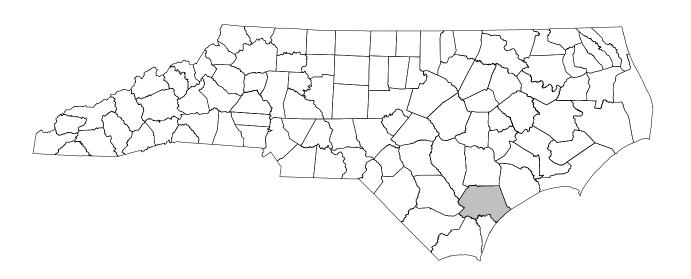
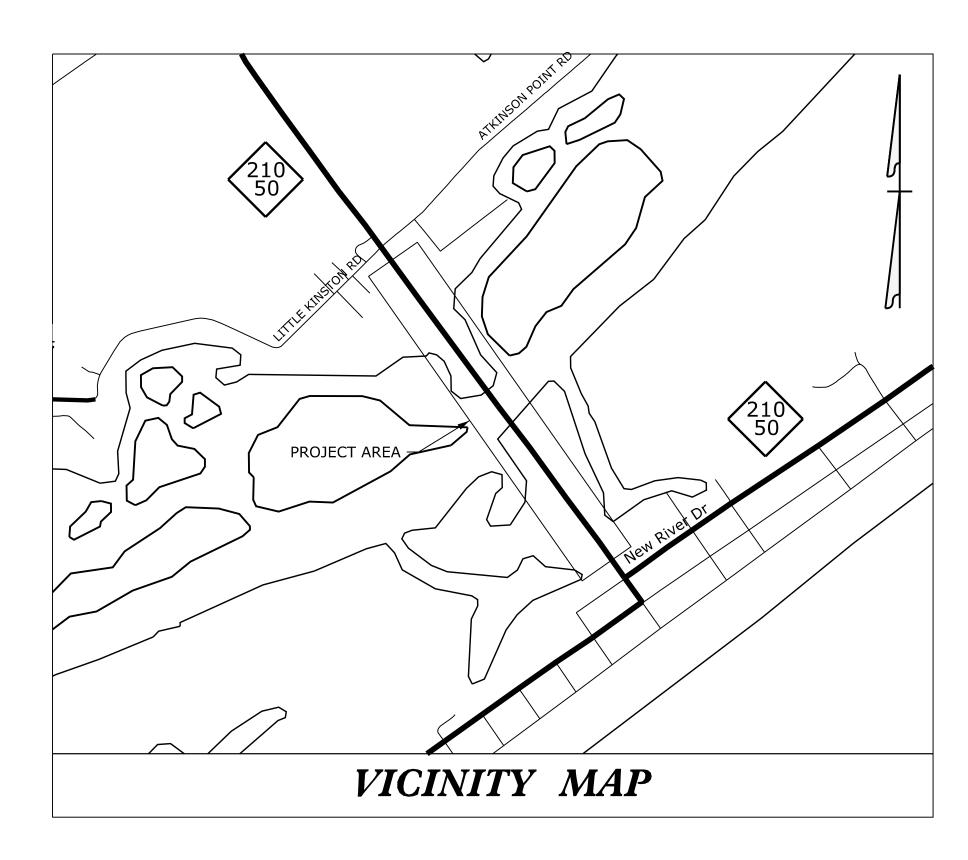
PEDESTRIAN LIGHTING AND TRANSPORTATION MANAGEMENT PLAN

PENDER COUNTY



LOCATION: NC 210 (SURF CITY BRIDGE) FROM S NEW RIVER DR/S TOPSAIL DR TO ATKINSON POINT RD/LITTLE KINSTON RD

TYPE OF WORK: REMOVAL AND REPLACEMENT OF EXISTING PEDESTRIAN LIGHTING SYSTEM ON BRIDGE 700016 AND ASSOCIATED PEDESTRIAN AND TRAFFIC **MANAGEMENT**



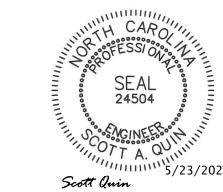
INDEX OF SHEETS

| SHEET NO. | <u>TITLE</u> | | | | | |
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| E - 1 | EXISTING CONDITIONS | | | | | |
| E-2 | CONTROL SYSTEM CHANGES | | | | | |
| E-3 | NEW CIRCUITING | | | | | |
| E - 4 | LUMINAIRE CIRCUIT WIRING | | | | | |
| E-5 | LUMINAIRE REPLACEMENT | | | | | |
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PROJECT NO. 15BPR.138.3 PENDER _ COUNTY 700016 BRIDGE

> STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

REPAIR OF PEDESTRIAN LIGHTING SYSTEM



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS TOTAL SHEETS

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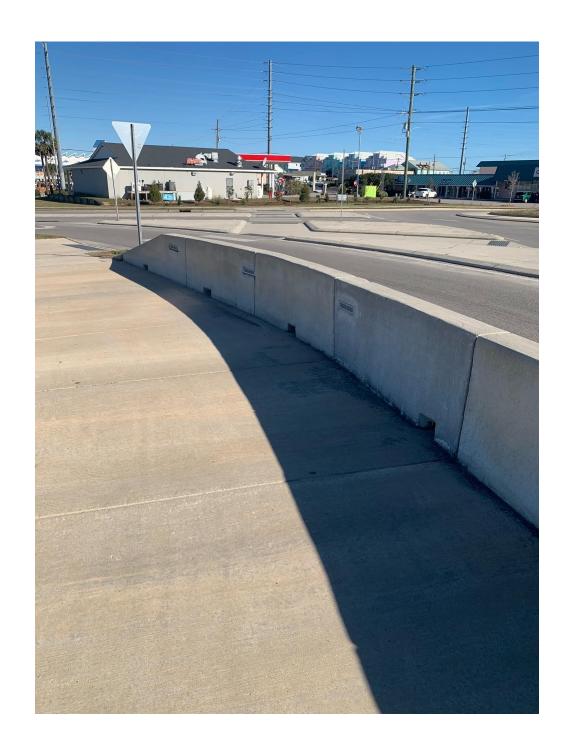
DWG BY: J. WILES
CHK BY: B. SCHOENBAUER _ DATE : 03/24 B. SCHOENBAUER



EXISTING CONDITIONS - FACEPLATE
NOT TO SCALE



EXISTING CONDITIONS - BACKBOX NOT TO SCALE



EXISTING CONDITIONS - BRIDGE BARRIER RAIL NOT TO SCALE



EXISTING CONDITIONS - CONDUIT NOT TO SCALE



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BRIDGE

____ COUNTY

TOTAL SHEETS 10

700016

PROJECT NO. 15BPR.138.3

PENDER

DEMOLITION AND BACKBOX REPAIR NOTES:

BACK BOXES.

1. AT EACH LUMINAIRE LOCATION, REMOVE ALL LUMINAIRE COMPONENTS AND WIRING.

2. AFTER ALL LUMINAIRE COMPONENTS AND WIRING ARE REMOVED, REPAIR EACH BACK BOX IN ACCORDANCE TO SPECIFICATION SECTION 1076-7. DO NOT USE BLAST CLEANING METHOD, HOWEVER POWER HAND TOOLS MAY BE USED IF THEIR USE DOES NOT RESULT IN FURTHER DAMAGE TO THE

3. AFTER THE BACK BOX HAS BEEN REPAIRED, COAT EACH BACK BOX SURFACE WITH RUST PROTECTIVE COATING IN ACCORDANCE TO

4. AFTER THE PAINT HAS CURED, APPLY SILICONE CAULK AROUND THE PERIMETER OF THE BACK BOX TO SEAL THE SEAM BETWEEN THE BACK BOX

SPECIFICATION SECTION 1080-7.

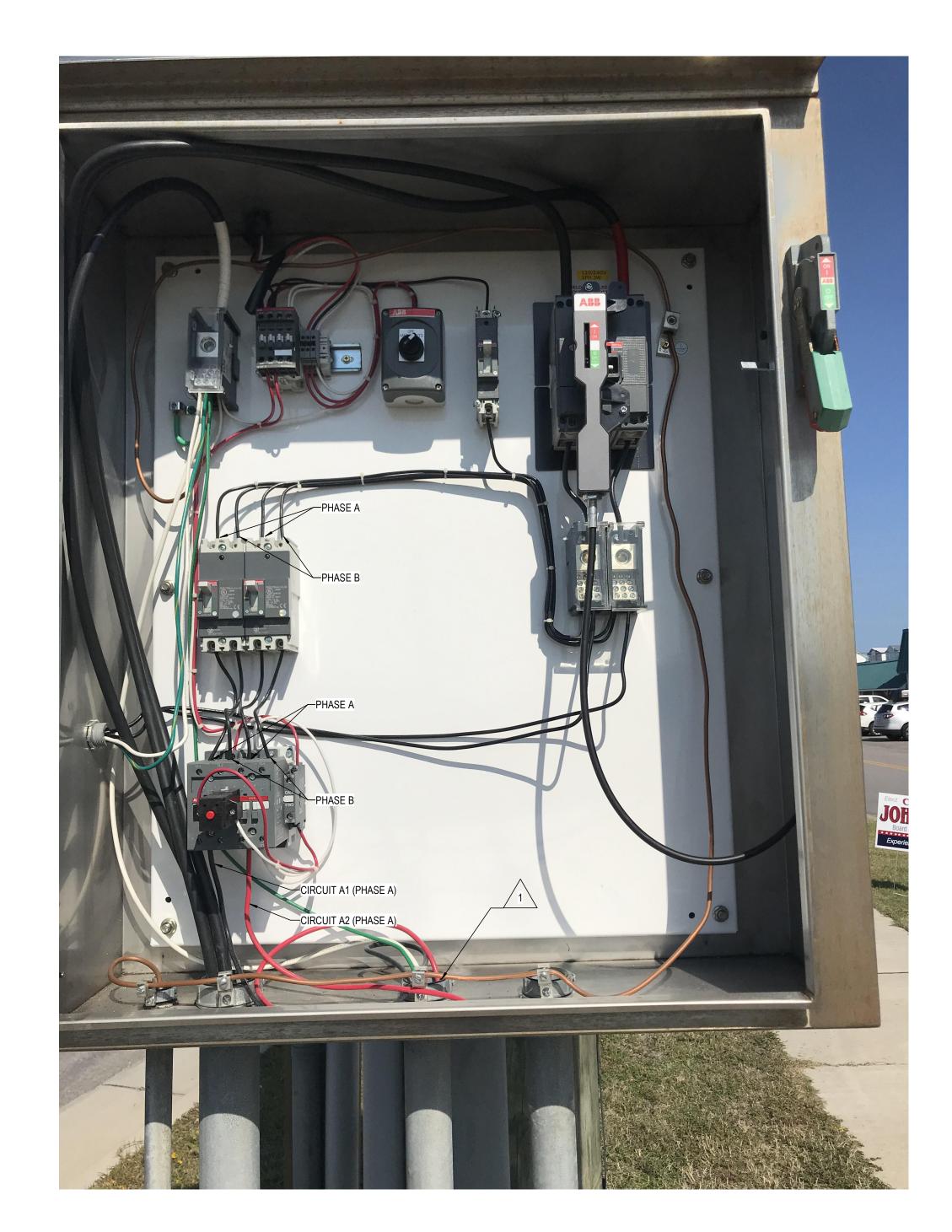
AND THE CONCRETE OPENING.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
RALEIGH

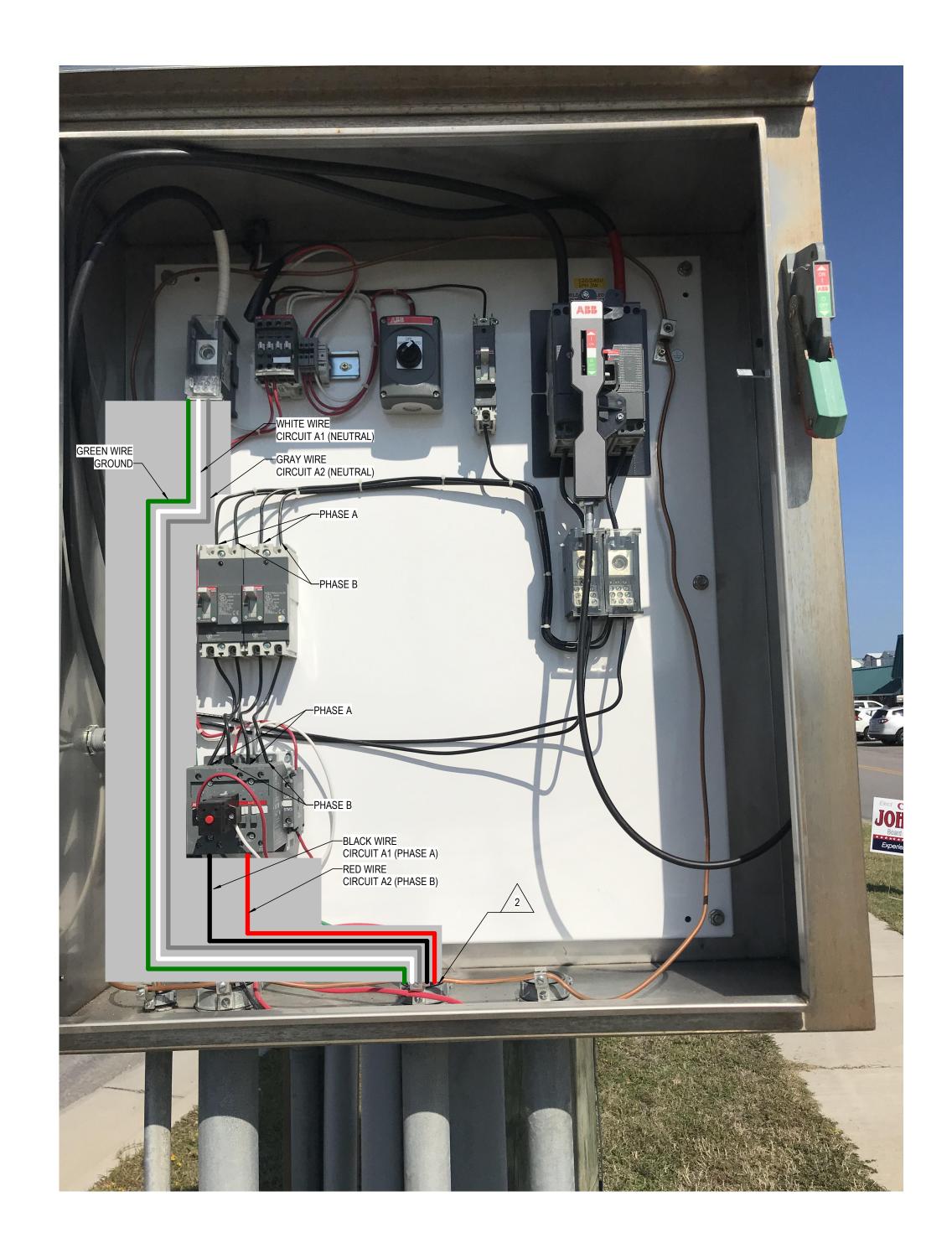
REPAIR OF PEDESTRIAN LIGHTING SYSTEM

EXISTING CONDITIONS

__ DATE : 03/24 __ DATE : 03/24 DES BY: M. THEOLOGIDY
DES CHK: S. QUIN DWG BY: M. THEOLOGIDY
CHK BY: S. QUIN DATE : 03/24
DATE : 03/24



EXISTING CONDITIONS - CONTROL SYSTEM "A" (TYPICAL)
NOT TO SCALE



CONTROL SYSTEM "A" (TYPICAL)
NOT TO SCALE

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1 REMOVE EXISTING LIGHTING CIRCUIT WIRING TO THE LUMINAIRES IN THE CONCRETE BARRIER RAIL (2 PHASE WIRES, 1 NEUTRAL WIRE, 1 GROUND WIRE).

> SHEATHING AS NOTED HEREIN: - CONTROL SYSTEM "A":

INSTALL NEW LIGHTING CIRCUIT WIRING TO THE REPLACEMENT LUMINAIRES IN EXISTING CONDUIT. PROVIDE #8 THWN WIRE WITH CONTINUOUSLY COLORED

 CIRCUIT A1: BLACK (PHASE), WHITE (NEUTRAL) CIRCUIT A2: RED (PHASE), GRAY (NEUTRAL) • COMMON GROUND FOR A1 AND A2: GREEN - CONTROL SYSTEM "B": CIRCUIT B1: BLACK (PHASE), WHITE (NEUTRAL) CIRCUIT B2: RED (PHASE), GRAY (NEUTRAL) COMMON GROUND FOR B1 AND B2: GREEN

PROJECT NO. 15BPR.138.3

PENDER _ COUNTY

700016 BRIDGE

> STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
> RALEIGH

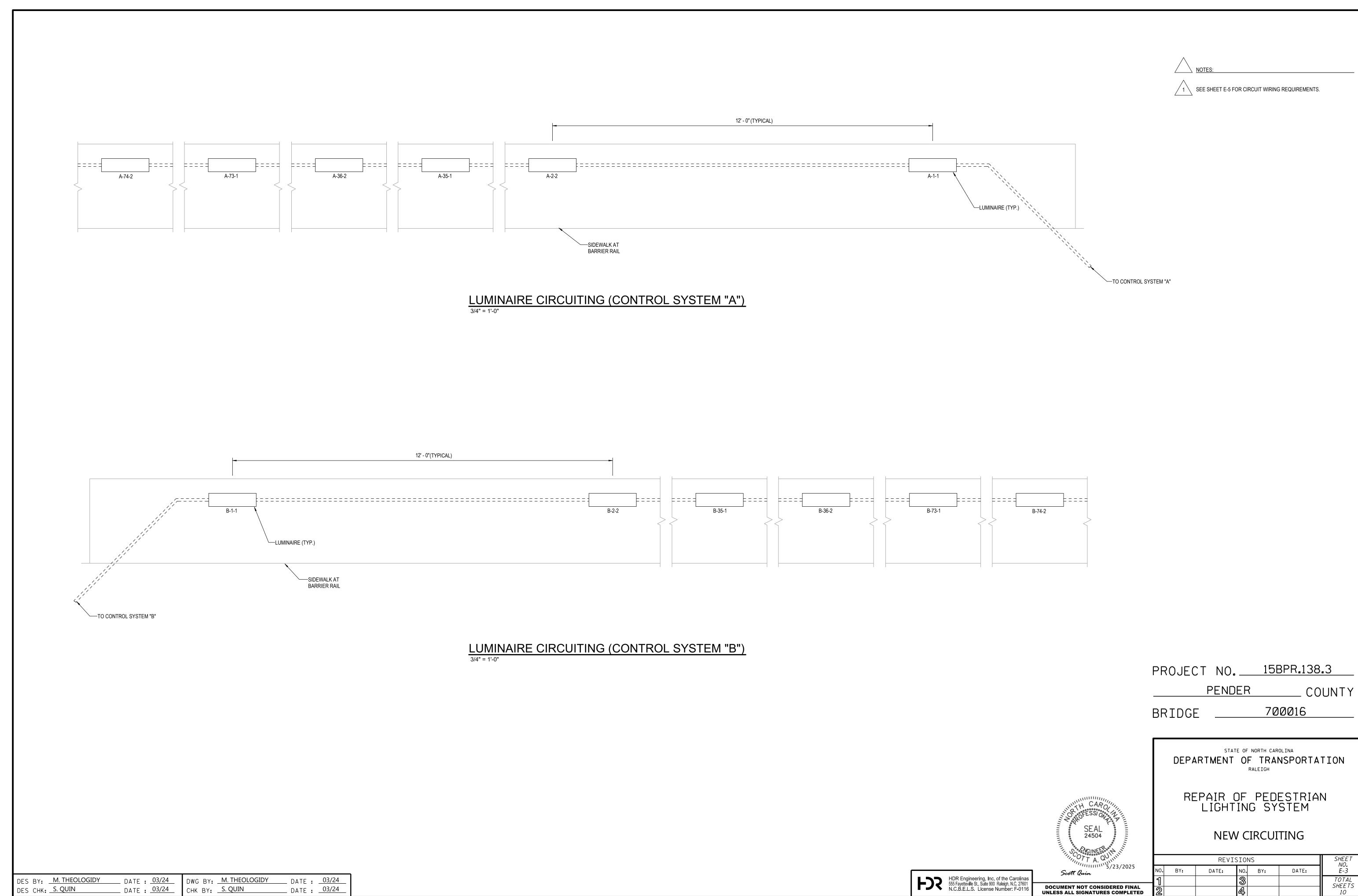
REPAIR OF PEDESTRIAN LIGHTING SYSTEM

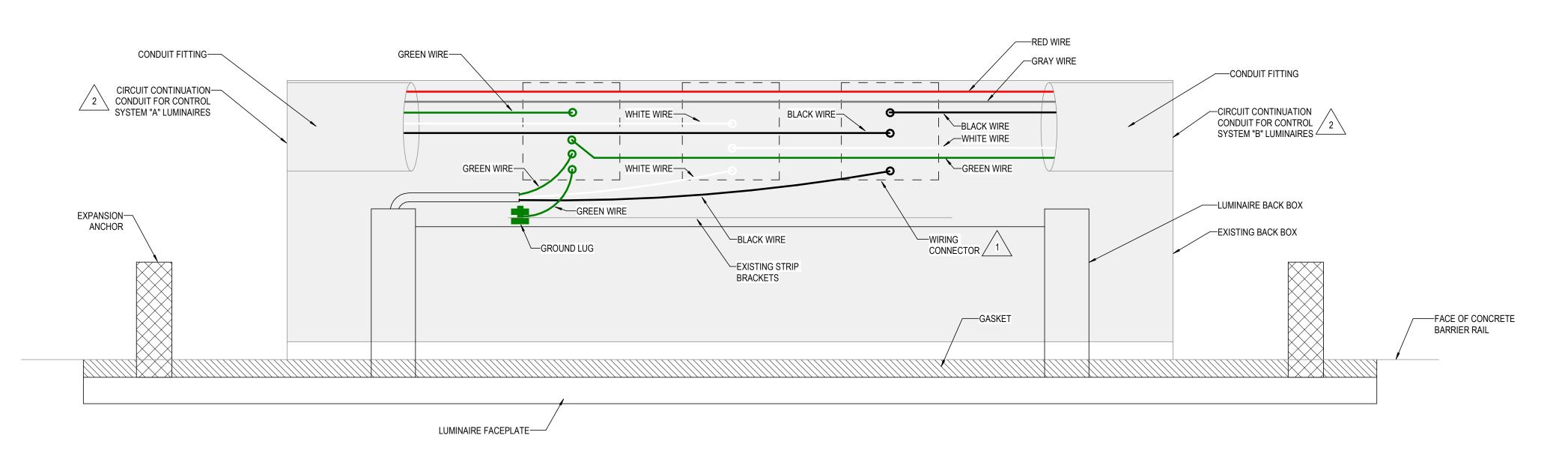
CONTROL SYSTEM CHANGES

| REVISIONS | | | | | SHEET NO. | |
|-----------|-------|----------|-----|-------|-----------------|--|
| BY: | DATE: | NO. | BY: | DATE: | E-2 | |
| | | ® | | | TOTAL SHEETS | |
| | | 4 | | | 10 | |

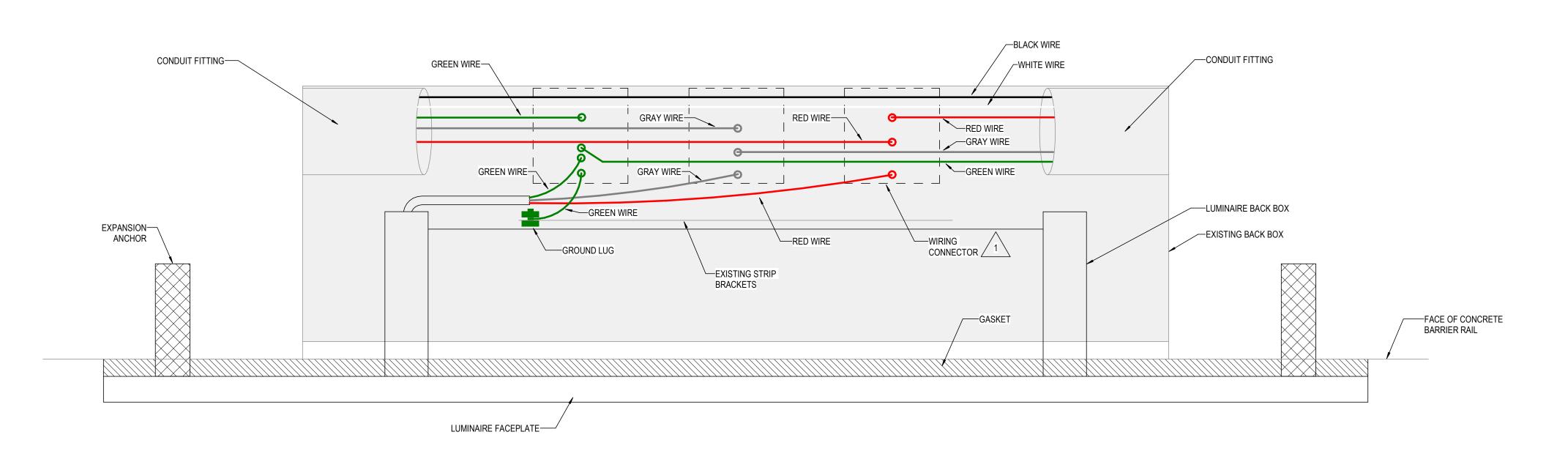
__ DATE : 03/24 __ DATE : 03/24 DWG BY: M. THEOLOGIDY
CHK BY: S. QUIN DES BY: M. THEOLOGIDY
DES CHK: S. QUIN DATE : 03/24
DATE : 03/24

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LUMINAIRE WIRING FOR CIRCUITS "A1" AND "B1"



LUMINAIRE WIRING FOR CIRCUITS "A2" AND "B2" NOT TO SCALE



WIRING CONNECTOR NOT TO SCALE

BASIS OF DESIGN
INSULATED CONNECTOR WITH THE FOLLOWING REQUIRED FEATURES:

3 PORT CONFIGURATION FOR PHASE AND NEUTRAL

4 PORT CONFIGURATION FOR GROUND

PRE-FILLED WITH OXIDE INHIBITORWEATHER TIGHT, WATER TIGHT

PROJECT NO. 15BPR.138.3 PENDER COUNTY 700016 BRIDGE

SEE DETAIL 1 ON THIS SHEET.

TO THE CIRCUIT SUPPLY CONDUIT.

BASIS OF DESIGN: POLYWATER FST

AT EVERY FIFTH LUMINAIRE (E.G. A5, A10, A15, ETC.),

FILL ONE CONDUIT WITH EXPANDING FOAM SEALANT. APPLY SEALANT TO THE CIRCUIT CONTINUATION CONDUIT THAT CONTINUES THE CIRCUITS TO THE DOWNSTREAM LUMINAIRES. DO NOT APPLY SEALANT

EXPANDING FOAM SEALANT TO BE UL LISTED FOR USE WITH CONDUIT AND WIRE.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

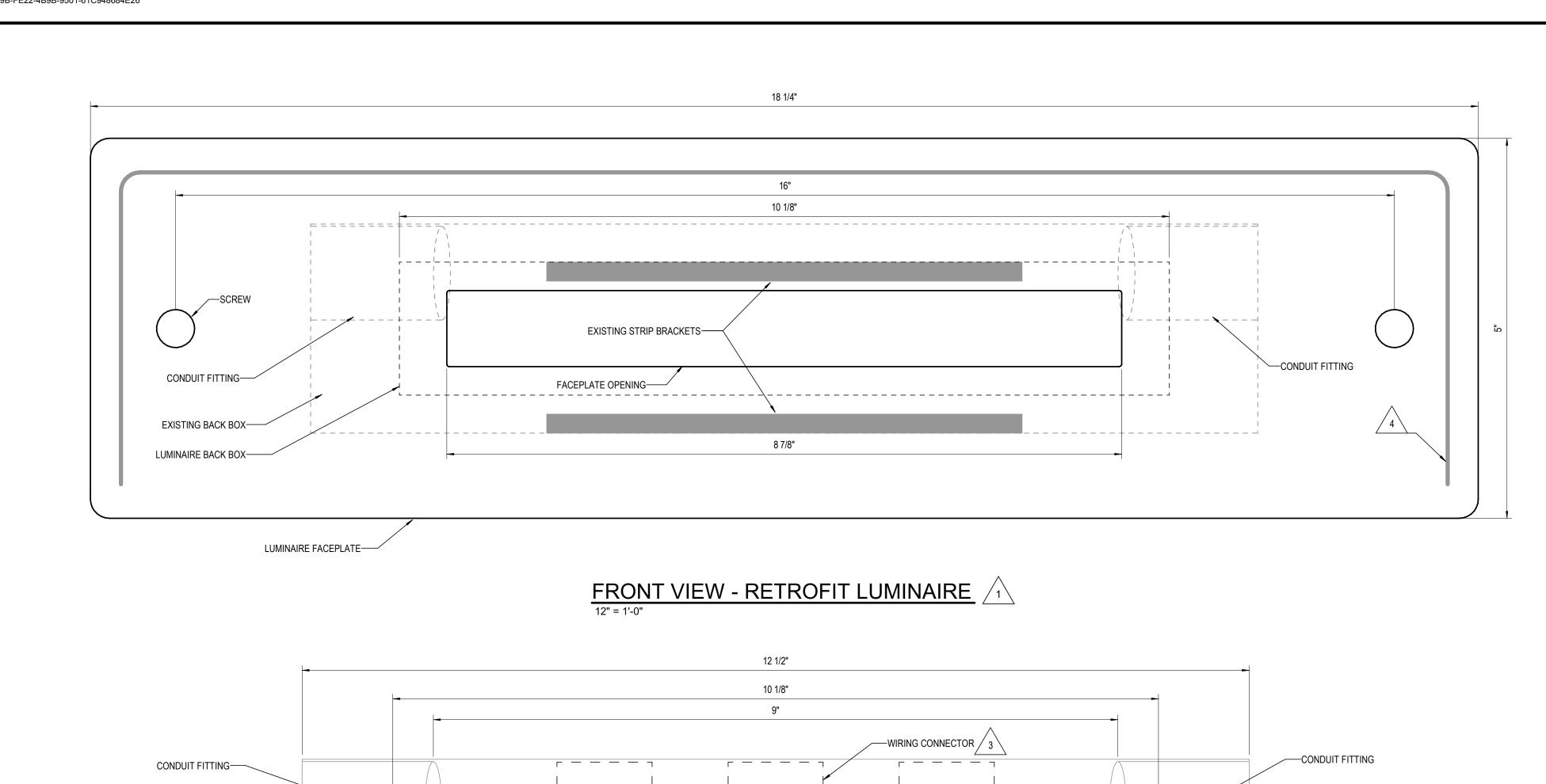
REPAIR OF PEDESTRIAN LIGHTING SYSTEM

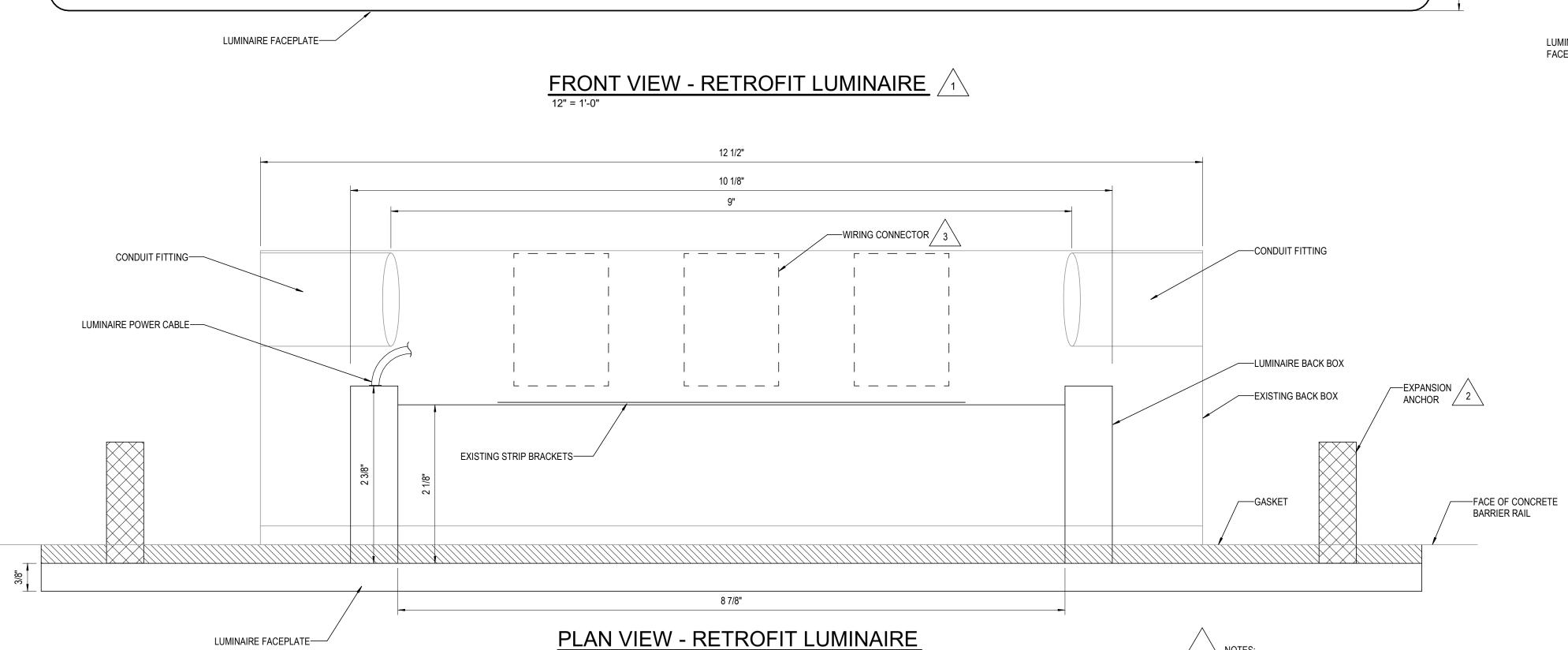
LUMINAIRE CIRCUIT WIRING

SHEET NO. E-4 REVISIONS NO. BY: BY: DATE: DATE: TOTAL SHEETS 10 DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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DES BY: M. THEOLOGIDY DWG BY: M. THEOLOGIDY _ DATE : <u>03/24</u> _ DATE : <u>03/24</u> DES CHK: S. QUIN _ DATE : <u>03/24</u> CHK BY: S. QUIN _ DATE : <u>03/24</u>





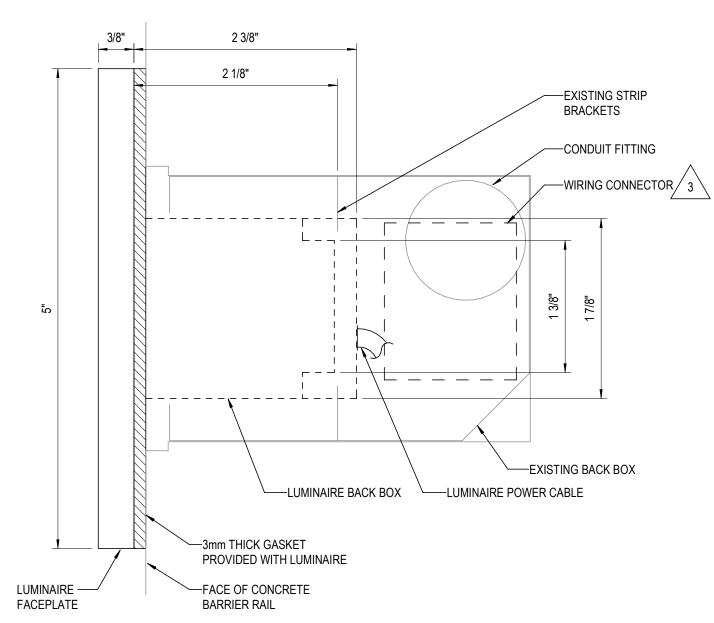
LUMINAIRE BASIS OF DESIGN IS MP LIGHTING, MODEL NO. L771-8-W27H-F-S6.

- REQUIRED FEATURES: LED LIFE IS 50,000 HOURS (NOMINAL)
 LUMEN OUTPUT IS 410LM (NOMINAL)
- 120V, 8W STAINLESS STEEL FACEPLATE
- BACK BOX MADE OF MARINE GRADE ALUMINUM IP66 RATED
- LED ENGINE IS REPLACEABLE LED DRIVER IS REPLACEABLE
- #10 PLASTIC CONICAL EXPANSION ANCHORS AND #10 PAN HEAD SCREWS SHALL BE USED TO INSTALL THE LUMINAIRES. #10 PAN HEAD SCREWS

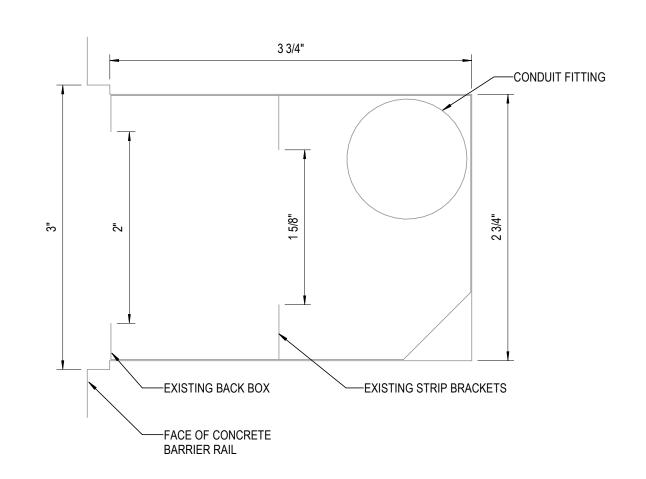
SHALL BE 1 1/2" IN LENGTH AND SHALL BE 316 STAINLESS STEEL. DRILL ANCHOR LOCATIONS AND INSTALL EXPANSION ANCHORS IN ACCORDANCE WITH INSTRUCTIONS FROM ANCHOR MANUFACTURER. INCLUDE COSTS FOR EXPANSION ANCHORS WITH REPLACE EXISTING LIGHTING AND WIRING PAY

3 \ SEE DETAIL 1 ON SHEET E-4.

INSTALL BEAD OF CAULK ALONG THREE SIDES BEHIND FACEPLATE AS SHOWN.



SIDE VIEW - RETROFIT LUMINAIRE 12" = 1'-0"



SIDE VIEW - EXISTING BACK BOX 12" = 1'-0"

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PROJECT NO. 15BPR.138.3 PENDER COUNTY 700016 BRIDGE

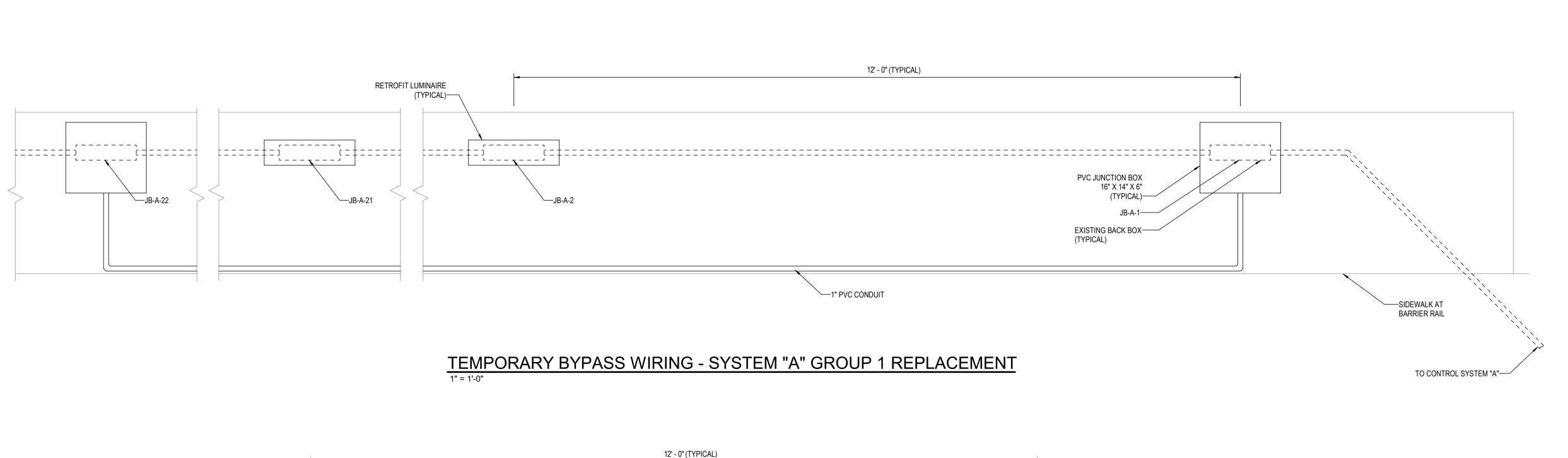
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH

REPAIR OF PEDESTRIAN LIGHTING SYSTEM

LUMINAIRE REPLACEMENT

SHEET NO. E-5 REVISIONS NO. BY: DATE: DATE: BY: TOTAL SHEETS DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

| L | | | | | | | |
|---|---------|---------------|--------------|---------|---------------|-------|------|
| | DES BY: | M. THEOLOGIDY | DATE : 03/24 | DWG BY: | M. THEOLOGIDY | DATE: | 03/2 |
| | | S. QUIN | | | S. QUIN | DATE: | 03/2 |
| _ | | | | | | * | |



12-0'(YPPCA)

RETROSTI LIMMARE
(YPPCA)

PVC.UNCTION BOX
16' X 14' XX'
16' X 14' XX'
16' X 14' XX'
18' BB-2

SB-22

TEMPORARY BYPASS WIRING - SYSTEM "B" GROUP 1 REPLACEMENT

| LUMP SUM |
|----------|
| 368* EA. |
| |

* INCLUDES 334 INSTALLED LUMINAIRES AND 34 SPARE LUMINAIRES

STEPS FOR GROUP 1 REPLACEMENT:

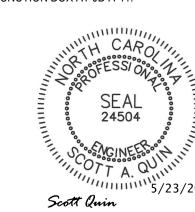
- 1. REMOVE EXISTING LUMINAIRES A-1.
- REMOVE EXISTING WIRING FROM CONTROL STATION "A" TO JB-A-1.
- 3. PREPARE JB-A-1. SEE NOTES 1, 2, 3 ON SHEET E-1, AND NOTE 2 ON SHEET E-5.
- 4. INSTALL NEW CIRCUIT WIRING FROM CONTROL STATION
- "A" TO JB-A-1. SEE NOTE ON SHEET E-2.
- 5. REMOVE EXISTING LUMINAIRE A-22.
- 6. AT JB-A-22, INSTALL EXPANSION ANCHORS FOR NEW RETROFIT LUMINAIRE. SEE NOTE 2 ON SHEET E-5.
- 7. INSTALL TEMPORARY BYPASS WIRING FROM JB-A-1 TO JB-A-22. PROVIDE #8 THWN WIRE.
- 8. REMOVE EXISTING LUMINAIRES A-2 THROUGH A-21.
- REMOVE EXISTING WIRING FROM JB-A-1 TO JB-A-22.
- 10. PREPARE JB-A-2 THROUGH JB-A-21. SEE NOTES 1, 2, 3 ON
- 11. INSTALL NEW CIRCUIT WIRING FROM JB-A-1 THROUGH
- JB-A-21. SEE SHEETS E-3 AND E-4 FOR CIRCUIT WIRING.
- 12. INSTALL NEW RETROFIT LUMINAIRES A-2 THROUGH A-20.
- 13. REMOVE TEMPORARY WIRING.
- 14. INSTALL NEW RETROFIT LUMINAIRE A-1.

SHEET E-1, AND NOTE 2 ON SHEET E-5.

15. INSTALL TEMPORARY BYPASS JUNCTION BOX AT JB-A-21.

STEPS FOR GROUP 2 REPLACEMENT (TYPICAL FOR GROUPS 3 AND ABOVE):

- 1. REMOVE EXISTING LUMINAIRES A-42.
- 2. AT JB-A-42, INSTALL EXPANSION ANCHORS FOR NEW RETROFIT LUMINAIRE. SEE NOTE 2 ON SHEET E-5.
- 3. INSTALL TEMPORARY BYPASS WIRING FROM JB-A-21 TO JB-A-42.
- 4. REMOVE EXISTING LUMINAIRES JB-A-21 TO JB-A-42.
- 5. REMOVE EXISTING WIRING FROM JB-A-21 TO JB-A-42.
- 6. PREPARE JB-A-22 THROUGH JB-A-41. SEE NOTES 1, 2, 3 ON SHEET E-1, AND NOTE 2 ON SHEET E-5.
- INSTALL NEW CIRCUIT WIRING FROM JB-A-21 THROUGH JB-A-41. SEE SHEETS E-3 AND E-4 FOR CIRCUIT WIRING.
- 8. INSTALL NEW RETROFIT LUMINAIRES A-22 THROUGH
- 9. REMOVE TEMPORARY WIRING.
- 10. INSTALL NEW RETROFIT LUMINAIRE A-21.
- 11. INSTALL TEMPORARY BYPASS JUNCTION BOX AT JB-A-41.



DOCUMENT NOT CONSIDERED FINAL

UNLESS ALL SIGNATURES COMPLETED

Scott Quin

24304

Scott Quin

Pr

No. BY:

PROJECT NO. 15BPR.138.3

PENDER COUNTY

BRIDGE 700016

REPLACEMENT OF THE LUMINAIRES WILL BE PHASED

IN ORDER TO LIMIT DISRUPTION OF ILLUMINATION PROVIDED BY BARRIER RAIL LIGHTING.

OPERATION OF THE EXISTING LUMINAIRES WILL BE
MAINTAINED BY PROVIDING TEMPORARY WIRING TO
BYPASS EACH GROUP OF LUMINAIRES BEING

FOR EACH GROUP REPLACEMENT, A MAXIMUM OF 20 LUMINAIRES MAY BE REPLACED.

MOUNT TEMPORARY BYPASS JUNCTION BOX TO THE

CONCRETE BARRIER RAIL WITH ONE-HOLE STRAPS. REPAIR THE CONCRETE WHEN THE ONE-HOLE

CONCRETE BARRIER RAIL UTILIZING EXPANSION

5 \ ATTACH TEMPORARY BYPASS CONDUIT TO THE

FOR GROUT FOR STRUCTURE, SEE SPECIAL

ANCHORS.

PROVISIONS.

STRAPS ARE REMOVED.

DEPARTMENT OF TRANSPORTATION
RALEIGH

REPAIR OF PEDESTRIAN LIGHTING SYSTEM

PHASED INSTALLATION

REVISIONS

BY: DATE: NO. BY: DATE: E-6

3 TOTAL SHEETS
10

 DES BY:
 M. THEOLOGIDY
 DATE:
 03/24
 DWG BY:
 M. THEOLOGIDY
 DATE:
 03/24

 DES CHK:
 S. QUIN
 DATE:
 03/24
 CHK BY:
 S. QUIN
 DATE:
 03/24

BARRIER RAIL-

TO CONTROL SYSTEM "B"

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MANAGEMENT STRATEGIES

- 1) DURING PEDESTRIAN LIGHTING INSTALLATION USE FLAGGERS AND PEDESTRIAN CHANNELIZING DEVICES TO DIRECT PEDESTRIAN TRAFFIC THROUGH THE WORK AREA.
- 2) USE ROADWAY STANDARD DRAWING 1101.02 SHEET 1 OF 19, AS NECESSARY, FOR VEHICULAR TRAFFIC ON NC 210/NC 50.
- 3) USE ROADWAY STANDARD DRAWING 1101.02 SHEET 18 OF 19, AS NECESSARY, FOR VEHICULAR TRAFFIC ON NC 210/ S TOPSAIL DR ROUNDABOUT.

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME NC 210 NC 50

DAY AND TIME RESTRICTIONS MONDAY THRU FRIDAY 6:00 A.M. TO 9:00 A.M. 4:00 P.M. TO 7:00 P.M.

12:00 A.M. SATURDAY TO 12:00 A.M. MONDAY

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND PEAK SEASON SPECIAL **EVENTS AS FOLLOWS:**

ROAD NAME NC 210

_ DATE : 03/24

J. WILES

DES CHK: B. SCHOENBAUER

DWG BY: J. WILES

_ DATE : 03/24 | CHK BY: B. SCHOENBAUER

HOLIDAY AND PEAK SEASON

- 1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
- 2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:00 A.M DECEMBER 31st TO 9:00 P.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 7:00 P.M. THE FOLLOWING TUESDAY.
- 3. FOR EASTER, BETWEEN THE HOURS OF 6:00 A.M. THURSDAY AND 7:00 P.M. MONDAY.
- 4. FOR PEAK SEASON, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE MEMORIAL DAY AND 9:00 P.M. THE TUESDAY AFTER LABOR DAY.
- 5. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:00 A.M. TUESDAY TO 7:00 P.M. MONDAY.
- 6. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:00 A.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 7:00 P.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

DATE: 03/24

_ DATE : 03/24

GENERAL NOTES (CONT.)

C) DO NOT CLOSE OR NARROW THE MULTI-USE PATH OR SIDEWALK DURING THE PEAK SEASON (FROM 6:00 A.M. THE FRIDAY BEFORE MEMORIAL DAY TO 9:00 P.M TUESDAY AFTER LABOR DAY) AS FOLLOWS:

ROAD NAME DAY AND TIME RESTRICTIONS

MULTI-USE PATH FRIDAY 6:00 A.M. TO THE FOLLOWING SUNDAY 9:00 P.M.

SIDEWALKS (NO NARROWING OR CLOSURE ALLOWED FRIDAY, SATURDAY, AND SUNDAY)

LANE AND SHOULDER CLOSURE REQUIREMENTS

- D) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.
- E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

TRAFFIC PATTERN ALTERATIONS

F) NOTIFY THE ENGINEER THIRTY (30) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

> PROJECT NO. 15BPR.138.3 PENDER COUNTY 700016 BRIDGE

> > STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

REPAIR OF PEDESTRIAN LIGHTING SYSTEM

044596

| VV. VV 5/23/20/25 | | |
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REVISIONS NO. BY: DATE: TMP-1 TOTAL SHEETS DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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