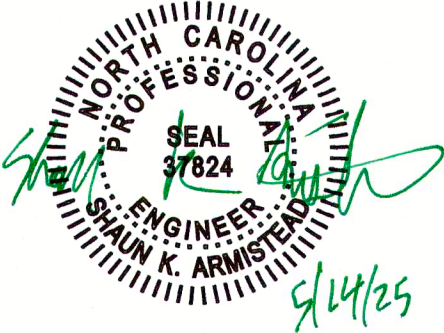
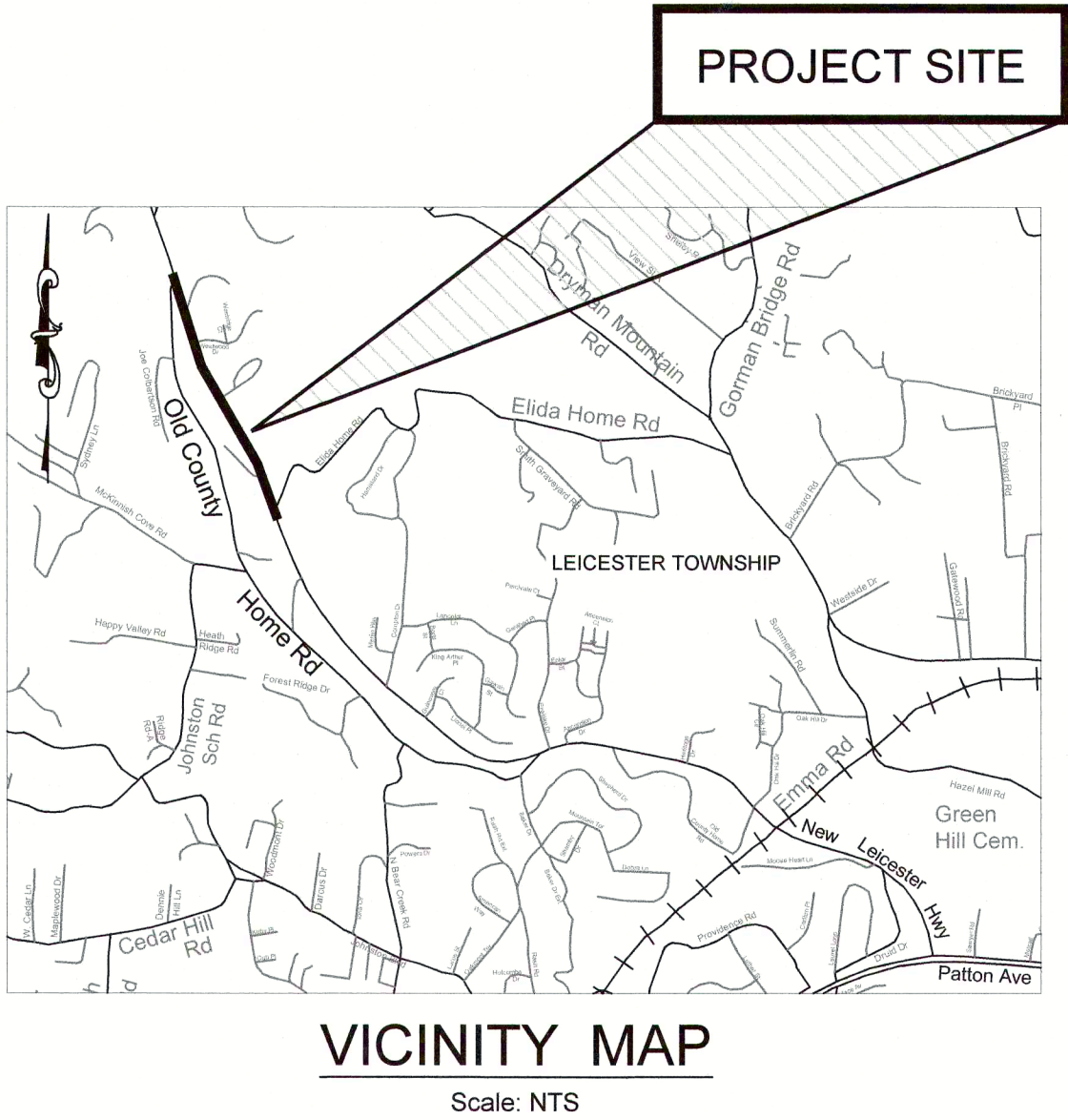


OLD COUNTY HOME ROAD
PRIVATE SANITARY SEWER REHABILITATION
(PROJECT NO. 2015221)
MSD OF BUNCOMBE COUNTY



INDEX OF DRAWINGS	
SHEET NO.	DESCRIPTION
C-1	INDEX OF DRAWINGS AND VICINITY MAP
PL-1	OVERALL SANITARY SEWER PLAN
PL-2	SANITARY SEWER PLAN & PROFILE LINE "A" & LINE "D"
PL-3	SANITARY SEWER PLAN & PROFILE LINE "A" & LINE "E"
PL-4	SANITARY SEWER PLAN & PROFILE LINE "A"
PL-5	SANITARY SEWER PLAN & PROFILE LINE "A" & LINE "F"
PL-6	SANITARY SEWER PLAN & PROFILE LINE "B"
PL-7	SANITARY SEWER PLAN & PROFILE LINE "C"
PL-8	SANITARY SEWER PLAN & PROFILE LINE "C"
D-1	SANITARY SEWER DETAILS
D-2	SANITARY SEWER DETAILS
TC-1	TRAFFIC CONTROL PLAN
TC-2	TRAFFIC CONTROL DETAILS
TC-3	TRAFFIC CONTROL DETAILS

LEGEND			
	FFE = FINISHED FLOOR ELEV.		PROPOSED ABANDON PLUG
	CM = CONCRETE MONUMENT		PROPOSED MANHOLE NUMBER
	PK FIND = PK NAIL FOUND		PROPOSED ABANDON SEWER MANHOLE
	EIP = EXISTING IRON PIN FOUND		CO = PROPOSED CLEANOUT
	REBAR FOUND		EXISTING SANITARY SEWER MANHOLE
	SIGN		EXISTING CLEANOUT
	GAS VALVE		WV = WATER VALVE
	GAS METER		WELL
	TELEPHONE MANHOLE		FH = FIRE HYDRANT
	TELEPHONE PEDESTAL		VM = WATER METER
	SHRUB		UTILITY POLE
	TREE		GUY WIRE
			LIGHT POLE
			CURB INLET
			STORM MANHOLE
			CATCH BASIN
	PROPOSED SANITARY SEWER LINE (DIG & REPLACE)		
	PROPOSED SANITARY SEWER LINE (DIRECTIONAL BORE)		
	EXISTING SANITARY SEWER LINE		
	EXISTING PERMANENT EASEMENT		
	PROPOSED PERMANENT EASEMENT		
	PROPOSED TEMPORARY EASEMENT		
	PROPOSED SILT FENCE LINE		
	PROPOSED ASPHALT SURFACE REPAIR		
	PROPOSED GRAVEL SURFACE REPAIR		
	PROPOSED CONCRETE SURFACE REPAIR		
	PROPERTY LINE		
	RIGHT OF WAY LINE		
	EXISTING WATER LINE		
	EXISTING ROCK WALL LINE		
	EXISTING STREAM/CREEK		
	EXISTING GAS LINE		
	EXISTING OVER HEAD UTILITY LINE		
	EXISTING UNDERGROUND UTILITY		
	EXISTING STORM DRAINAGE PIPE		
	EXISTING FENCE LINE		
	DITCH LINE		
	TOE/TOP OF SLOPE		
	TREE LINE		
	SHRUB LINE		
	CONCRETE		
	GRAVEL AREA (RIP-RAP)		
	ASPHALT ROADWAY		
	EXISTING BUILDINGS		
	EXISTING MAJOR CONTOUR		
	EXISTING MINOR CONTOUR		



- GENERAL NOTES:
- LENGTHS SHOWN ARE NOT ACTUAL PIPE LENGTHS BUT ARE DISTANCES STATION TO STATION. SLOPES SHOWN ON THE PROFILE ARE CALCULATED USING LENGTHS FROM INSIDE EDGES OF MANHOLE.
 - ALL WORK ON THIS PROJECT SHALL COMPLY WITH THE CURRENT STANDARD DETAILS AND SPECIFICATIONS OF THE METROPOLITAN SEWERAGE DISTRICT OF BUNCOMBE COUNTY. SPECIAL CONDITIONS AND SPECIAL PROVISIONS MAY APPLY TO THIS PROJECT - SEE SPECIFICATIONS.
 - ALL WORK SHALL COMPLY WITH FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS, AS MAY BE APPLICABLE TO THIS PROJECT AND THE WORK DONE HEREUNDER.
 - WHERE FEDERAL, STATE, OR LOCAL LAWS REQUIRE THAT A PERMIT BE ISSUED AND OBTAINED FOR WORK DONE UNDER THIS PROJECT, ALL WORK PERFORMED BY THE CONTRACTOR SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE TERMS AND CONDITIONS SET FORTH IN THE PERMIT.
 - ANY MODIFICATIONS TO THESE CONSTRUCTION PLANS OR SPECIFICATIONS SHALL BE APPROVED BY THE MSD PROJECT ENGINEER.
 - THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO THE START OF CONSTRUCTION.
 - THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO KEEP THE SEWER AND ALL OTHER UTILITIES IN SERVICE AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR REPAIRS OF ANY KIND FOR DAMAGES RESULTING FROM THE CONTRACTOR'S CONSTRUCTION ACTIVITIES.
 - THE CONTRACTOR SHALL LOCATE ALL SERVICES CURRENTLY SERVED BY THE EXISTING SEWER AND RECONNECT TO THE NEW SEWER, INSTALLING A CLEANOUT ASSEMBLY AS REQUIRED (SEE DETAIL).
 - THE CONTRACTOR SHALL RESTORE ALL STREETS, PROPERTIES, AND IMPROVEMENTS TO AS GOOD OR BETTER CONDITION THAN EXISTED PRIOR TO CONSTRUCTION.
 - PROPERTY LINES SHOWN ON PLANS ARE APPROXIMATE ONLY. PROPERTY MONUMENTS DISTURBED DURING CONSTRUCTION SHALL BE RESET BY A LICENSED NC PROFESSIONAL LAND SURVEYOR.
 - CONTRACTOR SHALL COMPLY WITH NCDOT MANUAL ON UNIFORM TRAFFIC CONTROL.
 - FLAGGERS SHALL BE USED ON OLD COUNTY HOME ROAD DURING ALL CONSTRUCTION ACTIVITIES.
 - DESIGN BASED ON SURVEY INFORMATION PROVIDED BY WES COLE LAND SURVEYING, PA (828) 251-7025.



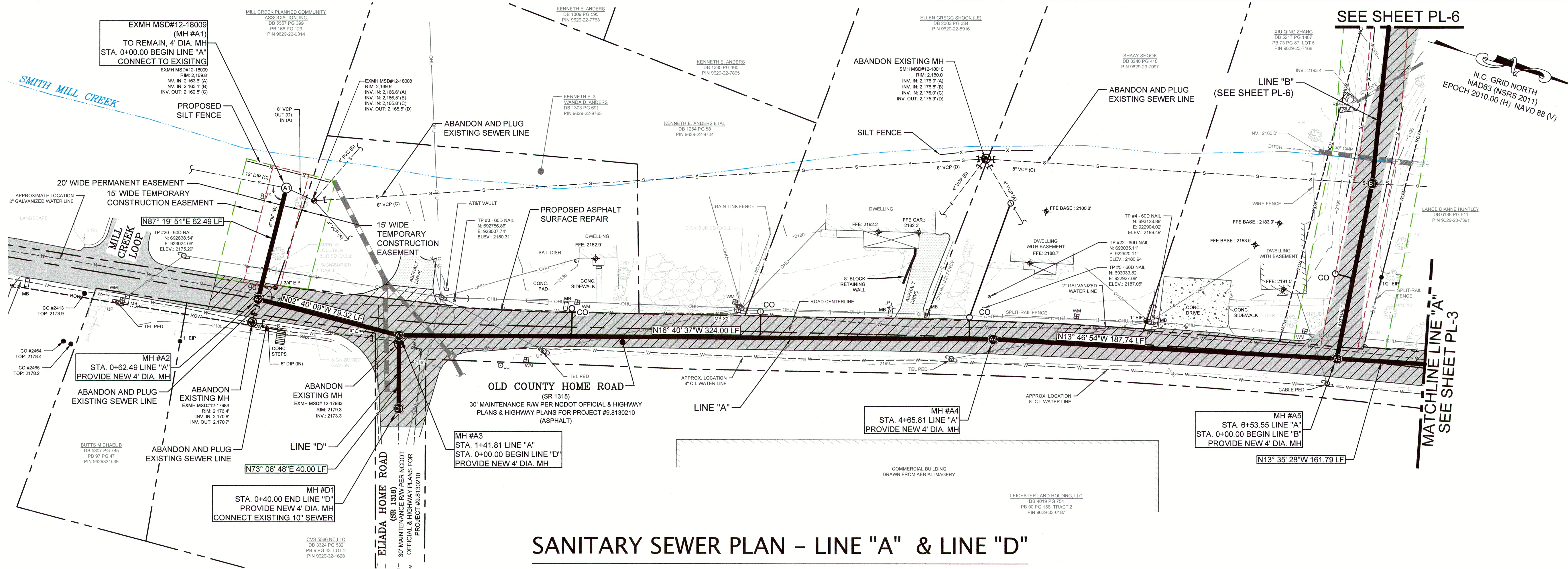
100 0 50 100 200 300

GRAPHIC SCALE 1 INCH = 100 FEET

Engineering Division

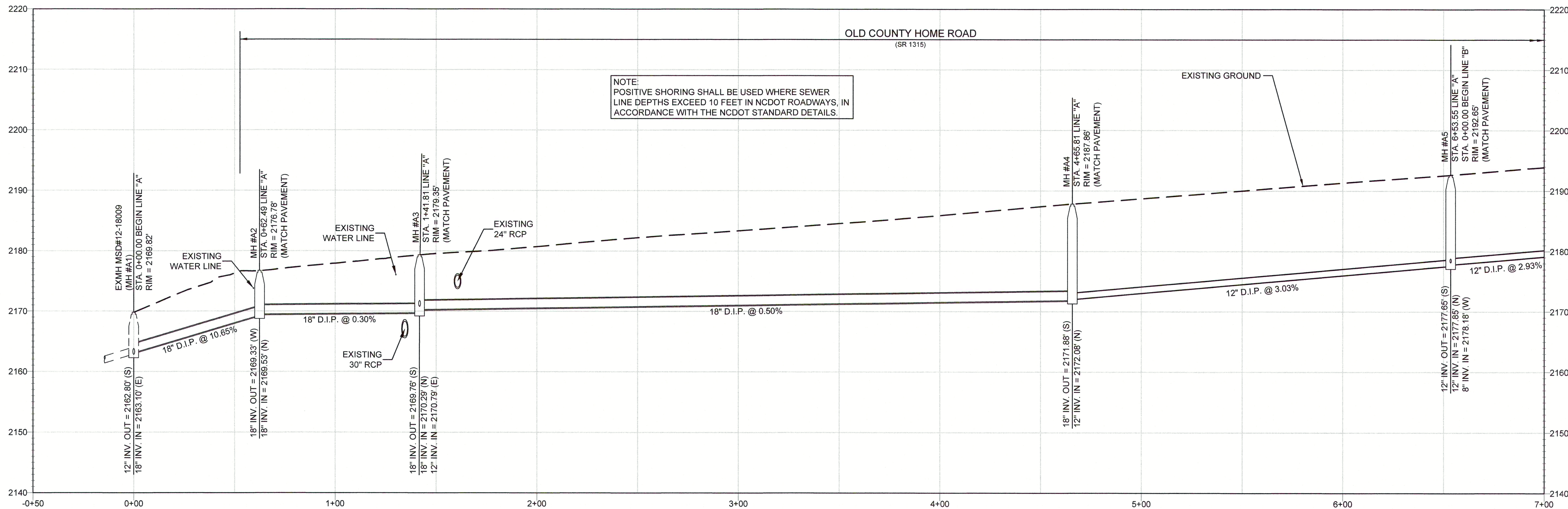
Metropolitan Sewerage District of Buncombe County		PL - 1
Old County Home Road Overall Sanitary Sewer Plan		
DRAWN LJJ	DATE: 12/05/2022	
CHECKED BY: KMA	SCALE: 1" = 100'	
APPROVED: KMA		

\\collection-systems\cadd\municipal\old-county-home-rd\2013051.dwg, 5/14/2023 11:28 AM, LOCAL



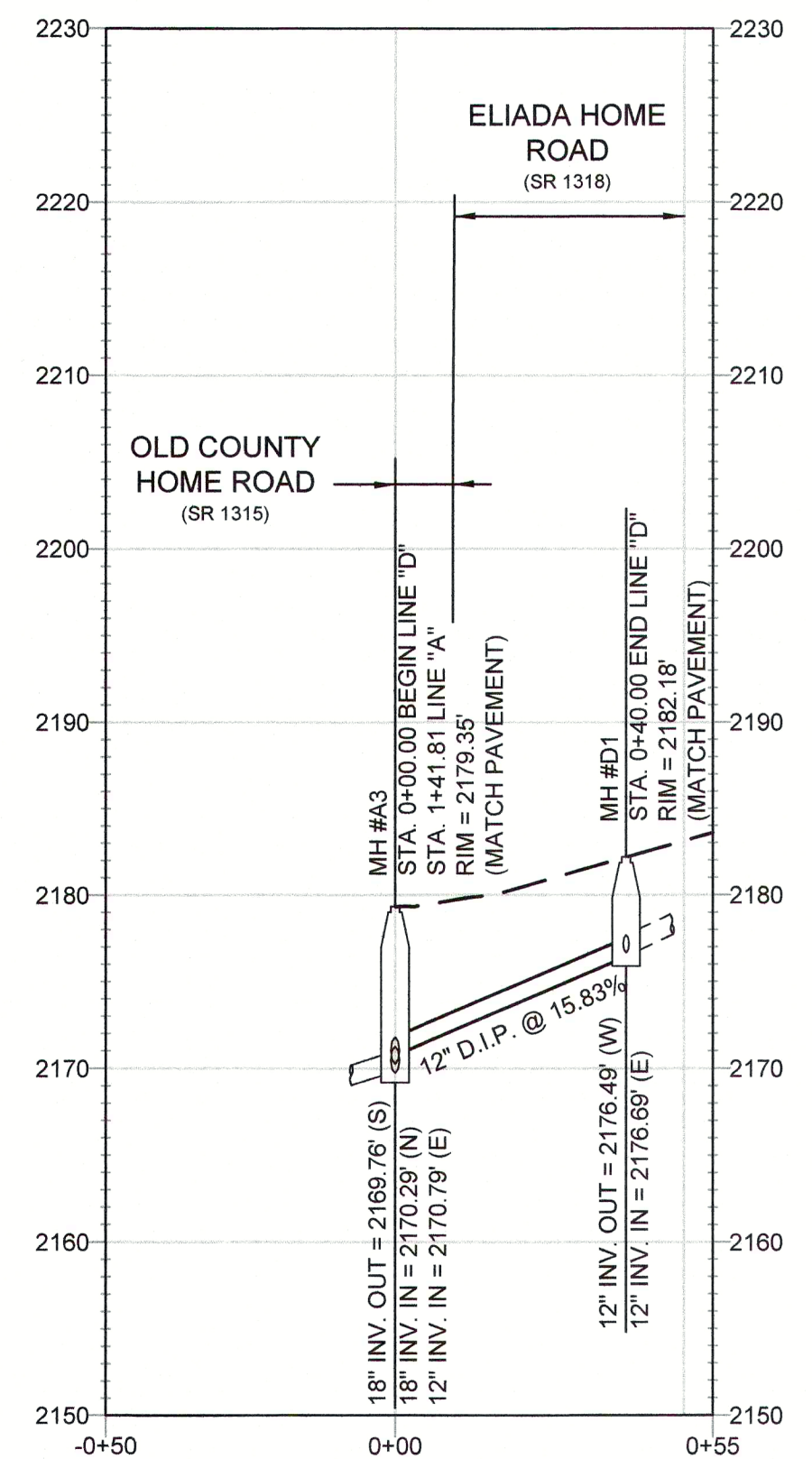
SANITARY SEWER PLAN - LINE "A" & LINE "D"

SCALE: 1"=30'



SANITARY SEWER PROFILE - LINE "A"

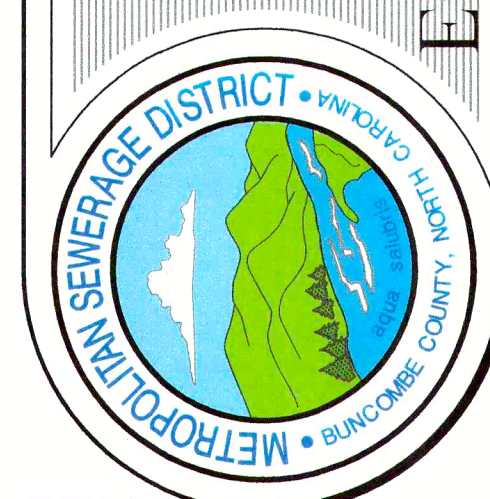
SCALE. HORIZ: 1"=30' ; VERT. 1"=10'



SANITARY SEWER PROFILE - LINE "D"

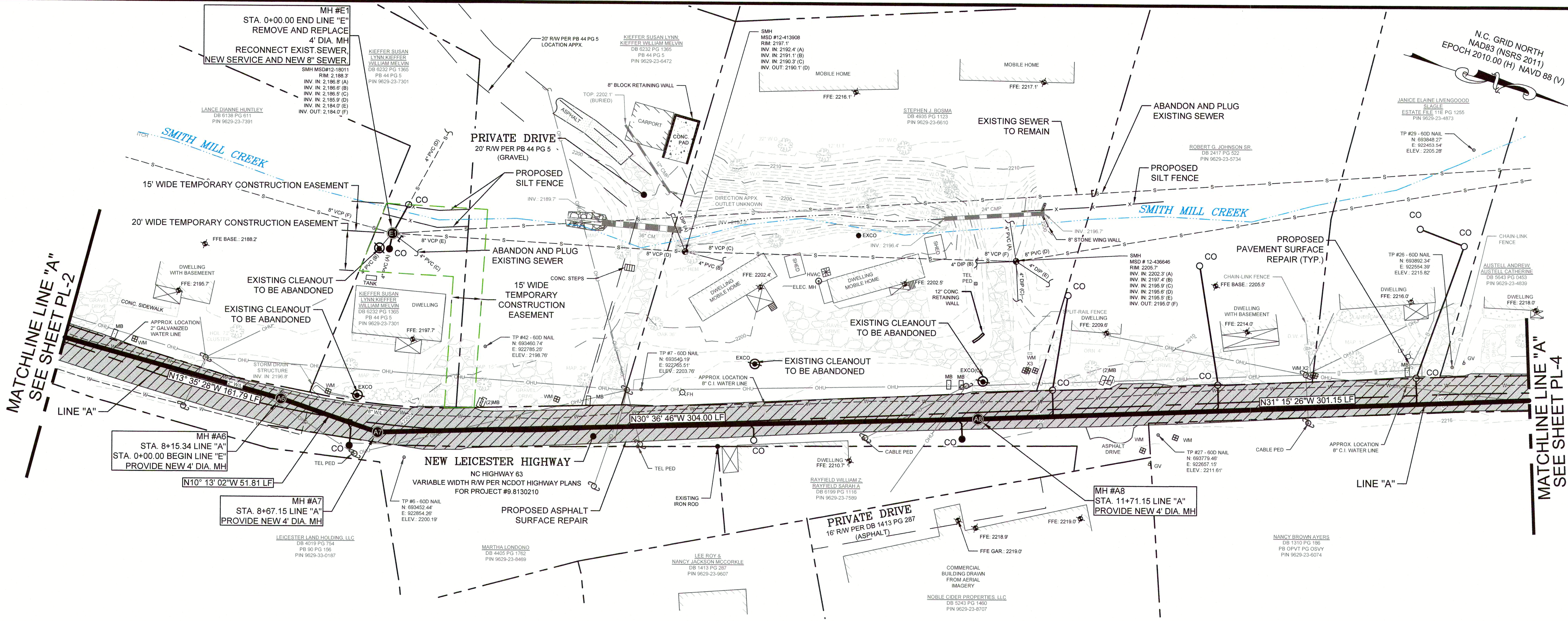
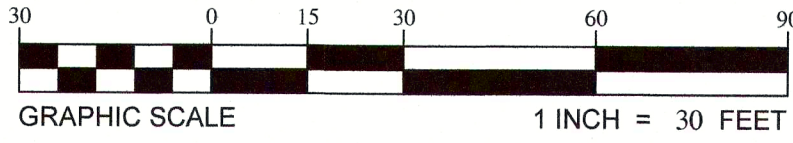
SCALE. HORIZ: 1"=30' ; VERT. 1"=10'

MSD



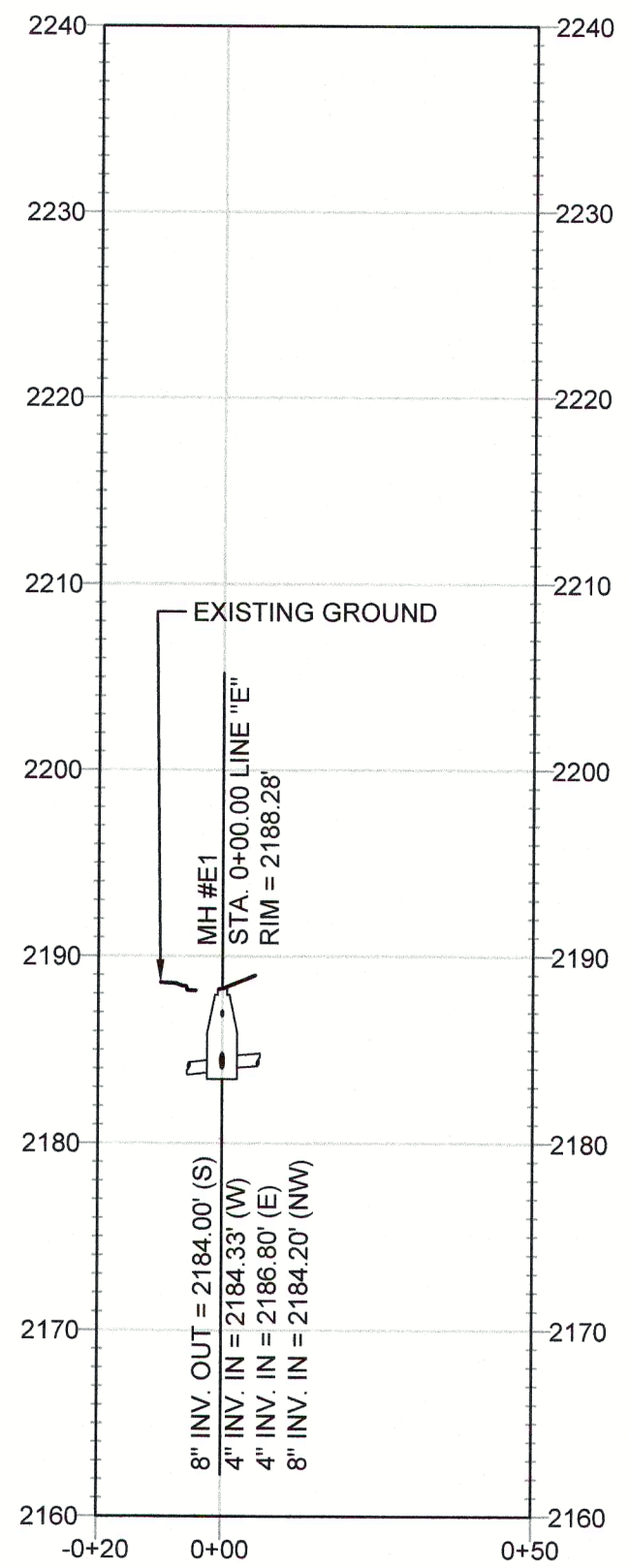
Engineering Division

Metropolitan Sewerage District of Buncombe County	
Old County Home Road Sanitary Sewer Plan & Profile Line "A" & Line "D"	
DRANN, LU	DATE: 10/05/2022
CHECKED BY: KMA	SCALE: 1"=30'
APPROVED SKA	PL-2
REVISIONS	
1. ADD POSITIVE SHORING NOTE.	DATE: 05-05-2023



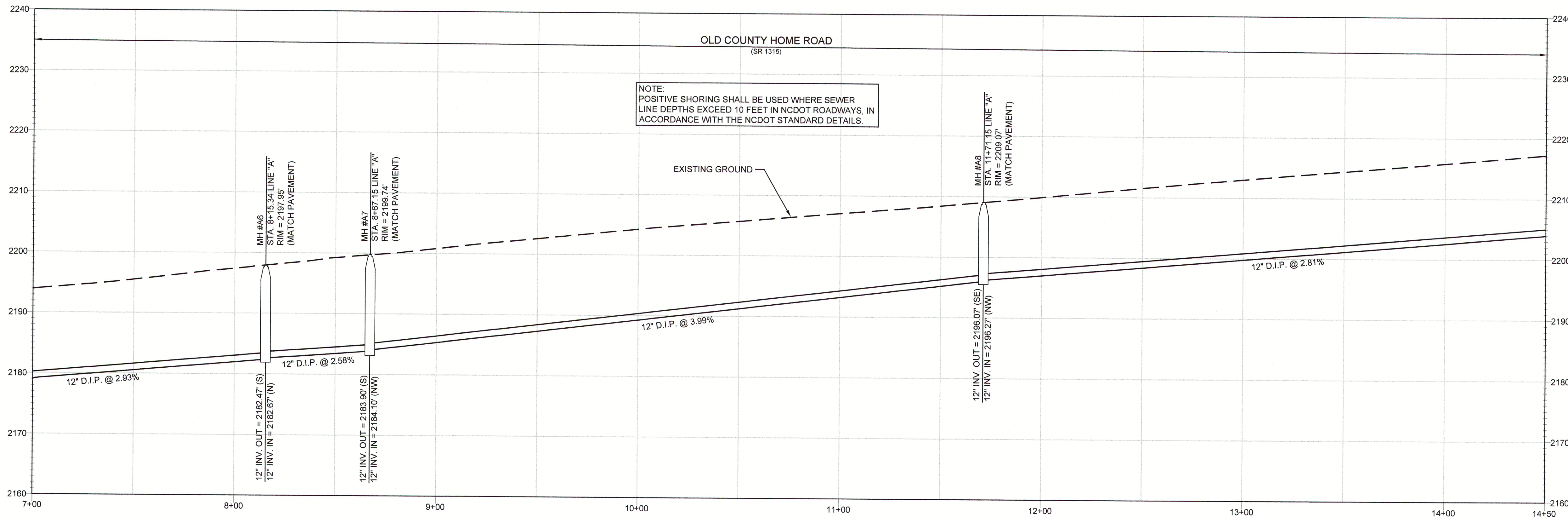
SANITARY SEWER PLAN - LINE "A" & LINE "E"

SCALE: 1"=30'



SANITARY SEWER PROFILE - LINE "E"

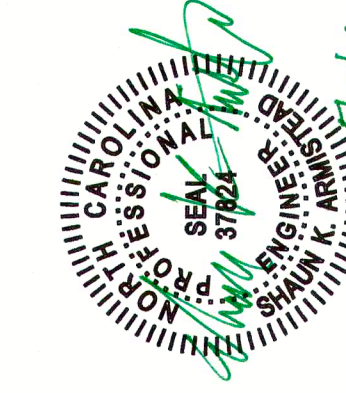
SCALE. HORIZ: 1"=30' ; VERT. 1"=10'



SANITARY SEWER PROFILE - LINE "A"

SCALE. HORIZ: 1"=30' ; VERT. 1"=10'

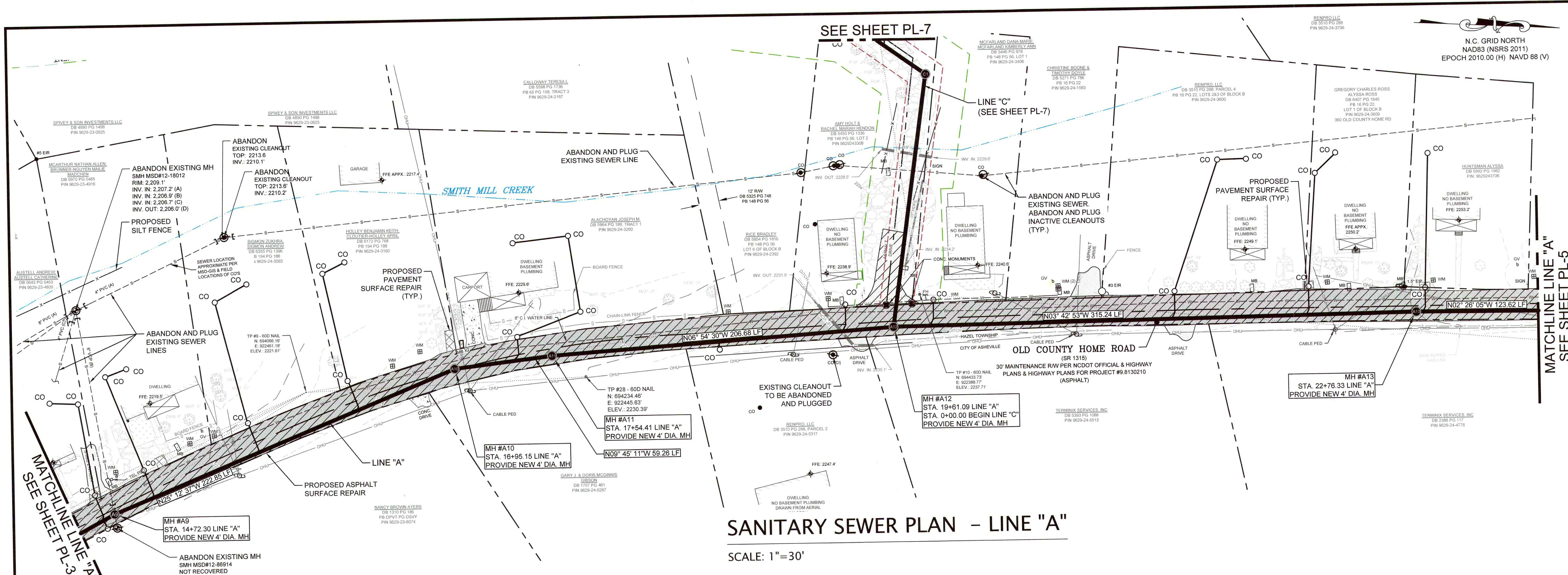
Metropolitan Sewerage District
of Buncombe County
Old County Home Road
Sanitary Sewer Plan & Profile
Line "A" & Line "E"



REVISIONS	DATE	DESCRIPTION
3	09-22-2023	REVISE LINE "E" AND EASEMENTS
2	05-05-2023	REVISED MH #A6 AND EASEMENTS
1	01-04-2023	ADJUST BUILDING FOOTPRINTS FOR EXISTING AND PROPOSED

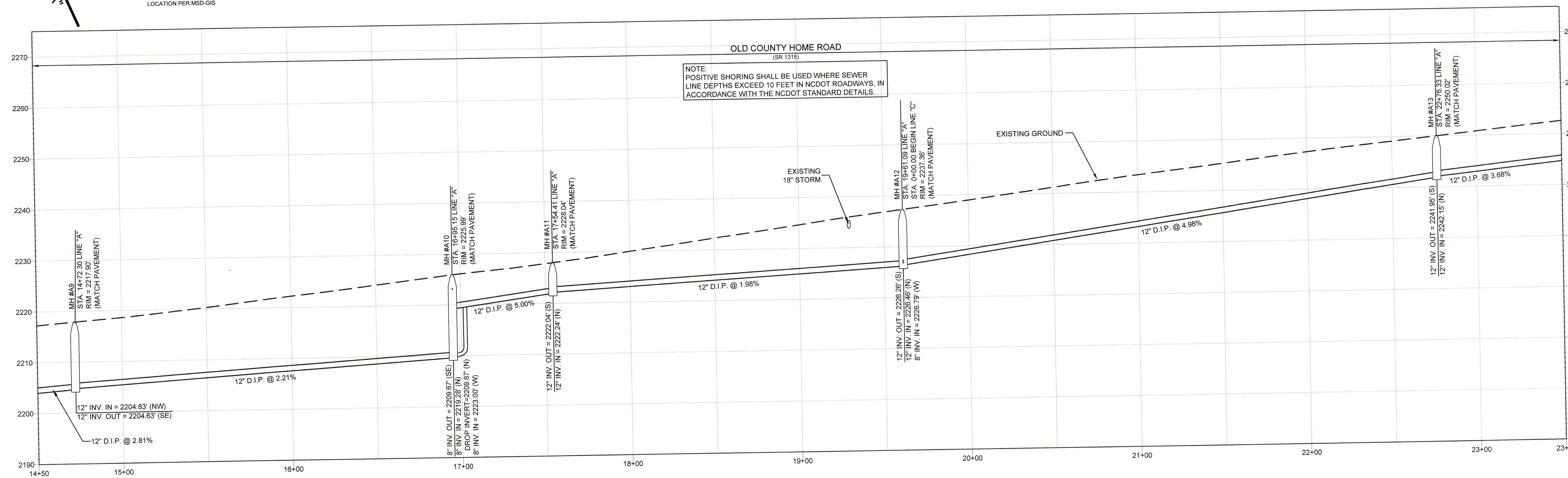
MSD





SANITARY SEWER PLAN - LINE "A"

SCALE: 1"=30'



SANITARY SEWER PROFILE - LINE "A"

SCALE. HORIZ: 1"=30' ; VERT. 1"=10'

Metropolitan Sewerage District
of Buncombe County

Old County Home Road
Sanitary Sewer Plan & Profile
LINE "A"

PL-4

DRAWN: LU
CHECKED BY: KMA
DATE: 12/05/2022
APPROVED: SKA
SCALE: 1"=30'

1
NO
DATE
05-05-2023

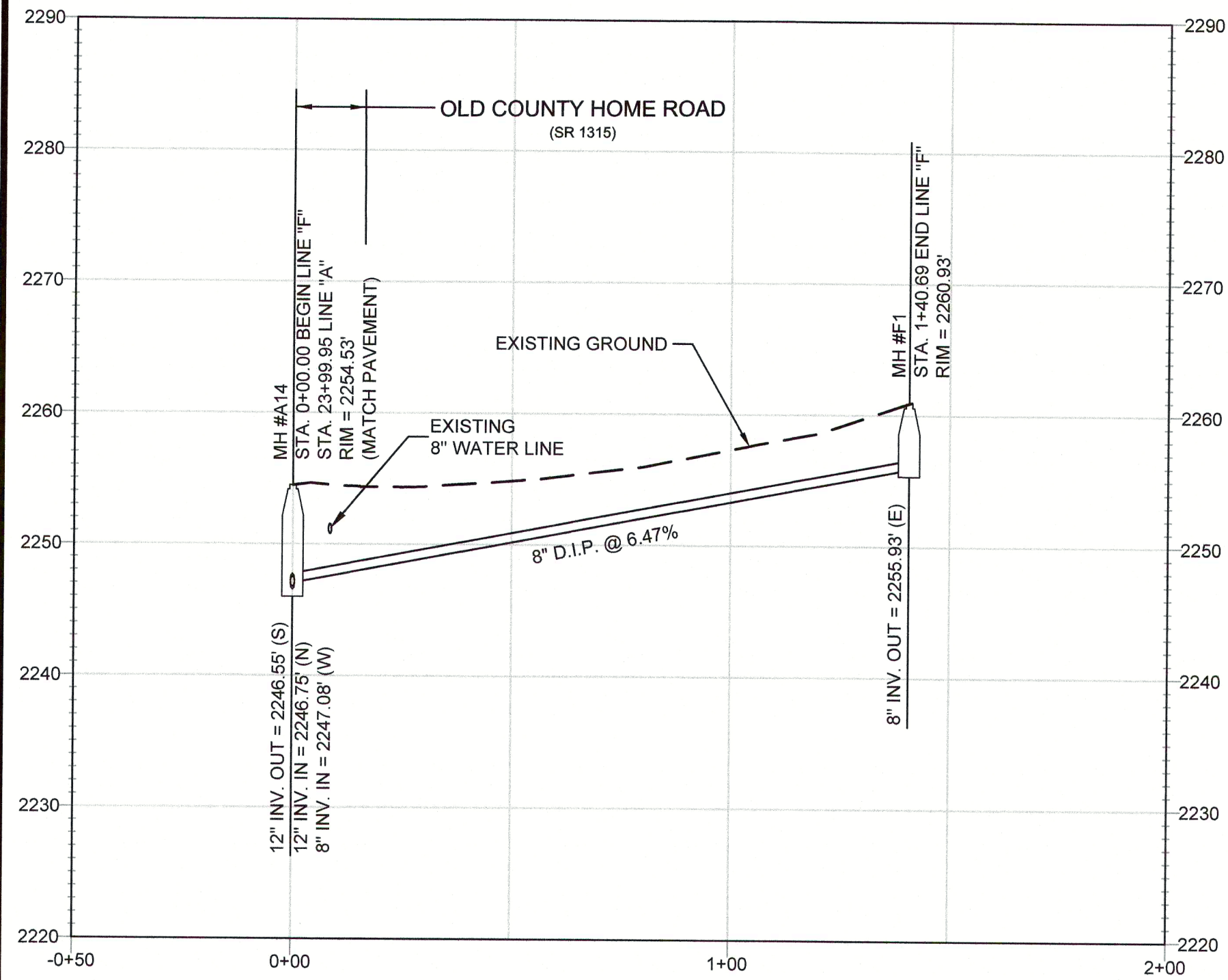
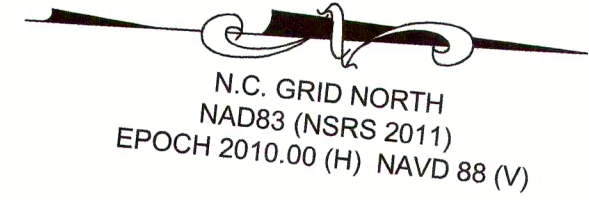
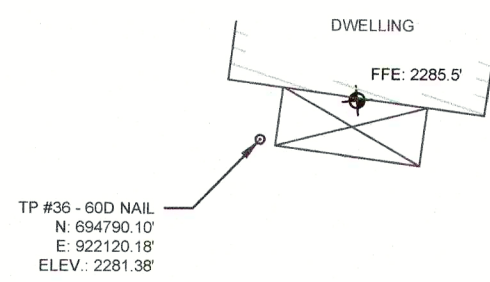
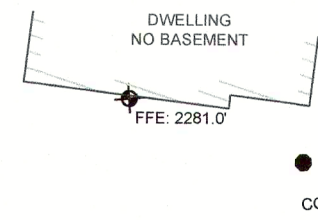
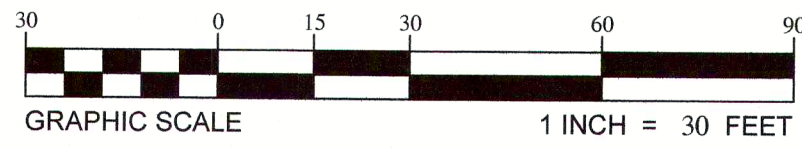
DESCRIPTION
1. MOVED MH #A12 AND POSITIVE SHORING NOTE. UPDATE PER 96254303 INFO.

REVISIONS

MSD

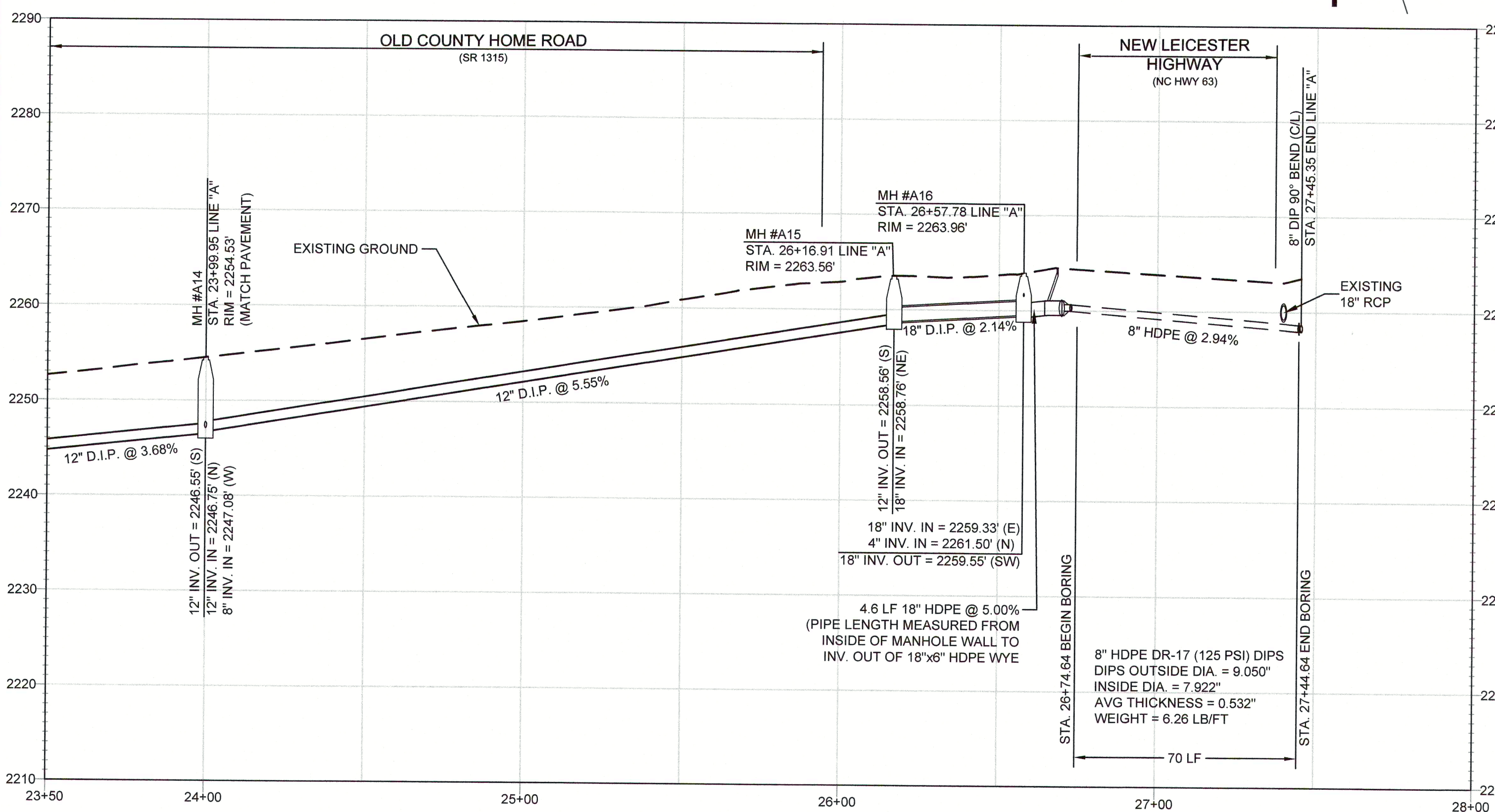
Metropolitan Sewerage District
of Buncombe County

Engineering Division



SANITARY SEWER PROFILE - LINE "F"

SCALE. HORIZ: 1"=30' ; VERT. 1"=10'



SANITARY SEWER PROFILE - LINE "A"

SCALE. HORIZ: 1"=30' ; VERT. 1"=10'

SEE FORCE MAIN TO MH #16 SCHEMATIC, DETAIL SHEET D-2

MATCHLINE LINE "A" SEE SHEET PL-4

PRIVATE DRIVE 15' RW PER DB 3510 PG 288 (GRAVEL)

MATTHEW LEBERLY DB 5054 PG 439 PB 132 PG 117, NEW LOT A PIN 9529-24-1822

MATTHEW LEBERLY DB 5054 PG 439 PB 132 PG 117, NEW LOT B PIN 9529-24-1799

BENPRO, LLC DB 3510 PG 288, PARCEL 3 PIN 9529-14-9676

SPIVEY & SON INVESTMENTS, LLC DB 5001 PG 1 PIN 9529-24-2088

BENPRO, LLC DB 3510 PG 288, PARCEL 5 PIN 9529-25-2075

JAMES E. B. AUDITION, JR. DB 5508 PG 1103 PIN 9529-25-2178

BENPRO, LLC DB 3510 PG 288, PARCEL 6 PIN 9529-25-2361

OLD COUNTY HOME ROAD (SR 1315) 30' MAINTENANCE R/W PER NCDOT OFFICIAL & HIGHWAY PLANS & HIGHWAY PLANS FOR PROJECT #8.130210 (ASPHALT)

NEW LEICESTER HIGHWAY NC HIGHWAY 63 VARIABLE WIDTH R/W PER NCDOT HIGHWAY PLANS FOR PROJECT #8.130210

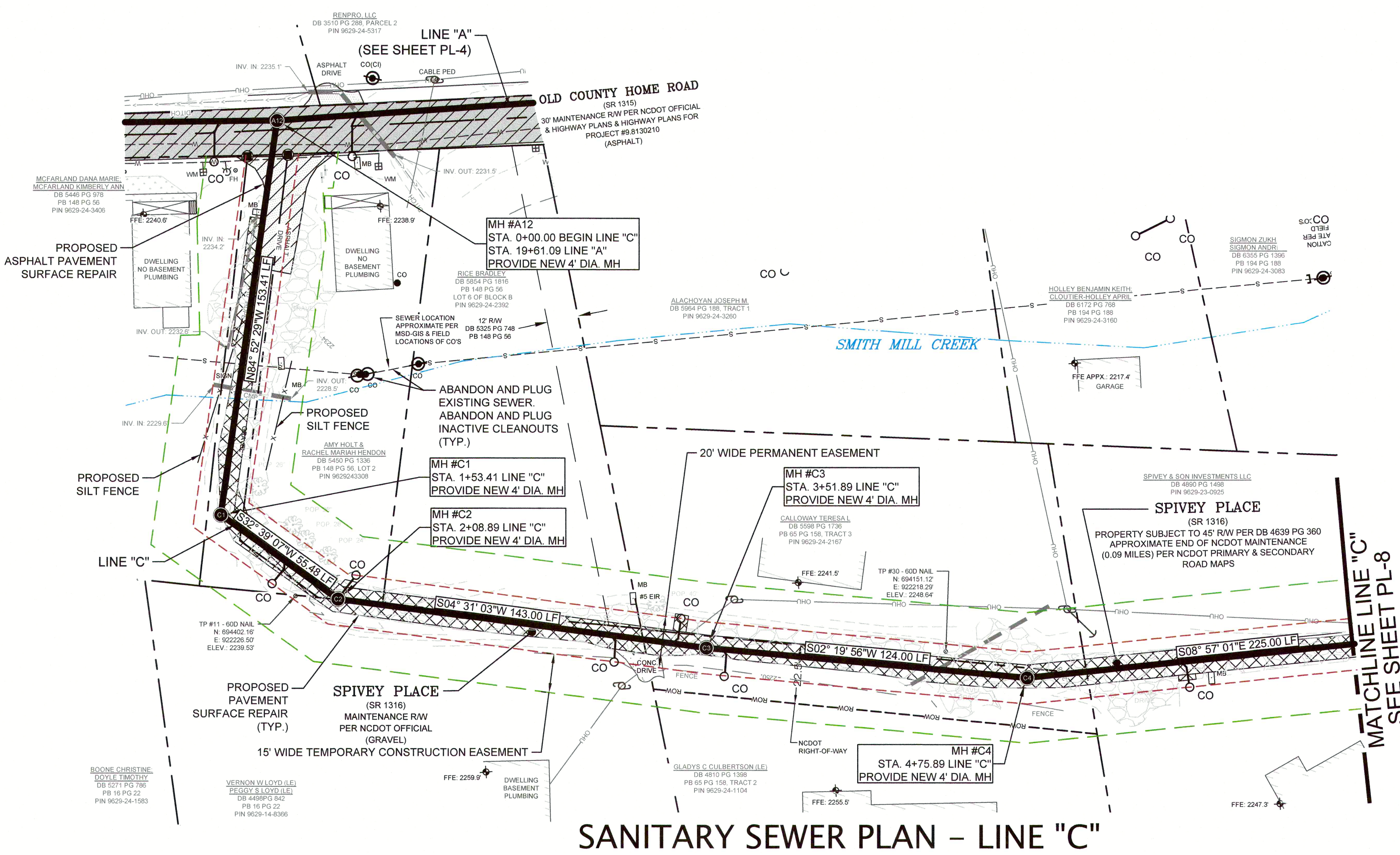
SANITARY SEWER PLAN - LINE "A" & LINE "F"

SCALE: 1"=30'



REVISIONS	
No.	DESCRIPTION
1	MOVED MH #14, ADD POSITIVE SHORING NOTE.
DATE	05-05-2023

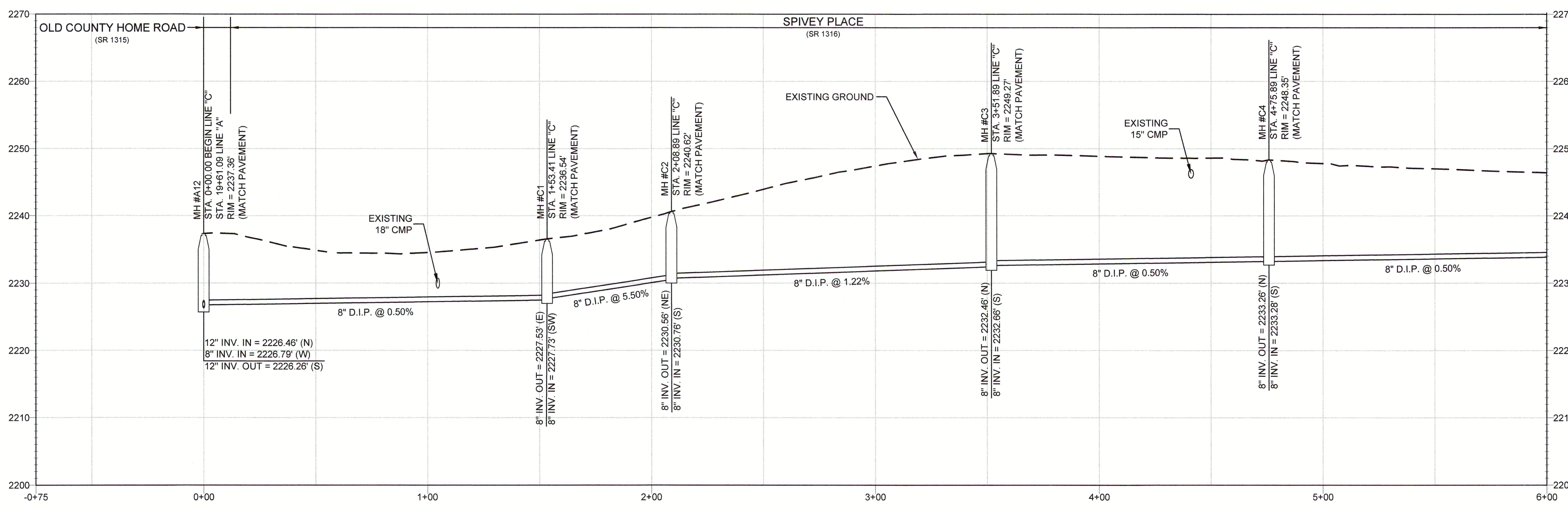
P:\COLLECTION - EXISTING - SANITARY SEWER - METROPOLITAN SEWERAGE DISTRICT - Buncombe County - Home Rd - 20100211.DWG 5/11/2023 11:28 AM LUDLY



SANITARY SEWER PLAN - LINE "C"

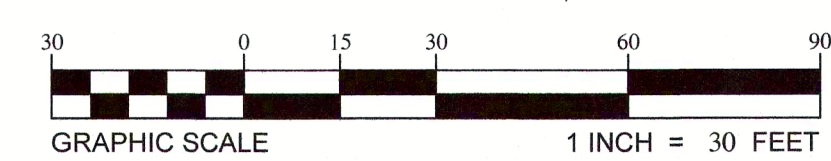
SCALE: 1"=30'

NOTE:
POSITIVE SHORING SHALL BE USED WHERE SEWER
LINE DEPTHS EXCEED 10 FEET IN NCDOT ROADWAYS, IN
ACCORDANCE WITH THE NCDOT STANDARD DETAILS.



SANITARY SEWER PROFILE - LINE "C"

SCALE: HORIZ: 1"=30' ; VERT. 1"=10'



N.C. GRID NORTH
NAD83 (NRS 2011)
EPOCH 2010.00 (H) NAVD 88 (V)

Metropolitan Sewerage District
of Buncombe County

Old County Home Road
Sanitary Sewer Plan & Profile
LINE "C"

PL-7

DATE: 12/05/2022
SCALE: 1" = 30'

DRAWN: LUDLY
CHECKED BY: KMA
APPROVED: SKA

REVISIONS	
No.	DESCRIPTION
1.	MOVED MH #A12, ADD POSITIVE SHORING NOTE
	DATE: 05-05-2023

MSD

Engineering Division

METROPOLITAN SEWERAGE DISTRICT • BUNCOMBE COUNTY, NORTH CAROLINA



- 1- IF NECESSARY USE THIS RSD. FOR CROSS-ROADS AS SHOWN OR FOR "T" INTERSECTIONS ON 2-LANE, 2-WAY AND MULTILANE UNDIVIDED AND DIVIDED ROADWAYS.
- 2- INSTALLATION OF DETOUR ROUTING PANELS, TEMPORARY ROUTE MARKERS, DESTINATION SIGNS, AND ANY NECESSARY MODIFICATIONS TO EXISTING OR PROPOSED REGULATORY OR WARNING SIGNS WILL BE MADE BY OTHERS (STATE OR CITY FORCES) UNLESS OTHERWISE DESIGNATED IN THE PERMIT. MINIMUM 30 CALENDAR DAY NOTICE IS REQUIRED TO BE PROVIDED TO STATE FORCES BEFORE A ROADWAY IS CLOSED TO TRAFFIC SUCH THAT THE NECESSARY PROVISIONS CAN BE MADE TO INSTALL DETOUR ROUTE SIGNS, AND TO INFORM LOCAL EMERGENCY AND LAW ENFORCEMENT PERSONNEL, SCHOOLS, OR ANY OTHER PARTIES AFFECTED BY THE ROAD CLOSURE.
- 3- INSTALL SIGNS BEFORE BARRICADES WHEN CLOSING THE ROADWAY TO TRAFFIC. REMOVE BARRICADES BEFORE SIGNS WHEN OPENING THE ROADWAY TO TRAFFIC. INSTALL/REMOVE SIGNS AND BARRICADES WITHIN THE SAME CALENDAR DAY.
- 4- POSITION BARRICADES SUCH THAT THE STRIPES ARE SLOPED DOWNWARD IN THE DIRECTION TOWARD WHICH TRAFFIC MUST TURN IN DETOURING.
- 5- USE PORTABLE SIGNS IF ROAD CLOSURE IS TO BE IMPLEMENTED FOR LESS THAN THREE DAYS, OR FOR EMERGENCIES. IN THIS CASE, NO STOP BAR IS NECESSARY.

└ STATIONARY SIGN
 ← DIRECTION OF TRAFFIC FLOW

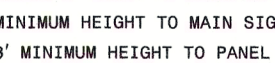
1101.03



1. BALLASTING SHALL BE ACHIEVED BY THE SAND BAG, TIRE-SIDEWALL, OR PREFORMED WEIGHTED BASE METHODS. USE THE TIRE BALLAST AS SPECIFIED BY THE MANUFACTURER. DO NOT PLACE BALLAST ON TOP OF THE DRUM.
2. IF NECESSARY PLACE THE NAME OF THE AGENCY, CONTRACTOR, OR SUPPLIER ON NON-RETROREFLECTIVE DRUM SURFACES. SHOW THE LETTERS AND NUMBERS USING A NON-RETROREFLECTIVE COLOR AND NOT OVER 2" IN HEIGHT.
3. ALL DRUMS MUST BE LISTED ON THE DEPARTMENT'S APPROVED PRODUCT LIST.
4. REFER TO THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES FOR ADDITIONAL INFORMATION.

ROADWAY STANDARD DRAWING FOR
TEMPORARY ROAD CLOSURES
CLOSURE AT DETOUR POINT

SHEET 2 OF 9
1101.03



- 1- DIMENSIONS SHOWN ARE MINIMUM VALUES. MOUNT SIGNS SO THEY WILL BE CLEARLY VISIBLE TO APPROACHING TRAFFIC WHEN SIGNS ARE MOUNTED BEHIND TRAFFIC CONTROL DEVICES SUCH AS DRUMS, BARRIER, OR OTHER OBJECTS.
- 2- ALL PORTABLE SIGNS AND STANDS MUST MEET OR EXCEED THE REQUIREMENTS OF NCHRP 350 FOR CATEGORY II DEVICES. USE PORTABLE WORK ZONE SIGNS AND STANDS SPECIFICALLY DESIGNED FOR ONE ANOTHER.
- 3- ALL PORTABLE WORK ZONE SIGNS AND STANDS MUST BE LISTED ON THE DEPARTMENT'S APPROVED PRODUCTS LIST.



- 1- HORIZONTAL RAILS FOR MAY BE CONSTRUCTED OF APPROVED COMPOSITE, HOLLOW/CORUGATED
EXTRUDED RIGID POLYOLEFIN, HIGH DENSITY POLYETHYLENE, OR OTHER NC DOT APPROVED MATERIAL.
- 2- BARRICADE SHALL BE LIMITED TO A MAXIMUM LENGTH OF 8 FT UNLESS NCHRP 350 CRASH TESTED
FOR CATEGORY II DEVICES AND NCDOT APPROVED.
- 3- ONLY NC DOT APPROVED COMPOSITE AND ROLL-UP SIGNS MAY BE MOUNTED ON THE BARRICADE RAILS.
MOUNT SIGNS TO BARRICADE RAILS TO ENSURE SIGN WILL NOT BECOME DETACHED UNDER NORMAL
WIND AND TRAFFIC CONDITIONS.
- 4- SIGNS SHOULD BE MOUNTED A MINIMUM OF 1 FOOT FROM THE GROUND TO THE BOTTOM OF THE SIGN
UNLESS SIGNS R11-3 OR R11-4 ARE REQUIRED BY THE PLANS OR DIRECTED BY THE ENGINEER.
- 5- BARRICADE MUST BE NCHRP 350 FOR CATEGORY II DEVICES AND NCDOT APPROVED WITH STABILIZER
BAR OR ADEQUATE LATERAL BRACING.
- 6- ASSEMBLY OF THE GENERIC BARRICADES MUST BE SELF CERTIFIED BY THE ASSEMBLER.
- 7- BARRICADES USED TO CLOSE A ROADWAY SHALL EXTEND ACROSS THE ENTIRE ROADWAY. WHERE
LOCAL TRAFFIC MUST BE MAINTAINED, THEY MAY BE PLACED IN A STAGGERED PATTERN.
- 8- STRIPES ON WORK ZONE BARRICADE RAILS SHALL BE ALTERNATE ORANGE AND WHITE
RETROREFLECTIVE STRIPES, SLOPED DOWNWARD TOWARDS THE SIDE WHICH TRAFFIC IS TO PASS OR
TURN IN DETOURING. WHERE NO TURNS ARE INTENDED, THE STRIPES SHOULD SLOPE DOWNWARD
TOWARD THE CENTER OF THE BARRICADE OR BARRICADES.
- 9- USE RED AND WHITE STRIPES FOR PERMANENT BARRICADES.
- 10- ALL BARRICADES MUST BE LISTED ON THE DEPARTMENT'S APPROVED PRODUCTS LIST.
- 11- PLACE MANUFACTURER'S NAME AND FEDERAL HIGHWAY ADMINISTRATION'S NCHRP 350 APPROVAL
LETTER NUMBER ON BARRICADE FRAME.
- 12- PLACE SANDBAGS OR OTHER APPROVED BALLASTING METHODS ON THE FEET OF THE FRAME. DO NOT
PLACE SANDBAGS ON TOP OF A STRIPED RAIL OR STABILIZER BAR. DO NOT BALLAST BARRICADES BY
HEAVY OBJECTS SUCH AS ROCKS, CHUNKS OF CONCRETE OR OTHER ITEMS THAT WOULD CAUSE DAMAGE
IF THE BARRICADE IS STRUCK BY A VEHICLE.

SHEET 1 OF 1
1110.02

ROADWAY STANDARD DRAWING FOR BARRICADES TYPE - III

SHEET 1 OF 1
1145.01

Engineering Division

TC-2

DRAWN: LIJ	DATE: 05/01/2023
CHECKED BY: SKA	SCALE: 1" = 120'
APPROVED: SKA	

ATE

DESCRIPTION	D/A
REVISIONS	

No.	

[illegible]

tion

Engineering Division

Eng



GROUNDWATER CONDITION (SEE NOTE 6)	H SHORING HEIGHT (FT)	SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT						SURCHARGE CASE WITH TRAFFIC IMPACT					
		SHEET PILES		H-PILES WITH TIMBER LAGGING			MINIMUM REQUIRED EMBEDMENT* (FT) (SEE NOTE 10)	SHEET PILES		H-PILES WITH TIMBER LAGGING			MINIMUM REQUIRED EMBEDMENT* (FT) (SEE NOTE 10)
		MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS (IN ³ /FT)	HP 10x42	HP 12x53	HP 14x73		MINIMUM REQUIRED EMBEDMENT (FT)	MINIMUM REQUIRED SECTION MODULUS (IN ³ /FT)	HP 10x42	HP 12x53	HP 14x73	
GROUNDWATER ELEVATION BETWEEN BOTTOM OF SHORING AND PILE TIP	< 6	11.5	4.5	11.5	11.5	11.5	16.0	12.0	13.0	13.0	13.0	13.0	13.0
	7	13.0	7.0	13.0	13.0	13.0	17.0	14.5	14.5	14.5	14.5	14.5	14.5
	8	15.0	10.0	---	15.0	15.0	18.0	17.0	17.0	15.5	15.5	15.5	15.5
	9	17.0	14.0	---	17.0	17.0	19.0	20.0	---	17.0	17.0	17.0	17.0
	10	18.5	19.5	---	---	18.5	20.0	23.5	---	---	18.5	18.5	18.5
	11	20.5	26.0	---	---	---	21.0	28.0	---	---	20.0	20.0	20.0
	12	22.5	33.0	---	---	---	22.0	33.0	---	---	21.5	21.5	21.5
GROUNDWATER ELEVATION BELOW PILE TIP	< 6	7.5	3.0	8.0	8.0	8.0	11.0	10.0	9.5	9.5	9.5	9.5	9.5
	7	8.5	4.5	9.5	9.5	9.5	12.0	12.0	10.5	10.5	10.5	10.5	10.5
	8	10.0	6.5	10.5	10.5	10.5	12.5	14.0	11.5	11.5	11.5	11.5	11.5
	9	11.0	9.5	---	12.0	12.0	13.5	16.5	---	12.5	12.5	12.5	12.5
	10	12.5	13.0	---	---	13.5	14.0	19.5	---	13.5	13.5	13.5	13.5
	11	13.5	17.0	---	---	14.5	15.0	22.5	---	---	14.5	14.5	14.5
	12	15.0	21.5	---	---	16.0	16.0	25.5	---	---	15.5	15.5	15.5

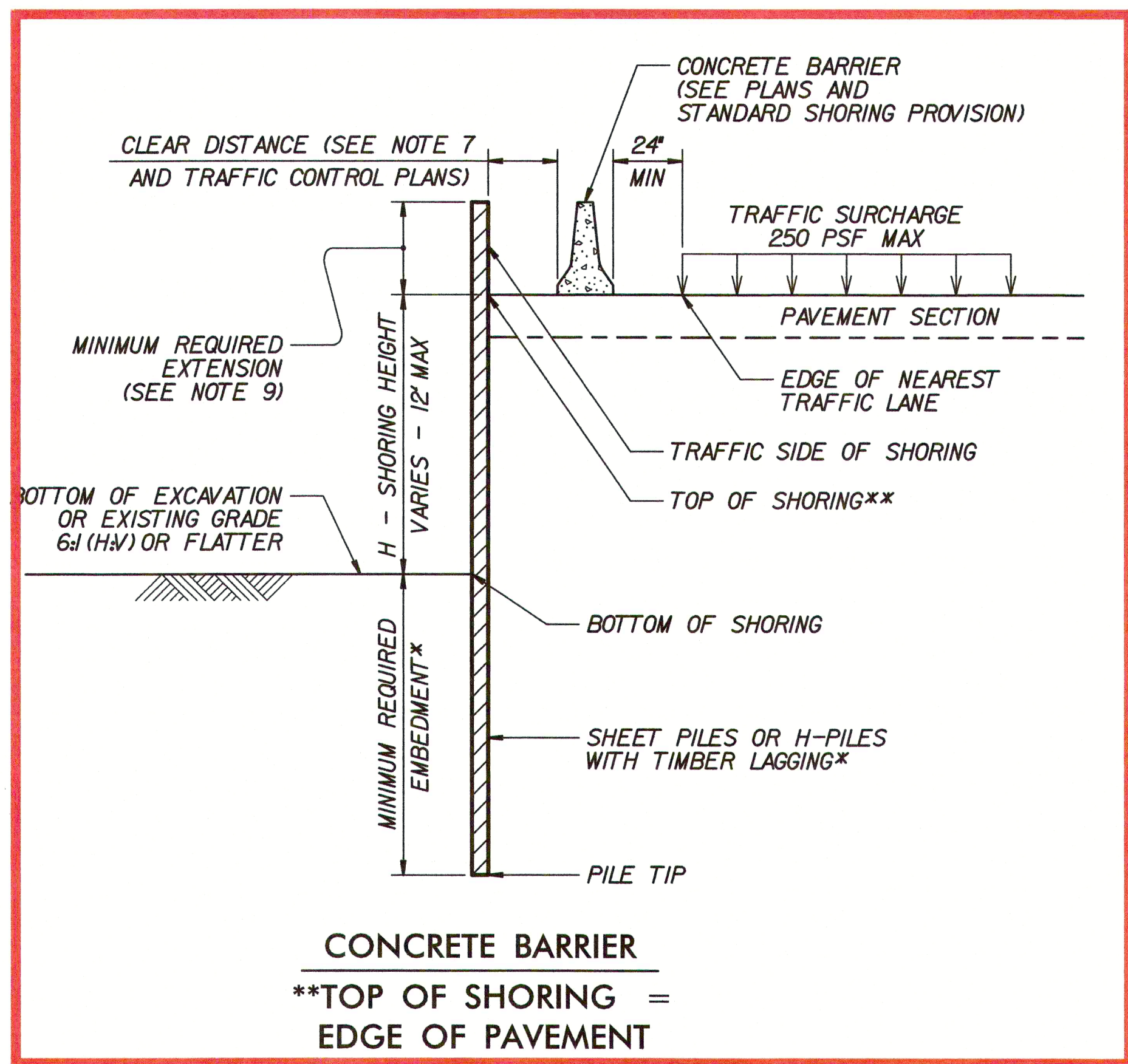
MINIMUM REQUIRED EMBEDMENT AND SECTION MODULUS

*DO NOT USE H-PILES WITH TIMBER LAGGING FOR GROUNDWATER CONDITION, SHORING HEIGHT AND H-PILE SIZE SHOWN IF MINIMUM REQUIRED EMBEDMENT IS "---".

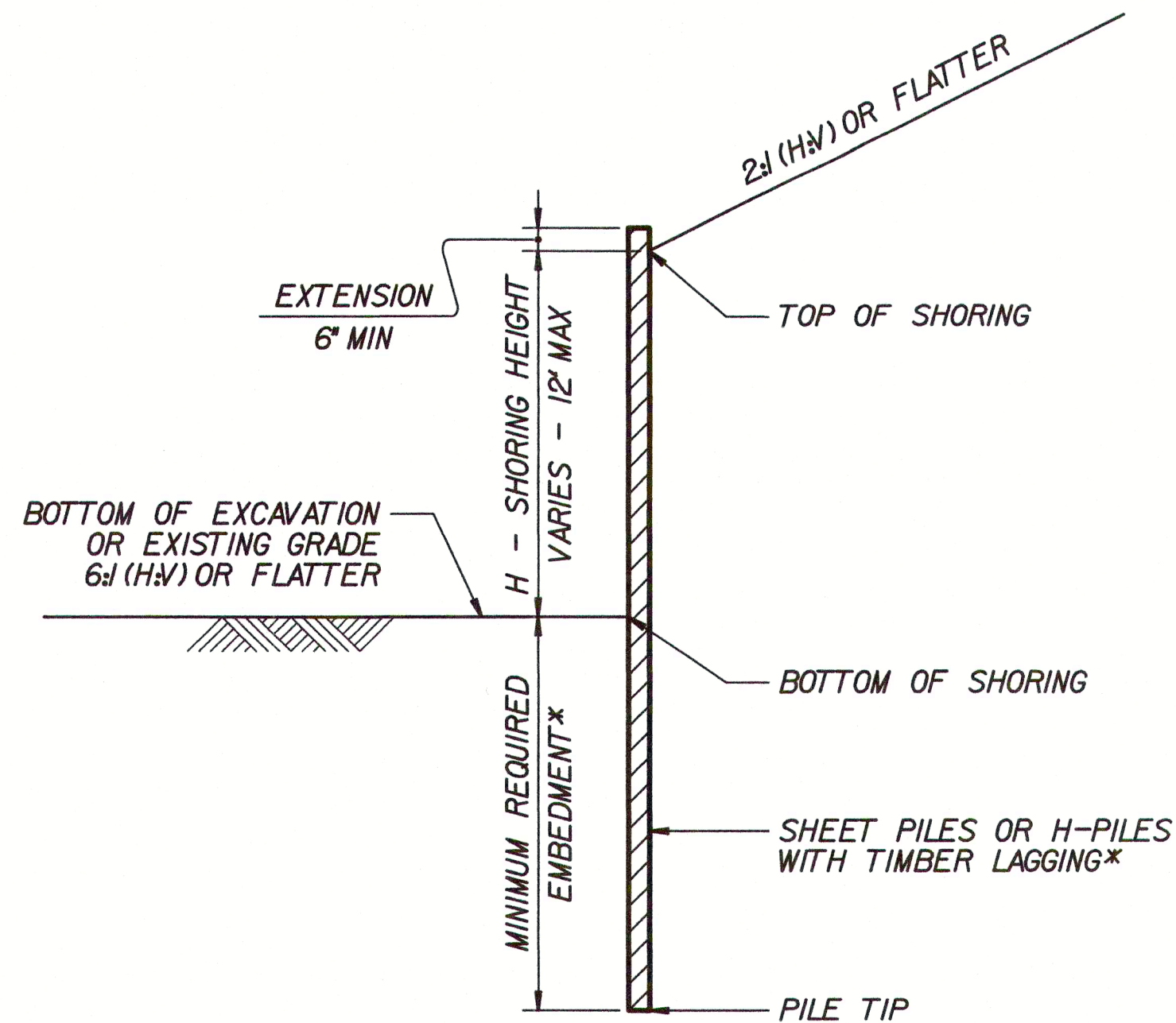
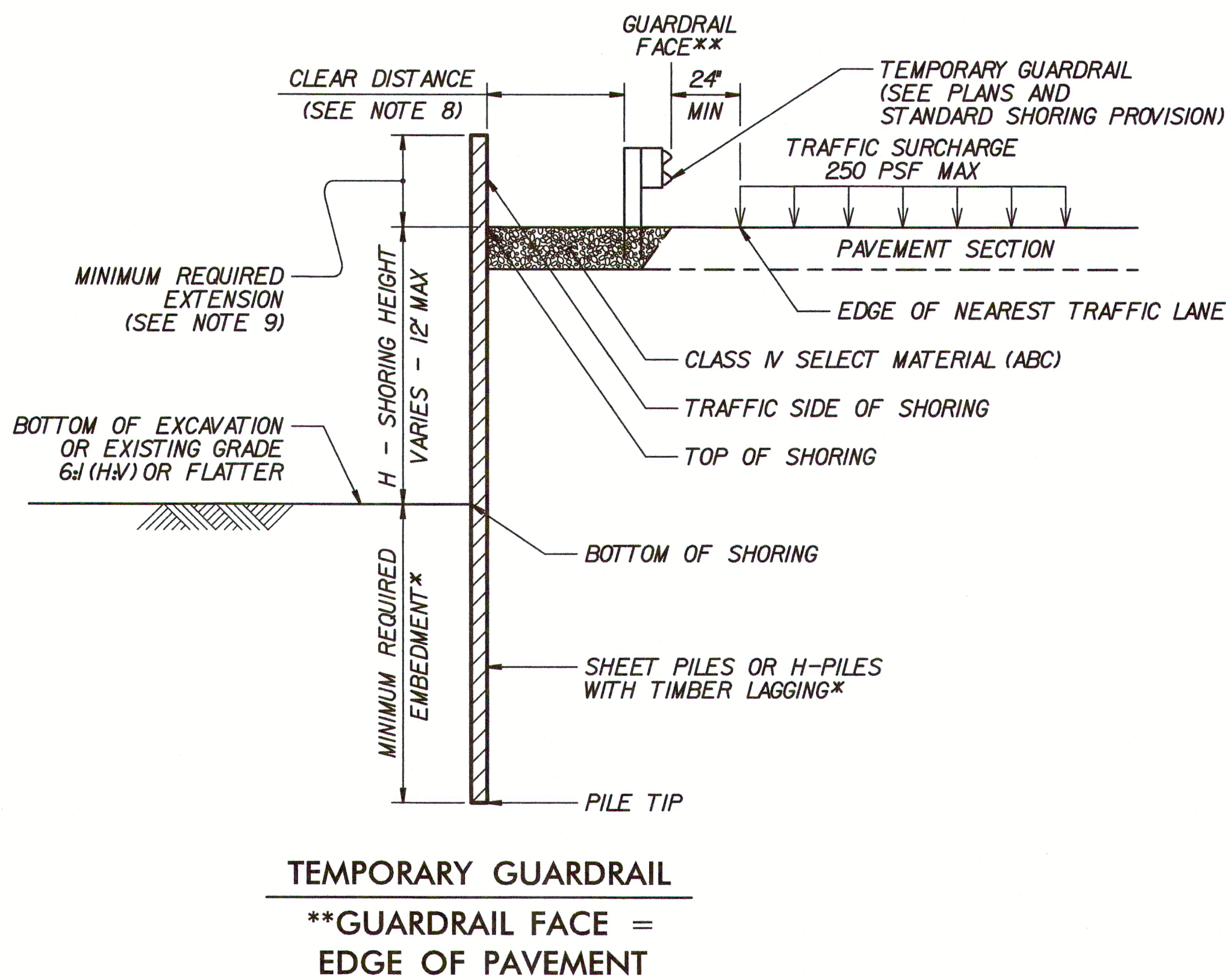
NOTES:

- AT THE CONTRACTOR'S OPTION, USE STANDARD TEMPORARY SHORING AS NOTED IN THE PLANS.
- FOR STANDARD TEMPORARY SHORING, SEE STANDARD SHORING PROVISION.
- STANDARD TEMPORARY SHORING IS BASED ON THE FOLLOWING IN-SITU ASSUMED SOIL PARAMETERS:
UNIT WEIGHT, $\gamma = 120$ PCF
FRICTION ANGLE, $\phi = 30$ DEGREES
COHESION, $c = 0$ PSF
- DO NOT USE STANDARD TEMPORARY SHORING IF ASSUMED SOIL PARAMETERS ARE NOT APPLICABLE.
- DO NOT USE STANDARD TEMPORARY SHORING WHEN VERY LOOSE OR SOFT SOIL OR MUCK IS WITHIN THE EMBEDMENT DEPTH.
- USE GROUNDWATER ELEVATION NOTED IN THE PLANS. IF NO GROUNDWATER ELEVATION IS SHOWN IN THE PLANS, USE "GROUNDWATER ELEVATION BETWEEN BOTTOM OF SHORING AND PILE TIP" FOR GROUNDWATER CONDITION. DO NOT USE STANDARD TEMPORARY SHORING IF GROUNDWATER IS ABOVE BOTTOM OF SHORING.
- AT THE CONTRACTOR'S OPTION OR IF AVAILABLE CLEAR DISTANCE IS LESS THAN THE MINIMUM REQUIRED FOR CONCRETE BARRIER, SET BARRIER NEXT TO AND UP AGAINST TRAFFIC SIDE OF PILES AND USE "SURCHARGE CASE WITH TRAFFIC IMPACT".
- AT THE CONTRACTOR'S OPTION OR IF AVAILABLE CLEAR DISTANCE IS LESS THAN 4' FOR TEMPORARY GUARDRAIL, ATTACH GUARDRAIL TO TRAFFIC SIDE OF PILES AS SHOWN IN THE PLANS AND USE "SURCHARGE CASE WITH TRAFFIC IMPACT".
- MINIMUM REQUIRED EXTENSION IS 6' FOR "SLOPE OR SURCHARGE CASE WITH NO TRAFFIC IMPACT" AND 32' FOR "SURCHARGE CASE WITH TRAFFIC IMPACT".
- MINIMUM REQUIRED EMBEDMENT FOR H-PILES WITH TIMBER LAGGING IS BASED ON DRIVEN H-PILES AT MAXIMUM 6' SPACING. AT THE CONTRACTOR'S OPTION, EMBEDMENT DEPTHS MAY BE REDUCED BY 25% FOR DRILLED-IN H-PILES.
- SUBMIT A "STANDARD TEMPORARY SHORING SELECTION FORM" AT LEAST 7 DAYS BEFORE STARTING TEMPORARY SHORING CONSTRUCTION. UP TO 3 SHORING LOCATIONS MAY BE INCLUDED ON EACH FORM. STANDARD SHORING SELECTION FORMS ARE AVAILABLE FROM:
connect.ncdot.gov/resources/Geotechnical/Pages/Geotech_Forms_Details.aspx
- CONTACT THE ENGINEER IF PILES DO NOT ATTAIN THE MINIMUM REQUIRED EMBEDMENT.

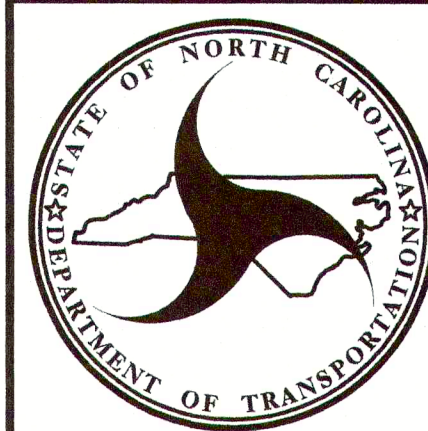
PROJECT REFERENCE NO.		SHEET NO.	
GEOTECHNICAL ENGINEER		ENGINEER	
SIGNATURE		SIGNATURE	
DATE		DATE	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



STANDARD TEMPORARY SHORING (SURCHARGE CASE)
*SEE TABLE ABOVE.



STANDARD TEMPORARY SHORING (SLOPE CASE)
*SEE TABLE ABOVE.



NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

GEOTECHNICAL
ENGINEERING UNIT

STANDARD DETAIL NO. 1801.01

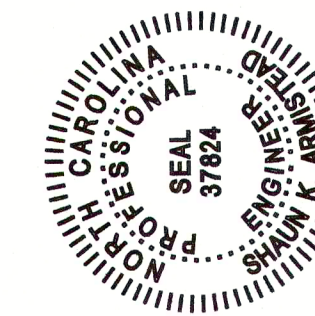
STANDARD
TEMPORARY SHORING

DATE: 11-19-13

Metropolitan Sewerage District
of Buncombe County

Old County Home Road
Sanitary Sewer Rehabilitation
Traffic Control Details

TC-3



REVISIONS

MSD

Engineering Division

