

CITY OF RALEIGH, NORTH CAROLINA

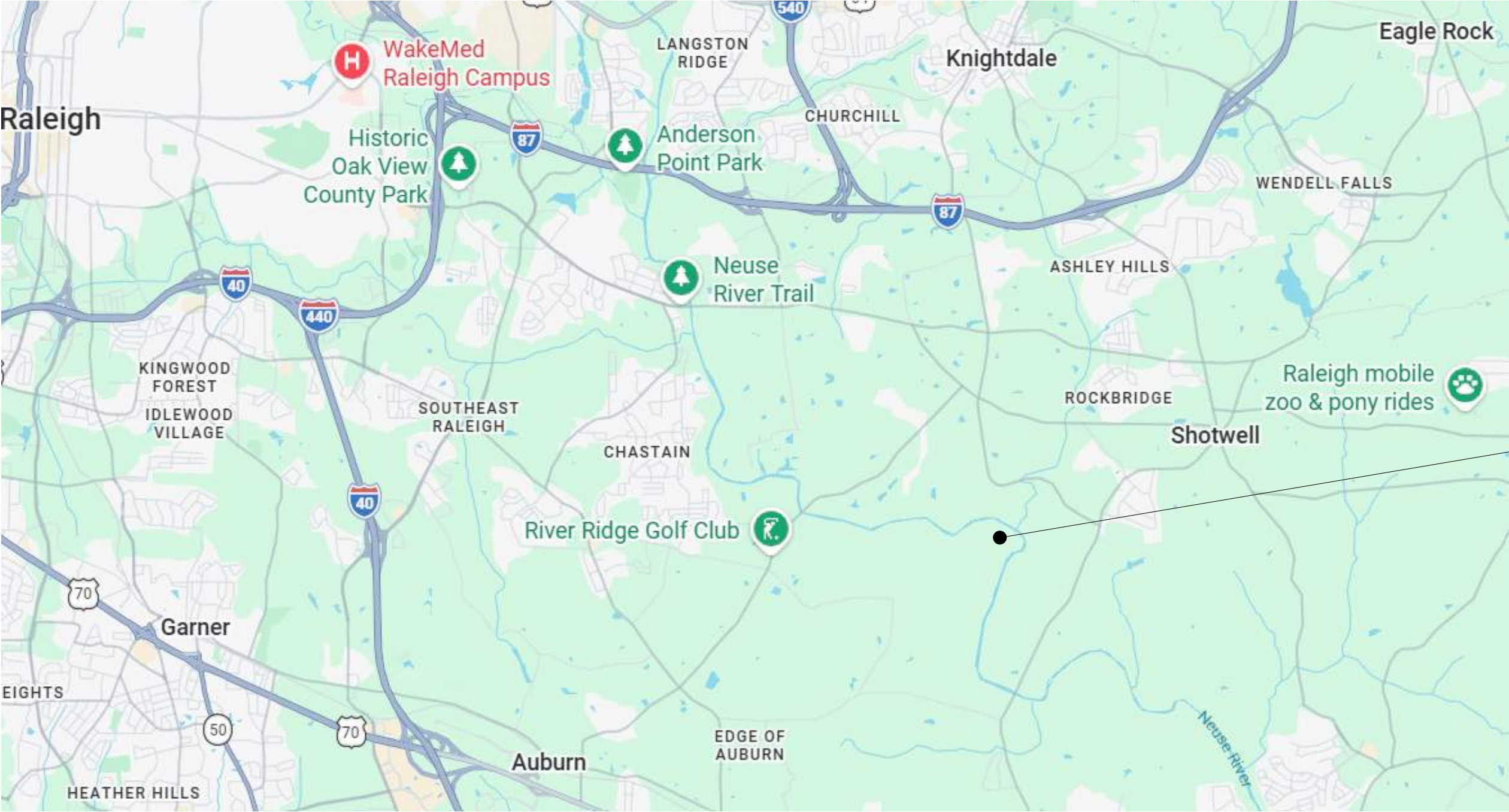
NEUSE RIVER RESOURCE RECOVERY FACILITY

BNR BASINS MCC REPLACEMENT

AUGUST 2026

B&V PROJECT NO. 424744
RALEIGH PROJECT NO. WWP-2026-117

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SITE LOCATION
NEUSE RIVER RESOURCE
RECOVERY FACILITY:
8500 BATTLE BRIDGE ROAD,
RALEIGH NC 27610



VICINITY MAP
NO SCALE



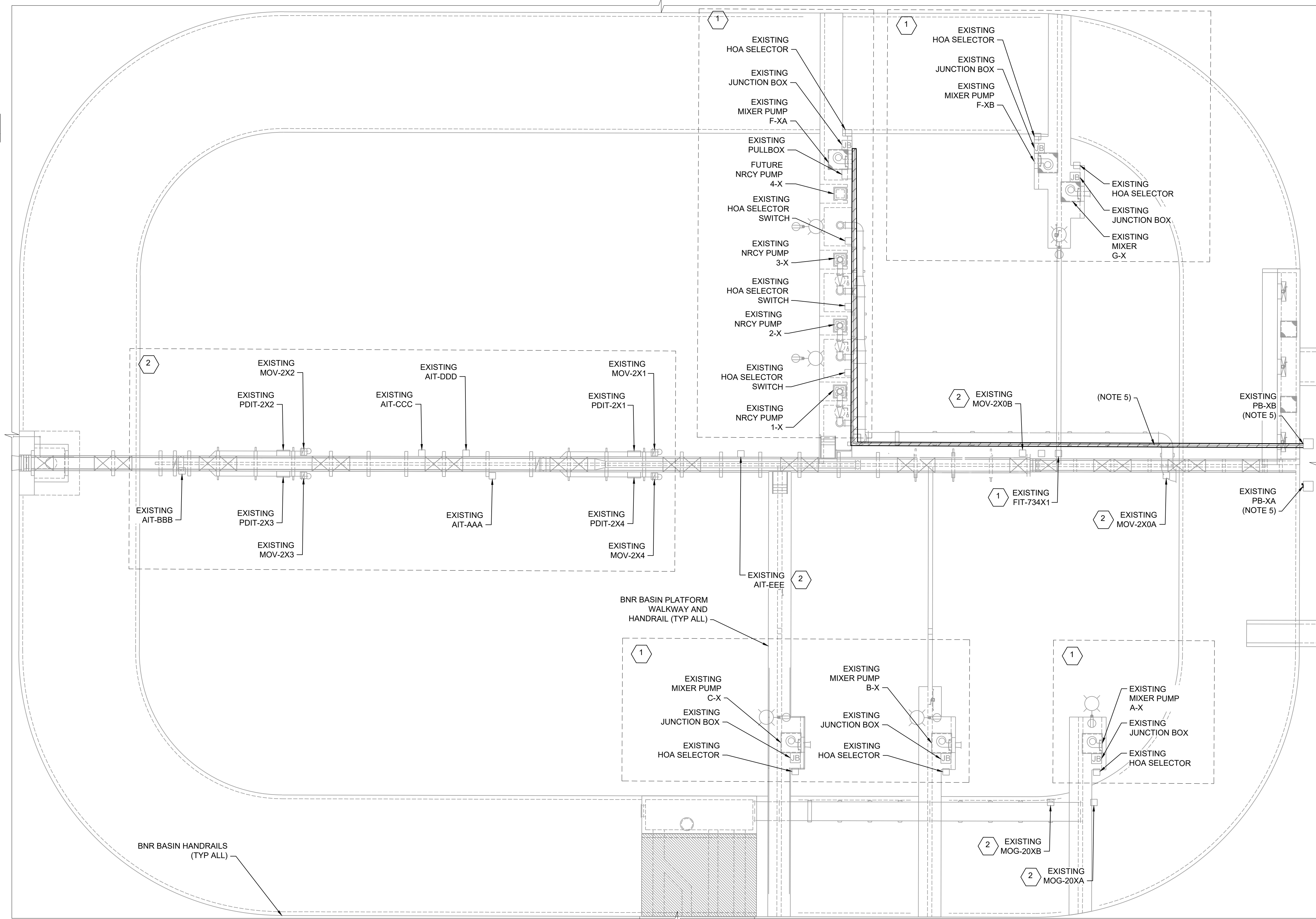
BLACK & VEATCH

Black & Veatch International Company
175 Regency Woods Place, Suite 200
Cary, North Carolina 27518
Business License No. F-0794

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TYPICAL AERATION BASIN DEMOLITION PLAN (BASINS 1,3,5)
SCALE 1"=20'

INSTRUMENT IDENTIFICATION SCHEDULE					
BNR BASIN NO. X	AIT-AAA	AIT-BBB	AIT-CCC	AIT-DDD	AIT-EEE
BNR BASIN NO. 1	AIT-64412	AIT-64412A	AIT-64413A	AIT-210	AIT-64413
BNR BASIN NO. 3	AIT-644	AIT-644A	AIT-645A	AIT-230	AIT-645
BNR BASIN NO. 5	AIT-650	AIT-650A	AIT-651A	AIT-250	AIT-651

GENERAL NOTES

- SEE DRAWINGS E-00-001 AND E-00-002 FOR ELECTRICAL ABBREVIATIONS, NOTES, AND ELECTRICAL LEGENDS.
- THE ARRANGEMENT DEPICTED ON THIS DRAWING IS TYPICAL FOR THE EQUIPMENT THAT MAKES UP THE THREE POWER CENTERS SERVING ALL SIX (6) AERATION BASINS. ALL WORK, EQUIPMENT, AND ARRANGEMENTS SHOWN SHALL BE CONSIDERED TYPICAL FOR AERATION BASINS NO. 1, NO. 3, AND NO. 5 AND THEIR ASSOCIATED POWER CENTERS. EACH PAIR OF AERATION BASINS SHALL BE SERVED BY ONE (1) POWER CENTER WHICH INCLUDES, TWO (2) MOTOR CONTROL CENTERS (MCCS), ONE (1) PLC, ONE (1) MARSHALLING CABINET, AND A CONDUIT RACK WITH TWO (2) FULL BOXES SPANNING THE CHANNEL. :
 - AERATION BASINS NO. 1 AND NO. 2 ARE SERVED BY MCC-P4A, MCC-P4B, PLC-81, PB-P4A, AND PB-P4B.
 - AERATION BASINS NO. 3 AND NO. 4 ARE SERVED BY POWER CENTER 5 WHICH INCLUDES MCC-P5A, MCC-P5B, PLC-82.
 - AERATION BASINS NO. 5 AND NO. 6 ARE SERVED BY POWER CENTER 6 WHICH INCLUDES MCC-P6A, MCC-P6B, PLC-83.
- IN EQUIPMENT TAG IDENTIFICATION, THE LETTER "X" SHALL DENOTE THE AERATION BASIN NUMBER WITH WHICH THE EQUIPMENT IS ASSOCIATED. THE CONTRACTOR SHALL REPLACE "X" WITH THE APPLICABLE BASIN NUMBER (E.G., 1,2,3,4,5, OR 6) TO CORRESPOND WITH THE BASIN SERVED BY THE EQUIPMENT. REFER TO DRAWING C-01-101 AND D-01-601 FOR ADDITIONAL DETAILS.
- THIS DRAWING SHOWS THE TYPICAL ORIENTATION USED FOR AERATION BASINS 1, 3, AND 5. AERATION BASINS 2, 4, AND 6 ARE MIRROR IMAGES OF THIS CONFIGURATION. REFER TO DRAWING D-01-102, FOR A TYPICAL LAYOUT OF AERATION BASINS 2, 4, AND 6.
- CONTRACTOR SHALL DEMOLISH ALL CONDUITS ALONG BASIN WALKWAY SERVING THE EXISTING NRCY PUMPS AND ASSOCIATED EQUIPMENT. REFER TO DRAWING D-01-601 FOR ADDITIONAL DETAILS.

SHEET KEYNOTES

UPON DEMOLITION OF EXISTING CONDUIT RACK BETWEEN EXISTING CHANNEL PULLBOXES NO.1 AND NO.2, CONTRACTOR SHALL PERFORM THE FOLLOWING WORK:

- REMOVE ALL EXISTING CABLES FROM MCC-P4B, MCCP-P5B, AND MCC-P6B TO ASSOCIATED END-USE EQUIPMENT.
- FOR EXISTING CABLES ROUTED ACROSS CHANNEL CONDUIT RACK AND NOT ORIGINATING FROM MCC-P4B, MCCP-P5B, OR MCC-P6B, PULL EXISTING CABLES BACK FROM THE SOURCE TO CHANNEL PULL BOX NO. 2, AND CUT WITH SUFFICIENT SLACK REMAINING TO SPLICE. THESE CABLES FROM CHANNEL PULLBOX NO.2 OUT TO THE AERATION BASIN SHALL BE LABELED, AND PRESERVED THROUGHOUT CONSTRUCTION.



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REVISIONS AND RECORD OF ISSUE	
DESIGNED:	EJK
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SITE

ELECTRICAL

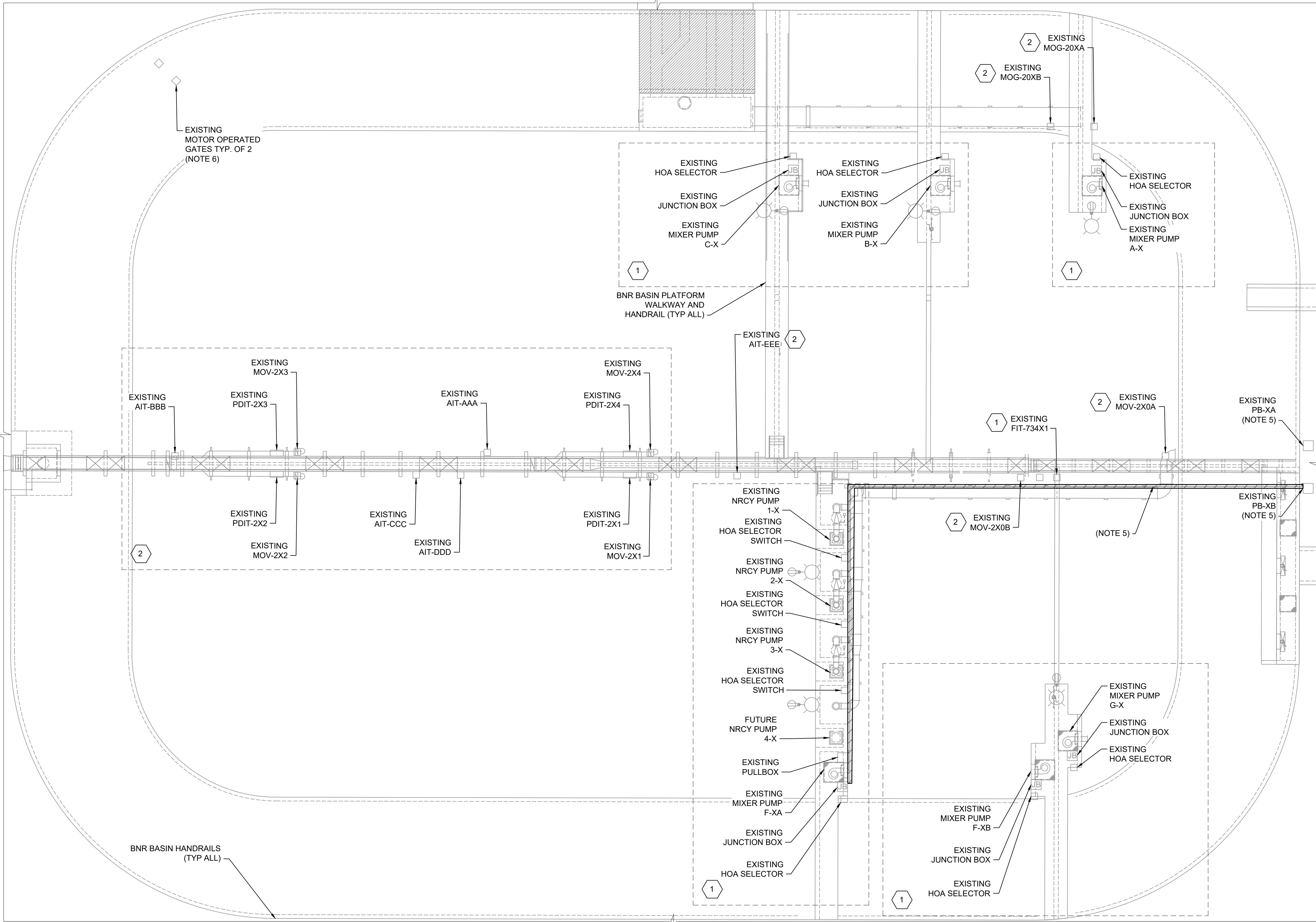
TYPICAL AERATION BASIN
DEMOLITION PLAN
(BASINS 1,3,5)

D-01-101

3
OF
35

(SCALE BAR IS 4" AT FULL SCALE) 0 1/2 1 2 3 4

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TYPICAL AERATION BASIN DEMOLITION PLAN (BASINS 2,4,6)
SCALE 1"=20'

INSTRUMENT IDENTIFICATION SCHEDULE					
BNR BASIN NO. X	AIT-AAA	AIT-BBB	AIT-CCC	AIT-DDD	AIT-EEE
BNR BASIN NO. 2	AIT-641	AIT-641A	AIT-642A	AIT-220	AIT-642
BNR BASIN NO. 4	AIT-647	AIT-647A	AIT-648A	AIT-240	AIT-648
BNR BASIN NO. 6	AIT-64462	AIT-64462A	AIT-64463A	AIT-260	AIT-64463

GENERAL NOTES

- SEE DRAWINGS E-00-001 AND E-00-002 FOR ELECTRICAL ABBREVIATIONS, NOTES, AND ELECTRICAL LEGENDS.
- THE ARRANGEMENT DEPICTED ON THIS DRAWING IS TYPICAL FOR THE EQUIPMENT THAT MAKES UP THE THREE POWER CENTERS SERVING ALL SIX (6) AERATION BASINS. ALL WORK, EQUIPMENT, AND ARRANGEMENTS SHOWN SHALL BE CONSIDERED TYPICAL FOR AERATION BASINS NO. 2, NO. 4, AND NO. 6 AND THEIR ASSOCIATED POWER CENTERS. EACH PAIR OF AERATION BASINS SHALL BE SERVED BY ONE (1) POWER CENTER WHICH INCLUDES, TWO (2) MOTOR CONTROL CENTERS (MCCS), ONE (1) PLC, ONE (1) METERING CABINET, AND A CONDUIT RACK WITH TWO (2) PULL BOXES SPANNING THE CHANNEL. EQUIPMENT SERVING EACH AERATION BASIN PAIR IS IDENTIFIED AS:
 - AERATION BASINS NO. 1 AND NO. 2 ARE SERVED BY POWER CENTER 4 WHICH INCLUDES MCC-P4A, MCC-P4B, PLC-81.
 - AERATION BASINS NO. 3 AND NO. 4 ARE SERVED BY POWER CENTER 5 WHICH INCLUDES MCC-P5A, MCC-P5B, PLC-82.
 - AERATION BASINS NO. 5 AND NO. 6 ARE SERVED BY POWER CENTER 6 WHICH INCLUDES MCC-P6A, MCC-P6B, PLC-83.
- IN EQUIPMENT TAG IDENTIFICATION, THE LETTER "X" SHALL DENOTE THE AERATION BASIN NUMBER WITH WHICH THE EQUIPMENT IS ASSOCIATED. THE CONTRACTOR SHALL REPLACE "X" WITH THE APPLICABLE BASIN NUMBER (E.G., 1,2,3,4,5, OR 6) TO CORRESPOND WITH THE BASIN SERVED BY THE EQUIPMENT. REFER TO DRAWING C-01-101 AND D-01-601 FOR ADDITIONAL DETAILS.
- THIS DRAWING SHOWS THE TYPICAL ORIENTATION USED FOR AERATION BASINS 2, 4, AND 6. AERATION BASINS 1, 3, AND 5 ARE MIRROR IMAGES OF THIS CONFIGURATION. REFER TO DRAWING D-01-101, FOR A TYPICAL LAYOUT OF AERATION BASINS 1, 3, AND 5.
- CONTRACTOR SHALL DEMOLISH ALL CONDUITS ALONG BASIN WALKWAY SERVING THE EXISTING NRCY PUMPS AND ASSOCIATED EQUIPMENT. REFER TO DRAWING D-01-601 FOR ADDITIONAL DETAILS.
- MOTOR-OPERATED GATES MOG-311 AND MOG-312 ARE LOCATED IN THE SPLITTER BOX AT AERATION BASIN 2. MOTOR-OPERATED GATES MOG-313 AND MOG-314 ARE LOCATED IN THE SPLITTER BOX AT AERATION BASIN 4. BOTH SPLITTER BOXES ARE LOCATED AT THE NORTHWEST CORNERS OF THEIR RESPECTIVE BASINS.

SHEET KEYNOTES

- UPON DEMOLITION OF EXISTING CONDUIT RACK BETWEEN EXISTING CHANNEL PULLBOXES NO.1 AND NO.2, CONTRACTOR SHALL PERFORM THE FOLLOWING WORK:
- REMOVE ALL EXISTING CABLES FROM MCC-P4B, MCCP-P5B, AND MCC-P6B TO ASSOCIATED END-USE EQUIPMENT.
 - FOR EXISTING CABLES ROUTED ACROSS CHANNEL CONDUIT RACK AND NOT ORIGINATING FROM MCC-P4B, MCCP-P5B, OR MCC-P6B, PULL EXISTING CABLES BACK FROM THE SOURCE TO CHANNEL PULL BOX NO. 2, AND CUT WITH SUFFICIENT SLACK REMAINING TO SPLICE. THESE CABLES FROM CHANNEL PULLBOX NO.2 OUT TO THE AERATION BASIN SHALL BE LABELED, AND PRESERVED THROUGHOUT CONSTRUCTION.



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SITE

ELECTRICAL

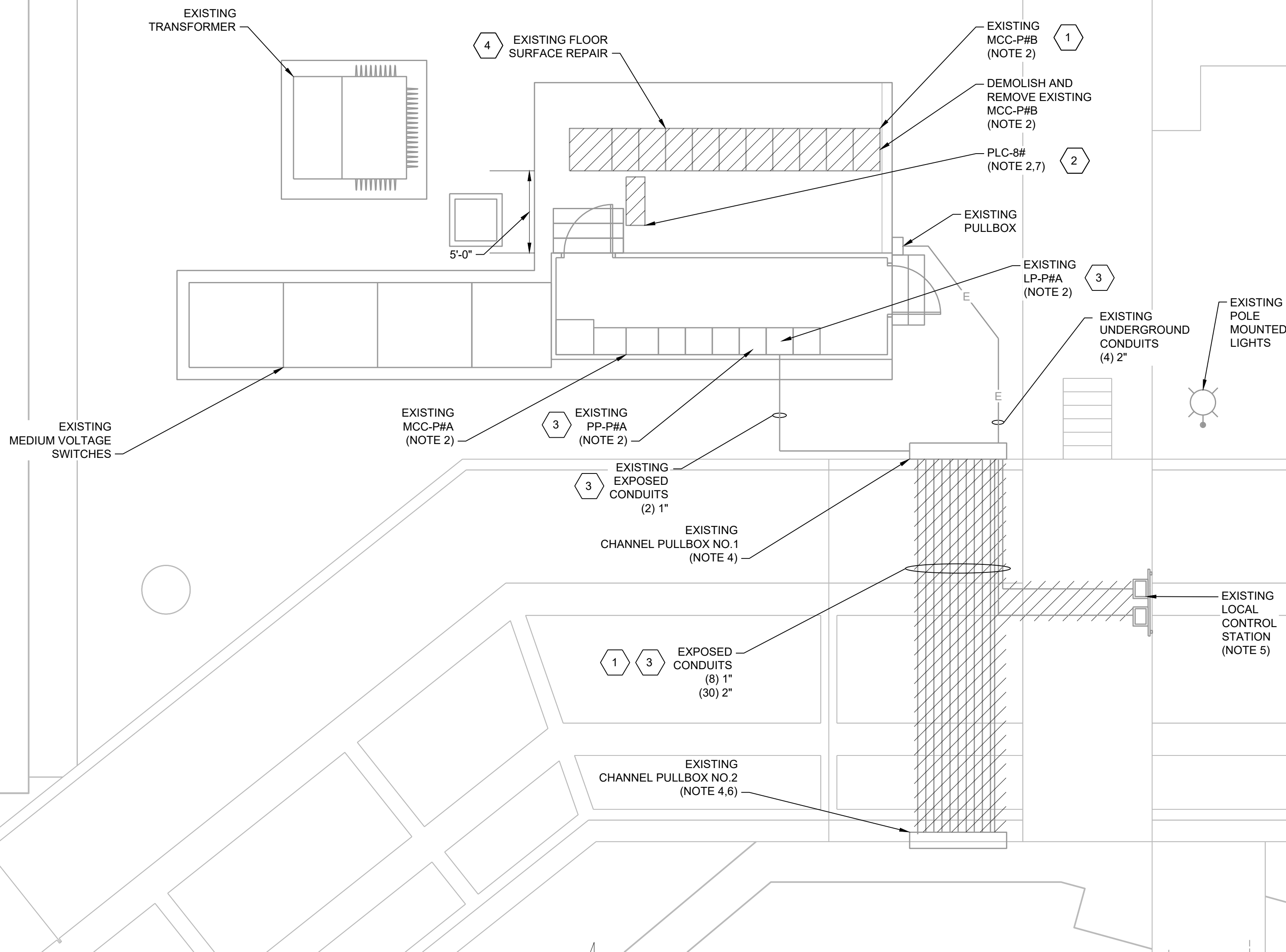
TYPICAL AERATION BASIN
DEMOLITION PLAN
(BASINS 2,4,6)

D-01-102

4
OF
35



(SCALE BAR IS 4" AT FULL SCALE) 0 1/2 1 2 3 4



TYPICAL PARTIAL SITE DEMOLITION PLAN
SCALE 1"=5'

GENERAL NOTES

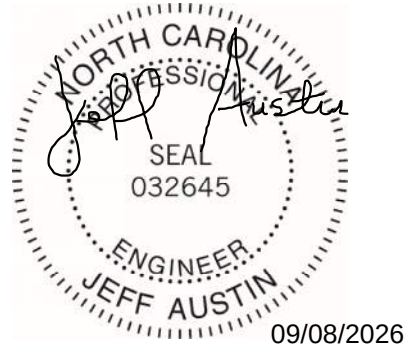
- SEE DRAWINGS E-00-001 AND E-00-002 FOR ELECTRICAL ABBREVIATIONS, NOTES, AND ELECTRICAL LEGENDS.
- THE ARRANGEMENT DEPICTED ON THIS DRAWING IS TYPICAL FOR THE EQUIPMENT THAT MAKES UP THE THREE POWER CENTERS SERVING ALL SIX (6) AERATION BASINS. ALL WORK, EQUIPMENT, AND ARRANGEMENTS SHOWN SHALL BE CONSIDERED TYPICAL FOR ALL SIX (6) BASINS AND THEIR ASSOCIATED POWER CENTERS. EACH PAIR OF AERATION BASINS SHALL BE SERVED BY ONE (1) POWER CENTER WHICH INCLUDES, TWO (2) MOTOR CONTROL CENTERS (MCCS), ONE (1) PLC, ONE (1) MARSHALLING CABINET, AND A CONDUIT RACK WITH TWO (2) PULL BOXES SPANNING THE CHANNEL. EQUIPMENT SERVING EACH AERATION BASIN PAIR IS IDENTIFIED AS:
 - AERATION BASINS NO. 1 AND NO. 2 ARE SERVED BY POWER CENTER 4 WHICH INCLUDES MCC-P4A, MCC-P4B, PLC-81.
 - AERATION BASINS NO. 3 AND NO. 4 ARE SERVED BY POWER CENTER 5 WHICH INCLUDES MCC-P5A, MCC-P5B, PLC-82.
 - AERATION BASINS NO. 5 AND NO. 6 ARE SERVED BY POWER CENTER 6 WHICH INCLUDES MCC-P6A, MCC-P6B, PLC-83.
- NOT USED.
- EXISTING CHANNEL PULLBOXES NO. 1 AND NO. 2 SHALL BE CONSIDERED TYPICAL FOR ALL THREE (3) POWER CENTERS. CONTRACTOR SHALL DRILL OUT AND REMOVE ALL BROKEN SCREWS FROM THE TWO (2) EXISTING PULLBOXES SERVING THE CONDUIT EQUIPMENT RACK ACROSS THE CHANNEL. FOLLOWING REMOVAL OF BROKEN SCREWS, CONTRACTOR SHALL INSTALL NEW STAINLESS STEEL SCREWS AT ALL FASTENER LOCATIONS AND PROVIDE NEW GASKETS FOR EACH AFFECTED PULLBOX.
- FOR POWERCENTERS P4 AND P5, THE WALKWAY ACROSS THE RAS CHANNEL INCLUDES AN EXISTING EQUIPMENT RACK SUPPORTING AIT-660 (P4), AIT-670 (P4), AIT-680 (P4) AIT-661 (P5), AND A SURGE PROTECTION PANEL. THIS EQUIPMENT IS FED FROM LP-PXA OF THE ASSOCIATED POWERCENTER.
- CONDUIT ROUTED TO EXISTING CHANNEL PULL BOX NO. 2 CONTINUES TO TWO (2) PULL BOXES (PB-XA AND PB-XB) LOCATED AT THE AERATION BASINS. REFER TO DRAWINGS D-01-101 AND D-01-102 FOR ADDITIONAL DETAIL.
- REFER TO DRAWING E-01-501 FOR TERMINATION CABINET INSTALLATION DETAILS.

SHEET KEYNOTES

- UPON DEMOLITION OF EXISTING CONDUIT RACK BETWEEN EXISTING CHANNEL PULLBOXES NO. 1 AND NO. 2, CONTRACTOR SHALL PERFORM THE FOLLOWING WORK:
- REMOVE ALL EXISTING CABLES FROM MCC-PXB TO ASSOCIATED END-USE EQUIPMENT.
 - ALL CONDUIT STUB-UPS AND ASSOCIATED CABLES TERMINATING AT THE EXISTING PLC ENCLOSURE (EXCLUDING CABLES ROUTED ACROSS THE EXISTING CHANNEL CONDUIT RACK), SHALL BE CAPPED, LABELED, AND PROTECTED IN PLACE. THESE CONDUITS AND CABLES SHALL BE PRESERVED THROUGHOUT CONSTRUCTION UNTIL THE NEW MARSHALLING CABINET IS INSTALLED.
 - FOR EXISTING CABLES ROUTED ACROSS CHANNEL CONDUIT RACK AND NOT ORIGINATING FROM MCC-PXB (I.E. PLC-XB, PP-XA, AND LP-XA), PULL EXISTING CABLES BACK FROM THE SOURCE END TO CHANNEL PULL BOX NO. 2, AND CUT WITH SUFFICIENT SLACK REMAINING TO SPLICE. THESE CABLES SHALL BE LABELED, AND PRESERVED THROUGHOUT CONSTRUCTION.
 - REPAIR EXPOSED UNUSED ANCHOR BOLTS OR EMBEDMENTS. REFER TO DRAWING S-00-001, EXISTING STRUCTURES, NOTE 5 FOR ADDITIONAL INSTRUCTIONS.



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REPLACEMENT

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REVISIONS AND RECORD OF ISSUE

DESIGNED:	EJK
DETAILED:	JHC
CHECKED:	SJA
APPROVED:	SJA
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SITE

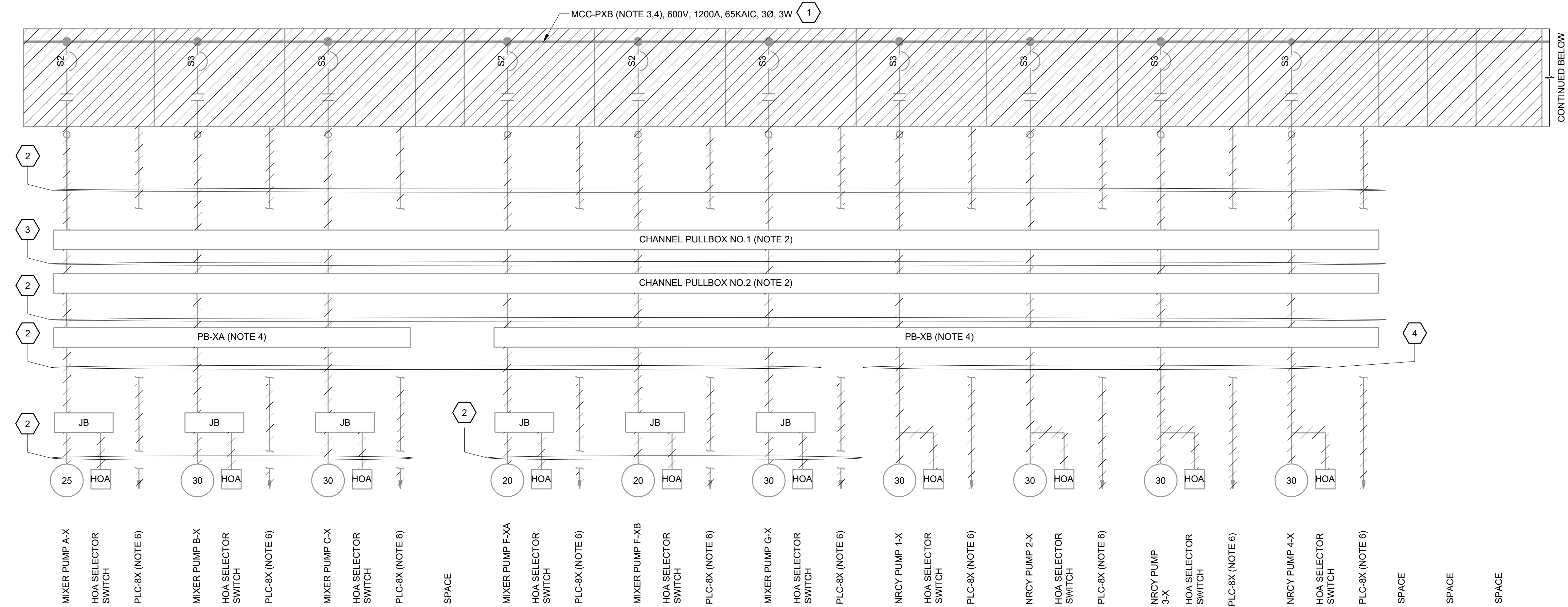
ELECTRICAL

TYPICAL PARTIAL SITE
DEMOLITION PLAN

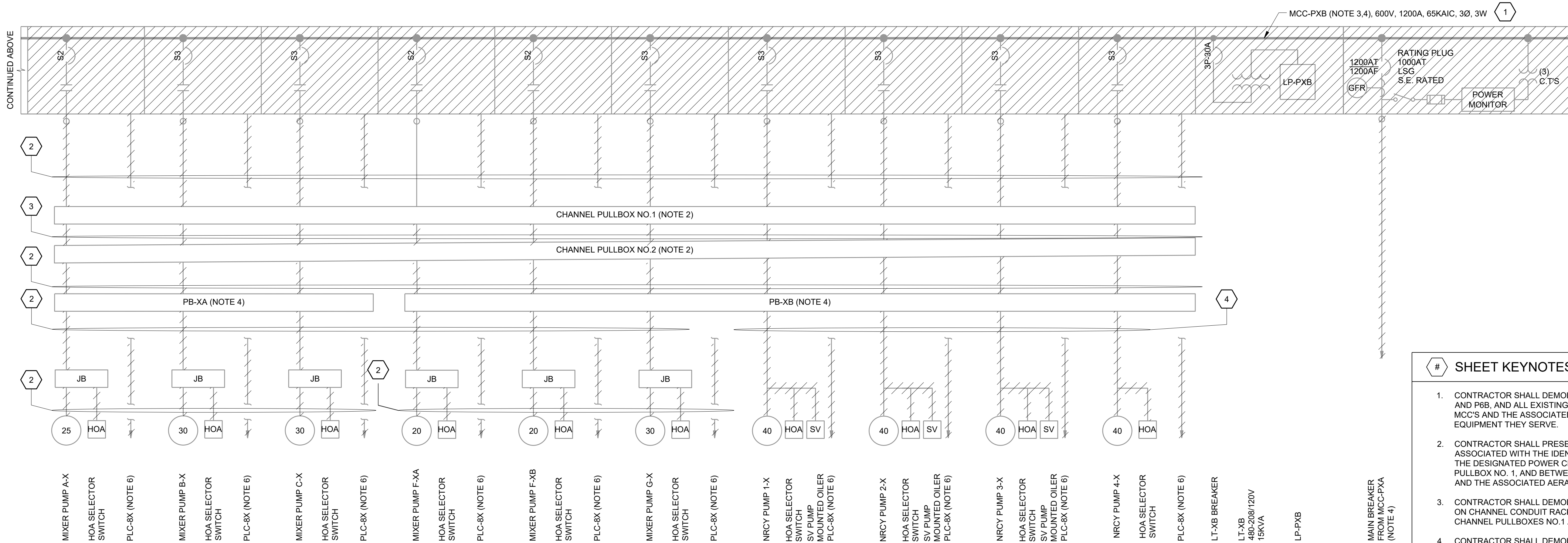
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MCC-PXB DEMOLITION ONE-LINE DIAGRAM



GENERAL NOTES

- SEE DRAWINGS E-00-001 AND E-00-002 FOR ELECTRICAL LEGENDS, ABBREVIATIONS, AND NOTES.
- EXISTING CHANNEL PULLBOXES NO. 1 AND NO. 2 SHALL BE CONSIDERED TYPICAL FOR ALL THREE (3) POWER CENTERS. CONTRACTOR SHALL DRILL OUT AND REMOVE ALL BROKEN SCREWS FROM THE TWO (2) EXISTING PULLBOXES SERVING THE CONDUIT EQUIPMENT RACK ACROSS THE CHANNEL. FOLLOWING REMOVAL OF BROKEN SCREWS, CONTRACTOR SHALL INSTALL NEW STAINLESS STEEL SCREWS AT ALL FASTENER LOCATIONS AND PROVIDE NEW GASKETS FOR EACH AFFECTED PULL BOXES PB-P4A AND PB-P4B ARE LOCATED ON EACH SIDE OF RAS CHANNEL AND ARE CONNECTED BY A COMMON CONDUIT RACK ACROSS THE CHANNEL.
- THE ARRANGEMENT DEPICTED ON THIS DRAWING REPRESENTS THE EQUIPMENT SERVING ALL WORK, EQUIPMENT, AND THE ASSOCIATED POWER CENTER. ALL WORK, EQUIPMENT, AND ARRANGEMENTS SHOWN SHALL BE CONSIDERED TYPICAL FOR ALL SIX (6) BASINS AND THEIR ASSOCIATED POWER CENTERS. EACH PAIR OF AERATION BASINS SHALL BE SERVED BY TWO (2) MOTOR CONTROL CENTERS (MCCS), ONE (1) PLC, AND A CONDUIT RACK WITH TWO (2) PULL BOXES SPANNING THE CHANNEL. EQUIPMENT SERVING EACH AERATION BASIN PAIR IS IDENTIFIED AS:

A. (POWERCENTER 4): AERATION BASINS NO. 1 AND NO. 2 ARE SERVED BY MCC-P4A, MCC-P4B, AND PLC-81.

B. (POWERCENTER 5): AERATION BASINS NO. 3 AND NO. 4 ARE SERVED BY MCC-P5A, AND MCC-P5B, AND PLC-82.

C. (POWERCENTER 6): AERATION BASINS NO. 5 AND NO. 6 ARE SERVED BY MCC-P6A, MCC-P6B, AND PLC-83.
- IN EQUIPMENT TAG IDENTIFICATION, THE LETTER "X" SHALL DENOTE THE AERATION BASIN NUMBER WITH WHICH THE EQUIPMENT IS ASSOCIATED. THE CONTRACTOR SHALL REPLACE "X" WITH THE APPLICABLE BASIN NUMBER (E.G., 2, 4, OR 6) TO CORRESPOND WITH THE BASIN SERVED BY THE EQUIPMENT. EACH MCC SERVES TWO ADJACENT AERATION BASINS (E.G., BASINS 1 AND 2). REFER TO DRAWINGS D-01-101 THROUGH D-01-103 FOR ADDITIONAL DETAILS.
- ELECTRICAL FEEDS FOR SOLENOID VALVE PUMP MOUNTED OILERS ARE PROVIDED ONLY FROM MCC-P6B AND DO NOT APPLY TO OTHER MCCS.
- REFER TO DRAWING D-01-103 FOR THE FULL EXTENT OF DEMOLITION ASSOCIATED WITH PLC ENCLOSURES LOCATED AT THE POWERCENTERS. CIRCUITS SHOWN TERMINATING ON THIS DRAWING WITHOUT CONTINUATION REFERENCES ARE TO BE DEMOLISHED UNLESS OTHERWISE NOTED. NEW CIRCUIT ROUTING AND RECONNECTION REQUIREMENTS ARE SHOWN ON DRAWINGS E-01-607 THROUGH E-01-609.

SHEET KEYNOTES

- CONTRACTOR SHALL DEMOLISH EXISTING MCC-P4B, P5B, AND P6B, AND ALL EXISTING CABLES BETWEEN THE MCC'S AND THE ASSOCIATED AERATION BASIN EQUIPMENT THEY SERVE.
- CONTRACTOR SHALL PRESERVE EXISTING CONDUITS ASSOCIATED WITH THE IDENTIFIED CIRCUITS BETWEEN THE DESIGNATED POWER CENTER MCCS AND CHANNEL PULLBOX NO. 1, AND BETWEEN CHANNEL PULLBOX NO. 2 AND THE ASSOCIATED AERATION BASIN EQUIPMENT.
- CONTRACTOR SHALL DEMOLISH ALL EXISTING CONDUITS ON CHANNEL CONDUIT RACK BETWEEN EXISTING CHANNEL PULLBOXES NO.1 AND NO.2.
- CONTRACTOR SHALL DEMOLISH ALL EXISTING CONDUITS BETWEEN PULLBOXES P-XB AND THE ASSOCIATED NRCY PUMP EQUIPMENT.



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DIAGRAMS, ONE-LINES,
SCHEDULES &
INSTRUMENTATION P&IDS

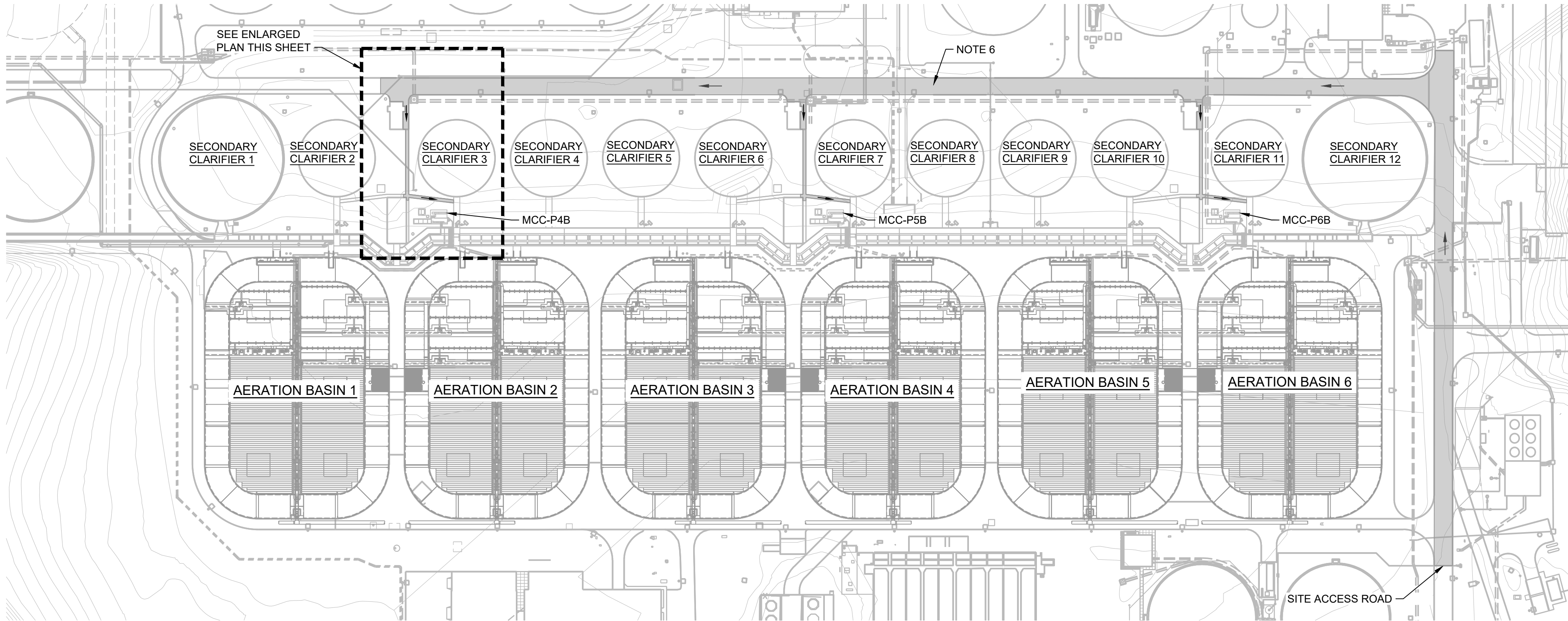
ELECTRICAL

TYPICAL MCC-B
DEMOLITION ONE-LINE
DIAGRAM

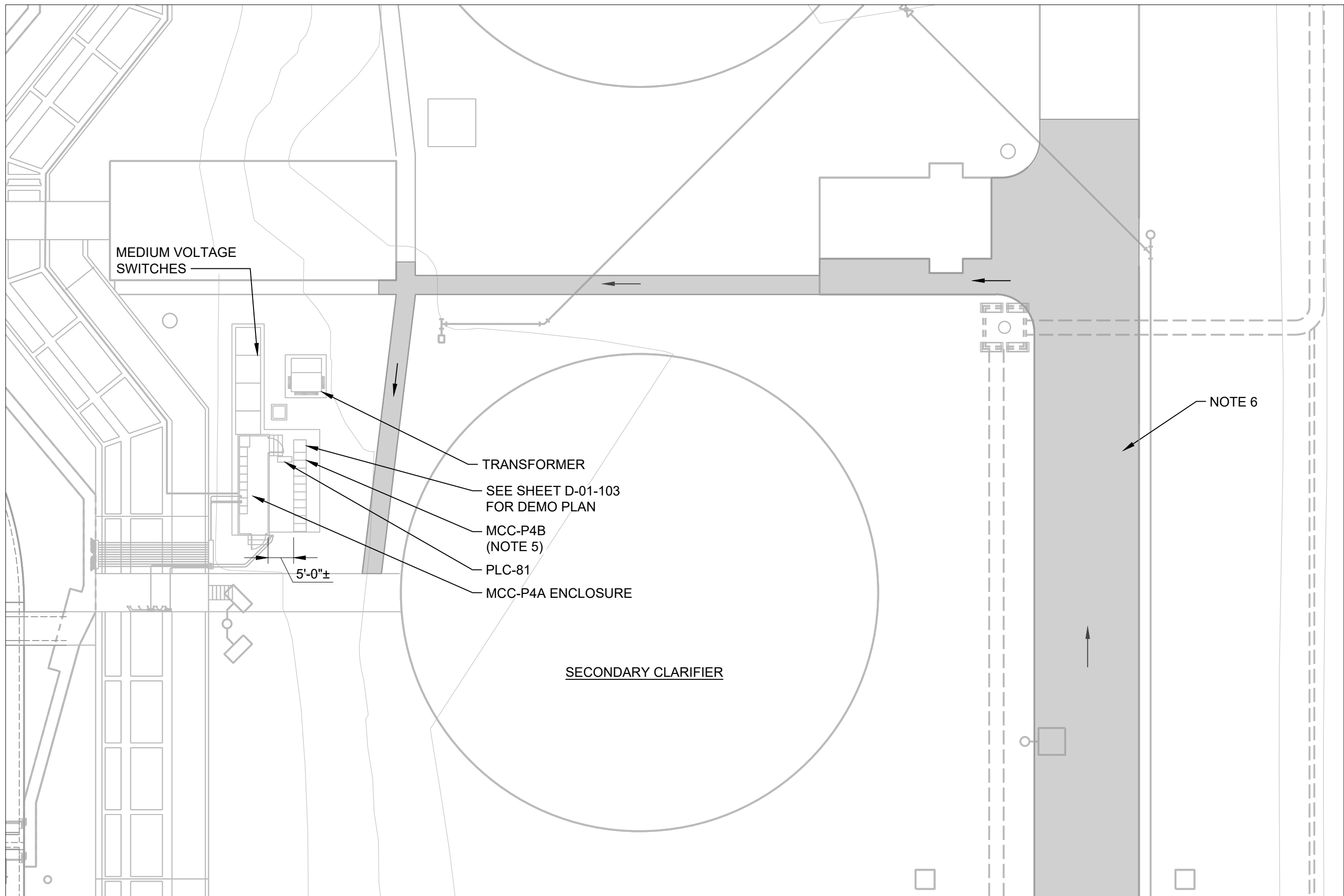
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OF
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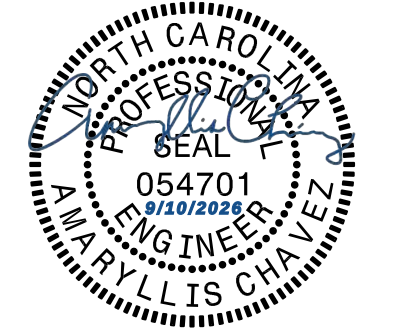
(SCALE BAR IS 4" AT FULL SCALE) 0 1/2 1 2 3 4



OVERALL SITE PLAN
SCALE 1"=100'



ENLARGED PLAN
SCALE 1"=20'



Raleigh

NEUSE RIVER RESOURCE
RECOVERY FACILITY BNR
BASINS MCC
REPLACEMENT

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REVISIONS AND RECORD OF ISSUE	
DESIGNED:	AC
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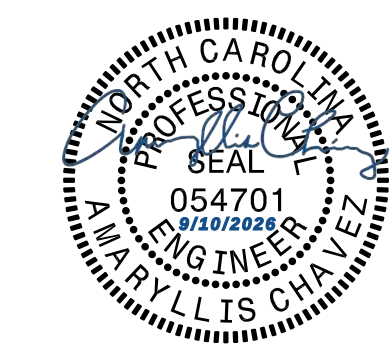
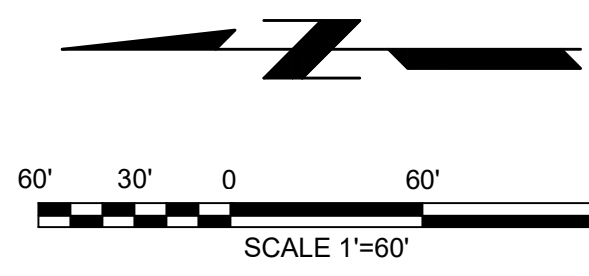
SITE

CIVIL

EXISTING OVERALL
SITE PLAN

C-01-101

7
OF
35



NEUSE RIVER RESOURCE
RECOVERY FACILITY BNR
BASINS MCC
REPLACEMENT

ISSUED FOR BID

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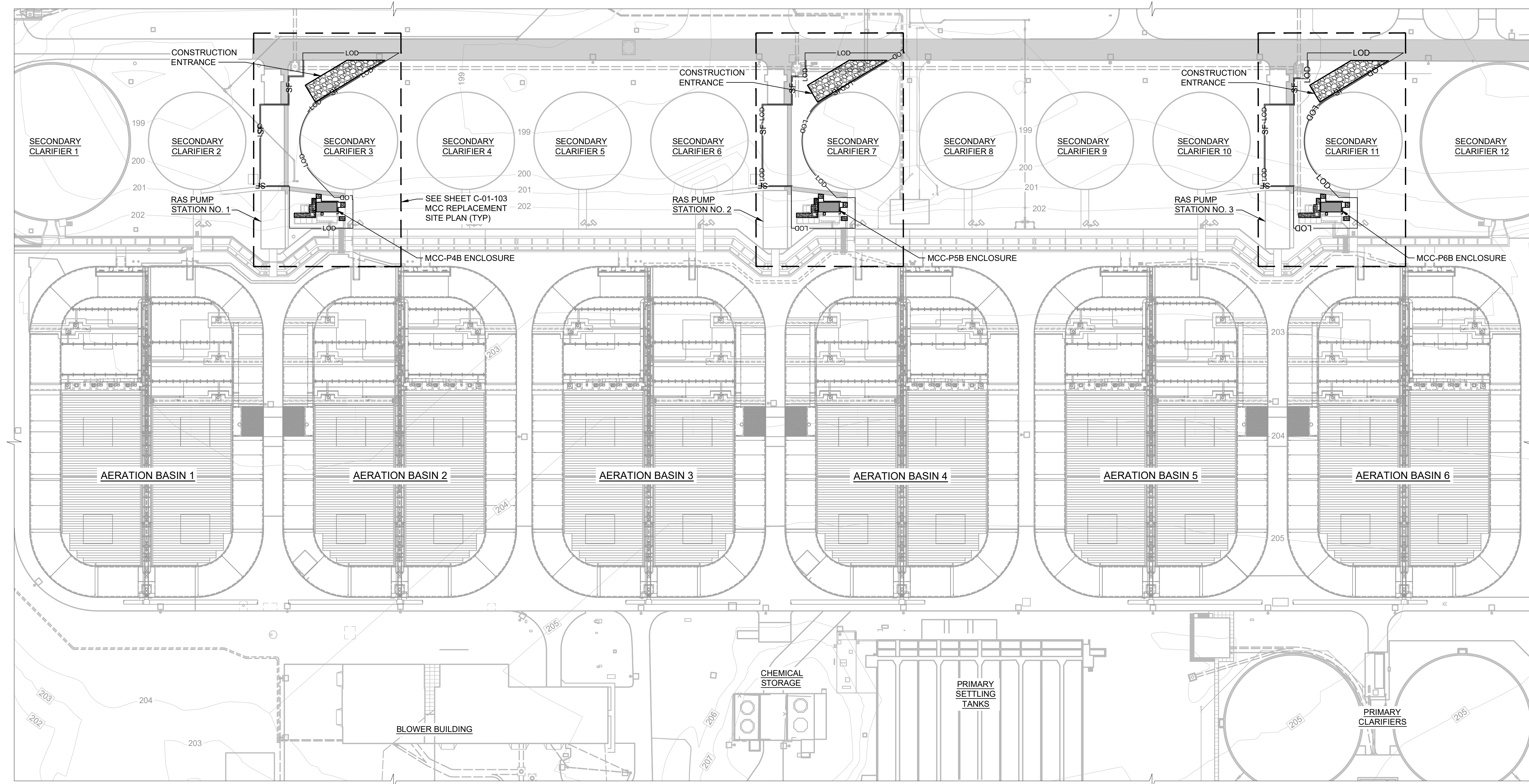
SITE

CIVIL

AERATION BASIN
SITE PLAN

C-01-102

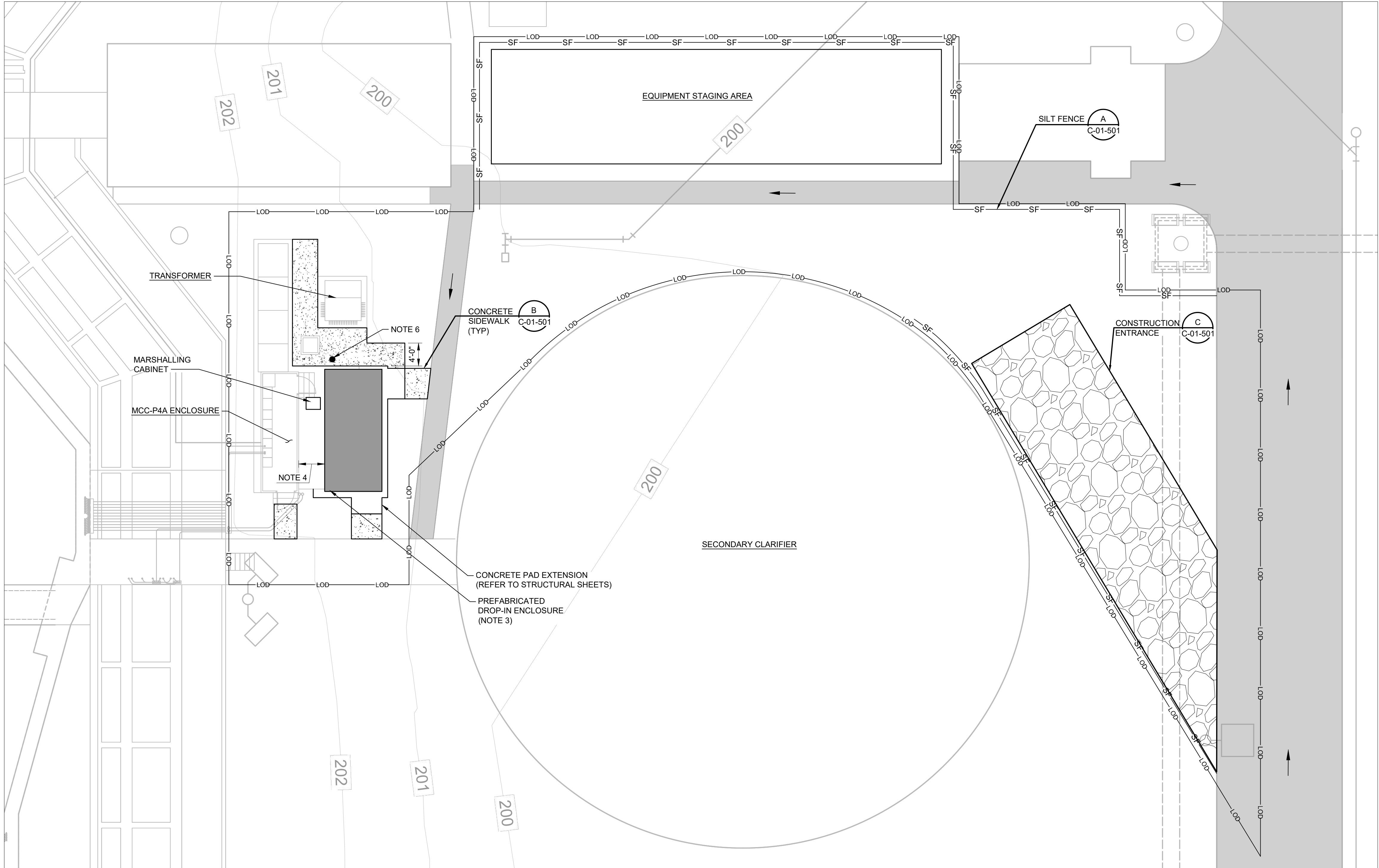
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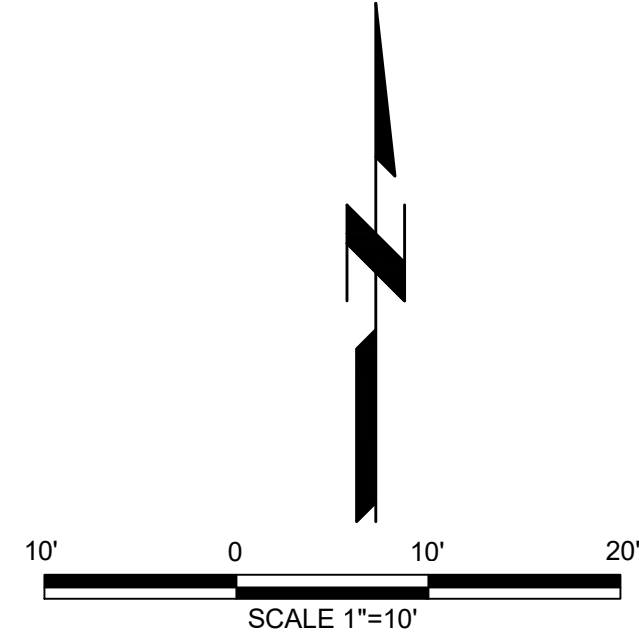
AERATION BASIN SITE PLAN
SCALE 1"=60'

- NOTES:
- MCC-P4 POWER CENTER MODIFICATIONS SHALL BE REPLICATED FOR MCC-5 AND MCC-P6 POWER CENTERS.
 - SEE SHEET E-01-101 FOR ELECTRICAL SITE PLAN.
 - SEE SHEET A-01-101 FOR ENCLOSURE DETAILS AND S-01-101 FOR CONCRETE PAD DETAILS.
 - DISTANCE BETWEEN PREFABRICATED ENCLOSURE AND EXISTING ENCLOSURE WILL VARY AT EACH POWER CENTER. CONTRACTOR SHALL COORDINATE CLEARANCE REQUIREMENTS WITH PREFABRICATED ENCLOSURE MANUFACTURER.
 - AFTER COMPLETION OF THE PROPOSED WORK, DISTURBED AREAS SHALL BE RESTORED TO EXISTING GRADES. NO NET CHANGE IN GRADING IS PROPOSED.

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MCC REPLACEMENT SITE PLAN
 SCALE 1"=10'



NOTES:

- MCC-P4 POWER CENTER MODIFICATIONS SHALL BE REPLICATED FOR MCC-5 AND MCC-P6 POWER CENTERS.
- SEE SHEET E-01-101 FOR ELECTRICAL SITE PLAN.
- SEE SHEET A-01-101 FOR ENCLOSURE DETAILS AND S-01-101 FOR CONCRETE PAD DETAILS.
- DISTANCE BETWEEN PREFABRICATED ENCLOSURE AND EXISTING ENCLOSURE WILL VARY AT EACH POWER CENTER. CONTRACTOR SHALL COORDINATE CLEARANCE REQUIREMENTS WITH PREFABRICATED ENCLOSURE MANUFACTURER.
- AFTER COMPLETION OF THE PROPOSED WORK, DISTURBED AREAS SHALL BE RESTORED TO EXISTING CONDITIONS. NO NET CHANGE IN GRADING IS PROPOSED ANY DISTURBED OR DAMAGED SIDEWALK SHALL BE RESTORED.
- EXISTING WIRE TROUGH SUPPORT TO BE RELOCATED AS REQUIRED FOR INSTALLATION OF NEW PRE-FABRICATED ENCLOSURE.



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NEUSE RIVER RESOURCE
 RECOVERY FACILITY BNR
 BASINS MCC
 REPLACEMENT

ISSUED FOR BID

REVISIONS AND RECORD OF ISSUE	
DESIGNED:	AC
DETAILED:	VSK
CHECKED:	BM
APPROVED:	AC
DATE:	AUGUST 2026
PROJECT NO.:	424744

SITE	
CIVIL	
MCC REPLACEMENT SITE PLAN	
C-01-103	9 OF 35



1. PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE.
2. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL.
3. CUT THE FABRIC NEAR THE BOTTOM OF THE STAKES TO ACCOMMODATE FOR THE 6 INCH FLAP.
4. DRIVE BOTH POSTS A MINIMUM OF 18 INCHES INTO THE GROUND AND BURY THE FLAP.
5. COMPACT BACKFILL (PARTICULARLY AT SPLICES) COMPLETELY TO PREVENT PONDING.

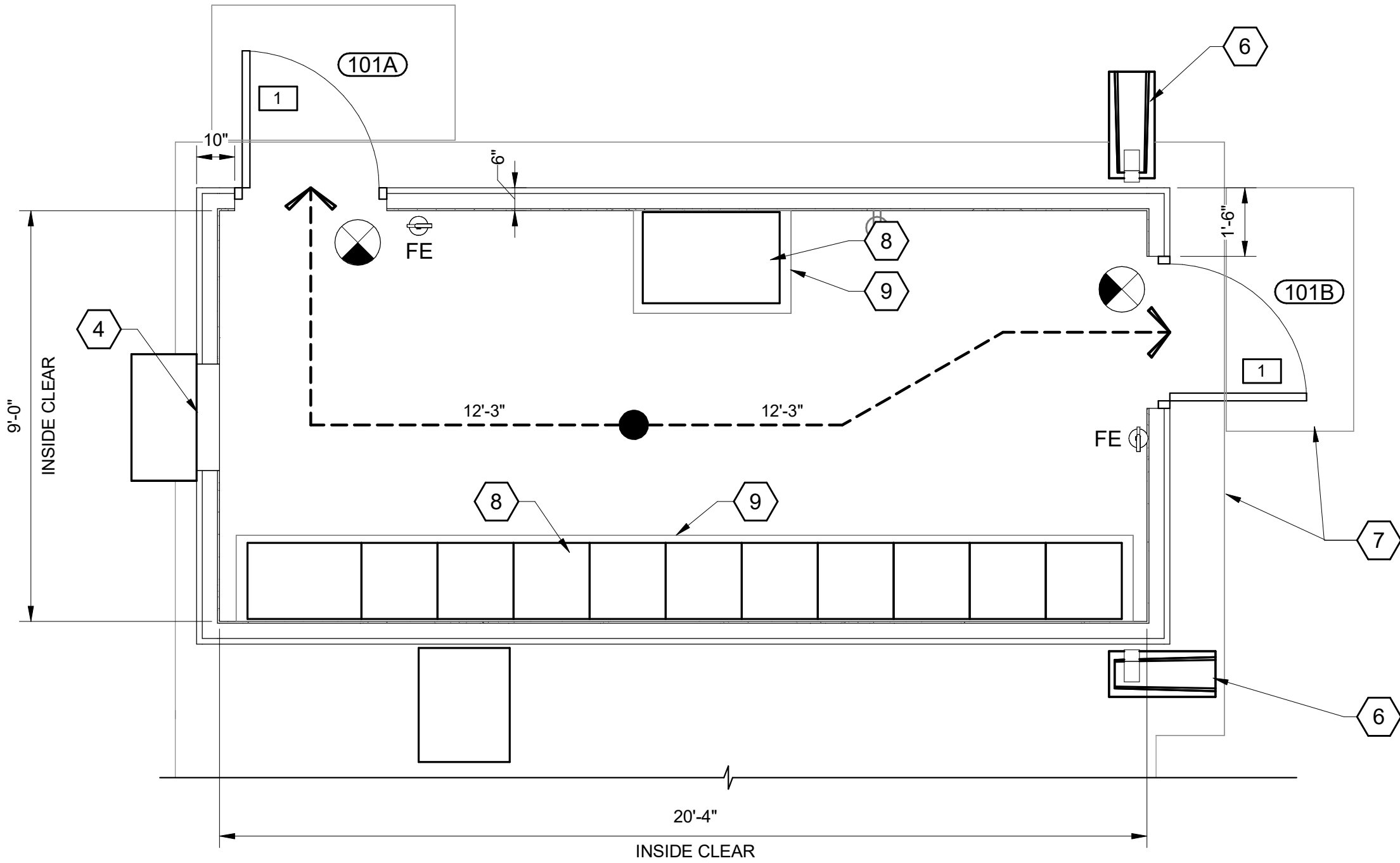


-  **CONCRETE SIDEWALK**
C-01-103 NO SCALE

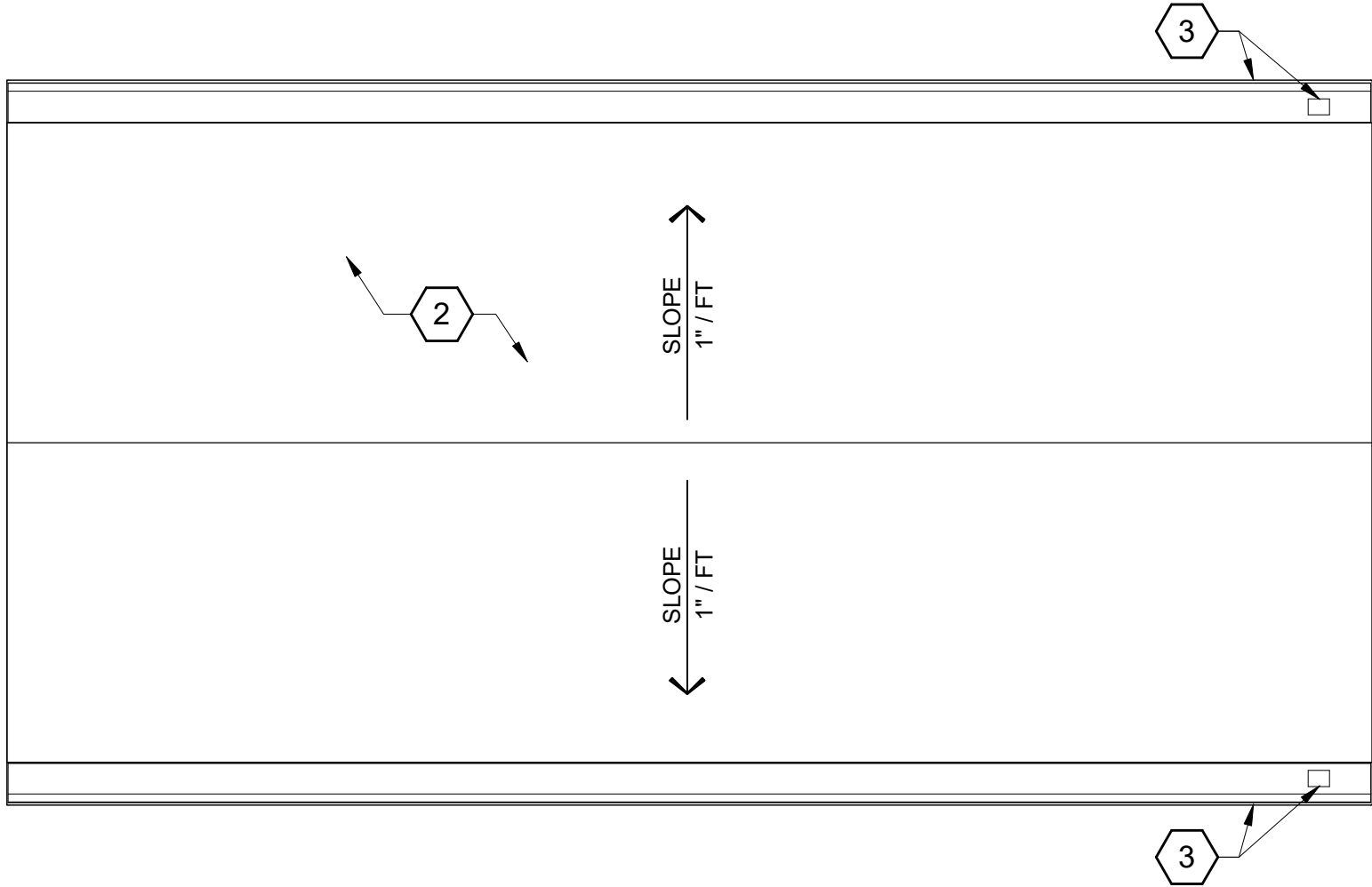


1. TEMPORARY CONSTRUCTION ENTRANCE TO EXTEND THE FULL WIDTH OF INGRESS/EGRESS OPERATION.
2. AVOID LOCATIONS ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS. IF POSSIBLE, LOCATE WHERE PERMANENT ROADS WILL EVENTUALLY BE CONSTRUCTED.
3. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
4. IF SLOPE TOWARDS THE PUBLIC ROAD EXCEEDS 2% CONSTRUCT A 6-INCH TO 8-INCH HIGH RIDGE WITH 3H:1V SIDE SLOPES ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE EDGE OF THE PUBLIC ROAD TO DIVERT RUNOFF AWAY FROM IT.
5. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES ALONG PUBLIC ROADS.
6. PLACE STONE TO DIMENSIONS AND GRADE AS SHOWN ON DRAWINGS. LEAVE SURFACE SMOOTH AND SLOPED FOR DRAINAGE.
7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE.
8. IF WET CONDITIONS ARE ANTICIPATED, PLACE GEOTEXTILE FABRIC ON THE GRADED FOUNDATION TO IMPROVE STABILITY.
9. CONSULT WITH OWNER/ENGINEER IF ANY OF THE FOLLOWING OCCUR:
 - a. INADEQUATE RUNOFF CONTROL TO THE EXTENT THAT SEDIMENT WASHES ONTO PUBLIC ROAD - INSTALL DIVERSIONS OR OTHER RUNOFF CONTROL MEASURES.
 - b. SMALL STONE, THIN PAD, OR ABSENCE OF GEOTEXTILE FABRIC RESULTS IN RUTS AND MUDDY CONDITIONS AS STONE IS PRESSED INTO SOIL - INCREASE STONE SIZE OR PAD THICKNESS OR ADD GEOTEXTILE FABRIC.
 - c. PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC - EXTEND PAD BEYOND THE MINIMUM 50 FOOT LENGTH AS NECESSARY.
10. INSPECT STONE PAD AND SEDIMENT DISPOSAL AREA WEEKLY AND AFTER 1/2-INCH OR GREATER STORM EVENTS.
11. RESHAPE PAD AS NEEDED FOR PROPER DRAINAGE AND RUNOFF CONTROL.
12. TOP DRESS WITH CLEAN 2 INCH AND/OR 3 INCH STONE AS NEEDED.
13. IMMEDIATELY REMOVE MUD OR SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROAD. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY.
14. REMOVE ALL TEMPORARY ROAD MATERIALS FROM AREAS WHERE PERMANENT VEGETATION WILL BE ESTABLISHED.

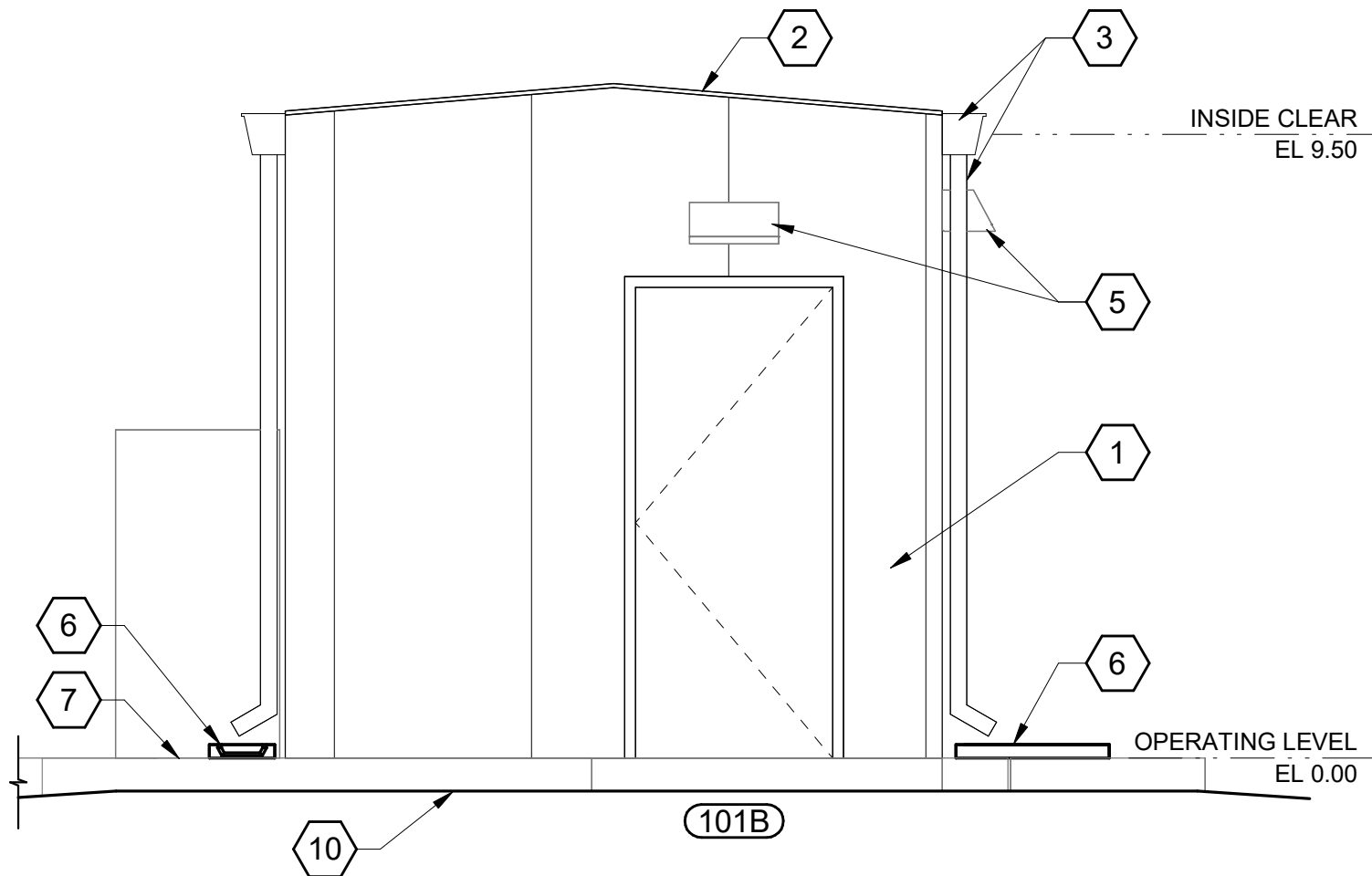
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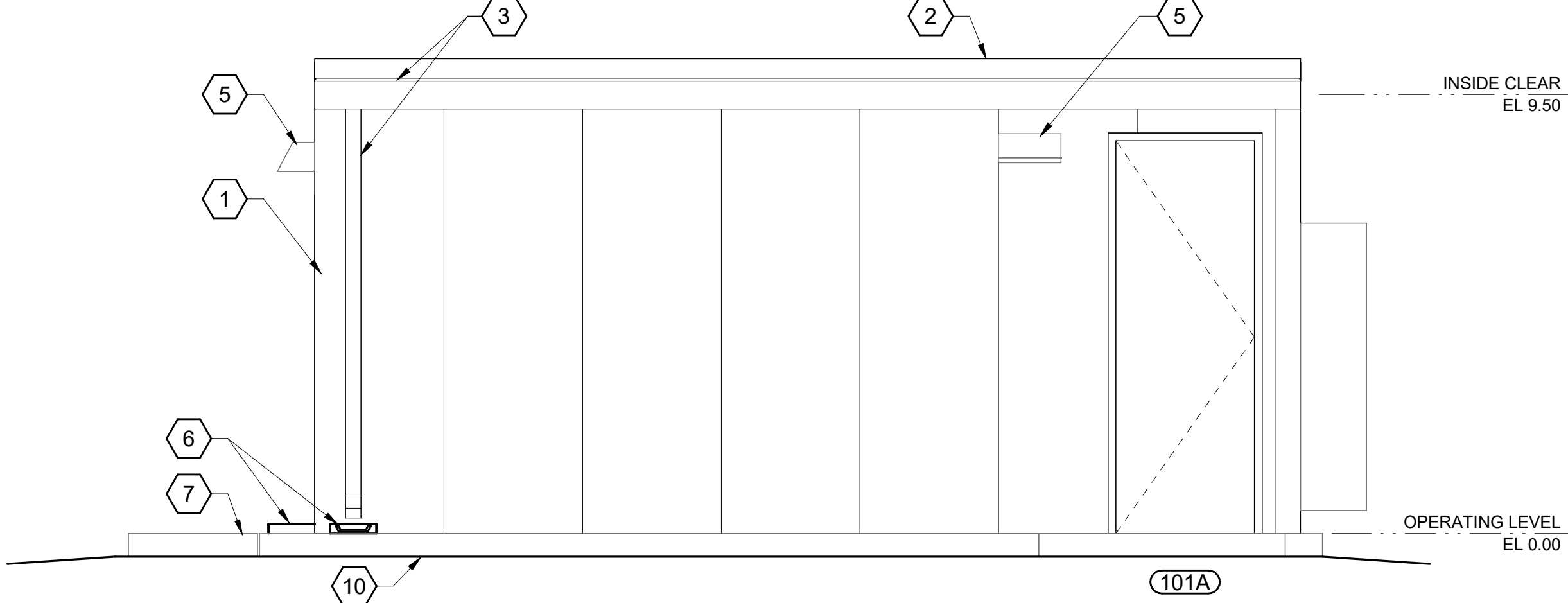
FLOOR PLAN
3/8" = 1'-0"



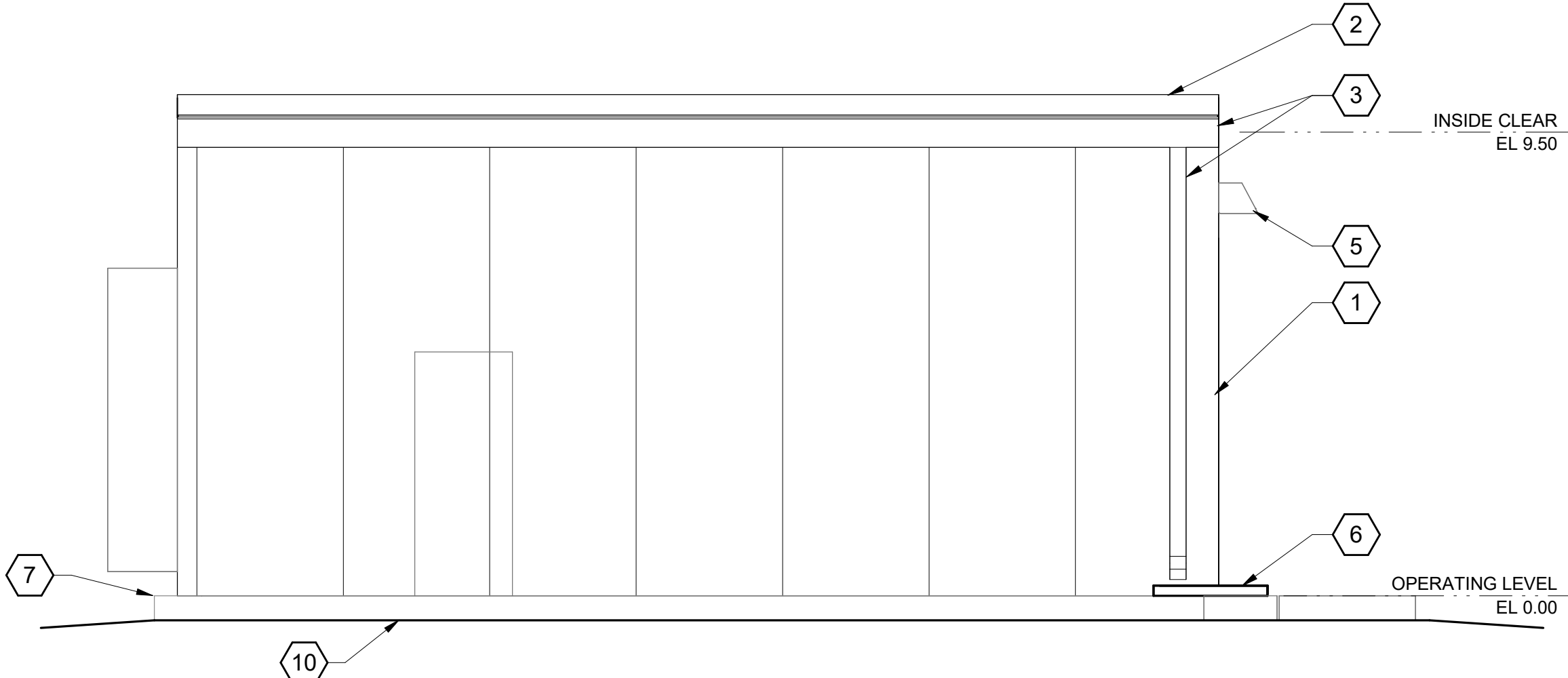
ROOF PLAN
3/8" = 1'-0"



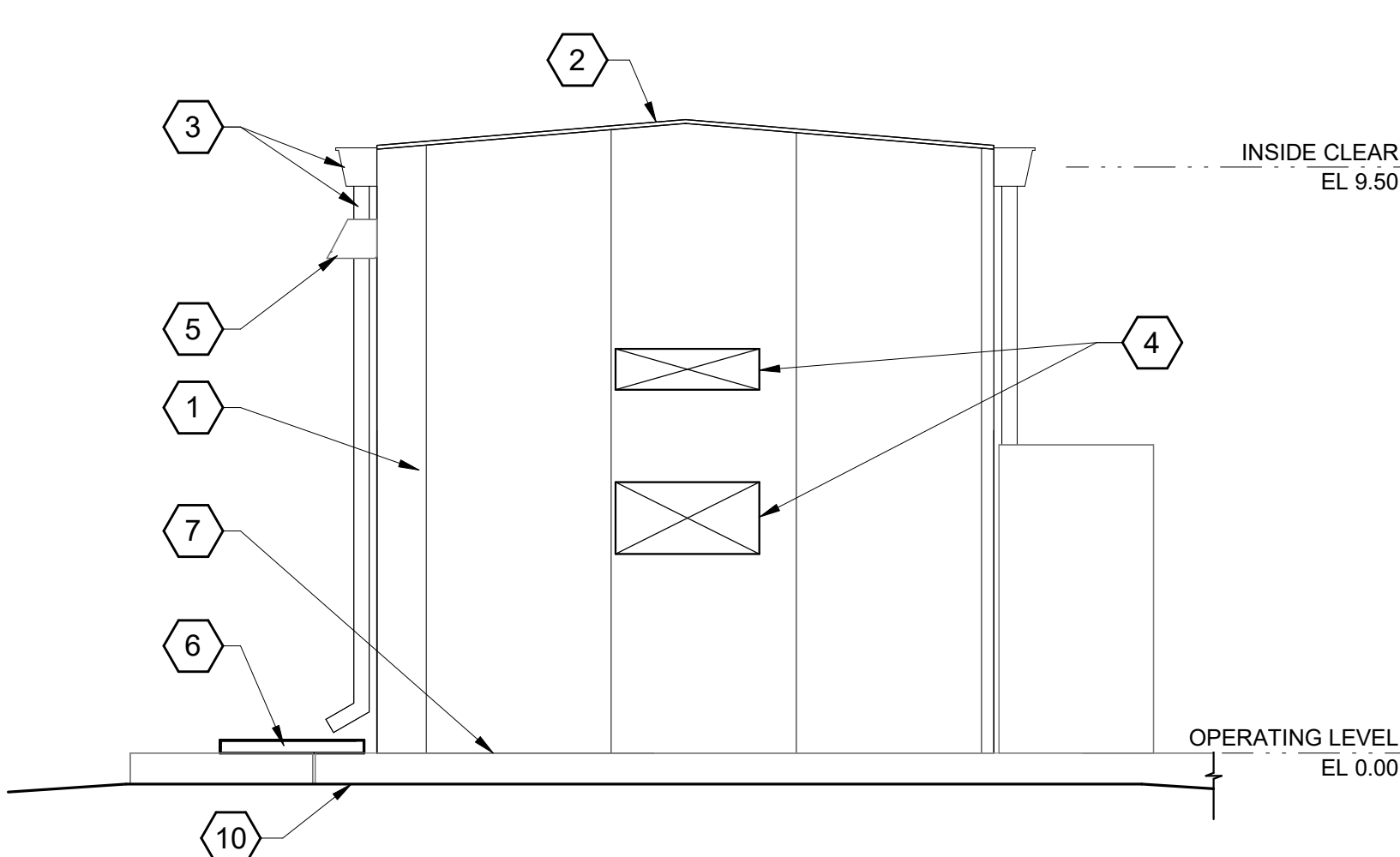
SOUTH ELEVATION
3/8" = 1'-0"



EAST ELEVATION
3/8" = 1'-0"



WEST ELEVATION
3/8" = 1'-0"



NORTH ELEVATION
3/8" = 1'-0"

GENERAL SHEET NOTES

- SEE C-01-102 FOR SITE PLAN.
- SEE SPECIFICATION 13 14 00 FOR ENCLOSURE REQUIREMENTS.

SHEET KEYNOTES

- PREFINISHED PRE-ENGINEERED INSULATED WALL PANEL.
- PREFINISHED PRE-ENGINEERED INSULATED METAL PANEL ROOF.
- PREFINISHED METAL GUTTER AND DOWNSPOUT, TYPICAL.
- HVAC EQUIPMENT OPENING. COORDINATE SIZE OF OPENINGS WITH EQUIPMENT PROVIDED. SEE SPECIFICATION SECTION 13 14 00.
- LIGHT FIXTURE, SEE ELECTRICAL DRAWINGS.
- PRECAST CONCRETE SPLASHBLOCK.
- CONCRETE SLAB, SEE STRUCTURAL DRAWINGS.
- ELECTRICAL EQUIPMENT, SEE ELECTRICAL DRAWINGS.
- CONCRETE EQUIPMENT PAD, SEE STRUCTURAL DRAWINGS.
- FINISH GRADE, SEE CIVIL DRAWINGS.

LIFE SAFETY LEGEND

- ⊕ FIRE EXTINGUISHER (FE)
- X'-X"---> MAXIMUM COMMON PATH OF TRAVEL
- | |
|--------------|
| 100SF/PERSON |
| 10 |
| F-1 |
- 1 CUMULATIVE OCCUPANT LOAD
- ⊗ EXIT

BUILDING CODE ANALYSIS

APPLICABLE CODES: 2018 NORTH CAROLINA BUILDING CODES

BUILDING NAME: ELECTRICAL ENCLOSURE NO. 1

OCCUPANCY TYPE	F-2
CONSTRUCTION TYPE	II-B
ALLOWABLE AREA	15,500 SF
ACTUAL FLOOR AREA	188 SF
ALLOWABLE HEIGHT	55FT, 3 STORIES
ACTUAL HEIGHT	12FT
DESIGN OCCUPANT LOAD	2 PERSONS
EXITS REQUIRED	2 MINIMUM OR LESS THAN 75 FT TRAVEL DISTANCE
EXITS PROVIDED	2 EXITS PROVIDED
ADA ACCESSIBILITY	NOT REQUIRED PER IBC 1103.2.9 EQUIPMENT SPACES
OCCUPANCY SEPARATION	NOT REQUIRED
FIRE SPRINKLERS	NOT REQUIRED

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Overland Park, KS 66211



Raleigh

NEUSE RIVER
RESOURCE RECOVERY
FACILITY BNR BASINS
MCC REPLACEMENT

ISSUED FOR BID

REVISIONS AND RECORD OF ISSUE

DESIGNED:	BDW
DETAILED:	KF
CHECKED:	PDR
APPROVED:	PDR
DATE:	AUGUST 2026

PROJECT NO.: 424744

ARCHITECTURAL

LIFE SAFETY CODE
ANALYSIS, FLOOR AND
ROOF PLANS, AND
ELEVATIONS

A-01-101

11
OF
35



12" 0' 1' 2' 3' 4' 5' 6' 7'

3/8" = 1'-0"

(SCALE BAR IS 4" AT FULL SCALE)

STRUCTURAL NOTES

GENERAL

- THE APPLICABLE BUILDING CODE IS THE NORTH CAROLINA BUILDING CODE (NCBC), 2018 EDITION.
- THE REQUIREMENTS INDICATED ON THIS SHEET ARE INTENDED AS A BASIC SUMMARY OF THE MATERIAL AND CONSTRUCTION REQUIREMENTS FOR THE PROJECT. ADDITIONAL, MORE STRINGENT REQUIREMENTS ARE GIVEN IN THE PROJECT DETAIL DRAWINGS AND SPECIFICATIONS.
- ALL STRUCTURAL RELATED SHOP DRAWINGS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO CONSTRUCTION.
- STRUCTURES MAY BE UNSTABLE UNTIL THEY ARE CONSTRUCTED IN THEIR ENTIRETY. CONTRACTOR IS RESPONSIBLE FOR DESIGNING TEMPORARY STRUCTURAL SUPPORTS TO RESIST WIND LOADS, CONSTRUCTION LOADS, AND ANY OTHER TEMPORARY CONDITIONS THAT MAY OCCUR DURING CONSTRUCTION, IN ORDER TO MAINTAIN STABILITY OF THE CONSTRUCTION WORK. ANCHORS FOR CONTRACTOR'S TEMPORARY SUPPORT SYSTEMS THAT ATTACH TO CONCRETE OR MASONRY SHALL BE LOCATED TO AVOID DAMAGING EMBEDDED REINFORCEMENT OR UTILITIES.

CAST-IN-PLACE CONCRETE

- ALL CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF THE PROJECT TECHNICAL SPECIFICATIONS AND SHALL DEVELOP A MINIMUM 28-DAY COMPRESSIVE STRENGTH (f_c) OF 4500 PSI, OR AS REQUIRED IN THE CAST-IN-PLACE CONCRETE TECHNICAL SPECIFICATION SECTION, DEPENDING ON THE TYPE OR CLASSIFICATION OF CONSTRUCTION.
- WHERE A MINIMUM 28-DAY COMPRESSIVE STRENGTH (f_c) OF 4500 IS SPECIFIED, A REDUCED DESIGN COMPRESSIVE STRENGTH VALUE OF 4000 PSI WAS UTILIZED FOR STRUCTURAL ANALYSIS AND DESIGN OF REINFORCED CONCRETE ELEMENTS. THIS ALLOWS ADDITIONAL TOLERANCE CONSISTENT WITH ACI FIELD TESTING AND ACCEPTANCE CRITERIA.
- THE LOCATION OF ALL CONSTRUCTION JOINTS AND OTHER JOINTS NOT SPECIFICALLY INDICATED ON THE DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND ACCEPTANCE BY THE ENGINEER PRIOR TO PLACING CONCRETE.

REINFORCING STEEL

- ALL REINFORCING BAR SHALL BE GRADE 60, DEFORMED, ASTM A615, UNLESS NOTED OTHERWISE.
- DIMENSIONS TO REINFORCING BARS ARE TO BAR CENTERLINES, UNLESS NOTED OTHERWISE. BAR COVER IS THE CLEAR DISTANCE BETWEEN THE BAR AND THE CONCRETE SURFACE.
- NO WELDING OF REINFORCING BARS SHALL BE PERMITTED UNLESS APPROVAL IS OBTAINED FROM THE ENGINEER PRIOR TO CONSTRUCTION.
- FOR CONCRETE SLABS THAT HAVE A SLOPING TOP FACE, THE TOP LAYERS OF REINFORCEMENT SHALL BE PLACED ON A SIMILAR SLOPE SO THAT SPECIFIED COVER IS MAINTAINED.

POST-INSTALLED ANCHORS

- POST-INSTALLED ANCHORS SHALL INCLUDE ADHESIVE ANCHORS (THREADED RODS, BOLTS OR REINFORCING BARS), EXPANSION ANCHORS, AND UNDERCUT ANCHORS INSTALLED INTO HARDENED CONCRETE OR MASONRY. SEE THE ANCHORAGE IN CONCRETE AND MASONRY SPECIFICATION SECTION FOR ADDITIONAL REQUIREMENTS.
- POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE INDICATED ON THE DRAWINGS. CONTRACTOR SHALL OBTAIN APPROVAL FROM ENGINEER PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.
- CARE SHALL BE TAKEN TO AVOID CONFLICTS WITH EXISTING REINFORCING STEEL AND OTHER EMBEDDED ITEMS WHEN DRILLING HOLES. REINFORCING BARS SHALL NOT BE DAMAGED DURING DRILLING OR ANCHOR INSTALLATION. HOLES SHALL BE DRILLED AND CLEANED PER THE PRODUCT MANUFACTURER'S INSTRUCTIONS. ANCHORS SHALL BE INSTALLED PER THE PRODUCT MANUFACTURER'S INSTRUCTIONS AT NOT LESS THAN MINIMUM EDGE DISTANCES AND/OR SPACING INDICATED IN THE MANUFACTURER'S LITERATURE.
- SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE LISTED IN THE SPECIFICATION OR INDICATED ON THE DRAWINGS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AND APPROVAL. PRODUCT ICC-ESR EVALUATION REPORTS SHALL BE INCLUDED WITH THE SUBMITTAL PACKAGE. IF REQUESTED, CALCULATIONS PREPARED BY A REGISTERED PROFESSIONAL ENGINEER USING METHODS AND PROCEDURES REQUIRED BY THE BUILDING CODE MAY BE REQUIRED AS PART OF THE SUBMITTAL PACKAGE.
- UNLESS NOTED OTHERWISE, THE MINIMUM EMBEDMENT PROVIDED FOR ADHESIVE ANCHORED REINFORCING BARS SHALL DEVELOP THE FULL TENSILE STRENGTH OF THE BAR.
- SPECIAL INSPECTION WILL BE PROVIDED FOR ALL POST-INSTALLED ANCHORS.

EXCAVATION, BACKFILL, AND FOUNDATIONS

- FOUNDATION CONSTRUCTION SHALL NOT BEGIN UNTIL ANY REQUIRED SPECIAL INSPECTION HAS BEEN COMPLETED AND THE CONTRACTOR NOTIFIED TO PROCEED.
- TO FACILITATE SCHEDULING, AT LEAST 48 HOURS ADVANCE NOTICE SHALL BE GIVEN TO THE ENGINEER PRIOR TO THE REQUIRED INSPECTIONS.
- OVER-EXCAVATION OF SOIL, OR OVER-BREAKING OF ROCK, THAT WOULD RESULT IN A STRUCTURAL CONCRETE THICKNESS GREATER THAN INDICATED ON THE DRAWINGS SHALL BE CLASSIFIED AS UNAUTHORIZED EXCAVATION. CONTRACTOR SHALL SELECT ONE OF TWO METHODS TO ADDRESS UNAUTHORIZED EXCAVATION.
 - REPLACE UNAUTHORIZED EXCAVATION MATERIAL WITH LEAN CONCRETE THAT IS PLACED SEPARATELY FROM THE STRUCTURAL CONCRETE INDICATED ON THE DRAWINGS. CONTRACTOR WILL RECEIVE NO ADDITIONAL PAYMENT FOR THE LEAN CONCRETE.
 - REPLACE UNAUTHORIZED EXCAVATION MATERIAL WITH STRUCTURAL CONCRETE THAT IS PLACED MONOLITHICALLY WITH THE STRUCTURAL CONCRETE INDICATED ON THE DRAWINGS, CREATING AN ENLARGED SECTION. CONTRACTOR SHALL NOTIFY ENGINEER FOR DIRECTION PRIOR TO PERFORMING THIS WORK. THE INCREASED CONCRETE THICKNESS MAY REQUIRE ADDITIONAL REINFORCEMENT AND/OR OTHER DESIGN MODIFICATIONS. IF THE INCREASED CONCRETE THICKNESS EXCEEDS 36 INCHES, ENGINEER MAY REQUIRE CONTRACTOR TO IMPLEMENT MASS CONCRETE HEAT MITIGATION PROCEDURES. CONTRACTOR WILL RECEIVE NO ADDITIONAL PAYMENT FOR EXTRA STRUCTURAL CONCRETE, ADDITIONAL REINFORCEMENT, OTHER DESIGN MODIFICATIONS, OR MASS CONCRETING PROCEDURES.
- THE FOLLOWING NET ALLOWABLE BEARING PRESSURES WERE UTILIZED IN THE DESIGN OF THE FOUNDATIONS.
MAT FOUNDATIONS.....1500 PSF
FROST DEPTH..... 1'-0"

EXISTING STRUCTURES

- THE DRAWINGS DEPICT WORK AT EXISTING STRUCTURES. ALL DIMENSIONS AND ALL DEPICTIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS, STARTING FABRICATION, OR STARTING CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE, REPAIRS OR STRUCTURAL MODIFICATIONS THAT ARE REQUIRED DUE TO DEMOLITION BEYOND THE LIMITS IDENTIFIED IN THE DRAWINGS.
- CORE DRILLING AND SAW CUTTING SHALL NOT BE PERFORMED UNLESS INDICATED ON THE DRAWINGS OR APPROVED BY ENGINEER.
- EXPOSED CONCRETE SURFACES THAT REMAIN AFTER DEMOLITION SHALL BE REPAIRED TO MATCH ADJACENT CONCRETE SURFACES.
- UNLESS OTHERWISE INDICATED ON THE DRAWINGS, EXPOSED CONCRETE SURFACES WITH EXPOSED UNUSED ANCHOR BOLTS OR OTHER EXPOSED METAL EMBEDMENTS SHALL BE REPAIRED BY CUTTING OFF THE METAL AT THE FACE OF THE CONCRETE, GRINDING SMOOTH, AND APPLYING TWO HEAVY COATS GRAY SIKAGUARD 62 EPOXY. COATING SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.

SPECIAL INSPECTIONS

- CODE REQUIRED SPECIAL INSPECTIONS AND TESTS WILL BE CONDUCTED BY APPROVED AGENCIES EMPLOYED BY THE OWNER IN ACCORDANCE WITH THE APPLICABLE BUILDING CODE.
- THE STATEMENT OF SPECIAL INSPECTIONS WILL BE PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE DURING CONSTRUCTION.
- EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND OR SEISMIC FORCE RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM OR A WIND OR SEISMIC RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND OWNER PRIOR TO COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT.
- SEE THE QUALITY CONTROL SECTION AND THE CODE REQUIRED SPECIAL INSPECTIONS AND PROCEDURES SECTION OF THE SPECIFICATIONS FOR FURTHER CLARIFICATION OF RESPONSIBILITIES.

DELEGATED DESIGN

- THE FOLLOWING ITEMS ARE IDENTIFIED IN THE DRAWINGS AND SPECIFICATIONS AS BEING DESIGNED AND SEALED BY THE CONTRACTOR OR THE CONTRACTOR'S SUPPLIER IN ACCORDANCE WITH THE SPECIFICATIONS INDICATED BELOW. SUBMITTALS FOR THESE ITEMS SHALL BE PREPARED BY THE SUPPLIERS AND SUBMITTED TO ENGINEER AND CODE OFFICIAL FOR REVIEW.

SECTION 13140 – PRE-FABRICATED METAL BUILDING
SECTION 016700 – EQUIPMENT AND NON-STRUCTURAL COMPONENTS.
SECTION 058100 – EQUIPMENT ANCHORAGE.

LOADING CRITERIA

- DEAD LOAD CALCULATED
- LIVE LOADS:
ELECTRICAL ROOM FLOORS..... 250 PSF
- WIND LOAD:
ULTIMATE WIND SPEED..... 121 MPH
NOMINAL WIND SPEED..... 94 MPH
EXPOSURE..... C
RISK CATEGORY..... III
- SEISMIC LOAD:
MAPPED MCE SHORT PERIOD SPECTRAL
RESPONSE ACCELERATION (S_s)..... 0.15g
MAPPED MCE ONE SECOND PERIOD SPECTRAL
RESPONSE ACCELERATION (S_1)..... 0.08g
DESIGN SPECTRAL RESPONSE ACCELERATION
AT SHORT PERIODS (S_{as})..... 0.16g
DESIGN SPECTRAL RESPONSE ACCELERATION
AT ONE SECOND PERIOD (S_{a1})..... 0.12g
SITE CLASS..... C
IMPORTANCE FACTOR..... 1.25
SEISMIC DESIGN CATEGORY..... B
- SNOW LOAD:
GROUND SNOW LOAD (P_g)..... 15 PSF
FLAT-ROOF SNOW LOAD (P_f)..... 17 PSF
SNOW EXPOSURE FACTOR (C_e)..... 1.0
IMPORTANCE FACTOR (I_s)..... 1.1
THERMAL FACTOR (C_t)..... 1.2
- DESIGN100 YEAR FLOOD..... 165.50 FT



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NEUSE RIVER
RESOURCE RECOVERY
FACILITY BNR BASINS
MCC REPLACEMENT

ISSUED FOR BID

REVISIONS AND RECORD OF ISSUE	
DESIGNED:	DRJ
DETAILED:	JGC
CHECKED:	KC
APPROVED:	RAZ
DATE:	AUGUST 2026
PROJECT NO.:	424744

STRUCTURAL

STANDARD STRUCTURAL
NOTES AND LOADING
CRITERIA

S-00-001

12
OF
35

STRUCTURAL ABBREVIATIONS

A		G	P	X
ADDL AFF AHR AISC ALT ALUM APPROX ARCH AROD ASSY ASTM AWG AWS	ADDITIONAL ABOVE FINISH FLOOR ANCHOR AMERICAN INSTITUTE OF STEEL CONSTRUCTION ALTERNATE ALUMINUM APPROXIMATE ARCHITECTURAL ANCHOR ROD ASSEMBLY AMERICAN SOCIETY OF TESTING AND MATERIALS AMERICAN WIRE GAUGE AMERICAN WELDING SOCIETY	GA GALV GEN GR H HC HCA HEX HGR HORIZ HP HSS	GAUGE GALVANIZED GENERAL GRADE HORIZONTAL REACTION HOLLOW CORE HEADED CONCRETE ANCHOR HEXAGONAL HANGER HORIZONTAL HIGH POINT HOLLOW STRUCTURAL SECTION	x XS XXS Y Z SPECIAL CHARACTERS
B		I		@ & ø # %
BLDG BM BO BOT BRDG BRG BTWN	BUILDING BENCHMARK, BEAM BOTTOM OF BOTTOM BRIDGING BEARING BETWEEN	ID IF IN INT INV	INSIDE DIAMETER INSIDE FACE INCHES INTERIOR, INTERNAL INVERT	
C		J		R
C CANTIL CHKD CHKDPL CIP CJ CJP CL CLR CMU COL CONC CONN CONSTR CONT COORD COV CRNR CSJ CTRD CTRS	CAMBER CANTILEVER CHECKERED CHECKERED PLATE CAST-IN-PLACE CONTRACTION JOINT COMPLETE JOINT PENETRATION CENTERLINE CLEAR CONCRETE MASONRY UNIT COLUMN CONCRETE CONNECTION CONSTRUCTION CONTINUOUS, CONTINUATION, CONTROL COORDINATE COVER CORNER CONSTRUCTION JOINT CENTERED CENTERS	JT K K KSF KSI	JOINT KIPS (1000 LBS) KIPS PER SQUARE FOOT KIPS PER SQUARE INCH	R RCP RD RECT REF REINF REQD REV RO
D		L		S
db DBA DET DIA DIAG DIM DN DWA DWG(S) DWL(S)	BAR DIAMETER DEFORMED BAR ANCHOR DETAIL DIAMETER DIAGONAL DIMENSION DOWN DEFORMED WIRE ANCHOR DRAWING, DRAWINGS DOWEL, DOWELS	L LAB LB(S) ld LE LIN LLBB LLH LLV LONG LP LSH LSHP LSLT LSV LWC	LENGTH, ANGLE LABORATORY POUND, POUNDS DEVELOPMENT LENGTH LEFT END LINES LONG LEG BACK TO BACK LONG LEG HORIZONTAL LONG LEG VERTICAL LONGITUDINAL LOW POINT LONG SIDE HORIZONTAL LONG SLOTTED HOLE PARALLEL LONG SLOTTED HOLE TRANSVERSE LONG SIDE VERTICAL LIGHTWEIGHT CONCRETE	S SC SCHD SECT SH SIM SJ SLBB SPA SPEC SPRT SQ SS SSH SSHT STD STIF STIRRUP STL STR SYM
E		M		T
E EA EE EF EJ EL EMBED EMER ENGR EQ EQUIP EQUIV EW EXIST EXP EXT	EAST EACH EACH END EACH FACE EXPANSION JOINT ELEVATION EMBEDMENT EMERGENCY ENGINEER EQUAL EQUIPMENT EQUIVALENT EACH WAY EXISTING EXPANSION EXTERIOR	M MAS MATL MAX MC MECH MEZZ MFR MIN MSC MTL	MOMENT MASONRY MATERIAL MAXIMUM MOMENT CONNECTION, MECHANICAL COUPLING MECHANICAL MEZZANINE MANUFACTURE(R) MINIMUM MISCELLANEOUS METAL	T T&B TAN TEMP THD THK TO TOC TOF TOM TOS TOW TYP
F		N		U
FAB f'c FD FDN FIN FLR FS FT FTG FUT FV Fy fy	FABRICATE 28 DAY CONCRETE STRENGTH = FLOOR DRAIN FOUNDATION FINISH(ED) FLOOR FAR SIDE FOOT FOOTING FUTURE FIELD VERIFY STRUCTURAL STEEL YIELD STRENGTH = REINFORCING STEEL YIELD STRENGTH =	N N/A NIC NO NOM NS NTS NWC	NORTH NOT APPLICABLE NOT IN CONTRACT NUMBER NOMINAL NEAR SIDE NOT TO SCALE NORMAL WEIGHT CONCRETE	UNO USGS
		O		V
FAB f'c FD FDN FIN FLR FS FT FTG FUT FV Fy fy	FABRICATE 28 DAY CONCRETE STRENGTH = FLOOR DRAIN FOUNDATION FINISH(ED) FLOOR FAR SIDE FOOT FOOTING FUTURE FIELD VERIFY STRUCTURAL STEEL YIELD STRENGTH = REINFORCING STEEL YIELD STRENGTH =	OC OD OF OPER OPH OPNG OPP OVS OZ	ON CENTER OUTSIDE DIAMETER OUTSIDE FACE OPERATING OPPOSITE HAND OPENING OPPOSITE OVERSIZED HOLE OUNCE	VERT VNR
				W
				W W/ W/O WF WP WPS WT WWR
				WEST WITH WITHOUT WIDE FLANGE WORK POINT WELDING PROCEDURE QUALIFICATIONS WEIGHT WELDED WIRE REINFORCEMENT



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Raleigh

NEUSE RIVER
RESOURCE RECOVERY
FACILITY BNR BASINS
MCC REPLACEMENT

ISSUED FOR BID

[illegible]

REVISIONS AND RECORD OF ISSUE

DESIGNED:	DRJ
DETAILED:	JGC
CHECKED:	KC
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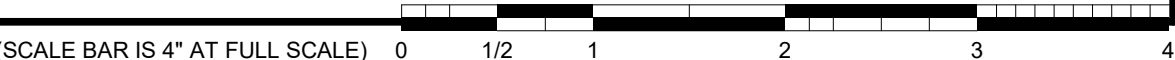
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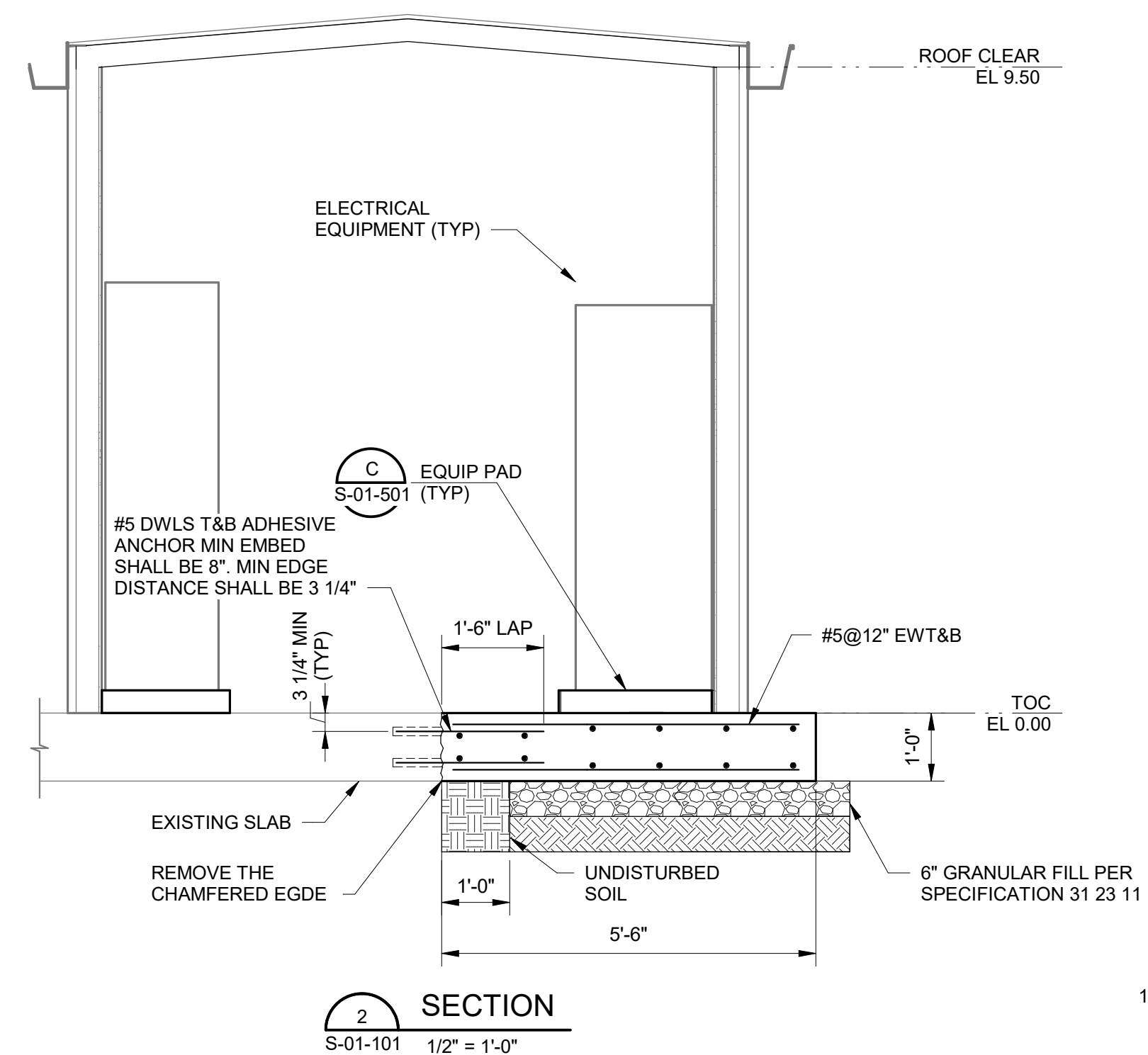
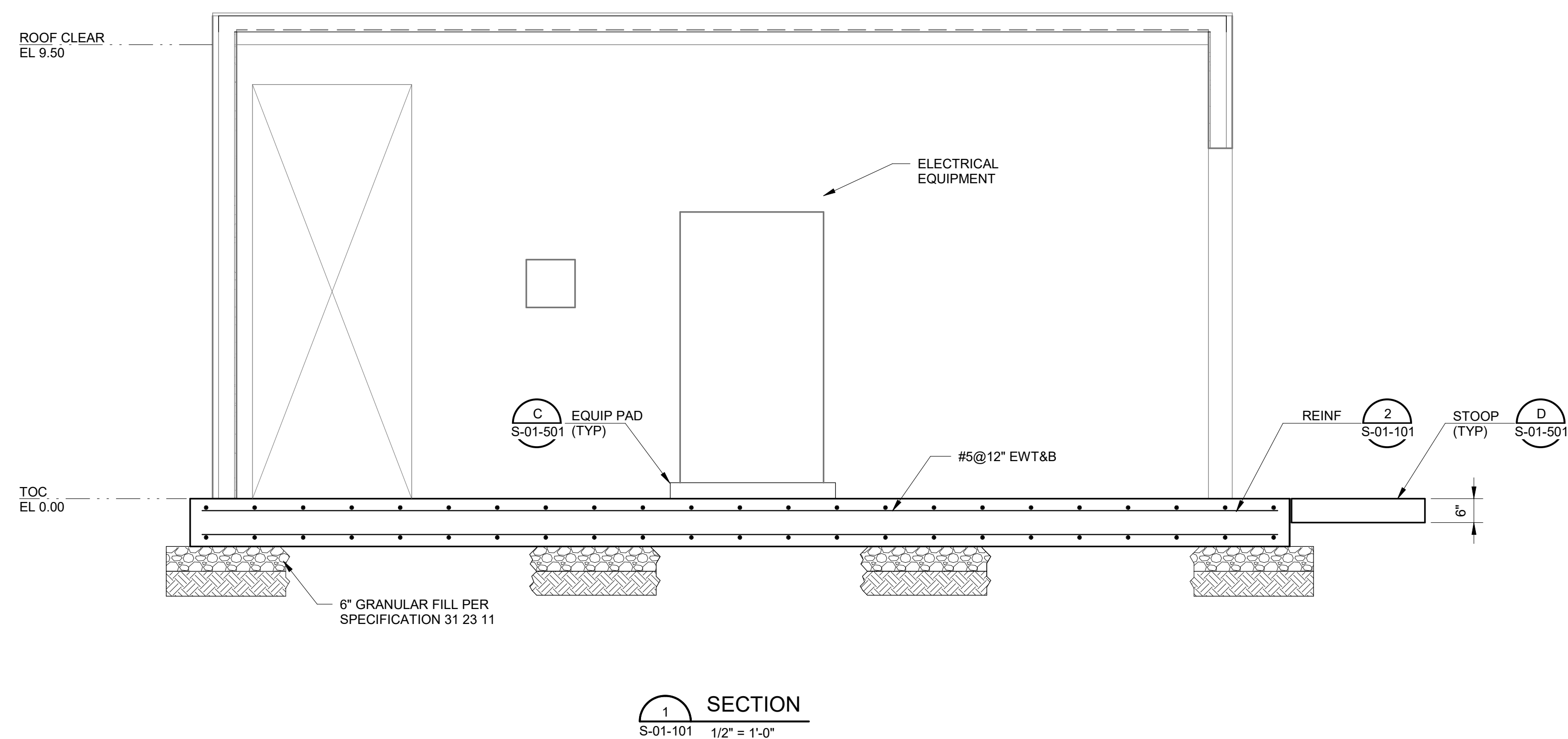
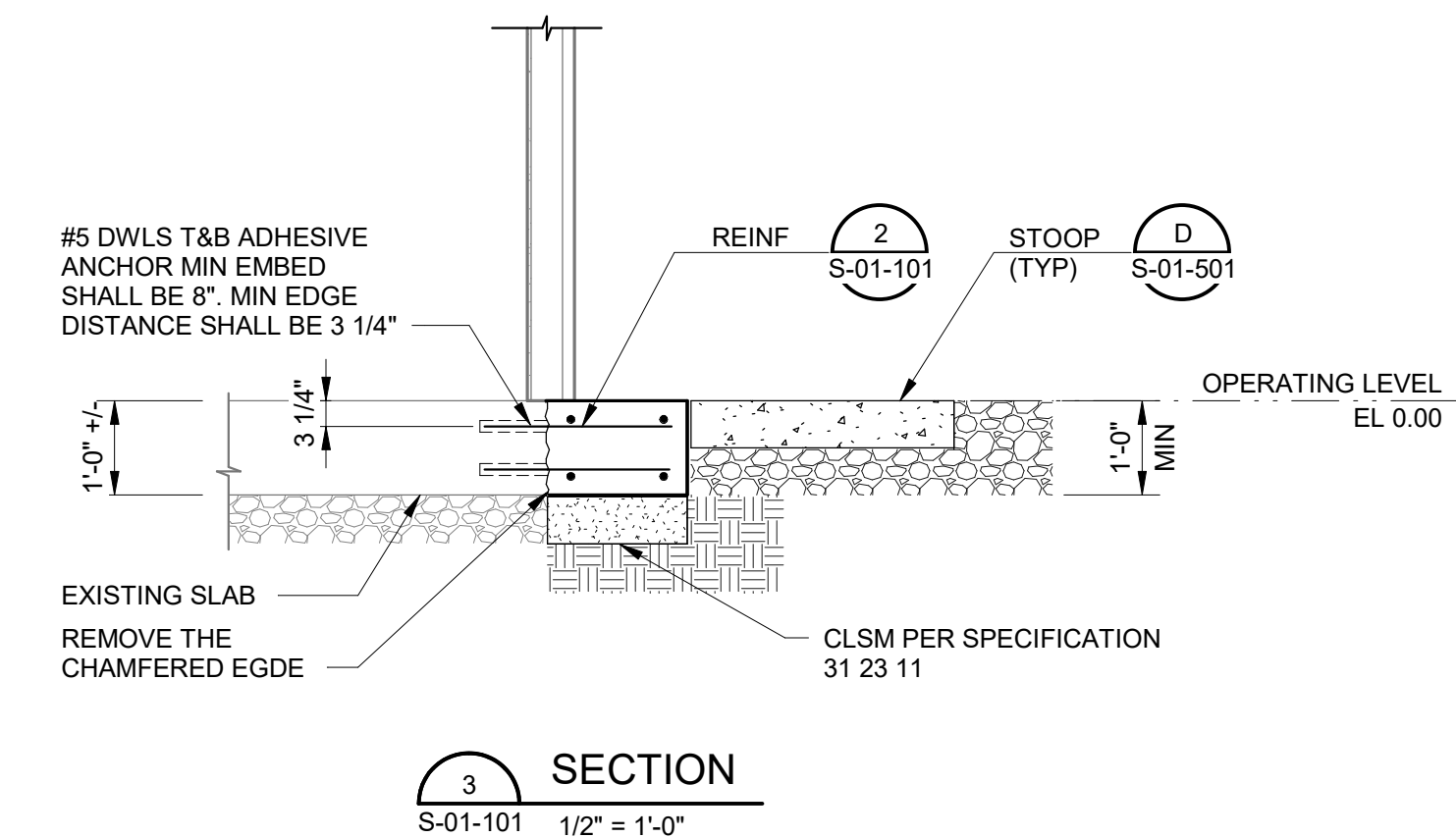
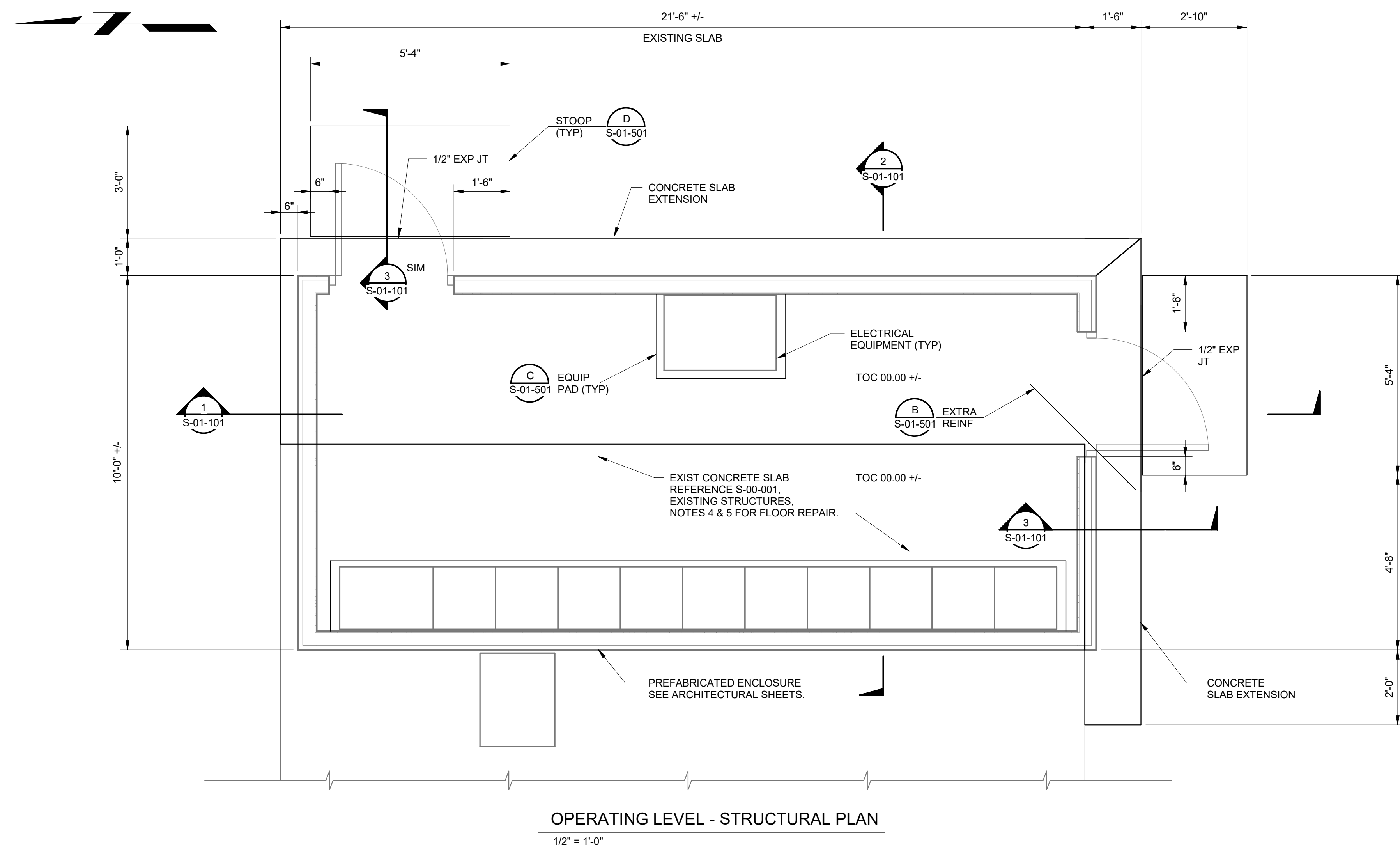
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STRUCTURAL ABBREVIATIONS AND LEGENDS

S-00-002

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OF
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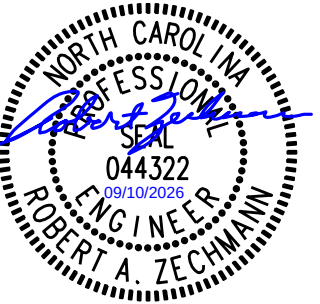


GENERAL SHEET NOTES

1. REFERENCE S-01-501 FOR STANDARD DETAILS.
2. REFERENCE ELECTRICAL SHEETS FOR EQUIPMENT LOCATIONS IN THE PREFABRICATED ENCLOSURE.
3. EXISTING SLAB DIMENSIONS VARY AT EACH LOCATION, FIELD VERIFY THE DIMENSIONS AND ADJUST SLAB EXTENSIONS AS REQUIRED TO FIT THE ENCLOSURE AND APPURTENANCES.
4. PREFABRICATED BUILDING MANUFACTURER SHALL DESIGN AND PROVIDE A MINIMUM OF (4) ANCHORS TO THE CONCRETE FOUNDATION, ANCHORAGE SHALL BE DESIGNED TO MEET THE LATERAL LOADS INDICATED ON S-00-001.
5. REFERENCE ARCHITECTURAL SHEETS FOR BUILDING DIMENSIONS.



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NEUSE RIVER
RESOURCE RECOVERY
FACILITY BNR BASINS
MCC REPLACEMENT

ISSUED FOR BID

REVISIONS AND RECORD OF ISSUE

DESIGNED:	DRJ
DETAILED:	JGC
CHECKED:	KC
APPROVED:	RAZ
DATE:	AUGUST 2026
PROJECT NO.:	424744

PROJECT NO.: 424744

STRUCTURAL

CONCRETE PAD PLAN AND SECTION

S-01-101

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OF
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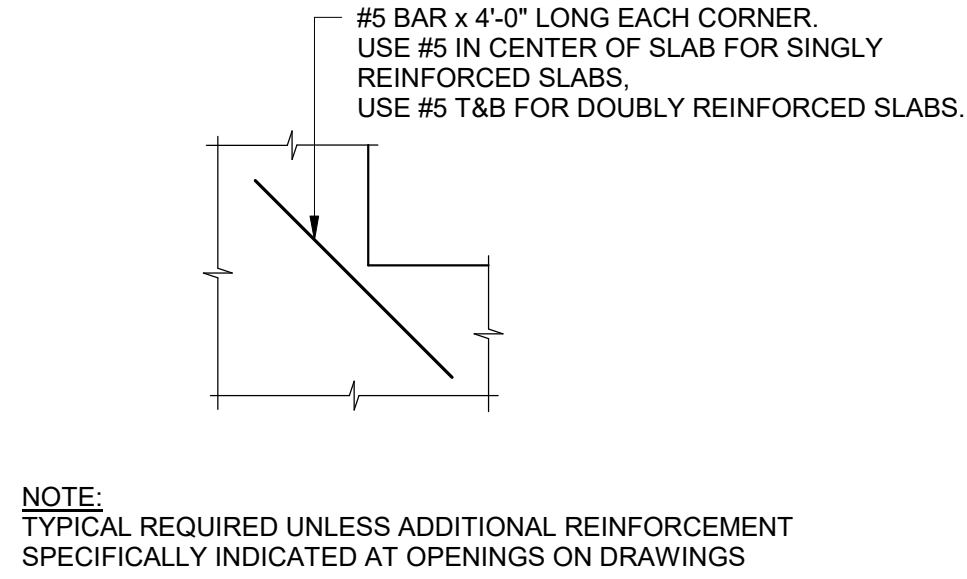
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LENGTH OF LAPPED SPLICES FOR REINFORCEMENT (INCHES)					CONCRETE COVER FOR REINFORCEMENT	
UNLESS NOTED OTHERWISE ON THE DRAWINGS					LOCATION	SPECIFIED COVER
BAR SIZE *	BEAMS & COLUMNS		WALLS & SLABS		BAR SIZE *	
	**TOP BARS	OTHERS	**TOP BARS	OTHERS		
#3	16	16	16	16	#3	UNFORMED SURFACES ADJACENT TO EXCAVATION..... 3"
#4	19	16	19	16	#4	FORMED SURFACES THAT ARE SUBMERGED, AND FORMED OR TOP SURFACES EXPOSED TO WEATHER, SATURATED AIR, OR EARTH..... 2"
#5	24	18	24	18	#5	OTHER LOCATIONS:
#6	33	26	29	22	#6	SLABS, WALLS AND JOISTS:
#7	55	42	48	37	#7	#5 AND LARGER..... 1 1/2"
#8	69	53	60	46	#8	#4 AND SMALLER..... 1"
#9	84	65	74	57	#9	
#10	103	79	91	70	#10	
#11	122	94	108	83	#11	
* LAP SPLICE LENGTH FOR BARS OF DIFFERENT SIZES SHALL BE THE GREATER OF THE SMALL BAR LAP LENGTH OR 0.75x THE LARGER BAR LAP LENGTH.					NOTES:	
** TOP BARS ARE HORIZONTAL BARS SO PLACED THAT MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR. HORIZONTAL BARS IN WALLS ARE TO BE PROVIDED WITH LAP LENGTHS AS REQUIRED FOR TOP BARS. VERTICAL BARS MAY BE CONSIDERED AS OTHER BARS.					1. COVER IS MEASURED TO NEAREST BAR, STIRRUP, TIE, OR SPIRAL, AS APPLICABLE.	
					2. TOLERANCES FOR CONCRETE COVER AND THE FABRICATION AND PLACING OF REINFORCEMENT SHALL CONFORM TO ACI 117.	

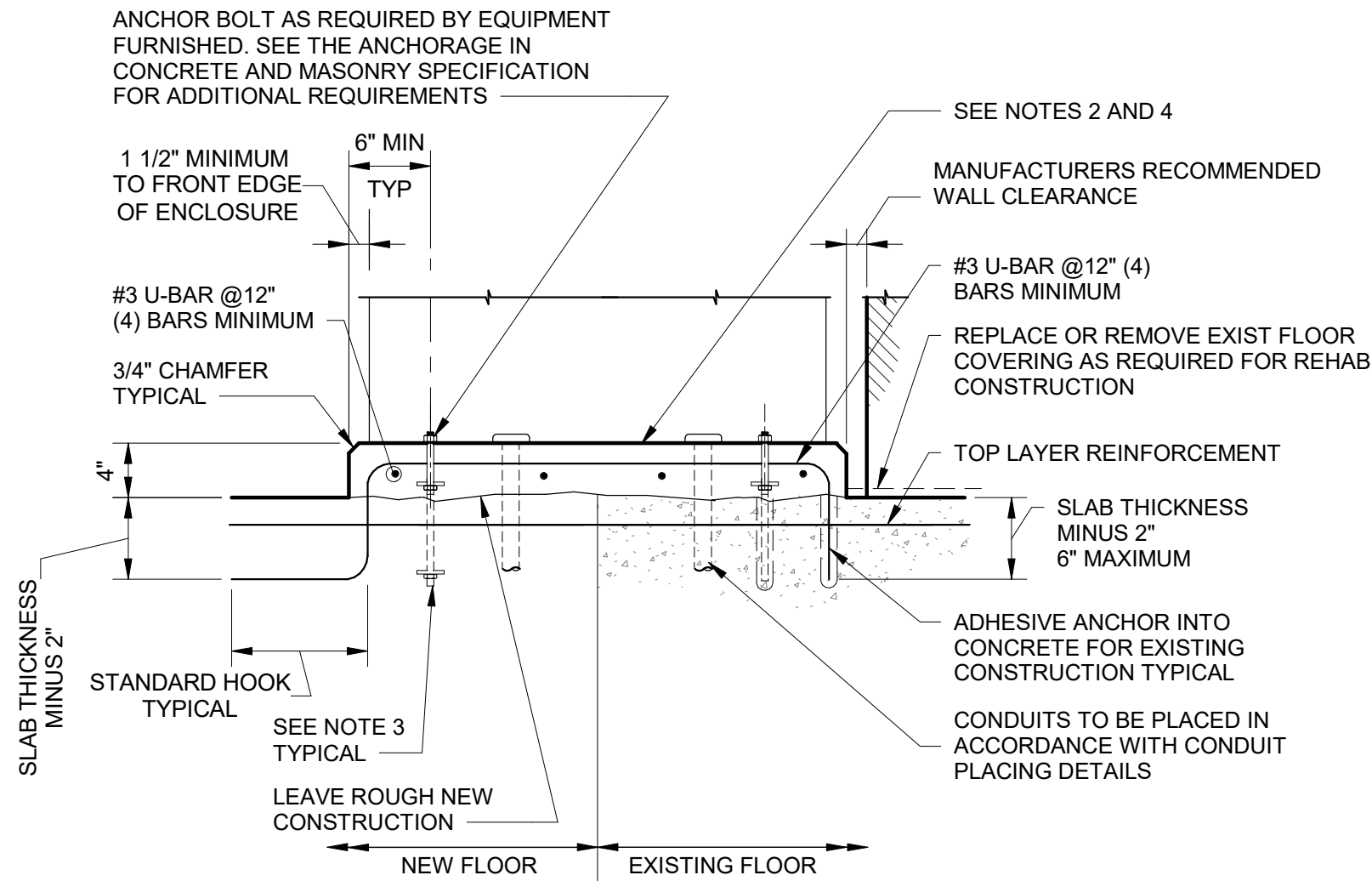


**TYPICAL EXTRA REINFORCEMENT
AT ISOLATED RE-ENTRANT CORNERS**

12" = 1'-0"

STANDARD CONCRETE REINFORCEMENT SCHEDULE

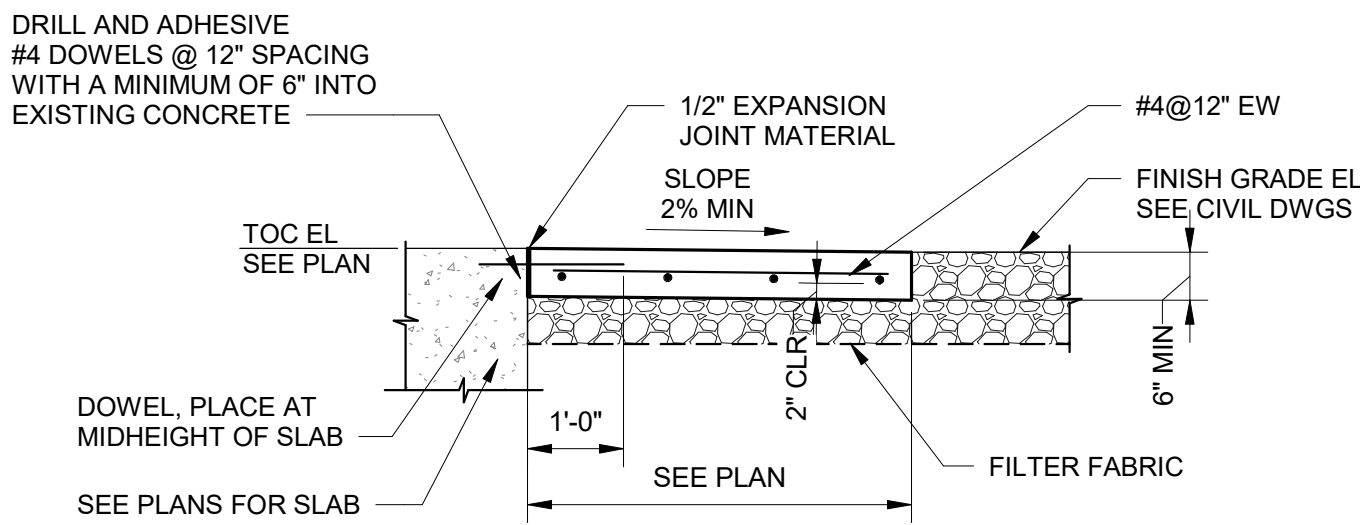
12" = 1'-0"



- NOTES:**
- UNLESS OTHERWISE NOTED, ALL INDOOR FLOOR MOUNTED ELECTRICAL EQUIPMENT, INCLUDING SWITCHGEAR, SWITCHBOARDS, MOTOR CONTROL CENTERS, ADJUSTABLE FREQUENCY DRIVES, INSTRUMENT CABINETS, ETC., SHALL BE PROVIDED WITH EQUIPMENT BASES.
 - CONTRACTOR AND SUPPLIER SHALL COORDINATE FINAL LOCATION AND SIZE OF PADS WITH EQUIPMENT FURNISHED. COORDINATE ANCHOR BOLT REQUIREMENTS FOR REQUIRED EMBEDMENT DEPTHS AND CONCRETE EDGE DISTANCES.
 - WHERE THE DESIGN ANCHOR BOLT EMBEDMENT IS GREATER THAN THE CONCRETE EQUIPMENT BASE THICKNESS, THEN THE REQUIRED DEPTH OF EMBEDMENT SHALL BE MEASURED FROM THE TOP OF STRUCTURAL SLAB AND NOT THE TOP OF THE EQUIPMENT BASE.
 - EQUIPMENT BASE SHALL USE STRUCTURAL CONCRETE AS INDICATED IN THE CAST-IN-PLACE CONCRETE SPECIFICATION.

ELECTRICAL EQUIPMENT BASE

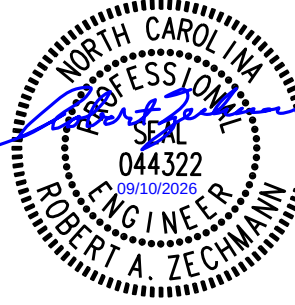
NO SCALE



- NOTES:**
- STOOP WIDTH SHALL EXTEND A MINIMUM OF 6" BEYOND THE HINGE SIDE AND 1'-6" BEYOND THE LATCH SIDE OF THE DOOR.
 - PLACE COMPACTED UNSUSCEPTIBLE FROST MATERIAL UNDER SLAB DOWN TO FROST DEPTH AND EXTEND A MINIMUM OF 36" BEYOND THE LIMITS OF THE SLAB. PLACE FILTER FABRIC BELOW NON-SUSCEPTIBLE MATERIAL.

TYPICAL DOOR STOOP

1/2" = 1'-0"



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PROJECT NO.: 424744

STRUCTURAL

STANDARD CONCRETE
DETAILS

S-01-501

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OF
35

ELECTRICAL ABBREVIATIONS & NOTES

ELECTRICAL GENERAL NOTES

1. SOLID LINES (—————) INDICATE NEW WORK OR EQUIPMENT.
2. SCREENED LINES (—————) INDICATE EXISTING WORK OR EQUIPMENT.
3. DASHED LINES (-----) INDICATE FUTURE WORK OR EQUIPMENT.
4. REFER TO UNIVERSAL DISCIPLINE CONTRACT DRAWINGS FOR ADDITIONAL ABBREVIATIONS, DETAILS, AND GENERAL DESIGN NOTES.
5. LEGEND SHEETS ARE GENERAL. SOME SYMBOLS AND ABBREVIATIONS MAY NOT BE UTILIZED ON THIS SPECIFIC PROJECT.
6. INFORMATION RELATED TO CIRCUIT IDENTIFICATION, WIRE & CONDUIT SIZES, AND ROUTING, IS ON THE FOLLOWING DRAWING TYPES.
 - A. ONE-LINE DIAGRAMS SHOW CIRCUIT IDENTIFICATION, WIRE QUANTITY AND SIZES, AND CONDUIT SIZE WITHIN STRUCTURES. ONE-LINE DIAGRAMS ALSO INDICATE ORIGIN AND DESTINATION OF CIRCUITS, AND IDENTIFY CIRCUITS ROUTED UNDERGROUND.
 - B. FOR CIRCUITS WITHOUT UNDERGROUND PORTIONS, BUILDING FLOOR PLANS SHOW LOCATION OF EQUIPMENT FOR DETERMINING CIRCUIT LENGTH WITHIN THE STRUCTURE. FOR CIRCUITS WITH UNDERGROUND PORTIONS, ANTICIPATED PENETRATION OF UNDERGROUND CONDUITS ARE SHOWN ON STRUCTURE PLANS FOR DETERMINING THE LENGTH OF THE IN-STRUCTURE PORTIONS OF CIRCUITS. BUILDING FLOOR PLANS MAY ALSO SHOW HOME RUNS FOR LIGHTING, RECEPTACLE, AND OTHER MISCELLANEOUS EQUIPMENT CIRCUITS.
 - C. SITE PLANS INDICATE THE GENERAL ROUTING OF UNDERGROUND CONDUITS AND DUCT BANKS. CIRCUITS ROUTED IN UNDERGROUND CONDUITS OR DUCT BANKS ARE INDICATED IN DUCT BANK SECTIONS REFERENCED ON THE SITE PLAN.
 - D. DUCT BANK SECTIONS AND SCHEDULES IDENTIFY CONDUIT SIZE, CONDUIT MATERIAL, ARRANGEMENT OF THE UNDERGROUND CONDUITS, AND CIRCUITS ROUTED IN EACH UNDERGROUND CONDUIT.

AREA DESIGNATIONS

THE SPECIAL AREA DESIGNATION BOXES, AS DEFINED BELOW, ARE LOCATED ON THE PLAN DRAWINGS TO DEFINE ELECTRICAL INSTALLATION REQUIREMENTS. DESIGNATION BOXES ARE LOCATED WITHIN ROOM OR BELOW ROOM NUMBER. ALL INDOOR AREAS NOT INDICATED OTHERWISE ARE AREA TYPE 1 AND MINIMUM NEMA TYPE 1 ENCLOSURES.

AREA TYPE 1A	CORROSIVE CHEMICAL FEED AND STORAGE ROOMS. CONDUIT SYSTEM SHALL BE EXPOSED SCHEDULE 80 PVC RIGID NON-METALLIC CONDUIT WITH PVC FITTINGS, BOXES AND ACCESSORIES.
AREA TYPE 4	INDOOR WET LOCATIONS SUCH AS VAULTS, HOSEDOWN AREAS, BASEMENTS, ETC. MINIMUM NEMA TYPE 4 ENCLOSURE FOR EQUIPMENT AND GASKETED FITTINGS IN A CONDUIT SYSTEM.
AREA TYPE 7A	CLASS I, DIVISION 1 AREA AS DEFINED BY NEC. ALL EQUIPMENT AND CONDUIT SYSTEMS SHALL BE RATED FOR USE IN THIS AREA.
AREA TYPE 7B	CLASS I, DIVISION 2, GROUP C AND D (METHANE, GASOLINE) AS DEFINED BY NEC. EQUIPMENT AND CONDUITS SYSTEMS SHALL BE RATED FOR USE IN THIS AREA.
AREA TYPE 12	INDOOR, DRY, DIRTY AREA. REQUIRES MINIMUM NEMA TYPE 12 GASKETED ENCLOSURES FOR ALL EQUIPMENT AND GASKETED FITTINGS IN CONDUIT SYSTEMS.

GENERAL REQUIREMENTS

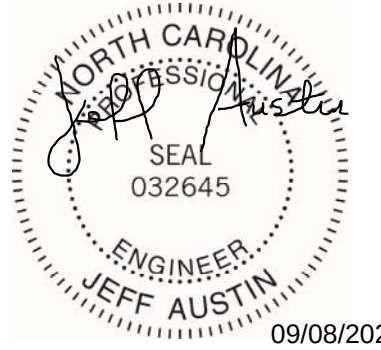
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING ALL CONDUITS NOT SHOWN ON THE PLANS. THIS SHALL INCLUDE ALL CONDUITS SHOWN ON THE ONE-LINES AND HOME-RUNS SHOWN ON THE PLAN DRAWINGS. CONDUITS SHALL BE ROUTED AS DEFINED IN THE SPECIFICATION.
2. SPARE WIRES SHALL BE TAPED AND COILED AND LABELED TO INDICATE WHERE OTHER END OF SPARE WIRE IS LOCATED.
3. IF EQUIPMENT SUPPLIED BY MANUFACTURER HAS A LARGER LOAD THAN VALUE SHOWN, THE CABLE CONDUIT AND ELECTRICAL EQUIPMENT SHALL BE ENLARGED, AS REQUIRED, TO ACCOMMODATE THE HIGHER VALUE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING PROPERLY SIZED STARTER OVERLOADS FOR EQUIPMENT FURNISHED.
5. LIGHTING AND RECEPTACLE CIRCUITS DESIGNATED ON THE FLOOR PLANS ARE NOT SHOWN ON THE ONE-LINES. CONDUCTORS FOR LIGHTING, RECEPTACLES, AND MISCELLANEOUS 120VAC CIRCUITS SHALL BE MINIMUM NO. 12AWG. CONDUIT FOR LIGHTING, RECEPTACLES, AND MISCELLANEOUS 120VAC CIRCUITS SHALL BE MINIMUM 3/4".
6. IN AREAS WHERE THERE ARE OVERHEAD BRIDGE CRANES, HOISTS, ETC. NO CONDUITS SHALL BE RUN OVERHEAD THAT WILL INTERFERE WITH THE OPERATION OF THE EQUIPMENT.

ELECTRICAL ABBREVIATIONS

A	AMBER, AMPERE, ALARM	I/O	INPUT/OUTPUT	S	SHORT-TIME, SHIELDED, STARTER
AC	ALTERNATING CURRENT	I	INSTANTANEOUS	SA	SURGE ARRESTER, SPEAKER AMPLIFIER
ACB	AIR CIRCUIT BREAKER	IJB	INTERCOM JUNCTION BOX	SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
ACR	ACCESS CARD READER	<u>J</u>		SF6	SULFUR HEXAFLORIDE
AF	AMPERE FRAME	J,JB	JUNCTION BOX	SH	SPACE HEATER
AFD	ADJUSTABLE FREQUENCY DRIVE	<u>K</u>		SN	SOLID NEUTRAL
AFRD	ARC-FLASH REDUCTION DEVICE	K	KEY INTERLOCK	SO	SOLENOID OILER
AM	AMMETER	KC	KEY OPERATED	SP	SINGLE POLE
ANN	ANNUNCIATOR	KCML	THOUSAND AMPERES INTERRUPTING CURRENT	SPD	SURGE PROTECTION DEVICE
AR	ALARM RELAY	KO	THOUSAND CIRCULAR MIL	SPDT	SINGLE POLE DOUBLE THROW
AS	AMMETER SWITCH, AMPERE SENSOR	KV	KEY OPERATED	SPST	SINGLE POLE SINGLE THROW
AT	AMPERE TRIP	KVA	KILOVOLT	SS	SELECTOR SWITCH, START/STOP, STAINLESS STEEL
ATS	AUTOMATIC TRANSFER SWITCH	KVAR	KILOVOLT AMPERE	SSM	SOLID-STATE METERING
AUX	AUXILIARY	KW	KILOWATT	SSS	SOLID STATE STARTER
AWG	AMERICAN WIRE GAUGE	KWH	KILOWATT HOUR	SST	SOLID-STATE TRIP
<u>B</u>		<u>L</u>		SUPV	SUPERVISORY CONTROL
B	BUS	L	LOW, LEVEL, LONG-TIME	SV	SOLENOID VALVE
BC	BATTERY CHARGER	LA	LIGHTNING ARRESTER	SWB,SWBD	SWITCHBOARD
BKR	BREAKER	LAN	LOCAL AREA NETWORK	SWG,SWGR	SWITCHGEAR
BR	BRAKE	LCE	LIGHTING CONTRACTOR	<u>T</u>	
BT	BEARING TEMPERATURE	LCP	LIGHTING CONTRACTOR ENCLOSURE	T	THERMOSTAT, TIMER, TOTALIZER, TRANSFORMER
<u>C</u>		LCS	LIGHTING CONTROL ENCLOSURE	TACH	TACHOMETER
C	CLOSE, COUNTER, CONTACTOR, CONTROL, CCTV CAMERA	LOA	LOCAL OFF-AUTO	TB	TERMINAL BLOCK
CAP	CAPACITOR	LOR	LOCAL OFF-REMOTE	TC	TIMER CLUTCH
CB	CIRCUIT BREAKER	LOS	LOCK OUT STOP	TD	TIME DELAY RELAY
CB*A*	CIRCUIT BREAKER AUXILIARY CONTACT (OPEN WHEN BREAKER IS OPEN)	LP	LIGHTING PANEL	TEMP	TEMPERATURE
CB*B*	CIRCUIT BREAKER AUXILIARY CONTACT (CLOSED WHEN BREAKER IS OPEN)	LS	LIMIT OR LEVEL SWITCH	TM	TIMER MOTOR
CD	CONTROL DAMPER	LTG	LIGHTING	TQ	TORQUE
CI	CELL INTERLOCK	LWCO	LOW WATER CUTOFF	TR	TIMER RELAY, TRIAD
CKT	CIRCUIT	<u>M</u>		TS	TEMPERATURE SWITCH
CL2	CHLORINE	M	MAGNETIC MOTOR STARTER	TTB	TELEPHONE TERMINAL BOARD
COS	CABLE OPERATED SWITCH	MA	MILLIAMPERE	<u>U</u>	
CP	CONTROL PANEL	MCB	MAIN CIRCUIT BREAKER	UG	UNDERGROUND
CPT	CONTROL POWER TRANSFORMER	MCC	MOTOR CONTROL CENTER	UPS	UNINTERRUPTIBLE POWER SUPPLY
CR	CURRENT OF CONTROL RELAY, CARD READER	MCLU	MOTOR CONTROL LINEUP	<u>V</u>	
CS	CONTROL STATION	MD	MOISTURE DETECTOR, MOTION DETECTOR	V	VOLTS, VOLTAGE RESTRAINED
CT	CYCLE TIMER OR CURRENT TRANSFORMER	MDL	MAGNETIC DOOR LOCK	VA	VOLT AMPERE
CTC	CYCLE TIMER CLUTCH	MFR	MANUFACTURER	VAR	VARMETER
CTM	CYCLE TIMER MONITOR	MH	MANHOLE, MOUNTING HEIGHT	VFD	VARIABLE FREQUENCY DRIVE
2/C	2 CONDUCTOR	MOV	MOTOR OPERATED VALVE	VI	VACUUM INTERRUPTER
4"C	4" CONDUIT	MPR	MOTOR PROTECTION RELAY	VLS	VALVE LIMIT SWITCH
<u>D</u>		MS	MANUAL MOTOR STARTER	VM	VOLTMETER
DC	DIRECT CURRENT, DOOR CONTACT	MTS	MANUAL TRANSFER SWITCH	VPI	VALVE POSITION INDICATOR
DI	DOOR INTERLOCK	MV	MILLIVOLT, MEDIUM VOLTAGE	VS	VOLTMETER SWITCH
DM	DAMPER MOTOR, DEMAND METER, DIMMER SWITCH	MVA	MEGAVOLT AMPERE	<u>W</u>	
DPDT	DOUBLE POLE DOUBLE THROW	<u>N</u>		W	WHITE, WATTS
DPST	DOUBLE POLE SINGLE THROW	N	NEUTRAL	WH	WATTHOUR METER
DPR	DIFFERENTIAL PRESSURE REGULATOR	NGR	NEUTRAL GROUNDING RESISTOR	WM	WATT METER
DPS	DIFFERENTIAL PRESSURE SWITCH	NGT	NEUTRAL GROUNDING TRANSFORMER	WP	WEATHERPROOF
DS	DISCONNECT SWITCH, DOOR SWITCH, DESKTOP STATION	NC	NORMALLY CLOSED	WPI	WEATHERPROOF IN-USE
DVLS	DISCHARGE VALVE LIMIT SWITCH	NO	NORMALLY OPEN, NUMBER	WS	WALL STATION
<u>E</u>		<u>O</u>		<u>X</u>	
E	ELECTRIC OPERATOR FOR CONTROL DAMPER OR VALVE	O	OPEN	X	AUXILIARY RELAY
EC	EMPTY CONDUIT	OL	OVERLOAD	XFMR	TRANSFORMER
EDS	ELECTRICAL DOOR STRIKE	OOA	ON-OFF-AUTO	XP	EXPLOSION PROOF
EL	ELEVATION, EMERGENCY LIGHT	OOR	ON-OFF-REMOTE	<u>Y</u>	
EMH	ELECTRICAL MANHOLE	OS	OCCUPANCY SENSOR	Y	YELLOW
ER	ELECTRODE RELAY	O/U	OVER/UNDER	<u>Z</u>	
ES	END SWITCH, REQUEST TO EXIT SENSOR	<u>P</u>		Z	AUXILIARY RELAY, IMPEDANCE
E-STOP	EMERGENCY STOP	P	PRIMARY, POWER, POLE	ZS	POSITION SWITCH
ETM	ELAPSED TIME METER	PCS	PLANT CONTROL SYSTEM	ZSS	ZERO SPEED SWITCH
EX	EXISTING	PB	PUSH BUTTON, PULL BOX	1-1PR#16S	ONE, SINGLE PAIR, TWISTED SHIELDED #16 CABLE
EXP	EXPLOSION PROOF	PE	PHOTOELECTRIC SENSOR, PHOTOCCELL	3-7/C#14	THREE, SINGLE, SEVEN CONDUCTOR #14 MULTICONDUCTOR CONTROL CABLES
<u>F</u>		PF	POWER FACTOR		
F	FORWARD, FIELD	PFCC	POWER FACTOR CORRECTION CAPACITOR		
FO	FIBER OPTIC	PH	PHASE		
FPR	FEEDER PROTECTION RELAY	PL	PILOT LIGHT		
FS	FLOW SWITCH	PLC	PROGRAMMABLE LOGIC CONTROLLER		
<u>G</u>		PP	POWER PANEL		
G	GREEN, GROUND, GENERATOR, GROUND FAULT	PR	PAIR		
GD	GROUND DETECTOR	PRS	PROXIMITY SWITCH		
GEN	GENERATOR	PS	PRESSURE SWITCH		
GFCI,GFI	GROUND FAULT CURRENT INTERRUPTOR, GROUND FAULT INTERRUPTOR	PT	POTENTIAL TRANSFORMER, PROGRAM TIMER		
GLS	GEARED LIMIT SWITCH	<u>Q</u>			
GPR	GENERATOR PROTECTION RELAY	Q	NOT USED		
GND	GROUND	<u>R</u>			
#8G	#8 GROUND WIRE	R	RED, RAISE, RELAY, REVERSE		
<u>H</u>		RECP	RECEPTACLE		
H	HIGH, HUMIDISTAT	RES	RESISTOR		
HH	HANDHOLE	RH	REMOTE HANDSET		
HMT	HIGH MOTOR TEMPERATURE	RT	REPEATING TIMER		
HOA	HAND-OFF-AUTO	RTD	RESISTANCE TEMPERATURE DETECTOR		
HOR	HAND-OFF-REMOTE	RTU	REMOTE TERMINAL UNIT		
HP	HORSEPOWER	RVSS	REDUCED VOLTAGE SOLID STATE STARTER		
HS	HAND STATION				
HWCO	HIGH WATER CUTOFF				
HZ	HERTZ (CYCLE)				



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REVISIONS AND RECORD OF ISSUE

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DETAILED:	EJK
CHECKED:	SJA
APPROVED:	SJA
DATE:	AUGUST 2026
PROJECT NO.:	424744

PROJECT NO.: 424744

GENERAL

ELECTRICAL

ABBREVIATIONS AND NOTES

E-00-002

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OF
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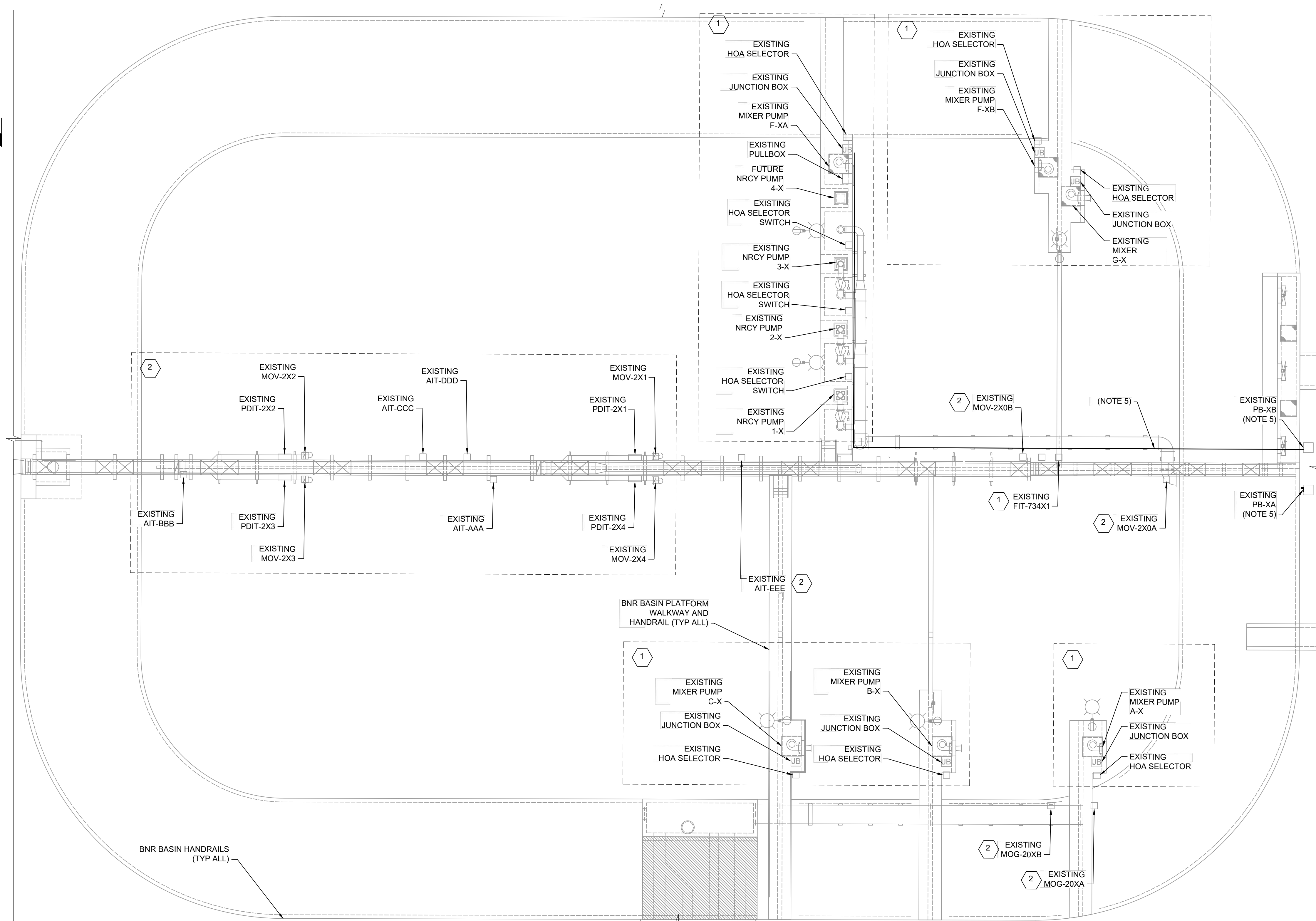


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(SCALE BAR IS 4" AT FULL SCALE) 0 1/2 1 2 3 4

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TYPICAL AERATION BASIN POWER PLAN (BASINS 1,3,5)
SCALE 1"=20'

INSTRUMENT IDENTIFICATION SCHEDULE					
BNR BASIN NO. X	AIT-AAA	AIT-BBB	AIT-CCC	AIT-DDD	AIT-EEE
BNR BASIN NO. 1	AIT-64412	AIT-64412A	AIT-64413A	AIT-210	AIT-64413
BNR BASIN NO. 3	AIT-644	AIT-644A	AIT-645A	AIT-230	AIT-645
BNR BASIN NO. 5	AIT-650	AIT-650A	AIT-651A	AIT-250	AIT-651

GENERAL NOTES

- SEE DRAWINGS E-00-001 AND E-00-002 FOR ELECTRICAL ABBREVIATIONS, NOTES, AND ELECTRICAL LEGENDS.
- THE ARRANGEMENT DEPICTED ON THIS DRAWING IS TYPICAL FOR THE EQUIPMENT THAT MAKES UP THE THREE POWER CENTERS SERVING ALL SIX (6) AERATION BASINS. ALL WORK, EQUIPMENT, AND ARRANGEMENTS SHOWN SHALL BE CONSIDERED TYPICAL FOR AERATION BASINS NO. 1, NO. 3, AND NO. 5 AND THEIR ASSOCIATED POWER CENTERS. EACH PAIR OF AERATION BASINS SHALL BE SERVED BY ONE (1) POWER CENTER WHICH INCLUDES, TWO (2) MOTOR CONTROL CENTERS (MCCS), ONE (1) PLC, ONE (1) MARSHALLING CABINET, AND A CONDUIT RACK WITH TWO (2) PULL BOXES SPANNING THE CHANNEL. EQUIPMENT SERVING EACH AERATION BASIN PAIR IS IDENTIFIED AS:

A. AERATION BASINS NO. 1 AND NO. 2 ARE SERVED BY POWER CENTER 4 WHICH INCLUDES MCC-P4A, MCC-P4B, PLC-81, AND CELL A MARSHALLING CABINET.

B. AERATION BASINS NO. 3 AND NO. 4 ARE SERVED BY POWER CENTER 5 WHICH INCLUDES MCC-P5A, MCC-P5B, PLC-82, AND CELL B MARSHALLING CABINET.

C. AERATION BASINS NO. 5 AND NO. 6 ARE SERVED BY POWER CENTER 6 WHICH INCLUDES MCC-P6A, MCC-P6B, PLC-83, AND CELL C MARSHALLING CABINET.
- IN EQUIPMENT TAG IDENTIFICATION, THE LETTER "X" SHALL DENOTE THE AERATION BASIN NUMBER WITH WHICH THE EQUIPMENT IS ASSOCIATED. THE CONTRACTOR SHALL REPLACE "X" WITH THE APPLICABLE BASIN NUMBER (E.G., 1,2,3,4,5, OR 6) TO CORRESPOND WITH THE BASIN SERVED BY THE EQUIPMENT. REFER TO DRAWINGS C-01-101 AND E-01-601 THROUGH E-01-606 FOR ADDITIONAL DETAILS.
- THIS DRAWING SHOWS THE TYPICAL ORIENTATION USED FOR AERATION BASINS 1, 3, AND 5. AERATION BASINS 2, 4, AND 6 ARE MIRROR IMAGES OF THIS CONFIGURATION. REFER TO DRAWING E-01-103, FOR A TYPICAL LAYOUT OF AERATION BASINS 2, 4, AND 6.
- CONTRACTOR SHALL REPLACE CONDUITS ALONG BASIN WALKWAY SERVING THE EXISTING NRCY PUMPS AND ASSOCIATED EQUIPMENT. CONDUITS ROUTED FROM PULLBOXES PB-XA AND PB-XB SHALL BE FIELD ROUTED EXPOSED ALONG THE BASIN CENTER PLATFORM.

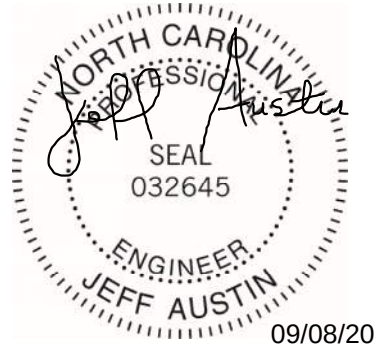
SHEET KEYNOTES

UPON INSTALLATION OF NEW CONDUIT RACK BETWEEN EXISTING CHANNEL PULLBOXES NO.1 AND NO.2, AND REPLACEMENT OF CONDUITS SERVING THE NRCY PUMPS, CONTRACTOR SHALL PERFORM THE FOLLOWING WORK AT THE AERATION BASINS:

- CONTRACTOR SHALL INSTALL NEW CABLES FROM NEW MCC-P4B, MCCP-P5B, AND MCC-P6B AND THE ASSOCIATED LIGHTING PANELS LOCATED IN THESE MCC'S TO ASSOCIATED END-USE EQUIPMENT LOCATED AT THE AERATION BASIN. EXISTING CONDUITS AT THE BASIN (EXCLUDING THOSE ASSOCIATED WITH THE NRCY PUMPS) SHALL BE RE-USED TO THE EXTENT POSSIBLE. REFER TO DRAWINGS E-01-601 THROUGH E-01-608 FOR ADDITIONAL DETAILS.
- FOR EXISTING CABLE ROUTED ACROSS THE CHANNEL CONDUIT RACK AND NOT FED FROM MCC-P4B, MCCP-P5B, OR MCC-P6B, CONTRACTOR SHALL FURNISH AND INSTALL NEW CABLES FROM THE SOURCE TO CHANNEL PULLBOX NO. 2. EXISTING FIELD CABLES FROM THE BASIN TO PULLBOX NO. 2 SHALL REMAIN AND SHALL BE SPLICED TO THE NEW CABLE WITHIN PULLBOX NO. 2. EXISTING EXPOSED CONDUITS AT THE BASIN THAT SERVE THIS EQUIPMENT SHALL BE RE-USED TO THE EXTENT POSSIBLE. REFER TO DRAWINGS E-01-601 THROUGH E-01-608 FOR ADDITIONAL DETAILS.



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NEUSE RIVER RESOURCE
RECOVERY FACILITY BNR
BASINS MCC
REPLACEMENT

ISSUED FOR BID

REVISIONS AND RECORD OF ISSUE	
DESIGNED:	EJK
DETAILED:	JHC
CHECKED:	SJA
APPROVED:	SJA
DATE:	AUGUST 2026
PROJECT NO.:	424744

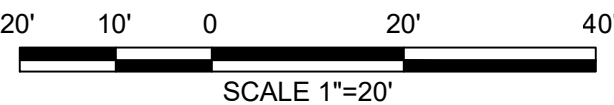
SITE

ELECTRICAL

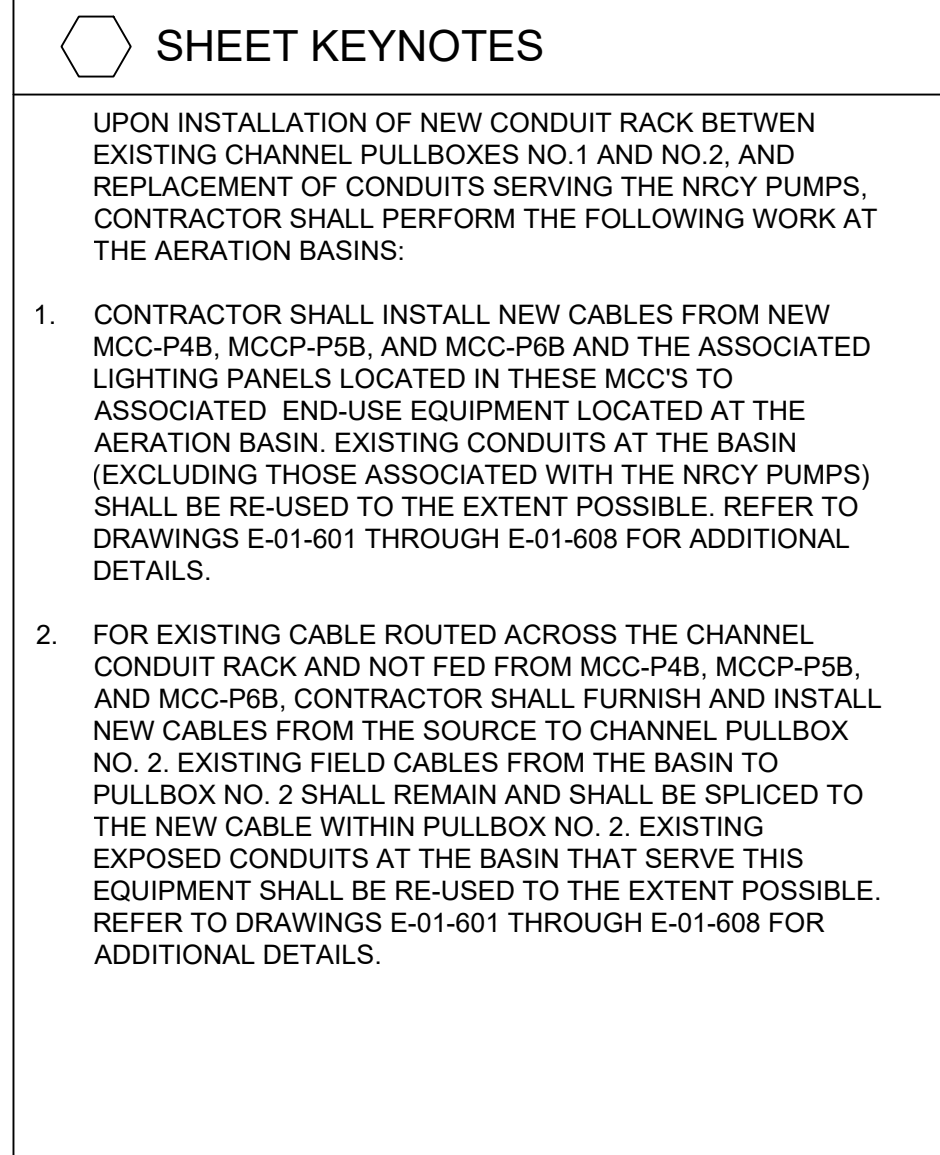
TYPICAL AERATION BASIN
POWER PLAN (BASINS
1,3,5)

E-01-102

19
OF
35



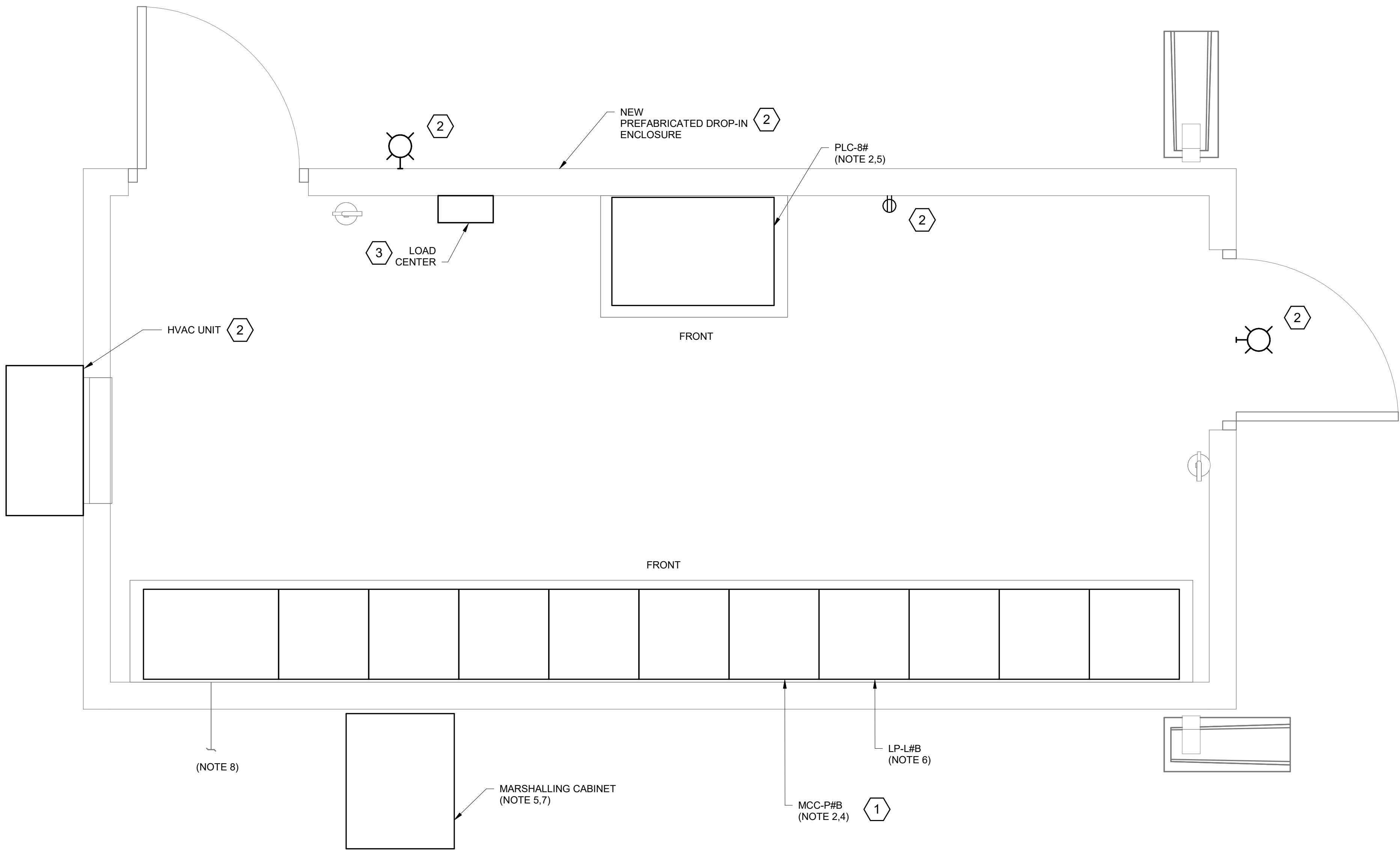
(SCALE BAR IS 4" AT FULL SCALE) 0 1/2 1 2 3 4



20' 10' 0 20' 40'

SCALE 1"=20'

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REVIT VERSION: 2024
011000



TYPICAL POWER CENTER POWER PLAN

3/4" = 1'-0"

GENERAL NOTES

- SEE DRAWINGS E-00-001 AND E-00-002 FOR ELECTRICAL ABBREVIATIONS, NOTES, AND ELECTRICAL LEGENDS.
- THE ARRANGEMENT DEPICTED ON THIS DRAWING IS TYPICAL FOR THE EQUIPMENT THAT MAKES UP THE THREE POWER CENTERS SERVING ALL SIX (6) AERATION BASINS. ALL WORK, EQUIPMENT AND ARRANGEMENTS SHOWN SHALL BE CONSIDERED TYPICAL FOR ALL SIX (6) BASINS AND THEIR ASSOCIATED POWER CENTERS. EACH PAIR OF AERATION BASINS SHALL BE SERVED BY ONE (1) POWER CENTER WHICH INCLUDES, TWO (2) MOTOR CONTROL CENTERS (MCCS), ONE (1) PLC, ONE (1) MARSHALLING CABINET, AND A CONDUIT RACK WITH TWO (2) PULL BOXES SPANNING THE CHANNEL. EQUIPMENT SERVING EACH AERATION BASIN PAIR IS IDENTIFIED AS:

A. AERATION BASINS NO. 1 AND NO. 2 ARE SERVED BY POWER CENTER 4 WHICH INCLUDES MCC-P4A, MCC-P4B, PLC-81, AND CELL A MARSHALLING CABINET.

B. AERATION BASINS NO. 3 AND NO. 4 ARE SERVED BY POWER CENTER 5 WHICH INCLUDES MCC-P5A, MCC-P5B, PLC-82, AND CELL B MARSHALLING CABINET.

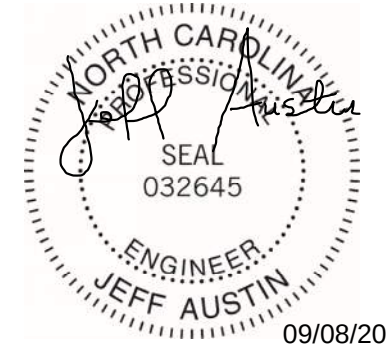
C. AERATION BASINS NO. 5 AND NO. 6 ARE ARE SERVED BY POWER CENTER 6 WHICH INCLUDES MCC-P6A, MCC-P6B, PLC-83, AND CELL C MARSHALLING CABINET.
- NOT USED.
- CONTRACTOR SHALL INSTALL NEW CABLES FROM NEW MCC-P4B, MCC-P5B, AND MCC-P6B TO END-USE EQUIPMENT LOCATED AT THE ASSOCIATED AERATION BASINS. REFER TO DRAWINGS E-01-601 THROUGH E-01-605 FOR ADDITIONAL DETAILS.
- CONTRACTOR SHALL PROVIDE COMPLETE DRESSING, IDENTIFICATION, SEPERATION, AND TERMINATION PREPARATION OF ALL CONTROL AND INSTRUMENTATION WIRING BETWEEN THE NEW PLC-81, PLC-82, AND PLC-83 AND THE ASSOCIATED MARSHALLING CABINETS. FINAL LANDING OF FIELD WIRING, PLC I/O WIRING, AND ASSOCIATED CONTROL WIRING SHALL BE COORDINATED WITH THE SYSTEM INTEGRATOR. REFER TO DRAWING E-01-104 FOR ADDITIONAL DETAILS.
- LIGHTING PANEL SECTION CONFIGURATION DIFFERS BETWEEN MCC-P4B, MCC-P5B, AND MCC-P6B. REFER TO DRAWINGS E-01-601 THROUGH E-01-603 FOR ADDITIONAL DETAILS.
- REFER TO DRAWING E-01-501 FOR MARSHALLING CABINET INSTALLATION DETAILS.
- CONTRACTOR SHALL INSTALL NEW FEEDER CONDUCTORS FROM MCC-P4A TO MCC-P4B, MCC-P5A TO MCC-P5B, AND MCC-P6A TO MCC-P6B UTILIZING THE EXISTING CONDUITS. REFER TO DRAWINGS E-01-601 THROUGH E-01-603 FOR ADDITIONAL DETAILS.

SHEET KEYNOTES

- CONTRACTOR SHALL ALIGN AND INSTALL NEW MCC OVER EXISTING CONDUIT STUB-UPS IN ORDER TO REUSE EXISTING FEEDER AND CONTROL RACEWAYS. CONTRACTOR SHALL FIELD VERIFY CONDUIT ARRANGEMENT AND PROVIDE ALL REQUIRED ADJUSTMENTS, SUPPORT FITTINGS, AND COORDINATION FOR PROPER TERMINATION INTO NEW MCC.
- LIGHTING, RECEPTACLES, AND HVAC UNITS SHALL BE FURNISHED WITH THE NEW PRE-ENGINEERED ELECTRICAL ENCLOSURE PART OF THE STANDARD EQUIPMENT PACKAGE. REFER TO SPECIFICATION SECTION 13 14 00 FOR COMPLETED ENCLOSURE REQUIREMENTS.
- ALL LIGHTING FIXTURES, RECEPTACLES, AND HVAC EQUIPMENT WITHIN THE ELECTRICAL ENCLOSURE SHALL BE FACTORY-WIRED TO A 120V SUPPLIER FURNISHED LOAD CENTER. CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT AND CABLE TO CONNECT DEVICE LOAD CENTER TO LP-L4B, LP-L5B, AND LP-L6B.



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Raleigh

NEUSE RIVER
RESOURCE RECOVERY
FACILITY BNR BASINS
MCC REPLACEMENT

ISSUED FOR BID

REVISIONS AND RECORD OF ISSUE

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DETAILED:	JHC
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APPROVED:	SJA
DATE:	AUGUST 2026

PROJECT NO.: 424744

ELECTRICAL

TYPICAL POWER CENTER
POWER PLAN

E-01-105

22
OF
35

12" 6" 0' 1' 2' 3'

3/4" = 1'-0"

(SCALE BAR IS 4" AT FULL SCALE) 0 1/2 1 2 3 4

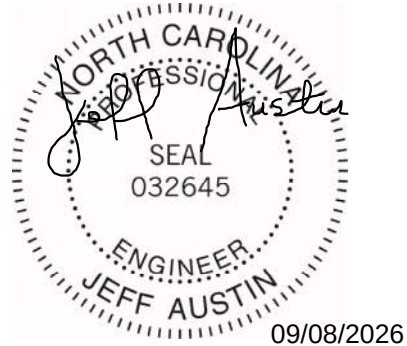
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GENERAL NOTES

1. SEE DRAWINGS E-00-001 AND E-00-002 FOR ELECTRICAL LEGENDS, ABBREVIATIONS, AND NOTES.



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ELEVATIONS

ELECTRICAL

MCC ELEVATIONS VIEWS

E-01-201

23
OF
35

1A	2A	3A	4A	5A	6A	7A	8A	9A	10A	11A
1B		3B		5B		7B	8C			11C
1E	2F	3E	4E	5E	6F	7E		9E		
1I	2J	3I	4I	5I		7I	8I	9I		

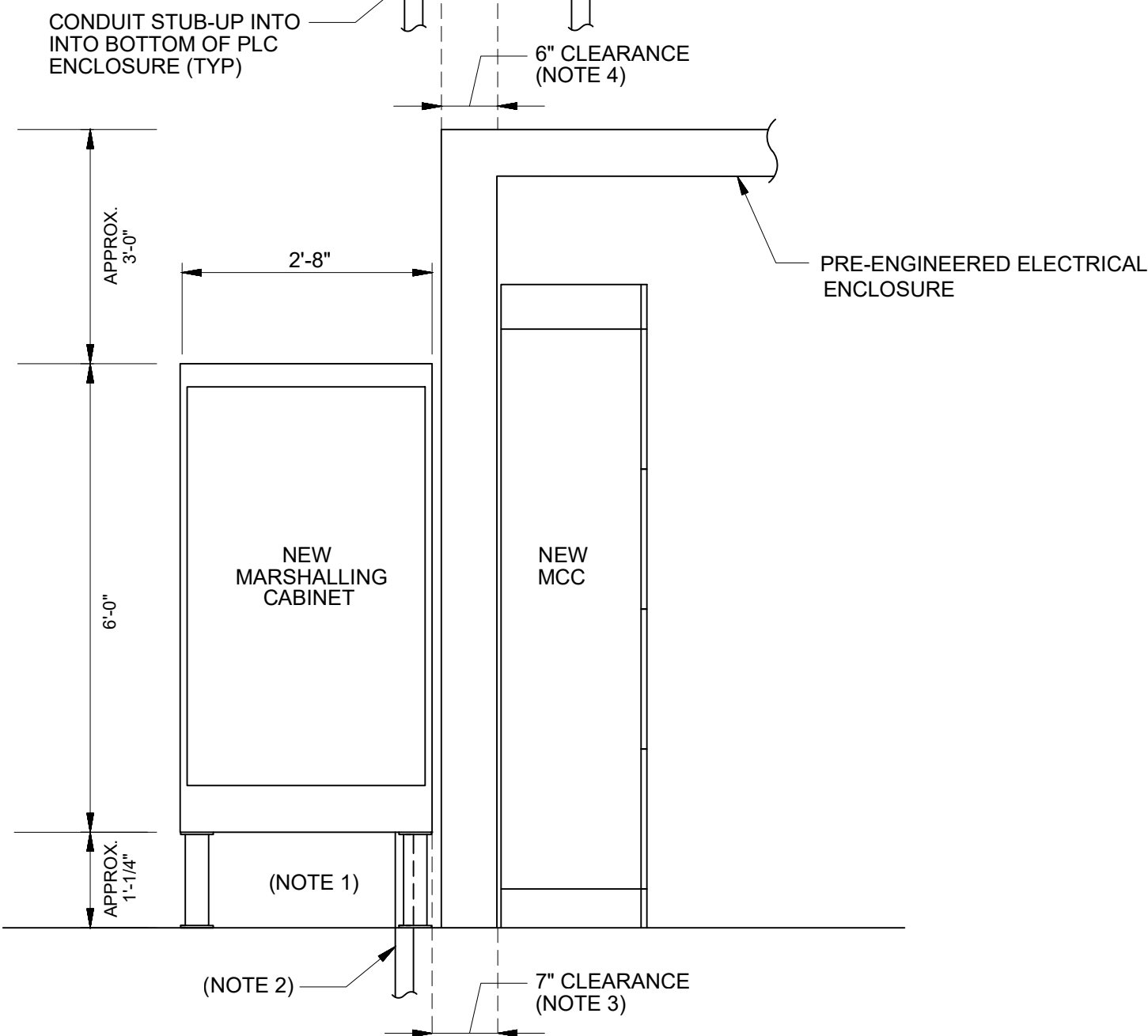
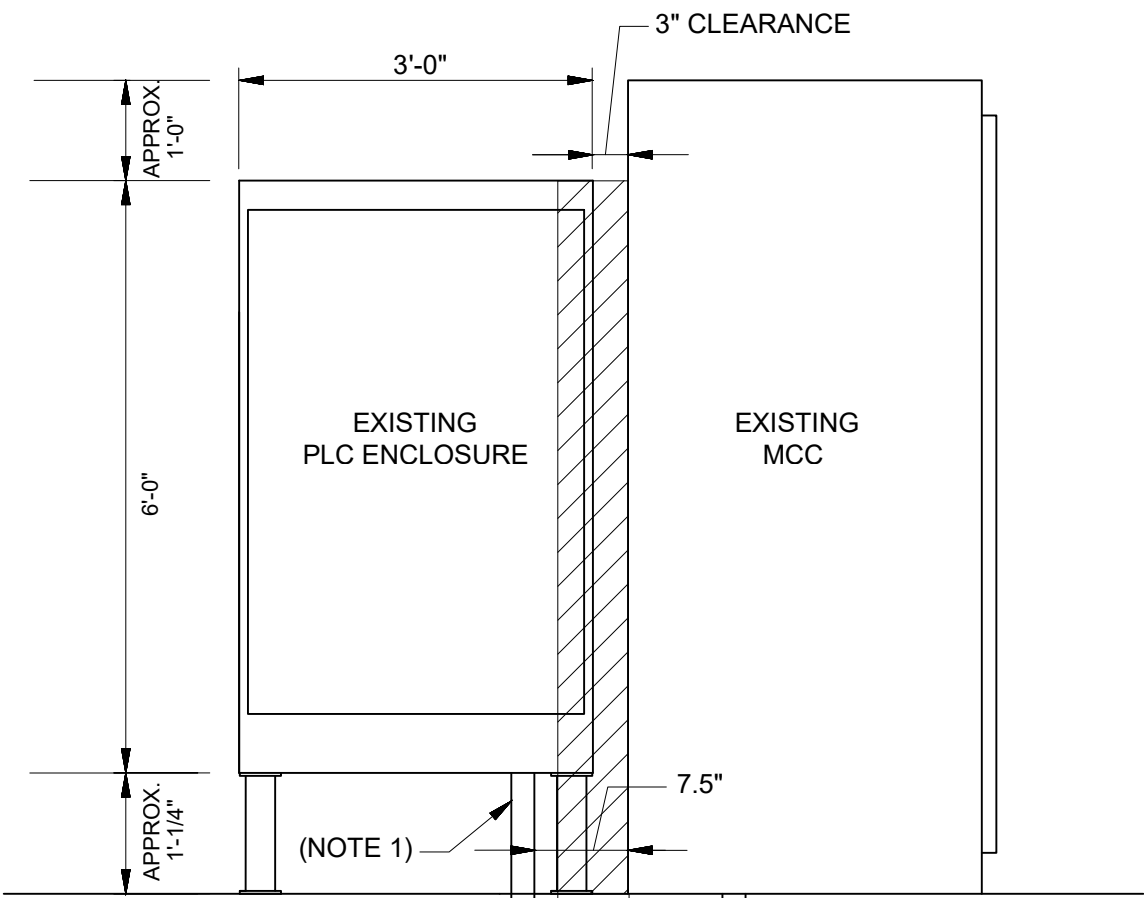
MCC-P4B FRONT ELEVATION VIEW

1A	2A	3A	4A	5A	6A	7A	8A	9A	10A	11A
1B		3B		5B		7B		9C		11C
1E	2F	3E	4E	5E	6F	7E	8E			
1I	2J	3I	4I	5I	6J	7I	8I	9I		

MCC-P5B FRONT ELEVATION VIEW

1A	2A	3A	4A	5A	6A	7A	8A	9A	10A	11A
1B		3B		5B		7B		9C		11C
1E	2F	3E	4E	5E	6F	7E	8E			
1I	2J	3I	4I	5I	6J	7I	8I	9I		

MCC-P6B FRONT ELEVATION VIEW

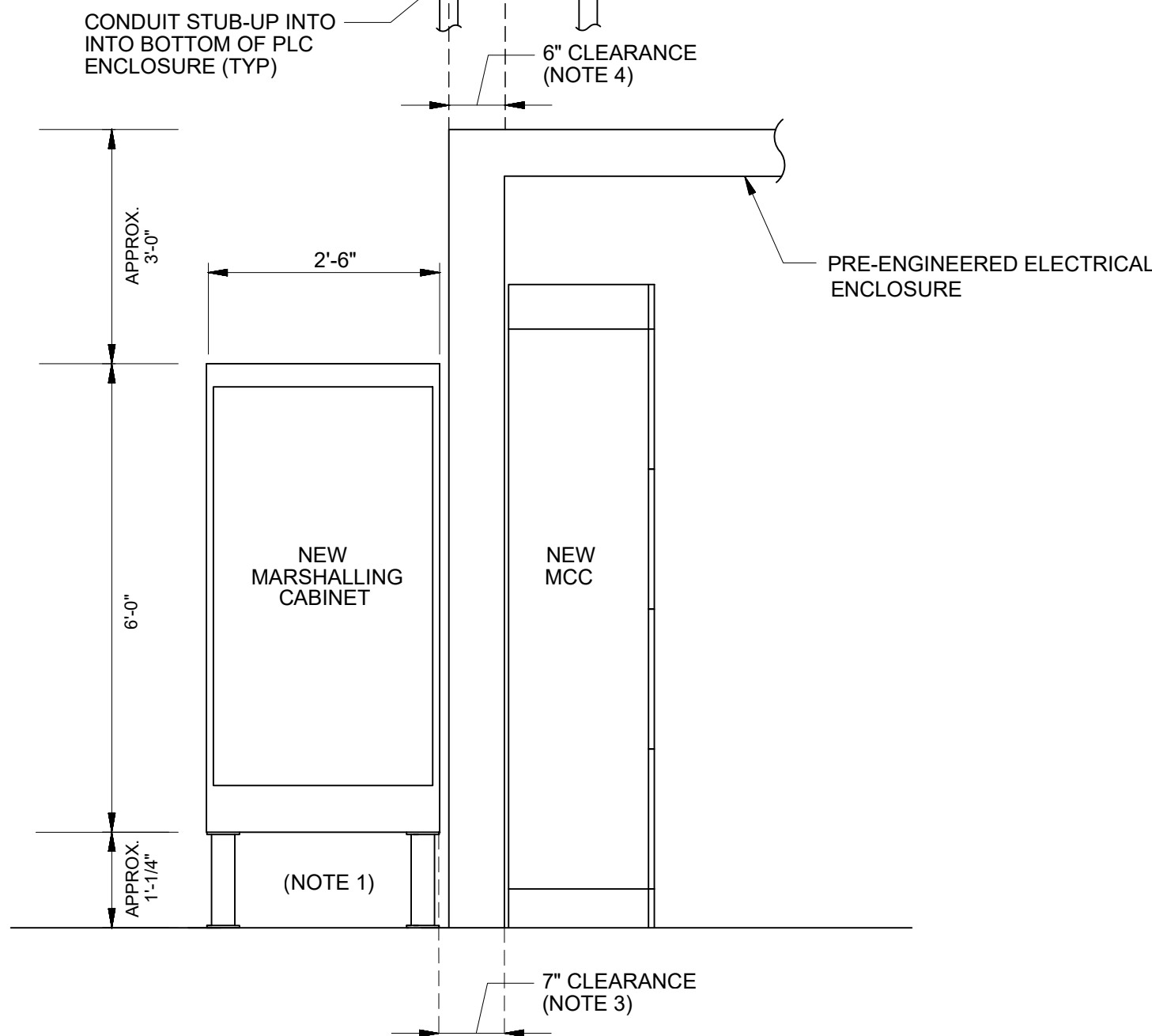
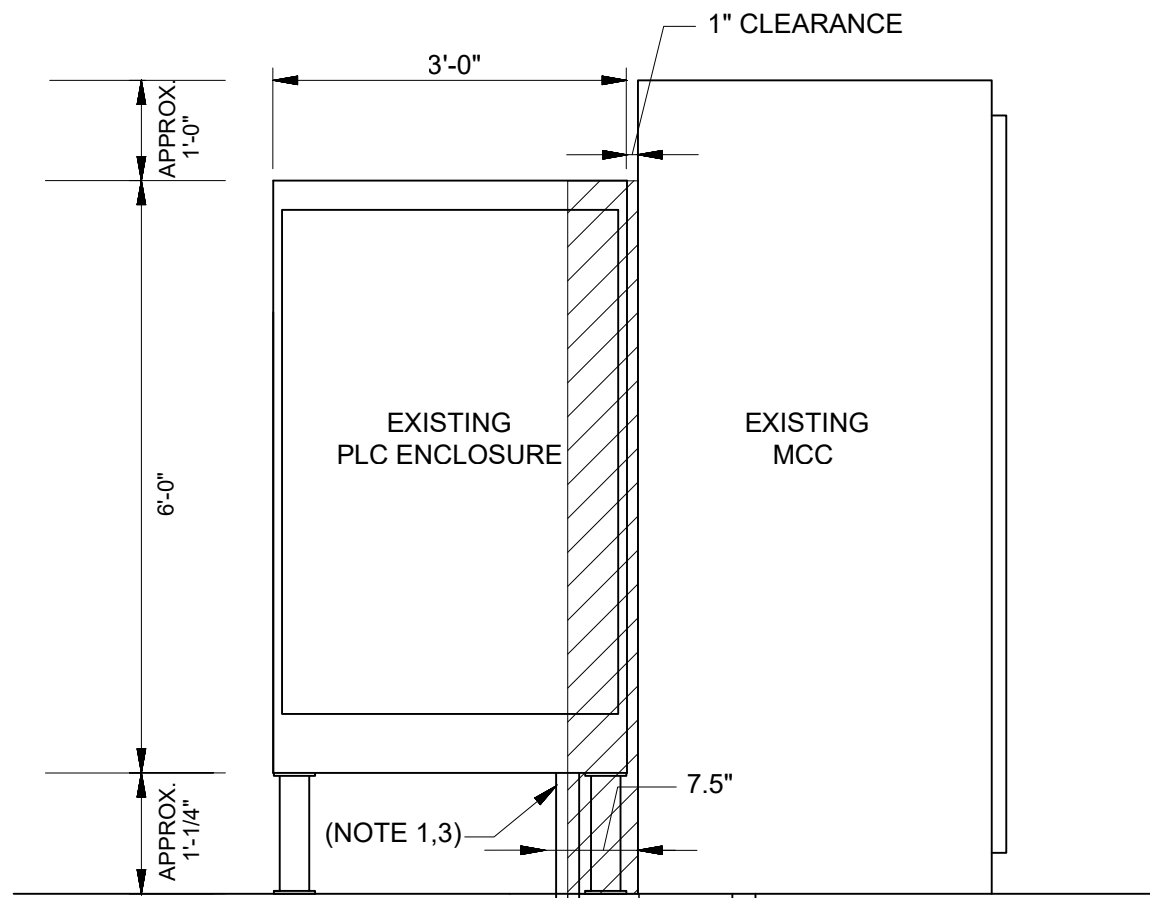


SIDE VIEW

PLC-81/PLC-82 DEMOLITION & MARSHALLING CABINET DETAIL
NO SCALE

NOTES:

- ONLY NEAREST CONDUIT STUB-UP BETWEEN PLC ENCLOSURE AND MCC IS SHOWN FOR REFERENCE.
- EXISTING PLC ENCLOSURE SUPPORT LEGS ARE OFFSET FROM CONDUIT STUB-UPS. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS AND INSTALL NEW MARSHALLING CABINET AND SUPPORT STRUCTURE SUCH THAT NO CONFLICT OCCURS WITH EXISTING CONDUITS.
- CONTRACTOR SHALL PRESERVE ALL EXISTING CONDUIT STUB-UPS DURING DEMOLITION OF THE EXISTING PLC ENCLOSURE. PROVIDE A MINIMUM OF SEVEN (7) INCHES CLEARANCE TO FACILITATE INSTALLATION OF NEW MARSHALLING CABINET AND NEW ELECTRICAL ENCLOSURE. FIELD VERIFY.
- WALL THICKNESS OF NEW ELECTRICAL ENCLOSURE WILL BE A MAXIMUM OF (6) SIX INCHES CLEARANCE FOR INSTALLATION. CONTRACTOR SHALL FIELD VERIFY PRIOR TO INSTALLATION.



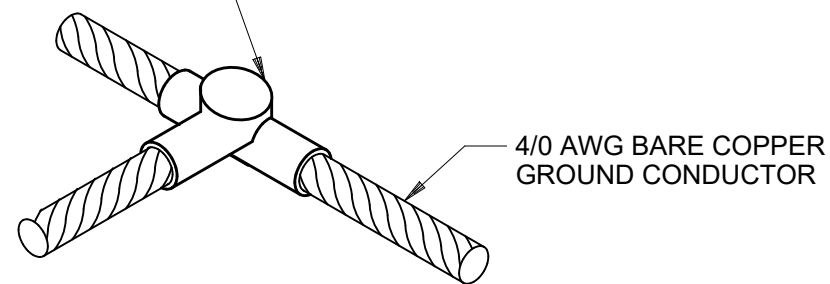
SIDE VIEW

PLC-83 DEMOLITION & MARSHALLING CABINET DETAIL
NO SCALE

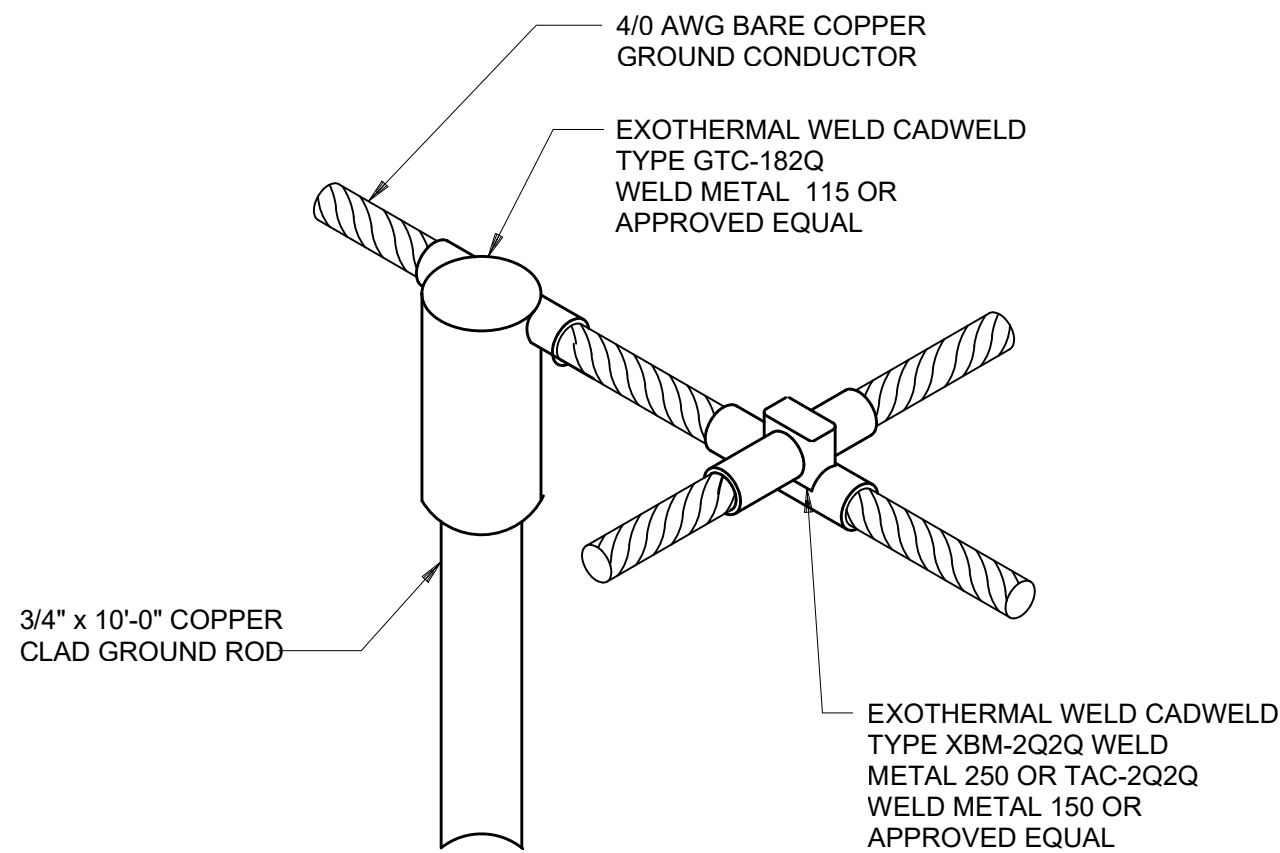
NOTES:

- ONLY NEAREST CONDUIT STUB-UP BETWEEN PLC ENCLOSURE AND MCC IS SHOWN FOR REFERENCE.
- EXISTING PLC ENCLOSURE SUPPORT LEGS ARE OFFSET FROM CONDUIT STUB-UPS. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS AND INSTALL NEW MARSHALLING CABINET AND SUPPORT STRUCTURE SUCH THAT NO CONFLICT OCCURS WITH EXISTING CONDUITS.
- CONTRACTOR SHALL PRESERVE ALL EXISTING CONDUIT STUB-UPS DURING DEMOLITION OF THE EXISTING PLC ENCLOSURE, EXCLUDING THE (2) TWO NEAREST CONDUIT BETWEEN THE PLC ENCLOSURE AND MCC. THIS CONDUIT SHALL BE DEMOLISHED IN ORDER TO MAINTAIN A MINIMUM OF SEVEN (7) INCHES OF CLEARANCE TO FACILITATE INSTALLATION OF NEW MARSHALLING CABINET. CABLE IN DEMOLISHED CONDUIT IS FOR CONTROL WIRING BETWEEN EXISTING MCC AND EXISTING PLC. NEW CONDUIT AND CABLE SHALL BE FURNISHED AND INSTALLED INSIDE NEW ELECTRICAL ENCLOSURE TO REPLACE DEMOLISHED CABLE. FIELD VERIFY.
- WALL THICKNESS OF NEW ELECTRICAL ENCLOSURE WILL BE A MAXIMUM OF (6) SIX INCHES CLEARANCE FOR INSTALLATION. CONTRACTOR SHALL FIELD VERIFY PRIOR TO INSTALLATION.

EXOTHERMAL WELD
CADWELD TYPE TAC-2Q2Q
WELD METAL 150, OR
APPROVED EQUAL



TYPICAL EXOTHERMAL WELD
TEE CONNECTION
NO SCALE



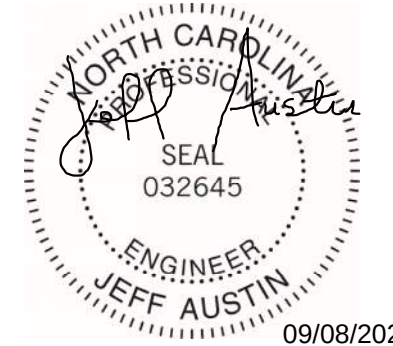
TYPICAL EXOTHERMAL WELD
GROUND ROD AT CROSS OR TEE CONNECTION
NO SCALE

GENERAL NOTES

- SEE DRAWINGS E-00-001 AND E-00-002 FOR ELECTRICAL ABBREVIATIONS, NOTES, AND ELECTRICAL LEGENDS.



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REVISIONS AND RECORD OF ISSUE	
DESIGNED:	EJK
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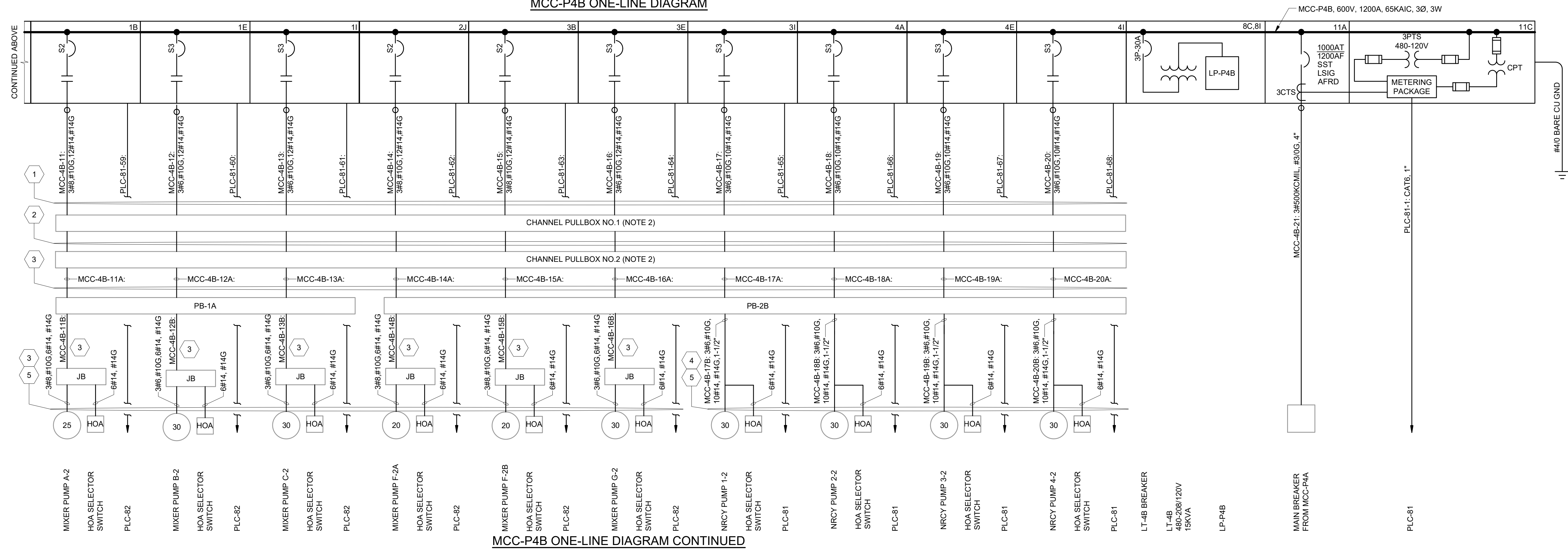
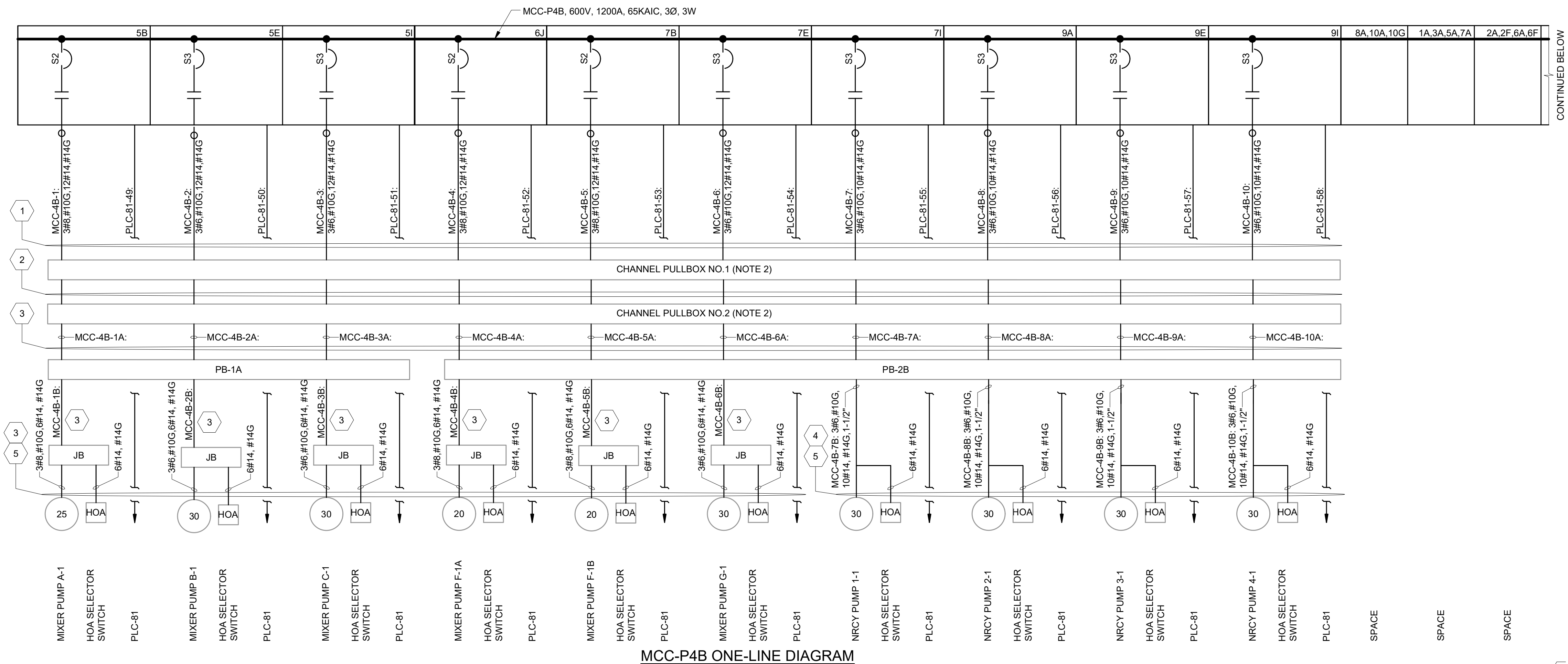
FACILITY SPECIFIC DETAILS

ELECTRICAL

DETAILS

E-01-501

24
OF
35



GENERAL NOTES

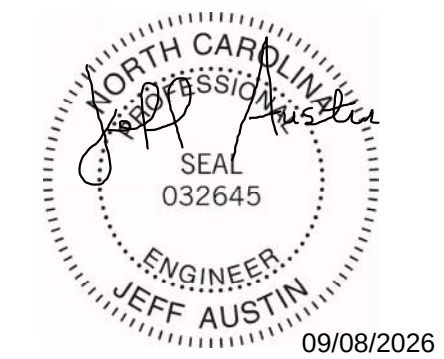
1. SEE DRAWINGS E-00-001 AND E-00-002 FOR ELECTRICAL LEGENDS, ABBREVIATIONS, AND NOTES.
2. EXISTING CHANNEL PULLBOXES NO. 1 AND NO. 2 SHALL BE CONSIDERED TYPICAL FOR ALL THREE (3) POWER CENTERS.

SHEET KEYNOTES

1. CONTRACTOR SHALL REUSE THE EXISTING CONDUITS TO INSTALL NEW FEEDERS FROM THEIR RESPECTIVE MCCS TO CHANNEL PULLBOX NO. 1.
2. UPON REPLACEMENT OF ALL CONDUITS ON THE CHANNEL CONDUIT RACK, CONTRACTOR SHALL INSTALL NEW CONDUITS TO MATCH SIZE OF EXISTING CONDUITS. REFER TO DRAWING E-01-104 FOR ADDITIONAL DETAIL.
3. CONTRACTOR SHALL RE-USE EXISTING CONDUITS (TO THE EXTENTS PRACTICABLE) FROM EXISTING CHANNEL PULLBOX NO.2 OUT TO THE ASSOCIATED EQUIPMENT AT THE BASINS.
4. CONTRACTOR SHALL INSTALL NEW CONDUITS BETWEEN AERATION BASIN PULLBOXES AND NRCY PUMPS.
5. CONTRACTOR SHALL ROUTE 6#14, #14G TO EACH MIXER PUMP FOR THE ASSOCIATED MOTOR SPACE HEATER, MOISTURE PROBE, AND MOTOR TEMPERATURE SWITCH. PROVIDE 4#14, #14G TO EACH NRCY PUMP FOR THE ASSOCIATED MOTOR SPACE HEATER AND MOTOR TEMPERATURE SWITCH. REFER TO DRAWING E-01-610 FOR ADDITIONAL DETAIL.



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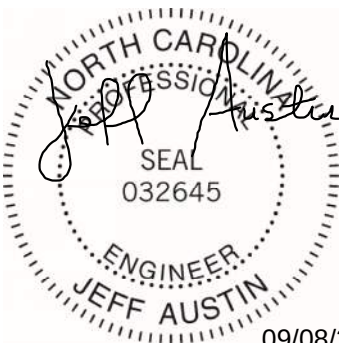
DIAGRAMS, ONE-LINES,
SCHEDULES &
INSTRUMENTATION P&IDs

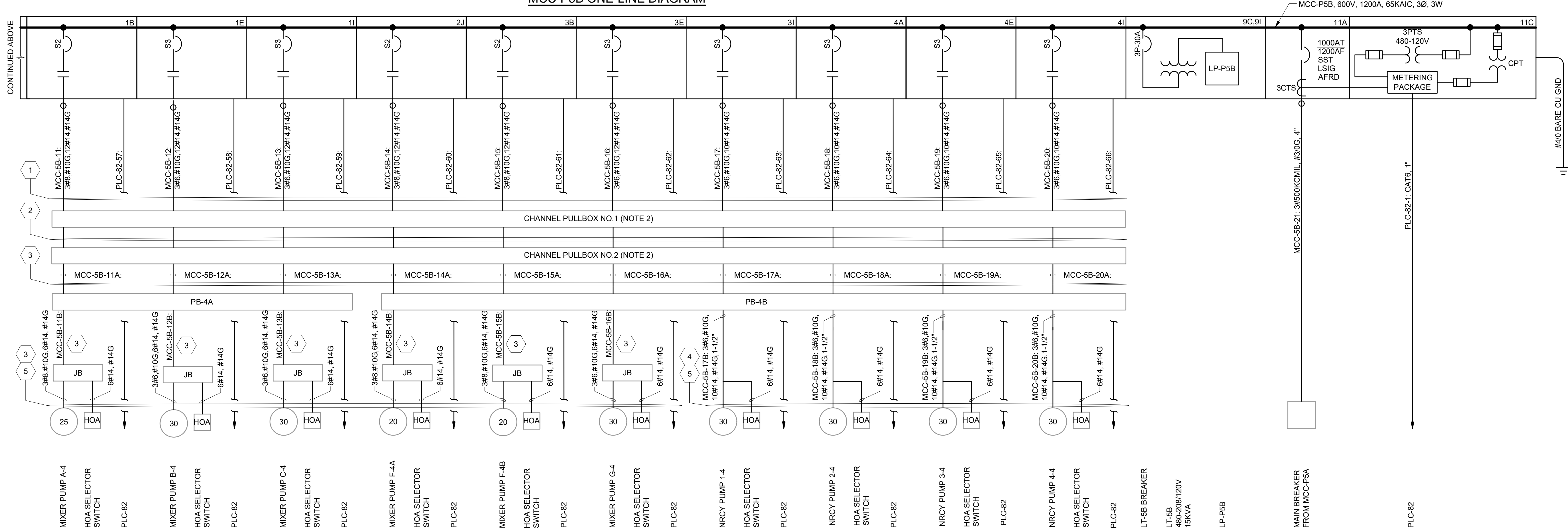
ELECTRICAL

MCC-4B ONE-LINE DIAGRAM

E-01-601

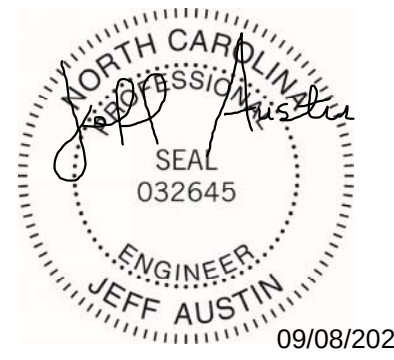
25
OF
35

GENERAL NOTES	 BLACK & VEATCH Black & Veatch International Company Business License No. F-0794 175 Regency Woods Place Suite 200 & 300 Cary, North Carolina 27518
 SHEET KEYNOTES - CONTRACTOR SHALL REUSE THE EXISTING CONDUITS TO INSTALL NEW FEEDERS FROM THEIR RESPECTIVE MCCS TO CHANNEL PULLBOX NO. 1. - UPON REPLACEMENT OF ALL CONDUITS ON THE CHANNEL CONDUIT RACK. CONTRACTOR SHALL INSTALL NEW CONDUITS TO MATCH SIZE OF EXISTING CONDUITS. REFER TO DRAWING E-01-104 FOR ADDITIONAL DETAIL. - CONTRACTOR SHALL RE-USE EXISTING CONDUITS(TO THE EXTENTS PRACTICABLE) FROM EXISTING CHANNEL PULLBOX NO.2 OUT TO THE ASSOCIATED EQUIPMENT AT THE BASINS. - CONTRACTOR SHALL INSTALL NEW CONDUITS BETWEEN AERATION BASIN PULLBOXES AND NRCY PUMPS. - CONTRACTOR SHALL ROUTE 6#14, #14G TO EACH MIXER PUMP FOR THE ASSOCIATED MOTOR SPACE HEATER, MOISTURE PROBE, AND MOTOR TEMPERATURE SWITCH. PROVIDE 4#14, #14G TO EACH NRCY PUMP FOR THE ASSOCIATED MOTOR SPACE HEATER AND MOTOR TEMPERATURE SWITCH. REFER TO DRAWING E-01-610 FOR ADDITIONAL DETAIL.	 09/08/2026



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PROJECT NO.:	424744

DIAGRAMS, ONE-LINES,
SCHEDULES &
INSTRUMENTATION P&IDs

ELECTRICAL

MCC-P5B ONE-LINE DIAGRAM

E-01-602

26
OF
35

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			PANELBOARD: PANEL L4B		BUS: COPPER RATING: 125A				MAINS: 3P-60A MAIN BREAKER					
PHASE			SERVICE: 120/208V, 3PH, 4W, S/N						LOCATION: MCC-P4B		PHASE			
"A"	"B"	"C"	MOUNTING: SURFACE								"A"	"B"	"C"	
V.A.	V.A.	V.A.	LOAD	P	BKR	CKT #	BKR	P	LOAD	V.A.	V.A.	V.A.		
			EXISTING LIGHTS BASIN NO.2	1	20	1	2	20	1	EXISTING BASIN NO.2 RECEP.				
			EXISTING LIGHTS BASIN NO.2	1	20	3	4	20	1	EXISTING FIT-73421				
		1500	PLC-81	1	20	5	6	20	1	SPARE				
			EXISTING LIGHTS BASIN NO.1	1	20	7	8	20	1	EXISTING BASIN NO.1 RECEP.				
			EXISTING LIGHTS BASIN NO.1	1	20	9	10	20	1	EXISTING FIT-73411				
		2750	LOAD CENTER (NOTE 2)	2	50	11	12	20	1	CELL A MARSHALLING CABINET				
2750						13	14	20	1	SPARE				
			SPARE	1	20	15	16	-	1	SPACE				
			SPARE	1	20	17	18	-	1	SPACE				
			SPARE	1	20	19	20	-	1	SPACE				
			SPACE	-	-	21	22							
			SPACE	-	-	23	24	-	2	SURGE PROTECTION DEVICE				
2750			TOTAL "A"	2750				TOTAL "A"				0		
	0		TOTAL "B"	0				TOTAL "B"					0	
		4250	TOTAL "C"	4250				TOTAL "C"						0
TOTAL =				7000										

PANEL L4B SCHEDULE12
LOCATED INSIDE MCC-P4B

			PANELBOARD: PANEL LSB		BUS: COPPER RATING: 125A				MAINS: 3P-60A MAIN BREAKER							
PHASE			SERVICE: 120/208V, 3PH, 4W, S/N						LOCATION: MCC-P5B		PHASE					
"A"	"B"	"C"	MOUNTING: SURFACE								"A"	"B"	"C"			
V.A.	V.A.	V.A.	LOAD	P	BKR	CKT #	BKR	P	LOAD	V.A.	V.A.	V.A.				
			EXISTING BASIN NO.4 LIGHTS	1	20	1	2	20	1	EXISTING BASIN NO.4 RECEP.						
			EXISTING BASIN NO.4 LIGHTS	1	20	3	4	20	1	EXISTING FIT-73431						
		1500	PLC-82	1	20	5	6	20	1	SPARE						
			EXISTING BASIN NO.3 LIGHTS	1	20	7	8	20	1	EXISTING BASIN NO.3 RECEP.						
			EXISTING BASIN NO.3 LIGHTS	1	20	9	10	20	1	EXISTING FIT-73441						
		2750	LOAD CENTER (NOTE 2)	2	50	11	12	20	1	CELL B MARSHALLING CABINET						
2750						13	14	20	1	SPARE						
			SPARE	1	20	15	16	-	1	SPACE						
			SPARE	1	20	17	18	-	1	SPACE						
			SPARE	1	20	19	20	-	1	SPACE						
			SPACE	-	-	21	22									
			SPACE	-	-	23	24	-	2	SURGE PROTECTION DEVICE						
2750			TOTAL "A"	2750					TOTAL "A"					0		
	0		TOTAL "B"	0					TOTAL "B"						0	
		4250	TOTAL "C"	4250					TOTAL "C"							0
TOTAL =				7000												

PANEL L5B SCHEDULE12
LOCATED INSIDE MCC-P5B

PHASE			PANELBOARD: PANEL L6B				BUS: COPPER				MAINS: 3P-60A MAIN BREAKER				PHASE		
"A"	"B"	"C"	SERVICE: 120/208V, 3PH, 4W, S/N				RATING: 125A				LOCATION: MCC-P6B				"A"	"B"	"C"
V. A.	V. A.	V. A.	LOAD		P	BKR	CKT #	BKR	P	LOAD		V. A.	V. A.	V. A.			
			EXSITING BASIN NO.5 LIGHTS		1	20	1	2	20	1	EXISTING BASIN NO.5 RECEP.						
			SPARE		1	20	3	4	20	1	EXISTING FIT-73451						
			SPARE		1	20	5	6	20	1	SPARE						
1500			PLC-83		1	20	7	8	20	1	EXISTING BASIN NO.6 LIGHTS						
			SPARE		1	20	9	10	20	1	EXISTING BASIN NO.6 RECEP.						
		2750	LOAD CENTER (NOTE 2)		2	50	11	12	20	1	CELL C MARSHALLING CABINET						
2750							13	14	20	1	SPARE						
			SPARE		1	20	15	16	-	1	SPACE						
			SPARE		1	20	17	18	-	1	SPACE						
			SPARE		1	20	19	20	-	1	SPACE						
			SPACE		-	-	21	22									
			SPACE		-	-	23	24	-	2	SURGE PROTECTION DEVICE						
4250			TOTAL "A"		4250					TOTAL "A"		0					
	0		TOTAL "B"		0					TOTAL "B"			0				
		2750	TOTAL "C"		2750					TOTAL "C"				0			
TOTAL =					7000												

PANEL L6B SCHEDULE12
LOCATED INSIDE MCC-P6B

GENERAL NOTES

- SEE DRAWINGS E-00-001 AND E-00-002 FOR ELECTRICAL ABBREVIATIONS, NOTES, AND ELECTRICAL LEGENDS.
- CONTRACTOR SHALL FURNISH AND INSTALL FEEDER CABLE FROM LP-P4A, P5A, AND P6A, TO ELECTRICAL ENCLOSURE LOAD CENTER IN ACCORDANCE WITH THIS DRAWING. LOAD CENTER WILL BE FURNISHED BY ENCLOSURE SUPPLIER. REFER TO SPECIFICATION SECTION 13 14 00 FOR COMPLETE ENCLOSURE REQUIREMENTS.

SHEET KEYNOTES

- UPON INSTALLATION OF MCC-P4B, MCC-P5B, MCC-P6B AND ASSOCIATED LIGHTING PANELS, CONTRACTOR SHALL RE-USE EXISTING UNDERGROUND CONDUITS FROM THE PANELBOARD SECTIONS OF THE MCC'S TO CHANNEL PULLBOX NO.1 FOR ROUTING NEW CABLE. CONTRACTOR SHALL ROUTE CABLES THROUGH NEW CHANNEL CONDUIT RACK AND RE-USE EXISTING CONDUITS FROM CHANNEL PULLBOX NO.2 TO ASSOCIATED END-USE EQUIPMENT LOCATED AT THE AERATION BASINS. REFER TO DRAWINGS E-01-102 THROUGH E-01-104 FOR ADDITIONAL DETAILS.
- CONTRACTOR SHALL REPLACE EXISTING BRANCH-CIRCUIT CONDUCTORS FROM LP-L4B, LP-L5B, AND LP-L6B TO THE FIRST DEVICE SERVED ON EACH LIGHTING AND RECEPTACLE CIRCUIT. EXISTING BRANCH-CIRCUIT WIRING BEYOND THE FIRST DEVICE SHALL REMAIN. CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF THE FIRST DEVICE SERVED BY EACH CIRCUIT PRIOR TO COMMENCING WORK. ASSUME 300 FEET OF NEW CONDUCTOR PER CIRCUIT FOR THE PURPOSES OF BIDDING.



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NEUSE RIVER RESOURCE
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BASINS MCC
REPLACEMENT

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REVISIONS AND RECORD OF ISSUE	
DESIGNED:	BMP
DETAILED:	BMP
CHECKED:	SJA
APPROVED:	SJA
DATE:	AUGUST 2026
PROJECT NO.:	424744

DIAGRAMS, ONE-LINES,
SCHEDULES &
INSTRUMENTATION P&IDS

ELECTRICAL

PANEL SCHEDULES
(1 OF 2)

E-01-605

29
OF
35

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D11000

			PANELBOARD: PANEL P4A				BUS: COPPER RATING: 225A				MAINS: MLO LOCATION: MCC-P4A									
PHASE			SERVICE: 120/208V, 3PH, 4W, S/N												PHASE					
"A"	"B"	"C"	MOUNTING: SURFACE												"A"	"B"	"C"			
V.A.	V.A.	V.A.	LOAD				P	BKR	CKT #	BKR	P	LOAD				V.A.	V.A.	V.A.		
			EX. LIGHTS CLARIFIER #A-202				1	20	1	2	20	1	EX. GREASE PUMP - A							
			EX. RECEP. CLARIFIER #A2-2				1	20	3	4	20	1	SPARE							
			EX. LIGHTS CLARIFIER #A1-2				1	20	5	6	20	1	EX. LIGHTS SCREW PUMP STATION							
			EX. RECEP. CLARIFIER #A1-2				1	20	7	8	20	1	EX. LIGHTS CLARIFIER #A1-1							
			EX. LIGHTS CLARIFIER #A2-1				1	20	9	10	20	1	EX. RECEP. SCREW PUMP STATION							
			EX.AIT-660, AIT-670, AIT-680				1	20	11	12	20	1	EX. RECEP. LIGHTS CLARIFIER #A1-1							
			EX. GREASE PUMP C				1	20	13	14	20	1	EX. GREASE PUMP - B							
			EX. ALARM UPS				1	20	15	16	20	1	EX. PIT AT ROAD							
			EX. TIME CLOCK POLE LIGHTS				1	20	17	18	20	1	SPARE							
			SPARE				1	20	19	20	20	1	SPARE							
			EX. H.V. SWITCH HEATERS				1	20	21	22	20	1	EX. RECEP. POLE LIGHT BASIN NO.1							
			EX. BASIN NO.1 LIGHTS				1	20	23	24	20	1	SPARE							
			EX. BASIN NO.1 RECEP. & INSTRUMENTATION (NOTE 2)				1	20	25	26	20									
			EX. MOV-211, MOV-212, MOV-213, MOV-214				1	20	27	28	20	2	EX. TRANSFORMER FANS							
			EX. BASIN NO.2 RECEP.				1	20	29	30	20									
			EX. BASIN NO.2 LIGHTS				2	20	31	32	20									
								20	33	34	20	1	EX. MOV-221, MOV-222, MOV-223, MOV-224							
			EX. AIT-641, AIT-641A, AIT-642A, AIT-220, AIT-642				1	20	35	36	20	1	SPARE							
			SPARE				1	20	37	38	20	1	EX. INTERIOR RECEP.							
			EX. EXHAUST FANS				1	20	39	40	20	1	EX. INTERIOR LIGHTS							
			EX. EMERGENCY LIGHTS				1	20	41	42	20	1	EX. EXTERIOR LIGHTS							
0			TOTAL "A"					0					TOTAL "A"				0			
	0		TOTAL "B"					0					TOTAL "B"					0		
		0	TOTAL "C"					0					TOTAL "C"						0	
TOTAL =							0													

EXISTING PANEL P4A SCHEDULE

LOCATED INSIDE MCC-P4A

123

			PANELBOARD: PANEL P5A				BUS: COPPER RATING: 225A				MAINS: MLO						
PHASE			SERVICE: 120/208V, 3PH, 4W, S/N								LOCATION: MCC-P5A				PHASE		
"A"	"B"	"C"	MOUNTING: SURFACE												"A"	"B"	"C"
V.A.	V.A.	V.A.	LOAD	P	BKR	CKT #	BKR	P	LOAD	V.A.	V.A.	V.A.					
			EX. CLARIFIER NO.5 RECEP.	1	20	1	2	20	1	EX. GREASE RAS PUMP NO.1							
			EX. CLARIFIER NO.5 LIGHTS	1	20	3	4	20	1	EX. GREASE RAS PUMP NO.3							
			EX. CLARIFIER NO.6 LIGHTS	1	20	5	6	20	1	EX. GREASE RAS PUMP NO.2							
			EX. CLARIFIER NO.6 RECEP.	1	20	7	8	20	2	EX. TRANSFORMER FANS							
			EX. AIT-661	1	20	9	10										
			EX. CLARIFIER NO.8 LIGHTS	1	20	11	12	20	1	EX. CLARIFIER NO.7 LIGHTS							
			EX. RECEP. AT POLE AERATION BASIN	1	20	13	14	20	1	EX. CLARIFIER NO.7 RECEP.							
			EX. CONT. FOR OUTSIDE LIGHTS	1	20	15	16	20	1	EX. HEATER H.V SWITCH							
			EX. RAS PUMP RELAYS	1	20	17	18	20	1	EX. RECEP. RAS PUMP							
			EX. RECEP. ABOVE CHANNEL	1	20	19	20	20	1	EX. LIGHTS RAS PUMPS							
			EX. MOV-231, MOV-232, MOV-233, MOV-234	1	20	21	22	20	1	EX. MOV-241, MOV-242, MOV-243, MOV-244							
			EX. BASIN NO.3 RECEP.	1	20	23	24	20	1	EX. AIT-647, AIT-647A, AIT-648A, AIT-240, AIT-648							
			EX. BASIN NO.3 LIGHTS	2	20	25 27	26 28	20	2	EXISTING AC							
			EX. AIT-644, AIT-644A, AIT-645A, AIT-230, AIT-645	1	20	29	30	20	1	SPARE							
			EX. BASIN NO.4 LIGHTS	2	20	31 33	32 34	20	1	SPARE							
			EX. BASIN NO.4 RECEP.	1	20	35	36	20	1	SPARE							
			EX. MCC RECEP.	1	20	37	38	20	1	SPARE							
			EX. MCC ROOM LIGHTS	1	20	39	40	20	1	EX. MCC EXIT LIGHTS							
			EX. MCC ROOM LIGHTS	1	20	41	42	20	1	EX. MCC EXHAUST FAN							
0			TOTAL "A"		0					TOTAL "A"	0						
	0		TOTAL "B"		0					TOTAL "B"		0					
		0	TOTAL "C"		0					TOTAL "C"			0				
TOTAL =					0												

EXISTING PANEL P5A SCHEDULE

LOCATED INSIDE MCC-P5A

123

PHASE			PANELBOARD: PANEL P6A SERVICE: 120/208V, 3PH, 4W, S/N MOUNTING: SURFACE				BUS: COPPER RATING: 225A				MAINS: MLO LOCATION: MCC-P6A				PHASE					
"A"	"B"	"C"													"A"	"B"	"C"			
V.A.	V.A.	V.A.	LOAD				P	BKR	CKT #	BKR	P	LOAD				V.A.	V.A.	V.A.		
			EX. CLARIFIER NO.9 RECEP.				1	20	1	2	20	1	EX. GREASE PUMP C							
			EX. CLARIFIER NO.9 LIGHTS				1	20	3	4	20	1	EX. GREASE PUMP C							
			EX. CLARIFIER NO.10 RECEP.				1	20	5	6	20	1	EX. GREASE PUMP C							
			EX. CLARIFIER NO.10 LIGHTS				1	20	7	8	20	1	EX. LIGHTS AT SCREW PUMP							
			EX. CLARIFIER NO.11 RECEP.				1	20	9	10	20	1	EX. REC AT SCREW PUMP							
			EX. CLARIFIER NO.11 LIGHTS				1	20	11	12	20	2	EX. TRANSFORMER FANS							
			EX. CLARIFIER NO.12 LIGHTS				1	20	13	14										
			EX. CLARIFIER NO.12 RECEP.				1	20	15	16	20	1	EX. RECEP. BASIN NO.5							
			EX. CONT. FOR POLE LIGHTS				1	20	17	18	20	1	EX. MOV-261, MOV-262							
			EX. RAS RELAY UPS				1	20	19	20	20	1	EX. RECEP. ON POLE AERATION BASIN							
			EX. MOV-251, MOV-252				1	20	21	22	20	1	EX. MOV-263, MOV-264							
			EX. BASIN NO.6 LIGHTS				1	20	23	24	20	1	EX. AIT-64462, AIT-64462A							
			EX. MOV-253, MOV-254				1	20	25	26	20	1	EX. AIT-64463A, AIT-64463, AIT-260							
			EX. AIT-650, AIT-650A				1	20	27	28	20	1	EX. RECEP. BASIN NO.6							
			EX. AIT-651A, AIT-651, AIT-250				1	20	29	30	20	1	EX. H.V SWITCH HEATERS							
			EX. BASIN NO.5 LIGHTS				2	20	31	32	20	1	EX. BNR NO.6 POLE LT. RECEP.							
									33	34										
			EX. BASIN NO.5 RECEP.				1	20	35	36	20	2	EXISTING AC							
			EX. MCC ROOM LIGHTS				1	20	37	38	20		1	EX. EMERGENCY LIGHTS						
			EX. MCC ROOM RECEP.				1	20	39	40	20	1	EX. EXHAUST LIGHTS							
			EX. MCC OUTSIDE LIGHTS				1	20	41	42	20	1	SPARE							
0			TOTAL "A"					0					TOTAL "A"				0			
	0		TOTAL "B"					0					TOTAL "B"					0		
		0	TOTAL "C"					0					TOTAL "C"						0	
TOTAL =							0													

EXISTING PANEL P6A SCHEDULE

LOCATED INSIDE MCC-P6A

GENERAL NOTES

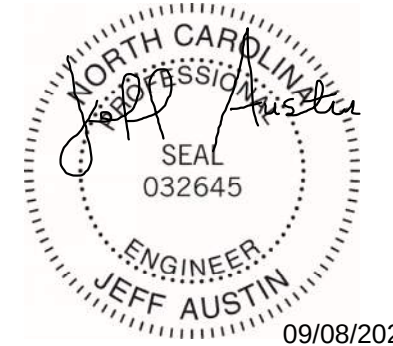
- SEE DRAWINGS E-00-001 AND E-00-002 FOR ELECTRICAL ABBREVIATIONS, NOTES, AND ELECTRICAL LEGENDS.
- THE FOLLOWING INSTRUMENTATION IS FED FROM CIRCUIT NO. 25 IN EXISTING PANEL P4A:
 - AIT-64412, AIT-64412A, AIT-64413A, AIT-210, AIT-64413

SHEET KEYNOTES

- FOR THE FOLLOWING EXISTING CIRCUITS IN LP-P4A, LP-P5A, AND LP-P6A, CONTRACTOR SHALL FURNISH AND INSTALL NEW CABLES FROM LP-P4A, LP-P5A, AND LP-P6A IN ACCORDANCE WITH THIS DRAWING. EXISTING FIELD CABLES FROM THE BASIN TO CHANNEL PULLBOX NO.2 SHALL REMAIN AND SHALL BE SPLICED TO THE NEW CABLES WITHIN CHANNEL PULLBOX NO.2. REFER TO DRAWINGS E-01-102 THROUGH E-01-104 FOR ADDITIONAL DETAILS.
- CONTRACTOR SHALL FIELD VERIFY EXISTING PANELBOARD CIRCUIT CONFIGURATIONS PRIOR TO INSTALLATION OF NEW CABLES. IF FIELD CONDITIONS DIFFER FROM THE PANELBOARD CONFIGURATIONS SHOWN ON THE DRAWINGS, CONTRACTOR SHALL COORDINATE AND DETERMINE THE CORRECT CIRCUITS BASED ON THE ASSOCIATED SCHEDULES BEFORE ROUTING AND TERMINATING NEW CABLES.
- EXISTING CONDUITS FROM LP-P4A, LP-P5A, AND LP-P6A, TO CHANNEL PULLBOX NO.1 SHALL BE RE-USED TO THE EXTENT POSSIBLE.



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09/08/2026



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REVISIONS AND RECORD OF ISSUE

DESIGNED: BMP
DETAILED: BMP
CHECKED: SJA
APPROVED: SJA
DATE: AUGUST 2026

PROJECT NO.: 424744

DIAGRAMS, ONE-LINES,
SCHEDULES &
INSTRUMENTATION P&IDS

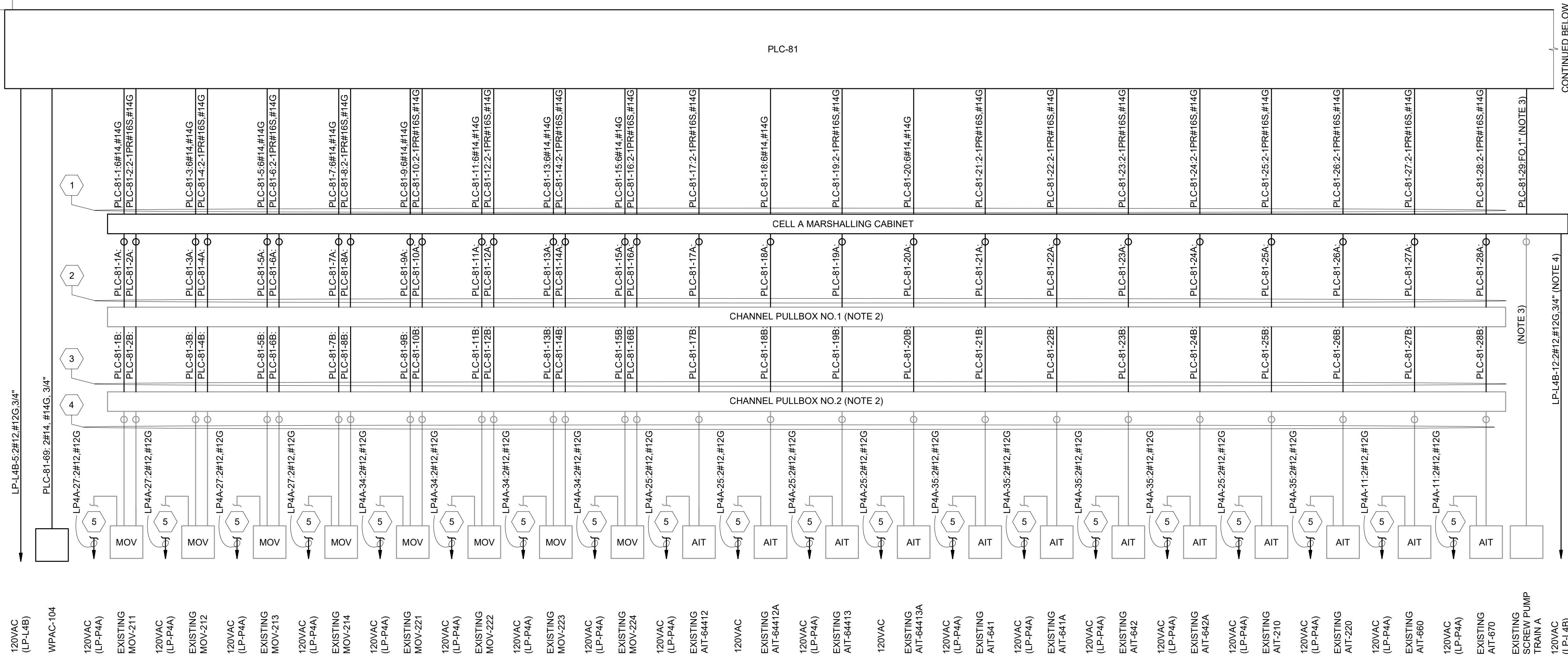
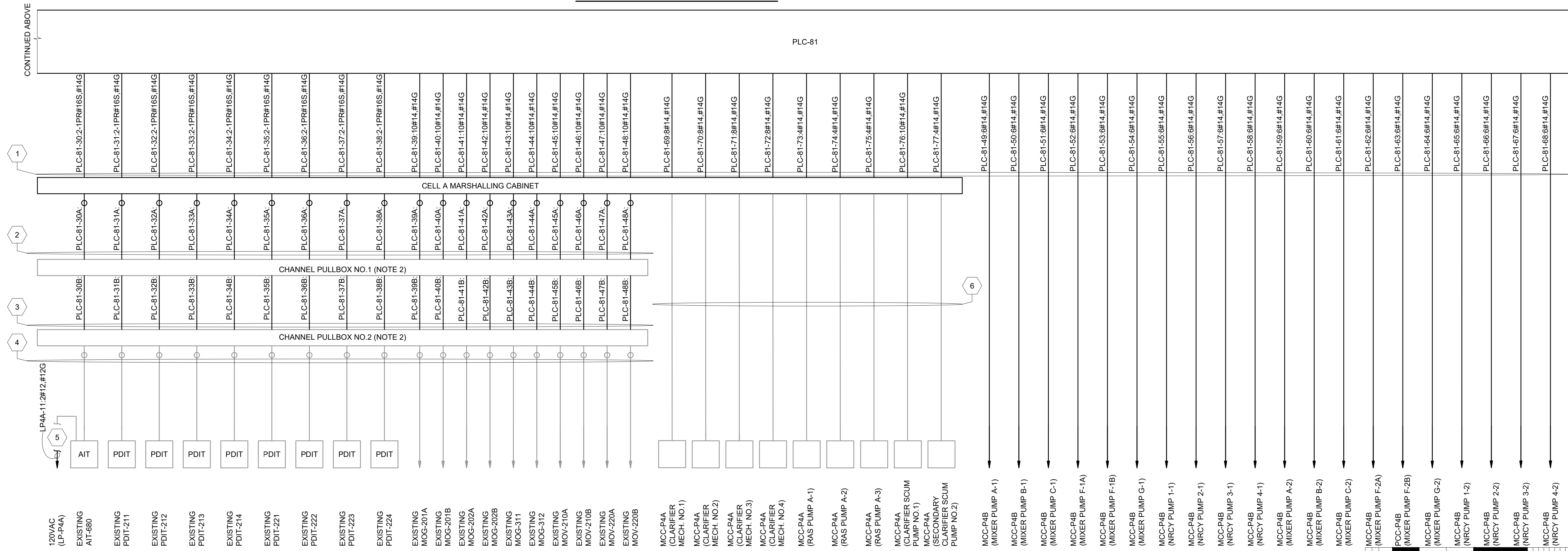
ELECTRICAL

PANEL SCHEDULES
(2 OF 2)

E-01-606

30
OF
35

(SCALE BAR IS 4" AT FULL SCALE) 0 1/2 1 2 3 4



GENERAL NOTES

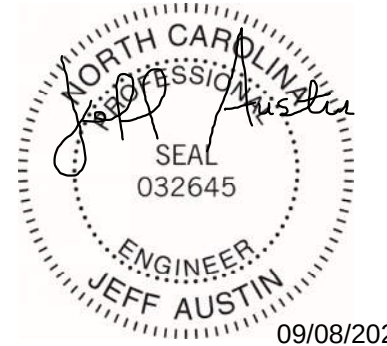
1. SEE DRAWINGS E-00-001 AND E-00-002 FOR ELECTRICAL ABBREVIATIONS, NOTES, AND ELECTRICAL LEGENDS.
2. EXISTING CHANNEL PULLBOXES NO. 1 AND NO. 2 SHALL BE CONSIDERED TYPICAL FOR ALL THREE (3) POWER CENTERS
3. CONTRACTOR SHALL PRESERVE EXISTING FIBER OPTIC PATCH PANEL LOCATED IN PLC-81 FOR RE-USE UPON DEMOLITION OF PLC ENCLOSURE. REFER TO DRAWING I-01-901 FOR ADDITIONAL DETAILS.
4. CONTRACTOR SHALL PROVIDE AN ADDITIONAL 120VAC SUPPLY TO THE NEW MARSHALLING CABINET.

SHEET KEYNOTES

1. CONTRACTOR SHALL FURNISH AND INSTALL NEW CABLE AND CONDUIT FROM PLC TO MARSHALLING CABINET. CONTRACTOR SHALL GROUP CONDUCTORS FROM PLC TO MARSHALLING CABINET AS REQUIRED AND IN ACCORDANCE WITH THE NEC FLT REQUIREMENTS. CONDUITS LARGER THAN (4) FOUR INCHES ARE NOT ACCEPTABLE. CONTRACTOR SHALL ROUTE DISCRETE AND ANALOG I/O IN SEPARATE CONDUITS. CONTRACTOR SHALL PROVIDE CABLE TERMINATIONS. FINAL TERMINATION POINTS SHALL BE COORDINATED WITH THE SYSTEM INTEGRATOR.
2. CONTRACTOR SHALL INSTALL SYSTEM INTEGRATOR FURNISHED PLC AND MARSHALLING CABINET. CONTRACTOR SHALL FURNISH AND INSTALL NEW CABLE IN EXISTING CONDUITS FROM THE NEW MARSHALLING CABINET TO CHANNEL PULLBOX NO. 1.
3. UPON REPLACEMENT OF ALL CONDUITS ON THE CHANNEL CONDUIT RACK. CONTRACTOR SHALL INSTALL NEW CONDUITS TO MATCH SIZE OF EXISTING CONDUITS (TO THE EXTENT PRACTICABLE). REFER TO DRAWING E-01-104 FOR ADDITIONAL DETAIL.
4. CONTRACTOR SHALL RE-USE EXISTING FIELD CABLE AND SPLICE TO NEW CABLE VIA TERMINAL BLOCKS LOCATED IN CHANNEL PULLBOX NO.2.
5. REFER TO DRAWING E-01-606 FOR ADDITIONAL DETAILS FOR ADDITIONAL DETAILS.
6. CONTRACTOR SHALL RE-USE EXISTING CABLE AND CONDUIT. EXISTING CABLES SHALL BE TERMINATED TO TERMINAL BLOCKS IN NEW MARSHALLING CABINET. FINAL TERMINATION POINTS SHALL BE COORDINATED WITH THE SYSTEM INTEGRATOR.



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REVISIONS AND RECORD OF ISSUE

DESIGNED:	BMP
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APPROVED:	SJA
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PROJECT NO.: 424744

DIAGRAMS, ONE-LINES,
SCHEDULES &
INSTRUMENTATION P&IDS

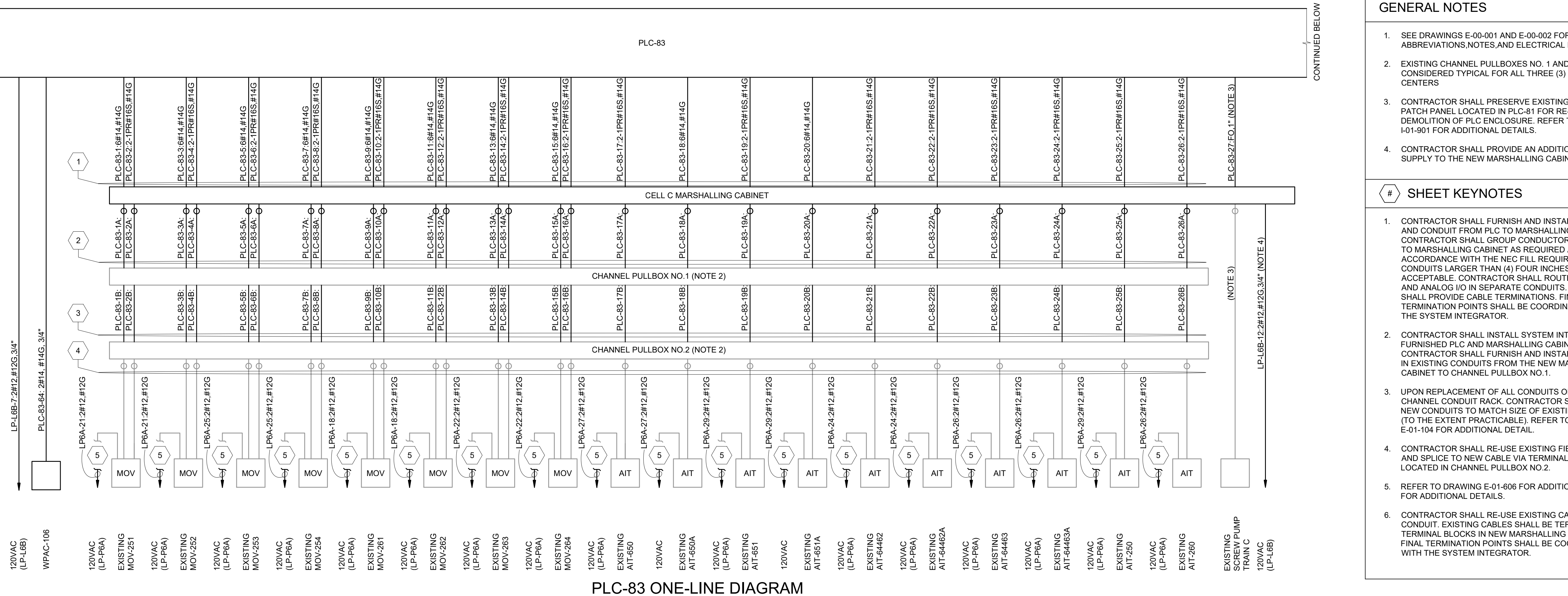
ELECTRICAL

PLC ONE-LINE DIAGRAMS (1 OF 3)

E-01-607

31
OF
35

32
OF
35



GENERAL NOTES

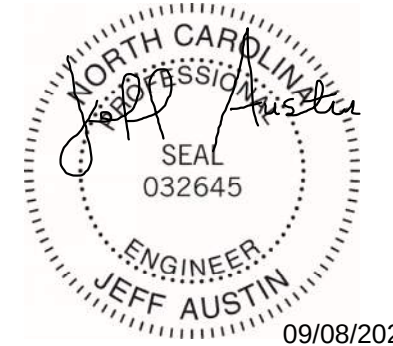
1. SEE DRAWINGS E-00-001 AND E-00-002 FOR ELECTRICAL ABBREVIATIONS, NOTES, AND ELECTRICAL LEGENDS.
2. EXISTING CHANNEL PULLBOXES NO. 1 AND NO. 2 SHALL BE CONSIDERED TYPICAL FOR ALL THREE (3) POWER CENTERS
3. CONTRACTOR SHALL PRESERVE EXISTING FIBER OPTIC PATCH PANEL LOCATED IN PLC-81 FOR RE-USE UPON DEMOLITION OF PLC ENCLOSURE. REFER TO DRAWING I-01-901 FOR ADDITIONAL DETAILS.
4. CONTRACTOR SHALL PROVIDE AN ADDITIONAL 120VAC SUPPLY TO THE NEW MARSHALLING CABINET.

SHEET KEYNOTES

1. CONTRACTOR SHALL FURNISH AND INSTALL NEW CABLE AND CONDUIT FROM PLC TO MARSHALLING CABINET. CONTRACTOR SHALL GROUP CONDUCTORS FROM PLC TO MARSHALLING CABINET AS REQUIRED AND IN ACCORDANCE WITH THE NEC FILL REQUIREMENTS. CONDUITS LARGER THAN (4) FOUR INCHES ARE NOT ACCEPTABLE. CONTRACTOR SHALL ROUTE DISCRETE AND ANALOG I/O IN SEPARATE CONDUITS. CONTRACTOR SHALL PROVIDE CABLE TERMINATIONS. FINAL TERMINATION POINTS SHALL BE COORDINATED WITH THE SYSTEM INTEGRATOR.
2. CONTRACTOR SHALL INSTALL SYSTEM INTEGRATOR FURNISHED PLC AND MARSHALLING CABINET. CONTRACTOR SHALL FURNISH AND INSTALL NEW CABLE IN EXISTING CONDUITS FROM THE NEW MARSHALLING CABINET TO CHANNEL PULLBOX NO.1.
3. UPON REPLACEMENT OF ALL CONDUITS ON THE CHANNEL CONDUIT RACK. CONTRACTOR SHALL INSTALL NEW CONDUITS TO MATCH SIZE OF EXISTING CONDUITS (TO THE EXTENT PRACTICABLE). REFER TO DRAWING E-01-104 FOR ADDITIONAL DETAIL.
4. CONTRACTOR SHALL RE-USE EXISTING FIELD CABLE AND SPLICE TO NEW CABLE VIA TERMINAL BLOCKS LOCATED IN CHANNEL PULLBOX NO.2.
5. REFER TO DRAWING E-01-606 FOR ADDITIONAL DETAILS FOR ADDITIONAL DETAILS.
6. CONTRACTOR SHALL RE-USE EXISTING CABLE AND CONDUIT. EXISTING CABLES SHALL BE TERMINATED TO TERMINAL BLOCKS IN NEW MARSHALLING CABINET. FINAL TERMINATION POINTS SHALL BE COORDINATED WITH THE SYSTEM INTEGRATOR.



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REVISIONS AND RECORD OF ISSUE

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APPROVED:	SJA
DATE:	AUGUST 2026
PROJECT NO.:	424744

DIAGRAMS, ONE-LINES, SCHEDULES & INSTRUMENTATION P&IDS

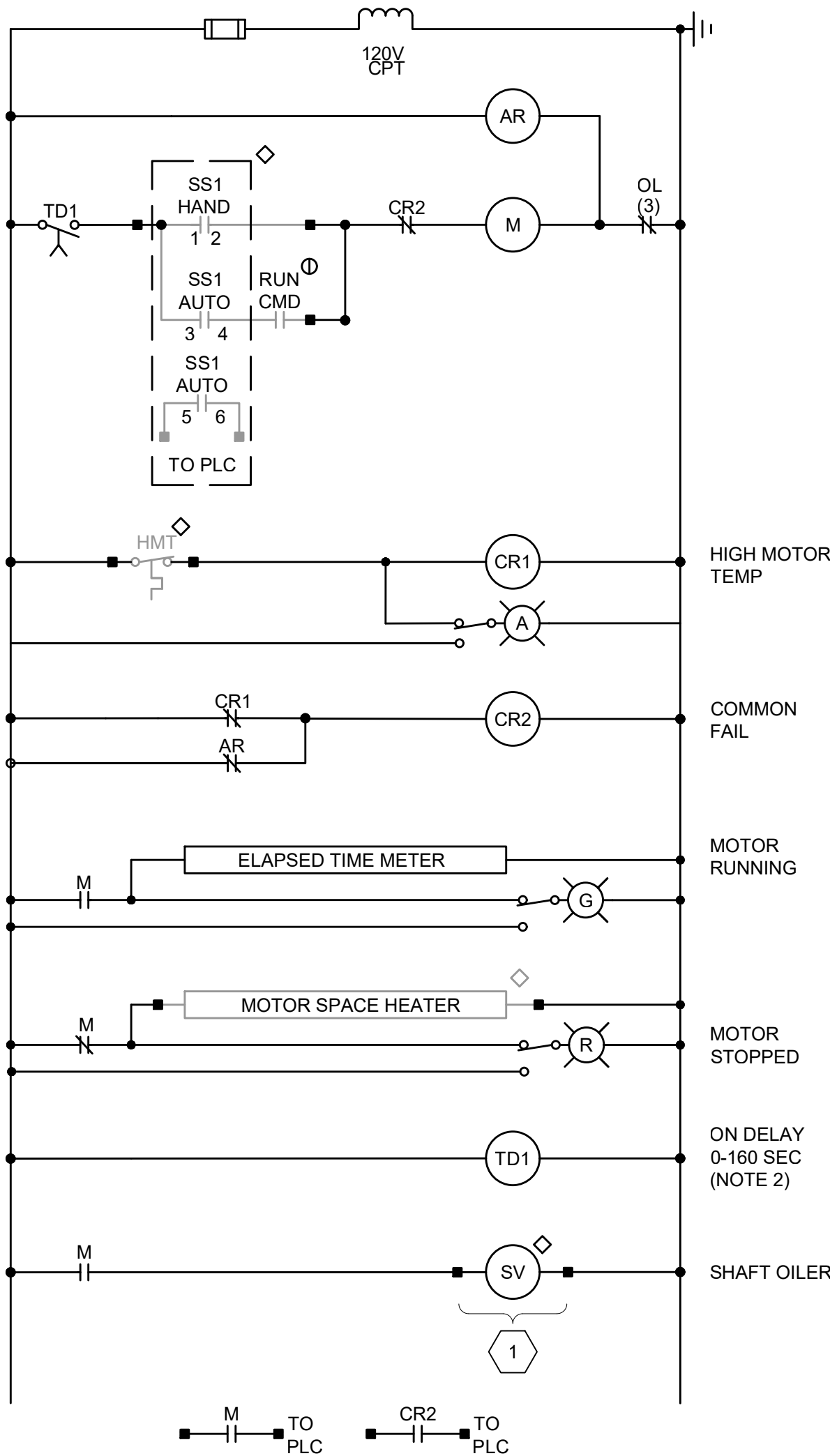
ELECTRICAL

PLC ONE-LINE DIAGRAMS (3 OF 3)

E-01-609

33
OF
35

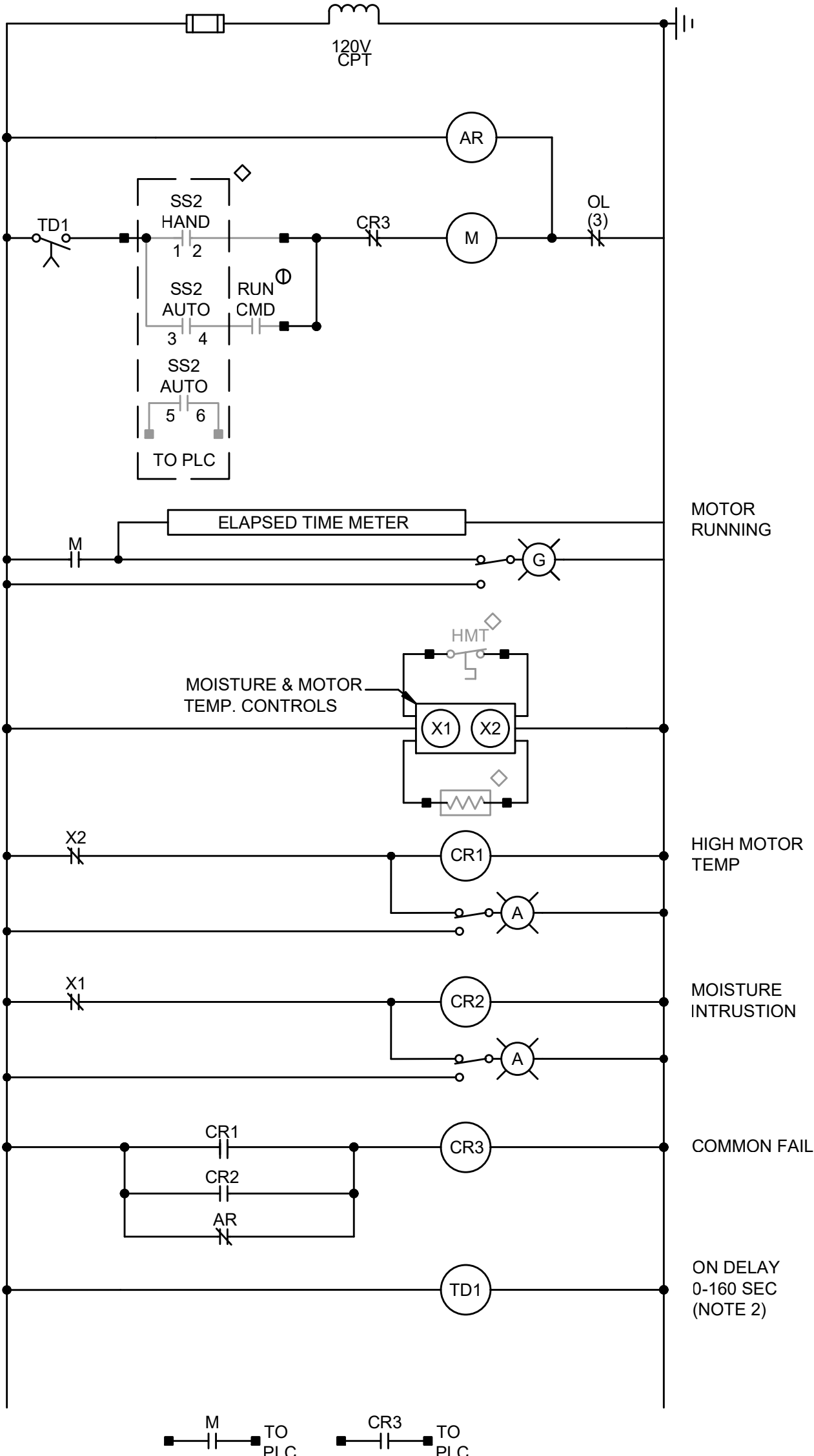
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CONTACTS	POSITION		
	HAND	OFF	AUTO
1-2	X		
3-4			X
5-6			X

NRCY PUMP 1-1 SCHEMATIC

TYPICAL FOR NRCY PUMP 2-1, NRCY PUMP 3-1,
 NRCY PUMP 4-1, NRCY PUMP 1-2, NRCY PUMP 2-2
 NRCY PUMP 3-2, NRCY PUMP 4-2, NRCY PUMP 1-3
 NRCY PUMP 2-3, NRCY PUMP 3-3, NRCY PUMP 4-3
 NRCY PUMP 1-4, NRCY PUMP 2-4, NRCY PUMP 3-4
 NRCY PUMP 4-4, NRCY PUMP 1-5, NRCY PUMP 2-5
 NRCY PUMP 3-5, NRCY PUMP 4-5, NRCY PUMP 1-6
 NRCY PUMP 2-6, NRCY PUMP 3-6, NRCY PUMP 4-6



CONTACTS	POSITION		
	HAND	OFF	AUTO
1-2	X		
3-4			X
5-6			X

MIXER PUMP A-1 SCHEMATIC

TYPICAL FOR MIXER PUMP B-1, MIXER PUMP C-1,
 MIXER PUMP F-1A, MIXER PUMP F-1B, MIXER PUMP G-1,
 MIXER PUMP A-2, MIXER PUMP B-2, MIXER PUMP C-2,
 MIXER PUMP F-2A, MIXER PUMP F-2B, MIXER PUMP G-2,

MIXER PUMP A-3, MIXER PUMP B-3, MIXER PUMP C-3,
 MIXER PUMP F-3A, MIXER PUMP F-3B, MIXER PUMP G-3,
 MIXER PUMP A-4, MIXER PUMP B-4, MIXER PUMP C-4,
 MIXER PUMP F-4A, MIXER PUMP F-4B, MIXER PUMP G-4,

MIXER PUMP A-5, MIXER PUMP B-5, MIXER PUMP C-5,
 MIXER PUMP F-5A, MIXER PUMP F-5B, MIXER PUMP G-5,
 MIXER PUMP A-6, MIXER PUMP B-6, MIXER PUMP C-6,
 MIXER PUMP F-6A, MIXER PUMP F-6B, MIXER PUMP G-6

GENERAL NOTES

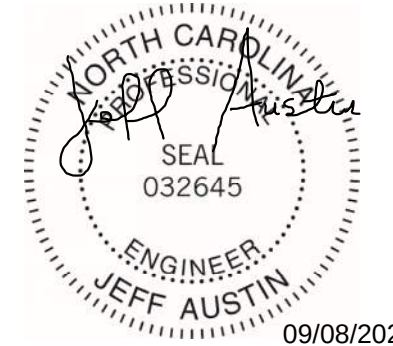
- SEE DRAWINGS E-00-001 AND E-00-002 FOR ELECTRICAL ABBREVIATIONS, NOTES, AND ELECTRICAL LEGENDS.
- CONTRACTOR SHALL SET TIMER TO MATCH EXISTING SETTING CORRESPONDING TO THE NRCY AND MIXER PUMPS.

SHEET KEYNOTES

- SHAFT OILER SOLENOID VALVE IS ONLY TYPICAL FOR NRCY PUMPS 1-6, 2-6, 3-6, AND 4-6.



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REVISIONS AND RECORD OF ISSUE

DESIGNED:	BMP
DETAILED:	BMP
CHECKED:	SJA
APPROVED:	SJA
DATE:	AUGUST 2026

PROJECT NO: 424744

DIAGRAMS, ONE-LINES,
 SCHEDULES &
 INSTRUMENTATION P&IDs

ELECTRICAL

SCHEMATICS

E-01-610

34
 OF
 35

(SCALE BAR IS 4" AT FULL SCALE) 0 1/2 1 2 3 4



NEUSE RIVER RESOURCE
RECOVERY FACILITY BNR
BASINS MCC
REPLACEMENT

ISSUED FOR BID

REVISIONS AND RECORD OF ISSUE

DESIGNED:	DHH
DETAILED:	IRL
CHECKED:	MJP
APPROVED:	JRP
DATE:	AUGUST 2026
PROJECT NO.:	424744

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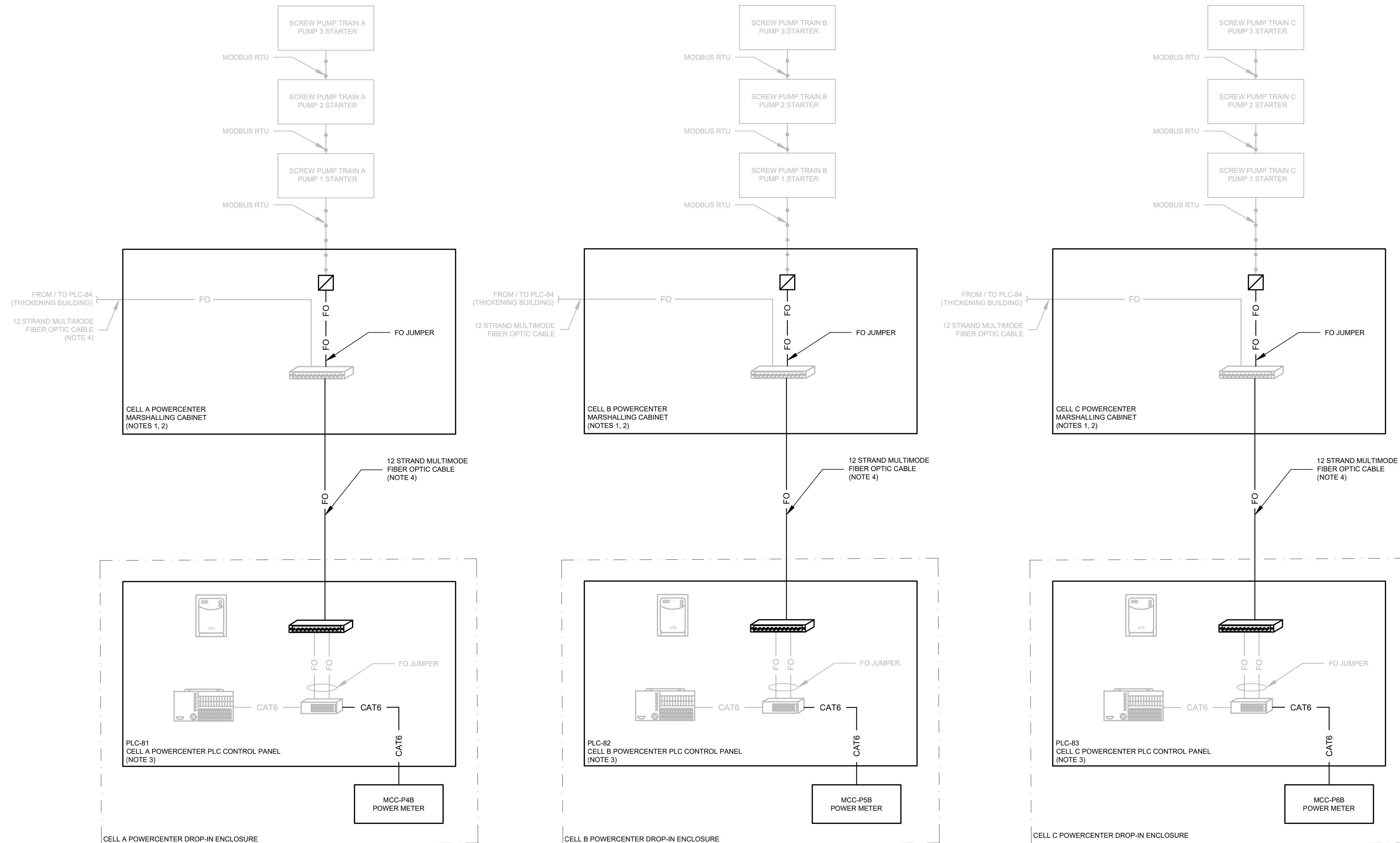
DETAILS

INSTRUMENTATION

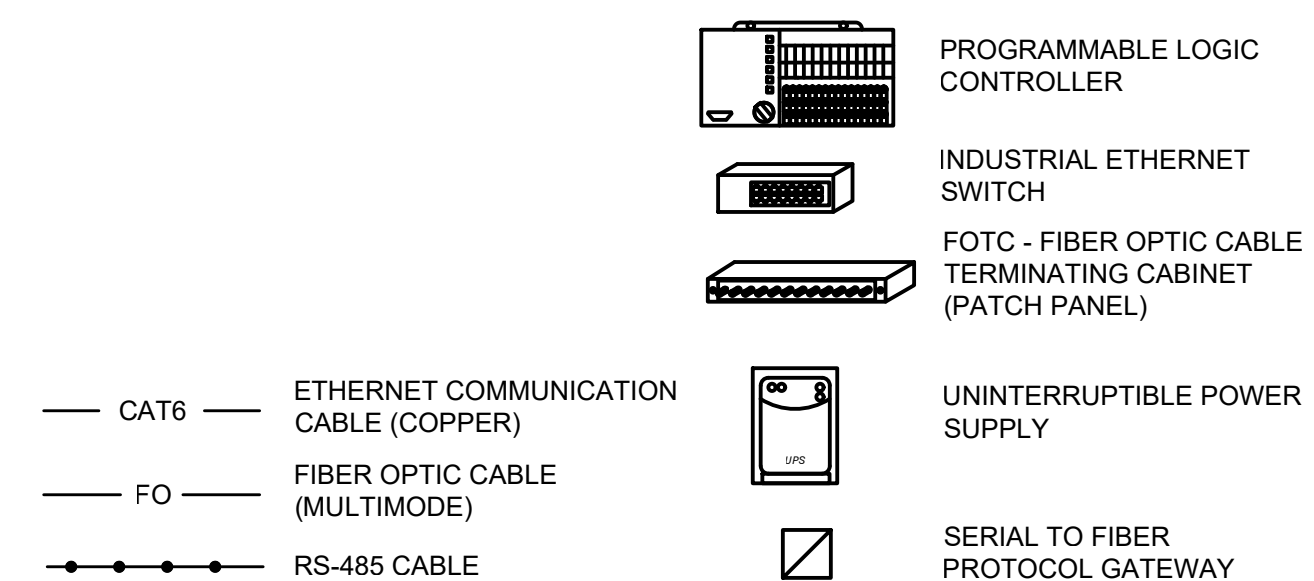
CONTROL SYSTEM BLOCK DIAGRAM

I-01-901

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OF
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1. THE EXISTING PLC ENCLOSURE SHALL BE REPLACED BY A NEW MARSHALLING CABINET. ALL EXISTING FIELD TERMINAL BLOCKS AND ASSOCIATED FIELD WIRING SHALL BE REMOVED AND REPLACED WITH NEW TERMINAL BLOCKS AS REQUIRED. THE EXISTING FIBER OPTIC PATCH PANEL SHALL REMAIN IN THE NEW MARSHALLING CABINET, WITH NEW MULTIMODE FIBER BEING ROUTED TO THE NEW PLC ENCLOSURE IN THE DROP-IN ENCLOSURE.
2. UPON INSTALLATION OF THE NEW MARSHALLING CABINET AND ASSOCIATED TERMINAL BLOCKS, CONTRACTOR SHALL PRESERVE ALL EXISTING CONDUIT STUB-UPS AND ASSOCIATED FIELD CABLES TERMINATING AT THE EXISTING PLC ENCLOSURE (EXCLUDING CABLES ROUTED ACROSS THE EXISTING CHANNEL CONDUIT RACK). CONTRACTOR SHALL TERMINATE PRESERVED CABLES INTO NEW MARSHALLING CABINET AND PROVIDE PATHWAY, DRESSING, AND TERMINATION PREPARATION TO NEW TERMINAL BLOCKS. FINAL LANDING AND MARSHALLING OF FIELD CONTROL AND INSTRUMENTATION CABLES SHALL BE COORDINATED WITH THE SYSTEM INTEGRATOR.
3. ALL EXISTING COMPONENTS IN EACH NEW PLC CONTROL PANEL SHOWN ON THIS DRAWING SHALL BE RELOCATED FROM THE EXISTING PLC ENCLOSURE.
4. ONE PAIR SHALL BE USED FOR COMMUNICATION WITH SCREW PUMP TRAIN, AND A SECOND PAIR SHALL BE USED FOR COMMUNICATION WITH THE REST OF THE PLANT CONTROL SYSTEM.



(SCALE BAR IS 4" AT FULL SCALE) 0 1/2 1 2 3 4