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SUMMIT
DESIGN AND ENGINEERING SERVICES

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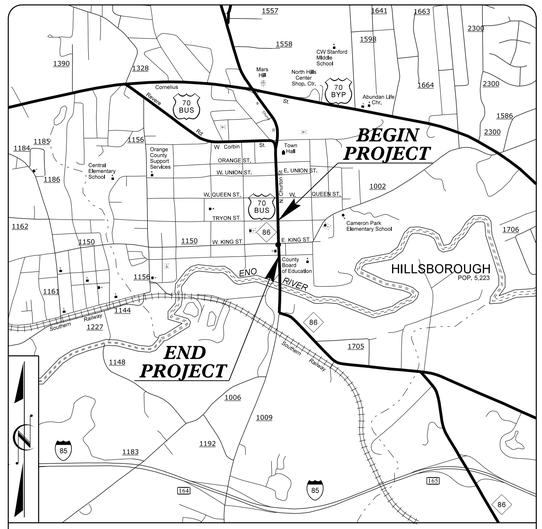
TIP PROJECT: U-5549/SS-4907 AZ

CONTRACT:

See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Symbols



VICINITY MAP

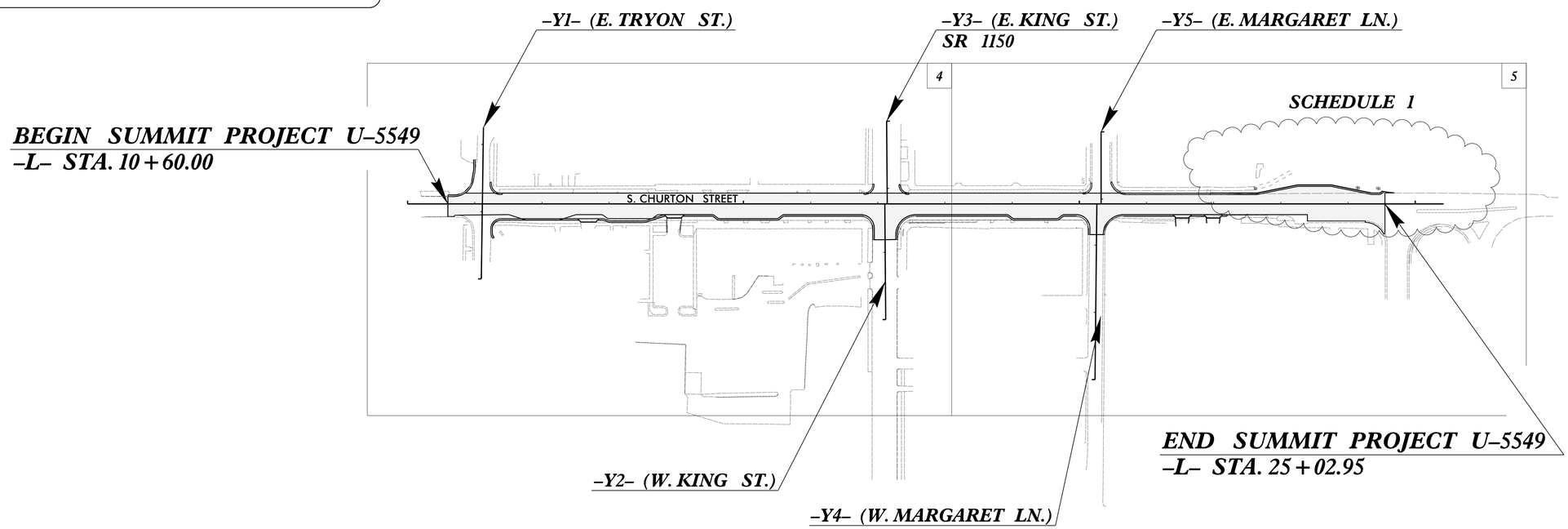
STATE OF NORTH CAROLINA
TOWN OF HILLSBOROUGH

ORANGE COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	U-5549/SS-4907 AZ	1	44

STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
50153.3.F1	STPDA-0711(16)	CON
44227		CON
44247		CON

LOCATION: S. CHURTON STREET FROM TRYON STREET TO SOUTH OF MARGARET LANE
SOUTH CHURTON STREET ACCESS IMPROVEMENTS
TYPE OF WORK: PAVING, DRAINAGE, CURB & GUTTER & SIDEWALK



GRAPHIC SCALES

30 15 0 30 60
PLANS

30 15 0 30 60
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

V = 30 MPH

FUNC CLASS = URBAN ARTERIAL

PROJECT LENGTH

LENGTH TIP PROJECT U-5549 = 0.273 MILES

STEPHANIE TRUEBLOOD
TOWN OF HILLSBOROUGH CONTACT

DONALD HUFFINES
NCDOT CONTACT

Prepared in the Office of:
SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: N/A

LETTING DATE:

TRACY N. PARROTT, PE
PROJECT ENGINEER

BRANDON W. JOHNSON, PE
PROJECT DESIGN ENGINEER

ROADWAY DESIGN ENGINEER
10/14/2015

NORTH CAROLINA PROFESSIONAL SEAL 034371 ENGINEER BRANDON W. JOHNSON

DocuSigned by:
Brandon W. Johnson P.E.
SIGNATURE:

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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PROJECT REFERENCE NO.	SHEET NO.
U-5549	1A

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 034371 ENGINEER BRANDON W. JOHNSON

DocuSigned by: Brandon W. Johnson
8/17/2021

Prepared in the Office of:
SUMMIT DESIGN AND ENGINEERING SERVICES
CORPORATE LICENSE No: F-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

REVISIONS

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL SYMBOLS
2A-1 THRU 2-A2	PAVEMENT SCHEDULE, TYPICAL SECTIONS, AND WEDGING DETAILS
2B-1 THRU 2B-8	DETAIL SHEETS
2C-1	SPECIAL DETAILS
2H-1	GEOENVIRONMENTAL DETAILS
3B-1	SUMMARY SHEET
4 THRU 5	PLAN SHEETS
TMP-1 THRU TMP-2	TRAFFIC MANAGEMENT PLANS
PMP-1 THRU PMP-3	PAVEMENT MARKING PLANS
SIG-2.0 THRU SIG-2.1	SIGNAL PLANS
SIG-P1 THRU SIG-P3	PEDESTAL PLANS
X-1 THRU X-15	CROSS-SECTIONS

GENERAL NOTES:

2012 SPECIFICATIONS
EFFECTIVE: 01-17-2012
REVISED: 07-30-2012

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01 AND/OR STD. NO. 560.02

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.02 USING 3' RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

STREET TURNOUT:

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE TOWN OF HILLSBOROUGH.

DUKE ENERGY PROGRESS, TIME WARNER CABLE, CENTURY LINK, PSNC

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

RIGHT-OF-WAY MARKERS:

ALL RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY CONTRACT.

CURB RAMPS

CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.05 and/or 848.06. BY SPECIAL DETAIL OR AS SHOWN IN THE PLANS.

EFF. 01-17-2012
REV. 10-30-2012

2012 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2012 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 2 - EARTHWORK	
200.02	Method of Clearing - Method II
225.02	Guide for Grading Subgrade - Secondary and Local
225.03	Deceleration and Acceleration Lanes
225.04	Method of Obtaining Superelevation - Two Lane Pavement
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.34	Traffic Bearing Junction Box - for Use with Pipes 42" and Under
840.45	Precast Drainage Structure
840.54	Manhole Frame and Cover
846.01	Concrete Curb, Gutter and Curb & Gutter
848.01	Concrete Sidewalk
848.02	Driveway Turnout - Radius Type
848.04	Street Turnout
848.05	Curb Ramp - Proposed Curb & Gutter
848.06	Curb Ramp - Existing Curb & Gutter
862.01	Guardrail Placement
862.02	Guardrail Installation
876.02	Guide for Rip Rap at Pipe Outlets

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12/05/11

PROJECT REFERENCE NO.	SHEET NO.
U-5549	1B

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

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PROJECT REFERENCE NO.	SHEET NO.
U-5549	2A-1

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 034371 ENGINEER BRANDON W. JOHNSON
10/14/2015

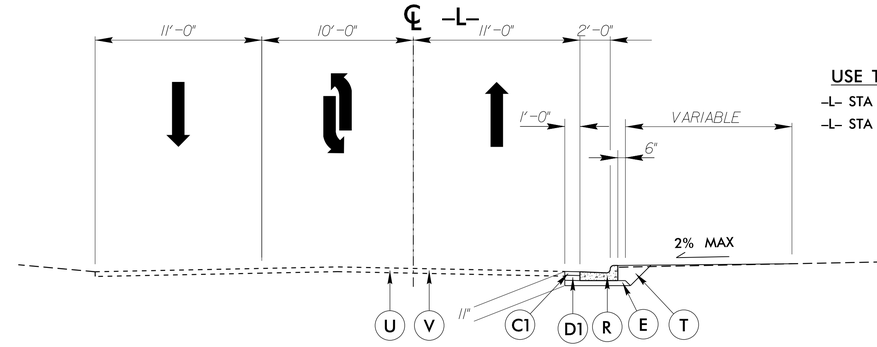
Brandon W. Johnson

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
LICENSE No. P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

REVISIONS

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
E	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 342 LBS. PER SQ. YD.
R	2'-6" CONCRETE CURB AND GUTTER.
S	4" CONCRETE SIDEWALK.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	MILLING BITUMINOUS PAVEMENT. VAR. DEPTH.

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.

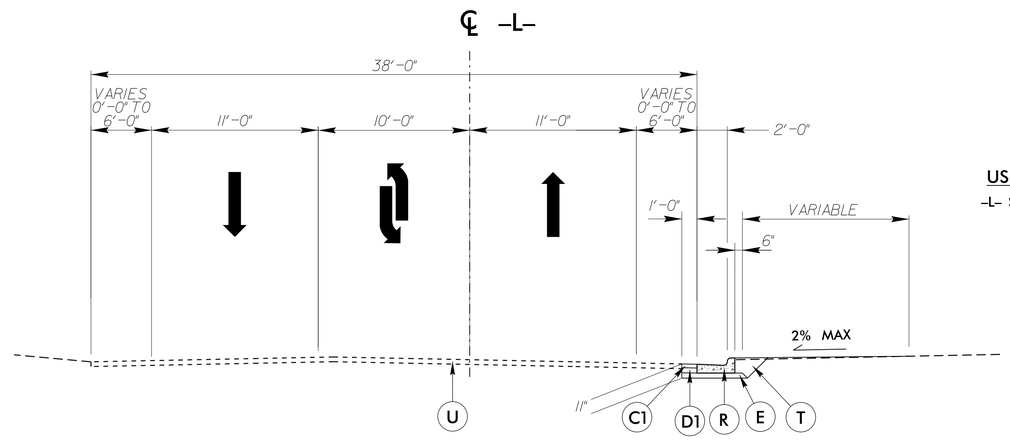


USE TYPICAL SECTION NO. 1

-L- STA 10+60.00 TO STA 11+11.34

-L- STA 20+26.11 TO STA 22+20.00

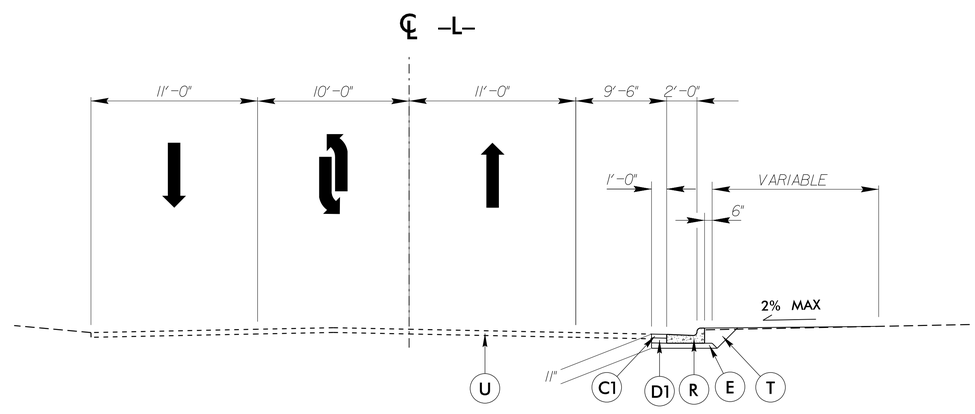
TYPICAL SECTION NO. 1



USE TYPICAL SECTION NO. 2

-L- STA 11+11.34 TO STA 12+90.60

TYPICAL SECTION NO. 2

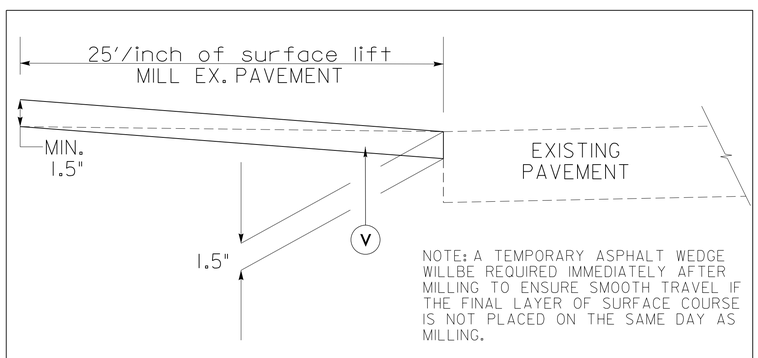


USE TYPICAL SECTION NO. 3

-L- STA 12+90.60 TO STA 13+83.00

(ADJUST TOP BACK OF CURB ELEVATION TO TIE TO EXISTING SIDEWALK GRADE)

TYPICAL SECTION NO. 3



INCIDENTAL MILLING PAVEMENT KEY-IN DETAIL (TIE-IN)

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PROJECT REFERENCE NO.	SHEET NO.
U-5549	2A-2

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 034371 ENGINEER BRANDON W. JOHNSON
10/14/2015
DocuSigned by: Brandon W. Johnson

Prepared in the Office of:
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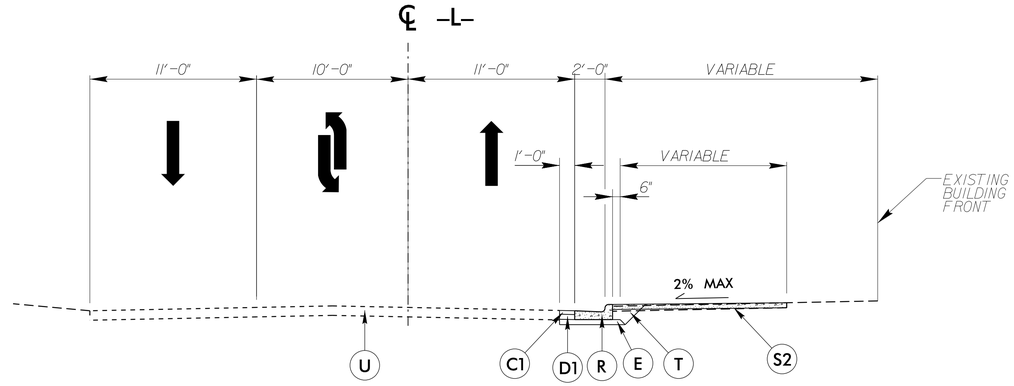
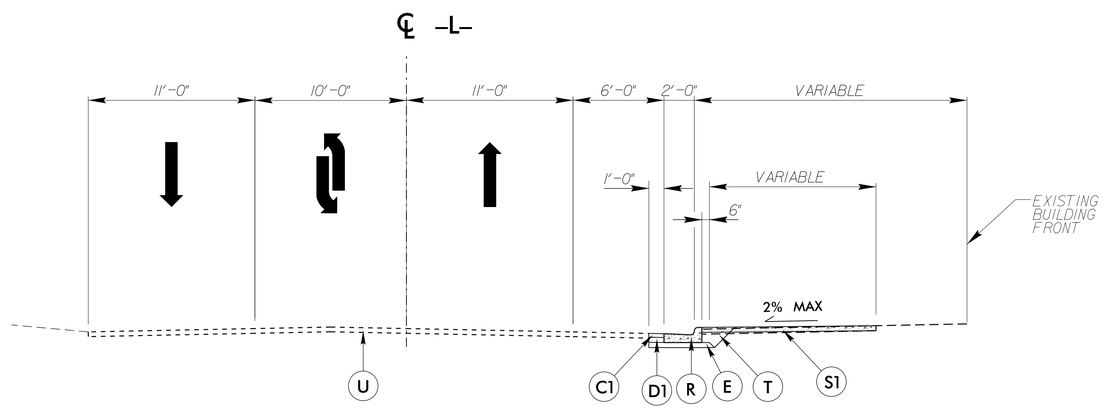
C1	3" S9.5B
D1	4" I19.0B
E	4" B25.0B
R	2'-6" C & G
S1	4" SIDEWALK
S2	BRICK SIDEWALK
T	EARTH MATERIAL
U	EXIST. PAVEMENT
V	MILLING

NOTE:
PAVEMENT EDGE SLOPES ARE 1:1
UNLESS SHOWN OTHERWISE.



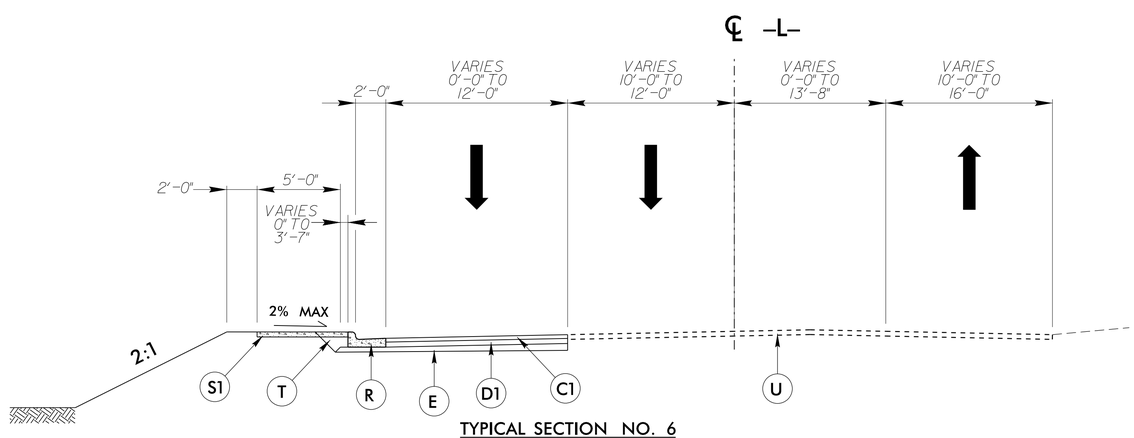
TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4
-L- STA 13+83.00 TO STA 14+53.33
-L- STA 15+60.67 TO STA 18+92.06
-L- STA 19+77.40 TO STA 20+26.11
-L- STA 20+26.11 TO STA 22+41.08 (W/BRICK SIDEWALK)



TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5
-L- STA 14+53.33 TO STA 15+60.67
-L- STA 18+92.06 TO STA 19+77.40



TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6
-L- STA 22+20.00 TO STA 24+50.00

REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
U-5549	2B-1

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 034371 ENGINEER BRANDON W. JOHNSON
10/14/2015
Brandon W. Johnson

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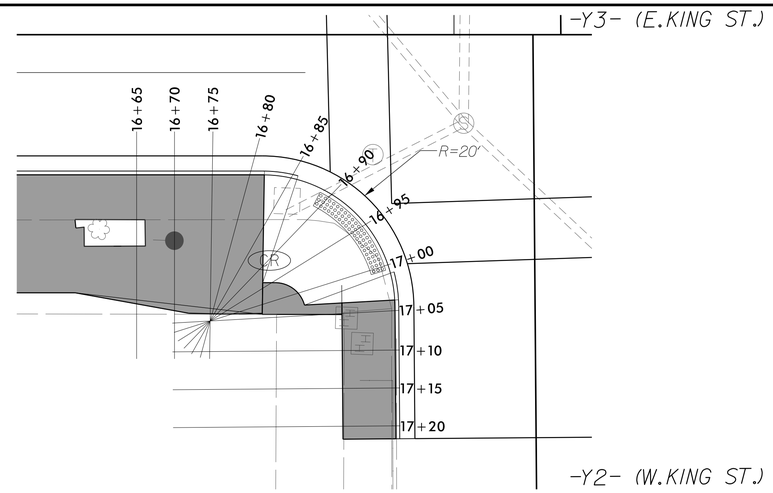
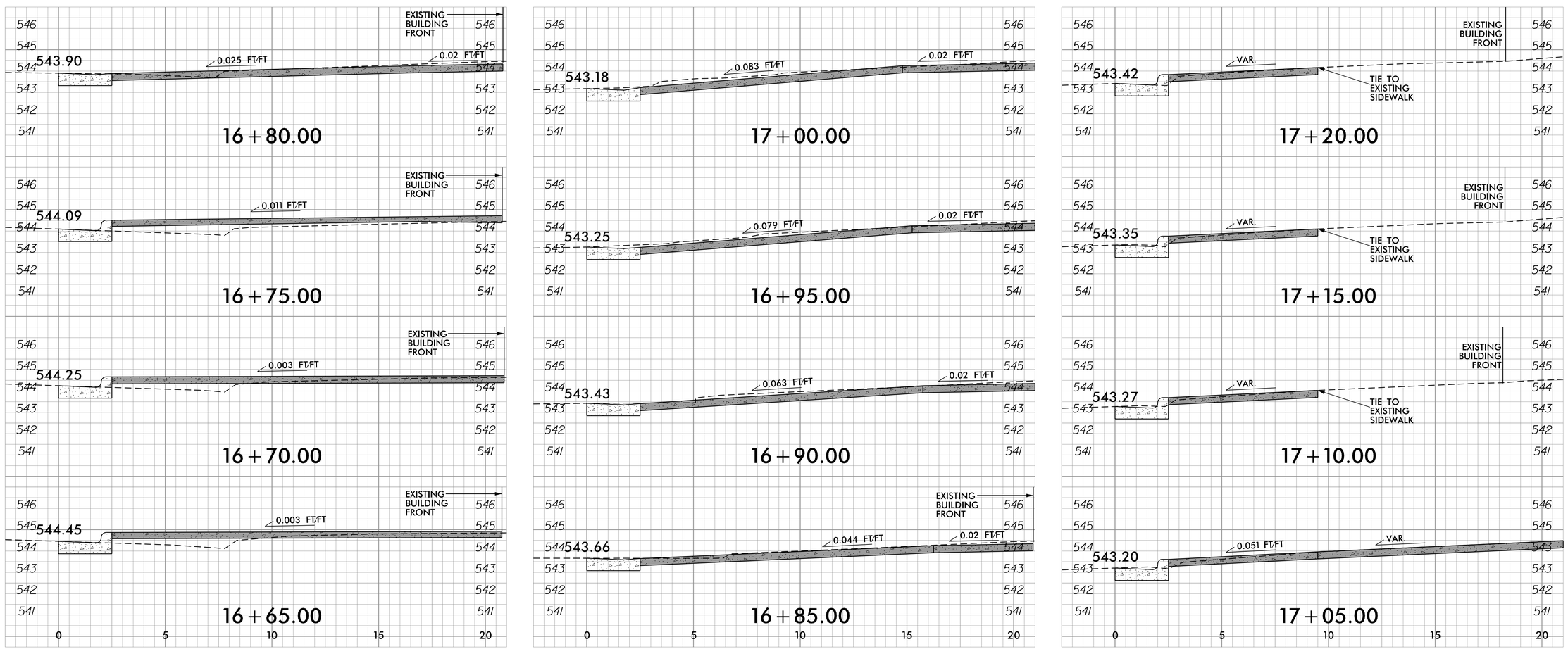


NW CORNER OF CHURTON ST.AND W.KING ST.INTERSECTION.SEE PSH 4.

PROPOSED SIDEWALK OUTSIDE OF CONCRETE CURB RAMP TO BE PAID BY SQUARE YARD.

NON-SHADED CURB RAMPS TO BE PAID PER EACH.

0 2.5 5



REVISIONS

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PROJECT REFERENCE NO.	SHEET NO.
U-5549	2B-2

ROADWAY DESIGN ENGINEER
1/13/2016

NORTH CAROLINA PROFESSIONAL SEAL 034371 ENGINEER BRANDON W. JOHNSON

Brandon W. Johnson

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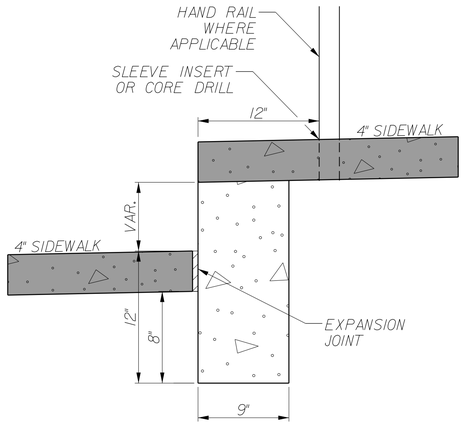
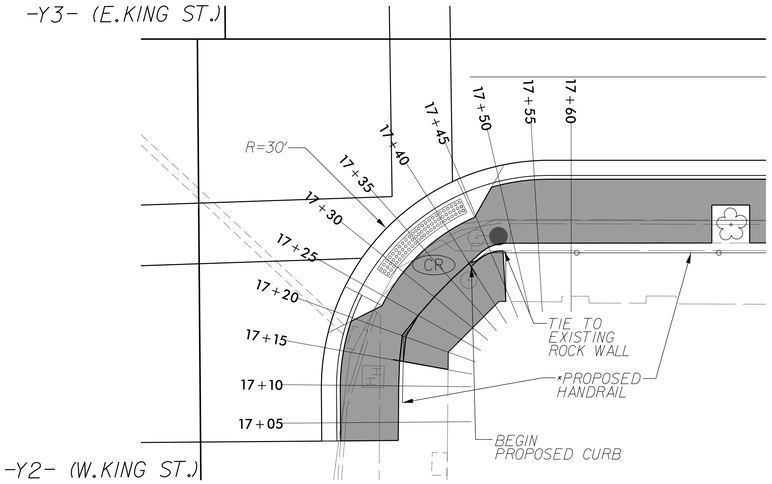
CONCRETE CURB DETAIL





SW CORNER OF CHURTON ST.AND W.KING ST.INTERSECTION,SEE PSH 4.

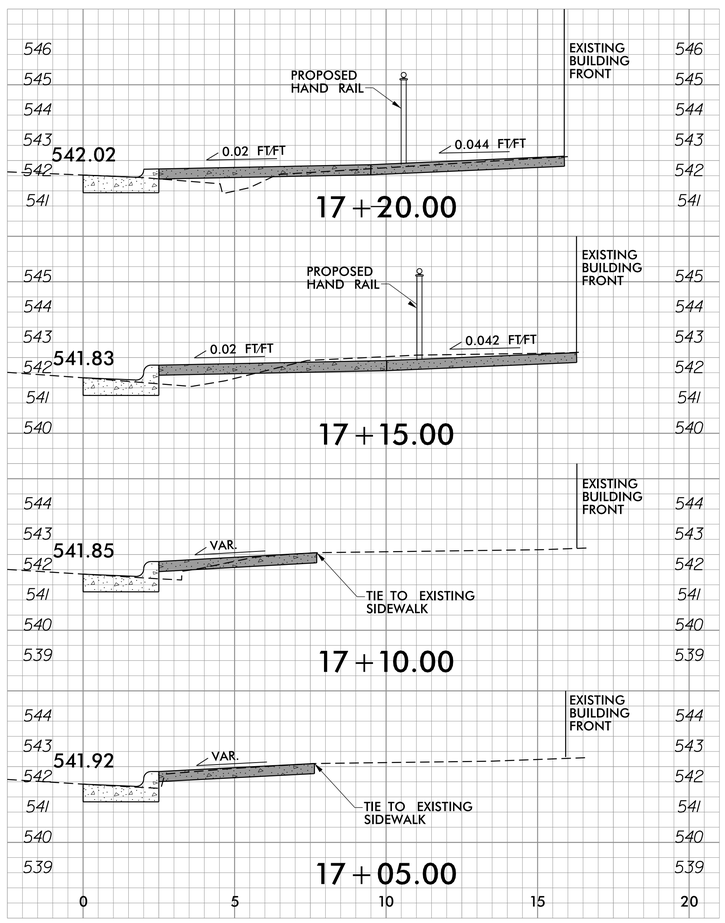
PROPOSED SIDEWALK OUTSIDE OF CONCRETE CURB RAMP TO BE PAID BY SQUARE YARD.

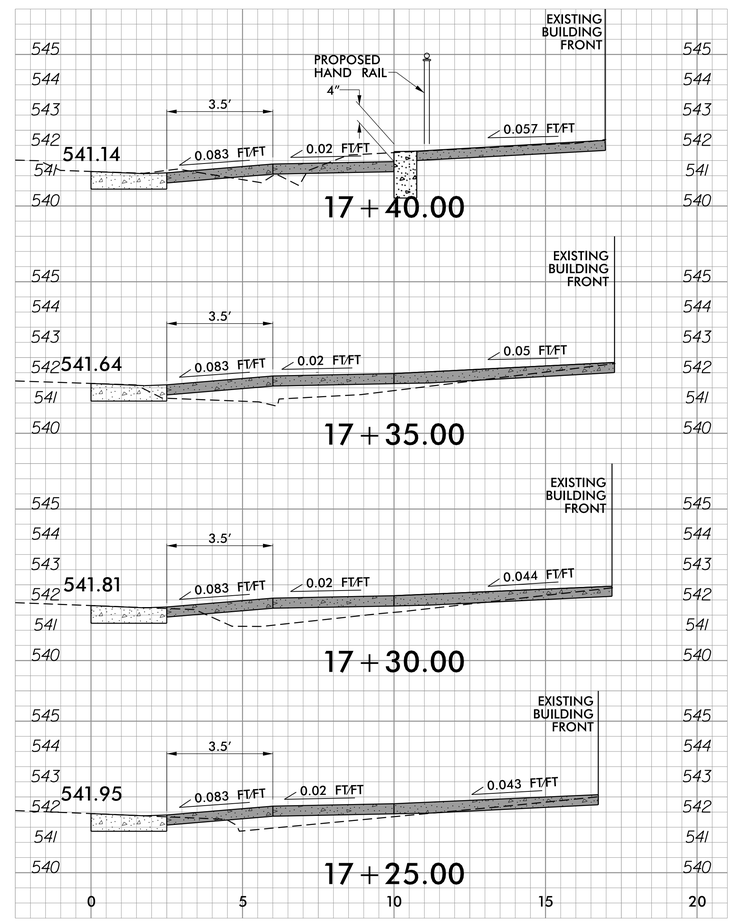
NON-SHADED CURB RAMPS TO BE PAID PER EACH.

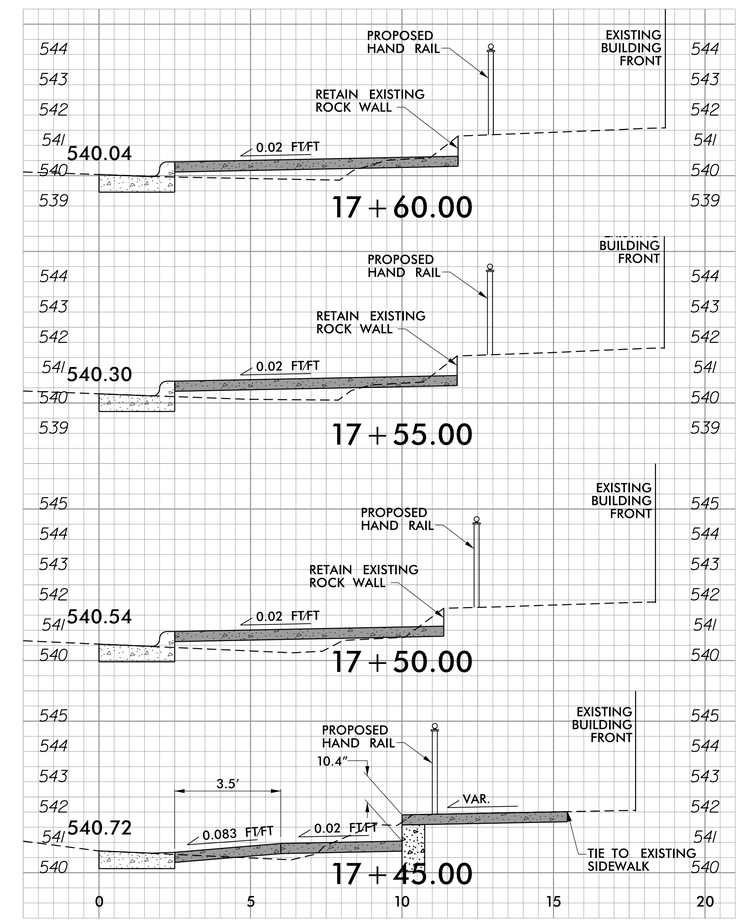
*-Y2- STA 11+20 +/- TO 11+35 +/- APPROX.27' RT

*-L- STA 17+45 +/- APPROX 27' RT TO STA 18+00 +/- APPROX 28' RT

0 2.5 5







REVISIONS

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spencer,mark,t4

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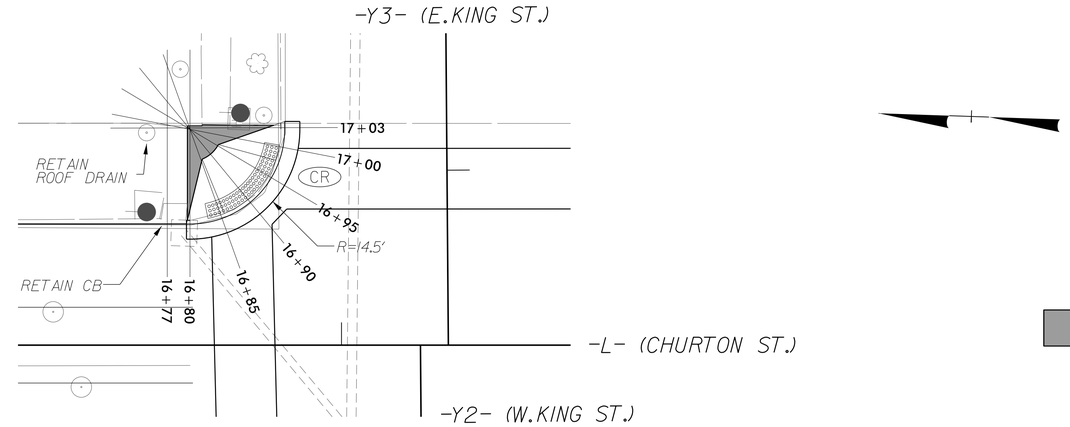
PROJECT REFERENCE NO.	SHEET NO.
U-5549	2B-3

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 034371 ENGINEER BRANDON W. JOHNSON
10/14/2015

Brandon W. Johnson

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
CORPORATE LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

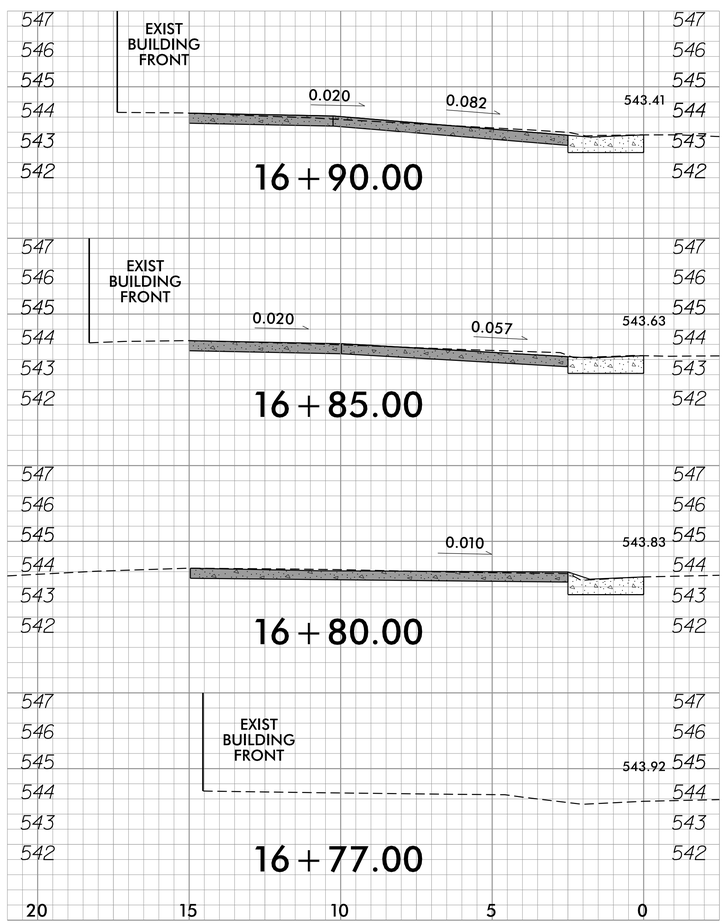


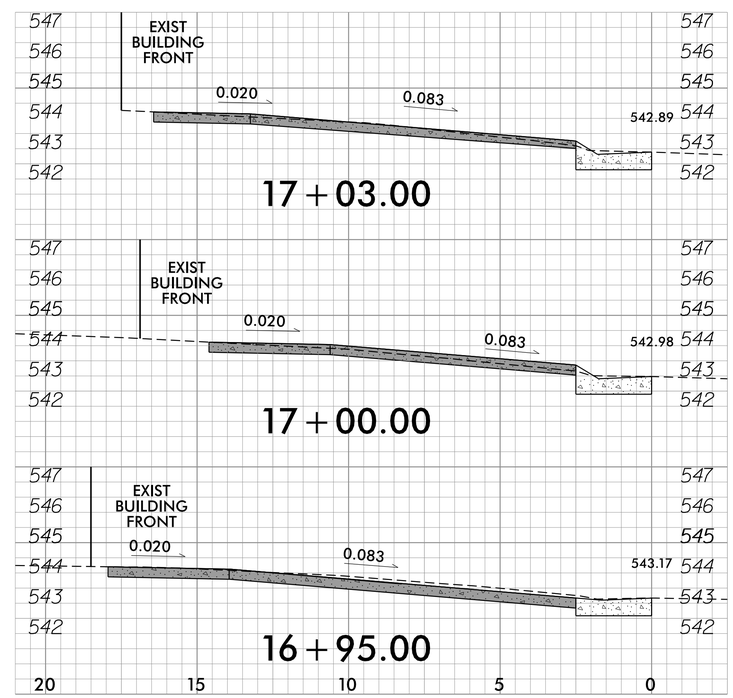
NE CORNER OF CHURTON ST. AND E.KING ST. INTERSECTION, SEE PSH 4.

PROPOSED SIDEWALK OUTSIDE OF CONCRETE CURB RAMP TO BE PAID BY SQUARE YARD.

NON-SHADED CURB RAMPS TO BE PAID PER EACH.

0 2.5 5





REVISIONS

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jessicaquez\jessi

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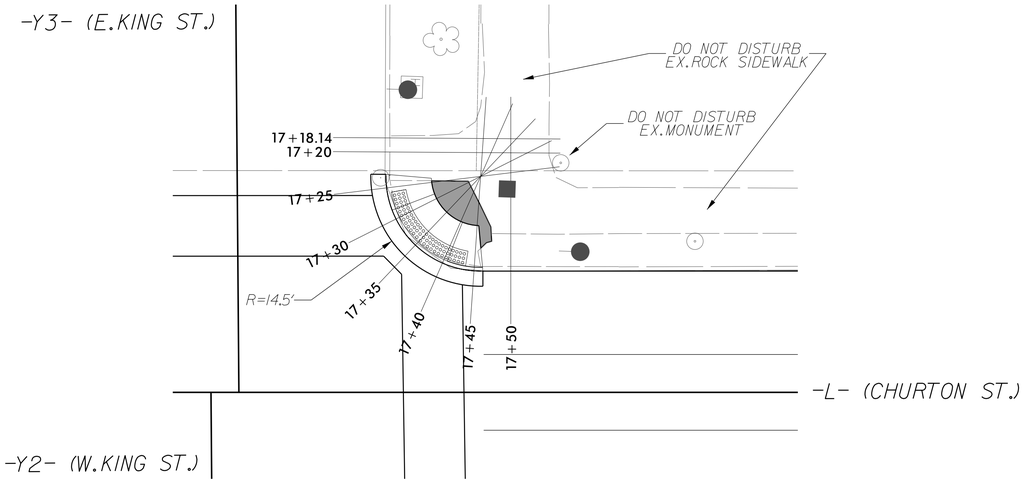
PROJECT REFERENCE NO.	SHEET NO.
U-5549	2B-4

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 034371 ENGINEER BRANDON W. JOHNSON
10/14/2015
Brandon W. Johnson

Prepared in the Office of:
SUMMIT DESIGN AND ENGINEERING SERVICES
Firm License: Corporate Firm No. P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

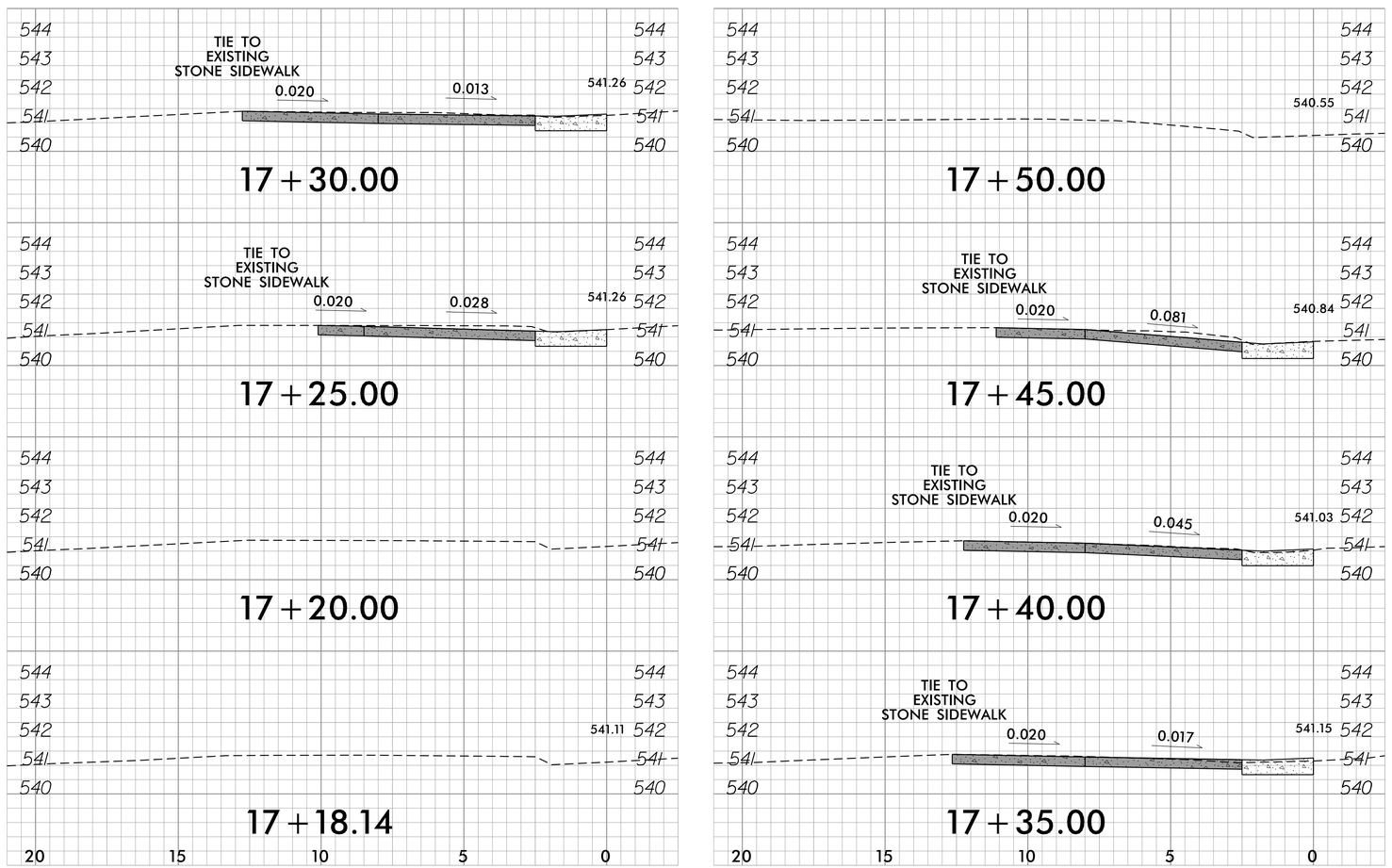


SE CORNER OF CHURTON ST. AND E.KING ST. INTERSECTION, SEE PSH 4.

PROPOSED SIDEWALK OUTSIDE OF CONCRETE CURB RAMP TO BE PAID BY SQUARE YARD.

NON-SHADED CURB RAMPS TO BE PAID PER EACH.

0 2.5 5



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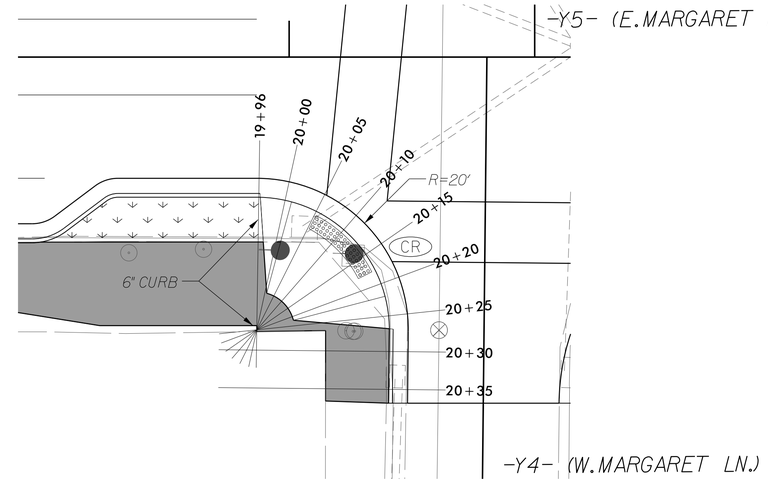
PROJECT REFERENCE NO.	SHEET NO.
U-5549	2B-5

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 034371 ENGINEER BRANDON W. JOHNSON
10/14/2015
Brandon W. Johnson

Prepared in the Office of: SUMMIT DESIGN AND ENGINEERING SERVICES
LICENSED PROFESSIONAL ENGINEER FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

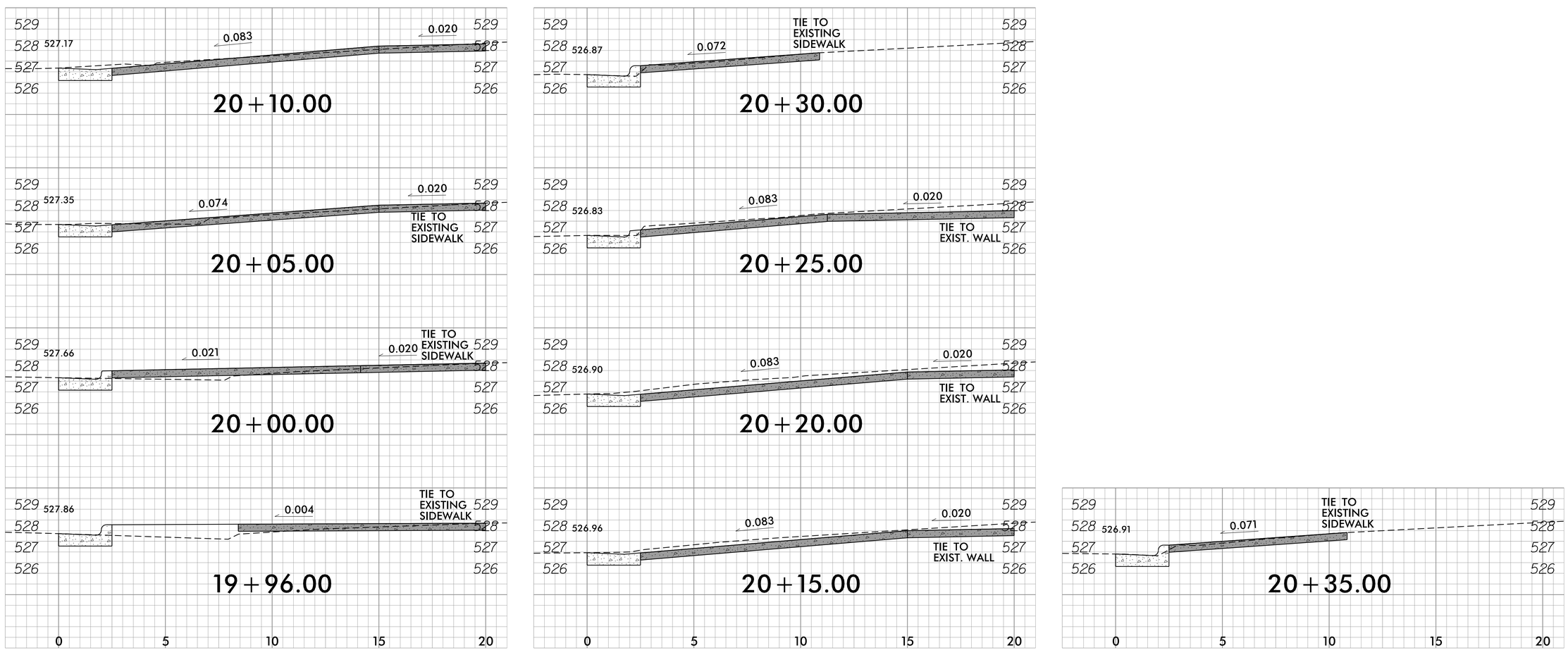


NW CORNER OF CHURTON ST. AND W. MARGARET LN. INTERSECTION, SEE PSH 5.

PROPOSED SIDEWALK OUTSIDE OF CONCRETE CURB RAMP TO BE PAID BY SQUARE YARD.

NON-SHADED CURB RAMPS TO BE PAID PER EACH.

0 2.5 5



REVISIONS

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jessicaquiz\jessi

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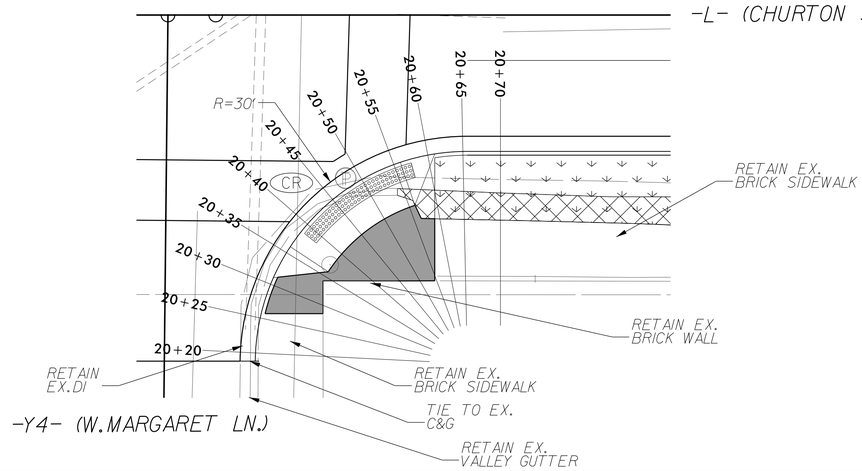
PROJECT REFERENCE NO.	SHEET NO.
U-5549	2B-6

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 034371 ENGINEER BRANDON W. JOHNSON
10/14/2015

Brandon W. Johnson

Prepared in the Office of:
SUMMIT DESIGN AND ENGINEERING SERVICES
C-0558 NC BELS LICENSE No. P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)



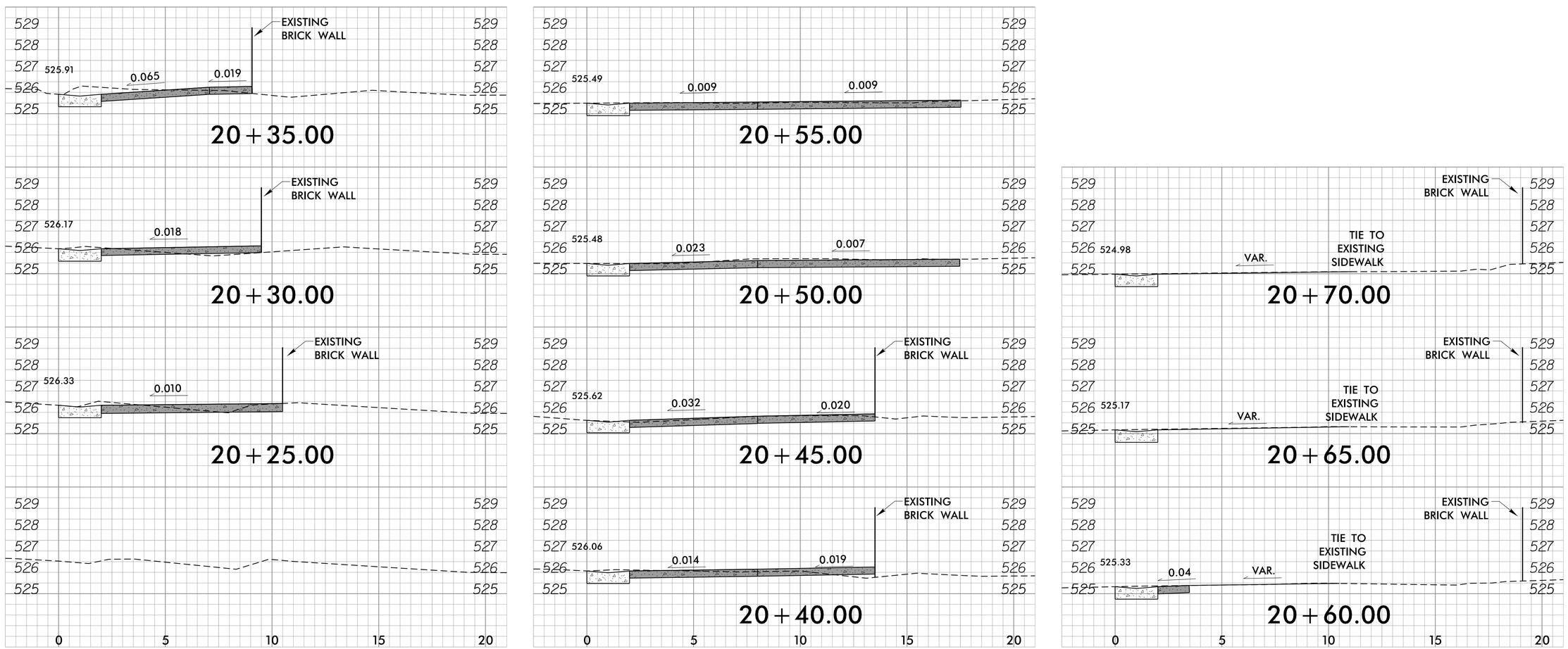
SW CORNER OF CHURTON ST.AND W.MARGARET LN.INTERSECTION, SEE PSH 5.

PROPOSED SIDEWALK OUTSIDE OF CONCRETE CURB RAMP TO BE PAID BY SQUARE YARD.

NON-SHADED CURB RAMPS TO BE PAID PER EACH.

REMOVE EX.DRIVEWAY APRON

0 2.5 5



REVISIONS

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jessica.polaszuski

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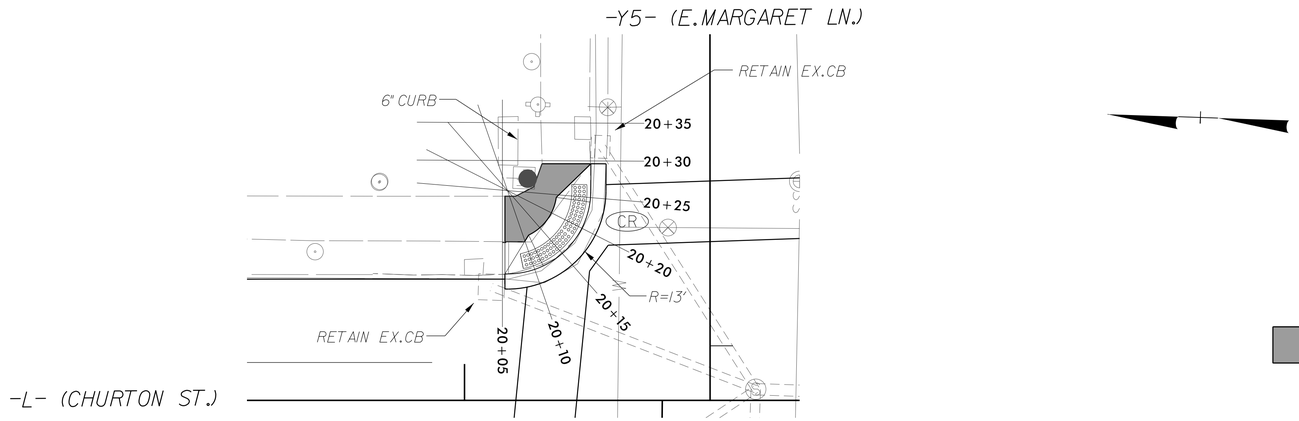
PROJECT REFERENCE NO.	SHEET NO.
U-5549	2B-7

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 034371 ENGINEER BRANDON W. JOHNSON
10/14/2015
Brandon W. Johnson

Prepared in the Office of:
SUMMIT DESIGN AND ENGINEERING SERVICES
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)
CORPORATE LICENSE No: P-0339

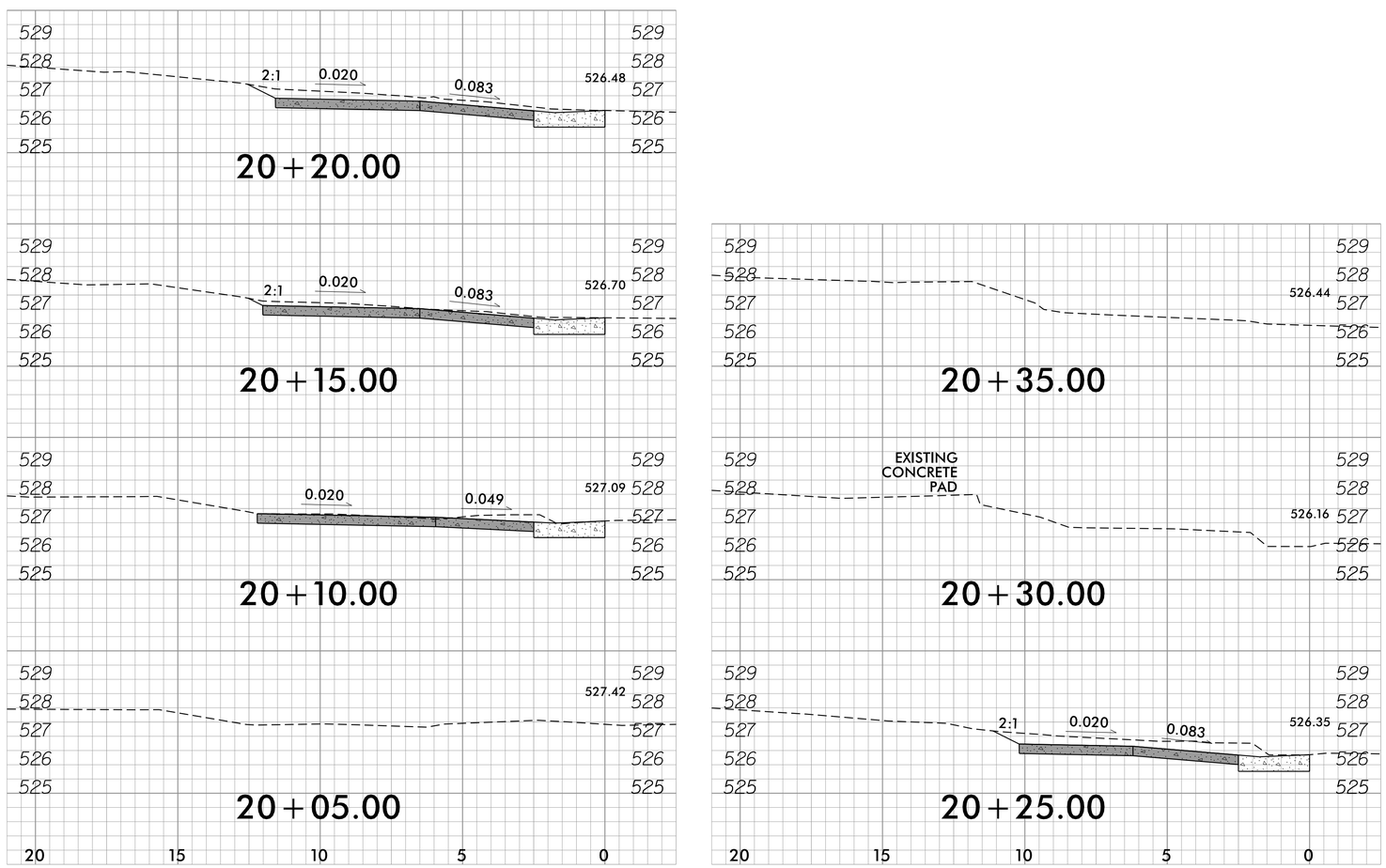


NE CORNER OF CHURTON ST. AND E.MARGARET LN. INTERSECTION, SEE PSH 5.

PROPOSED SIDEWALK OUTSIDE OF CONCRETE CURB RAMP TO BE PAID BY SQUARE YARD.

NON-SHADED CURB RAMPS TO BE PAID PER EACH.

0 2.5 5



REVISIONS

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jessicaquiz/jaskt

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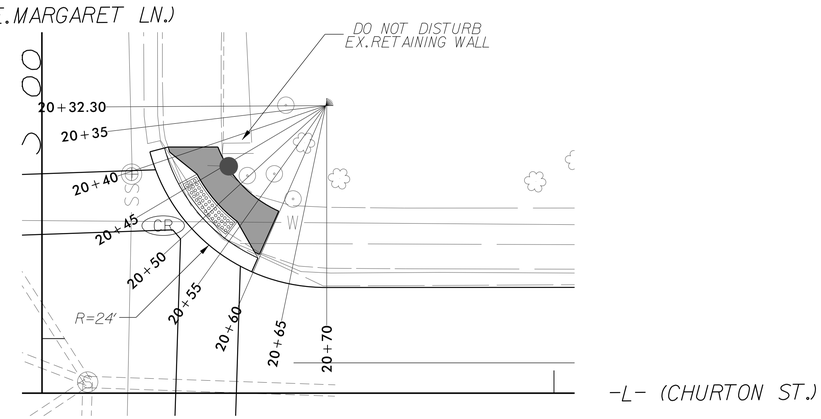
PROJECT REFERENCE NO.	SHEET NO.
U-5549	2B-8

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 034371 ENGINEER BRANDON W. JOHNSON
10/14/2015

Brandon W. Johnson

Prepared in the Office of:
SUMMIT DESIGN AND ENGINEERING SERVICES
LICENSE No. P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)



SE CORNER OF CHURTON ST.AND E.MARGARET LN.INTERSECTION, SEE PSH 5.

PROPOSED SIDEWALK OUTSIDE OF CONCRETE CURB RAMP TO BE PAID BY SQUARE YARD.

NON-SHADED CURB RAMPS TO BE PAID PER EACH.

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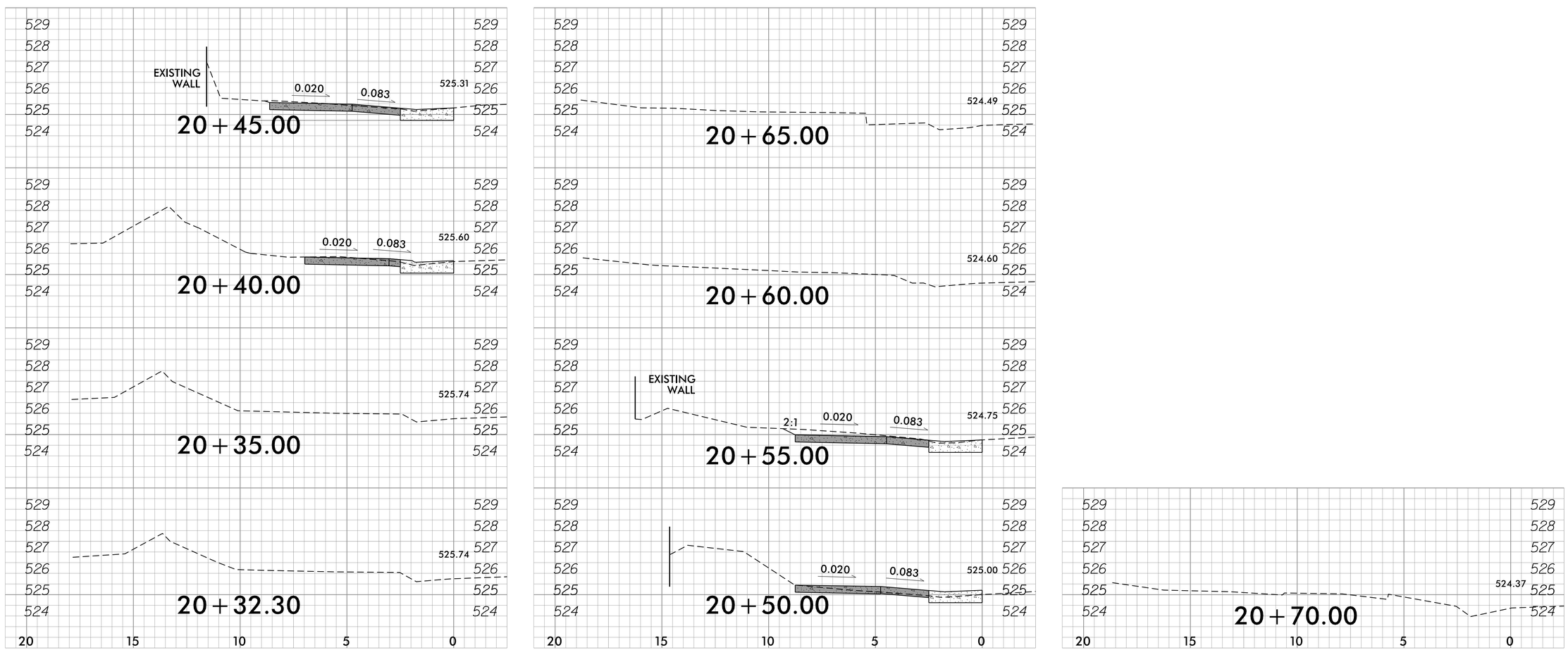

REVISIONS

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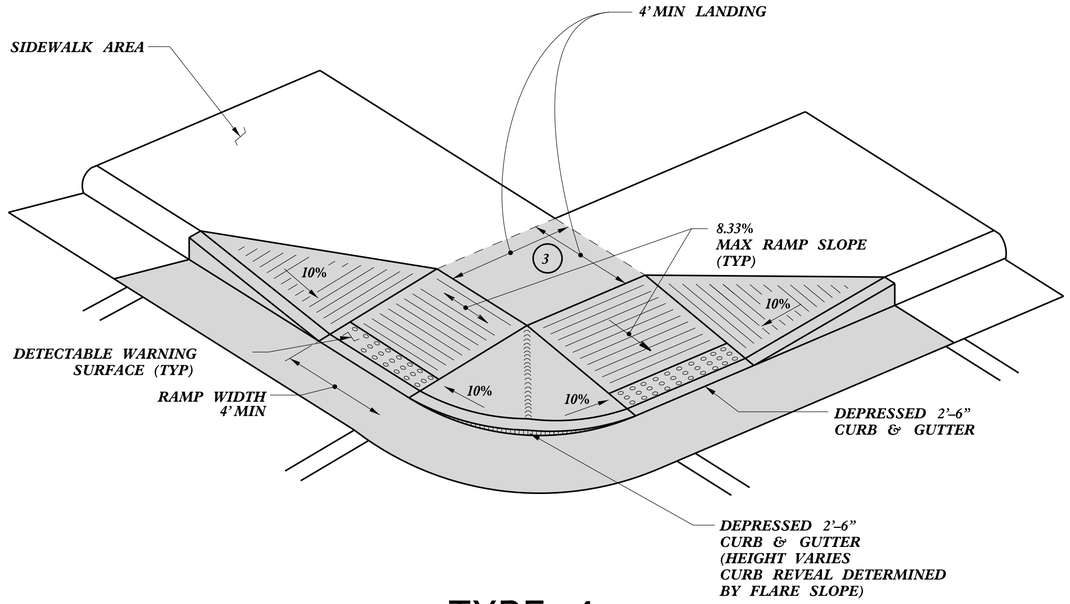
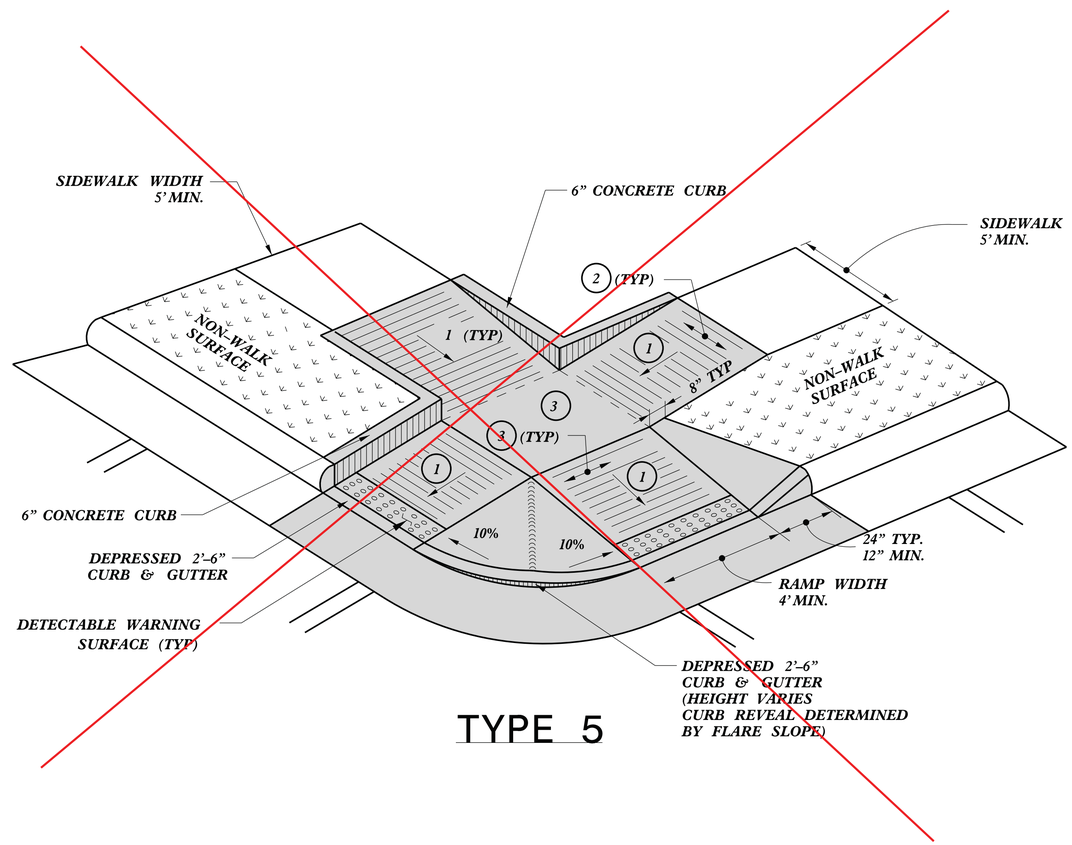
jessicaquiz/jessi

PROJECT REFERENCE NO.	SHEET NO.
U-5549	2C-1

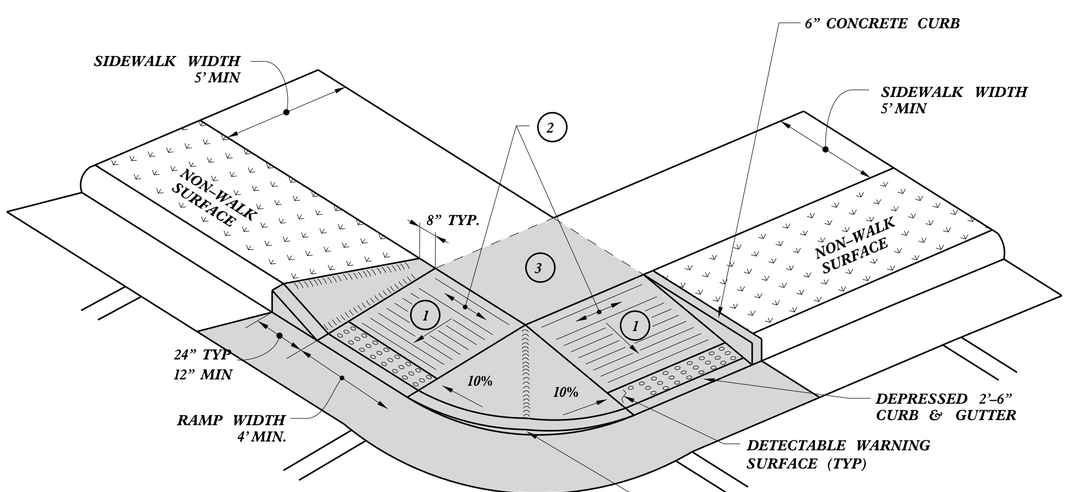
PAY LIMITS FOR CURB RAMP



TYPE 4



TYPE 5



TYPE 4A

1. 8.33% (12:1) MAX RAMP SLOPE
2. CROSS SLOPE: 2.00%
3. CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

CURB RAMPS

Shared Landing

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: DATE:
CHECKED BY: DATE:
FILE SPEC.: stds/2012CurbRamp/CurbRampDetails.dgn

5/14/99
22-MAR-2012 15:08
S:\Contracts\Contracts\Special Details\jhowerton\Standard Drawings\2012 Standard Drawings\2012 Curb Ramp Special Details\Curb Ramp Details.dgn
jhowerton AT CSDZ37501

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PROJECT REFERENCE NO.	SHEET
U-5549	2H-1

GEOENVIRONMENTAL ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 31499 CYRUS F. PARKER

DocuSigned by: Cyrus F. Parker

C96492A5B9A7... SIGNATURE DATE

ENGINEER

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 034371 BRANDON W. JOHNSON

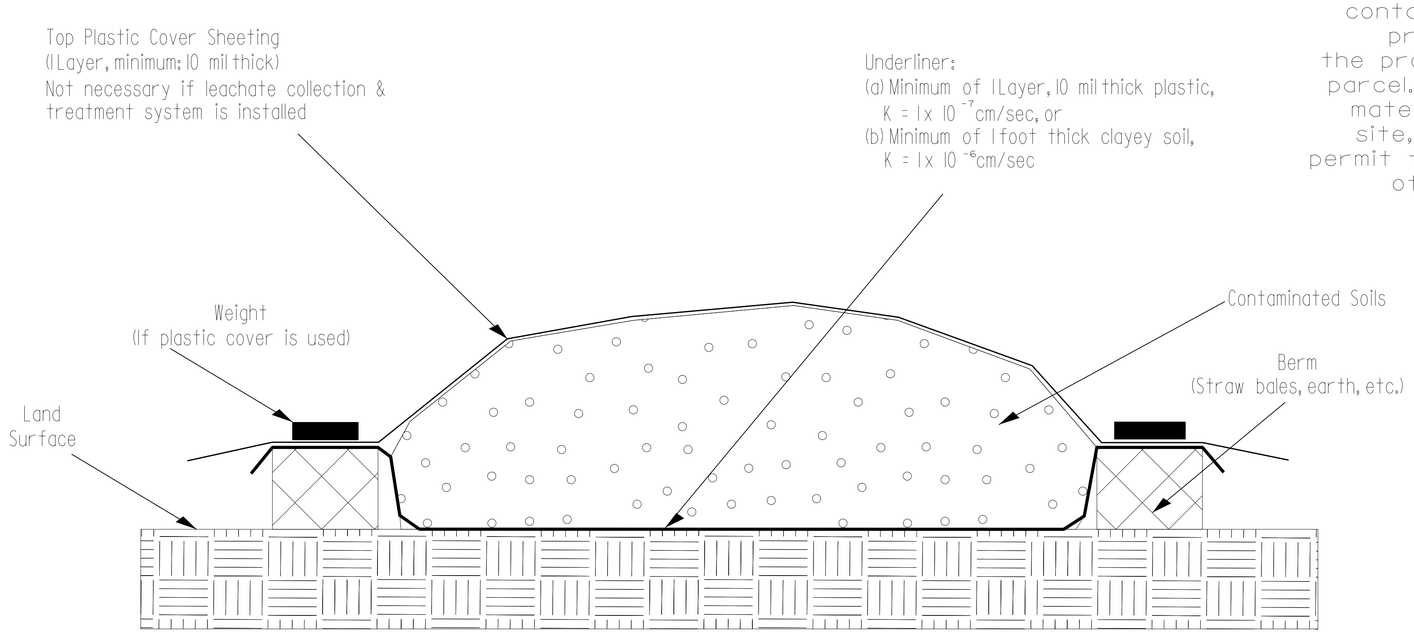
DocuSigned by: Brandon W. Johnson

6A29A28B0A1... SIGNATURE DATE

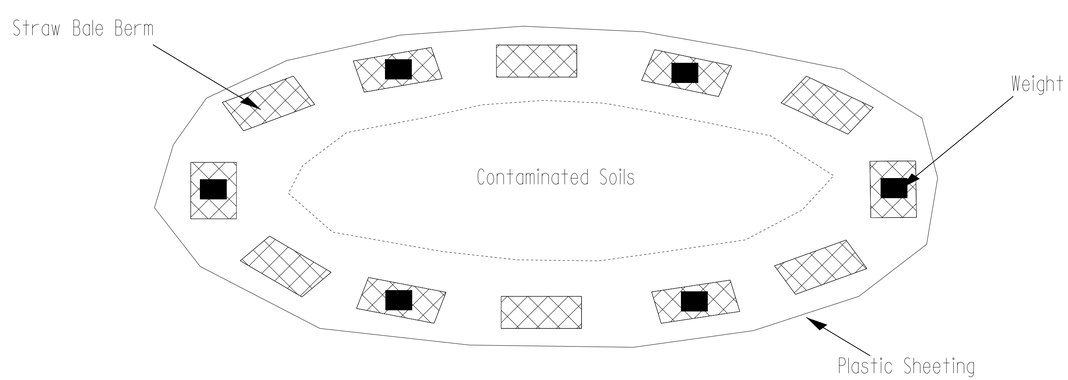
Detail for Temporary Containment of Contaminated Soil

Cross-Section View

NOTE:
The Contractor shall stockpile all contaminated soil excavated from a property in a location within the property boundaries of the source parcel. If the volume of contaminated material exceeds available space on site, the Contractor shall obtain a permit from the NCDENR UST Section for off-site temporary storage.



Map View



PREPARED BY:	DATE:
REVIEWED BY:	DATE:

GEOTECHNICAL ENGINEERING UNIT

☐ EASTERN REGIONAL OFFICE
☐ WESTERN REGIONAL OFFICE
☒ CONTRACT OFFICE

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STOCKPILE CONTAINMENT DETAIL

REVISIONS

NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		

5/28/99

PROJECT REFERENCE NO.	SHEET NO.
U-5549	3B-1

STATE OF NORTH CAROLINA

TOWN OF HILLSBOROUGH

STATION	LOCATION (LT,RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL	DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) 8"	12"	15"	18"	24"	30"	36"	42"
14+77	RT							100							
15+41	RT							36							
15+56	RT														
16+16	RT														
16+75	RT														
16+76	RT														
16+78	RT														
16+85	RT														
16+92	RT														
17+29	RT														
18+93	RT							164							
19+73	RT														
19+84	RT														
19+94	RT														
19+95	RT														
20+02	RT														
20+82	LT														
20+82	LT														
TOTALS								300							

STATION	C.S. PIPE (UNLESS NOTED OTHRWISE) 12"	15"	18"	24"	24"	30"	30"	36"	36"	42"	42"	48"	48"	CLASS III R.C. PIPE (UNLESS OTHERWISE NOTED) 12"	15"	18"	24"	30"	36"	42"	48"
THICKNESS OR GAUGE	.064	.064	.064	.064		.079		.079		.109		.109									
14+77																					
15+41																					
15+56																					
16+16															120						
16+75																					
16+76															8						
16+78																					
16+85															20						
16+92																					
17+29																					
18+93																					
19+73																					
19+84															24						
19+94																					
19+95															12						
20+02																					
20+82																					
20+82																20					
TOTALS															184	20					

STATION	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	24" SIDE DRAIN PIPE	ENDWALLS STD. 838.01, STD. 838.11 OR STD. 838.80 (UNLESS NOTED OTHERWISE) CU. YDS. R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	LIN. *FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02	FRAME, GRATES AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	
14+77													
15+41													
15+56						1			1		1		
16+16													
16+75						1			1		1		
16+76													
16+78													
16+85													
16+92						1			1		1		
17+29						1			1		1		
18+93													
19+73						1			1		1		
19+84													
19+94						1			1		1		
19+95													
20+02													
20+82						1			1	1			
20+82													
TOTALS						7			7	1	6		

* TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B')

STATION	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME & GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	G.D.I. TYPE "D" STD. 840.19 OR 840.28	G.D.I. FRAME WITH GRATE STD. 840.22	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	J.B. STD. 840.31 OR 840.32	G.D.I STD. 840.35 AND 340.20						C.B TO J.B.	CORR. STEEL ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" C.Y. STD 840.72	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	PIPE REMOVAL LIN.FT.	REMARKS
14+77																						
15+41																						
15+56																						
16+16																						
16+75																						
16+76																						
16+78																	1					
16+85																						
16+92																						
17+29																						
18+93																						
19+73																						
19+84																						
19+94																						
19+95																						
20+02																	1					
20+82																						
20+82																						
TOTALS																	2					

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I. (N.S.)	GRATED DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT+20%	BORROW	WASTE
-L- STA. 22+00.00 TO 24+50.00			467	467	
TOTAL			466	466	
ESTIMATED SHOULDER CONSTRUCTION			72	72	
PROJECT TOTALS				538	
5% TO REPLACE TOP SOIL				27	
GRAND TOTALS				564	
SAY				570	

PARCEL INDEX SHEET

PARCEL NO.	OWNER	TYPE	AREA (SF)	AREA (AC)
1	ORANGE COUNTY	ROW	2117.53	0.049
1	ORANGE COUNTY	PDE	480.00	0.011
1	ORANGE COUNTY	TCE	2256.38	0.052

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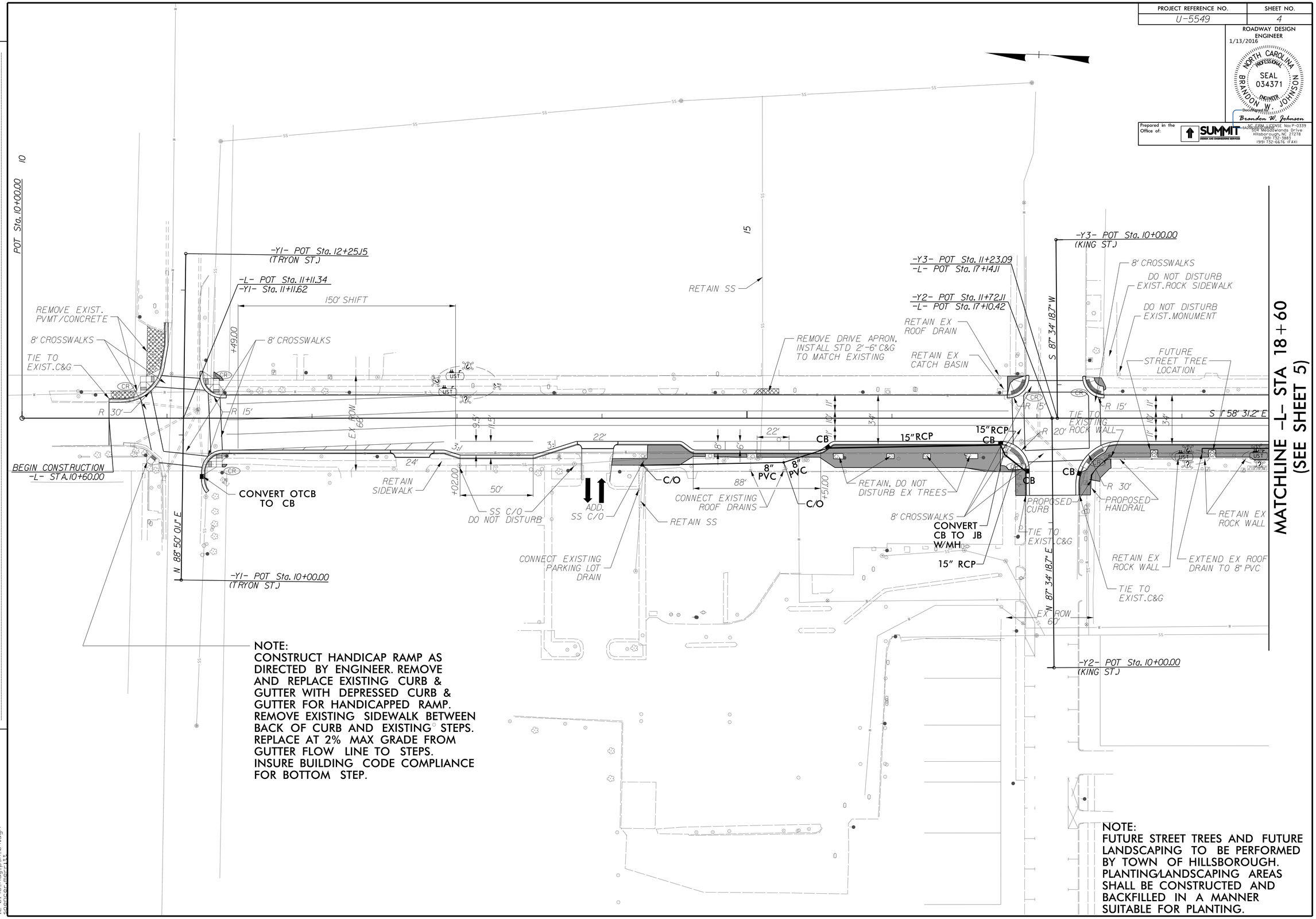
PROJECT REFERENCE NO.	SHEET NO.
U-5549	4

ROADWAY DESIGN ENGINEER
1/13/2016

NORTH CAROLINA PROFESSIONAL SEAL 034371 ENGINEER BRANDON W. JOHNSON

DocuSigned by:
Brandon W. Johnson
6A2C6B1A1E5E4...

Prepared in the Office of:
SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE Nos P-0339 C-2677
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)



NOTE:
CONSTRUCT HANDICAP RAMP AS DIRECTED BY ENGINEER. REMOVE AND REPLACE EXISTING CURB & GUTTER WITH DEPRESSED CURB & GUTTER FOR HANDICAPPED RAMP. REMOVE EXISTING SIDEWALK BETWEEN BACK OF CURB AND EXISTING STEPS. REPLACE AT 2% MAX GRADE FROM GUTTER FLOW LINE TO STEPS. INSURE BUILDING CODE COMPLIANCE FOR BOTTOM STEP.

NOTE:
FUTURE STREET TREES AND FUTURE LANDSCAPING TO BE PERFORMED BY TOWN OF HILLSBOROUGH. PLANTING/LANDSCAPING AREAS SHALL BE CONSTRUCTED AND BACKFILLED IN A MANNER SUITABLE FOR PLANTING.

REVISIONS

12-JAN-2016 10:00
12-JAN-2016 10:00
spencer.parrish

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PROJECT REFERENCE NO.	SHEET NO.
U-5549	5

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 034371 ENGINEER BRANDON W. JOHNSON
10/14/2015
Brandon W. Johnson

Prepared in the Office of:
SUMMIT DESIGN AND ENGINEERING SERVICES
C-0312 NC BOARD OF ARCHITECTURE AND ENGINEERING LICENSE No. P-0339
504 Meadowlands Drive
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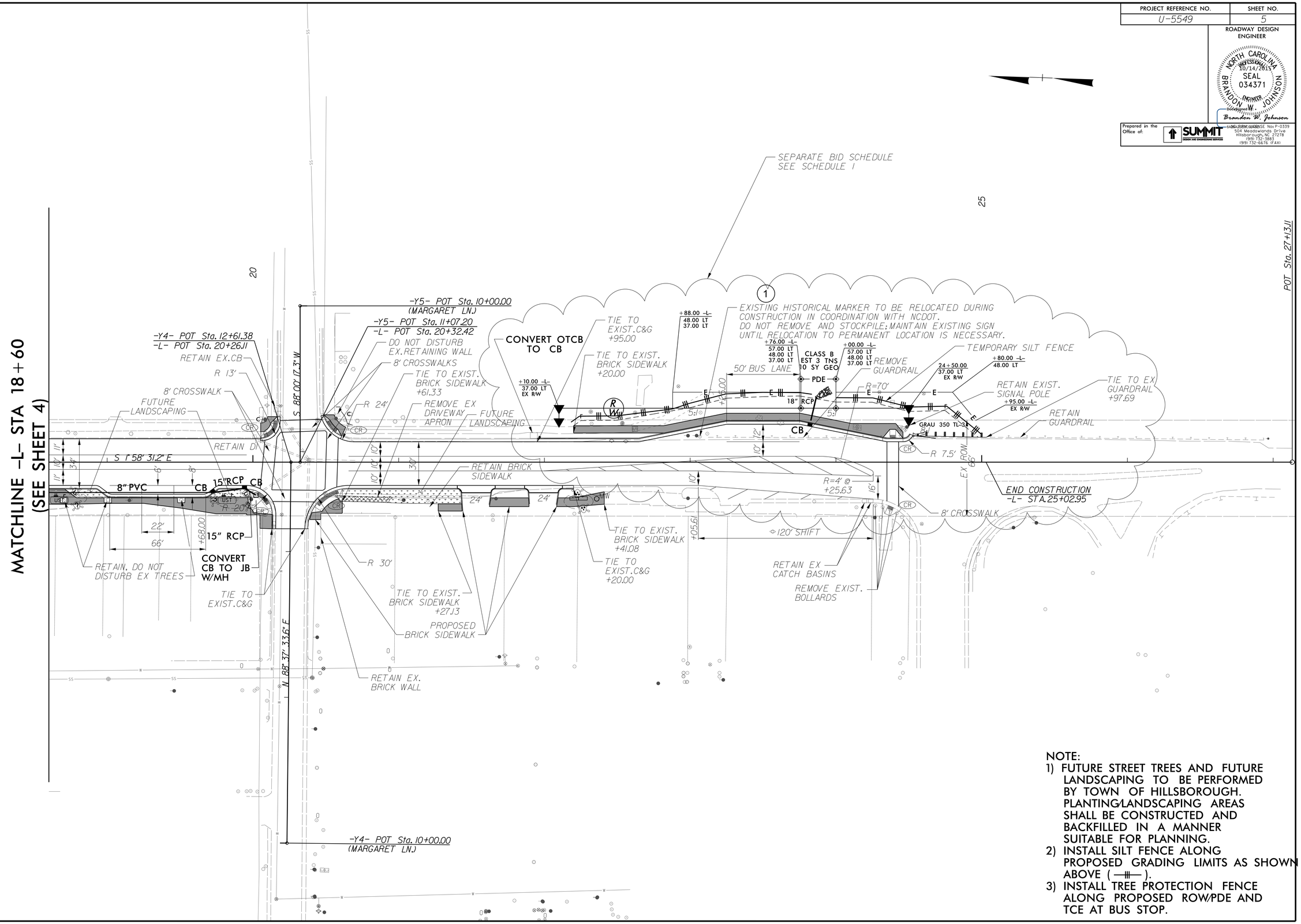
(919) 732-3883
(919) 732-6676 (FAX)



NOTE:
1) FUTURE STREET TREES AND FUTURE LANDSCAPING TO BE PERFORMED BY TOWN OF HILLSBOROUGH. PLANTING/LANDSCAPING AREAS SHALL BE CONSTRUCTED AND BACKFILLED IN A MANNER SUITABLE FOR PLANNING.
2) INSTALL SILT FENCE ALONG PROPOSED GRADING LIMITS AS SHOWN ABOVE (—||—).
3) INSTALL TREE PROTECTION FENCE ALONG PROPOSED ROW/PDE AND TCE AT BUS STOP.

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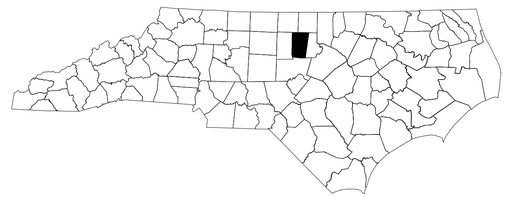
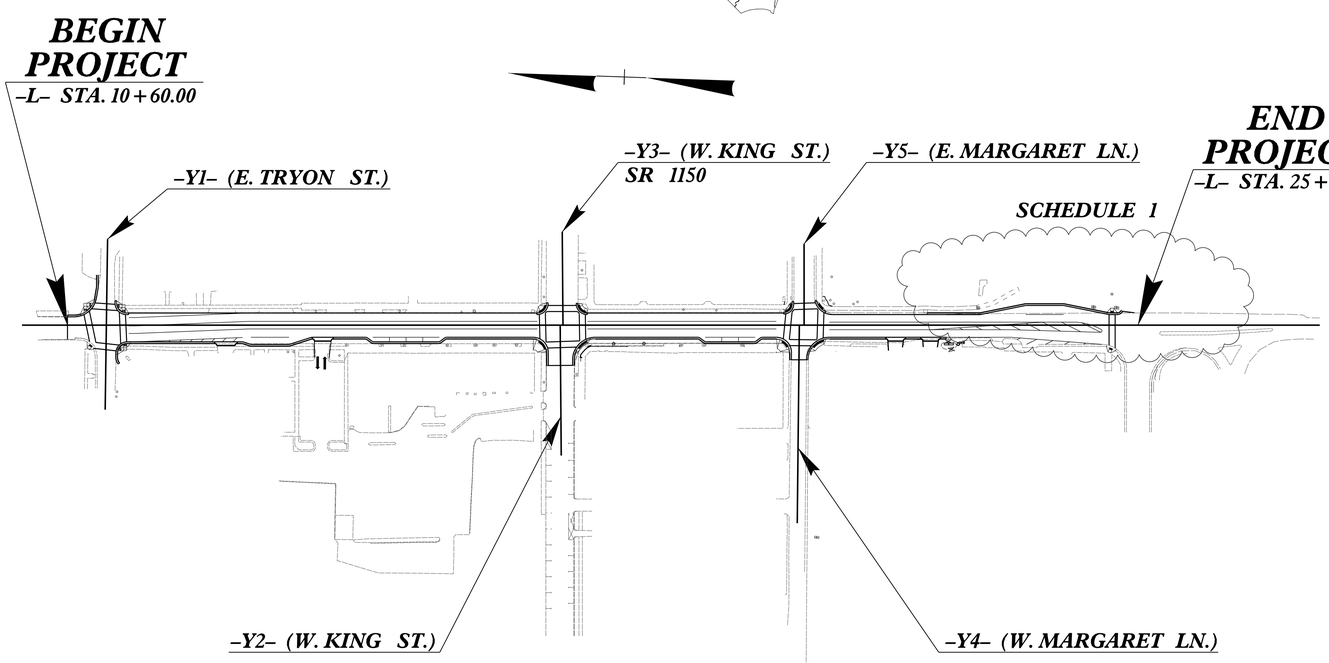
STATE OF NORTH CAROLINA
TOWN OF HILLSBOROUGH

TRANSPORTATION MANAGEMENT PLAN

ORANGE COUNTY





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TRACY N. PARROTT, PE — PROJECT ENGINEER
BRANDON W. JOHNSON, PE — PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, VICINITY MAP AND INDEX OF SHEETS
TMP-1A	TRANSPORTATION OPERATIONS PLAN:MANAGEMENT STRATEGIES, GENERAL NOTES AND PHASING
TMP-2	PEDESTRIAN MANAGEMENT PLAN

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANAUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW BOARDS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	WORK VEHICLE LIGHTING SYSTEMS AND TMA DELINEATION
1180.01	SKINNY - DRUM
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO LANE AND MULTILANE ROADWAYS
1205.03	PAVEMENT MARKINGS - EXITS AND ENTRANCE RAMPS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.07	PAVEMENT MARKINGS - PEDESTRIAN CROSSWALKS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1205.10	PAVEMENT MARKINGS - SCHOOL AREAS
1205.11	PAVEMENT MARKINGS - RAILROAD CROSSINGS
1205.12	PAVEMENT MARKINGS - BRIDGES
1205.13	PAVEMENT MARKINGS - LANE REDUCTIONS
1264.01	OBJECT MARKERS - TYPES
1264.02	OBJECT MARKERS - INSTALLATION

APPROVED: DocuSigned by: Tracy N. Parrott
DATE: 10/14/2015

SEAL — NORTH CAROLINA PROFESSIONAL SEAL 23100 ENGINEER TRACY NEAL PARROTT

SHEET NO. TMP-1

U-5549

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PROJ. REFERENCE NO.	SHEET NO.
U-5549	TMP-1A

TRAFFIC CONTROL DETAILS & NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSION 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 MONDAY THROUGH FRIDAY FROM 7 A.M. TO 9 A.M., AND 4 P.M. TO 6 P.M.
B) DO NOT CLOSE TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS.

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

LANE CLOSURE AND SHOULDER REQUIREMENTS

A) 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.
B) 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.
C) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

PAVEMENT EDGE DROP OFF REQUIREMENTS

A) BACKFILL, AT A SLOPE OF 6:1, UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP–OFF AS FOLLOWS:
   1. BACKFILL DROP–OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.
   2. BACKFILL DROP–OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.
   3. BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.
B) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8–11) 1000 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

SIGNING

A) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
B) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERNS.

PAVEMENT MARKINGS

A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL ROADWAY SURFACES.
B) INSTALL TEMPORARY PAVEMENT MARKINGS ON INTERIM LAYERS OF PAVEMENT.
C) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.
D) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS BY THE END OF EACH DAY'S OPERATION.

TRAFFIC PATTERN ALTERATIONS

A) NOTIFY THE ENGINEER TWENTY ONE CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATIONS.

NOTIFICATION AND COORDINATION OF OPERATIONS

A) PROVIDE THE TOWN A MINIMUM OF 48 HOUR NOTICE PRIOR TO BEGINNING WORK ON THE PROJECT INITIALLY AND PRIOR TO BEGINNING EACH PHASE OF CONSTRUCTION.
B) THE TOWN OR ITS REPRESENTATIVE WILL PROVIDE PRIMARY COORDINATION WITH ADJACENT BUSINESSES AND PROPERTY OWNERS.
C) COMPLETE AN ACTIVE PHASE PRIOR TO BEGINNING A SUBSEQUENT PHASE.
D) CONDUCT ALL OPERATIONS IN A MANNER TO MINIMIZE IMPACTS TO BUSINESSES AND PROPERTIES.

PHASING

PHASE I

STEP 1:
ERECT ADVANCED WORK ZONE SIGNS IN ACCORDANCE WITH ROADWAY STANDARD (RDWY STD) 1101.01 SHEET 2 ON THE FOLLOWING ROADWAYS:
* –L– CHURTON ST
* –Y1– TRYON ST
* –Y2 & Y3– KING ST
* –Y4 & Y5– MARGARET LN

STEP 2:
PLACE DRUMS ALONG CONSTRUCTION LIMITS ALONG CHURTON STREET SPACED ACCORDING TO 2012 NCDOT STANDARD SPECIFICATIONS (STD SPEC) 1130–3. PERMIT ACCESS TO BUSINESSES AND INTERSECTING ROADS.

STEP 3:
PROVIDE AND DEPLOY PORTABLE DYNAMIC MESSAGE SIGNS (DMS) IN ADVANCE OF WORK ZONE AND PRIOR TO LANE CLOSURE. DISPLAY MESSAGES RELATIVE TO CURRENT OPERATIONS TO PROVIDE MOTORISTS OPPORTUNITY TO CHOOSE ALTERNATE ROUTES.

STEP 4:
INSTALL TEMPORARY LANE CLOSURES AS NEEDED FOR CONSTRUCTION IN ACCORDANCE WITH ROADWAY STANDARD (RDWY STD) 1101.02

PHASE II

CONSTRUCT IMPROVEMENTS RIGHT OF –L– FROM STATION 10+60.00 TO 17+10.42. MAINTAIN ACCESS TO BUSINESSES.

PHASE III

CONSTRUCT IMPROVEMENTS RIGHT OF –L– FROM STATION 17+10.42 TO 25+02.95. MAINTAIN ACCESS TO BUSINESSES.

PHASE IV

CONSTRUCT BUS LANES AND RADII IMPROVEMENTS LEFT OF –L– FROM STATION 10+60.00 TO 25+02.95. ALTERNATE CONSTRUCTION OF INTERSECTION RADII TO FACILITATE PEDESTRIAN CROSSING AND ACCESS DURING THIS PHASE. MAINTAIN ACCESS TO BUSINESSES.

PHASE V

REMOVE ALL CONFLICTING EXISTING PAVEMENT MARKINGS. COMPLETE PROPOSED PAVEMENT MARKINGS AND CROSSWALKS IN ACCORDANCE WITH PLANS.

APPROVED DocuSigned by: Tracy N. Parrott DATE: 3/24/2016

SEAL — NORTH CAROLINA PROFESSIONAL SEAL 23100 ENGINEER TRACY NEAL PARROTT

DIVISION OF HIGHWAYS — STATE OF NORTH CAROLINA — DEPARTMENT OF TRANSPORTATION — WORK ZONE TRAFFIC CONTROL

TRAFFIC CONTROL DETAILS, NOTES, AND PHASING

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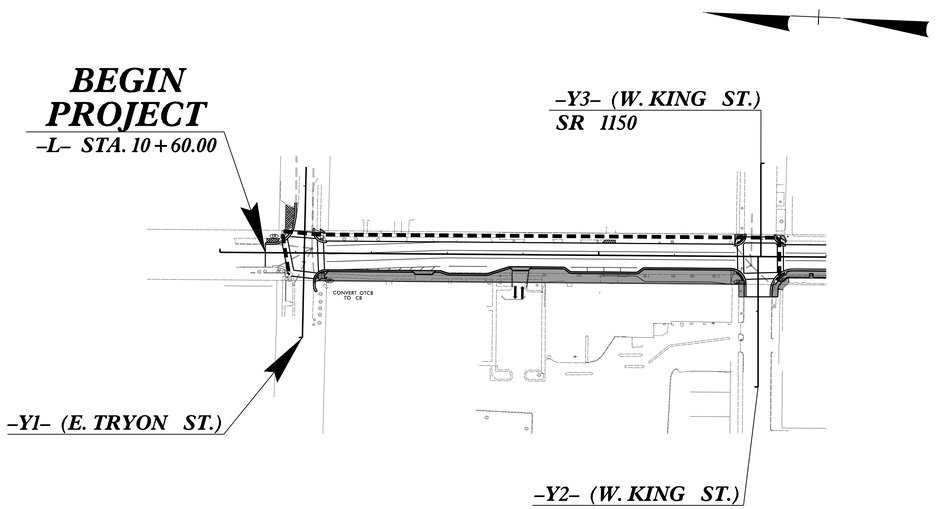
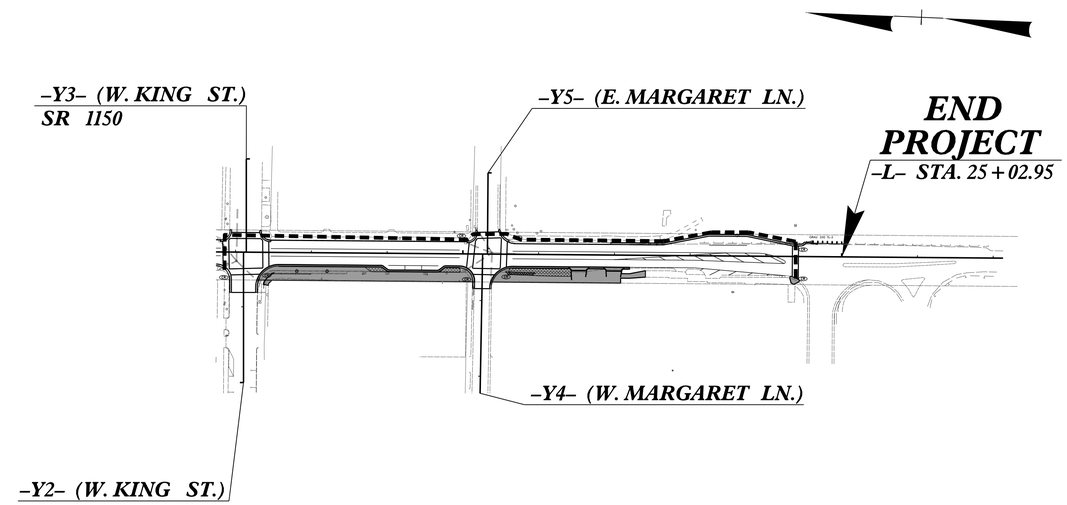
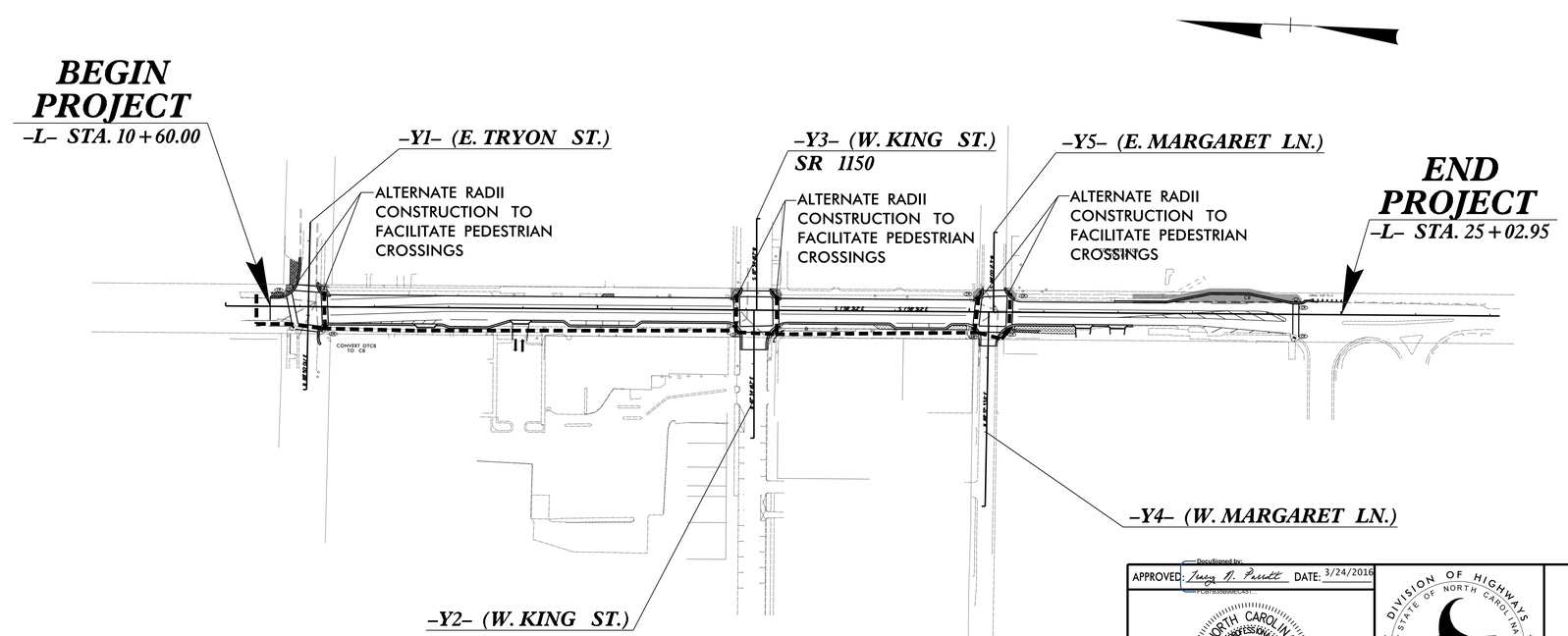
PEDESTRIAN MANAGEMENT PLAN



PHASE II --- PEDESTRIAN DETOUR



PHASE III --- PEDESTRIAN DETOUR



PHASE IV --- PEDESTRIAN DETOUR

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SEAL

NORTH CAROLINA PROFESSIONAL SEAL 23100 ENGINEER TRACY NEAL PARROTT

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION WORK ZONE TRAFFIC CONTROL

TRAFFIC CONTROL DETAILS, NOTES, AND PHASING

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TIP PROJECT: U-5549

CONTRACT:

STATE OF NORTH CAROLINA
TOWN OF HILLSBOROUGH

ORANGE COUNTY

LOCATION: S CHURTON STREET FROM KING STREET TO SOUTH OF MARGARET LANE

TYPE OF WORK: PAVING, DRAINAGE, CURB & GUTTER & SIDEWALK

TIP NO.	SHEET NO.
U-5549	PMP-1

APPROVED: DocuSigned by: Brandon W. Johnson 6A29A2BE0C9845E...

DATE: 10/14/2015

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 034371 ENGINEER BRANDON W. JOHNSON

GENERAL NOTES

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.

A) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
CHURTON STREET	PAINT	NONE

B) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

C) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS BY THE END OF EACH DAYS OPERATION.

D) STOP BAR LOCATION AT NON-SIGNALIZED INTERSECTIONS MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER.

E) SEE ROADWAY PLANS FOR ALTERNATE CURB RAMP DESIGNS WHEN INDICATED ON PAVEMENT MARKING DETAIL SHEETS.

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION
PAINT (24")	
P2	WHITE STOPBAR
PAINT (8")	
PO	WHITE DIAGONAL
PP	YELLOW DIAGONAL
PQ	WHITE CROSSWALK LINE
PAINT (4")	
PA	WHITE EDGE LINE
P8	2 FT - 6 FT/SP WHITE MINI SKIP
PD	3 FT - 9 FT/SP WHITE MINI SKIP
PE	WHITE SOLID LANE LINE
PF	10 FT YELLOW SKIP
PI	YELLOW DOUBLE CENTER
PAINT PAVEMENT MARKING SYMBOLS	
QA	LEFT TURN ARROW
QE	COMBO STRAIGHT/RIGHT ARROW
PAINT PAVEMENT MARKING CHARACTERS	
QI	ALPHANUMERIC CHARACTER

CHURTON STREET MARKINGS

SYMBOL	DESCRIPTION	QUANTITY
PAINT (24")		
P2	WHITE STOPBAR	430 LF
PAINT (8")		
PO	WHITE DIAGONAL	165 LF
PP	YELLOW DIAGONAL	295 LF
PQ	WHITE CROSSWALK LINE	1,890 LF
PAINT (4")		
P8	2 FT - 6 FT/SP WHITE MINI SKIP	75 LF
PD	3 FT - 9 FT/SP WHITE MINI SKIP	260 LF
PE	WHITE SOLID LANE LINE	1,000 LF
PF	10 FT YELLOW SKIP	1,110 LF
PI	YELLOW DOUBLE CENTER	4,575 LF
PAINT (4")		
PA	WHITE EDGE LINE	1,195 LF
PAINT PAVEMENT MARKING SYMBOLS		
QA	LEFT TURN ARROW	10 EA
QE	COMBO. RIGHT/STRAIGHT ARROW	6 EA
PAINT PAVEMENT MARKING CHARACTERS		
QI	ALPHANUMERIC CHARACTERS "BUS ONLY"	14 EA

ROADWAY STANDARD DRAWING

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1205.01	PAVEMENT MARKINGS - LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS - TWO-LANE AND MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - LANE DROPS
1205.08	PAVEMENT MARKINGS - SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS

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TRACY N. PARROTT, PE — PROJECT ENGINEER
BRANDON W. JOHNSON, PE — PROJECT DESIGN ENGINEER

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

INDEX

PMP-1 PAVEMENT MARKING PLAN TITLE AND SCHEDULE SHEET
PMP-2-3 PAVEMENT MARKING DETAIL SHEETS

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PROJECT REFERENCE NO.	SHEET NO.
U-5549	PMP-2

PAVEMENT MARKING ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 034371 ENGINEER BRANDON W. JOHNSON

10/14/2015

Brandon W. Johnson

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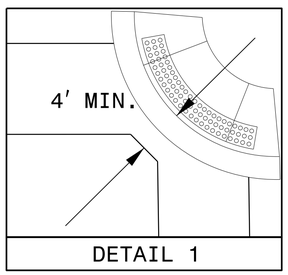
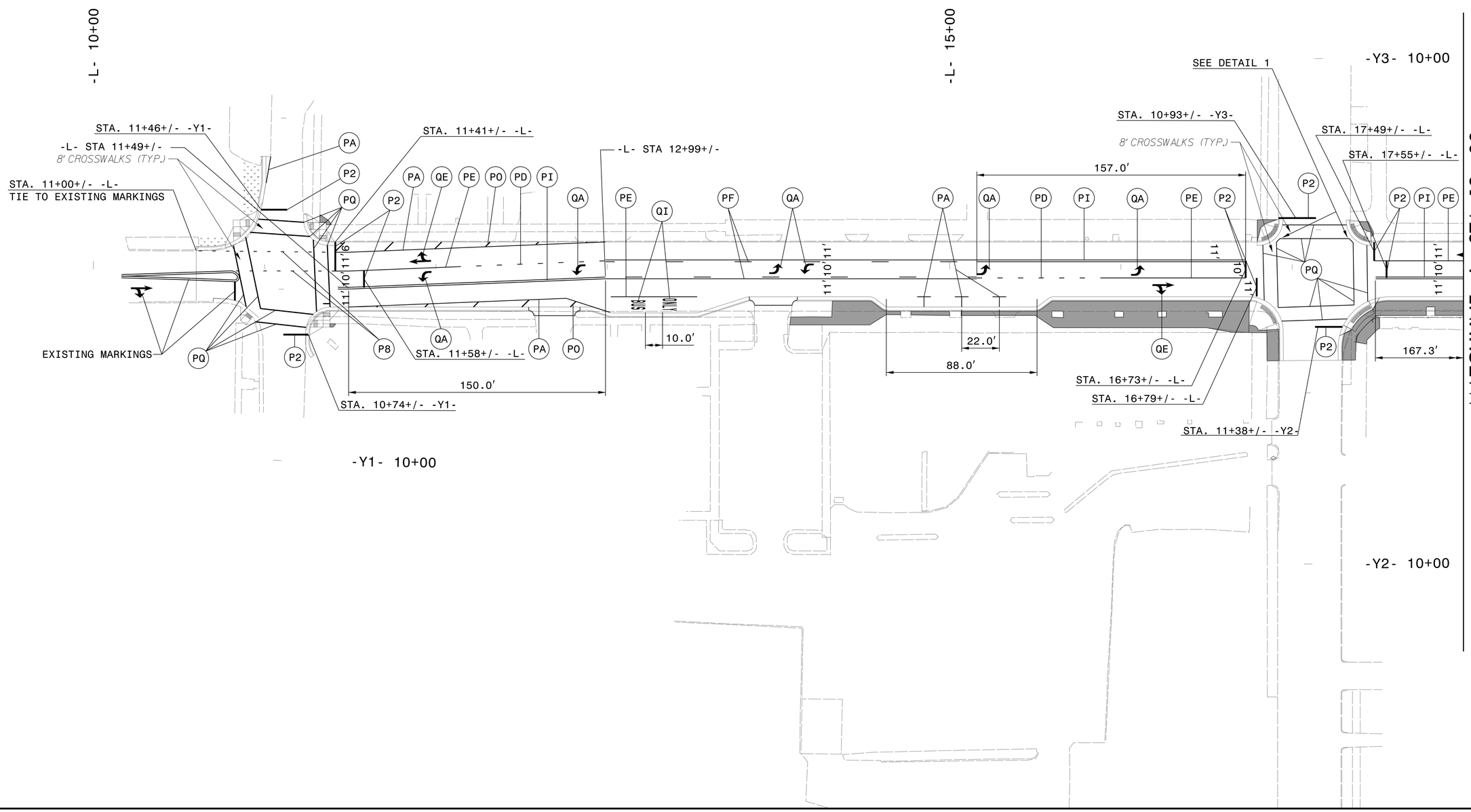


DETAIL 1



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PROJECT REFERENCE NO.	SHEET NO.
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PAVEMENT MARKING ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 034371 ENGINEER BRANDON W. JOHNSON
10/14/2015

Brandon W. Johnson

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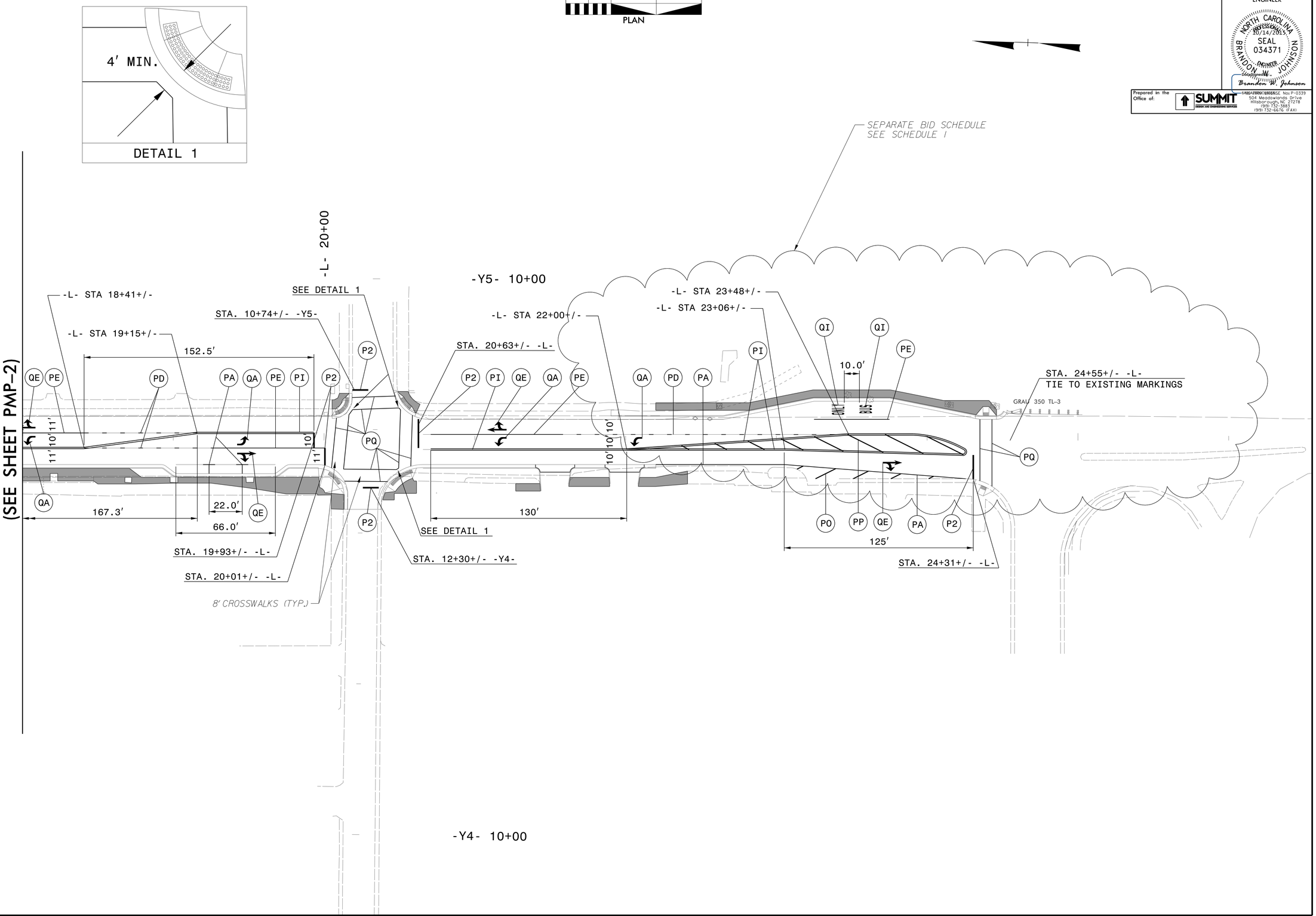

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PROJECT REFERENCE NO.	SHEET NO.
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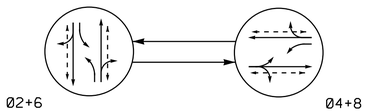
PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

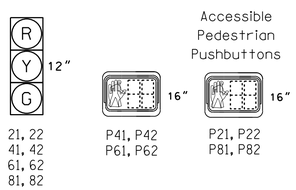
SIGNAL FACE	PHASE 02+6	PHASE 04+8	FLASH
21, 22	G	R	Y
41, 42	R	G	R
61, 62	G	R	Y
81, 82	R	G	R
P21, P22	W	DW	DRK
P41, P42	DW	W	DRK
P61, P62	W	DW	DRK
P81, P82	DW	W	DRK

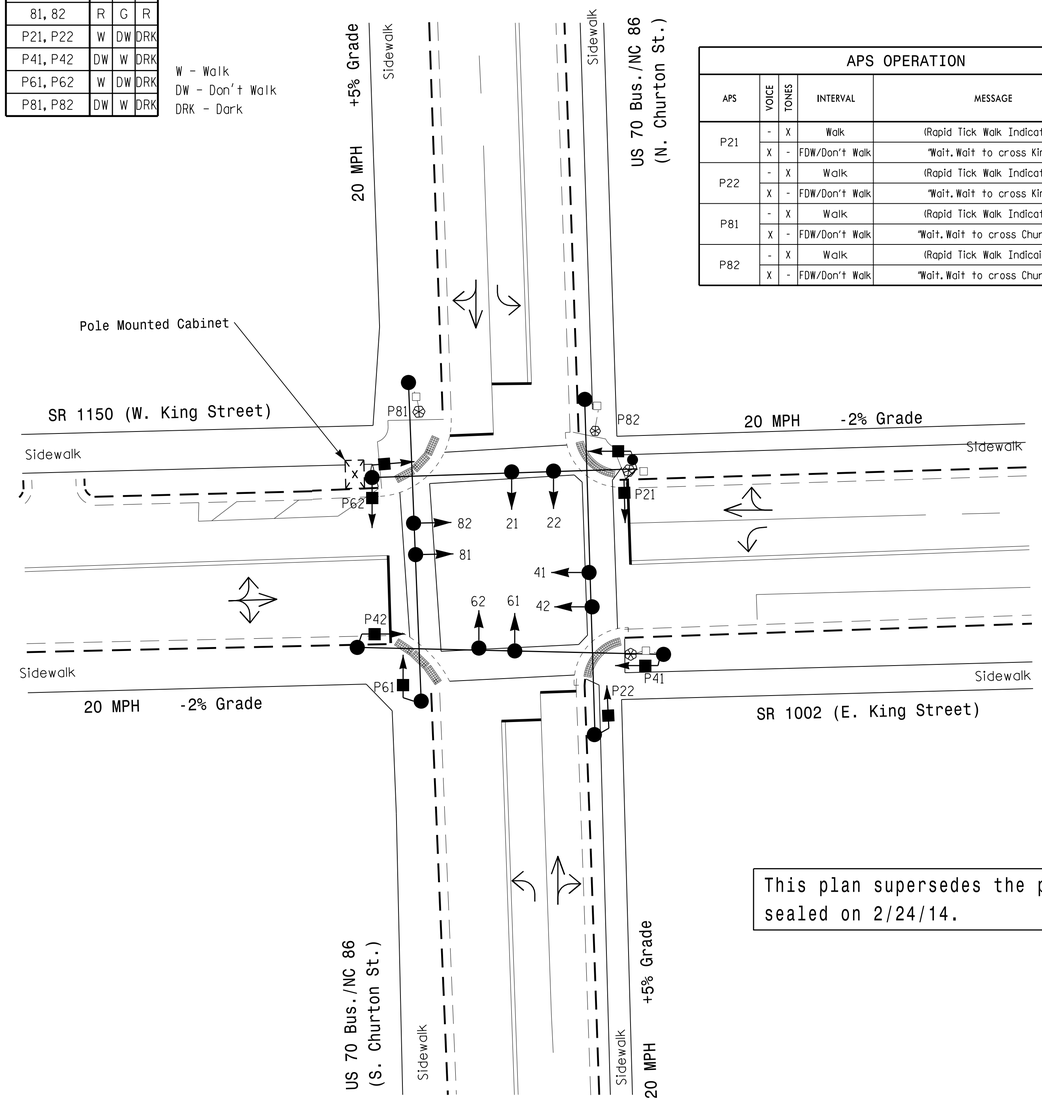
W - Walk
DW - Don't Walk
DRK - Dark

2 Phase
Pre-Timed
(Hillsborough CBD CLS)

SIGNAL FACE I.D.

All Heads L.E.D.





APS OPERATION

APS	VOICE	TONES	INTERVAL	MESSAGE
P21	-	X	Walk	(Rapid Tick Walk Indication)
	X	-	FDW/Don't Walk	"Wait. Wait to cross King."
P22	-	X	Walk	(Rapid Tick Walk Indication)
	X	-	FDW/Don't Walk	"Wait. Wait to cross King."
P81	-	X	Walk	(Rapid Tick Walk Indication)
	X	-	FDW/Don't Walk	"Wait. Wait to cross Churton."
P82	-	X	Walk	(Rapid Tick Walk Indicaiton)
	X	-	FDW/Don't Walk	"Wait. Wait to cross Churton."

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. This intersection features accessible pedestrian signals utilizing a percussive tone walk indication. Refer to section 4E.11 of 2009 MUTCD for tone rate and frequency requirements.
4. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
5. Pedestrian pedestals are conceptual and shown for reference only. See sheets P1-P3 for pushbutton location details.
6. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
7. Closed loop system data: Controller Asset # 0542.

OASIS 2070 TIMING CHART

FEATURE	PHASE 2	PHASE 4	PHASE 6	PHASE 8
Min Green 1 *	10	7	10	7
Extension 1 *	0.0	0.0	0.0	0.0
Max Green 1 *	30	20	30	20
Yellow Clearance	3.0	3.0	3.0	3.0
Red Clearance	2.1	2.1	2.1	1.9
Red Revert	2.0	2.0	2.0	2.0
Walk 1 *	19	10	19	10
Don't Walk 1	11	10	11	10
Seconds Per Actuation *	-	-	-	-
Max Variable Initial *	-	-	-	-
Time Before Reduction *	-	-	-	-
Time To Reduce *	-	-	-	-
Minimum Gap	-	-	-	-
Recall Mode	MAX/PED RECALL	MAX/PED RECALL	MAX/PED RECALL	MAX/PED RECALL
Vehicle Call Memory	-	-	-	-
Dual Entry	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

This plan supersedes the plan sealed on 2/24/14.

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
	Type I Signal Pedestal with Pushbutton and Sign	

Signal Upgrade

Prepared in the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

SCALE 0 20
1"=20'

US 70 Bus./NC 86 (Churton St.)
at
SR 1002/1150 (King Street)

Division 7 Orange County Hillsborough

PLAN DATE: June 2015 REVIEWED BY:
PREPARED BY: G. B. Spell REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 036833 ENGINEER RYAN W. HOUGH
DocuSigned by: Ryan W. Hough 430320FAA2654C3... 6/30/2015
DATE

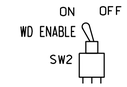
SIG. INVENTORY NO. 07-0542

07-JUL-2015 09:03
S:\TIMS\R4\TS Signals\Signal Design Section\Central Region\Div 7\Churton St\07-0542\070542_sig_dsn_20150630.dgn
rwhough

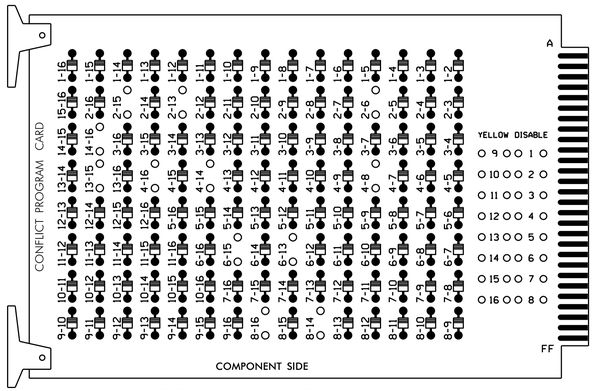
PROJECT REFERENCE NO.	SHEET NO.
SS-4907AZ	Sig. 2.1

EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

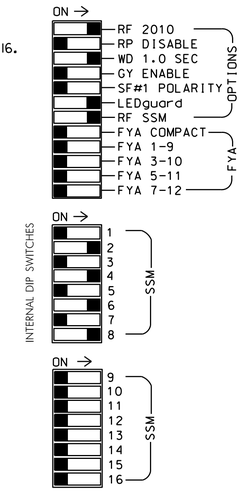
(remove jumpers and set switches as shown)



REMOVE DIODE JUMPERS 2-6, 2-13, 2-15, 4-8, 4-14, 4-16, 6-13, 6-15, 8-14, 8-16, 13-15, and 14-16.



REMOVE JUMPERS AS SHOWN



■ = DENOTES POSITION OF SWITCH

NOTES:

1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Make sure jumpers SEL2-SEL5 are present on the monitor board.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the Signal Plans.
2. Ensure that Red Enable is active at all times during normal operation. To prevent Red Failures on unused monitor channels, tie unused red monitor inputs 1,3,5, 7,9,10,11,12,13,14,15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
3. Enable Simultaneous Gap-Out for all phases.
4. Program phases 2 and 6 for Start Up In Green.
5. Program phases 2, 4, 6 and 8 for 'STARTUP PED CALL'.
6. Program phases 2 and 6 for Yellow Flash.
7. The cabinet and controller are part of the Hillsborough CBD Closed Loop System.

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S2P	S3	S4	S4P	S5	S6	S6P	S7	S8	S8P
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED
SIGNAL HEAD NO.	NU	21,22	P21, P22	NU	41,42	P41, P42	NU	61,62	P61, P62	NU	81,82	P81, P82
RED		128			101			134			107	
YELLOW		129			102			135			108	
GREEN		130			103			136			109	
RED ARROW												
YELLOW ARROW												
GREEN ARROW												
✋			113			104			119			110
🚶			115			106			121			112

NU = Not Used

EQUIPMENT INFORMATION

CONTROLLER.....2070L
CABINET.....336
SOFTWARE.....ECONOLITE OASIS
CABINET MOUNT.....POLE
OUTPUT FILE POSITIONS...12
LOAD SWITCHES USED.....S2,S2P,S4,S4P,S6,S6P,S8,S8P
PHASES USED.....2,2PED,4,4PED,6,6PED,8,8PED
OVERLAPS.....NONE

COUNTDOWN PEDESTRIAN SIGNAL OPERATION

Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

INPUT FILE POSITION LAYOUT

(front view)

FILE "I"	1	2	3	4	5	6	7	8	9	10	11	12	13	14
U	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	SLOT	FS DC ISOLATOR
L	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	ST DC ISOLATOR

EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
ST = STOP TIME

ACCESSIBLE PEDESTRIAN SIGNAL (APS) INSTALLATION NOTES FOR PED2 & PED 8 ONLY

1. Install push buttons for PED 2 and PED 8, and APS equipment per manufacturer's instructions.
2. Provide a dedicated cable to each push button installed in step 1 per manufacturer's instructions.
3. If APS equipment is mounted in cabinet, use filtered power (i.e., Controller Receptacle) to power APS equipment. Do not use Equipment Receptacle, which is a GFCI outlet.
4. Never attempt to operate a standard contact closure push button with the APS system unless cabinet is re-wired for standard button operation or unless explicitly allowed by the manufacturer.
5. Place manufacturer's instructions in cabinet with cabinet prints, signal plans, and electrical details.

THIS ELECTRICAL PLAN SUPERSEDES THE PLAN ORIGINALLY SEALED ON 2/24/14.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 07-0542
DESIGNED: June 2015
SEALED: 6/30/2015
REVISED: N/A

Electrical Detail

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:
Transportation Mobility and Safety Division
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

US 70 Bus./NC 86 (Churton St.)
at
SR 1002/1150 (King Street)

Division 7 Orange County ds Hillsborough

PLAN DATE:	July 2015	REVIEWED BY:	JTR
PREPARED BY:	S. Armstrong	REVIEWED BY:	

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 008453 ENGINEER JOHN T. ROWE, JR.

DocuSigned by:
John T. Rowe, Jr. 7/1/2015
641D60C145EE4F5 DATE

SIG. INVENTORY NO. 07-0542

01-JUL-2015 09:03
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sarmstrong

PROJECT NO.	SHEET NO.
	Sig. P1

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

06-14

ENGLISH DETAIL DRAWING FOR

PEDESTRIAN PUSHBUTTON LOCATIONS

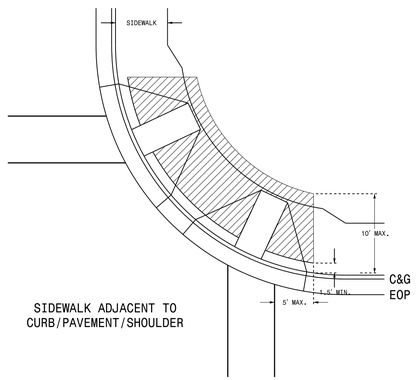
PLACEMENT DETAIL

SHEET 1 OF 3

1705D01

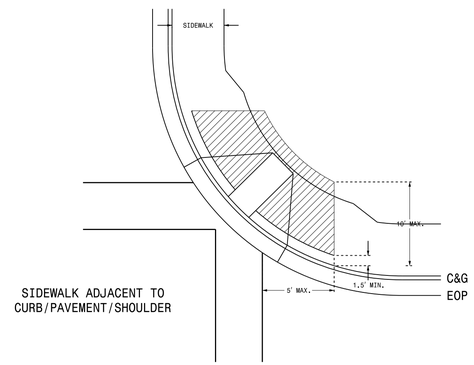
PUSHBUTTON PLACEMENT

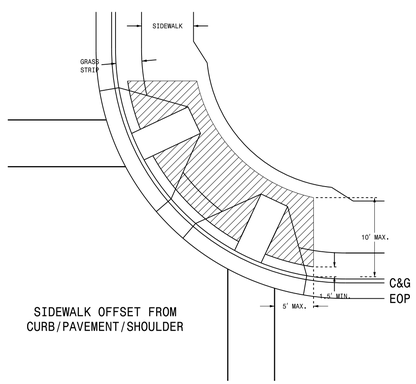
SEPARATE CURB RAMPS

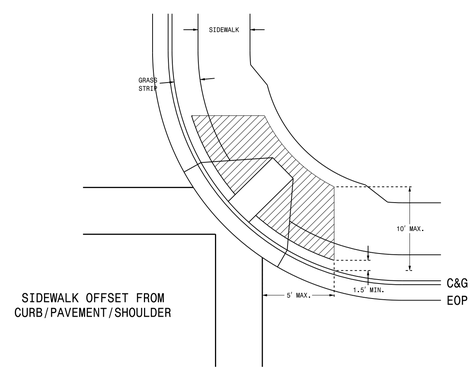


PUSHBUTTON PLACEMENT

SHARED CURB RAMP







NOTES

1. Pushbutton pedestals should not be located further than 10 feet from the edge of curb, shoulder, or pavement.
2. The face of the pushbutton should be parallel to the applicable crosswalk.
3. Separate pushbuttons used on the same corner should be separated by a distance of at least 10 feet.
4. Pushbuttons shall be installed adjacent to a level surface with a maximum reach distance of 10 inches.
5. Maintain 4 feet of clearance around pedestal if located in sidewalk.
6. Refer to section 1705 of the 2012 NCDOT Roadway Standard Drawings for Pushbutton Assembly details.
7. Refer to section 1743 of the 2012 NCDOT Roadway Standard Drawings for Pedestal details.
8. Contact Division Traffic Engineer for pushbutton location approval prior to installation.
9. Curb ramps are for symbolic use only and may not reflect actual design or field conditions.

LEGEND

PROPOSED

- Signal Pole
- Type I Pushbutton Post
- Type II Signal Pedestal
- Pushbutton & Sign
- Pedestrian Signal Head
- Curb Ramp
- Pushbutton Location Area

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

06-14

ENGLISH DETAIL DRAWING FOR

PEDESTRIAN PUSHBUTTON LOCATIONS

PLACEMENT DETAIL

SHEET 1 OF 3

1705D01

See Plate for Title

Prepared in the Offices of:

Transportation Mobility and Safety Division
Signal Design Section
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

750 N. Greenfield Parkway
Garner, NC 27529

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA

DocuSigned by: 1B9B4B9B27A4494 SIGNATURE

6/17/2014 DATE

36-AUG-2014 15:37
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rziemba

PROJECT NO.	SHEET NO.
	Sig. P2

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

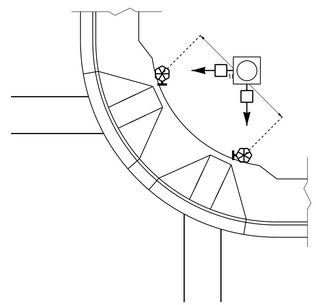
06-14

ENGLISH DETAIL DRAWING FOR
PEDESTRIAN PUSHBUTTON LOCATIONS
PLACEMENT DETAIL

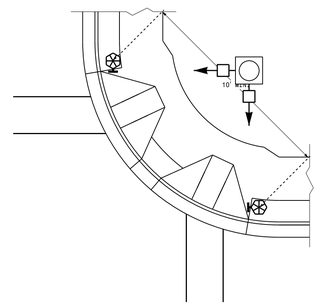
SHEET 2 OF 3
1705D01

TYPICAL PUSHBUTTON LOCATIONS (CASE I)

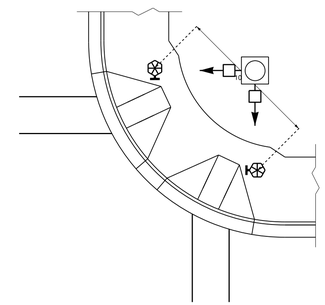
SEPARATE CURB RAMPS W/ TYPE I PEDESTALS



BACK OF SIDEWALK IS WITHIN 10'
OF CURB OR PAVEMENT/SHOULDER



GRASS STRIP PLACEMENT IF BACK
OF SIDEWALK EXCEEDS 10' FROM
CURB OR PAVEMENT/SHOUDLER



PUSHBUTTON PLACEMENT
IN WIDE SIDEWALK

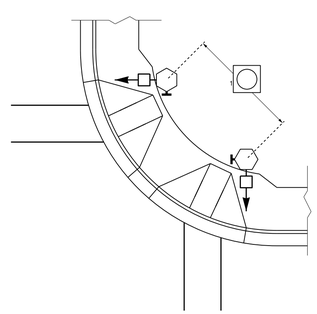
PROPOSED

LEGEND

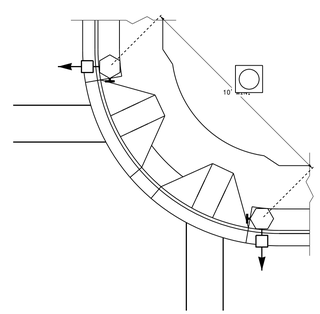
- Signal Pole
- Type I Pushbutton Post
- Type II Signal Pedestal
- Pushbutton & Sign
- Pedestrian Signal Head
- Curb Ramp
- Pushbutton Location Area

TYPICAL PUSHBUTTON LOCATIONS (CASE II)

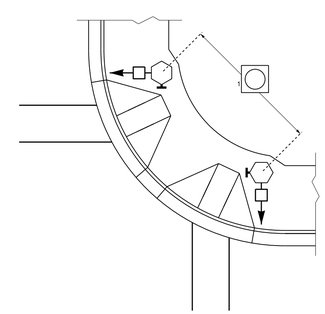
SEPARATE CURB RAMPS W/ TYPE II PEDESTALS



BACK OF SIDEWALK IS WITHIN 10'
OF CURB OR PAVEMENT/SHOULDER



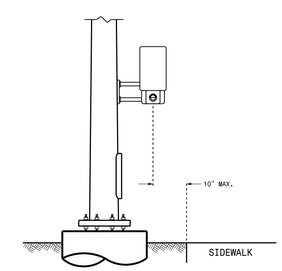
GRASS STRIP PLACEMENT IF BACK
OF SIDEWALK EXCEEDS 10' FROM
CURB OR PAVEMENT/SHOULDER



PUSHBUTTON PLACEMENT
IN WIDE SIDEWALK

OPTIONAL PUSHBUTTON EXTENSION

FACE OF PUSHBUTTON PARALLEL TO
APPLICABLE CROSSWALK



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

06-14

ENGLISH DETAIL DRAWING FOR
PEDESTRIAN PUSHBUTTON LOCATIONS
PLACEMENT DETAIL

SHEET 2 OF 3
1705D01

See Plate for Title

Prepared in the Offices of:

Transportation Mobility and Safety Division
Signal Design Section

750 N. Greenfield Parkway
Garner, NC 27529

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA

DocuSigned by: 1B9D4B6274A4B4...

SIGNATURE

6/17/2014

DATE

26-AUG-2014 16:38
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rziemba

PROJECT NO.	SHEET NO.
	Sig. P3

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

06-14

ENGLISH DETAIL DRAWING FOR

PEDESTRIAN PUSHBUTTON LOCATIONS

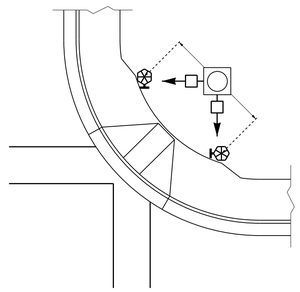
PLACEMENT DETAIL

SHEET 3 OF 3

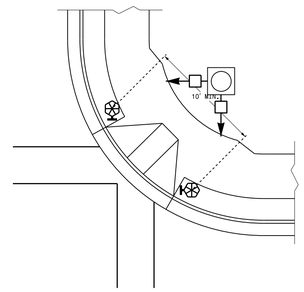
1705D01

TYPICAL PUSHBUTTON LOCATIONS (CASE III)

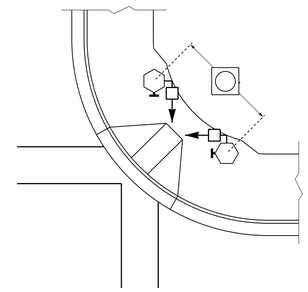
SHARED CURB RAMPS



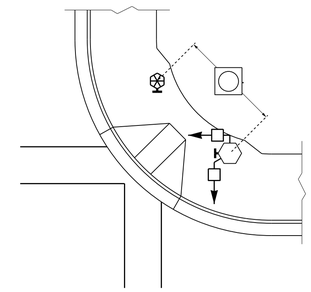
BACK OF SIDEWALK IS WITHIN 10′ OF CURB OR PAVEMENT/SHOULDER



GRASS STRIP PLACEMENT IF BACK OF SIDEWALK EXCEEDS 10′ FROM CURB OR PAVEMENT/SHOULDER

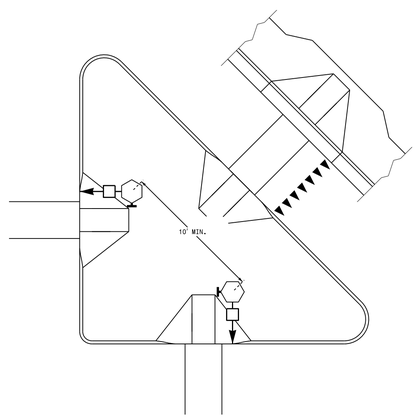


PUSHBUTTON PLACEMENT IN WIDE SIDEWALK (CORRESPONDING PUSHBUTTONS AND SIGNAL HEADS ON DIFFERENT PEDESTALS)

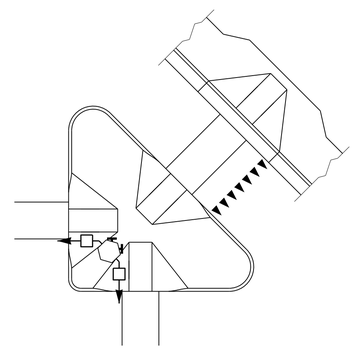


PUSHBUTTON PLACEMENT WITH SHARED TYPE II SIGNAL PEDESTAL AND TYPE I PUSHBUTTON POST

TRAFFIC ISLAND PUSHBUTTON LOCATIONS

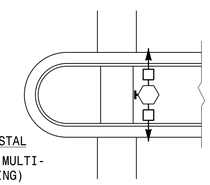


PUSHBUTTON PLACEMENT IN LARGE "PORK CHOP ISLAND" WITH SEPARATE PEDESTALS



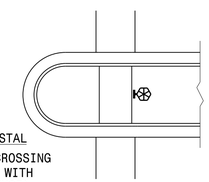
PUSHBUTTON PLACEMENT IN SMALL "PORK CHOP ISLAND" WITH SHARED PEDESTAL

PUSHBUTTON PLACEMENT IN MEDIAN



TYPE II PEDESTAL

(FOR STAGED OR MULTI-PHASE CROSSING)



TYPE I PEDESTAL

(FOR COMPLETE CROSSING CURB TO CURB WITH OPTIONAL REFUGE)

LEGEND

PROPOSED

- Signal Pole
- Type I Pushbutton Post
- Type II Signal Pedestal
- Pushbutton & Sign
- Pedestrian Signal Head
- Curb Ramp
- Pushbutton Location Area

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

06-14

ENGLISH DETAIL DRAWING FOR

PEDESTRIAN PUSHBUTTON LOCATIONS

PLACEMENT DETAIL

SHEET 3 OF 3

1705D01

See Plate for Title

Prepared in the Offices of:

Transportation Mobility and Safety Division
Signal Design Section
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

750 N. Greenfield Parkway
Garner, NC 27529

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 026486 ENGINEER ROBERT J. ZIEMBA

DocuSigned by: 1B9B4B9D274A4b8 — SIGNATURE

6/17/2014 — DATE

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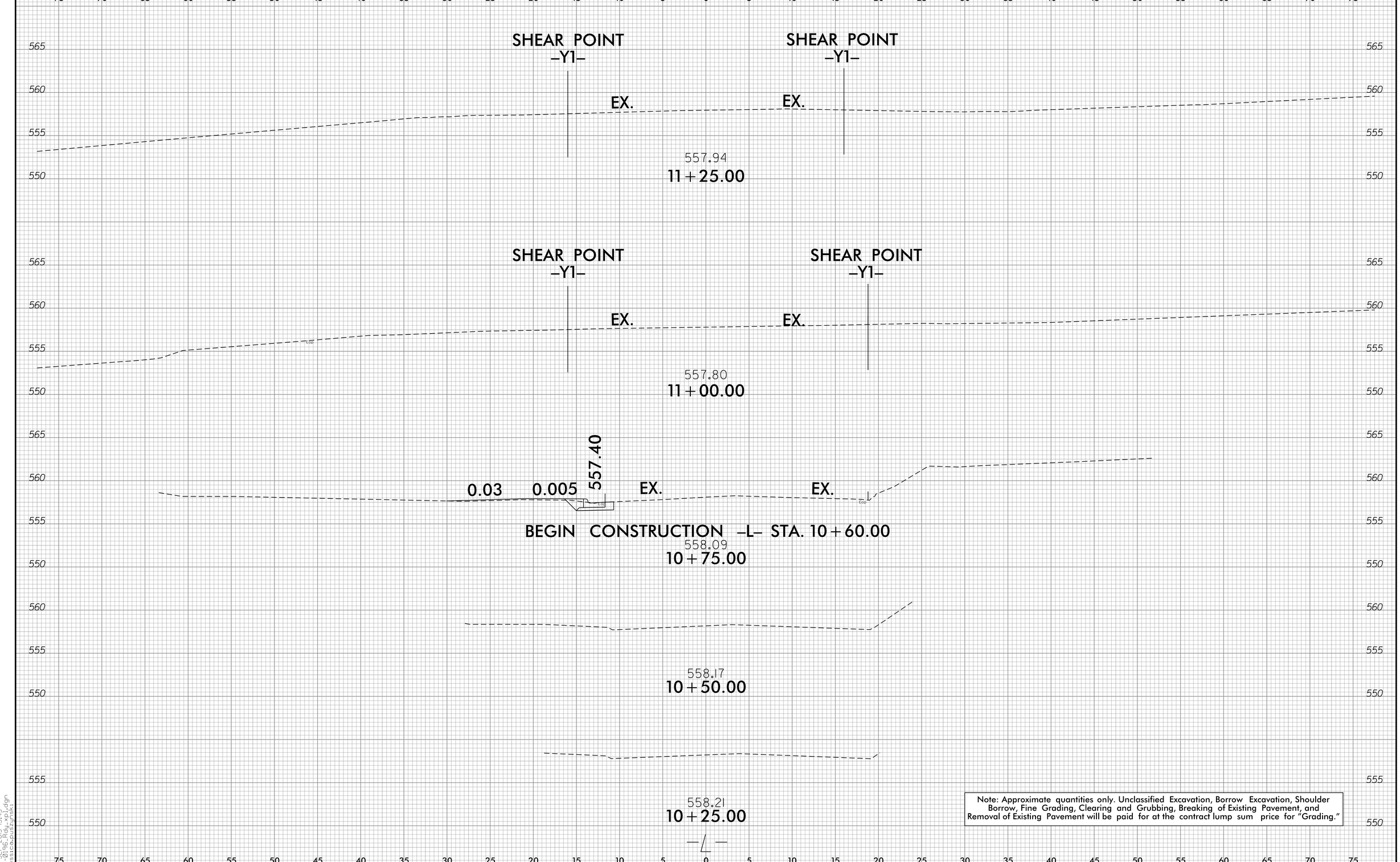
rziemba

Prepared in the Office of:
SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
U-5549	X-1



Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Shoulder Borrow, Fine Grading, Clearing and Grubbing, Breaking of Existing Pavement, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

16-SEP-2015 13:43
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jessicaurszynski

Prepared in the Office of:
SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

0 2.5 5

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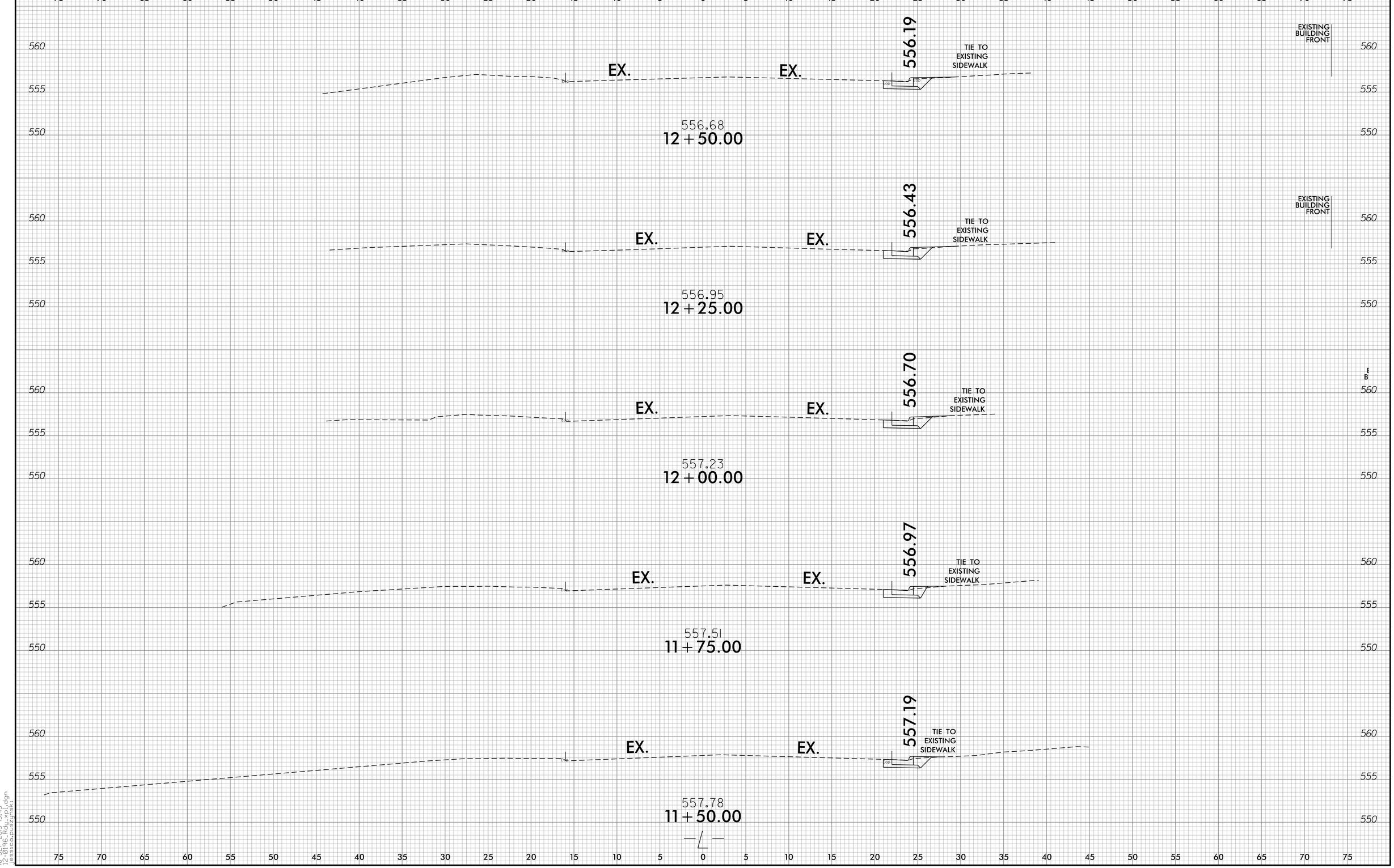
U-5549	X-2



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jessica.puszynski

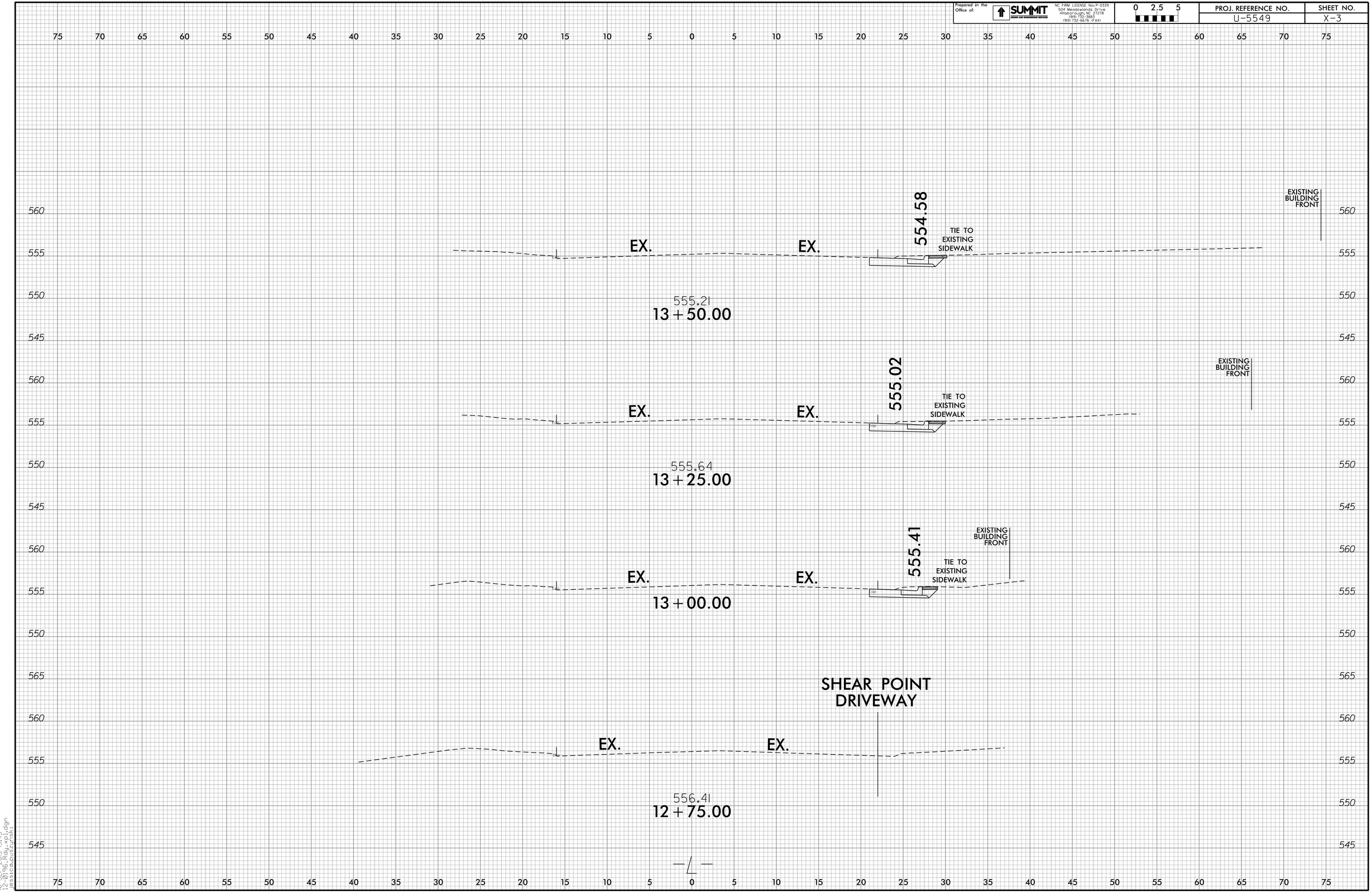
Prepared in the Office of:

SUMMIT DESIGN AND ENGINEERING SERVICES

NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
U-5549	X-3

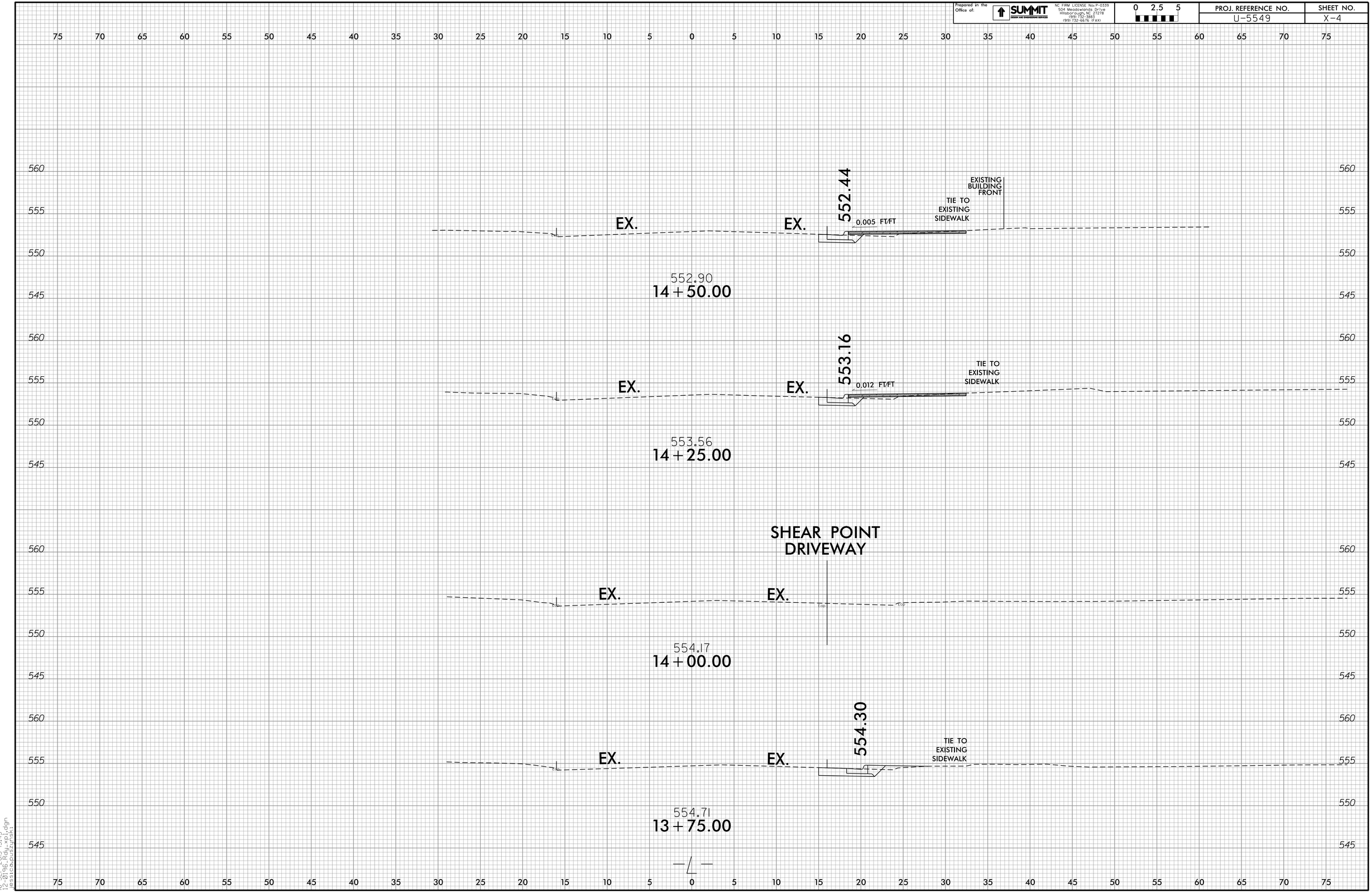


16-SFP-2015 13:43
12-01-2016 10:43
jessicapuszynski

Prepared in the Office of:
SUMMIT DESIGN AND ENGINEERING SERVICES
NC FIRM LICENSE No: P-0339
504 Meadowlands Drive
Hillsborough, NC 27278
(919) 732-3883
(919) 732-6676 (FAX)

0 2.5 5

PROJ. REFERENCE NO.	SHEET NO.
U-5549	X-4



16-SEP-2015 13:43
12-0196_PL-01.dgn
jessicapulzinski

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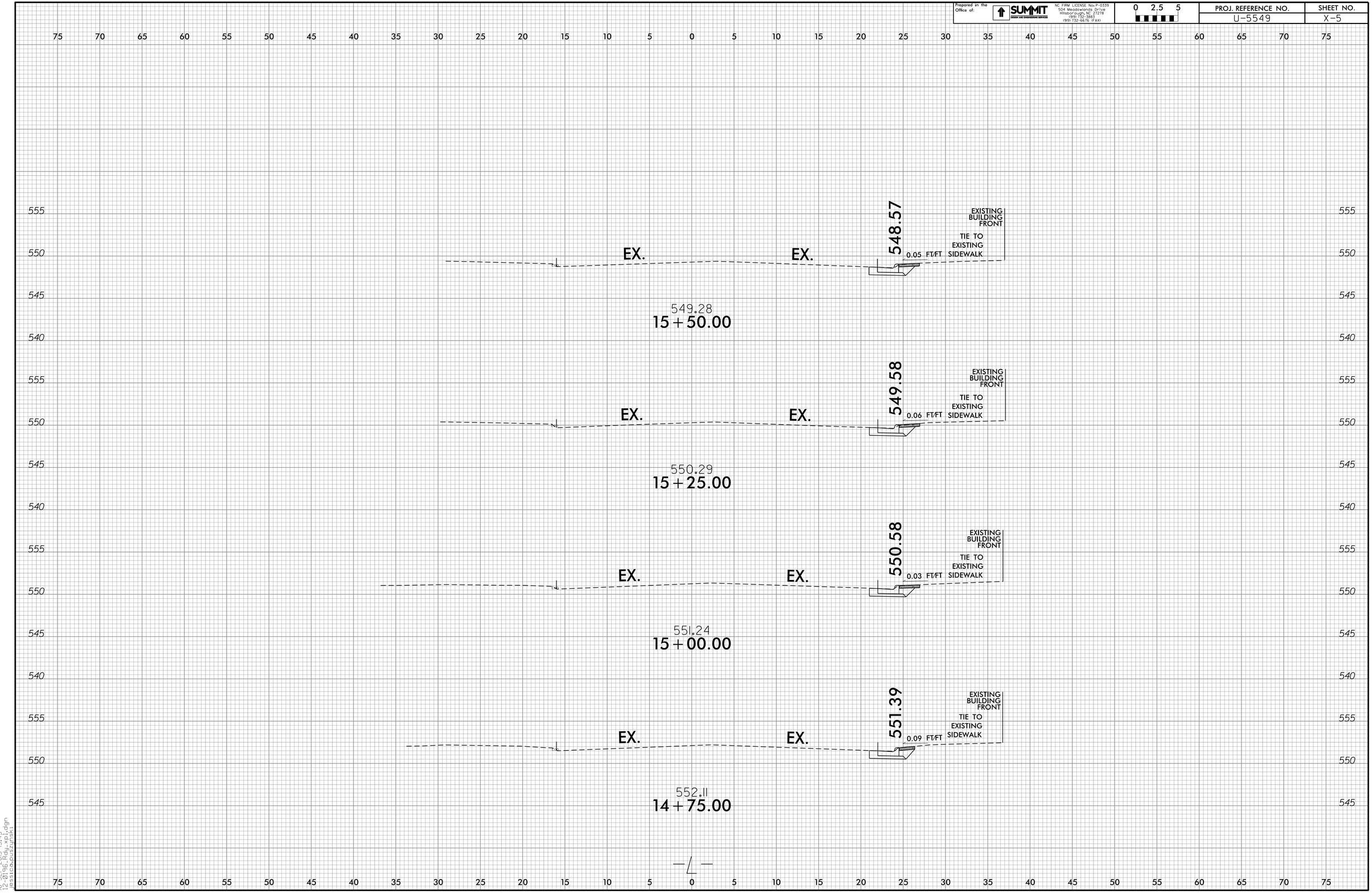
PROJ. REFERENCE NO.	SHEET NO.
U-5549	X-5



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PROJ. REFERENCE NO.	SHEET NO.
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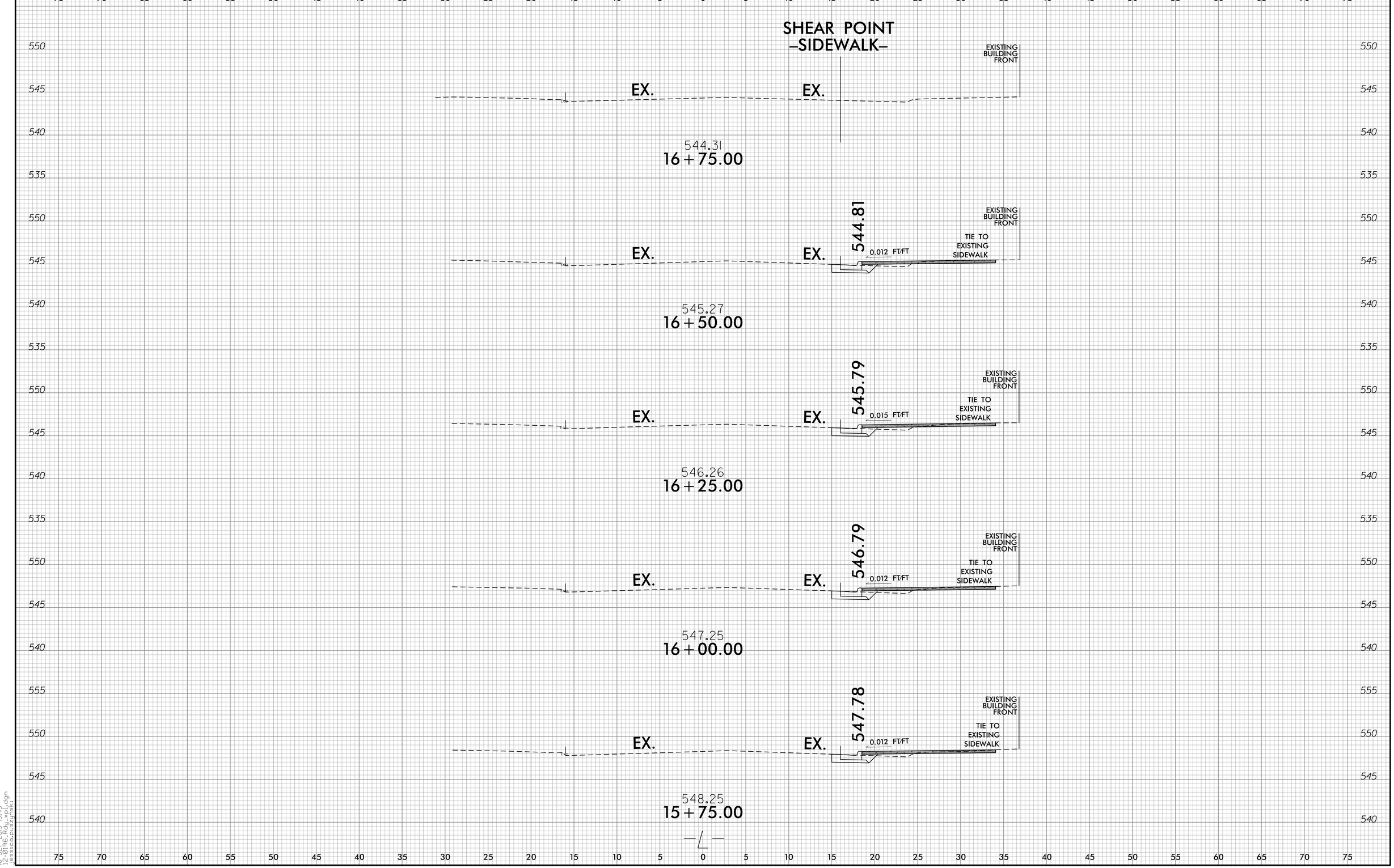

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PROJ. REFERENCE NO.	SHEET NO.
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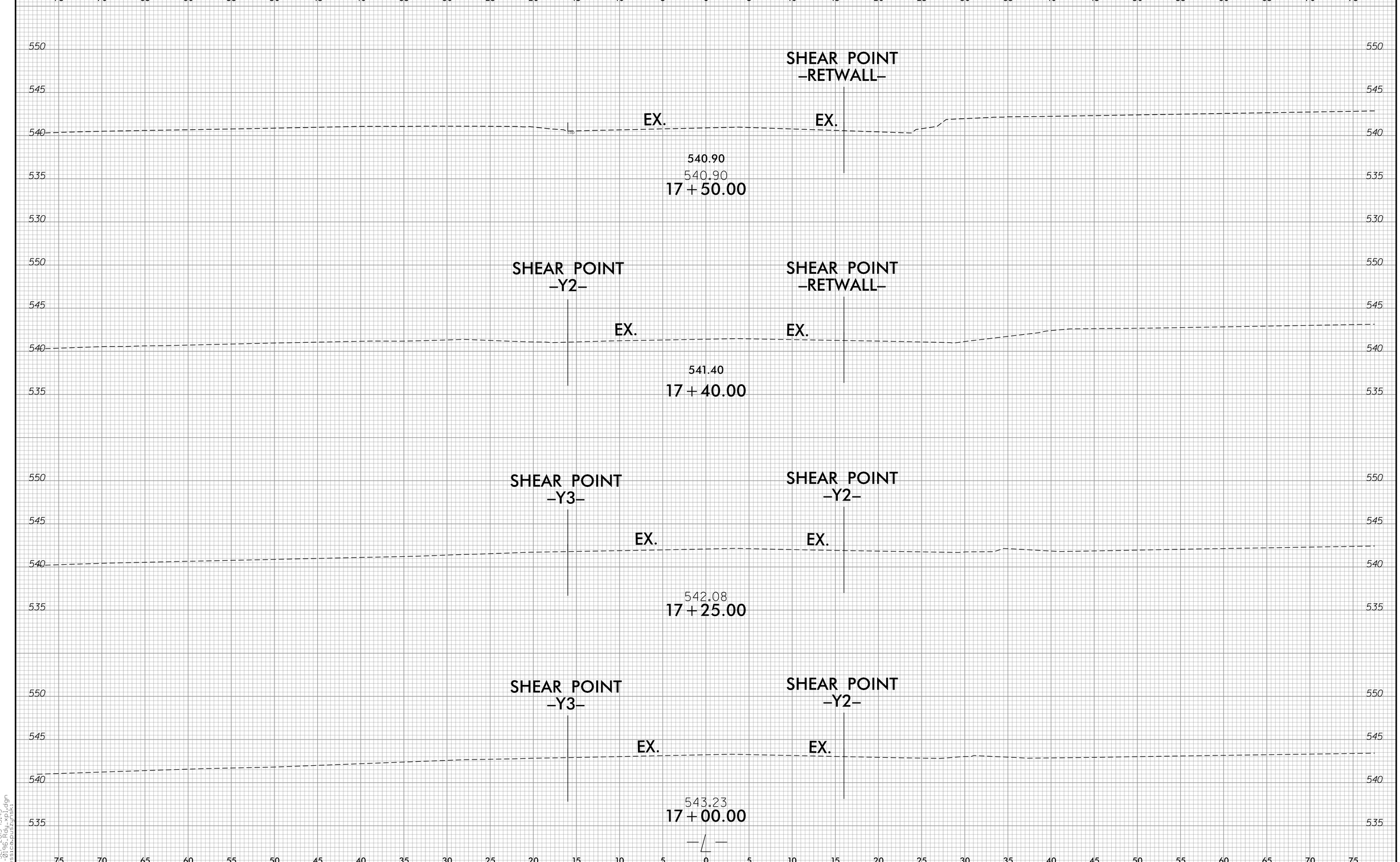

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PROJ. REFERENCE NO.	SHEET NO.
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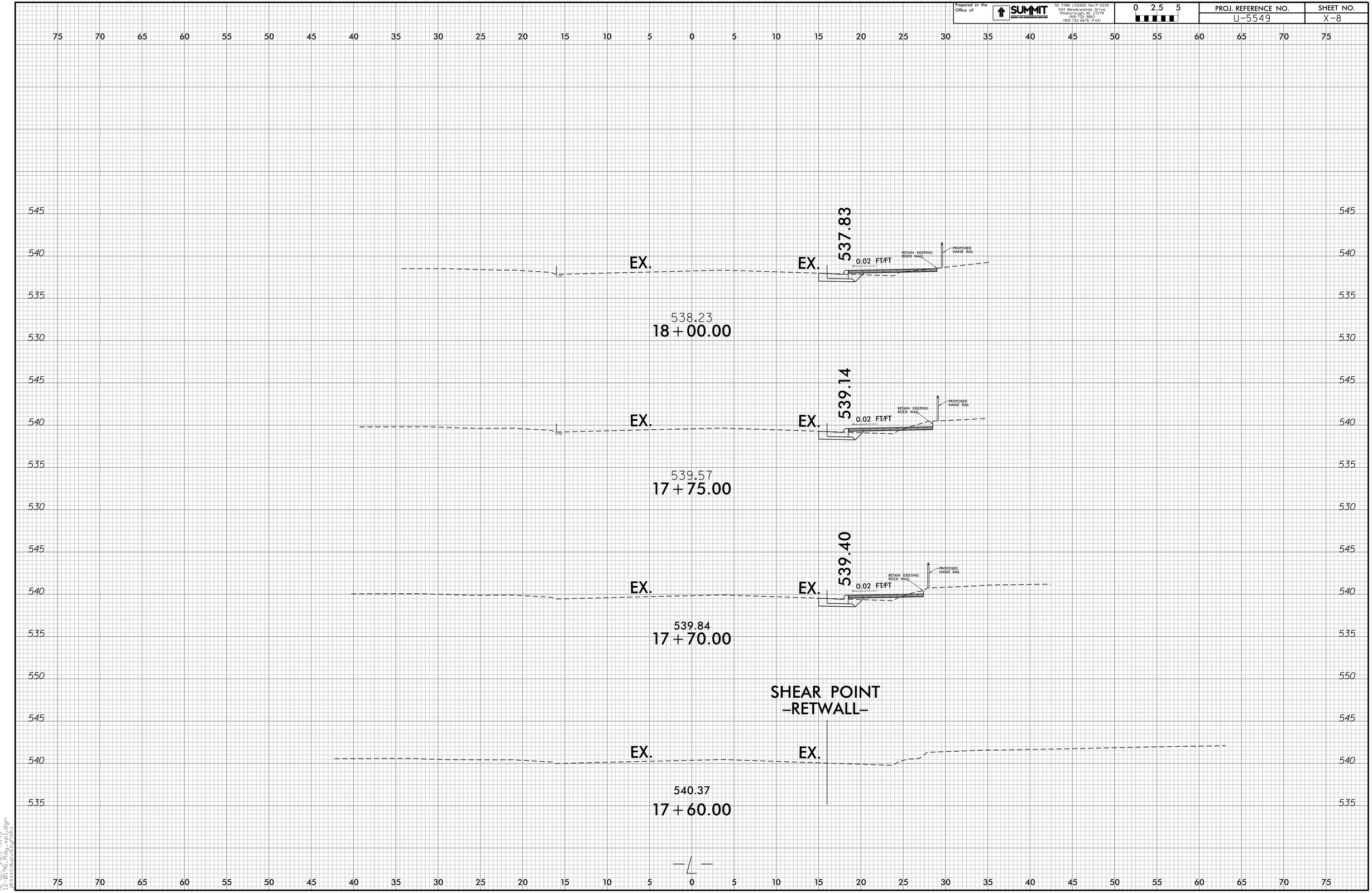

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PROJ. REFERENCE NO.	SHEET NO.
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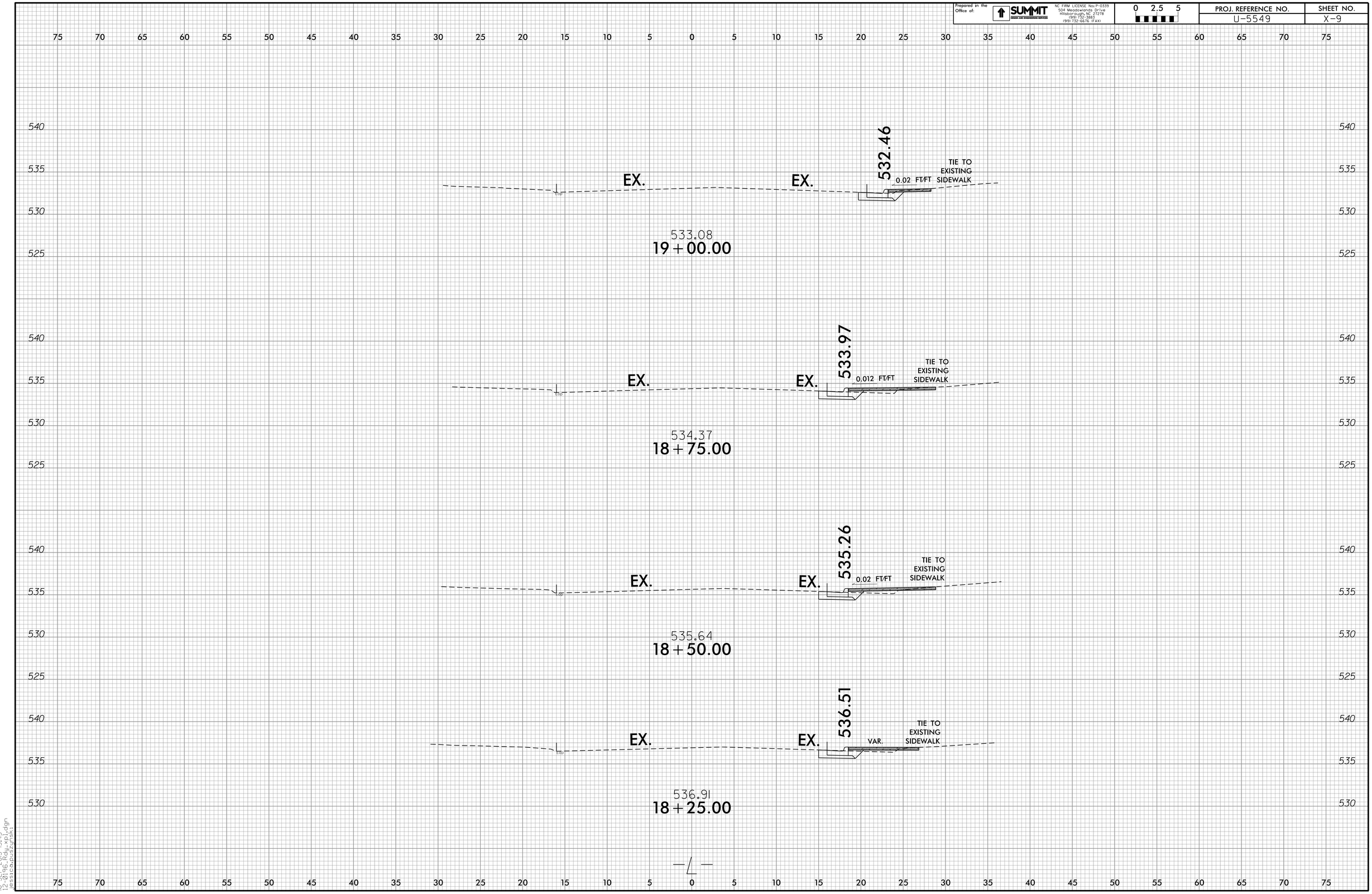

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PROJ. REFERENCE NO.	SHEET NO.
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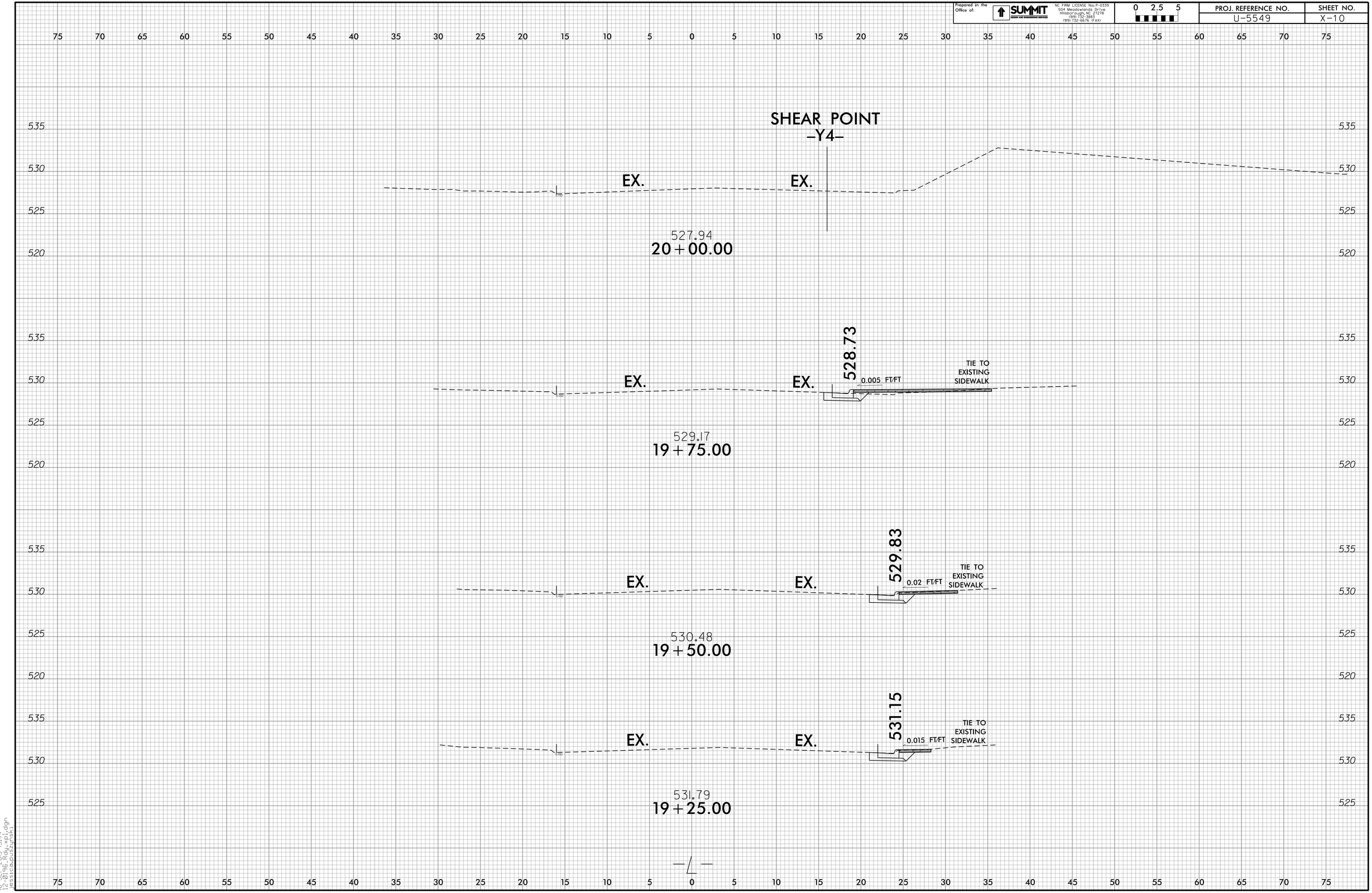

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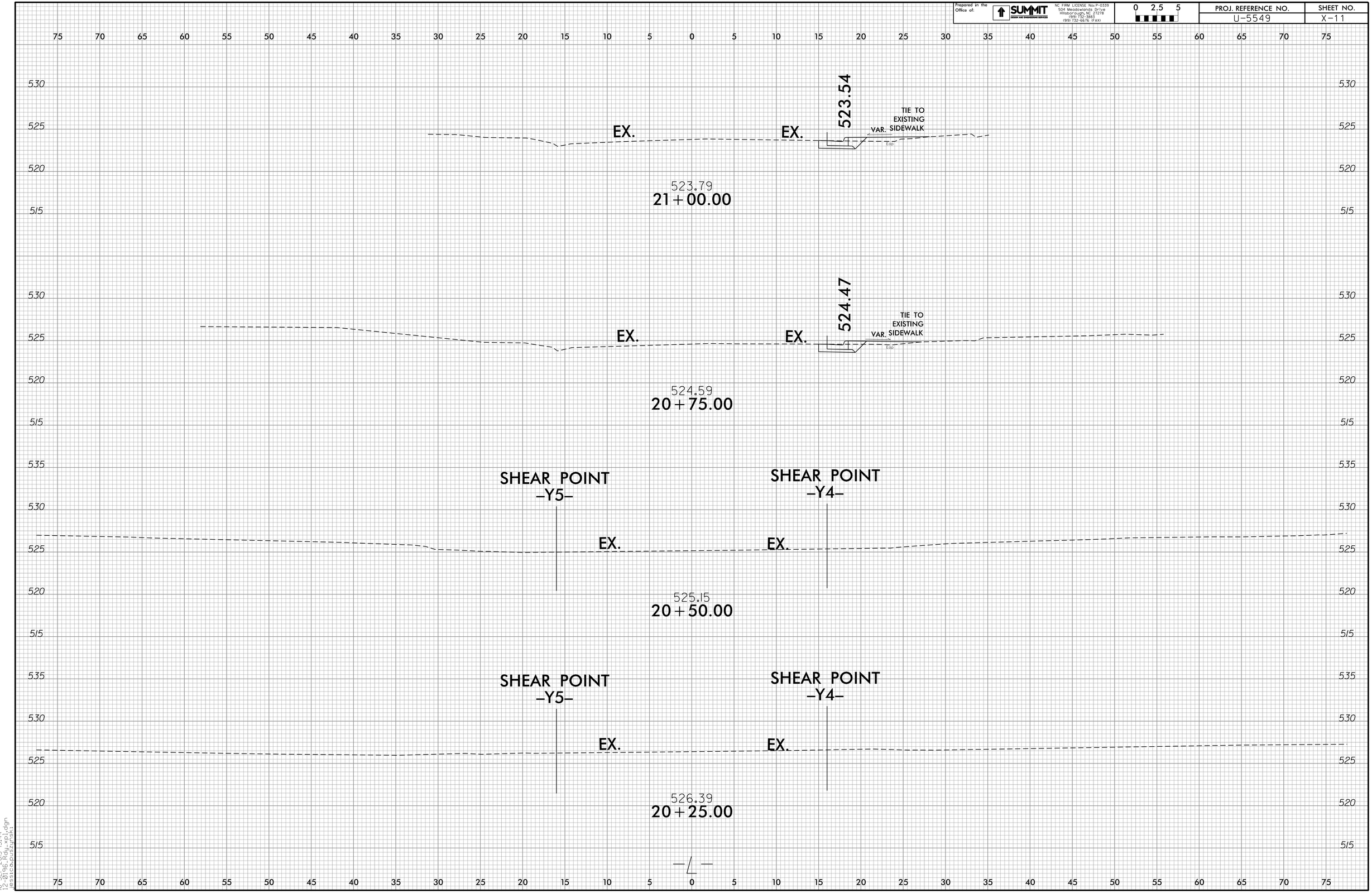

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PROJ. REFERENCE NO.	SHEET NO.
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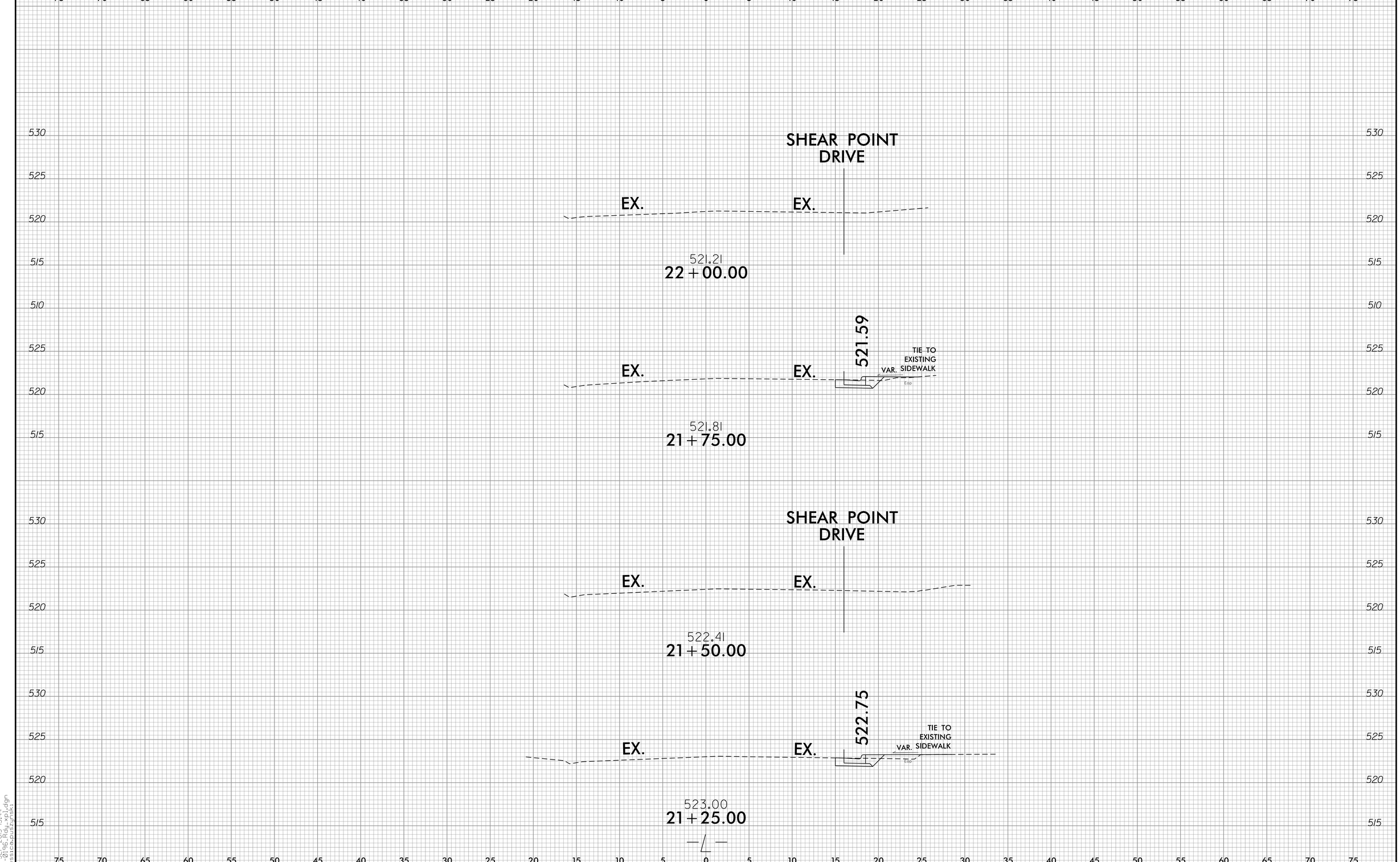

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PROJ. REFERENCE NO.	SHEET NO.
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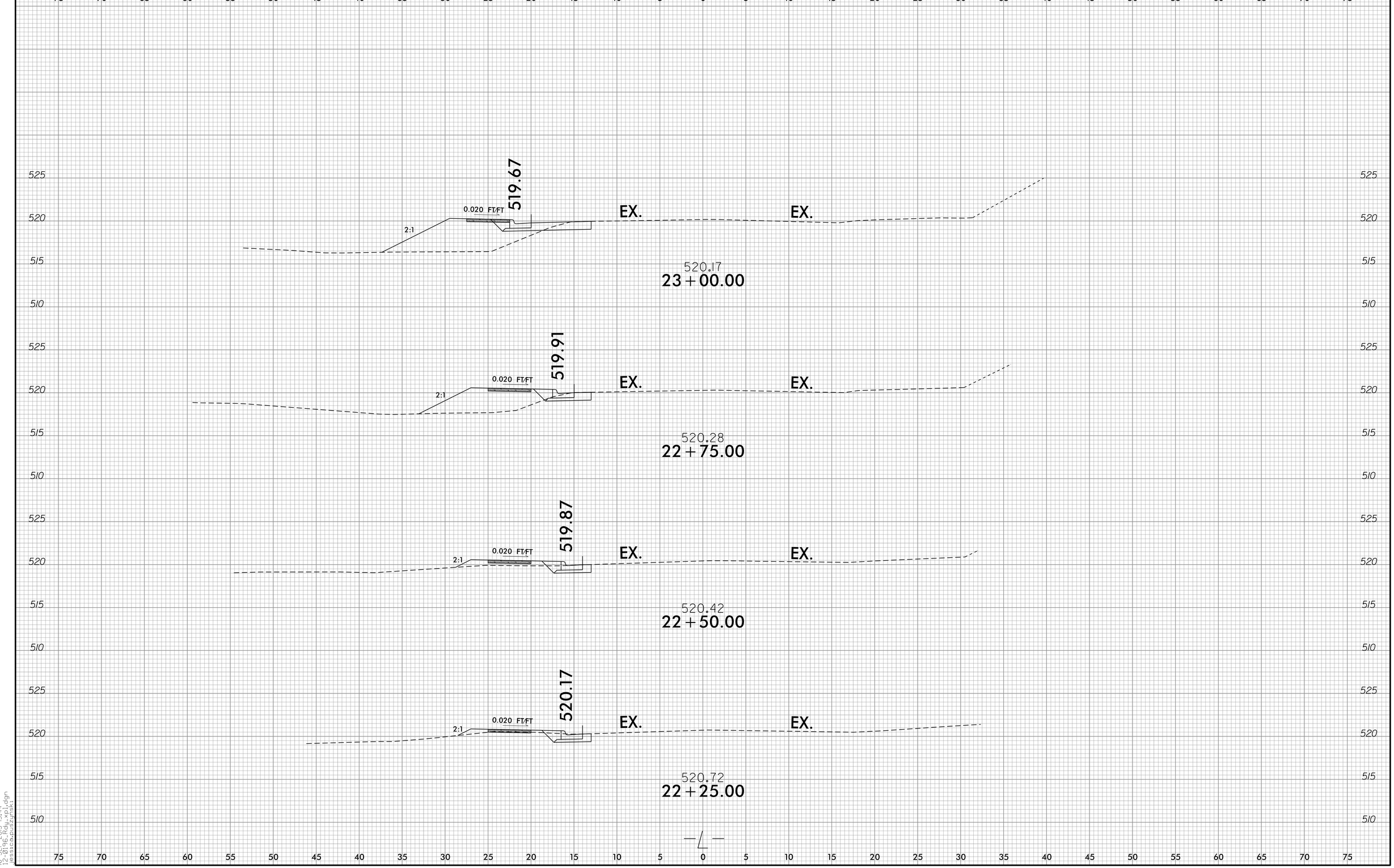

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PROJ. REFERENCE NO.	SHEET NO.
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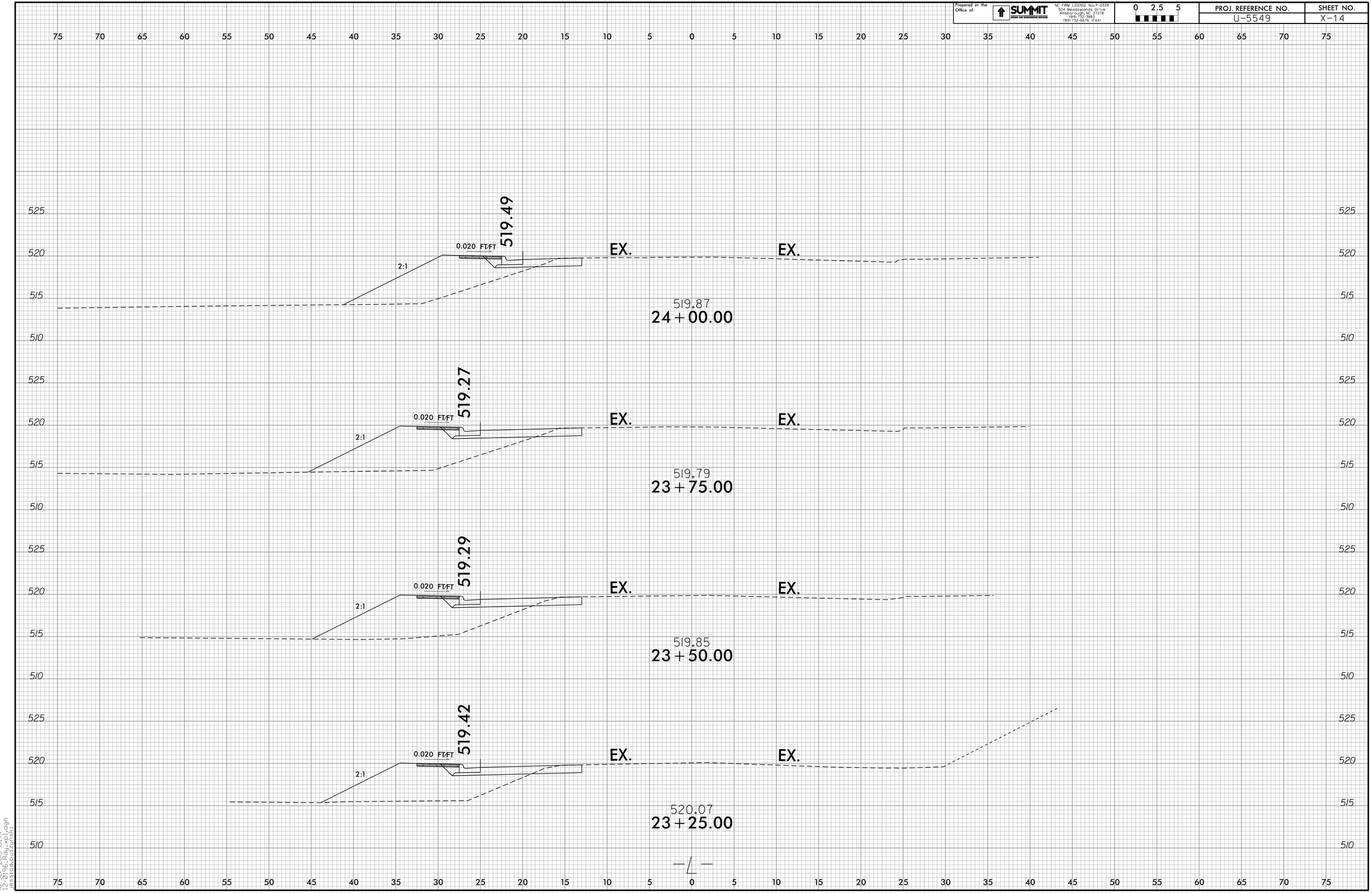

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PROJ. REFERENCE NO.	SHEET NO.
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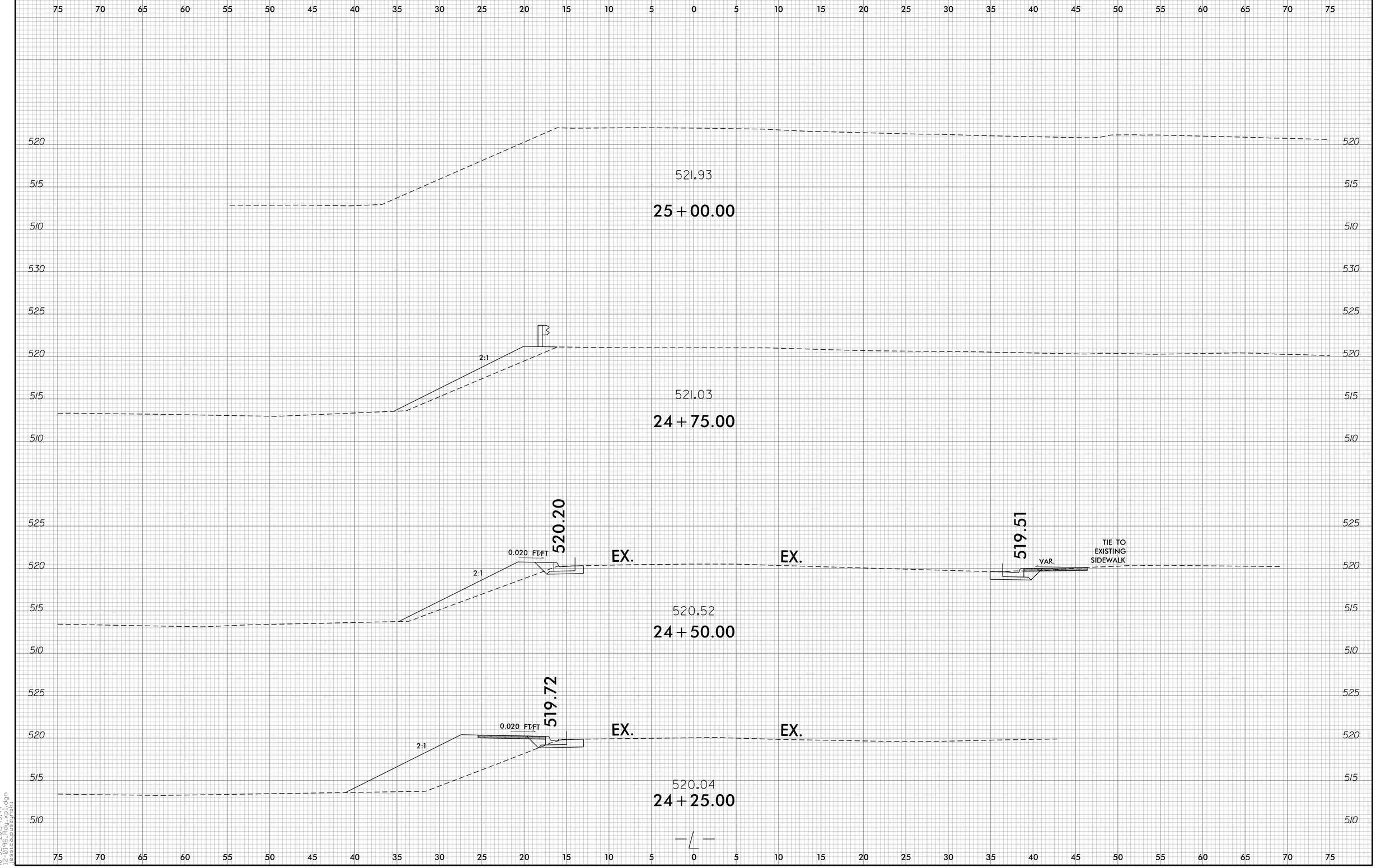

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