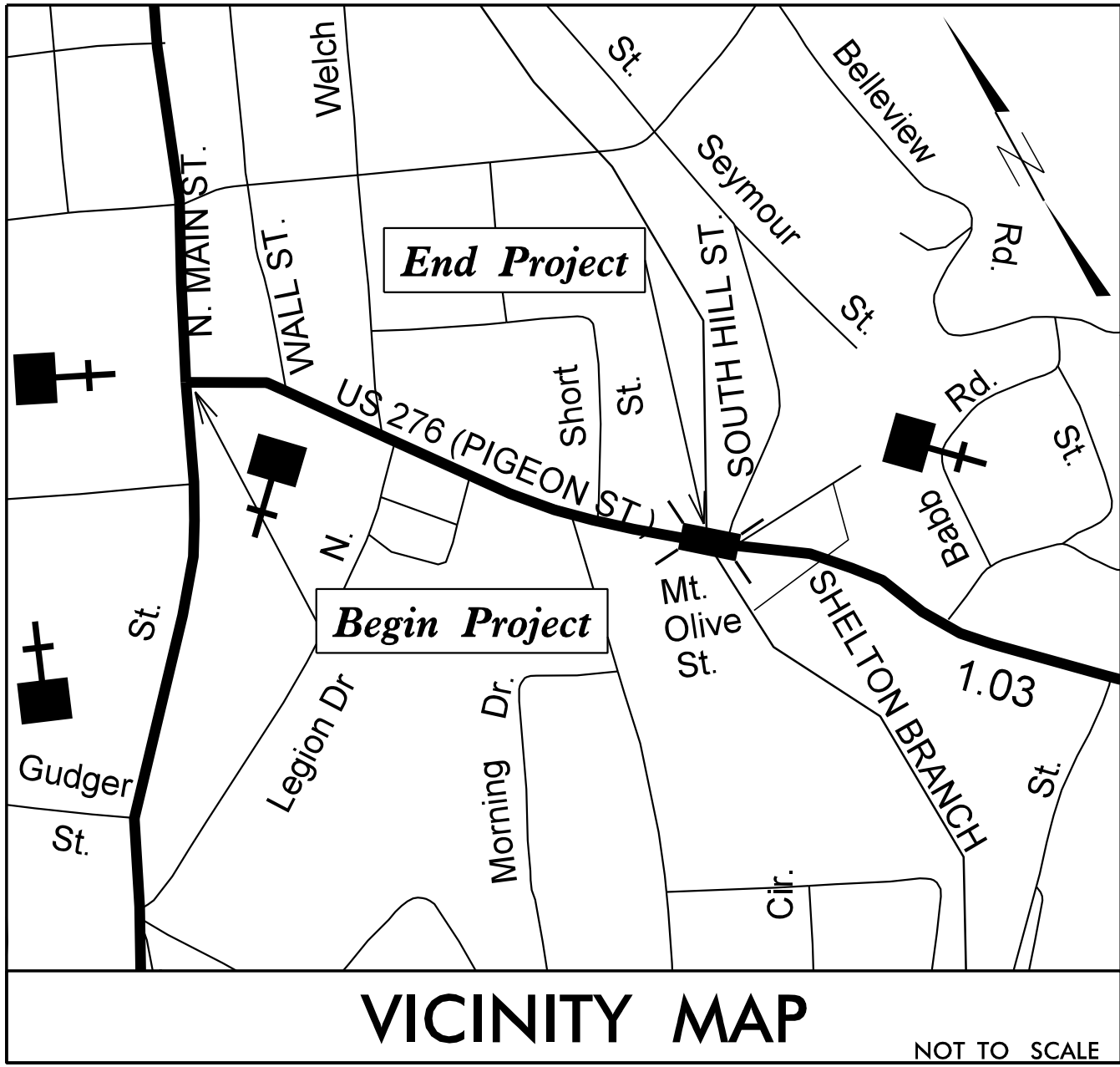


09/08/2015

CONTRACT: M&C PROJECT: 3915A PIGEON ST.

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



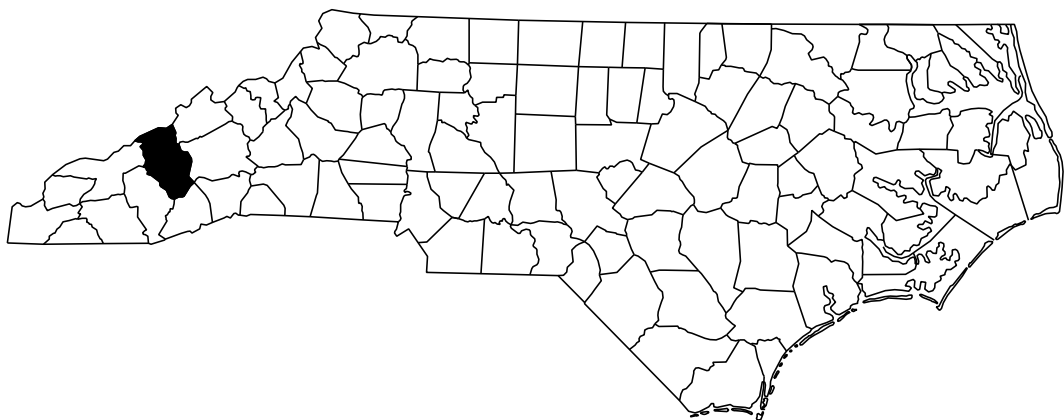
TOWN OF WAYNESVILLE

PIGEON STREET REHAB

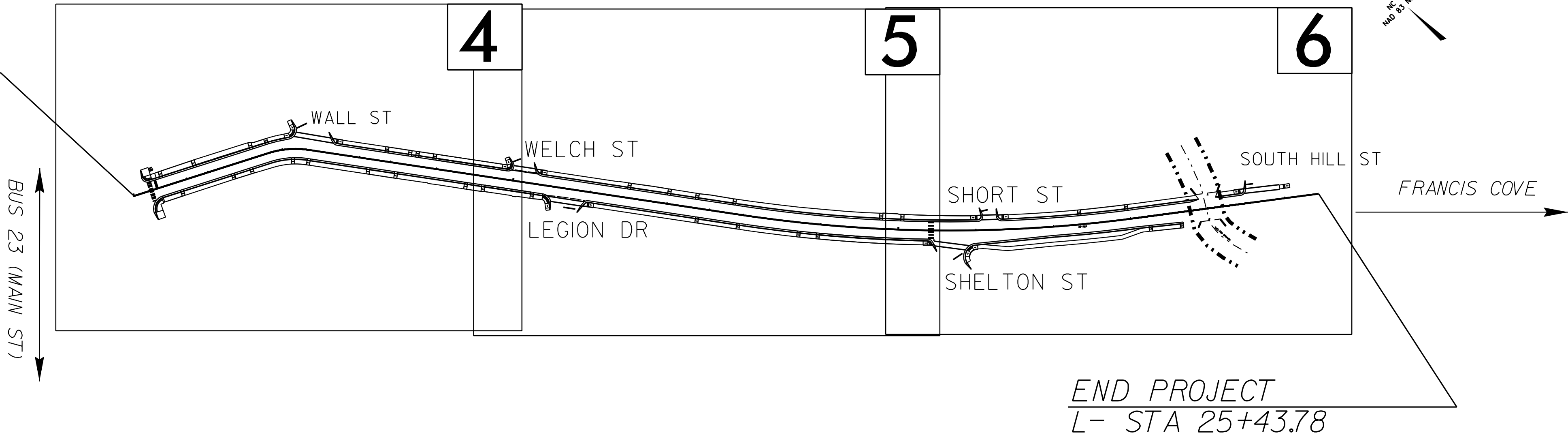
LOCATION: US 276 (PIGEON ST.)
FROM US 276 (NORTH MAIN ST.) TO S. HILL ST.

TYPE OF WORK: WATER & SEWER

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	3915A PIGEON ST	1	



BEGIN PROJECT
-L- STA 10+00.00



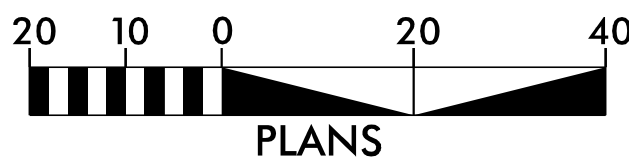
Mattern & Craig
ENGINEERS•SURVEYORS

12 BROAD STREET
ASHEVILLE, NORTH CAROLINA 28801
(828) 254-2201
FAX (828) 254-4562
NC LIC. NO. C-1154

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

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

GRAPHIC SCALES



DESIGN DATA

V = 40 MPH

FUNC CLASS =
SUB-REGIONAL TIER

AADT: 5700

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT PIGEON ST. = 0.292 MILES

TOTAL LENGTH OF TIP PROJECT PIGEON ST.= 0.292 MILES

Prepared In the Office of:
MATTERN & CRAIG
12 BROAD ST.
ASHEVILLE, NC 28801
FOR THE TOWN OF WAYNESVILLE, NC

2018 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
XXXX

LETTING DATE:
XXXXX

JAMES B. VOSO
PROJECT ENGINEER

ROBERT J.L. KUN
PROJECT DESIGN ENGINEER

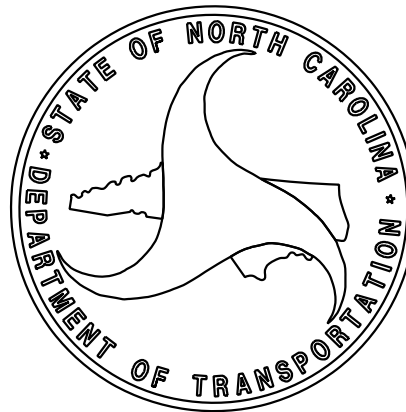
NCDOT DIVISION 14 CONTACT

HYDRAULICS ENGINEER

SIGNATURE: _____ P.E.

ROADWAY DESIGN
ENGINEER

SIGNATURE: _____ P.E.



PROJECT REFERENCE NO.		SHEET NO.	
3915A PIGEON ST.		1A	
ROADWAY DESIGN ENGINEER			
			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

EFF. 01-16-2018
REV.
2018 NC STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps

GENERAL NOTES: 2018 SPECIFICATIONS
EFFECTIVE: 01-16-2018
REVISED:

SUBSURFACE PLANS:

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

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE:

Power A/G, UG	Town of Waynesville
Telephone A/G, U/G	AT&T
Cable A/G, U/G	Charter Cable
Fiber Optic	Balsam West - Spirit Communications
Gas U/G	PSNC Energy
Water U/G	Town of Waynesville
Sewer U/G	Town of Waynesville

RIGHT-OF-WAY MARKERS:

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

RETAINING WALLS:
ALL EXISTING RETAINING WALLS ARE TO REMAIN.
DO NOT COVER WEEP HOLES IN EXISTING RETAINING WALLS.
THE CONTRACTOR SHALL AVOID DAMAGING ANY EXISTING RETAINING WALLS. ANY DAMAGE THAT OCCURS MUST BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

EROSION CONTROL:
INSTALL EROSION CONTROL DEVICES AT ALL DRAINAGE STRUCTURES LOCATED WITHIN THE ROADWAY OF THE PROJECT AREA. SEE CONTRACT DOCUMENTS, CURB LINLET PROTECTION TYPE 4.

SHEET NUMBER	SHEET
1	TITLE SHEET
1A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1B	CONVENTIONAL PLAN SHEET SYMBOLS
TMP-1 thru TMP-2	TRANSPORTATION MANAGEMENT PLAN
UC-1	UTILITY CONSTRUCTION TITLE SHEET
UC-2	UTILITIES PLAN SHEET SYMBOLS
UC-3	UTILITIES NOTES
UC-3A	UTILITIES STANDARD DETAILS
UC-4	UTILITIES WATER PLAN
UC-5	UTILITIES WATER PLAN
UC-5A	UTILITIES SEWER PLAN
UC-6	UTILITIES WATER PLAN
UC-6A	UTILITIES SEWER PLAN

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P:\knp

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS
CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	
County Line	
Township Line	
City Line	
Reservation Line	
Property Line	
Existing Iron Pin	
Computed Property Corner	
Property Monument	
Parcel/Sequence Number	
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	
Potential Contamination Area: Soil	
Known Contamination Area: Water	
Potential Contamination Area: Water	
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	
Buffer Zone 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 Easement 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	
New Control of Access Line with Concrete C/A 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	

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.*)	

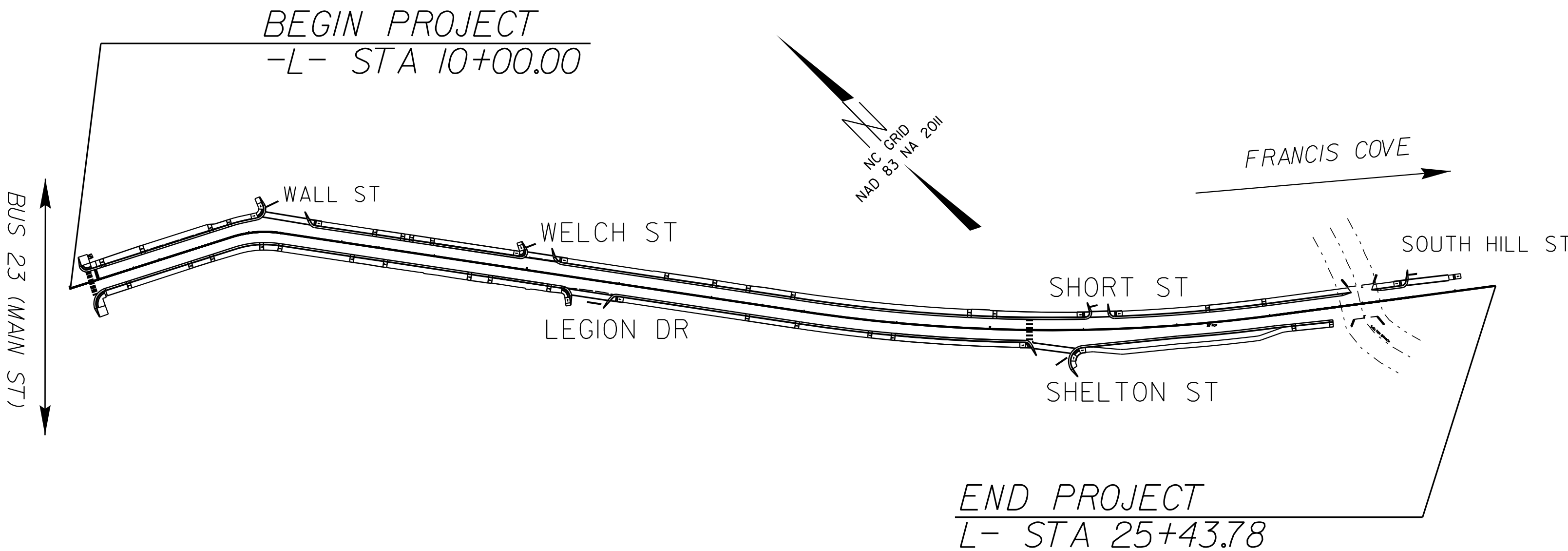
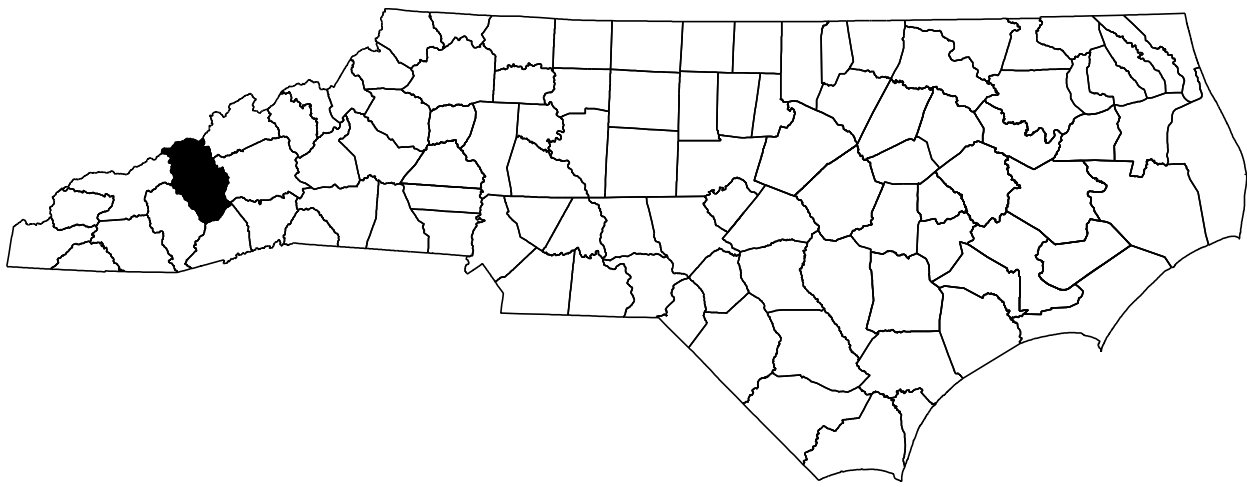
MISCELLANEOUS:

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	
End of Information	

TOWN OF WAYNESVILLE

TRANSPORTATION MANAGEMENT PLAN

HAYWOOD COUNTY



INDEX OF SHEETS

SHEET NO.	TITLE
TMP-1	TITLE SHEET, AND INDEX OF SHEETS
TMP-1A	LIST OF APPLICABLE ROADWAY STANDARD DRAWINGS, LEGEND, AND TEMPORARY PAVEMENT MARKING
TMP-1B	TRANSPORTATION OPERATIONS PLAN: (GENERAL NOTES AND LOCAL NOTES)
TMP-2	TEMPORARY TRAFFIC CONTROL DETOUR

Mattern & Craig
ENGINEERS-SURVEYORS

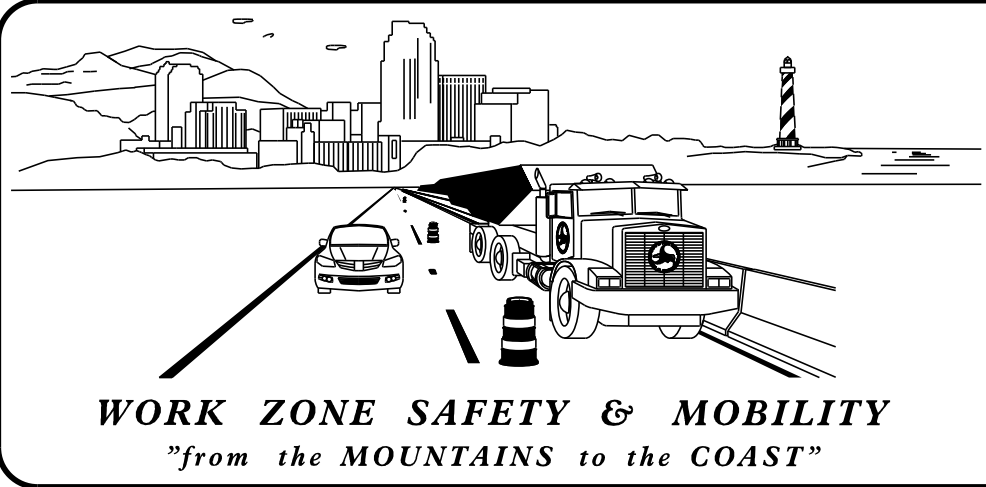
12 BROAD STREET
ASHEVILLE, NORTH CAROLINA 28801
(828) 254-2201
FAX (828) 254-4562
NC LIC. NO. C-1154

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

APPROVED: _____

DATE: _____

SEAL



PLANS PREPARED BY:

JAMES B. VOSO
PROJECT ENGINEER

ROBERT J.L. KUN
PROJECT DESIGN ENGINEER

SHEET NO.
TMP-1

M&C PROJECT: 3915A PIGEON ST.

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ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" - PROJECT SERVICES UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANAUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

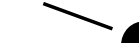
STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.03	TEMPORARY ROAD CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1145.01	BARRICADES

LEGEND

GENERAL

-  DIRECTION OF TRAFFIC FLOW
-  DIRECTION OF PEDESTRIAN TRAFFIC FLOW
-  EXIST. PVMT.
-  NORTH ARROW
-  PROPOSED PVMT.
-  WORK AREA
-  REMOVAL
-  USER DEFINED (IF NEEDED)
-  USER DEFINED (IF NEEDED)

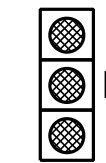
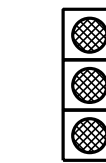
TRAFFIC CONTROL DEVICES

-  BARRICADE (TYPE III)
-  CONE
-  DRUM  SKINNY DRUM  TUBULAR MARKER
-  TEMPORARY CRASH CUSHION
-  FLASHING ARROW BOARD
-  FLAGGER
-  LAW ENFORCEMENT
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  CHANGEABLE MESSAGE SIGN

TEMPORARY SIGNING

-  PORTABLE SIGN
-  STATIONARY SIGN
-  STATIONARY OR PORTABLE SIGN

SIGNALS

-  EXISTING
-  PROPOSED
-  TEMPORARY

PAVEMENT MARKINGS

-  EXISTING LINES
-  TEMPORARY LINES

PAVEMENT MARKERS

-  CRYSTAL/CRYSTAL
-  CRYSTAL/RED
-  YELLOW/YELLOW

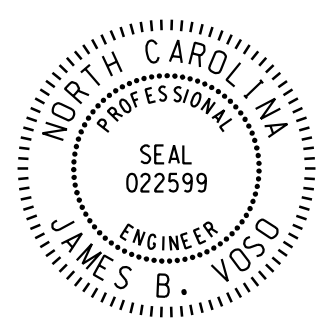
PAVEMENT MARKING SYMBOLS

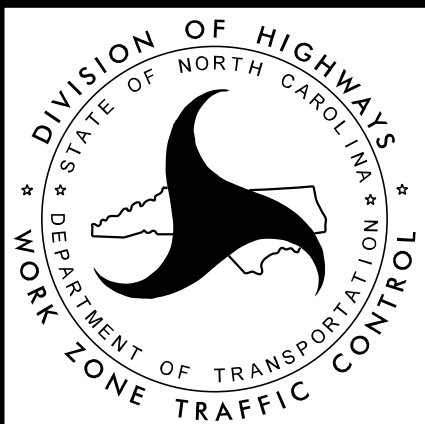
-  PAVEMENT MARKING SYMBOLS

Mattern & Craig
ENGINEERS-SURVEYORS

12 BROAD STREET
ASHEVILLE, NORTH CAROLINA 28801
(828) 254-2201
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NC LIC. NO. C-1154

APPROVED: _____ DATE: _____





ROADWAY STANDARD
DRAWINGS & LEGEND

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**GENERAL NOTES /
LOCAL NOTES**

PROJ. REFERENCE NO.	SHEET NO.
3915A PIGEON ST.	TMP-1B

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES, MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

TRAFFIC PATTERN ALTERATIONS

- A. NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

- B. INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- C. CONTRACTOR TO PROVIDE SIGNING AND DEVICES REQUIRED TO CLOSE THE ROAD ACCORDING TO THE ROADWAY STANDARD DRAWINGS AND TRAFFIC CONTROL PLANS.

CONTRACTOR TO PROVIDE SIGNING REQUIRED FOR THE OFF-SITE DETOUR ROUTE AS SHOWN IN THE TRAFFIC CONTROL PLANS.

- D. CONTRACTOR TO COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED TO CLOSE THE ROAD WHEN ROAD CLOSURE IS NOT IN OPERATION.

CONTRACTOR TO COVER OR REMOVE ALL SIGNS AND DEVICES REQUIRED FOR THE OFF-SITE DETOUR WHEN THE DETOUR IS NOT IN OPERATION.

- E. ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

- F. PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

PAVEMENT MARKINGS AND MARKERS

- G. TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES

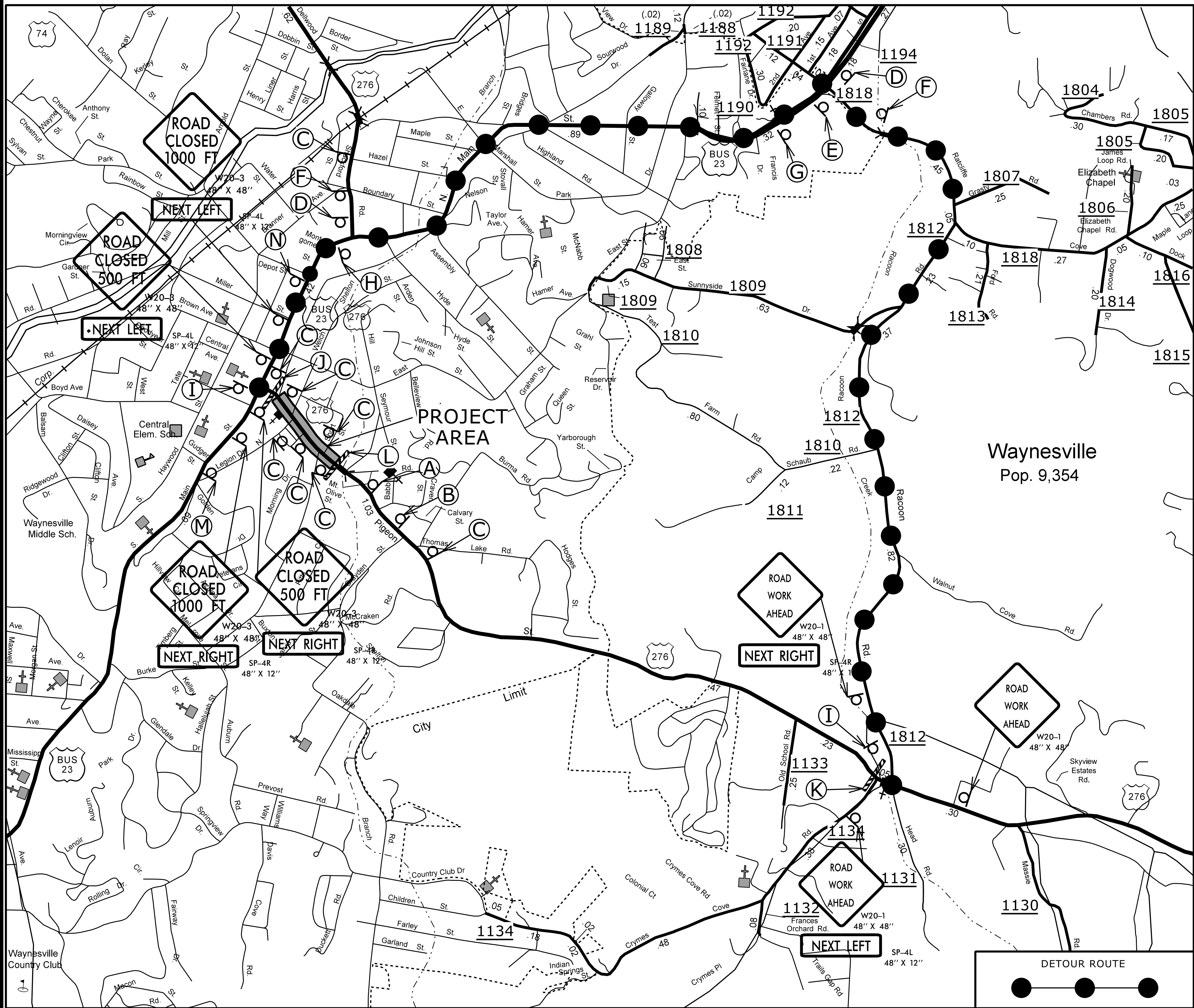
LOCAL NOTES

- CONTRACTOR TO MAINTAIN DRIVEWAY ACCESS AT ALL TIMES.
- EMERGENCY VEHICLE ACCESS MUST BE MAINTAINED AT ALL TIMES.
- NOTIFY THE TOWN OF WAYNESVILLE PUBLIC WORKS 14 DAYS PRIOR TO ANY SCHEDULED LANE AND/OR ROAD CLOSURES.



12 BROAD STREET
ASHEVILLE, NORTH CAROLINA 28801
(828) 254-2201
FAX (828) 254-4562
NC LIC. NO. C-1154

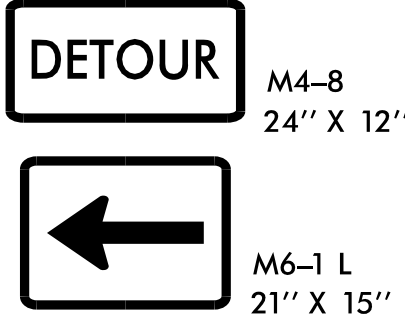
APPROVED: _____ DATE: _____		
		TRANSPORTATION OPERATIONS PLAN



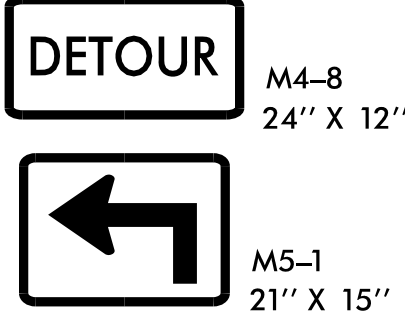
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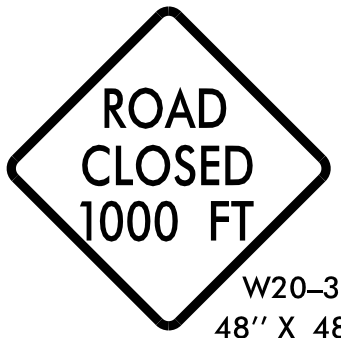
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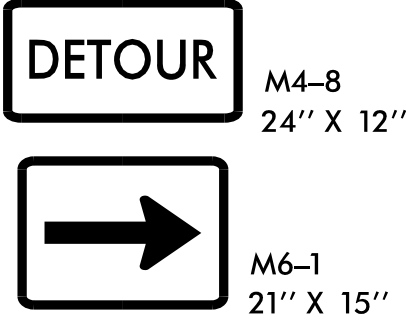
ASSEMBLY F



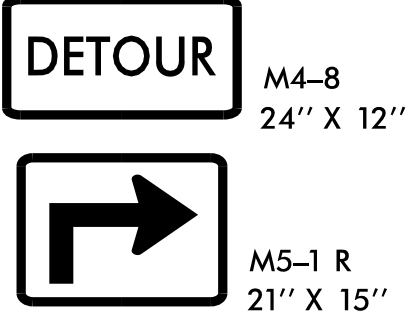
ASSEMBLY B



ASSEMBLY E



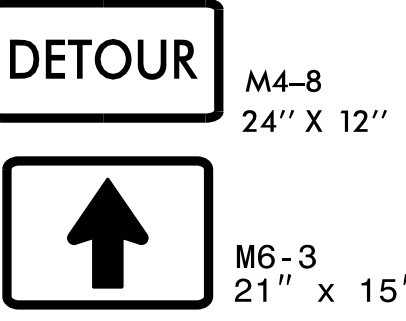
ASSEMBLY G



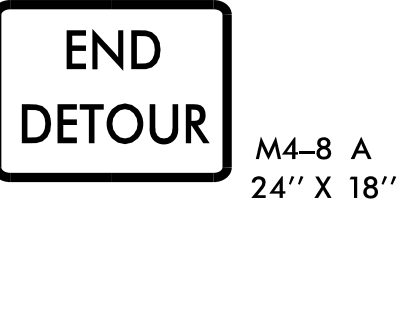
ASSEMBLY C



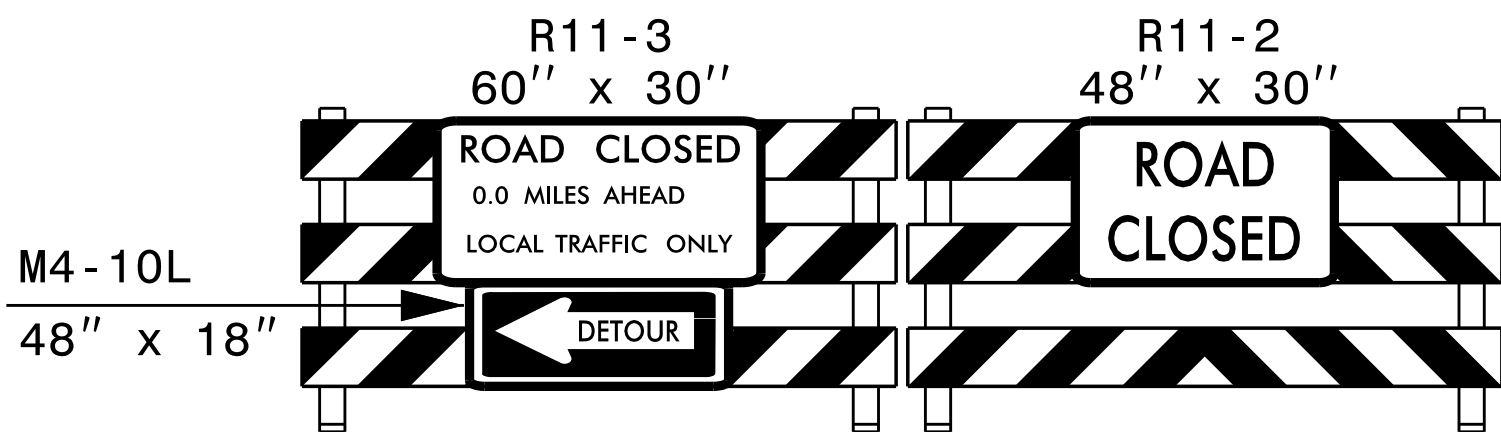
ASSEMBLY H



ASSEMBLY I

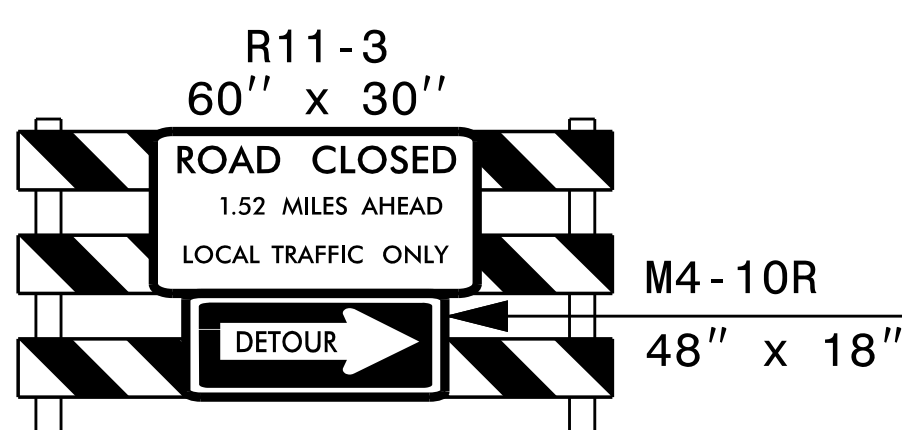


ASSEMBLY J



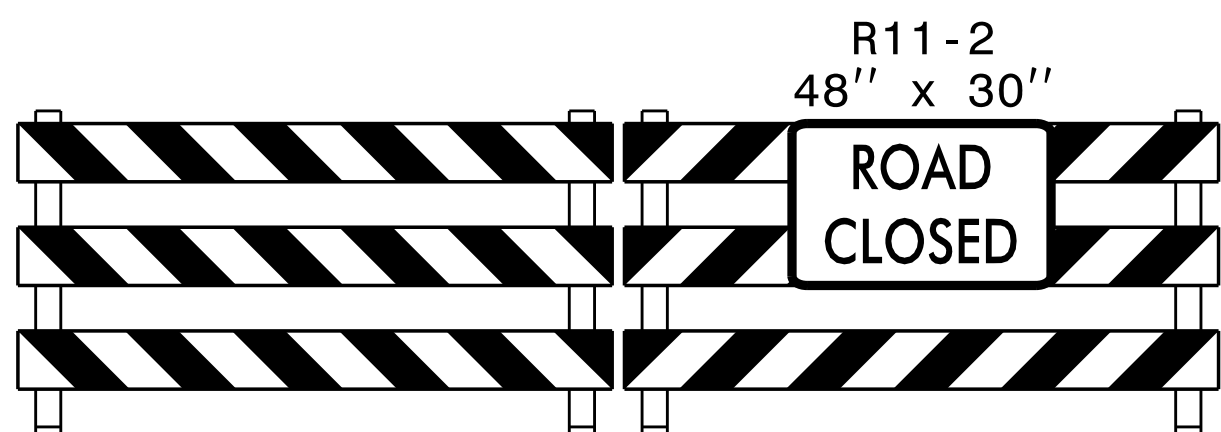
TYPE III BARRICADE(S)

ASSEMBLY K



TYPE III BARRICADE

ASSEMBLY L

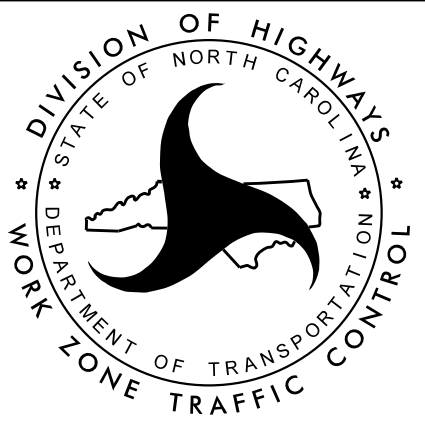
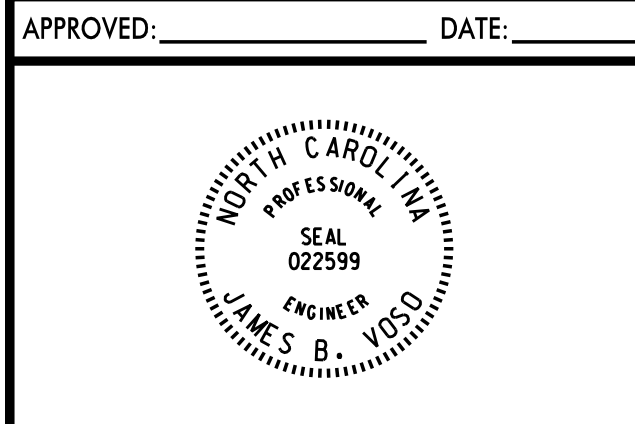


TYPE III BARRICADE(S)

REFER TO RSD 1101.03 FOR SIGN SPACING (SHEET 1 OF 9)



12 BROAD STREET
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NC LIC. NO. C-1154



**PIGEON ST.
WAYNSVILLE, N.C.**
**TEMPORARY DETOUR
DETAIL**

09/23/21

V&M PROJECT NO.: 31850-02

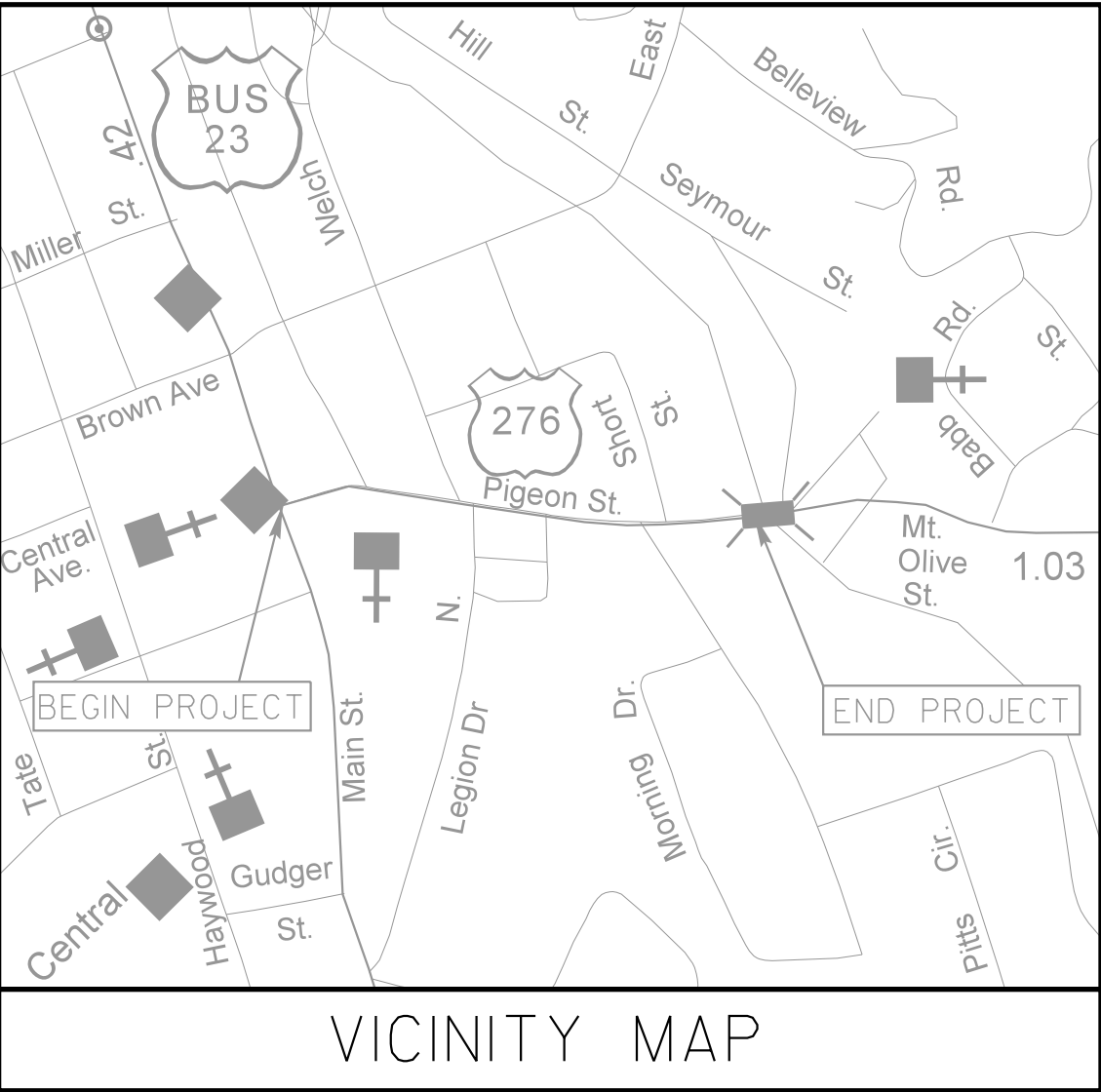
SN 21-00799

PROJECT REFERENCE NO.

31850-02

SHEET NO.

UC-1

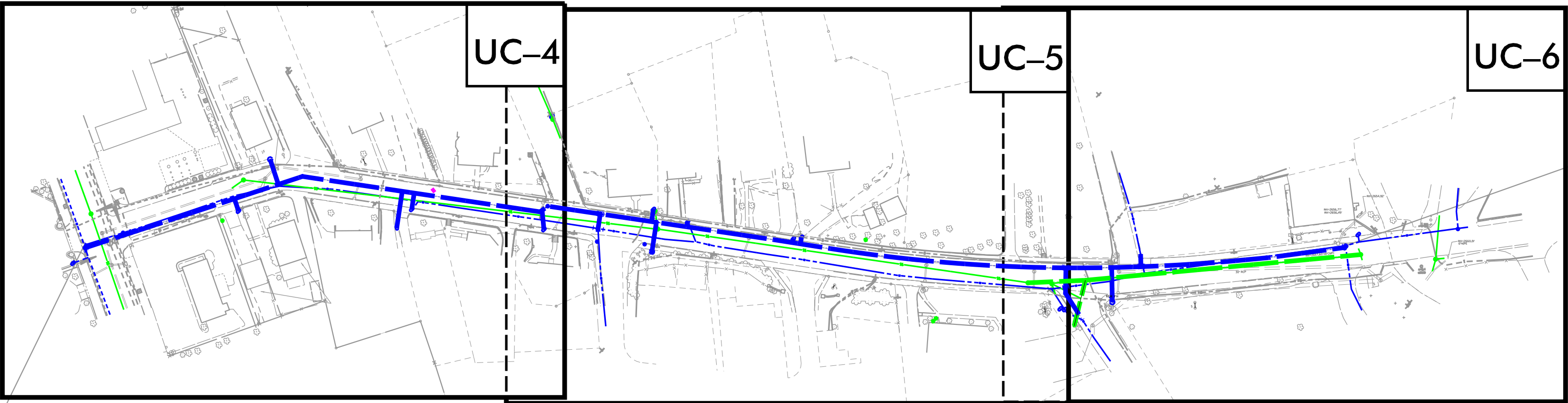


UTILITY CONSTRUCTION PLANS

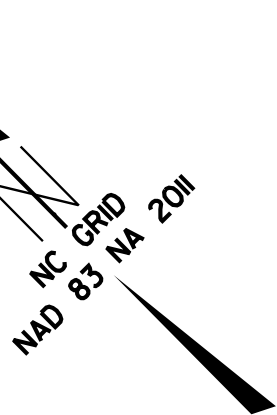
HAYWOOD COUNTY

LOCATION: PIGEON STREET
TOWN OF WAYNESVILLE, NC

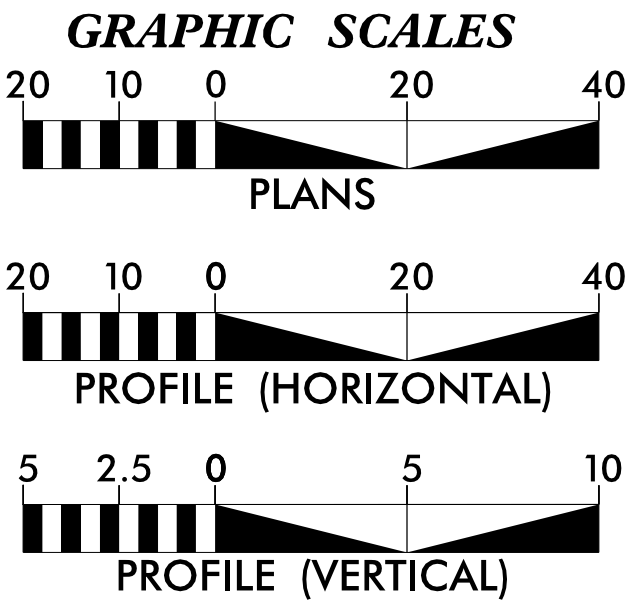
TYPE OF WORK: WATER AND SEWER REPLACEMENT



END PROJECT



BEGIN PROJECT



INDEX OF SHEETS

SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET	UC-5	WATER PLAN & PROFILE
UC-2	UTILITY SYMBOLOGY	UC-5A	SANITARY SEWER PLAN & PROFILE
UC-3	NOTES	UC-6	WATER PLAN & PROFILE
UC-3A	DETAILS	UC-6A	SANITARY SEWER PLAN & PROFILE
UC-4	WATER PLAN & PROFILE		

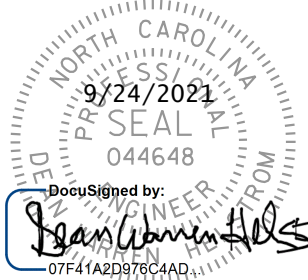
UTILITY OWNERS ON PROJECT

POWER - TOWN OF WAYNESVILLE
WATER - TOWN OF WAYNESVILLE
SEWER - TOWN OF WAYNESVILLE
TELEPHONE - AT&T
GAS - DOMINION ENERGY
CATV - CHARTER/SPECTRUM

PREPARED IN THE OFFICE OF:



SEAL:



Dean Helstrom, P.E. UTILITY PROJECT ENGINEER
Nick Asaro PROJECT UTILITY COORDINATOR
Daniel Foster PROJECT UTILITY DESIGNER

09/23/21

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V&M PROJECT #31850-02

PROJECT REFERENCE NO.	SHEET NO.
31850-02	UC-2

UTILITIES PLAN SHEET SYMBOLS

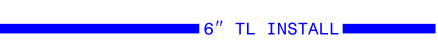
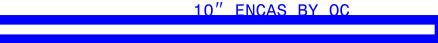
PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	
11¼ Degree Bend	
22½ Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	
Butterfly Valve	
Tapping Valve	
Line Stop	
Line Stop with Bypass	
Blow Off	
Fire Hydrant	
Relocate Fire Hydrant	
Remove Fire Hydrant	
Water Meter	
Relocate Water Meter	
Remove Water Meter	
Water Pump Station	
RPZ Backflow Preventer	
DCV Backflow Preventer	
Relocate RPZ Backflow Preventer	
Relocate DCV Backflow Preventer	

PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	
Force Main Sewer Line (Sized as Shown)	
Manhole (Sized per Note)	
Sewer Pump Station	

PROPOSED MISCELLANOUS UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	
Utility Line by Others (Type as Shown)	
Trenchless Installation	
Encasement by Open Cut	
Encasement	

Thrust Block	
Air Release Valve	
Utility Vault	
Concrete Pier	
Steel Pier	
Plan Note	
Pay Item Note	

EXISTING UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Utility Pole	
Utility Pole with Base	
H-Frame Pole	
Power Transmission Line Tower	
Water Manhole	
Power Manhole	
Telephone Manhole	
Sanitary Sewer Manhole	
Hand Hole for Cable	
Power Transformer	
Telephone Pedestal	
CATV Pedestal	
Gas Valve	
Gas Meter	
Located Miscellaneous Utility Object	
Abandoned According to Utility Records	
End of Information	

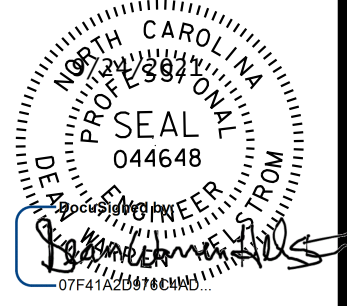
*Underground Power Line	
*Underground Telephone Cable	
*Underground Telephone Conduit	
*Underground Fiber Optics Telephone Cable	
*Underground TV Cable	
*Underground Fiber Optics TV Cable	
*Underground Gas Pipeline	
Aboveground Gas Pipeline	
*Underground Water Line	
Aboveground Water Line	
*Underground Gravity Sanitary Sewer Line	
Aboveground Gravity Sanitary Sewer Line	
*Underground SS Forced Main Line	
Underground Unknown Utility Line	
SUE Test Hole	
Water Meter	
Water Valve	
Fire Hydrant	
Sanitary Sewer Cleanout	

*For Existing Utilities	
Utility Line Drawn from Record (Type as Shown)	
Designated Utility Line (Type as Shown)	

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HAYWOOD COUNTY

PROJECT REFERENCE NO.		SHEET NO.	
31850-02		UC-3	
DESIGNED BY: DRF			
DRAWN BY: DRF			
CHECKED BY: MRD			
APPROVED BY: DWH			
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION			
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		UTILITY CONSTRUCTION PLANS ONLY	
UTILITY CONSTRUCTION			
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GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2018 OR LATEST EDITION .

2. THE EXISTING UTILITIES BELONG TO THE TOWN OF WAYNESVILLE.

3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER RESOURCES, WATER QUALITY SECTION. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.

4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT.

5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPORTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE OWNER.

7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.

8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, OR ON HOLIDAYS IF NECESSARY.

9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT SITE.

PROJECT SPECIFIC NOTES:

1. THE LOCATION OF EXISTING UTILITIES SHOWN ON THE PLANS IS FOR THE USE OF THE CONTRACTOR IN PROVIDING PROTECTION FOR THE UTILITIES DURING CONSTRUCTION OPERATIONS. NCDOT, DESIGN CONSULTANT AND/OR AGENT SHALL NOT BE HELD RESPONSIBLE FOR THE ACCURACY OF LOCATION, SIZE, DEPTH, OR COMPLETENESS OF THE INFORMATION. THE CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.

2. THE TOWN OF WAYNESVILLE MAY HAVE A REPRESENTATIVE ON SITE DURING ALL WATER AND SEWER LINE CONSTRUCTION ACTIVITIES.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMING WITH ALL NCDEQ REQUIREMENTS.

4. SERVICE INTERRUPTION SHALL NOT EXCEED 8 HOURS.

5. ALL NCDEQ AND LOCAL TESTING MUST BE COMPLETED AND APPROVED PRIOR TO CONNECTING THE NEW CONSTRUCTION TO THE EXISTING WATER LINES.

6. CONTRACTOR RESPONSIBLE FOR REMOVING ALL ABANDONED WATER METERS, WATER VALVES AND VALVE BOXES. OLD WATER LINES TO BE PLUGGED AND ABANDONED AFTER VALVE REMOVAL.

7. REMOVE OLD SANITARY SEWER MANHOLES AND BACKFILL AND COMPACT WITH SUITABLE FILL. CAP AND ABANDON OLD SEWER LINES IN PLACE.

8. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF EXISTING WATER SERVICES. CONTRACTOR SHALL RECONNECT WATER SERVICE WITH A NEW WATER LINE FROM MAIN TO EXISTING WATER METER.



Vaughn & Melton
Consulting Engineers

Asheville
North Carolina
828-253-2796

Boone, NC 828-355-1933
Tri-Cities, TN 423-467-8401
Knoxville, TN 865-546-5800
Spartanburg, SC 864-524-4775
Charleston, SC 843-574-6650
Middleboro, KY 606-248-6600
Raleigh, NC 919-577-9655
Charlotte, NC 704-357-0488
Kennesaw, GA 770-627-3590

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REVISIONS

HAYWOOD COUNTY

PROJECT REFERENCE NO.
31850-02

SHEET NO.
UC-3A

DESIGNED BY: **DRF**

DRAWN BY: **DRF**

CHECKED BY: **MRD**

APPROVED BY: **DWH**

REVISED:

NORTH CAROLINA
DEPARTMENT OF
TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE: (919) 707-6690
FAX: (919) 250-4151

UTILITY CONSTRUCTION
PLANS ONLY

Seal

Professional Engineer
No. 044648
State of North Carolina
Exp. 12/31/2023
V. J. WARDEN

DOCUMENT NOT CONSIDERED FINAL
UNTIL ALL SIGNATURES ARE COMPLETED

UTILITY CONSTRUCTION

V&M
Vaughn & Melton
Consulting Engineers

Asheville,
North Carolina
828-253-2786

☐ Charlotte, NC
☐ 704-357-0488

☐ Boone, NC
☐ 828-355-9933

☐ Tri-Cities, TN
☐ 423-467-8401

☐ Knoxville, TN
☐ 865-546-5800

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☐ 864-574-4775

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NOTE:
PIPE TRENCHING TO BE PERFORMED IN ACCORDANCE WITH
NCDOT STANDARD SPECIFICATIONS FOR ROADS AND
STRUCTURES SECTION 1505.

FLEXIBLE PIPE

Round Corrugated Steel Pipe 2 2/3 x 1/2 corrugation **									
Diameter (Inches)	Minimum cover (Inches)	Maximum Height of Cover (feet)							
		16	14	12	10	8			
12	12	204	256						
15	12	182	204						
18	12	156	189	239					
21	12	115	145	204					
24	12	100	126	178					
30	12	79	100	142					
36	12	65	83	117	152				
42	12	55	70	100	130	160			
48	12	48	61	87	113	139			
54	12		54	77	100	128			
60	12			69	90	111			
66	12				81	100			
72	12				74	91			
78	12					81			
84	12					69			

Round Corrugated Aluminum Pipe 2 2/3 x 1/2 corrugation **									
Diameter (Inches)	Minimum cover (Inches)	Maximum Height of Cover (feet)							
		16	14	12	10	8			
12	12	123	155	216	281	344			
15	12	98	123	174	224	275			
18	12	81	102	144	187	228			
21	12	69	87	123	160	195			
24	12	60	76	108	139	171			
27	12		67	89	123	151			
30	12		60	85	111	136			
36	12		50	71	92	113			
42	12			60	78	96			
48	12			52	68	84			
54	12			46	59	74			
60	12				50	62			
66	12					51			
72	12					41			

** FOR DIFFERENT CORRUGATIONS AND ARCH PIPES REFER TO ROADWAY DESIGN MANUAL OR MANUFACTURERS SPECIFICATION.

REFER TO THE FOLLOWING FOR PIPE SPECIFICATIONS

CSP - AASHTO M36
CAAP - AASHTO M186
HDPE - AASHTO M294
PVC - ASTM F949 or AASHTO M304

NOTES: FILL HEIGHTS SHOWN WERE CALCULATED USING AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

1' MINIMUM COVER FOR ALL SIDE DRAIN PIPE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

RIGID PIPE

RCP - * (Minimum fill) 1' for Class IV & CLASS V
2' for Class III & Class II

* (Maximum fill) 10' - Class II pipe
20' - Class III pipe
30' - Class IV pipe
40' - Class V pipe

(For fills > 40' & < 80' use LRFD Direct Design Method)

* FILL HEIGHT IS MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE PAVEMENT STRUCTURE

REFER TO THE FOLLOWING FOR PIPE SPECIFICATIONS

RCP - AASHTO M170

NOTES: FILL HEIGHTS SHOWN WERE CALCULATED USING AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

1' MINIMUM COVER FOR ALL SIDE DRAIN PIPE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

ROADWAY STANDARD DRAWING FOR
METHOD OF PIPE INSTALLATION
FILL HEIGHT TABLES
SHEET 3 OF 3
300.01

PIPE IN TRENCH

PIPE ABOVE GROUND

GENERAL NOTES:

I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.

O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.

H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.

DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.

SPRINKLINE OF PIPE

SELECT BACKFILL MATERIAL CLASS III OR CLASS II, BELOW SPRINKLINE.

APPROVED SUITABLE LOCAL MATERIAL ABOVE SPRINKLINE.

UNDISTURBED EARTH MATERIAL

SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE 2 GEOTEXTILE AS DIRECTED BY THE ENGINEER.

ROADWAY STANDARD DRAWING FOR
METHOD OF PIPE INSTALLATION
RIGID PIPE
SHEET 2 OF 3
300.01

WATER METER

NOTES:

1. THIS DETAIL SHOWS THE TYPICAL FINAL WATER METER CONFIGURATION AFTER INSTALLATION OF A PROPOSED WATER METER, RECONNECTION OF AN EXISTING WATER METER, OR RELOCATION OF A WATER METER.

ROADWAY STANDARD DRAWING FOR
WATER METER
SHEET 1 OF 1
1515.01

FIRE HYDRANT

NOTES:

1. THIS DETAIL SHOWS THE TYPICAL FINAL FIRE HYDRANT CONFIGURATION AFTER INSTALLATION OF A PROPOSED FIRE HYDRANT, RECONNECTION OF AN EXISTING FIRE HYDRANT, OR RELOCATION OF A FIRE HYDRANT.

2. KEEP DRAIN PORTS FREE FROM OBSTRUCTION.

3. RESTRAIN ALL PIPE JOINTS AND FITTINGS. ACCEPTABLE TYPES OF RESTRAINT INCLUDE RESTRAINING GLANDS; RESTRAINED, PUSH-ON JOINTS; AND 3/4" BITUMINOUS COATED, ALL-THREAD RESTRAINING RODS. THRUST BLOCKS ARE NOT AN ACCEPTABLE TYPE OF RESTRAINT.

4. FOR RELOCATED OR RECONNECTED FIRE HYDRANTS, VERIFY THE VALVE IS RESTRAINED TO THE MAIN. PROVIDE APPROPRIATE RESTRAINT.

5. HYDRANT LOCATION APPLIES TO PROPOSED AND RELOCATED FIRE HYDRANTS.

6. LOCATE FIRE HYDRANT WITH 3' HORIZONTAL CLEARANCE FROM ABOVE GROUND OBJECTS.

7. PROVIDE A MINIMUM OF 3' COVER OVER ALL SECTIONS OF HORIZONTAL PIPE. USE FITTINGS AS NECESSARY.

8. TAPPING SLEEVES MAY BE USED ON EXISTING MAINS IN LIEU OF DI TEES.

9. LOCATE FIRE HYDRANT OUTSIDE OF THE VEHICLE RECOVERY AREA, ADJACENT TO THE R/W LINE, OR IN A PROTECTED AREA.

ROADWAY STANDARD DRAWING FOR
FIRE HYDRANT
SHEET 1 OF 1
1515.02

SEWER CLEAN OUT

NOTES:

1. THIS DETAIL SHOWS THE TYPICAL FINAL CONFIGURATION OF A PROPOSED SEWER CLEAN OUT, A RELOCATED SEWER CLEAN OUT, OR A RECONNECTED SEWER CLEAN OUT.

2. USE 45 DEGREE VERTICAL BEND AT INLET IF GRADE ALLOWS.

ROADWAY STANDARD DRAWING FOR
SEWER CLEAN OUT
SHEET 1 OF 1
1520.01

PRECAST CONCRETE SANITARY SEWER MANHOLE - OUTSIDE DROP

NOTES:

1. THIS DETAIL SHOWS THE CONFIGURATION OF AN OUTSIDE DROP WITH A PRECAST CONCRETE MANHOLE.

2. INSERT THREE #6 DOWELS INTO THE BASE OF THE PRECAST MANHOLE BEFORE POURING CAST IN PLACE TONGUE. FACTORY DRILL OR CAST THE DOWEL HOLES IN THE BASE. EPOXY THE DOWELS INTO PLACE. WELDED DOWELS A MINIMUM OF 6" INTO THE MANHOLE BASE AND THE TONGUE. CENTER DOWELS VERTICALLY AND HORIZONTALLY. PLACE DOWELS 12" ON CENTER.

3. BLOCK WALL TO SPRING LINE OF HORIZONTAL PIPE.

4. USE FOR DROP INLET PIPES UP TO 12'.

5. USE PC 350 DUCTILE IRON PIPE AND FITTINGS FOR THE DROP ASSEMBLY. THE DROP ASSEMBLY SHALL BE THE SAME PIPE DIAMETER AS THE INLET PIPE.

ROADWAY STANDARD DRAWING FOR
PRECAST CONCRETE
SANITARY SEWER MANHOLE -
OUTSIDE DROP
SHEET 1 OF 1
1525.02

PRECAST CONCRETE SANITARY SEWER MANHOLE WITH CAST-IN-PLACE BOTTOM

GENERAL NOTES:

1. THIS STANDARD DETAIL DESCRIBES THE USE OF HORSESHOE TYPE AND CORED MANHOLES WITH A CAST-IN-PLACE BOTTOM.

2. USE HORSESHOE TYPE MANHOLE ONLY WITH THE PERMISSION OF THE ENGINEER.

3. FOR HORSESHOE TYPE MANHOLES, WRAP THE PIPE WITH BUTYL RUBBER GASKET, AND SEAL WITH NONSHRINKING GROUT.

ROADWAY STANDARD DRAWING FOR
PRECAST CONCRETE
SANITARY SEWER MANHOLE
WITH CAST-IN-PLACE BOTTOM
SHEET 1 OF 2
1525.06

REINFORCED CONCRETE FOOTING FOR 5' PRECAST MANHOLE OR 4' PRECAST MANHOLE

BILL OF MATERIAL FOR 6'-0" FOOTING

BAR	SIZE	LENGTH	NO.	WT. lbs.
T1	#5	5'-6"	18	103
CLASS "A" CONC. YD ³ 9" THICK 1.00				

BILL OF MATERIAL FOR 7'-0" FOOTING

BAR	SIZE	LENGTH	NO.	WT. lbs.
T2	#5	6'-6"	20	136
CLASS "A" CONC. YD ³ 9" THICK 1.36				
CLASS "A" CONC. YD ³ 12" THICK 1.82				

BILL OF MATERIAL FOR 8'-0" FOOTING

BAR	SIZE	LENGTH	NO.	WT. lbs.
T3	#5	7'-6"	24	188
CLASS "A" CONC. YD ³ 12" THICK 2.37				

PLACE REINFORCING STEEL SO THAT STEEL IS PLACED A MIN. OF 2" AND A MAX. OF 4" FROM THE TOP OF THE SLAB.

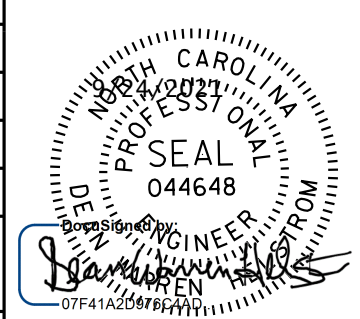
ROADWAY STANDARD DRAWING FOR
PRECAST CONCRETE
SANITARY SEWER MANHOLE
WITH CAST-IN-PLACE BOTTOM
SHEET 2 OF 2
1525.06

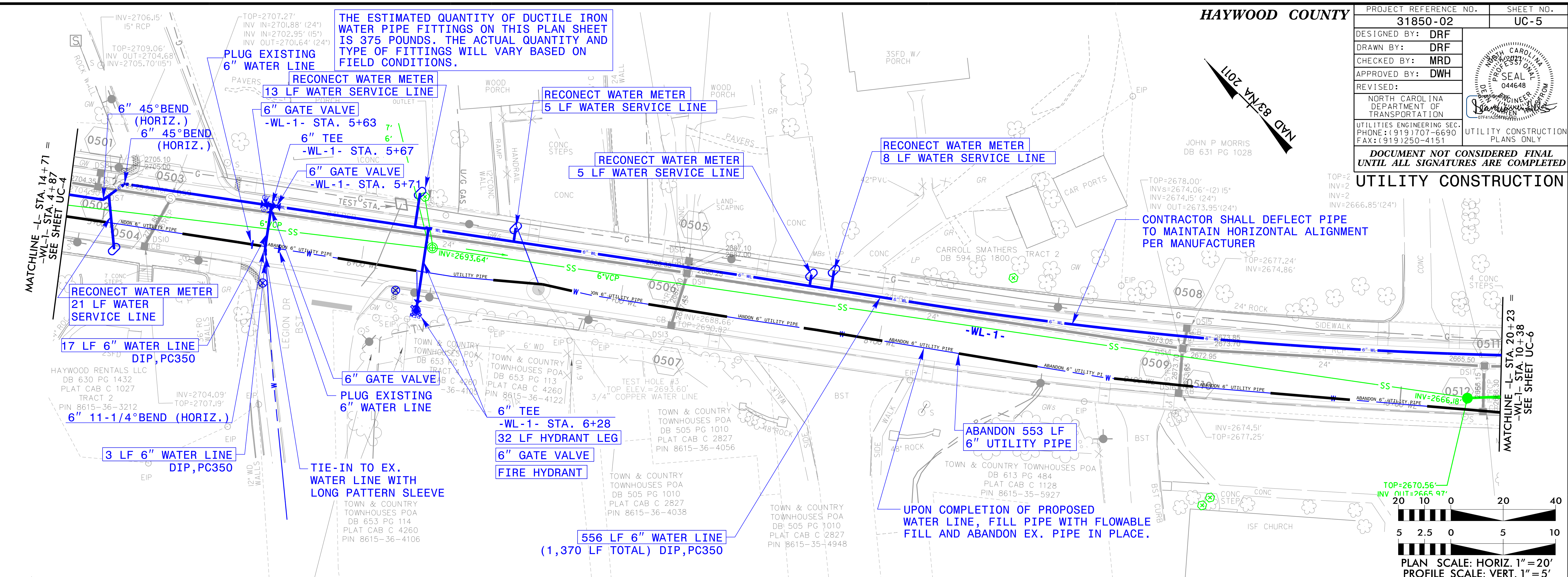
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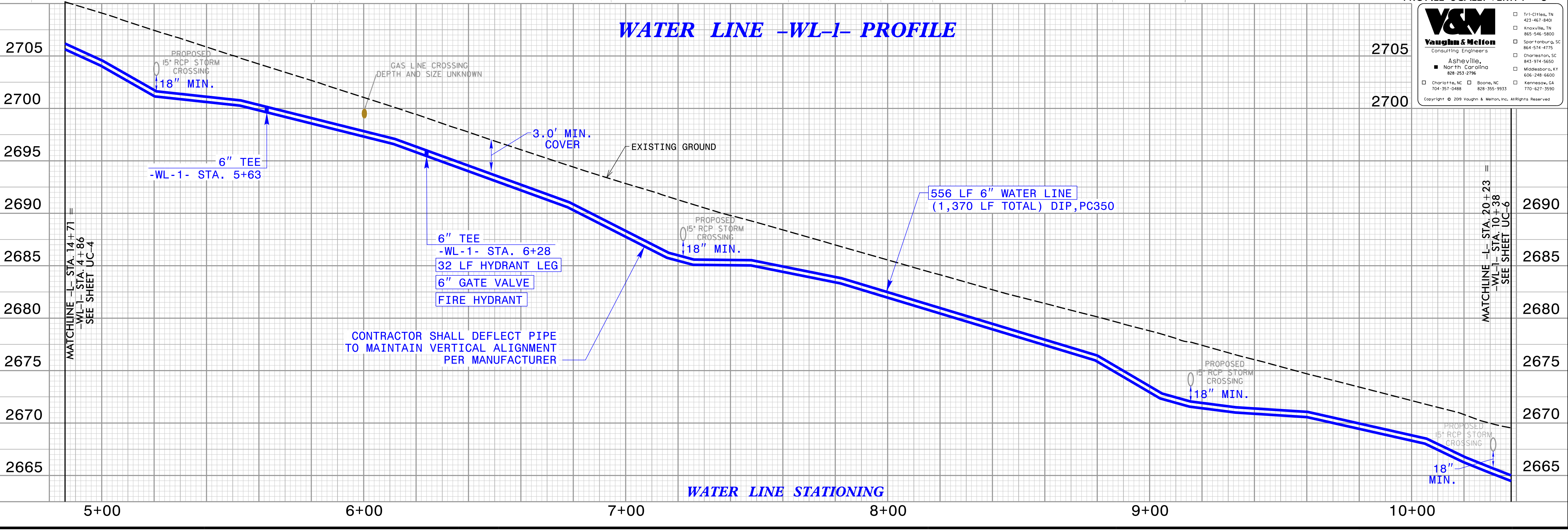
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HAYWOOD COUNTY

PROJECT REFERENCE NO.		SHEET NO.	
31850-02		UC-5	
DESIGNED BY:	DRF		
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CHECKED BY:	MRD		
APPROVED BY:	DWH		
REVISED:			
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WATER LINE -WL-1- PROFILE

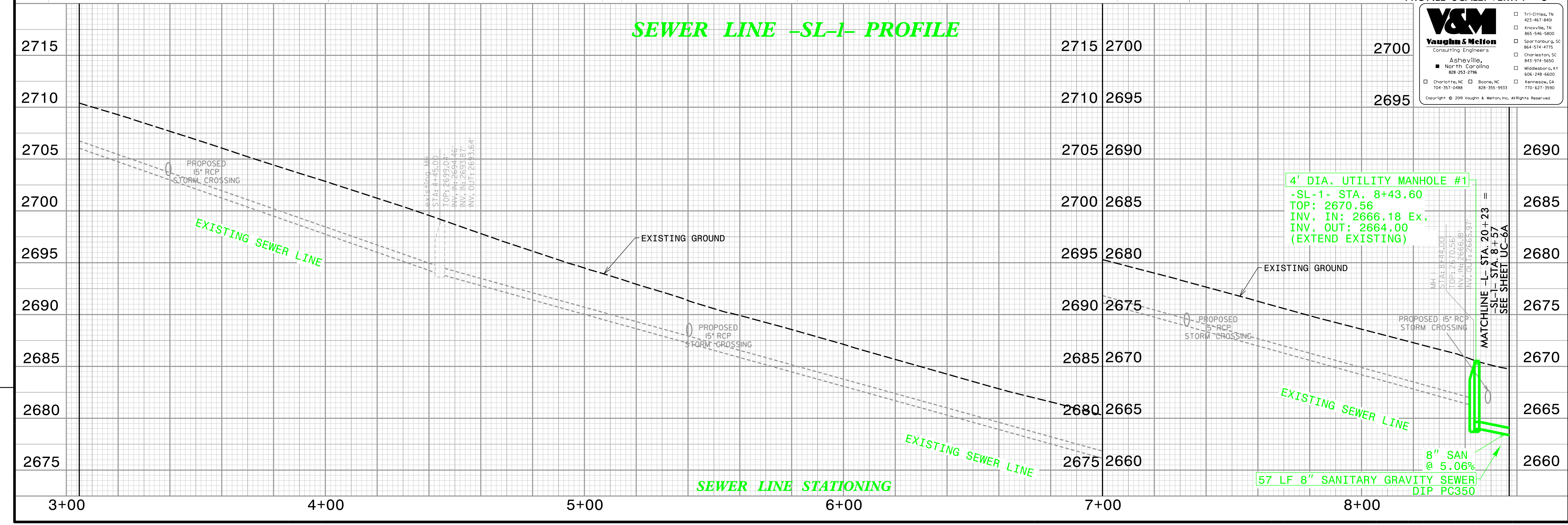
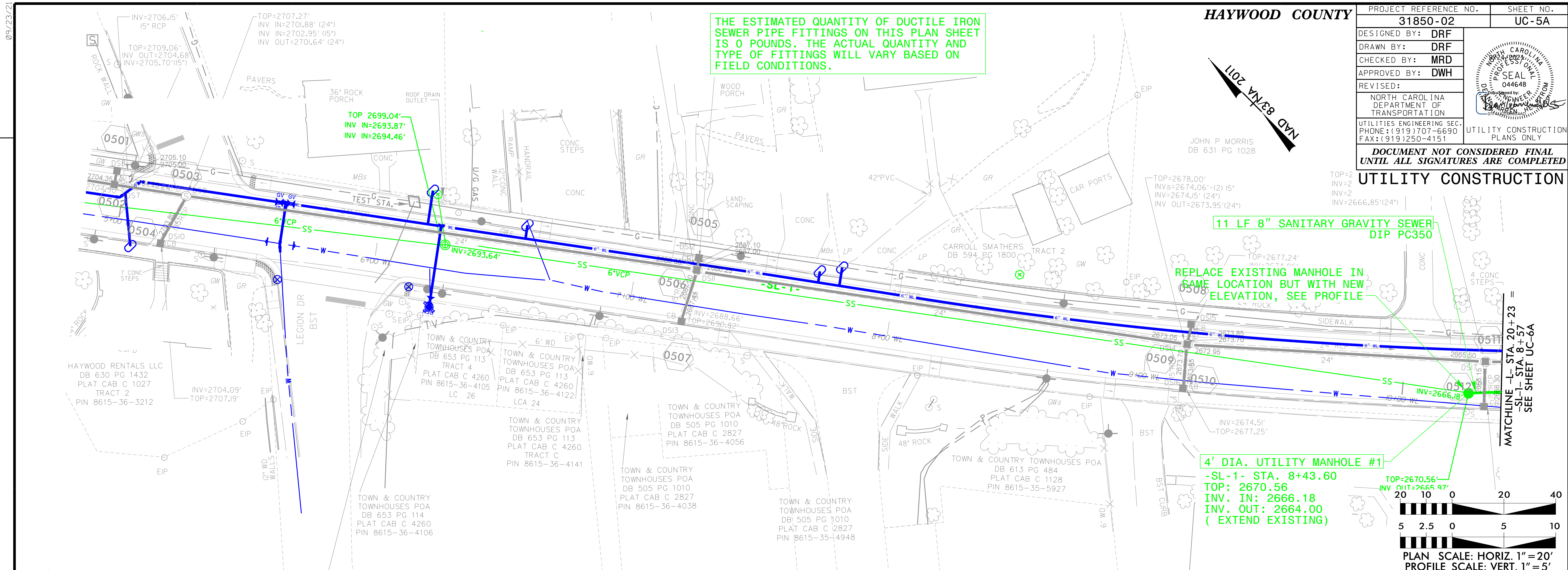


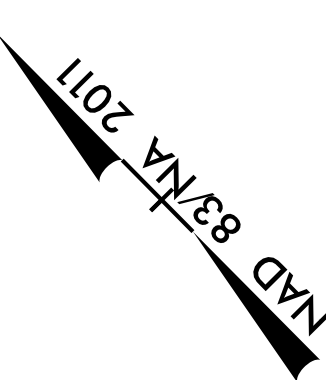
	
Consulting Engineers	
Asheville, North Carolina	
828-253-2796	
Charlotte, NC	Boone, NC
704-351-0488	828-355-9933
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Knoxville, TN	865-546-5800
Spartanburg, SC	864-574-4775
Charleston, SC	843-974-5650
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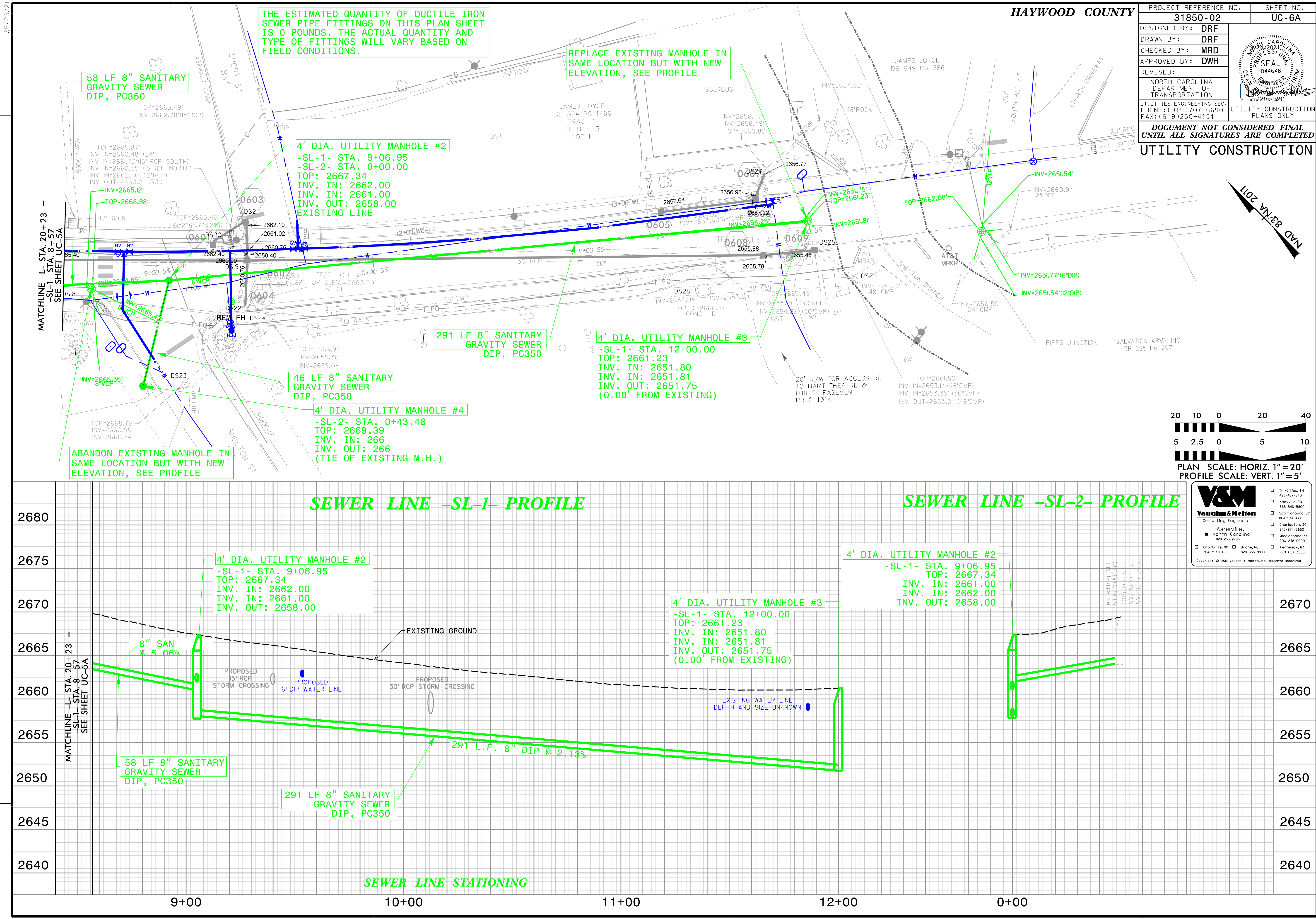
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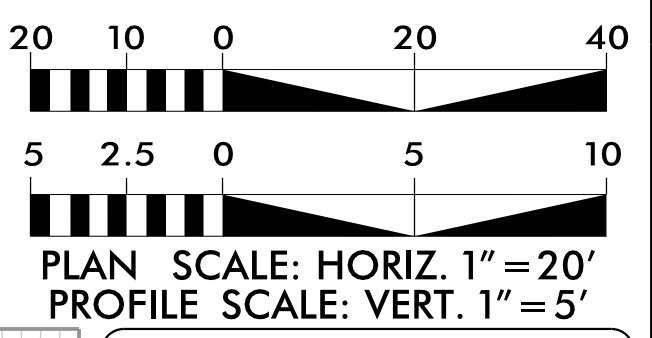
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HAYWOOD COUNTY

PROJECT REFERENCE NO.		SHEET NO.	
31850-02		UC-6A	
DESIGNED BY:	DRF		
DRAWN BY:	DRF		
CHECKED BY:	MRD		
APPROVED BY:	DWH		
REVISED:		NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC.		UTILITY CONSTRUCTION PLANS ONLY	
PHONE: (919) 707-6690			
FAX: (919) 250-4151			
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V&M
Vaughn & Melton
Consulting Engineers

Asheville, North Carolina
828-253-2796

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Tri-Cities, TN 423-467-8401	Knoxville, TN 865-546-5800	Spartanburg, SC 864-574-4775	Charleston, SC 843-974-5650
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