

LEGEND:

- SILT FENCE
- TREE PROTECTION FENCE
- SILT FENCE OUTLET
- - - EX CONTOUR LINE
- - - PROP CONTOUR LINE
- - - LIMITS OF DISTURBANCE
- ▨ CONSTRUCTION ENTRANCE
- ▭ TEMPORARY DIVERSION DITCH
- ▭ CONCRETE WASHOUT
- STOCKPILE AREA
- INLET PROTECTION
- ▴ ROCK CHECK DAM

REV. NO.	DESCRIPTIONS	REVISIONS
2	REMOVE SWEETLEAF	07/31/2019

MATCHLINE SEE SHEET C323

NORTH Referenced To N.C. GRID (NAD 83)

MATCHLINE SEE SHEET C321



Bateman Civil Survey Company
 Engineers • Surveyors • Planners
 2524 Reliance Avenue, Apex, North Carolina 27539
 Phone: 919.577.1080 Fax: 919.577.1081
 NCBELS FRM No. C-2376

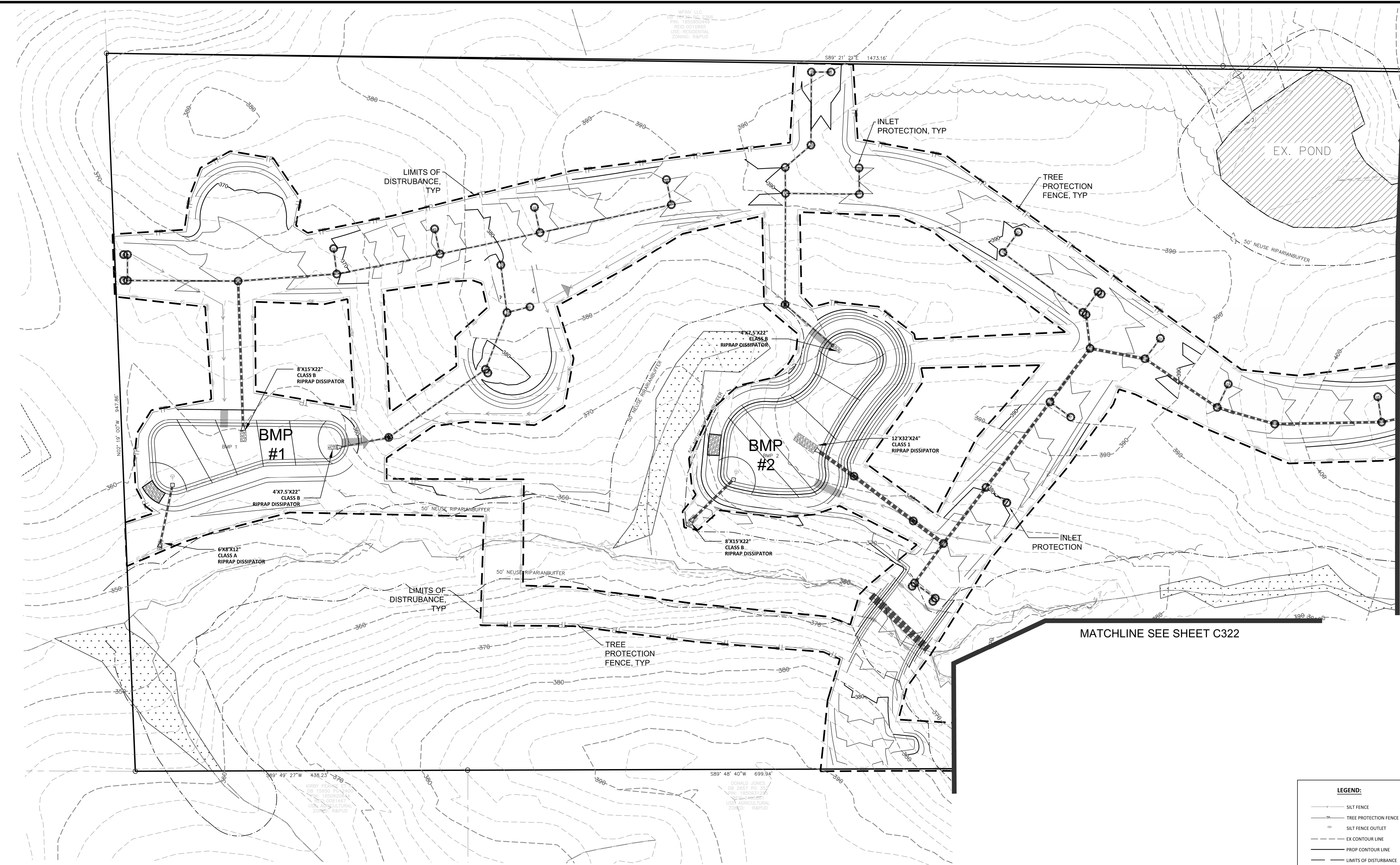


ELIZABETH HEIGHTS
CONSTRUCTION DRAWINGS
 1205 AVERETTE ROAD
 WAKE FOREST, NC 27587
 WAKE COUNTY, NC

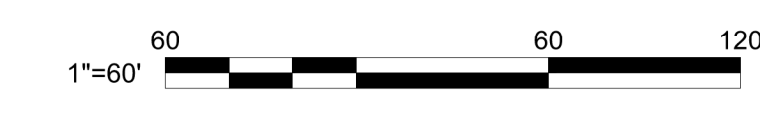
EROSION CONTROL PLAN

Project Engineer:	TSS
Designed By:	LEG
Drawn By:	LEG
Checked By:	TSS
Scale:	1"=60'
Date:	07/31/2019
Project Number:	170348

SHEET
C327



REV. NO.	DESCRIPTIONS	DATE
2	REMOVE SWEETLEAF	07/31/2019
REVISIONS		



LEGEND:

	SILT FENCE
	TREE PROTECTION FENCE
	SILT FENCE OUTLET
	EX CONTOUR LINE
	PROP CONTOUR LINE
	LIMITS OF DISTURBANCE
	CONSTRUCTION ENTRANCE
	TEMPORARY DIVERSION DITCH
	CONCRETE WASHOUT
	STOCKPILE AREA
	INLET PROTECTION
	ROCK CHECK DAM



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CONSTRUCTION DRAWINGS
 1205 AVERETTE ROAD
 WAKE FOREST, NC 27587
 WAKE COUNTY, NC

EROSION CONTROL PLAN

Project Engineer: TSS
 Designed By: LEG
 Drawn By: LEG
 Checked By: TSS
 Scale: 1"=60'
 Date: 07/31/2019
 Project Number: 170348

SHEET
C328

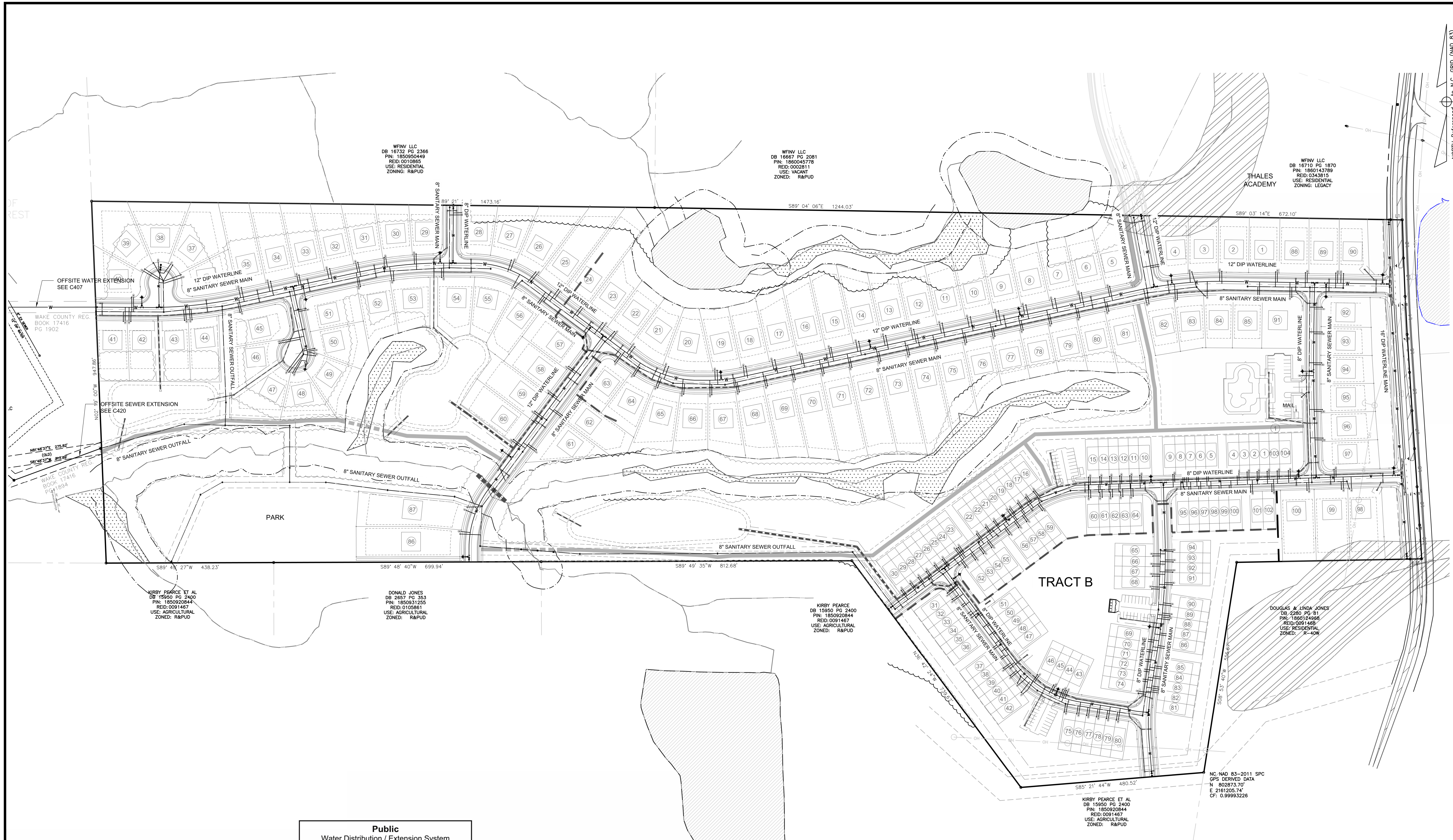
NORTH Referenced to N.C. GRID (NAD 83)
 MATCHLINE SEE SHEET C321

MATCHLINE SEE SHEET C322

WFOV, LLC
 107 TYPING, INC. 2388
 P.M. 155003243
 800.0070861
 USE: RESIDENTIAL
 ZONING: RAPUD

WISBY DESIGN
 DB 15950 PLS-240
 P.M. 155003243
 800.0070861
 USE: AGRICULTURAL
 ZONING: RAPUD

DONALD JONES
 DB 2857 PG 24
 P.M. 155003243
 800.0070861
 USE: AGRICULTURAL
 ZONING: RAPUD



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 1205 AVERETTE ROAD
 WAKE FOREST, NC 27587
 WAKE COUNTY, NC

OVERALL UTILITY PLAN

Project Engineer: TSS
 Designed By: LEG
 Drawn By: LEG
 Checked By: TSS
 Scale: 1"=120'
 Date: 07/31/2019
 Project Number: 170348

SHEET
C400

WFINV LLC
 DB 16732 PG 2386
 PIN: 1850950449
 REID: 0010865
 USE: RESIDENTIAL
 ZONED: R&PUD

WFINV LLC
 DB 16667 PG 2081
 PIN: 1860045778
 REID: 0020211
 USE: VACANT
 ZONED: R&PUD

WFINV LLC
 DB 16710 PG 1870
 PIN: 1860143789
 REID: 0343616
 USE: RESIDENTIAL
 ZONED: LEGACY

KIRBY PEARCE ET AL
 DB 15950 PG 2400
 PIN: 1850920844
 REID: 0091467
 USE: AGRICULTURAL
 ZONED: R&PUD

DONALD JONES
 DB 2857 PG 353
 PIN: 1850931205
 REID: 0105861
 USE: AGRICULTURAL
 ZONED: R&PUD

KIRBY PEARCE
 DB 15950 PG 2400
 PIN: 1850920844
 REID: 0091467
 USE: AGRICULTURAL
 ZONED: R&PUD

KIRBY PEARCE ET AL
 DB 15950 PG 2400
 PIN: 1850920844
 REID: 0091467
 USE: AGRICULTURAL
 ZONED: R&PUD

DOUGLAS & LINDA JONES
 DB 2280 PG 81
 PIN: 1860124968
 REID: 0091468
 USE: RESIDENTIAL
 ZONED: R-40W

NC NAD 83-2011 SPC
 GPS DERIVED DATA
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 E: 2161205.74'
 CF: 0.99993226

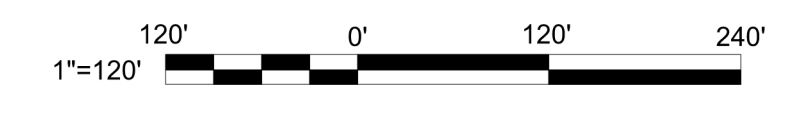
Public
Water Distribution / Extension System
 The City of Raleigh consents to the connection and extension of the City's public water system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
 City of Raleigh
 Public Utilities Department Permit # W-3599
 Authorization to Construct PERMITTED IN TRACT A
 SEE TRACT A CONSTRUCTION DRAWINGS
 Date _____

Public
Sewer Collection / Extension System
 The City of Raleigh consents to the connection and extension of the City's public sewer system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
 City of Raleigh
 Public Utilities Department Permit # S-4523
 Authorization to Construct PERMITTED IN TRACT A
 SEE TRACT A CONSTRUCTION DRAWINGS
 Date _____

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 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.

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REV. NO.	DESCRIPTIONS	REVISIONS
2	REMOVE SWEETLEAF	07/31/2019
1	REVISED PER TOR COMMENTS	12/07/2018

WRY LLC
 DB 18732 PG 2366
 PIN: 1850950449
 REID: 0010865
 USE: RESIDENTIAL
 ZONING: R&PUD



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 WAKE COUNTY, NC

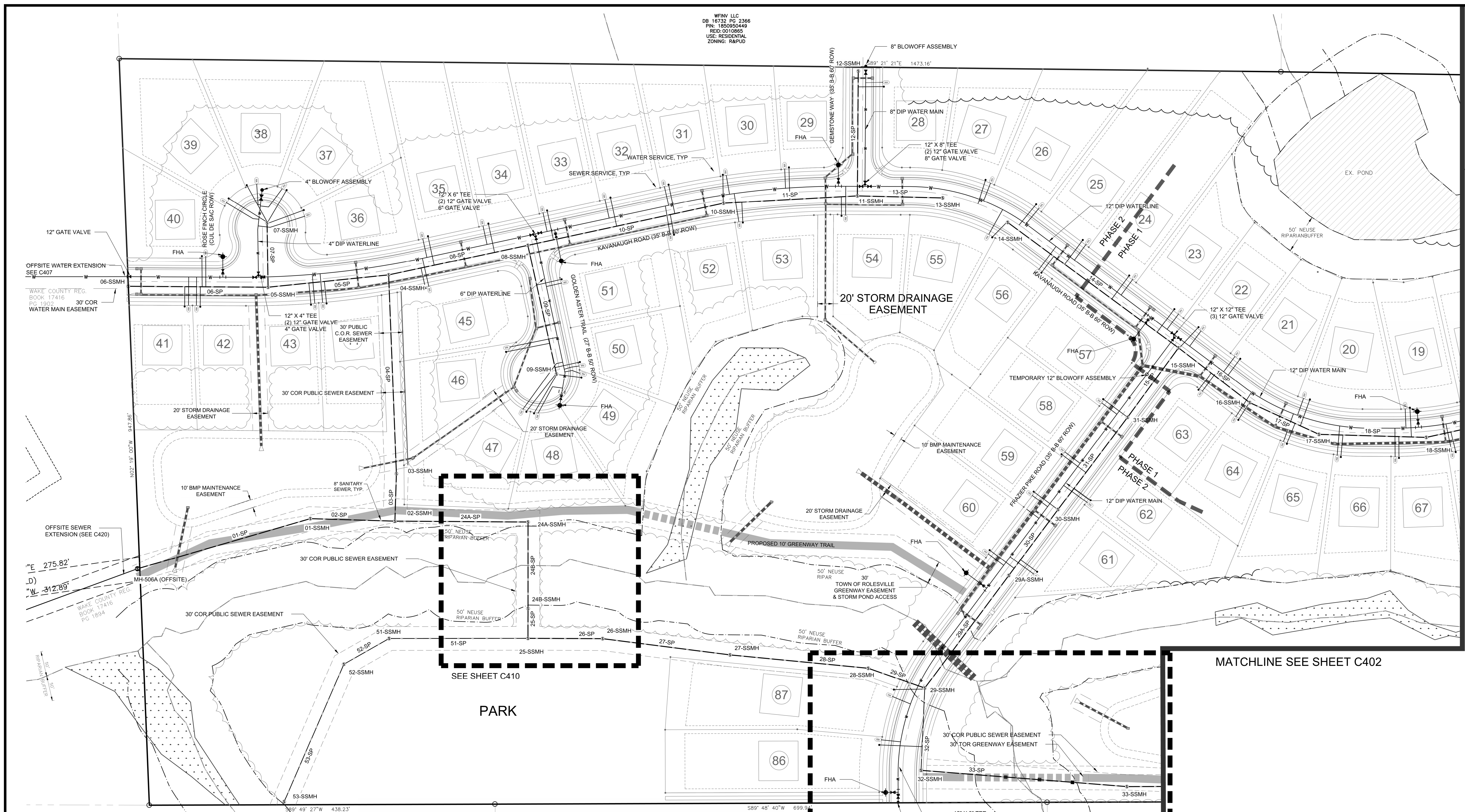
UTILITY PLAN

Project Engineer: TSS
 Designed By: LEG
 Drawn By: LEG
 Checked By: TSS
 Scale: 1"=60'

Date: 07/31/2019

Project Number: 170348

SHEET
C403



WAKE COUNTY REG.
 BOOK 17416
 PG 1902
 30' COR
 WATER MAIN EASEMENT

OFFSITE SEWER
 EXTENSION (SEE C420)

WAKE COUNTY REG.
 BOOK 17416
 PG 1994

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REV. NO.	DESCRIPTIONS	REVISIONS
2	REMOVE SWEETLEAF	07/31/2019
1	REVISED PER TOR COMMENTS	12/07/2018



MATCHLINE SEE SHEET C402

MATCHLINE SEE SHEET C402

SEE SHEET C410

SEE SHEET C410

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City of Raleigh
 Public Utilities Department Permit # W-3599
 Authorization to Construct PERMITTED IN TRACT A
 SEE TRACT A CONSTRUCTION DRAWINGS
 Date _____

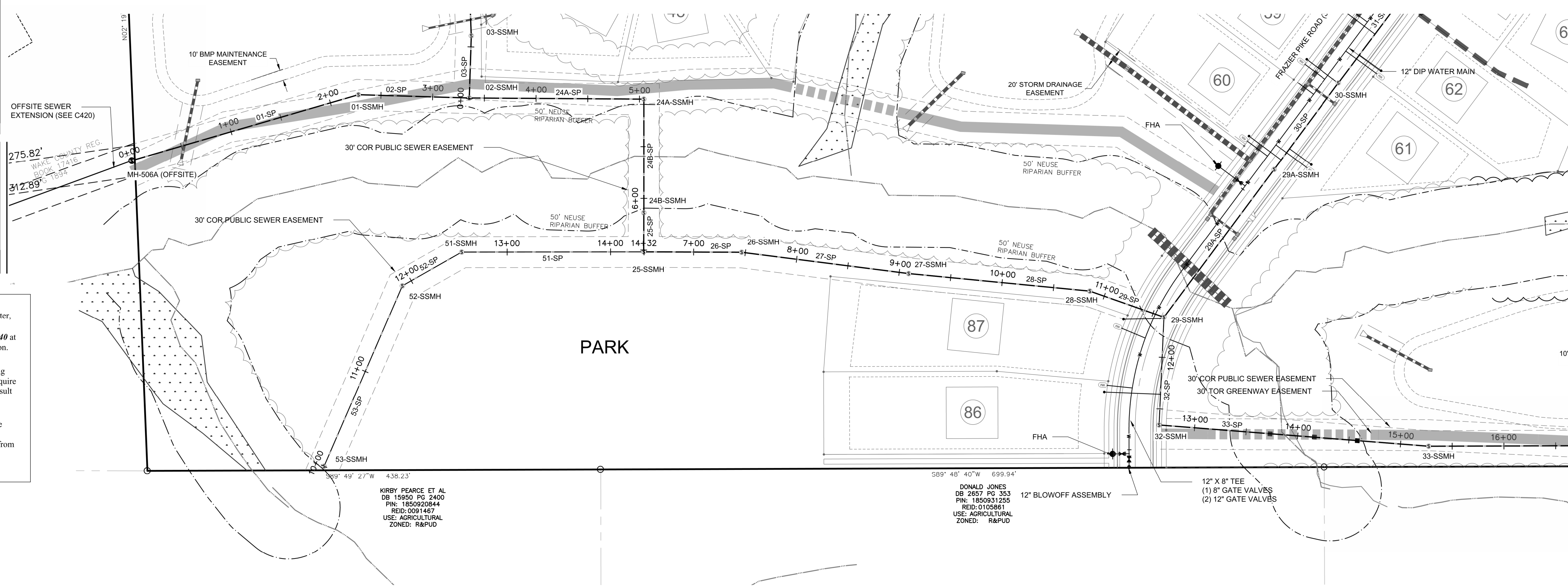
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 Public Utilities Department Permit # S-4523
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 SEE TRACT A CONSTRUCTION DRAWINGS
 Date _____

ATTENTION CONTRACTORS
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NORTH Referenced to N.C. GRID (NAD 83)



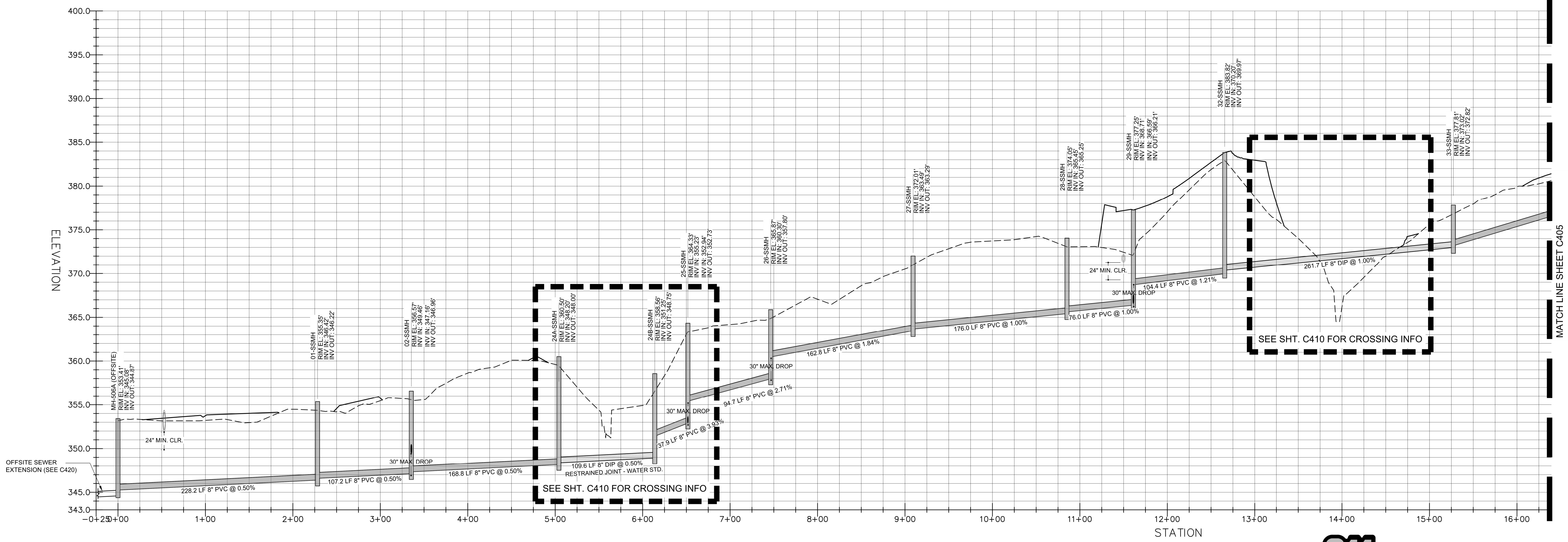
Bateman Civil Survey Company
 Engineers • Surveyors • Planners
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 Phone: 919.577.1080 Fax: 919.577.1081
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 WAKE FOREST, NC 27587
 WAKE COUNTY, NC

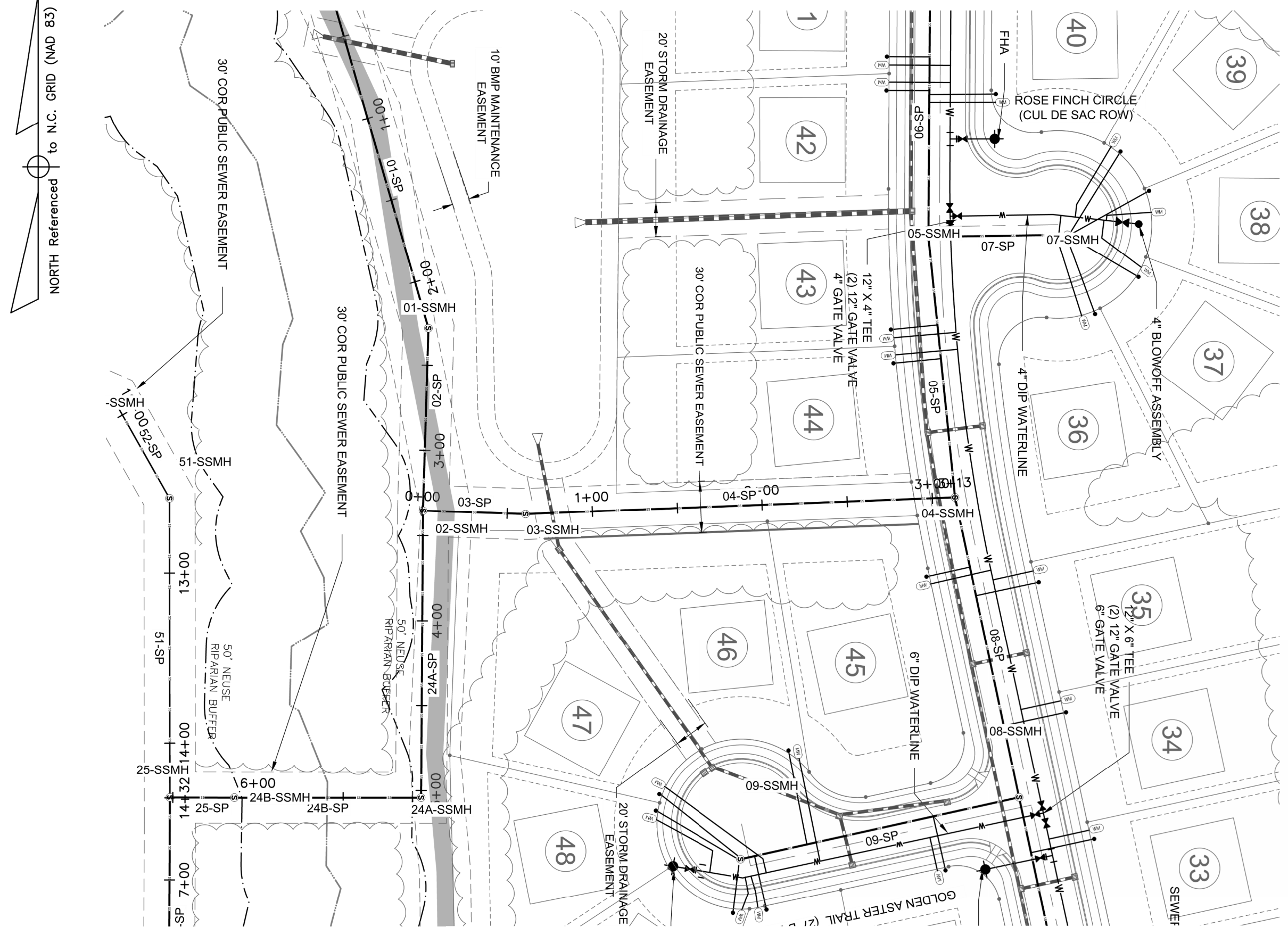
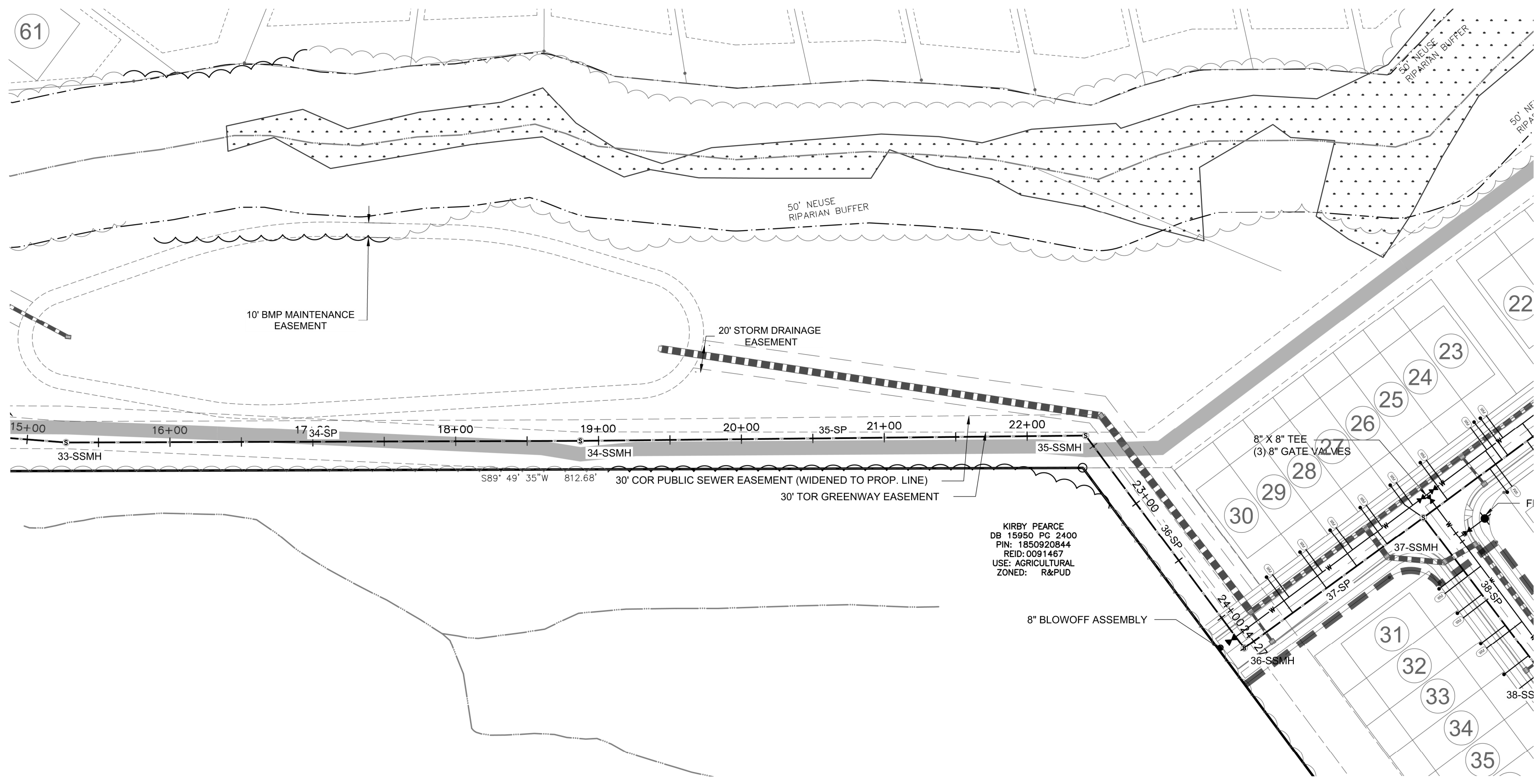
SANITARY SEWER PROFILE

Project Engineer: TSS
 Designed By: LEG
 Drawn By: LEG
 Checked By: TSS
 Scale: 1"=60'
 Date: 07/31/2019
 Project Number: 170348
 SHEET
C404

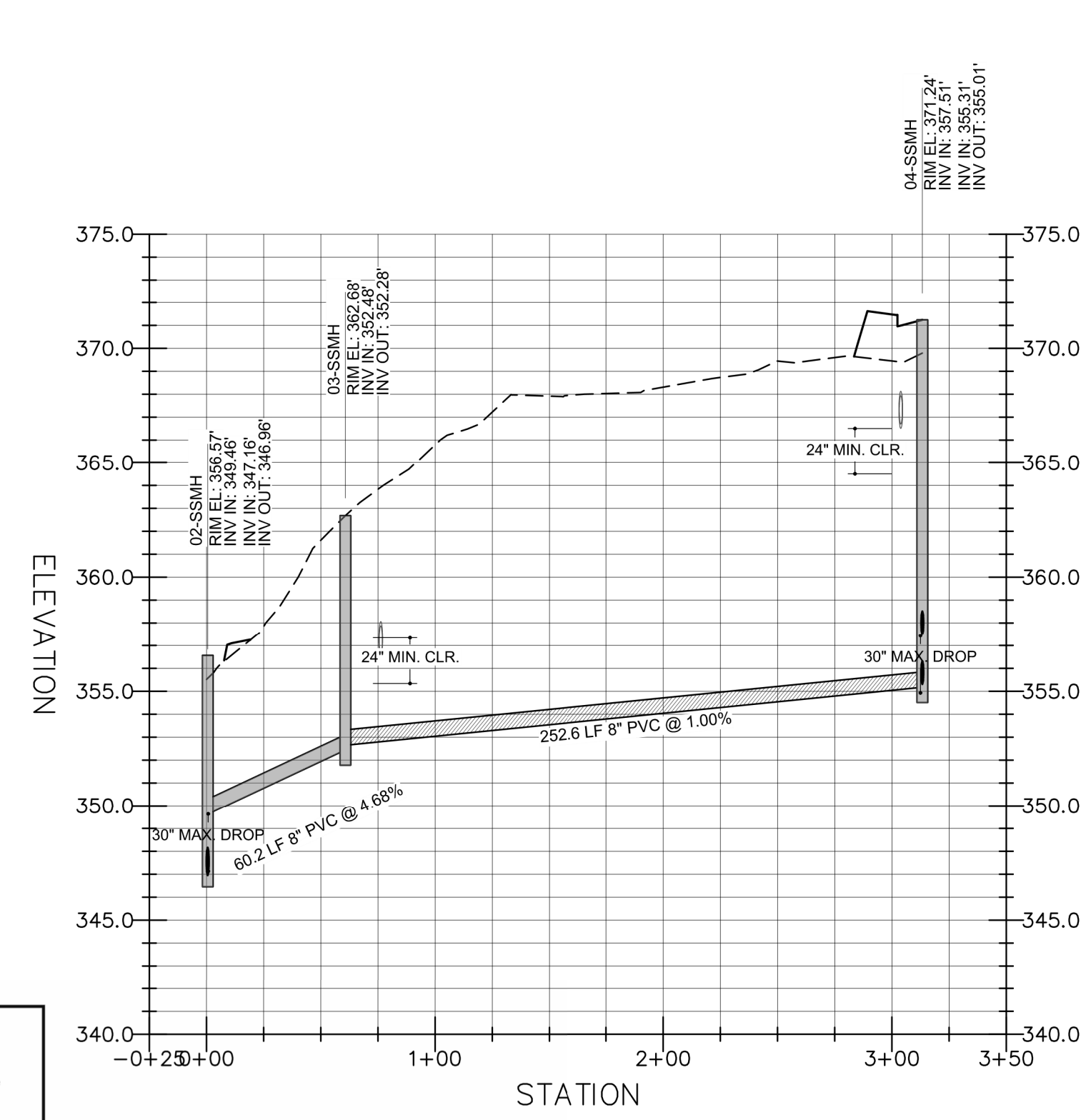
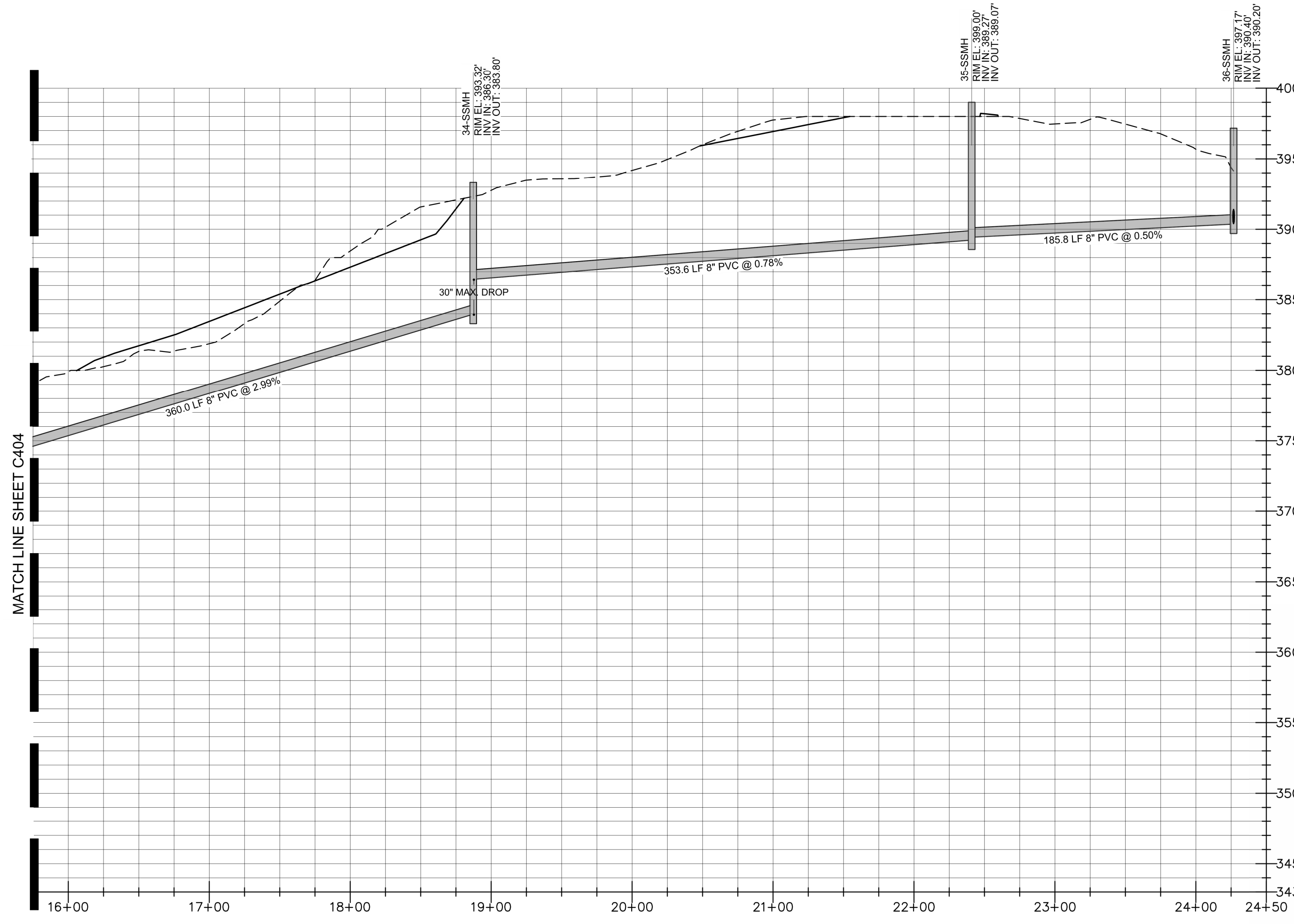


REV. NO.	DESCRIPTIONS	REVISIONS
2	REMOVE SWEETLEAF	07/31/2019
1	REVISED PER TOR COMMENTS	12/07/2018





NORTH Referenced to N.C. GRID (NAD 83)



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 Public Utilities Department Permit # W-3599
 Authorization to Construct PERMITTED IN TRACT A
 Date SEE TRACT A CONSTRUCTION DRAWINGS

Public Sewer Collection / Extension System
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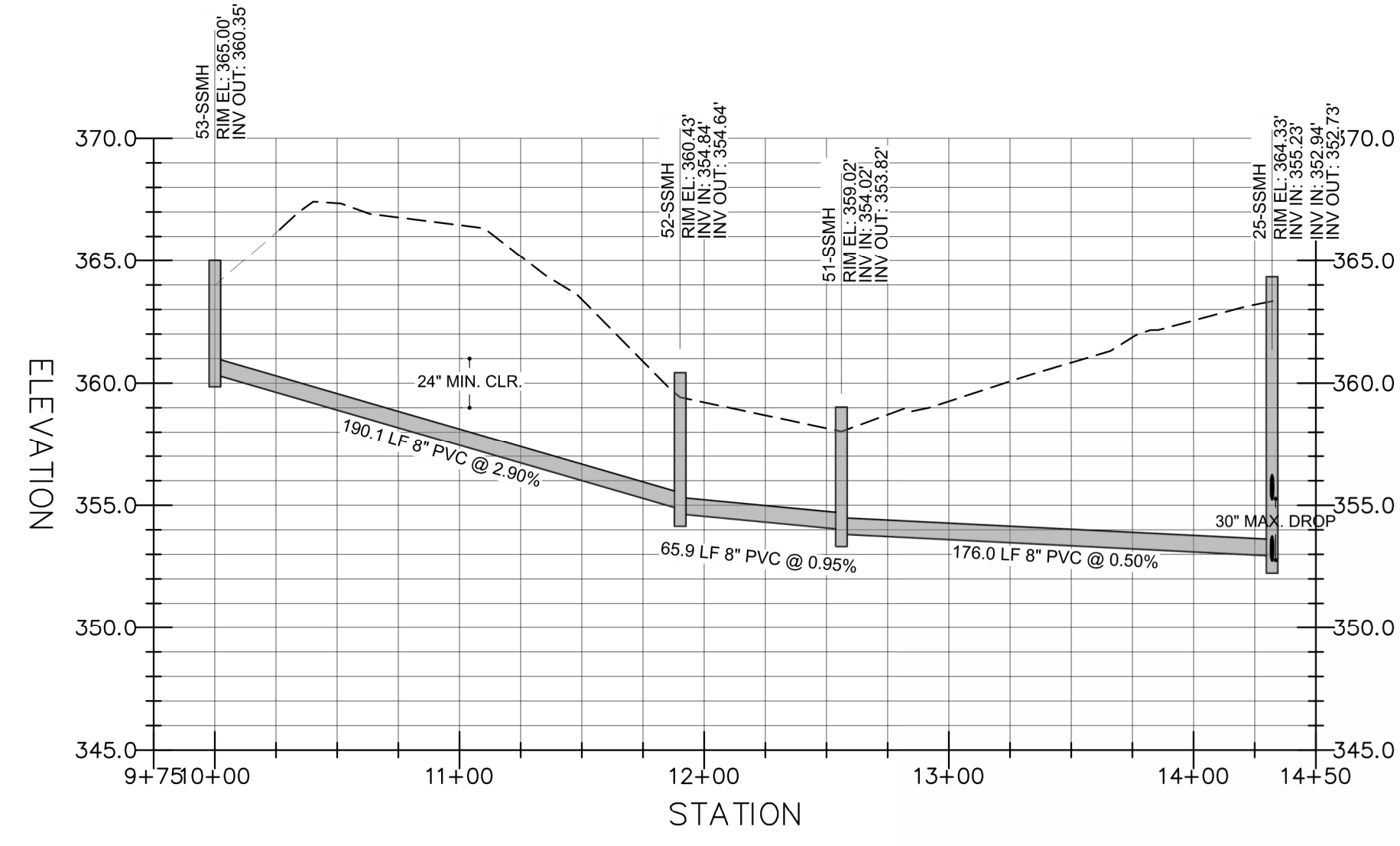
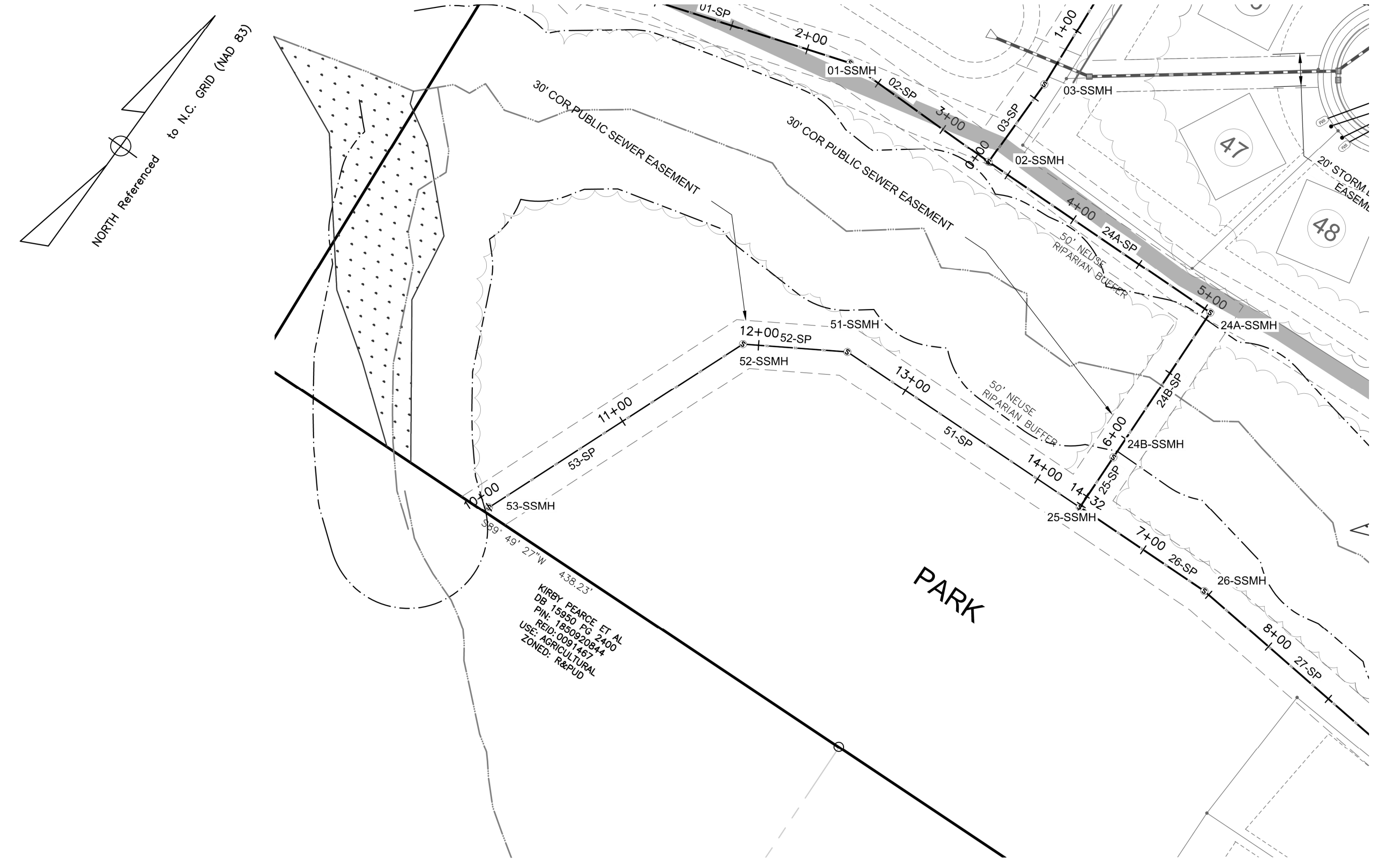
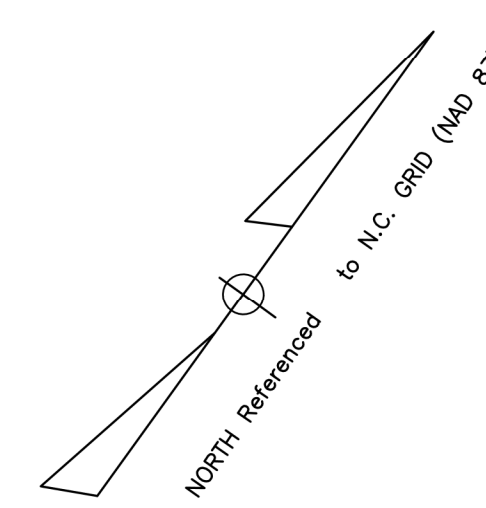


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CONSTRUCTION DRAWINGS
 1205 AVERETTE ROAD
 WAKE FOREST, NC 27587
 WAKE COUNTY, NC

SANITARY SEWER PROFILE

Project Engineer: TSS
 Designed By: LEG
 Drawn By: LEG
 Checked By: TSS
 Scale: 1"=60'
 Date: 07/31/2019
 Project Number: 170348

SHEET
C405



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City of Raleigh
 Public Utilities Department Permit # W-3599

Authorization to Construct PERMITTED IN TRACT A
 SEE TRACT A CONSTRUCTION DRAWINGS

Date _____

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Authorization to Construct PERMITTED IN TRACT A
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Date _____

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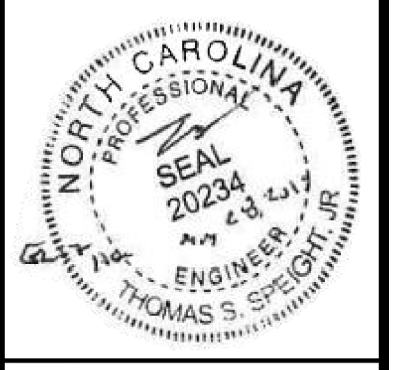
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REV. NO.	DESCRIPTIONS	DATE
2	REMOVE SWEETLEAF	07/31/2019
1	REVISED PER TOR COMMENTS	12/07/2018



**KNOW WHAT IS BELOW
 CALL BEFORE YOU DIG**



Bateman Civil Survey Company
 Engineers • Surveyors • Planners
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 Phone: 919.577.1080 Fax: 919.577.1081
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**ELIZABETH HEIGHTS
 CONSTRUCTION DRAWINGS**

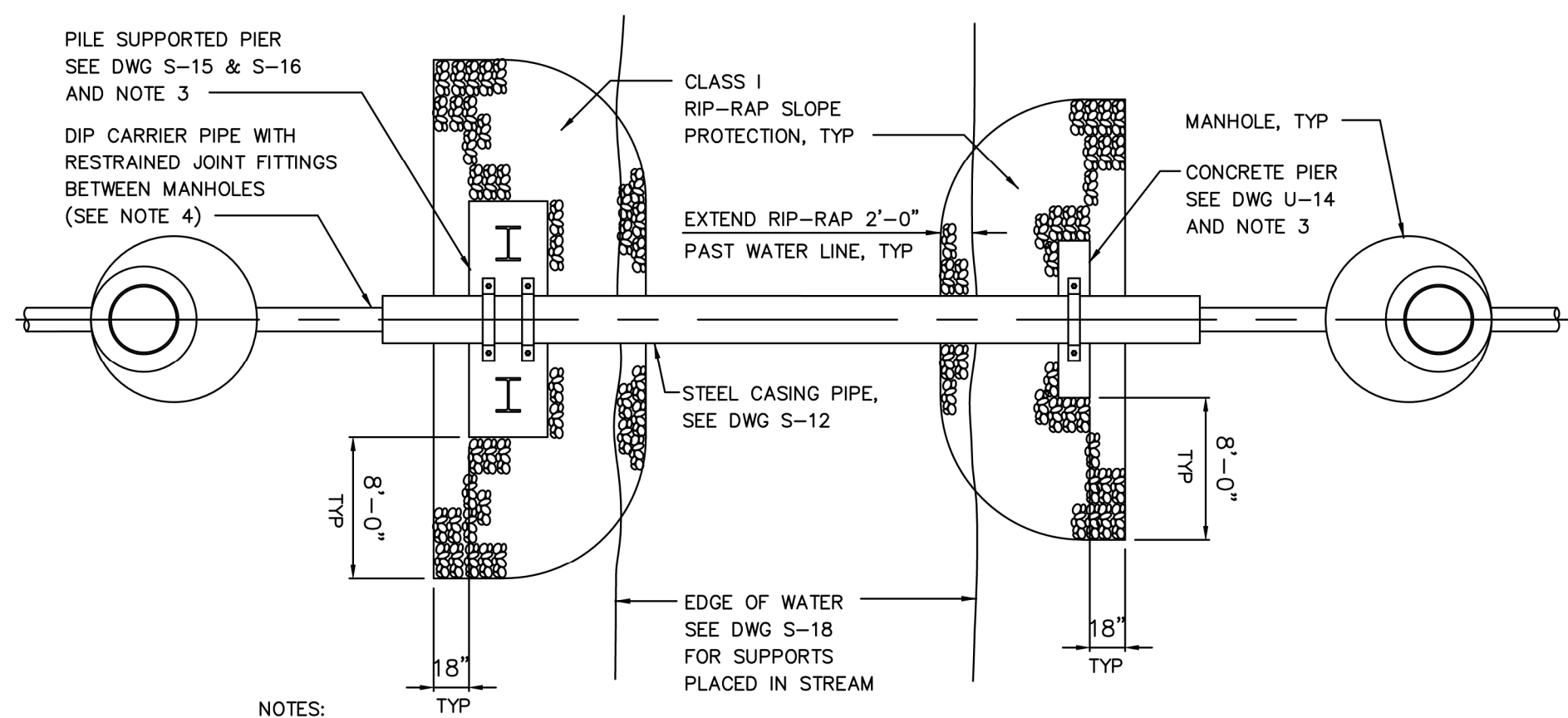
1205 AVERETTE ROAD
 WAKE FOREST, NC 27687
 WAKE COUNTY, NC

SANITARY SEWER PROFILE

Project Engineer: TSS
 Designed By: LEG
 Drawn By: LEG
 Checked By: TSS
 Scale: 1"=60'

Date: 07/31/2019
 Project Number: 170348

SHEET
C406

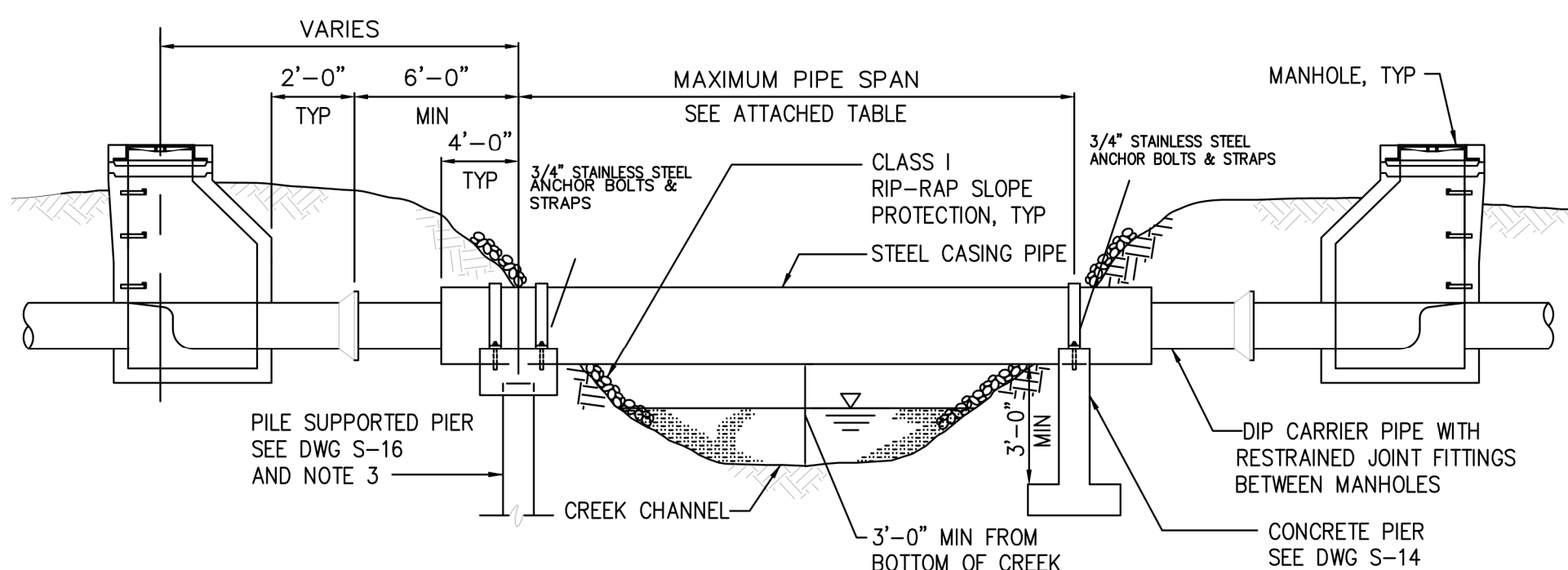


NOTES:

- RIP RAP FOR SLOPE PROTECTION SHALL BE CLASS I RIP RAP IN ACCORDANCE WITH SECTION 868 OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES".
- RIP RAP SHALL BE PLACED IN ACCORDANCE WITH DRAWING 868.01 OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S "ROADWAY STANDARD DRAWINGS".
- SUPPORT TYPE FOR PIERS SHALL BE DETERMINED BY ENGINEER BASED ON SUBGRADE CONDITIONS AT SITE. SEE DRAWING S-14 FOR SUBGRADE PARAMETERS FOR EACH TYPE OF FOUNDATION.
- WHERE DUCTILE IRON PIPE IS USED FOR CARRIER PIPE, DUCTILE IRON CARRIER PIPE SHALL BE INSTALLED UTILIZING 2 PIPE ALIGNMENT GUIDES PER JOINT ONE FOURTH OF THE PIPE JOINT LENGTH IN FROM BOTH THE BELL AND SPIGOT ENDS.

1 AERIAL PIPE CROSSING PLAN

Scale: N.T.S.



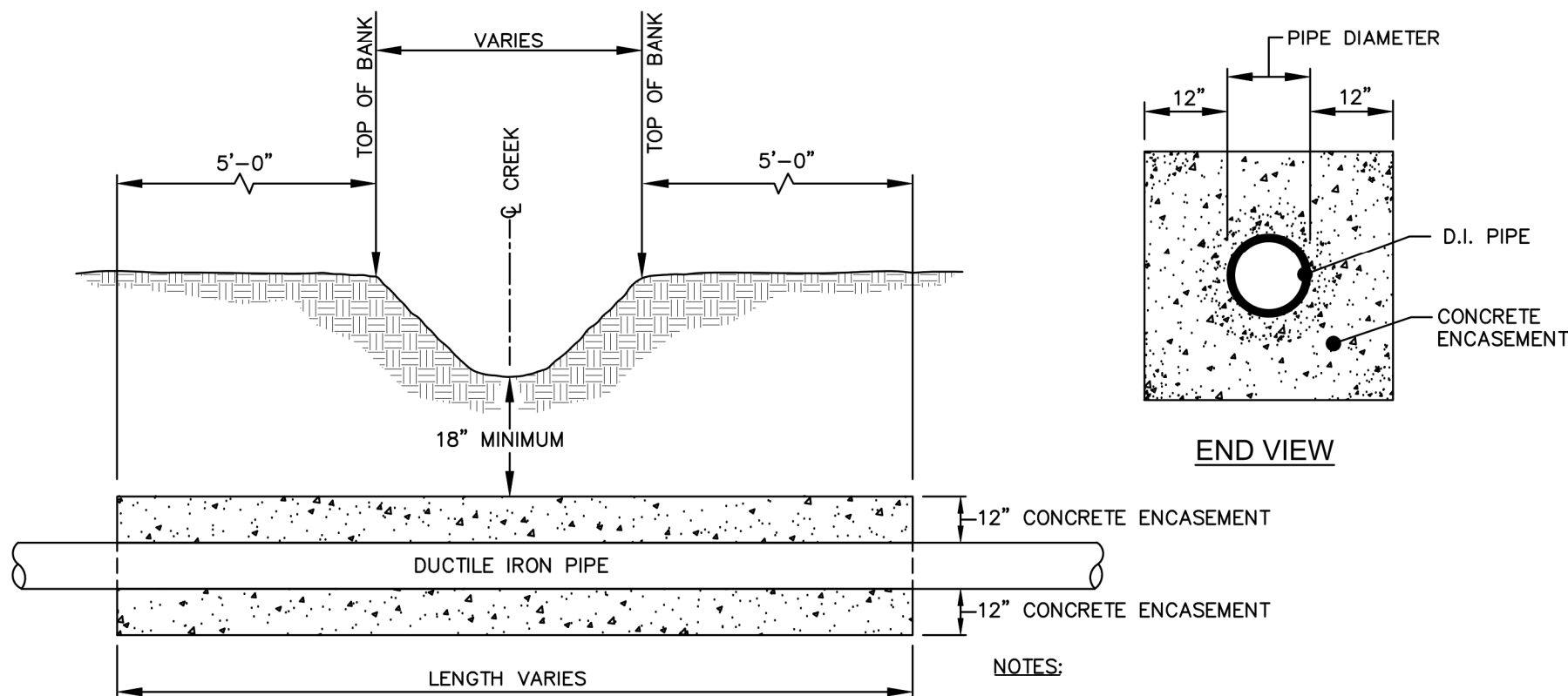
CARRIER PIPE, DIP DIAMETER (IN.)	CASING PIPE, STEEL DIAMETER (IN.)	MINIMUM CASING PIPE WALL THICKNESS (IN.)	ALLOWABLE SPAN (FT.)
8	16	0.3750	45

NOTES:

- STEEL PIPE SHALL BE EITHER SPIRAL WELDED OR SMOOTH WALL SEAMLESS WITH A MINIMUM YIELD STRENGTH OF 35,000 PSI. PAINTING AND LINING SHALL BE AS REQUIRED BY THE CITY OF RALEIGH PUBLIC UTILITIES HANDBOOK.
- DUCTILE IRON PIPE SHALL BE SUPPORTED WITH TWO SPIDERS AT EVERY JOINT WITHIN THE CASING PIPE USING APPROVED PIPE ALIGNMENT GUIDE. SEE DRAWING S-39. ALL JOINTS SHALL BE RESTRAINED JOINT. SEE NOTE 2, DWG S-10.
- PILE SUPPORTED PIERS TO BE USED IN CONSTRUCTION. SEE DETAIL 4 THIS SHEET
- BOTTOM OF PIPE TO BE AT A MINIMUM OF 1' ABOVE THE 25 YEAR FLOOD ELEVATION.

2 AERIAL PIPE CROSSING ELEVATION

Scale: N.T.S.



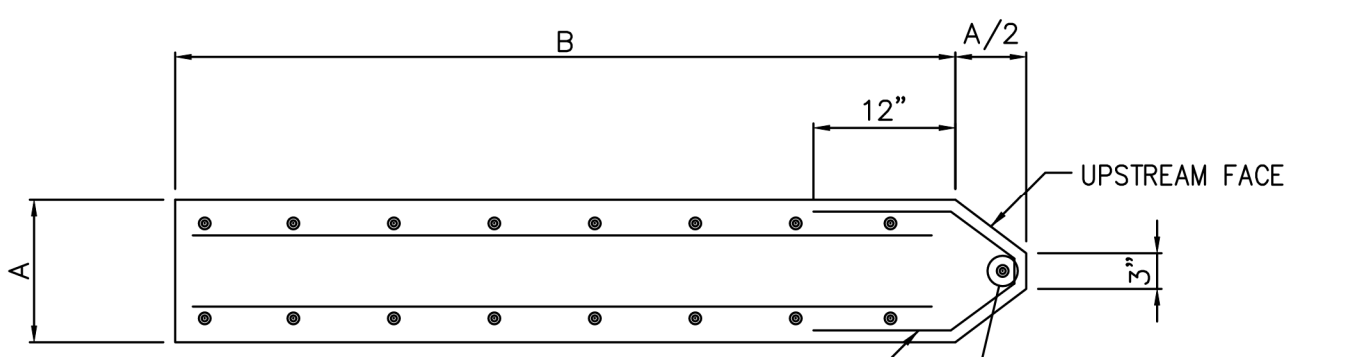
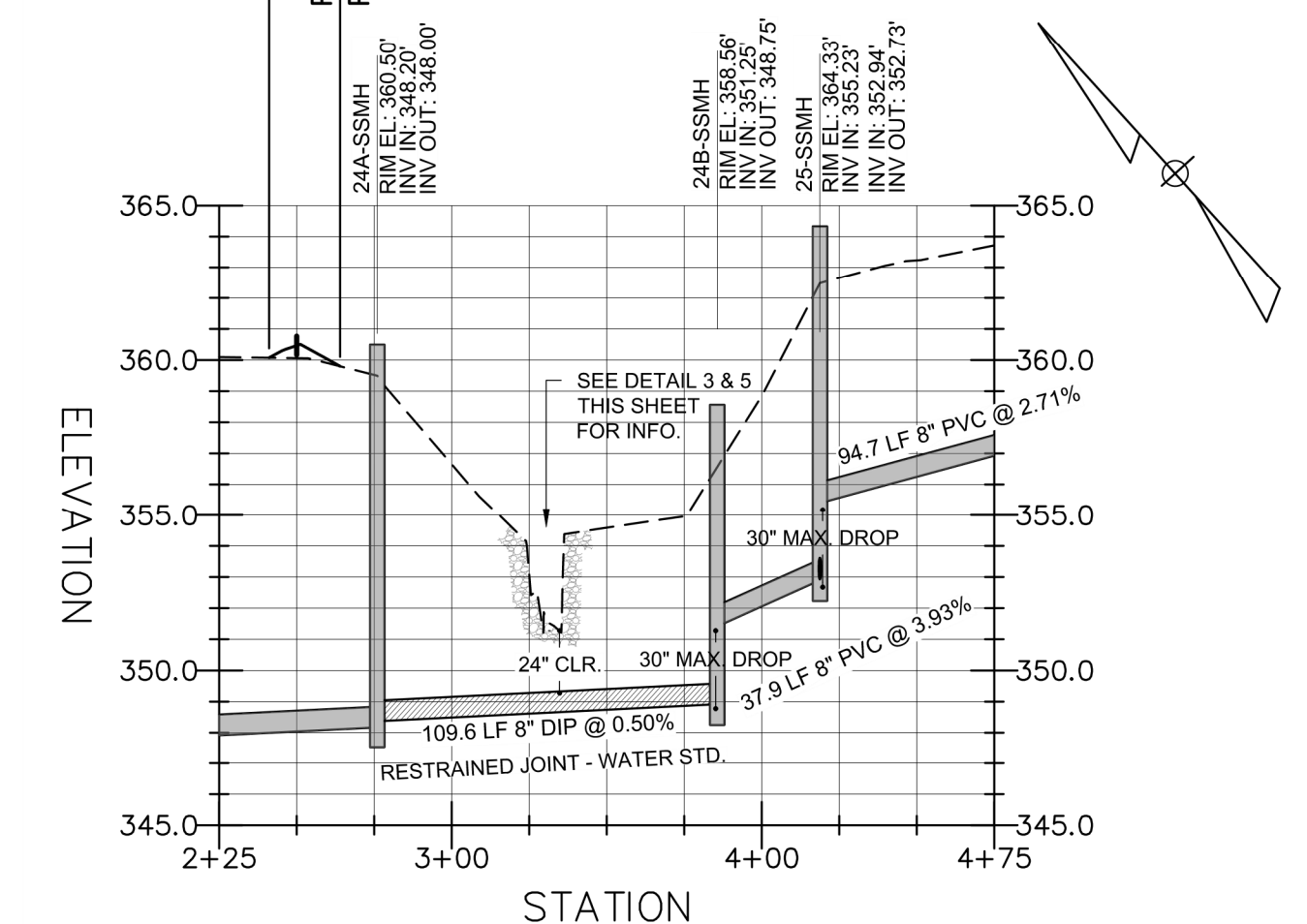
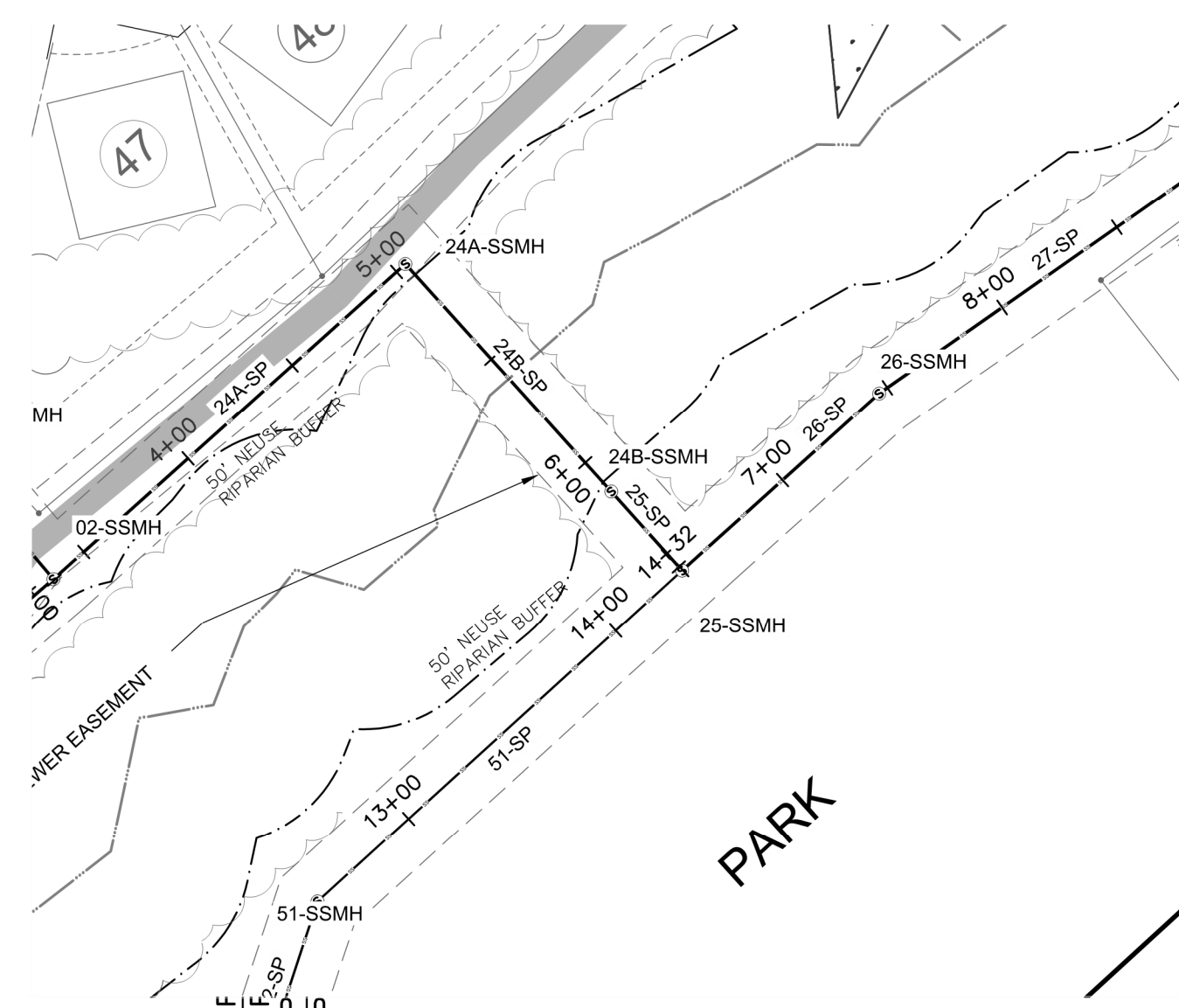
NOTES:

- CONCRETE SHALL BE 3,000 P.S.I.
- CONCRETE ENCASMENT NOT REQUIRED WHEN PIPE IS AT LEAST 3 FEET UNDER CENTERLINE OF CREEK BOTTOM.

3 STREAM CROSSING

Scale: N.T.S.

REV. NO.	DESCRIPTIONS	DATE
2	REMOVE SWEETLEAF	07/31/2019
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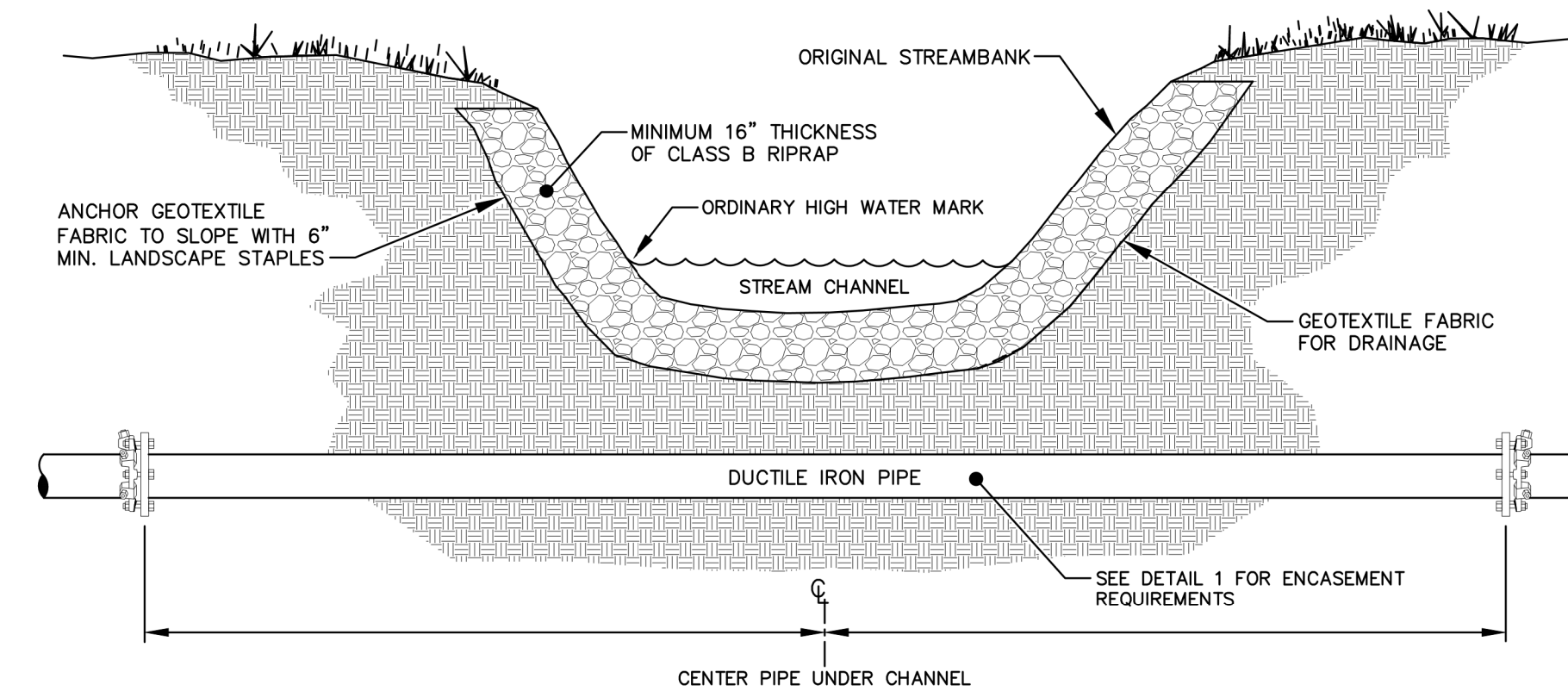
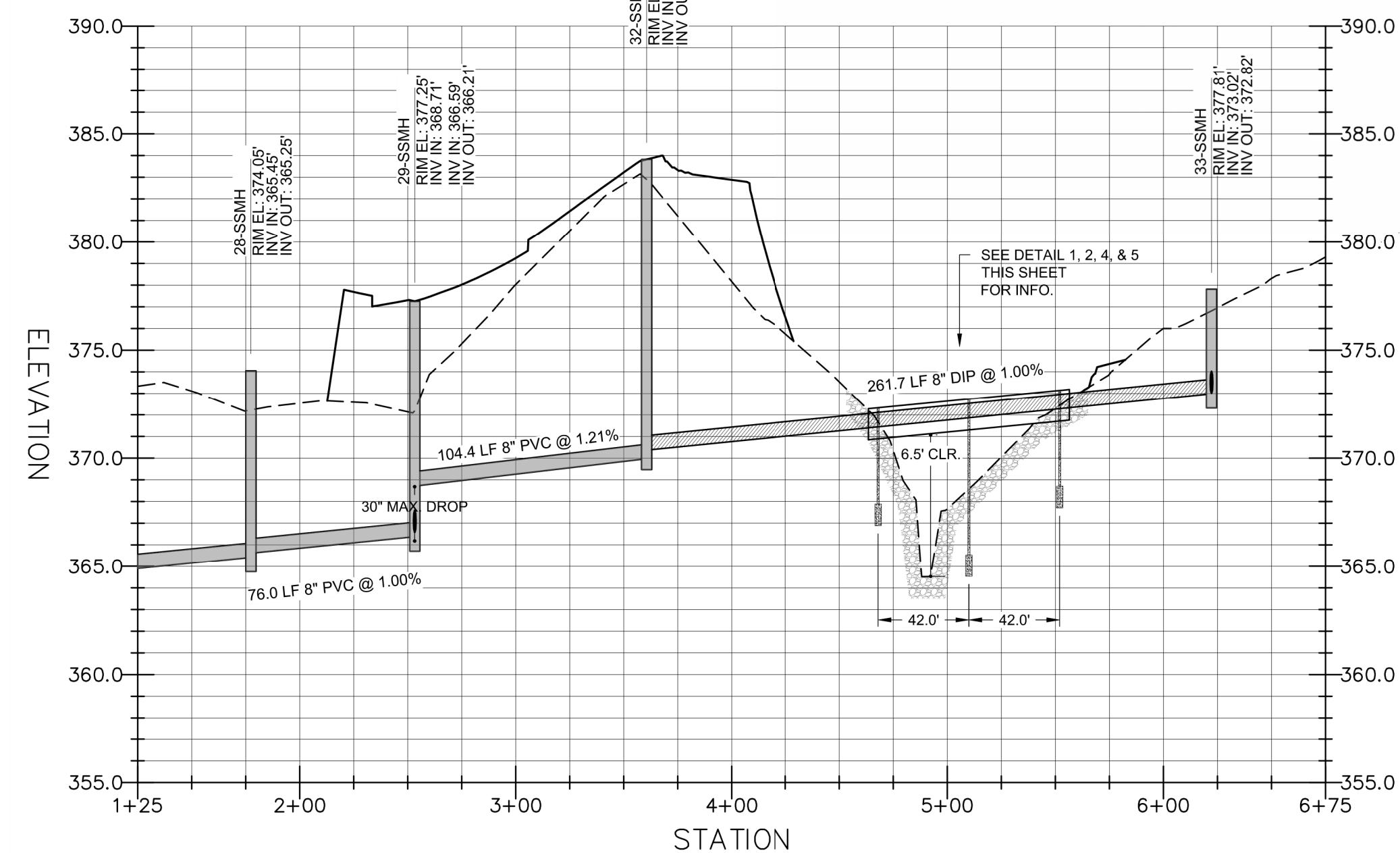
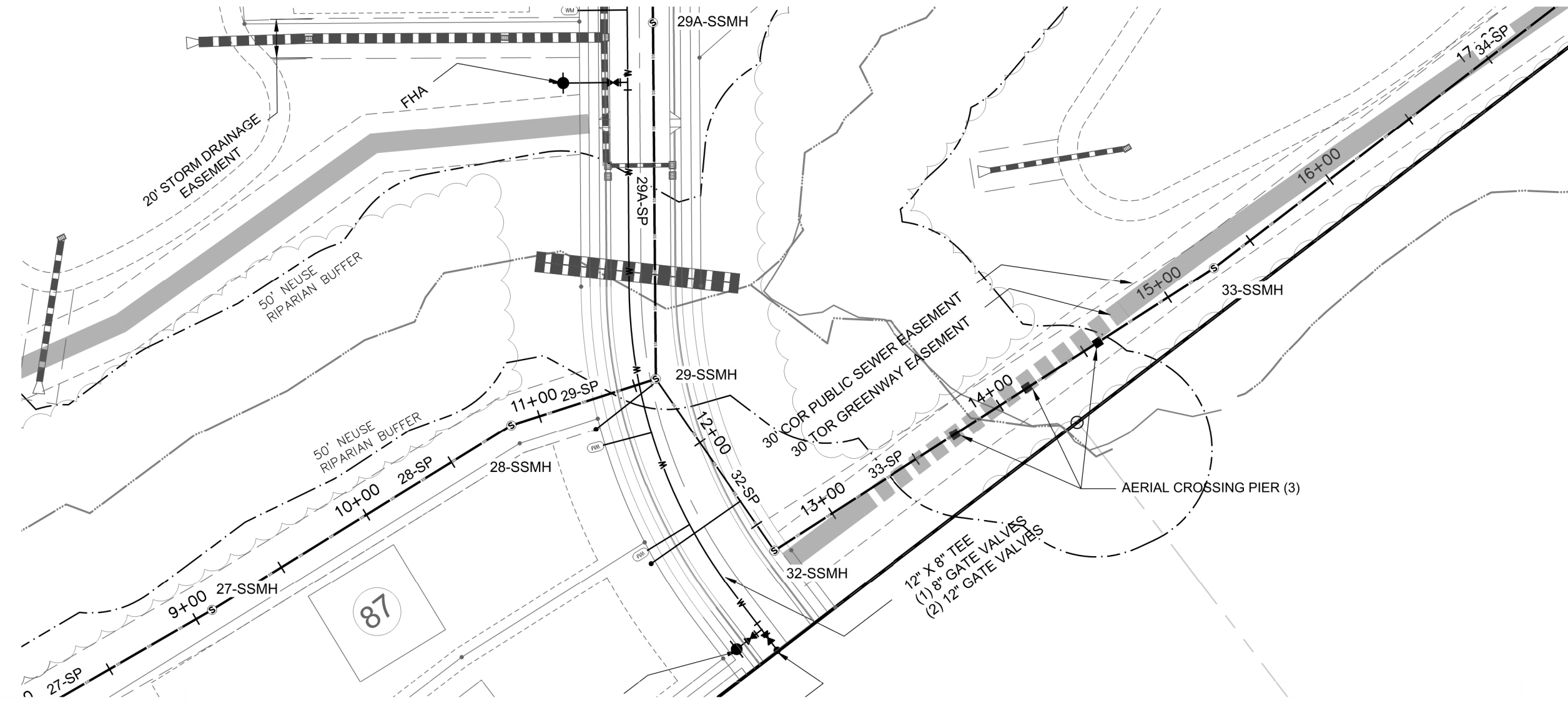
PILE SPACING	FOOTING LENGTH	FOOTING WIDTH	PIER WIDTH	FOOTING THICKNESS	PIER THICKNESS	CASING PIPE DIA
"A" (FT.)	"B" (FT.)	"C" (FT.)	"D" (FT.)	"E" (FT.)	"F" (FT.)	"D" (IN.)
5'-0"	8'-0"	3'-0"	3'-0"	20	12	14-20

NOTES:

- PILE SUPPORTED PIER FOUNDATION DESIGN SHOWN ON THIS DETAIL IS BASED ON THE FOLLOWING PARAMETERS:
MINIMUM CAPACITY OF HP12x53 PILE = 30 TONS
CONCRETE COMPRESSIVE STRENGTH = 4000 PSI
GRADE 60 REINFORCING STEEL
MAXIMUM STREAM VELOCITY = 10 FT/SEC
- IF FIELD CONDITIONS REQUIRE ANY DEVIATION FROM THESE PARAMETERS, THE FOUNDATION DESIGN SHALL BE REVIEWED BY THE ENGINEER.
- LENGTH OF PILES SHALL BE AS REQUIRED TO DEVELOP 30 TON CAPACITY BY EITHER END BEARING, FRICTION OR A COMBINATION OF END BEARING AND FRICTION. AS A MINIMUM, PILES SHALL BE DRIVEN AT LEAST 15 FEET INTO UNDISTURBED SOIL.
- TWELVE-INCH AND FOURTEEN-INCH WIDE PIERS SHALL BE REINFORCED WITH #5 BARS AT 12 INCHES OC IN EACH DIRECTION ON EACH FACE. EIGHTEEN-INCH WIDE PIERS SHALL BE REINFORCED WITH #7 BARS AT 12 INCHES OC IN EACH DIRECTION ON EACH FACE. FOOTINGS SHALL BE REINFORCED TYPICALLY TO PIERS.
- EIGHTEEN-INCH WIDE PIERS SHALL REQUIRE TWO STRAPS OVER THE PIPE INSTEAD OF ONE (AS SHOWN).
- WHEN CONCRETE SUPPORTS ARE REQUIRED TO BE LOCATED WITHIN A STREAM AND ARE NOT COVERED WITH BACKFILL, SEE SECTION ABOVE FOR COLUMN MODIFICATION.

4 AERIAL STREAM CROSSING PILE SUPPORTED PIER

Scale: N.T.S.



NOTES:

- MAINTAIN ORIGINAL CONTOURS IN STREAMBED AND BANKS.
- FACE OF PROPOSED RIPRAP BANK TO MATCH EXISTING CONTOURS OF STREAMBANKS.
- RIPRAP MUST BE KEYS INTO THE GROUND AND THE ORIGINAL CONTOURS SHALL BE MAINTAINED AS PER U.S. ARMY CORPS OF ENGINEERS.

5 STREAM BANK RESTORATION

Scale: N.T.S.



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NCEBELS FRM No. C-2376



ELIZABETH HEIGHTS
CONSTRUCTION DRAWINGS
1205 AVERETTE ROAD
WAKE FOREST, NC 27587
WAKE COUNTY, NC

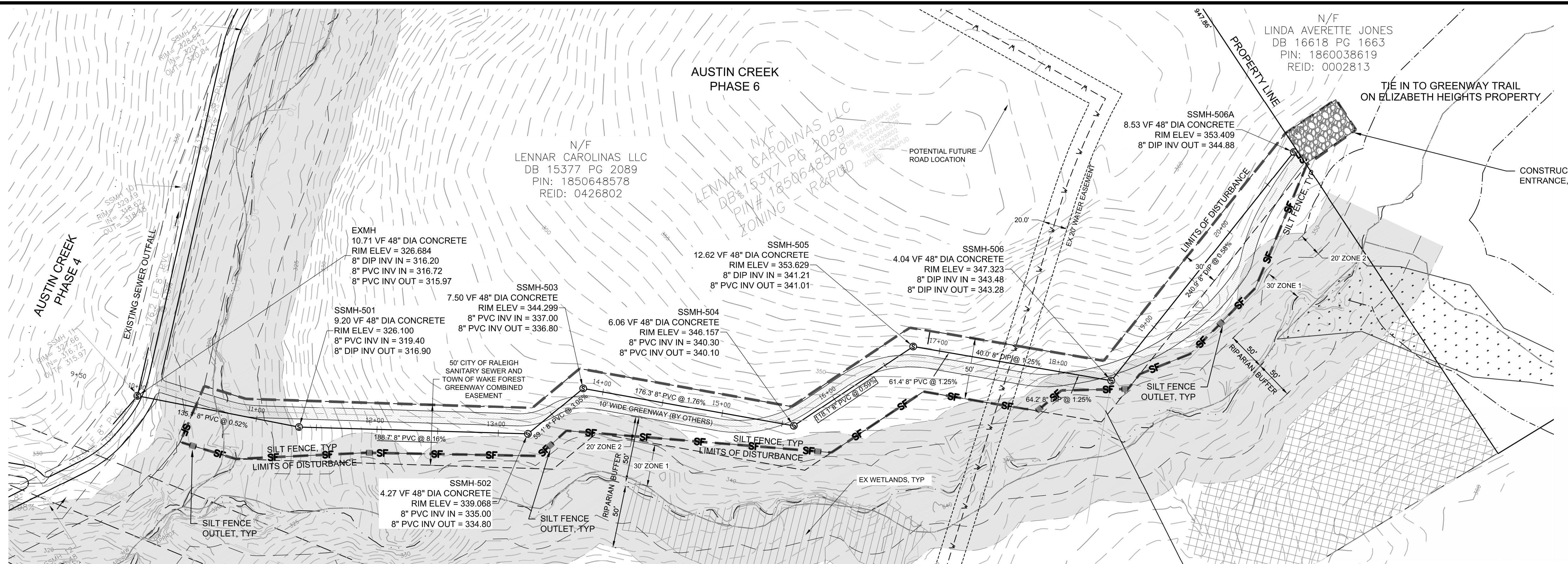
SANITARY SEWER
STREAM CROSSING

Project Engineer: TSS
Designed By: LEG
Drawn By: LEG
Checked By: TSS
Scale: 1"=60'

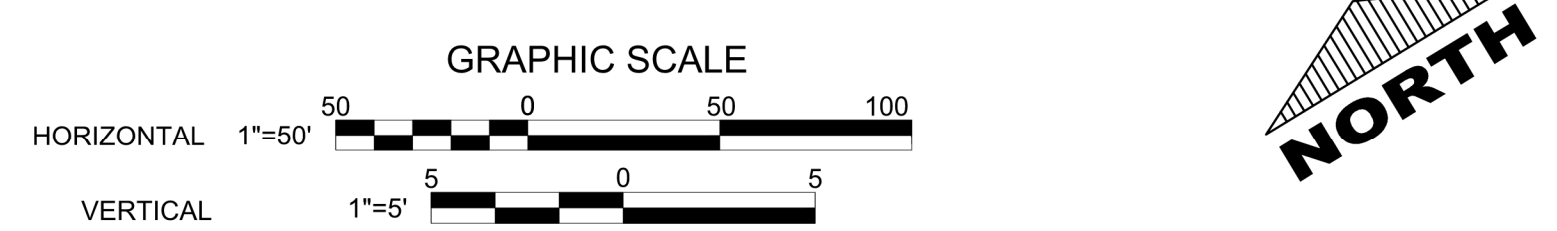
Date: 07/31/2019

Project Number: 170348

SHEET
C410



OFFSITE SEWER OUTFALL



OFFSITE SEWER ESMT
WAKE COUNTY REG.
BOOK 17416
PG 1894

LEGEND:

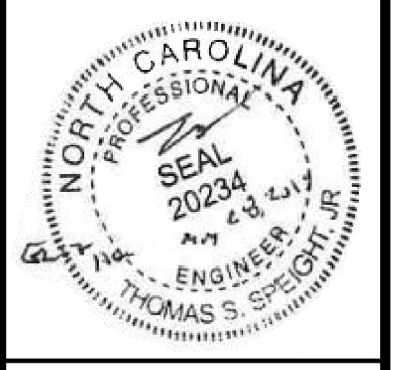
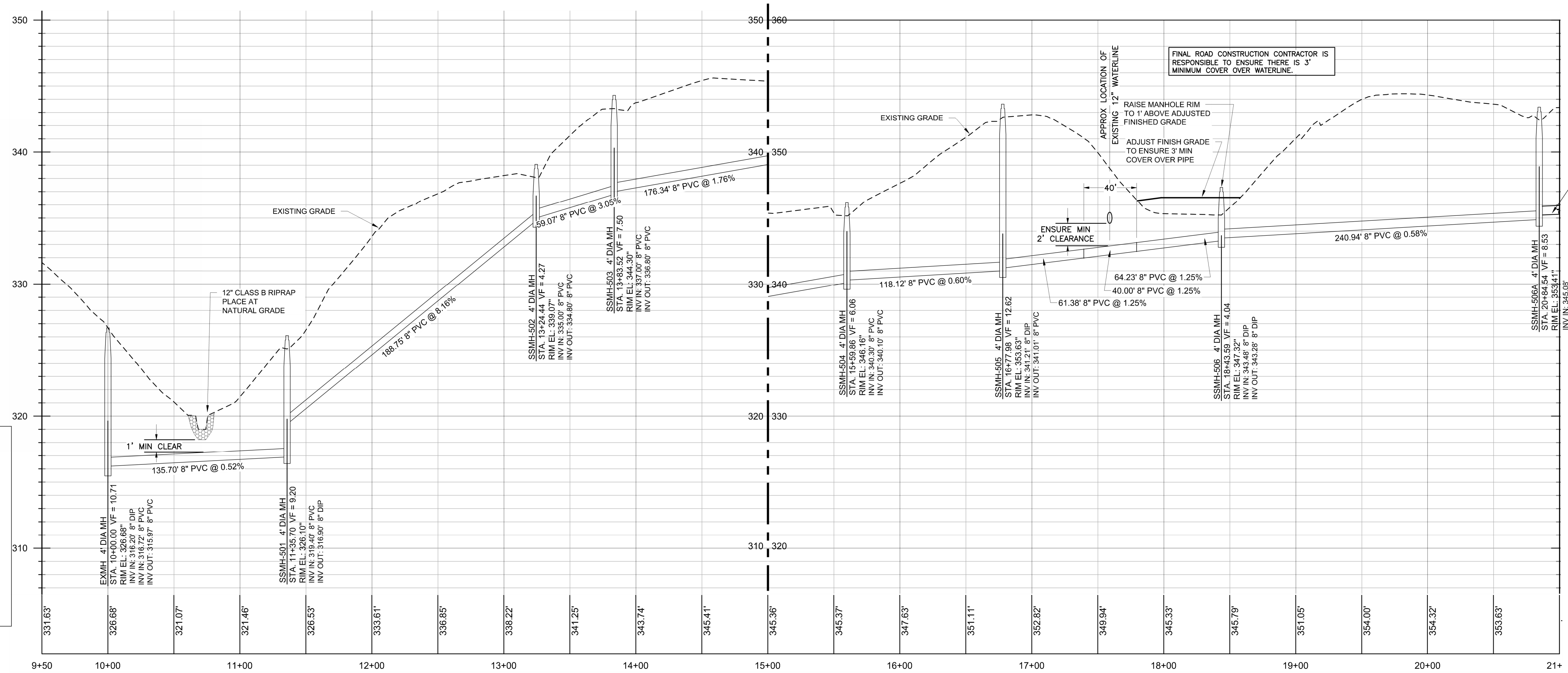
- LIMITS OF DISTURBANCE
- SF-SF- TREE PROTECTION / SILT COMBINATION FENCE
- SF- SILT FENCE OUTLET
- CONSTRUCTION ENTRANCE
- EX CONTOURS

DISTURBED AREA
45,673 SF
1.05 AC.

Public Water Distribution / Extension System
The City of Raleigh consents to the connection and extension of the City's public water system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
City of Raleigh
Public Utilities Department Permit # _____
Authorization to Construct _____
Date _____

Public Sewer Collection / Extension System
The City of Raleigh consents to the connection and extension of the City's public sewer system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
City of Raleigh
Public Utilities Department Permit # _____
Authorization to Construct _____
Date _____

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 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.
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Bateman Civil Survey Company
Engineers • Surveyors • Planners
2524 Reliance Avenue, Apex, North Carolina 27539
Phone: 919.577.1080 Fax: 919.577.1081
NCEBS FRM No. C-2376



ELIZABETH HEIGHTS
CONSTRUCTION DRAWINGS
1205 AVERETTE ROAD
WAKE FOREST, NC 27587
WAKE COUNTY, NC

OFFSITE SEWER OUTFALL PLAN

Project Engineer: TSS
Designed By: RAJ
Drawn By: RAJ
Checked By: TSS
Scale: NTS
Date: 07/31/2019
Project Number: .170348

SHEET
420

P:\2017 Projects\170348 Elizabeth Heights\Eng\DWG\Sheet\Offsite Sewer\C420 Sewer Bypass Pumping Plan and Profile.dwg

REV. NO.	DESCRIPTIONS	DATE
2	REMOVE SWEETLEAF	07/31/2019



Bateman Civil Survey Company
 Engineers • Surveyors • Planners
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 Phone: 919.577.1080 Fax: 919.577.1081
 NCBELS FRM No. C-2376



ELIZABETH HEIGHTS
CONSTRUCTION DRAWINGS
 1205 AVERETTE ROAD
 WAKE FOREST, NC 27687
 WAKE COUNTY, NC

REHABILITATION PLAN
OFFSITE SEWER LINE

Project Engineer: TSS
 Designed By: RAJ
 Drawn By: RAJ
 Checked By: TSS
 Scale: NTS
 Date: 07/31/2019
 Project Number: .170348

SHEET
421



LEGEND:

- LIMITS OF DISTURBANCE
- SF-SF TREE PROTECTION / SILT COMBINATION FENCE
- SF-SF-SF SILT FENCE OUTLET
- CONSTRUCTION ENTRANCE

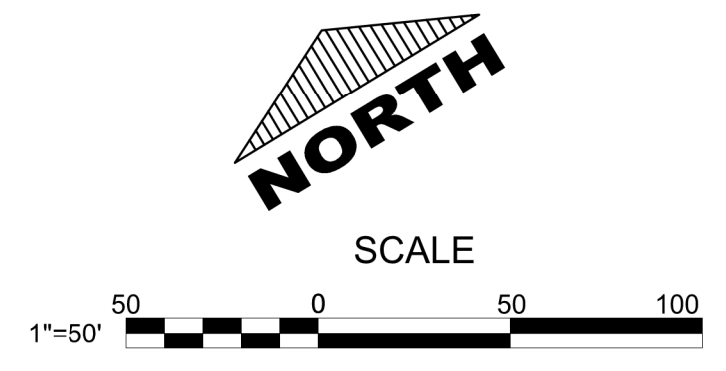
NOTES:
 3. BACKGROUND MAP IMAGERY TAKEN FROM WAKE COUNTY GIS.
 4. CONTRACTOR SHALL PROVIDE STANDARD SPECIFICATIONS, DETAILS, AND A DETAILED CONSTRUCTION SEQUENCE FOR THE USE OF PUMP BYPASS EQUIPMENT, METHODS, AND FINAL TESTING.

PUMP INFO:
 1. SUCTION STATIC LIFT: 14.6 FT
 2. N.P.S.H. REQ'D: 33.44 FT.
 3. REQ'D HORSEPOWER : 15 HP

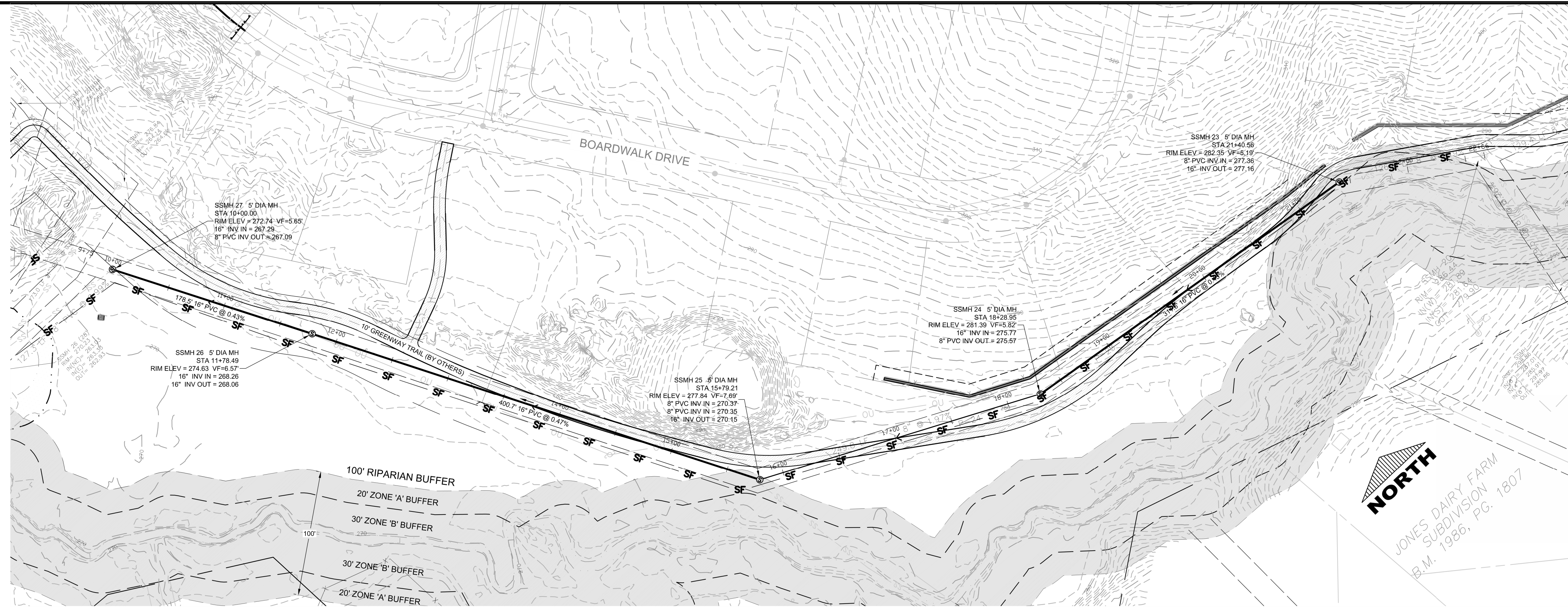
SEWER FLOW INFO:
 PEAK FLOW: 685,313 GPD

* FINAL HYDRAULIC PUMP DESIGN IS TO BE SUBMITTED BY THE CONTRACTOR AND SEALED BY NC REGISTERED PE.

DISTURBED AREA
 77,965 SF
 1.79 AC.

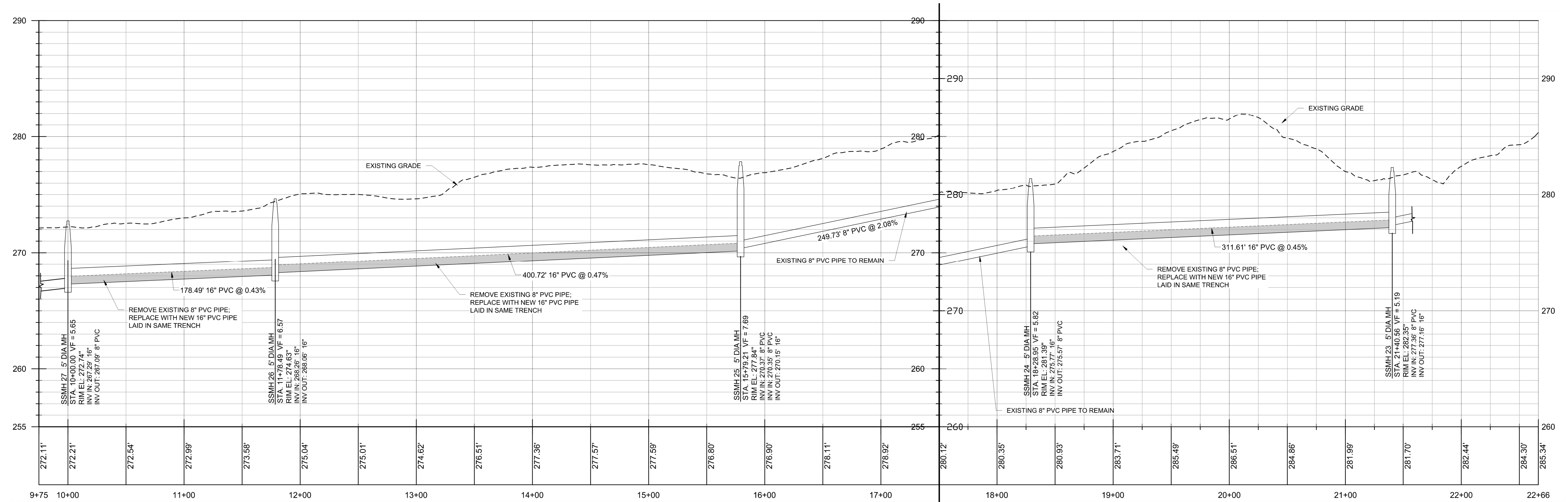
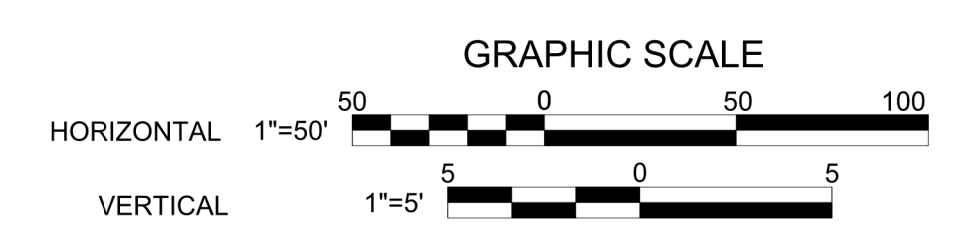


REV. NO.	DESCRIPTIONS	DATE
2	REMOVE SWEETLEAF	07/31/2019
REVISIONS		



SEWER FROM OUTFALL
AT ELIZABETH HEIGHTS PROPERTY

SEWER REHABILITATION PROFILE



KNOW WHAT IS BELOW
CALL BEFORE YOU DIG

REV. NO.	DESCRIPTIONS	DATE
2	REMOVE SWEETLEAF	07/31/2019
REVISIONS		



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Engineers • Surveyors • Planners
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NCBELS FRM No. C-2376



ELIZABETH HEIGHTS
CONSTRUCTION DRAWINGS
1205 AVERETTE ROAD
WAKE FOREST, NC 27587
WAKE COUNTY, NC

REHABILITATION PROFILE
OFFSITE SEWER LINE

Project Engineer: TSS
Designed By: RAJ
Drawn By: RAJ
Checked By: TSS
Scale: NTS
Date: 07/31/2019
Project Number: 170348

SHEET
422

ELIZABETH HEIGHTS



Bateman Civil Survey Company
 Engineers • Surveyors • Planners
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 Phone: 919.577.1080 Fax: 919.577.1081
 NCBELS FIRM No. C-2376



ELIZABETH HEIGHTS
 CONSTRUCTION DRAWINGS

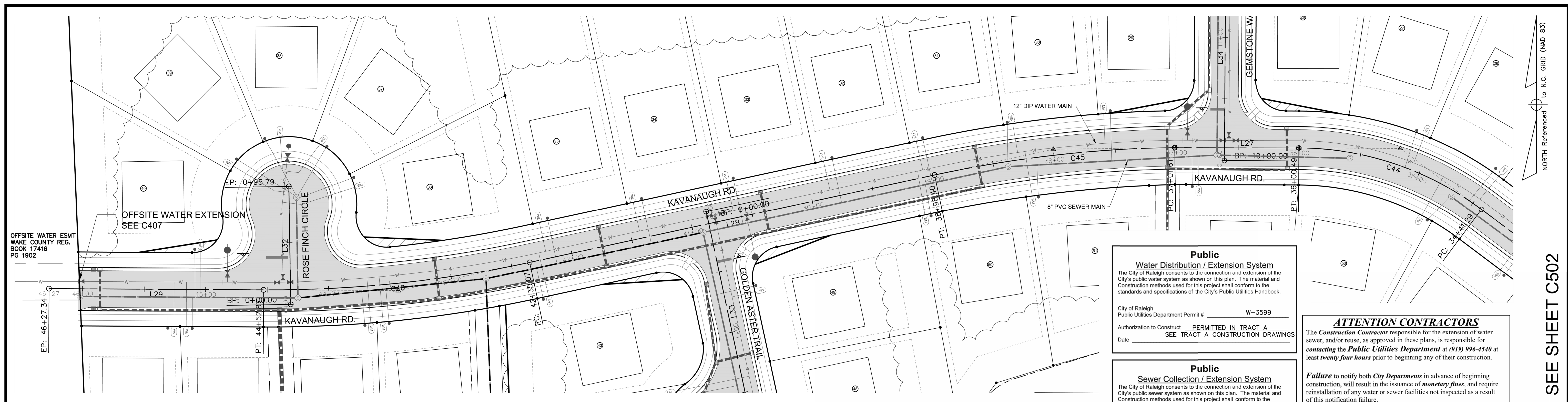
PLAN AND PROFILE
 KAVANAUGH RD.

Project Engineer: TSS
 Designed By: MP
 Drawn By: MP
 Checked By: TSS
 Scale: AS SHOWN

Date: 07/31/2019
 Project Number: 170348

SHEET
C501

ELIZABETH HEIGHTS



OFFSITE WATER ESMT
 WAKE COUNTY REG.
 BOOK 17416
 PG 1902

SEE SHEET C502

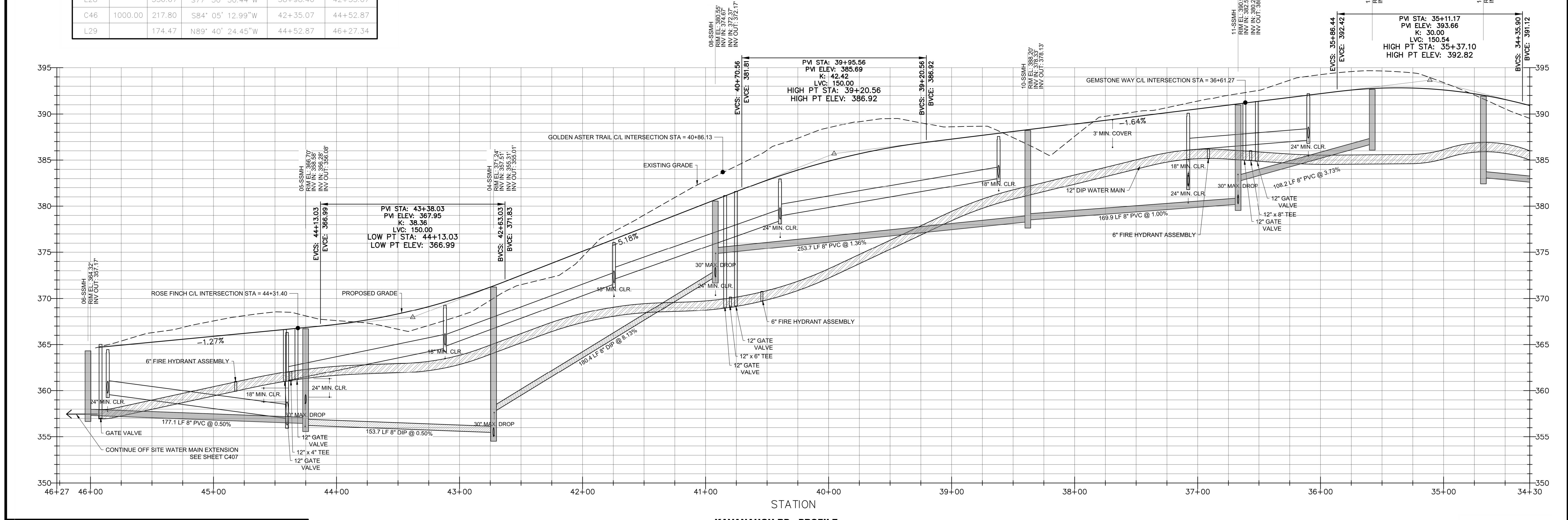
Public Water Distribution / Extension System
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 City of Raleigh
 Public Utilities Department Permit # W-3599
 Authorization to Construct PERMITTED IN TRACT A
 SEE TRACT A CONSTRUCTION DRAWINGS
 Date _____

Public Sewer Collection / Extension System
 The City of Raleigh consents to the connection and extension of the City's public sewer system as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
 City of Raleigh
 Public Utilities Department Permit # S-4523
 Authorization to Construct PERMITTED IN TRACT A
 SEE TRACT A CONSTRUCTION DRAWINGS
 Date _____

ATTENTION CONTRACTORS
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KAVANAUGH RD - PLAN
 SCALE: 1"=40'
 STA: 34+30 - 46+27

KAVANAUGH ROAD					
Number	Radius	Length	Line/Chord Direction	Start Station	End Station
C44	250.00	159.20	N71° 25' 50.35"W	34+41.29	36+00.49
L27	101.13	101.13	N89° 47' 54.81"W	36+00.49	37+01.61
C45	1000.00	196.79	S83° 29' 05.78"W	37+01.61	38+98.40
L28	336.67	336.67	S77° 50' 50.44"W	38+98.40	42+35.07
C46	1000.00	217.80	S84° 05' 12.99"W	42+35.07	44+52.87
L29	174.47	174.47	N89° 40' 24.45"W	44+52.87	46+27.34

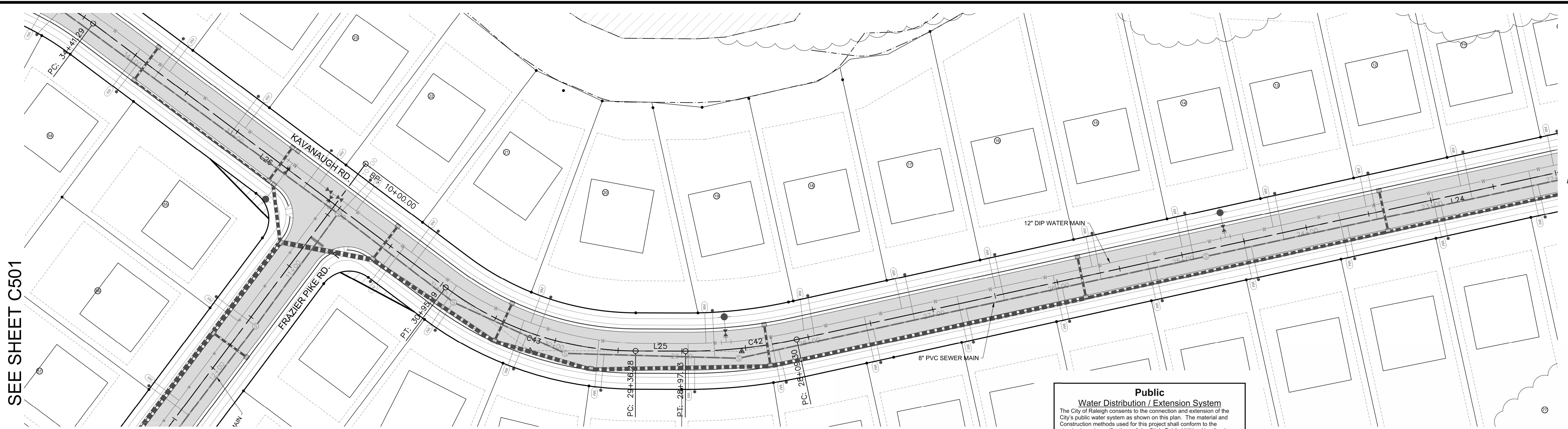


KAVANAUGH RD - PROFILE
 HOR. SCALE: 1"=40' VER. SCALE: 1"=8'
 STA: 34+30 - 46+27

REV. NO.	DESCRIPTIONS	REVISIONS
2	REMOVE SWEETLEAF	07/31/2019
1	REVISED PER TOR COMMENTS	12/07/2018

SEE SHEET C501

SEE SHEET C503



NORTH Referenced to N.C. GRID (NAD 83)



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 Engineers • Surveyors • Planners
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 Phone: 919.577.1080 Fax: 919.577.1081
 NCBELS FRM No. C-2376



ELIZABETH HEIGHTS

KAVANAUGH RD - PLAN
 SCALE: 1"=40'
 STA: 22+50 - 34+30

KAVANAUGH ROAD					
Number	Radius	Length	Line/Chord Direction	Start Station	End Station
L22	91.51	91.51	S87° 40' 34.01"W	10+00.00	10+91.51
L23	425.34	425.34	N89° 03' 35.12"W	10+91.51	15+16.85
C41	1000.00	232.32	S84° 17' 05.60"W	15+16.85	17+49.16
L24	1060.14	1060.14	S77° 37' 46.33"W	17+49.16	28+09.30
C42	400.00	87.83	S83° 55' 10.72"W	28+09.30	28+97.13
L25	39.15	39.15	N89° 47' 24.88"W	28+97.13	29+36.28
C43	250.00	159.71	N71° 29' 20.56"W	29+36.28	30+95.99
L26	345.31	345.31	N53° 11' 16.25"W	30+95.99	34+41.29

Public
Water Distribution / Extension System

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City of Raleigh
 Public Utilities Department Permit # W-3599

Authorization to Construct PERMITTED IN TRACT A
 SEE TRACT A CONSTRUCTION DRAWINGS

Date _____

Public
Sewer Collection / Extension System

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City of Raleigh
 Public Utilities Department Permit # S-4523

Authorization to Construct PERMITTED IN TRACT A
 SEE TRACT A CONSTRUCTION DRAWINGS

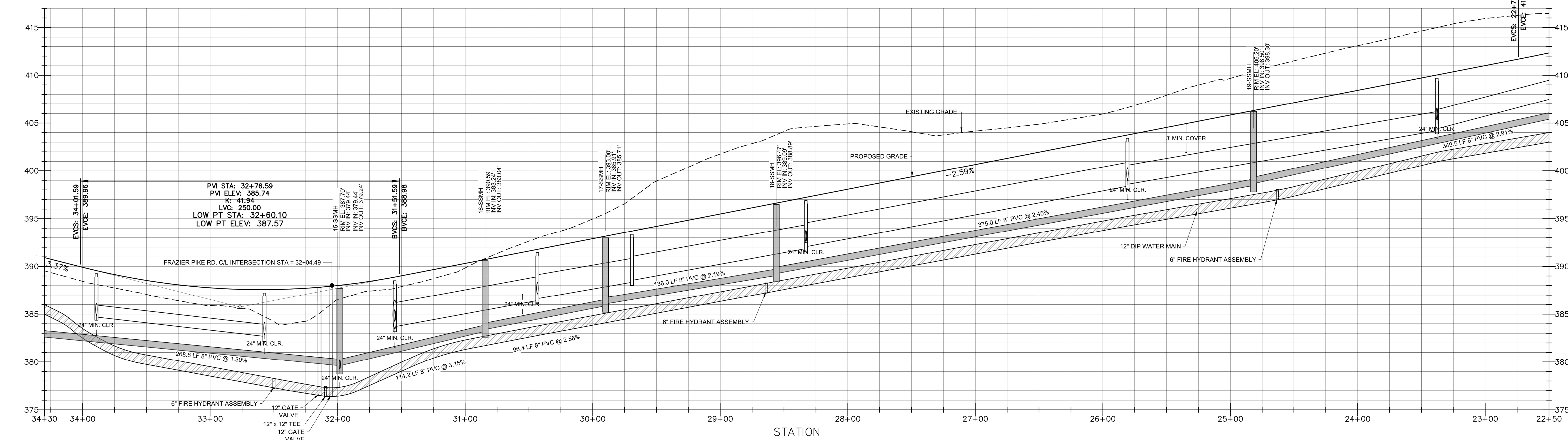
Date _____

ATTENTION CONTRACTORS

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KAVANAUGH RD - PROFILE
 HOR. SCALE: 1"=40' VER. SCALE: 1"=8'
 STA: 22+50 - 34+30

REV. NO.	DESCRIPTIONS	REVISIONS
2	REMOVE SWEETLEAF	07/31/2019
1	REVISED PER TOR COMMENTS	12/07/2018

ELIZABETH HEIGHTS
CONSTRUCTION DRAWINGS

PLAN AND PROFILE
KAVANAUGH RD.

Project Engineer: TSS
 Designed By: MP
 Drawn By: MP
 Checked By: TSS
 Scale: AS SHOWN

Date: 07/31/2019

Project Number: 170348

SHEET
C502

1205 AVERETTE ROAD
 WAKE FOREST, NC 27687
 WAKE COUNTY, NC



Bateman Civil Survey Company
 Engineers • Surveyors • Planners
 2524 Reliance Avenue, Apex, North Carolina 27539
 Phone: 919.577.1080 Fax: 919.577.1081
 NCBELS FRM No. C-2376



ELIZABETH HEIGHTS
 CONSTRUCTION DRAWINGS

PLAN AND PROFILE
 KAVANAUGH RD.

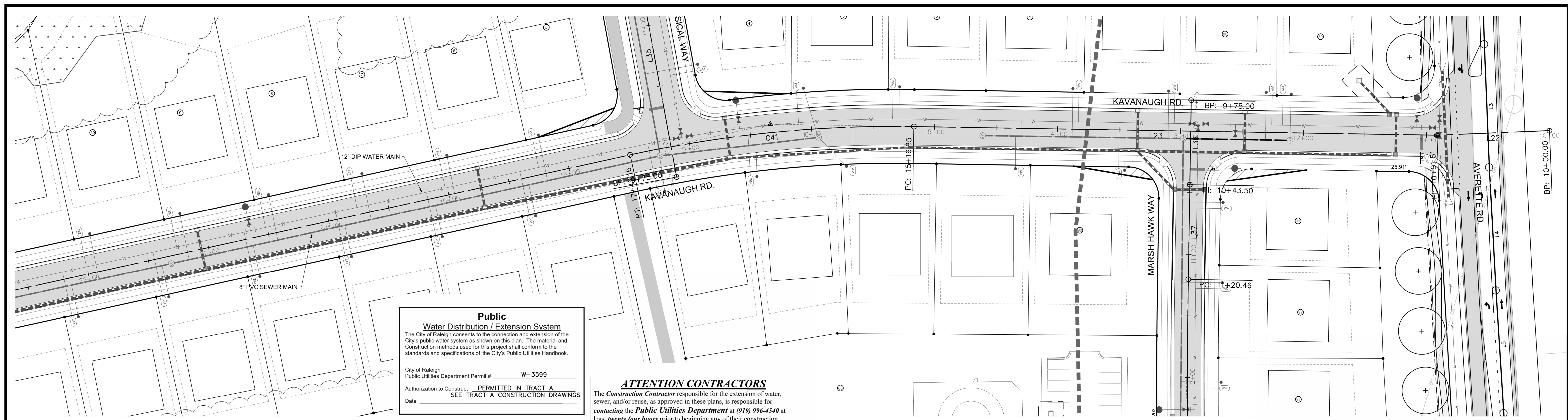
Project Engineer: TSS
 Designed By: MP
 Drawn By: MP
 Checked By: TSS
 Scale: AS SHOWN

Date: 07/31/2019

Project Number: 170348

SHEET
C503

ELIZABETH HEIGHTS



KAVANAUGH RD - PLAN
 SCALE: 1"=40'
 STA: 10+25 - 22+50

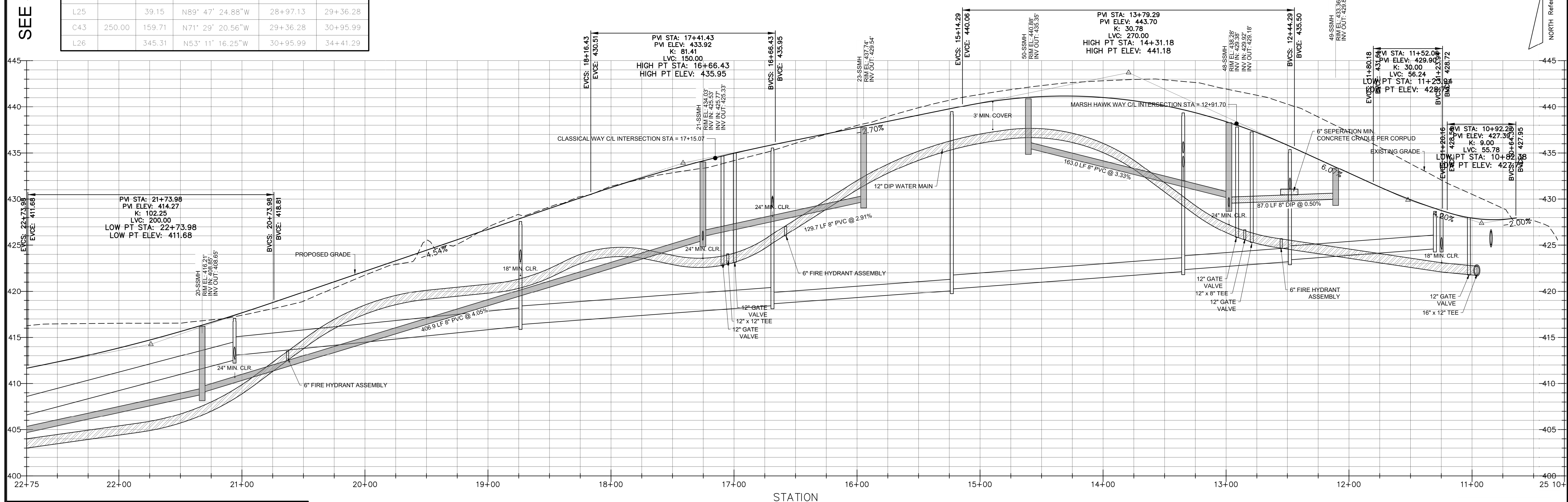
Public Water Distribution / Extension System
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 City of Raleigh
 Public Utilities Department Permit # W-3599
 Authorization to Construct PERMITTED IN TRACT A
 SEE TRACT A CONSTRUCTION DRAWINGS
 Date _____

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 City of Raleigh
 Public Utilities Department Permit # S-4523
 Authorization to Construct PERMITTED IN TRACT A
 SEE TRACT A CONSTRUCTION DRAWINGS
 Date _____

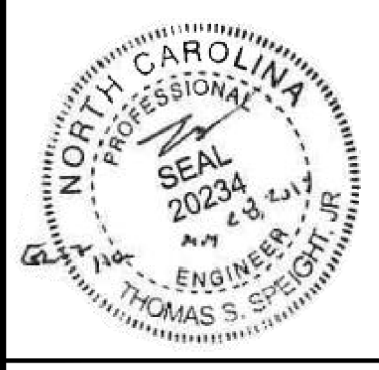
KAVANAUGH ROAD					
Number	Radius	Length	Line/Chord Direction	Start Station	End Station
L22		91.51	S87° 40' 34.01"W	10+00.00	10+91.51
L23		425.34	N89° 03' 35.12"W	10+91.51	15+16.85
C41	1000.00	232.32	S84° 17' 05.60"W	15+16.85	17+49.16
L24		1060.14	S77° 37' 46.33"W	17+49.16	28+09.30
C42	400.00	87.83	S83° 55' 10.72"W	28+09.30	28+97.13
L25		39.15	N89° 47' 24.88"W	28+97.13	29+36.28
C43	250.00	159.71	N71° 29' 20.56"W	29+36.28	30+95.99
L26		345.31	N53° 11' 16.25"W	30+95.99	34+41.29

SEE SHEET C502



KAVANAUGH RD - PROFILE
 HOR. SCALE: 1"=40' VER. SCALE: 1"=8'
 STA: 10+25 - 22+50

REV. NO.	DESCRIPTIONS	DATE
2	REMOVE SWEETLEAF	07/31/2019
1	REVISED PER TOR COMMENTS	12/07/2018



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 Engineers • Surveyors • Planners
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 NCBELS FRM No. C-2376



ELIZABETH HEIGHTS
CONSTRUCTION DRAWINGS
 1205 AVERETTE ROAD
 WAKE FOREST, NC 27687
 WAKE COUNTY, NC

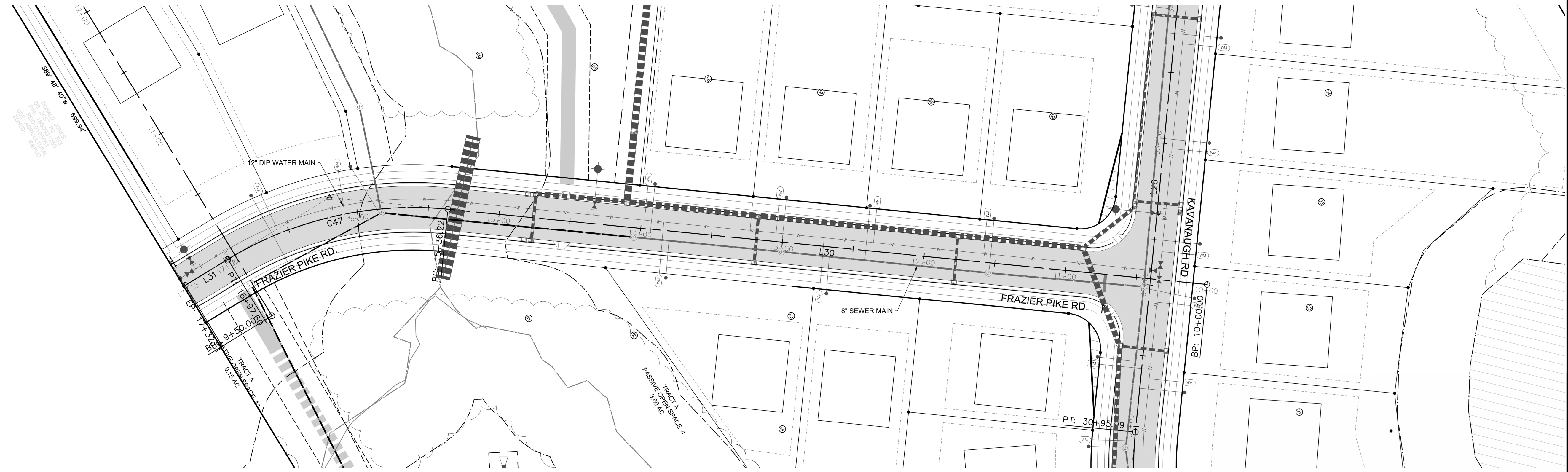
PLAN AND PROFILE
FRAZIER PIKE RD.

Project Engineer: TSS
 Designed By: MP
 Drawn By: MP
 Checked By: TSS
 Scale: AS SHOWN

Date: 07/31/2019
 Project Number: 170348

SHEET
C504

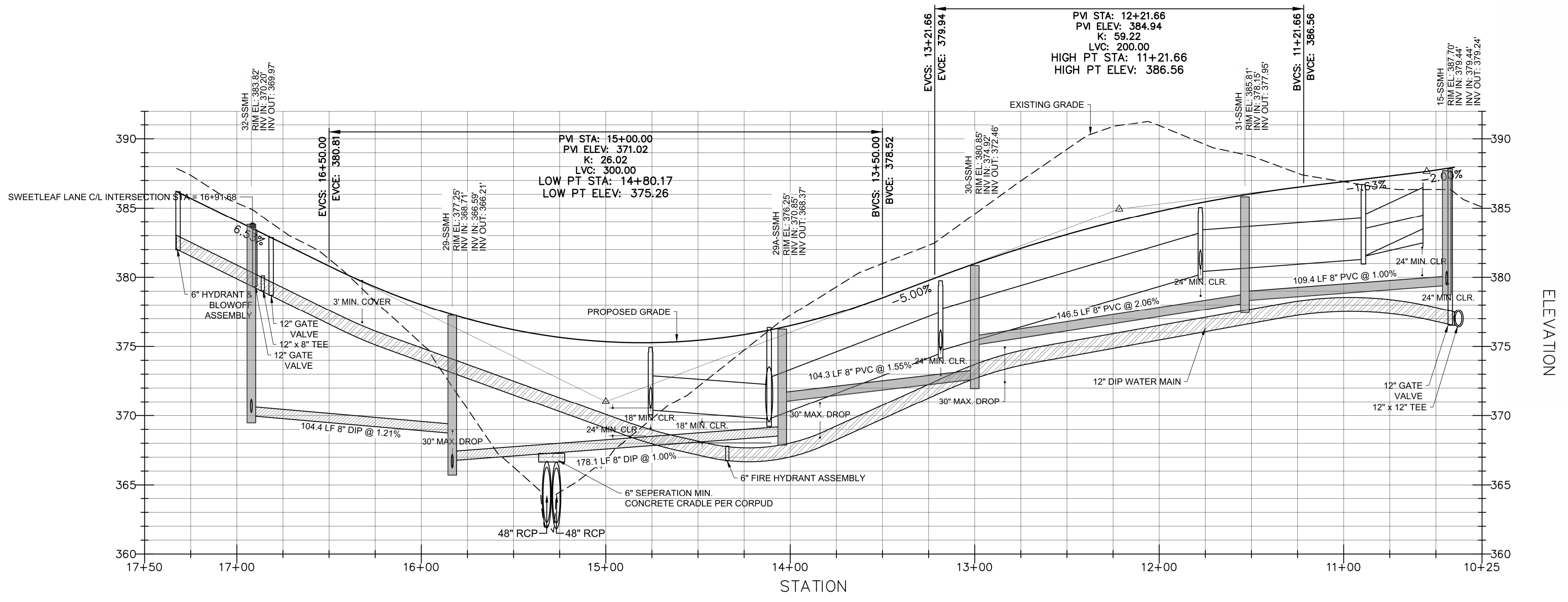
ELIZABETH HEIGHTS



FRAZIER PIKE RD - PLAN
SCALE: 1"=40'
STA: 10+25 - 17+33

NORTH Referenced to N.C. GRID (NAD 83)

FRAZIER PIKE ROAD					
Number	Radius	Length	Line/Chord Direction	Start Station	End Station
L30		536.22	S36° 48' 43.75"W	10+00.00	15+36.22
C47	250.00	161.38	S18° 19' 09.18"W	15+36.22	16+97.60
L31		35.02	S0° 10' 35.92"E	16+97.60	17+32.61



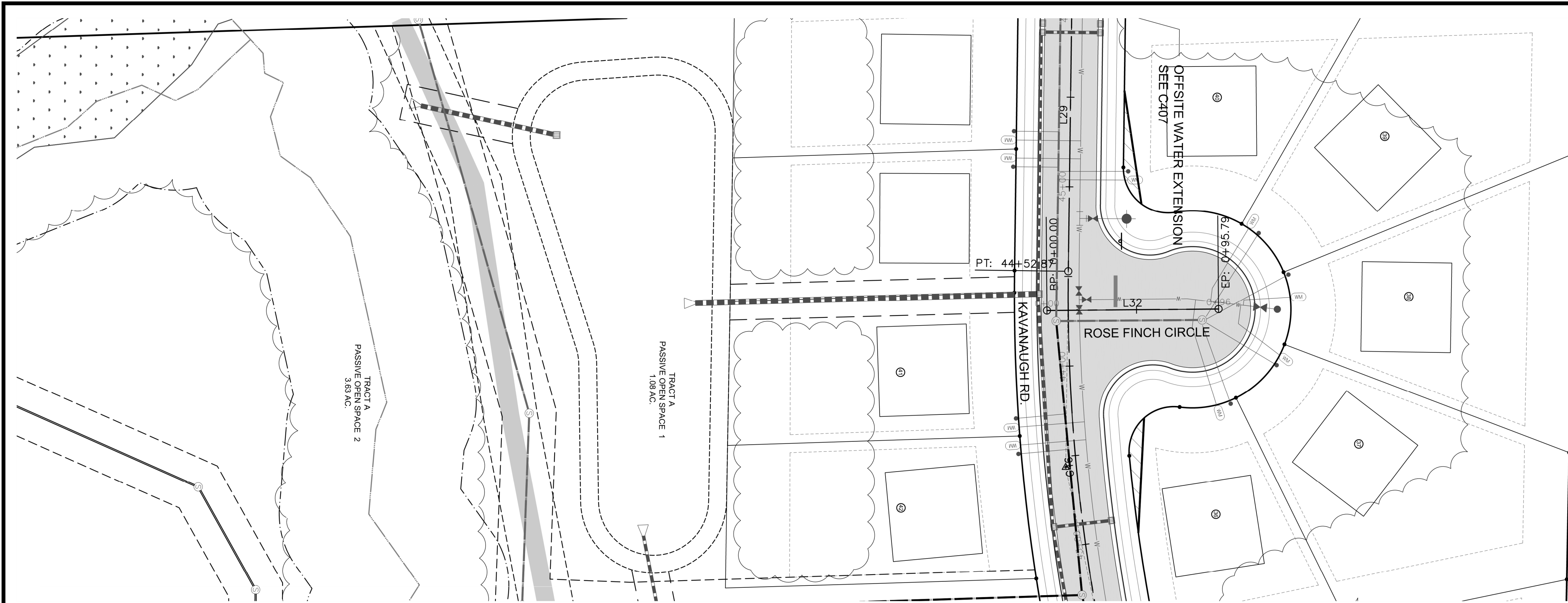
FRAZIER PIKE RD - PROFILE
HOR. SCALE: 1"=40' VER. SCALE: 1"=8'
STA: 10+25 - 17+33

Public
Water Distribution / Extension System
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 City of Raleigh
 Public Utilities Department Permit # W-5399
 Authorization to Construct PERMITTED IN TRACT A
 SEE TRACT A CONSTRUCTION DRAWINGS
 Date _____

Public
Sewer Collection / Extension System
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 City of Raleigh
 Public Utilities Department Permit # S-4523
 Authorization to Construct PERMITTED IN TRACT A
 SEE TRACT A CONSTRUCTION DRAWINGS
 Date _____

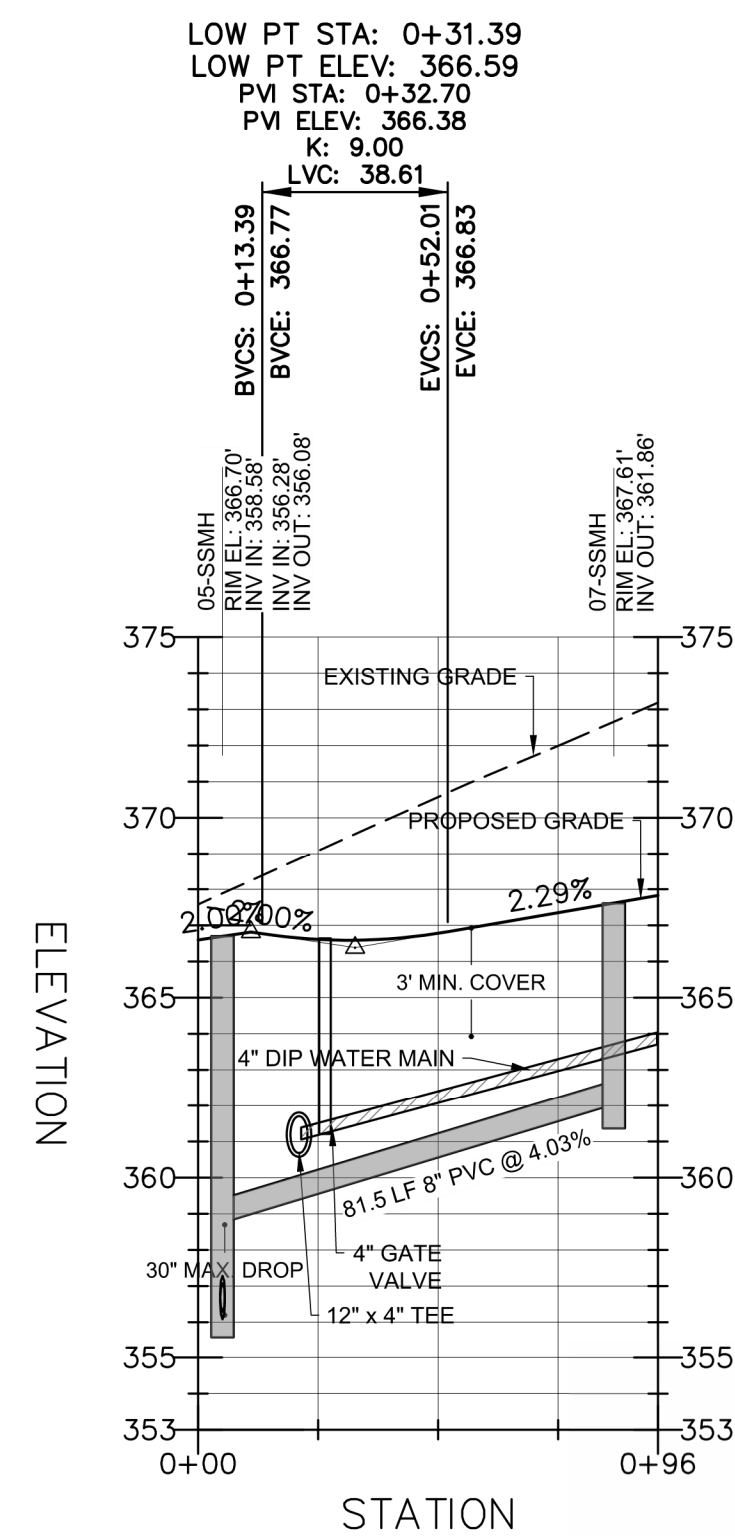
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REV. NO.	DESCRIPTIONS	DATE
2	REMOVE SWEETLEAF	07/31/2019
1	REVISED PER TOR COMMENTS	12/07/2018

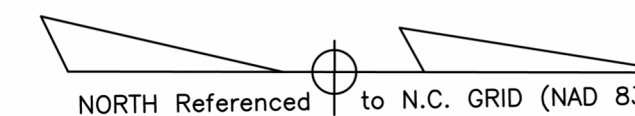


ROSE FINCH CIRCLE - PLAN
SCALE: 1"=40'
STA: 0+00 - 0+96

ROSE FINCH CIRCLE					
Number	Radius	Length	Line/Chord Direction	Start Station	End Station
L32		95.79	N0° 55' 32.50"W	0+00.00	0+95.79



ROSE FINCH CIRCLE - PROFILE
HOR. SCALE: 1"=40' VER. SCALE: 1"=8'
STA: 0+00 - 0+96



REV. NO.	DESCRIPTIONS	DATE
2	REMOVE SWEETLEAF	07/31/2019
1	REVISED PER TOR COMMENTS	12/07/2018

Public
Water Distribution / Extension System
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City of Raleigh
 Public Utilities Department Permit # W-3599

Authorization to Construct PERMITTED IN TRACT A
 SEE TRACT A CONSTRUCTION DRAWINGS

Date _____

Public
Sewer Collection / Extension System
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City of Raleigh
 Public Utilities Department Permit # S-4523

Authorization to Construct PERMITTED IN TRACT A
 SEE TRACT A CONSTRUCTION DRAWINGS

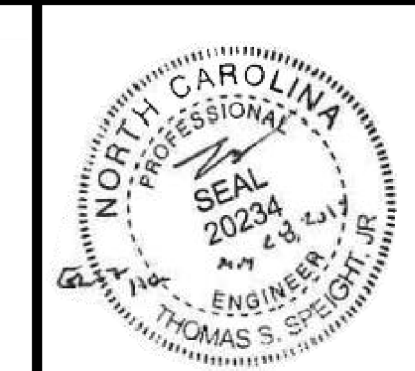
Date _____

ATTENTION CONTRACTORS

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 NCBELS FRM No. C-2376



ELIZABETH HEIGHTS
CONSTRUCTION DRAWINGS

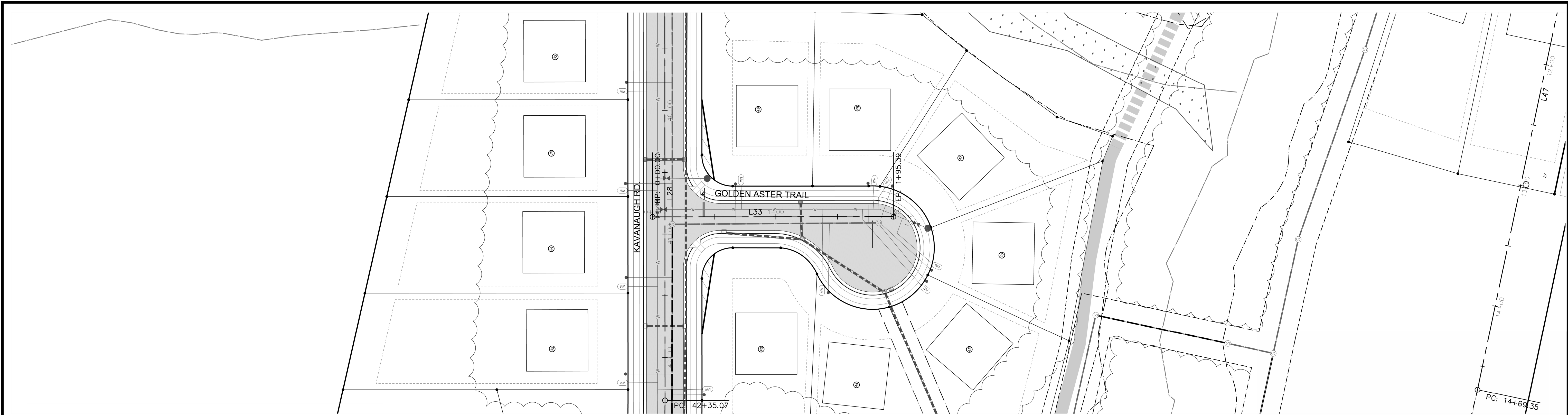
1205 AVERETTE ROAD
 WAKE FOREST, NC 27587
 WAKE COUNTY, NC

PLAN AND PROFILE
ROSE FINCH CIRCLE

Project Engineer:	TSS
Designed By:	MP
Drawn By:	MP
Checked By:	TSS
Scale:	AS SHOWN
Date:	07/31/2019
Project Number:	170348

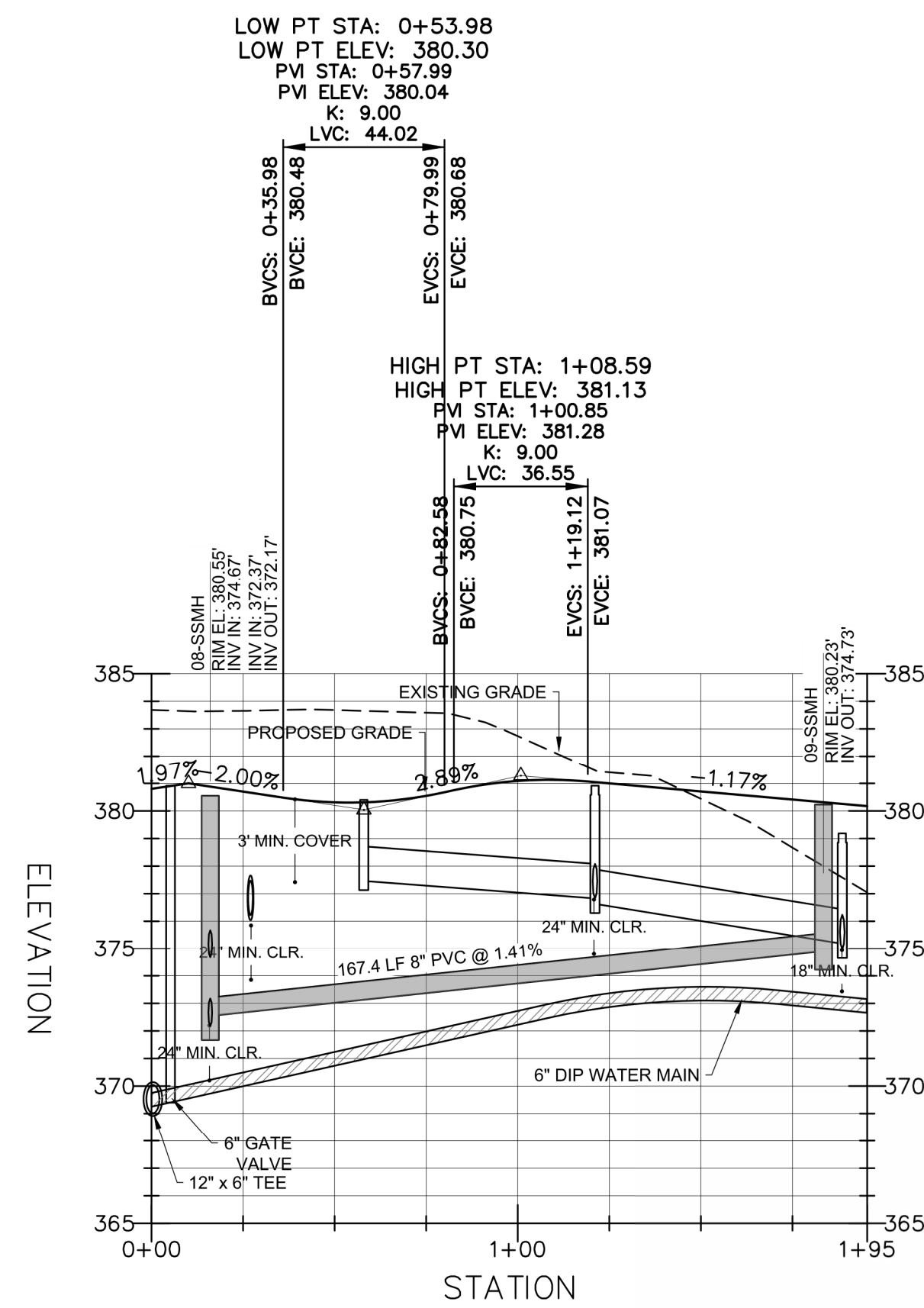
SHEET
C505

ELIZABETH HEIGHTS



GOLDEN ASTER TRAIL - PLAN
SCALE: 1"=40'
STA: 0+00 - 1+95

GOLDEN ASTER TRAIL						
Number	Radius	Length	Line/Chord Direction	Start Station	End Station	
L33		195.39	S12° 09' 09.56"E	0+00.00	1+95.39	



GOLDEN ASTER TRAIL - PROFILE
HOR. SCALE: 1"=40' VER. SCALE: 1"=8'
STA: 0+00 - 1+95

Public
Water Distribution / Extension System
 The City of Raleigh consents to the connection and extension of the City's public water system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
 City of Raleigh
 Public Utilities Department Permit # W-3599
 Authorization to Construct **PERMITTED IN TRACT A**
 SEE TRACT A CONSTRUCTION DRAWINGS
 Date _____

Public
Sewer Collection / Extension System
 The City of Raleigh consents to the connection and extension of the City's public sewer system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
 City of Raleigh
 Public Utilities Department Permit # S-4523
 Authorization to Construct **PERMITTED IN TRACT A**
 SEE TRACT A CONSTRUCTION DRAWINGS
 Date _____

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 **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*.

REV. NO.	DESCRIPTIONS	DATE
2	REMOVE SWEETLEAF	07/31/2019
1	REVISED PER TOR COMMENTS	12/07/2018



Bateman Civil Survey Company
 Engineers • Surveyors • Planners
 2524 Reliance Avenue, Apex, North Carolina 27539
 Phone: 919.577.1080 Fax: 919.577.1081
 NCBELS FRM No. C-2376



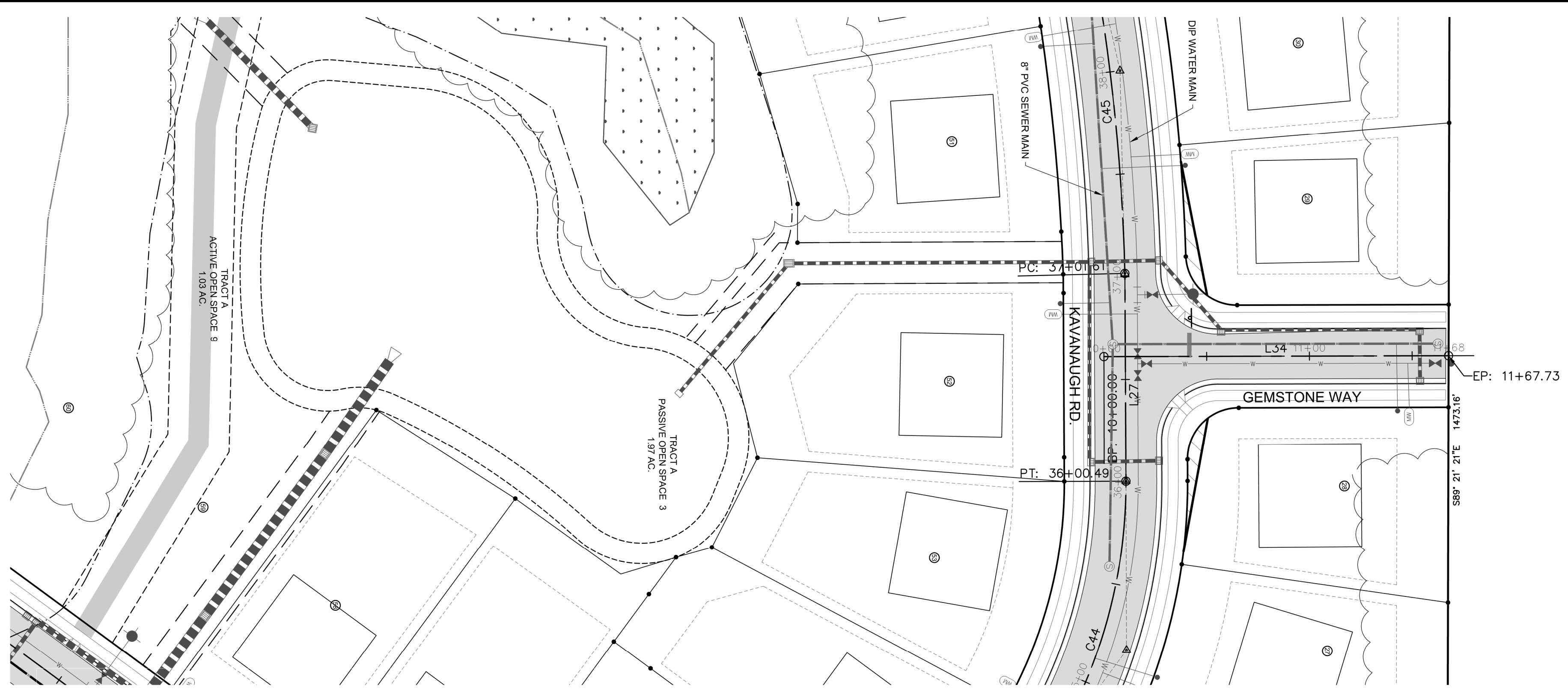
ELIZABETH HEIGHTS
CONSTRUCTION DRAWINGS
 1205 AVERETTE ROAD
 WAKE FOREST, NC 27687
 WAKE COUNTY, NC

PLAN AND PROFILE
GOLDEN ASTER TRAIL

Project Engineer: TSS
 Designed By: MP
 Drawn By: MP
 Checked By: TSS
 Scale: AS SHOWN
 Date: 07/31/2019
 Project Number: 170348

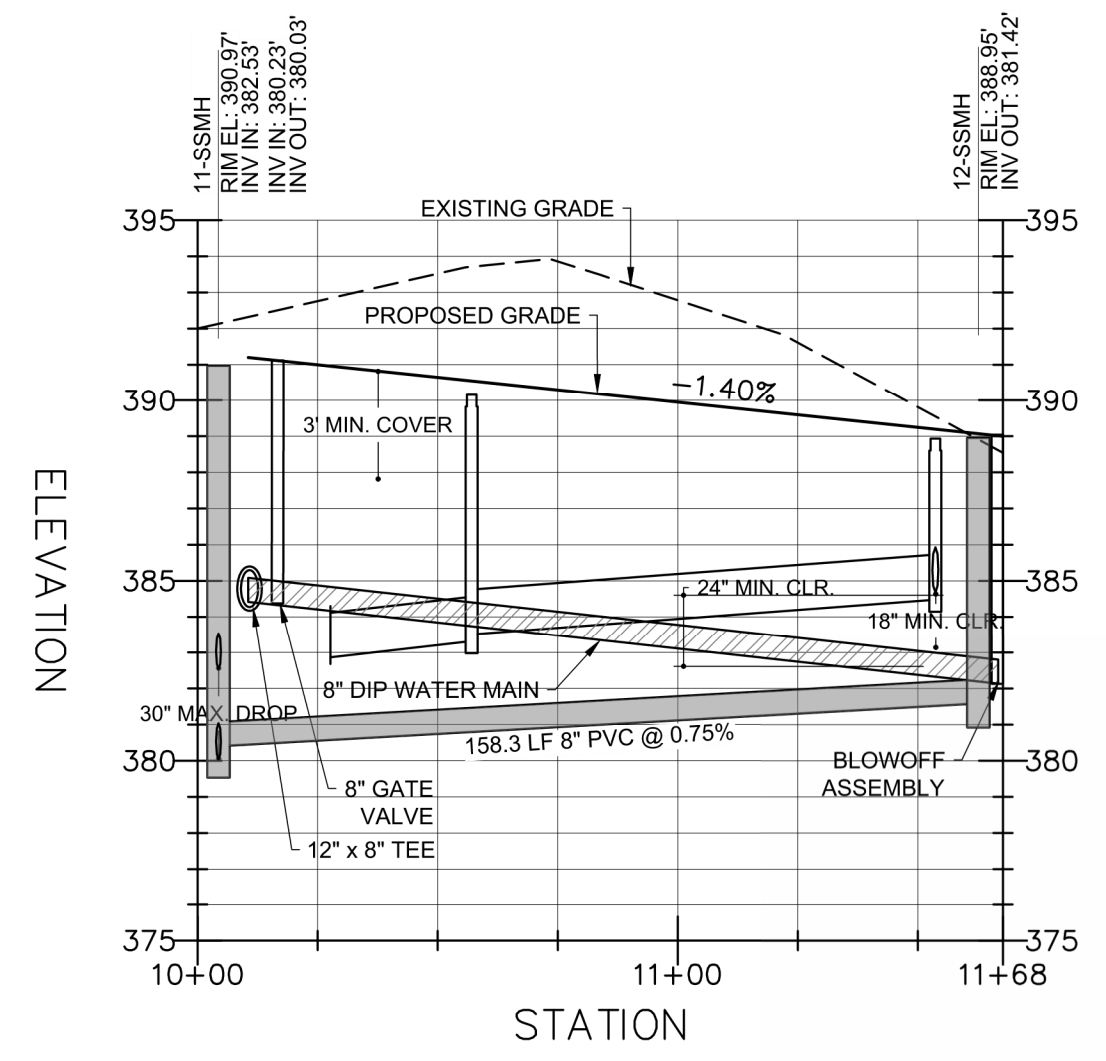
SHEET
C506

ELIZABETH HEIGHTS----



GEMSTONE WAY - PLAN
SCALE: 1"=40'
STA: 10+00 - 11+68

GEMSTONE WAY					
Number	Radius	Length	Line/Chord Direction	Start Station	End Station
L34		167.73	N0° 21' 13.83"E	10+00.00	11+67.73



GEMSTONE WAY - PROFILE
HOR. SCALE: 1"=40' VER. SCALE: 1"=8'
STA: 10+00 - 11+68

Public
Water Distribution / Extension System

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City of Raleigh
 Public Utilities Department Permit # W-3599

Authorization to Construct PERMITTED IN TRACT A
 SEE TRACT A CONSTRUCTION DRAWINGS

Date _____

Public
Sewer Collection / Extension System

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City of Raleigh
 Public Utilities Department Permit # S-4523

Authorization to Construct PERMITTED IN TRACT A
 SEE TRACT A CONSTRUCTION DRAWINGS

Date _____

ATTENTION CONTRACTORS

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REV. NO.	DESCRIPTIONS	DATE
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ELIZABETH HEIGHTS
CONSTRUCTION DRAWINGS
 1205 AVERETTE ROAD
 WAKE FOREST, NC 27687
 WAKE COUNTY, NC

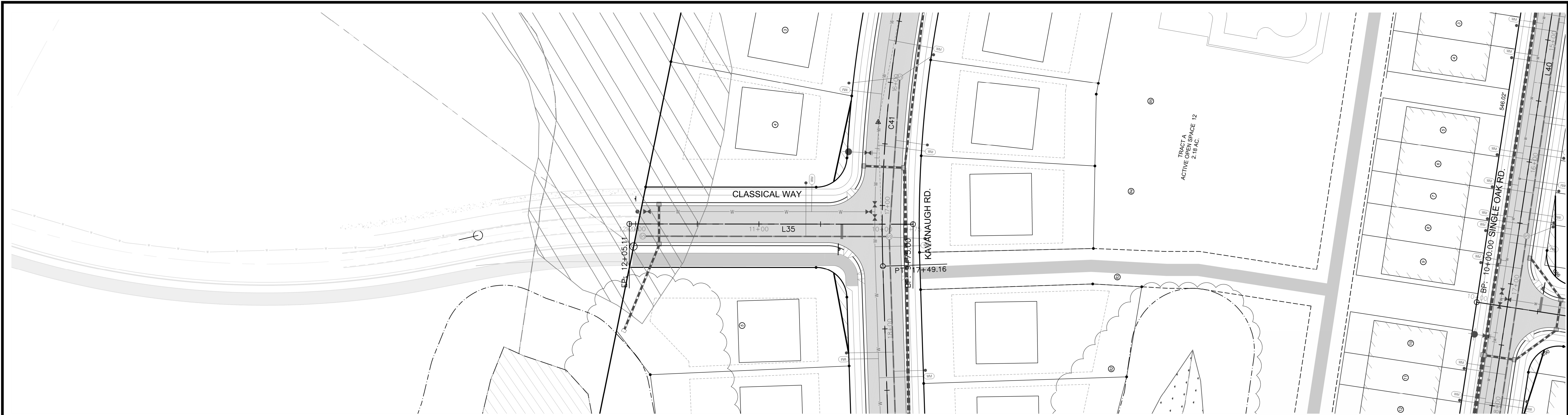
PLAN AND PROFILE
GEMSTONE WAY

Project Engineer: TSS
 Designed By: MP
 Drawn By: MP
 Checked By: TSS
 Scale: AS SHOWN

Date: 07/31/2019
 Project Number: 170348

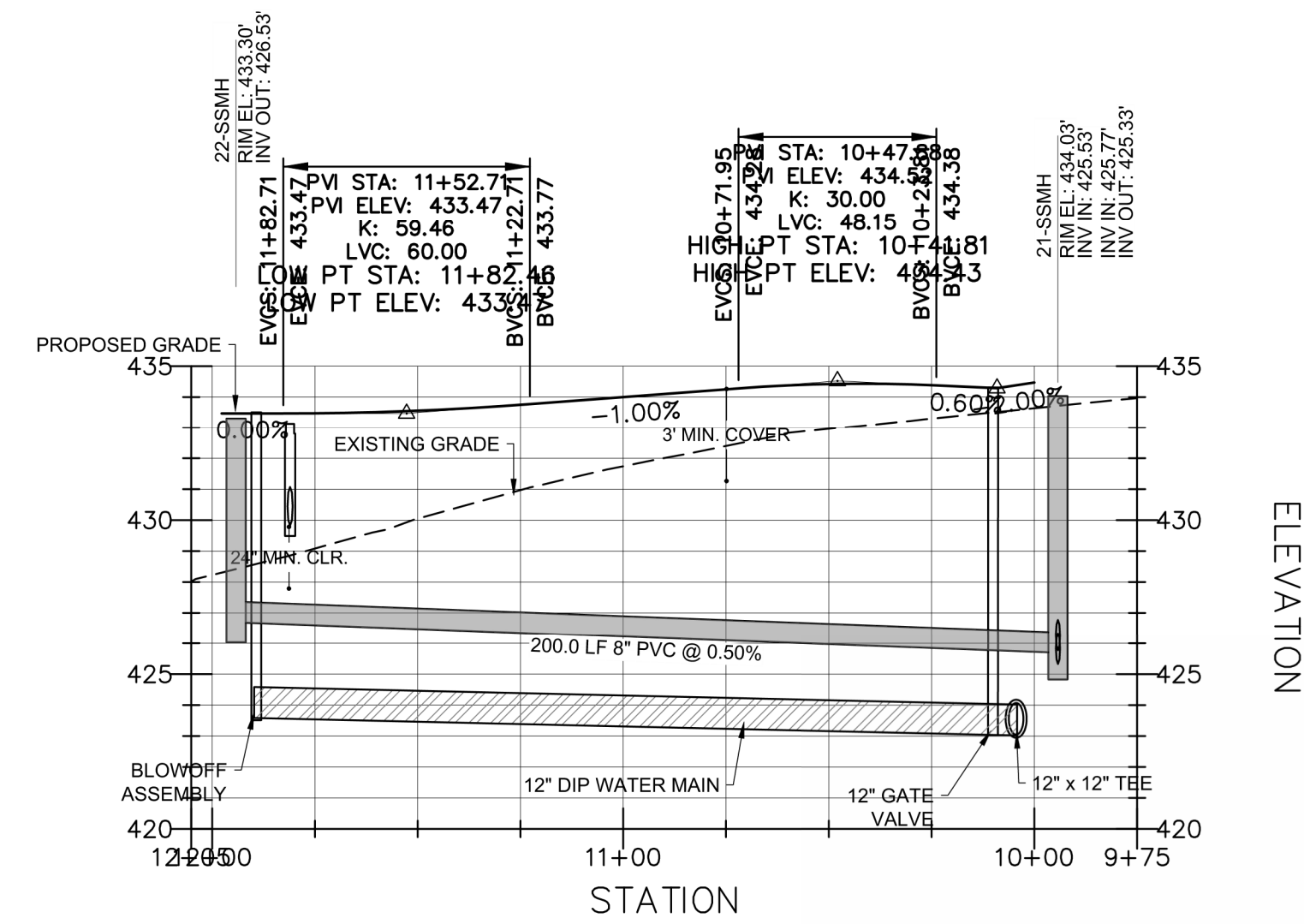
SHEET
C507

ELIZABETH HEIGHTS



CLASSICAL WAY - PLAN
SCALE: 1"=40'
STA: 09+75 - 12+05

CLASSICAL WAY					
Number	Radius	Length	Line/Chord Direction	Start Station	End Station
L35		230.11	N10° 26' 45.70"W	9+75.00	12+05.11



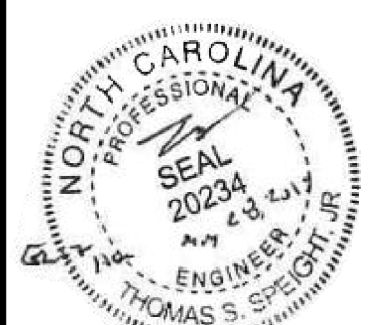
CLASSICAL WAY - PROFILE
HOR. SCALE: 1"=40' VER. SCALE: 1"=8'
STA: 09+75 - 12+05

Public
Water Distribution / Extension System
 The City of Raleigh consents to the connection and extension of the City's public water system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.
 City of Raleigh
 Public Utilities Department Permit # W-3599
 Authorization to Construct PERMITTED IN TRACT A
 SEE TRACT A CONSTRUCTION DRAWINGS
 Date _____

Public
Sewer Collection / Extension System
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 City of Raleigh
 Public Utilities Department Permit # S-4523
 Authorization to Construct PERMITTED IN TRACT A
 SEE TRACT A CONSTRUCTION DRAWINGS
 Date _____

ATTENTION CONTRACTORS
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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.
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REV. NO.	DESCRIPTIONS	DATE
2	REMOVE SWEETLEAF	07/31/2019
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REVISIONS		



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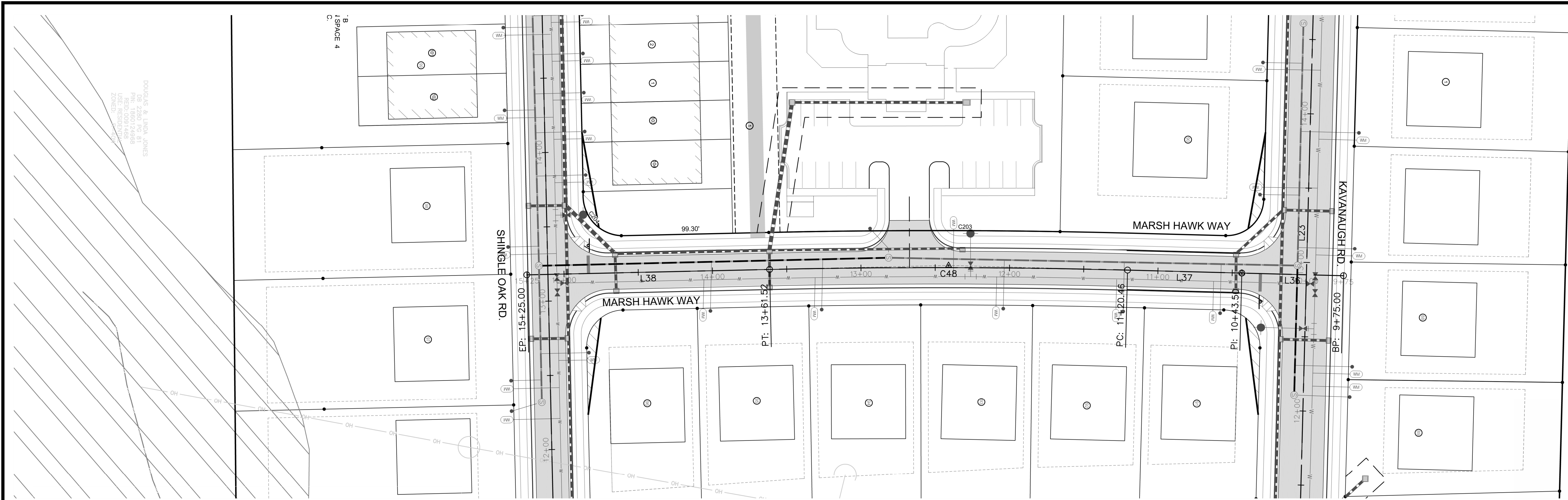
ELIZABETH HEIGHTS
CONSTRUCTION DRAWINGS
 1205 AVERETTE ROAD
 WAKE FOREST, NC 27687
 WAKE COUNTY, NC

PLAN AND PROFILE
CLASSICAL WAY

Project Engineer: TSS
 Designed By: MP
 Drawn By: MP
 Checked By: TSS
 Scale: AS SHOWN
 Date: 07/31/2019
 Project Number: 170348

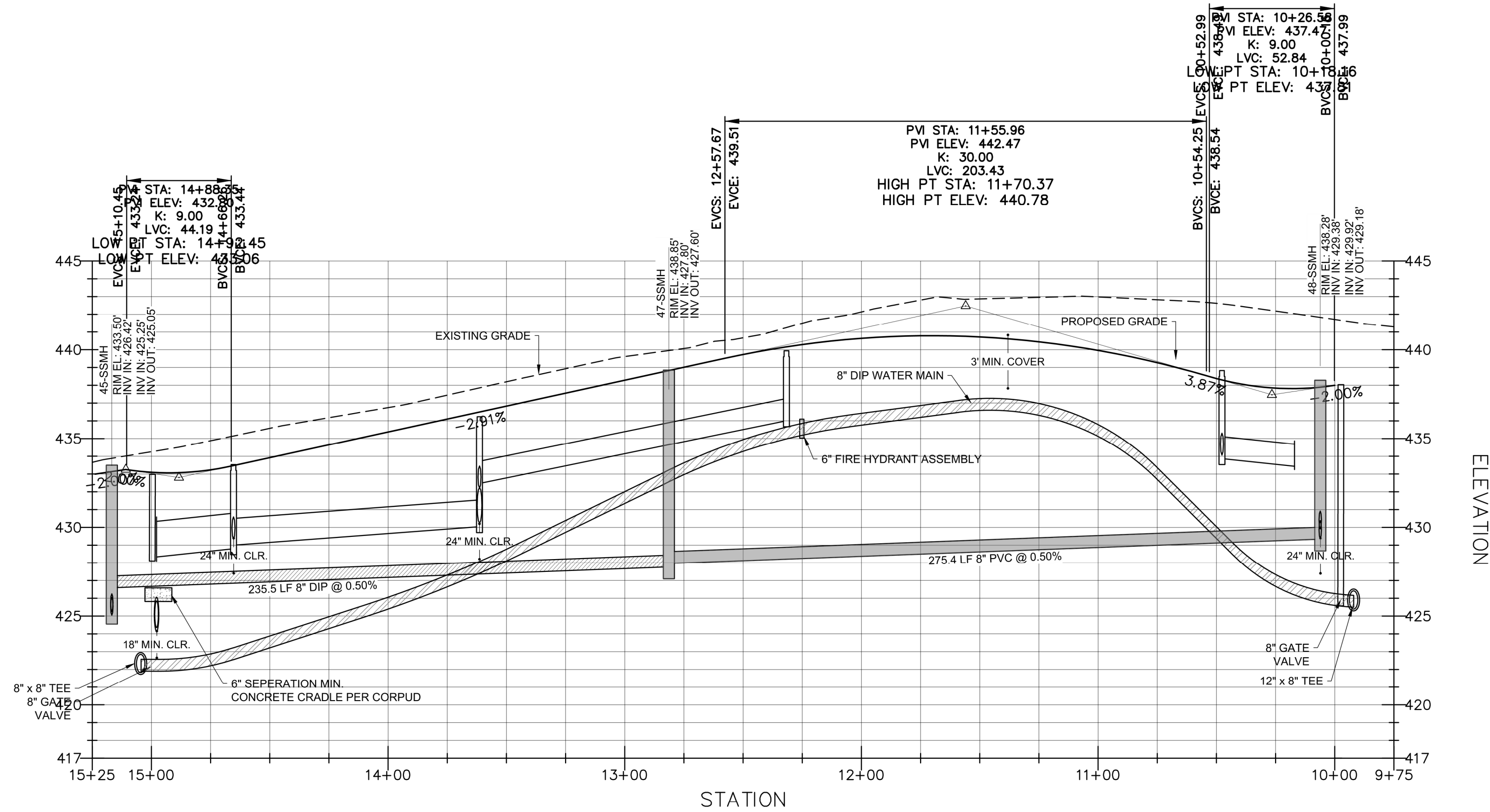
SHEET
C508

ELIZABETH HEIGHTS

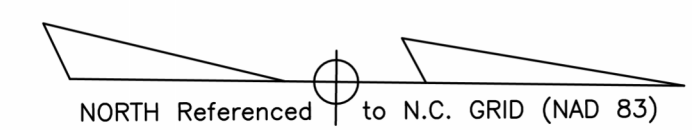


MARSH HAWK WAY - PLAN
SCALE: 1"=40'
STA: 09+75 - 15+25

MARSH HAWK WAY					
Number	Radius	Length	Line/Chord Direction	Start Station	End Station
L36		68.50	S0° 56' 24.88"W	9+75.00	10+43.50
L37		76.96	S0° 56' 24.88"W	10+43.50	11+20.46
C48	5000.00	241.06	S0° 26' 27.43"E	11+20.46	13+61.52
L38		163.48	S1° 49' 19.73"E	13+61.52	15+25.00



MARSH HAWK WAY - PROFILE
HOR. SCALE: 1"=40' VER. SCALE: 1"=8'
STA: 09+75 - 15+25



Public
Water Distribution / Extension System
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 City of Raleigh
 Public Utilities Department Permit # W-3599
 Authorization to Construct PERMITTED IN TRACT A
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Public
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 City of Raleigh
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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 Public Utilities Department at (919) 996-1540 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.

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ELIZABETH HEIGHTS
CONSTRUCTION DRAWINGS
 1205 AVERETTE ROAD
 WAKE FOREST, NC 27687
 WAKE COUNTY, NC

PLAN AND PROFILE
MARSH HAWK WAY

Project Engineer: TSS
 Designed By: MP
 Drawn By: MP
 Checked By: TSS
 Scale: AS SHOWN

Date: 07/31/2019
 Project Number: 170348

SHEET
C509

ELIZABETH HEIGHTS