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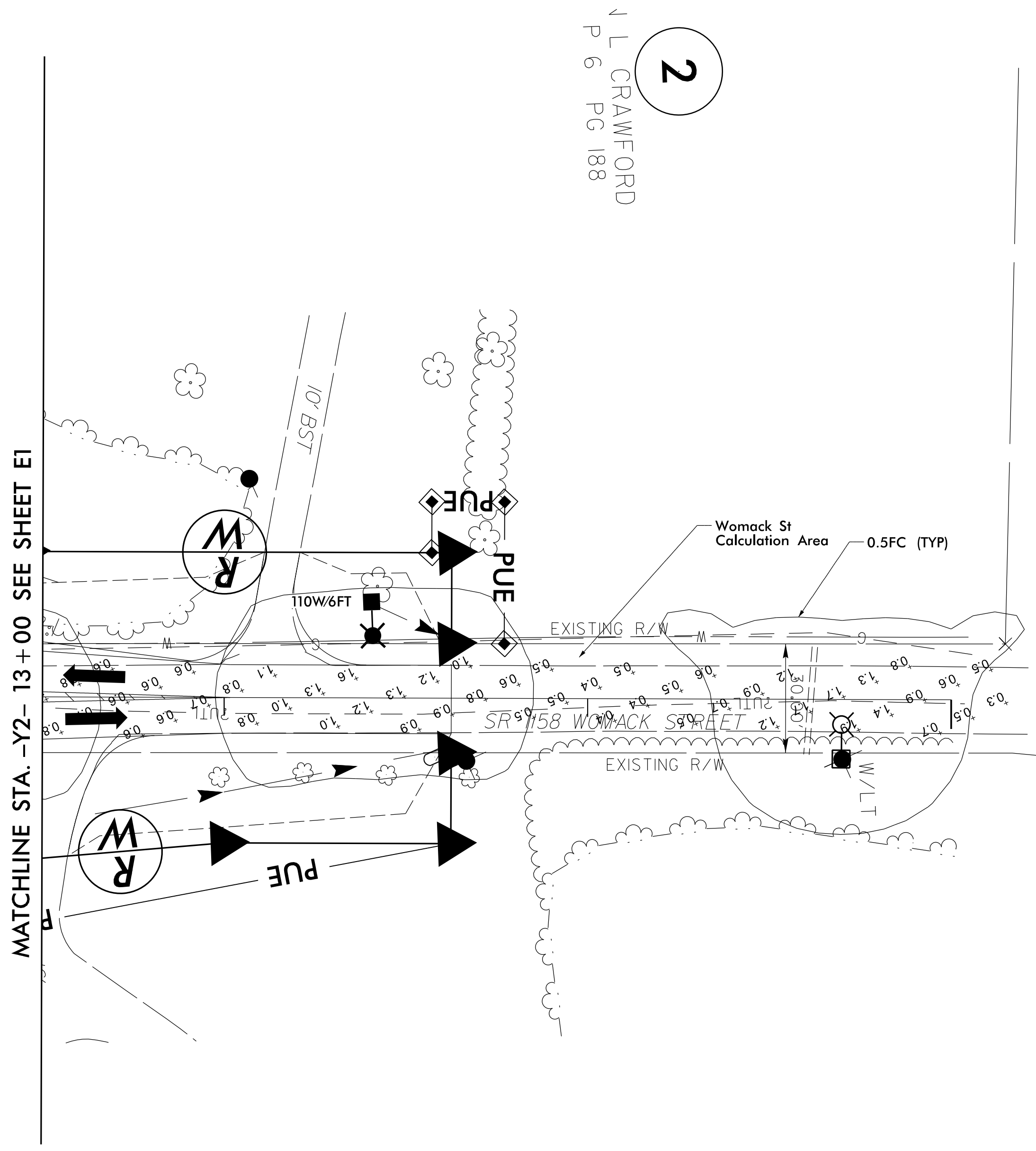
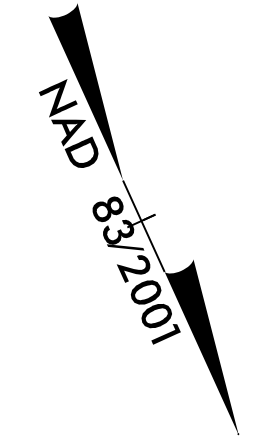
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02/03/98

PROJECT REFERENCE NO. U-5604	SHEET NO. E2
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

- LEGEND:**
- ✕ PROPOSED ROADWAY FIXTURE (SEE LUMINAIRE SUMMARY)
 - ⊗ EXISTING ROADWAY FIXTURE (SEE LUMINAIRE SUMMARY)
 - ▽ PROPOSED ELECTRICAL SERVICE (BY OTHERS)
 - PROPOSED ELECTRICAL JUNCTION BOX (STANDARD SIZE)
 - PROPOSED (2) 2" CONDUITS FOR FUTURE USE



Label	Calculation Type	Units	Target Avg	Avg	Max	Min	Target Avg/Min	Avg/Min
Georgia Rd South of Womack	Illuminance	Fc	0.7	0.9	1.7	0.3	4.0	3.0
Womack St	Illuminance	Fc	0.4	1.1	2.3	0.3	6.0	3.6
Georgia Rd North of Womack	Illuminance	Fc	0.7	0.8	2.4	0.3	4.0	2.7
Womack St Roundabout	Illuminance	Fc	1.4	1.5	2.3	0.6	3.0	2.6

Quantity	Symbol	Description	Luminaire Lumens	Total Light Loss Factor	Luminaire Watts	Arrangement	Arm Length
21	■✕ 110W/12FT	Proposed 110W LED Duke Roadway Fixture Mounted at 30ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	9337	0.85	108	SINGLE	12
2	■✕ 150W/12FT	Proposed 150W LED Duke Roadway Fixture Mounted at 30ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	12641	0.85	146	SINGLE	12
11	■✕ 220W/12FT	Proposed 220W LED Duke Roadway Fixture Mounted at 20ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	18641	0.85	216	SINGLE	12
21	■✕ 110W/6FT	Proposed 110W LED Duke Roadway Fixture Mounted at 30ft on a 6ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	9337	0.85	108	SINGLE	6
3	■✕ 150W/20FT	Proposed 150W LED Duke Roadway Fixture Mounted at 30ft on a 20ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	12641	0.85	146	SINGLE	20
6	□⊗	Existing 150W HPS Flat Glass Duke Roadway Fixture	10721	0.69	193	SINGLE	6

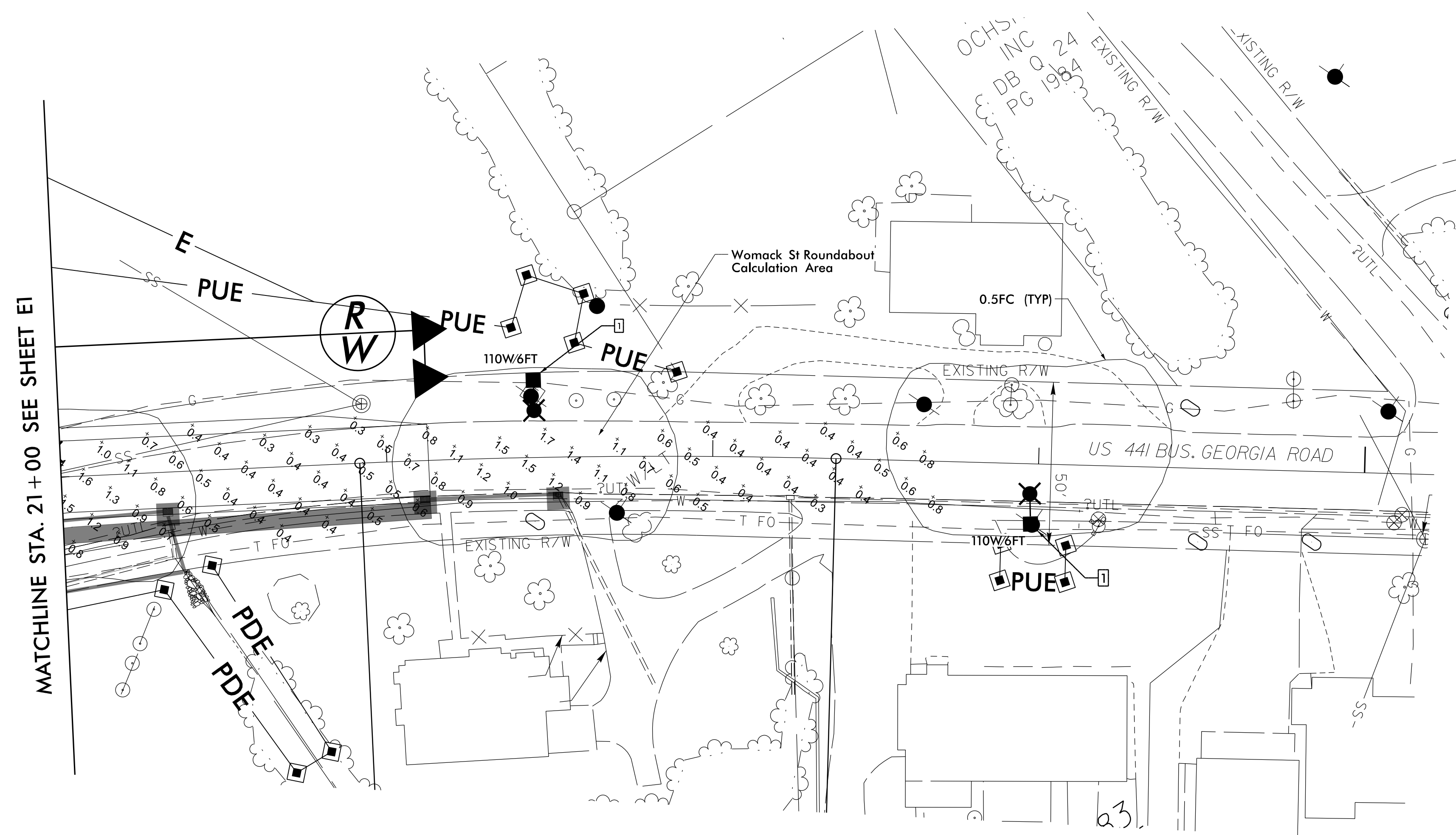
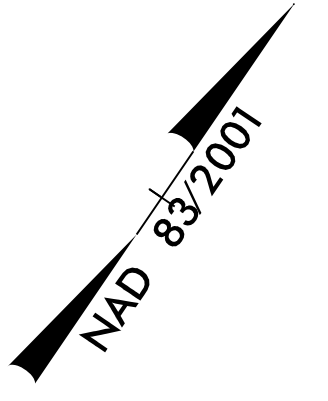
- GENERAL NOTES:**
- CONTRACTOR TO INSTALL CONDUITS UNDER ROADWAYS AS SHOWN IN PLANS FOR FUTURE USE BY DUKE ENERGY.
 - DUKE ENERGY TO INSTALL ELECTRICAL SERVICE AND LIGHTING FIXTURES AT LOCATIONS SHOWN IN PLANS.
 - DUKE ENERGY TO DESIGN AND INSTALL LIGHTING BRANCH CIRCUITS TO PROPOSED LIGHTS.

\$\$\$SYTIME\$\$\$\$DOWN\$\$\$\$USE R/WAVE\$\$\$\$

2				
1				
Rev.	Date	Description	Approved	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DESIGN SERVICES LIGHTING/ELECTRICAL SECTION				
Drawn By:	Approved By:	Dwg No.:		

02/03/98

PROJECT REFERENCE NO. U-5604	SHEET NO. E3
Matt West 7/25/2018 <small>ASPT1A100708625</small>	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



SHEET NOTES:

1 LUMINAIRE TO BE INSTALLED ON REPLACEMENT UTILITY POLE. SEE SHEET UO-2 FOR MORE INFORMATION.

LEGEND:

- PROPOSED ROADWAY FIXTURE (SEE LUMINAIRE SUMMARY)
- PROPOSED ELECTRICAL SERVICE (BY OTHERS)
- ▽ PROPOSED ELECTRICAL JUNCTION BOXES
- PROPOSED (2) 2" CONDUITS FOR FUTURE USE

Label	Calculation Type	Units	Target Avg	Avg	Max	Min	Target Avg/Min	Avg/Min
Georgia Rd South of Womack	Illuminance	Fc	0.7	0.9	1.7	0.3	4.0	3.0
Womack St	Illuminance	Fc	0.4	1.1	2.3	0.3	6.0	3.6
Georgia Rd North of Womack	Illuminance	Fc	0.7	0.8	2.4	0.3	4.0	2.7
Womack St Roundabout	Illuminance	Fc	1.4	1.5	2.3	0.6	3.0	2.6

Quantity	Symbol	Description	Luminaire Lumens	Total Light Loss Factor	Luminaire Watts	Arrangement	Arm Length
21	■	Proposed 110W LED Duke Roadway Fixture Mounted at 30ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	9337	0.85	108	SINGLE	12
2	■	Proposed 150W LED Duke Roadway Fixture Mounted at 30ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	12641	0.85	146	SINGLE	12
11	■	Proposed 220W LED Duke Roadway Fixture Mounted at 20ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	18641	0.85	216	SINGLE	12
21	■	Proposed 110W LED Duke Roadway Fixture Mounted at 30ft on a 6ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	9337	0.85	108	SINGLE	6
3	■	Proposed 150W LED Duke Roadway Fixture Mounted at 30ft on a 20ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	12641	0.85	146	SINGLE	20
6	□	Existing 150W HPS Flat Glass Duke Roadway Fixture	10721	0.69	193	SINGLE	6

GENERAL NOTES:

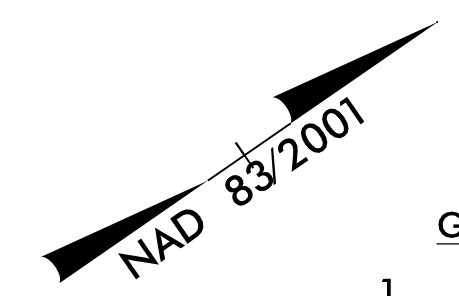
- CONTRACTOR TO INSTALL CONDUITS UNDER ROADWAYS AS SHOWN IN PLANS FOR FUTURE USE BY DUKE ENERGY.
- DUKE ENERGY TO INSTALL ELECTRICAL SERVICE AND LIGHTING FIXTURES AT LOCATIONS SHOWN IN PLANS.
- DUKE ENERGY TO DESIGN AND INSTALL LIGHTING BRANCH CIRCUITS TO PROPOSED LIGHTS.

SYSTEMS DOWN \$\$\$\$ USE R/WAVE \$\$\$\$

2				
1				
Rev.	Date	Description	Approved	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DESIGN SERVICES LIGHTING/ELECTRICAL SECTION				
Drawn By:	Approved By:	Dwg No.:		

02/03/98

PROJECT REFERENCE NO. U-5604	SHEET NO. E4
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

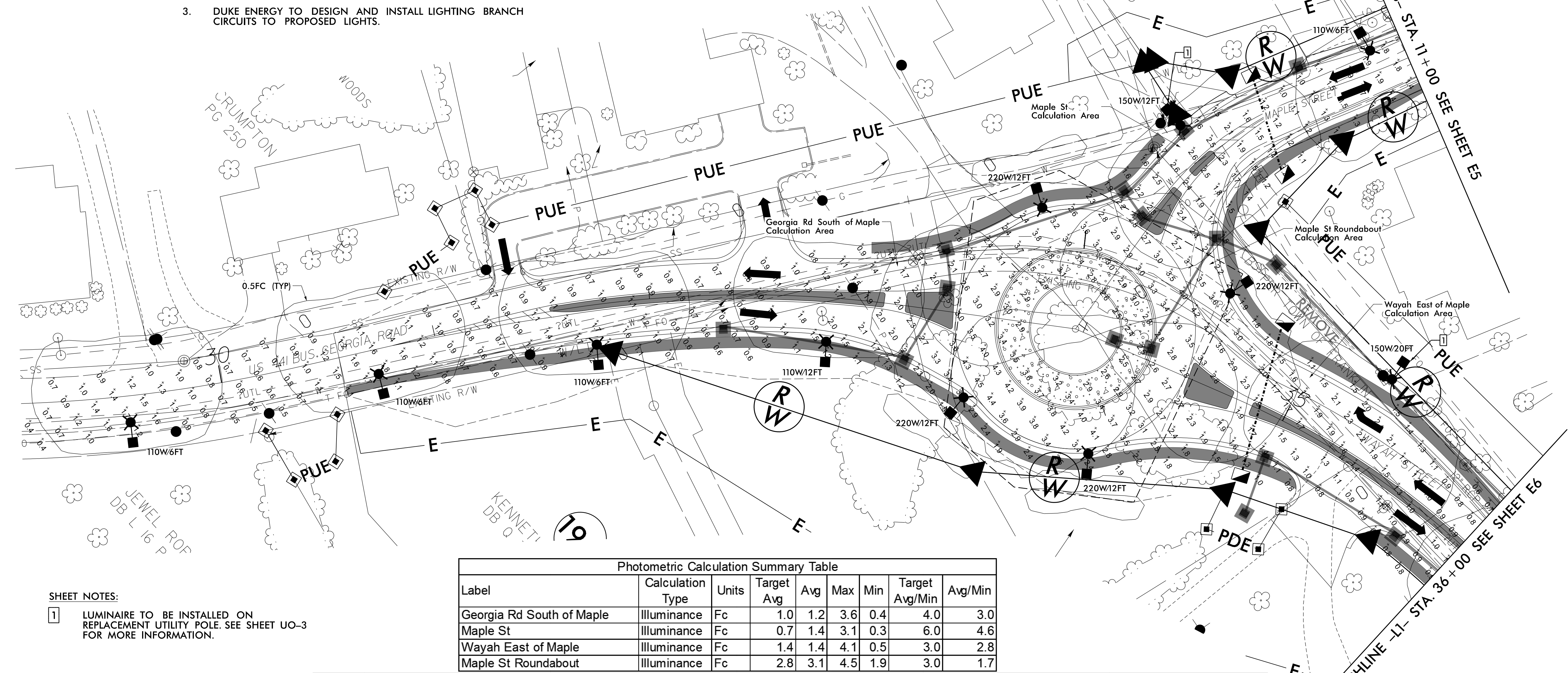


GENERAL NOTES:

- CONTRACTOR TO INSTALL CONDUITS UNDER ROADWAYS AS SHOWN IN PLANS FOR FUTURE USE BY DUKE ENERGY.
- DUKE ENERGY TO INSTALL ELECTRICAL SERVICE AND LIGHTING FIXTURES AT LOCATIONS SHOWN IN PLANS.
- DUKE ENERGY TO DESIGN AND INSTALL LIGHTING BRANCH CIRCUITS TO PROPOSED LIGHTS.

LEGEND:

- PROPOSED ROADWAY FIXTURE (SEE LUMINAIRE SUMMARY)
- EXISTING ROADWAY FIXTURE (SEE LUMINAIRE SUMMARY)
- PROPOSED ELECTRICAL SERVICE (BY OTHERS)
- PROPOSED ELECTRICAL JUNCTION BOXES
- PROPOSED (2) 2" CONDUITS FOR FUTURE USE



SHEET NOTES:

- LUMINAIRE TO BE INSTALLED ON REPLACEMENT UTILITY POLE. SEE SHEET UO-3 FOR MORE INFORMATION.

Label	Calculation Type	Units	Target Avg	Avg	Max	Min	Target Avg/Min	Avg/Min
Georgia Rd South of Maple	Illuminance	Fc	1.0	1.2	3.6	0.4	4.0	3.0
Maple St	Illuminance	Fc	0.7	1.4	3.1	0.3	6.0	4.6
Wayah East of Maple	Illuminance	Fc	1.4	1.4	4.1	0.5	3.0	2.8
Maple St Roundabout	Illuminance	Fc	2.8	3.1	4.5	1.9	3.0	1.7

Luminaire Summary

Quantity	Symbol	Description	Luminaire Lumens	Total Light Loss Factor	Luminaire Watts	Arrangement	Arm Length
21		Proposed 110W LED Duke Roadway Fixture Mounted at 30ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	9337	0.85	108	SINGLE	12
2		Proposed 150W LED Duke Roadway Fixture Mounted at 30ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	12641	0.85	146	SINGLE	12
11		Proposed 220W LED Duke Roadway Fixture Mounted at 20ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	18641	0.85	216	SINGLE	12
21		Proposed 110W LED Duke Roadway Fixture Mounted at 30ft on a 6ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	9337	0.85	108	SINGLE	6
3		Proposed 150W LED Duke Roadway Fixture Mounted at 30ft on a 20ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	12641	0.85	146	SINGLE	20
6		Existing 150W HPS Flat Glass Duke Roadway Fixture	10721	0.69	193	SINGLE	6

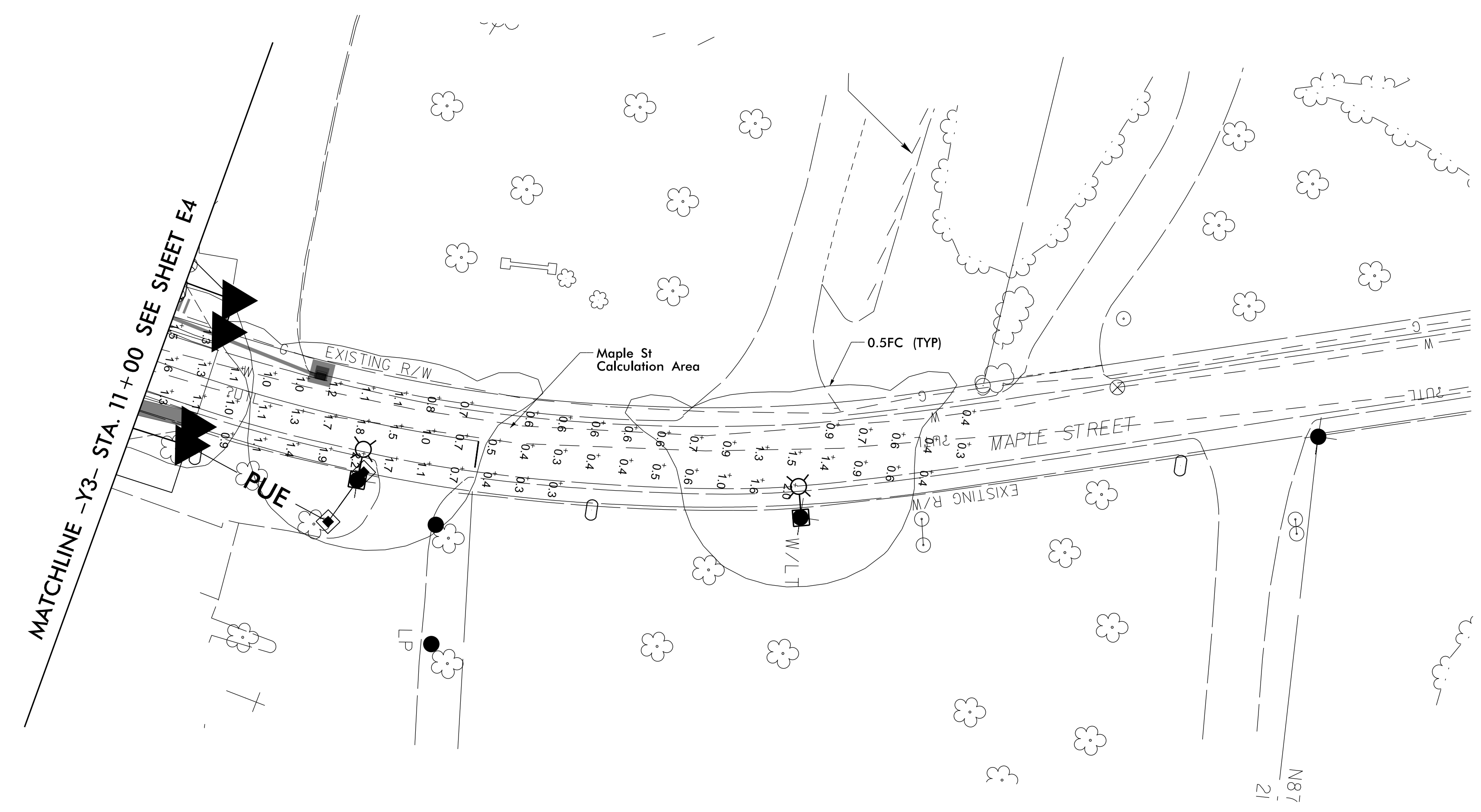
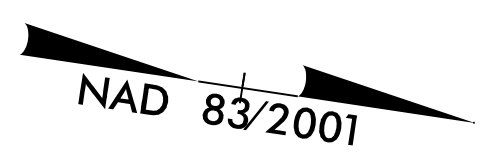
2			
1			
Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DESIGN SERVICES LIGHTING/ELECTRICAL SECTION			
Drawn By:	Approved By:	Dwg No.:	

\$\$\$SYTIME\$\$\$\$\$
 \$\$\$DOWNS\$\$\$\$\$
 \$\$\$USE R/WAVE\$\$\$\$\$

02/03/98

PROJECT REFERENCE NO. U-5604	SHEET NO. E5
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

- LEGEND:**
- PROPOSED ROADWAY FIXTURE (SEE LUMINAIRE SUMMARY)
 - EXISTING ROADWAY FIXTURE (SEE LUMINAIRE SUMMARY)
 - PROPOSED ELECTRICAL SERVICE (BY OTHERS)
 - PROPOSED ELECTRICAL JUNCTION BOXES
 - PROPOSED (2) 2" CONDUITS FOR FUTURE USE



Label	Calculation Type	Units	Target Avg	Avg	Max	Min	Target Avg/Min	Avg/Min
Georgia Rd South of Maple	Illuminance	Fc	1.0	1.2	3.6	0.4	4.0	3.0
Maple St	Illuminance	Fc	0.7	1.4	3.1	0.3	6.0	4.6
Wayah East of Maple	Illuminance	Fc	1.4	1.4	4.1	0.5	3.0	2.8
Maple St Roundabout	Illuminance	Fc	2.8	3.1	4.5	1.9	3.0	1.7

Quantity	Symbol	Description	Luminaire Lumens	Total Light Loss Factor	Luminaire Watts	Arrangement	Arm Length
21		Proposed 110W LED Duke Roadway Fixture Mounted at 30ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	9337	0.85	108	SINGLE	12
2		Proposed 150W LED Duke Roadway Fixture Mounted at 30ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	12641	0.85	146	SINGLE	12
11		Proposed 220W LED Duke Roadway Fixture Mounted at 20ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	18641	0.85	216	SINGLE	12
21		Proposed 110W LED Duke Roadway Fixture Mounted at 30ft on a 6ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	9337	0.85	108	SINGLE	6
3		Proposed 150W LED Duke Roadway Fixture Mounted at 30ft on a 20ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	12641	0.85	146	SINGLE	20
6		Existing 150W HPS Flat Glass Duke Roadway Fixture	10721	0.69	193	SINGLE	6

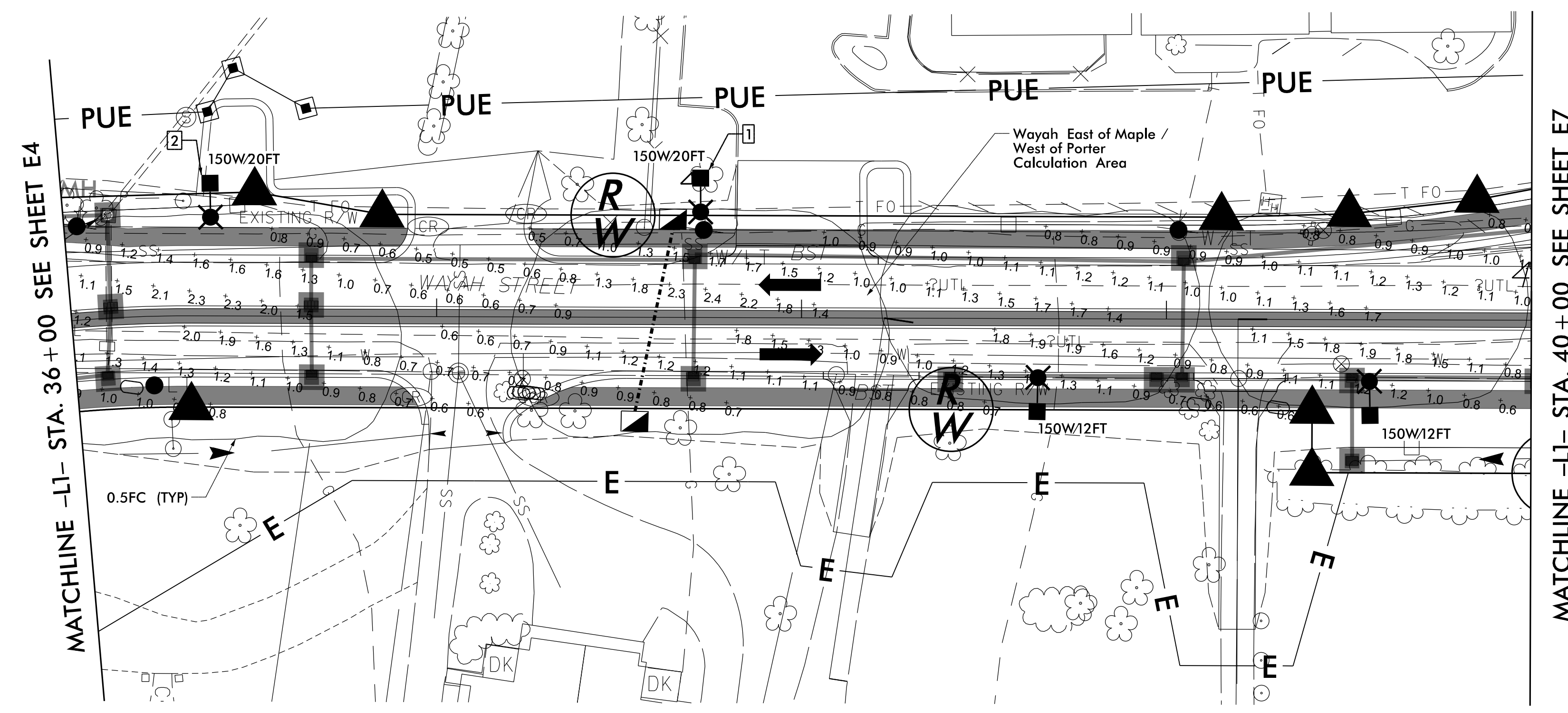
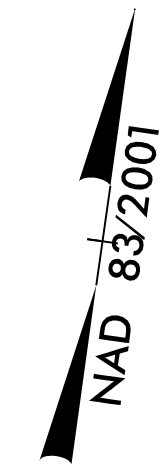
- GENERAL NOTES:**
- CONTRACTOR TO INSTALL CONDUITS UNDER ROADWAYS AS SHOWN IN PLANS FOR FUTURE USE BY DUKE ENERGY.
 - DUKE ENERGY TO INSTALL ELECTRICAL SERVICE AND LIGHTING FIXTURES AT LOCATIONS SHOWN IN PLANS.
 - DUKE ENERGY TO DESIGN AND INSTALL LIGHTING BRANCH CIRCUITS TO PROPOSED LIGHTS.

2			
1			
Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DESIGN SERVICES LIGHTING/ELECTRICAL SECTION			
Drawn By:	Approved By:	Dwg No.:	

SYSTEMS DOWN USE R/WAVE

02/03/98

PROJECT REFERENCE NO. U-5604	SHEET NO. E6
Documented By: <u>Matthew West</u> Date: 7/25/2018	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



- LEGEND:**
- PROPOSED ROADWAY FIXTURE (SEE LUMINAIRE SUMMARY)
 - EXISTING ROADWAY FIXTURE (SEE LUMINAIRE SUMMARY)
 - PROPOSED ELECTRICAL SERVICE (BY OTHERS)
 - PROPOSED ELECTRICAL JUNCTION BOXES
 - PROPOSED (2) 2" CONDUITS FOR FUTURE USE

Label	Calculation Type	Units	Target Avg	Avg	Max	Min	Target Avg/Min	Avg/Min
Georgia Rd South of Maple	Illuminance	Fc	1.0	1.2	3.6	0.4	4.0	3.0
Maple St	Illuminance	Fc	0.7	1.4	3.1	0.3	6.0	4.6
Wayah East of Maple	Illuminance	Fc	1.4	1.4	4.1	0.5	3.0	2.8
Maple St Roundabout	Illuminance	Fc	2.8	3.1	4.5	1.9	3.0	1.7
Wayah West of Porter	Illuminance	Fc	1.4	1.4	4.1	0.5	3.0	2.8
Porter St North of Wayah	Illuminance	Fc	1.4	1.5	3.8	0.4	4.0	3.7
Wayah St East of Porter	Illuminance	Fc	1.1	1.2	2.7	0.3	4.0	3.9
Porter St South of Wayah	Illuminance	Fc	0.8	1.0	3.1	0.3	6.0	3.2
Porter St Roundabout	Illuminance	Fc	2.8	2.8	4.3	1.6	3.0	1.8

- SHEET NOTES:**
- LUMINAIRE TO BE INSTALLED ON REPLACEMENT UTILITY POLE. SEE SHEET UO-3 FOR MORE INFORMATION.
 - LUMINAIRE TO BE INSTALLED ON NEW UTILITY POLE. SEE SHEET UO-3 FOR MORE INFORMATION.

- GENERAL NOTES:**
- CONTRACTOR TO INSTALL CONDUITS UNDER ROADWAYS AS SHOWN IN PLANS FOR FUTURE USE BY DUKE ENERGY.
 - DUKE ENERGY TO INSTALL ELECTRICAL SERVICE AND LIGHTING FIXTURES AT LOCATIONS SHOWN IN PLANS.
 - DUKE ENERGY TO DESIGN AND INSTALL LIGHTING BRANCH CIRCUITS TO PROPOSED LIGHTS.

Quantity	Symbol	Description	Luminaire Lumens	Total Light Loss Factor	Luminaire Watts	Arrangement	Arm Length
21		Proposed 110W LED Duke Roadway Fixture Mounted at 30ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	9337	0.85	108	SINGLE	12
2		Proposed 150W LED Duke Roadway Fixture Mounted at 30ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	12641	0.85	146	SINGLE	12
11		Proposed 220W LED Duke Roadway Fixture Mounted at 20ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	18641	0.85	216	SINGLE	12
21		Proposed 110W LED Duke Roadway Fixture Mounted at 30ft on a 6ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	9337	0.85	108	SINGLE	6
3		Proposed 150W LED Duke Roadway Fixture Mounted at 30ft on a 20ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	12641	0.85	146	SINGLE	20
6		Existing 150W HPS Flat Glass Duke Roadway Fixture	10721	0.69	193	SINGLE	6

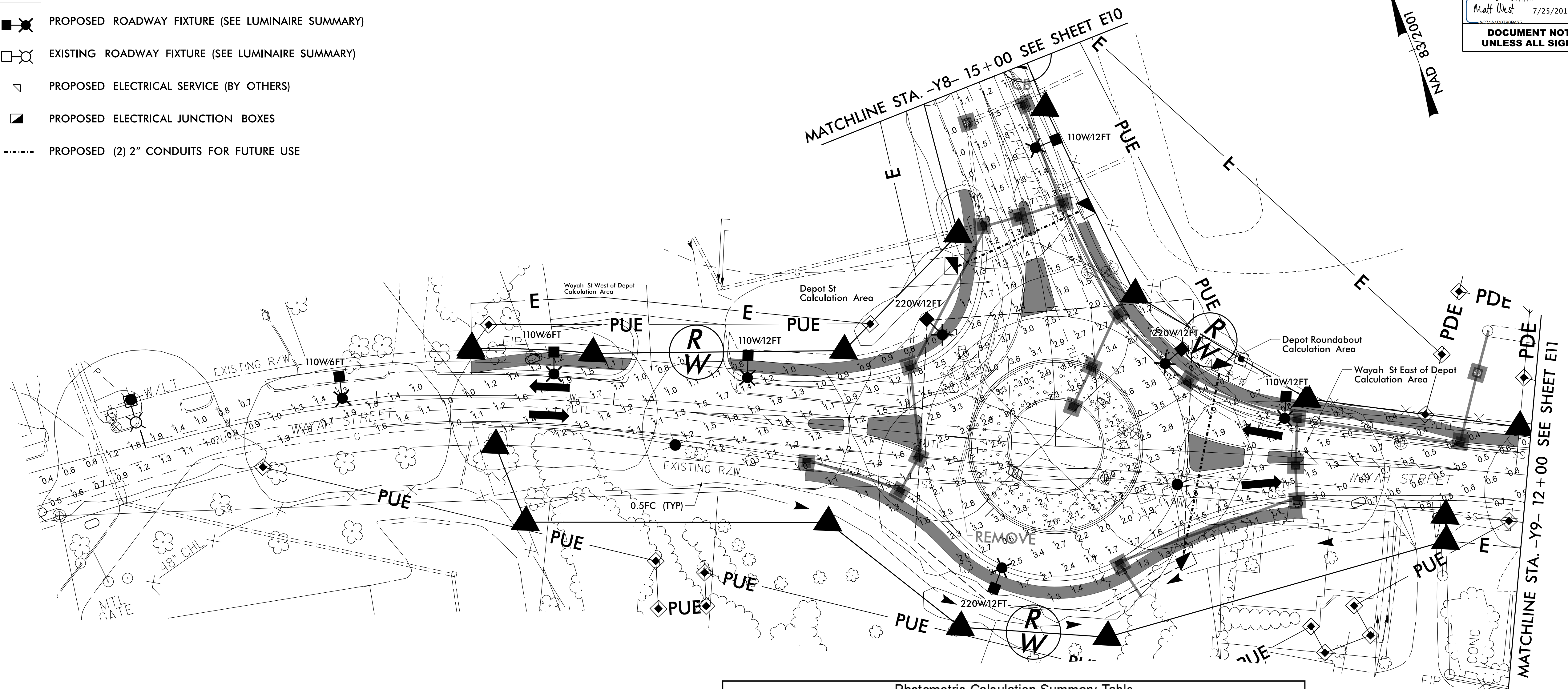
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Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DESIGN SERVICES LIGHTING/ELECTRICAL SECTION			
Drawn By:	Approved By:	Dwg No.:	

SYSTEMS DOWN USE R/WAVE

02/03/98

PROJECT REFERENCE NO. U-5604	SHEET NO. E9
Documented By: Matt West Date: 7/25/2018 NCPEA100066425	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

- LEGEND:**
- PROPOSED ROADWAY FIXTURE (SEE LUMINAIRE SUMMARY)
 - EXISTING ROADWAY FIXTURE (SEE LUMINAIRE SUMMARY)
 - PROPOSED ELECTRICAL SERVICE (BY OTHERS)
 - PROPOSED ELECTRICAL JUNCTION BOXES
 - PROPOSED (2) 2" CONDUITS FOR FUTURE USE



Photometric Calculation Summary Table

Label	Calculation Type	Units	Target Avg	Avg	Max	Min	Target Avg/Min	Avg/Min
Wayah St West of Depot	Illuminance	Fc	1.1	1.3	2.9	0.4	4.0	3.3
Depot St	Illuminance	Fc	1.1	1.3	3.1	0.4	4.0	3.2
Wayah St East of Depot	Illuminance	Fc	1.1	1.1	2.1	0.4	4.0	2.7
Depot Roundabout	Illuminance	Fc	2.2	2.4	3.9	1.0	3.0	2.4

Luminaire Summary

Quantity	Symbol	Description	Luminaire Lumens	Total Light Loss Factor	Luminaire Watts	Arrangement	Arm Length
21		Proposed 110W LED Duke Roadway Fixture Mounted at 30ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	9337	0.85	108	SINGLE	12
2		Proposed 150W LED Duke Roadway Fixture Mounted at 30ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	12641	0.85	146	SINGLE	12
11		Proposed 220W LED Duke Roadway Fixture Mounted at 20ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	18641	0.85	216	SINGLE	12
21		Proposed 110W LED Duke Roadway Fixture Mounted at 30ft on a 6ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	9337	0.85	108	SINGLE	6
3		Proposed 150W LED Duke Roadway Fixture Mounted at 30ft on a 20ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	12641	0.85	146	SINGLE	20
6		Existing 150W HPS Flat Glass Duke Roadway Fixture	10721	0.69	193	SINGLE	6

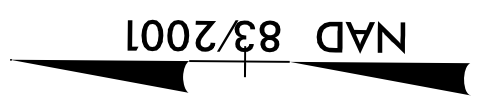
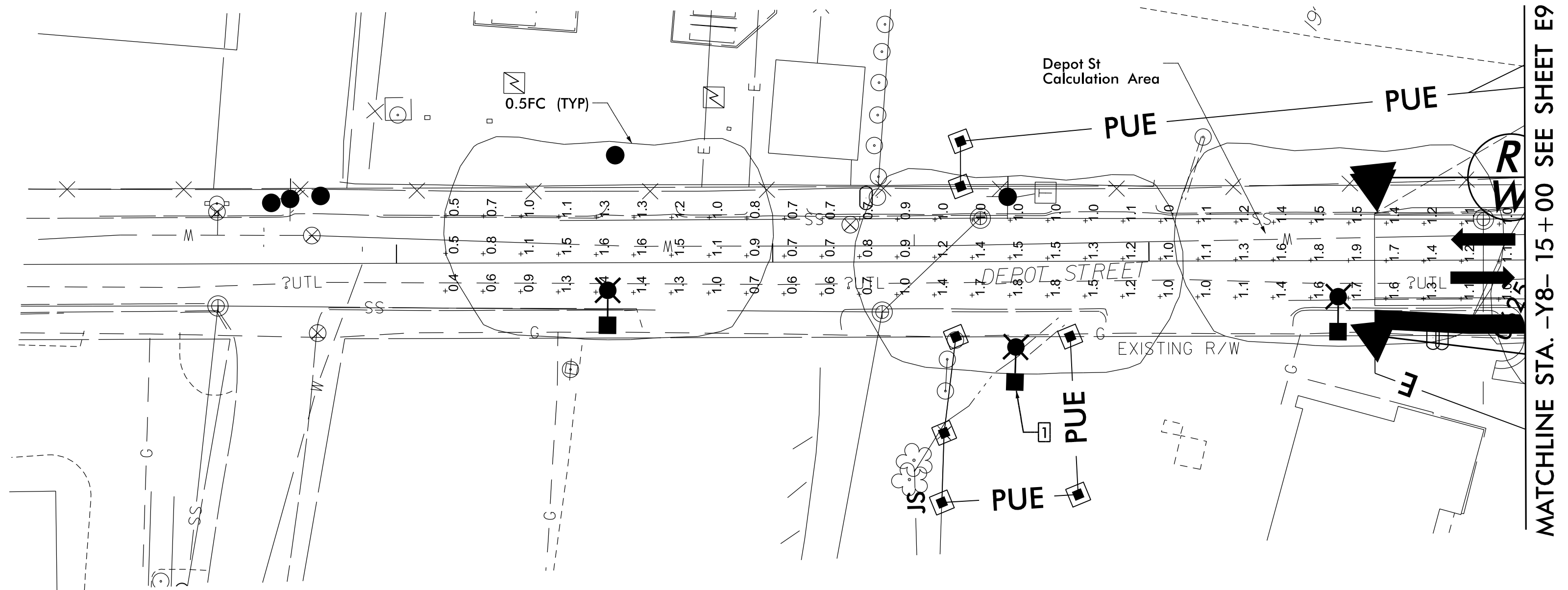
- GENERAL NOTES:**
- CONTRACTOR TO INSTALL CONDUITS UNDER ROADWAYS AS SHOWN IN PLANS FOR FUTURE USE BY DUKE ENERGY.
 - DUKE ENERGY TO INSTALL ELECTRICAL SERVICE AND LIGHTING FIXTURES AT LOCATIONS SHOWN IN PLANS.
 - DUKE ENERGY TO DESIGN AND INSTALL LIGHTING BRANCH CIRCUITS TO PROPOSED LIGHTS.

2			
1			
Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DESIGN SERVICES LIGHTING/ELECTRICAL SECTION			
Drawn By:	Approved By:	Dwg No.:	

SYSTEMS DOWN \$\$\$\$
 USE R/W \$\$\$\$
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02/03/98

PROJECT REFERENCE NO. U-5604	SHEET NO. E10
Documented By: Matt West 7/25/2018 NCPEA 1000066420	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



GENERAL NOTES:

- CONTRACTOR TO INSTALL CONDUITS UNDER ROADWAYS AS SHOWN IN PLANS FOR FUTURE USE BY DUKE ENERGY.
- DUKE ENERGY TO INSTALL ELECTRICAL SERVICE AND LIGHTING FIXTURES AT LOCATIONS SHOWN IN PLANS.
- DUKE ENERGY TO DESIGN AND INSTALL LIGHTING BRANCH CIRCUITS TO PROPOSED LIGHTS.

SHEET NOTES:

- LUMINAIRE TO BE INSTALLED ON REPLACEMENT UTILITY POLE. SEE SHEET UO-4 FOR MORE INFORMATION.

LEGEND:

- PROPOSED ROADWAY FIXTURE (SEE LUMINAIRE SUMMARY)
- EXISTING ROADWAY FIXTURE (SEE LUMINAIRE SUMMARY)
- PROPOSED ELECTRICAL SERVICE (BY OTHERS)
- PROPOSED ELECTRICAL JUNCTION BOXES
- PROPOSED (2") 2" CONDUITS FOR FUTURE USE

Photometric Calculation Summary Table

Label	Calculation Type	Units	Target Avg	Avg	Max	Min	Target Avg/Min	Avg/Min
Wayah St West of Depot	Illuminance	Fc	1.1	1.3	2.9	0.4	4.0	3.3
Depot St	Illuminance	Fc	1.1	1.3	3.1	0.4	4.0	3.2
Wayah St East of Depot	Illuminance	Fc	1.1	1.1	2.1	0.4	4.0	2.7
Depot Roundabout	Illuminance	Fc	2.2	2.4	3.9	1.0	3.0	2.4

Luminaire Summary

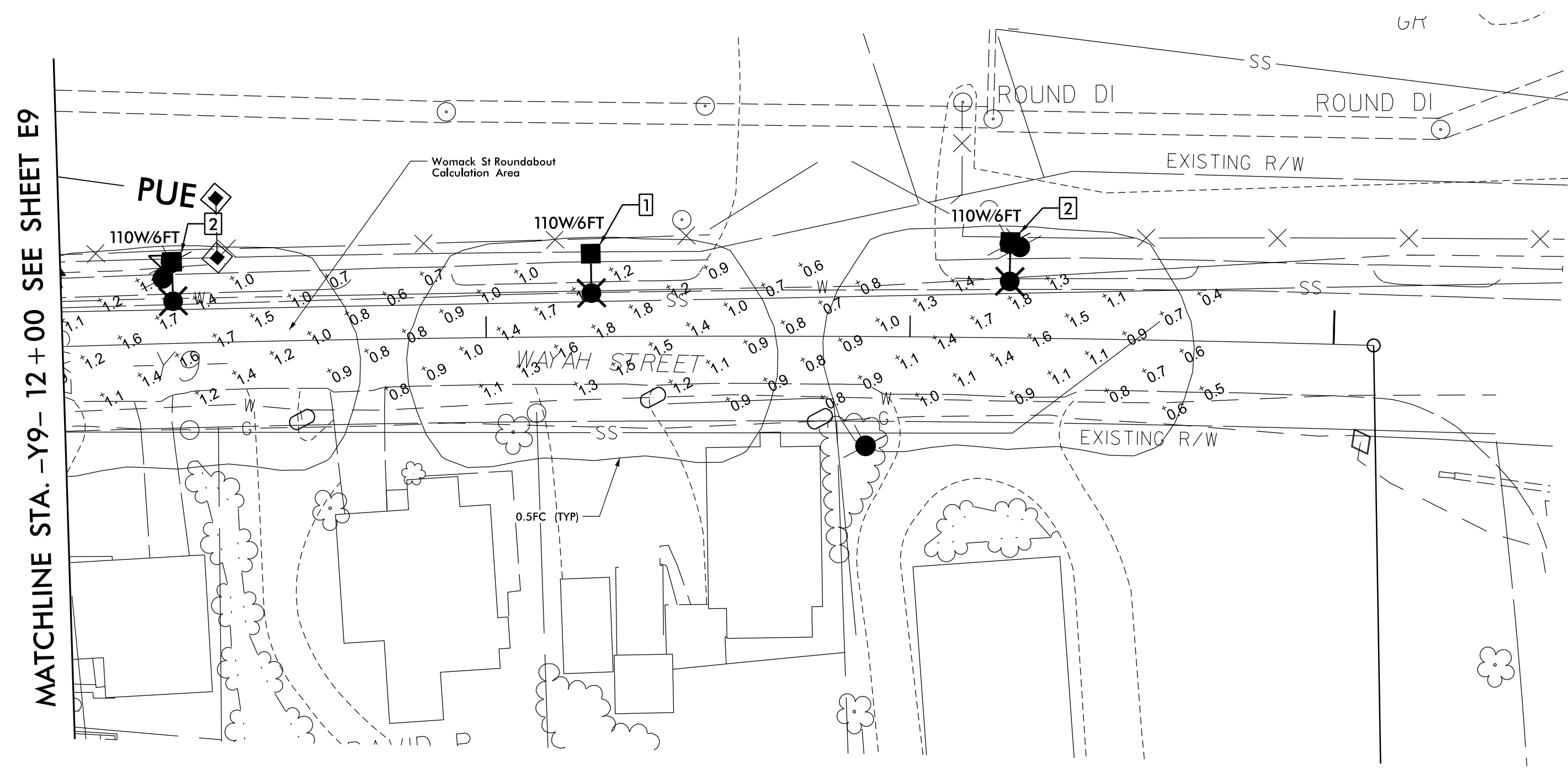
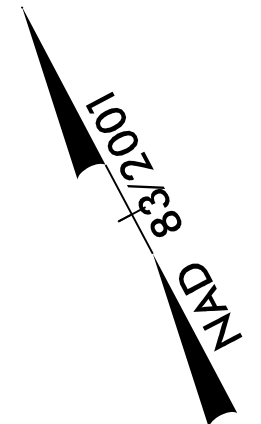
Quantity	Symbol	Description	Luminaire Lumens	Total Light Loss Factor	Luminaire Watts	Arrangement	Arm Length
21		Proposed 110W LED Duke Roadway Fixture Mounted at 30ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	9337	0.85	108	SINGLE	12
2		Proposed 150W LED Duke Roadway Fixture Mounted at 30ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	12641	0.85	146	SINGLE	12
11		Proposed 220W LED Duke Roadway Fixture Mounted at 20ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	18641	0.85	216	SINGLE	12
21		Proposed 110W LED Duke Roadway Fixture Mounted at 30ft on a 6ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	9337	0.85	108	SINGLE	6
3		Proposed 150W LED Duke Roadway Fixture Mounted at 30ft on a 20ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	12641	0.85	146	SINGLE	20
6		Existing 150W HPS Flat Glass Duke Roadway Fixture	10721	0.69	193	SINGLE	6

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Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DESIGN SERVICES LIGHTING/ELECTRICAL SECTION			
Drawn By:	Approved By:	Dwg No.:	

\$\$\$SYTIME\$\$\$\$\$
 \$\$\$DOWN\$\$\$\$\$
 \$\$\$USE R/WAVE\$\$\$\$\$

02/03/98

PROJECT REFERENCE NO. U-5604	SHEET NO. E11
Documented By: <i>Matthew S. West</i> 7/25/2018 NCPEA1000086425	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	



- LEGEND:**
- PROPOSED ROADWAY FIXTURE (SEE LUMINAIRE SUMMARY)
 - EXISTING ROADWAY FIXTURE (SEE LUMINAIRE SUMMARY)
 - PROPOSED ELECTRICAL SERVICE (BY OTHERS)
 - PROPOSED ELECTRICAL JUNCTION BOXES
 - PROPOSED (2) 2" CONDUITS FOR FUTURE USE

SHEET NOTES:

- 1 LUMINAIRE TO BE INSTALLED ON NEW UTILITY POLE. SEE SHEET UO-4 FOR MORE INFORMATION.
- 2 LUMINAIRE TO BE INSTALLED ON EXISTING UTILITY POLE.

GENERAL NOTES:

- 1. CONTRACTOR TO INSTALL CONDUITS UNDER ROADWAYS AS SHOWN IN PLANS FOR FUTURE USE BY DUKE ENERGY.
- 2. DUKE ENERGY TO INSTALL ELECTRICAL SERVICE AND LIGHTING FIXTURES AT LOCATIONS SHOWN IN PLANS.
- 3. DUKE ENERGY TO DESIGN AND INSTALL LIGHTING BRANCH CIRCUITS TO PROPOSED LIGHTS.

Label	Calculation Type	Units	Target Avg	Avg	Max	Min	Target Avg/Min	Avg/Min
Wayah St West of Depot	Illuminance	Fc	1.1	1.3	2.9	0.4	4.0	3.3
Depot St	Illuminance	Fc	1.1	1.3	3.1	0.4	4.0	3.2
Wayah St East of Depot	Illuminance	Fc	1.1	1.1	2.1	0.4	4.0	2.7
Depot Roundabout	Illuminance	Fc	2.2	2.4	3.9	1.0	3.0	2.4

Luminaire Summary

Quantity	Symbol	Description	Luminaire Lumens	Total Light Loss Factor	Luminaire Watts	Arrangement	Arm Length
21		Proposed 110W LED Duke Roadway Fixture Mounted at 30ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	9337	0.85	108	SINGLE	12
2		Proposed 150W LED Duke Roadway Fixture Mounted at 30ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	12641	0.85	146	SINGLE	12
11		Proposed 220W LED Duke Roadway Fixture Mounted at 20ft on a 12ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	18641	0.85	216	SINGLE	12
21		Proposed 110W LED Duke Roadway Fixture Mounted at 30ft on a 6ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	9337	0.85	108	SINGLE	6
3		Proposed 150W LED Duke Roadway Fixture Mounted at 30ft on a 20ft Arm and a Direct Bury (Type A) Pole (unless otherwise noted)	12641	0.85	146	SINGLE	20
6		Existing 150W HPS Flat Glass Duke Roadway Fixture	10721	0.69	193	SINGLE	6

2			
1			
Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DESIGN SERVICES LIGHTING/ELECTRICAL SECTION			
Drawn By:	Approved By:	Dwg No.:	

\$\$\$SYTIME\$\$\$\$\$
 \$\$\$DOWN\$\$\$\$\$
 \$\$\$USE R/W\$\$\$\$\$
 \$\$\$\$\$\$\$\$

PROJECT REFERENCE NO. U-5604	SHEET NO. E12
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	

Roadway LED

The Roadway LED is a green solution and great fit for streets, roads, long, narrow areas and parking lots. This energy-efficient luminaire delivers the light where it is needed while increasing visibility and reducing spill light to adjoining properties. Choose low to medium light output on wood or aluminum poles (or mount on an existing pole). Available with one to four fixtures per pole, depending on the fixture/pole combination selected.

- LED: 50 | 70 | 110 | 150 | 220 | 280
- Mounting Heights: 15', 20', 25', 30', 35'
- Colors: Black, Gray, Bronze, Green

INQUIRE ABOUT THIS FIXTURE

SPEC SHEET

110W LED DUKE ROADWAY LIGHT FIXTURE DETAIL

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
HALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
ELECTRICAL JUNCTION BOXES

NOTES

- SEE STANDARD SPECIFICATIONS SECTION 1400-2H FOR SEALER AND MASTIC.
- INSERT PAY ITEM DESCRIPTION FOR (SIZE) TO DETERMINE PROPOSED JUNCTION BOX.
- SET TOP OF BOX FLUSH WITH CONCRETE IF REQUIRED TO BE PLACED IN SIDEWALKS OR OTHER CONCRETE STRUCTURES.
- SIZE IS SPECIFIED AS NOMINAL INSIDE DIMENSIONS FOR WIDTH (W), LENGTH (L) AND DEPTH (D). SEE PLANS FOR PROPOSED DIMENSIONS.
- SEE LAYOUT SHEETS FOR NUMBER AND SIZE OF FEEDER CIRCUITS AND ELECTRICAL DUCT.

STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
HALEIGH, N.C.

SHEET 1 OF 1
1411.01

ENGLISH STANDARD DRAWING FOR
ELECTRICAL JUNCTION BOXES

SHEET 1 OF 1
1411.01

NCDOT ELECTRICAL JUNCTION BOX DETAIL

SYSTEMS DOWN \$\$\$\$
 \$\$\$ DO NOT USE RAINVE \$\$\$\$
 \$\$\$

2			
1			
Rev.	Date	Description	Approved
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DESIGN SERVICES LIGHTING/ELECTRICAL SECTION			
Drawn By:	Approved By:	Dwg No.:	