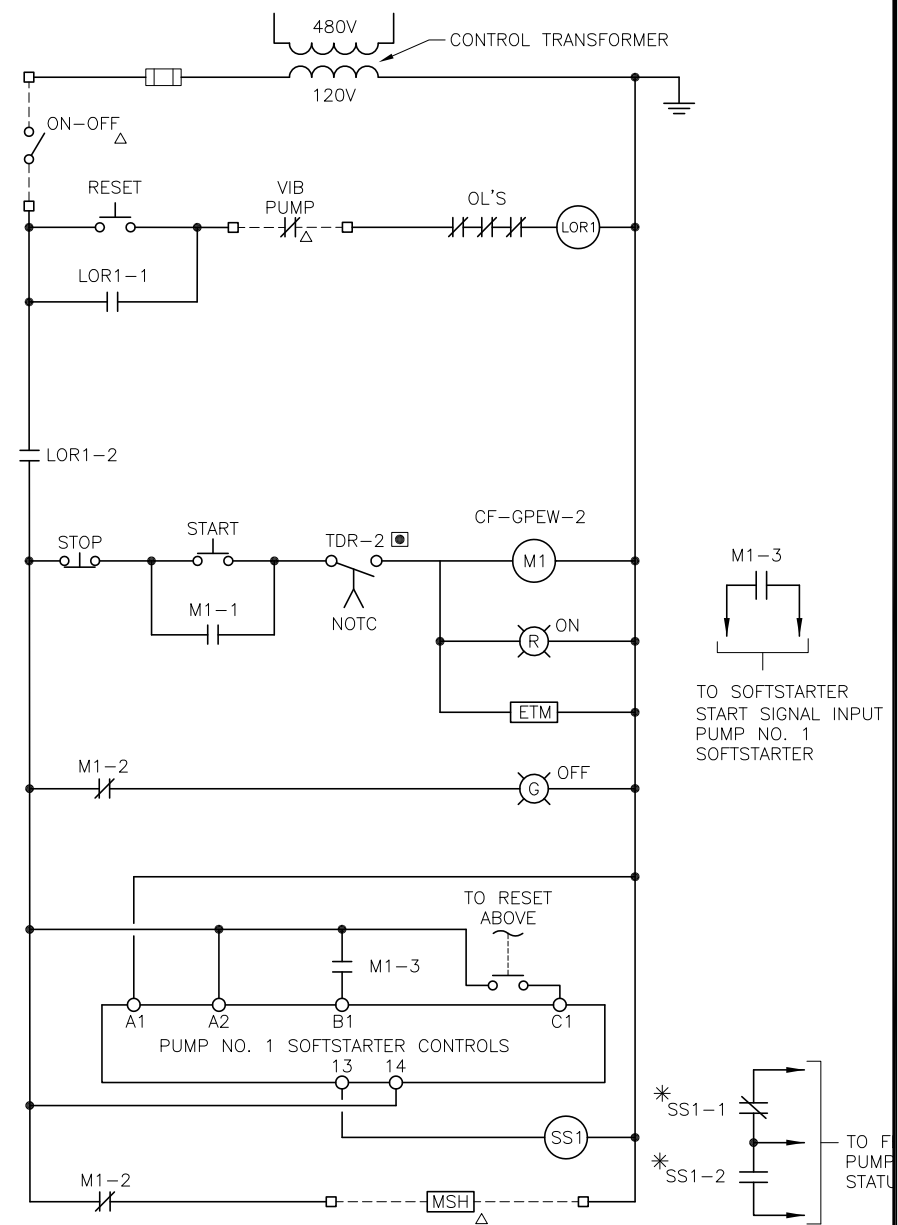
SHEET NUMBER	E-11
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171604942E01



GENERAL PURPOSE EFFLUENT WATER PUMP FB-GPP-1
AKA PP201A
(MCC-58)
FB-GPP-2 : AKA PP201S IS SIMILAR



GENERAL PURPOSE EFFLUENT WATER PUMP FB-GPP-3
(MCC-58)
FB-GPP-4 IS SIMILAR



CF GPEW-2 (PB-2)
(MCC-58)
CF-GPEW-1 IS SIMILAR

CONTROLS DESIGNATIONS

- △ EXISTING DEVICE LOCATED REMOTE FROM MCC-58 (TO BE REUSED)
- INDICATES A DEVICE LOCATED ON OR WITHIN FBP-FS (TO BE RECONNECTED)
- * INDICATES A DEVICE LOCATED ON OR WITH ASSOCIATED SOFT STARTER (REFER TO SHEET E-13)
- SHUNT TRIP CONTROL CIRCUIT TIME DELAY (REFER TO SHEET E-13).



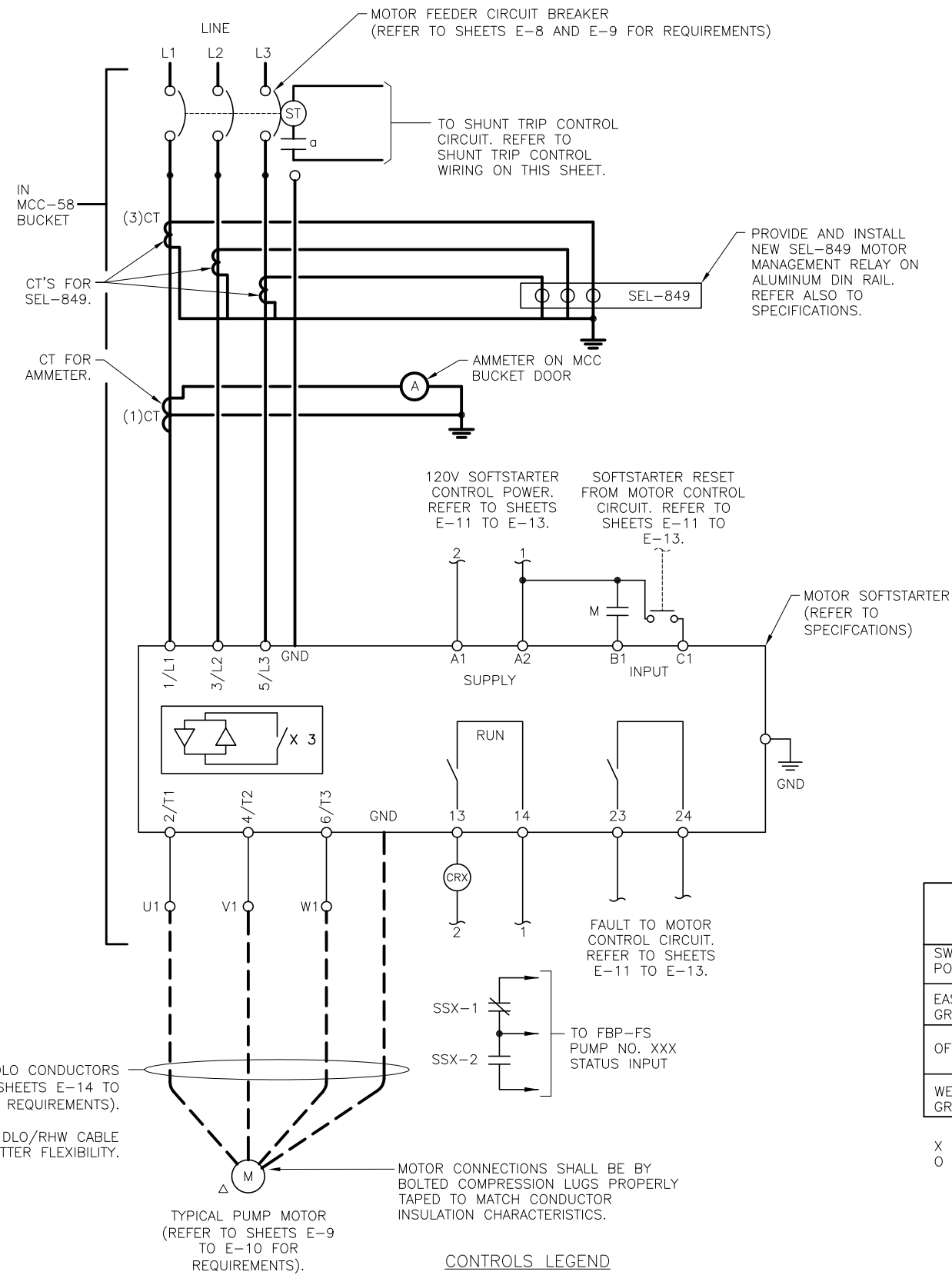
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DATE	4/2017	No.	DATE	BY	APP	REVISION	DESCRIPTION

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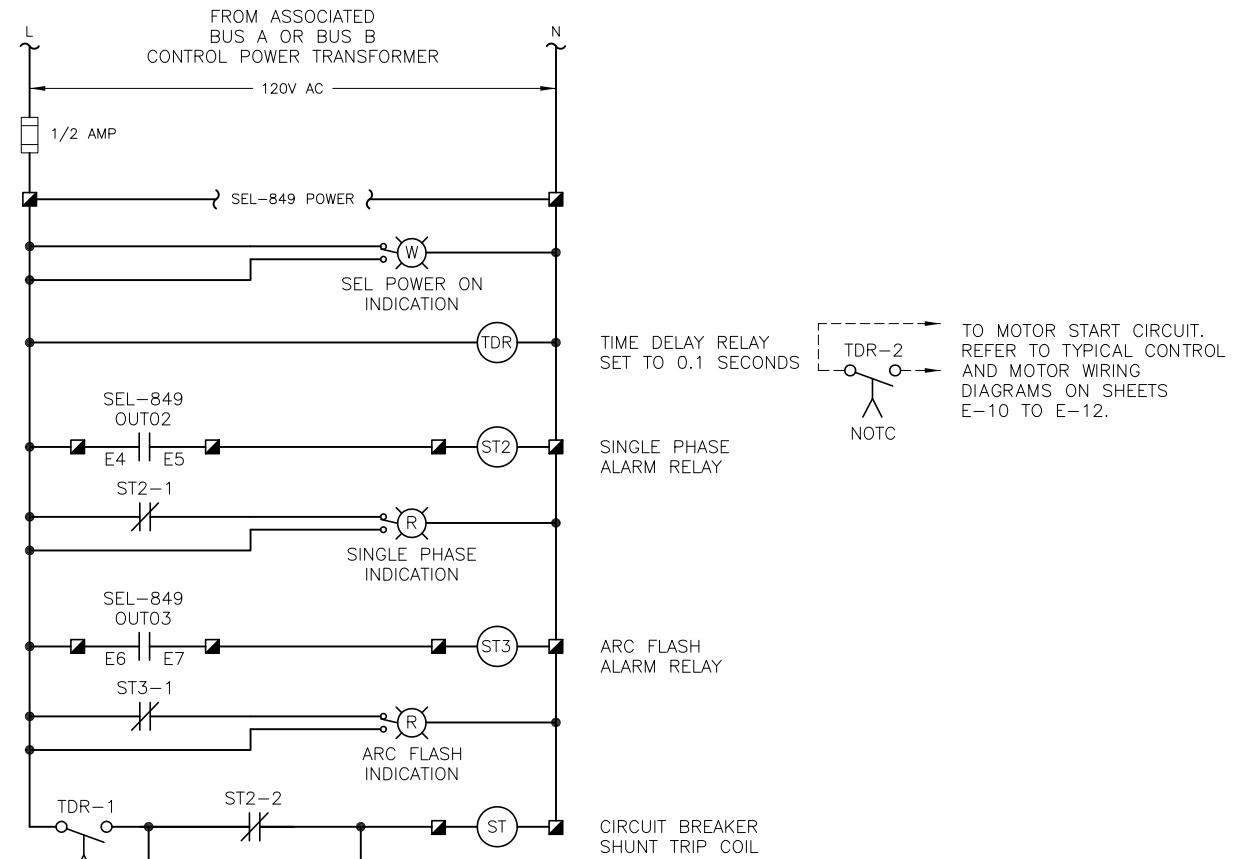
City of Tampa Wastewater Department
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FILTER BUILDING MOTOR CONTROL CENTER REPLACEMENT -
BUILDING NO. 1 MCC 58

WATER PUMP CONTROL SCHEMATICS

SHEET NUMBER	E-12
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171604942E01



CONTROLS LEGEND
 Δ DEVICE LOCATED REMOTE FROM MCC-58



BACKWASH WATER PUMP SELECTOR SWITCH CONTACT DEVELOPMENT CHART

SWITCH POSITION	CONTACT POSITION		FUNCTION AND REMARKS
	1	2	
EAST GROUP	X	O	PUMP No. 2 SERVES THE EAST FILTER GROUP
OFF	O	O	PUMP No. 1 SERVES THE EAST FILTER GROUP PUMP No. 3 SERVES THE WEST FILTER GROUP
WEST GROUP	O	X	PUMP No. 2 SERVES THE WEST FILTER GROUP

X - INDICATES CLOSED
 O - INDICATED OPEN

BACKWASH WATER PUMP FB-BWP-1 THRU FB-BWP-3 'OFF-TEST-AUTOMATIC' SELECTOR SWITCH CONTACT DEVELOPMENT CHART

SWITCH POSITION	CONTACT POSITION		
	1	2	3
OFF/TEST	X	O	O
AUTOMATIC	O	X	X

X - INDICATES CLOSED
 O - INDICATED OPEN
 CONTACT No. 3 REQUIRED ON FB-BWP-2 ONLY



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 FILTER BUILDING MOTOR CONTROL CENTER REPLACEMENT - BUILDING NO. 1 MCC 58

TYPICAL SOFTSTARTER WIRING SCHEMATICS

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER
E-13
 FILE: 171604942E01

CONDUIT AND CABLE SCHEDULE

CONDUIT No.	SIZE	NUMBER OF CONDUCTORS/SIZE	FROM	TO	REMARKS
IT5A7-1	4"	3-350 kcmil + 1-#4/O N + 1-#4/O GND	EX TRANSFORMER T-5A-7	EX MCC-58 BUS 'A' MCB	EX CONDUIT AND CONDUCTORS TO BE REUSED.
IT5A7-2	4"	3-350 kcmil + 1-#4/O N + 1-#4/O GND	EX TRANSFORMER T-5A-7	EX MCC-58 BUS 'A' MCB	EX CONDUIT AND CONDUCTORS TO BE REUSED.
IT5A7-3	4"	3-350 kcmil + 1-#4/O N + 1-#4/O GND	EX TRANSFORMER T-5A-7	EX MCC-58 BUS 'A' MCB	EX CONDUIT AND CONDUCTORS TO BE REUSED.
IT5A7-4	4"	3-350 kcmil + 1-#4/O N + 1-#4/O GND	EX TRANSFORMER T-5A-7	EX MCC-58 BUS 'A' MCB	EX CONDUIT AND CONDUCTORS TO BE REUSED.
IT5B7-1	4"	3-350 kcmil + 1-#4/O N + 1-#4/O GND	EX TRANSFORMER T-5B-7	EX MCC-58 BUS 'B' MCB	EX CONDUIT AND CONDUCTORS TO BE REUSED.
IT5B7-2	4"	3-350 kcmil + 1-#4/O N + 1-#4/O GND	EX TRANSFORMER T-5B-7	EX MCC-58 BUS 'B' MCB	EX CONDUIT AND CONDUCTORS TO BE REUSED.
IT5B7-3	4"	3-350 kcmil + 1-#4/O N + 1-#4/O GND	EX TRANSFORMER T-5B-7	EX MCC-58 BUS 'B' MCB	EX CONDUIT AND CONDUCTORS TO BE REUSED.
IT5B7-4	4"	3-350 kcmil + 1-#4/O N + 1-#4/O GND	EX TRANSFORMER T-5B-7	EX MCC-58 BUS 'B' MCB	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M1	3"	3-300 kcmil + 1-#1 GND	MCC-58	EX MCC-58A : BUS A	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
58M2	3"	3-300 kcmil + 1-#1 GND	MCC-58	EX MCC-58A : BUS B	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING.
58M3	4"	3-4/O + 1-#4 GND	MCC-58	EX PILOT PLANT	EX CONDUIT AND CONDUCTORS TO BE REUSED. CONTRACTOR TO FIELD VERIFY CONDUIT/CONDUCTOR SIZING AND ROUTING.
58M4A	1-1/4"	3-#4 + 1-#8 GND	MCC-58	EX LP 53 TRANSFER SW.	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. CONTRACTOR TO FIELD VERIFY CONDUIT/CONDUCTOR SIZING AND ROUTING.
58M4B	1-1/4"	3-#4 + 1-#8 GND	MCC-58	EX LP 53 TRANSFER SW.	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. CONTRACTOR TO FIELD VERIFY CONDUIT/CONDUCTOR SIZING AND ROUTING.
58M5	1-1/4"	3-#4 + 1-#8 GND	EX LP 53 TRANSFER SW.	EX TRANSFORMER T-LP-53	NO WORK REQUIRED. EXISTING CONDUCTORS AND CONDUIT TO REMAIN.
58M6A	3-1/2"	3-373.7 DLO + 1-#1/O DLO GND	MCC-58	EX MOTOR PP201S	DLO CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. EX FLEXIBLE CONNECTIONS TO BE REPLACED W/ ALUMINUM CORE FLEXIBLE CONDUIT.
58M6B	3-1/2"	3-373.7 DLO + 1-#1/O DLO GND	MCC-58	EX MOTOR PP201S	DLO CONDUCTORS TO BE NEW, EXISTING CONDUIT TO BE REUSED AFTER CLEANING. EX FLEXIBLE CONNECTIONS TO BE REPLACED W/ ALUMINUM CORE FLEXIBLE CONDUIT.
58M6C	1"	12-#14 + 1-#14 GND (4 SPARE)	MCC-58	EX JB AT MOTOR PP201S	NEW CONDUCTORS TO BE PROVIDED. EXISTING CONDUIT TO BE REUSED AFTER CLEANING
58M6D	3/4"	2-#14 + 1-#14 GND	EX JB AT PP201S	STOP/LOCKOUT PUSHBUTTON	EXISTING CONDUIT, CONDUCTORS AND PUSHBUTTON STATION TO BE REUSED
58M6E	3/4"	2-#14 + 1-#14 GND	EX JB AT PP201S	PP201S SPACE HEATER	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M6F	3/4"	2-#14 + 1-#14 GND	EX JB AT PP201S	MOTOR VIB CONTROLLER	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M6G	3/4"	4-#14 + 1-#14 GND	MOTOR VIB CONTROLLER	PUMP VIB CONTROLLER	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M6H	3/4"	2/C-#18 TW-SH	MOTOR VIB CONTROLLER	MOTOR VIB SENSOR	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M6I	3/4"	2/C-#18 TW-SH	PUMP VIB CONTROLLER	PUMP VIB SENSOR	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M6J	3/4"	2-#14 + 1-#14 GND	EX JB AT PP201S	PRESSURE SWITCH OG-64	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M7A	2-1/2"	3-4/O DLO + 1-#4 XHHW-2 GND	MCC-58	EX MOTOR FB-GPP-4	DLO CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. EX FLEXIBLE CONNECTIONS TO BE REPLACED W/ ALUMINUM CORE FLEXIBLE CONDUIT.
58M7B	1"	16-#14 + 1-#14 GND (2 SPARE)	MCC-58	EX JB AT MOTOR FB-GPP-4	NEW CONDUCTORS TO BE PROVIDED. EXISTING CONDUIT TO BE REUSED AFTER CLEANING
58M7C	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR GPP-4	START/STOP SELECTOR	EXISTING CONDUIT, CONDUCTORS AND PUSHBUTTON STATION TO BE REUSED
58M7D	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR GPP-4	GPP-4 SPACE HEATER	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M7E	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR GPP-4	MOTOR VIB SENSOR	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M7F	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR GPP-4	PUMP VIB SENSOR	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M7G	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR GPP-4	PRESSURE SWITCH	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M7H	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR GPP-4	PRESSURE SWITCH	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M8A	3"	3-373.7 DLO + 1-#3 XHHW-2 GND	MCC-58	EX MOTOR FB-BWP-1	DLO CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. EX FLEXIBLE CONNECTIONS TO BE REPLACED W/ ALUMINUM CORE FLEXIBLE CONDUIT.
58M8B	1"	16-#14 + 1-#14 GND (2 SPARE)	MCC-58	EX JB AT MOTOR BWP-1	NEW CONDUCTORS TO BE PROVIDED. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. COUNT INCLUDES SPARES.
58M8C	3/4"	8-#14 + 1-#14 GND	EX JB AT MOTOR BWP-1	TEST-ON-OFF	EXISTING CONDUIT, CONDUCTORS AND PUSHBUTTON STATION TO BE REUSED
58M8D	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR BWP-1	BWP-1 SPACE HEATER	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M8E	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR BWP-1	MOTOR VIB SENSOR	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M8F	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR BWP-1	PUMP VIB SENSOR	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M8G	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR BWP-1	PRESSURE SWITCH	EX CONDUIT AND CONDUCTORS TO BE REUSED.

CONTINUED ON SHEET E-15



JOB No.	171604942						
DESIGNED	TDT						
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DATE	4/2017	No.	DATE	BY	APP	REVISION	DESCRIPTION

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FILTER BUILDING MOTOR CONTROL CENTER REPLACEMENT -
BUILDING NO. 1 MCC 58

CONDUIT AND CABLE SCHEDULE
(SHEET 1 OF 3)

SHEET NUMBER	E-14
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171604942E01

CONDUIT AND CABLE SCHEDULE (CONTINUED)					
CONDUIT No.	SIZE	NUMER OF CONDUCTORS/SIZE	FROM	TO	REMARKS
58M9A	3"	3-373.7 DLO + 1-#3 XHHW-2 GND	MCC-58	EX MOTOR FB-BWP-2	DLO CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. EX FLEXIBLE CONNECTIONS TO BE REPLACED W/ ALUMINUM CORE FLEXIBLE CONDUIT.
58M9B	1"	16-#14 + 1-#14 GND (2 SPARE)	MCC-58	EX JB AT MOTOR BWP-2	NEW CONDUCTORS TO BE PROVIDED. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. COUNT INCLUDES SPARES.
58M9C	3/4"	8-#14 + 1-#14 GND	EX JB AT MOTOR BWP-2	TEST-ON-OFF	EXISTING CONDUIT, CONDUCTORS AND PUSHBUTTON STATION TO BE REUSED
58M9D	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR BWP-2	BWP-2 SPACE HEATER	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M9E	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR BWP-2	MOTOR VIB SENSOR	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M9F	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR BWP-2	PUMP VIB SENSOR	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M9G	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR BWP-2	PRESSURE SWITCH	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M10A	3"	3-373.7 DLO + 1-#3 XHHW-2 GND	MCC-58	EX MOTOR FB-BWP-3	DLO CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. EX FLEXIBLE CONNECTIONS TO BE REPLACED W/ ALUMINUM CORE FLEXIBLE CONDUIT.
58M10B	1"	16-#14 + 1-#14 GND (2 SPARE)	MCC-58	EX JB AT MOTOR BWP-3	NEW CONDUCTORS TO BE PROVIDED. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. COUNT INCLUDES SPARES.
58M10C	3/4"	8-#14 + 1-#14 GND	EX JB AT MOTOR BWP-3	TEST-ON-OFF	EXISTING CONDUIT, CONDUCTORS AND PUSHBUTTON STATION TO BE REUSED
58M10D	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR BWP-3	BWP-3 SPACE HEATER	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M10E	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR BWP-3	MOTOR VIB SENSOR	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M10F	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR BWP-3	PUMP VIB SENSOR	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M10G	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR BWP-3	PRESSURE SWITCH	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M11A	2"	3-2/0 DLO + 1-#6 XHHW-2 GND	MCC-58	EX MOTOR CF GPEW-2	DLO CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. EX FLEXIBLE CONNECTIONS TO BE REPLACED W/ ALUMINUM CORE FLEXIBLE CONDUIT.
58M11B	1"	8-#14 + 1-#14 GND (2 SPARE)	MCC-58	EX JB AT MOTOR GPEW-2	NEW CONDUCTORS TO BE PROVIDED. EXISTING CONDUIT TO BE REUSED AFTER CLEANING
58M11C	3/4"	2-#14 + 1-#14 GND	EX JB AT GPEW-2	STOP/LOCKOUT	EXISTING CONDUIT, CONDUCTORS AND PUSHBUTTON STATION TO BE REUSED
58M11D	3/4"	2-#14 + 1-#14 GND	EX JB AT GPEW-2	GPEW-2 SPACE HEATER	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M11E	3/4"	2-#14 + 1-#14 GND	EX JB AT GPEW-2	PUMP VIB SENSOR	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M12A	2"	3-2/0 DLO + 1-#6 XHHW-2 GND	MCC-58	EX MOTOR CF GPEW-1	DLO CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. EX FLEXIBLE CONNECTIONS TO BE REPLACED W/ ALUMINUM CORE FLEXIBLE CONDUIT.
58M12B	1"	8-#14 + 1-#14 GND (2 SPARE)	MCC-58	EX JB AT MOTOR GPEW-1	NEW CONDUCTORS TO BE PROVIDED. EXISTING CONDUIT TO BE REUSED AFTER CLEANING
58M12C	3/4"	2-#14 + 1-#14 GND	EX JB AT GPEW-1	STOP/LOCKOUT	EXISTING CONDUIT, CONDUCTORS AND PUSHBUTTON STATION TO BE REUSED
58M12D	3/4"	2-#14 + 1-#14 GND	EX JB AT GPEW-1	GPEW-1 SPACE HEATER	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M12E	3/4"	2-#14 + 1-#14 GND	EX JB AT GPEW-1	PUMP VIB SENSOR	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M13	1-1/4"	3-#3 + 1-#6 GND	MCC-58	EX LCP 55 TRANSFORMER	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. CONTRACTOR TO FIELD VERIFY CONDUIT/CONDUCTOR SIZING AND ROUTING.
58M14	1"	3-#8 + 1-#8 GND	MCC-58	EX MONORAIL HOIST	CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. CONTRACTOR TO FIELD VERIFY CONDUIT/CONDUCTOR SIZING AND ROUTING.
58M15A	2-1/2"	3-4/0 DLO + 1-#4 XHHW-2 GND	MCC-58	EX MOTOR FB-GPP-3	DLO CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. EX FLEXIBLE CONNECTIONS TO BE REPLACED W/ ALUMINUM CORE FLEXIBLE CONDUIT.
58M15B	1"	16-#14 + 1-#14 GND (2 SPARE)	MCC-58	EX JB AT MOTOR FB-GPP-3	NEW CONDUCTORS TO BE PROVIDED. EXISTING CONDUIT TO BE REUSED AFTER CLEANING
58M15C	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR GPP-3	START/STOP SELECTOR	EXISTING CONDUIT, CONDUCTORS AND PUSHBUTTON STATION TO BE REUSED
58M15D	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR GPP-3	GPP-3 SPACE HEATER	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M15E	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR GPP-3	MOTOR VIB SENSOR	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M15F	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR GPP-3	PUMP VIB SENSOR	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M15G	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR GPP-3	PRESSURE SWITCH	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M15H	3/4"	2-#14 + 1-#14 GND	EX JB AT MOTOR GPP-3	PRESSURE SWITCH	EX CONDUIT AND CONDUCTORS TO BE REUSED.

CONTINUED ON SHEET E-16



JOB No.	171604942								
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City of Tampa Wastewater Department
HOWARD F. CURREN
FILTER BUILDING MOTOR CONTROL CENTER REPLACEMENT -
BUILDING NO. 1 MCC 58

**CONDUIT AND CABLE
SCHEDULE
(SHEET 2 OF 3)**

SHEET NUMBER	E-15
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171604942E01

CONDUIT AND CABLE SCHEDULE (CONTINUED)					
CONDUIT No.	SIZE	NUMER OF CONDUCTORS/SIZE	FROM	TO	REMARKS
58M16A	3-1/2"	3-373.7 DLO + 1-#1/0 DLO GND	MCC-58	EX MOTOR PP201A	DLO CONDUCTORS TO BE NEW. EXISTING CONDUIT TO BE REUSED AFTER CLEANING. EX FLEXIBLE CONNECTIONS TO BE REPLACED W/ ALUMINUM CORE FLEXIBLE CONDUIT.
58M16B	3-1/2"	3-373.7 DLO + 1-#1/0 DLO GND	MCC-58	EX MOTOR PP201A	DLO CONDUCTORS TO BE NEW, EXISTING CONDUIT TO BE REUSED AFTER CLEANING. EX FLEXIBLE CONNECTIONS TO BE REPLACED W/ ALUMINUM CORE FLEXIBLE CONDUIT.
58M16C	1"	12-#14 + 1-#14 GND (4 SPARE)	MCC-58	EX JB AT MOTOR PP201A	NEW CONDUCTORS TO BE PROVIDED. EXISTING CONDUIT TO BE REUSED AFTER CLEANING
58M16D	3/4"	2-#14 + 1-#14 GND	EX JB AT PP201A	STOP/LOCKOUT PUSHBUTTON	EXISTING CONDUIT, CONDUCTORS AND PUSHBUTTON STATION TO BE REUSED
58M16E	3/4"	2-#14 + 1-#14 GND	EX JB AT PP201A	PP201A SPACE HEATER	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M16F	3/4"	2-#14 + 1-#14 GND	EX JB AT PP201A	MOTOR VIB CONTROLLER	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M16G	3/4"	4-#14 + 1-#14 GND	MOTOR VIB CONTROLLER	PUMP VIB CONTROLLER	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M16H	3/4"	2/C-#18 TW-SH	MOTOR VIB CONTROLLER	MOTOR VIB SENSOR	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M16I	3/4"	2/C-#18 TW-SH	PUMP VIB CONTROLLER	PUMP VIB SENSOR	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M16J	3/4"	2-#14 + 1-#14 GND	EX JB AT PP201A	PRESSURE SWITCH OG-65	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M17	2"	3-#3/0 + 1-#6 GND	MCC-58	EX LCP 54 TRANSFORMER	EX CONDUIT AND CONDUCTORS TO BE REUSED.
58M18	1-1/2"	40-#14 + 1-#14 GND	MCC-58	FBP-FS	EX CONDUIT AND CONDUCTORS TO BE REUSED. CONTRACTOR TO FIELD VERIFY CONDUCTOR COUNT AND CONDUIT SIZE.
58M19	1-1/2"	30-#14 + 1-#14 GND	MCC-58	FBP-FS-ANN	EX CONDUIT AND CONDUCTORS TO BE REUSED. CONTRACTOR TO FIELD VERIFY CONDUCTOR COUNT AND CONDUIT SIZE.
56M5A	4"	3-#350 kcmil + 1-#250 kcmil GND	SWITCHGEAR NO. 56 'A'	MCC-58 BUS 'A'	EX CONDUIT AND CONDUCTORS TO BE REUSED.
56M5B	4"	3-#350 kcmil + 1-#250 kcmil GND	SWITCHGEAR NO. 56 'A'	MCC-58 BUS 'A'	EX CONDUIT AND CONDUCTORS TO BE REUSED.
56M5C	4"	3-#350 kcmil + 1-#250 kcmil GND	SWITCHGEAR NO. 56 'A'	MCC-58 BUS 'A'	EX CONDUIT AND CONDUCTORS TO BE REUSED.
56M5D	4"	3-#350 kcmil + 1-#250 kcmil GND	SWITCHGEAR NO. 56 'A'	MCC-58 BUS 'A'	EX CONDUIT AND CONDUCTORS TO BE REUSED.
56M5E	4"	3-#350 kcmil + 1-#250 kcmil GND	SWITCHGEAR NO. 56 'A'	MCC-58 BUS 'A'	EX CONDUIT AND CONDUCTORS TO BE REUSED.
56M6A	4"	3-#350 kcmil + 1-#250 kcmil GND	SWITCHGEAR NO. 56 'B'	MCC-58 BUS 'B'	EX CONDUIT AND CONDUCTORS TO BE REUSED.
56M6B	4"	3-#350 kcmil + 1-#250 kcmil GND	SWITCHGEAR NO. 56 'B'	MCC-58 BUS 'B'	EX CONDUIT AND CONDUCTORS TO BE REUSED.
56M6C	4"	3-#350 kcmil + 1-#250 kcmil GND	SWITCHGEAR NO. 56 'B'	MCC-58 BUS 'B'	EX CONDUIT AND CONDUCTORS TO BE REUSED.
56M6D	4"	3-#350 kcmil + 1-#250 kcmil GND	SWITCHGEAR NO. 56 'B'	MCC-58 BUS 'B'	EX CONDUIT AND CONDUCTORS TO BE REUSED.
56M6E	4"	3-#350 kcmil + 1-#250 kcmil GND	SWITCHGEAR NO. 56 'B'	MCC-58 BUS 'B'	EX CONDUIT AND CONDUCTORS TO BE REUSED.



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City of Tampa Wastewater Department

HOWARD F. CURREN
FILTER BUILDING MOTOR CONTROL CENTER REPLACEMENT -
BUILDING NO. 1 MCC 58

CONDUIT AND CABLE
SCHEDULE
(SHEET 3 OF 3)

SHEET NUMBER	E-16
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171604942E01

PUMP MOTOR FEEDER AMPACITY CALCULATIONS						
LOAD DESCRIPTION	MOTOR H.P.	NEC 430.250 FLA	125% OF FLA	DLO CABLE SIZE	DLO COND QUANTITY	DLO AMPACITY AT 75° F
BACKWASH WATER PUMP 1	200	240	300	373.7 kcmil	1 PER PHASE	321 AMPERES
BACKWASH WATER PUMP 2	200	240	300	373.7 kcmil	1 PER PHASE	321 AMPERES
BACKWASH WATER PUMP 3	200	240	300	373.7 kcmil	1 PER PHASE	321 AMPERES
GENERAL PURPOSE PUMP 3 (GPP-3)	150	180	225	4/0 AWG	1 PER PHASE	230 AMPERES
GENERAL PURPOSE PUMP 4 (GPP-4)	150	180	225	4/0 AWG	1 PER PHASE	230 AMPERES
CF GPEW-1 (PB-1)	100	124	155	2/0 AWG	1 PER PHASE	175 AMPERES
CF GPEW-2 (PB-2)	100	124	155	2/0 AWG	1 PER PHASE	175 AMPERES
GENERAL PURPOSE PUMP GPP-1 (PP201A)	400	477	596	373.7 kcmil	2 PER PHASE	642 AMPERES
GENERAL PURPOSE PUMP GPP-2 (PP201S)	400	477	596	373.7 kcmil	2 PER PHASE	642 AMPERES

CONDUIT FILL CALCULATION FOR BACKWASH WATER PUMPS 373.7 kcmil DLO CABLE IN 3" CONDUIT			
CONDUCTOR	SQUARE INCHES	QUANTITY	TOTAL SQ. IN.
#373.7 DLO CU PHASE CONDUCTOR	0.916	3	2.748
#3 AWG CU GROUND CONDUCTOR	0.096	1	0.096
TOTAL AREA IN SQUARE INCHES			2.844
40% FILL FOR 3" RMC PER NEC			3.000
3" CONDUIT WILL ACCOMMODATE CONDUCTORS SPECIFIED			

CONDUIT FILL CALCULATION FOR CF GPEW-1 & CF GPEW-2 PUMPS 2/0 AWG DLO CABLE IN 2" CONDUIT			
CONDUCTOR	SQUARE INCHES	QUANTITY	TOTAL SQ. IN.
#2/0 DLO CU PHASE CONDUCTOR	0.396	3	1.188
#6 AWG CU GROUND CONDUCTOR	0.062	1	0.062
TOTAL AREA IN SQUARE INCHES			1.250
40% FILL FOR 2" RMC PER NEC			1.363
2" CONDUIT WILL ACCOMMODATE CONDUCTORS SPECIFIED			

CONDUIT FILL CALCULATION FOR GPP-3 AND GPP-4 4/0 AWG DLO CABLE IN 2-1/2" CONDUIT			
CONDUCTOR	SQUARE INCHES	QUANTITY	TOTAL SQ. IN.
#4/0 DLO CU PHASE CONDUCTOR	0.515	3	1.545
#4 AWG CU GROUND CONDUCTOR	0.080	1	0.080
TOTAL AREA IN SQUARE INCHES			1.625
40% FILL FOR 2-1/2" RMC PER NEC			1.946
2-1/2" CONDUIT WILL ACCOMMODATE CONDUCTORS SPECIFIED			

CONDUIT FILL CALCULATION FOR PP201A AND PP201S PUMPS 373.7 kcmil DLO CABLE IN 3-1/2" CONDUIT			
CONDUCTOR	SQUARE INCHES	QUANTITY	TOTAL SQ. IN.
#373.7 DLO CU PHASE CONDUCTOR	0.916	3	2.748
#1/0 DLO CU GROUND CONDUCTOR	0.322	1	0.322
TOTAL AREA IN SQUARE INCHES			3.070
40% FILL FOR 3-1/2" RMC PER NEC			4.004
3-1/2" CONDUIT WILL ACCOMMODATE CONDUCTORS SPECIFIED (PARALLEL RUNS TO BE PROVIDED FOR THESE MOTORS).			



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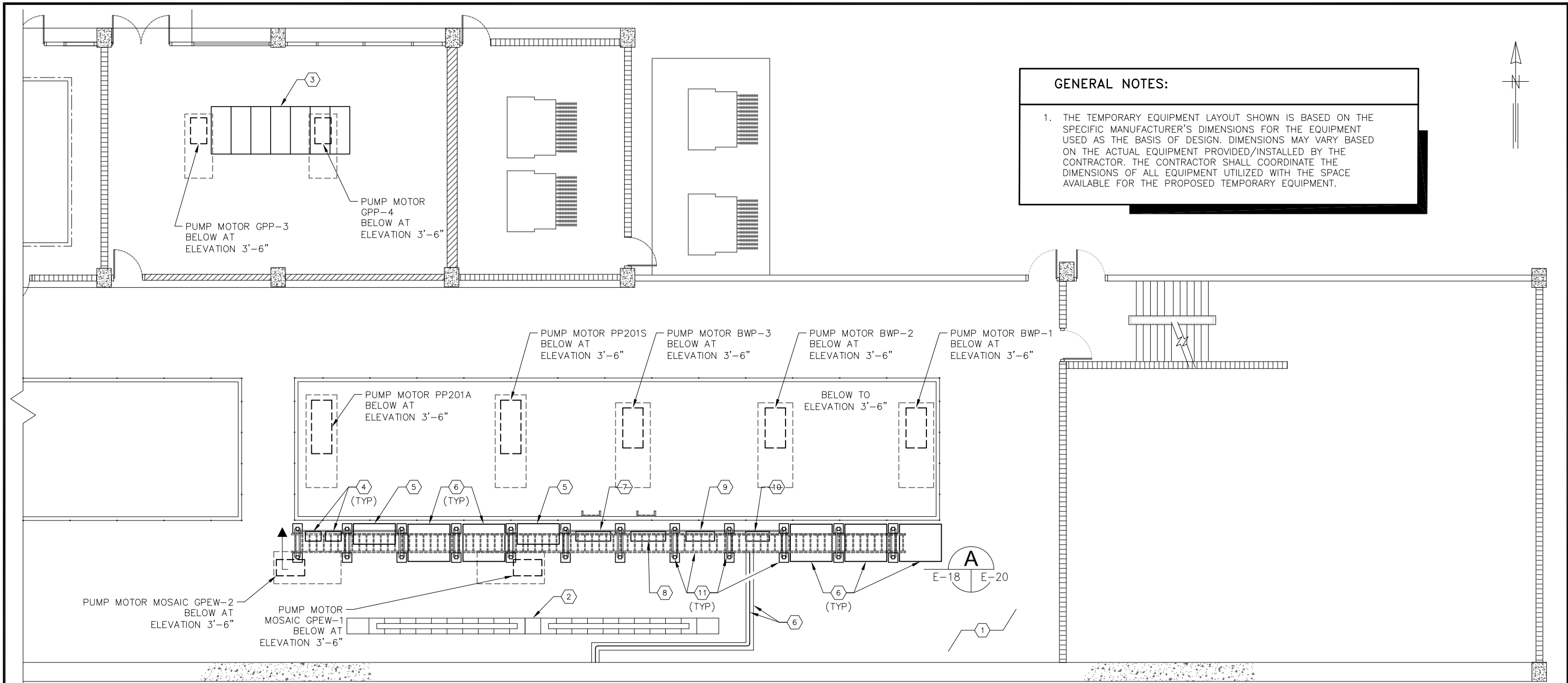
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City of Tampa Wastewater Department
HOWARD F. CURREN
FILTER BUILDING MOTOR CONTROL CENTER REPLACEMENT -
BUILDING NO. 1 MCC 58

LOAD AND CONDUIT SIZING
CALCULATIONS

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER
E-17
FILE: 171604942E01



GENERAL NOTES:

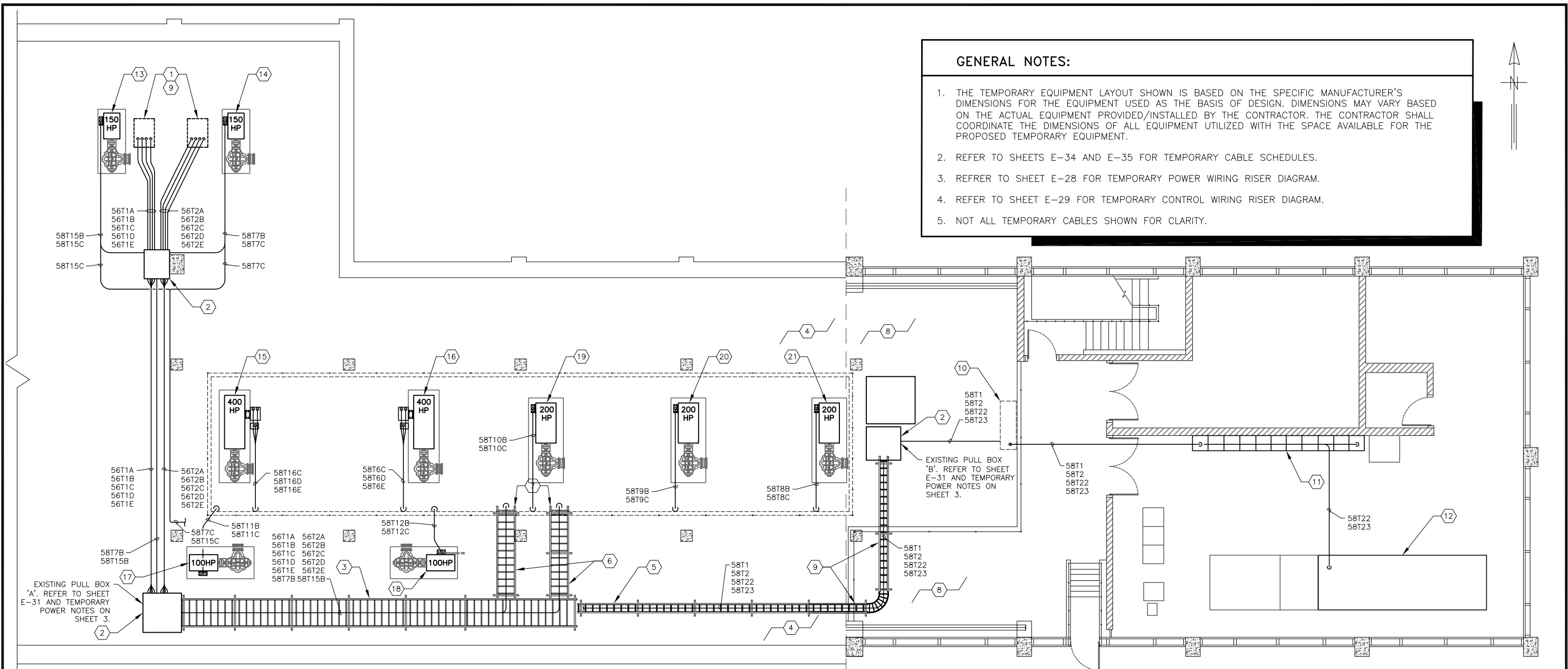
1. THE TEMPORARY EQUIPMENT LAYOUT SHOWN IS BASED ON THE SPECIFIC MANUFACTURER'S DIMENSIONS FOR THE EQUIPMENT USED AS THE BASIS OF DESIGN. DIMENSIONS MAY VARY BASED ON THE ACTUAL EQUIPMENT PROVIDED/INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE THE DIMENSIONS OF ALL EQUIPMENT UTILIZED WITH THE SPACE AVAILABLE FOR THE PROPOSED TEMPORARY EQUIPMENT.

TEMPORARY EQUIPMENT LAYOUT : ELEVATION 11'-0"

SCALE : 3/32" = 1'-0"

- KEYED NOTES:**
- ① PLAN AT ELEVATION 11'-0".
 - ② EXISTING 480V, 1,200A MCC-58. REFER TO SHEET E-5 FOR EXISTING ELEVATION AND WORK REQUIRED.
 - ③ EXISTING 480V, 2,000A SWITCHGEAR 56 AT ELEV 11'-0". FEEDERS CURRENTLY UTILIZED FOR MCC-58 SHALL BE MODIFIED TO PROVIDE TEMPORARY POWER DURING THE REMOVAL/INSTALLATION OF MCC-58.
 - ④ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY NEMA SIZE 5 MOTOR STARTER TO SERVE AS A TEMPORARY MOTOR STARTER DURING MCC-58 REMOVAL/INSTALLATION.
 - ⑤ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY 100HP SOFTSTARTER (FOR GPEW-1 AND GPEW-2) TO SERVE AS A TEMPORARY MOTOR STARTER DURING MCC-58 REMOVAL/INSTALLATION.
 - ⑥ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY VFD TO SERVE AS A TEMPORARY MOTOR STARTER DURING MCC-58 REMOVAL/INSTALLATION. REFER TO SHEET E-20 FOR DETAILS.
 - ⑦ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY 480V, 1,200A, 3Ø, 3-WIRE PANELBOARD 'A' FOR POWER DISTRIBUTION DURING MCC-58 REMOVAL/INSTALLATION. REFER TO SHEET E-21 FOR DETAILS.
 - ⑧ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY 480V, 1,200A, 3Ø, 3-WIRE PANELBOARD 'B' FOR POWER DISTRIBUTION DURING MCC-58 REMOVAL/INSTALLATION. REFER TO SHEET E-21 FOR DETAILS.
 - ⑨ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY MOTOR CONTROL PANEL 'A' FOR MOTOR CONTROL DURING MCC-58 REMOVAL/INSTALLATION. REFER TO SHEET E-22 FOR DETAILS.
 - ⑩ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY MOTOR CONTROL PANEL 'B' FOR MOTOR CONTROL DURING MCC-58 REMOVAL/INSTALLATION. REFER TO SHEET E-25 FOR DETAILS.
 - ⑪ CONTRACTOR TO PROVIDE AND INSTALL SUPPORTS, UNISTRUT AND CABLE TRAY TO SERVE AS TEMPORARY RACEWAY FOR TEMPORARY POWER CABLES DURING MCC-58 REMOVAL/INSTALLATION. REFER TO ELEVATION ON SHEET E-20 FOR DETAILS.
 - ⑫ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY FEEDER CABLE (58T3) TO EXISTING RE-USE FACILITY. CONTRACTOR TO PROVIDE AND INSTALL DROP OVER CABLE PROTECTOR BY ELECTRIDUCT OR PROVIDE OTHER CITY OF TAMPA APPROVED MEANS OF PROTECTION.

<p>777 S. Harbour Island Blvd. Suite 250 Tampa, FL 33602 813.227.9190 Certificate of Authorization No. 8363</p>	JOB No.	171604942					SCALE	<p>City of Tampa Wastewater Department</p> <p>HOWARD F. CURREN FILTER BUILDING MOTOR CONTROL CENTER REPLACEMENT - BUILDING NO. 1 MCC 58</p>	<p>TEMPORARY EQUIPMENT LAYOUT: ELEVATION 11'-0"</p>	SHEET NUMBER	E-18
	DESIGNED	TDT					<p>AS SHOWN</p>			TIMOTHY THOMAS, P.E. No. 47079	FILE: 171604942E01
	DRAWN	JLH									
	CHECKED	TDT									
	DATE	4/2017	No.	DATE	BY	APP				REVISION DESCRIPTION	



GENERAL NOTES:

1. THE TEMPORARY EQUIPMENT LAYOUT SHOWN IS BASED ON THE SPECIFIC MANUFACTURER'S DIMENSIONS FOR THE EQUIPMENT USED AS THE BASIS OF DESIGN. DIMENSIONS MAY VARY BASED ON THE ACTUAL EQUIPMENT PROVIDED/INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE THE DIMENSIONS OF ALL EQUIPMENT UTILIZED WITH THE SPACE AVAILABLE FOR THE PROPOSED TEMPORARY EQUIPMENT.
2. REFER TO SHEETS E-34 AND E-35 FOR TEMPORARY CABLE SCHEDULES.
3. REFER TO SHEET E-28 FOR TEMPORARY POWER WIRING RISER DIAGRAM.
4. REFER TO SHEET E-29 FOR TEMPORARY CONTROL WIRING RISER DIAGRAM.
5. NOT ALL TEMPORARY CABLES SHOWN FOR CLARITY.

TEMPORARY CABLE ROUTING: ELEVATION 3'-6"

SCALE : 3/32" = 1'-0"

KEYED NOTES:

- | | | | |
|--|---|---|--|
| <p>① OPENING IN FLOOR SLAB (ELEV 11'-0") FOR CONDUIT ENTRANCE INTO EXISTING SWITCHGEAR 56.</p> <p>② EXISTING PULL BOX ATTACHED TO THE UNDERSIDE OF ELEV 11'-0" FLOOR SLAB.</p> <p>③ CONTRACTOR TO PROVIDE AND INSTALL 36" WIDE ALUMINUM CABLE TRAY. CABLE TRAY TO BE INSTALLED APPROXIMATELY 8'-6" ABOVE FINISHED FLOOR AT ELEV 3'-6". CONTRACTOR TO FIELD ADJUST CABLE TRAY HEIGHT BASED ON EXISTING CONDITIONS IF REQUIRED.</p> <p>④ EXISTING PLAN AT ELEVATION 3'-6".</p> | <p>⑤ CONTRACTOR TO PROVIDE AND INSTALL 12" WIDE ALUMINUM CABLE TRAY. CABLE TRAY TO BE INSTALLED APPROXIMATELY 8'-6" ABOVE FINISHED FLOOR AT ELEV 3'-6". CONTRACTOR TO FIELD ADJUST CABLE TRAY HEIGHT BASED ON EXISTING CONDITIONS IF REQUIRED.</p> <p>⑥ CONTRACTOR TO PROVIDE AND INSTALL 24" WIDE ALUMINUM CABLE TRAY. CABLE TRAY HEIGHT BASED ON FIELD CONDITIONS.</p> <p>⑦ CONTRACTOR TO PROVIDE AND INSTALL 24" WIDE ALUMINUM CABLE TRAY. CABLE TRAY TO BE SECURED TO SIDE OF ELEV 11'-0" FLOOR SLAB.</p> <p>⑧ EXISTING PLAN AT ELEVATION 23'-6".</p> | <p>⑨ PORTION OF 12" WIDE CABLE TRAY SUSPENDED FROM UNDERSIDE OF ELEV 11'-0" FLOOR SLAB.</p> <p>⑩ PULL BOX INSTALLED AT FLOOR SLAB OF ELEVATION 11'-0".</p> <p>⑪ EXISTING MOTOR CONTROL CENTER (MCC-58A) LOCATED ON ELEVATION 23'-6".</p> <p>⑫ EXISTING FBP-FS AND FBP-FS-ANN LOCATED ON ELEVATION 23'-6".</p> <p>⑬ EXISTING PUMP MOTOR GPP-3.</p> <p>⑭ EXISTING PUMP MOTOR GPP-4.</p> | <p>⑮ EXISTING PUMP MOTOR PP201A.</p> <p>⑯ EXISTING PUMP MOTOR PP201S.</p> <p>⑰ EXISTING PUMP MOTOR MOSAIC GPEW-2</p> <p>⑱ EXISTING PUMP MOTOR MOSAIC GPEW-1.</p> <p>⑲ EXISTING PUMP MOTOR BWP-3.</p> <p>⑳ EXISTING PUMP MOTOR BWP-2.</p> <p>㉑ EXISTING PUMP MOTOR BWP-1.</p> |
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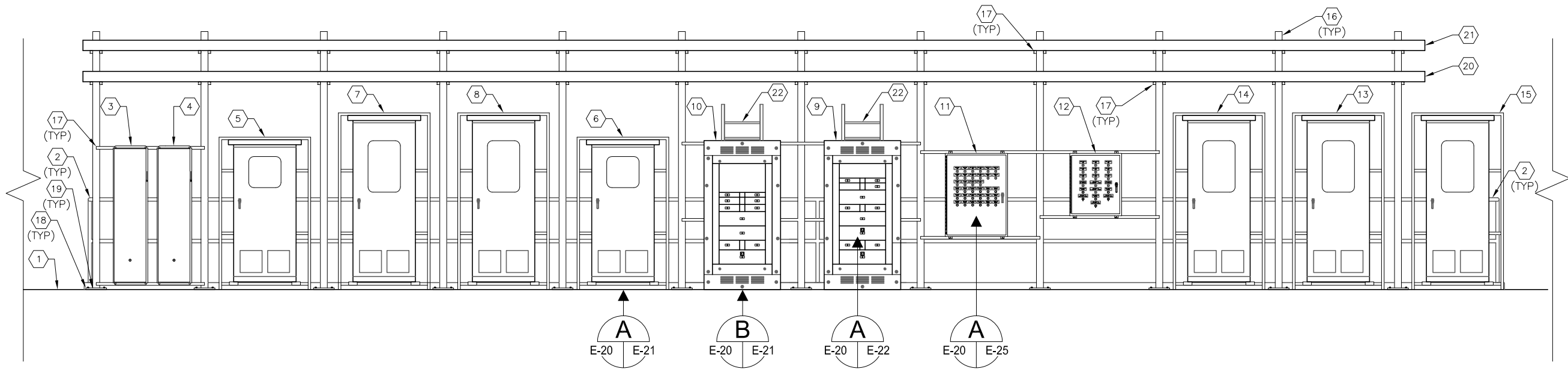
SCALE

AS SHOWN

City of Tampa Wastewater Department
 HOWARD F. CURREN
 FILTER BUILDING MOTOR CONTROL CENTER REPLACEMENT -
 BUILDING NO. 1 MCC 58

**TEMPORARY CABLE ROUTING
 ELEVATION 3'-6"**

SHEET NUMBER	E-19
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171604942E01



TEMPORARY EQUIPMENT FRONT ELEVATION A
 SCALE : N.T.S. E-18 | E-20

KEYED NOTES:

- | | | |
|---|---|---|
| <p>① EXISTING FLOOR SLAB OF FILTER BUILDING No. 1 (015) AT ELEVATION 11'-0".</p> <p>② EXISTING HANDRAIL AND CURB (TYPICAL). NO WORK REQUIRED.</p> <p>③ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY NEMA SIZE 5 STARTER FOR EXISTING EXISTING 150 HP, 480V GENERAL PURPOSE EFFLUENT WATER PUMP GPP-3.</p> <p>④ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY NEMA SIZE 5 STARTER FOR EXISTING EXISTING 150 HP, 480V GENERAL PURPOSE EFFLUENT WATER PUMP GPP-4.</p> <p>⑤ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY 100 HP SOFTSTARTER FOR EXISTING EXISTING 100 HP, 480V PUMP MOSAIC GPEW-2.</p> <p>⑥ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY 100 HP SOFTSTARTER FOR EXISTING EXISTING 100 HP, 480V PUMP MOSAIC GPEW-1.</p> <p>⑦ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY VFD FOR EXISTING 400 HP, 480V GENERAL PURPOSE PUMP 1 (PP201A).</p> <p>⑧ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY VFD FOR EXISTING 400 HP, 480V GENERAL PURPOSE PUMP 2 (PP201S).</p> | <p>⑨ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY 1200A, 600V, 3ϕ, 3-WIRE PANELBOARD 'A'. REFER TO SHEET E-21 FOR PANELBOARD ELEVATION AND CIRCUIT BREAKER SCHEDULE.</p> <p>⑩ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY 1200A, 600V, 3ϕ, 3-WIRE PANELBOARD 'B'. REFER TO SHEET E-21 FOR PANELBOARD ELEVATION AND CIRCUIT BREAKER SCHEDULE.</p> <p>⑪ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY MOTOR CONTROL PANEL 'A'. REFER TO SHEET E-22 FOR DETAILS.</p> <p>⑫ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY MOTOR CONTROL PANEL 'B'. REFER TO SHEET E-25 FOR DETAILS.</p> <p>⑬ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY VFD FOR EXISTING 200 HP, 480V BACKWASH PUMP BWP-3.</p> <p>⑭ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY VFD FOR EXISTING 200 HP, 480V BACKWASH PUMP BWP-2.</p> <p>⑮ CONTRACTOR TO PROVIDE AND INSTALL TEMPORARY VFD FOR EXISTING 200 HP, 480V BACKWASH PUMP BWP-1.</p> <p>⑯ PROVIDE AND INSTALL 6" SQUARE ALUMINUM POST WITH 1/2" WALL THICKNESS. (TYPICAL).</p> | <p>⑰ PROVIDE AND INSTALL 1-5/8" X 1-5/8" 316 STAINLESS STEEL UNISTRUT. ALL MOUNTING HARDWARE SHALL BE 316 STAINLESS STEEL. UNISTRUT BOLTS SHALL BE INSTALLED THROUGH POST.</p> <p>⑱ PROVIDE AND INSTALL 12" X 12" X 3/4" ALUMINUM BASE PLATE. SECURE EACH BASE PLATE TO CONCRETE W/(4) STAINLESS STEEL 1/2" DIA. X 6" BOLTS & STAINLESS STEEL HEX NUTS WITH LOCKWASHER. DRILL CONCRETE & EMBED BOLTS AND ANCHORS IN EPOXY. COAT BOTTOM OF BASE PLATE WITH ASPHALT PAINT.</p> <p>⑲ PROVIDE FULL FILLET WELD TO BASE PLATE (TYPICAL OF 3).</p> <p>⑳ CONTRACTOR TO PROVIDE AND INSTALL 24" WIDE ALUMINUM CABLE TRAY FOR TEMPORARY POWER CABLE. INSTALL CABLE TRAY APPROXIMATELY 10'-0" ABOVE ELEV 11'-0" FLOOR SLAB.</p> <p>㉑ CONTRACTOR TO PROVIDE AND INSTALL 24" WIDE ALUMINUM CABLE TRAY FOR TEMPORARY CONTROL CABLE. INSTALL CABLE TRAY APPROXIMATELY 11'-6" ABOVE ELEV 11'-0" FLOOR SLAB.</p> <p>㉒ CONTRACTOR TO PROVIDE AND INSTALL 24" WIDE ALUMINUM CABLE TRAY FOR TRANSITION FROM ELEVATION 3'-6" TO ELEVATION 11'-0". REFER ALSO TO SHEET E-19.</p> |
|---|---|---|

GENERAL NOTES:

- THE TEMPORARY EQUIPMENT LAYOUT SHOWN IS BASED ON THE SPECIFIC MANUFACTURER'S DIMENSIONS FOR THE EQUIPMENT USED AS THE BASIS OF DESIGN. DIMENSIONS MAY VARY BASED ON THE ACTUAL EQUIPMENT PROVIDED/INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE THE DIMENSIONS OF ALL EQUIPMENT UTILIZED WITH THE SPACE AVAILABLE FOR THE PROPOSED TEMPORARY EQUIPMENT.



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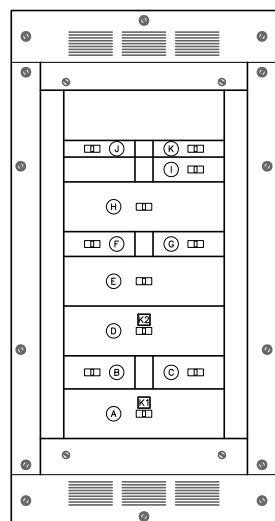
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 BUILDING NO. 1 MCC 58

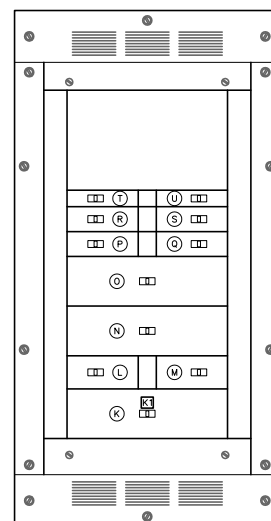
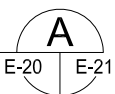
**TEMPORARY EQUIPMENT RACK
 FRONT ELEVATION**

SHEET NUMBER	E-20
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171501742E01



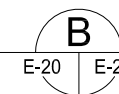
**TEMPORARY PANELBOARD A
FRONT ELEVATION**

SCALE : N.T.S.



**TEMPORARY PANELBOARD B
FRONT ELEVATION**

SCALE : N.T.S.



TEMPORARY PANELBOARD 'A' CIRCUIT BREAKER SCHEDULE						
BREAKER	POLES	AMPERAGE	VOLTAGE	AIC RATING	SERVICE	NOTES
A	3P	1200A	600V	65K	TEMPORARY PANELBOARD 'A' MAIN CIRCUIT BREAKER	PROVIDE KIRK-KEY INTERLOCK WITH TEMPORARY PANELBOARD 'A' TIE CIRCUIT BREAKER. MAIN CIRCUIT BREAKER TO BE FEED FROM SWITCHGEAR 56 BUS 'A'.
B	3P	400A	600V	65K	BACKWASH WATER PUMP 1 (FB-BWP-1)	
C	3P	400A	600V	65K	BACKWASH WATER PUMP 3 (FB-BWP-3)	
D	3P	1200A	600V	65K	TEMPORARY PANELBOARD 'A' TIE CIRCUIT BREAKER	PROVIDE KIRK-KEY INTERLOCK WITH TEMPORARY PANELBOARD 'A' AND TEMPORARY PANELBOARD 'B' MAIN CIRCUIT BREAKERS.
E	3P	800A	600V	65K	GENERAL PURPOSE WATER PUMP 2 (PP201S)	
F	3P	70A	600V	65K	PANELBOARD LP-53 TRANSFER SWITCH	(NORMAL POWER SOURCE)
G	3P	250A	600V	65K	MCC-58A BUS 'A'	
H	3P	300A	600V	65K	GENERAL PURPOSE EFFLUENT PUMP 4 (FB-GPP-4)	
I	2P	225A	600V	65K	PILOT PLANT	
J	3P	200A	600V	65K	MOSAIC GPEW-1	
K	2P	20A	600V	65K	TEMPORARY MOTOR CONTROL PANEL 'A'	

TEMPORARY PANELBOARD 'B' CIRCUIT BREAKER SCHEDULE						
BREAKER	POLES	AMPERAGE	VOLTAGE	AIC RATING	SERVICE	NOTES
K	3P	1200A	600V	65K	TEMPORARY PANELBOARD 'B' MAIN CIRCUIT BREAKER	PROVIDE KIRK-KEY INTERLOCK WITH TEMPORARY PANELBOARD 'A' TIE CIRCUIT BREAKER. MAIN CIRCUIT BREAKER TO BE FEED FROM SWITCHGEAR 56 BUS 'B'.
L	3P	400A	600V	65K	BACKWASH WATER PUMP 2 (FB-BWP-2)	
M	3P	300A	600V	65K	GENERAL PURPOSE EFFLUENT PUMP 3 (FB-GPP-3)	
N	3P	800A	600V	65K	GENERAL PURPOSE WATER PUMP 1 (PP201A)	
O	3P	250A	600V	65K	MCC-58A BUS 'B'	
P	3P	200A	600V	65K	MOSAIC GPEW-2	
Q	3P	100A	600V	65K	TRANSFORMER T-LCP-55	
R	3P	70A	600V	65K	PANELBOARD LP-53 TRANSFER SWITCH	(EMERGENCY POWER SOURCE)
S	3P	30A	600V	65K	MONORAIL HOIST FB-MH-3	
T	2P	20A	600V	65K	TEMPORARY MOTOR CONTROL PANEL 'B'	
U	3P	200A	600V	65K	TRANSFORMER T-LCP-54	



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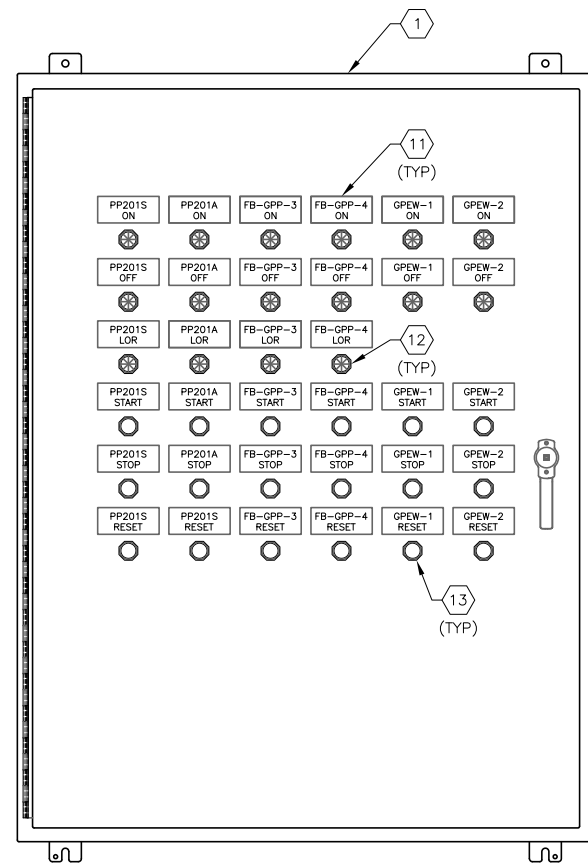
**TEMPORARY PANELBOARD
ELEVATIONS AND SCHEDULES**

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER

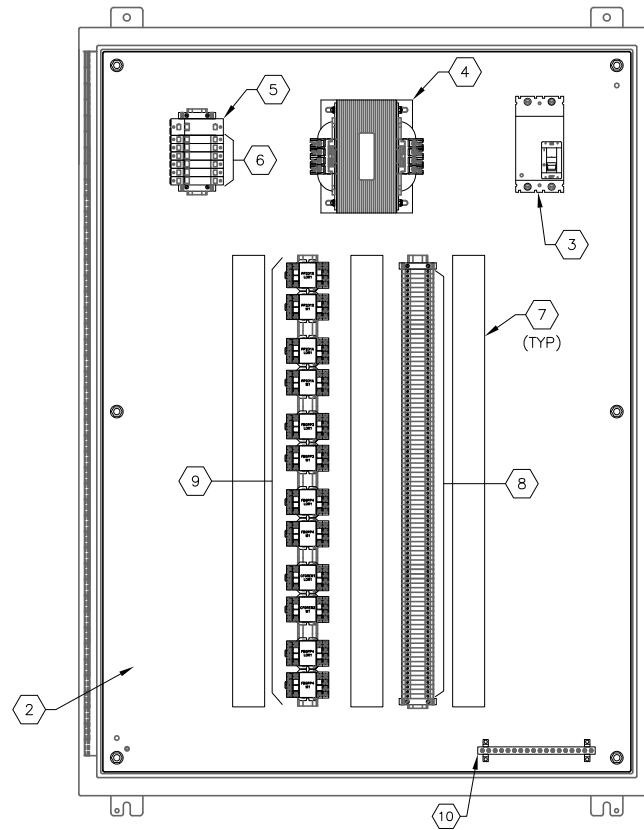
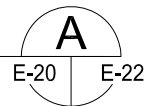
E-21

FILE: 171501742E01



TEMPORARY MOTOR CONTROL PANEL 'A' FRONT ELEVATION

SCALE : N.T.S.



TEMPORARY MOTOR CONTROL PANEL 'A' INTERIOR ELEVATION

SCALE : N.T.S.

KEYED NOTES:

- 1 PROVIDE AND INSTALL 48" X 36" X 12", NEMA 1 ENCLOSURE WITH STEEL BACK PANEL AND 3-POINT LATCHING DOOR. PROVIDE WITH DOOR STOP KIT. HOFFMAN CATALOG #A48H36DLP3PT.
- 2 STEEL BACK PANEL. HOFFMAN CATALOG #A48P36 BACK PANEL.
- 3 PROVIDE AND INSTALL 600V, 2-POLE, 15A CIRCUIT BREAKER. SQUARE-D HDL 26015.
- 4 PROVIDE AND INSTALL 480V-120/240V, 1 ϕ , 2KVA CONTROL POWER TRANSFORMER. SQUARE D CATALOG #9070T2000D31.
- 5 PROVIDE AND INSTALL 240V CIRCUIT BREAKER. 15 AMPERE SQUARE-D QOU215.
- 6 PROVIDE AND INSTALL 120V CIRCUIT BREAKERS. 15 AMPERE SQUARE-D QOU115 AS REQUIRED.
- 7 PROVIDE AND INSTALL 2"x2" PANDUIT (OR EQUAL) WIRING SYSTEM WITH COVERS (TYPICAL).
- 8 PROVIDE AND INSTALL DIN-RAIL MOUNTED TERMINAL BLOCKS, ALLEN-BRADLEY 1492-W10. ALL DIN-RAIL SHALL BE ALUMINUM. VERIFY QUANTITY PRIOR TO FABRICATION.
- 9 PROVIDE AND INSTALL 4PDT RELAYS WITH 10 AMP CONTACTS AND 120V AC COILS. ALLEN BRADLEY CATALOG #700HF34A1-3-4 WITH PUSH-TO-TEST MANUAL OVERRIDE AND LED INDICATOR. PROVIDE RELAY BASE AND HOLD DOWN SPRINGS FOR EACH RELAY PROVIDED. REFER TO TEMPORARY MOTOR CONTROL PANEL 'A' SCHEMATIC DIAGRAMS ON SHEETS E-23 AND E-24 FOR QUANTITIES.
- 10 PROVIDE AND INSTALL EQUIPMENT GROUND BAR SYSTEM. PANDUIT CATALOG # UGB2/0-414-18. PROVIDE BONDING STANDOFFS (PANDUIT UGB-B-S0).
- 11 PROVIDE AND INSTALL LAMACOID NAMEPLATE (TYPICAL). LETTERING SHALL BE 1/2" MINIMUM. SECURE NAMEPLATE WITH STAINLESS STEEL SCREWS.
- 12 PROVIDE AND INSTALL PILOT LIGHT, PUSH-TO-TEST LED TYPE. COLOR CAP PER TEMPORARY MOTOR CONTROL PANEL 'A' SCHEMATIC DIAGRAMS ON SHEET E-XX. ALLEN BRADLEY 800H-QRBH2(COLOR CODE). PILOT LIGHT TO BE MOUNTED ON THE EXTERIOR OF TEMPORARY MOTOR CONTROL PANEL 'A'.
- 13 PROVIDE AND INSTALL BLACK 30.5 mm PUSHBUTTON. FUNCTION PER TEMPORARY MOTOR CONTROL PANEL 'A' SCHEMATIC DIAGRAMS ON SHEETS E-23 AND E-24. ALLEN BRADLEY 800H-AR2A. PUSHBUTTON TO BE MOUNTED ON THE EXTERIOR OF TEMPORARY MOTOR CONTROL PANEL 'A'.

GENERAL NOTES :

1. MINIMUM CONDUCTOR SIZE SHALL #12 AWG.
2. ALL CONDUCTORS SHALL BE COPPER.
3. PROVIDE AND INSTALL ALL ASSOCIATED END BARRIERS AS SHOWN OR REQUIRED.
4. ALL DIN RAIL SHALL BE ALUMINUM. QUANTITY AS REQUIRED.
5. PROVIDE AND INSTALL CORROSION INHIBITOR, HOFFMAN # AHCI10E.



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TEMPORARY
MOTOR CONTROL PANEL A
ELEVATION AND DETAILS

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER

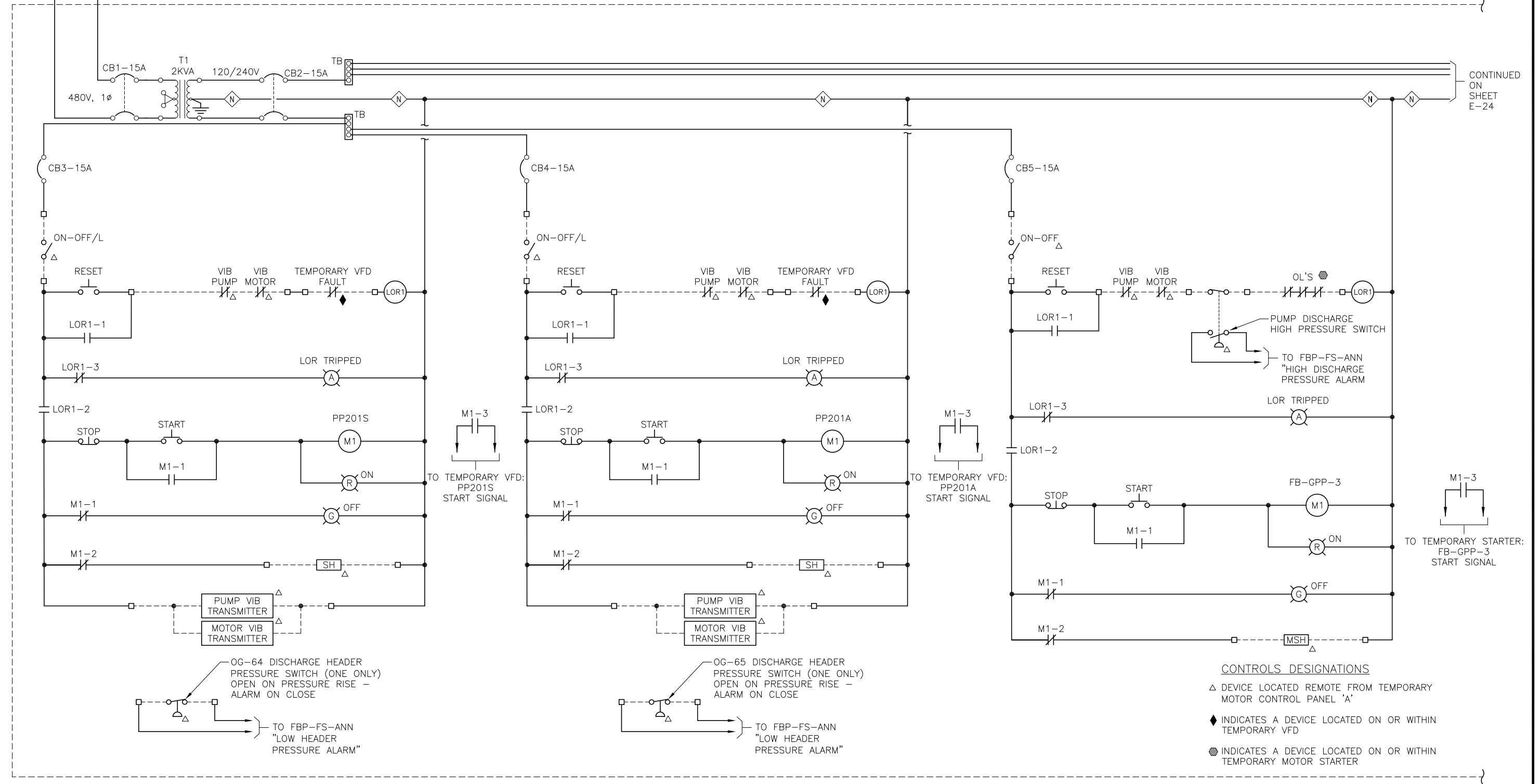
E-22

FILE: 171501742E01

3/C-#12 AWG CU TYPE SO
FROM TEMP PANELBOARD 'A'
(58T20)

TEMPORARY MOTOR CONTROL PANEL 'A'

CONTINUED
ON
SHEET
E-24



CONTROLS DESIGNATIONS

- △ DEVICE LOCATED REMOTE FROM TEMPORARY MOTOR CONTROL PANEL 'A'
- ◆ INDICATES A DEVICE LOCATED ON OR WITHIN TEMPORARY VFD
- INDICATES A DEVICE LOCATED ON OR WITHIN TEMPORARY MOTOR STARTER

GENERAL PURPOSE EFFLUENT WATER PUMP FB-GPP-2
AKA PP201S

GENERAL PURPOSE EFFLUENT WATER PUMP FB-GPP-1
AKA PP201A

GENERAL PURPOSE EFFLUENT WATER PUMP FB-GPP-3



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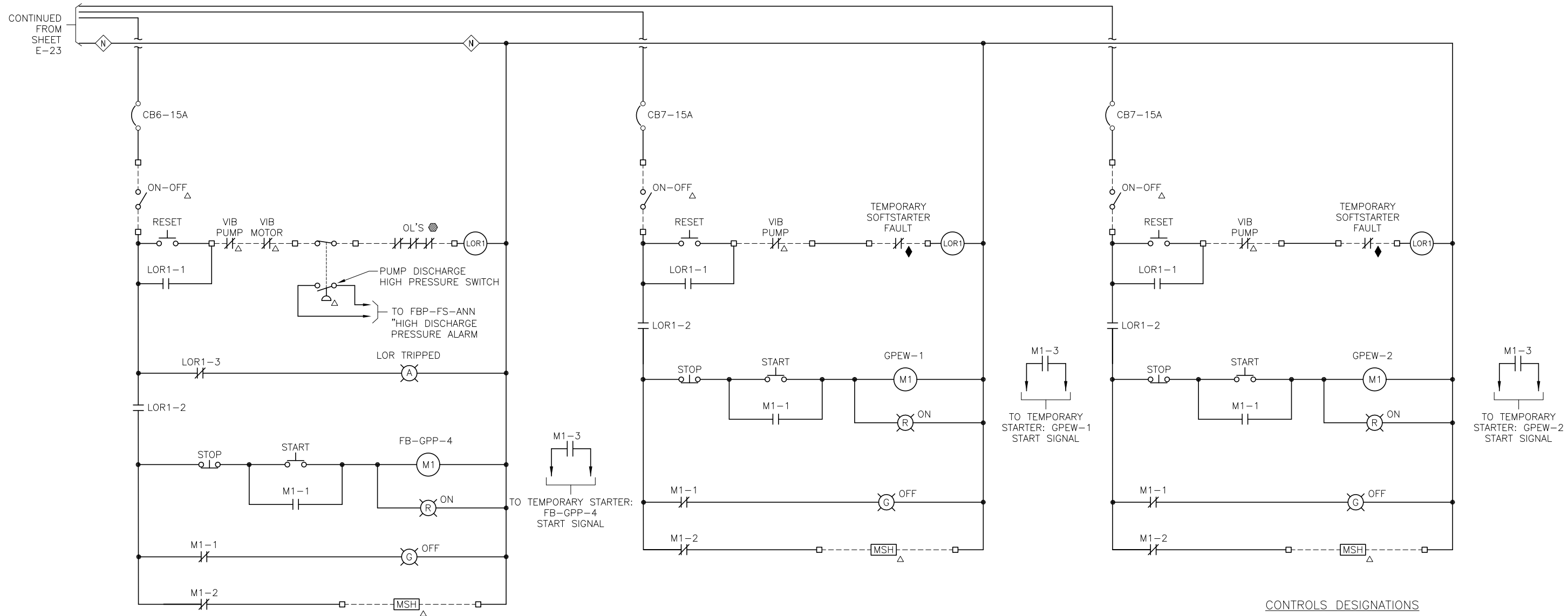
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**TEMPORARY
MOTOR CONTROL PANEL A
WIRING SCHEMATIC**

SHEET NUMBER	E-23
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171501742E01

TEMPORARY MOTOR CONTROL PANEL 'A'



CONTROLS DESIGNATIONS

△ DEVICE LOCATED REMOTE FROM TEMPORARY MOTOR CONTROL PANEL 'A'

CONTROLS DESIGNATIONS

- △ DEVICE LOCATED REMOTE FROM TEMPORARY MOTOR CONTROL PANEL 'A'
- ◆ INDICATES A DEVICE LOCATED ON OR WITHIN TEMPORARY SOFTSTARTER
- INDICATES A DEVICE LOCATED ON OR WITHIN TEMPORARY MOTOR STARTER

GENERAL PURPOSE EFFLUENT WATER PUMP FB-GPP-4

MOSAIC GPEW-1

MOSAIC GPEW-2



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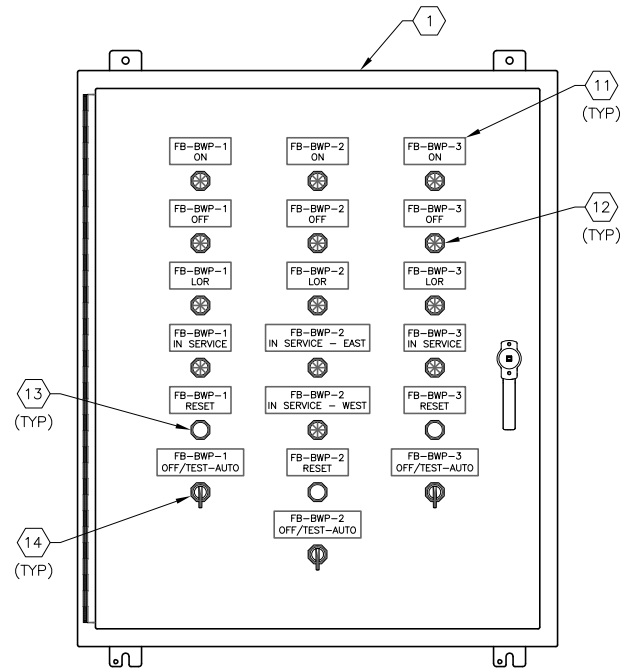
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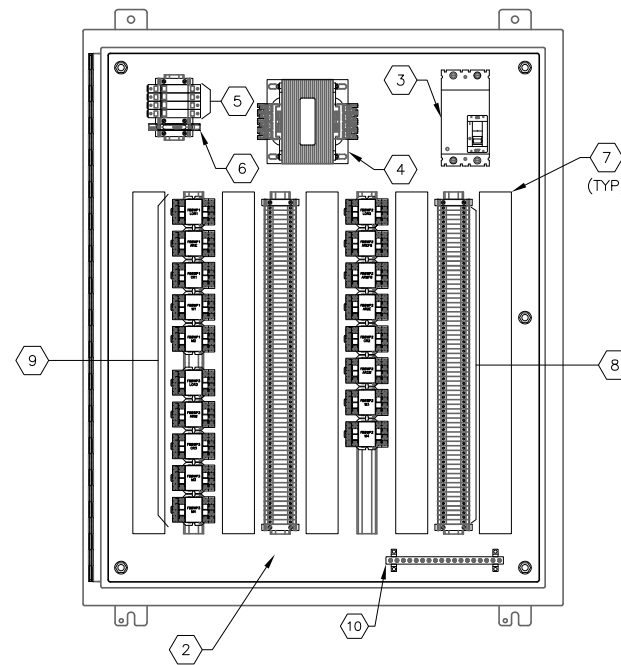
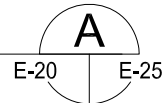
TEMPORARY
MOTOR CONTROL PANEL A
WIRING SCHEMATIC (CONT)

SHEET NUMBER	E-24
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171501742E01



TEMPORARY MOTOR CONTROL PANEL 'B' FRONT ELEVATION

SCALE : N.T.S.



TEMPORARY MOTOR CONTROL PANEL 'B' INTERIOR ELEVATION

SCALE : N.T.S.

KEYED NOTES:

- 1 PROVIDE AND INSTALL 36" X 30" X 12", NEMA 1 ENCLOSURE WITH STEEL BACK PANEL AND 3-POINT LATCHING DOOR. PROVIDE WITH DOOR STOP KIT. HOFFMAN CATALOG #A36H30DLP3PT.
- 2 STEEL BACK PANEL. HOFFMAN CATALOG #A36P30 BACK PANEL.
- 3 PROVIDE AND INSTALL 600V, 2-POLE, 15A CIRCUIT BREAKER. SQUARE-D HDL 26015.
- 4 PROVIDE AND INSTALL 480V-120V, 1Ø, 1KVA CONTROL POWER TRANSFORMER. SQUARE D CATALOG #9070T1000D1.
- 5 PROVIDE AND INSTALL 120V CIRCUIT BREAKERS. 15 AMPERE SQUARE-D QOU115 AS REQUIRED.
- 6 PROVIDE AND INSTALL FUSE TERMINAL BLOCK WITH 1 AMP FUSE. PHOENIX CONTACT UK 5-HESI.
- 7 PROVIDE AND INSTALL 2"x2" PANDUIT (OR EQUAL) WIRING SYSTEM WITH COVERS (TYPICAL).
- 8 PROVIDE AND INSTALL DIN-RAIL MOUNTED TERMINAL BLOCKS, ALLEN-BRADLEY 1492-W10. ALL DIN-RAIL SHALL BE ALUMINUM. VERIFY QUANTITY PRIOR TO FABRICATION.
- 9 PROVIDE AND INSTALL 4PDT RELAYS WITH 10 AMP CONTACTS AND 120V AC COILS. ALLEN BRADLEY CATALOG #700HF34A1-3-4 WITH PUSH-TO-TEST MANUAL OVERRIDE AND LED INDICATOR. PROVIDE RELAY BASE AND HOLD DOWN SPRINGS FOR EACH RELAY PROVIDED. REFER TO TEMPORARY MOTOR CONTROL PANEL 'B' SCHEMATIC DIAGRAMS ON SHEETS E-26 AND E-27 FOR QUANTITIES.
- 10 PROVIDE AND INSTALL EQUIPMENT GROUND BAR SYSTEM. PANDUIT CATALOG # UGB2/0-414-18. PROVIDE BONDING STANDOFFS (PANDUIT UGB-B-S0).
- 11 PROVIDE AND INSTALL LAMACOID NAMEPLATE (TYPICAL). LETTERING SHALL BE 1/2" MINIMUM. SECURE NAMEPLATE WITH STAINLESS STEEL SCREWS.
- 12 PROVIDE AND INSTALL PILOT LIGHT, PUSH-TO-TEST LED TYPE. COLOR CAP PER TEMPORARY MOTOR CONTROL PANEL 'B' SCHEMATIC DIAGRAMS ON SHEETS E-26 AND E-27. ALLEN BRADLEY 800H-QRBH2(COLOR CODE). PILOT LIGHT TO BE MOUNTED ON THE EXTERIOR OF TEMPORARY MOTOR CONTROL PANEL 'B'.
- 13 PROVIDE AND INSTALL BLACK 30.5 mm PUSHBUTTON. FUNCTION PER TEMPORARY MOTOR CONTROL PANEL 'B' SCHEMATIC DIAGRAMS ON SHEET E-XX. ALLEN BRADLEY 800H-AR2A. PUSHBUTTON TO BE MOUNTED ON THE EXTERIOR OF TEMPORARY MOTOR CONTROL PANEL 'B'.
- 14 PROVIDE AND INSTALL 2-POSITION, MAINTAINED, SELECTOR SWITCH. ALLEN BRADLEY 800H-HR2A2. FUNCTION PER TEMPORARY MOTOR CONTROL PANEL 'B' SCHEMATIC DIAGRAMS ON SHEETS E-26 AND E-27. SELECTOR SWITCH TO BE MOUNTED ON THE EXTERIOR OF TEMPORARY MOTOR CONTROL PANEL 'B'.

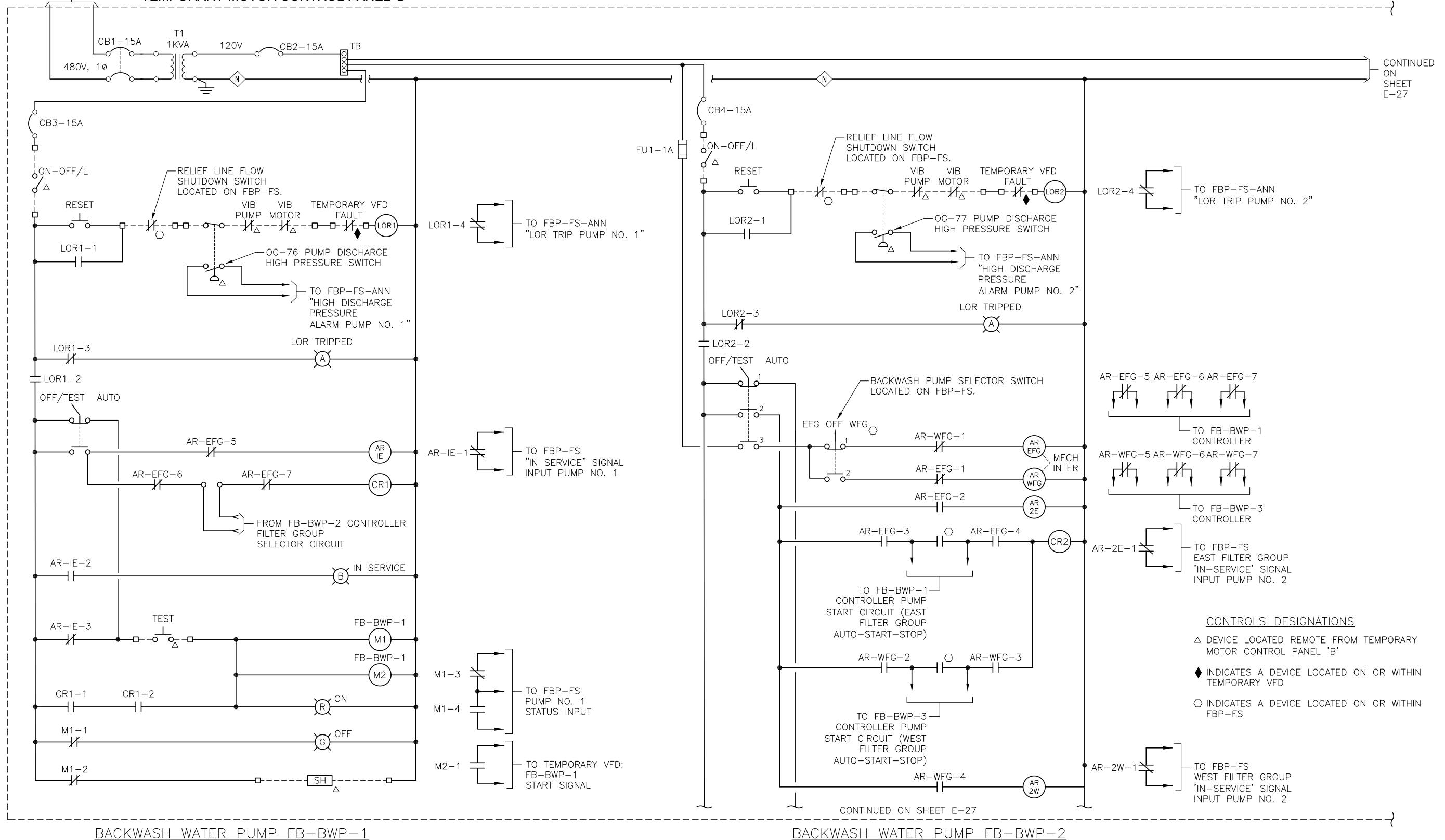
GENERAL NOTES :

1. MINIMUM CONDUCTOR SIZE SHALL #12 AWG.
2. ALL CONDUCTORS SHALL BE COPPER.
3. PROVIDE AND INSTALL ALL ASSOCIATED END BARRIERS AS SHOWN OR REQUIRED.
4. ALL DIN RAIL SHALL BE ALUMINUM. QUANTITY AS REQUIRED.
5. PROVIDE AND INSTALL CORROSION INHIBITOR, HOFFMAN # AHC110E.

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3/C-#12 AWG CU TYPE SO
FROM TEMP PANELBOARD 'B'
(58T21)

TEMPORARY MOTOR CONTROL PANEL 'B'



CONTINUED ON SHEET E-27

CONTINUED ON SHEET E-27

BACKWASH WATER PUMP FB-BWP-1

BACKWASH WATER PUMP FB-BWP-2

- CONTROLS DESIGNATIONS**
- △ DEVICE LOCATED REMOTE FROM TEMPORARY MOTOR CONTROL PANEL 'B'
 - ◆ INDICATES A DEVICE LOCATED ON OR WITHIN TEMPORARY VFD
 - INDICATES A DEVICE LOCATED ON OR WITHIN FBP-FS



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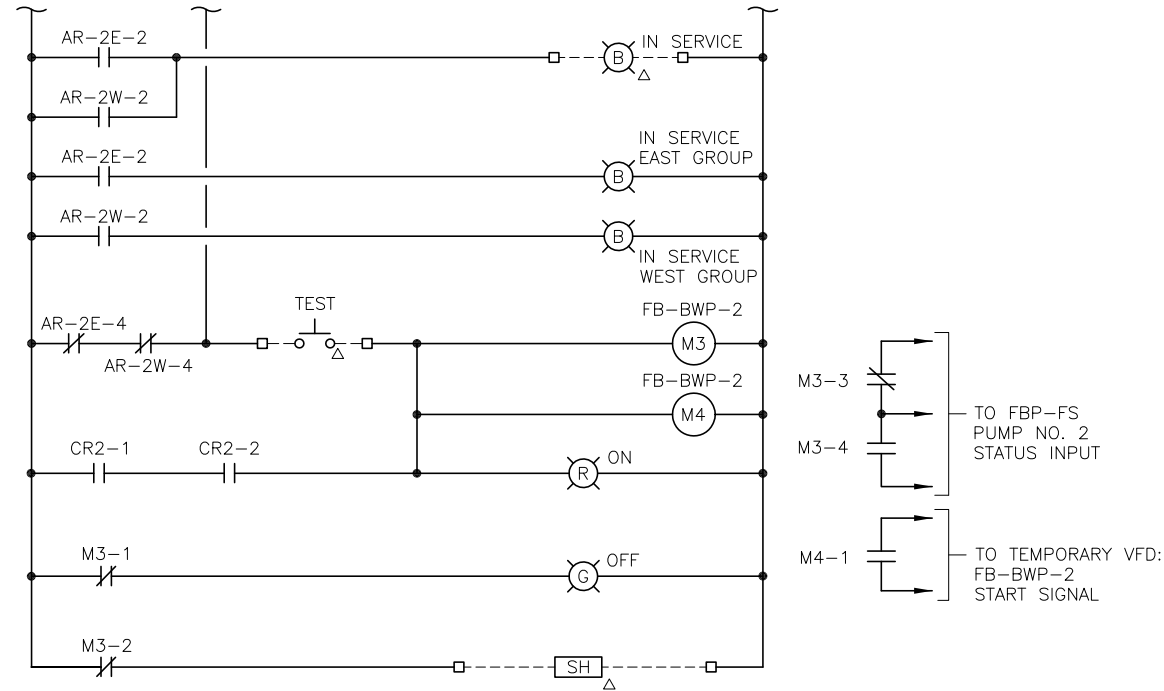
TEMPORARY MOTOR CONTROL PANEL B
WIRING SCHEMATIC

SHEET NUMBER	E-26
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171501742E01

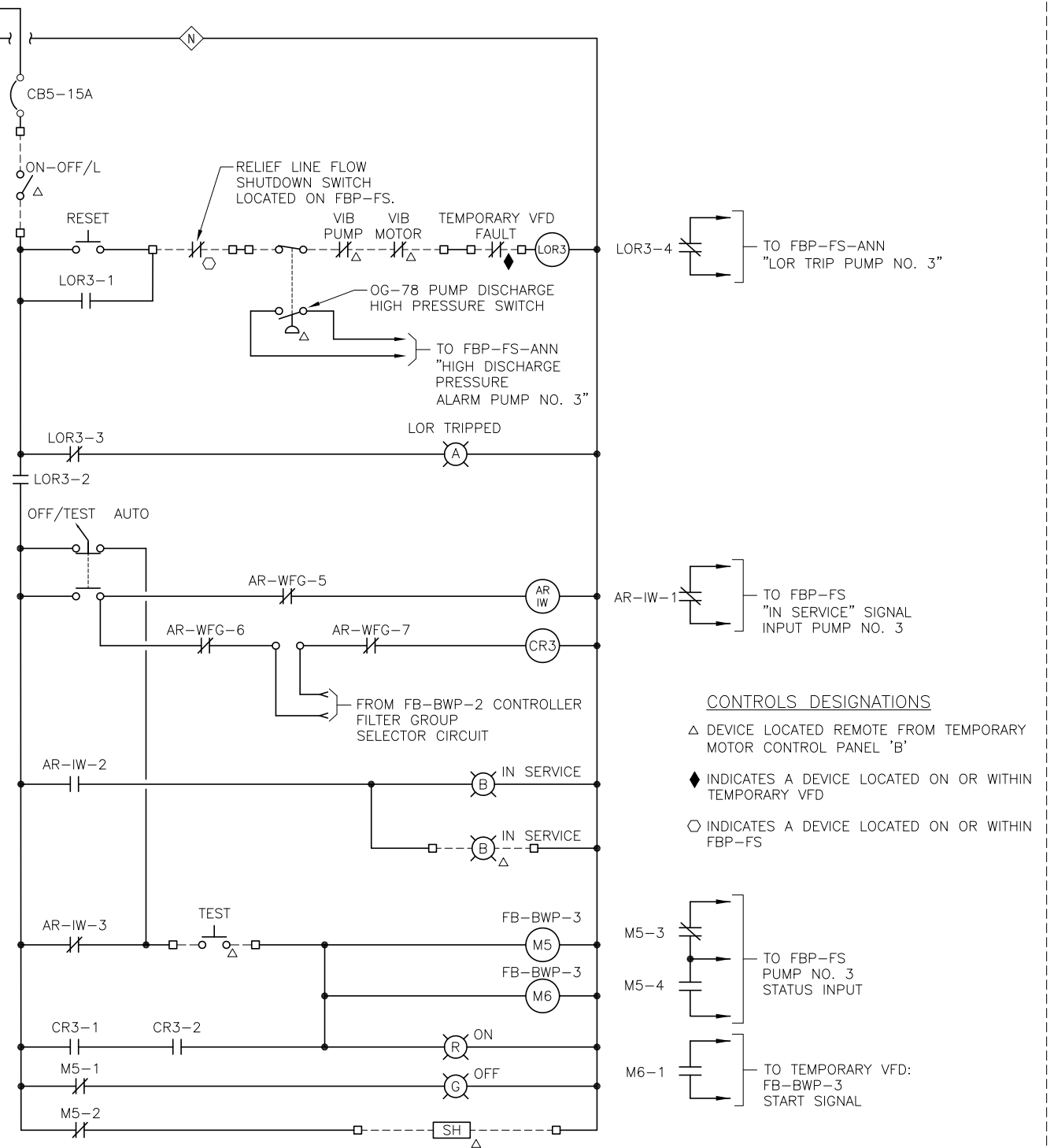
TEMPORARY MOTOR CONTROL PANEL 'B'

CONTINUED FROM SHEET E-26

CONTINUED FROM SHEET E-26



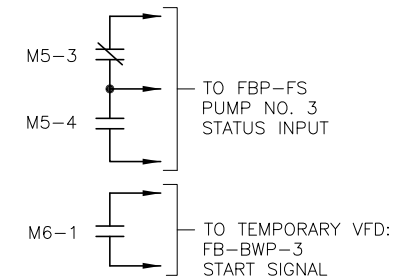
BACKWASH WATER PUMP FB-BWP-2



BACKWASH WATER PUMP FB-BWP-3

CONTROLS DESIGNATIONS

- △ DEVICE LOCATED REMOTE FROM TEMPORARY MOTOR CONTROL PANEL 'B'
- ◆ INDICATES A DEVICE LOCATED ON OR WITHIN TEMPORARY VFD
- INDICATES A DEVICE LOCATED ON OR WITHIN FBP-FS



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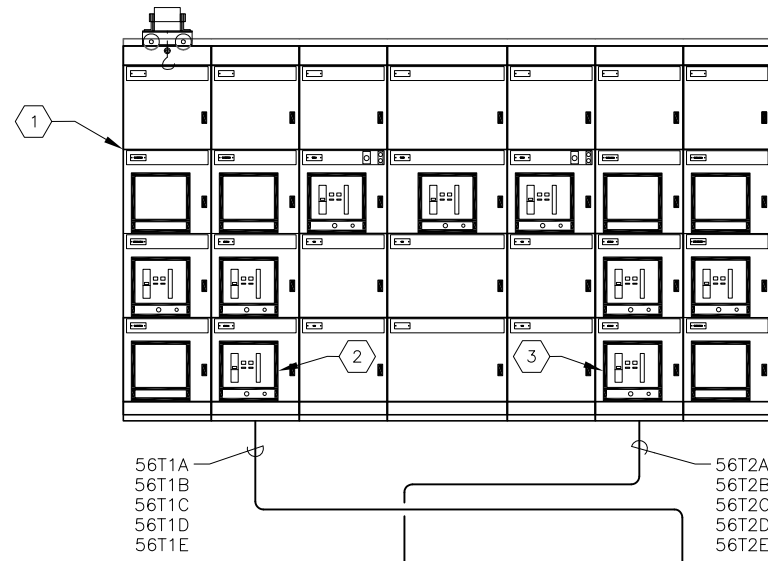
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TEMPORARY
MOTOR CONTROL PANEL A
WIRING SCHEMATIC (CONT)

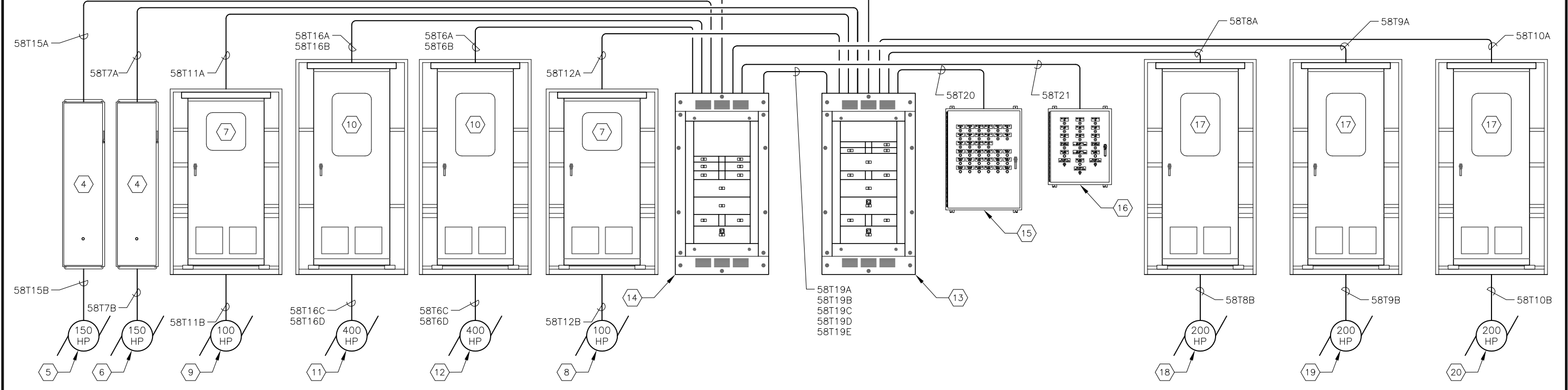
TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER
E-27
FILE: 171501742E01



POWER CABLES NOT SHOWN FOR CLARITY:

- TEMPORARY POWER CABLE 58T1 FROM TEMPORARY PANELBOARD 'A' TO EXISTING MCC-58A: BUS A. MCC-58A LOCATED ON ELEVATION 23'-6".
- TEMPORARY POWER CABLE 58T2 FROM TEMPORARY PANELBOARD 'B' TO EXISTING MCC-58A: BUS B. MCC-58A LOCATED ON ELEVATION 23'-6".
- TEMPORARY POWER CABLE 58T3 FROM TEMPORARY PANELBOARD 'A' TO EXISTING RE-PILOT PLANT.
- TEMPORARY POWER CABLE 58T4A FROM TEMPORARY PANELBOARD 'A' TO EX PANELBOARD L-53 AUTOMATIC TRANSFER SWITCH.
- TEMPORARY POWER CABLE 58T4B FROM TEMPORARY PANELBOARD 'B' TO EX PANELBOARD L-53 AUTOMATIC TRANSFER SWITCH.
- TEMPORARY POWER CABLE 58T13 FROM TEMPORARY PANELBOARD 'B' TO EXISTING PANELBOARD LCP-55 TRANSFORMER.
- TEMPORARY POWER CABLE 58T17 FROM TEMPORARY PANELBOARD 'B' TO EXISTING PANELBOARD LCP-54 TRANSFORMER.



KEYED NOTES:

1 EXISTING SWITCHGEAR 56 LOCATED ON ELEVATION 11'-0"	6 EXISTING GENERAL PURPOSE EFFLUENT WATER PUMP: FB-GPP-4 (LOCATED ON ELEV 3'-6").	11 EXISTING GENERAL PURPOSE EFFLUENT WATER PUMP 2: PP201S (LOCATED ON ELEV 3'-6").	16 TEMPORARY MOTOR CONTROL PANEL 'B' (TO BE LOCATED ON ELEV 11'-0").
2 EXISTING 480V, 3-POLE, 1,200A CIRCUIT BREAKER IN SWITCHGEAR 56 SERVING MCC-58 BUS 'A'.	7 TEMPORARY NEMA SIZE 4 STARTER (TO BE LOCATED ON ELEV 11'-0").	12 EXISTING GENERAL PURPOSE EFFLUENT WATER PUMP 1: PP201A (LOCATED ON ELEV 3'-6").	17 TEMPORARY 200 HP VFD (TO BE LOCATED ON ELEV 11'-0").
3 EXISTING 480V, 3-POLE, 1,200A CIRCUIT BREAKER IN SWITCHGEAR 56 SERVING MCC-58 BUS 'B'.	8 EXISTING GENERAL PURPOSE EFFLUENT WATER PUMP: MOSAIC GPEW-1 (LOCATED ON ELEV 3'-6").	13 TEMPORARY PANELBOARD 'A' (TO BE LOCATED ON ELEV 11'-0").	18 EXISTING BACKWASH WATER PUMP 1: FB-BWP-1 (LOCATED ON ELEV 3'-6").
4 TEMPORARY NEMA SIZE 5 STARTER (TO BE LOCATED ON ELEV 11'-0").	9 EXISTING GENERAL PURPOSE EFFLUENT WATER PUMP: MOSAIC GPEW-2 (LOCATED ON ELEV 3'-6").	14 TEMPORARY PANELBOARD 'B' (TO BE LOCATED ON ELEV 11'-0").	19 EXISTING BACKWASH WATER PUMP 2: FB-BWP-2 (LOCATED ON ELEV 3'-6").
5 EXISTING GENERAL PURPOSE EFFLUENT WATER PUMP: FB-GPP-3 (LOCATED ON ELEV 3'-6").	10 TEMPORARY 400 HP VFD (TO BE LOCATED ON ELEV 11'-0").	15 TEMPORARY MOTOR CONTROL PANEL 'A' (TO BE LOCATED ON ELEV 11'-0").	20 EXISTING BACKWASH WATER PUMP 3: FB-BWP-3 (LOCATED ON ELEV 3'-6").

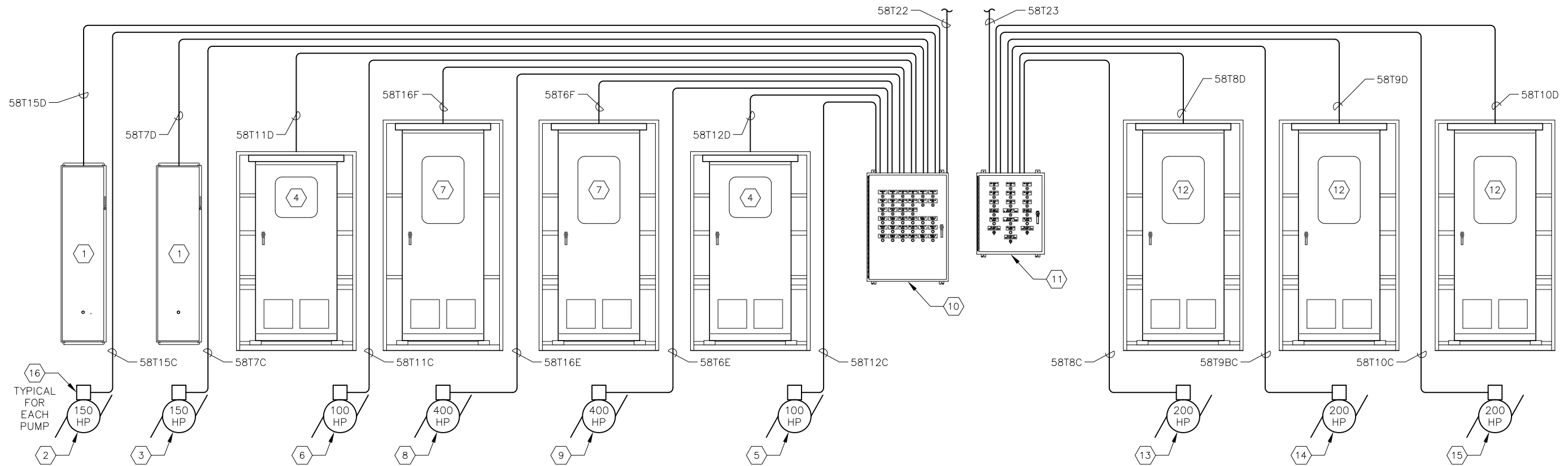
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**TEMPORARY POWER WIRING
RISER DIAGRAM**



KEYED NOTES:

- | | |
|--|---|
| ① TEMPORARY NEMA SIZE 5 STARTER (TO BE LOCATED ON ELEV 11'-0"). | ⑨ EXISTING GENERAL PURPOSE EFFLUENT WATER PUMP 1: PP201A (LOCATED ON ELEV 3'-6"). |
| ② EXISTING GENERAL PURPOSE EFFLUENT WATER PUMP: FB-GPP-3 (LOCATED ON ELEV 3'-6"). | ⑩ TEMPORARY MOTOR CONTROL PANEL 'A' (TO BE LOCATED ON ELEV 11'-0"). |
| ③ EXISTING GENERAL PURPOSE EFFLUENT WATER PUMP: FB-GPP-4 (LOCATED ON ELEV 3'-6"). | ⑪ TEMPORARY MOTOR CONTROL PANEL 'B' (TO BE LOCATED ON ELEV 11'-0"). |
| ④ TEMPORARY 100 HP SOFTSTARTER (TO BE LOCATED ON ELEV 11'-0"). | ⑫ TEMPORARY 200 HP VFD (TO BE LOCATED ON ELEV 11'-0"). |
| ⑤ EXISTING GENERAL PURPOSE EFFLUENT WATER PUMP: MOSAIC GPEW-1 (LOCATED ON ELEV 3'-6"). | ⑬ EXISTING BACKWASH WATER PUMP 1: FB-BWP-1 (LOCATED ON ELEV 3'-6"). |
| ⑥ EXISTING GENERAL PURPOSE EFFLUENT WATER PUMP: MOSAIC GPEW-2 (LOCATED ON ELEV 3'-6"). | ⑭ EXISTING BACKWASH WATER PUMP 2: FB-BWP-2 (LOCATED ON ELEV 3'-6"). |
| ⑦ TEMPORARY 400 HP VFD (TO BE LOCATED ON ELEV 11'-0"). | ⑮ EXISTING BACKWASH WATER PUMP 3: FB-BWP-3 (LOCATED ON ELEV 3'-6"). |
| ⑧ EXISTING GENERAL PURPOSE EFFLUENT WATER PUMP 2: PP201S (LOCATED ON ELEV 3'-6"). | ⑯ EXISTING JUNCTION BOX LOCATED ADJACENT TO EXISTING PUMP MOTOR. TYPICAL AT ALL PUMP MOTOR LOCATIONS. |

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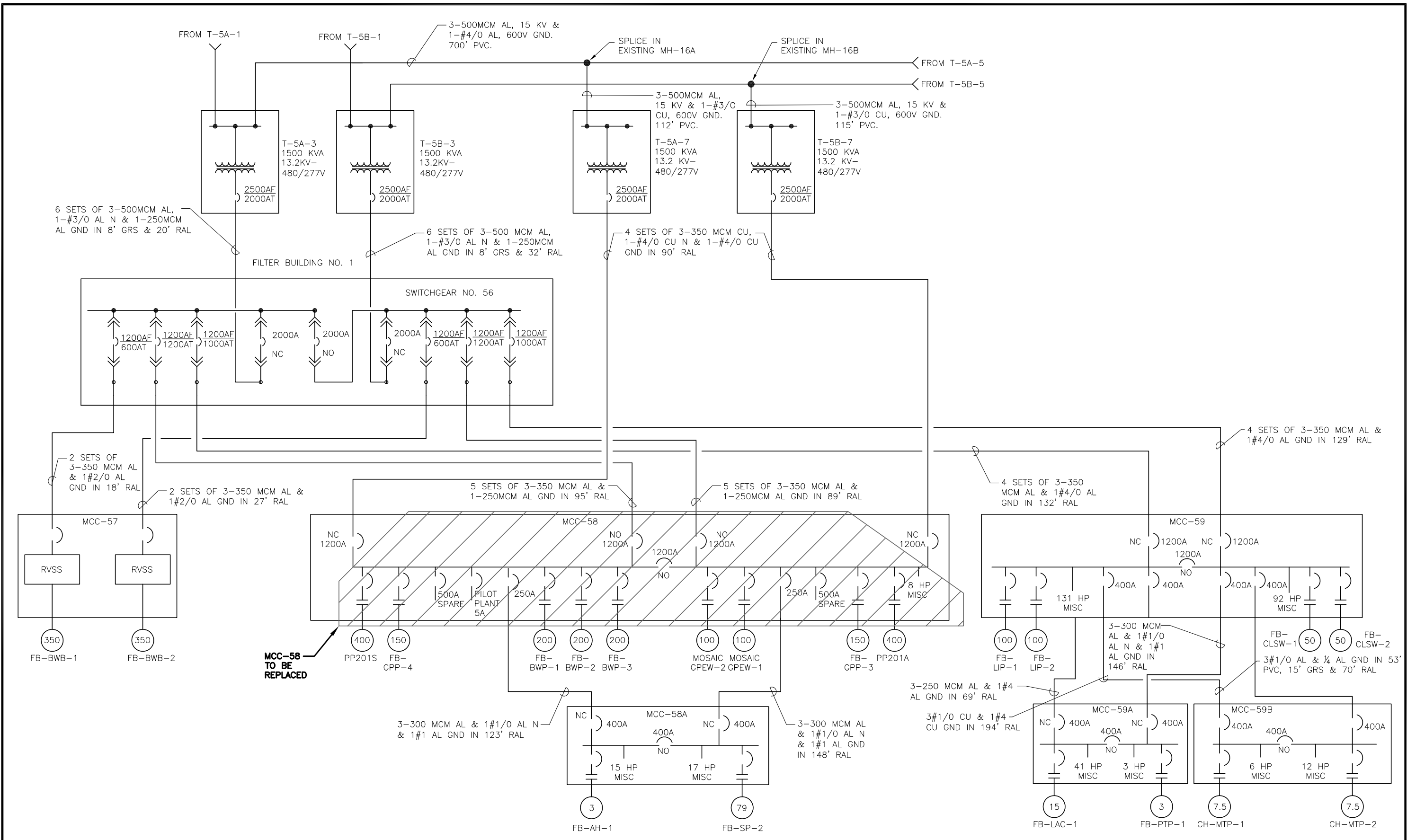
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City of Tampa Wastewater Department
HOWARD F. CURREN
FILTER BUILDING MOTOR CONTROL CENTER REPLACEMENT -
BUILDING NO. 1 MCC 58

**TEMPORARY CONTROL WIRING
RISER DIAGRAM**

SHEET NUMBER	E-29
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171501742E01



TRICON CONSULTING ENGINEERS
 777 S. Harbour Island Blvd.
 Suite 250
 Tampa, FL 33602
 813.227.9190
 Certificate of Authorization No. 8363

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DATE	4/2017	No.	DATE	BY	APP	REVISION DESCRIPTION

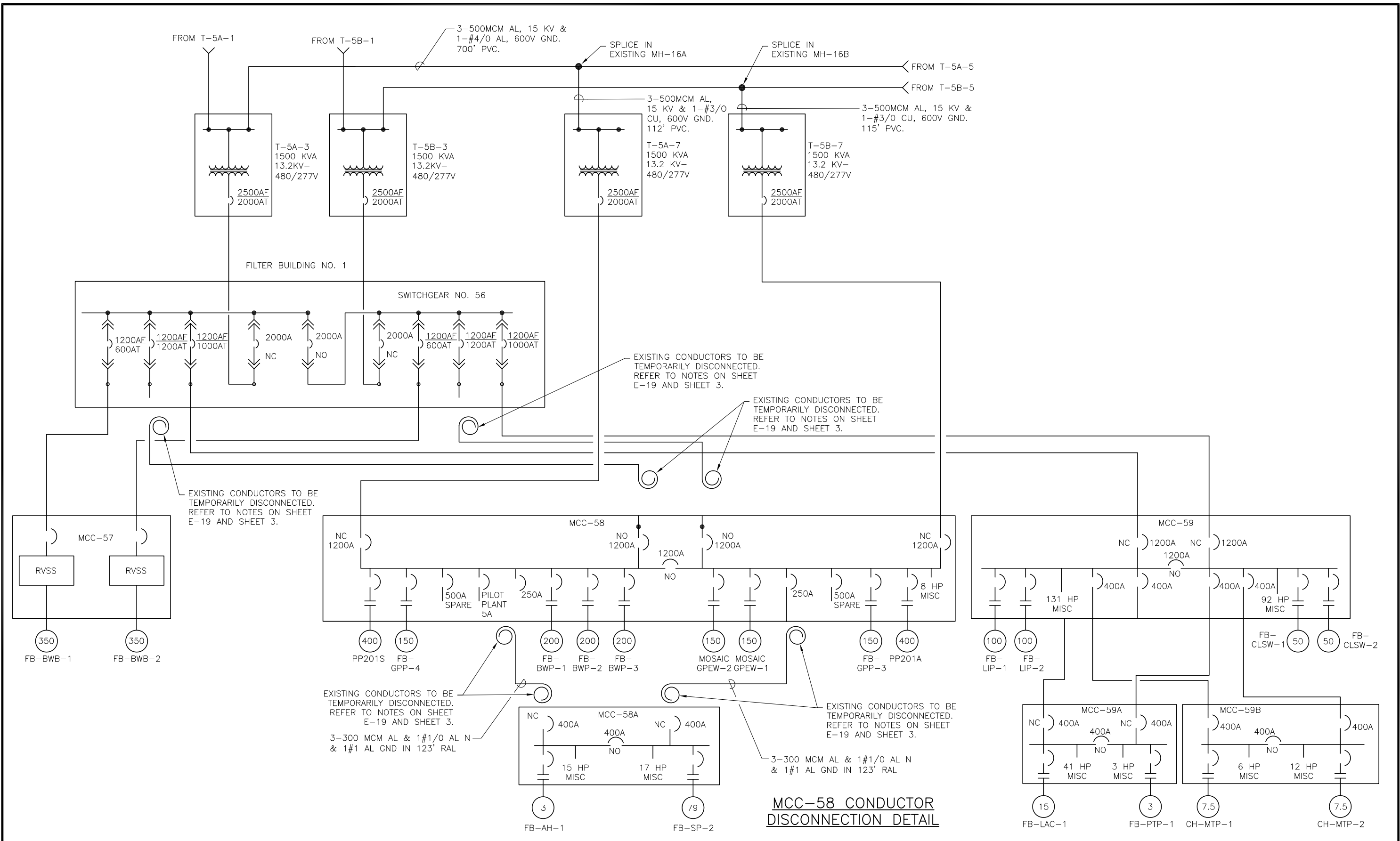
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 BUILDING NO. 1 MCC 58

**FILTER BUILDING NO. 1
 EXISTING ONE-LINE DIAGRAM**

SHEET NUMBER	E-30
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171501742E01



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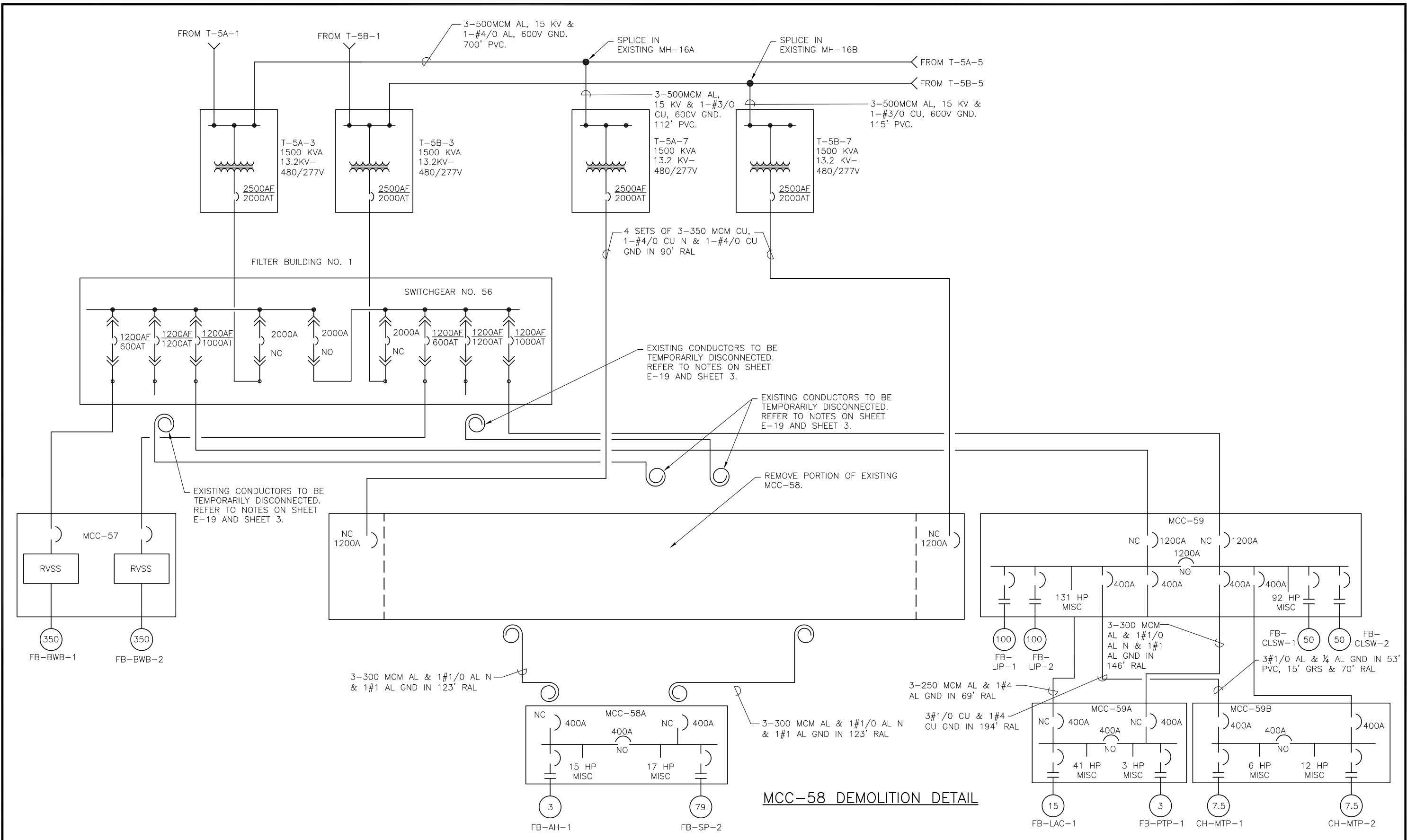
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FILTER BUILDING MOTOR CONTROL CENTER REPLACEMENT -
BUILDING NO. 1 MCC 58

FILTER BUILDING NO. 1
TEMPORARY ONE-LINE DIAGRAM
(SHEET 1 OF 3)

SHEET NUMBER	E-31
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171501742E01



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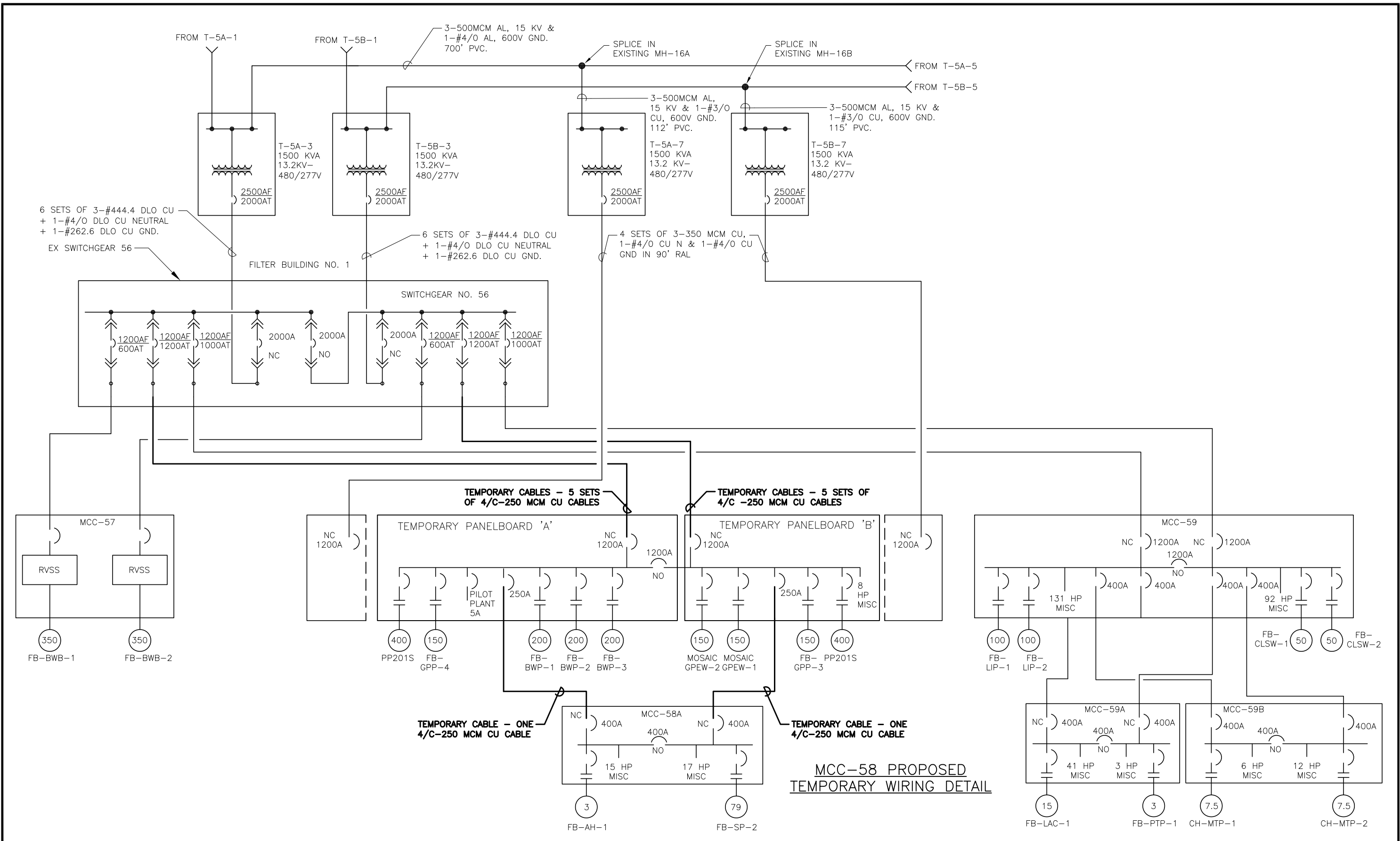
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FILTER BUILDING MOTOR CONTROL CENTER REPLACEMENT -
BUILDING NO. 1 MCC 58

**FILTER BUILDING NO. 1
TEMPORARY ONE-LINE DIAGRAM
(SHEET 2 OF 3)**

SHEET NUMBER	E-32
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171501742E01



JOB No.	171604942						
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HOWARD F. CURREN
FILTER BUILDING MOTOR CONTROL CENTER REPLACEMENT -
BUILDING NO. 1 MCC 58

**FILTER BUILDING NO. 1
TEMPORARY ONE-LINE DIAGRAM
(SHEET 3 OF 3)**

SHEET NUMBER	E-33
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171501742E01

TEMPORARY AND CABLE SCHEDULE					
CONDUIT No.	SIZE	NUMER OF CONDUCTORS/SIZE	FROM	TO	REMARKS
58T1		4/C-#250 kcmil CU TYPE W CABLE	TEMP PANELBOARD 'A'	EX MCC-58A: BUS A	
58T2		4/C-#250 kcmil CU TYPE W CABLE	TEMP PANELBOARD 'B'	EX MCC-58A: BUS B	
58T3		4/C-4/0 AWG CU TYPE W CABLE	TEMP PANELBOARD 'A'	EX PILOT PLANT	FIELD ROUTE TEMPORARY POWER CABLE. INSURE CABLE IS PROTECTED TO AVOID DAMAGE AND LOCATED AS TO AVOID TRIPPING HAZARDS.
58T4A		4/C-#4 AWG CU TYPE W CABLE	TMP PANELBOARD 'A'	EX LP 53 TRANSFER SW.	FIELD ROUTE TEMPORARY POWER CABLE. INSURE CABLE IS PROTECTED TO AVOID DAMAGE AND LOCATED AS TO AVOID TRIPPING HAZARDS.
58T4B		4/C-#4 AWG CU TYPE W CABLE	TMP PANELBOARD 'B'	EX LP 53 TRANSFER SW.	FIELD ROUTE TEMPORARY POWER CABLE. INSURE CABLE IS PROTECTED TO AVOID DAMAGE AND LOCATED AS TO AVOID TRIPPING HAZARDS.
58T6A		4/C-#250 kcmil CU TYPE W CABLE	TEMP PANELBOARD 'A'	TEMP PP201S 400 HP VFD	
58T6B		4/C-#250 kcmil CU TYPE W CABLE	TEMP PANELBOARD 'A'	TEMP PP201S 400 HP VFD	
58T6C		4/C-#250 kcmil CU TYPE W CABLE	TEMP PP201S 400 HP VFD	EX MOTOR PP201S	
58T6D		4/C-#250 kcmil CU TYPE W CABLE	TEMP PP201S 400 HP VFD	EX MOTOR PP201S	
58T6E		11/C-#14 AWG CU TYPE SO CABLE	TEMP CONTROL PANEL 'A'	EX JB AT PP210S	PP201S ON/OFF-L, VIBRATION ALARM SIGNALS, VIBRATION TRANSMITTER 120V POWER, SPACE HEATER AND PRESSURE SWITCH OG-64 ALARM.
58T6F		5/C-#14 AWG CU TYPE SO CABLE	TEMP CONTROL PANEL 'A'	TEMP PP201S 400 HP VFD	TEMP VFD FAULT SIGNAL AND VFD START SIGNAL.
58T7A	CTY	4/C-4/0 AWG CU TYPE W CABLE	TEMP PANELBOARD 'A'	TEMP NEMA SIZE 5 STARTER	
58T7B	CTY	4/C-4/0 AWG CU TYPE W CABLE	TEMP NEMA 5 SIZE STARTER	EX MOTOR FB-GPP-4	
58T7C		9/C-#14 AWG CU TYPE SO CABLE	TEMP CONTROL PANEL 'A'	EX JB AT FB-GPP-4	FB-GPP-4 ON/OFF-L, VIBRATION ALARM SIGNALS, SPACE HEATER AND PRESSURE SWITCH ALARM.
58T7D		5/C-#14 AWG CU TYPE SO CABLE	TEMP CONTROL PANEL 'A'	TEMP FB-GPP-4 STARTER	TEMP FB-GPP-4 STARTER OVERLOADS AND PUMP RUN SIGNAL.
58T8A		4/C-#250 kcmil CU TYPE W CABLE	TEMP PANELBOARD 'A'	TEMP BWP-1 200 HP VFD	
58T8B		4/C-#250 kcmil CU TYPE W CABLE	TEMP BWP-1 200 HP VFD	EX MOTOR BWP-1	
58T8C		9/C-#14 AWG CU TYPE SO CABLE	TEMP CONTROL PANEL 'B'	EX JB AT BWP-1	BWP-1 ON/OFF-L, VIBRATION ALARM SIGNALS, SPACE HEATER AND PRESSURE SWITCH OG-76 ALARM.
58T8D		5/C-#14 AWG CU TYPE SO CABLE	TEMP CONTROL PANEL 'B'	TEMP BWP-1 200 HP VFD	TEMP VFD FAULT SIGNAL AND VFD START SIGNAL.
58T9A		4/C-#250 kcmil CU TYPE W CABLE	TEMP PANELBOARD 'B'	TEMP BWP-2 200 HP VFD	
58T9B		4/C-#250 kcmil CU TYPE W CABLE	TEMP BWP-2 200 HP VFD	EX MOTOR BWP-2	
58T9C		9/C-#14 AWG CU TYPE SO CABLE	TEMP CONTROL PANEL 'B'	EX JB AT BWP-2	BWP-2 ON/OFF-L, VIBRATION ALARM SIGNALS, SPACE HEATER AND PRESSURE SWITCH OG-77 ALARM.
58T9D		5/C-#14 AWG CU TYPE SO CABLE	TEMP CONTROL PANEL 'B'	TEMP BWP-2 200 HP VFD	TEMP VFD FAULT SIGNAL AND VFD START SIGNAL.
58T10A		4/C-#250 kcmil CU TYPE W CABLE	TEMP PANELBOARD 'A'	TEMP BWP-3 200 HP VFD	
58T10B		4/C-#250 kcmil CU TYPE W CABLE	TEMP BWP-3 200 HP VFD	EX MOTOR BWP-3	
58T10C		9/C-#14 AWG CU TYPE SO CABLE	TEMP CONTROL PANEL 'B'	EX JB AT BWP-3	BWP-3 ON/OFF-L, VIBRATION ALARM SIGNALS, SPACE HEATER AND PRESSURE SWITCH OG-78 ALARM.
58T10D		5/C-#14 AWG CU TYPE SO CABLE	TEMP CONTROL PANEL 'B'	TEMP BWP-3 200 HP VFD	TEMP VFD FAULT SIGNAL AND VFD START SIGNAL.
58T11A	CTY	4/C-2/0 AWG CU TYPE W CABLE	TEMP PANELBOARD 'B'	TEMP 100 HP SOFTSTARTER	
58T11B		4/C-2/0 AWG CU TYPE W CABLE	TEMP 100 HP SOFTSTARTER	EX MOTOR MOSAIC GPEW-2	
58T11C		7/C-#14 AWG CU TYPE SO CABLE	TEMP CONTROL PANEL 'A'	EX JB AT MOSAIC GPEW-2	MOSAIC GPEW-2 ON/OFF-L, PUMP VIBRATION ALARM SIGNAL AND SPACE HEATER.
58T11D		5/C-#14 AWG CU TYPE SO CABLE	TEMP CONTROL PANEL 'A'	TEMP GPEW-2 STARTER	TEMP MOSAIC GPEW-2 SOFTSTARTER FAULT SIGNAL AND SOFTSTARTER RUN SIGNAL.
58T12A	CTY	4/C-2/0 AWG CU TYPE W CABLE	TEMP PANELBOARD 'A'	TEMP 100 HP SOFTSTARTER	
58T12B		4/C-2/0 AWG CU TYPE W CABLE	TEMP 100 HP SOFTSTARTER	EX MOTOR MOSAIC GPEW-1	
58T12C		7/C-#14 AWG CU TYPE SO CABLE	TEMP CONTROL PANEL 'A'	EX JB AT MOSAIC GPEW-1	MOSAIC GPEW-1 ON/OFF-L, PUMP VIBRATION ALARM SIGNAL AND SPACE HEATER.
58T12D		5/C-#14 AWG CU TYPE SO CABLE	TEMP CONTROL PANEL 'A'	TEMP GPEW-1 STARTER	TEMP MOSAIC GPEW-1 SOFTSTARTER FAULT SIGNAL AND SOFTSTARTER RUN SIGNAL.

CONTINUED ON SHEET E-35



JOB No.	171604942								
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City of Tampa Wastewater Department
 HOWARD F. CURREN
 FILTER BUILDING MOTOR CONTROL CENTER REPLACEMENT -
 BUILDING NO. 1 MCC 58

TEMPORARY CABLE SCHEDULE
(SHEET 1 OF 2)

SHEET NUMBER	E-34
TIMOTHY THOMAS, P.E. No. 47079	FILE: 171501742E01

TEMPORARY CABLE SCHEDULE (CONTINUED)					
CONDUIT No.	SIZE	NUMER OF CONDUCTORS/SIZE	FROM	TO	REMARKS
58T13		4/C-3 AWG CU TYPE W CABLE	TEMP PANELBOARD 'B'	EX LCP 55 TRANSFORMER	FIELD ROUTE TEMPORARY POWER CABLE. INSURE CABLE IS ROUTED TO AVOID DAMAGE AND TRIPPING HAZARDS.
58T15A	CTY	4/C-4/0 AWG CU TYPE W CABLE	TEMP PANELBOARD 'B'	TEMP NEMA SIZE 5 STARTER	
58T15B	CTY	4/C-4/0 AWG CU TYPE W CABLE	TEMP NEMA 5 SIZE STARTER	EX MOTOR FB-GPP-3	
58T15C		9/C-#14 AWG CU TYPE SO CABLE	TEMP CONTROL PANEL 'A'	EX JB AT FB-GPP-3	FB-GPP-3 ON/OFF-L, VIBRATION ALARM SIGNALS, SPACE HEATER AND PRESSURE SWITCH ALARM.
58T15D		5/C-#14 AWG CU TYPE SO CABLE	TEMP CONTROL PANEL 'A'	TEMP FB-GPP-3 STARTER	TEMP FB-GPP-3 STARTER OVERLOADS AND PUMP RUN SIGNAL.
58T16A		4/C-#250 kcmil CU TYPE W CABLE	TEMP PANELBOARD 'B'	TEMP PP201A 400 HP VFD	
58T16B		4/C-#250 kcmil CU TYPE W CABLE	TEMP PANELBOARD 'B'	TEMP PP201A 400 HP VFD	
58T16C		4/C-#250 kcmil CU TYPE W CABLE	TEMP PP201A 400 HP VFD	EX MOTOR PP201A	
58T16D		4/C-#250 kcmil CU TYPE W CABLE	TEMP PP201A 400 HP VFD	EX MOTOR PP201A	
58T16E		11/C-#14 AWG CU TYPE SO CABLE	TEMP CONTROL PANEL 'A'	EX JB AT PP210A	PP201A ON/OFF-L, VIBRATION ALARM SIGNALS, VIBRATION TRANSMITTER 120V POWER, SPACE HEATER AND PRESSURE SWITCH OG-65 ALARM.
58T16F		5/C-#14 AWG CU TYPE SO CABLE	TEMP CONTROL PANEL 'A'	TEMP PP201A 400 HP VFD	TEMP VFD FAULT SIGNAL AND VFD START SIGNAL.
58T17		4/C-2/0 AWG CU TYPE W CABLE	TEMP PANELBOARD 'B'	EX LCP 54 TRANSFORMER	FIELD ROUTE TEMPORARY POWER CABLE. INSURE CABLE IS ROUTED TO AVOID DAMAGE AND TRIPPING HAZARDS.
56T1A		4/C-#250 kcmil CU TYPE W CABLE	SWITCHGEAR NO. 56 'A'	TEMP PANELBOARD 'A'	REFER TO PLANS FOR RACEWAYS AND CABLE TRAY TO BE UTILIZED FOR CABLE INSTALLATION.
56T1B		4/C-#250 kcmil CU TYPE W CABLE	SWITCHGEAR NO. 56 'A'	TEMP PANELBOARD 'A'	REFER TO PLANS FOR RACEWAYS AND CABLE TRAY TO BE UTILIZED FOR CABLE INSTALLATION.
56T1C		4/C-#250 kcmil CU TYPE W CABLE	SWITCHGEAR NO. 56 'A'	TEMP PANELBOARD 'A'	REFER TO PLANS FOR RACEWAYS AND CABLE TRAY TO BE UTILIZED FOR CABLE INSTALLATION.
56T1D		4/C-#250 kcmil CU TYPE W CABLE	SWITCHGEAR NO. 56 'A'	TEMP PANELBOARD 'A'	REFER TO PLANS FOR RACEWAYS AND CABLE TRAY TO BE UTILIZED FOR CABLE INSTALLATION.
56T1E		4/C-#250 kcmil CU TYPE W CABLE	SWITCHGEAR NO. 56 'A'	TEMP PANELBOARD 'A'	REFER TO PLANS FOR RACEWAYS AND CABLE TRAY TO BE UTILIZED FOR CABLE INSTALLATION.
56T2A		4/C-#250 kcmil CU TYPE W CABLE	SWITCHGEAR NO. 56 'B'	TEMP PANELBOARD 'B'	REFER TO PLANS FOR RACEWAYS AND CABLE TRAY TO BE UTILIZED FOR CABLE INSTALLATION.
56T2B		4/C-#250 kcmil CU TYPE W CABLE	SWITCHGEAR NO. 56 'B'	TEMP PANELBOARD 'B'	REFER TO PLANS FOR RACEWAYS AND CABLE TRAY TO BE UTILIZED FOR CABLE INSTALLATION.
56T2C		4/C-#250 kcmil CU TYPE W CABLE	SWITCHGEAR NO. 56 'B'	TEMP PANELBOARD 'B'	REFER TO PLANS FOR RACEWAYS AND CABLE TRAY TO BE UTILIZED FOR CABLE INSTALLATION.
56T2D		4/C-#250 kcmil CU TYPE W CABLE	SWITCHGEAR NO. 56 'B'	TEMP PANELBOARD 'B'	REFER TO PLANS FOR RACEWAYS AND CABLE TRAY TO BE UTILIZED FOR CABLE INSTALLATION.
56T2E		4/C-#250 kcmil CU TYPE W CABLE	SWITCHGEAR NO. 56 'B'	TEMP PANELBOARD 'B'	REFER TO PLANS FOR RACEWAYS AND CABLE TRAY TO BE UTILIZED FOR CABLE INSTALLATION.
58T19A	CTY	4/C-#250 kcmil CU TYPE W CABLE	TEMP PANELBOARD 'A'	TEMP PANELBOARD 'B'	REFER TO PLANS FOR CABLE TRAY TO BE UTILIZED FOR CABLE INSTALLATION.
58T19B	CTY	4/C-#250 kcmil CU TYPE W CABLE	TEMP PANELBOARD 'A'	TEMP PANELBOARD 'B'	REFER TO PLANS FOR CABLE TRAY TO BE UTILIZED FOR CABLE INSTALLATION.
58T19C	CTY	4/C-#250 kcmil CU TYPE W CABLE	TEMP PANELBOARD 'A'	TEMP PANELBOARD 'B'	REFER TO PLANS FOR CABLE TRAY TO BE UTILIZED FOR CABLE INSTALLATION.
58T19D	CTY	4/C-#250 kcmil CU TYPE W CABLE	TEMP PANELBOARD 'A'	TEMP PANELBOARD 'B'	REFER TO PLANS FOR CABLE TRAY TO BE UTILIZED FOR CABLE INSTALLATION.
58T19E	CTY	4/C-#250 kcmil CU TYPE W CABLE	TEMP PANELBOARD 'A'	TEMP PANELBOARD 'B'	REFER TO PLANS FOR CABLE TRAY TO BE UTILIZED FOR CABLE INSTALLATION.
58T20	CTY	3/C-#12 AWG CU TYPE SO CABLE	TEMP PANELBOARD 'A'	TEMP CONTROL PANEL 'A'	SINGLE-PHASE, 480V POWER.
58T21	CTY	3/C-#12 AWG CU TYPE SO CABLE	TEMP PANELBOARD 'B'	TEMP CONTROL PANEL 'B'	SINGLE-PHASE, 480V POWER.
58T22	CTY	14/C-#12 AWG CU TYPE SO CABLE	TEMP CONTROL PANEL 'A'	FBP-FS-ANN/FBP-FS	CABLE INCLUDES SPARES.
58T22	CTY	36/C-#12 AWG CU TYPE SO CABLE	TEMP CONTROL PANEL 'B'	FBP-FS-ANN/FBP-FS	CABLE INCLUDES SPARES.



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**TEMPORARY CABLE SCHEDULE
(SHEET 2 OF 2)**

TIMOTHY THOMAS, P.E. No. 47079

SHEET NUMBER
E-35
FILE: 171501742E01