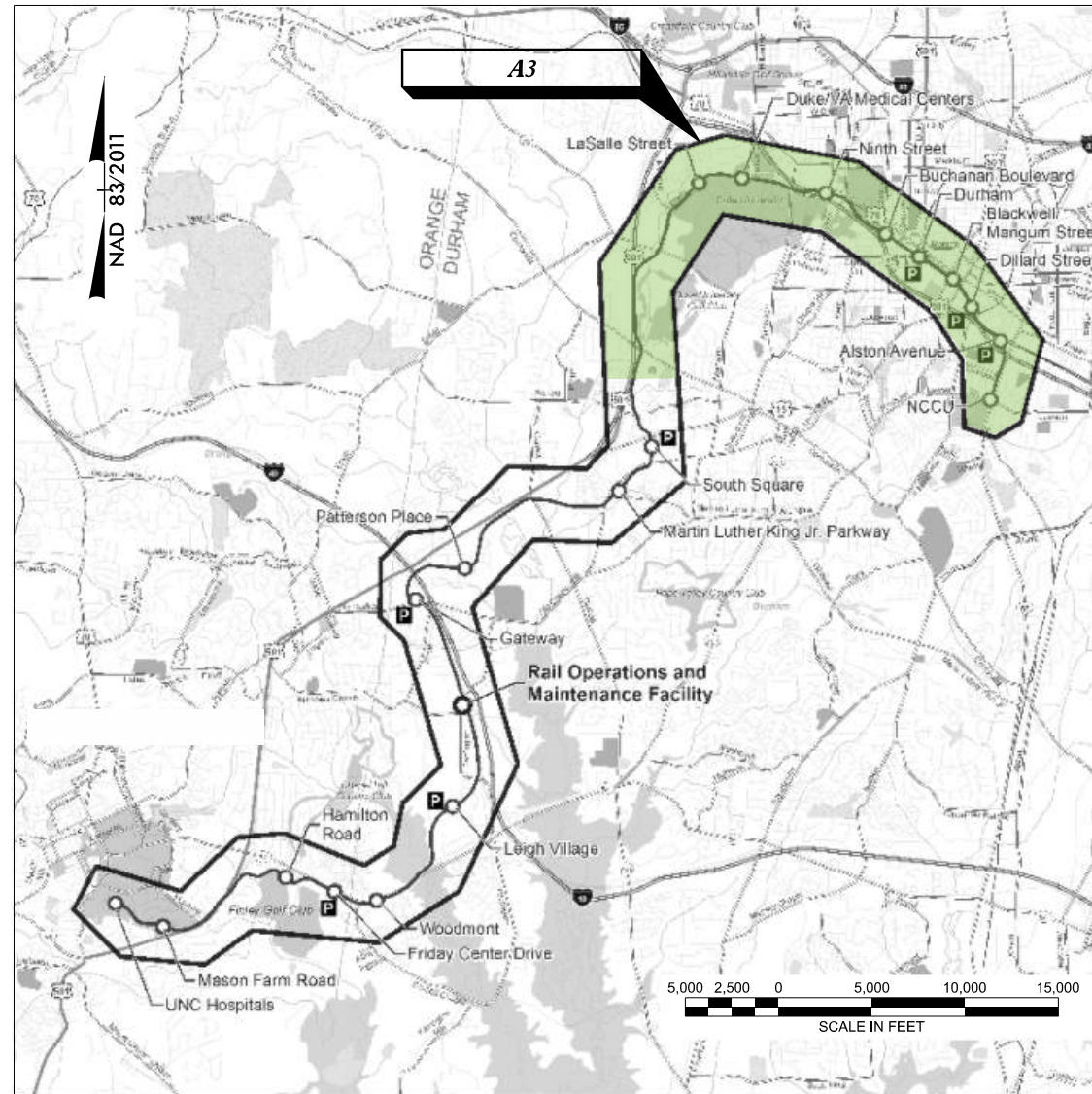


# Appendix A-3: Proposed Refinements Basis for Engineering Design (3 of 3)

Durham-Orange Light Rail Transit Project



**September 2018**



***DURHAM-ORANGE LIGHT RAIL TRANSIT PROJECT***

***APPENDIX A3***

- STATIONS: LASALLE STATION  
 DUKE VA MEDICAL CENTERS STATION  
 NINTH STREET STATION  
 BUCHANAN BOULEVARD STATION  
 DURHAM STATION  
 BLACKWELL / MANGUM STREET STATION  
 DILLARD STATION  
 ALSTON AVENUE STATION  
 NCCU STATION***

PLOT DRIVER: DO-LRT\_11x17\_PDF-plotter.fg  
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 FILE: ...Sheets\PW-TKCV-G0003.dgn  
 PENTABLE: DO-LRT\_11x17\_PDF-plotter.fg  
 TIME: 12:37:14 PM  
 DATE: 9/13/2018



GENERAL ENGINEERING CONSULTANT

THE PREPARATION OF THESE DRAWINGS HAS BEEN FINANCED IN PART THROUGH THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION, THE STATE OF NORTH CAROLINA, AND DURHAM AND ORANGE COUNTIES.

PLOT DRIVER: DO-LRT\_11x17\_PDF-phtcfq  
 USER: MWARRINE  
 FILE: ..\Sheets\PW-TKCV-IDX003.dgn  
 PENTABLE: DO-LRT\_ST.tbl  
 TIME: 12:37:17 PM  
 DATE: 9/13/2018

UNCHECKED WORK

APPENDIX A3							
50% PLANS SHEET NUMBER	75% PLANS SHEET NUMBER	90% PLANS SHEET NUMBER	100% PLANS SHEET NUMBER	DRAWING NUMBER	SCROLL PLOT DRAWING NUMBER	ASTERISK FOR 50% PLANS	TITLE OF DRAWING
<i>VOLUME 1 of 1</i>							
<b>GENERAL</b>							
1				PW-TKCV-GD003		*	COVER SHEET
2				PW-TKCV-IDX003		*	ENVIRONMENTAL DESIGN INDEX OF DRAWINGS
<b>PLAN SHEETS</b>							
21				PW-TKCV-ALN-021			ENVIRONMENTAL DESIGN PLAN SHEET
22				PW-TKCV-ALN-022		*	ENVIRONMENTAL DESIGN PLAN SHEET
23				PW-TKCV-ALN-023		*	ENVIRONMENTAL DESIGN PLAN SHEET
24				PW-TKCV-ALN-024		*	ENVIRONMENTAL DESIGN PLAN SHEET
25				PW-TKCV-ALN-025		*	ENVIRONMENTAL DESIGN PLAN SHEET
26				PW-TKCV-ALN-026		*	ENVIRONMENTAL DESIGN PLAN SHEET
27				PW-TKCV-ALN-027		*	ENVIRONMENTAL DESIGN PLAN SHEET
28				PW-TKCV-ALN-028		*	ENVIRONMENTAL DESIGN PLAN SHEET
29				PW-TKCV-ALN-029		*	ENVIRONMENTAL DESIGN PLAN SHEET
30				PW-TKCV-ALN-030		*	ENVIRONMENTAL DESIGN PLAN SHEET
31				PW-TKCV-ALN-031		*	ENVIRONMENTAL DESIGN PLAN SHEET
32				PW-TKCV-ALN-032		*	ENVIRONMENTAL DESIGN PLAN SHEET

**PRELIMINARY PLANS**

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 DRAWN BY:  
MED  
 CHECKED BY:  
JG  
 DATE:



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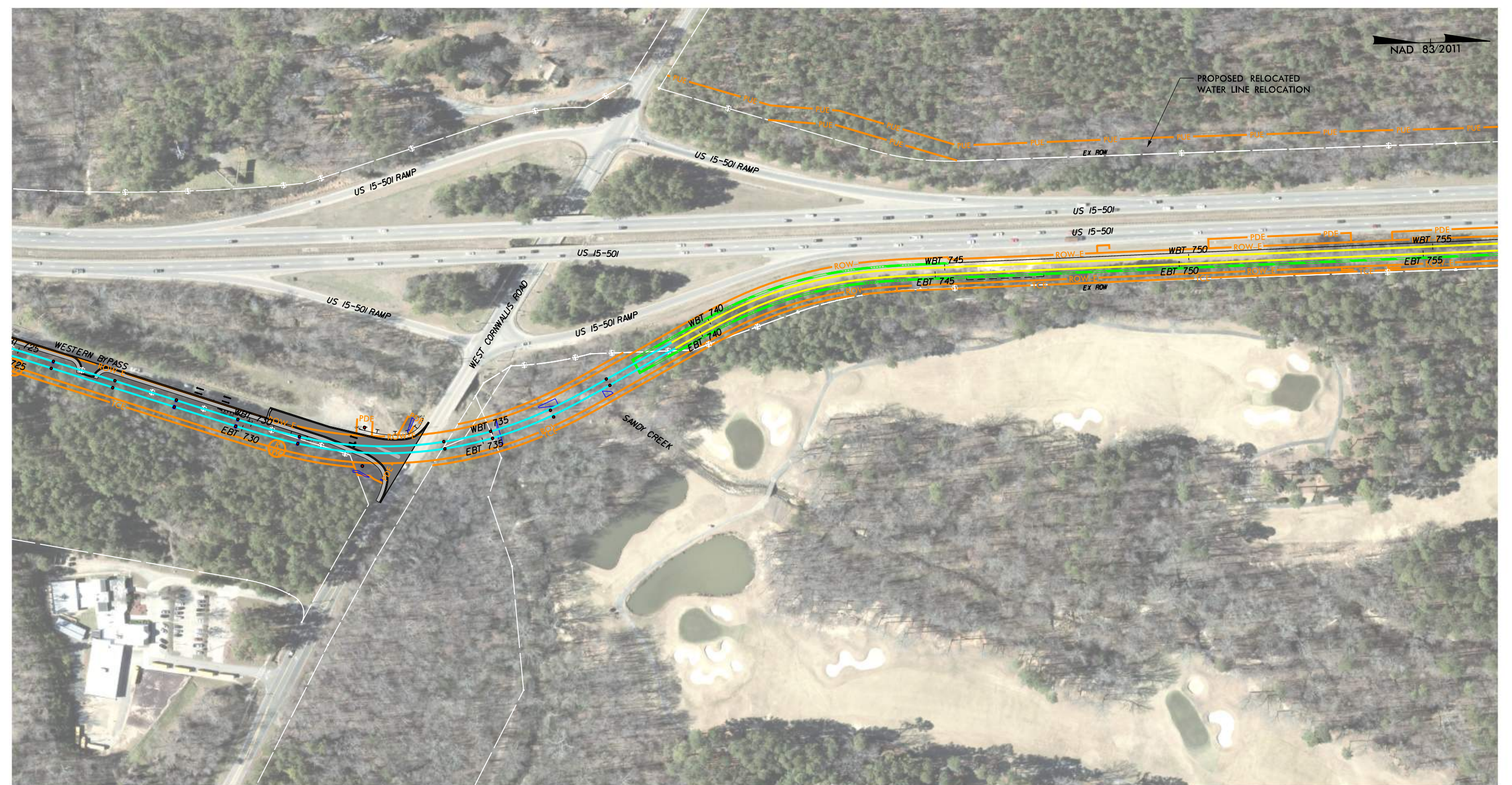
**DURHAM-ORANGE LIGHT RAIL TRANSIT PROJECT**

**ENGINEERING DESIGN INDEX OF SHEETS**

DRAWING NO.: SHEET NO.: REV.



NAD 83/2011



<b>LEGEND</b>	BRIDGE PIERS: ●●—	ELEVATED TRACK: —	BELOW GRADE TRACK: —	RETAINING WALLS: —	ROW: —	PROPOSED ROADWAY: —
	AT-GRADE TRACK: —	STATION: <b>STATION</b>	DEMOLITION: ▨	WETLANDS AND STREAMS: - - -	SIDEWALK /MULTI USE PATH: —	

**PRELIMINARY PLANS**

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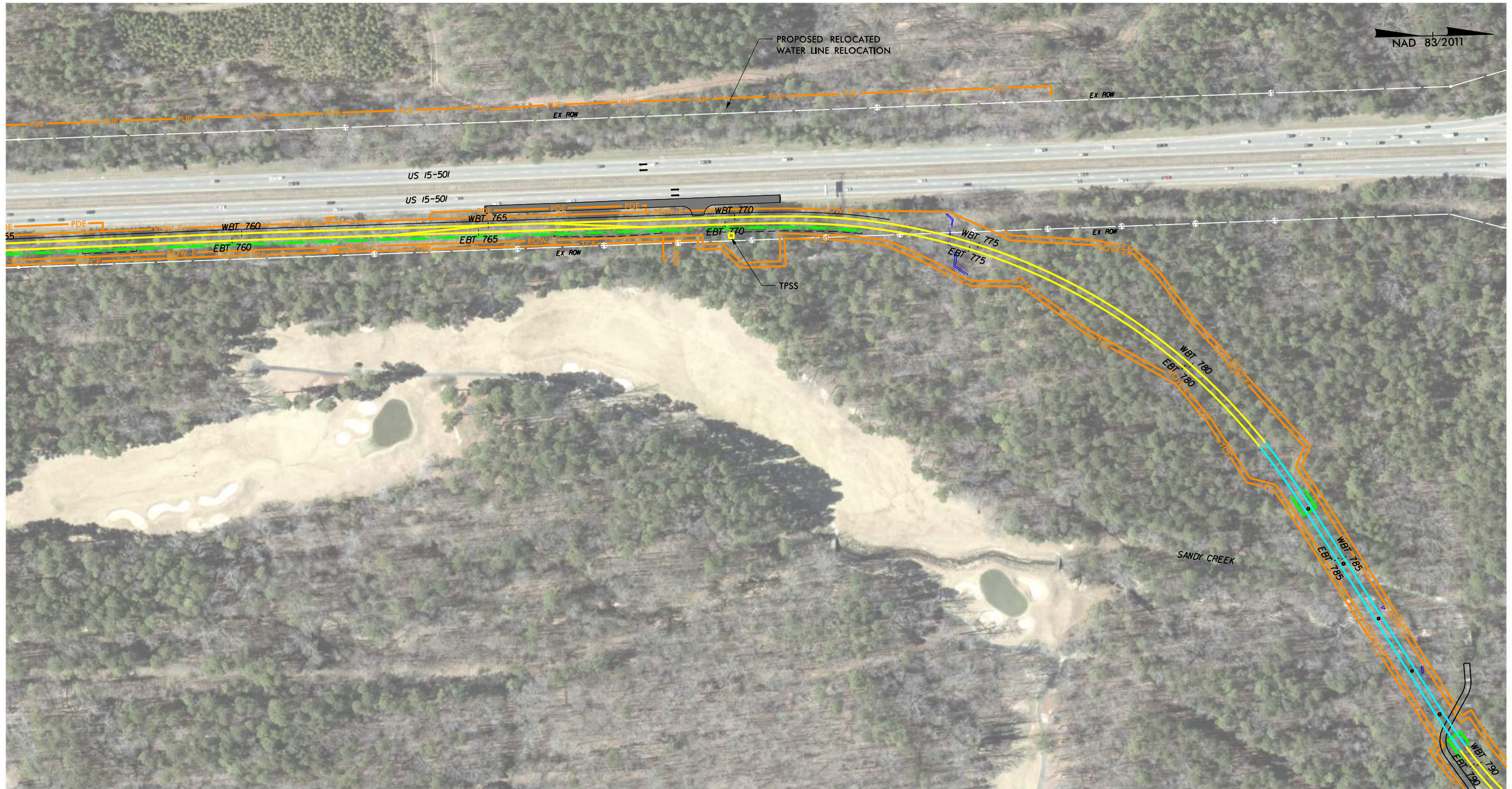
**GO Triangle**

<b>DURHAM-ORANGE LIGHT RAIL TRANSIT PROJECT</b>		
<b>ENGINEERING DESIGN PLAN SHEET</b>		
DRAWING NO.:	SHEET NO.: 21	REV.

PLOT DRIVER: DO-LRT\_11X17\_PDF\_COLOR.plt  
 USER: MWARRINE  
 FILE: PW-TKV-ALN-021.dgn  
 DATE: 9/20/2018  
 TIME: 9:44:10 AM



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 USER: MWARRINE  
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 PENTABLE: DO-LRT\_BFED.BLANK.tbl  
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 TIME: 9:44:28 AM

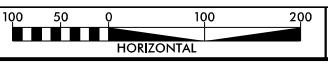


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	AT-GRADE TRACK: —	STATION: <b>STATION</b>	DEMOLITION: ▨	WETLANDS AND STREAMS: - - -	SIDEWALK /MULTI USE PATH: —	

**PRELIMINARY PLANS**

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**ENGINEERING DESIGN PLAN SHEET**

DRAWING NO.:	SHEET NO.: 22	REV.
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 USER: MWARRINE  
 FILE: PW-TKV-ALN-023.dgn  
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	AT-GRADE TRACK: —	STATION: <b>STATION</b>	DEMOLITION: ▨	WETLANDS AND STREAMS: - - -	SIDEWALK /MULTI USE PATH: —	

**PRELIMINARY PLANS**

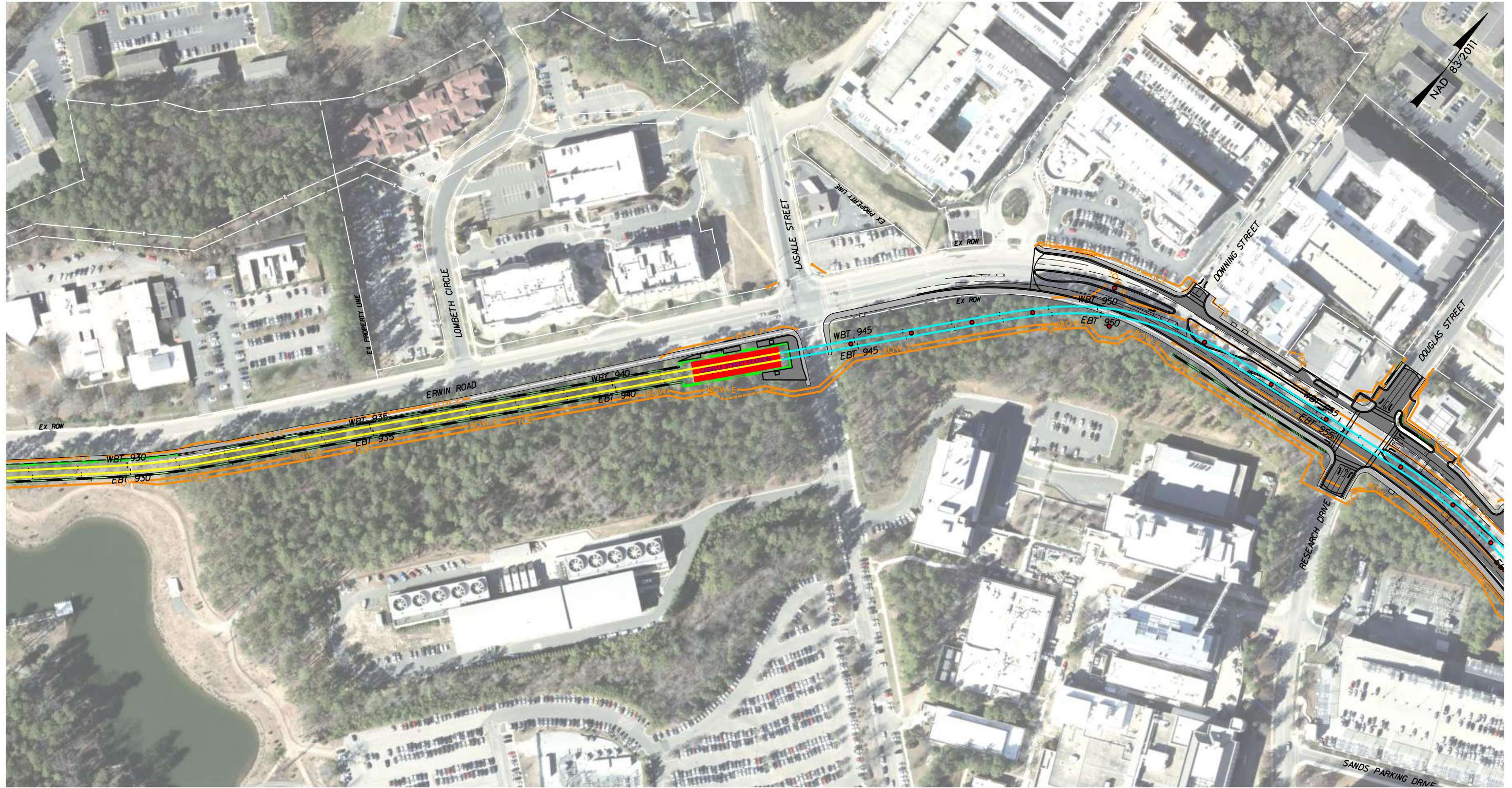
DO NOT USE FOR CONSTRUCTION  
 DOCUMENT NOT CONSIDERED FINAL  
 UNLESS ALL SIGNATURES ARE COMPLETED

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<b>DURHAM-ORANGE LIGHT RAIL TRANSIT PROJECT</b>		
<b>ENGINEERING DESIGN PLAN SHEET</b>		
DRAWING NO.:	SHEET NO.:	REV.
	23	





- LEGEND**
- BRIDGE PIERS: ●●
  - ELEVATED TRACK: — (cyan)
  - BELOW GRADE TRACK: — (purple)
  - RETAINING WALLS: — (green)
  - ROW: — (orange)
  - PROPOSED ROADWAY: — (grey)
  - AT-GRADE TRACK: — (yellow)
  - STATION: STATION
  - DEMOLITION: ▨
  - WETLANDS AND STREAMS: - - - (blue)
  - SIDEWALK /MULTI USE PATH: — (light blue)

PLOT DRIVER: DO-LRT\_11X17\_PDF\_COLOR.plt  
 USER: MWARRINE  
 FILE: PW-TKV-ALN-024.dgn  
 PENTABLE: DO-LRT\_BFED.BLANK.tbl  
 DATE: 9/20/2018  
 TIME: 9:45:10 AM

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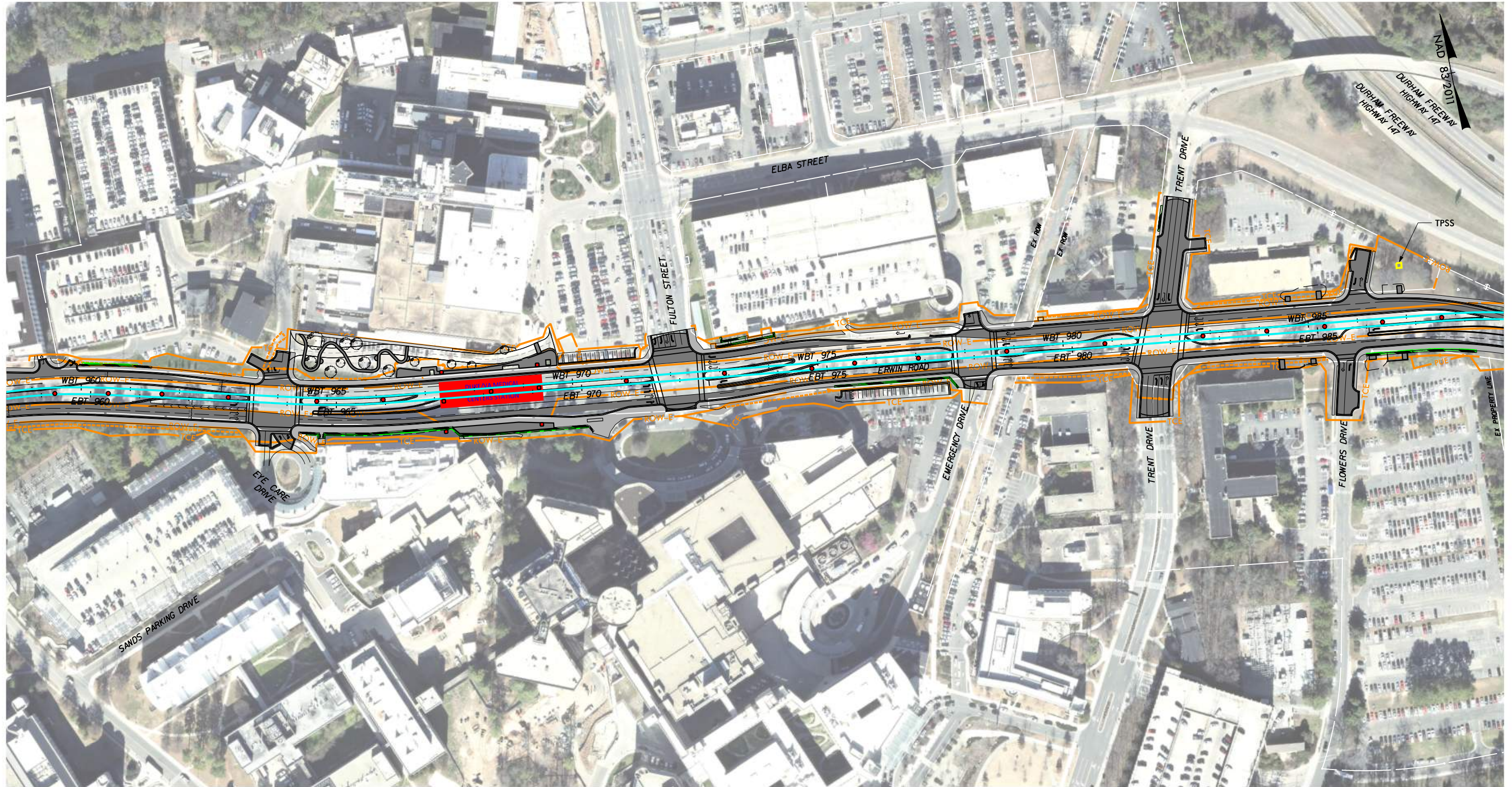
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**GO Triangle**

**DURHAM-ORANGE LIGHT RAIL TRANSIT PROJECT**  
**ENGINEERING DESIGN PLAN SHEET**

DRAWING NO.: SHEET NO.: 24 REV.





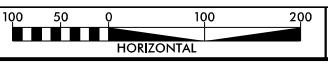
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- BRIDGE PIERS: ●●
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  - BELOW GRADE TRACK: —
  - RETAINING WALLS: —
  - ROW: —
  - PROPOSED ROADWAY: —
  - AT-GRADE TRACK: —
  - STATION: STATION
  - DEMOLITION: ▨
  - WETLANDS AND STREAMS: - - -
  - SIDEWALK /MULTI USE PATH: —

PLOT DRIVER: DO-LRT\_11X17\_PDF\_COLOR.plt  
 USER: MWARRINE  
 FILE: PW-TKV-ALN-025.dgn  
 DATE: 9/20/2018  
 TIME: 9:45:30 AM

# PRELIMINARY PLANS

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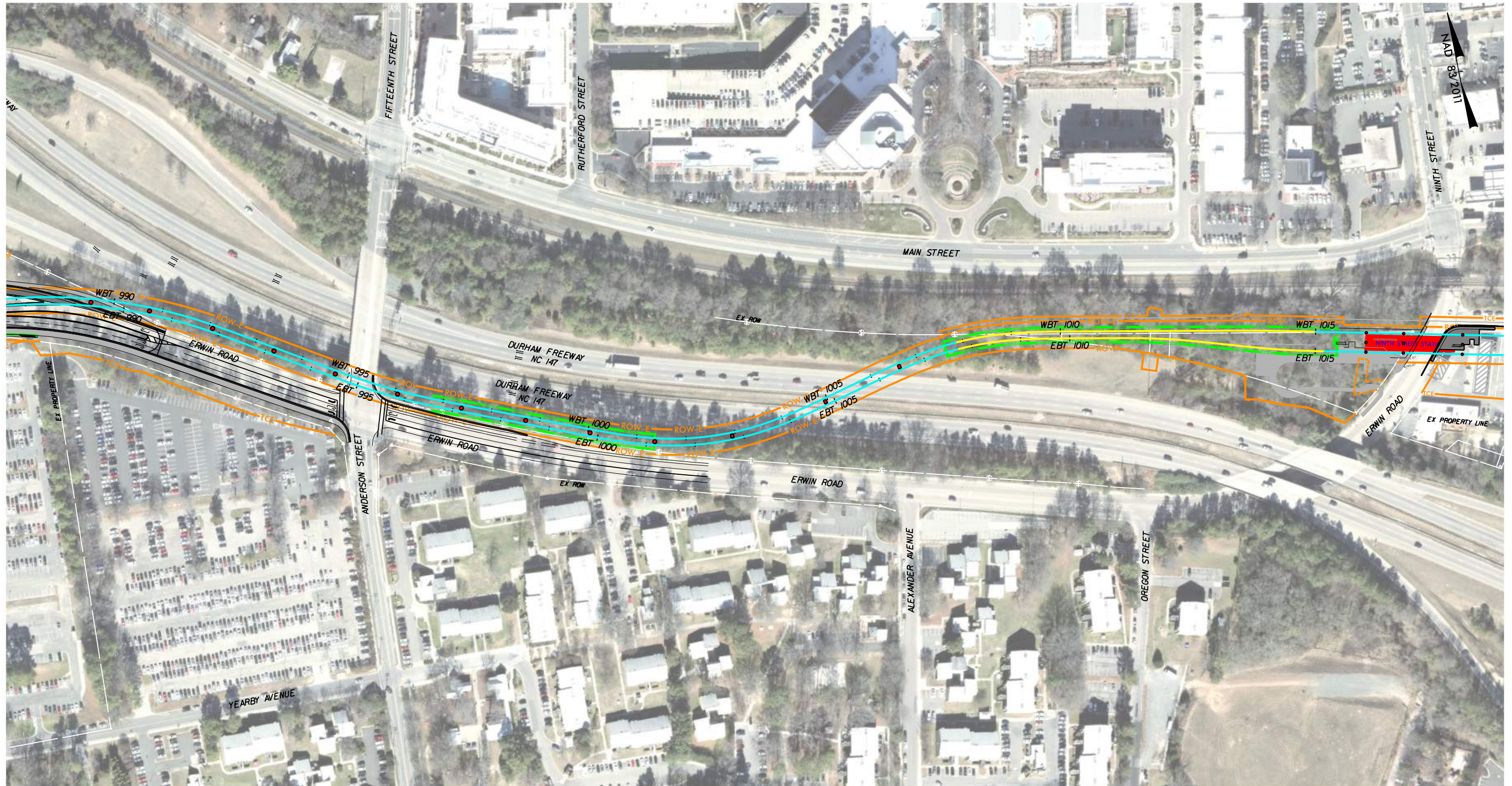
**GO Triangle**

**DURHAM-ORANGE LIGHT RAIL TRANSIT PROJECT**

**ENGINEERING DESIGN  
 PLAN SHEET**

DRAWING NO.:	SHEET NO.:	REV.
	25	





<b>LEGEND</b>	BRIDGE PIERS: ●●	ELEVATED TRACK: —	BELOW GRADE TRACK: —	RETAINING WALLS: —	ROW: —	PROPOSED ROADWAY: —
	AT-GRADE TRACK: —	STATION: <b>STATION</b>	DEMOLITION: ▨	WETLANDS AND STREAMS: - - -	SIDEWALK /MULTI USE PATH: —	

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 USER: MWARRINE  
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 DATE: 9/20/2018  
 TIME: 9:45:50 AM

**PRELIMINARY PLANS**

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**DURHAM-ORANGE LIGHT RAIL TRANSIT PROJECT**

**ENGINEERING DESIGN PLAN SHEET**

DRAWING NO.:	SHEET NO.:	REV.:
	26	





<b>LEGEND</b>	BRIDGE PIERS: ●●—	ELEVATED TRACK: —	BELOW GRADE TRACK: —	RETAINING WALLS: —	ROW: —	PROPOSED ROADWAY: —
	AT-GRADE TRACK: —	STATION: <b>STATION</b>	DEMOLITION: ▨	WETLANDS AND STREAMS: - - -	SIDEWALK /MULTI USE PATH: —	

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 TIME: 9:46:07 AM

# PRELIMINARY PLANS

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JG  
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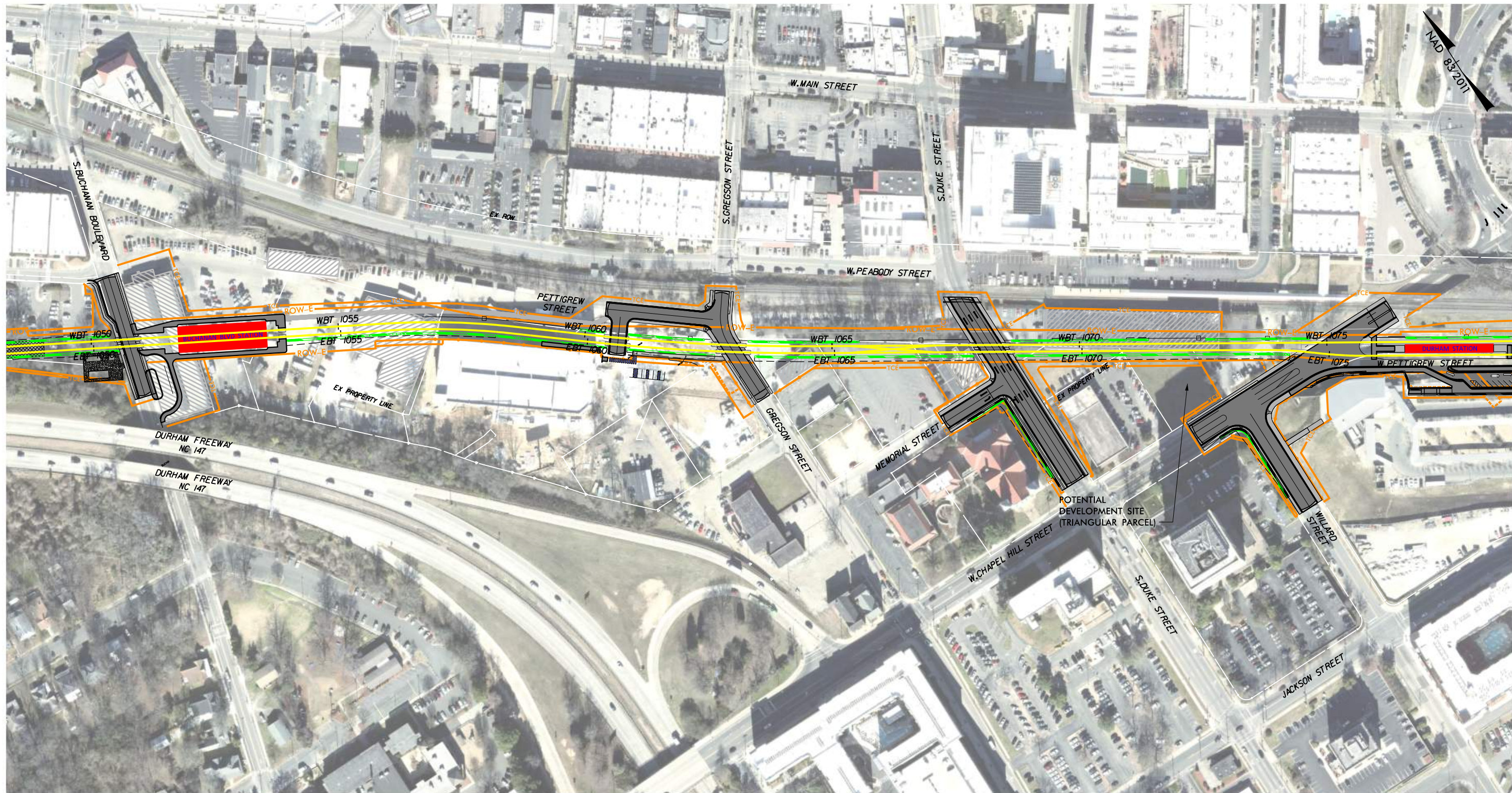
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## DURHAM-ORANGE LIGHT RAIL TRANSIT PROJECT

### ENGINEERING DESIGN PLAN SHEET

DRAWING NO.:	SHEET NO.:	REV.:
	27	





<b>LEGEND</b>	BRIDGE PIERS: ●●	ELEVATED TRACK: —	BELOW GRADE TRACK: —	RETAINING WALLS: —	ROW: —	PROPOSED ROADWAY: —
	AT-GRADE TRACK: —	STATION: <b>STATION</b>	DEMOLITION: ▨	WETLANDS AND STREAMS: - - -	SIDEWALK /MULTI USE PATH: —	

PLOT DRIVER: DO-LRT\_11X17\_PDF\_COLOR.plt  
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 FILE: PW-TKCV-ALN-028.dgn  
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 DATE: 9/20/2018  
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# PRELIMINARY PLANS

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 CHECKED BY:  
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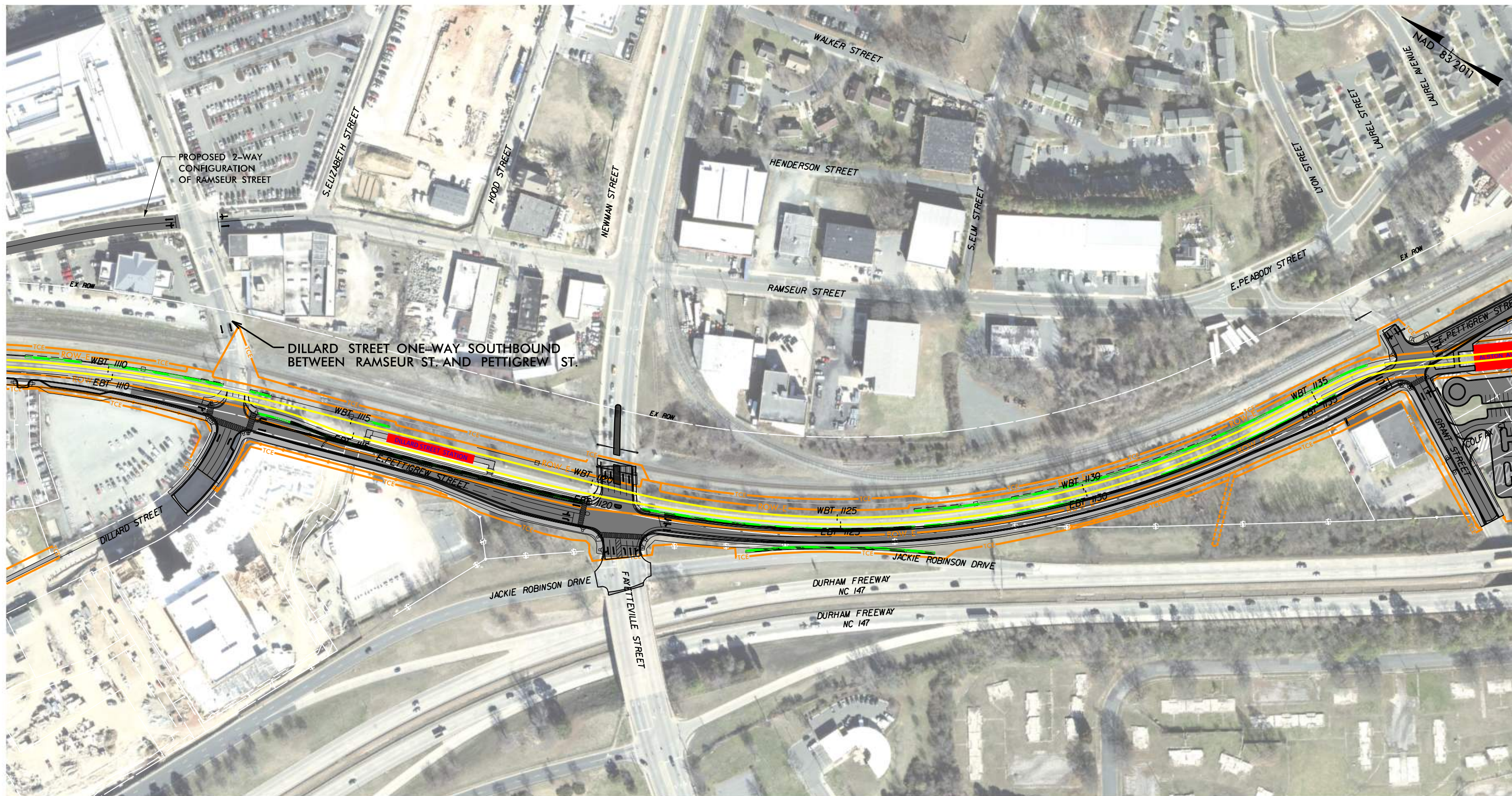
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**DURHAM-ORANGE LIGHT RAIL TRANSIT PROJECT**

**ENGINEERING DESIGN  
 PLAN SHEET**

DRAWING NO.:	SHEET NO.:	REV.
	28	





PROPOSED 2-WAY CONFIGURATION OF RAMSEUR STREET

DILLARD STREET ONE-WAY SOUTHBOUND BETWEEN RAMSEUR ST. AND PETTIGREW ST.

- LEGEND**
- BRIDGE PIERS: ●●
  - ELEVATED TRACK: —
  - BELOW GRADE TRACK: —
  - RETAINING WALLS: —
  - ROW: —
  - PROPOSED ROADWAY: —
  - AT-GRADE TRACK: —
  - STATION: STATION
  - DEMOLITION: ▨
  - WETLANDS AND STREAMS: - - -
  - SIDEWALK /MULTI USE PATH: —

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 USER: MWARRINE  
 FILE: PW-TKV-ALN-030.dgn  
 DATE: 10/4/2018  
 TIME: 12:59:18 PM

**PRELIMINARY PLANS**

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 CHECKED BY:  
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 DATE:

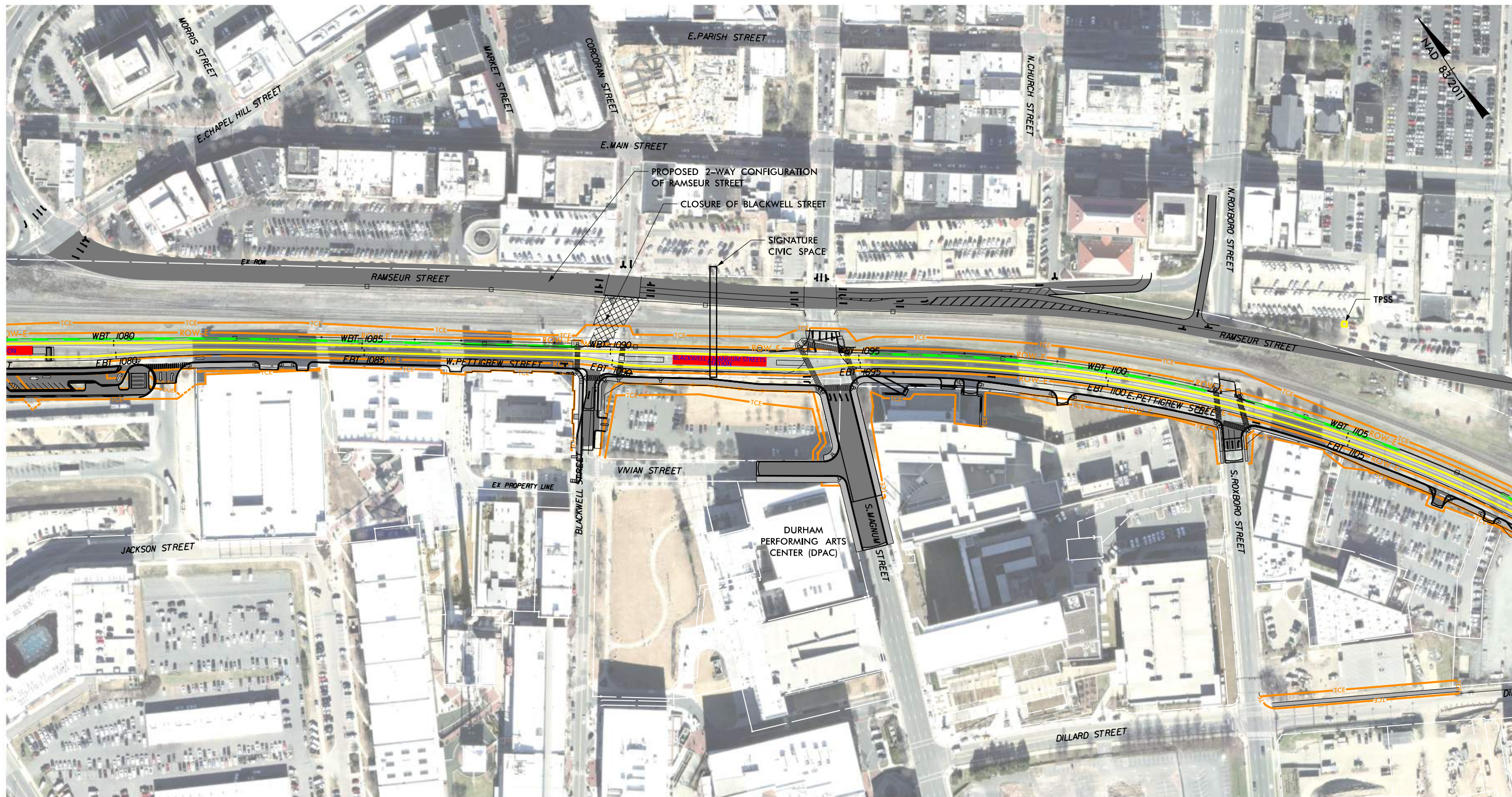
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**GO Triangle**

**DURHAM-ORANGE LIGHT RAIL TRANSIT PROJECT**  
**ENGINEERING DESIGN PLAN SHEET**

DRAWING NO.: SHEET NO.: 30 REV.





<b>LEGEND</b>	BRIDGE PIERS: ●●	ELEVATED TRACK: —	BELOW GRADE TRACK: —	RETAINING WALLS: —	ROW: —	PROPOSED ROADWAY: —
	AT-GRADE TRACK: —	STATION: <b>STATION</b>	DEMOLITION: ▨	WETLANDS AND STREAMS: - - -	SIDEWALK /MULTI USE PATH: —	

PLOT DRIVER: DO-LRT\_11X17\_PDF\_COLOR.plt  
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 DATE: 10/26/2018  
 TIME: 3:08:57 PM

# PRELIMINARY PLANS

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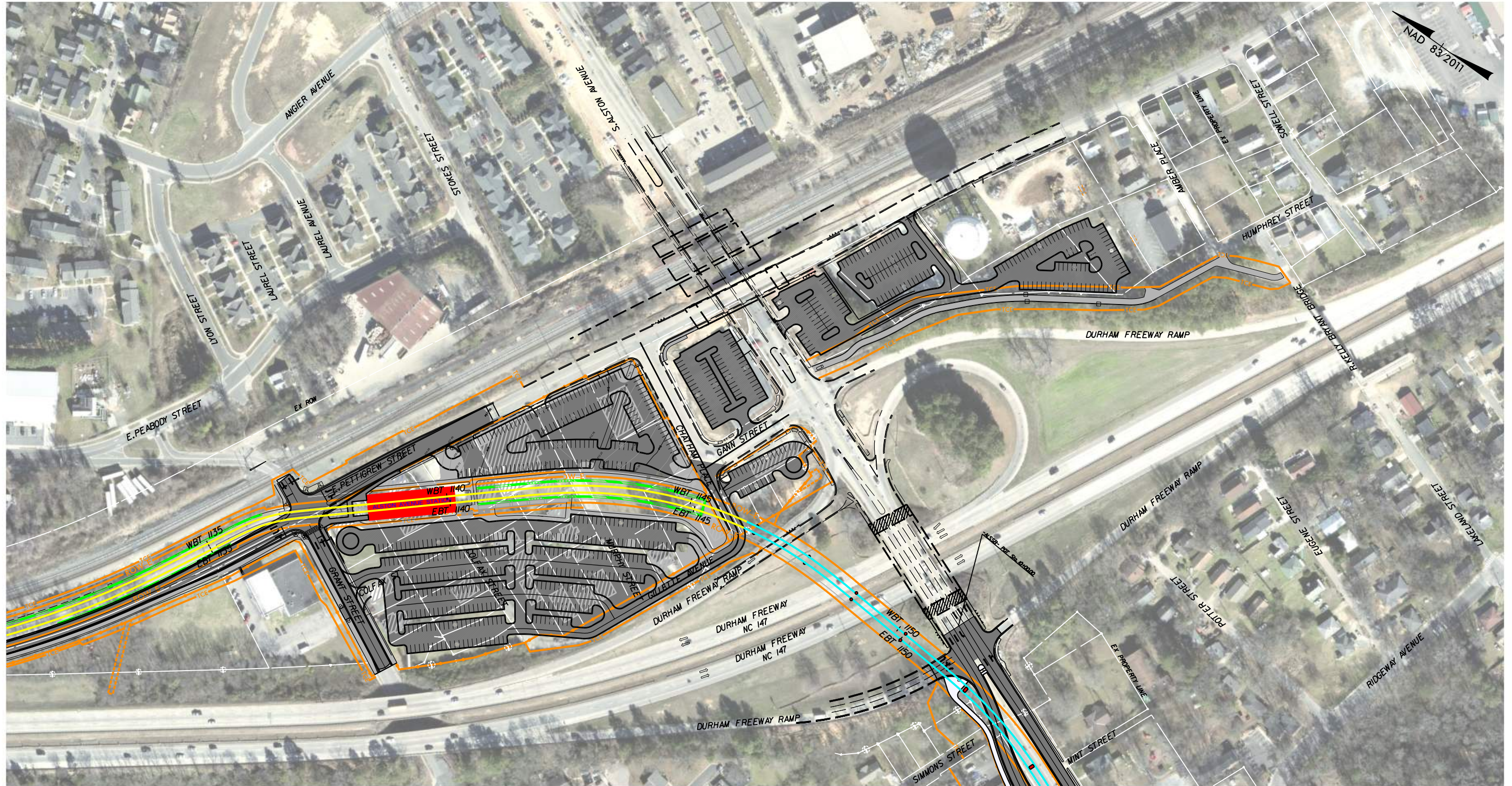


## DURHAM-ORANGE LIGHT RAIL TRANSIT PROJECT

### ENGINEERING DESIGN PLAN SHEET

DRAWING NO.:	SHEET NO.:	REV.:
	29	





<b>LEGEND</b>	BRIDGE PIERS: ●●—	ELEVATED TRACK: —	BELOW GRADE TRACK: —	RETAINING WALLS: —	ROW: —	PROPOSED ROADWAY: —
	AT-GRADE TRACK: —	STATION: <b>STATION</b>	DEMOLITION: ▨	WETLANDS AND STREAMS: - - -	SIDEWALK /MULTI USE PATH: —	

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 USER: MWARRINE  
 FILE: PW-TKV-ALN-031.dgn  
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 TIME: 9:47:25 AM

# PRELIMINARY PLANS

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## DURHAM-ORANGE LIGHT RAIL TRANSIT PROJECT

### ENGINEERING DESIGN PLAN SHEET

DRAWING NO.:	SHEET NO.:	REV.:
	31	





- LEGEND**
- BRIDGE PIERS: ●●—
  - ELEVATED TRACK: —
  - BELOW GRADE TRACK: —
  - RETAINING WALLS: —
  - ROW: —
  - PROPOSED ROADWAY: —
  - AT-GRADE TRACK: —
  - STATION: STATION
  - DEMOLITION: ▨
  - WETLANDS AND STREAMS: - - -
  - SIDEWALK /MULTI USE PATH: —

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MED  
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JG  
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**DURHAM-ORANGE LIGHT RAIL TRANSIT PROJECT**

**ENGINEERING DESIGN  
 PLAN SHEET**

DRAWING NO.:	SHEET NO.:	REV.:
	32	

PLOT DRIVER: DO-LRT\_11X17\_PDF\_COLOR.plt  
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