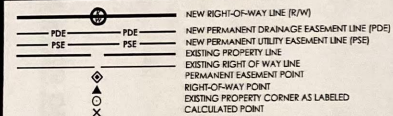
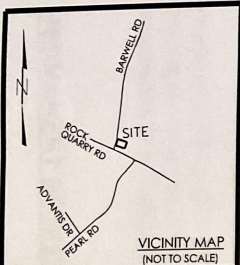
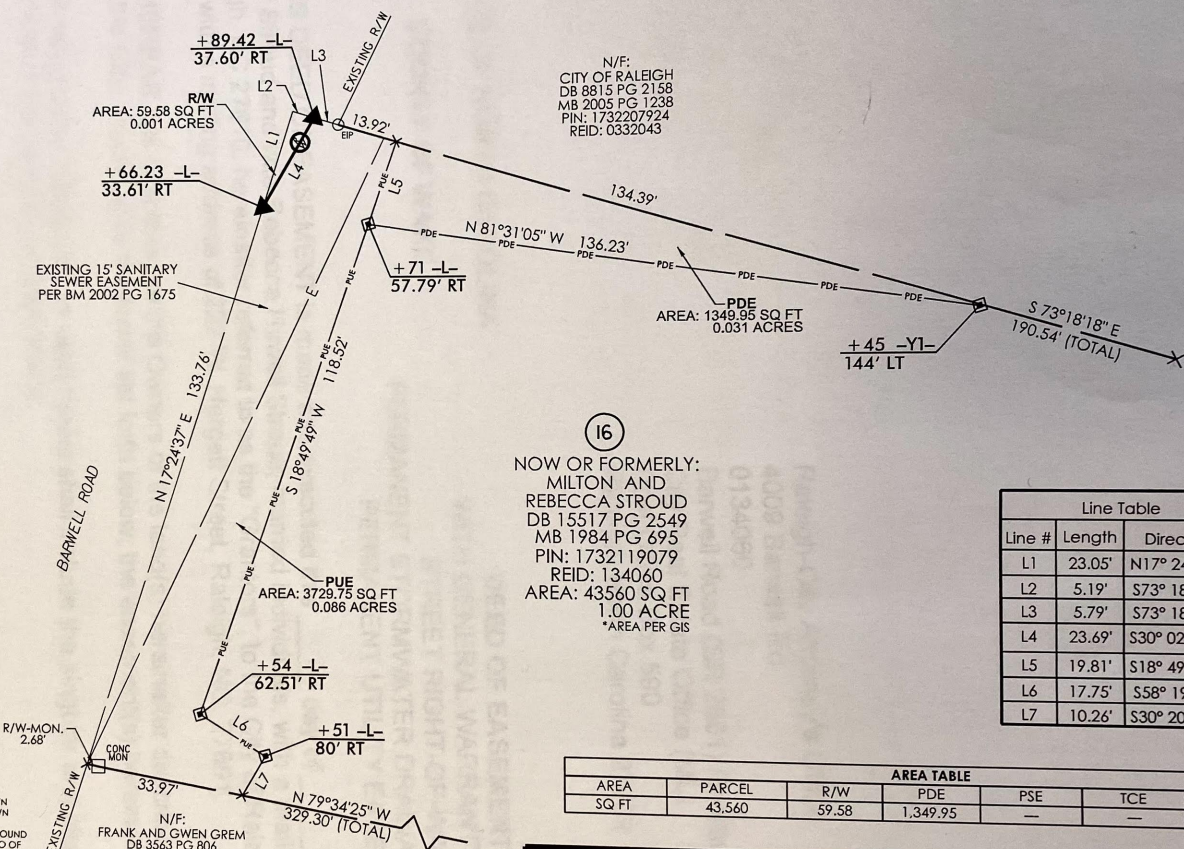


EXHIBIT A



- NOTES:
1. THIS MAP MAY NOT BE A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS AND HAS NOT BEEN REVIEWED FOR COMPLIANCE WITH RECORDING REQUIREMENTS FOR PLATS.
 2. THE PURPOSE OF THIS MAP IS TO GRAPHICALLY REPRESENT THE PROPOSED RIGHT OF WAY AND EASEMENTS (PERMANENT AND TEMPORARY) FOR ACQUISITION PURPOSES ONLY.
 3. THIS MAP IS NOT A BOUNDARY SURVEY.
 4. THIS MAP WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. PROPERTIES SHOWN HEREON ARE SUBJECT TO ALL MATTERS SAID REPORT MAY DISCLOSE.
 5. ALL BEARINGS SHOWN HEREON ARE BASED ON THE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM (NAD 83/2011).
 6. THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE NAD83(NA2011) STATE PLANE GRID COORDINATES FOR THE FOLLOWING MONUMENT: "CP32" N=7201 14.3062 E=2130956.6118
 7. THE AVG. COMBINED FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS 0.999902588. ALL COORDINATES SHOWN HEREON ARE GROUND COORDINATES.
 8. ALL LINEAR DISTANCES ARE LOCALIZED HORIZONTAL DISTANCES.
 9. AREAS CALCULATED BY COORDINATE METHOD.



(16)
NOW OR FORMERLY:
MILTON AND
REBECCA STROUD
DB 15517 PG 2549
MB 1984 PG 695
PIN: 1732119079
REID: 134060
AREA: 43560 SQ FT
1.00 ACRE
*AREA PER GIS

Line Table		
Line #	Length	Direction
L1	23.05'	N17° 24' 37"E
L2	5.19'	S73° 18' 18"E
L3	5.79'	S73° 18' 18"E
L4	23.69'	S30° 02' 52"W
L5	19.81'	S18° 49' 49"W
L6	17.75'	S58° 19' 15"E
L7	10.26'	S30° 20' 28"W

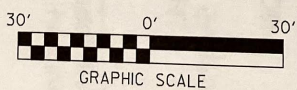
AREA TABLE						
AREA SQ FT	PARCEL	R/W	PDE	PSE	TCE	PUE
	43,560	59.58	1,349.95	—	—	3,729.75

PRELIMINARY
NOT FOR SALE
CONVEYANCES
OR RECORDATION

I, JEFFREY S. COATS, CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION (DEED DESCRIPTIONS AS SHOWN HEREON) THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION FOUND IN DEED DESCRIPTIONS SHOWN HEREON; THAT THE RATIO OF PRECISION AS CALCULATED IS 1:20,000; THAT THIS MAP WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED; WITNESS MY ORIGINAL SIGNATURE, REGISTRATION NUMBER, AND SEAL THIS 30TH DAY OF JULY, 2019.

JEFFREY S. COATS, PLS L-3994

N/F:
FRANK AND GWEN GREM
DB 3563 PG 806
MB 1984 PG 695
PIN: 1732109944
REID: 0134059



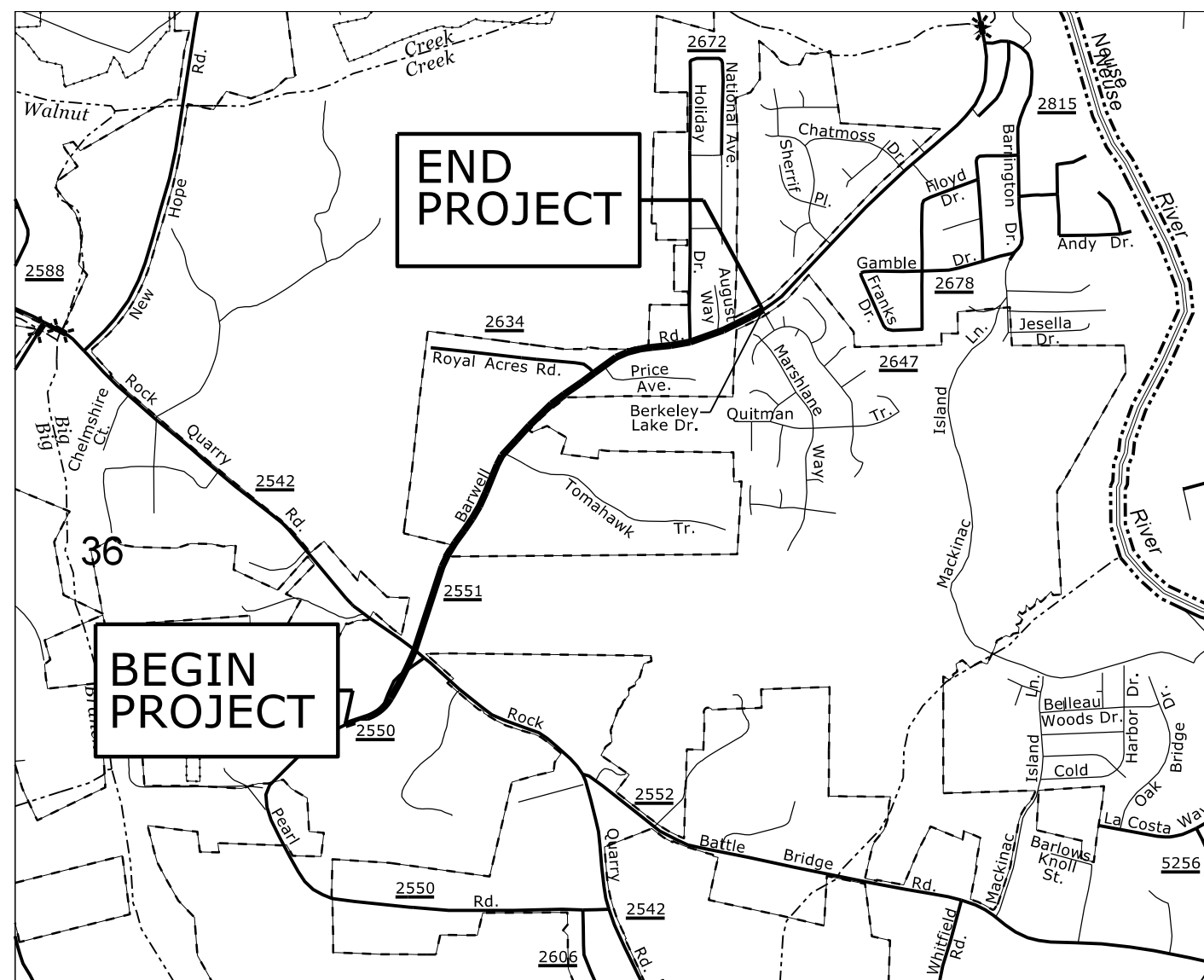
SEPI
1 Glenwood Avenue
Raleigh, NC 27603
Tel: 919.789.9977
Fax: 919.789.9591
License: C-2197

DATE: 11/10/2020 SCALE: 1:30 JOB NO: SE18.151.00.
SURVEYED: JS PLATTED: JC CHECKED: SC

REAL ESTATE ACQUISITION MAP
BARWELL ROAD SOUTH WIDENING PROJECT

MILTON & REBECCA STROUD
4009 BARWELL ROAD

ST. MARY'S TOWNSHIP
WAKE COUNTY, NC



VICINITY MAP
NOT TO SCALE

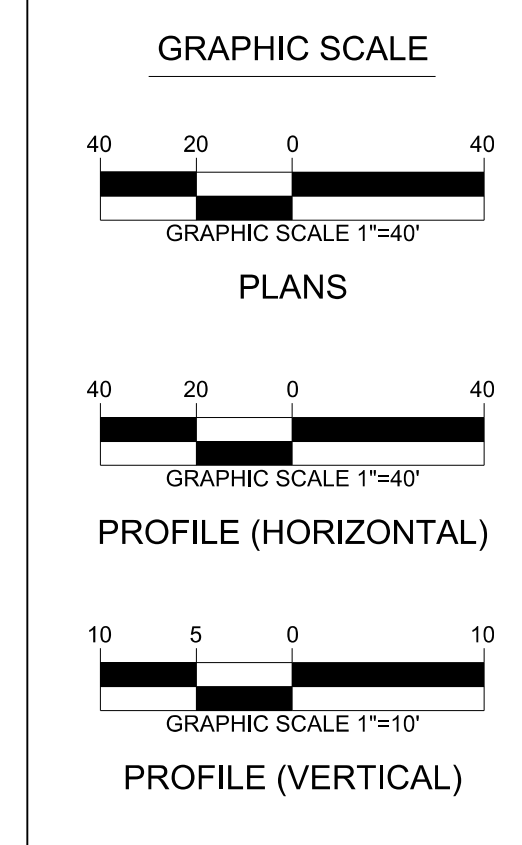
RUFFIN L. HALL
CITY MANAGER



MARY-ANN BALDWIN
MAYOR

SEPI
Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel: 919.789.9977
Fax: 919.789.9591
License: C-2197

PROJECT DESIGN ENGINEER
DANIEL W. GARDNER, JR., PE
SENIOR PROJECT ENGINEER
BENJAMIN R. CRAWFORD, PE



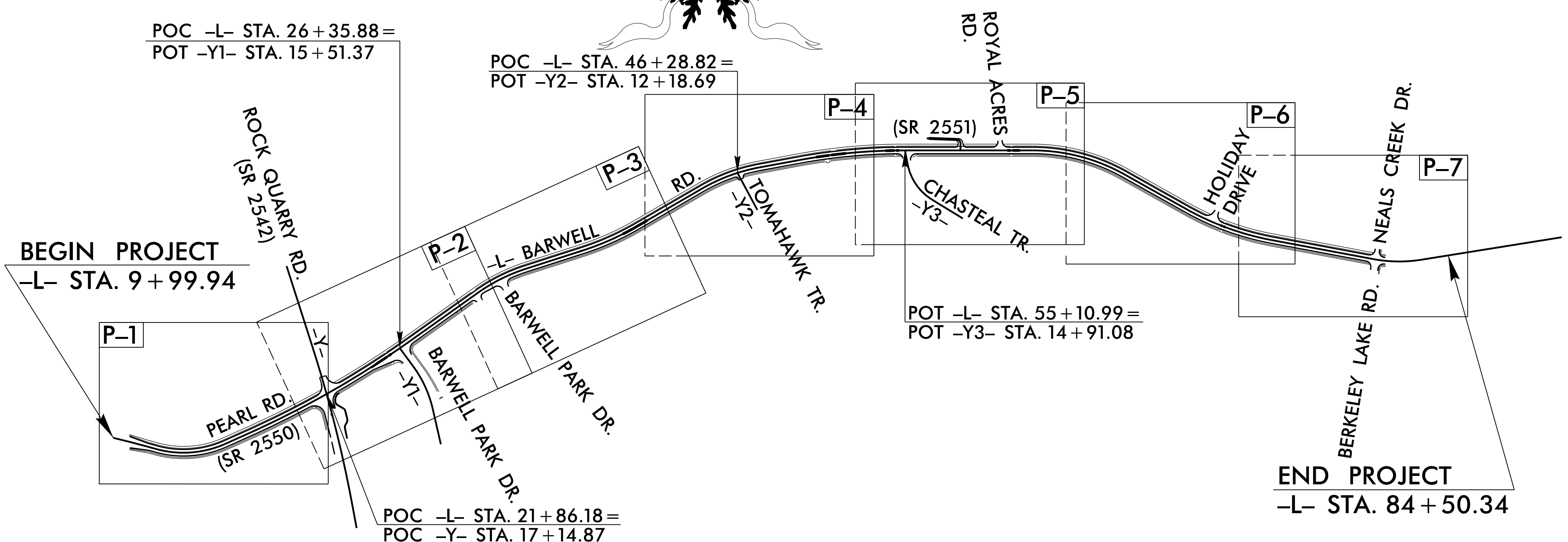
ATTENTION CONTRACTORS

THE **CONSTRUCTION CONTRACTOR** RESPONSIBLE FOR THE EXTENSION OF WATER, SEWER, AND/OR REUSE, AS APPROVED IN THESE PLANS, IS RESPONSIBLE FOR **CONTACTING THE ENGINEERING SERVICES DEPARTMENT AT (919) 996-2409,** AND THE **PUBLIC UTILITIES DEPARTMENT AT (919) 996-4540 AT LEAST TWENTY FOUR HOURS** PRIOR TO BEGINNING ANY OF THEIR CONSTRUCTION.

FAILURE TO NOTIFY BOTH **CITY DEPARTMENTS** IN ADVANCE OF BEGINNING CONSTRUCTION, WILL RESULT IN THE ISSUANCE OF **MONETARY FINES,** AND REQUIRE REINSTALLATION OF ANY WATER OR SEWER FACILITIES NOT INSPECTED AS A RESULT OF THIS NOTIFICATION FAILURE.

FAILURE TO CALL FOR **INSPECTION, INSTALL A DOWNSTREAM PLUG, HAVE PERMITTED PLANS ON THE JOBSITE, OR ANY OTHER VIOLATION OF CITY OF RALEIGH STANDARDS** WILL RESULT IN A **FINE AND POSSIBLE EXCLUSION** FROM FUTURE WORK IN THE **CITY OF RALEIGH.**

- RIGHT OF WAY OBSTRUCTION NOTES:
- Traffic Control and Pedestrian Plan (TCPED) Notes: Prior to any work that impacts the right-of-way, closing or detouring of any street, lane, or sidewalk, the contractor must apply for a permit with Right-of-Way Services. Please direct any questions to rightofwayservices@raleighnc.gov.
 - The City of Raleigh requires an approved Right-of-Way Permit for work on any public street or sidewalk and NCDOT road within Raleigh's Jurisdiction.
 - A permit request with a TCPED Plan shall be submitted to Right-of-Way Services through the City of Raleigh Permit and Development Portal.
 - Prior to the start of work, the Client shall schedule a Pre-Construction meeting with the Engineering Inspections Coordinator to review the specific components of the approved plan, and ensure all permits are issued.
 - All TCPED Plans shall comply with all Local, State, and Federal requirements and standards, including but not limited to:
 1. Manual on Uniform Traffic Control (MUTCD)
 2. Public Rights-of-Way accessibility Guidelines (PROWAG);
 3. American Disability Act (ADA) requirements;
 4. Raleigh Street Design Manual (RSDM)
 - All public sidewalks must be accessible to pedestrians who are visually impaired and/or people with mobility concerns. Existing and alternative pedestrian routes during construction shall be required to be compliant with the Public Rights of Way Accessibility Guidelines (PROWAG), the ADA Standards for Accessible Design and the Manual on Uniform Traffic Control Devices (MUTCD).
 - All permits must be available and visible on site during the operation.



BARWELL ROAD (SR 2551) ROADWAY IMPROVEMENT PROJECT

LOCATION: FROM ROCK QUARRY ROAD (SR 2542) TO
BERKELEY LAKE ROAD

TYPE: GRADING, PAVEMENT, SIDEWALK, CURB AND GUTTER,
SIGNING, AND PAVEMENT MARKINGS

PUBLIC IMPROVEMENT QUANTITIES	
PHASE NUMBER(S)	0
NUMBER OF LOTS	0
LOT NUMBER(S) BY PHASE	0
NUMBER OF UNITS	0
LIVABLE BUILDINGS	0
OPEN SPACE?	NO
NUMBER OF OPEN SPACE LOTS	0
PUBLIC WATER (LF)	0
PUBLIC SEWER (LF)	0
PUBLIC STREET (LF) - FULL	0
PUBLIC STREET (LF) - PARTIAL	0
PUBLIC SIDEWALK (LF)	7150 LF
PUBLIC MUP (LF)	6794 LF
WATER SERVICE STUBS	0
SEWER SERVICE STUBS	0
EXISTING IMPERVIOUS SURFACE	5.11 ACR
PROPOSED IMPERVIOUS SURFACE	9.50 ACR
TOTAL DISTURBED AREA	20.99 ACR

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF RALEIGH AND/ OR NCDOT STANDARDS AND SPECIFICATIONS.

CONCURRENT REVIEW APPROVAL

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION
Plans for the proposed use have been reviewed for general compliance with applicable codes. This limited review, and authorization for construction is not to be considered to represent total compliance with all legal requirements for development and construction. The property owner, design consultants, and contractors are each responsible for compliance with all applicable City, State and Federal laws. This specific authorization below is not a permit, nor shall it be construed to permit any violation of City, State or Federal Law. All Construction must be in accordance with all Local, State, and Federal Rules and Regulations.

Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be edited once issued. Any modification to this approval once issued will invalidate this approval.

City of Raleigh Development Approval _____
City of Raleigh Review Officer _____

INDEX OF SHEETS	
SHEET NO.:	DESCRIPTION:
1	COVER SHEET
1A THRU 1B	INDEX OF SHEETS, LEGEND, AND GENERAL NOTES
2A THRU 2B	TYPICAL SECTIONS
2C	STANDARDS DETAILS
2D	SPECIAL JUNCTION BOX DETAIL FOR DOUBLE 42" RCP
2E	BIORETENTION BASIN DETAIL
2F	BIORETENTION CONTROL STRUCTURE DETAIL
P-1 THRU P-7	PLAN SHEETS
P-8 THRU P-13	PROFILES
T-1 THRU T-20	TRAFFIC MANAGEMENT PLANS
P-1 THRU P-8	PAVEMENT MARKING PLANS
EC-1 THRU EC-32	EROSION CONTROL PLANS
S-1 THRU S-16	SIGNING PLANS
SIG-1 THRU SIG-?	SIGNAL PLANS
X-1	CROSS SECTION INDEX OF SHEETS
X-2 THRU X-97	CROSS SECTIONS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	⊙
Computed Property Corner	-----
Property Monument	⊞
Parcel/Sequence Number	②③
Existing Fence Line	-----
Proposed Woven Wire Fence	-----
Proposed Chain Link Fence	-----
Proposed Barbed Wire Fence	-----
Existing Wetland Boundary	-----
Proposed Wetland Boundary	-----
Existing Endangered Animal Boundary	-----
Existing Endangered Plant Boundary	-----
Existing Historic Property Boundary	-----
Known Contamination Area: Soil	⊙ S ⊙
Potential Contamination Area: Soil	⊙ S ⊙
Known Contamination Area: Water	⊙ W ⊙
Potential Contamination Area: Water	⊙ W ⊙
Contaminated Site: Known or Potential	⊙ ? ⊙

BUILDINGS AND OTHER CULTURE:

Gas Pump Vent or U/G Tank Cap	⊙
Sign	⊙
Well	⊙
Small Mine	⊙
Foundation	⊞
Area Outline	⊞
Cemetery	⊞
Building	⊞
School	⊞
Church	⊞
Dam	⊞

HYDROLOGY:

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

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	⊙
Switch	⊞
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY & PROJECT CONTROL:

Secondary Horiz and Vert Control Point	◆
Primary Horiz Control Point	⊙
Primary Horiz and Vert Control Point	⊙
Exist Permanent Easment Pin and Cap	⊙
New Permanent Easment Pin and Cap	⊙
Vertical Benchmark	⊙
Existing Right of Way Marker	⊙
Existing Right of Way Line	-----
New Right of Way Line	-----
New Right of Way Line with Pin and Cap	⊙
New Right of Way Line with Concrete or Granite R/W Marker	⊙

LEGEND

New Control of Access Line with Concrete CA Marker	-----
Existing Control of Access	-----
New Control of Access	-----
Existing Easement Line	-----
New Temporary Construction Easement	-----
New Temporary Drainage Easement	-----
New Permanent Drainage Easement	-----
New Permanent Drainage / Utility Easement	-----
New Permanent Utility Easement	-----
New Temporary Utility Easement	-----
New Aerial Utility Easement	-----
New Permanent Slope Easement	-----

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-----
Proposed Slope Stakes Fill	-----
Proposed Curb Ramp	-----
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	-----

EXISTING STRUCTURES:

MAJOR:	
Bridge, Tunnel or Box Culvert	-----
Bridge Wing Wall, Head Wall and End Wall	-----
MINOR:	
Head and End Wall	-----
Pipe Culvert	-----
Footbridge	-----
Drainage Box: Catch Basin, DI or JB	-----
Paved Ditch Gutter	-----
Storm Sewer Manhole	⊙
Storm Sewer	-----

UTILITIES:

POWER:	
Existing Power Pole	⊙
Proposed Power Pole	⊙
Existing Joint Use Pole	⊙
Proposed Joint Use Pole	⊙
Power Manhole	⊙
Power Line Tower	⊙
Power Transformer	⊙
U/G Power Cable Hand Hole	⊙
H-Frame Pole	⊙
U/G Power Line LOS B (S.U.E.*)	-----
U/G Power Line LOS C (S.U.E.*)	-----
U/G Power Line LOS D (S.U.E.*)	-----

TELEPHONE:

Existing Telephone Pole	⊙
Proposed Telephone Pole	⊙
Telephone Manhole	⊙
Telephone Pedestal	⊙
Telephone Cell Tower	⊙
U/G Telephone Cable Hand Hole	⊙
U/G Telephone Cable LOS B (S.U.E.*)	-----
U/G Telephone Cable LOS C (S.U.E.*)	-----

U/G Telephone Cable LOS D (S.U.E.*)	-----
U/G Telephone Conduit LOS B (S.U.E.*)	-----
U/G Telephone Conduit LOS C (S.U.E.*)	-----
U/G Telephone Conduit LOS D (S.U.E.*)	-----
U/G Fiber Optics Cable LOS B (S.U.E.*)	-----
U/G Fiber Optics Cable LOS C (S.U.E.*)	-----
U/G Fiber Optics Cable LOS D (S.U.E.*)	-----

WATER:

Water Manhole	⊙
Water Meter	⊙
Water Valve	⊙
Water Hydrant	⊙
U/G Water Line LOS B (S.U.E.*)	-----
U/G Water Line LOS C (S.U.E.*)	-----
U/G Water Line LOS D (S.U.E.*)	-----
Above Ground Water Line	-----

TV:

TV Pedestal	⊙
TV Tower	⊙
U/G TV Cable Hand Hole	⊙
U/G TV Cable LOS B (S.U.E.*)	-----
U/G TV Cable LOS C (S.U.E.*)	-----
U/G TV Cable LOS D (S.U.E.*)	-----
U/G Fiber Optic Cable LOS B (S.U.E.*)	-----
U/G Fiber Optic Cable LOS C (S.U.E.*)	-----
U/G Fiber Optic Cable LOS D (S.U.E.*)	-----

GAS:

Gas Valve	⊙
Gas Meter	⊙
U/G Gas Line LOS B (S.U.E.*)	-----
U/G Gas Line LOS C (S.U.E.*)	-----
U/G Gas Line LOS D (S.U.E.*)	-----
Above Ground Gas Line	-----

SANITARY SEWER:

Sanitary Sewer Manhole	⊙
Sanitary Sewer Cleanout	⊙
U/G Sanitary Sewer Line	-----
Above Ground Sanitary Sewer	-----
SS Forced Main Line LOS B (S.U.E.*)	-----
SS Forced Main Line LOS C (S.U.E.*)	-----
SS Forced Main Line LOS D (S.U.E.*)	-----

MISCELLANEOUS:

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

PRELIMINARY PLANS
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City of Raleigh Development Approval
City of Raleigh Review Officer



DATE: JULY 2019

CADD TECH: DAP

CHECKED BY: RMK

REVISIONS

NO. DATE

SCALES

HSCALE N/A

VSCALE N/A

SHEET NO.



GENERAL NOTES
CONSTRUCTION NOTES
TRAFFIC CONTROL NOTES

BARWELL ROAD (SR 2551)
FROM ROCK QUARRY ROAD (SR 2542)
TO BERKELEY LAKE ROAD

CONSTRUCTION NOTES:

1. EXCAVATION AND CONSTRUCTION SHALL PROCEED ACCORDING TO THE LATEST OSHA REGULATIONS.
2. LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES ON THE PLANS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF EXISTING UTILITIES BEFORE CONSTRUCTION BEGINS AND COORDINATE WITH THE ENGINEER FOR CHANGES.
3. CONTRACTOR SHALL COORDINATE WITH UTILITY OWNERS FOR LOCATION OF EXISTING UTILITIES AND WORK WITH THEM TO REMOVE CONFLICTS.
4. NOT ALL EXISTING UTILITIES ARE SHOWN ON THE PLAN. THE CONTRACTOR IS RESPONSIBLE FOR LOCATION OF ALL EXISTING UNDERGROUND UTILITIES. "CALL NORTH CAROLINA ONE CALL" (TEL# 1-800-632-4949) 48 HOURS PRIOR TO ANY EXCAVATION WORK ON THE SITE.
5. CONTRACTOR SHALL INSTALL TRAFFIC CONTROL DEVICES AS PER MUTCD.
6. ALL MATERIALS FURNISHED AND WORK PERFORMED SHALL CONFORM TO CITY OF RALEIGH AND NC DOT STANDARDS AND SPECIFICATIONS.
7. THE CONTRACTOR SHALL RECONSTRUCT DRIVEWAYS IN SUCH A MANNER AS TO PROVIDE A SMOOTH TRANSITION TO EXISTING.
8. CONTRACTOR TO COORDINATE WORK IN THE VICINITY OF TRAFFIC SIGNAL / SIGNAL LOOPS WITH NCDOT DIVISION 5 TRAFFIC ENGINEER BEFORE MILLING OF ROADWAY.

GENERAL NOTES:

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED IN THE CONTRACT.

SIDE ROAD:

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 CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS IN PLANS USING 3.5' RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

CURB RAMPS:

CURB RAMPS ARE SHOWN ON THE PLANS AT EXACT LOCATIONS. THE CONSTRUCTION OF ALL CURB RAMPS SHALL BE IN ACCORDANCE WITH THE PLANS AND MAY BE MODIFIED IN FIELD BY CITY OF RALIGH STAFF AS NEEDED.

UTILITIES:

ALL WATER METERS AND FIRE HYDRANTS IN CONFLICT WITH CONSTRUCTION WITHIN THE LIMITS OF THE PROJECT SHALL BE RELOCATED TO THE RIGHT OF WAY LINE. HYDRANTS INSTALLED BEFORE 1985 SHALL BE REPLACED ACCORDING TO CURRENT STANDARD.

ANY CLEANOUTS (OR ADDITIONAL WATER METERS) UNCOVERED IN THE FIELD AND FOUND TO BE IN CONFLICT WITH CONSTRUCTION SHALL BE RELOCATED.

ANY WATER SERVICES BEING RELOCATED SHALL BE BROUGHT TO CURRENT CODE AND INCLUDE A CURB STOP. IF GALVANIZED SERVICES ARE ENCOUNTERED, NOTIFY PUBLIC UTILITIES OF THE ADDRESS AS THEY WILL NEED TO BE REPLACED.

PRELIMINARY PLANS
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City of Raleigh Development Approval _____
City of Raleigh Review Officer _____

DATE: JULY / 2019

CADD TECH: DAP

CHECKED BY: ??

REVISIONS

NO.	DATE

SCALES

HSCALE N/A

VSCALE N/A

SHEET NO.

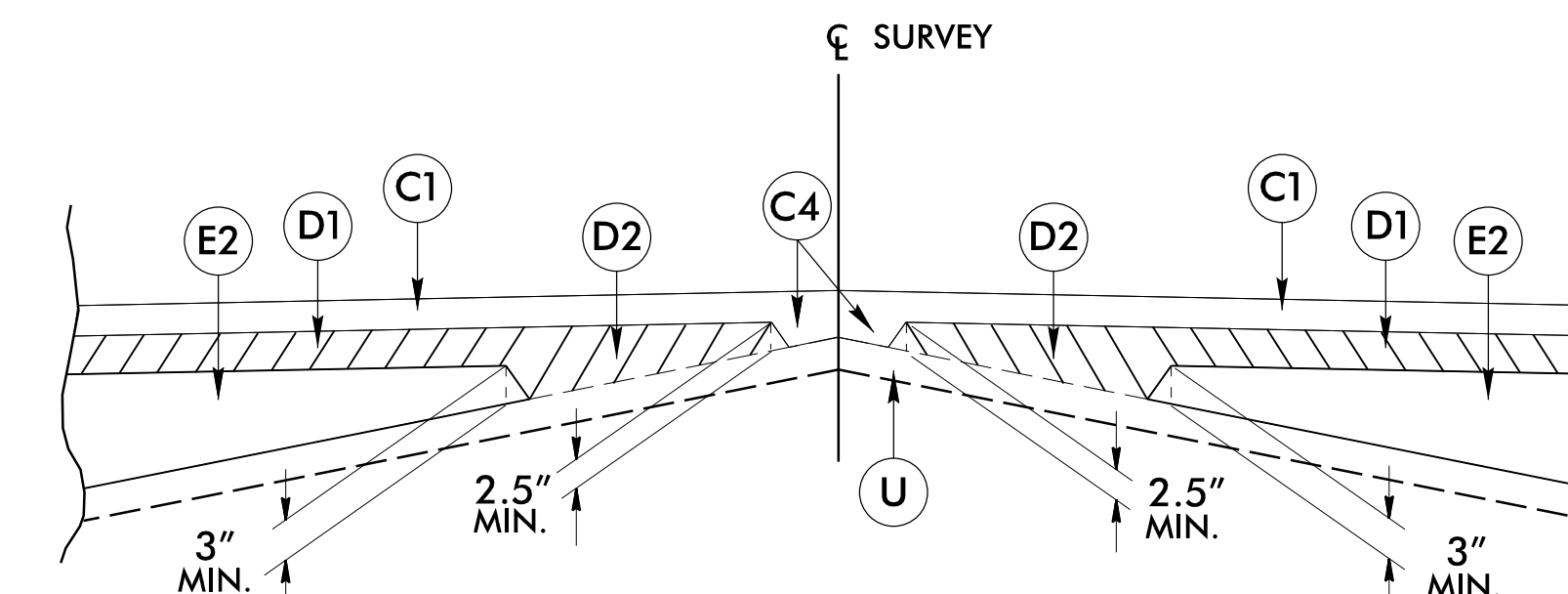


TYPICAL SECTIONS

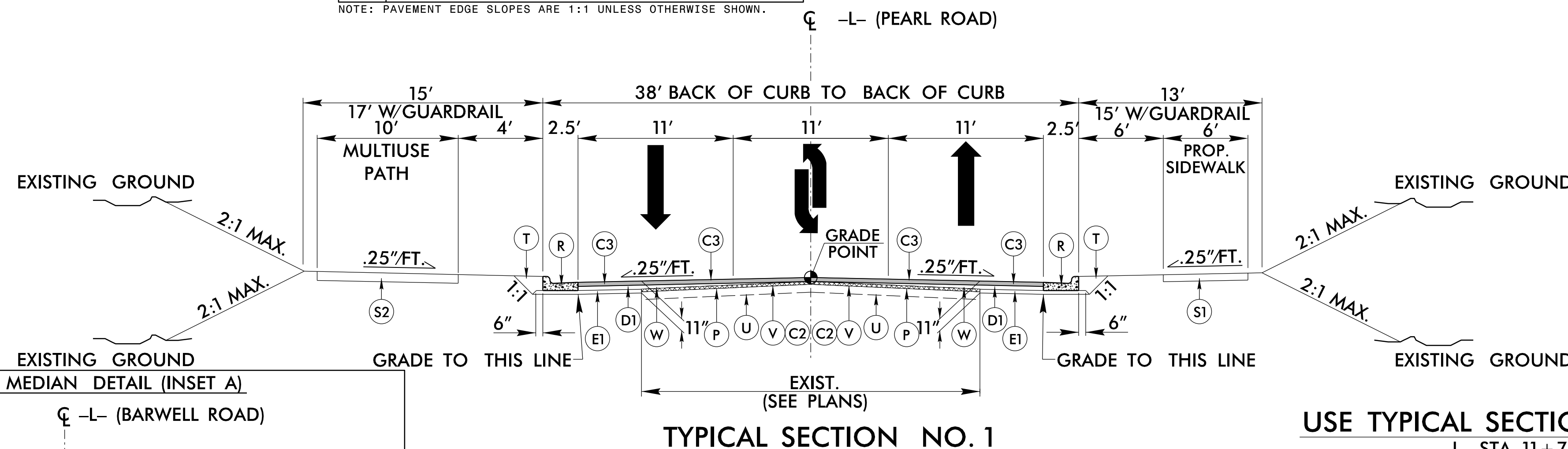
BARWELL ROAD (SR 2551)
FROM ROCK QUARRY ROAD (SR 2542)
TO BERKELEY LAKE ROAD

FINAL PAVEMENT SCHEDULE		
C1	PROP. APPROX. 1" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD.	P PRIME COAT AT THE RATE OF 0.35 GAL. PER SQ. YD.
C2	PROP. APPROX. 2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	R 2'-6" CONCRETE CURB AND GUTTER
C3	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 165 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.	S1 4" CONCRETE SIDEWALK
C4	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 110 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT TO EXCEED 1.5" IN DEPTH.	S2 MULTI-USE PATH
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	T EARTH MATERIAL
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 2.5" OR GREATER THAN 4" IN DEPTH.	U EXISTING PAVEMENT
E1	PROP. APPROX. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.	V MILLING EXISTING PAVEMENT, 2" DEPTH
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0C, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH TO BE PLACED IN LAYERS NOT LESS THAN 3" OR GREATER THAN 5 1/2" IN DEPTH.	W VAR. DEPTH ASPHALT PAVEMENT
J	PROP. 8" AGGREGATE BASE COURSE	

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



Detail Showing Method of Wedging

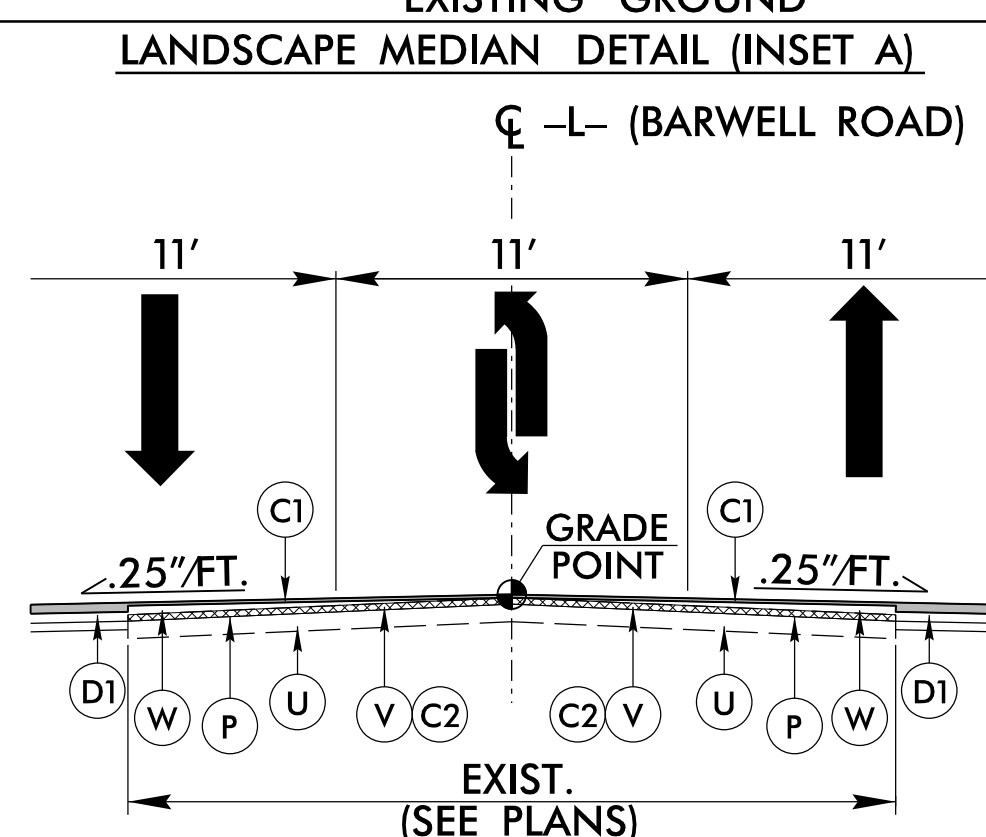


USE TYPICAL SECTION NO. 1 AS FOLLOWS

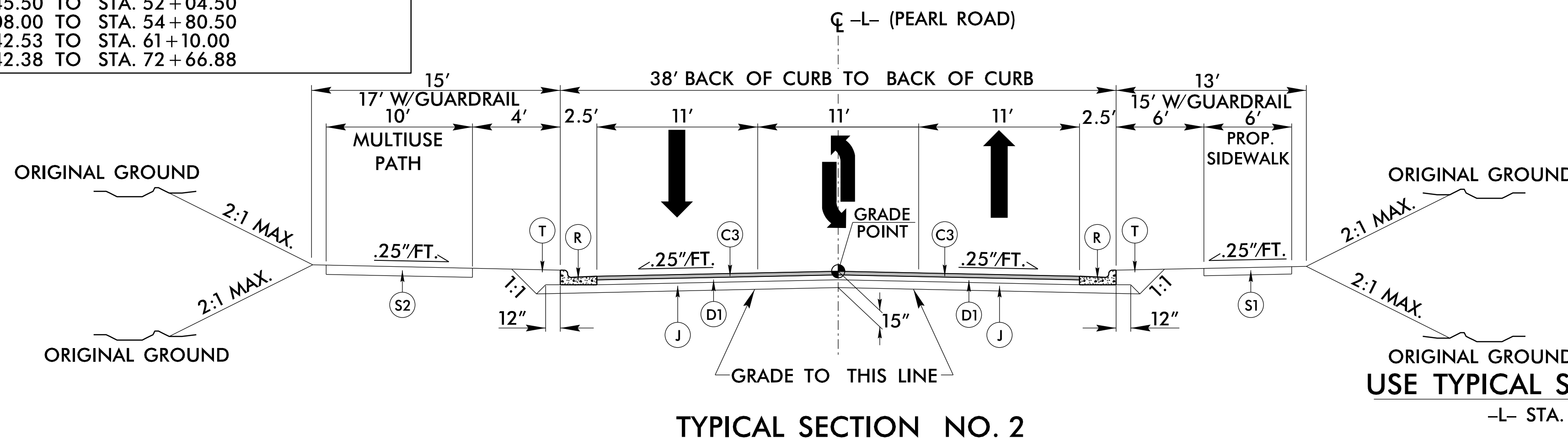
- L- STA. 11+79.79 TO STA. 11+96.12 LT.
- L- STA. 11+96.12 TO STA. 16+00.00

NOTE: TRANSITION FROM EXISTING TO TYPICAL SECTION NO. 1

- L- STA. 10+79.79 TO STA. 11+79.79 LT.
- L- STA. 10+96.12 TO STA. 11+96.12 RT.



- USE WITH TYPICAL SECTION NO. 3
- L- STA. 24+55.49 TO STA. 25+82.39
 - L- STA. 39+50.00 TO STA. 41+00.00
 - L- STA. 50+45.50 TO STA. 52+04.50
 - L- STA. 54+08.00 TO STA. 54+80.50
 - L- STA. 60+42.53 TO STA. 61+10.00
 - L- STA. 72+42.38 TO STA. 72+66.88



USE TYPICAL SECTION NO. 2 AS FOLLOWS

- L- STA. 16+00.00 TO STA. 21+70.33

PRELIMINARY PLANS

DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF RALEIGH AND/OR NCDOT STANDARDS AND SPECIFICATIONS.

CONCURRENT REVIEW APPROVAL

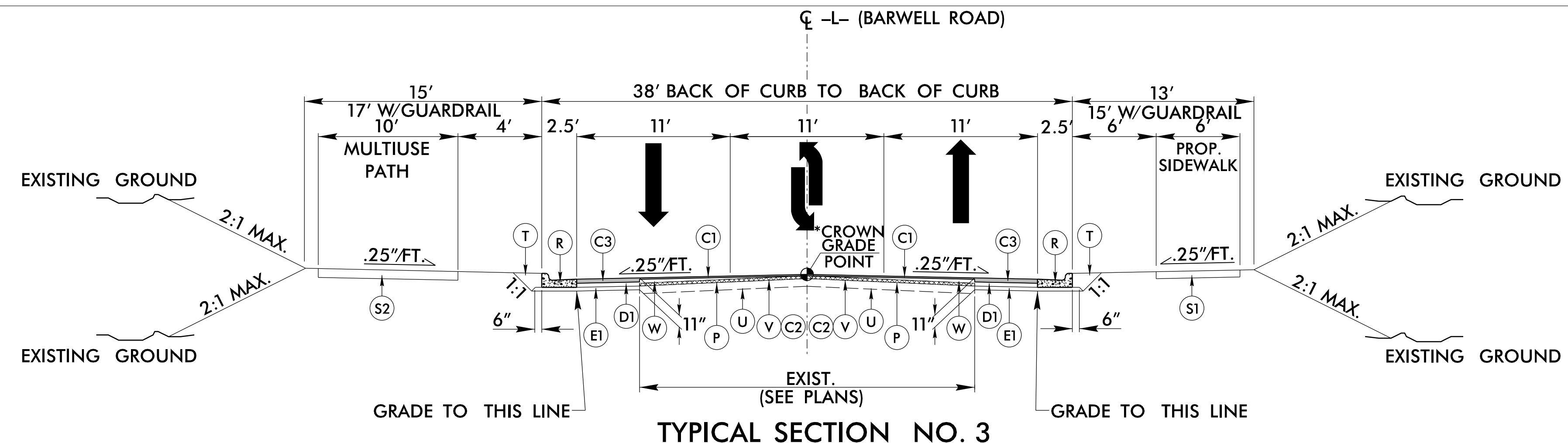
CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION
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City of Raleigh Development Approval _____
City of Raleigh Review Officer _____

DATE:	JUNE / 2019
CADD TECH:	TAH
CHECKED BY:	RMK
REVISIONS	
NO.	DATE
SCALES	
HSCALE	N/A
VSCALE	N/A
SHEET NO.	
2A	



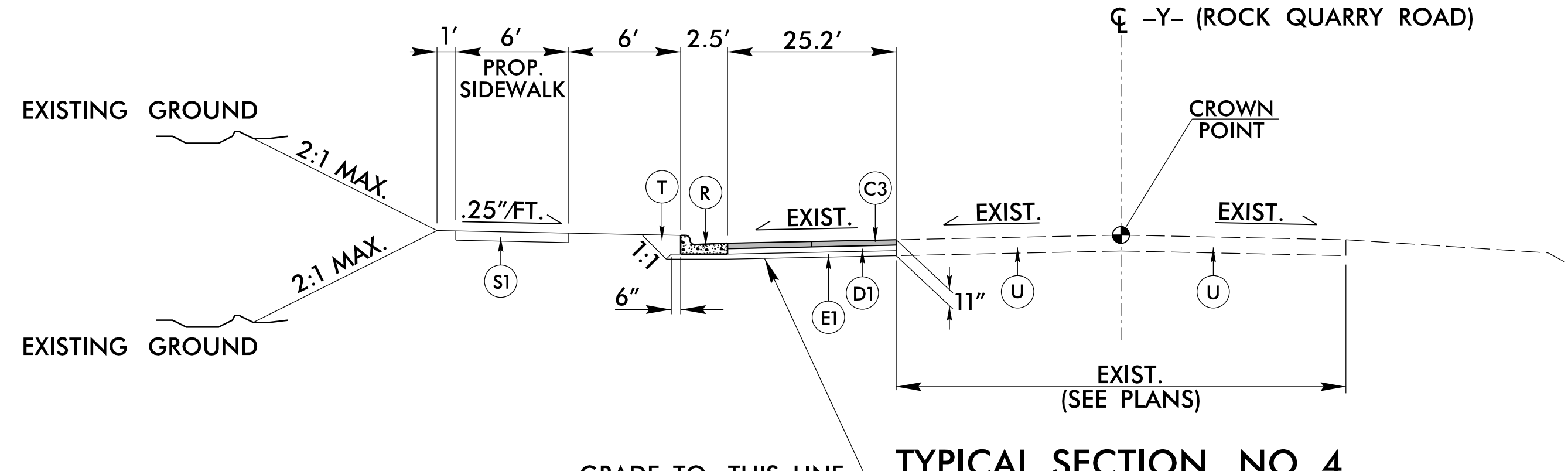
FINAL PAVEMENT SCHEDULE	
C1	1" S9.5B
C2	2" S9.5B
C3	3" S9.5B
C4	VAR. DEPTH S9.5B
D1	4" I19.0C
D2	VAR. DEPTH I19.0C
E1	4" B25.0C
E2	VAR. DEPTH B25.0C
J	8" ABC
P	PRIME COAT
R	2'-6" C & G
S1	4" CONCRETE SIDEWALK
S2	MULTI-USE PATH
T	EARTH MATERIAL
U	EXISTING PAVEMENT
V	MILLING, 2" DEPTH
W	WEDGING



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3 AS FOLLOWS

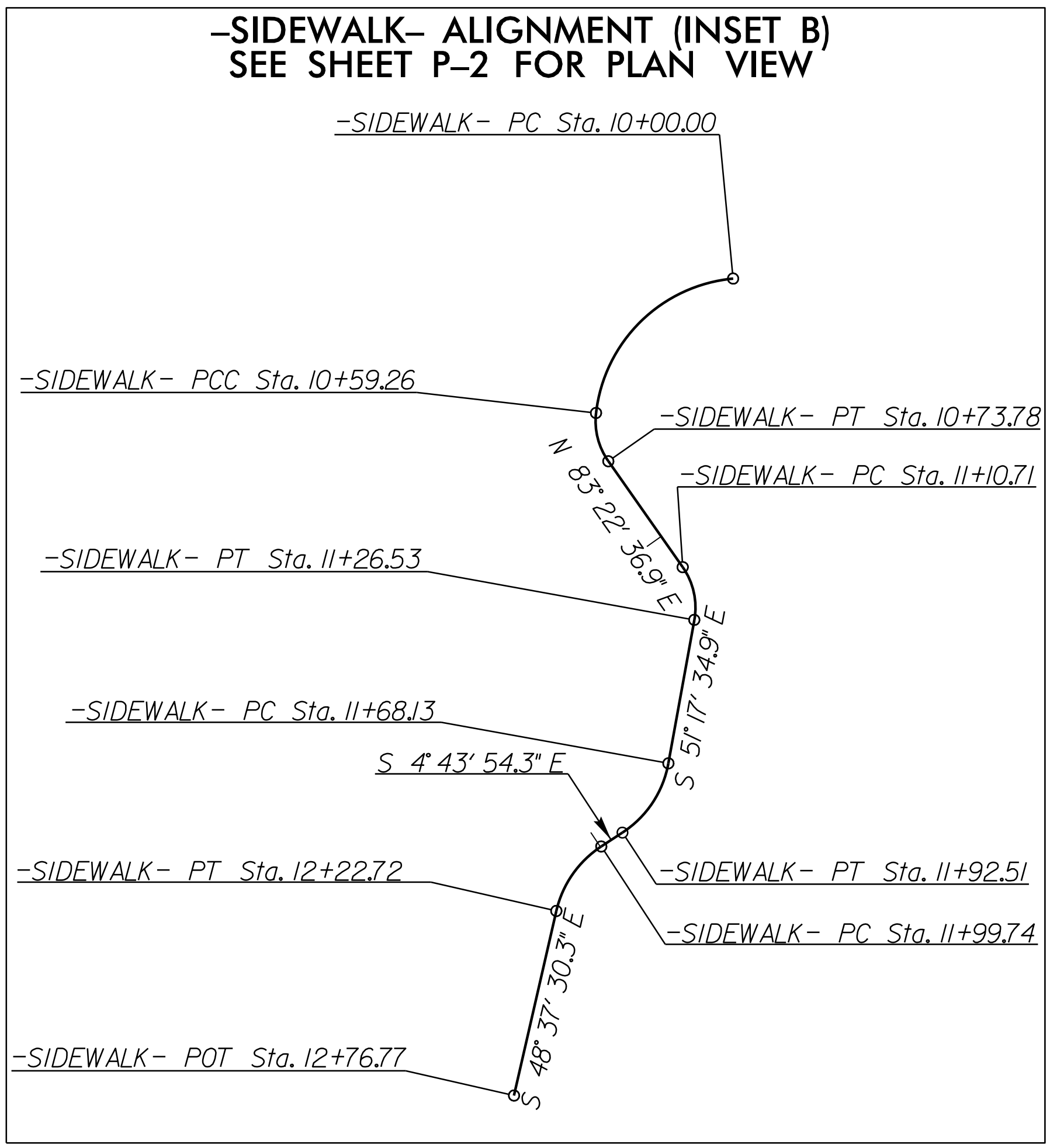
-L- STA. 22+08.37 TO STA. 80+60.00
*L- STA. 80+60.00 TO STA. 81+21.71



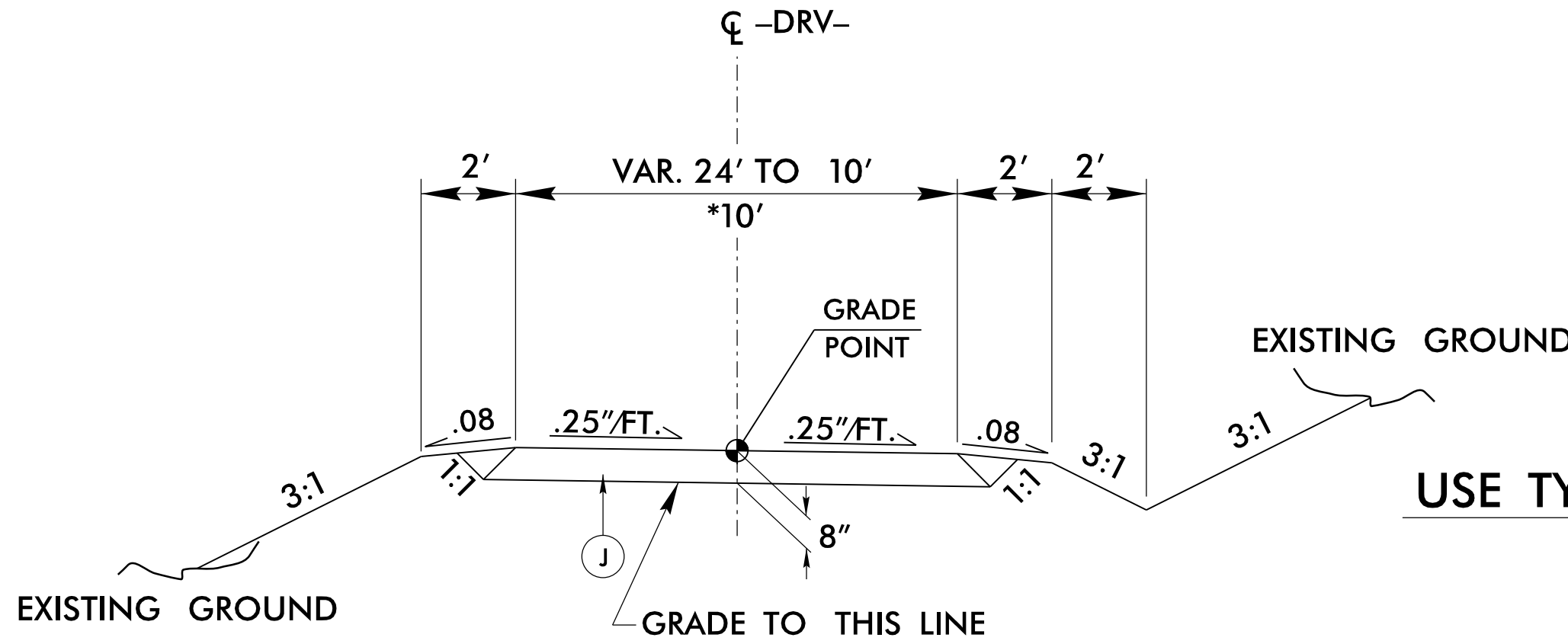
TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4 AS FOLLOWS

-Y- STA. 15+32.00 TO STA. 16+18.72 LT.



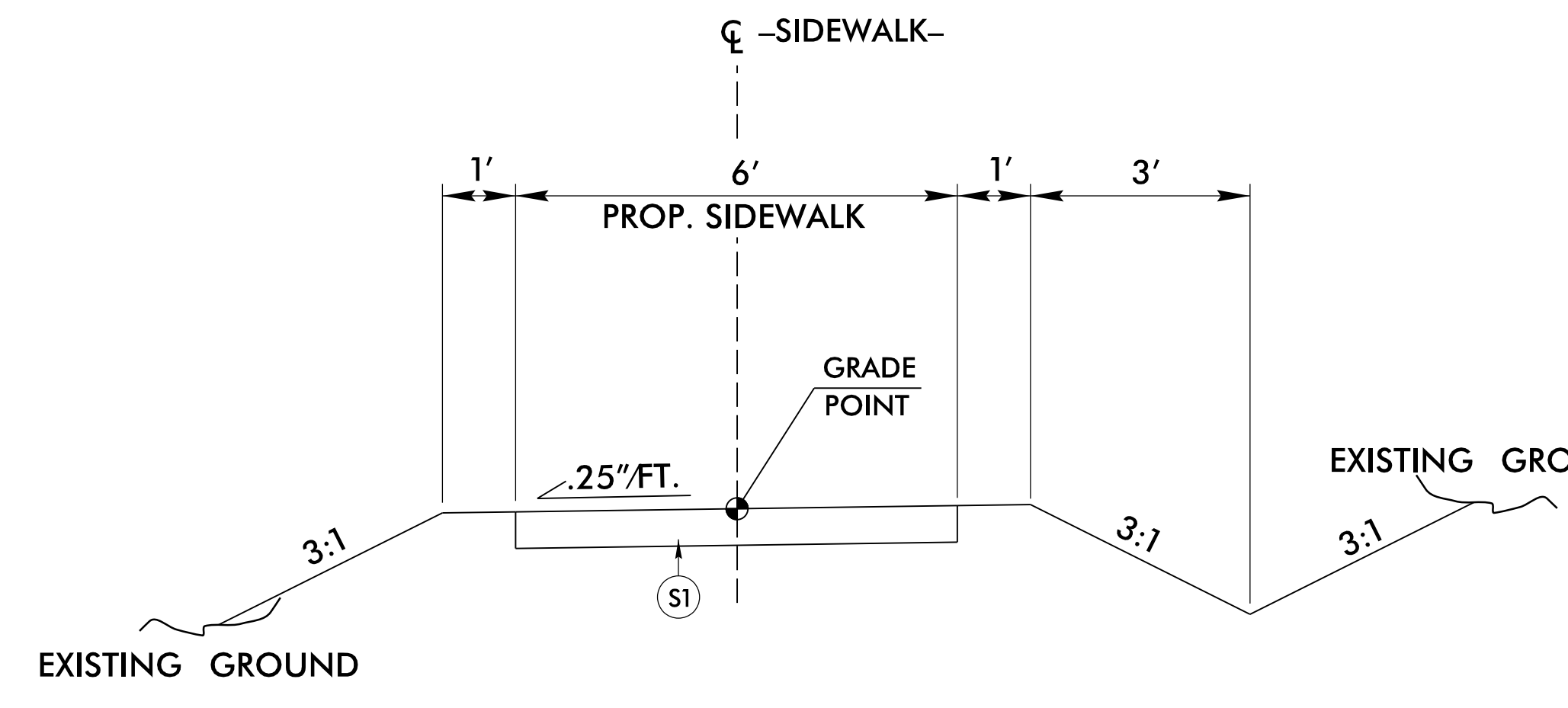
**-SIDEWALK- ALIGNMENT (INSET B)
SEE SHEET P-2 FOR PLAN VIEW**



TYPICAL SECTION NO. 5

USE TYPICAL SECTION NO. 5 AS FOLLOWS

-DRV- STA. 10+16.50 TO STA. 10+74.61
*-DRV- STA. 10+74.61 TO STA. 12+14.00



TYPICAL SECTION NO. 6

USE TYPICAL SECTION NO. 6 AS FOLLOWS

-SIDEWALK- STA. 10+00.00 TO STA. 12+22.32

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City of Raleigh Review Officer

TYPICAL SECTIONS

BARWELL ROAD (SR 2551)
FROM ROCK QUARRY ROAD (SR 2542)
TO BERKELEY LAKE ROAD

REVISIONS	
NO.	DATE

SCALES
HSCALE N/A
VSCALE N/A
SHEET NO.



DATE: JULY 1 2019
CADD TECH: DAP
CHECKED BY: RAK
REVISIONS
NO. DATE

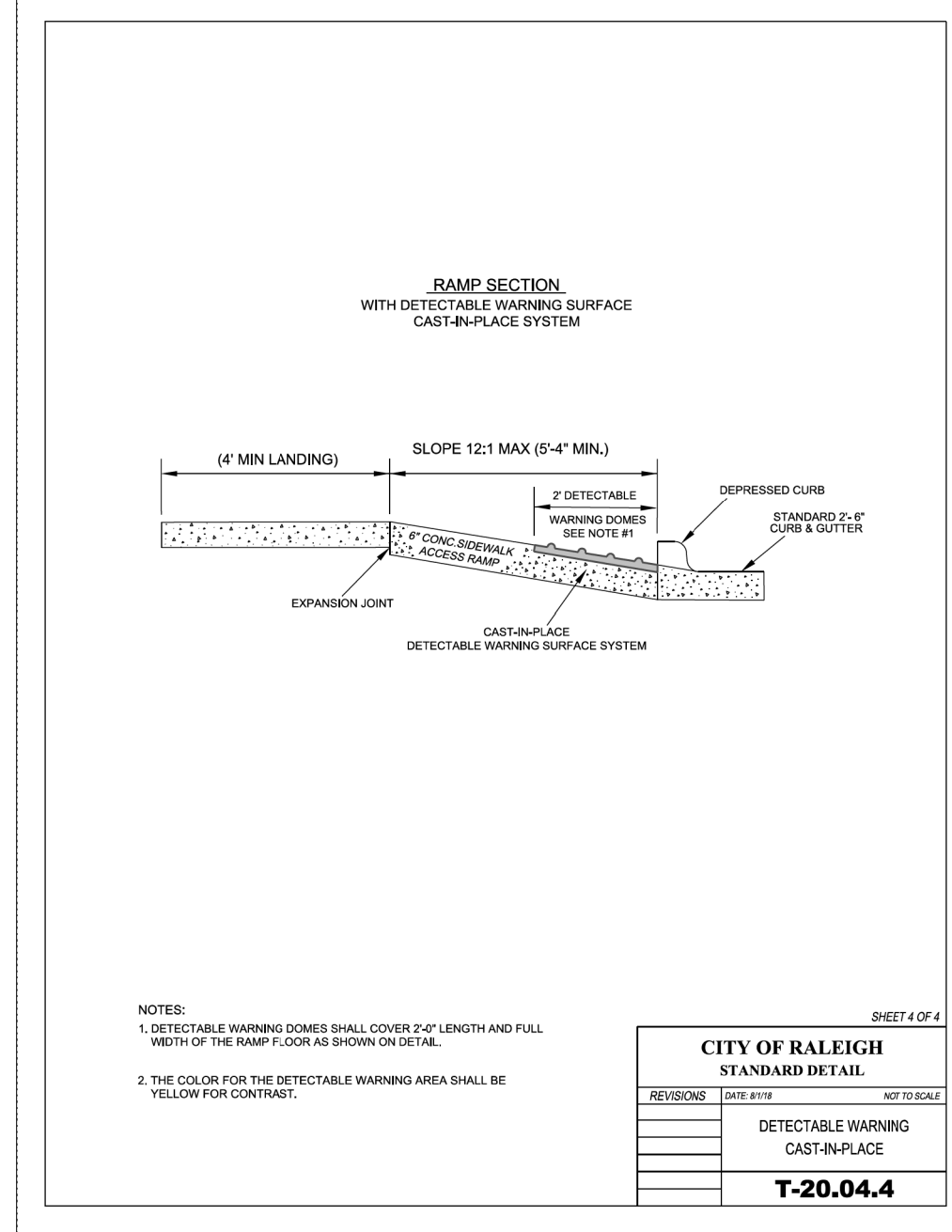
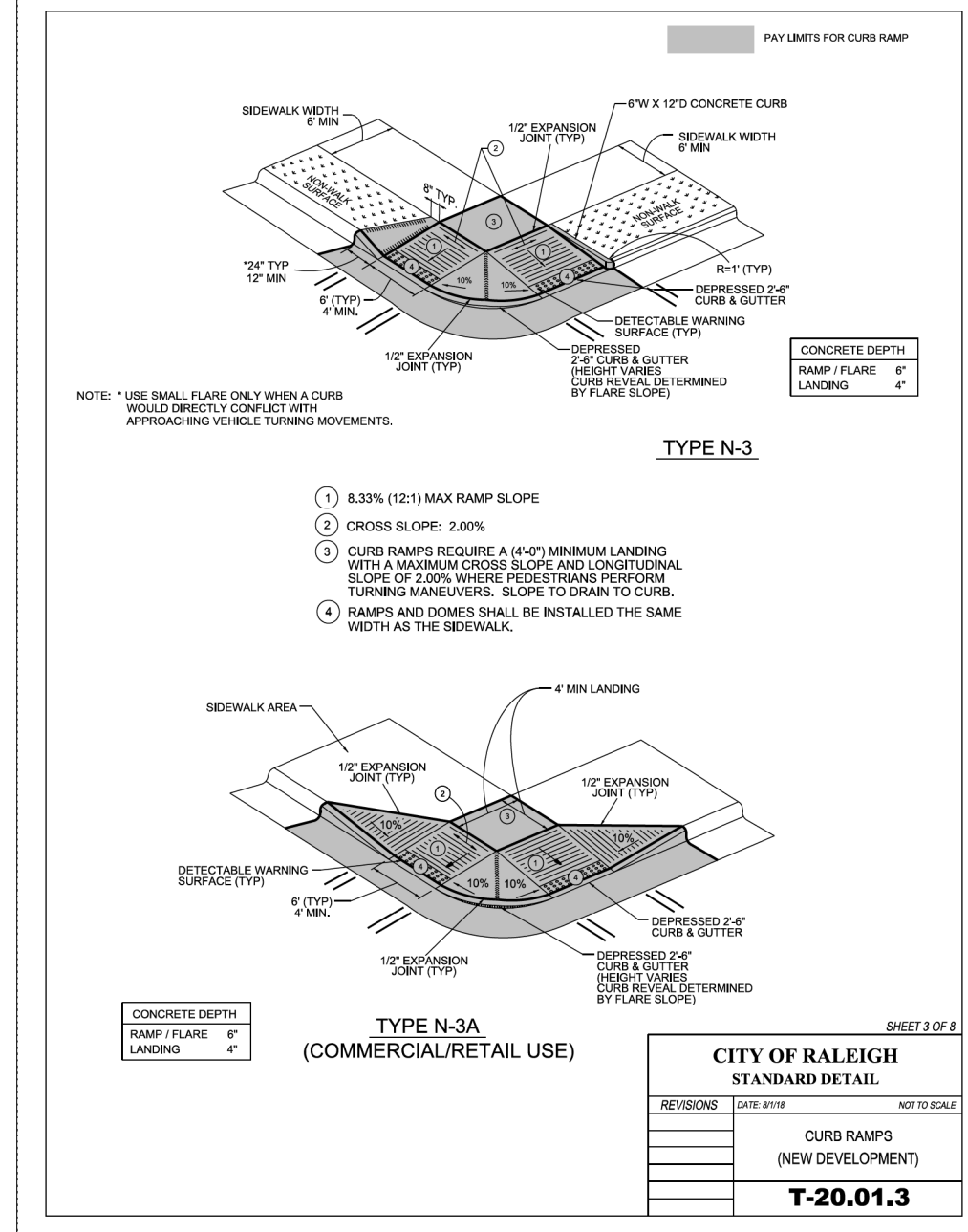
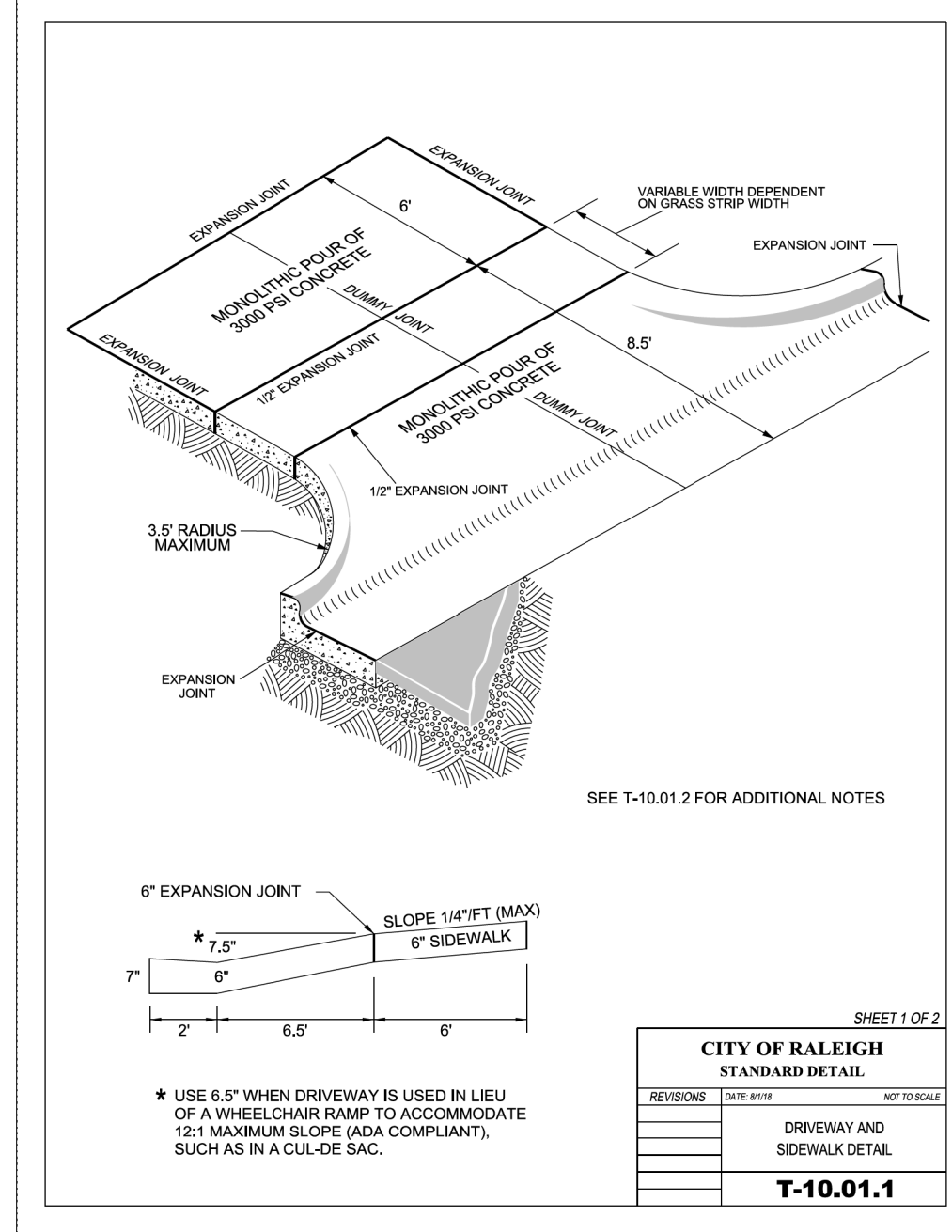
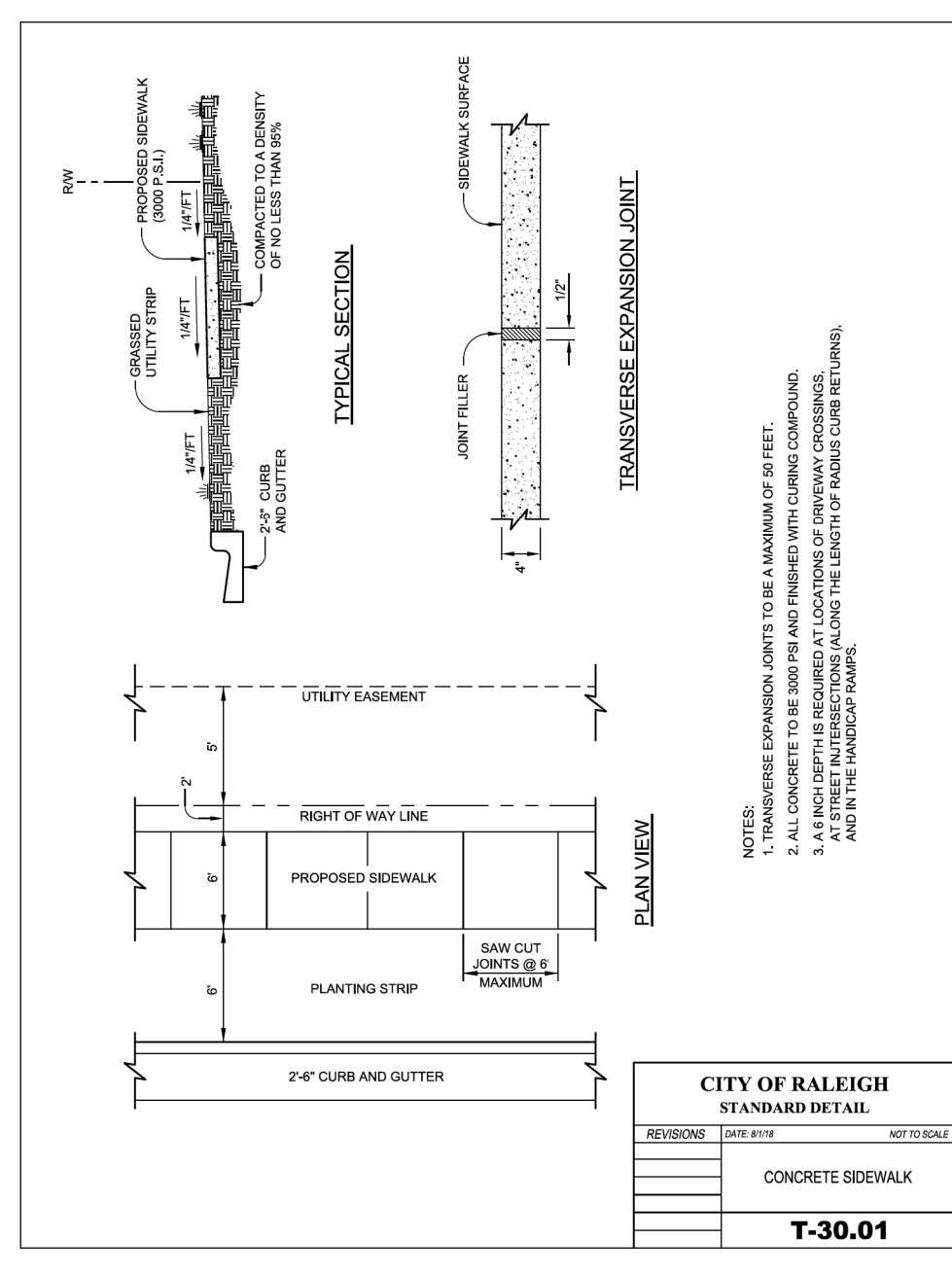
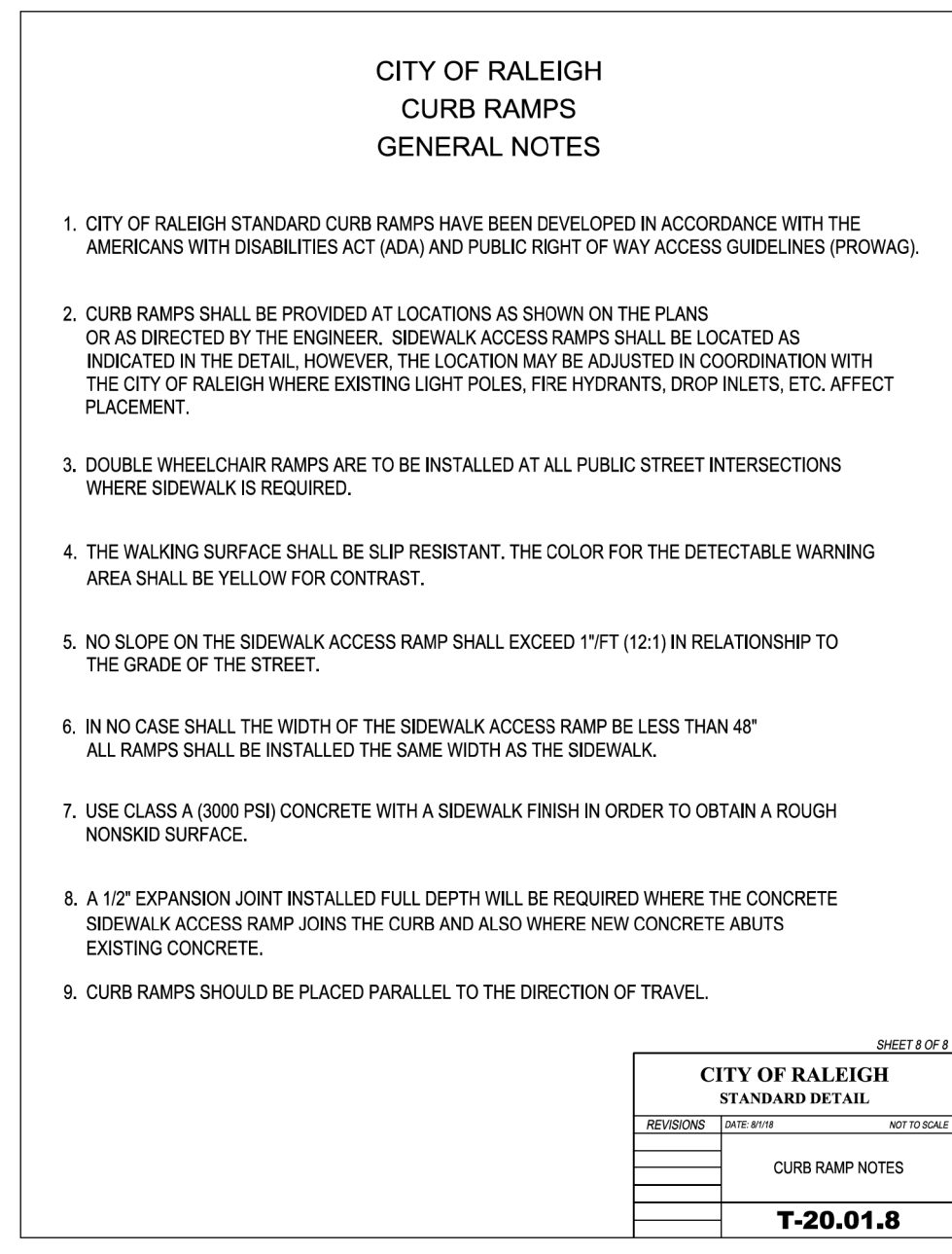
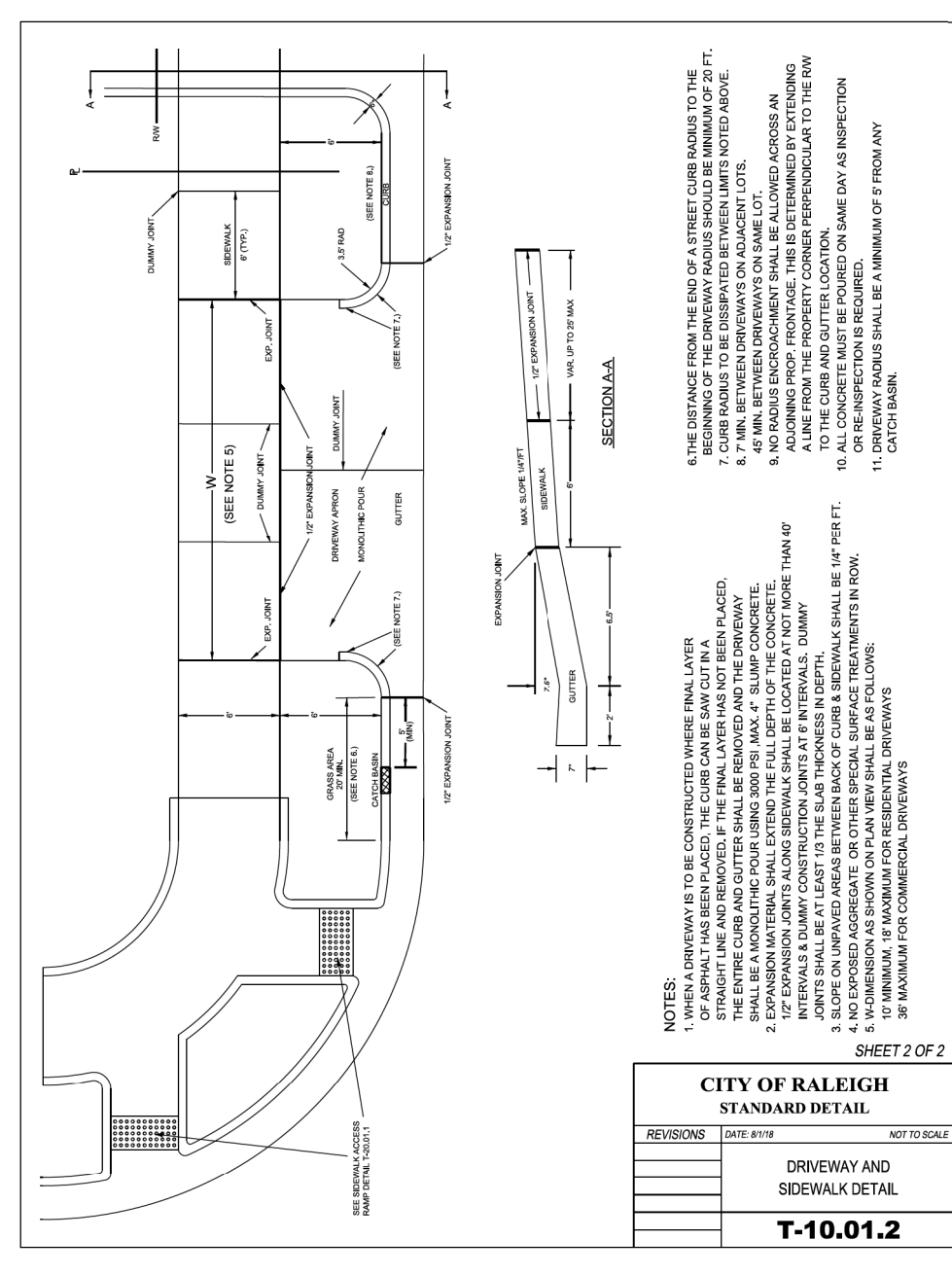
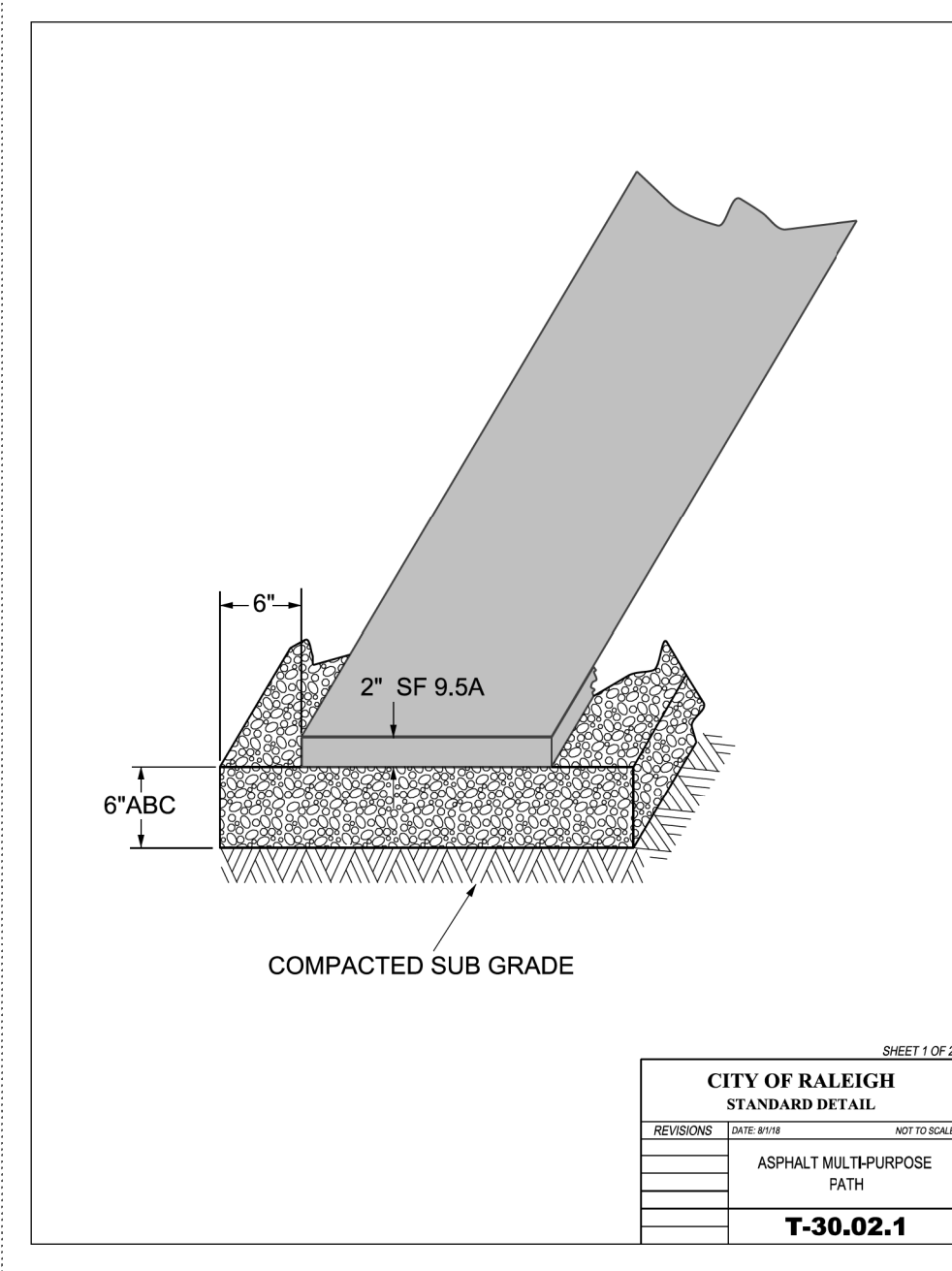
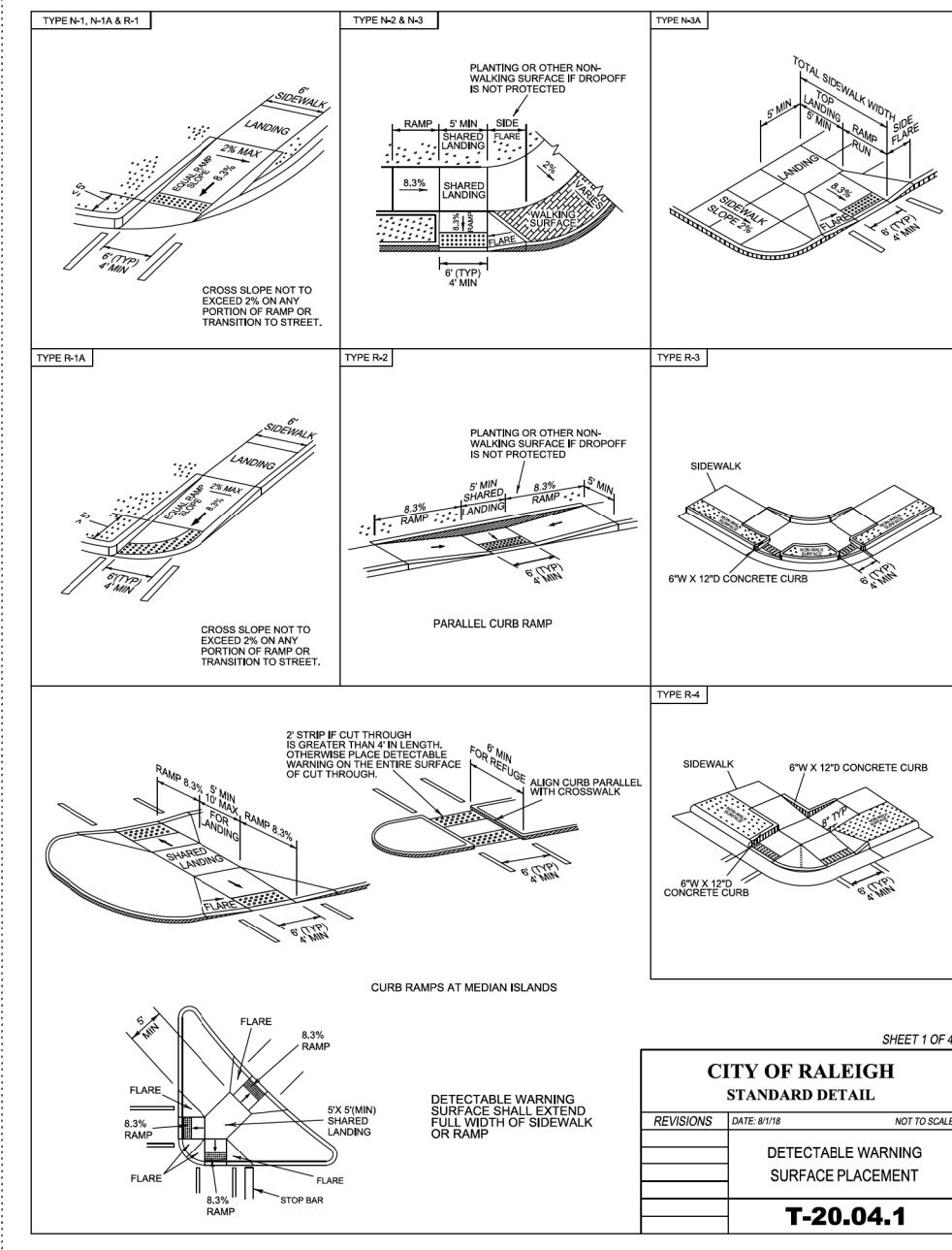
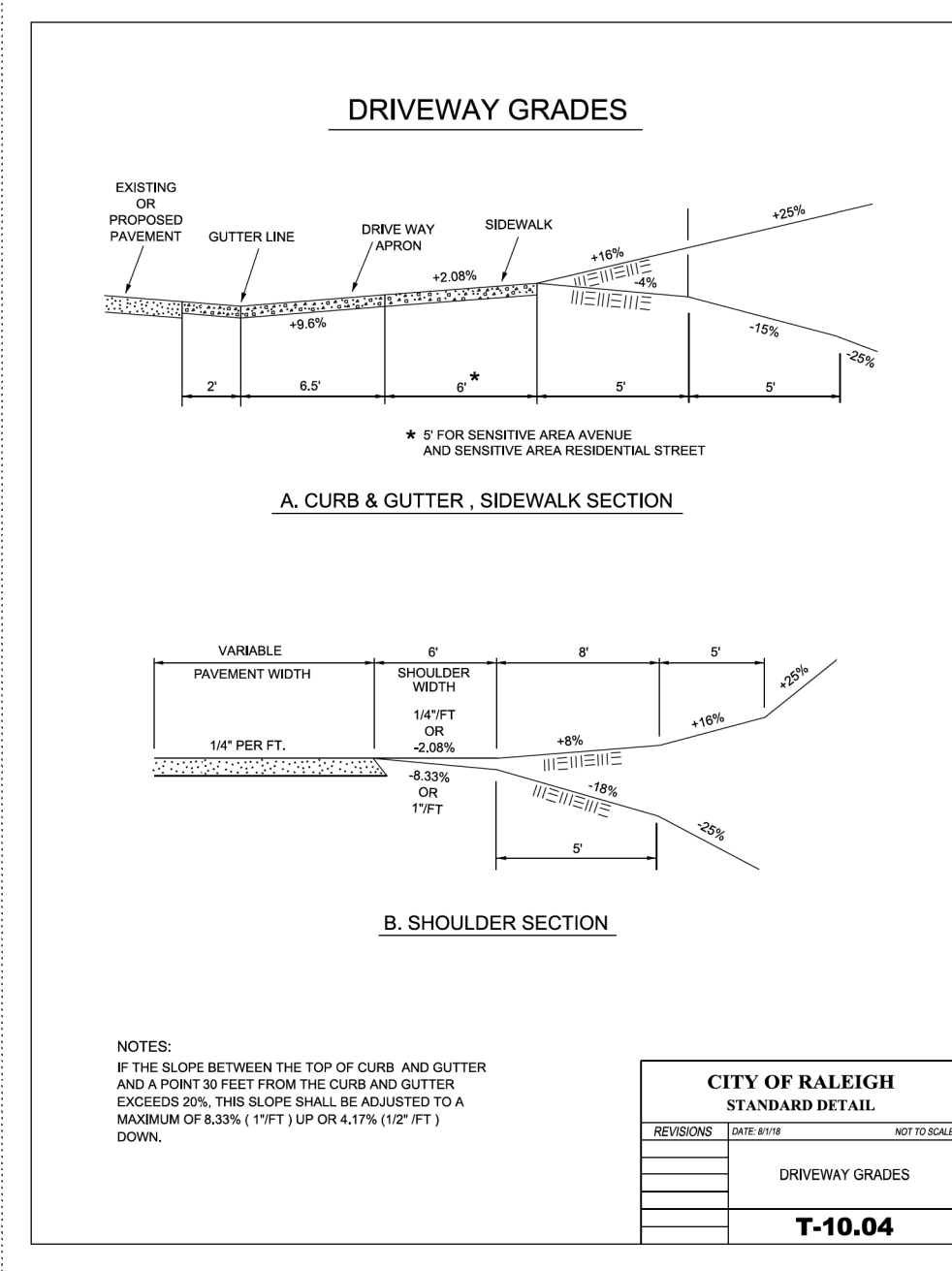
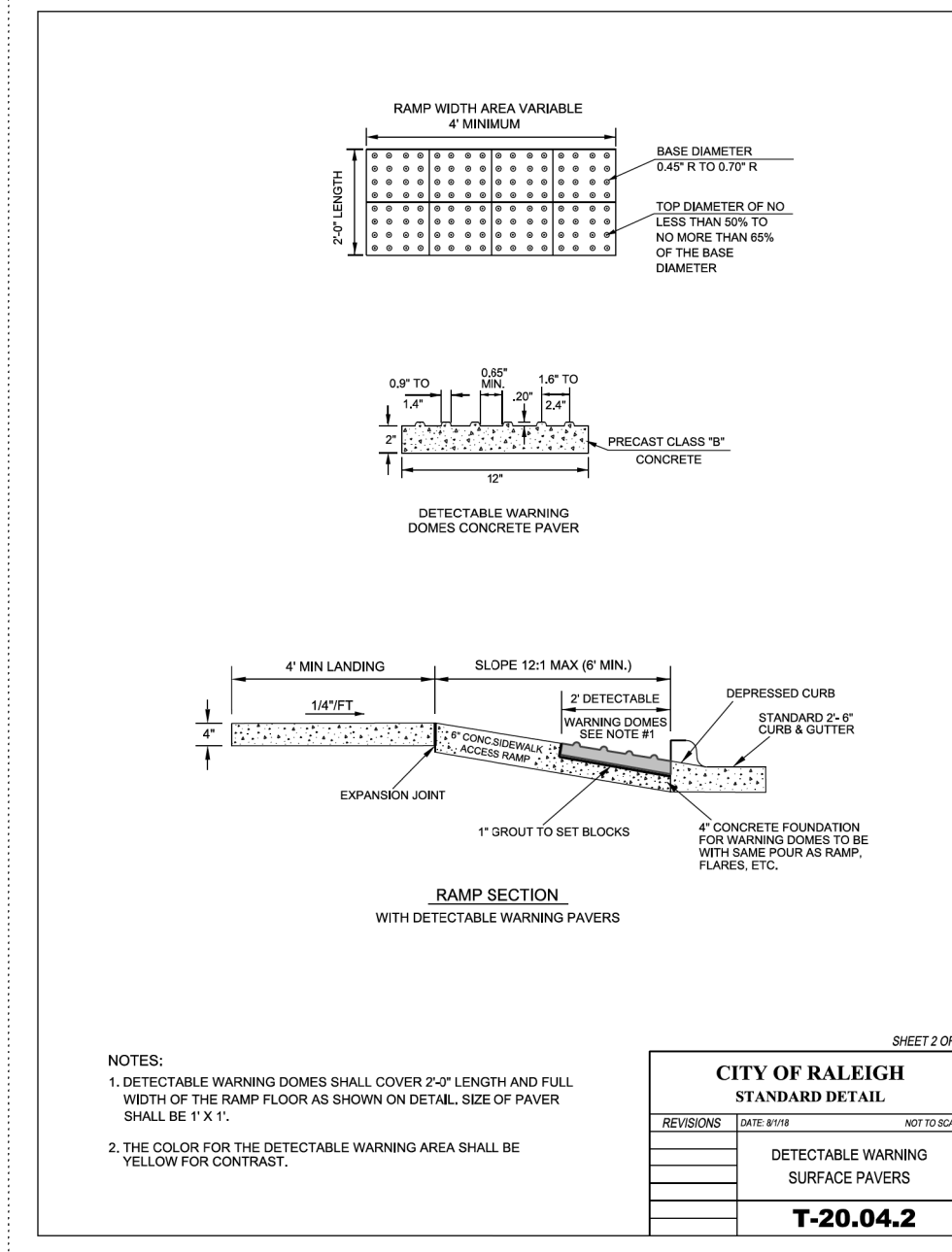
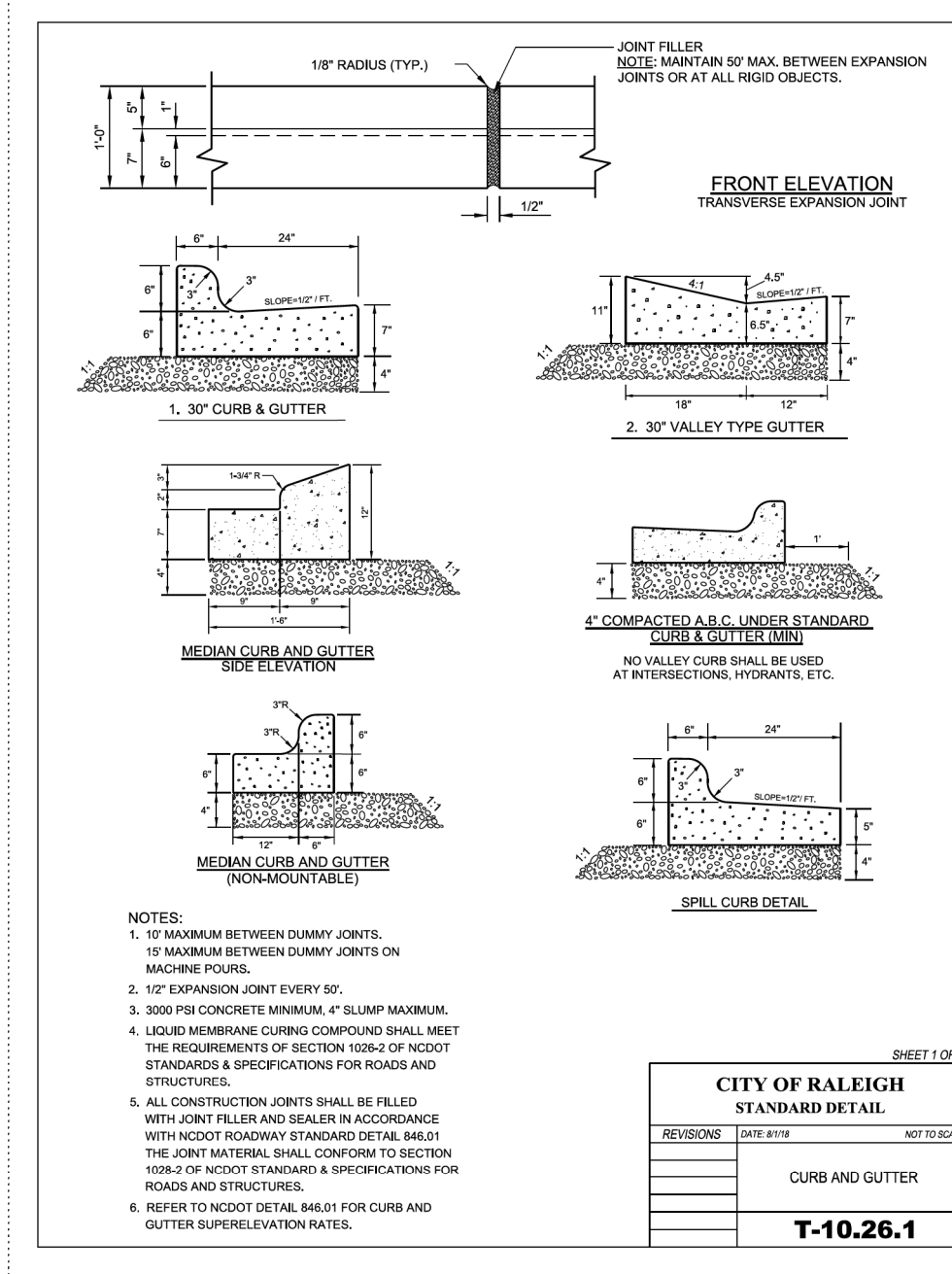
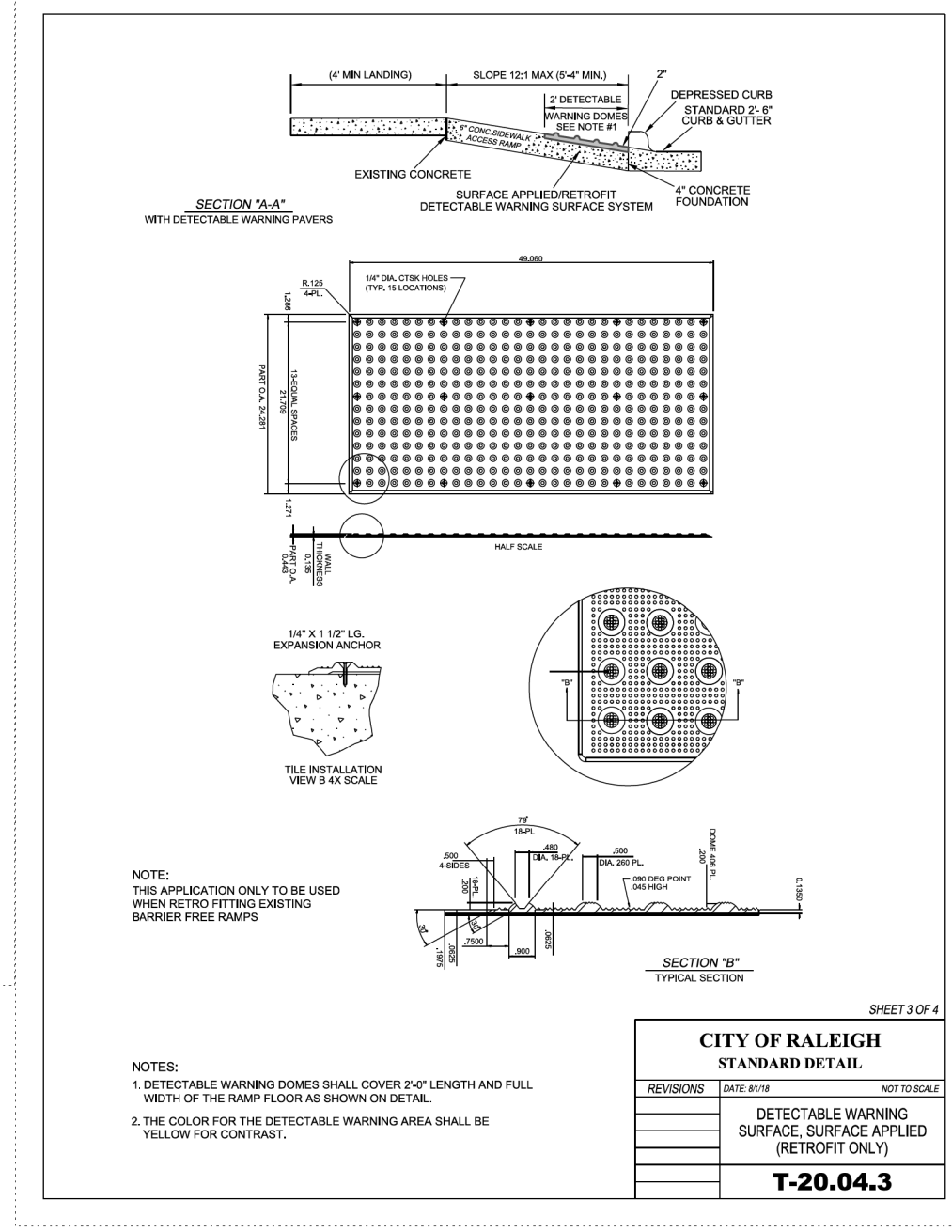
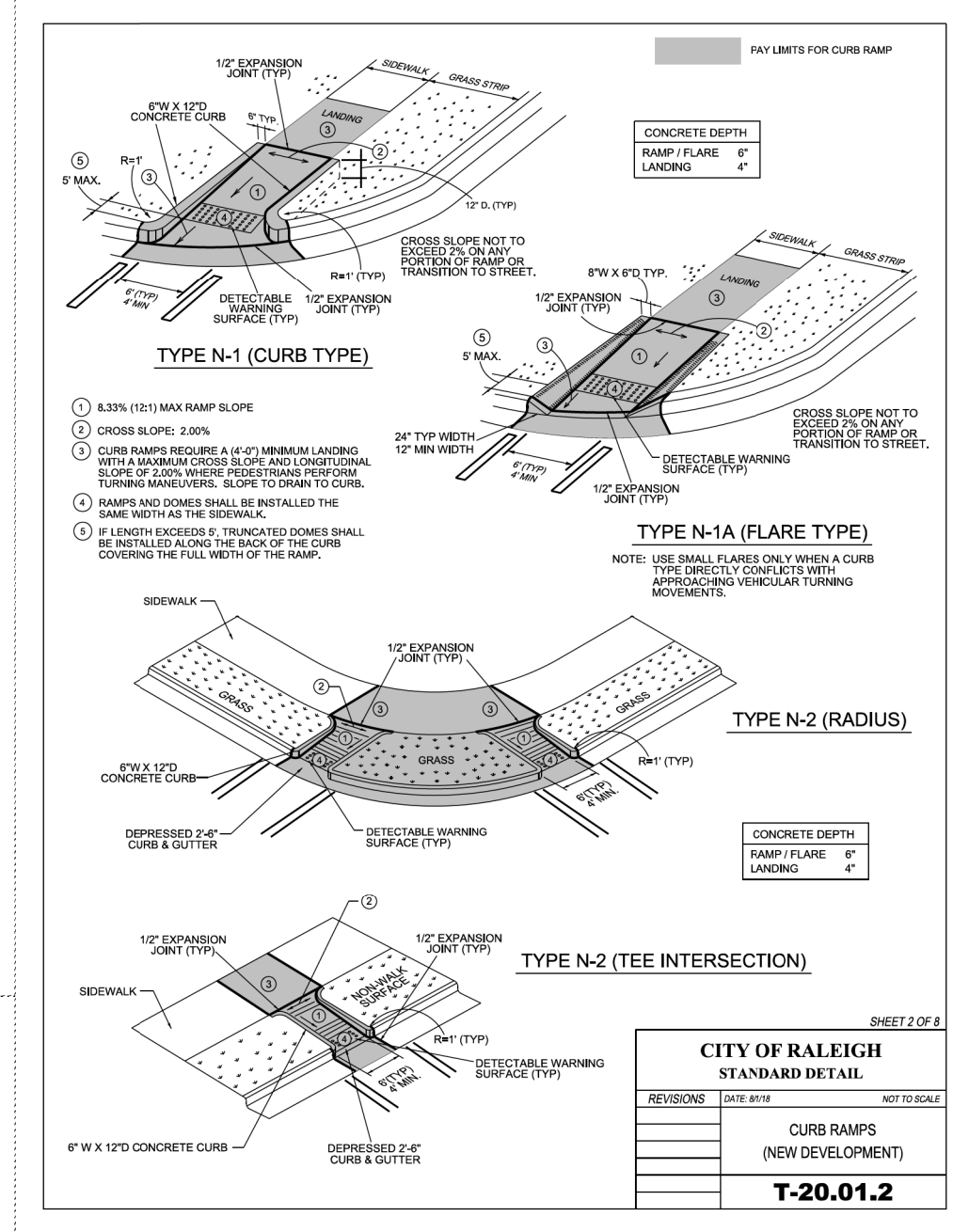
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PLANS REVIEW R/W

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City of Raleigh Development Approval
City of Raleigh Review Officer

SCALES
HSCALE N/A
VSCALE N/A
SHEET NO. 20





SPECIAL JUNCTION BOX
DOUBLE 42" DETAIL
(STRUCTURE 0228)

BARWELL ROAD (SR 2551)
FROM ROCK QUARRY ROAD (SR 2542)
TO BERKELEY LAKE ROAD

DATE: APRIL / 2021

CADD TECH: BMS

CHECKED BY:

REVISIONS

NO.	DATE

SCALES
HSCALE 1" = 40'
VSCALE 1" = 10'
SHEET NO.

2D

GENERAL NOTES:

USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL JUNCTION BOXES OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

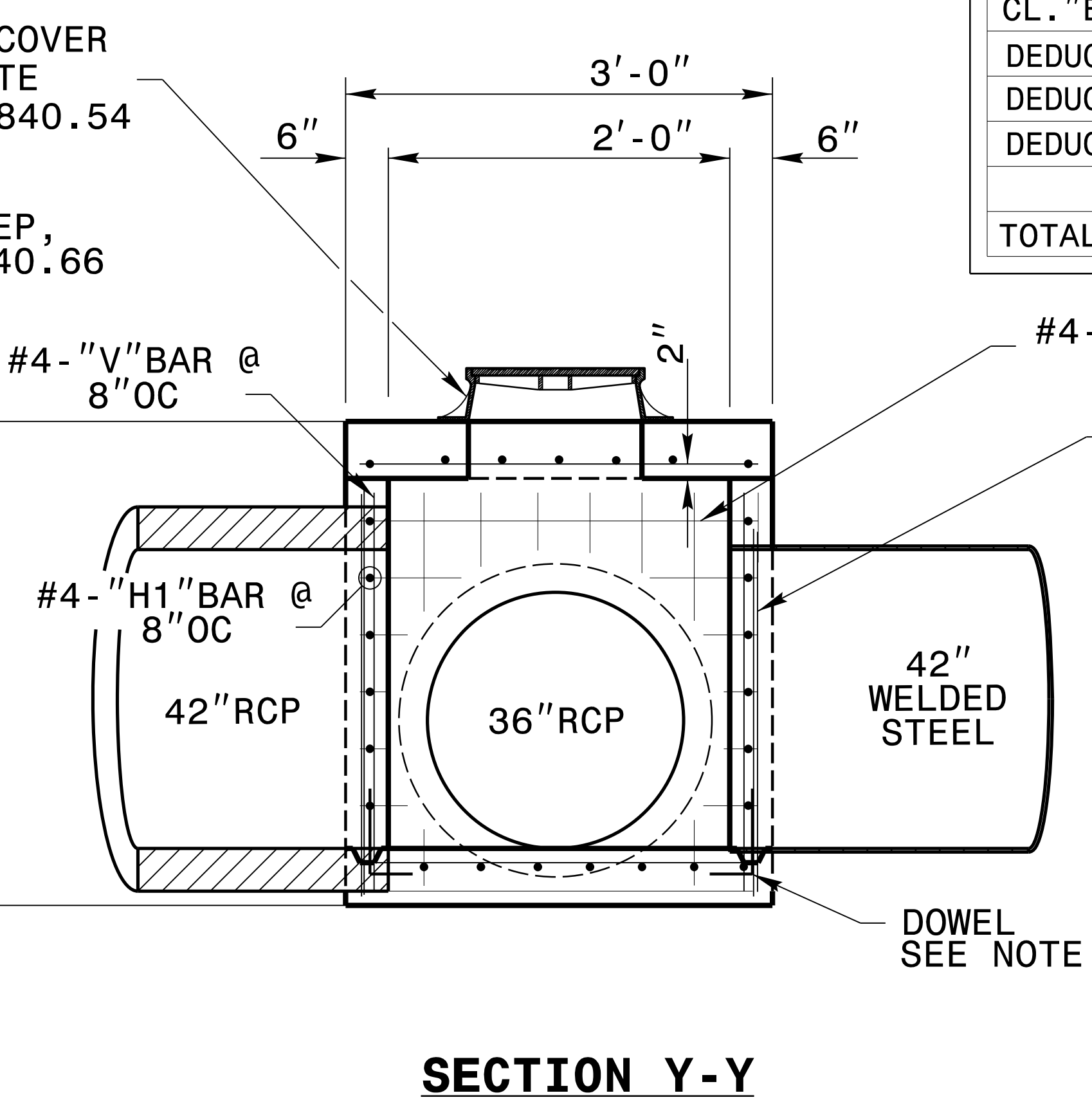
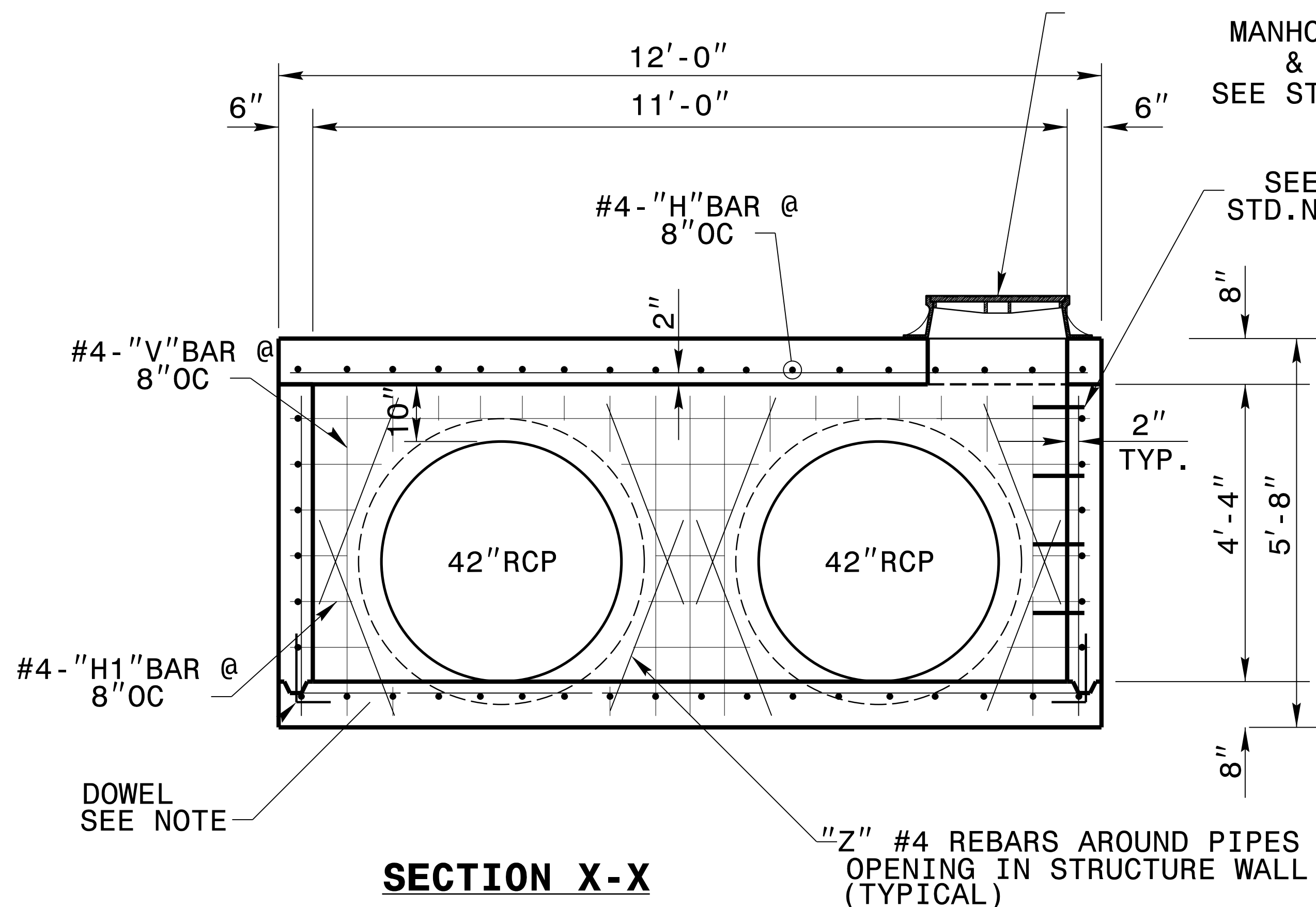
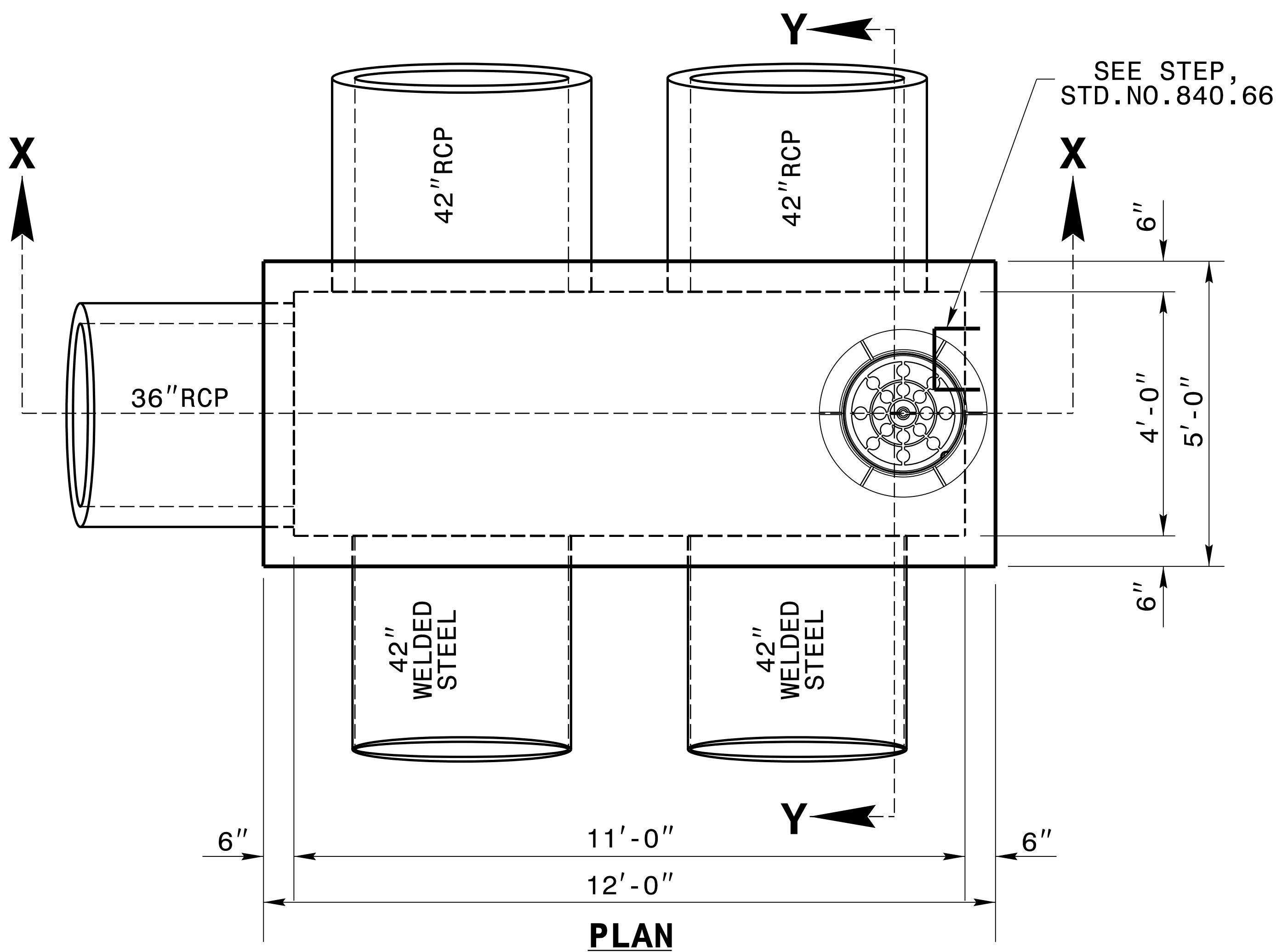
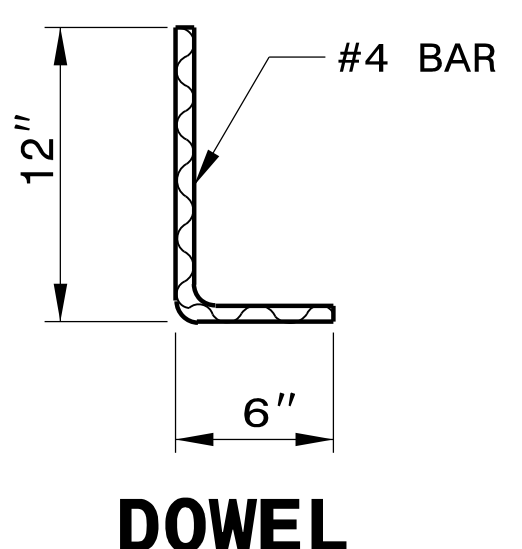
ADJUST THE STEEL, CONCRETE AND BRICK MASONRY QUANTITIES TO INCLUDE THE ADDITION OF THE MANHOLE (I.E. DIAGONAL BARS SHORTENED AROUND OPENING IN TOP SLAB, ADDITIONAL VARIABLE HEIGHT BRICK MASONRY, OPENING IN TOP SLAB.)

CHAMFER ALL EXPOSED CORNERS 1".

MINIMUM OF 2" COVERAGE ON ALL REBAR.

BILL OF MATERIALS

BAR	NO.	SIZE	LENGTH	WEIGHT
H	48	#4	3'-8"	118
H1	20	#4	11'-8"	156
V	46	#4	4'-4"	133
Z	16	#4	4'-0"	32
TOTAL REINF. STEEL (LBS.)				440
CL. "B" CONC. (CU.YDS.)				4.0
DEDUCTION FOR 1-36" RC PIPE				-0.2
DEDUCTION FOR 2-42" RC PIPE				-0.6
DEDUCTION FOR 2-42" WS PIPE				-0.36
TOTAL CL. "B" CONC. (CU.YDS.)				3.2



CONTRACT STANDARDS & DEVELOPMENT UNIT
STANDARDS AND SPECIAL DESIGN
Office 919-250-4128 FAX 919-250-4119

ORIGINAL BY: _____ DATE: _____
MODIFIED BY: bmsteffen DATE: 03-22-21
CHECKED BY: _____ DATE: _____
FILE SPEC.: details/nbritt/english/rural/r2303d_double_42d1.dgn

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W

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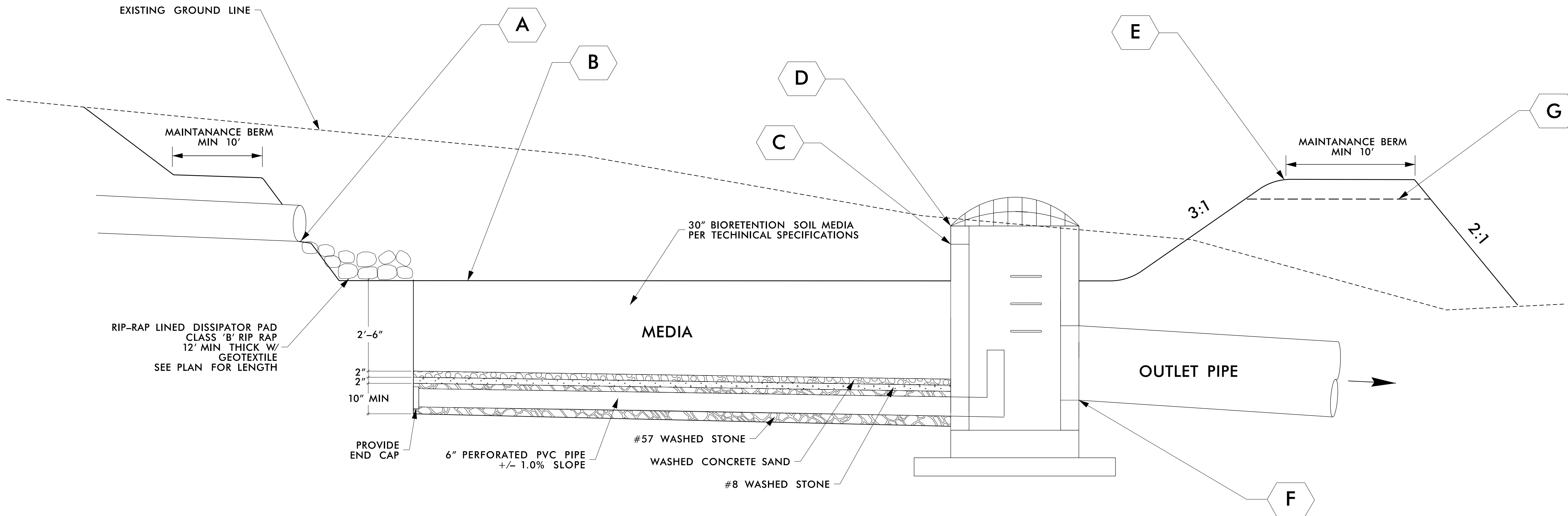
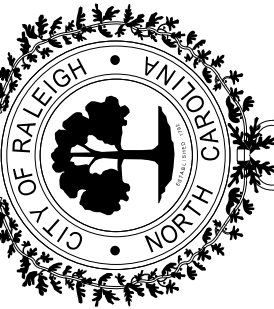
CONCURRENT REVIEW APPROVAL

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City of Raleigh Review Officer _____

BIORETENTION BASIN

NOT TO SCALE



BIORETENTION BASIN CONSTRUCTIONS SEQUENCE:

1. SEDIMENT BASINS THAT ARE USED DURING CONSTRUCTION CAN BE CONVERTED INTO BIORETENTION BASINS AFTER THE CONSTRUCTION IS COMPLETED. IF USED DURING CONSTRUCTION AS A SEDIMENT BASIN, THE BASIN MUST BE COMPLETELY CLEANED OUT, GRADED, AND VEGETATED WITHIN 14 DAYS OF COMPLETION OF CONSTRUCTION.
2. DO NOT BEGIN CONSTRUCTION OF BIORETENTION BASIN AREA UNTIL SITE CONSTRUCTION IS COMPLETE.
3. ALL EROSION SEDIMENT AND EROSION CONTROL PRACTICES SHALL BE IN PLACE AND THE SLOPES DRAINING TO THE BIORETENTION BASIN SHALL BE STABILIZED BEFORE CONSTRUCTION OF THE BASIN BEGINS.
4. INSTALL TEMPORARY SILT FENCE AROUND THE BIORETENTION BASIN AREA AS NEEDED.
5. EXCAVATORS OR BACKHOES SHOULD WORK FROM THE SIDES TO EXCAVATE THE BIORETENTION AREA TO ITS APPROPRIATE DESIGN DEPTH AND DIMENSIONS. EXCAVATING EQUIPMENT SHOULD HAVE SCOOPS WITH ADEQUATE REACH SO THEY DO NOT HAVE TO SIT INSIDE THE FOOTPRINT OF THE BIORETENTION AREA.
6. IT MAY BE NECESSARY TO RIP THE BOTTOM SOILS TO A DEPTH OF 6 TO 12 INCHES TO PROMOTE GREATER INFILTRATION.
7. PLACE GEOTEXTILE FABRIC ON THE SIDES OF THE BIORETENTION AREA WITH A 6-INCH OVERLAP ON THE SIDES. IF A STONE STORAGE LAYER WILL BE USED, PLACE THE APPROPRIATE DEPTH OF #57 STONE ON THE BOTTOM, INSTALL THE PERFORATED UNDERDRAIN PIPE, PACK #57 STONE TO 3 INCHES ABOVE THE UNDERDRAIN PIPE, AND ADD 2" OF #8 WASHED STONE AND 2" OF WASHED CONCRETE SAND AS A FILTER BETWEEN THE UNDERDRAIN AND THE SOIL MEDIA LAYER. IF NO STONE STORAGE LAYER IS USED, START WITH 6 INCHES OF #57 STONE ON THE BOTTOM, AND PROCEED WITH THE LAYERING AS DESCRIBED ABOVE.
8. DELIVER THE SOIL MEDIA FROM AN APPROVED VENDOR, AND STORE IT ON AN ADJACENT IMPERVIOUS AREA OR PLASTIC SHEETING. APPLY THE MEDIA IN 12-INCH LIFTS UNTIL THE DESIRED TOP ELEVATION OF THE BIORETENTION AREA IS ACHIEVED. WAIT A FEW DAYS TO CHECK FOR SETTLEMENT, AND ADD ADDITIONAL MEDIA, AS NEEDED, TO ACHIEVE THE DESIGN ELEVATION.
9. PREPARE PLANTING HOLES FOR ANY SHRUBS, INSTALL THE VEGETATION, AND WATER ACCORDINGLY. INSTALL ANY TEMPORARY IRRIGATION.
10. PLACE THE SURFACE COVER
11. INSTALL THE PLANT MATERIALS AS SHOWN IN THE LANDSCAPING PLAN, AND WATER THEM DURING WEEKS OF NO RAIN FOR THE FIRST TWO MONTHS.
12. UPON COMPLETION OF WORK, CONTACT THE CITY OF RALEIGH FOR AN INSPECTION AND TO BEGIN THE AS-BUILT CERTIFICATION PROCESS. AS AS-BUILT SURVEY OF ALL ASPECTS OF THIS FACILITY WILL BE PERFORMED BY THE CITY OF RALEIGH. CERTIFICATIONS WILL NOT BE ISSUED IF THE SCM DOES NOT MEET OR EXCEED THE REQUIREMENTS CONTAINED IN THE CONSTRUCTION DOCUMENTS.

ELEVATIONS FOR BIORETENTION BASIN							
STATION	A INLET PIPE INV.	B PLANTING SURFACE	C RECTANGULAR WEIR	D TOP ELEV. CONTROL STRUCTURE	E TOP OF BERM ELEV	F OUTLET PIPE INV.	G EMER. SPILLWAY ELEV.
25 + 45 -L- RT	276.5'	276.0'	277.0'	277.5'	278.5'	272.0'	278.0'
41 + 40 -L- RT	285.0'	284.0'	285.0'	286.0'	287.0'	282.0'	286.5'
55 + 45 -L- LT	271.0'	270.0'	271.0'	271.5'	272.5'	268.0'	272.0'

MAINTENANCE NOTES:

1. WATERING - PLANTS SHOULD BE WATERED DURING DRY PERIODS IN THE INITIAL 2-3 YEARS.
2. EROSION CONTROL - INSPECT FLOW ENTRANCES, PONDING AREA, AND SURFACE OVERFLOW AREAS PERIODICALLY. IF EROSION PROBLEMS OCCUR, THE FOLLOWING ISSUES SHOULD BE RE-ASSESSED: FLOW VOLUMES FROM THE CONTRIBUTING DRAINAGE AREA AND BIORETENTION SIZE; FLOW VELOCITIES AND GRADIENTS WITHIN THE BIORETENTION FACILITY; FLOW DISSIPATION AND EROSION PROTECTION METHODS IN THE PRETREATMENT AND IN-FLOW AREAS. IF SEDIMENT IS DEPOSITED IN THE BIORETENTION FACILITY, IMMEDIATELY DETERMINE THE SOURCE, REMOVE EXCESS DEPOSITS, AND CORRECT THE PROBLEM.
3. PLANT MATERIAL - OCCASIONAL PRUNING AND REMOVAL OF DEAD PLANT MATERIAL MAY BE NECESSARY. BE CAREFUL TO PRUNE TREES AND SHRUBS TO MAINTAIN LINES OF SIGHT IN PARKING LOTS AND ALONG ROADWAYS. PERIODIC WEEDING IS NECESSARY UNTIL GROUND COVER PLANTS ARE ESTABLISHED.
4. MULCH - REPLACE MULCH ANNUALLY WHERE HEAVY METAL DEPOSITION IS LIKELY. IN OTHER SETTINGS WHERE METAL DEPOSITION IS NOT A CONCERN, REPLACE AND ADD MULCH AS NEEDED TO MAINTAIN A 2 TO 4-INCH DEPTH.
5. FILTER CAPACITY - WHEN FILTERING CAPACITY DIMINISHES SUBSTANTIALLY, REMEDIAL ACTIONS MUST BE TAKEN. IF THE WATER STILL PONDS FOR MORE THAN 12 HOURS, THE TOP FEW INCHES OF MATERIAL SHOULD BE REMOVED AND REPLACED WITH FRESH MATERIAL. IF THAT DOES NOT SOLVE THE PROBLEM, MORE EXTENSIVE REBUILDING IS REQUIRED.

PRELIMINARY PLANS

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City of Raleigh Review Officer _____

BIORETENTION BASIN
DETAIL

BARWELL ROAD (SR 2551)
FROM ROCK QUARRY ROAD (SR 2542)
TO BERKELEY LAKE ROAD

DATE: APRIL / 2021
CADD TECH: SJM
CHECKED BY: BMS

REVISIONS	
NO.	DATE

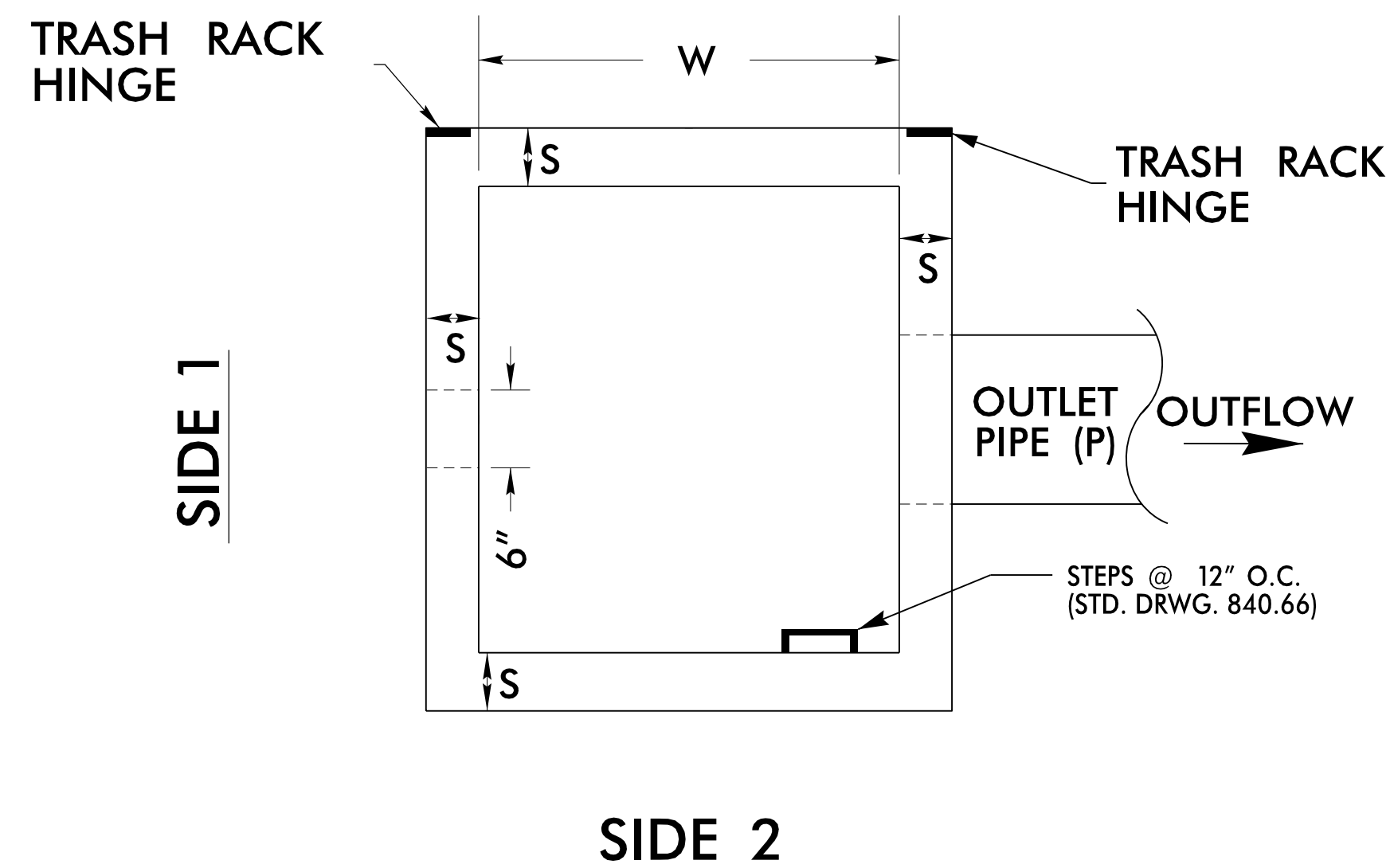
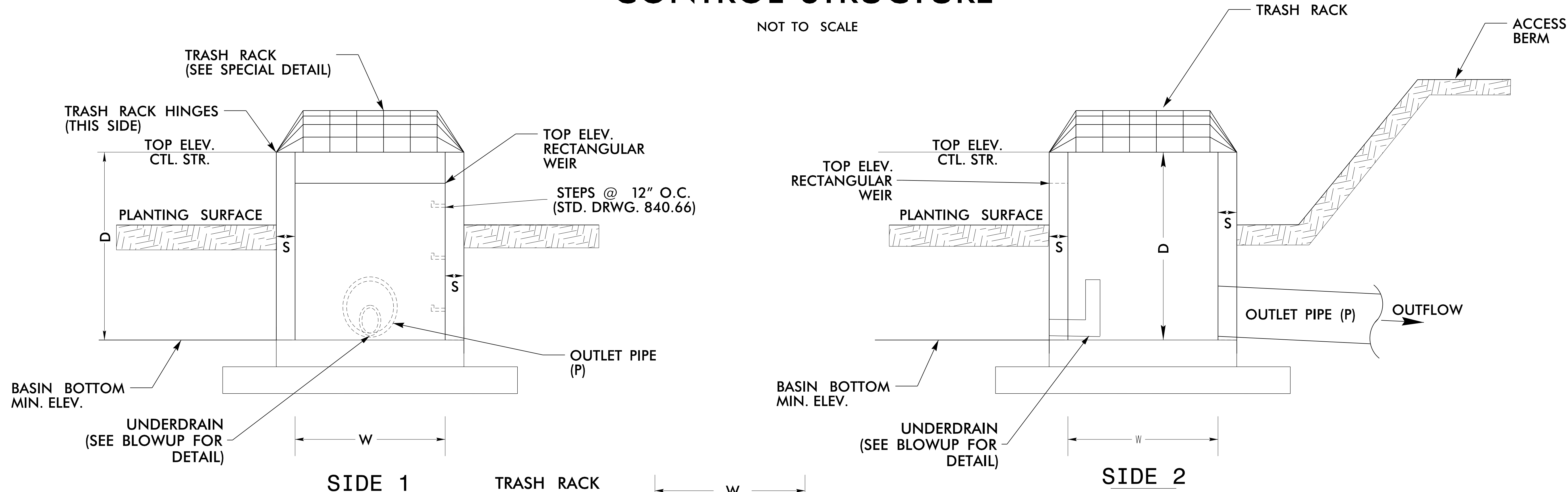
SCALES
HSCALE NTS
VSCALE NTS
SHEET NO.

2E



BIORETENTION OUTLET CONTROL STRUCTURE

NOT TO SCALE

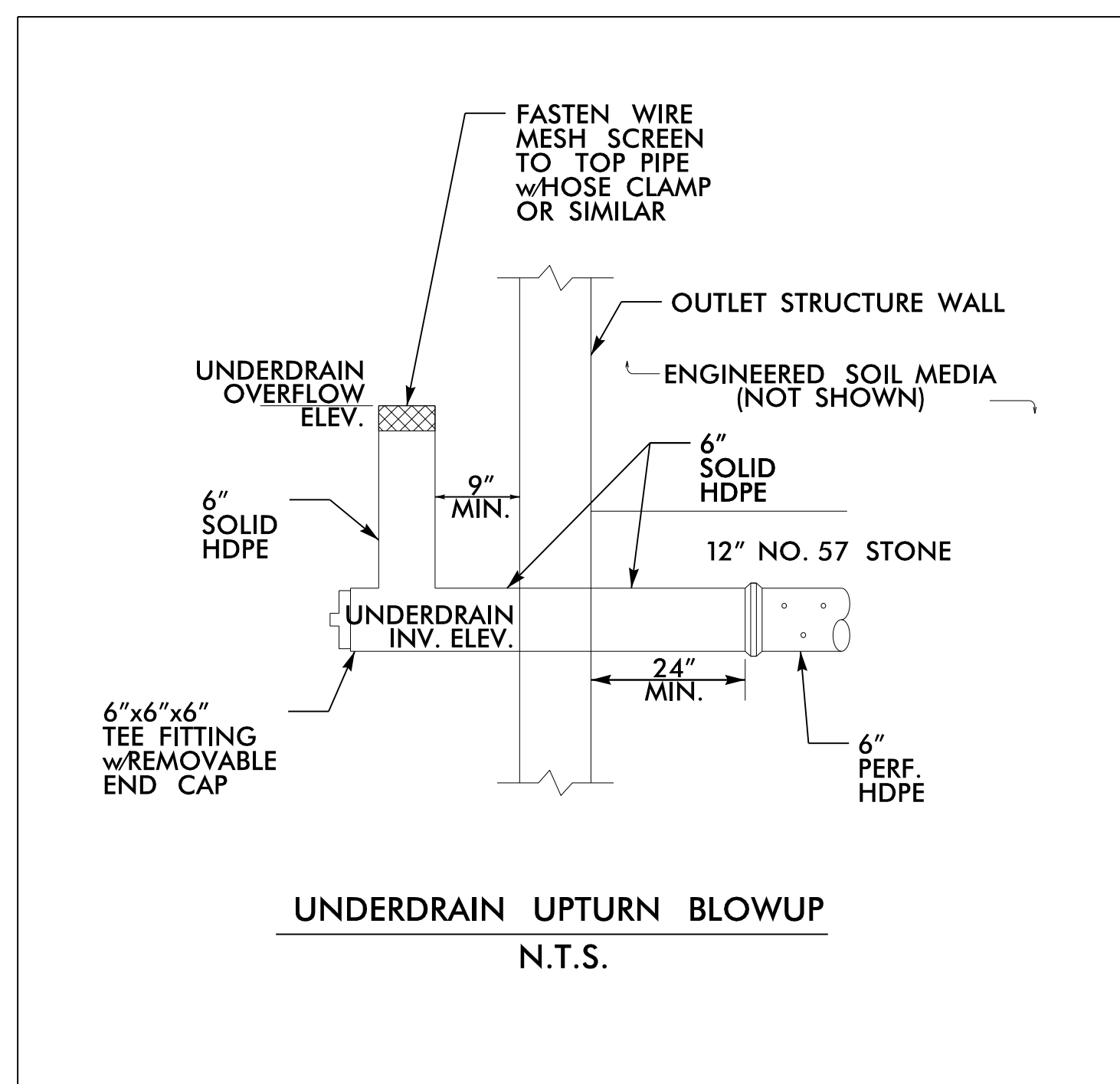


SIDE 2

PLAN VIEW

TRASH RACK NOT SHOWN FOR CLARITY

ELEVATIONS FOR BIORETENTION CONTROL STRUCTURE					
STATION	STRUCTURE WIDTH (W)	MIN CONTROL STRUCTURE DEPTH (D)	OUTLET PIPE DIAMETER (P) (INCHES)	S (INCHES)	UNDERDRAIN OVERFLOW ELEV
25 + 45 -L- RT	3.0'	5.2'	24"	6.0"	273.0'
41 + 40 -L- RT	3.0'	5.7'	24"	6.0"	282.5'
55 + 45 -L- RT	3.0'	5.2'	36"	6.0"	268.5'



UNDERDRAIN UPTURN BLOWUP
N.T.S.

- NOTES:**
- NO BEDDING MATERIAL TO BE USED. THEREFORE, DO NOT FOLLOW STANDARD DRAWINGS FOR METHOD OF PIPE INSTALLATION FOR OUTLET PIPE THROUGH EMBANKMENT.
 - ENSURE TRASH RACK OPENS FREELY

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BIORETENTION CONTROL
STRUCTURE DETAIL

BARWELL ROAD (SR 2551)
FROM ROCK QUARRY ROAD (SR 2542)
TO BERKELEY LAKE ROAD

DATE: APRIL / 2021

CADD TECH: SJM

CHECKED BY: BMS

REVISIONS

NO. DATE

SCALES

HSCALE NTS

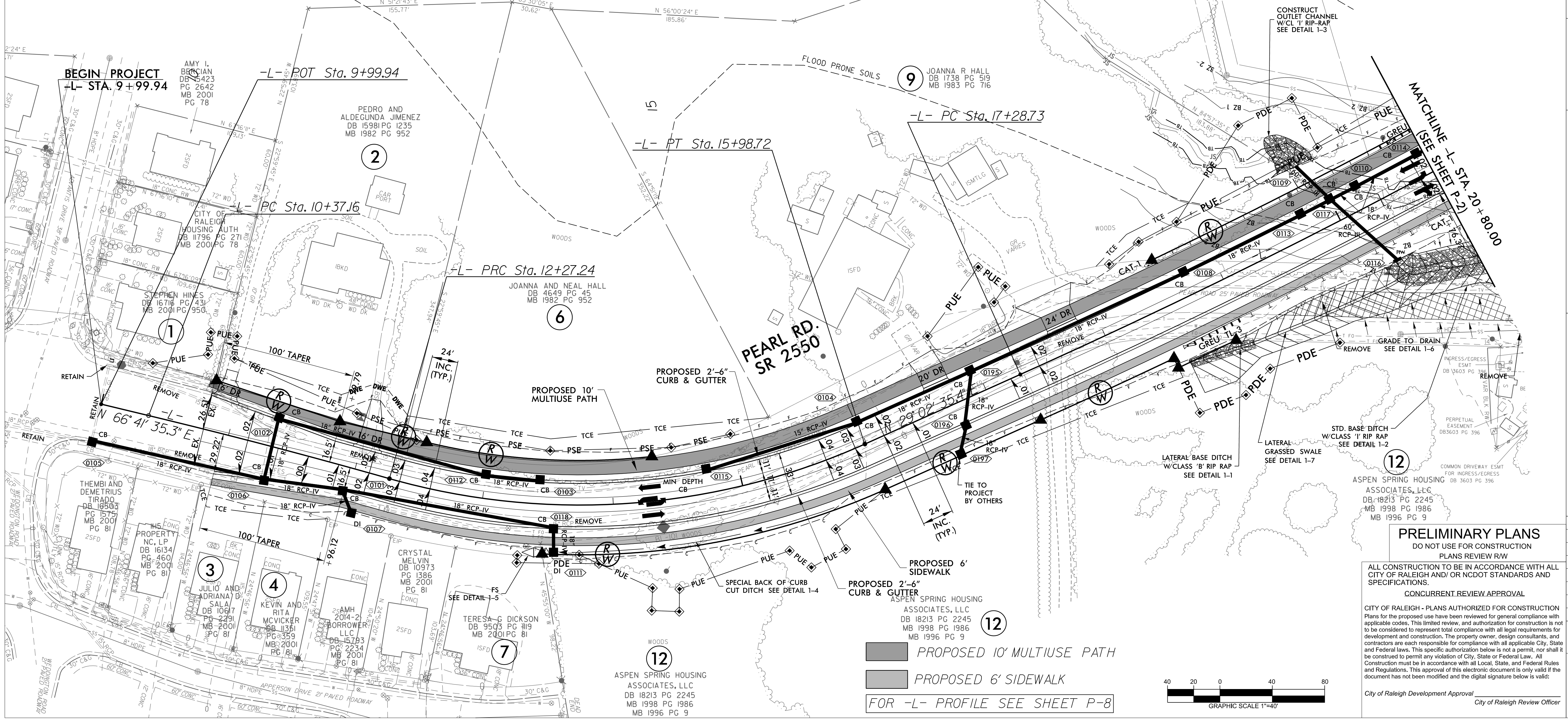
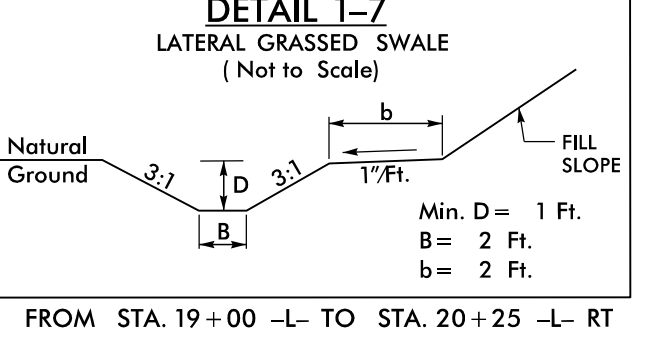
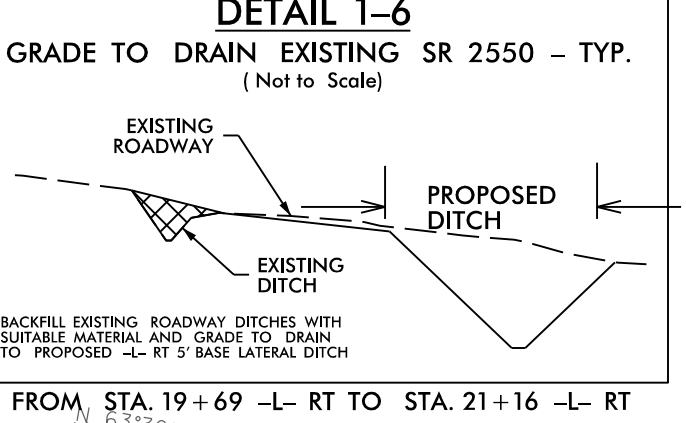
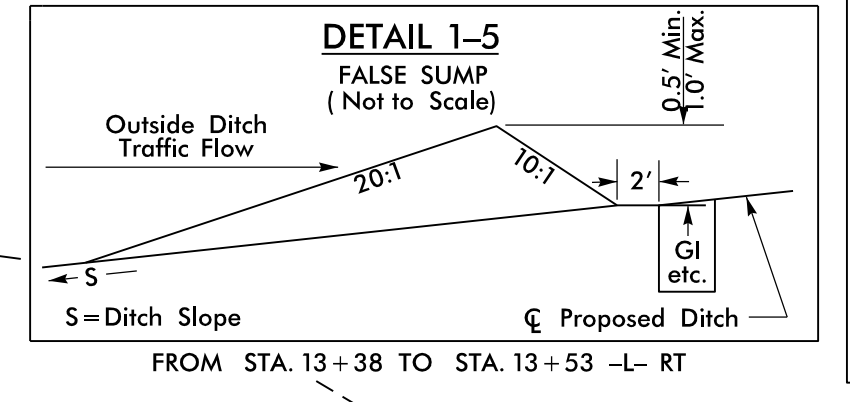
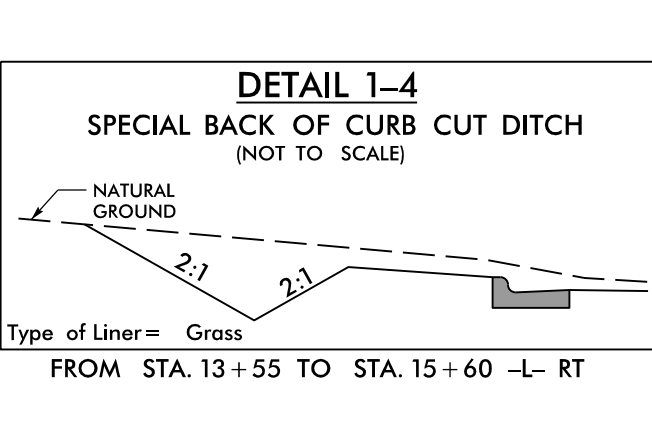
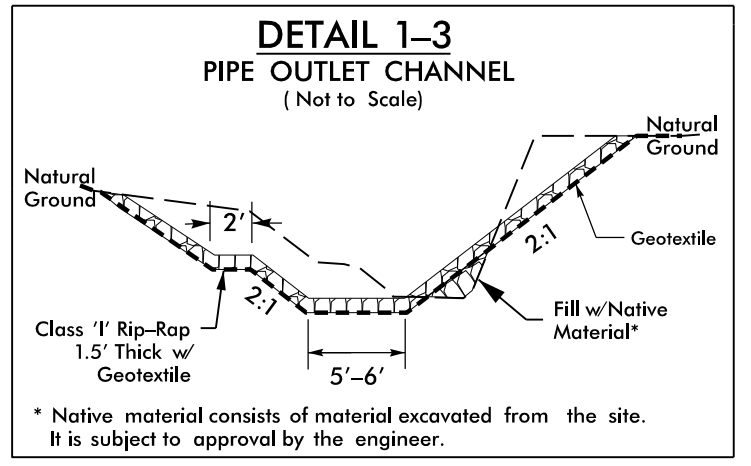
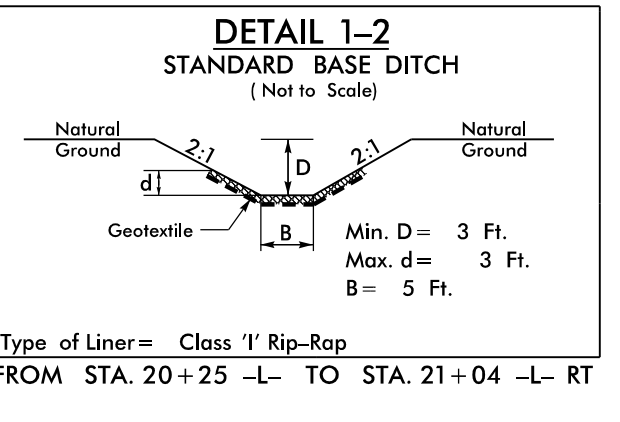
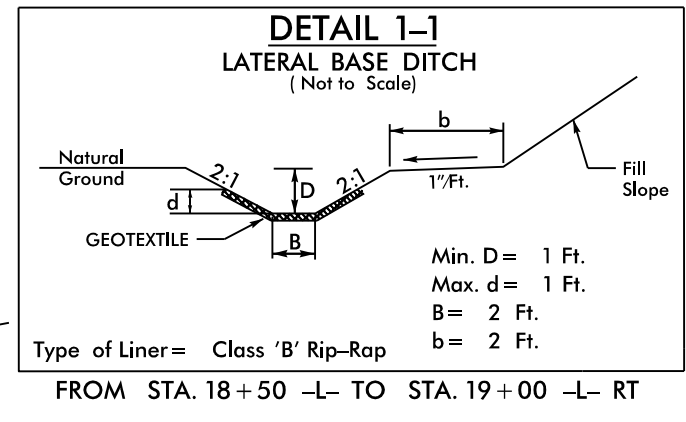
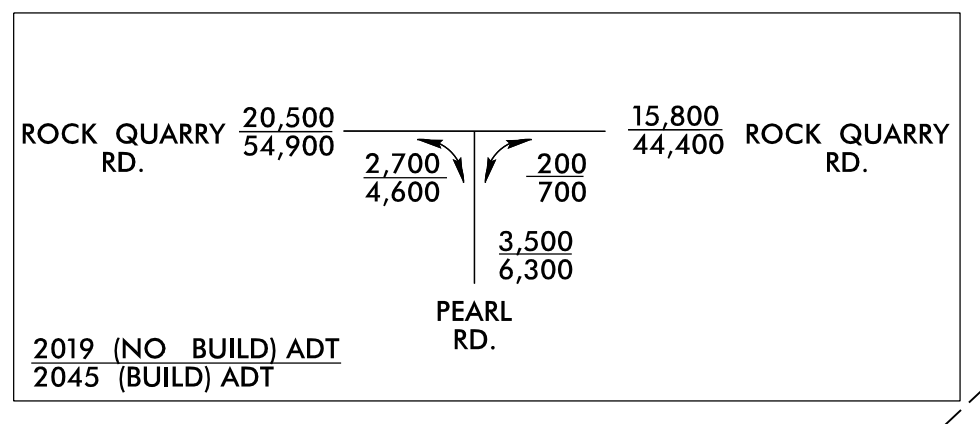
VSCALE NTS

SHEET NO.



-L- CURVE DATA

PI Sta 11+32.21 $\Delta = 2^\circ 16' 59.9" (RT)$ $D = 1^\circ 12' 04.2"$ $L = 190.07'$ $T = 95.05'$ $R = 4770.00'$	PI Sta 14+30.19 $\Delta = 37^\circ 38' 59.9" (LT)$ $D = 10^\circ 44' 58.8"$ $L = 350.24'$ $T = 181.71'$ $R = 533.00'$	PI Sta 22+17.43 $\Delta = 1^\circ 17' 58.6" (LT)$ $D = 1^\circ 09' 35.4"$ $L = 974.24'$ $T = 488.71'$ $R = 4,940.00'$
--	--	--

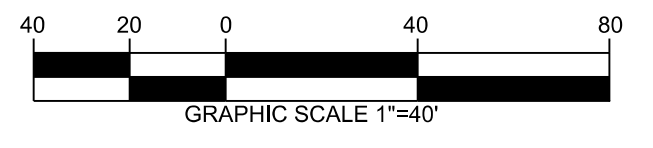


PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W
CONCURRENT REVIEW APPROVAL

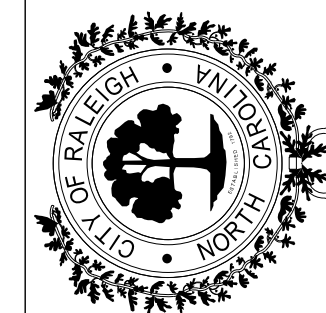
ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF RALEIGH AND/ OR NCDOT STANDARDS AND SPECIFICATIONS.

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION
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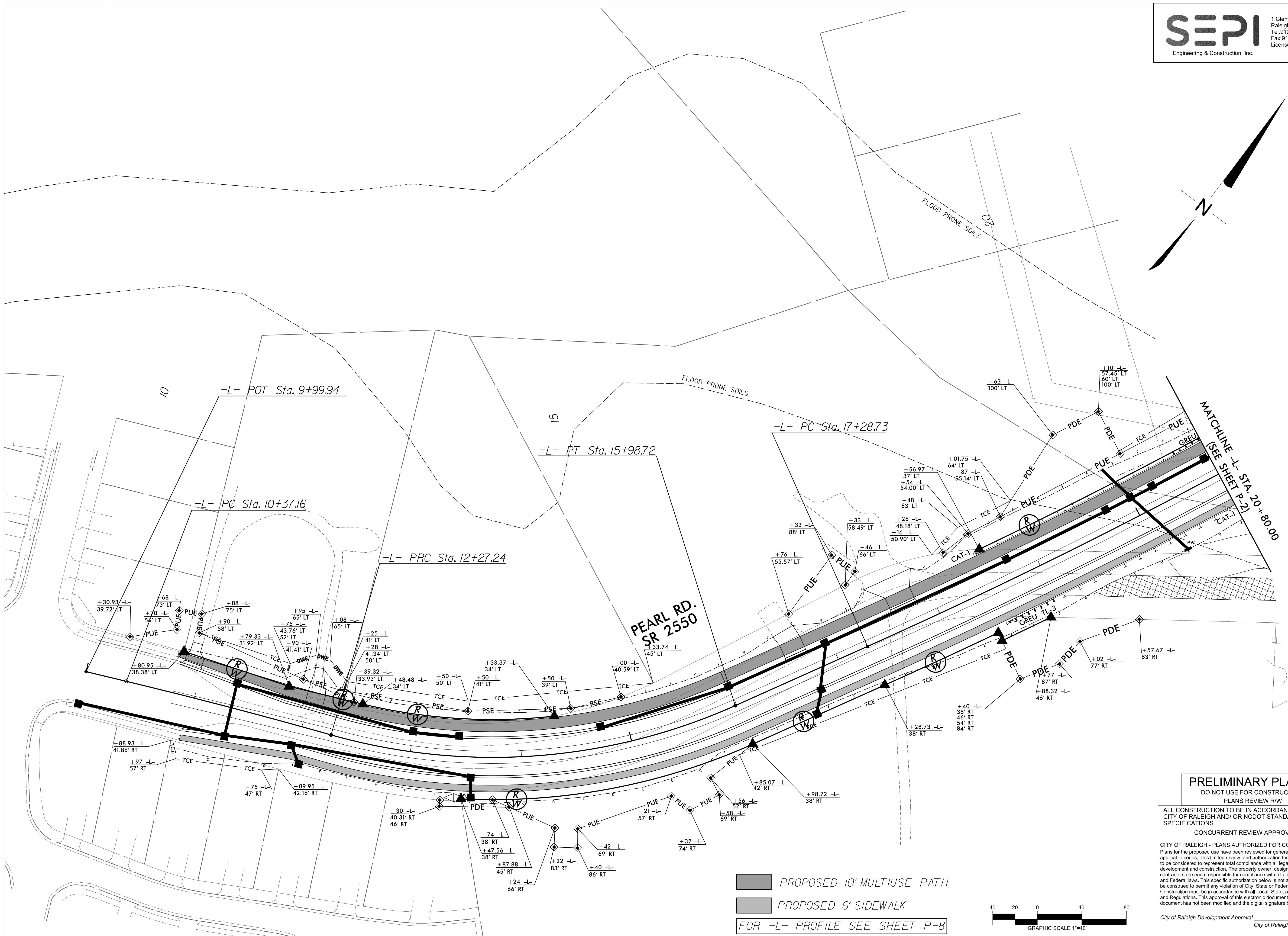
City of Raleigh Development Approval
City of Raleigh Review Officer



DATE:	MARCH 1 2020
CADD TECH:	TAH
CHECKED BY:	RAMK
REVISIONS	
NO.	DATE
SCALES	
HSCALE	1" = 40'
VSCALE	1" = 10'
SHEET NO.	



DATE:	MARCH / 2020
CADD TECH:	TAH
CHECKED BY:	RMK
REVISIONS	
NO.	DATE
SCALES	
HSCALE	1" = 40'
VSCALE	1" = 10'
SHEET NO.	



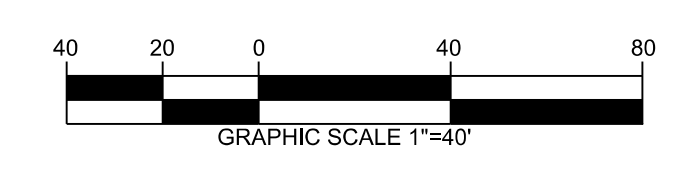
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W
CONCURRENT REVIEW APPROVAL

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City of Raleigh Development Approval _____
City of Raleigh Review Officer _____

PROPOSED 10' MULTIUSE PATH
PROPOSED 6' SIDEWALK
FOR -L- PROFILE SEE SHEET P-8

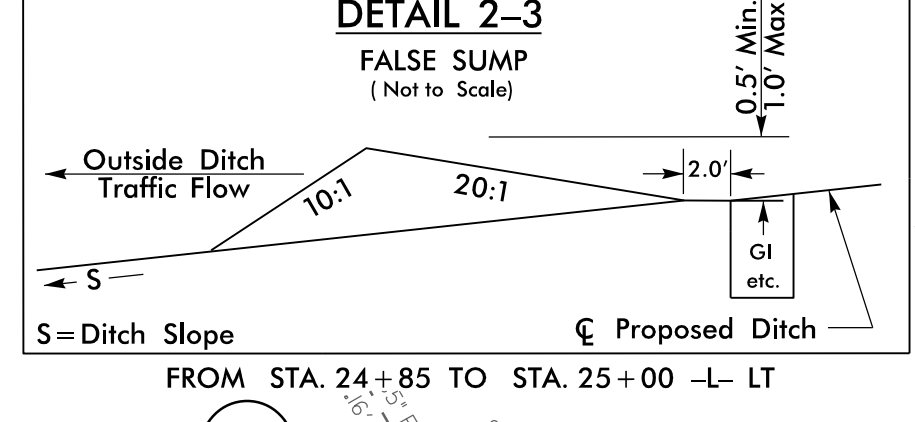
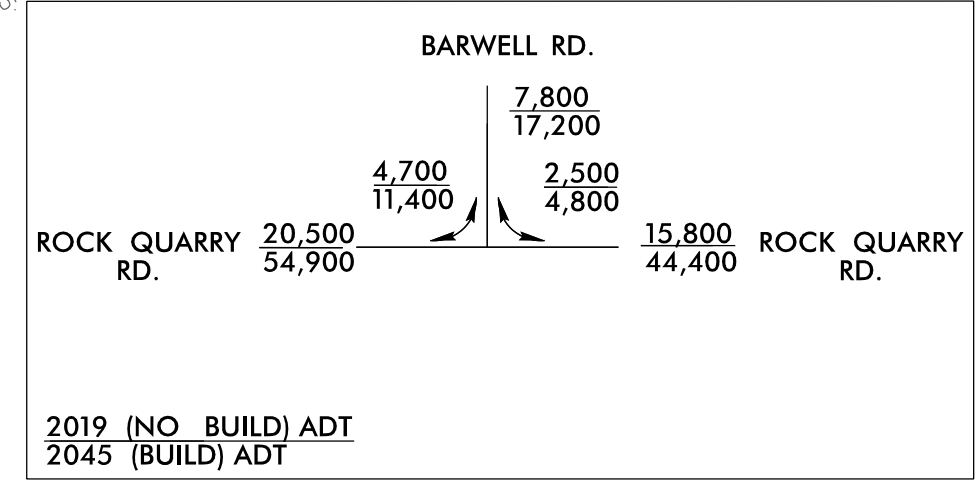




DATE:	MARCH 1 2020
CADD TECH:	TAH
CHECKED BY:	RMK
REVISIONS	
NO.	DATE
SCALES	
HSCALE	1" = 40'
VSCALE	1" = 10'
SHEET NO.	

-L- CURVE DATA
PI Sta 22+17.43
 $\Delta = 117^{\circ} 58.6''$ (LT)
 $D = 1^{\circ} 09' 35.4''$
 $L = 974.24'$
 $T = 488.71'$
 $R = 4,940.00'$

-YI- CURVE DATA
PI Sta 13+14.36
 $\Delta = 23^{\circ} 32' 22.0''$ (LT)
 $D = 9^{\circ} 32' 57.5''$
 $L = 246.50'$
 $T = 125.02'$
 $R = 600.00'$



END CONSTRUCTION
-Y- STA. 18+20.00

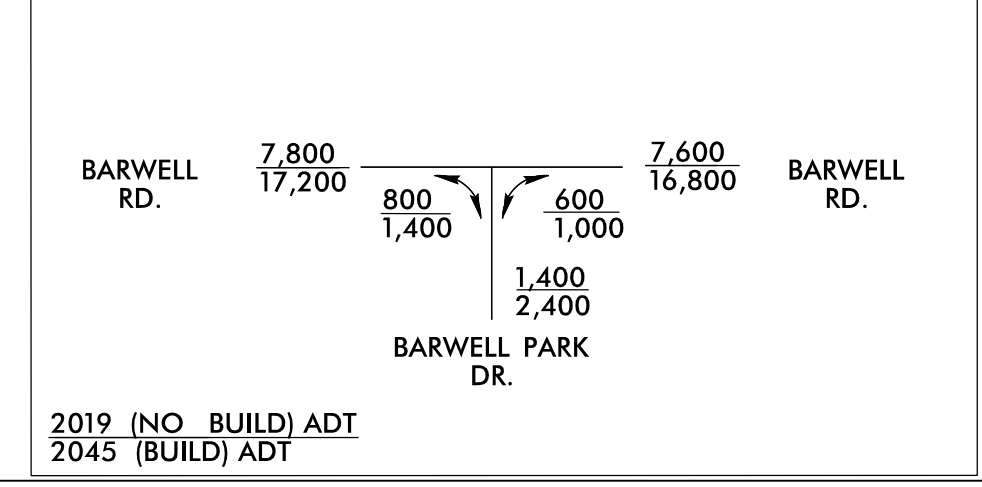
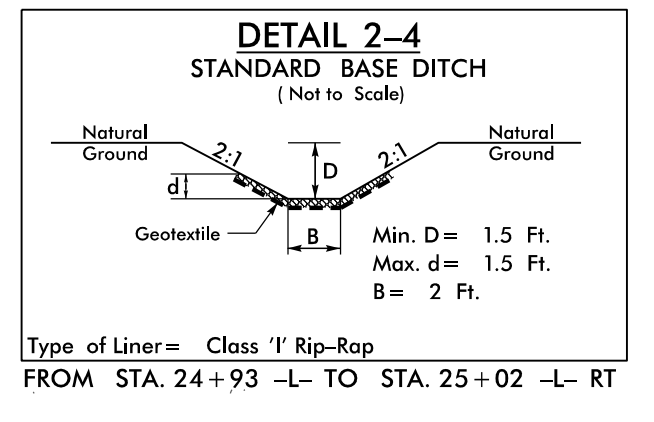
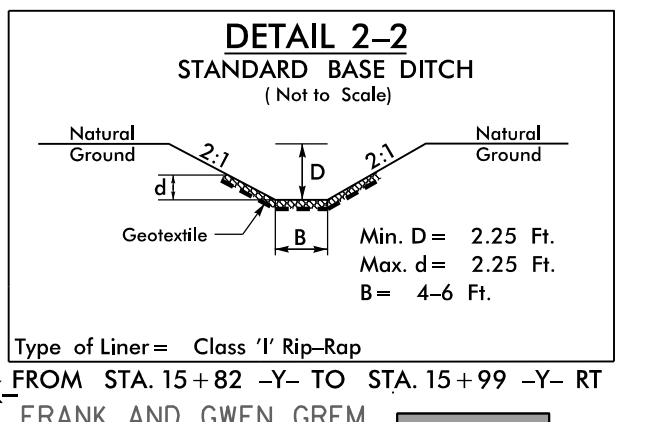
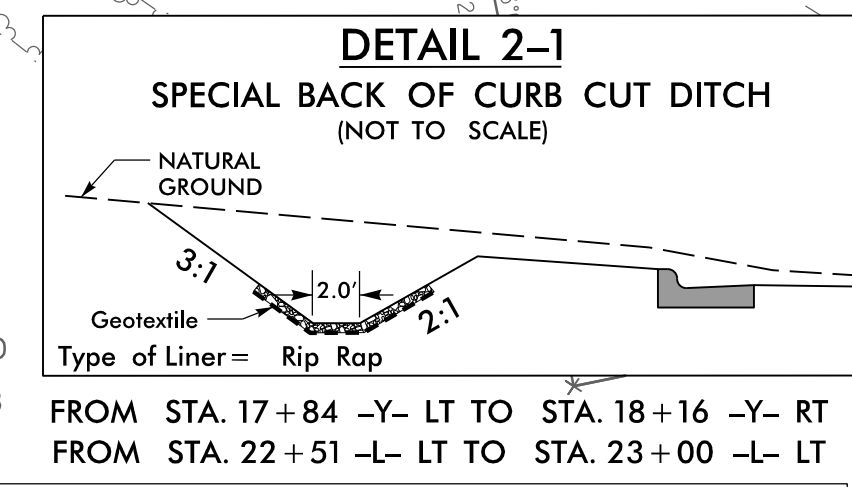
-L- POC Sta. 21+86.18
-Y- POC Sta. 17+14.87

HELEN D. MORGAN
DB 1980 PG 1039

LEWIS B. WOODARD
NANCY W. HARPER
DB 3607 PG 643
MB 1980 PG 1039

SPECIAL BACK OF CURB
CUT DITCH W/CLASS 'B' RIP-RAP
SEE DETAIL 2-1

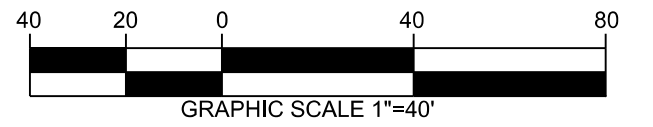
PROPOSED 10' MULTIUSE PATH
120' PROPOSED LANDSCAPED MEDIAN



TIE TO EXISTING SIDEWALK
APPROX -Y- STA. 14+95.52 RT.
SEE SHEET 2B (INSET B) FOR -SIDEWALK
ALIGNMENT STATIONING AND LABELS
BEGIN CONSTRUCTION
-Y- STA. 14+95.00
CONSTRUCTION BY OTHERS

BEGIN CONSTRUCTION
-YI- STA. 12+82.00
-YI- POC Sta. 11+89.35

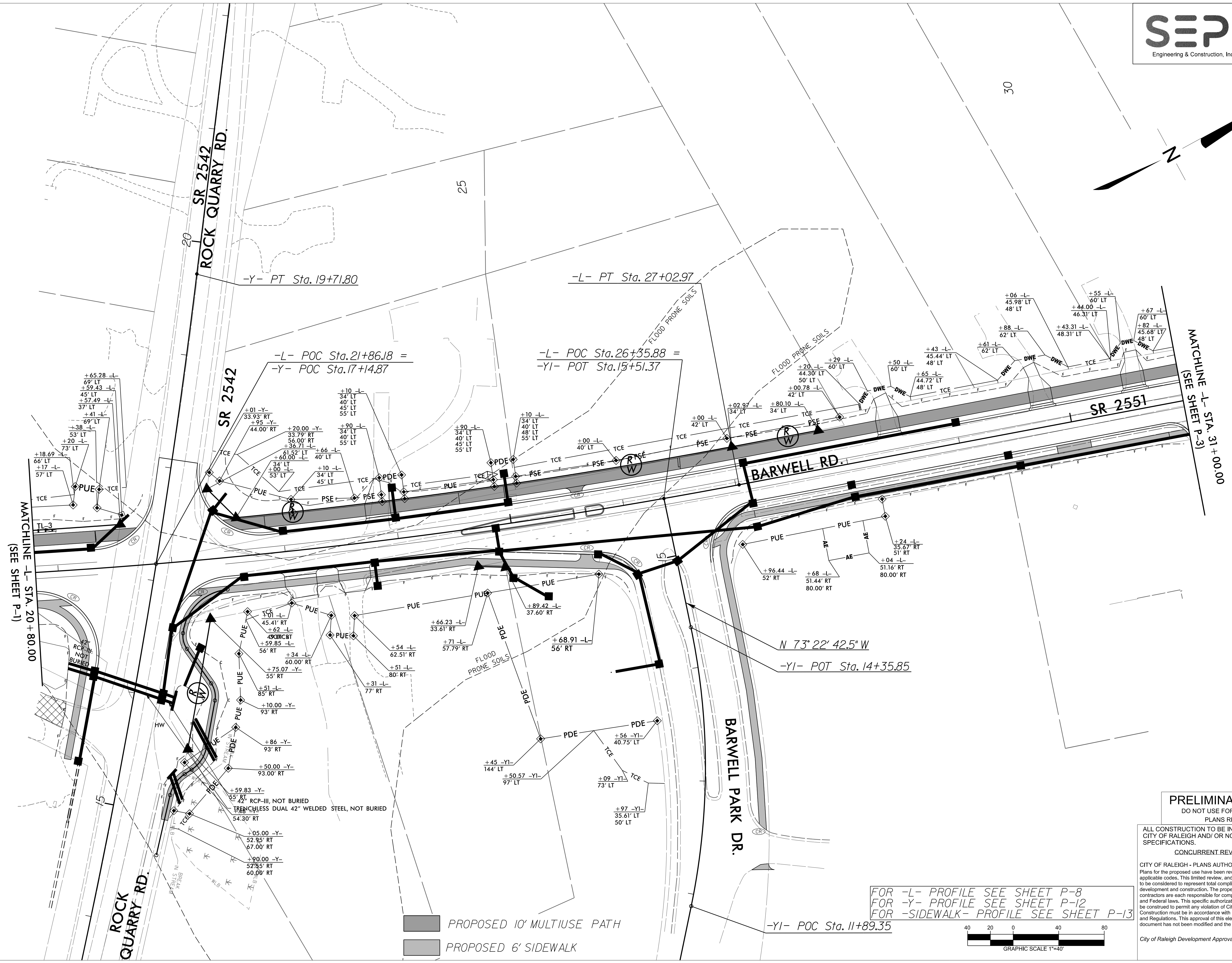
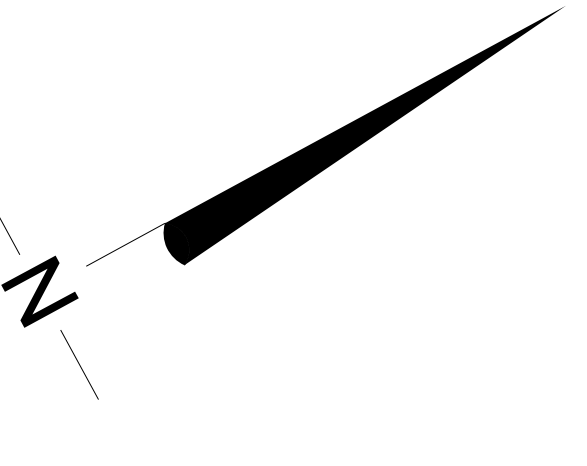
FOR -L- PROFILE SEE SHEET P-8
FOR -Y- PROFILE SEE SHEET P-12
FOR -SIDEWALK- PROFILE SEE SHEET P-13



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W
ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF RALEIGH AND/OR NC DOT STANDARDS AND SPECIFICATIONS.
CONCURRENT REVIEW APPROVAL
CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION
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City of Raleigh Development Approval
City of Raleigh Review Officer



DATE:	MARCH / 2020
CADD TECH:	TAH
CHECKED BY:	RAK
REVISIONS	
NO.	DATE
SCALES	
HSCALE	1" = 40'
VSCALE	1" = 10'
SHEET NO.	



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W
PLANS REVIEW R/W

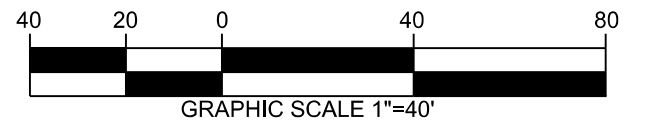
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City of Raleigh Development Approval _____
City of Raleigh Review Officer _____

FOR -L- PROFILE SEE SHEET P-8
FOR -Y- PROFILE SEE SHEET P-12
FOR -SIDEWALK- PROFILE SEE SHEET P-13



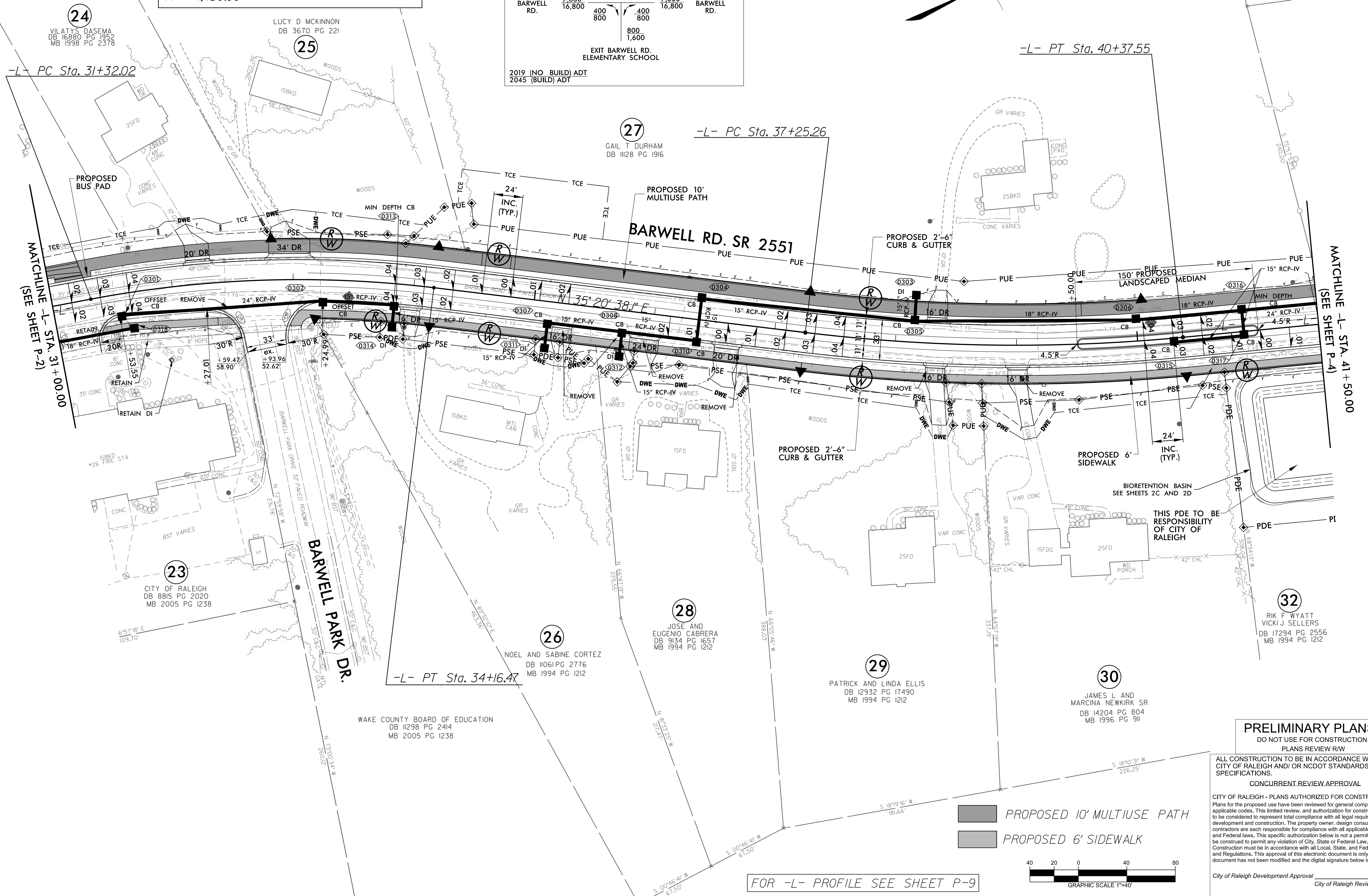
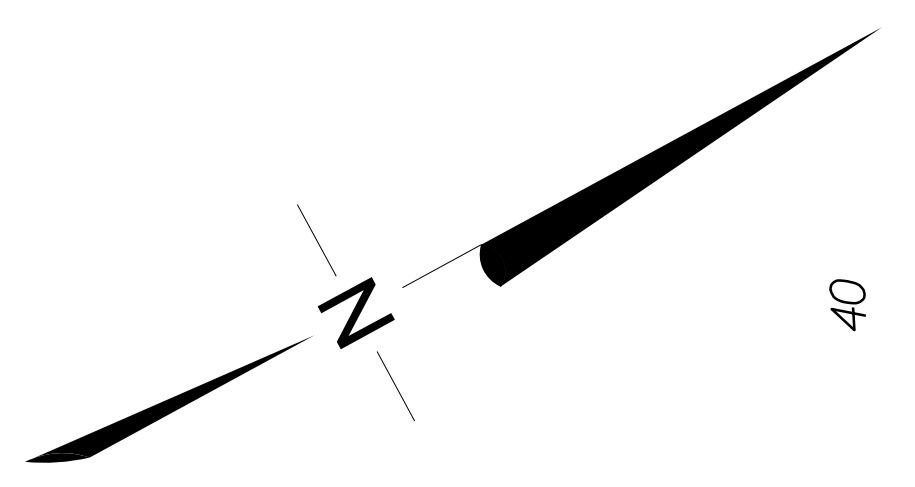
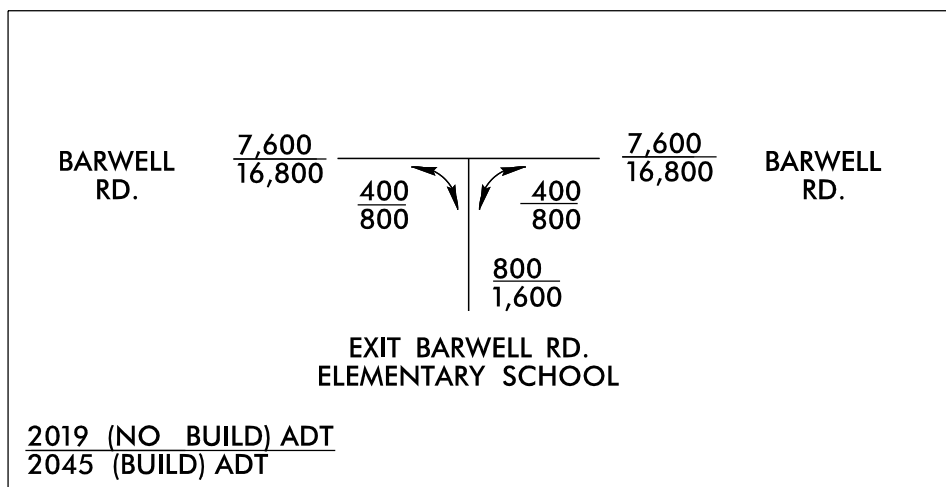
PROPOSED 10' MULTIUSE PATH
PROPOSED 6' SIDEWALK



DATE:	MARCH / 2020
CADD TECH:	TAH
CHECKED BY:	RMK
REVISIONS	
NO.	DATE
SCALES	
HSCALE	1" = 40'
VSCALE	1" = 10'
SHEET NO.	

-L- CURVE DATA

PI Sta 38+82.01	PI Sta 32+75.37
$\Delta = 12^{\circ} 20' 24.3"$ (LT)	$\Delta = 17^{\circ} 36' 01.3"$ (RT)
$D = 3^{\circ} 57' 05.2"$	$D = 6^{\circ} 11' 14.8"$
$L = 312.29'$	$L = 284.45'$
$T = 156.75'$	$T = 143.36'$
$R = 1,450.00'$	$R = 926.00'$



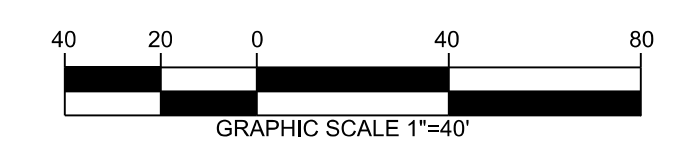
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W

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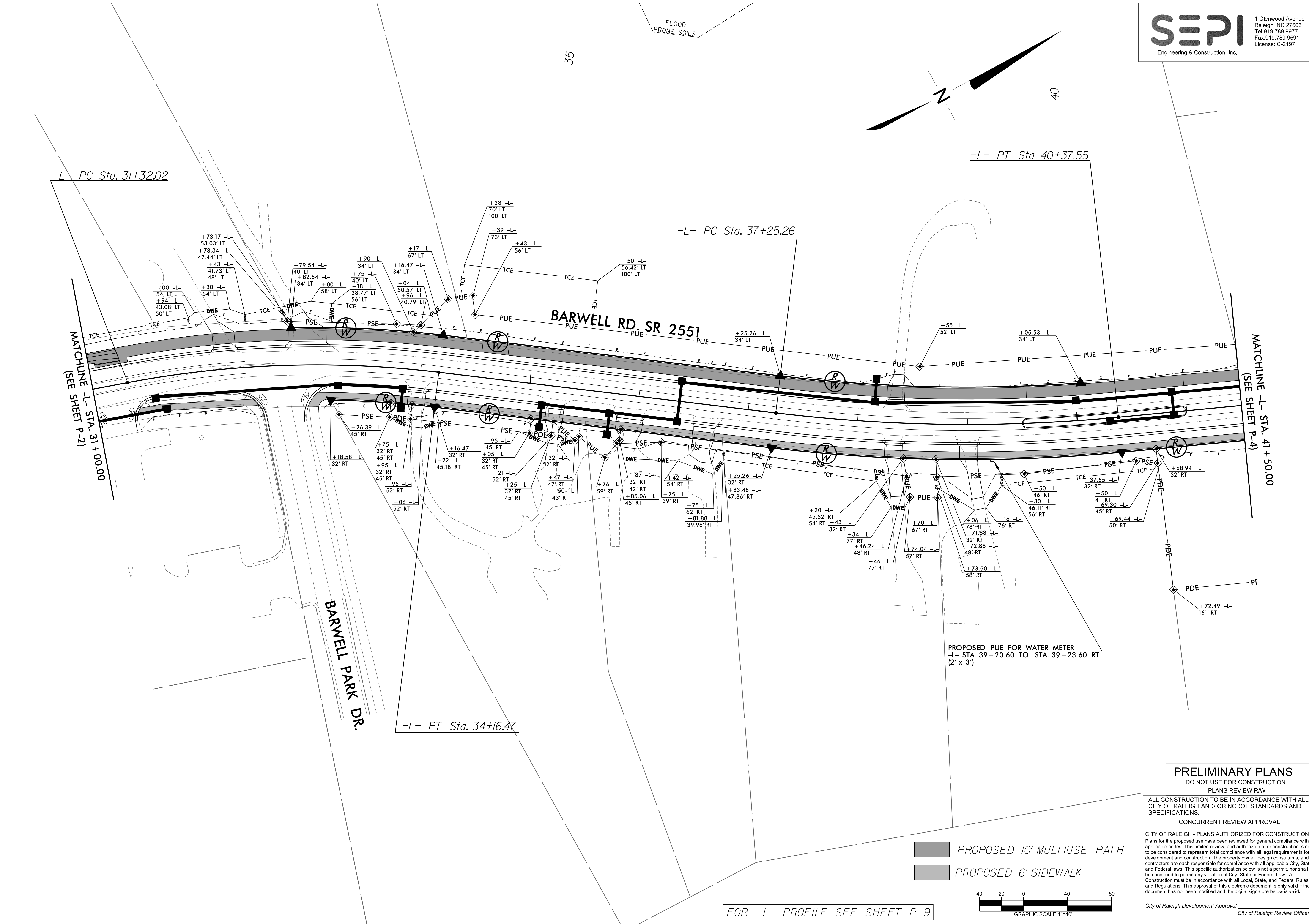
City of Raleigh Development Approval _____
City of Raleigh Review Officer _____



FOR -L- PROFILE SEE SHEET P-9



DATE:	MARCH / 2020
CADD TECH:	TAH
CHECKED BY:	RAK
REVISIONS	
NO.	DATE
SCALES	
HSCALE	1" = 40'
VSCALE	1" = 10'
SHEET NO.	



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W

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City of Raleigh Development Approval
City of Raleigh Review Officer

PROPOSED 10' MULTIUSE PATH
PROPOSED 6' SIDEWALK



FOR -L- PROFILE SEE SHEET P-9

-L- CURVE DATA	
PI Sta 45+86.78	PI Sta 52+31.98
$\Delta = 19^{\circ} 38' 45.8''$ (RT)	$\Delta = 10^{\circ} 29' 44.9''$ (RT)
D = 6' 11" 14.8"	D = 1' 54' 35.5"
L = 317.51'	L = 549.56'
T = 160.33'	T = 275.55'
R = 926.00'	R = 3,000.00'

SEPI
Engineering & Construction, Inc.

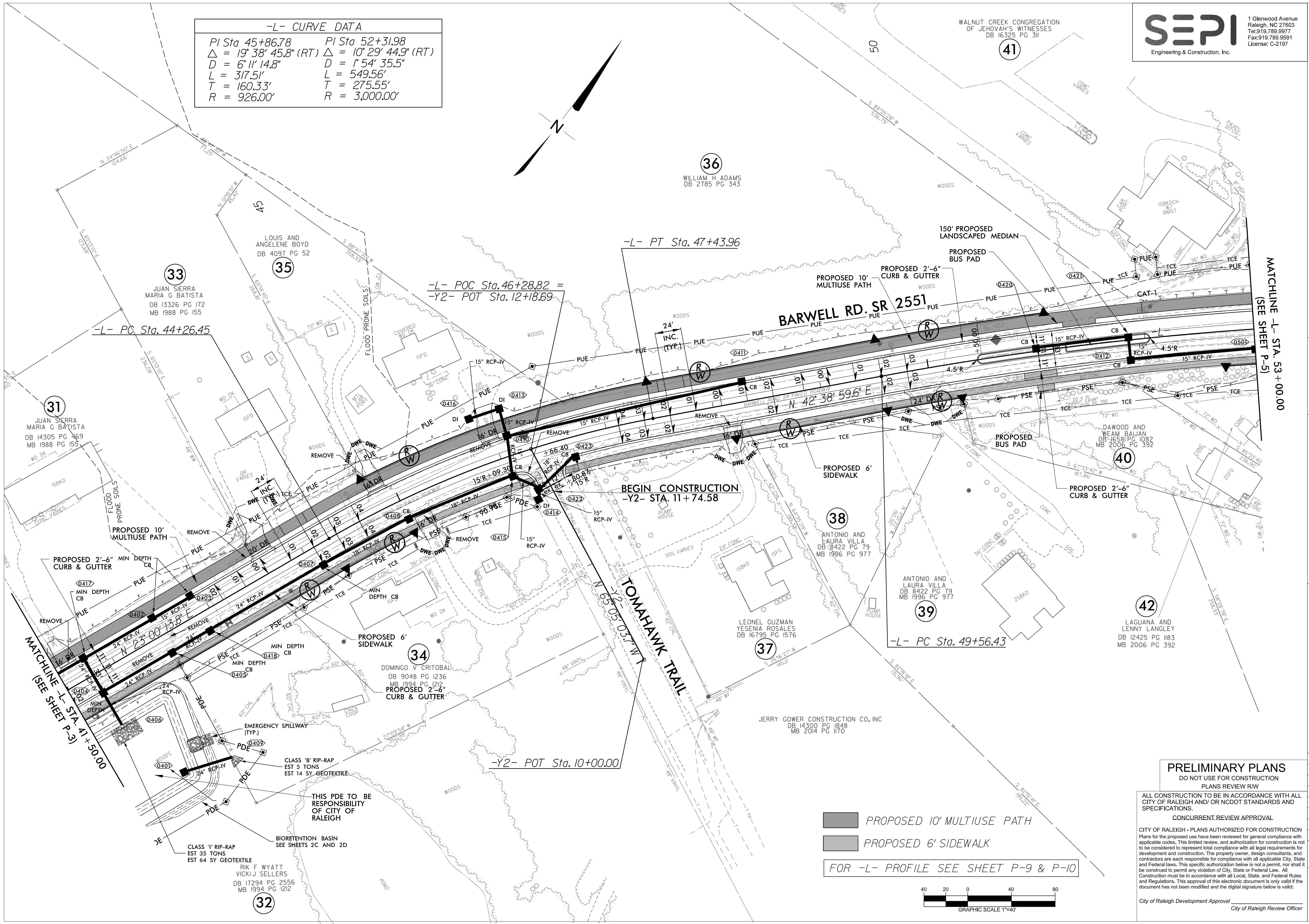
1 Glenwood Avenue
Raleigh, NC 27603
Tel: 919.789.9977
Fax: 919.789.9591
License: C-2197

CITY OF RALEIGH
ENGINEERING SERVICES
DEPARTMENT



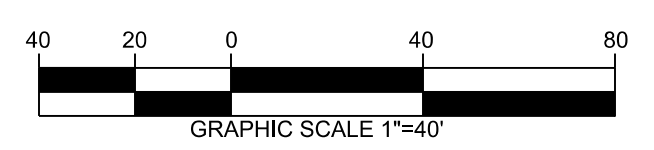
PLAN SHEET

BARWELL ROAD (SR 2551)
FROM ROCK QUARRY ROAD (SR 2542)
TO BERKELEY LAKE ROAD



- PROPOSED 10' MULTIUSE PATH
- PROPOSED 6' SIDEWALK

FOR -L- PROFILE SEE SHEET P-9 & P-10



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W

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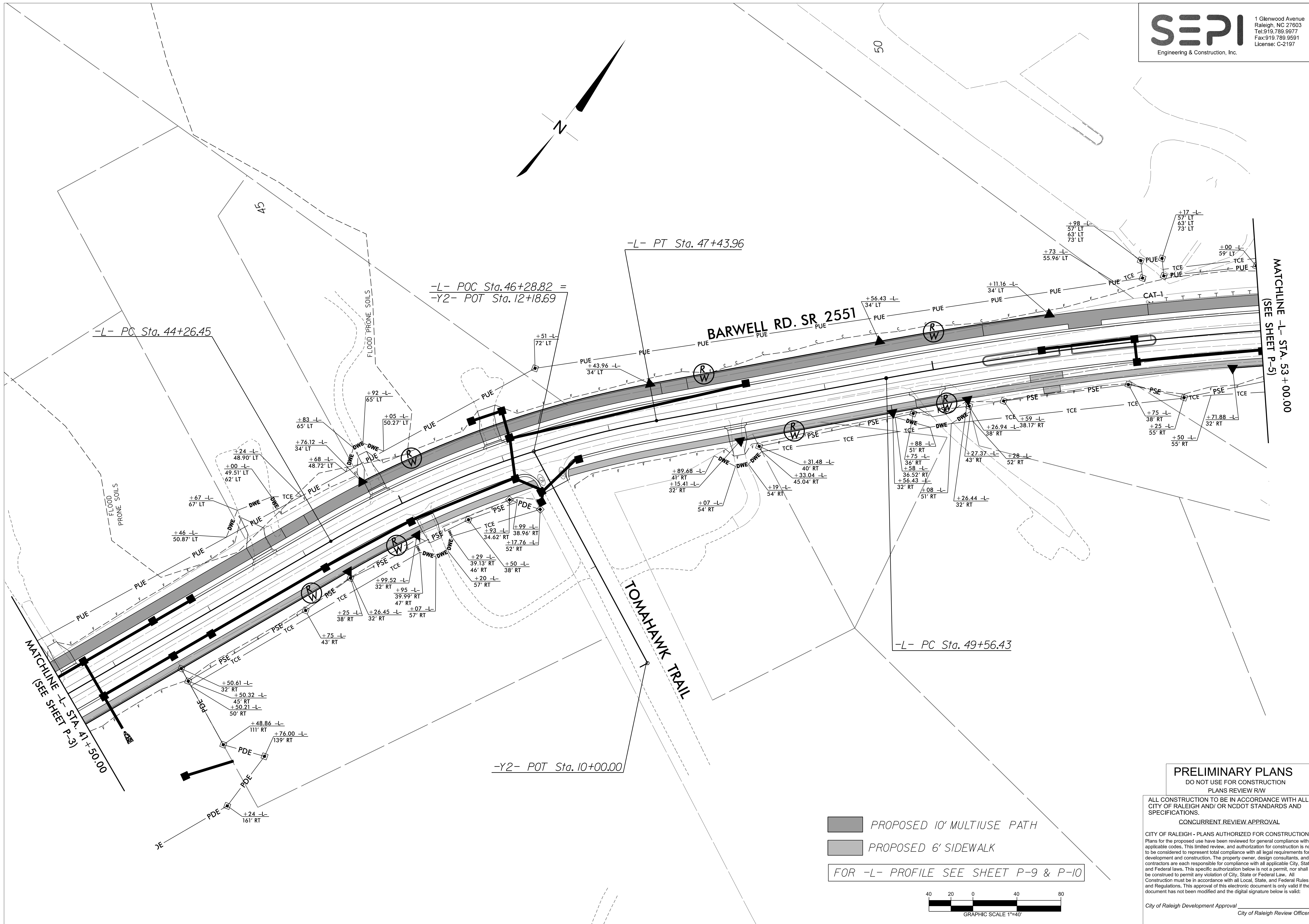
REVISIONS	
NO.	DATE

SCALES
HSCALE 1" = 40'
VSCALE 1" = 10'
SHEET NO.

P-4

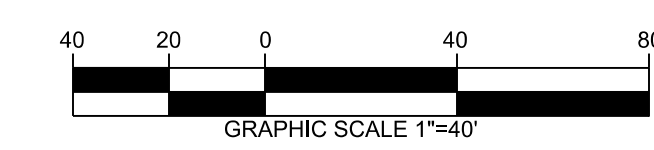


DATE:	MARCH / 2020
CADD TECH:	TAH
CHECKED BY:	RMK
REVISIONS	
NO.	DATE
SCALES	
HSCALE	1" = 40'
VSCALE	1" = 10'
SHEET NO.	
P-4A	



PROPOSED 10' MULTIUSE PATH
 PROPOSED 6' SIDEWALK

FOR -L- PROFILE SEE SHEET P-9 & P-10



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W

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CONCURRENT REVIEW APPROVAL

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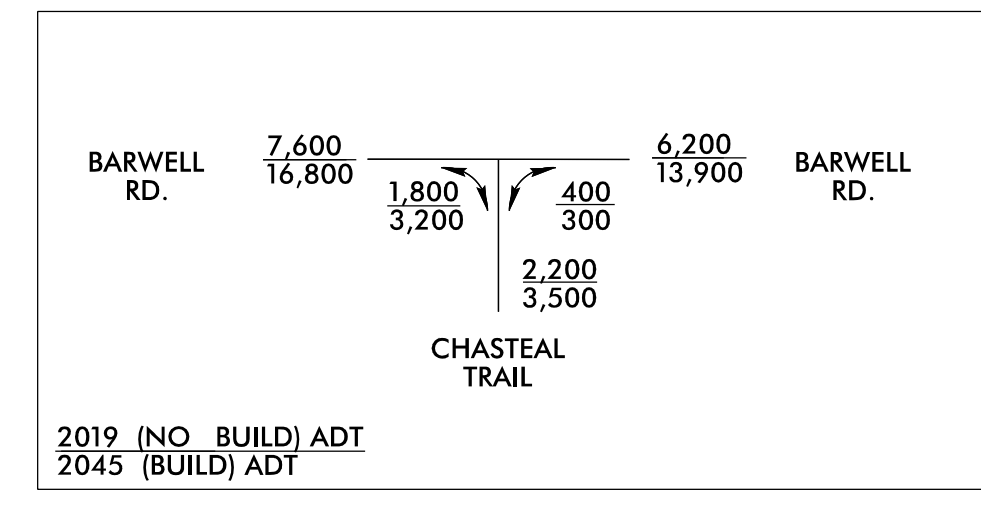
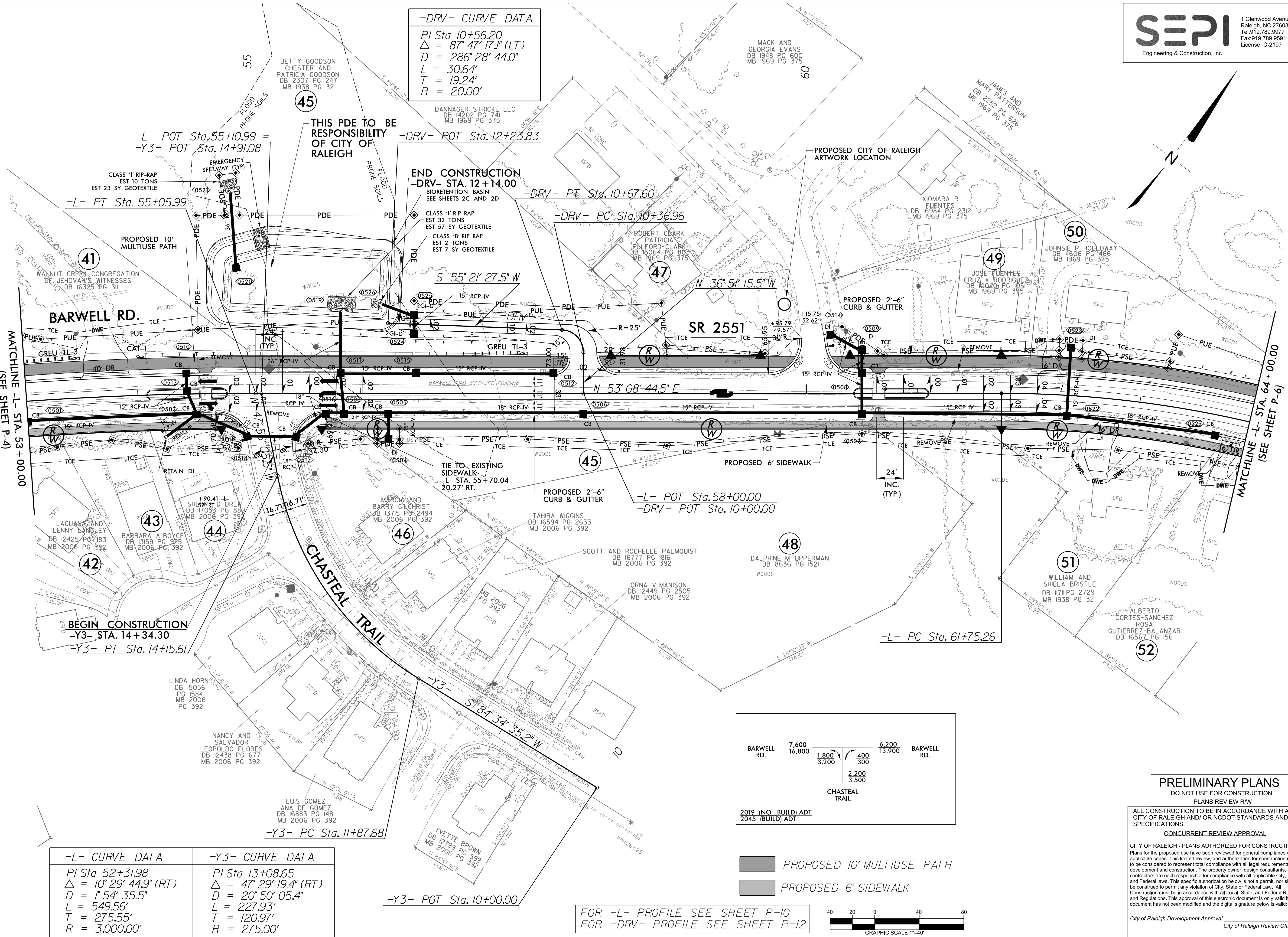


DATE:	MARCH / 2020
CADD TECH:	TAH
CHECKED BY:	RAK
REVISIONS	
NO.	DATE
SCALES	
HSCALE	1" = 40'
VSCALE	1" = 10'
SHEET NO.	
P-5	

-DRV- CURVE DATA
PI Sta 10+56.20
 $\Delta = 87^{\circ} 47' 17.1" (LT)$
 $D = 286^{\circ} 28' 44.0"$
 $L = 30.64'$
 $T = 19.24'$
 $R = 20.00'$

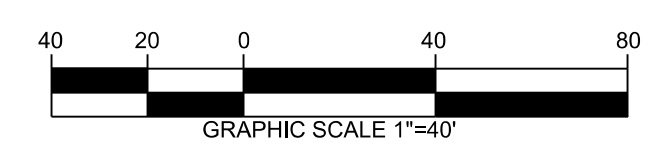
-L- CURVE DATA
PI Sta 52+31.98
 $\Delta = 10^{\circ} 29' 44.9" (RT)$
 $D = 1^{\circ} 54' 35.5"$
 $L = 549.56'$
 $T = 275.55'$
 $R = 3,000.00'$

-Y3- CURVE DATA
PI Sta 13+08.65
 $\Delta = 47^{\circ} 29' 19.4" (RT)$
 $D = 20^{\circ} 50' 05.4"$
 $L = 227.93'$
 $T = 120.97'$
 $R = 275.00'$



PROPOSED 10' MULTIUSE PATH
PROPOSED 6' SIDEWALK

FOR -L- PROFILE SEE SHEET P-10
FOR -DRV- PROFILE SEE SHEET P-12



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W

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CONCURRENT REVIEW APPROVAL

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City of Raleigh Review Officer



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W

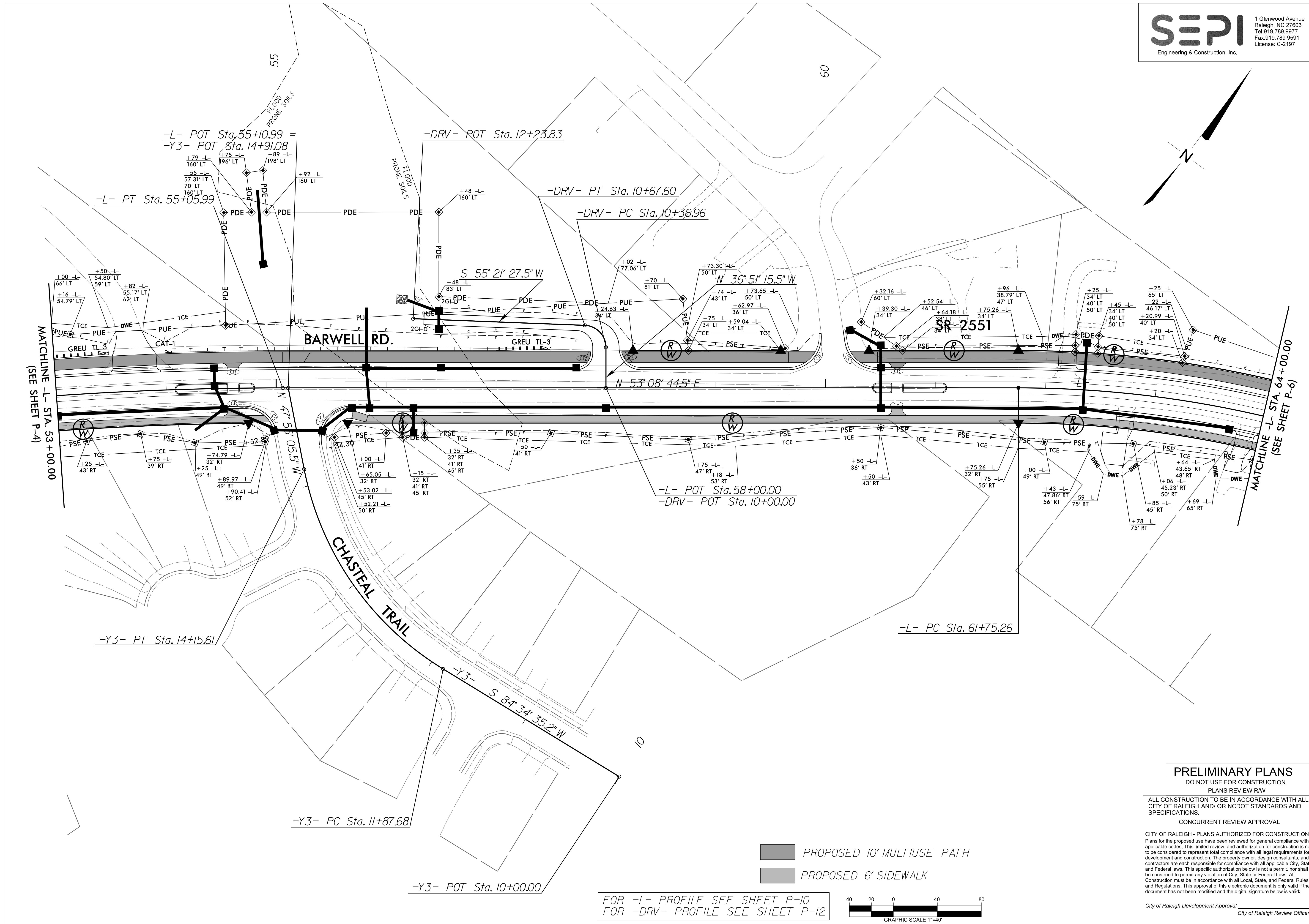
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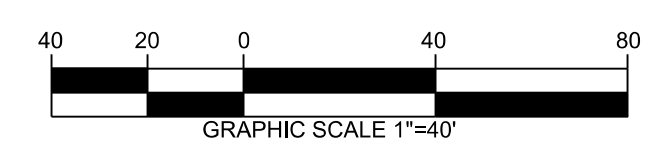
City of Raleigh Development Approval
City of Raleigh Review Officer

REVISIONS	
NO.	DATE

SCALES
HSCALE 1" = 40'
VSCALE 1" = 10'
SHEET NO.



FOR -L- PROFILE SEE SHEET P-10
FOR -DRV- PROFILE SEE SHEET P-12



-L- CURVE DATA	
PI Sta 64+30.87	PI Sta 72+84.81
$\Delta = 29^{\circ}14'15.2"$ (RT)	$\Delta = 18^{\circ}38'59.3"$ (LT)
D = 5' 50' 47.4"	D = 3' 58' 43.9"
L = 500.09'	L = 468.72'
T = 255.61'	T = 236.45'
R = 980.00'	R = 1,440.00'

FOR -L- PROFILE SEE SHEET P-10 & P-11

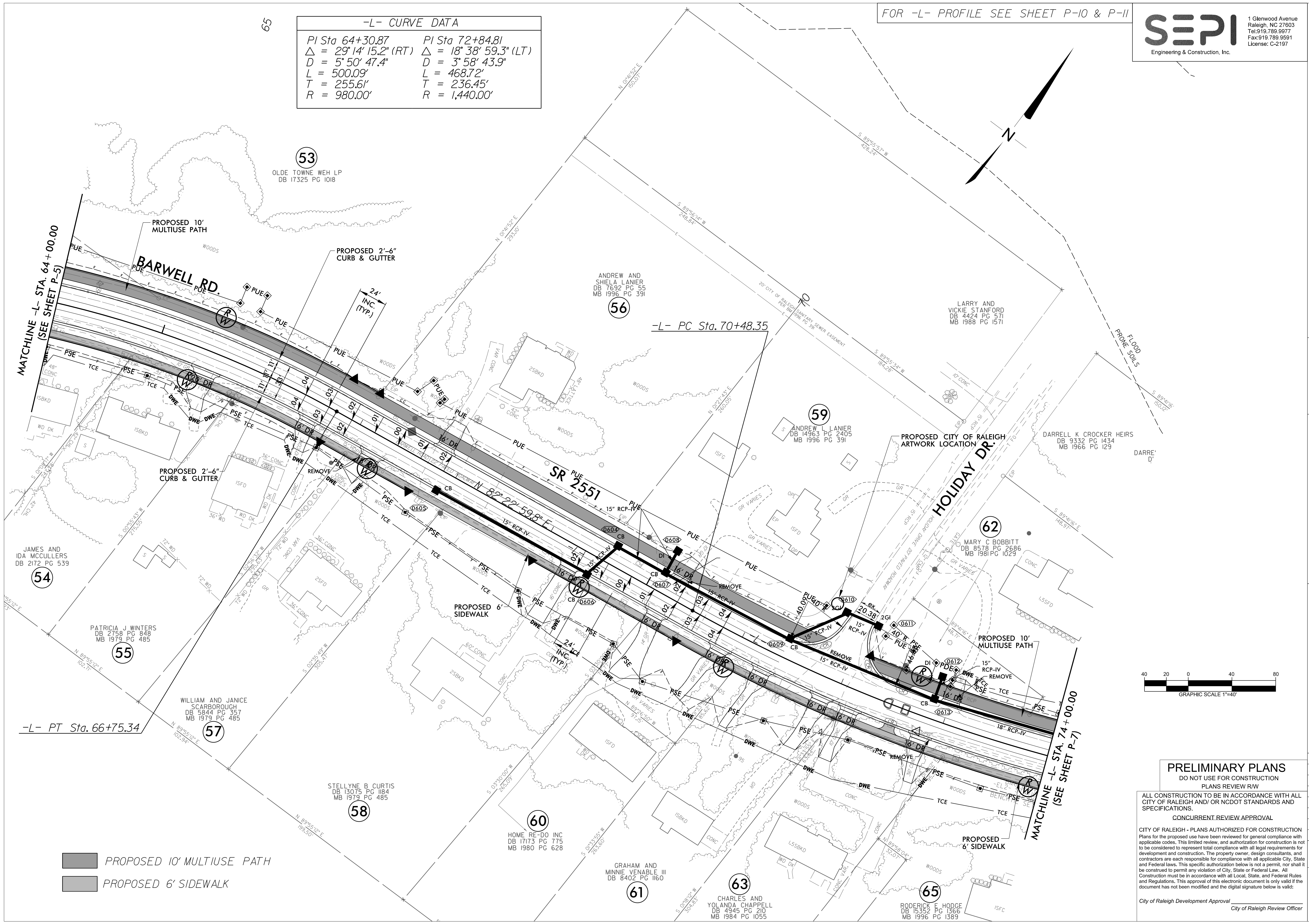
SEPI
Engineering & Construction, Inc.
1 Glenwood Avenue
Raleigh, NC 27603
Tel: 919.789.9977
Fax: 919.789.9591
License: C-2197

CITY OF RALEIGH
ENGINEERING SERVICES
DEPARTMENT



PLAN SHEET

BARWELL ROAD (SR 2551)
FROM ROCK QUARRY ROAD (SR 2542)
TO BERKELEY LAKE ROAD



PROPOSED 10' MULTIUSE PATH
PROPOSED 6' SIDEWALK

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF RALEIGH AND/OR NCDOT STANDARDS AND SPECIFICATIONS.

CONCURRENT REVIEW APPROVAL

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION
Plans for the proposed use have been reviewed for general compliance with applicable codes. This limited review, and authorization for construction is not to be considered to represent total compliance with all legal requirements for development and construction. The property owner, design consultants, and contractors are each responsible for compliance with all applicable City, State and Federal laws. This specific authorization below is not a permit, nor shall it be construed to permit any violation of City, State or Federal Law. All construction must be in accordance with all Local, State, and Federal Rules and Regulations. This approval of this electronic document is only valid if the document has not been modified and the digital signature below is valid:

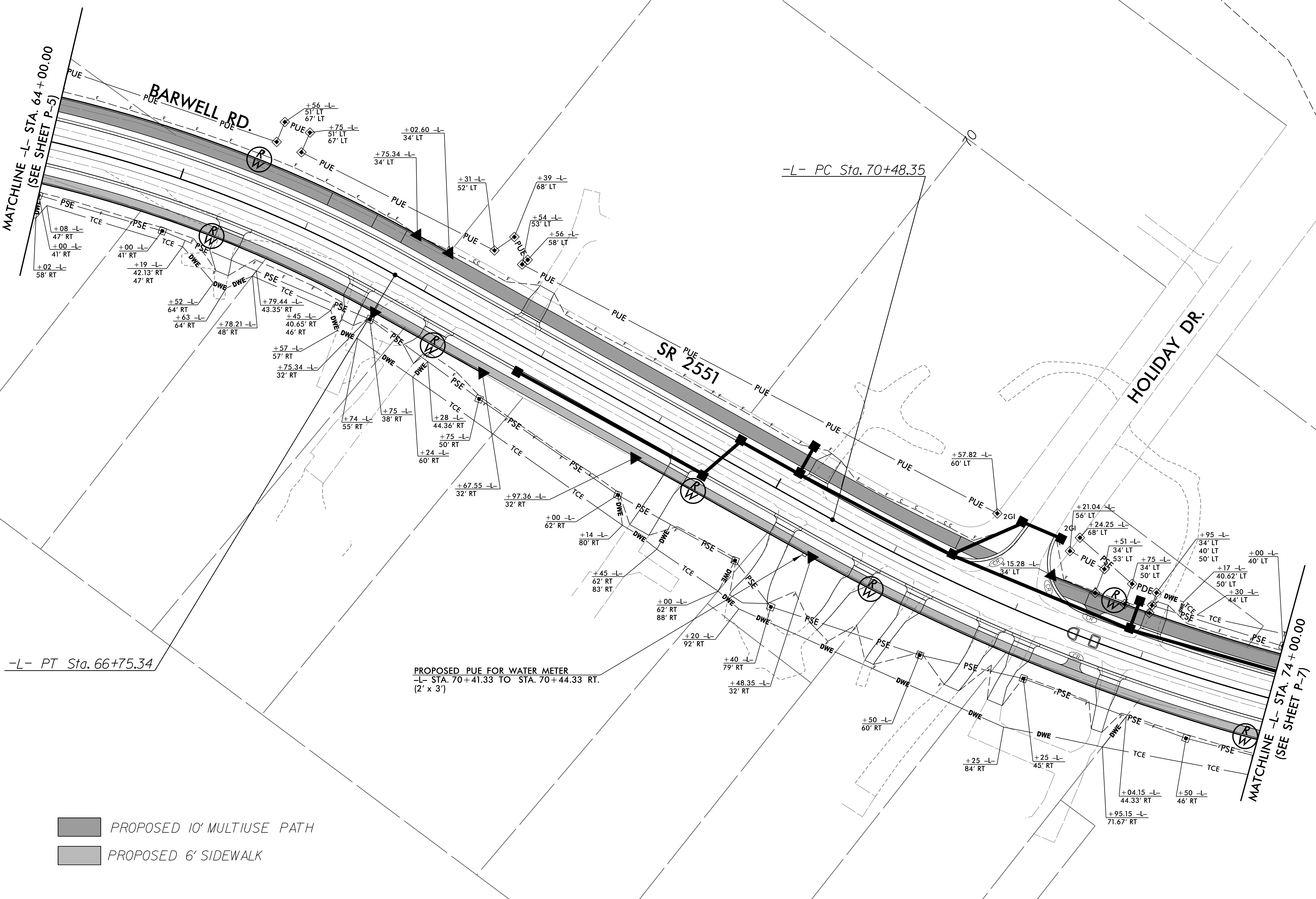
City of Raleigh Development Approval _____
City of Raleigh Review Officer _____

REVISIONS	
NO.	DATE

SCALES
HSCALE 1" = 40'
VSCALE 1" = 10'
SHEET NO.

DATE: MARCH / 2020
CADD TECH: TAH
CHECKED BY: RAK

P-6



■ PROPOSED 10' MULTIUSE PATH
■ PROPOSED 6' SIDEWALK

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W

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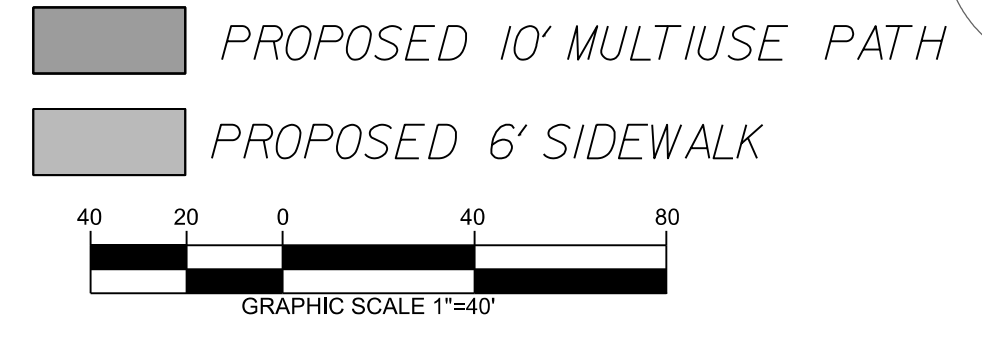
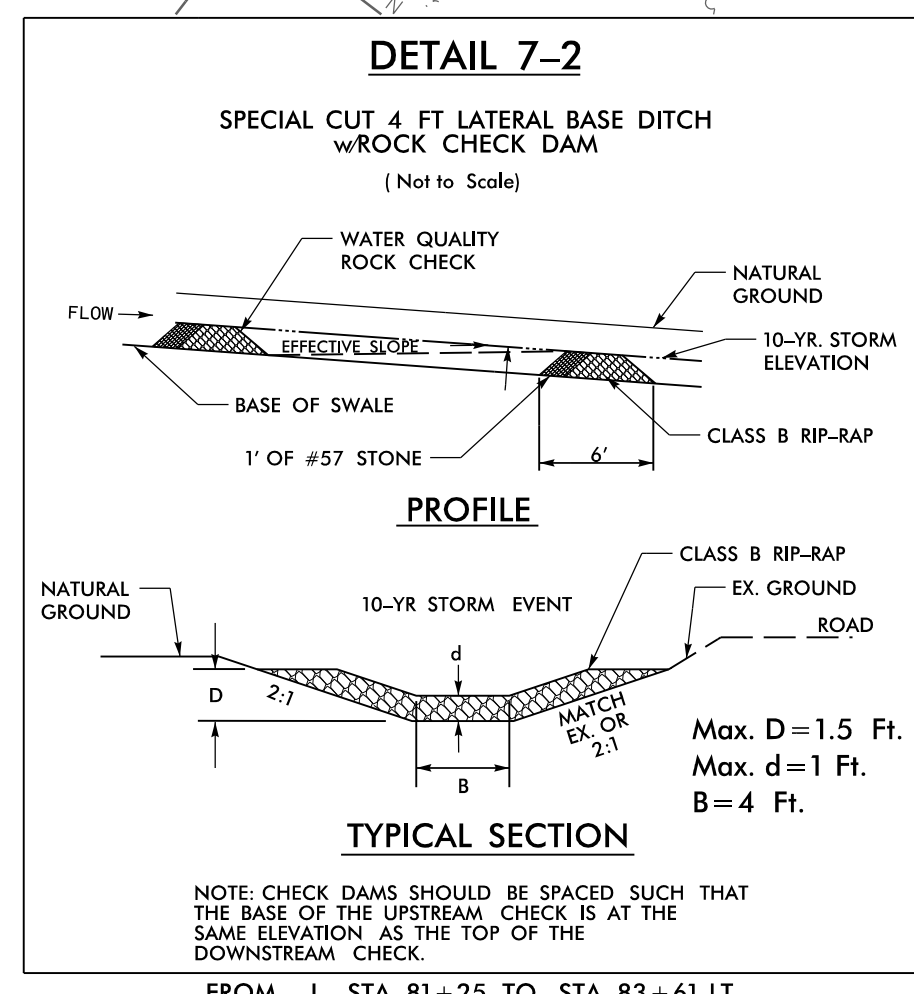
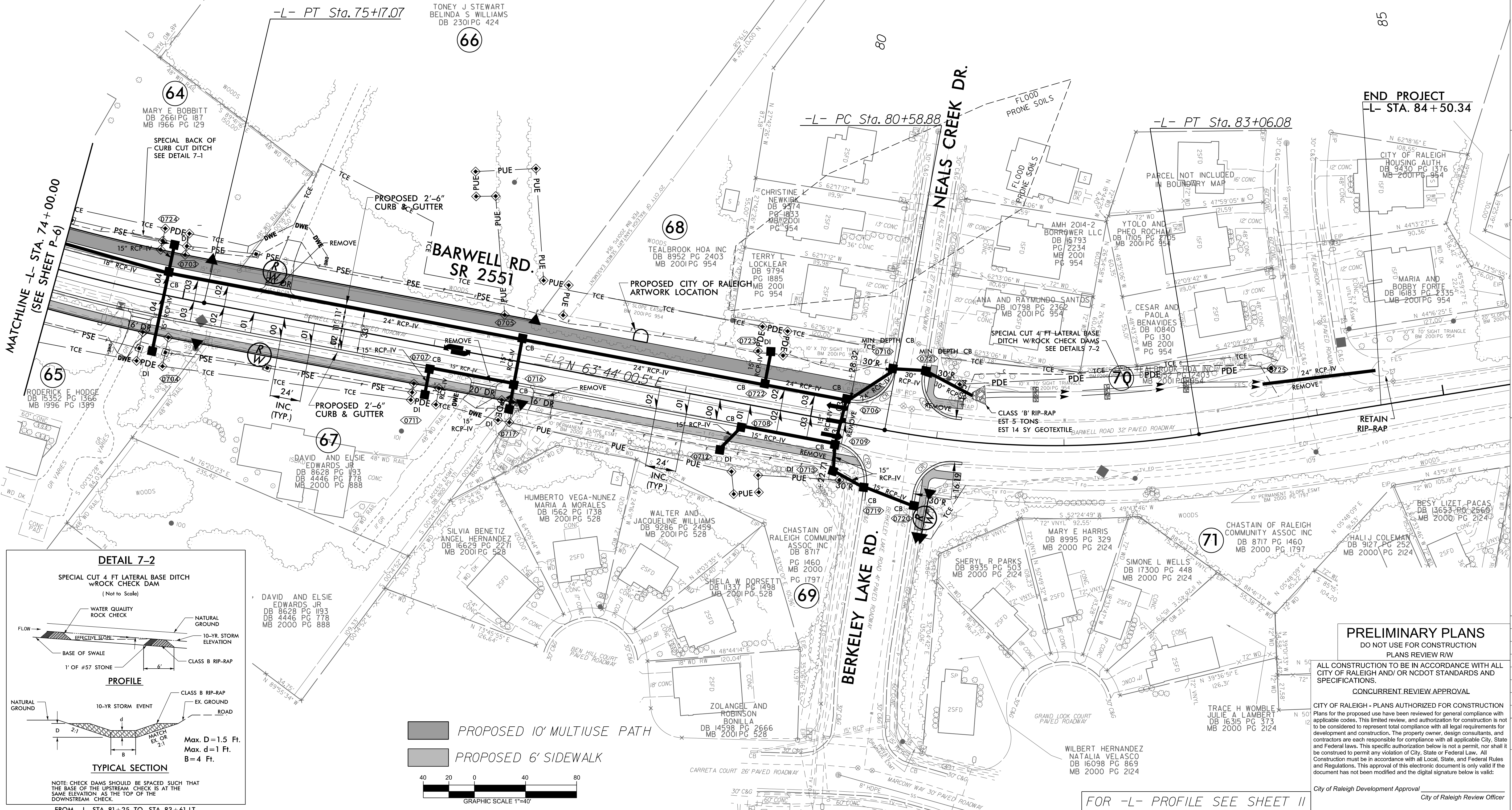
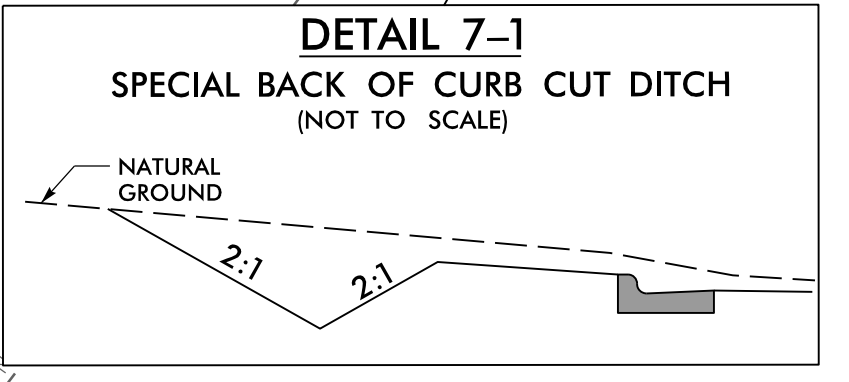
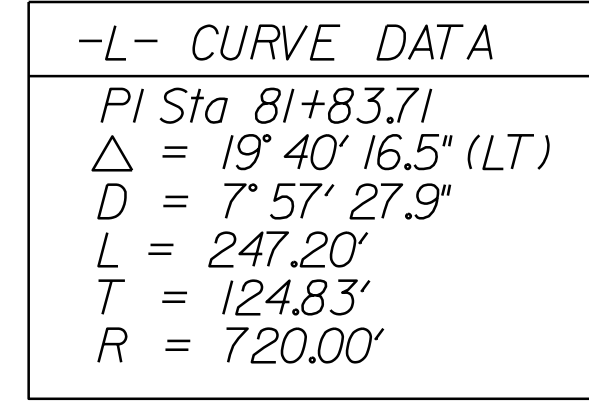
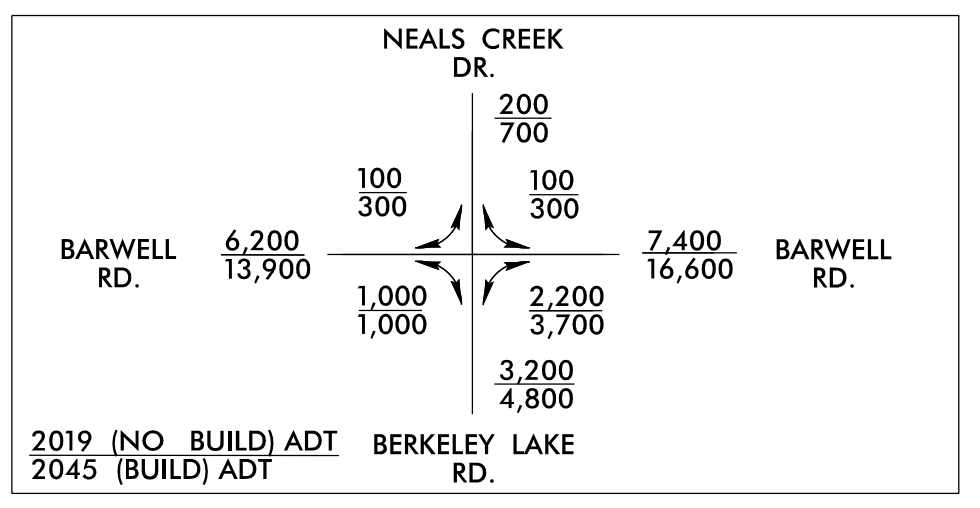
CONCURRENT REVIEW APPROVAL

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City of Raleigh Review Officer



DATE:	MARCH / 2020
CADD TECH:	TAH
CHECKED BY:	RAK
REVISIONS	
NO.	DATE
SCALES	
HSCALE	1" = 40'
VSCALE	1" = 10'
SHEET NO.	



PRELIMINARY PLANS
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PLANS REVIEW R/W

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF RALEIGH AND/OR NCDOT STANDARDS AND SPECIFICATIONS.

CONCURRENT REVIEW APPROVAL

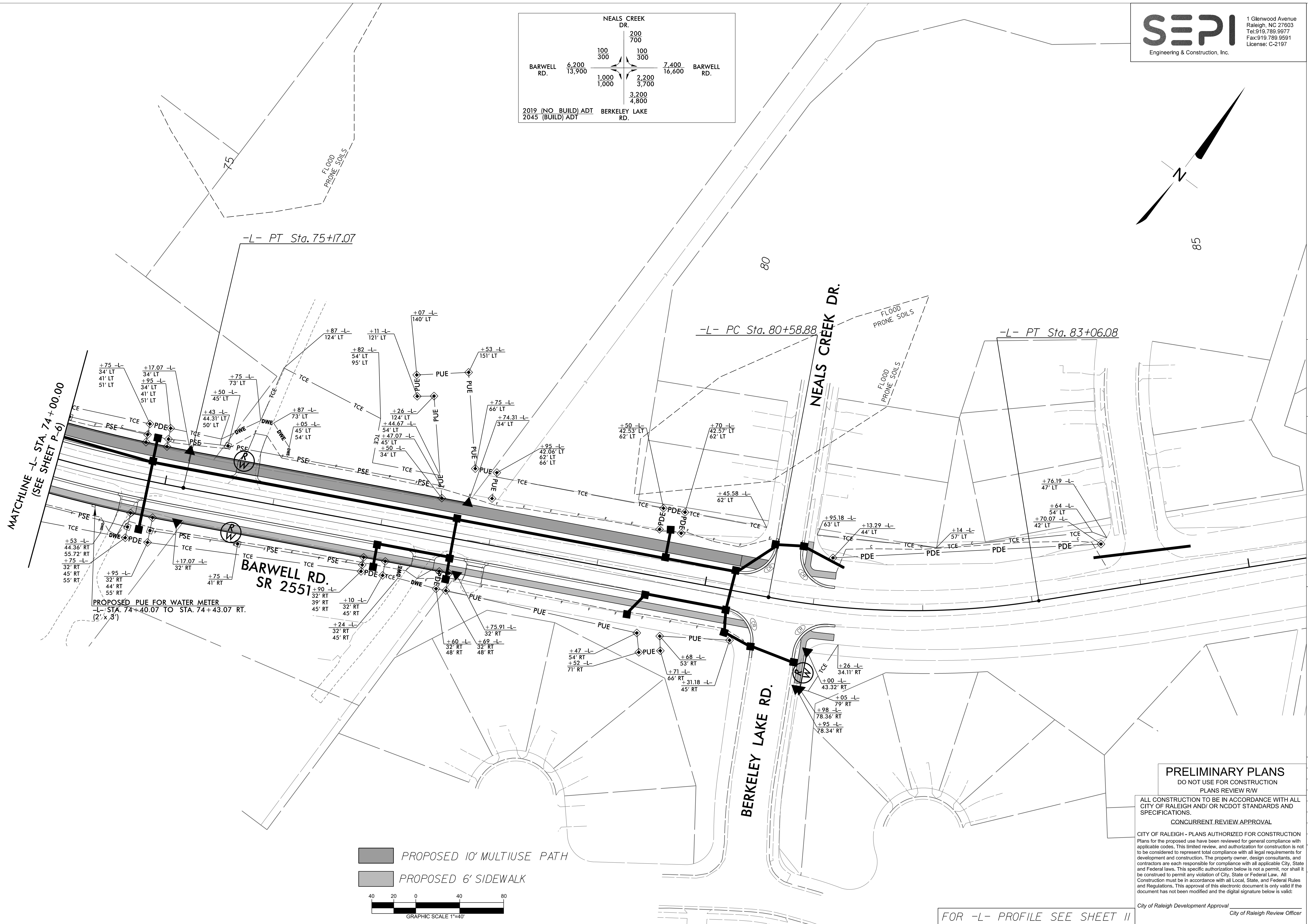
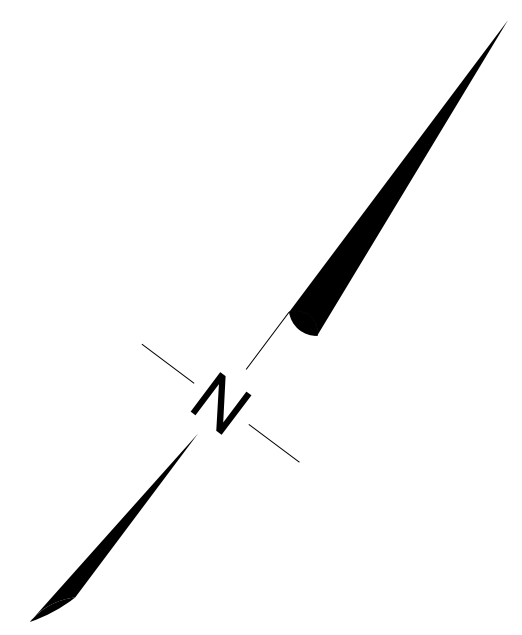
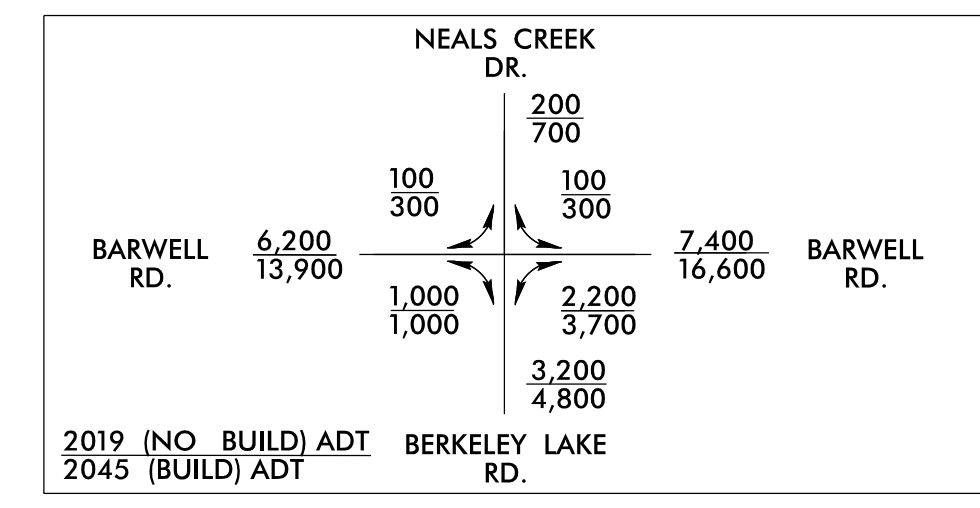
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City of Raleigh Review Officer

FOR -L- PROFILE SEE SHEET II



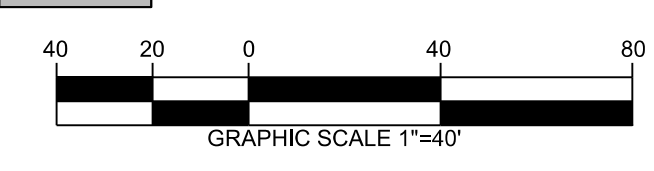
DATE:	MARCH / 2020
CADD TECH:	TAH
CHECKED BY:	RMK
REVISIONS	
NO.	DATE
SCALES	
HSCALE	1" = 40'
VSCALE	1" = 10'
SHEET NO.	



PROPOSED PUE FOR WATER METER
-L- STA. 74+40.07 TO STA. 74+43.07 RT.
(2' x 3')

PROPOSED 10' MULTIUSE PATH

PROPOSED 6' SIDEWALK

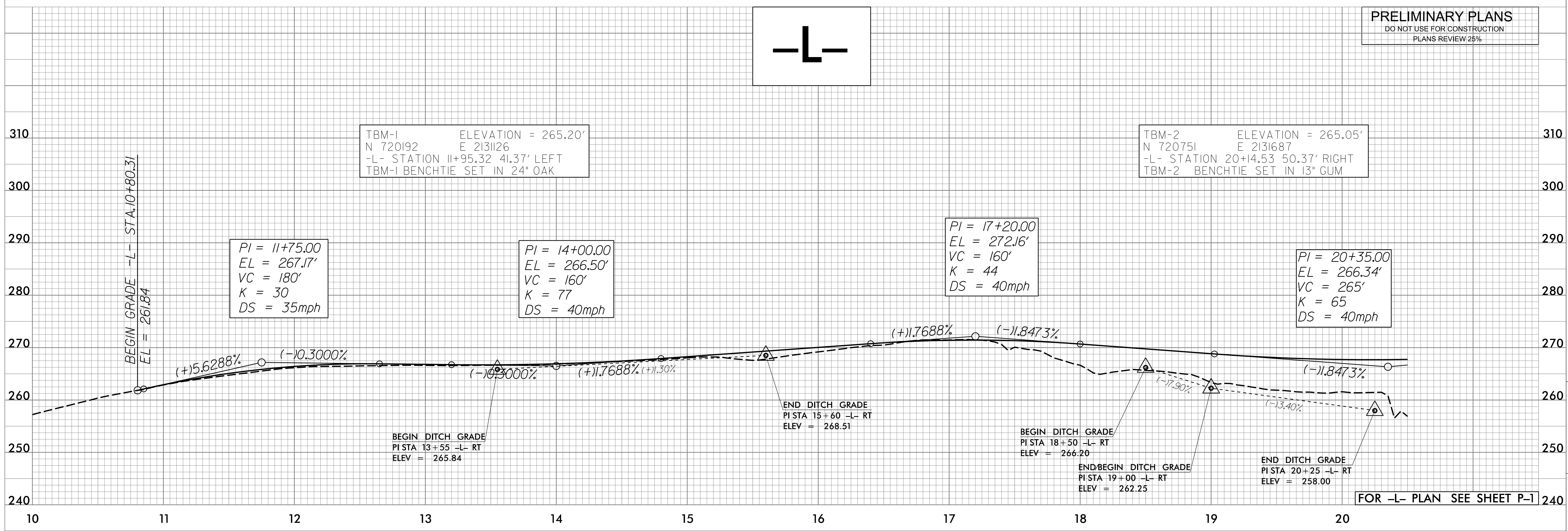


FOR -L- PROFILE SEE SHEET II

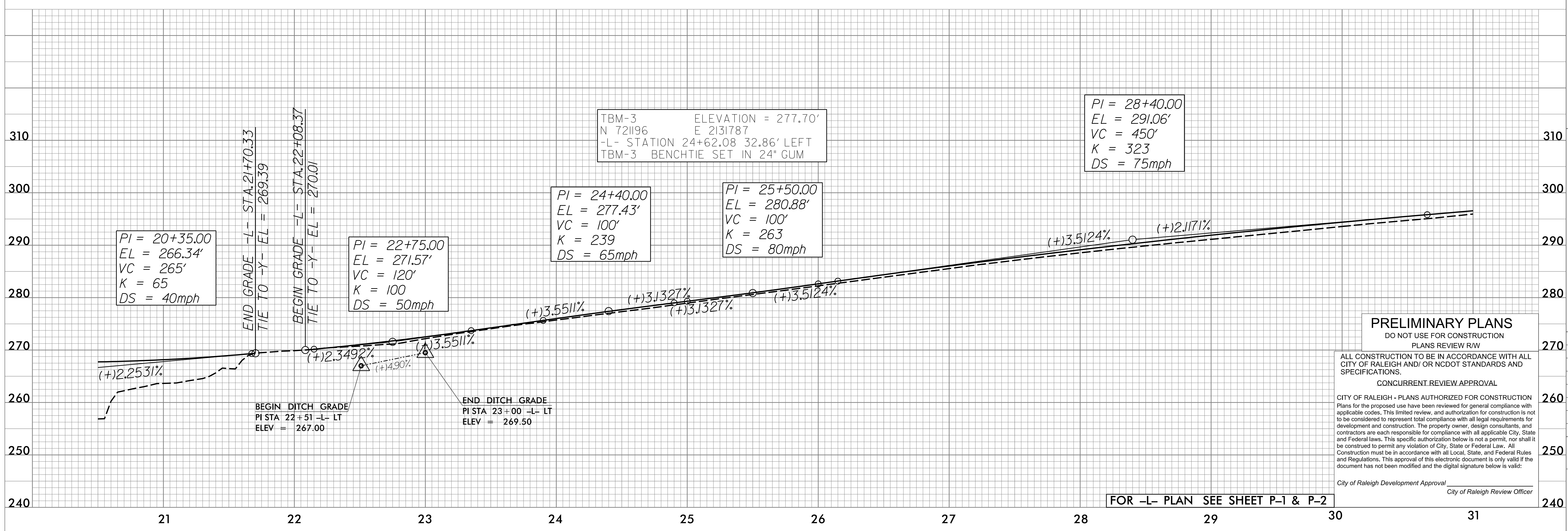
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W
CONCURRENT REVIEW APPROVAL
CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION
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City of Raleigh Review Officer

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW 25%

CITY OF RALEIGH
ENGINEERING SERVICES
DEPARTMENT



ROADWAY PROFILES



BARWELL ROAD (SR 2551)
FROM ROCK QUARRY ROAD (SR 2542)
TO BERKELEY LAKE ROAD

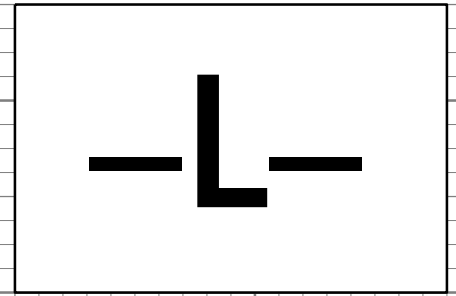
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W

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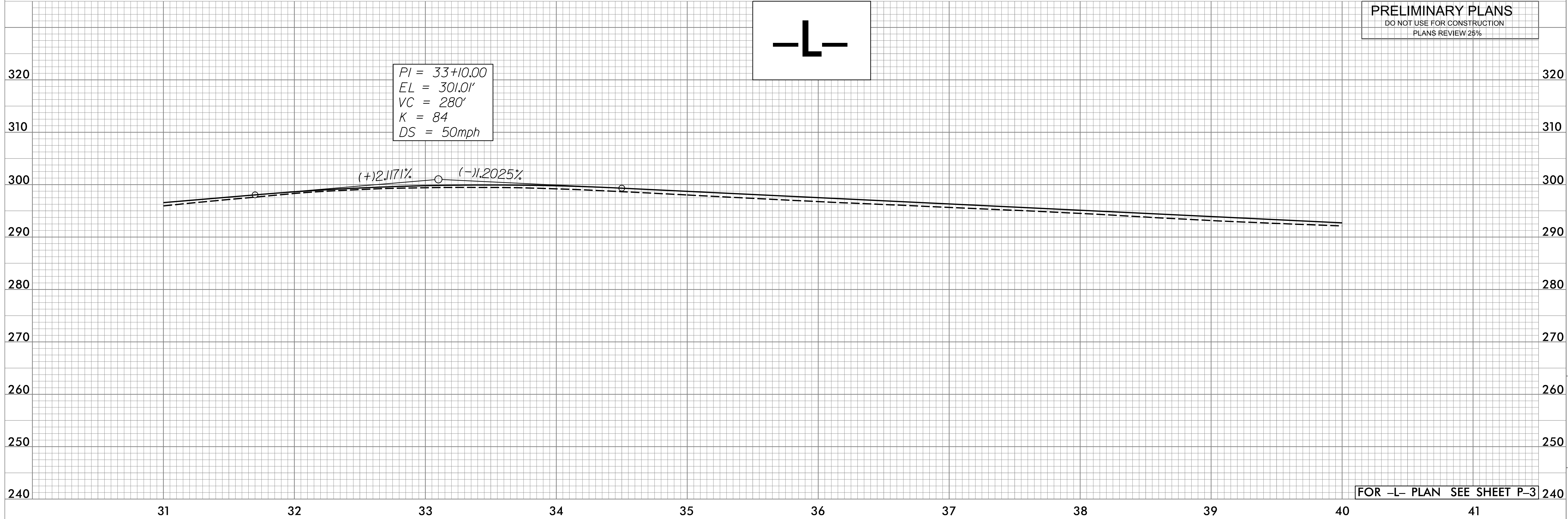
DATE:	JULY 2019
CADD TECH:	DAP
CHECKED BY:	RMK
REVISIONS	
NO.	DATE
SCALES	
HSCALE	1" = 40'
VSCALE	1" = 10'
SHEET NO.	

P-8

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW 25%



PI = 33+10.00
EL = 301.01'
VC = 280'
K = 84
DS = 50mph



CITY OF RALEIGH
ENGINEERING SERVICES
DEPARTMENT



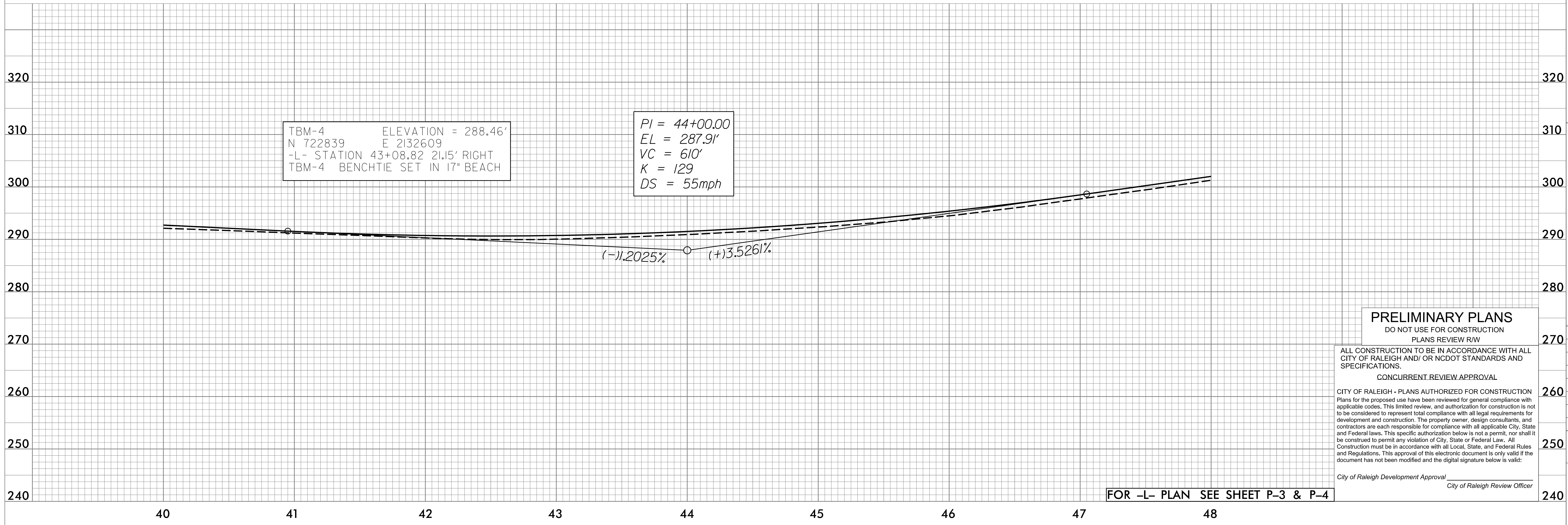
ROADWAY PROFILES

BARWELL ROAD (SR 2551)
FROM ROCK QUARRY ROAD (SR 2542)
TO BERKELEY LAKE ROAD

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W

TBM-4 ELEVATION = 288.46'
N 722839 E 2132609
-L- STATION 43+08.82 21.5' RIGHT
TBM-4 BENCHTIE SET IN 17" BEACH

PI = 44+00.00
EL = 287.91'
VC = 610'
K = 129
DS = 55mph



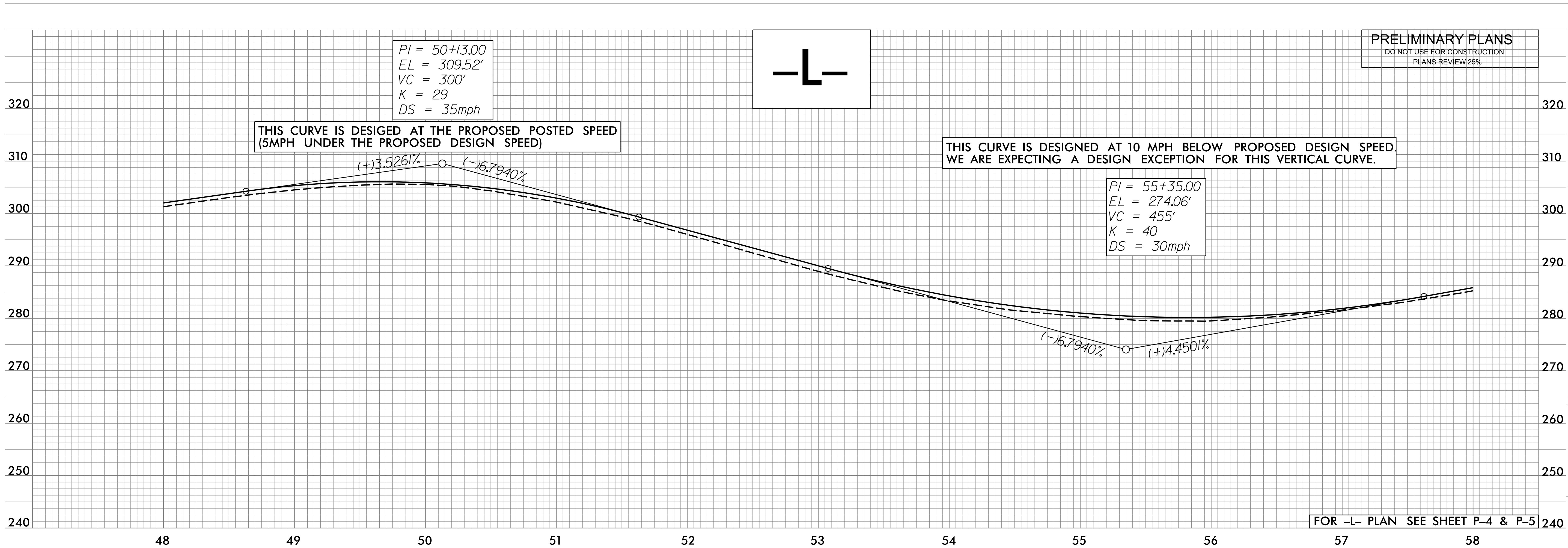
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City of Raleigh Review Officer

DATE: JULY 2019
CADD TECH: DAP
CHECKED BY: RMK

REVISIONS
NO. DATE

SCALES
HSCALE 1" = 40'
VSCALE 1" = 10'
SHEET NO.

P-9



THIS CURVE IS DESIGNED AT THE PROPOSED POSTED SPEED (5MPH UNDER THE PROPOSED DESIGN SPEED)

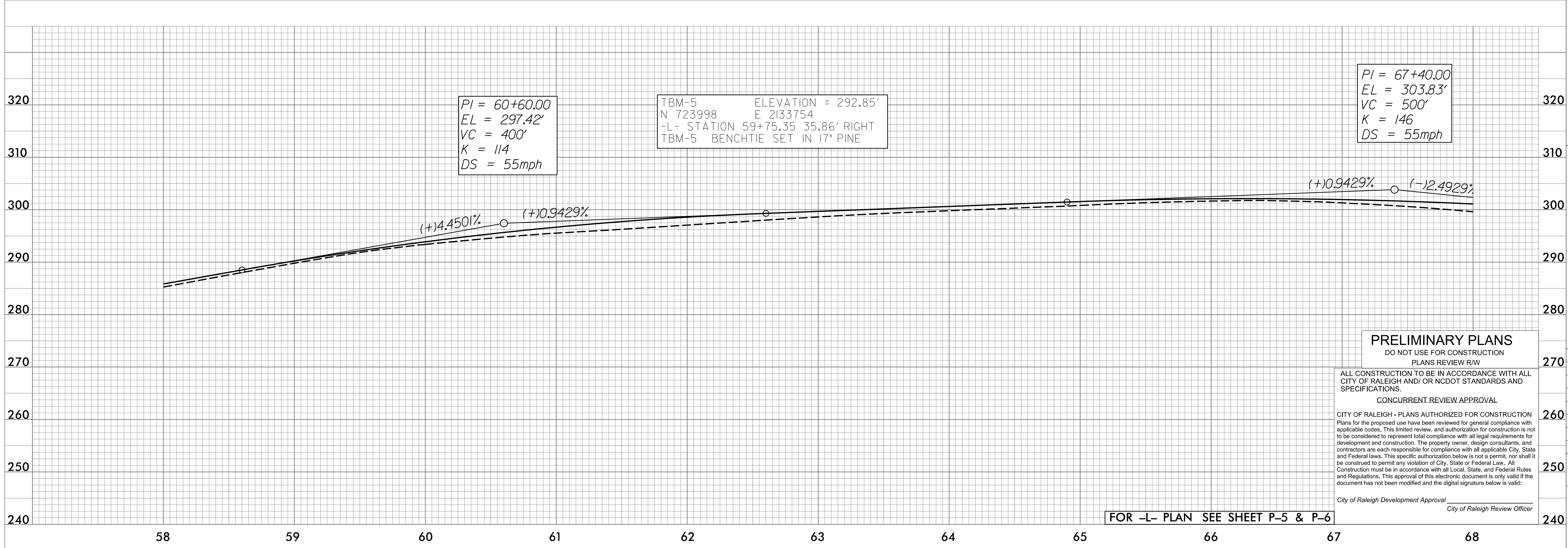
THIS CURVE IS DESIGNED AT 10 MPH BELOW PROPOSED DESIGN SPEED. WE ARE EXPECTING A DESIGN EXCEPTION FOR THIS VERTICAL CURVE.

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW 25%

PI = 55+35.00
EL = 274.06'
VC = 455'
K = 40
DS = 30mph

PI = 50+13.00
EL = 309.52'
VC = 300'
K = 29
DS = 35mph

FOR -L- PLAN SEE SHEET P-4 & P-5



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W

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CONCURRENT REVIEW APPROVAL

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FOR -L- PLAN SEE SHEET P-5 & P-6

CITY OF RALEIGH
ENGINEERING SERVICES
DEPARTMENT



ROADWAY PROFILES

BARWELL ROAD (SR 2551)
FROM ROCK QUARRY ROAD (SR 2542)
TO BERKELEY LAKE ROAD

DATE: JULY 2019

CADD TECH: DAP

CHECKED BY: RMK

REVISIONS

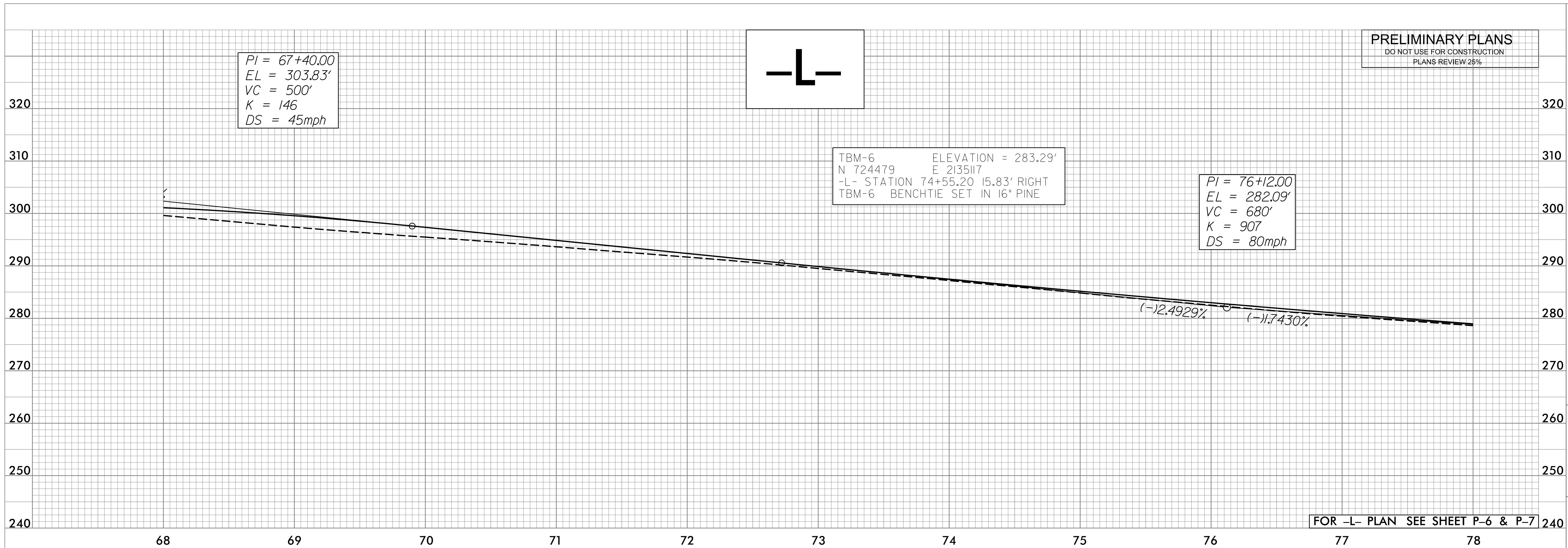
NO.	DATE

SCALES

HSCALE 1" = 40'

VSCALE 1" = 10'
SHEET NO.

P-10



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW 25%

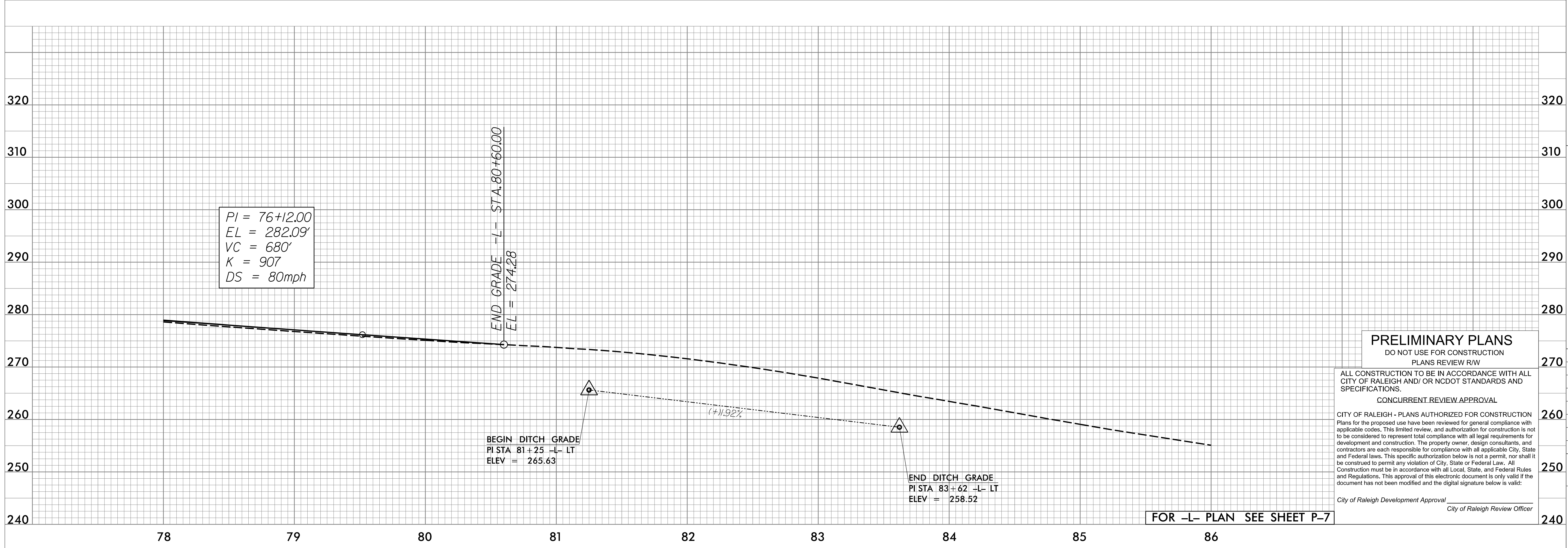
PI = 67+40.00
EL = 303.83'
VC = 500'
K = 146
DS = 45mph

TBM-6 ELEVATION = 283.29'
N 724479 E 2135117
-L- STATION 74+55.20 15.83' RIGHT
TBM-6 BENCHMARK SET IN 16" PINE

PI = 76+12.00
EL = 282.09'
VC = 680'
K = 907
DS = 80mph

FOR -L- PLAN SEE SHEET P-6 & P-7

CITY OF RALEIGH
ENGINEERING SERVICES
DEPARTMENT



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W

PI = 76+12.00
EL = 282.09'
VC = 680'
K = 907
DS = 80mph

END GRADE -L- STA. 80+60.00
EL = 274.28

BEGIN DITCH GRADE
PI STA 81+25 -L- LT
ELEV = 265.63

END DITCH GRADE
PI STA 83+62 -L- LT
ELEV = 258.52

FOR -L- PLAN SEE SHEET P-7

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL CITY OF RALEIGH AND/OR NCDOT STANDARDS AND SPECIFICATIONS.
CONCURRENT REVIEW APPROVAL
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ROADWAY PROFILES

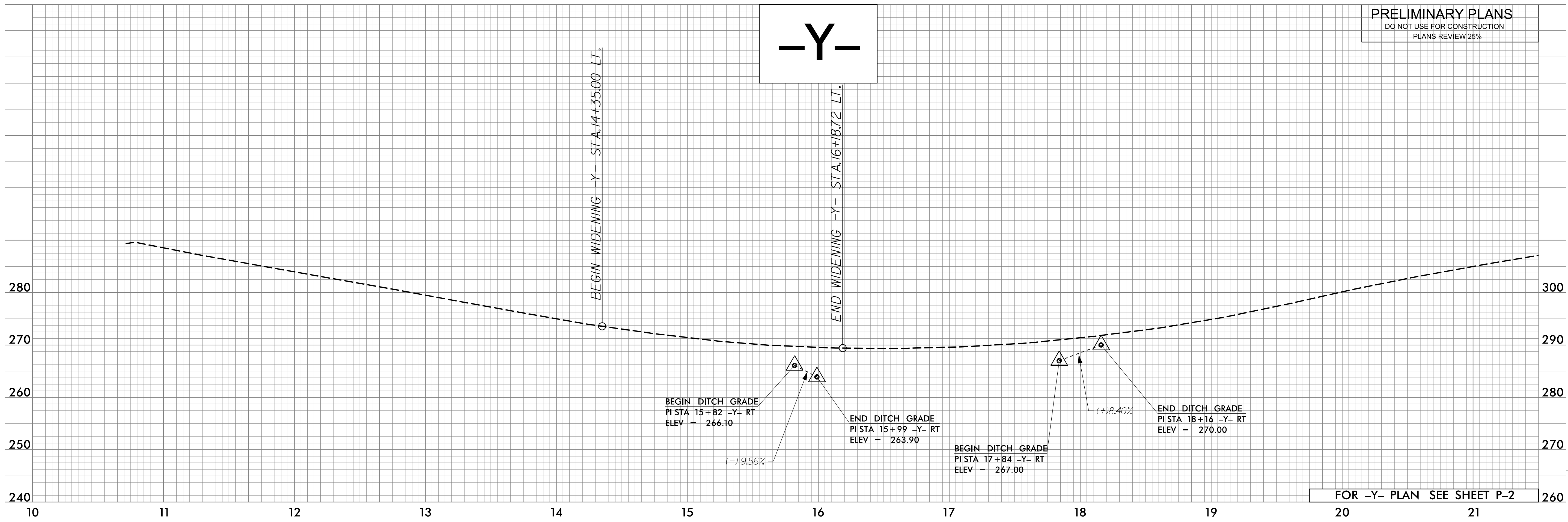
BARWELL ROAD (SR 2551)
FROM ROCK QUARRY ROAD (SR 2542)
TO BERKELEY LAKE ROAD

DATE:	JULY 2019
CADD TECH:	DAP
CHECKED BY:	RMK
REVISIONS	
NO.	DATE
SCALES	
HSCALE	1" = 40'
VSCALE	1" = 10'
SHEET NO.	

P-11

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW 25%

CITY OF RALEIGH
ENGINEERING SERVICES
DEPARTMENT



FOR -Y- PLAN SEE SHEET P-2

ROADWAY PROFILES

BARWELL ROAD (SR 2551)
FROM ROCK QUARRY ROAD (SR 2542)
TO BERKELEY LAKE ROAD

PRELIMINARY PLANS
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City of Raleigh Review Officer

DATE: JULY 2019

CADD TECH: DAP

CHECKED BY: RAK

REVISIONS

NO.	DATE

NO. DATE

SCALES

HSCALE 1" = 40'

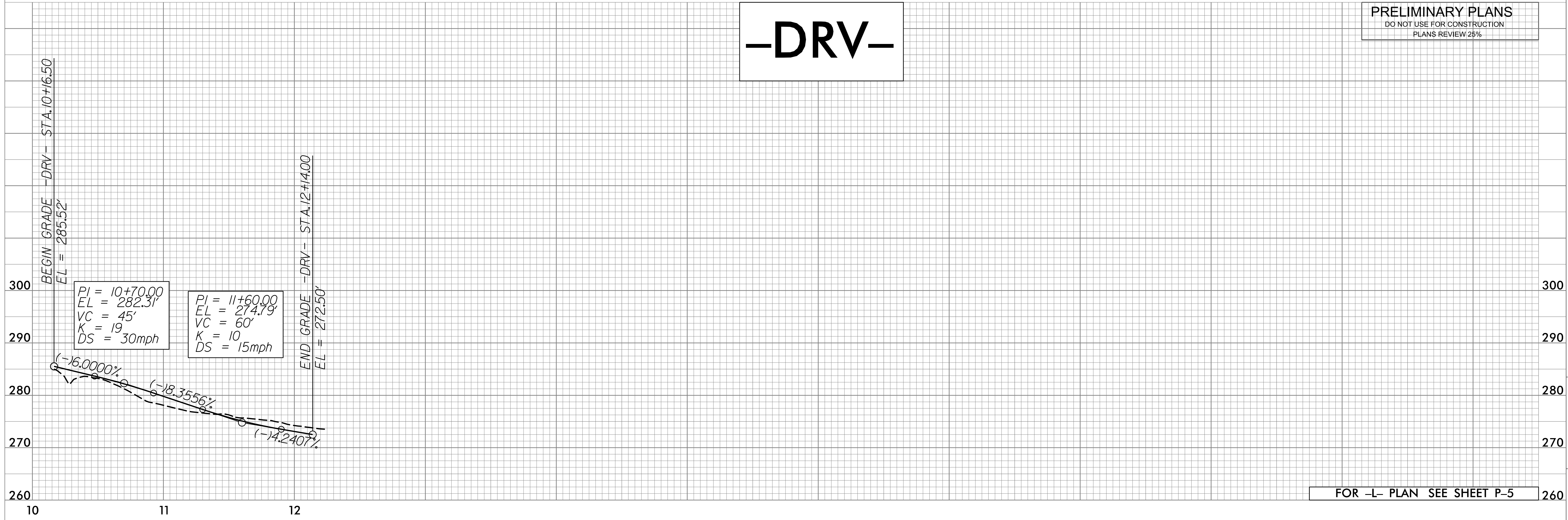
VSCALE 1" = 10'

SHEET NO.

P-12

-DRV-

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW 25%



FOR -L- PLAN SEE SHEET P-5

-SIDEWALK-

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
PLANS REVIEW R/W



FOR -SIDEWALK- PLAN SEE SHEET P-2

CONCURRENT REVIEW APPROVAL

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CADD TECH: DAP	
CHECKED BY: RMK	
REVISIONS	
NO.	DATE
SCALES	
HSCALE	1" = 40'
VSCALE	1" = 10'
SHEET NO.	