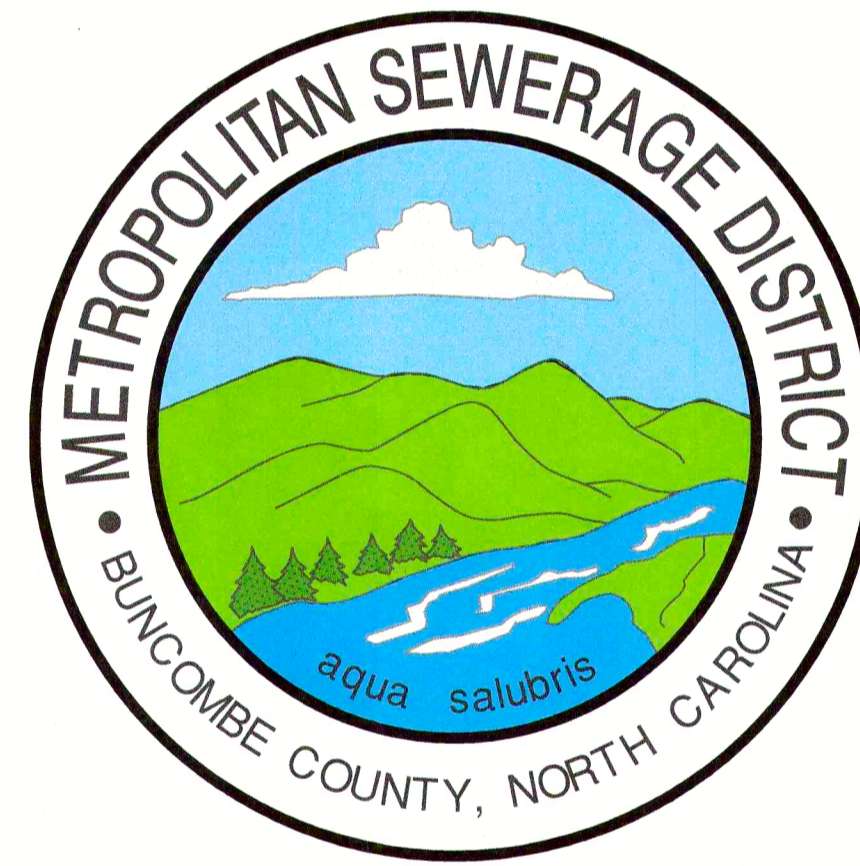


LINING CONTRACT #10

SANITARY SEWER REHABILITATION

(PROJECT NO. 2024035)

MSD OF BUNCOMBE COUNTY



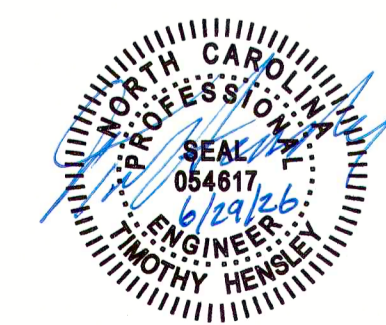
INDEX OF DRAWINGS

SHEET NO.	DESCRIPTION	REV.
C-1	INDEX OF DRAWINGS AND GENERAL NOTES	
PL-1	LINING CONTRACT #10 - 2024035	
PL-2	LINING CONTRACT #10 - 2024035	
PL-3	LINING CONTRACT #10 - 2024035	
PL-4	LINING CONTRACT #10 - 2024035	
PL-5	LINING CONTRACT #10 - 2024035	
PL-6	LINING CONTRACT #10 - 2024035	
D-1	SANITARY SEWER DETAILS	
D-2	EROSION CONTROL DETAILS	

NOTES:

- CONTRACTOR SHALL COMPLETE THE FOLLOWING SCOPE OF WORK: (NOT NECESSARILY IN THIS ORDER)
 - PERFORM POINT REPAIRS AS NOTED ON THE DRAWINGS.
 - INSTALL LINING AS NOTED-INSTALLATION OF NEW OR REPLACEMENT MANHOLES SHALL OCCUR PRIOR TO PIPE LINING.
 - PERFORM MANHOLE REHABILITATION AS NOTED.
 - INSTALL COMPRESSION FITTINGS (OR SADDLES IN 6" LINES ONLY) AS SPECIFIED WHERE POORLY CONSTRUCTED PLUMBER'S SERVICE LATERAL TAPS INTERSECT THE MAIN LINE.
 - INSTALL CLEAN-OUT ASSEMBLIES ON SERVICE LATERALS CONNECTED TO THE MAIN LINES BEING REHABILITATED AS DIRECTED BY THE ENGINEER AND IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. SEE NOTE No.3 FOR ADDITIONAL DETAILS.
 - PERFORM VIDEO INSPECTIONS ON EACH SERVICE LATERAL THAT IS CONNECTED TO A MAIN SEWER LINE THAT IS BEING REHABILITATED, AND THAT IS CONNECTED TO A MANHOLE ON THAT MAIN LINE. AT THE ENGINEER'S DISCRETION, REPLACE THE SERVICE LATERAL. SEE NOTE No.4 FOR ADDITIONAL DETAILS.
 - PERFORM ALL OTHER MISCELLANEOUS WORK SPECIFIED IN THE CONTRACT DOCUMENTS.
- THIS MAP IS BASED ON CURRENT MSD MAPPINGS OF ITS SEWER SYSTEM. LOCATIONS OF SOME OF THE MANHOLES ON THIS SHEET ARE APPROXIMATE AND HAVE NOT BEEN SURVEYED. CONTRACTOR SHALL VERIFY ALL LOCATIONS OF EXISTING MANHOLES PRIOR TO CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL SERVICES ON THE EXISTING LINES AND RECONNECTING THEM AFTER THE LINER IS INSTALLED. ON SERVICE LATERALS THAT DO NOT CONTAIN A CLEAN-OUT ASSEMBLY WITHIN THE RIGHT-OF-WAY OR PRESCRIPTIVE EASEMENT, THE CONTRACTOR SHALL INSTALL A CLEAN-OUT ON THE SERVICE LATERAL. CLEAN-OUTS MAY ALSO BE INSTALLED ON VACANT LOTS AT THE DISCRETION OF THE ENGINEER.
- A DECISION ON THE REHABILITATION OF SERVICE LATERALS WILL BE MADE UPON THE TELEVISION INSPECTION OF EACH LATERAL. CONTRACTOR SHALL COORDINATE THE INSPECTION OF EACH LATERAL WITH A REPRESENTATIVE OF THE ENGINEER.
- THE CONTRACTOR SHALL LIMIT ALL ACTIVITIES WITHIN THE ROADWAYS WHEN POSSIBLE. WHEN IT IS NECESSARY TO ACCESS PRIVATE PROPERTY, ACTIVITY SHALL BE LIMITED TO 10 FEET EACH SIDE OF THE SEWER LINE. IN ADDITION, REASONABLE ACCESS BETWEEN THE ROAD AND EACH MANHOLE IS PERMISSIBLE WITH APPROVAL FROM MSD. BEFORE ENTERING PRIVATE PROPERTY, THE CONTRACTOR SHALL NOTIFY THE RESIDENT OF THE PROPERTY.
- UNLESS OTHERWISE NOTED, NO TREES, SHRUBS, OR OTHER LANDSCAPING SHALL BE REMOVED OR DISTURBED DURING CONSTRUCTION.
- LOCATIONS OF EXISTING UTILITIES AND STRUCTURES ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS. CONTRACTOR SHALL LOCATE ALL UTILITIES TO BE CONNECTED FAR ENOUGH IN ADVANCE OF THE WORK TO ALLOW FOR REDESIGN BY THE ENGINEER IF NECESSARY.
- ALL WORK SHALL CONFORM TO THE LATEST EDITION OF THE METROPOLITAN SEWERAGE DISTRICT OF BUNCOMBE COUNTY N.C. DETAILS AND SPECIFICATIONS FOR PUBLIC SEWER SYSTEMS.
- CONTRACTOR TO REPAIR ANY DAMAGE TO EXISTING STRUCTURES, WALKS, ACCESS ROADS AND LANDSCAPING THAT OCCURS DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE WITH EACH PROPERTY OWNER THE RESTORATION OF ALL LANDSCAPED AREAS DISTURBED BY CONSTRUCTION. CARE SHALL BE TAKEN TO RESTORE DISTURBED AREAS IN AS GOOD OR BETTER CONDITION THAN EXISTED PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO KEEP ALL UTILITIES IN SERVICE AT ALL TIMES DURING CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN SEWAGE FLOW AT ALL TIMES, AND SHALL PROVIDE BY-PASS PUMPING FACILITIES WHEN REQUIRED.
- OTHER CONTRACTORS MAY BE WORKING IN THE AREA DURING THE SAME TIME PERIOD. CONTRACTORS SHALL COORDINATE AND SCHEDULE WORK SO AS NOT TO INTERFERE WITH EACH OTHERS WORK.

- FOR MANHOLE WHERE CEMENTITIOUS LINER IS TO BE INSTALLED THE FOLLOWING ITEMS SHALL BE CONSIDERED INCIDENTAL WITHOUT SEPARATE PAYMENT BEING PROVIDED. THESE ITEMS ARE TO BE COMPLETED BY CONTRACTOR PER MSD STANDARDS.
 - GROUTING OF ALL SEAMS AND VOIDS IN MANHOLE INTERIOR.
 - REMOVAL OF ALL INTERIOR STEPS.
 - RECONSTRUCTION OF MANHOLE INVERTS WITH U-SHAPED CHANNELS BEING PROVIDED.
 - PROPER REPAIRS TO BENCHES IN MANHOLE INVERTS.
- FOR MANHOLE WHERE CEMENTITIOUS LINER IS NOT TO BE INSTALLED BUT INTERIOR IMPROVEMENTS ARE SPECIFIED, SEE PAY ITEM FOR "INTERIOR MANHOLE IMPROVEMENTS WITH NO CEMENTITIOUS LINER REQUIRED". THIS ITEM WILL COVER THE FOLLOWING ITEMS FOR EACH MANHOLE. THESE ITEMS ARE TO BE COMPLETED BY CONTRACTOR PER MSD STANDARDS.
 - GROUTING OF ALL SEAMS AND VOIDS IN MANHOLE INTERIOR.
 - REMOVAL OF ALL INTERIOR STEPS.
 - RECONSTRUCTION OF MANHOLE INVERTS WITH U-SHAPED CHANNELS BEING PROVIDED.
 - PROPER REPAIRS TO BENCHES IN MANHOLE INVERTS.



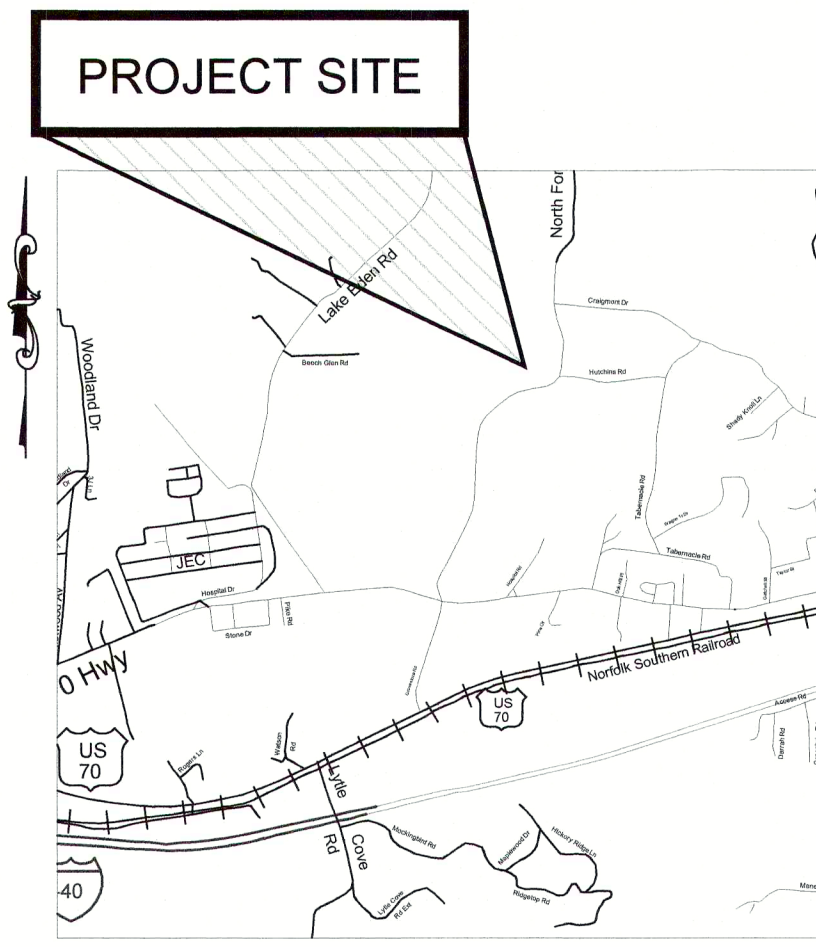
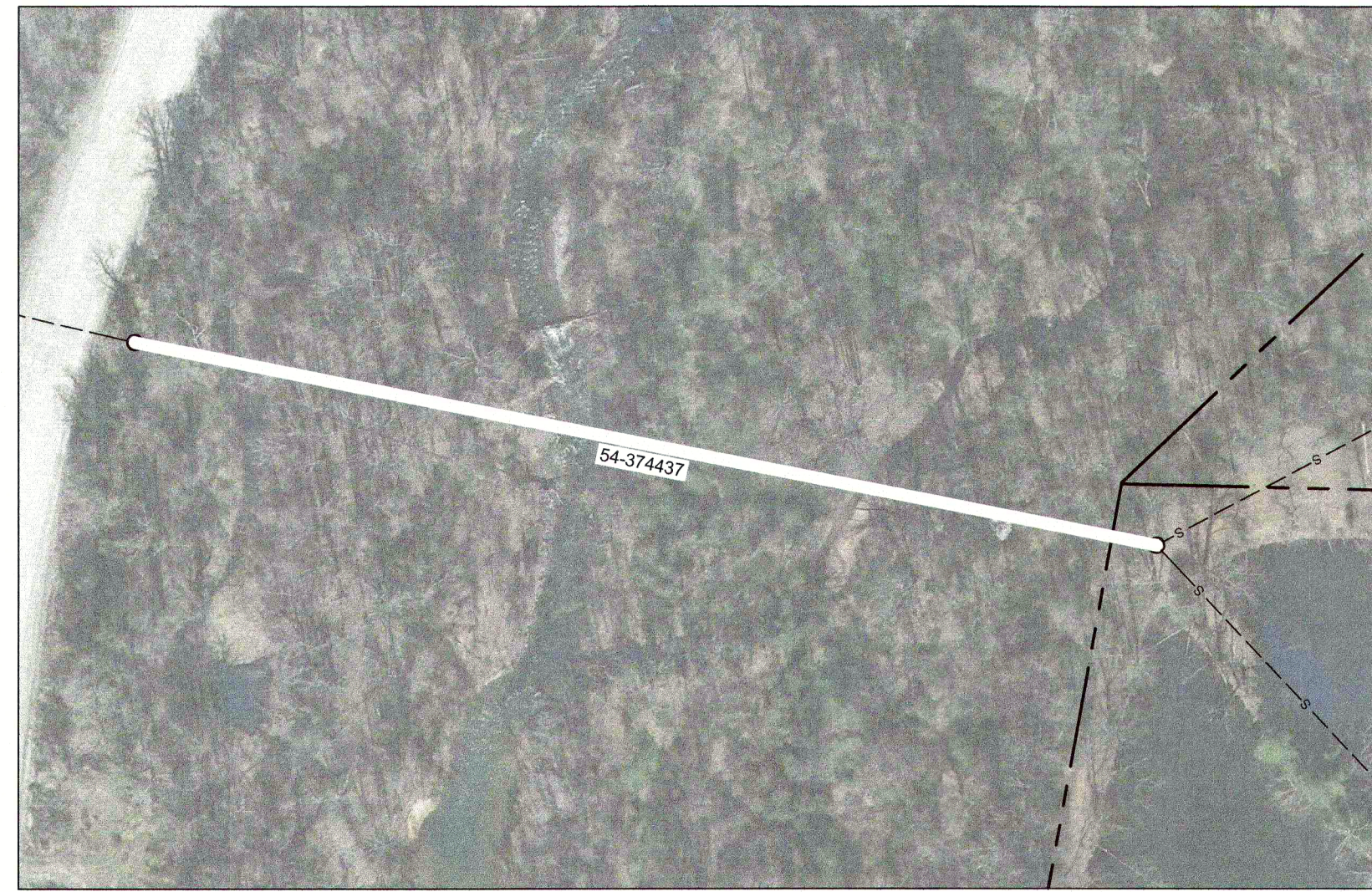
NC ONE CALL
(TOLL FREE)

North Carolina 811
www.nc811.org

DIAL 811 BEFORE YOU DIG!
(or 1-800-632-4949)
IT'S THE LAW

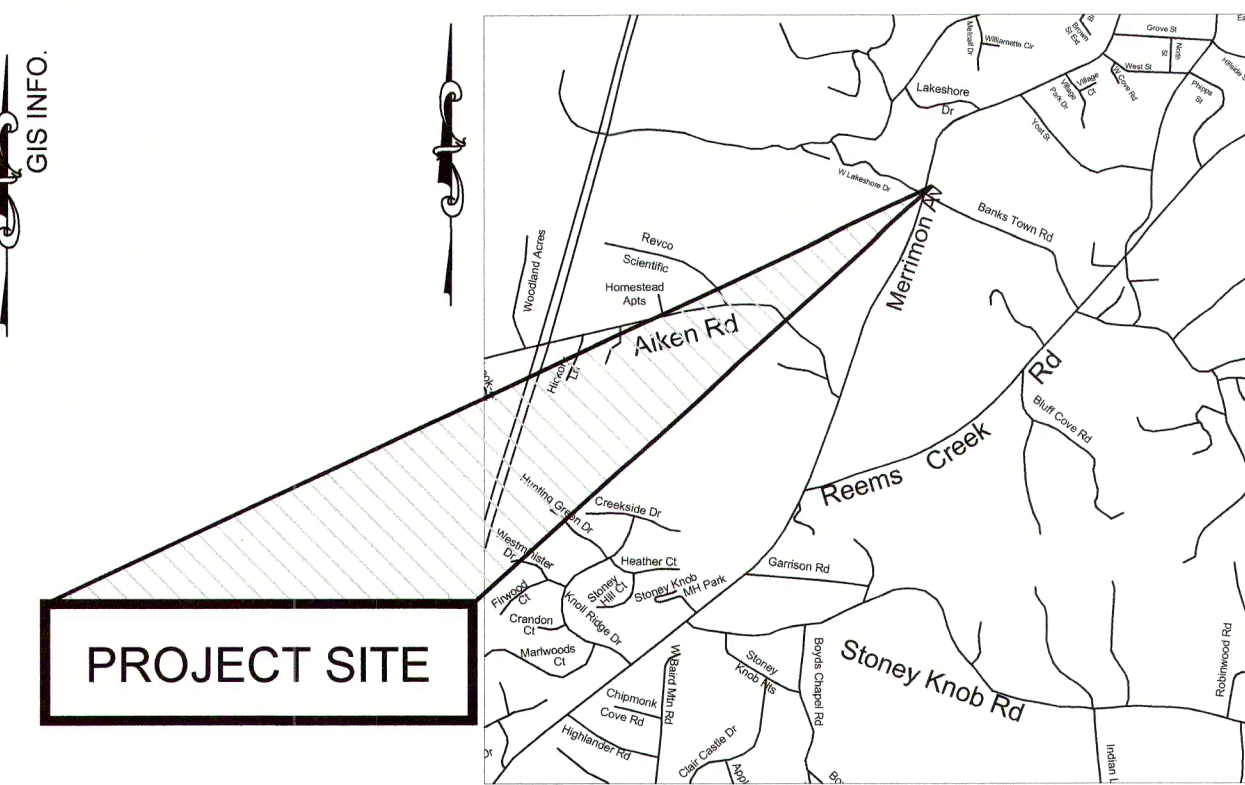
DRAWN BY: J. HENRY, DATE: 05/21/2024, PROJECT NO. 2024035, SHEET NO. 10 OF 10, SCALE: AS SHOWN, PLOT DATE: 05/21/2024, 7:48 AM, 2024

LINING CONTRACT #10
PROJECT NO. 2024035



PIPE LINING PLAN – HELENE – NORTH FORK RD.

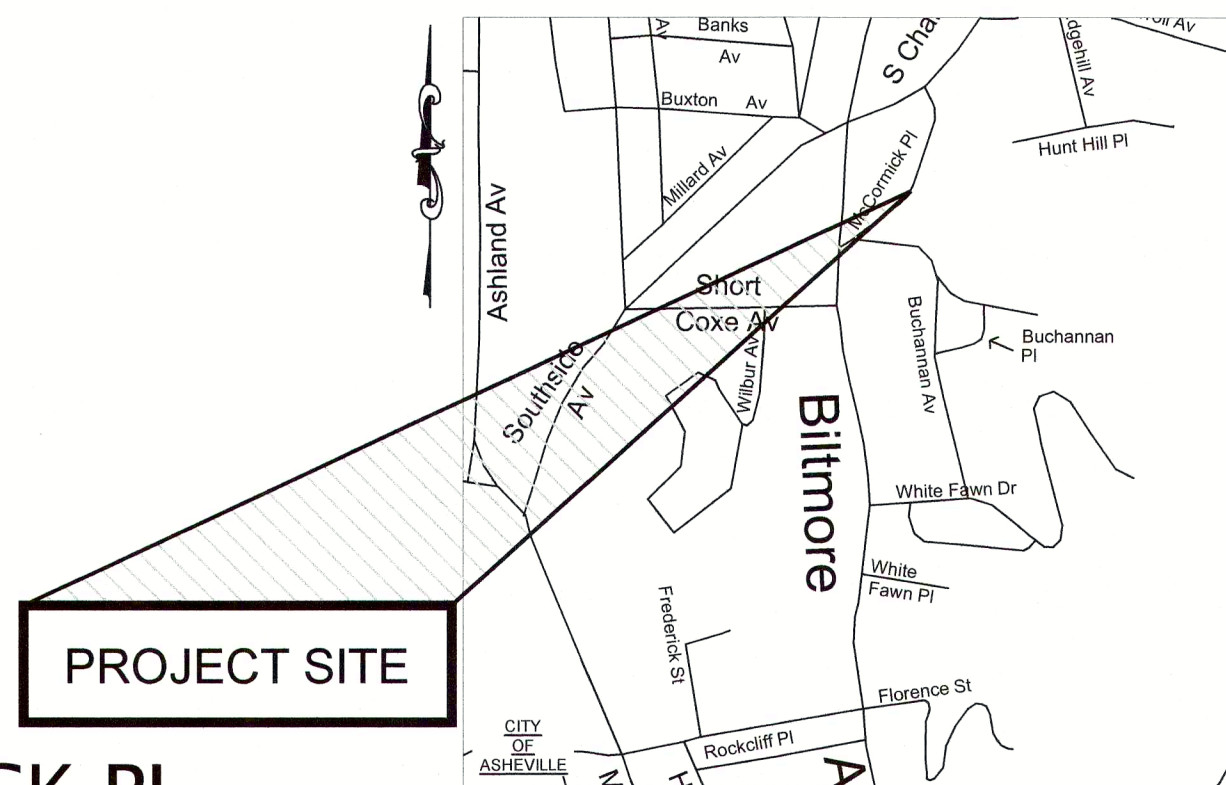
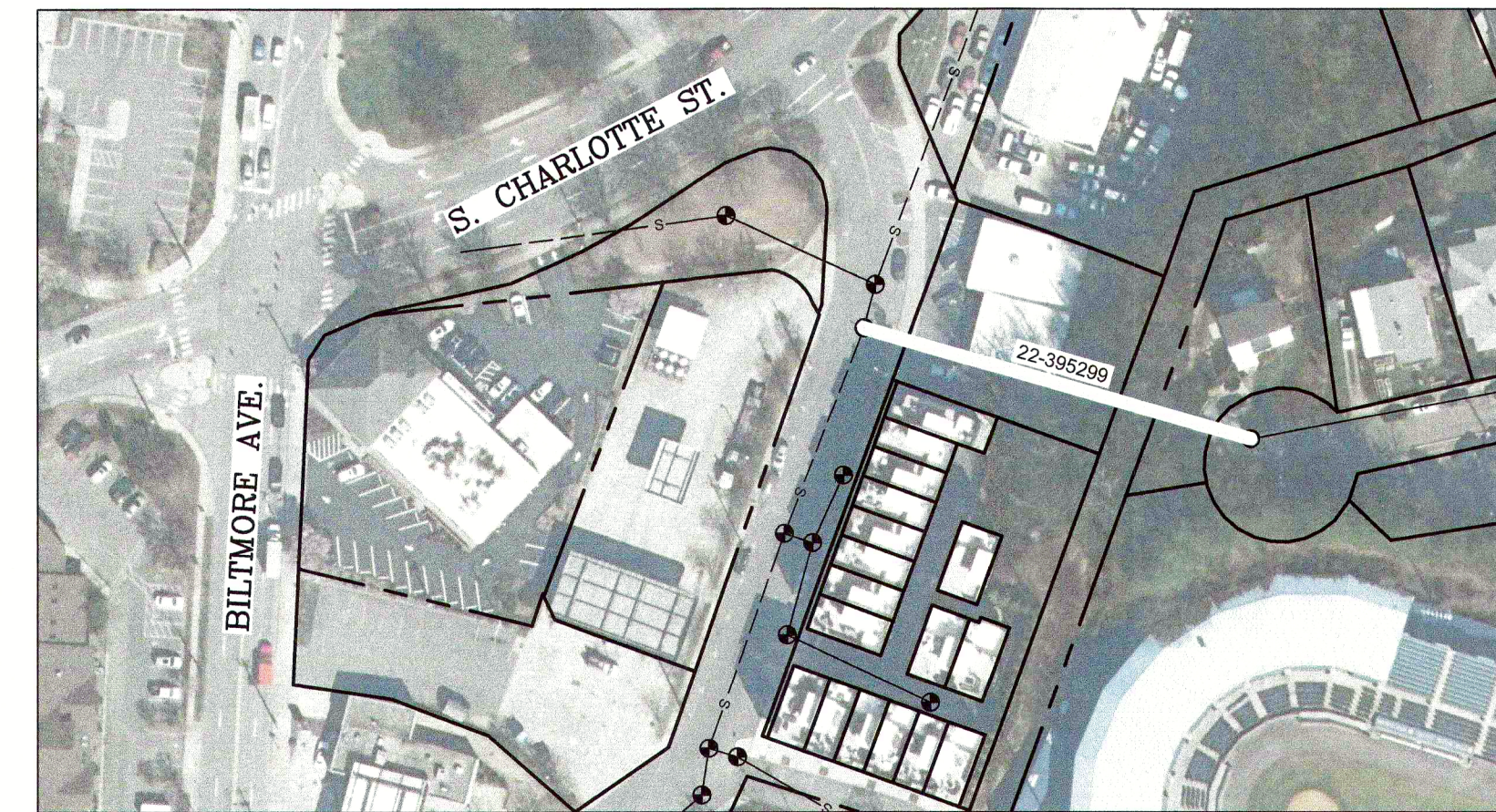
SCALE: 1"=100' (2024057 C)



PIPE LINING PLAN – HELENE – 2 BANKS TOWN RD.

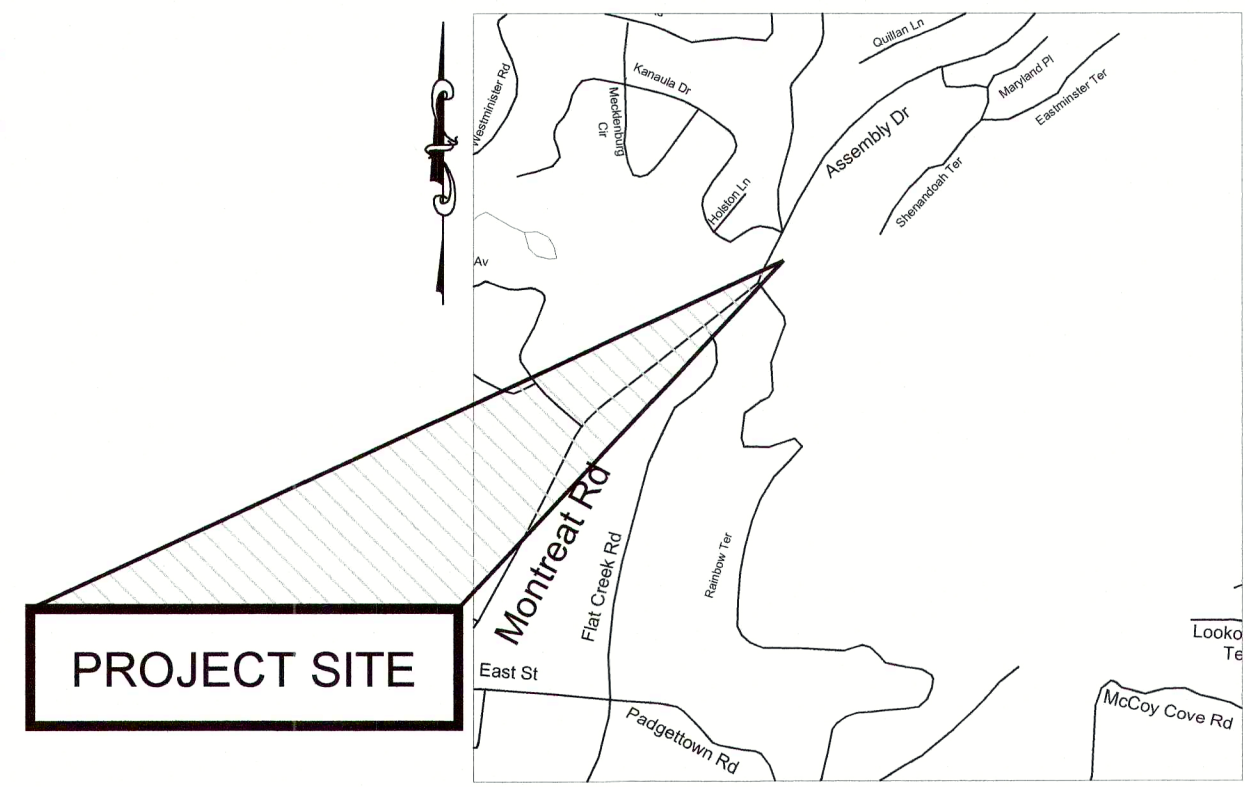
SCALE: 1"=100' (2024057 F)

PIPE LINING - HELENE PROJECTS		
PIPE ID #	Size	Length (LF)
54-374437	8"	648.41'
25-372995	8"	109.84'
25-374671	8"	336.17'
22-395299	8"	229.47'
63-367685	8"	163.03'
63-367151	8"	136.73'



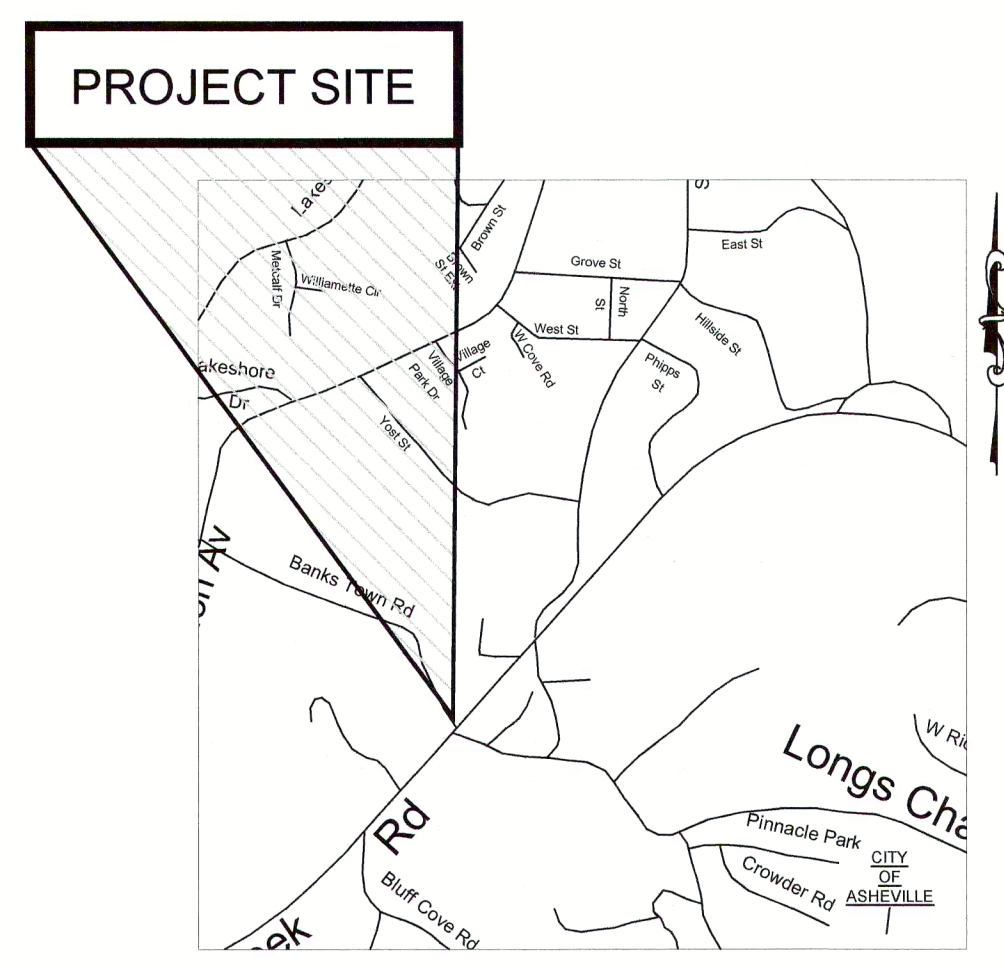
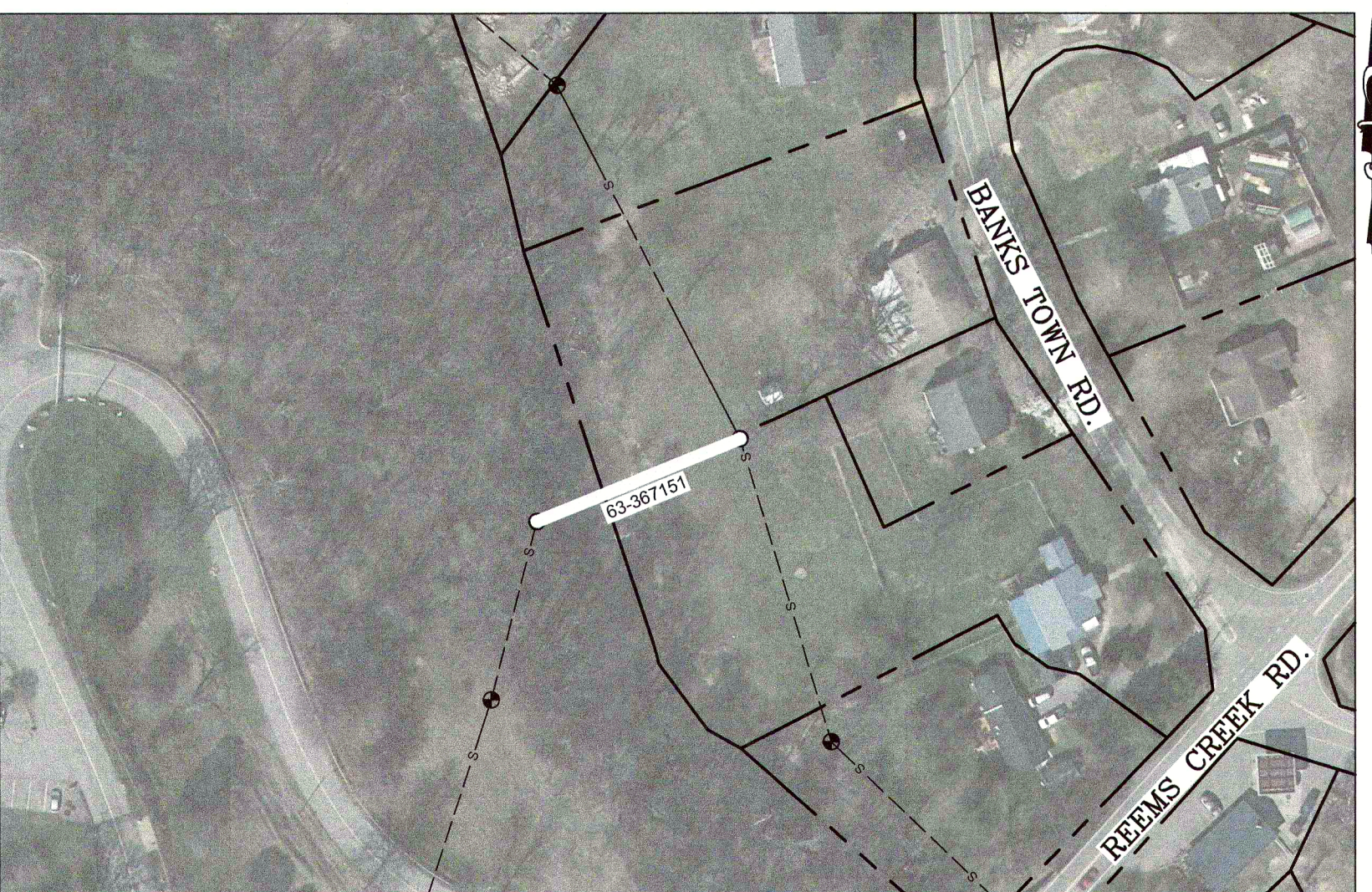
PIPE LINING PLAN – HELENE – 50 McCORMICK PL.

SCALE: 1"=100' (2024057 E)



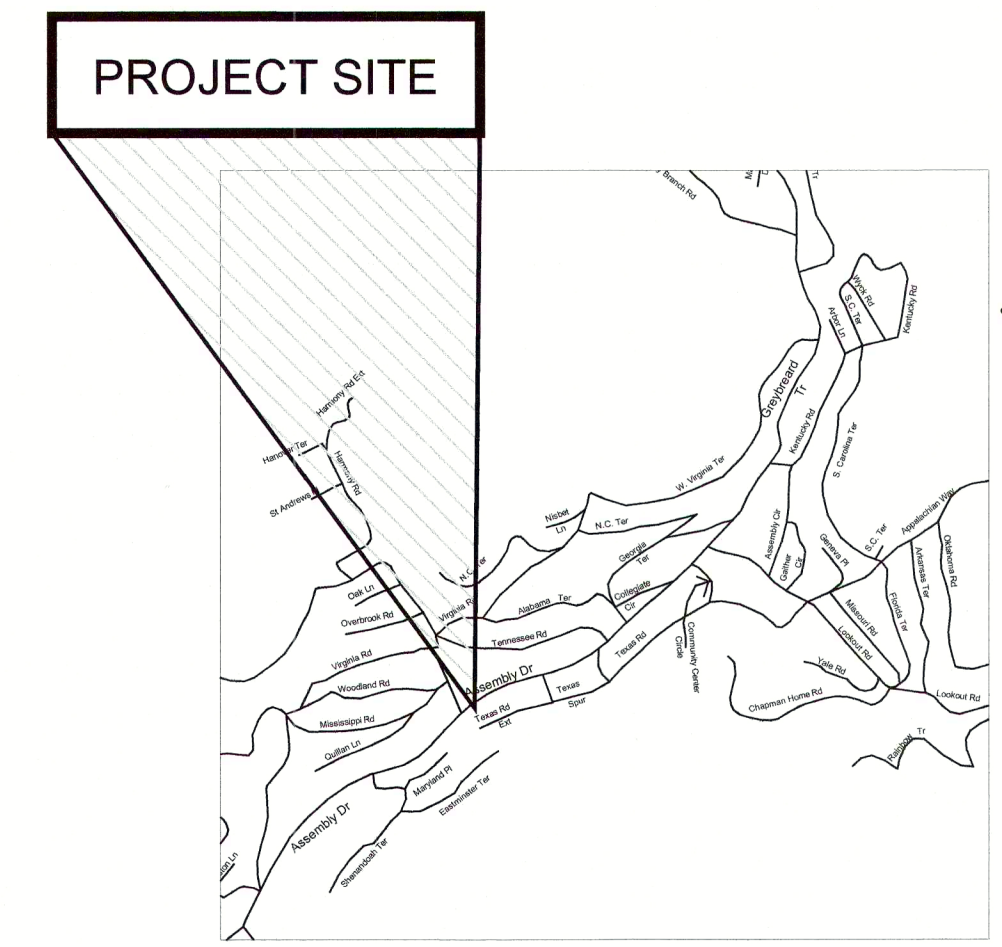
PIPE LINING PLAN – HELENE – ASSEMBLY DR. @ KANAWHA DR.

SCALE: 1"=100' (2024057 H)



PIPE LINING PLAN – HELENE – 55 BANKS TOWN RD.

SCALE: 1"=100' (2024057 F)

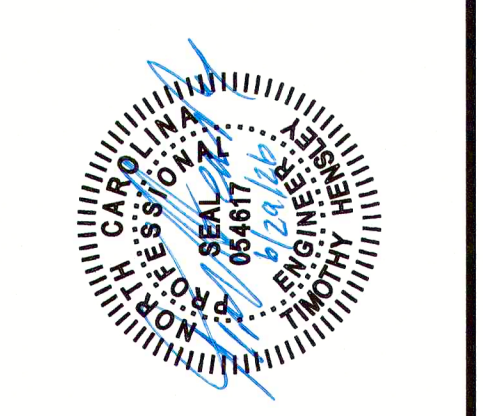


PIPE LINING PLAN – HELENE – ASSEMBLY DR @ TEXAS RD.

SCALE: 1"=100' (2024057 I)

APPROXIMATE LINING FOOTAGE THIS SHEET: 8" = 1,623 LF

Metropolitan Sewerage District
of Buncombe County
Lining Contract #10
MSD #2024035



REVISIONS	
No.	DESCRIPTION
1.	BID SET

MSD

Metropolitan Sewerage District of Buncombe County

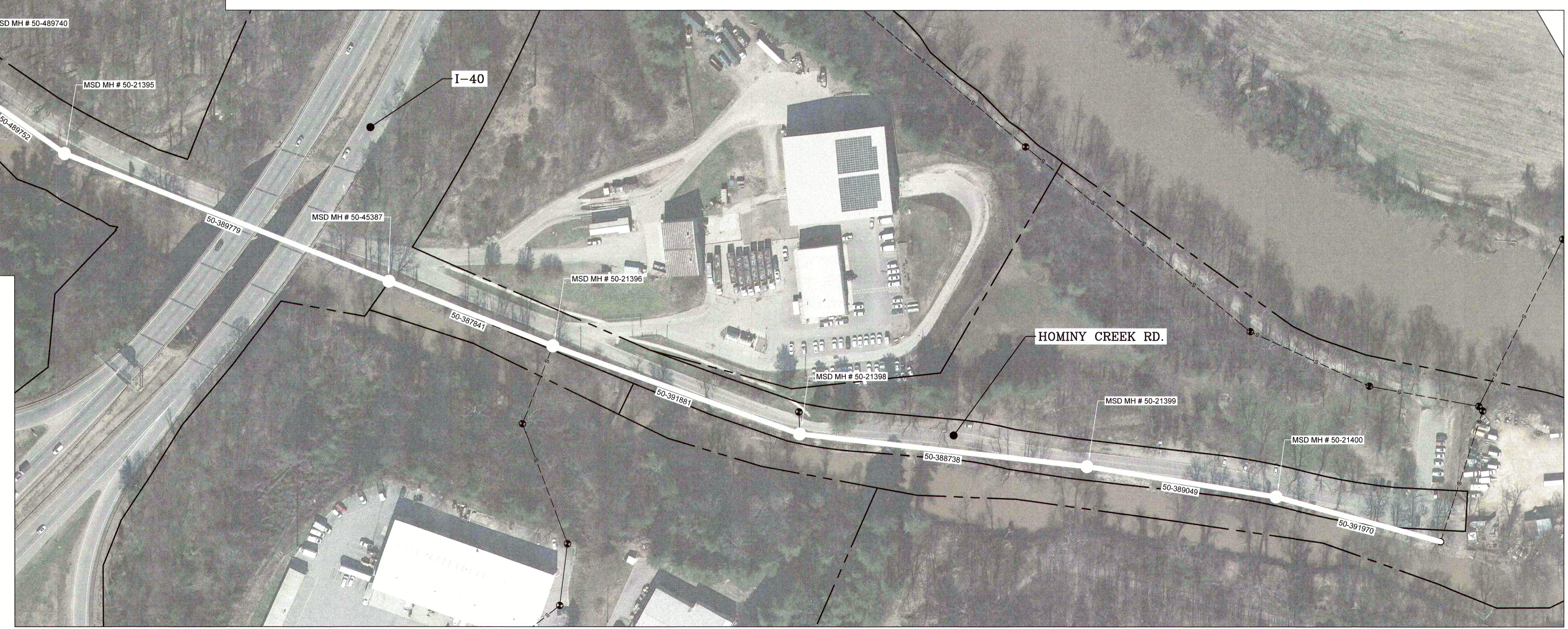
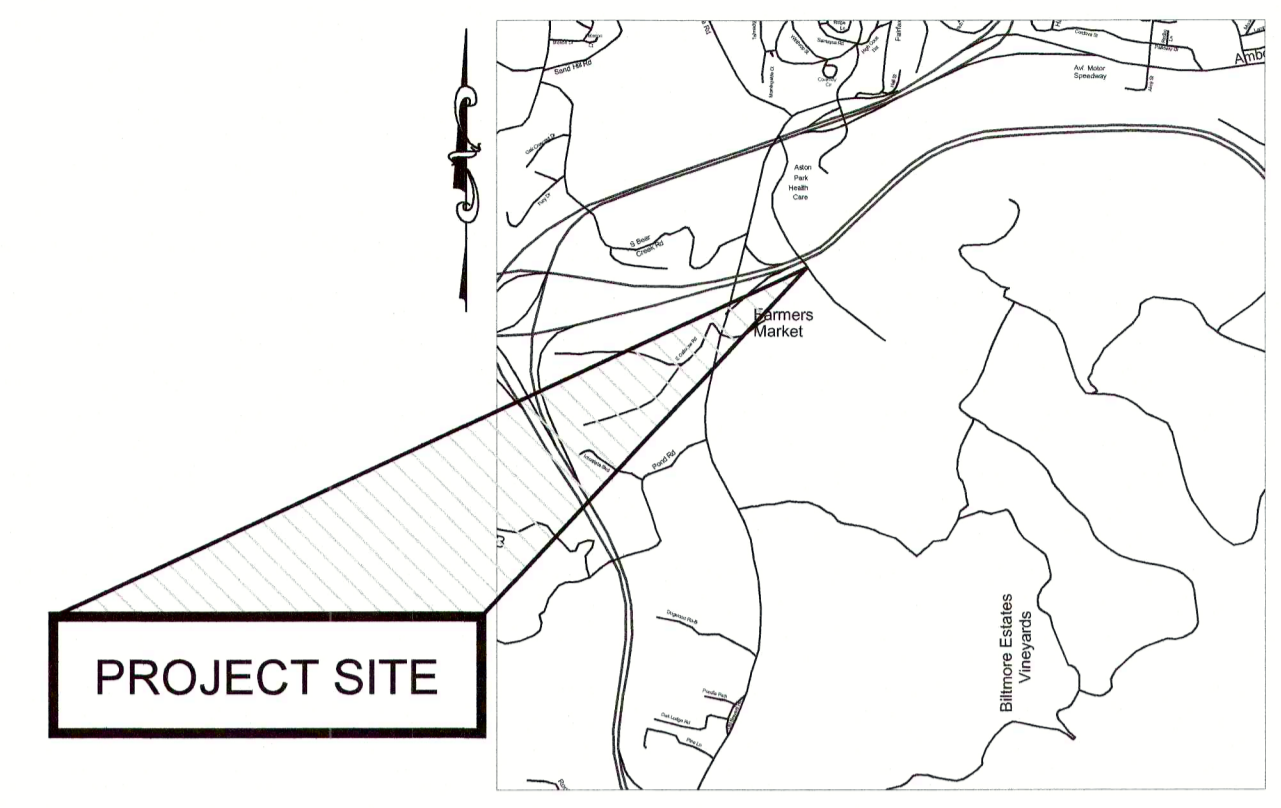
Engineering Division

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED DATE 07/20/2024 BY 60322 JAL/ML/BJE



PROPOSED MANHOLE REHABILITATION - HOMINY CREEK INT		
MANHOLE #	DEPTH (FT.)	METHOD OF REHAB. *
50-21392	17.8'	PAVED OVER, RESET FRAME & COVER
50-21391	11.1'	MH BURIED
50-21390	7.8'	MH BURIED
50-21389	8.2'	NO WORK NEEDED
50-489740	8.1'	NO WORK NEEDED
50-21395	7.9'	MH BURIED, CEMENTITIOUS LINER
50-45387	2.8'	MH BURIED
50-21396	10.5'	CEMENTITIOUS LINER
50-21398	10.1'	CEMENTITIOUS LINER, RESET FRAME & COVER
50-21399	10.8'	BURIED MH, CEMENTITIOUS LINER
50-21400	14.6'	CEMENTITIOUS LINER

PIPE LINING - HOMINY CREEK INT		
PIPE ID #	Size	Length (LF)
50-391970	27"	254.29'
50-389049	27"	285.88'
50-388738	27"	431.61'
50-391881	27"	391.08'
50-387841	27"	263.05'
50-389779	27"	520.02'
50-489752	27"	164.74'
50-489751	27"	241.70'
50-396921	27"	350.94'
50-389668	27"	495.51'
50-391760	27"	261.75'

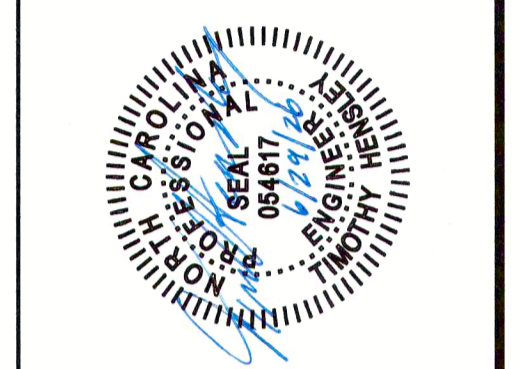


**PIPE LINING PLAN
HOMINY CREEK INTERCEPTOR**

SCALE: 1" = 100'

APPROXIMATE LINING FOOTAGE THIS SHEET: 27" = 3,661 LF

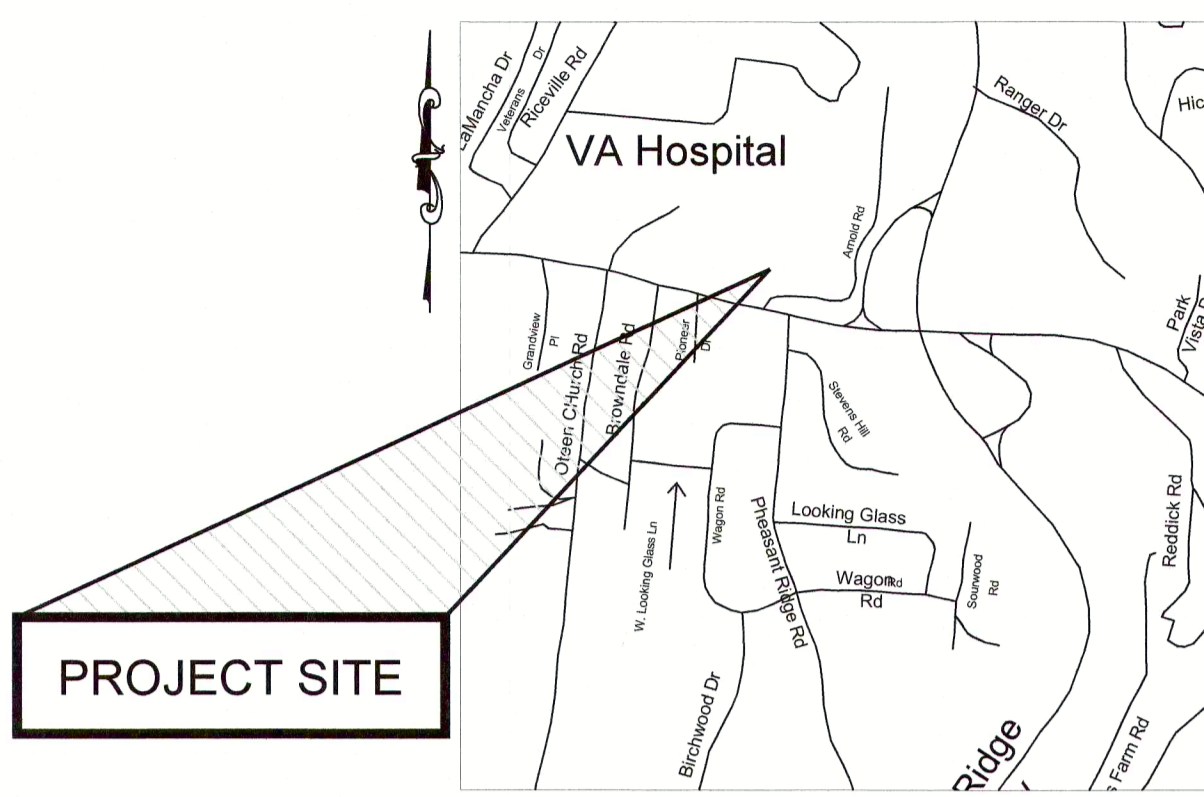
Metropolitan Sewerage District
of Buncombe County
Lining Contract #10
MSD #2024035



No.	DESCRIPTION	DATE
1.	BID SET	06/20/25

MSD
Metropolitan Sewerage District of Buncombe County
Engineering Division

\P\COLLECTION SYSTEMS\PLANS\GENERAL SERVICES\REHABILITATION\Lining Contract #10 - 2024035\MSD\Lining Contract #10 - 2024035.dwg, 6/20/2025, 7:49 AM, JLD/LE



PROPOSED MANHOLE REHABILITATION - VA HOSPITAL		
MANHOLE #	DEPTH (FT.)	METHOD OF REHAB. *
28-19464	20.0'	CEMENTITIOUS LINER, REPLACE FRAME & COVER
28-19463	9.7'	CEMENTITIOUS LINER, REPLACE FRAME & COVER
28-19461	5.5'	CEMENTITIOUS LINER, REPLACE FRAME & COVER
28-19462	9.0'	CEMENTITIOUS LINER, REPLACE FRAME & COVER
28-19460	7.1'	CEMENTITIOUS LINER, REPLACE FRAME & COVER
28-68533	6.5'	CEMENTITIOUS LINER, REPLACE FRAME & COVER
28-41053	8.0'	CEMENTITIOUS LINER, REPLACE FRAME & COVER
28-41052	8.3'	CEMENTITIOUS LINER, REPLACE FRAME & COVER
28-11275	9.3'	NO WORK NEEDED

PIPE LINING - VA HOSPITAL		
PIPE ID #	Size	Length (LF)
28-375229	10"	98.16'
28-372012	10"	72.24'
28-374224	10"	201.84'
28-372409	10"	107.52'
28-371230	10"	302.26'
28-375855	10"	143.63'
28-371779	10"	195.20'
28-370896	10"	281.08'

PIPE LINING PLAN – TUNNEL RD. @ VA HOSPITAL

SCALE: 1" = 100'

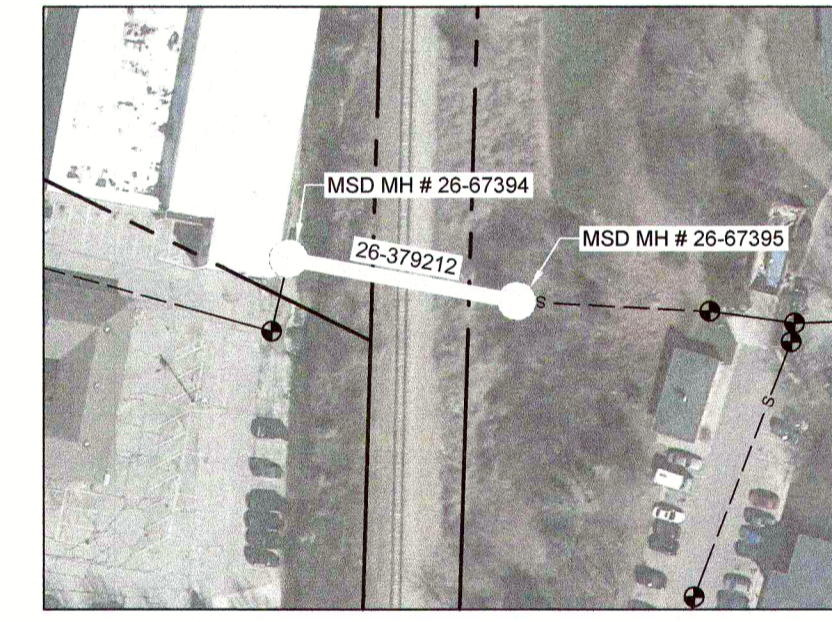


PROPOSED MANHOLE REHABILITATION - SHORT McDOWELL		
MANHOLE #	DEPTH (FT.)	METHOD OF REHAB. *
11-17575	18.2'	LID WELDED SHUT, CEMENTITIOUS LINER, REPLACE FRAME & COVER
11-57150	5.0'	BURIED, NOT FOUND
11-17573	5.0'	NO WORK NEEDED
11-17574	4.9'	NO WORK NEEDED
11-42389	4.3'	NO WORK NEEDED
11-17572	10.9'	CEMENTITIOUS LINER, BUILD INSIDE DROP
11-17571	6.3'	CEMENTITIOUS LINER

PIPE LINING - SHORT McDOWELL		
PIPE ID #	Size	Length (LF)
11-396212	10"	112.48'
11-394612	10"	180.78'
11-395846	12"	110.04'
11-393681	12"	158.92'
11-392282	12"	80.25'
11-391841	12"	141.04'

PIPE LINING PLAN – McDOWELL ST @ SHORT McDOWELL ST.

SCALE: 1" = 100' (MSD #2024041)



PROPOSED MANHOLE REHABILITATION - 1210 HENDERSONVILLE RD		
MANHOLE #	DEPTH (FT.)	METHOD OF REHAB. *
26-67395	0.0'	NOT ACCESSIBLE
26-67394	6.0'	RECONSTRUCT INVERT, RESET FRAME & COVER

PIPE LINING - 1210 HENDERSONVILLE RD		
PIPE ID #	Size	Length (LF)
26-379212	6"	120.79'

PIPE LINING PLAN – 1210 HENDERSONVILLE RD.

SCALE: 1" = 100' (MSD #2025003)

Metropolitan Sewerage District
of Buncombe County
Lining Contract #10
MSD #2024035



No.	DESCRIPTION	DATE
1.	BID SET	05/29/26

MSD
Metropolitan Sewerage District
Buncombe County, North Carolina
Engineering Division

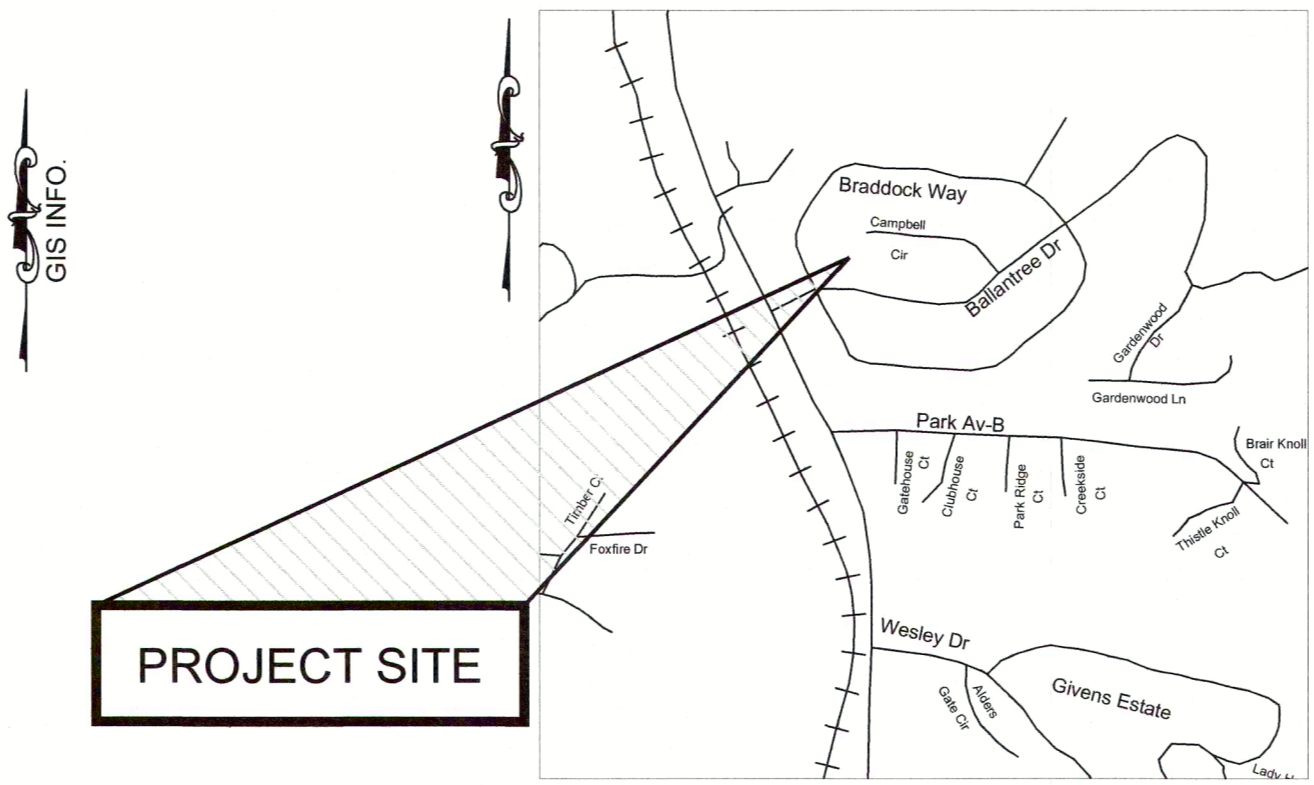
APPROXIMATE LINING FOOTAGE THIS SHEET: 6" = 121LF, 10" = 1695, 12" = 490

\\collection\csw\proj\2025\03\10487\DWG\2025003.dwg 05/29/2025 7:48 AM JWS



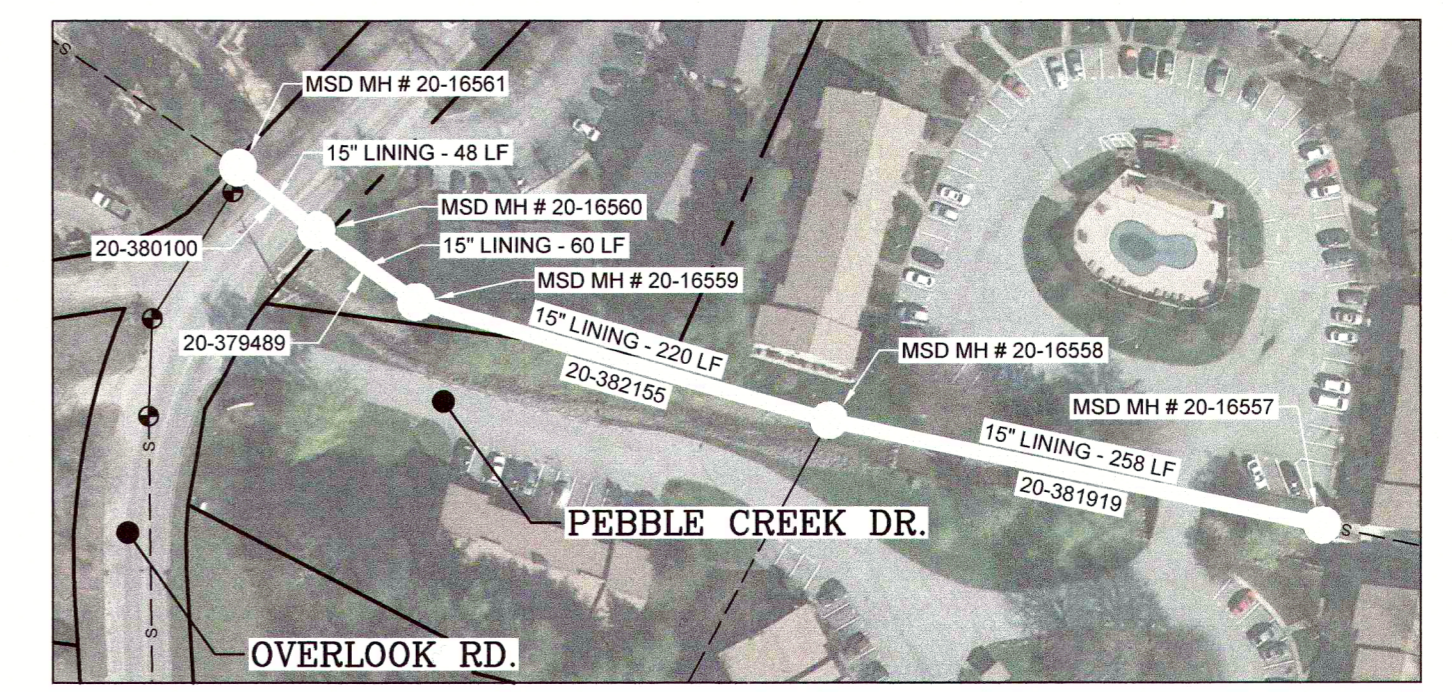
PIPE LINING PLAN – BRADDOCK WAY

SCALE: 1"=100' (MSD #2006025)



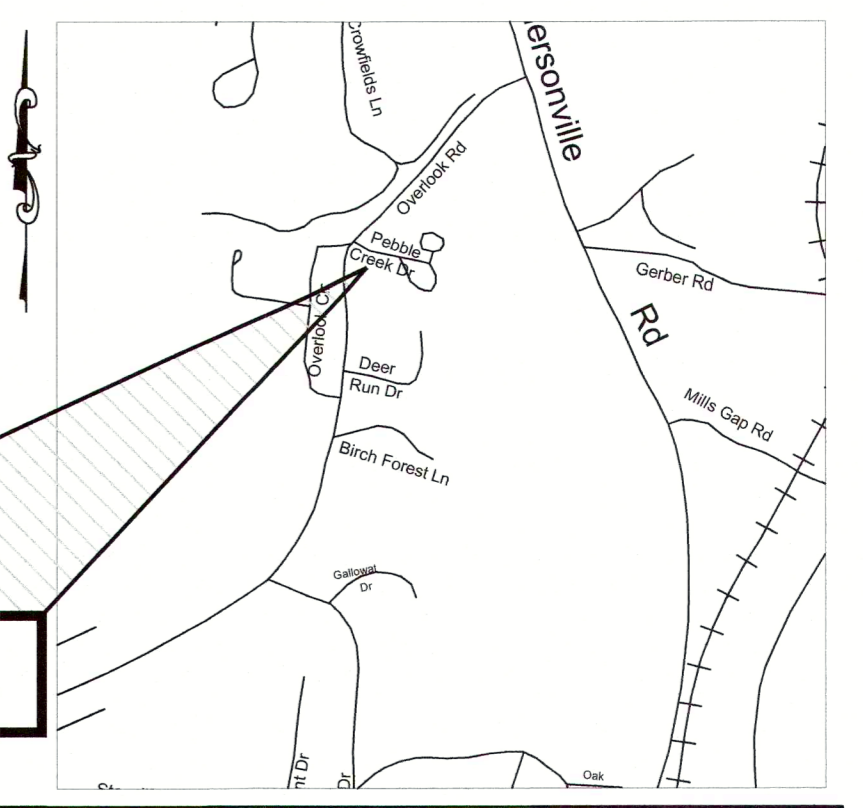
PROPOSED MANHOLE REHABILITATION - BRADDOCK WAY		
MANHOLE #	DEPTH (FT.)	METHOD OF REHAB. *
20-17507	6.5'	NO WORK NEEDED
20-17509	7.4'	RECONSTRUCT INVERT, REPLACE FRAME & COVER
20-17523	4.9'	NO WORK NEEDED
20-41761	7.1'	RECONSTRUCT INVERT
20-39110	7.0'	RECONSTRUCT INVERT, REPLACE FRAME & COVER
20-105044	7.0'	CEMENTITIOUS LINER, REPLACE FRAME & COVER
20-15450	11.4'	CEMENTITIOUS LINER, REPLACE FRAME & COVER
20-17505	6.3'	CEMENTITIOUS LINER, REPLACE FRAME & COVER
20-17524	7.0'	RECONSTRUCT INVERT, REPLACE FRAME & COVER
20-15449	7.3'	CEMENTITIOUS LINER, REPLACE FRAME & COVER
20-17525	8.4'	RECONSTRUCT INVERT, REPLACE FRAME & COVER
20-15469	15.8'	RECONSTRUCT INVERT
20-15448	9.1'	NO WORK NEEDED
20-17506	11.2'	NO WORK NEEDED
20-15471	6.1'	CEMENTITIOUS LINER, REPLACE FRAME & COVER
20-41715	7.0'	CEMENTITIOUS LINER, REPLACE FRAME & COVER
20-15472	6.4'	CEMENTITIOUS LINER, REPLACE FRAME & COVER
20-15452	8.0'	CEMENTITIOUS LINER, REPLACE FRAME & COVER

PIPE LINING - BRADDOCK WAY		
PIPE ID #	Size	Length (LF)
20-380818	8"	248.21'
20-378197	8"	185.67'
20-378903	8"	260.39'
20-378424	8"	215.09'
20-378083	8"	356.47'
20-380349	8"	304.07'
20-382774	8"	141.95'
20-382073	8"	258.78'
20-383328	8"	55.00'
20-380091	8"	143.04'
20-382131	8"	243.78'
20-379601	8"	154.13'
20-378284	8"	259.11'
20-377786	8"	242.05'



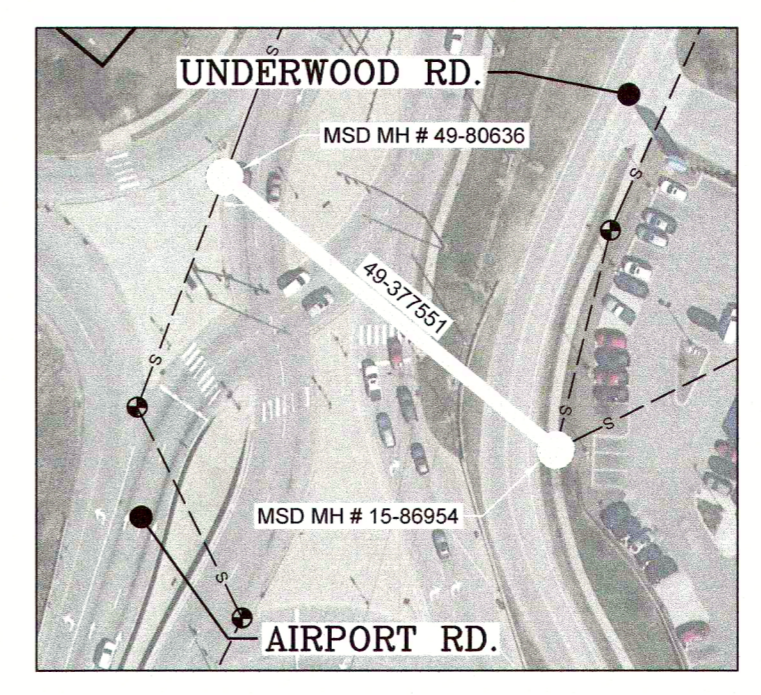
**PIPE LINING PLAN
PEBBLE CREEK DR.**

SCALE: 1"=100'



PROPOSED MANHOLE REHABILITATION - PEBBLE CREEK DR		
MANHOLE #	DEPTH (FT.)	METHOD OF REHAB. *
20-16557	8.0'	RECONSTRUCT INVERT
20-16558	4.9'	CEMENTITIOUS LINER, REPLACE FRAME & COVER
20-16559	5.7'	CEMENTITIOUS LINER, REPLACE FRAME & COVER
20-16560	0.0'	COULD NOT OPEN MH, REPLACE FRAME & COVER
20-16561	5.2'	RESET FRAME & COVER **PIPE IS LINED UP & DOWN STREAM**

PIPE LINING - PEBBLE CREEK DR		
PIPE ID #	Size	Length (LF)
20-380100	15"	52.39'
20-379489	15"	63.61'
20-382155	15"	223.61'
20-381919	15"	262.39'



PROPOSED MANHOLE REHABILITATION - NEW AIRPORT RD		
MANHOLE #	DEPTH (FT.)	METHOD OF REHAB. *
15-86954	4.0'	REBUILD INVERT
49-80636	0.0'	RAISE MH RING/COVER TO GRADE

PIPE LINING - NEW AIRPORT RD		
PIPE ID #	Size	Length (LF)
49-377551	6"	223.41'

PIPE LINING PLAN – NEW AIRPORT RD.

SCALE: 1"=100' (MSD #2025001)

APPROXIMATE LINING FOOTAGE THIS SHEET: 6" = 223LF, 8" = 3068LF, 15" 602LF

Metropolitan Sewerage District
of Buncombe County

Lining Contract #10
MSD #2024035

DATE: 04/18/2025
CHECKED BY: KIK
APPROVED: TH

SCALE: 1"=100'

PL-6

REVISIONS

No.	DESCRIPTION	DATE
1.	BID SET	06/20/25

MSD

Metropolitan Sewerage District of Buncombe County

Engineering Division

