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CONSTRUCTION SEQUENCE AND MAINTENANCE PLAN:

A. CONSTRUCTION SEQUENCE:

1. NOTIFY THE ASHEVILLE REGIONAL OFFICE (ARO) PRIOR TO BEGINNING ANY LAND DISTURBING ACTIVITY.
2. INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCE AT ACCESS POINT TO THE SITE.
3. INSTALL SILT FENCING, SILT FENCE OUTLETS, AND CROSS PIPES AS SHOWN ON PLANS.
4. REMOVE EXISTING TREES AND STUMPS.
5. INSTALL SKIMMER BASINS, TEMPORARY SEDIMENT TRAPS AND CROSS PIPES AS THE GRADING PROGRESSES INTO THE SITE. ALL BASIN/TRAP EMBANKMENTS SHALL BE STABILIZED IMMEDIATELY UPON CONSTRUCTION.
6. INSTALL DIVERSION BERMS/DITCHES TO DIRECT RUNOFF INTO BASINS/TRAPS. INSTALL REMAINING SILT FENCE, SILT FENCE OUTLETS AND INLET/OUTLET PROTECTION.
7. ROAD CONSTRUCTION/UTILITY CONSTRUCTION IS LIMITED TO 1500 LINEAR FEET OF DISTURBED AREA AT ANY GIVEN TIME. PERFORM GRADING AND FERTILIZE, SEED, MULCH, AND MAT ALL FINAL SLOPES AND AREAS OF CONCENTRATED FLOW AS SOON AS SLOPES ARE GRADED.
8. ESTABLISH TEMPORARY VEGETATIVE PROTECTIVE COVER WITHIN 7 DAYS OR PERMANENT GROUNDCOVER WITHIN 7 DAYS OF COMPLETION OF ANY PHASE OF GRADING.
9. NOTIFY THE ARO UPON ESTABLISHING GROUNDCOVER AND STABILIZATION ON THE PROJECT.

B. MAINTENANCE PLAN:

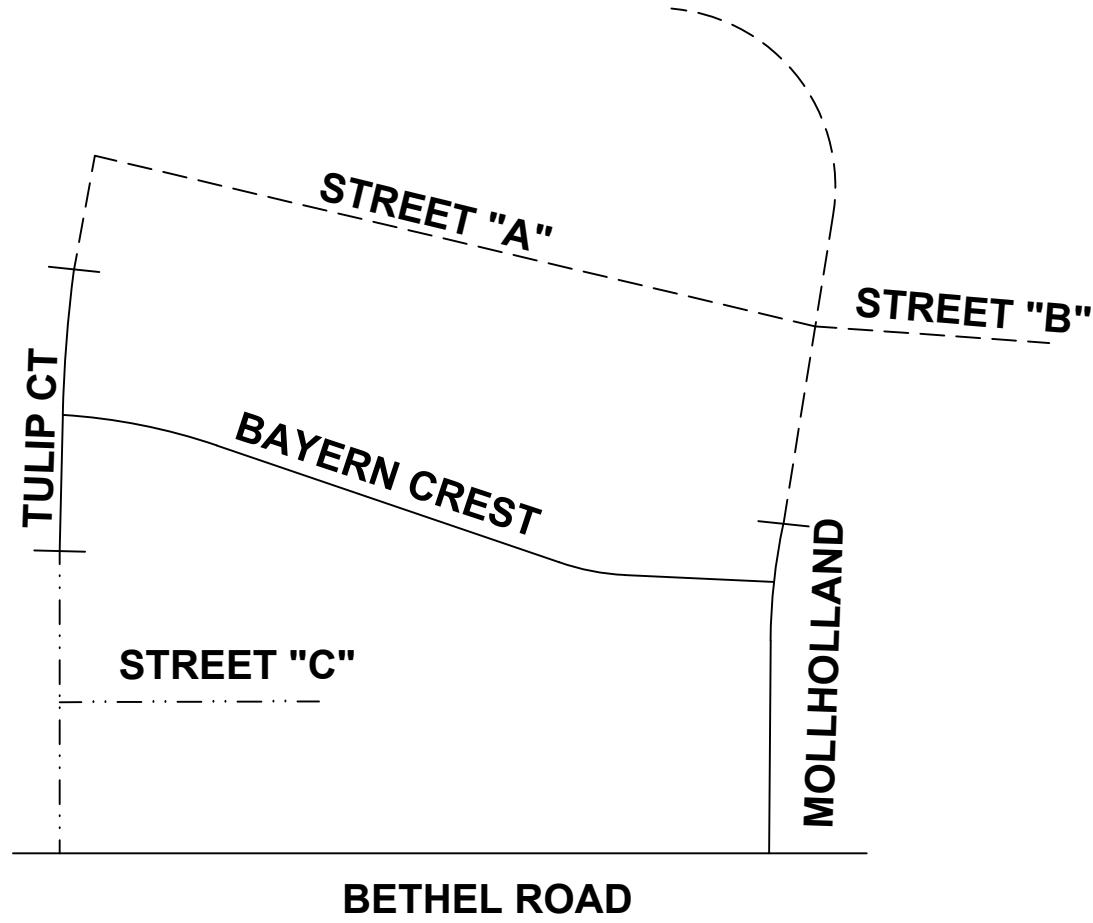
1. INSPECT ALL EROSION CONTROL DEVICES WEEKLY AND AFTER EACH RUNOFF PRODUCING RAINFALL EVENT.
2. REMOVE ACCUMULATED SEDIMENT FROM ALL MEASURES AND REPAIR OR REPLACE STONE WHICH HAS BEEN DISPLACED OR CONTAMINATED.
3. AFTER VEGETATION IS WELL ESTABLISHED, REMOVE ALL TEMPORARY EROSION CONTROL DEVICES, AND DEWATER THE BASINS/TRAPS. FILL BASIN/TRAPS AND BRING TO FINISH GRADE IN COMPACTED LIFTS. SMOOTH THE BASIN/TRAP SITE TO BLEND WITH THE SURROUNDING AREA, ENSURING THE BASIN/TRAP WILL NOT POND WATER AND IMMEDIATELY PERMANENTLY STABILIZE.

GENERAL SITE NOTES:

1. THE PROPERTY IS ZONED AS LID (RESIDENTIAL) WITH NO OVERLAY. THE PROPERTY IS LOCATED WITHIN THE CITY OF MORGANTON ETJ. THE PROPERTY IS SHOWN IN THE WS-IV PA WATERSHED AND IS A LOW DENSITY DEVELOPMENT (LESS THAN 2 LOTS PER ACRE).
2. THE EXACT LOCATION OF THE EXISTING UTILITIES SHALL BE VERIFIED AND DETERMINED IN THE FIELD. ALL EXISTING UTILITIES ARE NOT SHOWN AND SHALL BE LOCATED BY THE CONTRACTOR PRIOR TO STARTING WORK.
3. THE CONTRACTOR SHALL MAINTAIN AN "AS BUILT" SET OF DRAWINGS. THE DRAWINGS SHALL BE RED-LINE MARKED TO REFLECT DEVIATIONS FROM THE ORIGINAL DESIGN, INCLUDING ALL CHANGES IN PIPELINE AND STRUCTURE LOCATIONS AND ELEVATIONS. SUCH RED-LINE MARKS SHALL BE BASED ON MEASUREMENTS USING A TAPE AND TRANSIT, OR BETTER. A LICENSED SURVEYOR IS NOT REQUIRED TO PERFORM THIS TASK EXCEPT FOR NEW GRAVITY SEWER MAINS. FOR NEW GRAVITY MAINS, CONTRACTOR SHALL PROVIDE AS-BUILT PLAN AND PROFILE DRAWINGS PRODUCED BY A NC REGISTERED PROFESSIONAL SURVEYOR. THESE DRAWINGS SHALL SHOW ACTUAL MANHOLE LOCATIONS, NEW ELEVATIONS, INVERT IN AND OUT ELEVATIONS, AND THE CALCULATED SLOPE BETWEEN MANHOLES. IT IS NOT NECESSARY TO SURVEY GROUND SURFACE ELEVATIONS BETWEEN MANHOLES, UNLESS IN THE OPINION OF THE ENGINEER THE SURFACE ELEVATIONS ARE SIGNIFICANTLY ALTERED FROM THE DESIGN ELEVATIONS.
4. ALL SITE UTILITY WORK SHALL BE COORDINATED WITH THE CITY OF MORGANTON AND SHALL BE PERFORMED BY A NORTH CAROLINA LICENSED UTILITY CONTRACTOR.
5. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL MATERIALS TO BE USED TO THE CITY OF MORGANTON PRIOR TO STARTING WORK.
6. A PRECONSTRUCTION MEETING SHALL BE HELD WITH THE CITY AND UTILITY CONTRACTOR PRIOR TO STARTING WORK.
7. CONTRACTOR SHALL INSTALL A 3/4" SERVICE AND METER ON EACH LOT TO CITY OF MORGANTON STANDARDS.
8. ALL STRIPING SHALL BE EITHER THERMOPLASTIC OR POLY-UREA.

ABBREVIATIONS	
Ø	DIAMETER
ABC	AGGRIGATE BASE COURSE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CONT	CONTINUOUS
CY	CUBIC YARD
DIP	DUCTILE IRON PIPE
EX	EXISTING
FT	FEET
GA	GAUGE
HDPE	HIGH DENSITY POLYETHYLENE
IN	INCHES
INV	INVERT
LF	LINEAR FEET
MH	MANHOLE
MIN	MINIMUM
NTS	NOT TO SCALE
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
POT	POINT ON TANGENT
POVC	POINT OF VERTICAL CURVATURE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
R	RADIUS
R/W	RIGHT OF WAY
SCH	SCHEDULE
SD	STORM DRAIN PIPE
SF	SQUARE FEET
STA	STATION
TYP	TYPICAL
VC	VERTICAL CURVE LENGTH

PHASE KEY



- EXISTING ROAD
- PHASE 2A
- PHASE 2B



VICINITY MAP
NTS



NOTE: EXISTING UTILITIES SHOWN ARE APPROXIMATE LOCATION, FOR GENERAL REFERENCE ONLY, AND NOT ALL UTILITIES ARE NECESSARILY SHOWN. CONTRACTOR IS RESPONSIBLE FOR UTILITIES LOCATING, COORDINATION, AND PROTECTION.

GRADING NOTES:

1. OWNER OF RECORD: MULL, INC. PO BOX 8309 MORGANTON, NC 28680
2. TOTAL ACREAGE IN TRACT = 32.59 ACRES.
3. TOTAL DISTURBANCE AREA = 11.5 ACRES.
4. DEED REFERENCE DB 576 PG 886.
5. ALL CLEARING DEBRIS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL STATE AND LOCAL ORDINANCES.
6. ASSUMED SOIL CLASS B.
7. A PORTION OF THIS PROPERTY IS WITHIN THE 100-YEAR FLOOD PLAIN ZONED AE. THE MAJORITY OF THE PROPERTY IS NOT LOCATED WITHIN THE FLOODPLAIN AND IS THEREFORE IN ZONE X. ALL WORK WILL BE LOCATED IN ZONE X.
8. ALL CUT AND FILL SLOPES AND AREAS OF CONCENTRATED FLOW SHALL BE MATTED WITH NORTH AMERICAN GREEN LINER SC150 STAPLE PATTERN D OR APPROVED EQUAL UNLESS OTHERWISE INDICATED.
9. A COPY OF THIS PLAN SHALL BE KEPT ON SITE.
10. A TEMPORARY GRAVEL CONSTRUCTION ENTRANCE SHALL BE PLACED AT ALL ACCESS POINTS TO THE SITE TO PREVENT THE TRACKING OF MUD ONTO THE EXISTING STREET. ALL VEHICLES SHALL BE WASHED FREE OF ANY LOOSE MUD BEFORE EXITING THE SITE.
11. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT NCDEQ EROSION CONTROL MANUAL.
12. THE EARTHWORK SHALL BE BALANCED ON SITE. THE EXISTING TOPSOIL SHALL BE STOCKPILED AND USED IN THE GRASSED AREAS.
13. THE CONTRACTOR SHALL COMPLY WITH NCG01 CONSTRUCTION GENERAL PERMIT AND COMPLETE THE SELF-INSPECTION FORM WEEKLY FOR THIS PROJECT. THE FORM CAN BE FOUND AT <https://deq.nc.gov/about/divisions/energy-mineral-land-resources/erosion-sediment-control/forms>
14. FILL MATERIAL SHALL BE FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS, AND OTHER MATERIALS INAPPROPRIATE FOR CONSTRUCTION STABLE FILLS.
15. FILL LAYERS SHALL NOT EXCEED 9 INCHES IN THICKNESS, AND THE LAYERS SHALL BE COMPACTED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, OR OTHER RELATED PROBLEMS.
16. FILL SLOPES SHALL NOT INCORPORATE FROZEN OR SOFT MATERIAL, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS.

LEGEND	
TREELINE	
OVERHEAD WIRE	
PROPERTY LINE	
FIBER OPTIC CABLE	
TELEPHONE LINE	
EXISTING WATER LINE	
EXISTING RIGHT OF WAY	
PROPOSED WATER LINE	
PROPOSED SEWER LINE	
LIMITS OF DISTURBANCE	
STRAW WATTLE PERIMETER	
SILT FENCE	
CHANNEL	
SILT FENCE OUTLET	
ROCK PIPE INLET PROTECTION	
OUTLET PROTECTION	
TEMPORARY GRAVEL CONSTRUCTION ENTRANCE	
INLET PROTECTION	
CURB INLET	
EXISTING MONUMENT	
UTILITY POLE	
EXISTING FIRE HYDRANT	
PROPOSED FIRE HYDRANT	
TEMPORARY SEDIMENT TRAP	
TEMPORARY SKIMMER BASIN	

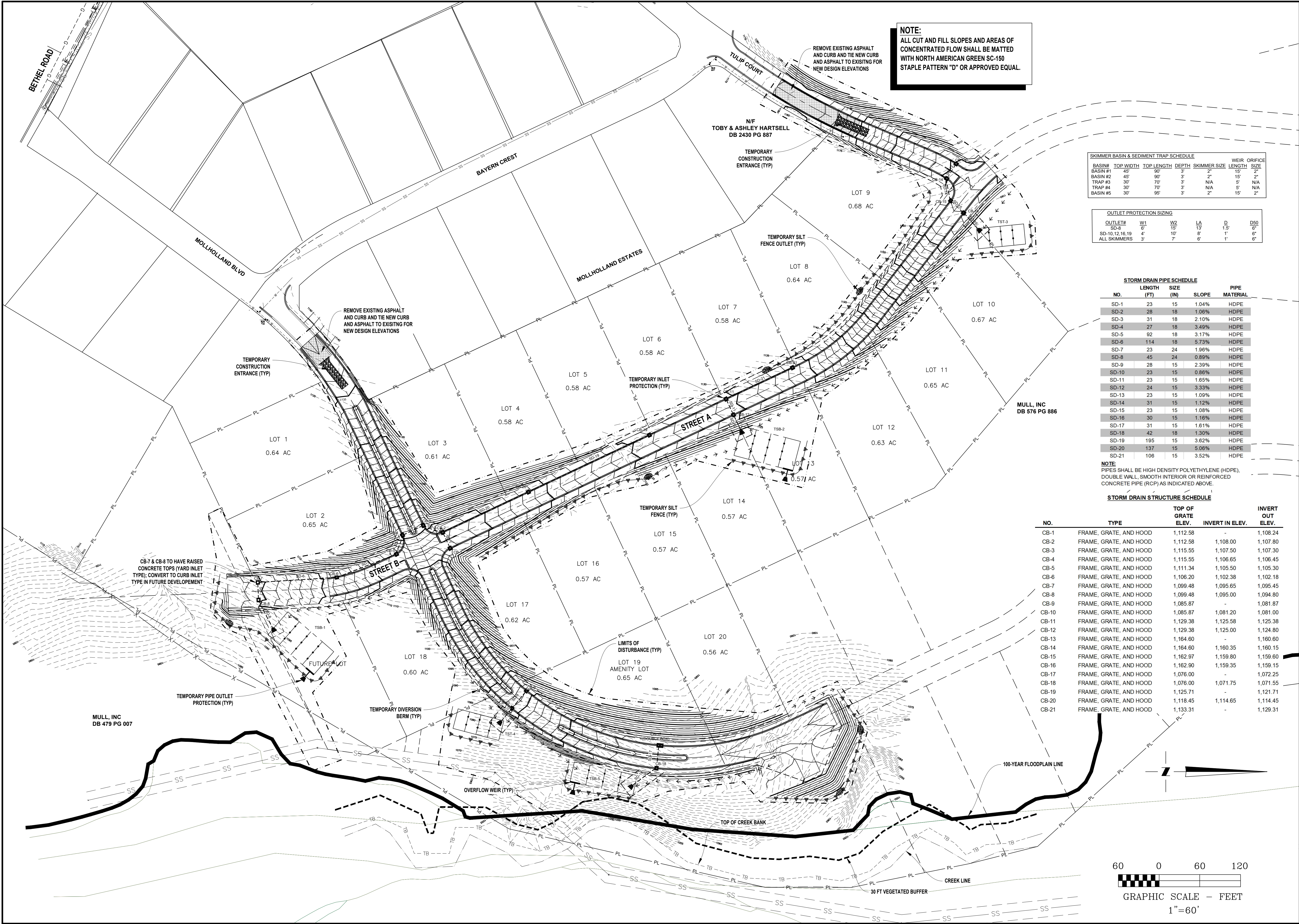
ISSUED FOR CONSTRUCTION

LOCATION MAP, NOTES & LEGEND

PROJECT NO.: 19099
SCALE: NTS
DATE: 11/4/21
DRAWN BY: BML
REVISION:

MOLLHOLLAND ESTATES
PHASE II
MORGANTON, NORTH CAROLINA

SHEET



NOTE:
ALL CUT AND FILL SLOPES AND AREAS OF
CONCENTRATED FLOW SHALL BE MATTED
WITH NORTH AMERICAN GREEN SC-150
STAPLE PATTERN "D" OR APPROVED EQUAL.

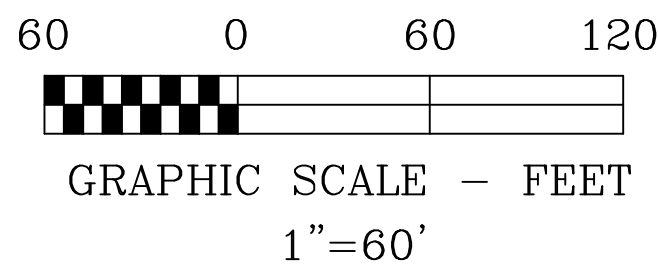
SKIMMER BASIN & SEDIMENT TRAP SCHEDULE						
BASIN#	TOP WIDTH	TOP LENGTH	DEPTH	SKIMMER SIZE	WEIR LENGTH	ORIFICE SIZE
BASIN #1	45'	90'	3'	2"	15'	2"
BASIN #2	45'	90'	3'	2"	15'	2"
TRAP #3	30'	70'	3'	N/A	5'	N/A
TRAP #4	30'	70'	3'	N/A	5'	N/A
BASIN #5	30'	95'	3'	2"	15'	2"

OUTLET PROTECTION SIZING					
OUTLET#	W1	W2	LA	D	D50
SD-10,12,16,19	4'	10'	8"	1'	6"
ALL SKIMMERS	3'	7'	6"	1'	6"

STORM DRAIN PIPE SCHEDULE				
NO.	LENGTH (FT)	SIZE (IN)	SLOPE	PIPE MATERIAL
SD-1	23	15	1.04%	HDPE
SD-2	28	18	1.06%	HDPE
SD-3	31	18	2.10%	HDPE
SD-4	27	18	3.49%	HDPE
SD-5	92	18	3.17%	HDPE
SD-6	114	18	5.73%	HDPE
SD-7	23	24	1.96%	HDPE
SD-8	45	24	0.89%	HDPE
SD-9	28	15	2.39%	HDPE
SD-10	23	15	0.86%	HDPE
SD-11	23	15	1.65%	HDPE
SD-12	24	15	3.33%	HDPE
SD-13	23	15	1.09%	HDPE
SD-14	31	15	1.12%	HDPE
SD-15	23	15	1.08%	HDPE
SD-16	30	15	1.16%	HDPE
SD-17	31	15	1.61%	HDPE
SD-18	42	18	1.30%	HDPE
SD-19	195	15	3.62%	HDPE
SD-20	137	15	5.06%	HDPE
SD-21	106	15	3.52%	HDPE

NOTE:
PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HDPE),
DOUBLE WALL, SMOOTH INTERIOR OR REINFORCED
CONCRETE PIPE (RCP) AS INDICATED ABOVE.

STORM DRAIN STRUCTURE SCHEDULE		TOP OF GRATE ELEV.	INVERT IN ELEV.	INVERT OUT ELEV.
NO.	TYPE			
CB-1	FRAME, GRATE, AND HOOD	1,112.58	-	1,108.24
CB-2	FRAME, GRATE, AND HOOD	1,112.58	1,108.00	1,107.80
CB-3	FRAME, GRATE, AND HOOD	1,115.55	1,107.50	1,107.30
CB-4	FRAME, GRATE, AND HOOD	1,115.55	1,106.65	1,106.45
CB-5	FRAME, GRATE, AND HOOD	1,111.34	1,105.50	1,105.30
CB-6	FRAME, GRATE, AND HOOD	1,106.20	1,102.38	1,102.18
CB-7	FRAME, GRATE, AND HOOD	1,099.48	1,095.65	1,095.45
CB-8	FRAME, GRATE, AND HOOD	1,099.48	1,095.00	1,094.80
CB-9	FRAME, GRATE, AND HOOD	1,085.87	-	1,081.87
CB-10	FRAME, GRATE, AND HOOD	1,085.87	1,081.20	1,081.00
CB-11	FRAME, GRATE, AND HOOD	1,129.38	1,125.58	1,125.38
CB-12	FRAME, GRATE, AND HOOD	1,129.38	1,125.00	1,124.80
CB-13	FRAME, GRATE, AND HOOD	1,164.60	-	1,160.60
CB-14	FRAME, GRATE, AND HOOD	1,164.60	1,160.35	1,160.15
CB-15	FRAME, GRATE, AND HOOD	1,162.97	1,159.80	1,159.60
CB-16	FRAME, GRATE, AND HOOD	1,162.97	1,159.35	1,159.15
CB-17	FRAME, GRATE, AND HOOD	1,076.00	-	1,072.25
CB-18	FRAME, GRATE, AND HOOD	1,076.00	1,071.75	1,071.55
CB-19	FRAME, GRATE, AND HOOD	1,125.71	-	1,121.71
CB-20	FRAME, GRATE, AND HOOD	1,118.45	1,114.65	1,114.45
CB-21	FRAME, GRATE, AND HOOD	1,133.31	-	1,129.31



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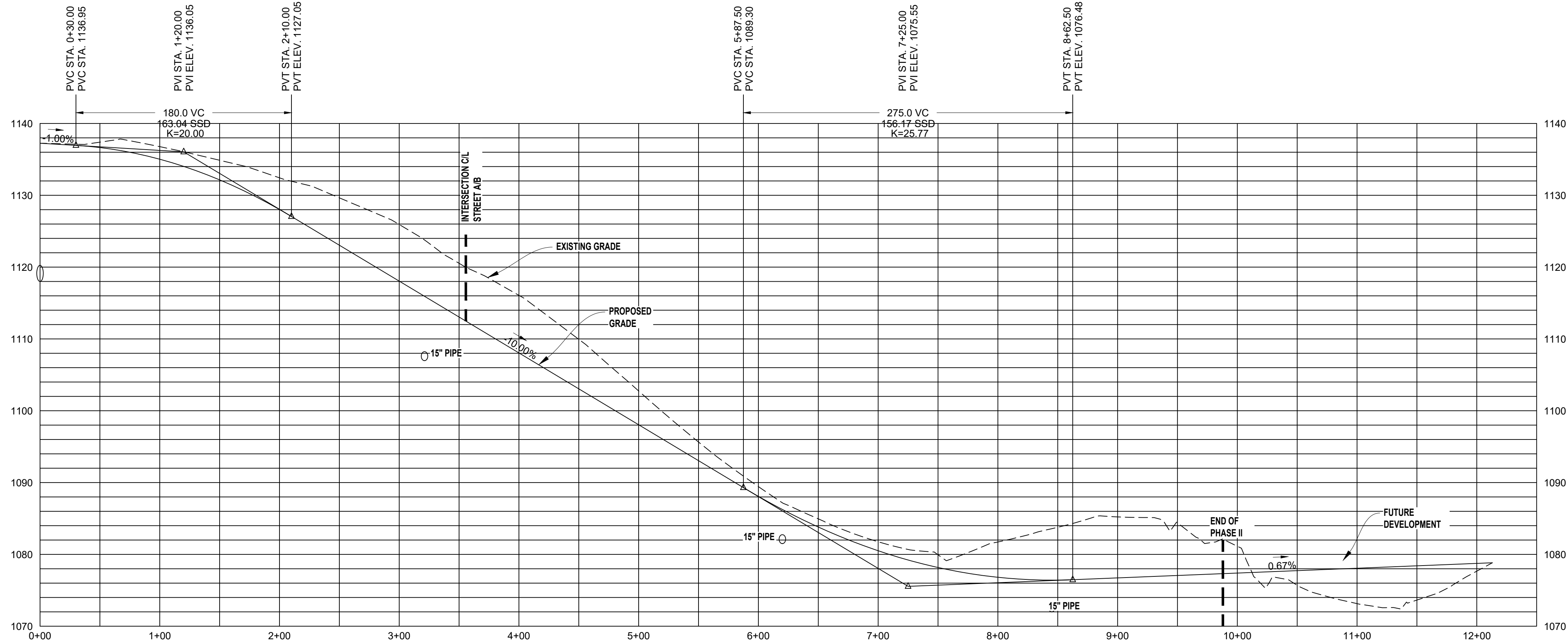
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PHASE 2A
GRADING & EROSION CONTROL PLAN

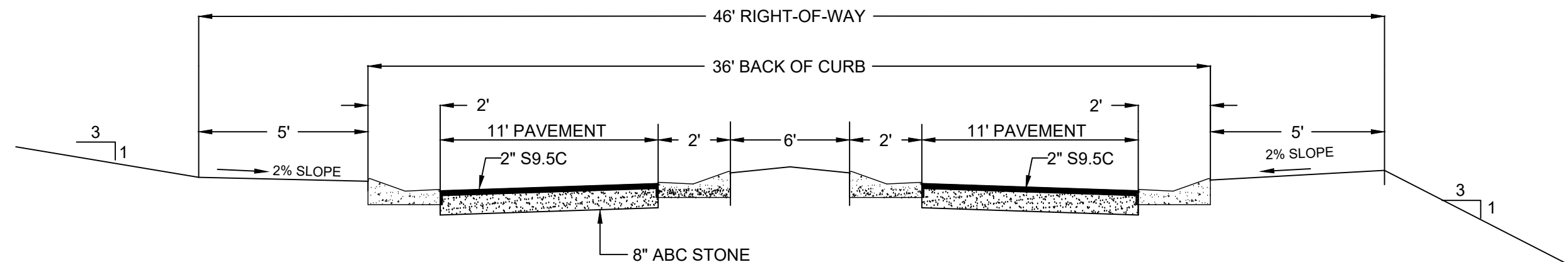
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DATE: 11/4/21
DRAWN BY: BML
REVISION:

**MOLLHOLLAND ESTATES
PHASE II**
MORGANTON, NORTH CAROLINA

SHEET
3 OF 15

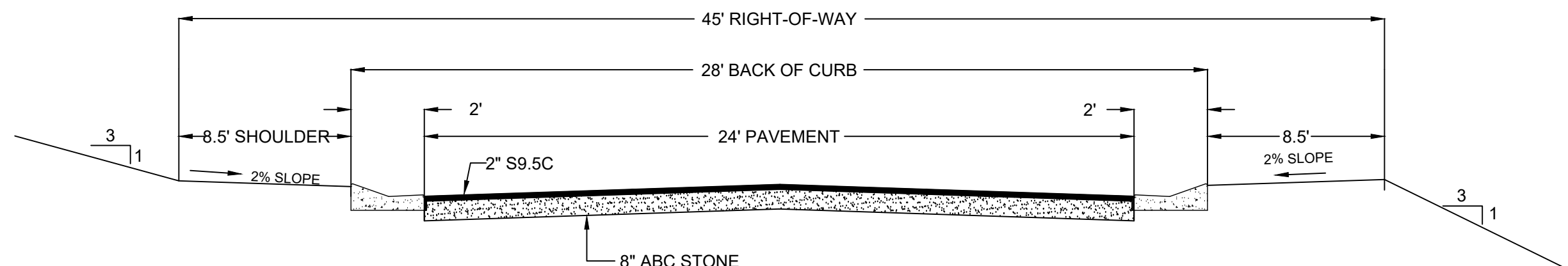


MOLLHOLLAND BLVD PROFILE



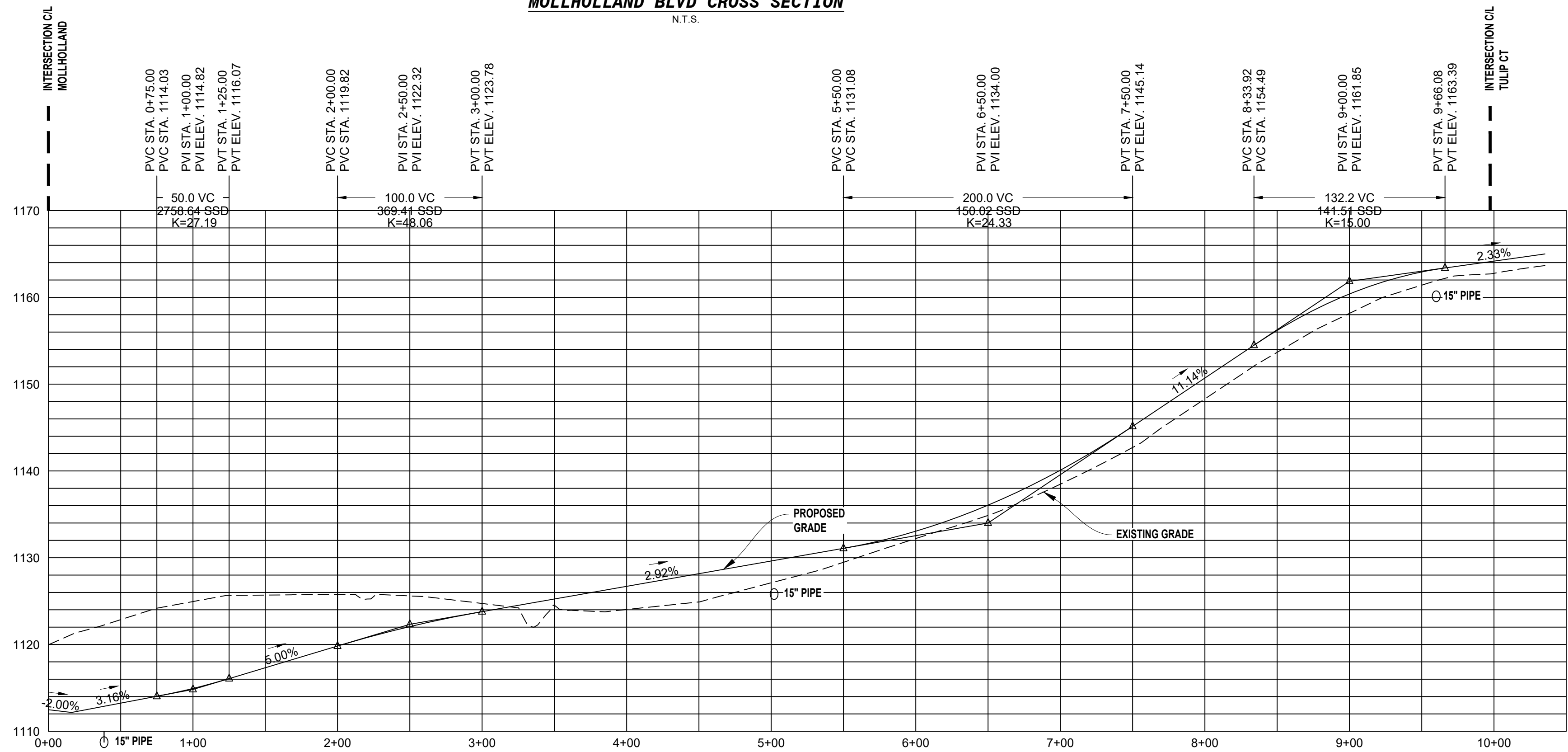
MOLLHOLLAND BLVD CROSS SECTION

N.T.S.

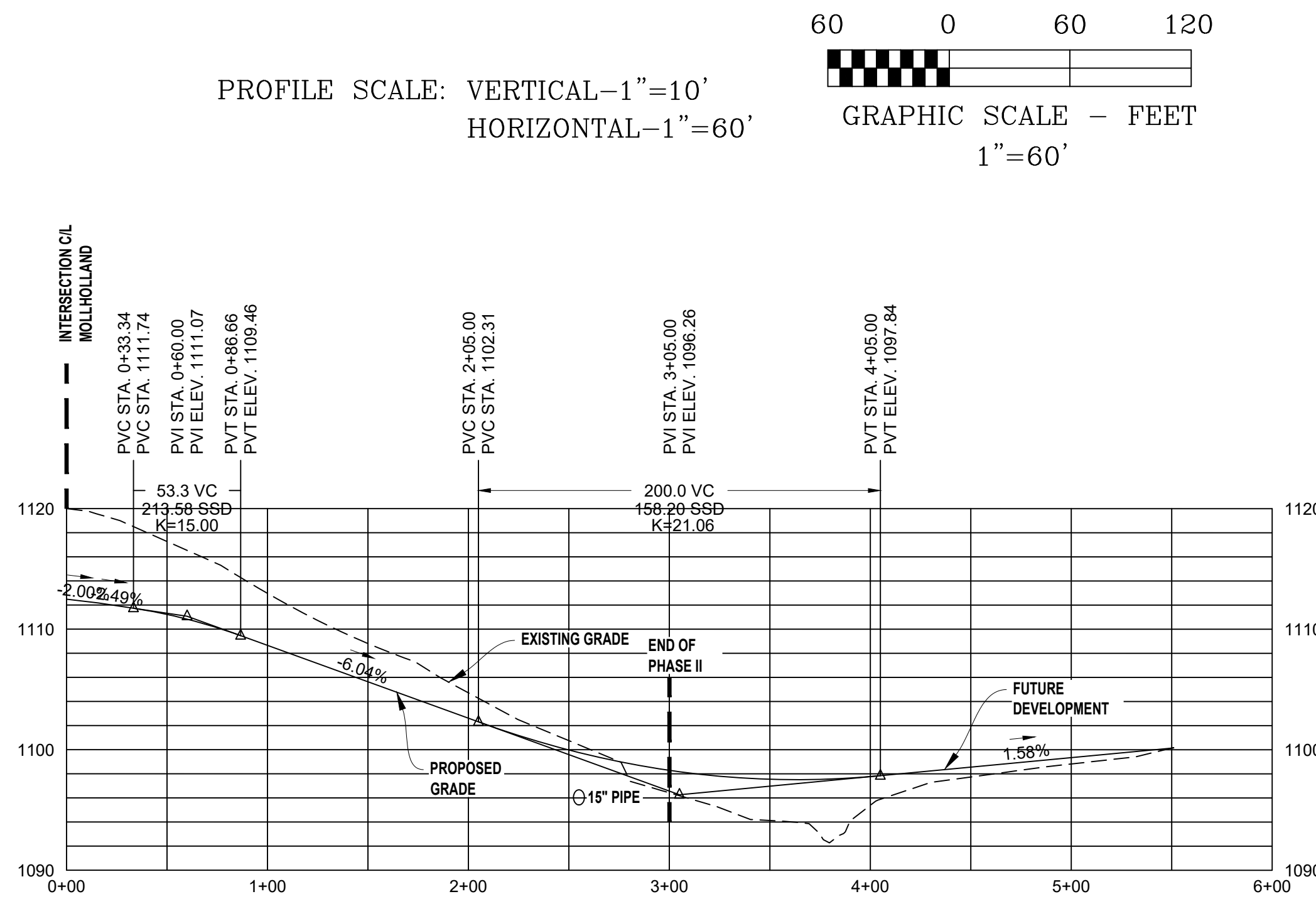


LOCAL STREET CROSS SECTION

N.T.S.

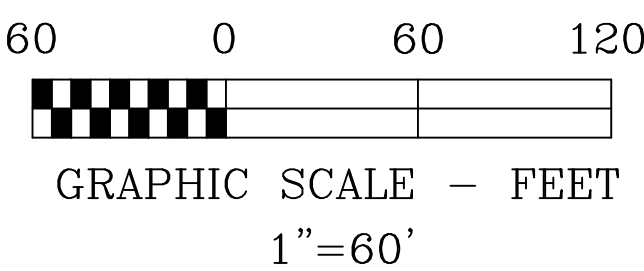


STREET A PROFILE

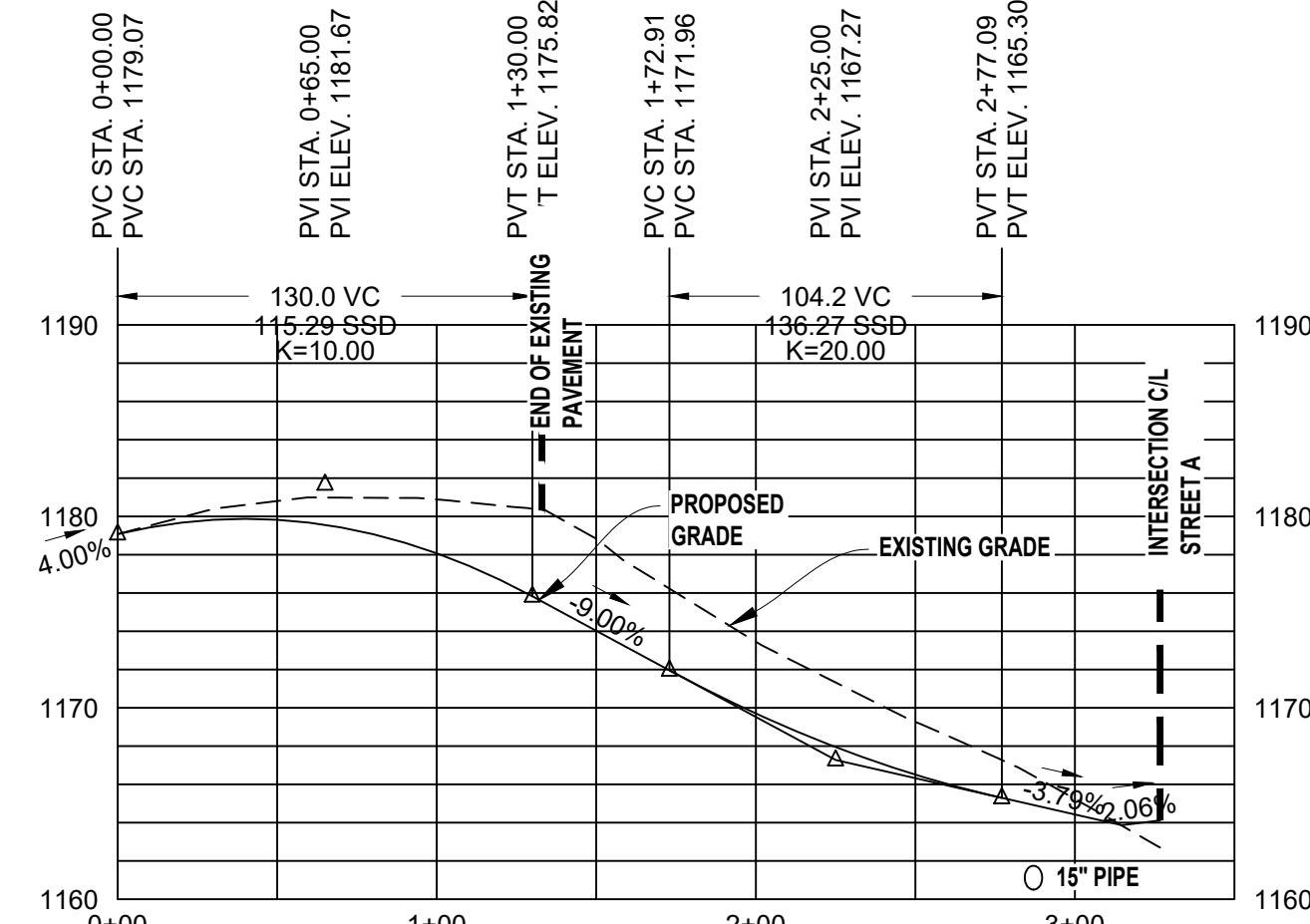


STREET B PROFILE

PROFILE SCALE: VERTICAL-1"=10'
HORIZONTAL-1"=60'



TULIP COURT PROFILE



ISSUED FOR CONSTRUCTION

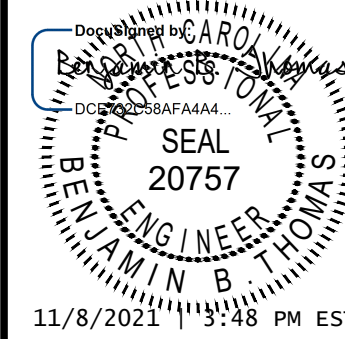
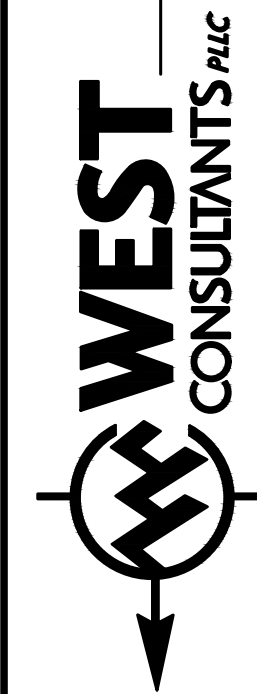
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ROAD PROFILES

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DRAWN BY: BML
REVISION:

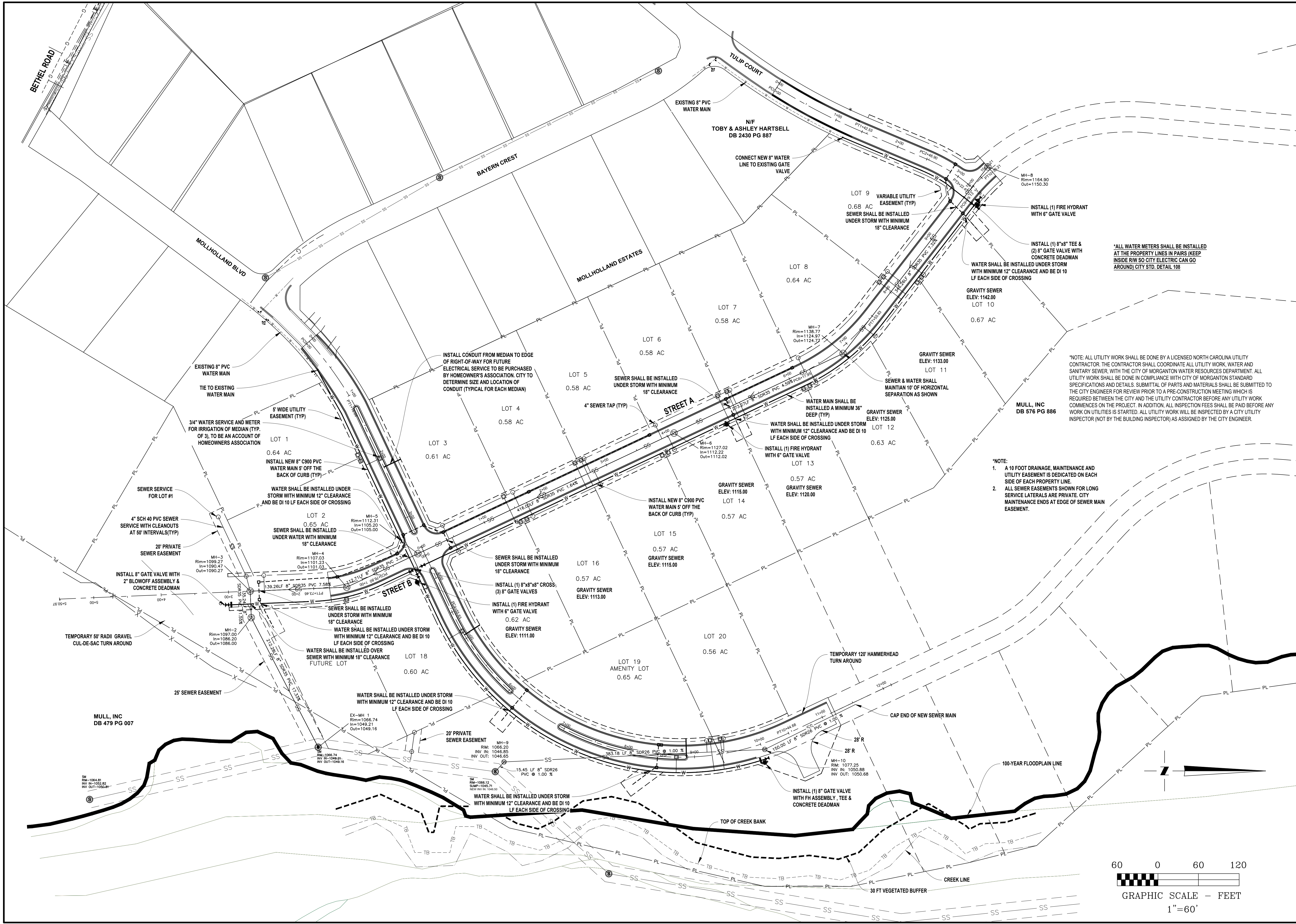
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PHASE II
MORGANTON, NORTH CAROLINA

SHEET

4 OF 15



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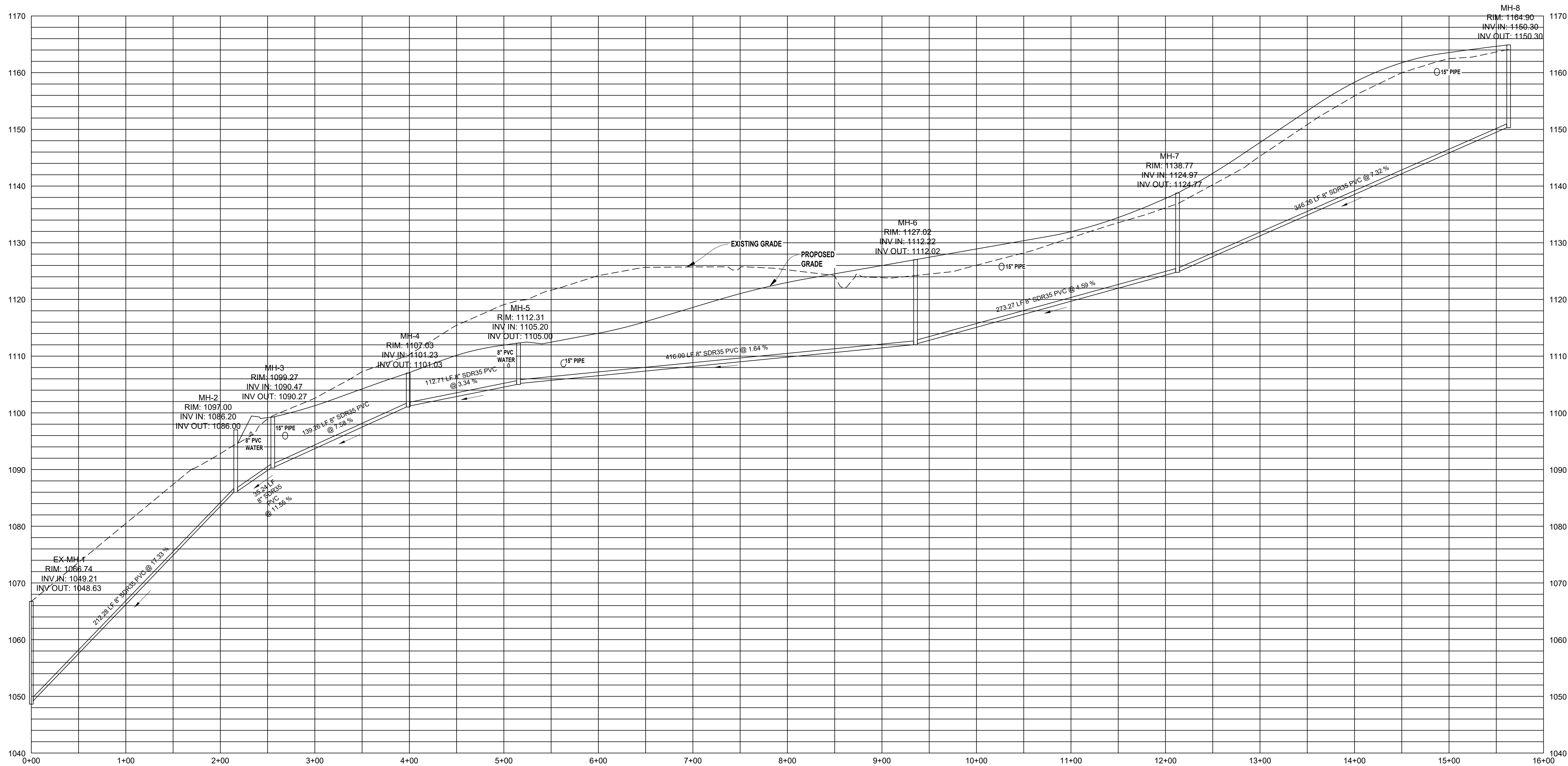
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PHASE 2A
UTILITY

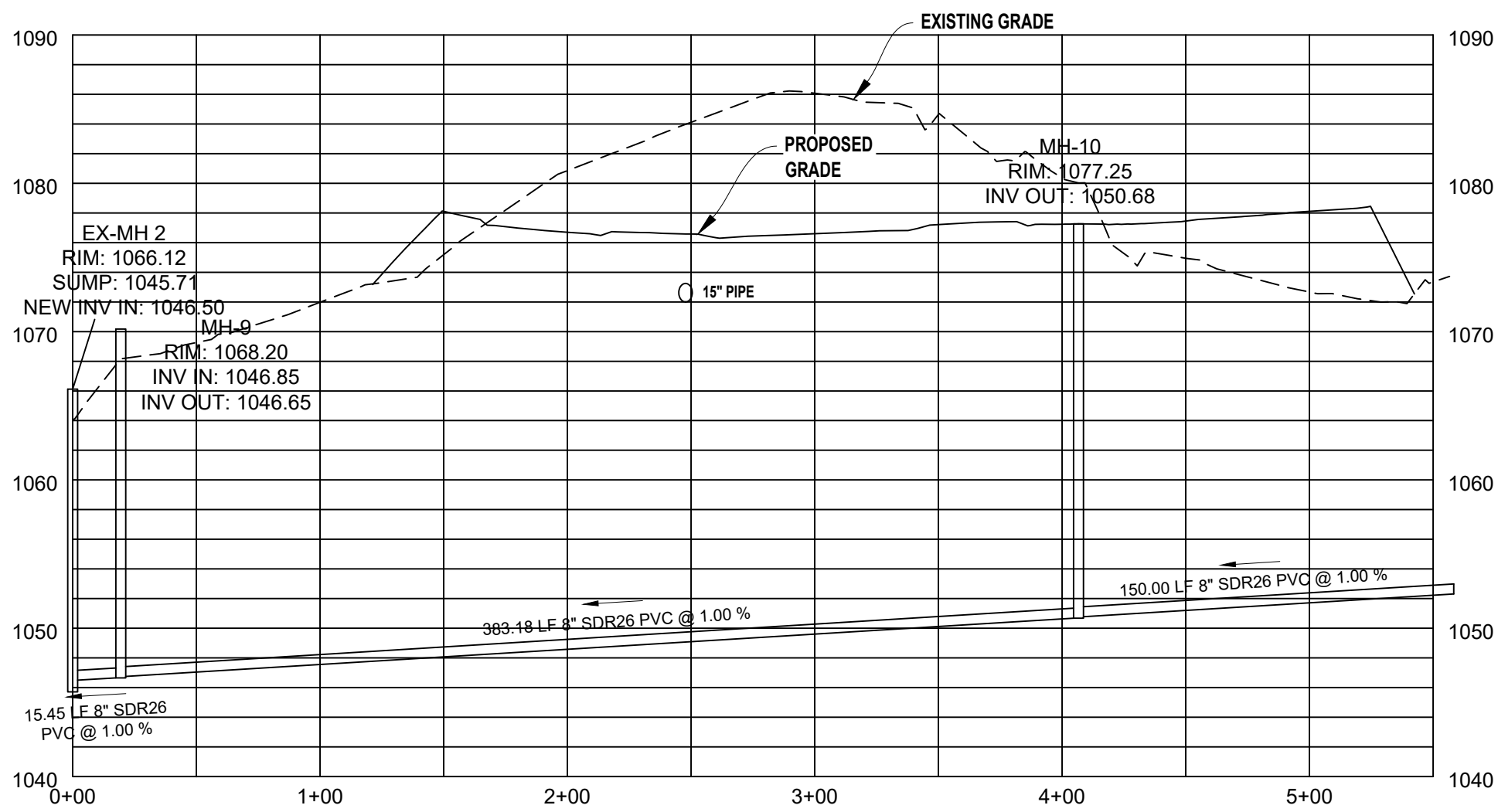
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REVISION:

MOLLHOLLAND ESTATES
PHASE II
MORGANTON, NORTH CAROLINA

SHEET
5 OF 15



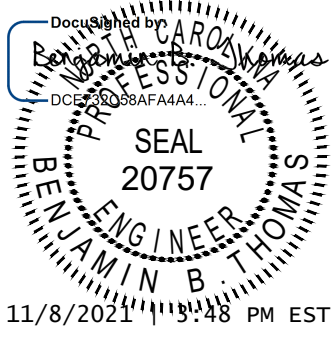
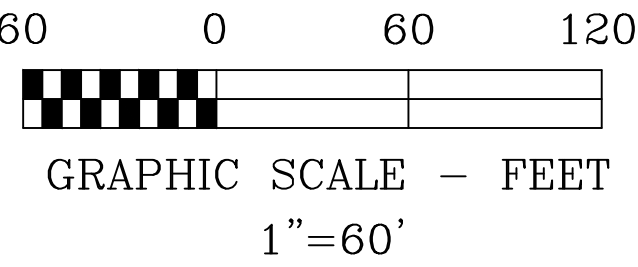
SEWER PROFILE



SEWER PROFILE

- NOTE:
1. WHERE SEWER IS GREATER THAN 15' IN DEPTH USE THE "WET CONDITIONS" SECTION OF THE BEDDING DETAIL ON SHEET 14.
 2. FOR ALL MANHOLES LOCATED OUTSIDE PAVEMENT FINAL GROUND SURFACE ELEVATIONS SHALL BE GRADED TO SHED SURFACE WATER AWAY FROM MANHOLES.

PROFILE SCALE: VERTICAL-1"=10'
HORIZONTAL-1"=60'



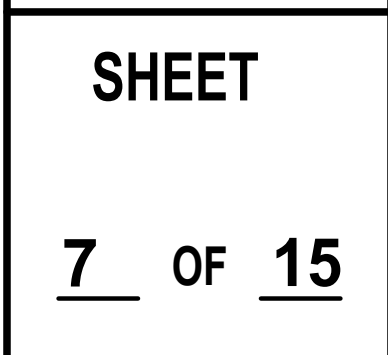
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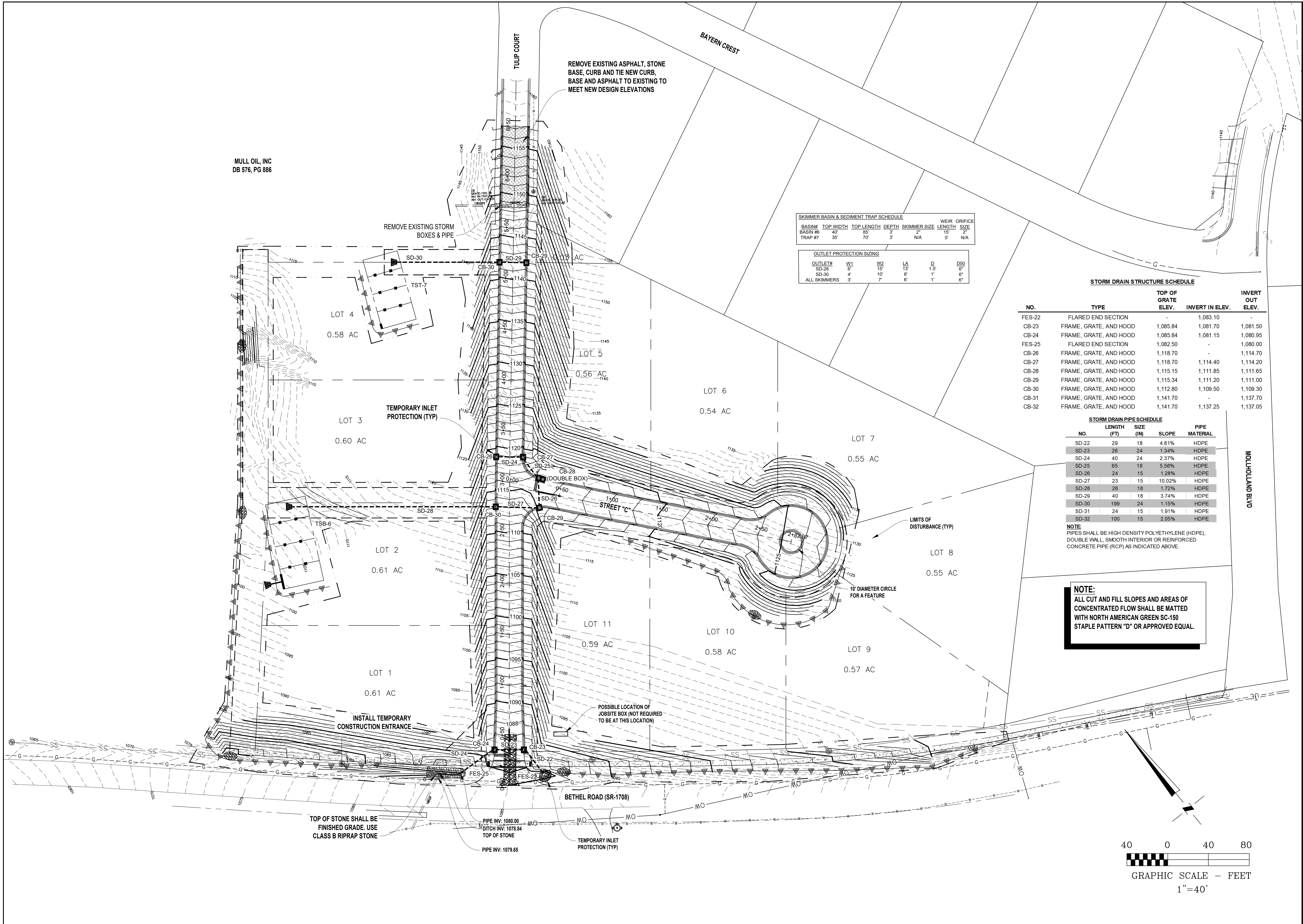
PHASE 2A
SEWER PROFILE

PROJECT NO.: 19099
SCALE: 1"=60'
DATE: 11/4/21
DRAWN BY: BML
REVISION:

MOLLHOLLAND ESTATES
PHASE II
MORGANTON, NORTH CAROLINA

SHEET





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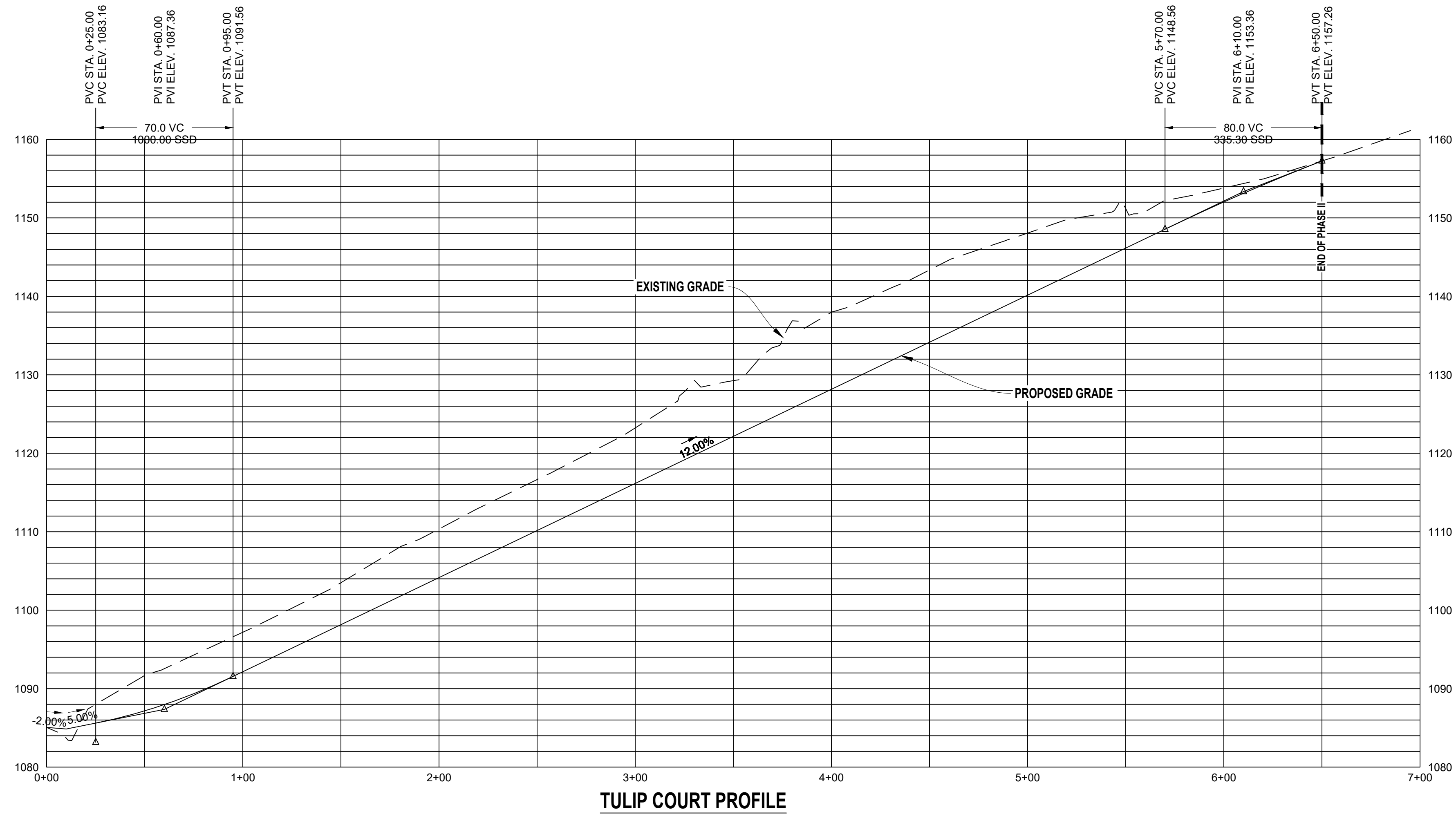
GRADING & EROSION CONTROL PLAN PLASE 2B

PROJECT NO.: 13099
SCALE: 1"=40'
DATE: 11/4/21
DRAWN BY: BML
REVISION:

**MOLLHOLLAND ESTATES
PHASE II
MORGANTON, NORTH CAROLINA**

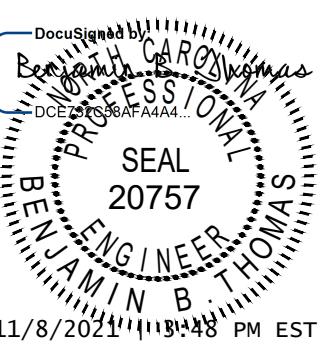
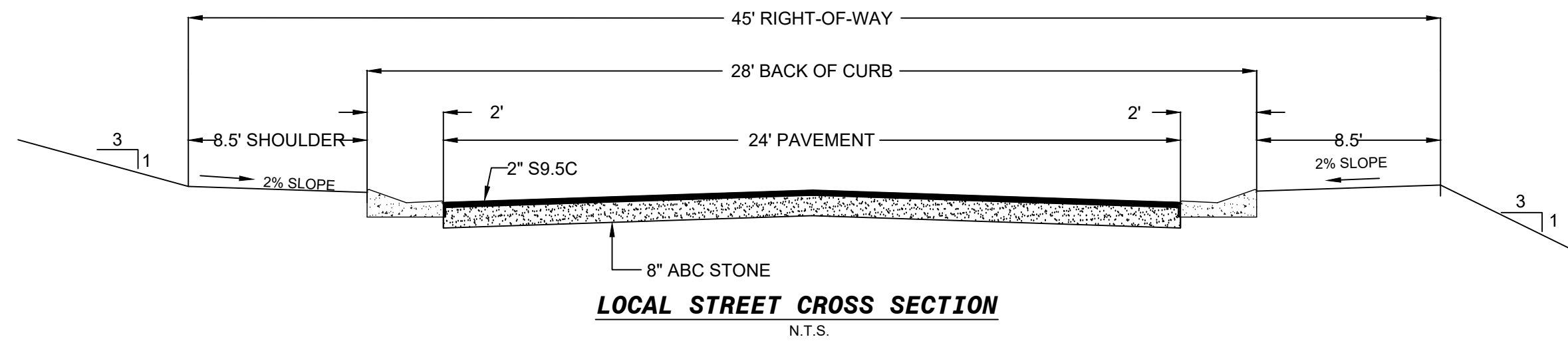
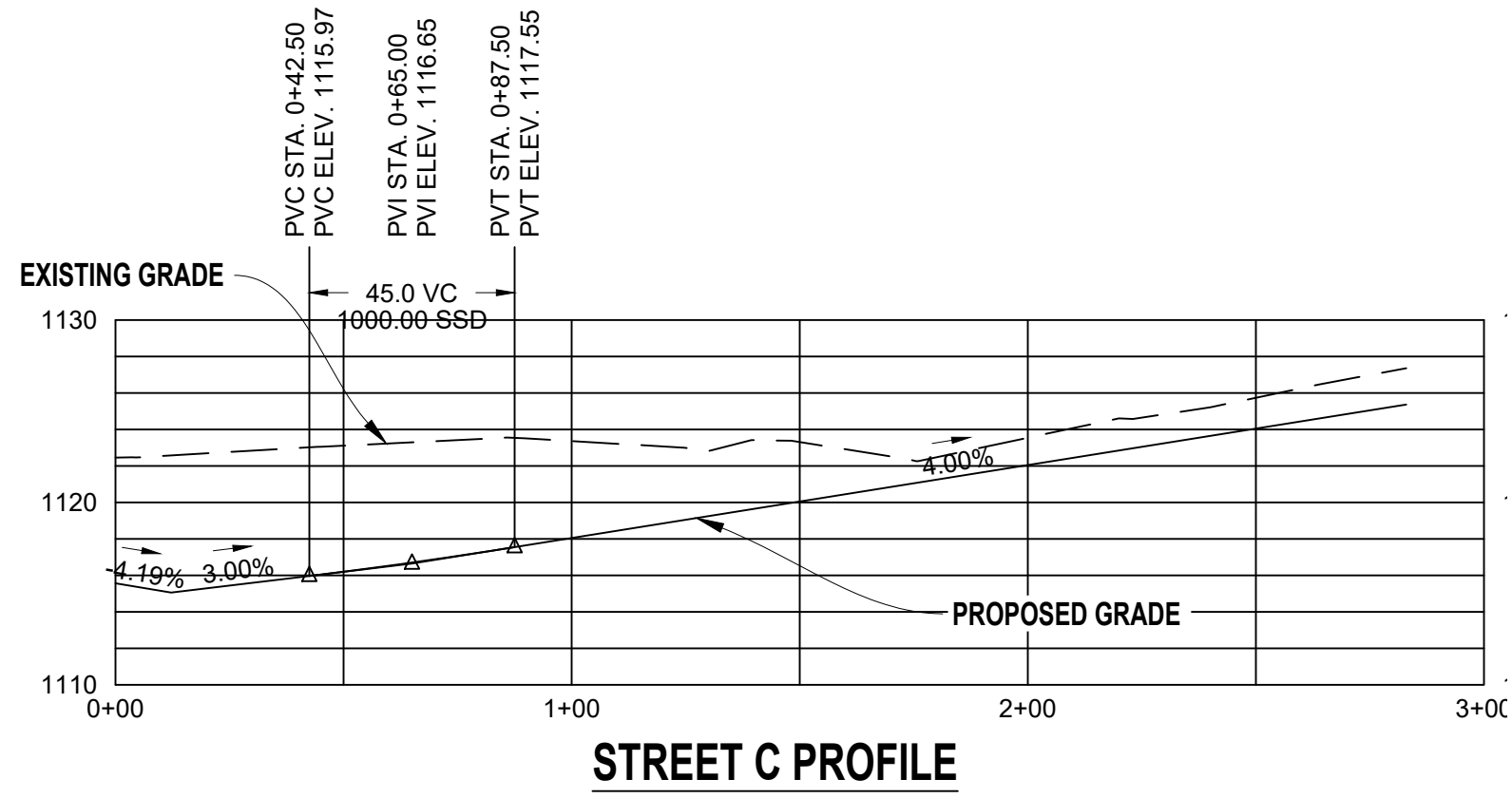
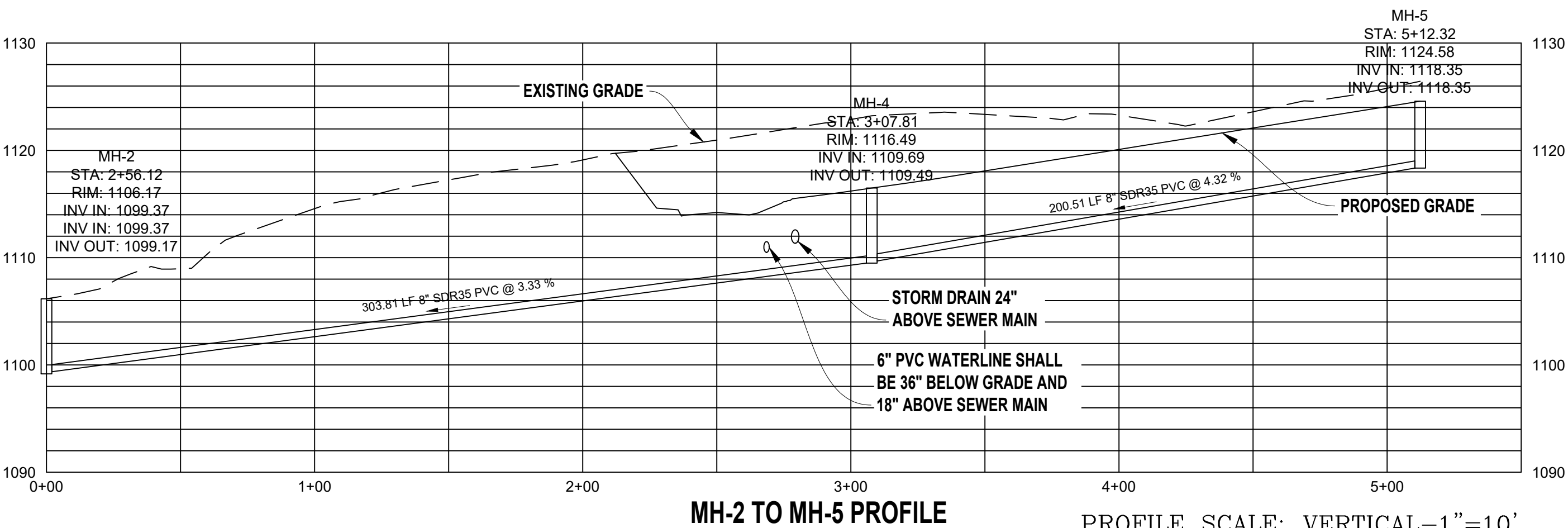
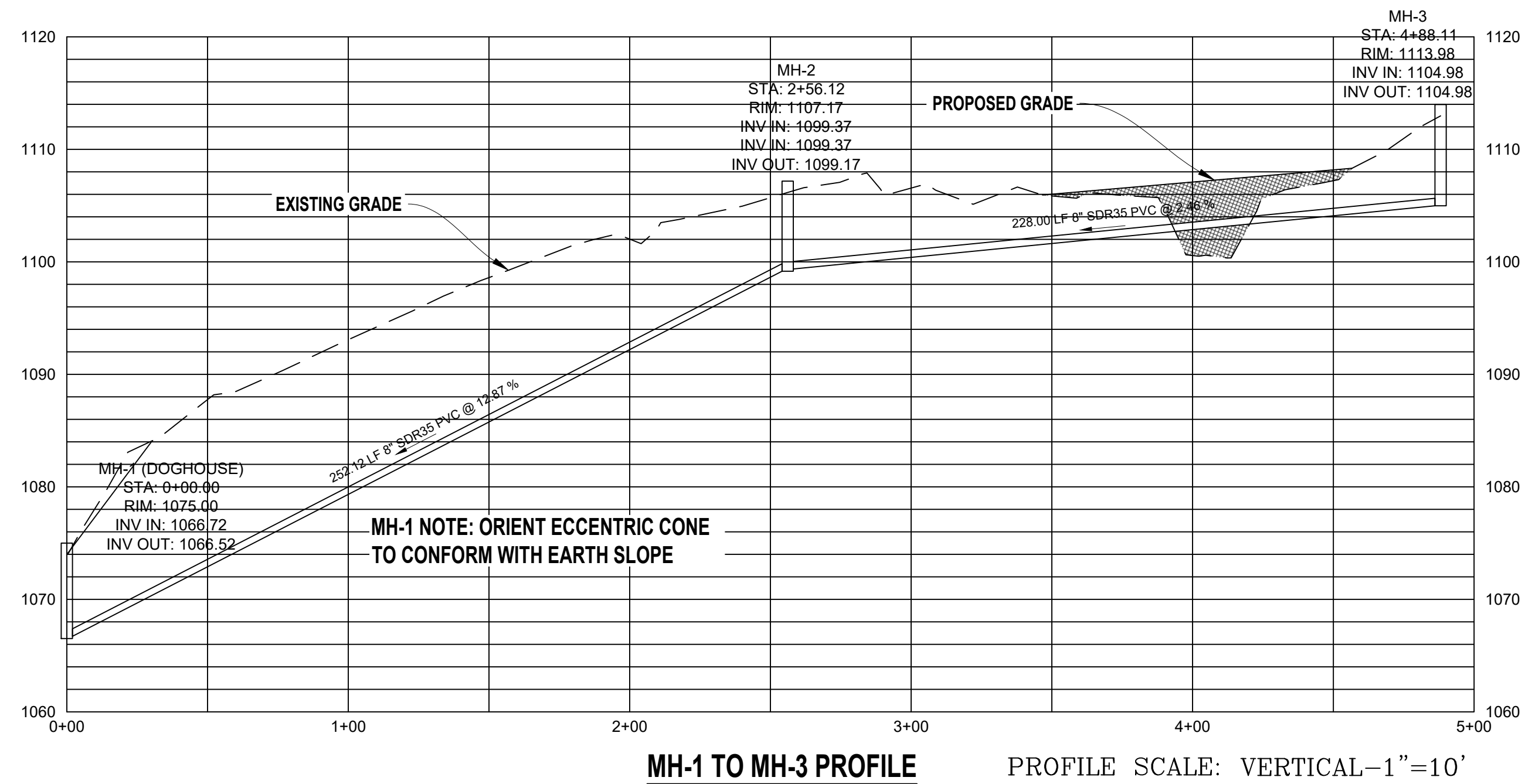
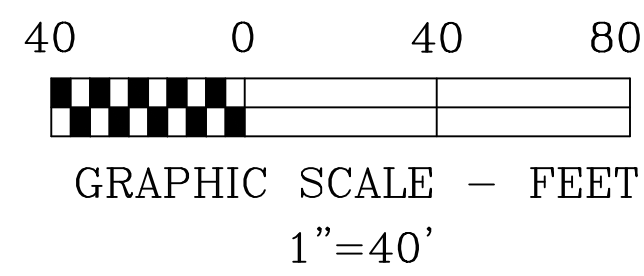
SHEET

8 OF 15



PROFILE SCALE: VERTICAL-1"=10'
HORIZONTAL-1"=40'

- NOTE:
- FOR ALL MANHOLES LOCATED OUTSIDE PAVEMENT
FINAL GROUND SURFACE ELEVATIONS SHALL BE
GRADED TO SHED SURFACE WATER AWAY FROM
MANHOLES.



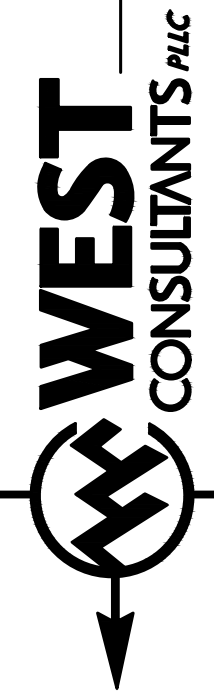
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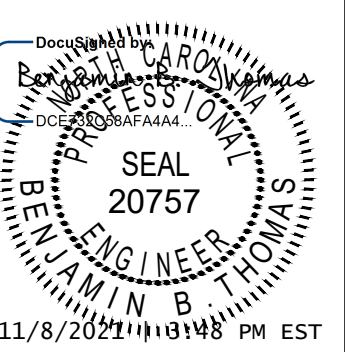
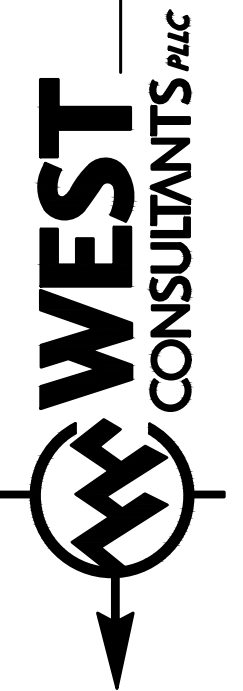
ROAD & SEWER PROFILES
PHASE 2B

PROJECT NO.: 19099
SCALE: 1"=40'
DATE: 11/4/21
DRAWN BY: BML
REVISION:

MOLLHOLLAND ESTATES
PHASE II
MORGANTON, NORTH CAROLINA

SHEET





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UTILITY

PROJECT NO.: 19099
SCALE: 1"=40'

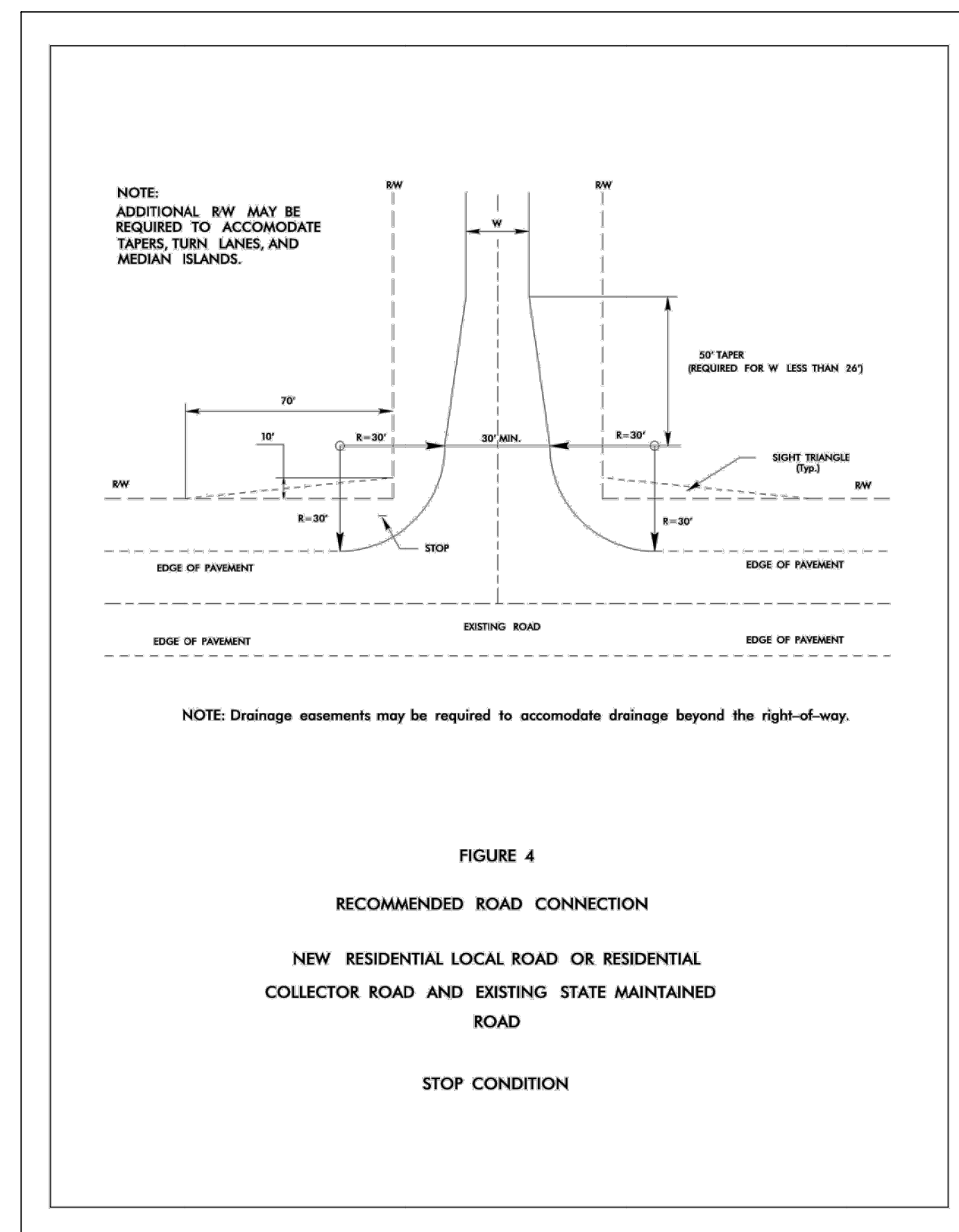
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DRAWN BY: **BWIL**
REVISION:

PHASE II
MORGANTON, NORTH CAROLINA

SHEET

10 OF 15



NOTES:

- 1. ALL ROADS IN THE SUBDIVISION WILL BE MAINTAINED AND OWNED BY THE CITY OF MORGANTON.**
- 2. ALL ROADS IN THE SUBDIVISION HAVE A 45' WIDE PUBLIC RIGHT OF WAY.**

NOTE: ALL UTILITY WORK SHALL BE DONE BY A LICENSED NORTH CAROLINA UTILITY CONTRACTOR. THE CONTRACTOR SHALL COORDINATE ALL UTILITY WORK, WATER AND SANITARY SEWER, WITH THE CITY OF MORGANTOWN WATER RESOURCES DEPARTMENT. ALL UTILITY WORK SHALL BE DONE IN COMPLIANCE WITH CITY OF MORGANTOWN STANDARD SPECIFICATIONS AND DETAILS. SUBMITTAL OF PARTS AND MATERIALS SHALL BE SUBMITTED TO THE CITY ENGINEER FOR REVIEW PRIOR TO A PRE-CONSTRUCTION MEETING WHICH IS REQUIRED BETWEEN THE CITY AND THE UTILITY CONTRACTOR BEFORE ANY PAID WORK COMMENCES ON THE PROJECT. IN ADDITION, ALL INSPECTION FEES SHALL BE PAID BEFORE ANY WORK ON UTILITIES IS STARTED. ALL UTILITY WORK WILL BE INSPECTED BY A CITY UTILITY INSPECTOR (NOT BY THE BUILDING INSPECTOR) AS ASSIGNED BY THE CITY ENGINEER.

***ALL WATER METERS SHALL BE INSTALLED
AT THE PROPERTY LINES IN PAIRS**

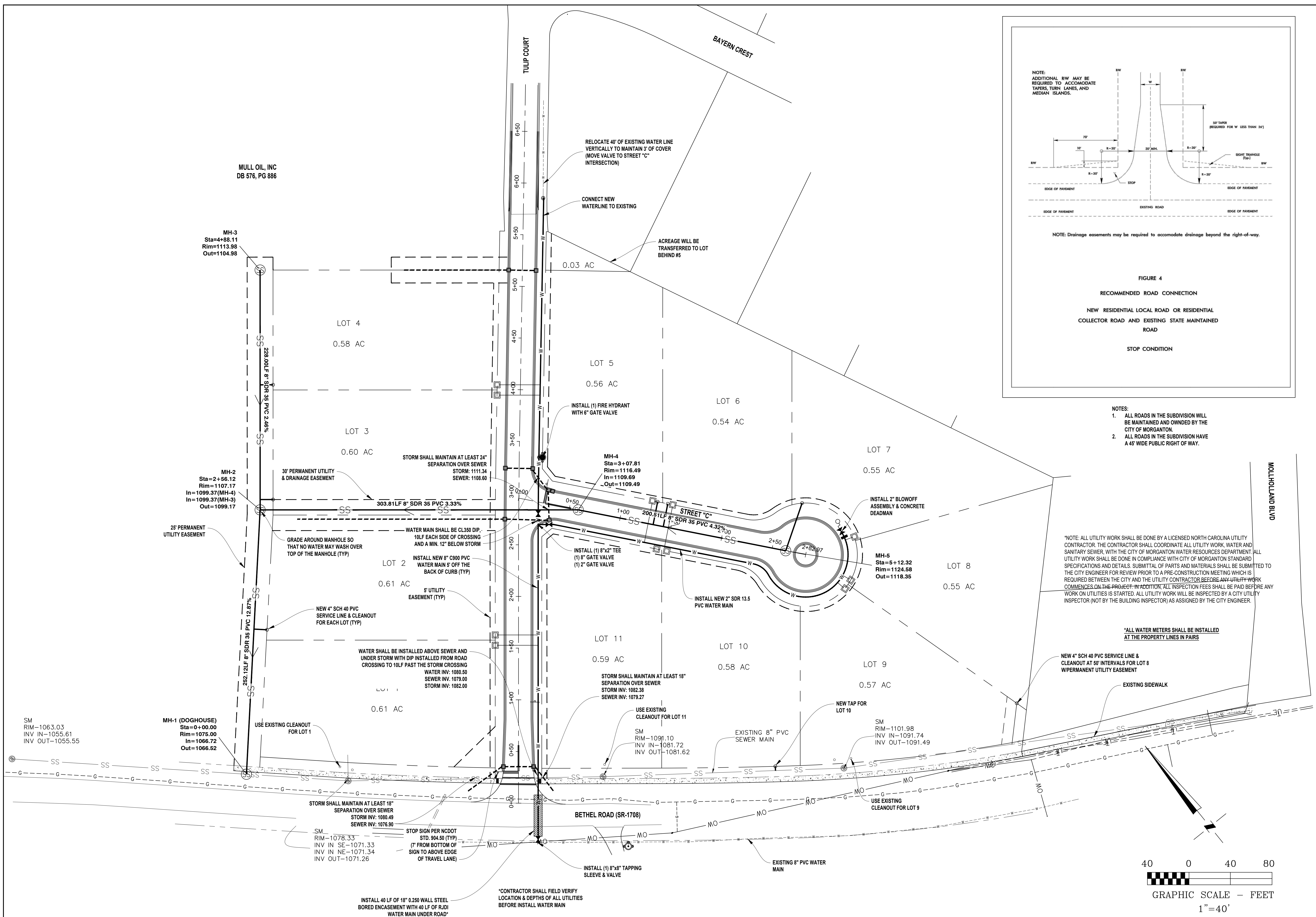
NEW 4" SCH 40 PVC SERVICE LINE &
CLEANOUT AT 50' INTERVALS FOR LC
W/PERMANENT UTILITY EASEMENT

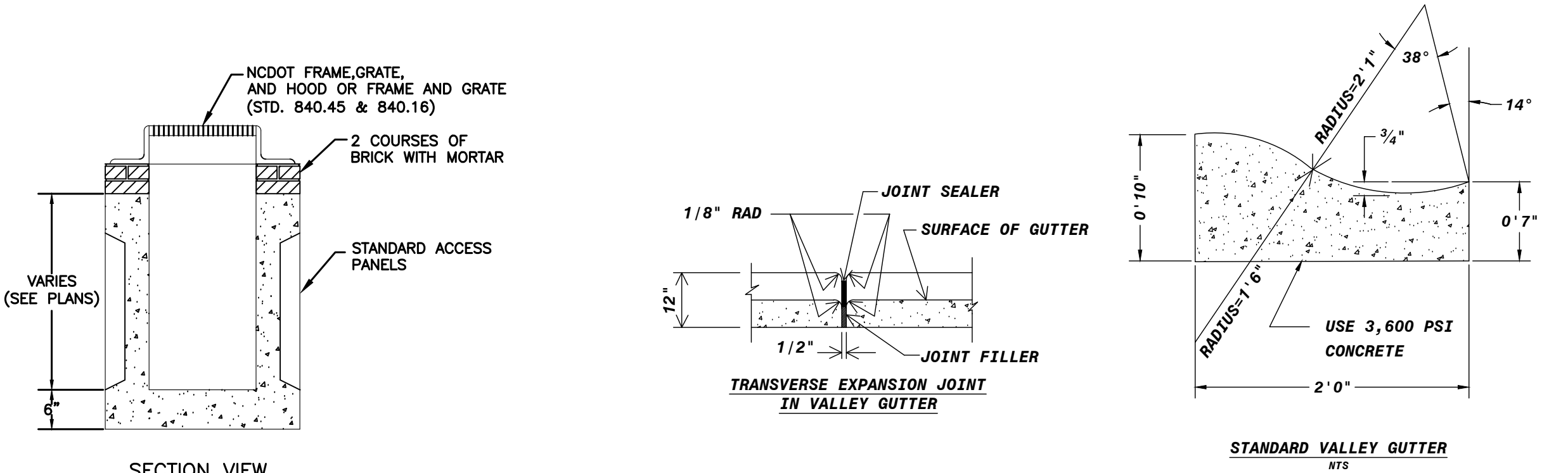
EXISTING SIDEWALK

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GRAPHIC SCALE - FEET

1"=40'

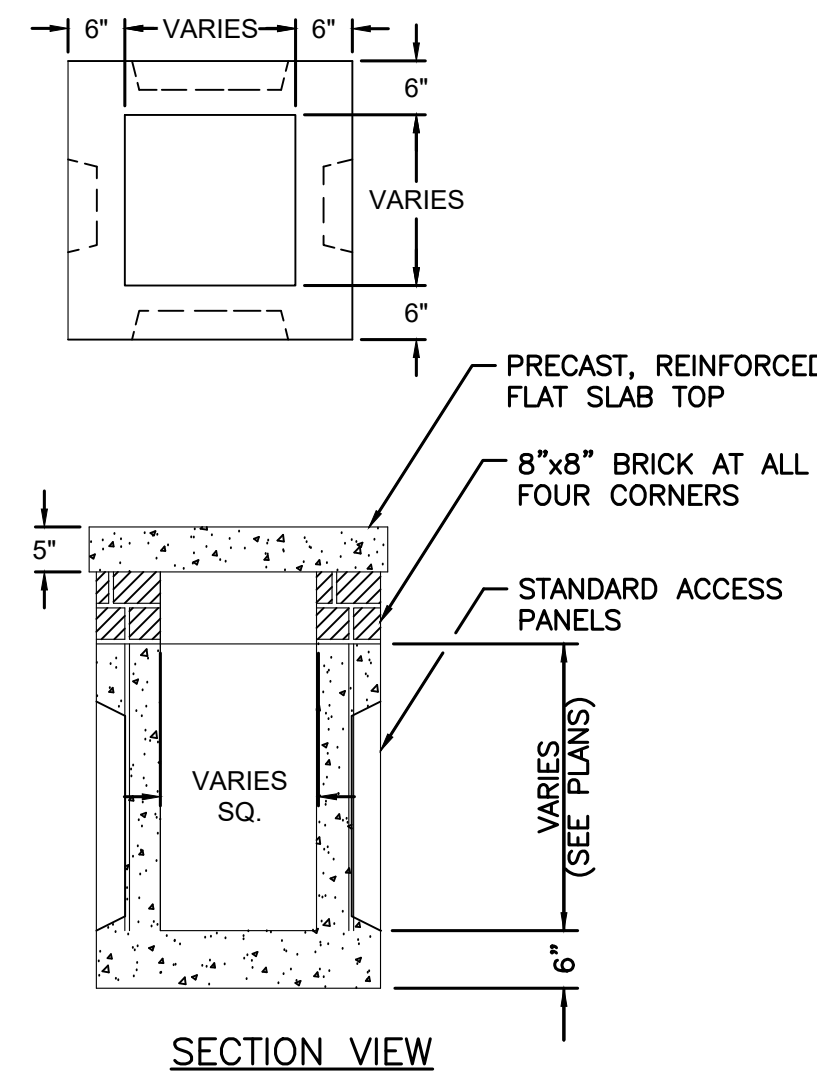




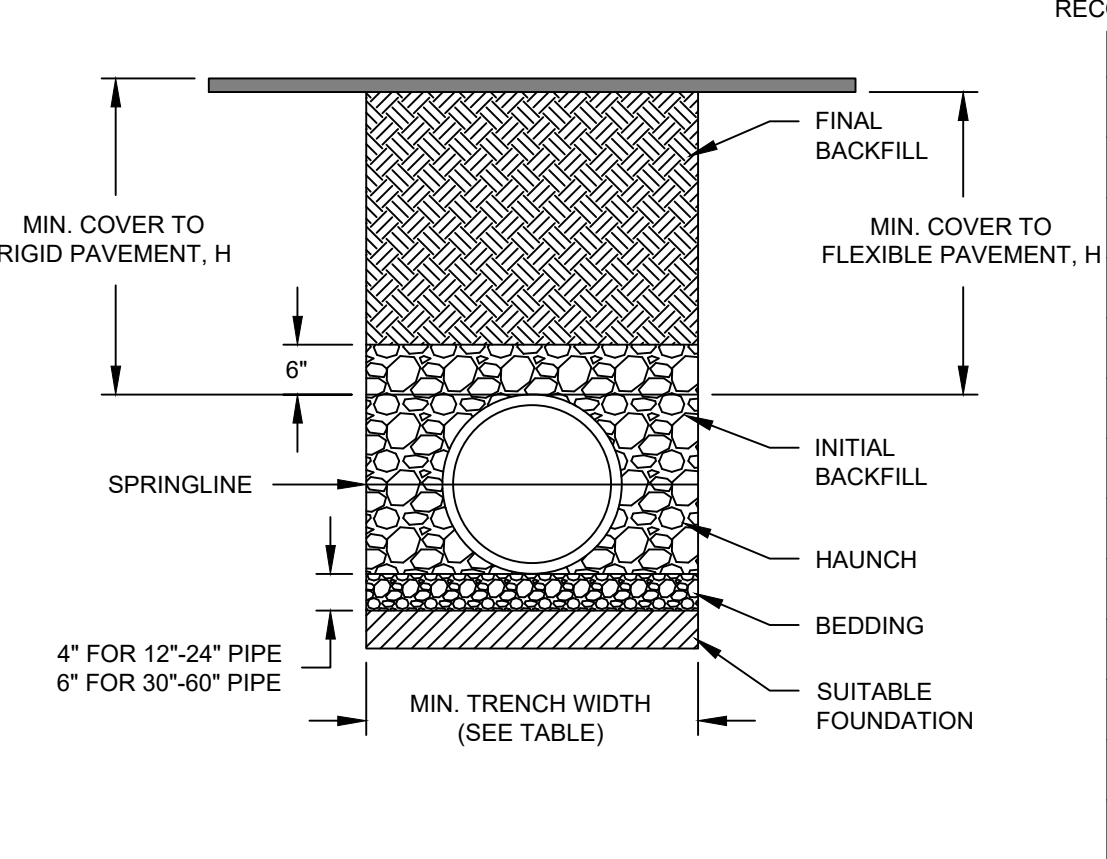
CATCH BASIN (CB) & DROP INLET (DI) NTS

CATCH BASIN NOTES:

- CONCRETE SHALL BE 4,000 PSI AT 28 DAYS.
- REINFORCING SHALL BE WELDED WIRE MESH IN KNOCKOUTS AND #4 BARS IN FLOOR AND CORNERS IN ACCORDANCE WITH ASHTO STANDARDS FOR H-20 LOADING.
- PRECASTER SHALL BE TINDALL CONCRETE, STAIRRIGHT TANK, D&M CONCRETE, OR APPROVED EQUAL.
- CATCH BASINS SHALL HAVE A STANDARD D.O.T. FRAME, GRATE, AND HOOD OR PARKING LOT GRATES AS REQUIRED.
- STRUCTURES SHALL CONFORM TO NCDOT STD. 840.45 & 840.16.



STANDARD PRECAST YARD INLET DETAIL NTS

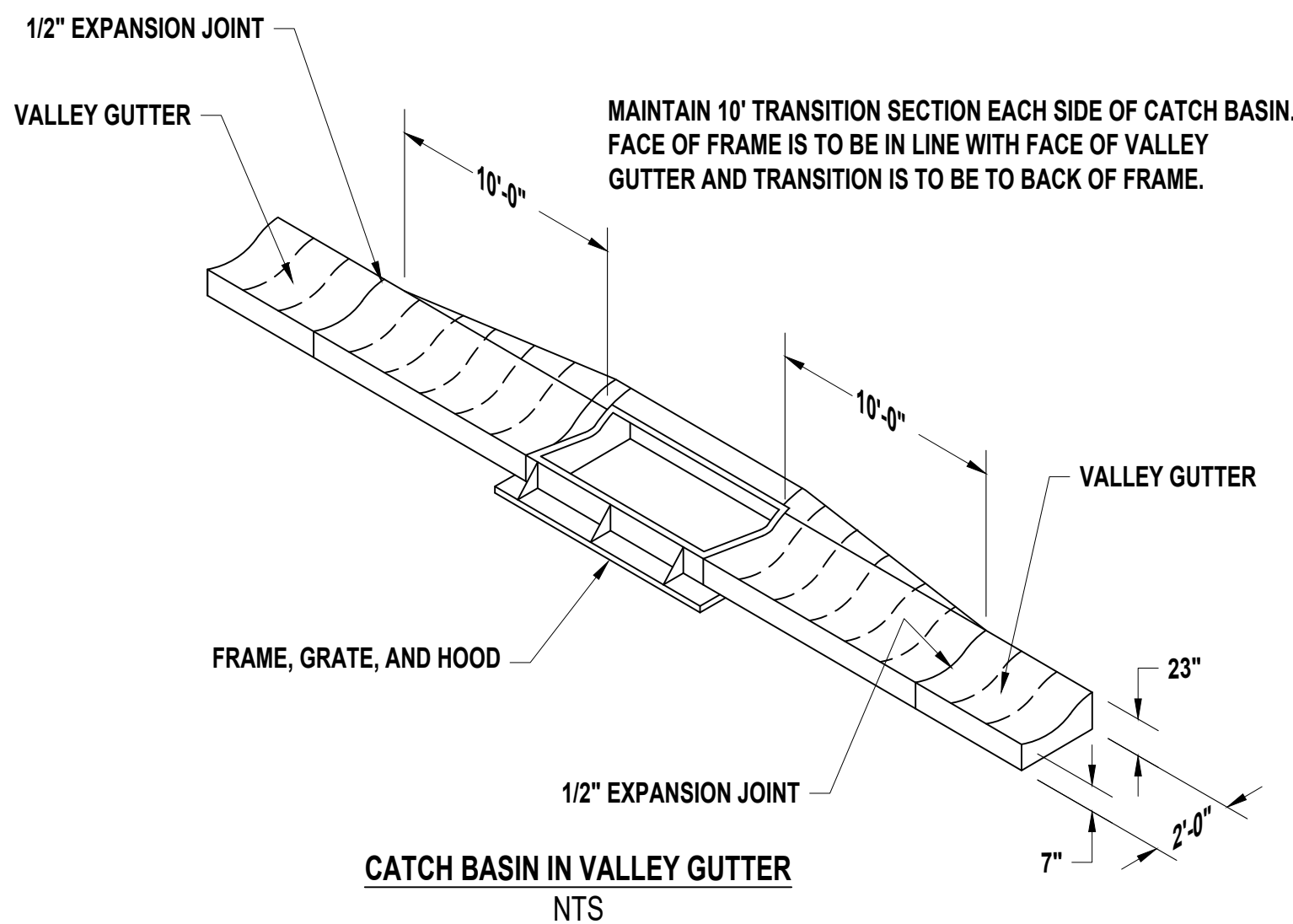


NOTES:

- ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION
- MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
- FOUNDATION:** WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
- BEDDING:** SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-1500mm).
- INITIAL BACKFILL:** SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6' ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
- MINIMUM COVER:** MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT. FOR TRAFFIC APPLICATIONS WITH LESS THAN FOUR FEET OF COVER, EMBEDMENT OF THE PIPE SHALL BE USING ONLY A CLASS I OR CLASS II BACKFILL.

GENERAL NOTES FOR VALLEY GUTTER:

- CONTRACTION JOINTS SHALL BE SPACED AT 10' INTERVALS, EXCEPT THAT A 15' SPACING MAY BE USED WHEN A MACHINE IS USED OR WHEN SATISFACTORY SUPPORT FOR THE FACE FORM CAN BE OBTAINED WITHOUT THE USE OF TEMPLATES AT 10' INTERVALS. JOINT SPACING MAY BE ALTERED BY THE ENGINEER TO PREVENT UNCONTROLLED CRACKING.
- CONTRACTION JOINTS MAY BE INSTALLED BY THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS. WHERE SUCH JOINTS ARE NOT FORMED BY TEMPLATES, A MIN. DEPTH OF 1 1/2" SHALL BE OBTAINED.
- ALL CONTRACTION JOINTS SHALL BE FILLED WITH JOINT SEALER.
- EXPANSION JOINTS SHALL BE SPACED AT 90' INTERVALS AND ADJACENT TO ALL RIGID OBJECTS.



RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4" (100mm)	21" (533mm)
6" (150mm)	23" (584mm)
8" (200mm)	25" (635mm)
10" (250mm)	28" (711mm)
12" (300mm)	30" (762mm)
15" (375mm)	34" (864mm)
18" (450mm)	39" (991mm)
24" (600mm)	48" (1219mm)
30" (750mm)	58" (1422mm)
36" (900mm)	64" (1626mm)
42" (1050mm)	72" (1829mm)
48" (1200mm)	80" (2032mm)
60" (1500mm)	96" (2438mm)

MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS**

PIPE DIAM.	SURFACE LIVE LOADING CONDITION	
	H-25 (300mm - 1200mm)	HEAVY CONSTRUCTION (75T AXLE LOAD) * (1219mm)
12" (300mm)	12" (305mm)	12" (305mm)
15" (375mm)	15" (381mm)	15" (381mm)
18" (450mm)	18" (457mm)	18" (457mm)
24" (600mm)	24" (610mm)	24" (610mm)

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER
**SEE BACKFILL REQUIREMENTS IN NOTE 6.

MAXIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

PIPE DIAM.	ON VEHICLE LOADING CONDITIONS														
	CLASS I				CLASS II				CLASS III						
	COMPACTED	DUMPED	95%	90%	95%	COMPACTED	DUMPED	95%	90%	95%	COMPACTED	DUMPED	95%	90%	95%
4" (100mm)	37 (11.3m)	18 (5.5m)	25 (7.6m)	18 (5.5m)	18 (5.5m)	37 (11.3m)	18 (5.5m)	25 (7.6m)	18 (5.5m)	18 (5.5m)	37 (11.3m)	18 (5.5m)	25 (7.6m)	18 (5.5m)	18 (5.5m)
6" (150mm)	44 (13.4m)	20 (6.1m)	29 (8.8m)	20 (6.1m)	21 (6.4m)	44 (13.4m)	20 (6.1m)	29 (8.8m)	20 (6.1m)	21 (6.4m)	44 (13.4m)	20 (6.1m)	29 (8.8m)	20 (6.1m)	21 (6.4m)
8" (200mm)	32 (9.8m)	15 (4.6m)	22 (6.7m)	15 (4.6m)	16 (4.9m)	32 (9.8m)	15 (4.6m)	22 (6.7m)	15 (4.6m)	16 (4.9m)	32 (9.8m)	15 (4.6m)	22 (6.7m)	15 (4.6m)	16 (4.9m)
10" (250mm)	38 (11.6m)	16 (5.5m)	26 (7.9m)	16 (5.5m)	18 (5.5m)	38 (11.6m)	16 (5.5m)	26 (7.9m)	16 (5.5m)	18 (5.5m)	38 (11.6m)	16 (5.5m)	26 (7.9m)	16 (5.5m)	18 (5.5m)
12" (300mm)	35 (10.7m)	17 (5.2m)	24 (7.3m)	17 (5.2m)	17 (5.2m)	35 (10.7m)	17 (5.2m)	24 (7.3m)	17 (5.2m)	17 (5.2m)	35 (10.7m)	17 (5.2m)	24 (7.3m)	17 (5.2m)	17 (5.2m)
15" (375mm)	38 (11.6m)	17 (5.2m)	25 (7.6m)	17 (5.2m)	18 (5.5m)	38 (11.6m)	17 (5.2m)	25 (7.6m)	17 (5.2m)	18 (5.5m)	38 (11.6m)	17 (5.2m)	25 (7.6m)	17 (5.2m)	18 (5.5m)
18" (450mm)	36 (11.0m)	17 (5.2m)	24 (7.3m)	17 (5.2m)	17 (5.2m)	36 (11.0m)	17 (5.2m)	24 (7.3m)	17 (5.2m)	17 (5.2m)	36 (11.0m)	17 (5.2m)	24 (7.3m)	17 (5.2m)	17 (5.2m)
24" (600mm)	28 (8.5m)	13 (4.0m)	20 (6.1m)	13 (4.0m)	14 (4.3m)	28 (8.5m)	13 (4.0m)	20 (6.1m)	13 (4.0m)	14 (4.3m)	28 (8.5m)	13 (4.0m)	20 (6.1m)	13 (4.0m)	14 (4.3m)
30" (750mm)	28 (8.5m)	13 (4.0m)	20 (6.1m)	13 (4.0m)	14 (4.3m)	28 (8.5m)	13 (4.0m)	20 (6.1m)	13 (4.0m)	14 (4.3m)	28 (8.5m)	13 (4.0m)	20 (6.1m)	13 (4.0m)	14 (4.3m)
36" (900mm)	26 (7.9m)	12 (3.7m)	18 (5.5m)	12 (3.7m)	13 (4.0m)	26 (7.9m)	12 (3.7m)	18 (5.5m)	12 (3.7m)	13 (4.0m)	26 (7.9m)	12 (3.7m)	18 (5.5m)	12 (3.7m)	13 (4.0m)
42" (1050mm)	23 (7.0m)	11 (3.4m)	16 (4.9m)	11 (3.4m)	11 (3.4m)	23 (7.0m)	11 (3.4m)	16 (4.9m)	11 (3.4m)	11 (3.4m)	23 (7.0m)	11 (3.4m)	16 (4.9m)	11 (3.4m)	11 (3.4m)
48" (1200mm)	25 (7.6m)	11 (3.4m)	17 (5.2m)	11 (3.4m)	12 (3.7m)	25 (7.6m)	11 (3.4m)	17 (5.2m)	11 (3.4m)	12 (3.7m)	25 (7.6m)	11 (3.4m)	17 (5.2m)	11 (3.4m)	12 (3.7m)
60" (1500mm)	25 (7.6m)	11 (3.4m)	17 (5.2m)	11 (3.4m)	12 (3.7m)	25 (7.6m)	11 (3.4m)	17 (5.2m)	11 (3.4m)	12 (3.7m)	25 (7.6m)	11 (3.4m)	17 (5.2m)	11 (3.4m)	12 (3.7m)

FILL HEIGHT TABLE GENERATED USING AASHTO SECTION 12, LOAD RESISTANCE FACTOR DESIGN (LRFD) PROCEDURE WITH THE FOLLOWING ASSUMPTIONS: NO HYDROSTATIC PRESSURE, UNIT WEIGHT OF SOIL (γs) = 120 PCF

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCGO1 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCGO1 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Site Area Description	Required Ground Stabilization Timeframes	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the NC DWR List of Approved PAMS/Flocculants.
- Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the NC DWR List of Approved PAMS/Flocculants and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated Stormwater before discharging offsite.
- Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected. 2. Date and time of the inspection. 3. Name of the person performing the inspection. 4. Indication of whether the measures were operating properly. 5. Description of maintenance needs for the measure. 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected. 2. Date and time of the inspection. 3. Name of the person performing the inspection. 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration. 5. Indication of visible sediment leaving the site. 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits. 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Record of the required report to the Regional Office per Part III, Section C, Item 2(a) of this permit of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading/installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover. 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

EQUIPMENT AND VEHICLE MAINTENANCE

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number and size of waste containers (e.g. dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, sized and placed appropriately for the needs of site.
- Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

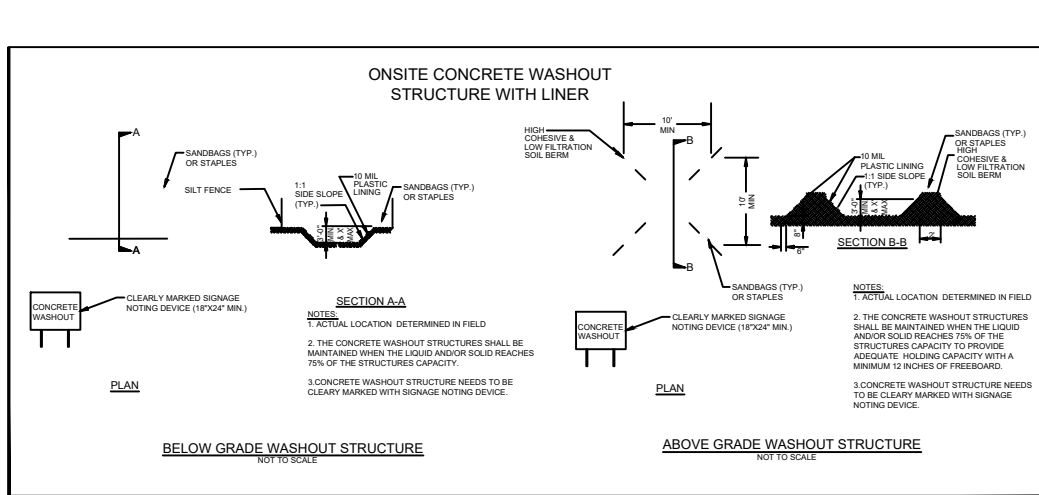
The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be documented in the manner described:

Item to Document	Documentation Requirements
(a) Each E&SC Measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC Plan.	Initial and date each E&SC Measure on a copy of the approved E&SC Plan or complete, date and sign an inspection report that lists each E&SC Measure shown on the approved E&SC Plan. This documentation is required upon the initial installation of the E&SC Measures or if the E&SC Measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC Plan.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC Measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC Measures.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation

In addition to the E&SC Plan documents above, the following items shall be kept on the site and available for agency inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that this requirement not practical:

- This general permit as well as the certificate of coverage, after it is received.
- Records of inspections made during the previous 30 days. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.
- All data used to complete the Notice of Intent and older inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]



CONCRETE WASHOUTS

- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
- Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater that has accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
- Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
- Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
- Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
- Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

- Create designated hazardous waste collection areas on-site.
- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground.

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that must be reported

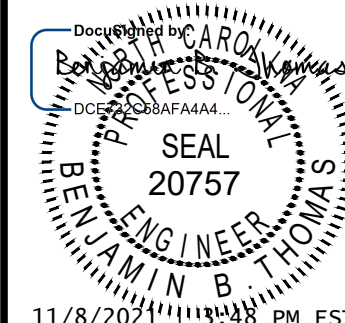
- Permittees shall report the following occurrences:
 - Visible sediment deposition in a stream or wetland.
- Oil spills if:
 - They are 25 gallons or more,
 - They are less than 25 gallons but cannot be cleaned up within 24 hours,
 - They cause sheen on surface waters (regardless of volume), or
 - They are within 100 feet of surface waters (regardless of volume).
- Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
- Anticipated bypasses and unanticipated bypasses.
- Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Division's Emergency Response personnel at (800) 662-7956, (800) 858-0368 or (919) 733-3300.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• Within 24 hours , an oral or electronic notification. • Within 7 calendar days , a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• Within 24 hours , an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.43(m)(3)]	• A report at least ten days before the date of the bypass, if possible. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.43(m)(3)]	• Within 24 hours , an oral or electronic notification. • Within 7 calendar days , a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment [40 CFR 122.41(i)(7)]	• Within 24 hours , an oral or electronic notification. • Within 7 calendar days , a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue, and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. [40 CFR 122.41(i)(6)]. • Division staff may waive the requirement for a written report on a case-by-case basis.

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ISSUED FOR CONSTRUCTION

19099

PROJECT NO.: NTS

SCALE: 11/4/21

DATE: 11/4/21

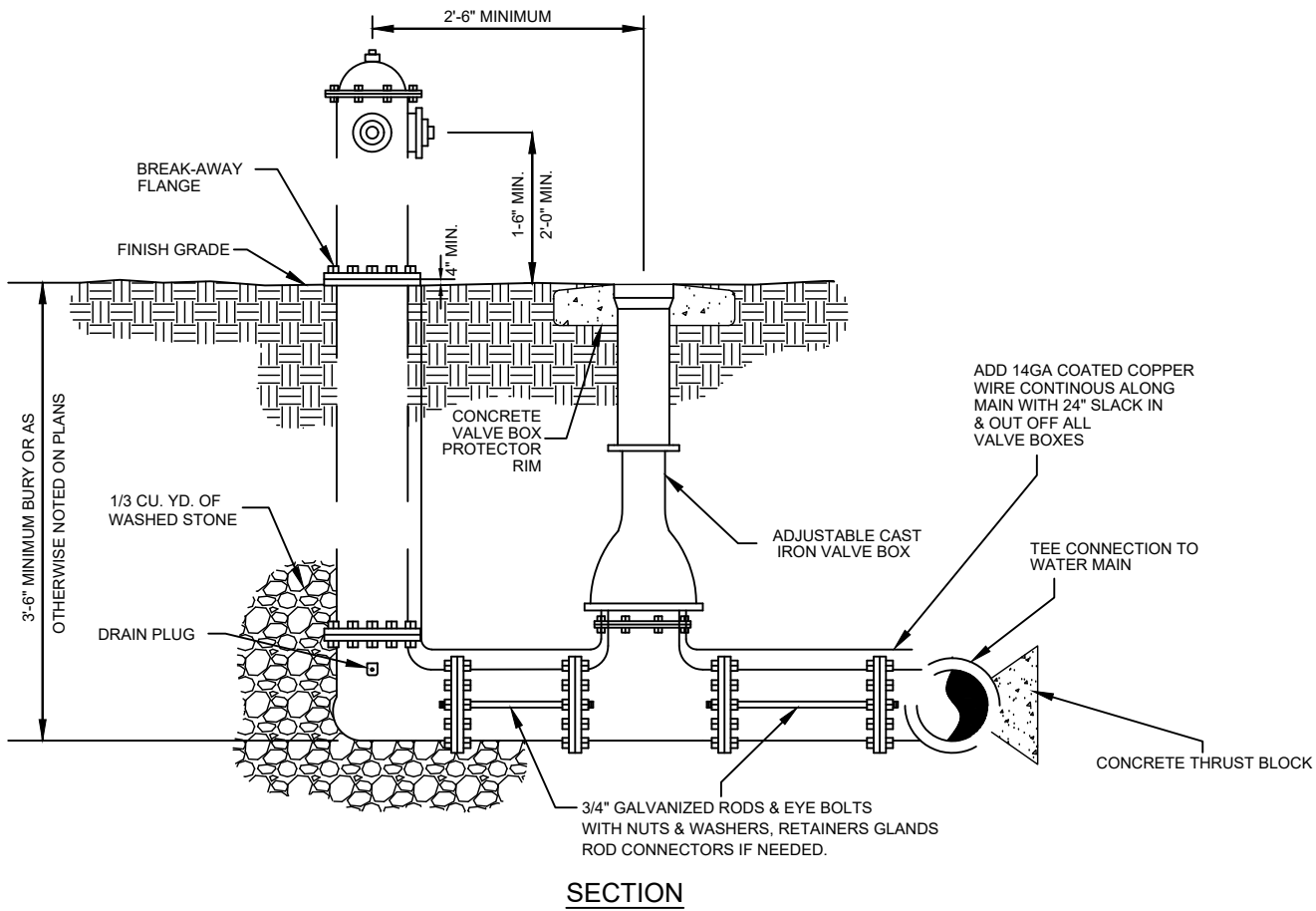
DRAWN BY: BML

REVISION:

SITE & EROSION CONTROL DETAILS

MOLLHOLLAND ESTATES
PHASE II
MORGANTON, NORTH CAROLINA

SHEET



NOTES: ALL CONCRETE SHOWN IS TO BE 3000 P.S.I. MAINTAIN A 3FT. UNOBSTRUCTED RADIUS AROUND FIRE HYDRANT PER FIRE CODE ALL FITTING SHALL BE SECURED WITH MEGALUGS AND RETAINER GLANDS
3/4\"/>

NOT TO SCALE

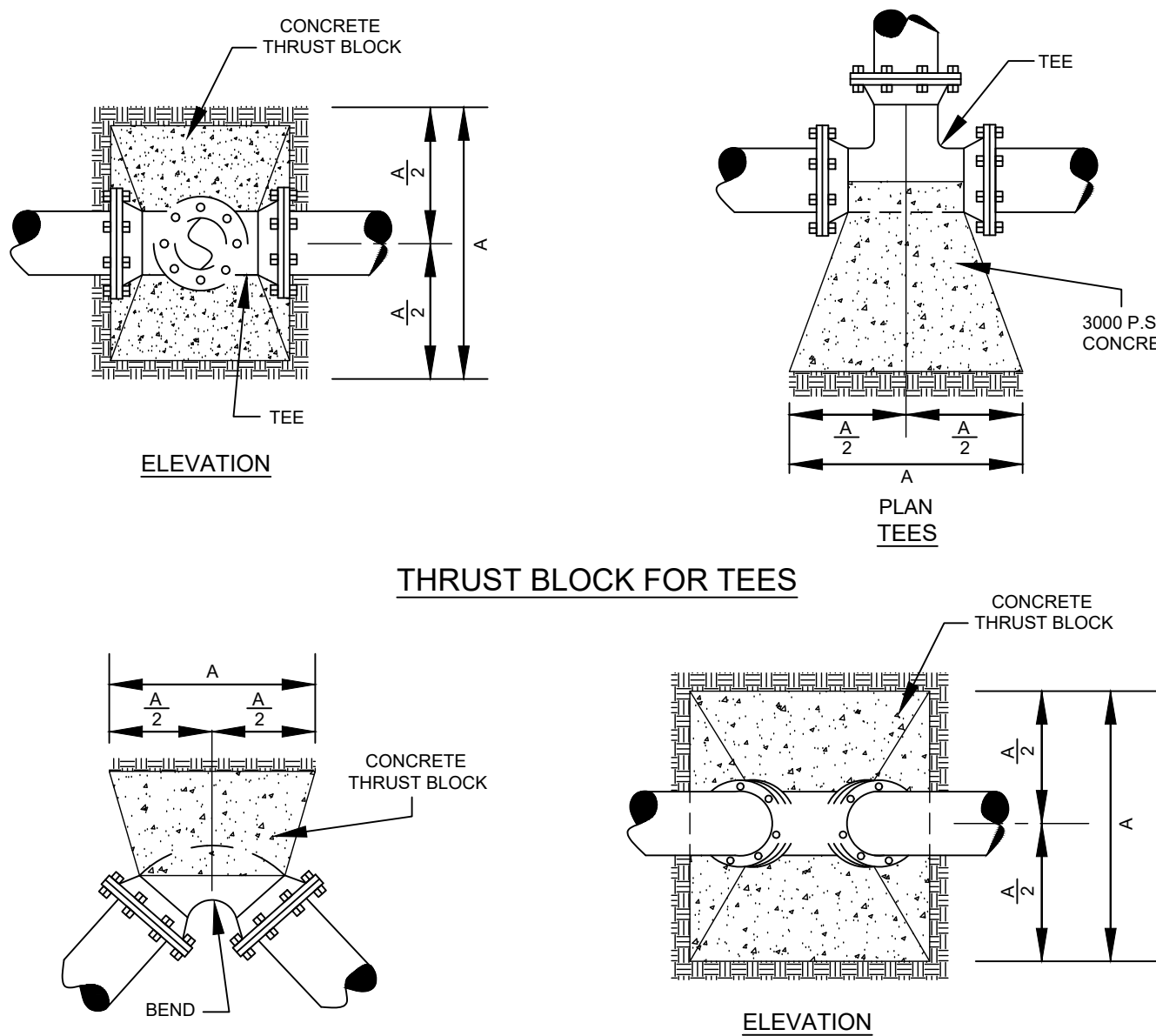
FIRE HYDRANT ROD TYPE
INSTALLATION DETAIL

STD. NO.
102

DATE
3-7-11

SHEET 1 OF 1

CITY OF MORGANTON



NOTES:
1. DEAD MAN RESTRAINED
W/ 2-3/4\"/>

THRUST BLOCK FOR PIPE CAP

NOT TO SCALE

THRUST BLOCK FOR WATER MAINS
(150 PSI WORKING PRESSURE)
DETAIL

STD. NO.
104.1

DATE
3-7-11

SHEET 1 OF 2

CITY OF MORGANTON

SIZE	11 1/4" BEND	22 1/2" BEND	45" BEND	90" BEND	TEE	CAP
6	12	12	12	16	16	14
8	12	12	16	22	22	18
10	12	14	20	28	28	22
12	12	18	24	32	32	28
14	14	20	28	38	38	32
16	16	22	32	42	42	38
18	18	26	36	48	48	40
20	20	28	40	52	52	44
24	24	34	46	64	64	54
30	30	42	58	78	78	66
36	36	50	70	94	94	80
42	40	58	80	108	108	90
48	46	66	90	124	124	104

THRUST BLOCK DIMENSION "A"
(DIMENSION "A" IN INCHES)
3,000 P.S.I. CONCRETE

NOT TO SCALE

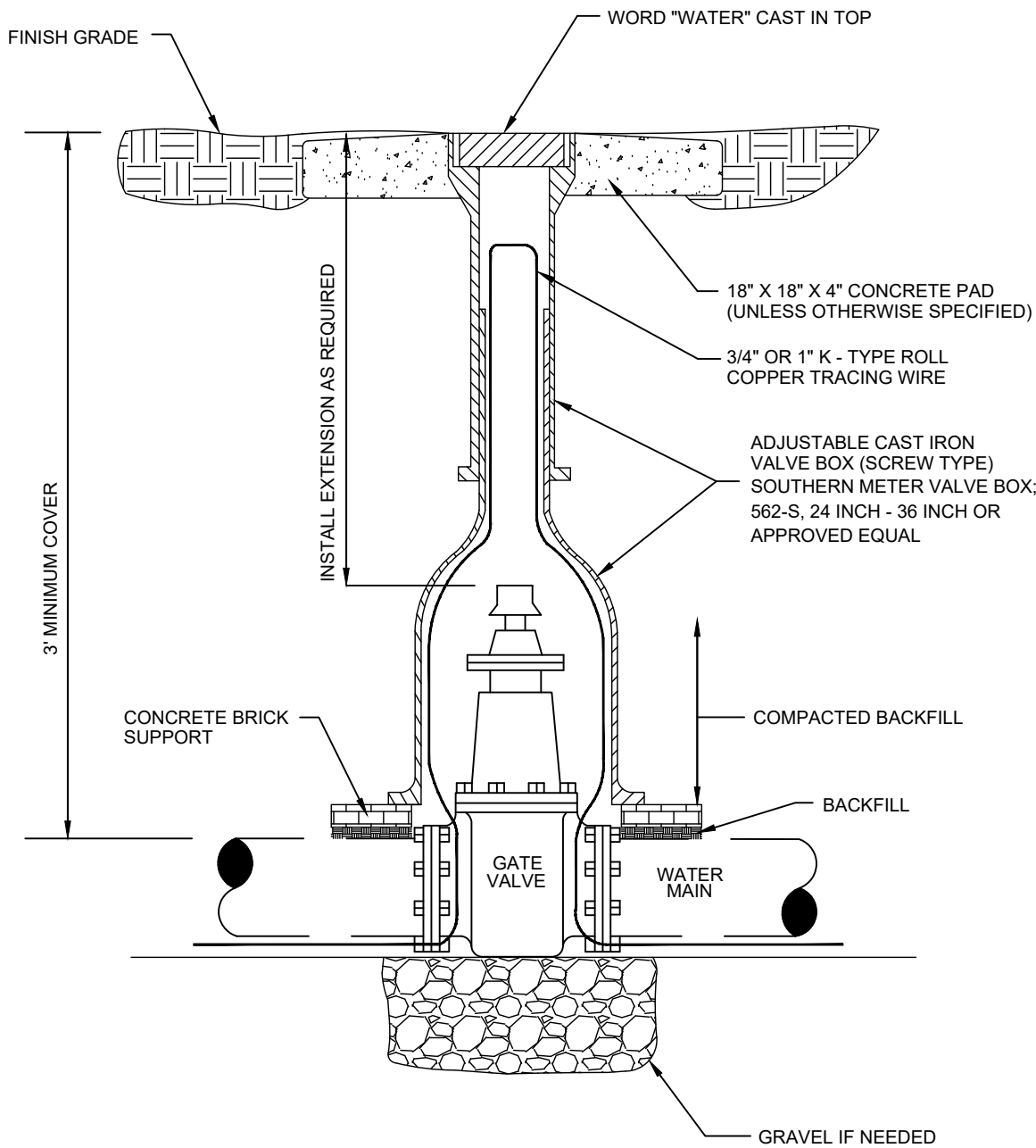
THRUST BLOCK FOR WATER MAINS
DETAIL

STD. NO.
104.2

DATE
3-7-11

SHEET 2 OF 2

CITY OF MORGANTON



NOT TO SCALE

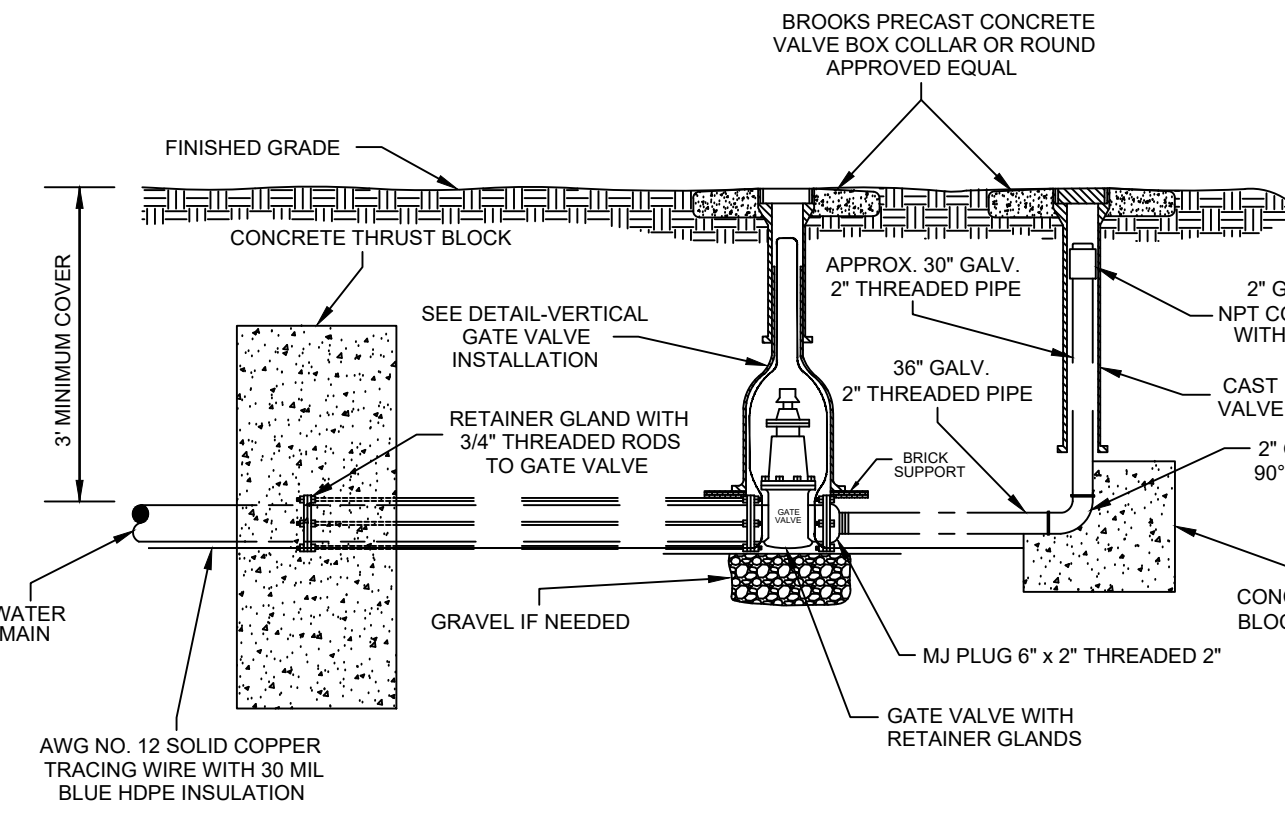
VERTICAL GATE VALVE
ASSEMBLY
DETAIL

STD. NO.
105

DATE
3-7-11

SHEET 1 OF 1

CITY OF MORGANTON



BLOW-OFF DETAIL

NOTE:
1. GLUED JOINTS WILL NOT BE PERMITTED.
2. ALL CONCRETE SHOWN IS TO BE 4000 P.S.I.

NOT TO SCALE

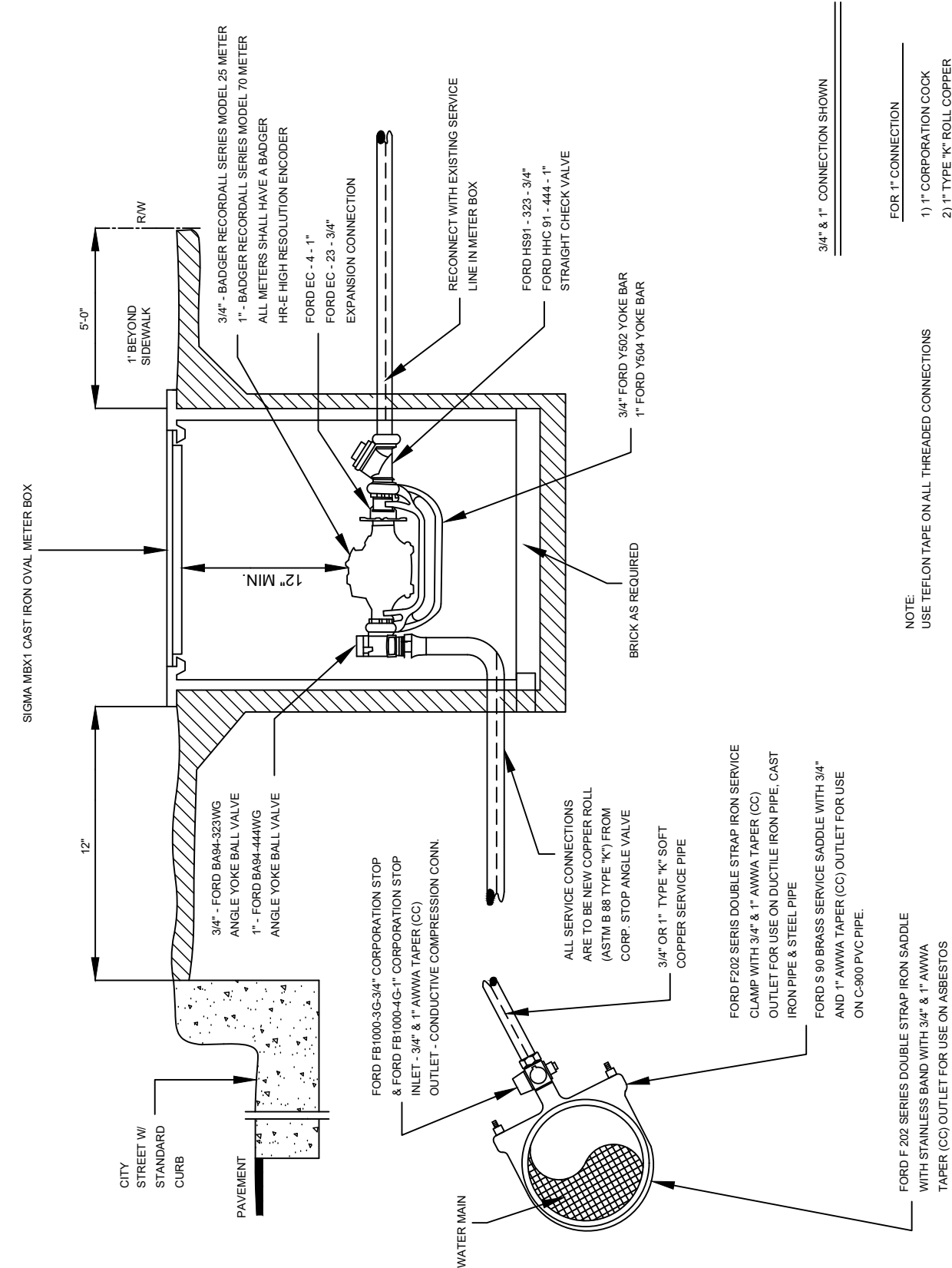
6" OR LARGER MAIN TO 2" BLOW-OFF
DETAIL

STD. NO.
107

DATE
3-7-11

SHEET 1 OF 1

CITY OF MORGANTON



NOT TO SCALE

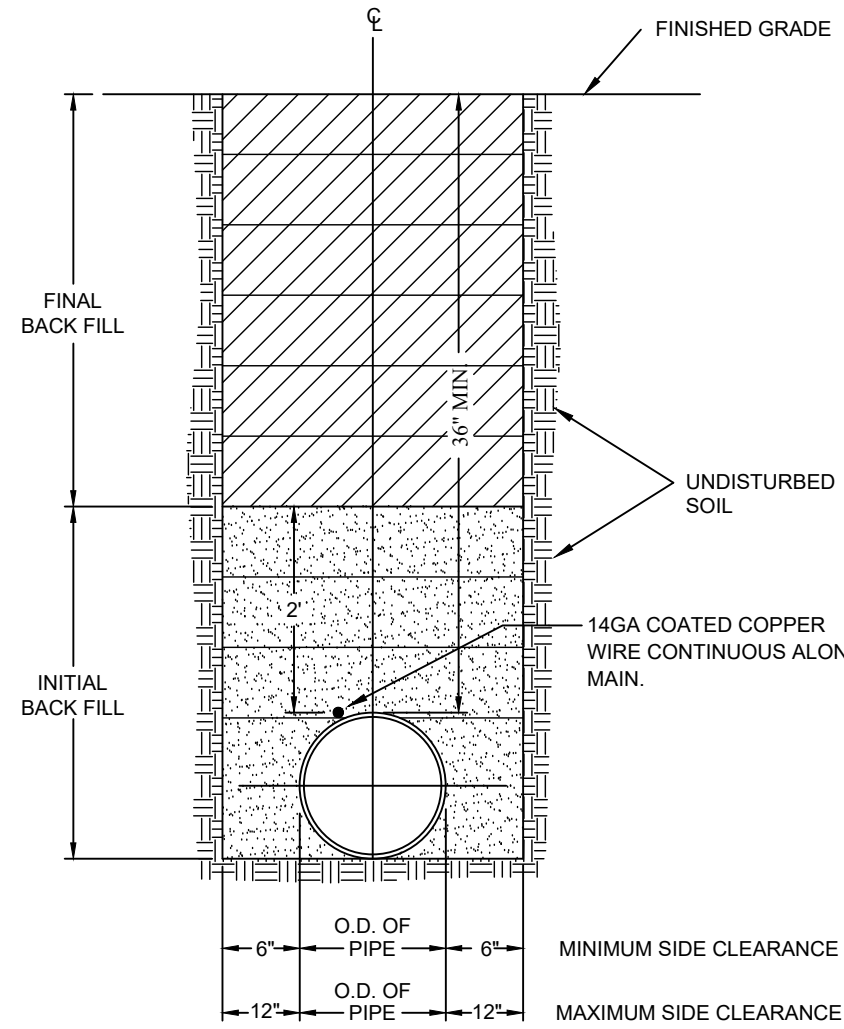
TYPICAL WATER SERVICE CONNECTION
DETAIL

STD. NO.
108

DATE
3-7-11

SHEET 1 OF 1

CITY OF MORGANTON



TRENCH DETAIL
CLASS D FLAT SUBGRADE

NOTES:
1. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
2. NO ROCKS OR BOULDERS 2" OR LARGER TO BE USED IN INITIAL BACKFILL.
3. ALL BACKFILL MATERIAL SHALL BE SUITABLE MATERIAL.
4. BACKFILL SHALL BE COMPACTED IN 6" LAYERS IN TRAFFIC AREAS, 12" LAYERS IN NON-TRAFFIC AREAS USING VIBRATORY EQUIPMENT.

D	d (MIN.)
27" & SMALLER	6"
30" - 60"	12"
66" & LARGER	18"

NOT TO SCALE

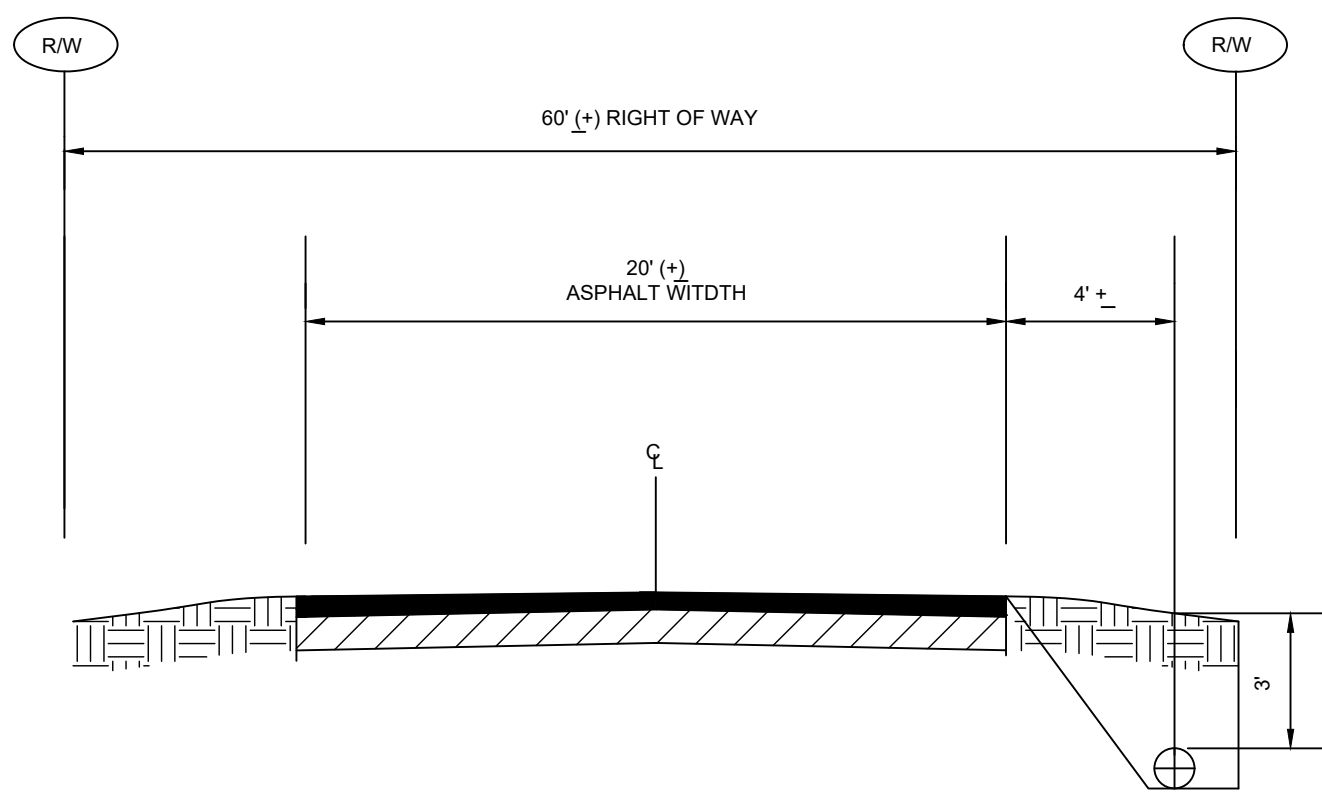
WATER LINE TRENCH BOTTOM AND
BACKFILLING REQUIREMENTS
DETAIL

STD. NO.
111

DATE
3-7-11

SHEET 1 OF 1

CITY OF MORGANTON



TYPICAL PAVED SECTION
NTS

NOTES
-BACKFILL TO BE PLACED IN 4" TO 6" LAYERS WITH PNEUMATIC TAMP AND THE SHOULDERS TO BE PLACED BACK IN ORIGINAL CONDITIONS
-SEED AND STRAW TO BE PLACED
-CONCRETE DRIVEWAYS ARE TO BE SMOOTH CUT AND PLACED BACK IN ORIGINAL CONDITION AT COMPLETION OF PROJECT
-POUR CONCRETE FOR ALL WATER LINE FITTINGS, INCLUDING PLUGS, FIRE HYDRANTS, BENDS, ETC. UNLESS OTHERWISE NOTED IN PLANS.

NOT TO SCALE

WATER LINE INSTALLATION IN
ROADWAY SHOULDER
DETAIL

STD. NO.
112

DATE
3-7-11

SHEET 1 OF 1

CITY OF MORGANTON

ISSUED FOR CONSTRUCTION

WATER DETAILS

PROJECT NO.: 19099
SCALE: NTS
DATE: 11/4/21
DRAWN BY: BML
REVISION:

MOLLHOLLAND ESTATES
PHASE II
MORGANTON, NORTH CAROLINA

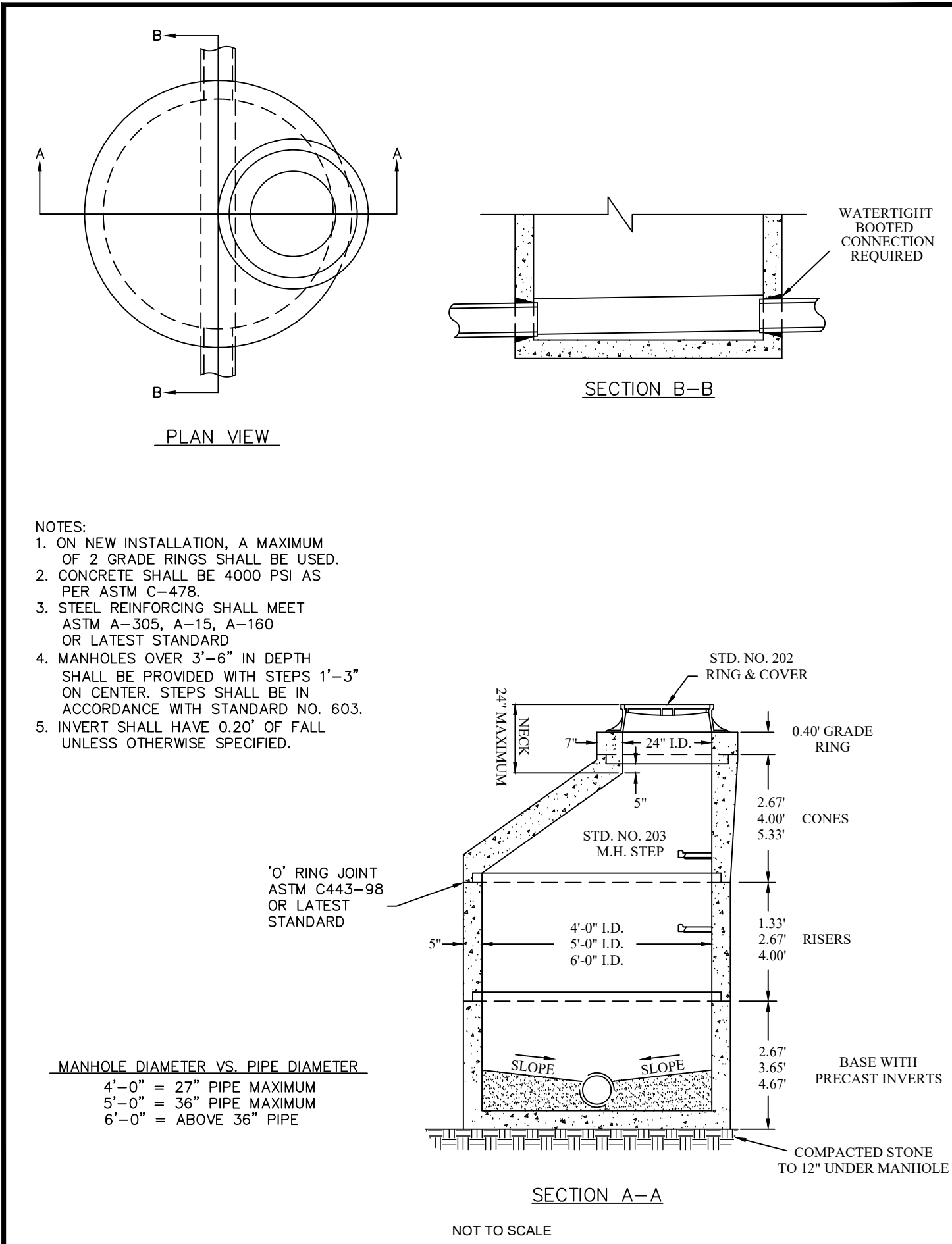
SHEET

13 OF 15

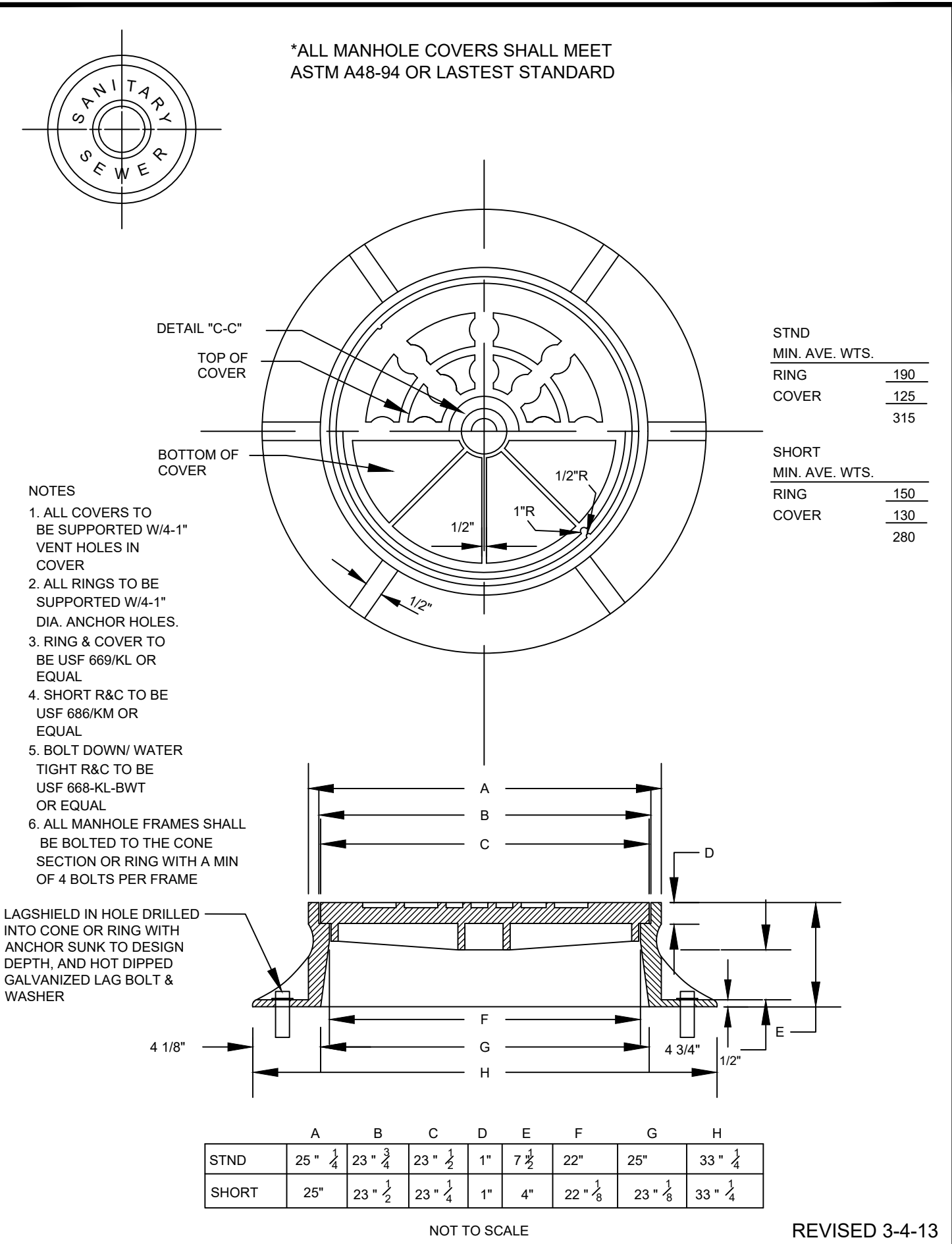
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CONSULTANTS *PLC*

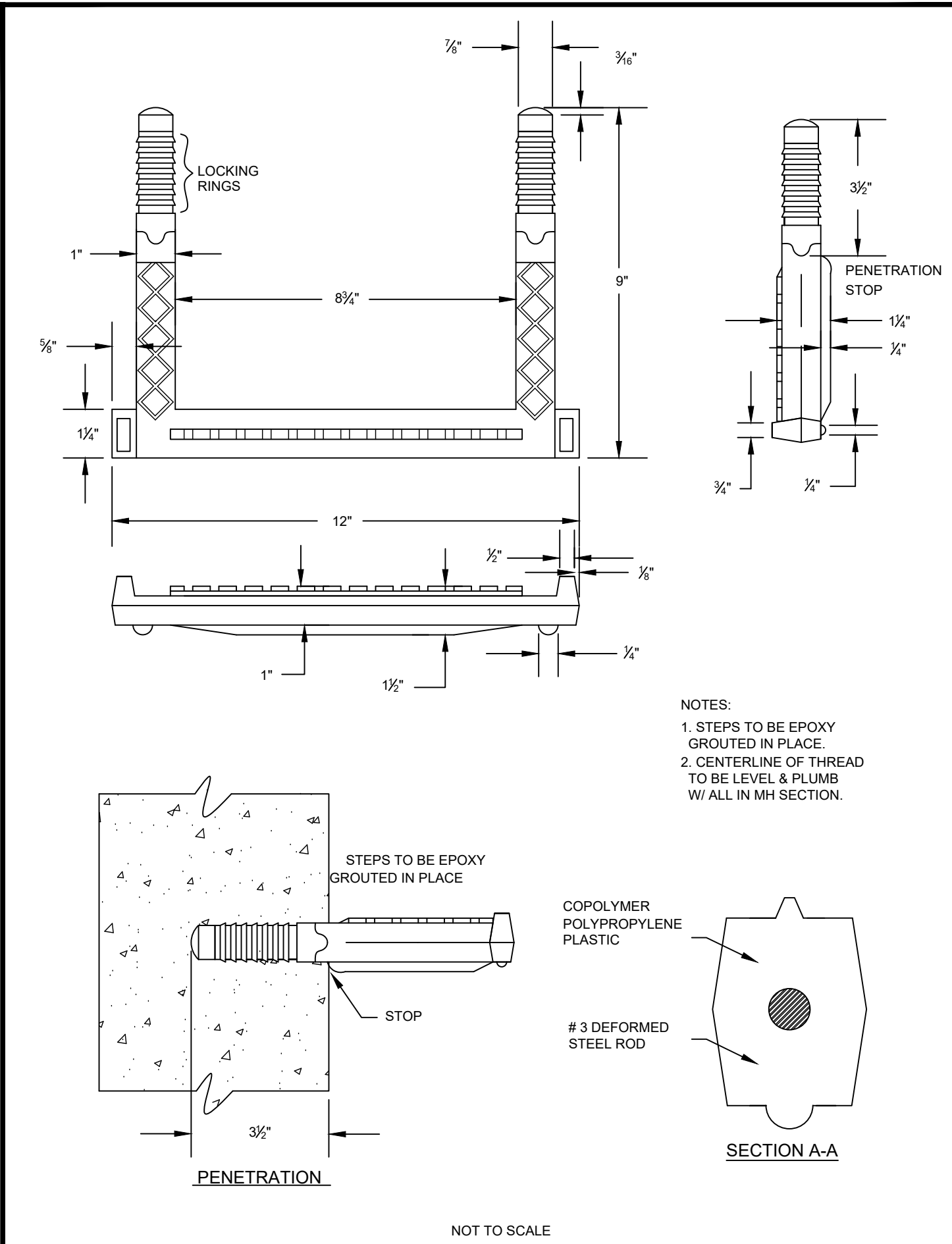
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20757
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11/8/2021 11:19:48 PM EST



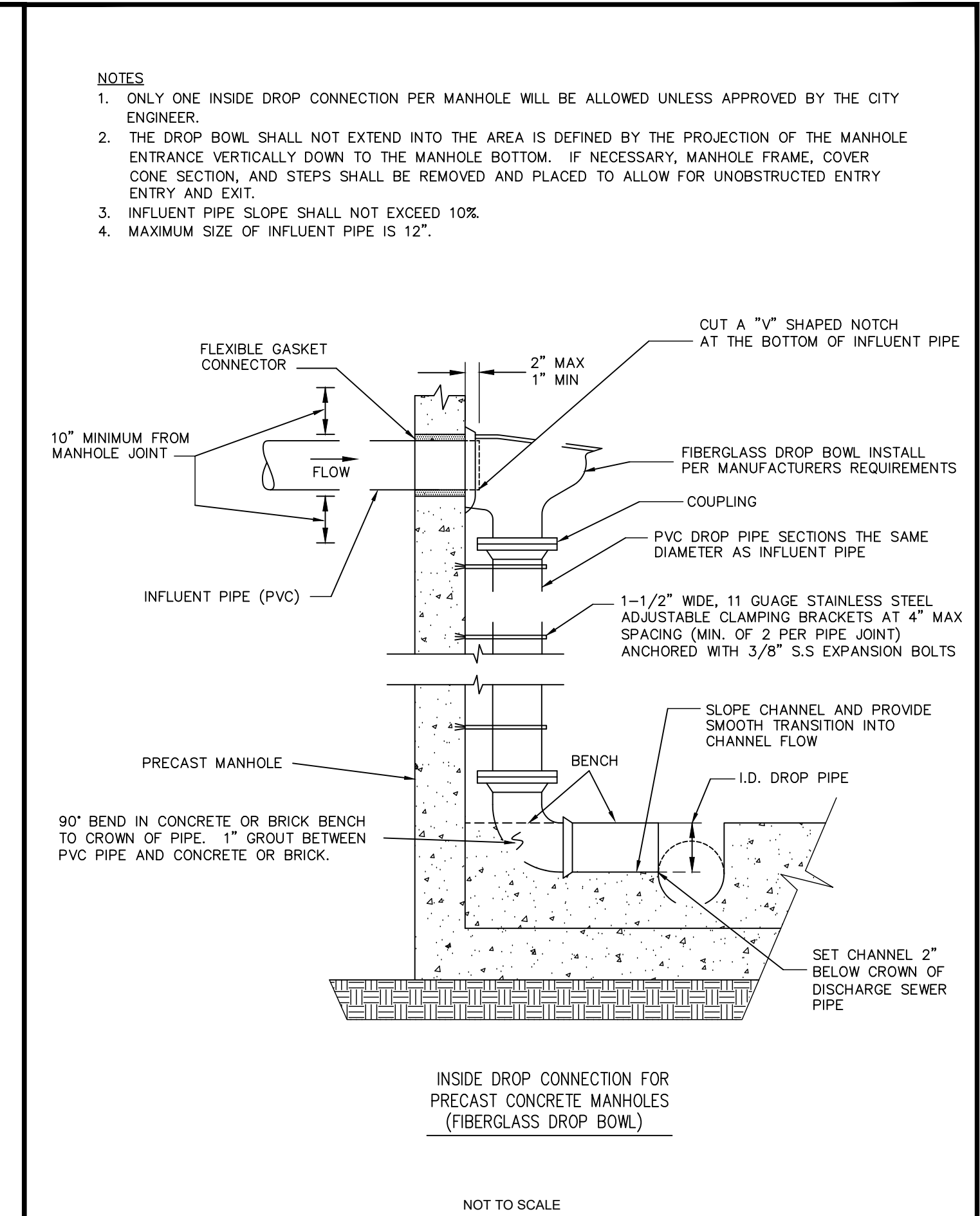
CITY OF MORGANTON	SANITARY SEWER MANHOLE DETAIL	STD. NO.	DATE
		201	3-7-11
		SHEET 1 OF 1	



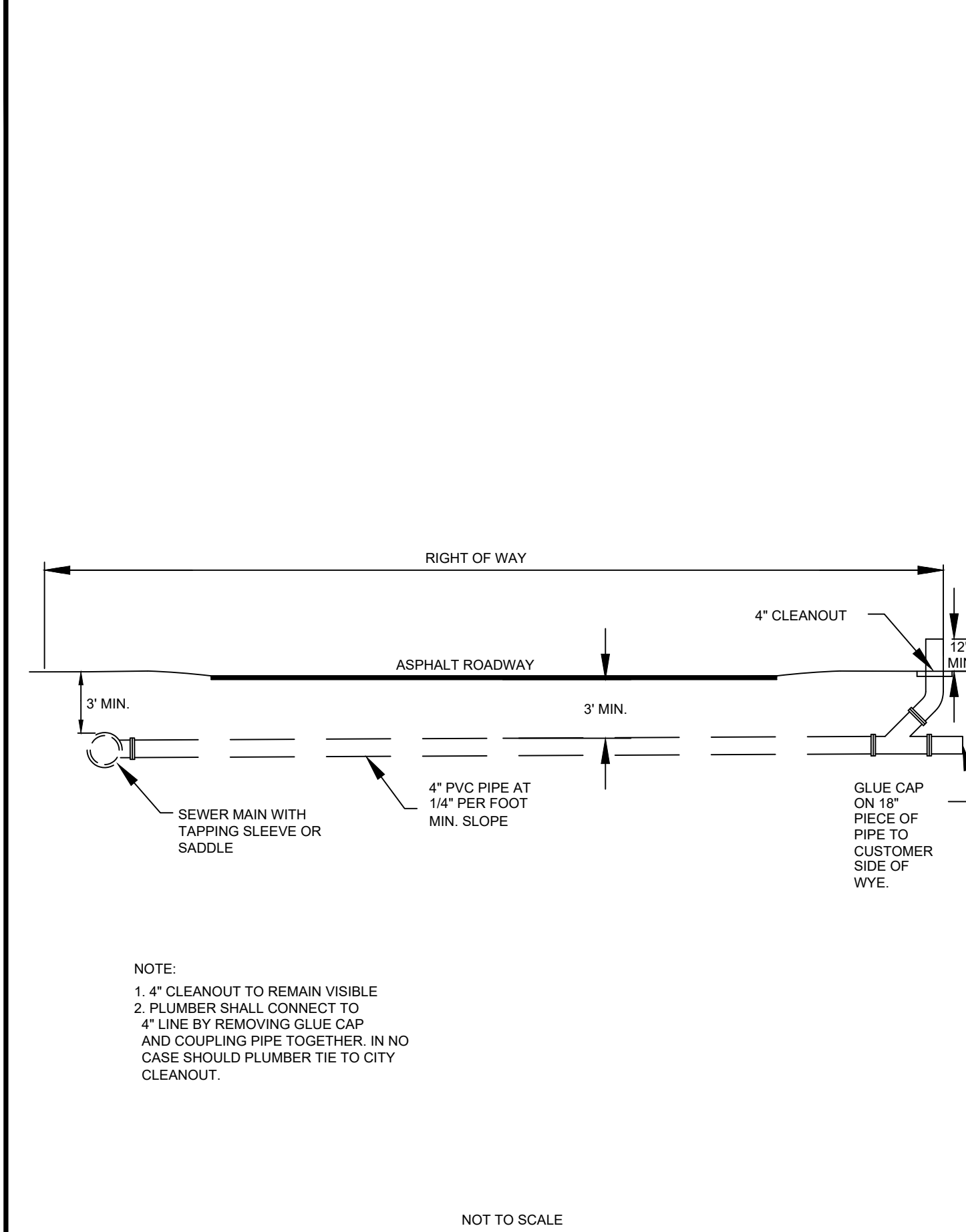
CITY OF MORGANTON	STANDARD & SHORT MANHOLE RING & COVER	STD. NO.	DATE
		202	3-7-11
		SHEET 1 OF 1	



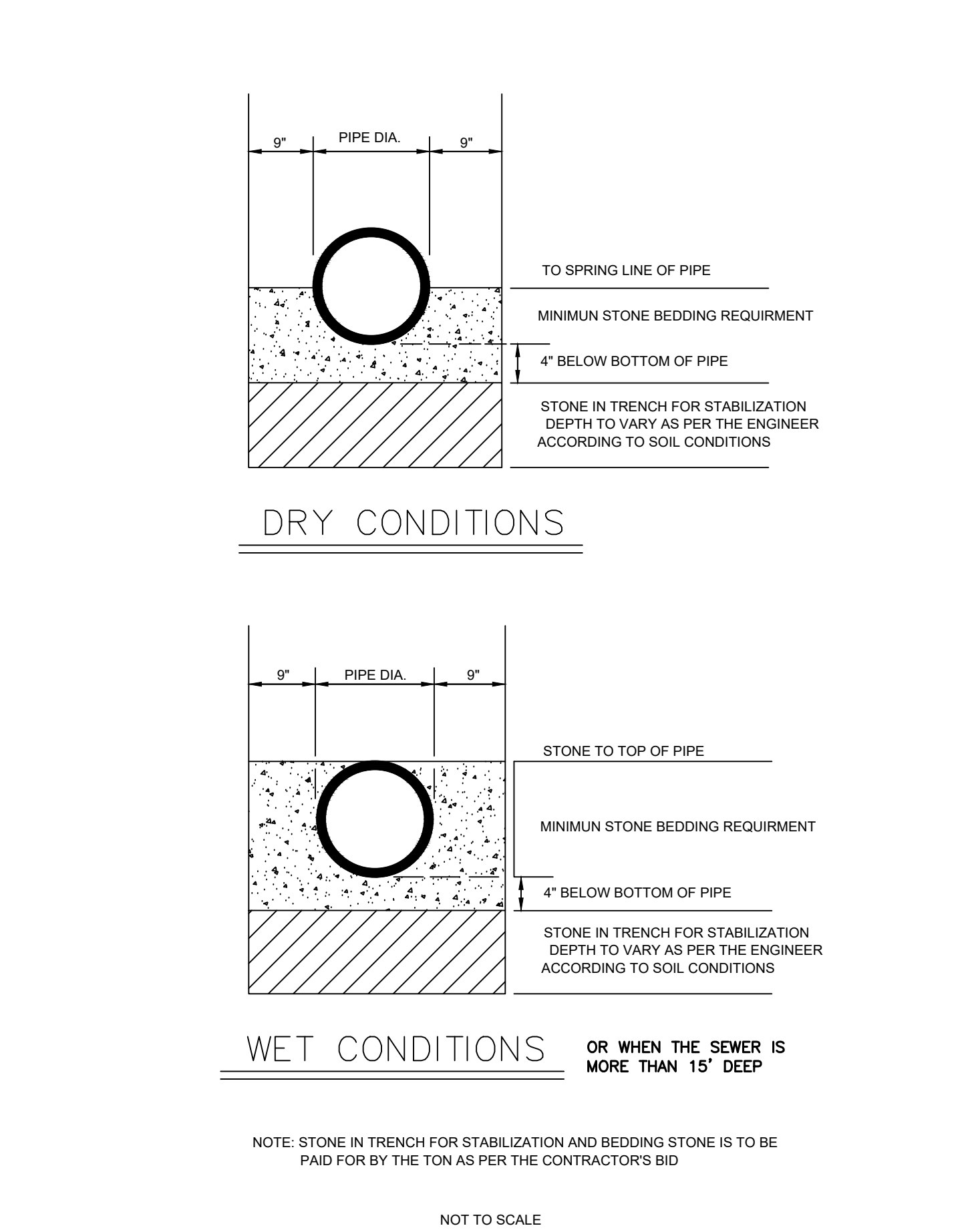
CITY OF MORGANTON	MANHOLE STEP FOR PRECAST CONCRETE MANHOLE	STD. NO.	DATE
		203	3-7-11
		SHEET 1 OF 1	



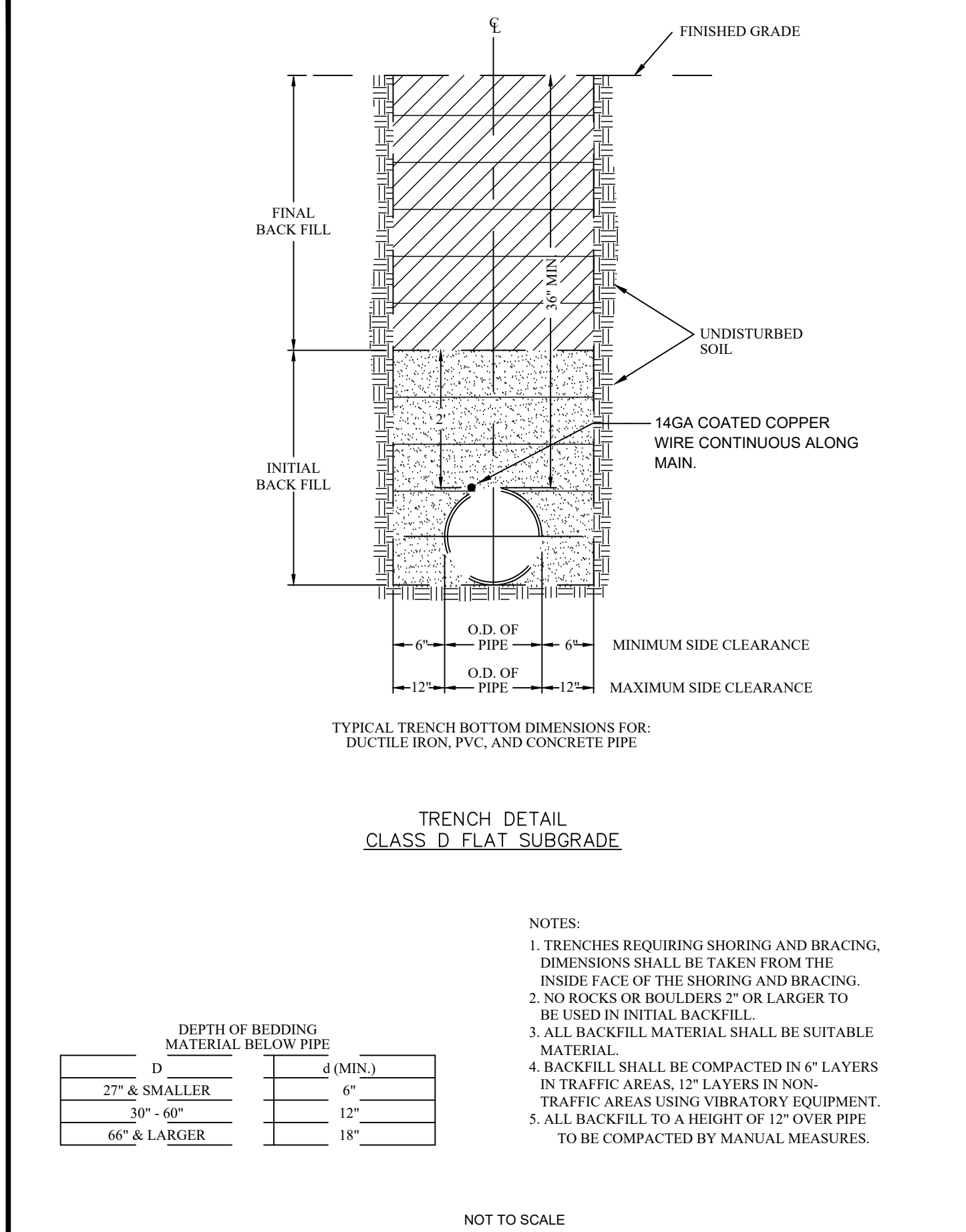
CITY OF MORGANTON	SANITARY SEWER INSIDE DROP CONNECTION	STD. NO.	DATE
		205	3-7-11
		SHEET 1 OF 1	



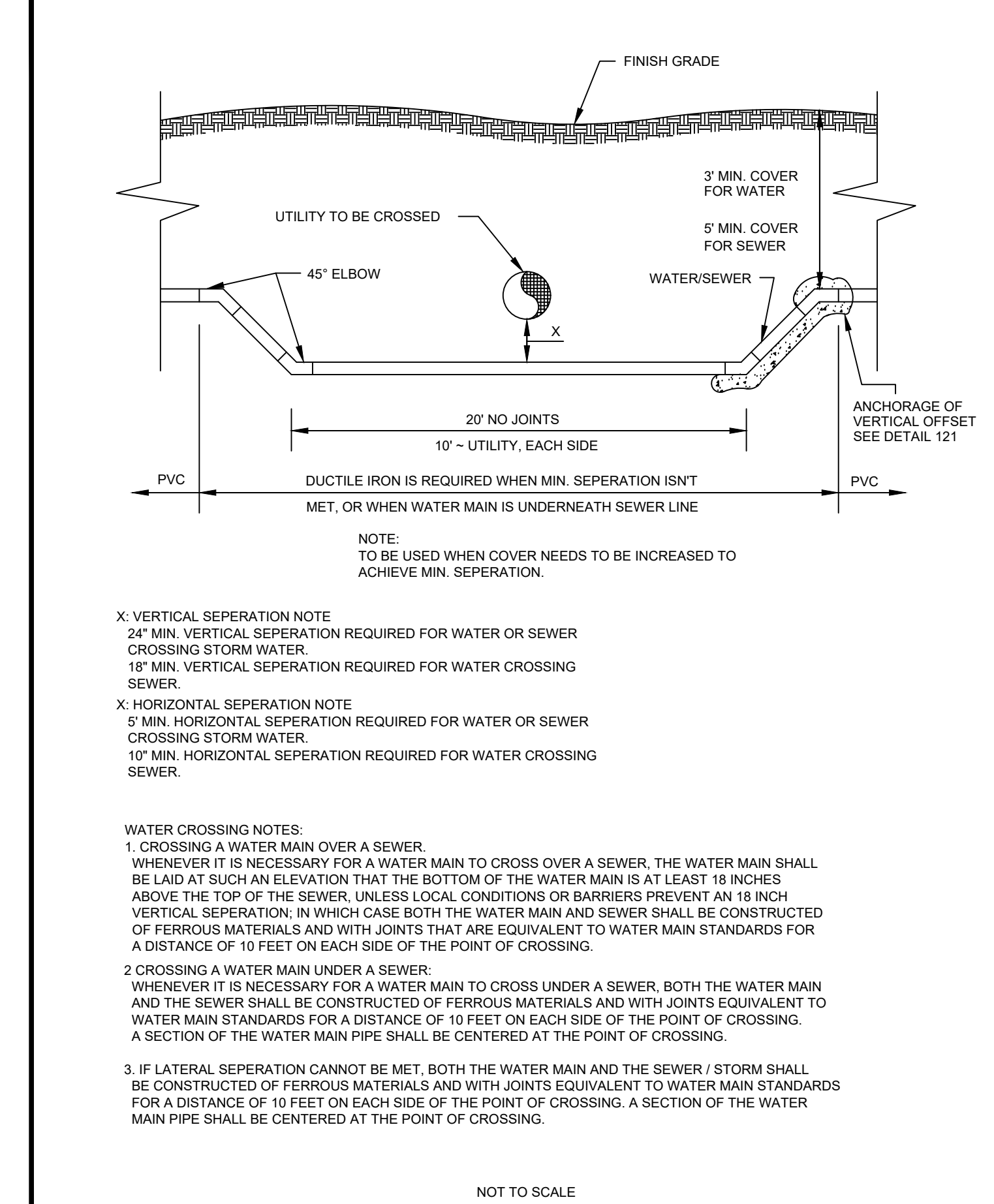
CITY OF MORGANTON	RESIDENTIAL SEWER TAP	STD. NO.	DATE
		206	3-7-11
		SHEET 1 OF 1	



CITY OF MORGANTON	P.V.C. SEWER PIPE BEDDING	STD. NO.	DATE
		223	3-7-11
		SHEET 1 OF 1	

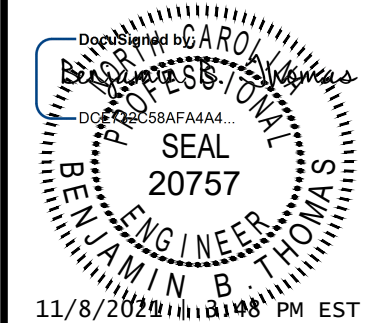


CITY OF MORGANTON	SEWER LINE TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS	STD. NO.	DATE
		224	3-7-11
		SHEET 1 OF 1	



CITY OF MORGANTON	UTILITY CROSSING	STD. NO.	DATE
		230	3-7-11
		SHEET 1 OF 1	

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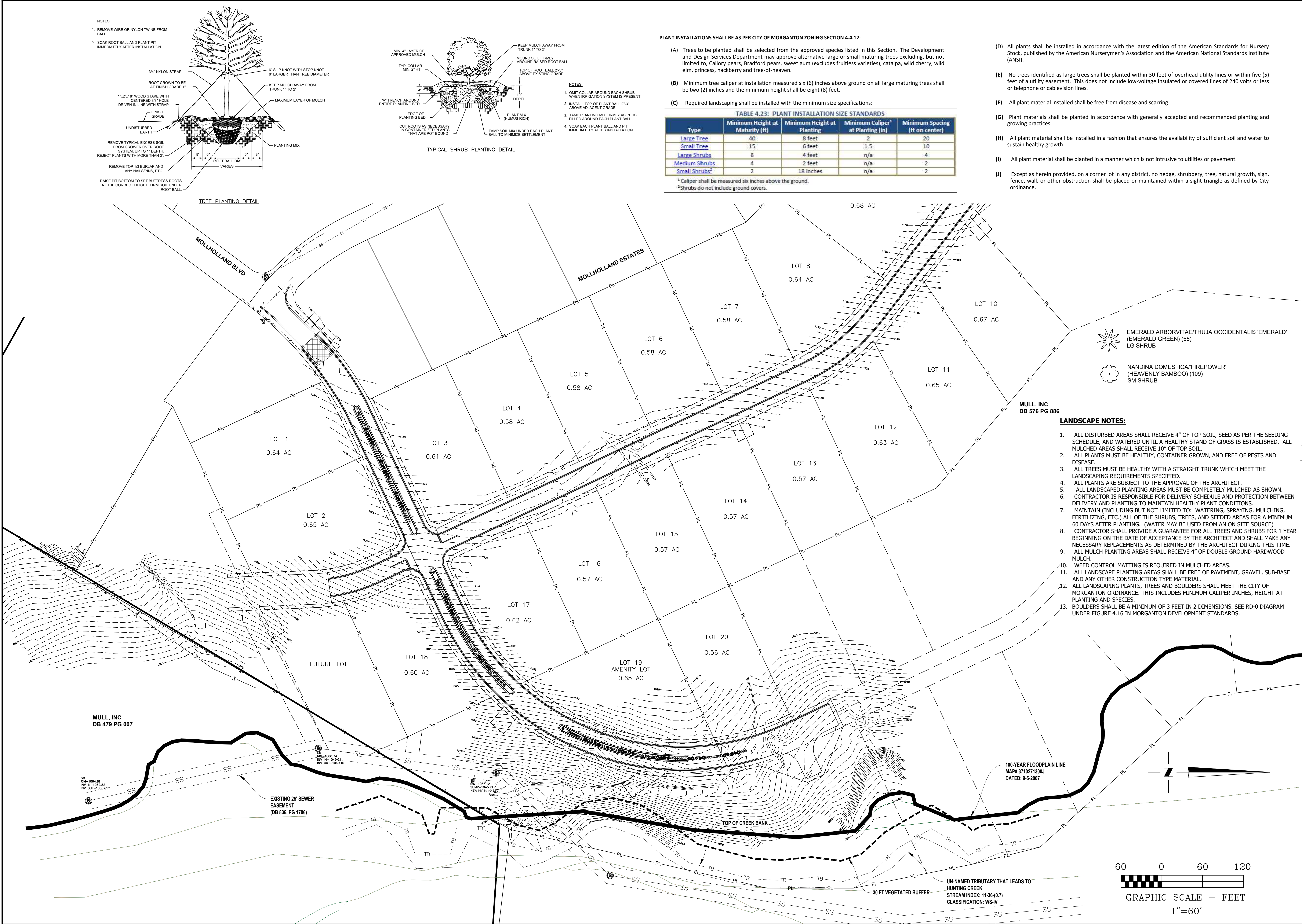


ISSUED FOR CONSTRUCTION

SEWER DETAILS

PROJECT NO.: 19099
SCALE: NTS
DATE: 11/4/21
DRAWN BY: BML
REVISION:

MOLLHOLLAND ESTATES
PHASE II
MORGANTON, NORTH CAROLINA



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PROFESSIONAL SEAL
SEAL 20757
BENJAMIN B. THOMAS
11/8/2021 11:54:48 PM EST

ISSUED FOR CONSTRUCTION

**PHASE 2A
LANDSCAPE PLAN**

PROJECT NO: 19099
SCALE: 1"=60'
DATE: 11/4/21
DRAWN BY: BML
REVISION:

**MOLLHOLLAND ESTATES
PHASE II
MORGANTON, NORTH CAROLINA**

SHEET

15 OF 15