SCHEDULE OR APPROVED EQUAL.

2. STORM SEWER CALCULATIONS WERE BASED ON SPECIFIC PIPE MATERIALS AND ROUGHNESS

THAN SHOWN.

COEFFICIENTS. ENGINEER MUST BE CONTACTED IF CONTRACTOR WISHES TO USE PIPE MATERIAL DIFFERENT

3. FOR SLOPES GREATER THAN 3:1, SEE STABILIZATION REQUIREMENTS IN EXCAVATION AND GRADING NOTES

ON C-2.1; "EROSION CONTROL"

SURROUNDING A CURB INLET OR

CATCH BASIN IS INTENDED TO

AREA AND AS SUCH, THE STORM

DRAIN SURFACE RUNDFF FROM THE

STRUCTURE SHALL BE THE LOWEST

5. ALL EMBANKMENTS SHALL BE 2:1

SLOPES UNLESS NOTED OTHERWISE.

6. CURRENT E&SC HANDBOOK SHALL BE USED FOR THE PROJECT AND THE TNGCP TRACKING NO. IS TNR

(TM) TEMPORARY MULCH W/SEEDING

(CE) CONSTRUCTION ENTRY/EXIT

EROSION CONTROL LEGEND

(GR) GRAVEL / STONE PAD

(TSB) TEMP. SEDIMENT BASIN

(PS) PERMANENT SEEDING W/ MULCH

(OP) DUTLET PROTECTION - RRA

(SFR) STONE FILTER RING

(SF) SILT FENCE

(SD) SLOPE DRAIN

4. IN ALL CASES, AREAS

	DRAWING INDEX		
SHEET No.	LATEST SHEET TITLE	ISSUE DATE	LATEST REV DATE
C-0.1	EXISTING SURVEY & PHASE 1 - EROSION CONTROL PLAN (SWPPP)	04-07-2025	
C-1.0	PHASE 2- FINAL GRADING AND DRAINAGE PLAN (SWPPP)	04-07-2025	
C-2.0	SWPPP, GRADING, & DRAINAGE DETAIL SHEET	04-07-2025	
C-2.1	SITE SPECIFICATION SHEET	04-07-2025	
C-3.0	SITE LAYOUT & PAVING	04-07-2025	
C-4.0	SITE WATERLINE PLAN	04-07-2025	
C-5.0	SANITARY SEWER PLAN & PROFILE (LINE "A")	04-07-2025	
C-5.1	SANITARY SEWER DETAIL SHEET	04-07-2025	
C_{60}	ROAD DI AN & PROFILE	04 07 2025	

CONSTRUCTION AND EPSC PHASES 1) CONTRACTOR SHALL FOLLOW INSTALLATION SEQUENCE SHOWN ON THE SWPPP SHEETS. 2) CONTRACTOR SHALL MAINTAIN CONSTRUCTION ENTRANCE AND BMPs AFTER EPSC MEASURES ARE INSTALLED.

3) COMMENCE WITH FINAL STABILIZATION AS SOON AS POSSIBLE.

4) WHEN APPLYING FOR THE GRADING PERMIT, THE CONTRACTOR SHALL NOTIFY THE CITY PUBLIC WORKS DEPARTMENT OF ANY WASTE OR BORROW SITES TO BE USED IN CONJUNCTION WITH SITE PREP FOR THIS SITE. ANY WASTE OR BORROW SITES TO BE USED MUST BE PROPERLY PERMITTED AND BE CITY APPROVED SITES. NOTICES OF COVERAGE AND OTHER DOCUMENTATION WILL BE REQUIRED TO VERIFY REQUESTS FOR USE OF WASTE OR BORROW

INETYPE LE	G E N D	
EXISTING	PROPOSED	DESCRIPTION
SBSB		SETBACK
		PROPERTY LINES
	SFS	SILT SF

GRADING PLAN LEGEND

EXISTING	PROPOSED D	ESCRIPTION
1200	1200	CONTOUR
100 +	100 •	SPOT GRADE
	\longrightarrow	STORM SEWER
СВЕ 🗆	СВ 🔼	CATCH BASIN
CIE 🗆	CI 🔼	CURB INLET
HWE 🔽	ни 🔽	CONCRETE HEADWALL

IP-SF SILT FENCE

UTILITY PLAN LEGEND

EXISTING	PROPOSED D	ESCRIPTION
GEGE	—— G ——— G ——	GAS
	——— W-xxin xxx———	WATER
	——SAN-xxin xx——	GRAVITY SANITARY SEWER
OHU-EX	— они — они —	OVERHEAD UTILITIES
OHE-EX	— OHE — OHE —	OVERHEAD ELECTRIC
C FHE	⋙ FH	FIRE HYDRANT
, , .	.,.	WATER METER
■ WME	≥ WM	WATER VALVE
₩ <i>VE</i>	₩V	GAS METER
■ GME	■ GM	GAS VALVE
₩ GVE	₩ GV	SANITARY
MHE	MH	MANHOLE
~ PPE	~ PP	POWER POLE

EROSION CONTROL NOTES

A SPECIFIC INDIVIDUAL SHALL BE DESIGNATED TO BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS ON EACH SITE.

EROSION AND SEDIMENT CONTROL MEASURES MUST BE IN PLACE AND FUNCTIONAL BEFORE EARTH MOVING OPERATIONS BEGIN AND MUST BE CONSTRUCTED AND MAINTAINED THROUGHT THE CONSTRUTION PERIOD. TEMPORARY MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORK DAY, BUT MUST BE REPLACED AT THE END OF THE WORK DAY.

--PERMANENT OR TEMPORARY SOIL STABILIZATION MUST BE APPLIED TO DISTURBED AREAS TO THE EXTENT FEASIBLE WITHIN SEVEN DAYS ON AREAS THAT WILL REMAIN UNFINISHED FOR MORE THAN THIRTY (30) CALENDAR DAYS. --TO THE EXTENT NECESSARY, SEDIMENT IN RUNDFF WATER MUST BE

TRAPPED BY THE USE OF DEBRIS BASINS, SEDIMENT BASINS, SILT TRAPS OR SIMILAR MEASURES UNTIL THE DISTURBED AREA IS

--ALL CONTROL MEASURES SHALL BE CHECKED, AND REPAIRED AS NECESSARY, WEEKLY IN DRY PERIODS AND WITHIN 24 HOURS AFTER ANY RAINFALL OF 0.5 INCHES WITHIN A 24 HOUR PERIOD. DURING PROLONGED RAINFALL, CHECK MEASURES DAILY AND REPAIR AS

SITE ERDS REFE	E GRADING, DRA SIDN CONTROL ERENCE LEGEND	
LABEL	REFERENCED ITEM	COMMENT
CB	CATCH BASIN	
CC-#	CURB CUT	#=OPENING WIDTH
CI	CURB INLET	
CS-#	CONCRETE SWALE	#=SWALE LENGTH
DS	DOWNSPOUT	
HW	PRECAST HEADWALL	
RRA-#	RIP RAP APRON	#=APRON LENGTH
TCE	TEMPORARY CONSTRUCTION ENTRANCE	
CD	STONE CHECK DAM	
JB	JUNCTION BOX	
TST	TEMPORARY SEDIMENT TRAP	

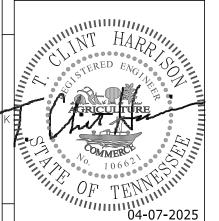
PHASING NOTES:

______ 1. DNCE THE SITE IS STABILIZED, TEMPORARY BMP CONTROLS SHOWN IN PHASES 1-2 CAN BE REMOVED. 2. AS A LAST LINE OF PROTECTION, LEAVE SILT

FENCE IN PLACE AS LONG AS PRACTICAL. ______

T. CLINT HARRISON, P.E - Civil Engineer -5123 Bethesda Road Morristown, TN 37814 ph. 423.277.1112 charrisoneng@gmail.com

TCH!



PROJ NO. • -DWG FILE • ISSUE DATE • 04-07-2025 REVISION HISTORY

CAUTION-NOTICE TO CONTRACTOR THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

SHOWN ON THE PLANS. CALL BEFORE YOU DIG! 1-800-351-1111 TENNESSEE DNE-CALL SYSTEM, INC.

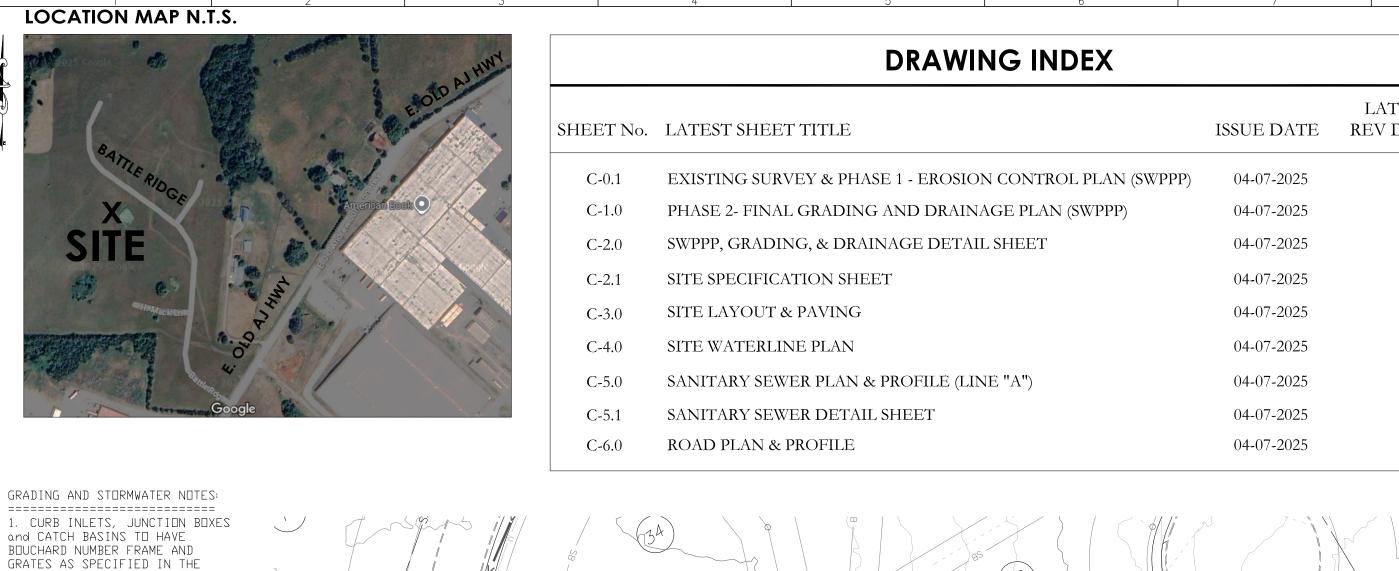
TN STATE LAW REQUIRES YDU CALL IF THERE IS EXCAVATION...FOR THE PURPDSE OF THE MUVEMENT, PLACEMENT OR REMOVAL OF ROCK, EARTH OR DITHER MATERIALS IN DR ON THE GROUND BY USE OF MECHANIZED EQUIPMENT, OR BY DISCHARGE OF EXPLOSIVES, AND INCLUDING AUGERING, BACKFILLING, DIGGING DITCHING, DILLING, GRADING, PLOWING-IN, PULLING-IN, RIPPING SCRAPING, TRENCHING, AND TUNNELING.

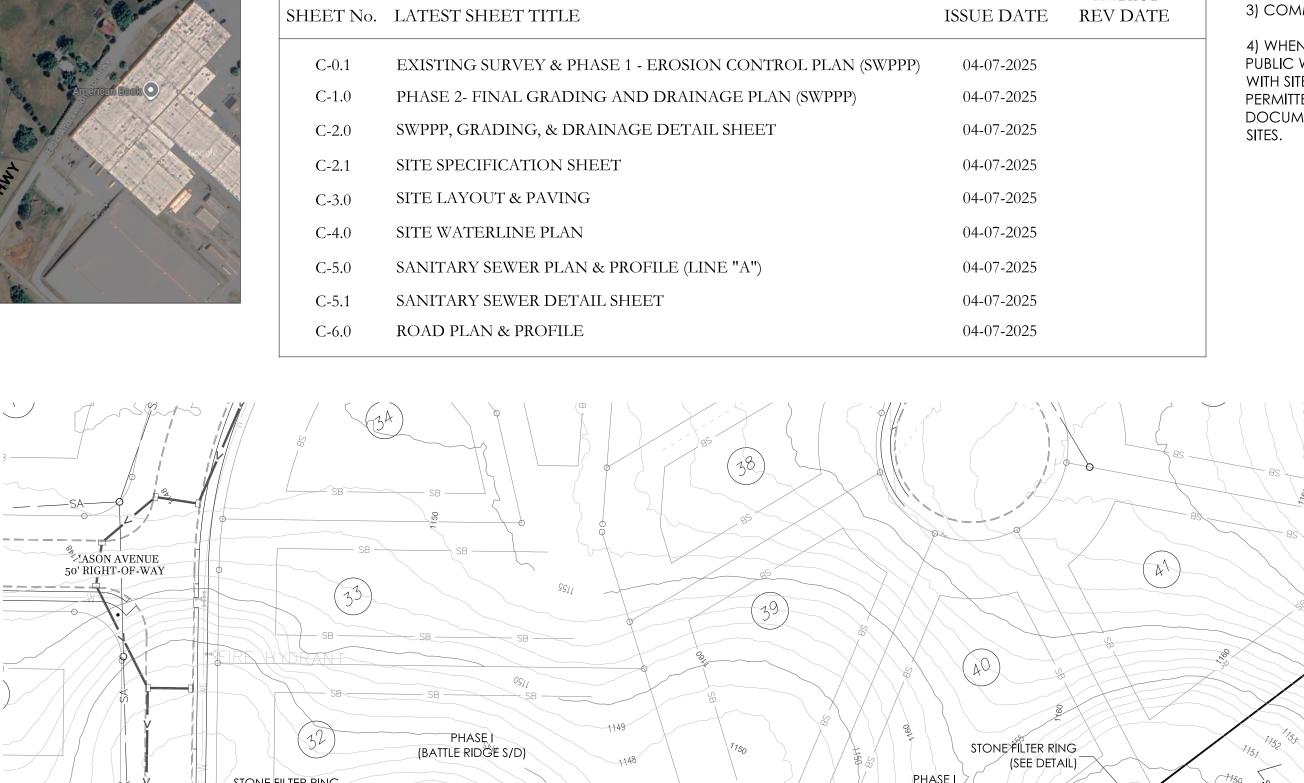
RIDGE PHA

SINGL

EXISTING SURVEY and PHASE 1 EROSION CONTROL PLAN (SWPPP)

THIS IS TO CERTIFY THAT I HAVE EXAMINED THE FEDERAL INSURANCE ADMINISTRATION FLOOD HAZARD MAP AND FOUND THE SUBJECT PROPERTY IS NOT LOCATED IN SPECIAL FLOOD HAZARD AREA ACCORDING TO FEMA / FIRM MAP 47089C0063D DATED 12-16-08. THE SUBJECT PROPERTY IS IN "ZONE X"





PHASE I STONE FILTER RING (BATTLE RIDGE S/D) (SEE DETAIL) (BATTLE RIDGE S/D)

(IP) INLET PROTECTION - RRA (CD) CHECK DAM (TST) TEMP. SEDIMENT TRAP LOT 59 LOT 58 (MA) EROSION CONTROL MATTING (WB) WATER BAR (DB) DIVERSION BERM

PHASE I

(BATTLE RIDGE S/D)

CONCRETE WASHOUT (TO BE MAINTAINED THROUGHOUT EACH PHASE OF CONSTRUCTION.

(SEE DETAIL)

(SEE DETAIL)

(BATTLE RIDGE S/D)

PHASE

LOT 53

LOT 54

BEGIN RETAINING

WALL PARALLEL TO

/LØT/55 /

END RETAINING R.O.W. CURVE WALL-(SEE C1.0)

75' Powerline Easement

LOT 57

PROPOSED ROAD

SHOWN FOR REFERENCE

____w__

(IN FEET) 1 inch = 50 ft.

C-0.1

GRADING AND STORMWATER NOTES:

GRATES AS SPECIFIED IN THE

SCHEDULE OR APPROVED EQUAL.

2. STORM SEWER CALCULATIONS WERE BASED ON SPECIFIC PIPE MATERIALS AND ROUGHNESS

THAN SHOWN.

COEFFICIENTS. ENGINEER MUST BE CONTACTED IF CONTRACTOR WISHES TO USE PIPE MATERIAL DIFFERENT

3. FOR SLOPES GREATER THAN 3:1, SEE STABILIZATION REQUIREMENTS IN EXCAVATION AND GRADING NOTES

ON C-2.1; "EROSION CONTROL"

SURROUNDING A CURB INLET OR

CATCH BASIN IS INTENDED TO

AREA AND AS SUCH, THE STORM

DRAIN SURFACE RUNDFF FROM THE

STRUCTURE SHALL BE THE LOWEST

5. ALL EMBANKMENTS SHALL BE 2: 1

SLOPES UNLESS NOTED OTHERWISE.

6. CURRENT E&SC HANDBOOK SHALL BE USED FOR THE PROJECT AND THE TNGCP TRACKING NO. IS TNR

(TM) TEMPORARY MULCH W/SEEDING

(CE) CONSTRUCTION ENTRY/EXIT

(GR) GRAVEL / STONE PAD

(TSB) TEMP. SEDIMENT BASIN

(IP) INLET PROTECTION - RRA

(TST) TEMP. SEDIMENT TRAP

(MA) EROSION CONTROL MATTING

(DP) DUTLET PROTECTION - RRA

CONCRETE WASHOUT (TO BE MAINTAINED THROUGHOUT

CONSTRUCTION. (SEE DETAIL)

(PS) PERMANENT SEEDING W/ MULCH

(SF) SILT FENCE

(SD) SLOPE DRAIN

(CD) CHECK DAM

(WB) WATER BAR

(DB) DIVERSION BERM

(SFR) STONE FILTER RING

EROSION CONTROL LEGEND

4. IN ALL CASES, AREAS

1. CURB INLETS, JUNCTION BOXES and CATCH BASINS TO HAVE BOUCHARD NUMBER FRAME AND



STORM SEWER SCHEDULE

Ŭ			001.22	-					
		Structure	feet	Pipe	Pipe	PIPE	Structure	feet	%
GRATE # BY	TOP of	I.D.	INVERT	Dia. (in)	Material	Length (ft)	I.D.	INVERT	SLOPE
J. BOUCHARD	CASTING								
3080	1149.14	CI-2	1146.00	18	HDPE	20	CI-4	1145.80	1.00%
3080	1149.06	CI-4	1145.70	18	HDPE	22	CI-8	1145.40	1.36%
3080	1149.06	CI-8	1145.30	18	HDPE	78	CI-10	1144.70	0.77%
3080	1150.80	CI-10	1142.33	18	HDPE	33	HW-12	1142.00	1.00%
	_	,							
3080	1149.14	CI-6	1146.00	18	HDPE	20	CI-8	1145.80	1.00%

CONSTRUCTION AND EPSC PHASES:

1) CONTRACTOR SHALL INSTALL EPSC ITEMS SHOWN ON PREVIOUS SHEETS AND THIS SHEET BEFORE COMMENCING GRADING THE REST OF THE SITE. 2) CONTRACTOR SHALL MAINTAIN CONSTRUCTION ENTRANCE AND BMPs AFTER EPSC MEASURES ARE INSTALLED.

3) ONCE ALL ADDITIONAL EPSC MEASURES ARE INSTALLED PER THIS SHEET and PERMIT IS ISSUED, CONTRACTOR CAN COMMENCE EXCAVATING FOR THE SPOIL SITE.

4) COMMENCE WITH FINAL STABILIZATION AS SOON AS POSSIBLE.

5) UNLESS NOTED OTHERWISE, ALL DISTURBED AREAS NOT COVERED WITH PAVING OR OTHER HARD SURFACE SHALL RECEIVE MIN. 5" TOPSOIL WITH MATTING or FESCUE SEED.

6) DRAINAGE FACILITIES FOR STORMWATER DETENTION ARE ACCOUNTED FOR THE IN STORMWATER BASINS DESIGNED AND CONSTRUCTED DURING PHASE I OF BATTLE RIDGE.

========= I N E T Y P E L	E G E N D	:======
EXISTING	PROPOSED	DESCRIPTION
—SBSB	-	SETBACK
		PROPERTY LINES

GRADING PLAN LEGEND

—— 1200 ——	<u> </u>	CONTOUR
100 +	100 •	SPOT GRADE
	$\longrightarrow\!$	STORM SEWER
	_	
CBE □	СВ 🔼	CATCH BASIN
CIE 🗆	CI 🔼	CURB INLET
HWE 🔽	HW 🔽	CONCRETE HEADWALL

PROPOSED DESCRIPTION

IP-SF SILT FENCE INLET PROTECTION

TCH!

T. CLINT HARRISON, P.E

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Morristown, TN 37814

ph. 423.277.1112 charrisoneng@gmail.com

PROJ NO. • -

ISSUE DATE • 04-07-2025

REVISION HISTORY

CAUTION-NOTICE TO CONTRACTOR

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CALL BEFORE YOU DIG!

1-800-351-1111

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TENNESSEE DNE-CALL SYSTEM, INC.

SHOWN ON THE PLANS.

DWG FILE •

- Civil Engineer -

EXISTING

EXISTING	PROPOSED	DESCRIPTION
GEGE	G G	— GAS
	——— W-xxin xxx——	— WATER
SE-xin xxx	SAN-xxin xx	GRAVITY — SANITARY SEWER
OHU-EX	— они — они —	OVERHEAD UTILITIES
OHE-EX	— ОНЕ — ОНЕ —	— OVERHEAD ELECTRIC
₩, FHE	₩ FH	FIRE HYDRANT
	.,,	WATER METER
■ WME	₩ M	WATER VALVE
₩VE	₩V	GAS METER
■ GME	■ GM	GAS VALVE
⋈ GVE	₩ GV	SANITARY
MHE	MH	MANHOLE
~ PPE	~ PP	POWER POLE

A SPECIFIC INDIVIDUAL SHALL BE DESIGNATED TO BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS ON EACH SITE.

CONSTRUCTED AND MAINTAINED THROUGHT THE CONSTRUTION PERIOD. TEMPORARY MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORK DAY, BUT MUST BE REPLACED AT THE END OF THE WORK DAY. --PERMANENT OR TEMPORARY SOIL STABILIZATION MUST BE APPLIED TO DISTURBED AREAS TO THE EXTENT FEASIBLE WITHIN SEVEN DAYS ON AREAS THAT WILL REMAIN UNFINISHED FOR MORE THAN THIRTY

(30) CALENDAR DAYS.

--ALL CONTROL MEASURES SHALL BE CHECKED, AND REPAIRED AS NECESSARY, WEEKLY IN DRY PERIODS AND WITHIN 24 HOURS AFTER ANY RAINFALL OF 0.5 INCHES WITHIN A 24 HOUR PERIOD. DURING PROLONGED RAINFALL, CHECK MEASURES DAILY AND REPAIR AS

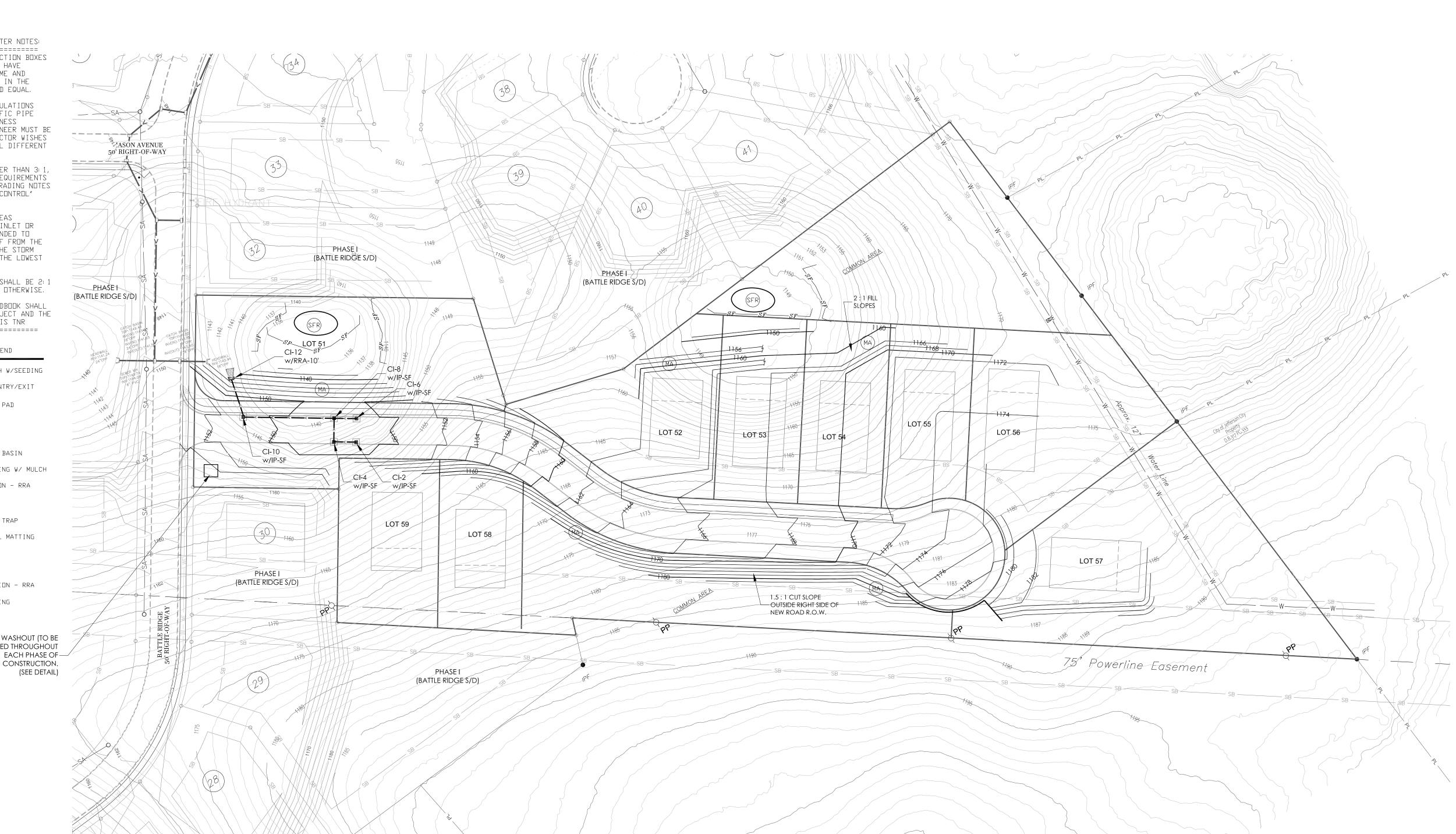
PHASING NOTES:

(IN FEET) 1 inch = 50 ft. ______ 1. DNCE THE SITE IS STABILIZED, TEMPORARY BMP CONTROLS SHOWN IN PHASES 1-2 CAN BE REMOVED. 2. AS A LAST LINE OF PROTECTION, LEAVE SILT FENCE IN PLACE AS LONG AS PRACTICAL.

RIDGE PH ______ SINGL

> PHASE 2- FINAL **GRADING & DRAINAGE** PLAN (SWPPP)

C-1.0



——SF———SF—— FENCE

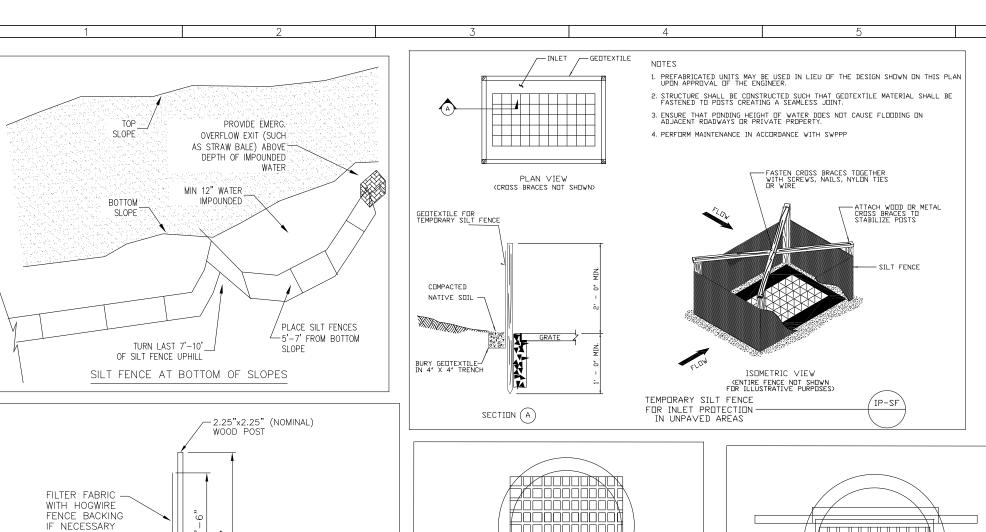
UTILITY PLAN LEGEND

EROSION CONTROL NOTES

EROSION AND SEDIMENT CONTROL MEASURES MUST BE IN PLACE AND FUNCTIONAL BEFORE EARTH MOVING OPERATIONS BEGIN AND MUST BE

--TO THE EXTENT NECESSARY, SEDIMENT IN RUNDFF WATER MUST BE TRAPPED BY THE USE OF DEBRIS BASINS, SEDIMENT BASINS, SILT TRAPS OR SIMILAR MEASURES UNTIL THE DISTURBED AREA IS

SITE GRADING, DRAINAGE & EROSION CONTROL DETAIL REFERENCE LEGEND LABEL REFERENCED ITEM COMMENT CB CATCH BASIN CC-# CURB CUT #=OPENING WIDTH CURB INLET CS-# CONCRETE SWALE #=SWALE LENGTH DOWNSPOUT HW PRECAST HEADWALL RRA-# RIP RAP APRON #=APRON LENGTH TEMPORARY CONSTRUCTION ENTRANCE CD STONE CHECK DAM JUNCTION BOX TEMPORARY SEDIMENT TRAP



FLOW ---

2.25"x2.25" (NOMINAL) WOOD POST

⊚ 6'-0" o.c.\

GEOTEXTILE FABRIC SHALL BE SYNTHETIC INDUSTRIES EROSION XV OR EQUAL.

MIN. DEPTH = 12' WIDTH

WIDTH

WIDTH

TYP.

TYP.

TYP.

TYP.

WIDTH

TYP.

TYP.

TYP.

MIN. DEPTH = 12'

1'-0"MINIMUM

TEMP DIVERSION BERM

2. f'c - 4,500 PSI.

3. fy - 60KSI.

RIP RAP APRON DETAIL (RRA-#)

#=LENGTH AS SHOWN ON PLAN.

SECTION (A)

FENCE BACKING

- FILTER FABRIC NAILED, STAPLED,

PROVIDE RIP RAP AS

REQUIRED (AT POINTS

STORMWATER

OF WATER IMPACT)

/TDB/

*O" ON AW HEADWALL

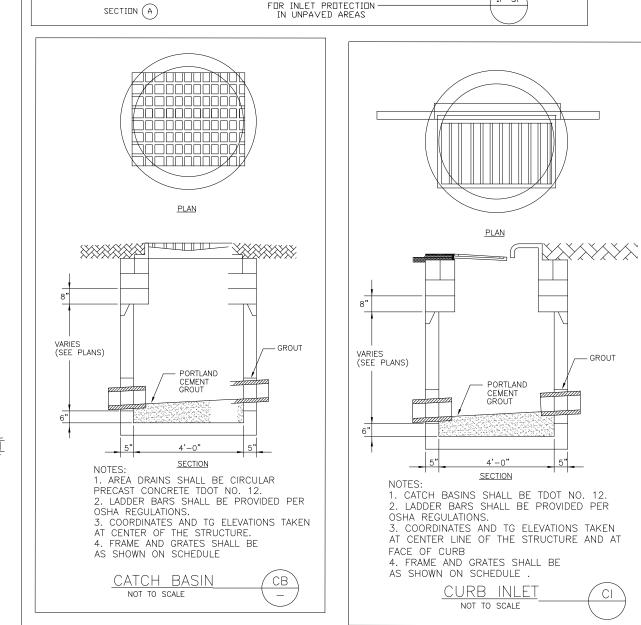
1-800-737-0707

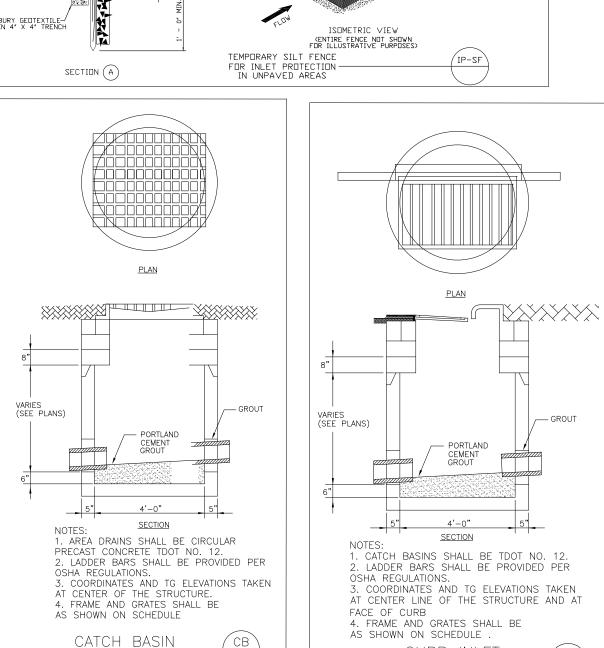
TOE MAY BE ADDED-UPON REQUEST

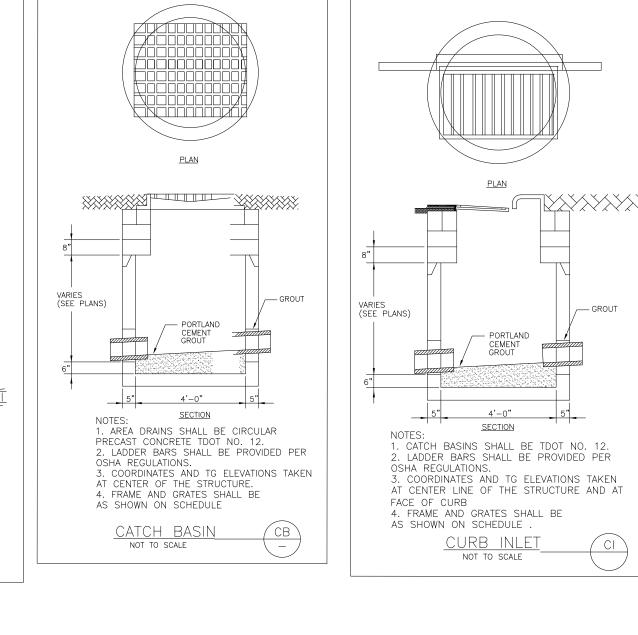
HUNG OR SECURELY FASTENED TO POSTS

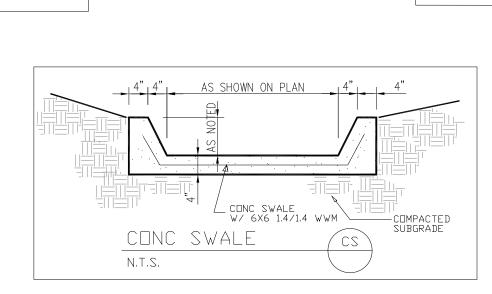
D OUTLET PIPE OR CURB CUT

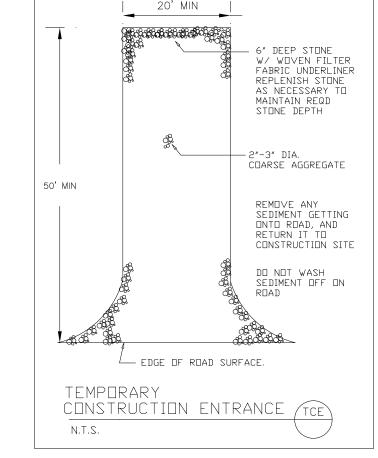
(WHERE CALLED FOR)

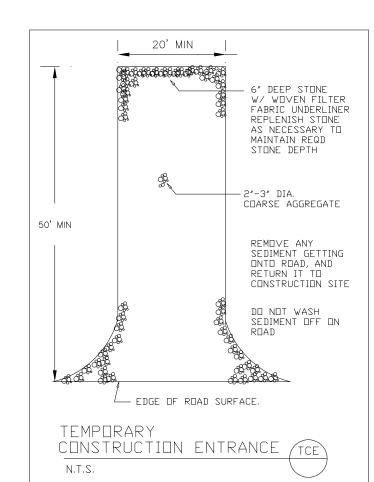


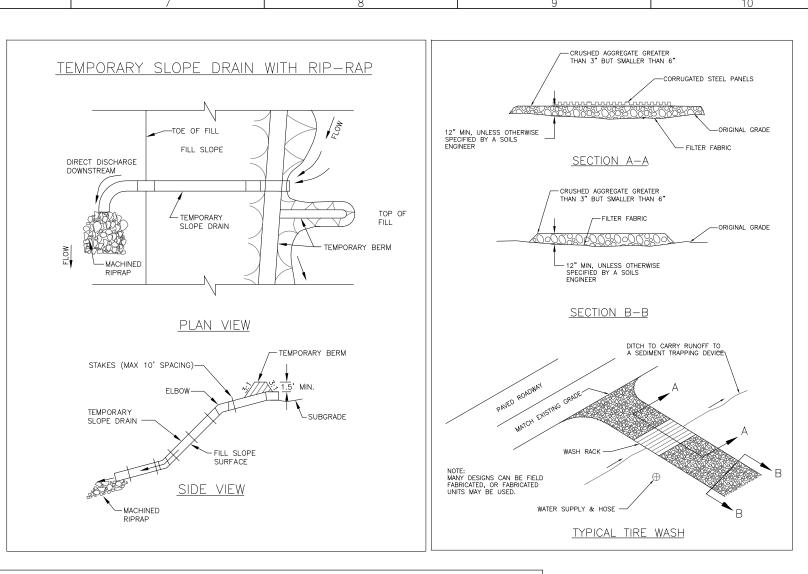




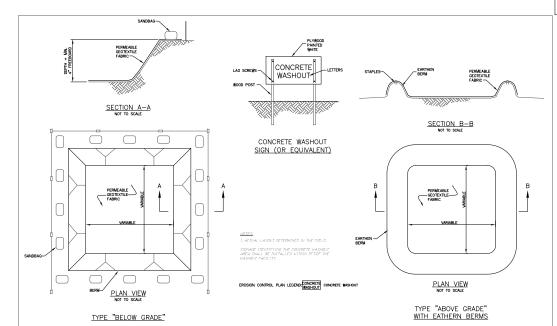








Specifications • 1-9



TDOT DESIGN DIVISION DRAINAGE MANUAL June 21, 2013

Note 1: Only RCP CL V is allowed with fill heights for pipes over 38 feet. RCP shall be a minimum of 42" for future maintenance inspection activities. Special installation detail may be required.

RCP: RCP wall thickness shall be type "B" as shown in AASHTO Designation M-170.

CMP: All CMP shall be aluminized coated meeting AASHTO M-274. Unless otherwise stated on Table 6A-1. for pipes ≥ 54 inches use 10-gage CMP, except on local roads.

HDPE: HDPE pipe shall meet AASHTO designation M-294-02. The maximum pipe diameter for HDPE pipe is 60 inches. The minimum cover shall be in accordance to the minimum cover depths shown on standard drawing D-PB-3 for construction loads.

PVC: PVC (Poly Vinyl Chloride) Profile Wall drainage pipe shall meet AASHTO Designation M-304(2007). The maximum pipe diameter for PVC pipe is 36 inches.

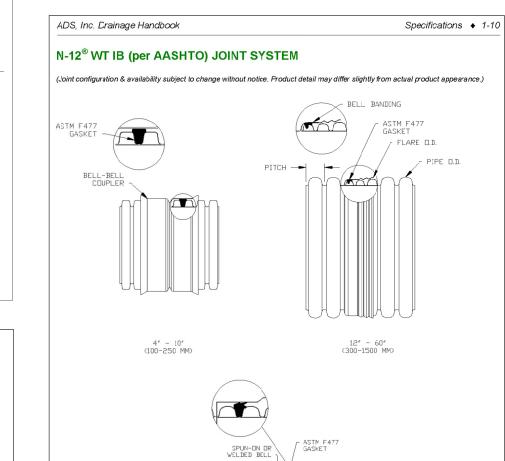
SRTRP: SRTRP shall meet AASHTO Designation MP-20. The maximum pipe diameter for SRTRP is 36".

PP: Shall meet the requirements of AASHTO Designation M330. The maximum pipe diameter for PP is 36"

RCP = Reinforced Concrete Pipe CMP = Corrugated Metal Pipe HDPE = High Density Polyethylene PVC = PolyVinyl Chloride SRTRP = Steel Reinforced Thermoplastic Ribbed Pipe

PP = Polypropylene Pipe

Table 6A-1 (continued) Notes for Pipe Selection Criteria Based on System and Fill Height



EROSION CONTROL BLANKET ANCHOR TRENCH

HORIZONTAL JOINT DETAIL

EROSION CONTROL BLANKET STAPLE DETAILS

(USE MANUFACTURER'S RECOMMENDED STAPLE PATTERN)

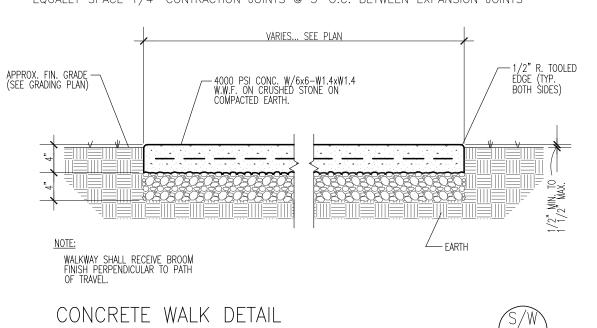
EROSION CONTROL PLAN LEGEND: EROSION CONTROL BLANKET

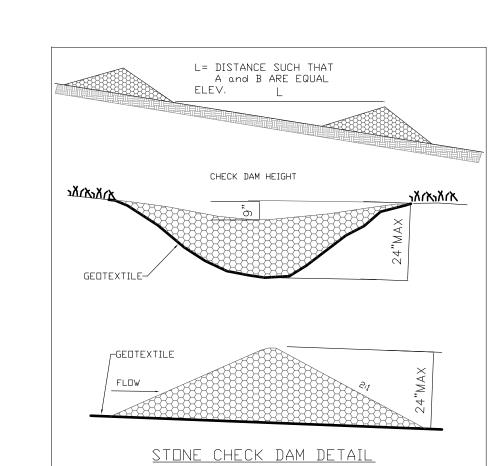
UNDISTURBED OR STABILIZED SLOPE

TRENCH DETAIL

UNDISTURBED OR STABILIZED SLOPE

USE 4000 PSI CONCRETE USE GRADE 50 STEEL PREFORMED 1/2" EXPANSION JOINTS SHALL BE EQUALLY SPACED @ 20' O.C. AND WHERE SIDEWALKS ABUTT RIGID MATERIAL EQUALLY SPACE 1/4" CONTRACTION JOINTS @ 5' O.C. BETWEEN EXPANSION JOINTS





ADS, Inc. Drainage Handbook

use in gravity-flow applications.

Field Pipe and Joint Performance

manufacturer for recommended leakage rates.

*Check with sales representative for availability by region.

representative for exact values.

Pipe Requirements

Joint Performance

ADS N-12® WT IB PIPE (per AASHTO) SPECIFICATION

4- through 10-inch (100 to 250 mm) shall meet AASHTO M252, Type S.

Manning's "n" value for use in design shall be 0.012.

bell tolerance device shall be installed by the manufacturer.

requirements of AASHTO M252, AASHTO M294 or ASTM F2306.

Sections 9.5 and 5.1 of AASHTO M294 and ASTM F2306 respectively.

visit our website at www.ads-pipe.com for a copy of the latest installation guidelines.

This specification describes 4- through 60-inch (100 to 1500 mm) ADS N-12 WT IB pipe (per AASHTO) for

Pipe shall be joined with the N-12 WT IB joint meeting the requirements of AASHTO M252, AASHTO M294,

12- through 60-inch (300 to 1500 mm) diameters shall have a reinforced bell with a bell tolerance device. The

Fittings shall conform to AASHTO M252, AASHTO M294, or ASTM F2306. Bell and spigot connections shall

To assure watertightness, field performance verification may be accomplished by testing in accordance with ASTM F2487. Appropriate safety precautions must be used when field-testing any pipe material. Contact the

Virgin material for pipe and fitting production shall be high-density polyethylene conforming with the minimum

requirements of cell classification 424420C for 4- through 10-inch (100 to 250 mm) diameters, and 435400C

for 12- through 60-inch (300 to 1500 mm) diameters, as defined and described in the latest version of ASTM

D3350, except that carbon black content should not exceed 4%. The 12-through 60-inch (300 to 1500 mm) virgin pipe material shall comply with the notched constant ligament-stress (NCLS) test as specified in

Installation shall be in accordance with ASTM D2321 and ADS's published installation guidelines, with the exception that minimum cover in trafficked areas for 4- through 48-inch (100 to 1200 mm) diameters shall be

one foot. (0.3 m) and for 54- and 60-inch (1350 and 1500 mm) diameters, the minimum cover shall be 2 ft.

material and compaction level; please refer to Technical Note 2.01. Contact your local ADS representative or

(0.6 m) in single run applications. Backfill for minimum cover situations shall consist of Class 1, Class 2

(minimum 90% SPD) or Class 3 (minimum 90%) material. Maximum fill heights depend on embedment

**Pipe O.D. values are provided for reference purposes only, values stated for 12- through 60-inch are ± 1 inch. Contact a sales

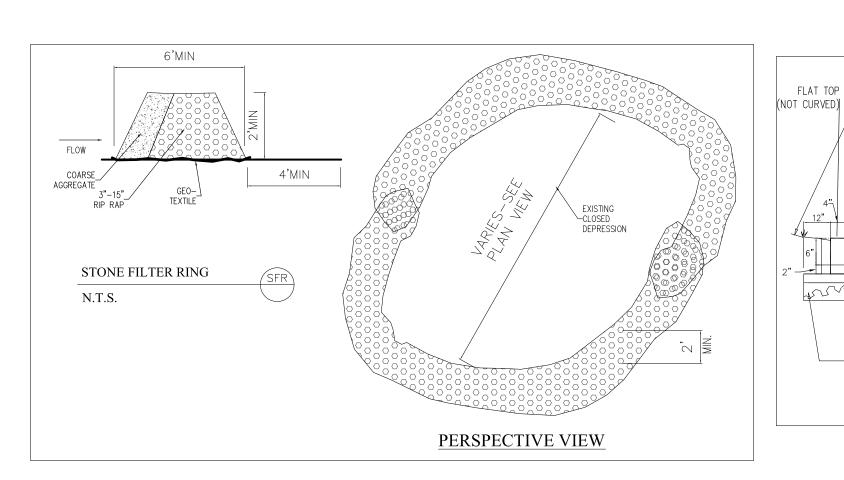
4- through 60-inch (100 to 1500 mm) shall be watertight according to the requirements of ASTM D3212. Gaskets shall be made of polyisoprene meeting the requirements of ASTM F477. Gaskets shall be installed by the pipe manufacturer and covered with a removable, protective wrap to ensure the gasket is free from

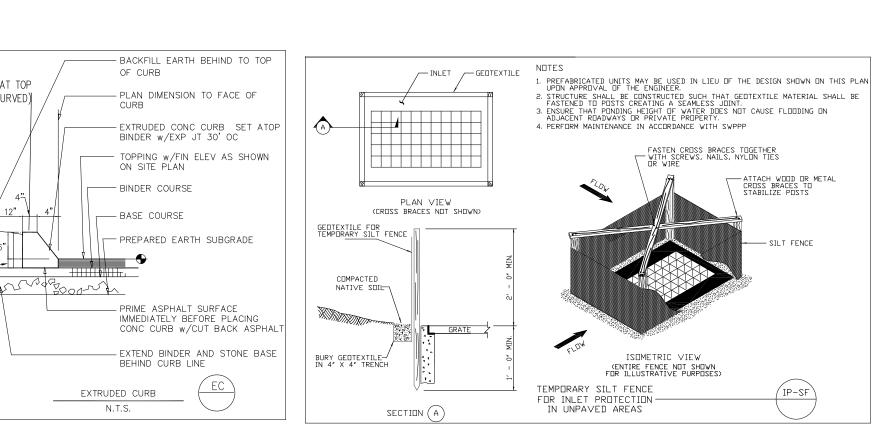
debris. A joint lubricant available from the manufacturer shall be used on the gasket and bell during

utilize a spun-on or welded bell and valley or saddle gasket meeting the watertight joint performance

N-12 WT IB pipe (per AASHTO) shall have a smooth interior and annular exterior corrugations.

12- through 60-inch (300 to 1500 mm) shall meet AASHTO M294, Type S or ASTM F2306.





NOT TO SCALE

☐ REY, 1-22-03; LAPPED LONGITUDINAL SEAM IN ISOMETRIC VIEW. REMOVED ITEM 805-12.01 FROM GENERAL NOTE ⓒ SINCE TYPE I BLANKETS ARE NO LONGER USED. REV. 1-19-05: CHANGED GENERAL NOTE (B). CHANGED PLAN VIEW AND LONGITUDINAL SEAM VEIW. REV. 4-1-08: REDREW REVISED GENERAL NOTES, ADDED STANDARD SYMBOL, REVISED INSTALLATION REV. 8-1-12: MINOR EDITS TO DRAWING AND GENERAL NOTES. T. CLINT HARRISON, P.E - Civil Engineer -5123 Bethesda Road Morristown, TN 37814 ph. 423.277.1112

REV. 12-18-95: CHANGED DRAWING NO. FROM ESC-STR-34 TO EC-STR-34.

NOT TO SCALE STATE OF TENNESCEE PARTMENT OF TRANSPORTAT

EROSION CONTROL

BLANKET FOR

SLOPE INSTALLATION

EROSION CONTROL BLANKET SLOPE INSTALLATION GENERAL NOTES EROSION CONTROL BLANKETS ARE INTENDED TO BE USED AS AN IMMEDIATE MULCH-COVER FOR DISTURBED SLOPES THAT HAVE BEEN TEMPORARILY OR PERMANENTLY

EROSION CONTROL BLANKETS MAY ALSO BE USED AS CHANNEL LINERS WHERE THE ANTICIPATED MAXIMUM SHEAR STRESS IS LOW. REFER TO EC-STR-36 FOR INSTALLATIO

EROSION CONTROL BLANKETS SHALL BE INSTALLED ACCORDING TO MANUFACTURERS SPECIFICATIONS. WHEN NOT AVAILABLE, INSTALL ACCORDING TO NOTES D THRU J

STEP TWO: SEEDING SEEDING SEEDING WITHOUT MULCH SHOULD BE APPLIED TO THE AREA TO BE VEGETATED.

STEP SEVEN: SECURING THE EROSION CONTROL BLANKET AT THE TOE OF SLOPE ROLL THE EROSION CONTROL BLANKET 24-INCHES PAST THE TOE OF THE SLOPE. S OR STAKE TERMINAL END OF THE EROSION CONTROL BLANKET ON ONE FOOT CENTER

ONLY EROSION CONTROL BLANKETS LISTED ON THE QUALIFIED PRODUCTS LIST MAY BE USED.) EROSION CONTROL BLANKETS FOR SLOPE INSTALLATION SHALL BE PAID FOR UNDER THE FOLLOWING ITEM NUMBERS:

PAYMENT SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR CONSTRUCTION

STEP ONE: SITE PREPARATION
THE SITE SHOULD BE FINE GRADED TO A SMOOTH PROFILE AND RELATIVELY FREE FRO
ALL WEEDS, CLODS, STONES, ROOTS, STICKS, RIVULETS, CULLIES, CRUSTING AND
CAKING. FILL ANY VOIDS AND MAKE SURE THE SLOPE IS COMPACTED PROPERLY.

ANCHOR TRENCH DETAILS SINGLE NET EROSION CONTROL BLANKETS

ANCHOR TRENCH DETAILS ALL OTHER EROSION CONTROL BLANKETS

COMPACTED BACKFILL SOIL—

charrisoneng@gmail.com

PROJ NO. • -DWG FILE • ISSUE DATE • 04-07-2025

REVISION HISTORY

PH

RIDC < M

SWPPP, GRADING & DRAINAGE **DETAIL SHEET**

C-2.0

The requirements listed below are intended to serve as an outline of general requirements. Additional requirements are set forth in the project manual. Contractor is cautioned to consider all requirements of the project manual during the bidding process.

G D V E R N M E N T A U T H D R I T I E S Contractor shall obtain all necessary permits and pay all required installation and service tap fees, access fees, and

Before beginning installation, Contractor shall verify with local utility purveyor that utility systems as indicated on the construction documents are approved by the utility.

Location dimensions shown are approximate only and must be field verified and coordinated with other trades. Extras will not be allowed due to lack of coordination.

As-built plans must be maintained throughout project and furnished to Owner's Representative after completion of work. Consult project specifications manual for additional requirements.

Certain references may be made to "on-site" or "off-site" lines. -- An "off-site" line is a line in a right-of-way, utility easement, or other location under control of a governing

authority. -- An "on-site" line is a line within project boundary lines and not within a utility easement or right-of-way. For lines from 5' of proposed buildings and inside refer to building plans and specs.

Any line that is designated on the plan to be maintained by a utility authority shall be of materials and installation as directed by that authority even if such a line is "on-site".

EXISTING UTILITIES Contact utility company for on-site verification of location, size, depth, etc of all underground utilities prior to commencement of work.

Taps into public utilities shall be performed in accordance with utility company requirements.

Refer to existing topo and utility survey for information of existing utilities. Existing utilities reproduced on site mechanical plan for convenience only.

Relocation of existing utilities (if any) shall be coordinated by the Contractor with all governing authorities as to timing, repairs, charges, etc. Contractor shall pay all fees.

Prior to order, submit manufacturer's literature on line, valve, and fittings for Owner's Representative approval.

SANITARY SEWER SYSTEM Site sewer shall have minimum slope per foot of .004 feet on 8" and larger lines and .0065 feet on 6" lines and 1/8" on 4" and smaller lines unless noted otherwise.

Provide top elevation of manholes as required to be flush with finish grade. See grading plan for finish elevation of grade. Top elevations were indicated on mechanical site plan are approximate. Contractor shall coordinate to ensure flush top.

On force mains provide thrust blocks of 3000 PSI concrete at all ells, tees, crosses, and other changes in direction of line. See thrust block detail.

WATER MAIN SYSTEM AWWA C508 check valves 150 PSI working pressure.

AWWA C500 gate valves 175 PSI working pressure.

Cement lined ductile iron pipe shall comply with ANSI/AWWA C151/A21.51 and ANSI/AWWA C104/A21.4 for cement lining.

Cement lined mechanical joint ductile iron fittings shall comply with ANSI/AWWA C110/A21.10.

Provide thrust blocks of 3000 PSI concrete at all ells, and other

changes in direction of water line. See thrust block detail. D D M E S T I C W A T E R S Y S T E M All local shops shall have individual water meters whether shown

specifically or noted as typical. Domestic water line occurs from point of "take-off" on water line

up to water meter, refer to water meter detail. Domestic water lines shall use fittings of same material as line unless otherwise required by code authorities. Line material

LINE CLEARANCES Horizontal distance of 10 feet shall be maintained between water and sewer mains. A minimum separation of 18" vert and horiz

shall be per site mechanical materials schedule.

be within 9 feet of the crossing.

shall be maintained between all pipes. If a vertical distance between water main and sewer is less than 18" when water main crosses over sewer or anytime a water main crosses under sewer, the sewer main must be ductile iron pipe for

a distance of 20 feet centered on the crossing. No joint shall

EXCAVATION AND BACKFILL Earth backfill where specified shall be of same material and compaction as approved material generally used for structural fill elsewhere on this site (see excavation notes this sheet.)

Pipe bedding shall be as scheduled. Stone bedding or backfill where required shall be 3/4" to 1-1/2" diameter compacted to 93%modified proctor. Sand shall be clean and without deleterious

Refer to trench detail on drawings for limits of bed and backfill. Testing of trench bedding compaction shall not be required unless noted otherwise.

Testing of trench backfill compaction shall be 1 field density test per 500 CY or 100 LF of backfill.

TESTING AND SANITIZATION All site mechanical lines must be tested and approved by local inspectors or utility authorities as applicable prior to covering of such lines. Copies of utility approval must be submitted to Dwner's Representative before payment for work can be authorized.

Any line that is to be maintained by the utility authority shall also be tested in accordance with the requirements and under the supervision of the utility authority.

The following tests shall be performed on the site mechanical systems in the presence of the Owner's Representative and in accordance with the methods which are set forth in the project specifications manual:

-- Water and fire piping - hydrostatic (200 PSI) and sterilization

-- Sanitary sewer force main - hydrostatic (125 PSI) -- Gravity sanitary sewer main - a.) Mirror/lamp test & air pressure test, and b.) Mandrel test 30 days after backfilling sanitize fire and water lines before placing any such line in service.

Sanitize with a chlorine solution of at least 50 PPM in the water for a period of 24 hours or as directed to meet the requirements of local and state health departments.

Duration of each waterline pressure test shall be not less than 2

SITE STORM SYSTEM NOTES

ACCMP = ASPHALT COATED CORRUGATED METAL PIPE RCP = REINFORCED CONCRETE PIPE

HUGGER BANDS AT JOINTS BETWEEN PIPES.

HDPE = HIGH DENSITY POLYETHYLENE PIPE CORRUGATED METAL PIPE 12" - 15" CMP TO BE GALVANIZED 16 GAUGE . 064" THICKNESS WITH HELICAL 2-2/3" X 1/2" CORRUGATIONS

18" - 30" CMP TO BE GALVANIZED 16 GAUGE . 064" THICKNESS WITH 2-2/3"X 1/2" CORRUGATIONS.

36" DIAMETER THROUGH 48" DIAMETER SHALL BE GALVANIZED 14 GAUGE .079" THICKNESS WITH 3" X 1" CORRUGATIONS.

OVER 48" DIAMETER SHALL BE 14 GAUGE .079" GALVANIZED THICKNESS WITH 3" X 1" HELICAL CORRUGATIONS. ALL PIPING SHALL HAVE "RE-ROLLED ANNULAR ENDS" FOR CONNECTIONS AND USE

HIGH DENSITY POLYETHYLENE PIPE HIGH DENSITY POLYETHYLENE PIPE SHALL BE THE N-12 CLASS PIPE MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS (ADS) OR EQUAL

A. REFERENCES 1. AASHTO M294-98: STANDARD SPECIFICATIONS FOR CORRUGATED POLYETHELENE PIPE. 12" TO 48" DIAMETER. 2. ASTM D2321-89: STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS. 3. ASTM D3350: STANDARD SPECIFICATION FOR POLYETHYLENE PLASTIC PIPE AND FITTINGS MATERIALS. 4. ASTM F477-93: SPECIFICATION FOR ELASTOMERIC SEALS (GASKETS) FOR JOINING PLASTIC PIPE.

JOINTS SHALL CONSIST OF A BELL AND SPIGOT TYPE JOINT WITH AN O-RING RUBBER GASKET MEETING ASTM F477 PLACED ON THE SPIGOT END. AT LEAST TWO (2) CORRUGATIONS OF THE SPIGOT END MUST INSERT INTO THE BELL END. 2. PIPE FITTINGS SHALL CONFORM TO AASHTO M294 OR AS DESIGNATED BY THE

INSTALLATION: INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D2321 EXCEPT THAT THE MINIMUM COVER SHALL BE 12" OR AS DIRECTED BY THE ENGINEER. BACKFILL SHALL CONSIST OF CLASS I OR II MATERIAL AS SHOWN IN ASTM D2321 OR AS DESIGNATED BY THE ENGINEER. MINIMUM TRENCH WIDTH SHALL BE 1.25 X DUTSIDE DIAMETER PLUS 12" OR AS DESIGNATED BY THE ENGINEER. BACKFILL SHALL BE PLACED IN 8" LOOSE LIFTS AND COMPACTED TO A MINIMUM OF

REINFORCED CONCRETE PIPE (RCP) SHALL CONFORM TO ASTM C76 CLASS III, WALL B OR ASTM C-507-84A FOR ELLIPTICAL CONCRETE PIPE UNLESS OTHERWISE NOTED ON THE DRAWINGS, ROUND PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH COMPRESSION TYPE RUBBER GASKETS. ELLIPTICAL PIPE JOINTS SHALL HAVE A CONCRETE BUTYL SEALER MATERIAL WHICH SHALL MEET OR EXCEED THE REVISED AASHTO M-198 SPECIFICATION.

FLEXIBLE GASKET JOINTS IN ACCORDANCE WITH ASTM C443 SHALL BE INSTALLED.

MINIMUM COVER FROM TOP OF PIPE TO FINISH GRADE SHALL BE 1'-0".

95% STANDARD PROCTOR DENSITY OR AS DESIGNATED BY THE ENGINEER.

HEADWALLS SHALL BE CONSTRUCTED AND/OR INSTALLED IMMEDIATELY FOLLOWING INSTALLATION OF PIPE TO MINIMIZE POSSIBLE PIPE DAMAGE AND FACILITATE FINAL GRADING.

CONCRETE HEADWALLS A MINIMUM OF 150 SF OF RIP-RAP STONE FOR EROSION PROTECTION SHALL BE PROVIDED AT ALL HEADWALLS, UNLESS NOTED OTHERWISE.

CONCRETE HEADWALLS NOT OTHERWISE REINFORCED SHALL HAVE 6X6 10/10 WWM REINFORCEMENT.

HEADWALL CONCRETE MIN. STRENGTH SHALL BE 3000 P.S. I. @ 28 DAYS REINFORCEMENT BARS SHALL BE 60,000 P.S.I.'S YIELD ON DEFORMED BARS. CHAMFER ALL EXPOSED EDGES OF CONCRETE.

FIELD APPLIED COATINGS ALL FERROUS METALS SHALL BE EITHER FACTORY COATED.

TOUCH UP ALL ABRADED FACTORY COATINGS WITH SIMILAR MATERIALS SUCH AS COLD GALVANIZING PAINT FOR GALVANIZED COATINGS. FIELD APPLY AN ASPHALT BITUMINOUS PAINT COATING 10 MILS THICK FOR

CONFLICTS WITH WATERMAINS

WHERE WATERMAINS MUST BE CONSTRUCTED BENEATH THE STORM SEWER DUE TO LACK OF DEPTH ABOVE THE STORM SEWER (WATERLINES MUST BE LOCATED 18" ABOVE THE STORM SEWER AND SHALL HAVE 3'-6" OF COVER OVER THE WATERMAIN) THEN "O-RING" GASKETS SHALL BE USED WITH THE HUGGER BAND COUPLING FOR A DISTANCE OF 10' ON EITHER SIDE OF THE WATERLINE.

SITE LAYOUT

ALL NON-GALVANIZED STEEL.

PAVING FIFVATION TOLFRANCI FINAL SUBGRADE SHALL BE INSPECTED BY PAVING CONTRACTOR FOR REQUIRED ELEVATION AND ADEQUATE COMPACTION BEFORE COMMENCING ANY PAVING ACTIVITY. PAVING ELEVATION SHALL NOT HAVE MORE THAN 1/4" DEVIATION IN ANY 10' INCREMENT.

SITE PAVING NOTES

PAVING THICKNESS TOLERANCE PAVING THICKNESS AT ANY DNE CORE SHALL NOT BE LESS THAN 90% OF SPECIFIED THICKNESS. THE AVERAGE OF ALL APPROVED TESTS MUST BE AT LEAST EQUAL TO THE SPECIFIED THICKNESS FOR EACH MATERIAL. NOT MORE THAN 20% OF ALL APPROVED TEST MAY FALL BELOW SPECIFIED MINIMUMS. ANY AREA FOUND TO BE LESS THAN 90% SPECIFIED THICKNESS SHALL BE OVERLAIN WITH ASPHALT AS DIRECTED BY T. CLINT HARRISON,

TESTING DURING PLACEMENT GENERAL CONTRACTOR SHALL PERFORM SEVERAL SPOT CHECKS OF PAVING BASE THICKNESS PRIOR TO INSTALLATION OF ANY ASPHALTIC OR CONCRETE PAVING. DENSITY TESTS SHALL BE PERFORMED ON EACH LIFT AT THE RATE OF ONE TEST PER 10,000 SQUARE FEET.

CONTRACTOR SHALL PROVIDE FOR TESTING OF COMPLETED PAVING NSTALLATION FOR COMPLIANCE WITH DESIGN CRITERIA AND REQUIRED THICKNESS. CONTRACTOR SHALL REPLACE ALL NON-CONFORMING MATERIAL AT HIS OWN EXPENSE.

TESTING SHALL BE PERFORMED ONLY BY AN INDEPENDENT TESTING AGENT APPROVED BY T. CLINT HARRISON, P.E. TEST HOLES NOT SPOTTED BY T. CLINT HARRISON, P.E. MAY NOT BE CONSIDERED ACCEPTABLE.

ALLOW A MINIMUM OF SIXTEEN CORE TESTS TO BE LOCATED ONLY BY WRITTEN INSTRUCTION BY T. CLINT HARRISON, P. E. THE PAVING CONTRACTOR SHALL REPAIR ALL CORING HOLES BY FILLING

HOLES WITH CONCRETE FLUSH TO TOP OF PAVEMENT. ASPHALTIC PAVING MATERIALS MATERIAL AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST FDITION OF THE SPECIFICATION OF THE HIGHWAY DEPARTMENT OF THE

STATE IN WHICH THE PROJECT IS LOCATED. REFER TO PAVING MATERIALS

PROVIDE TOOLED EXPANSION JOINTS @ 20' O.C. (MAX) AND EXPANSION JOINTS @ 50' O.C.

CONCRETE CURBING SHALL BE 4000 PSI 28 DAY STRENGTH 2" - 3" SLUMP, (ND CURB DEFORMATION) 3% - 5% AIR ENTRAINED. INSTALL WITH RC-70 TACK COAT EMULSION OVER ASPHALT. PROVIDE CYLINDER BREAK TEST - 3/500 L.F. OF CURBING OR 1-DAY POUR WITH BREAKS - 1 @ 7-DAYS, 2 @ 28-DAYS. COMPLY WITH ASTM C-31 AND ASTM C-39. ALSO PROVIDE ONE SLUMP TEST PER 500 L.F. OF CURBING

PROVIDE EXPANSION JOINT @ 50' O.C. AND CONTROL JOINTS @ 20' O.C. (MAX) AT ALL CONCRETE PAVING AREA. REFER TO PROJECT MANUAL FOR ADDITIONAL REQUIREMENTS.

PAVEMENT MARKING PAINT PROVIDE PAVEMENT MARKING AS SHOWN ON THE DRAWINGS. STRIPING SHALL BE 4" WIDE. PAINT SHALL BE SHERWIN-WILLIAMS PROMAR ALKYD TRAFFIC MARKING PAINT SERIES B-29Y2 OR APPROVED EQUAL. PAINT SHALL BE APPLIED IN ONE COAT ACHIEVING A MINIMUM DRY FILM THICKNESS OF 9 MILS. IN ALL CASES, THE MARKING SHALL BE SUFFICIENT TO TOTALLY COVER THE PAVEMENT. USE YELLOW PAINT FOR ALL MARKINGS. FIRE LANE AND OTHER MARKINGS ARE REQUIRED BY

<u> IVERNING AUTHORITIES TO BĘ YELLOW.</u>

EXCAVATION AND GRADING NOTES

GENERAL THE REQUIREMENTS LISTED BELOW ARE INTENDED TO SERVE AS AN OUTLINE OF GENERAL REQUIREMENTS. ADDITIONAL REQUIREMENTS MAY BE SET FORTH IN THE PROJECT MANUAL. CONTRACTOR IS CAUTIONED TO CONSIDER ALL REQUIREMENTS OF THE PROJECT MANUAL DURING THE BIDDING PROCESS.

COMPLY WITH LOCAL AND STATE ORDINANCES REGARDING DISPOSAL OF DEBRIS. DO NOT BURN DEBRIS ON SITE WITHOUT SPECIFIC WRITTEN APPROVAL OF BOTH T. CLINT HARRISON, P. E. AND LOCAL AUTHORITY. CLEAR AND GRUB FOR NEW CONSTRUCTION AS REQUIRED.

EXCAVATION PREPARATION VERIFY LOCATION OF EXISTING ON-SITE UTILITIES. PROTECT AND MAINTAIN EXISTING UTILITIES AS REQUIRED, ESTABLISH AND VERIFY EXISTING LINES, GRADE AND DIMENSIONS SHOWN ON THE DRAWING. REPORT ANY ERRORS OR INCONSISTENCIES TO T.CLINT HARRISON, P.E. BEFORE COMMENCEMENT OF WORK.

TEMPORARY DIVERSION SWALES TEMPORARY DIVERSION SWALES SHALL BE CONSTRUCTED PRIOR TO STRIPPING OR ANY OTHER GRADING ACTIVITY. ALSO, TEMPORARY SEDIMENT TRAPS AND/OR PERMANENT DETENTION BASINS SHALL BE CONSTRUCTED PRIOR TO STRIPPING OR OTHER GRADING ACTIVITY.

SEDIMENT CONTROL PERMANENT AND TEMPORARY DIVERSION SWALES SHALL BE CONSTRUCTED PRIOR TO STRIPPING OR ANY OTHER GRADING ACTIVITY.

ALSO, PERMANENT STORM DETENTION BASINS AND TEMPORARY SEDIMENT TRAPS WHERE CALLED FOR SHALL BE CONSTRUCTED PRIOR TO STRIPPING OR OTHER GRADING ACTIVITY.

EXISTING TOPO ACCURACY EXIST CONTOURS SHOWN ARE INTENDED TO FORM A GENERAL DESCRIPTION OF SURFACE GROUND ELEVATIONS. TOPOGRAPHIC INFORMATION SHOWN HEREIN SHALL BE CONSIDERED TO HAVE NOT MORE THAN THE FOLLOWING PLUS OR MINUS LIMITS OF ACCURACY: O. 10 FEET AT BENCHMARKS, O. 25 FEET AT SPOT GRADES, 1. O FEET AT CONTOUR LINES.

CONTRACTOR IS CAUTIONED THAT STRAIGHT LINE INTERPOLATION BETWEEN CONTOURS MAY NOT EXACTLY REFLECT EXISTING CONDITIONS. AREAS OF RELATIVELY QUICK CHANGES IN CONTOURS SHOULD NOT BE ALLOWED TO UNDULY INFLUENCE INTERPRETATION OF CONTOURS.

REPORT ANY ERRORS OR INCONSISTENCIES TO T. CLINT HARRISON, P.E. BEFORE COMMENCEMENT OF WORK. ANY ERROR NOT SO REPORTED CANNOT BE CONSIDERED FOR ADJUSTMENT IN CONTRACT PRICE

STRIPPING & SPREADING TOPSOIL TOPSOIL SHALL BE STRIPPED AND TEMPORARILY STOCK PILED FOR LATER REUSE. IF NO STOCK PILE AREA IS NOTED ON GRADING PLAN, STOCK PILE SHALL BE IN SUCH PLACE TO PROVIDE FOR READY ACCESS TO NECESSARY AREAS OF SITE BY OTHER TRADES THROUGHOUT PROGRESS OF WORK. PARTICULAR ATTENTION SHALL BE PAID TO FINELY TEXTURED TOPSOIL THAT WILL BE REUSED BY LANDSCAPE CONTRACTOR. GENERAL TOPSOIL RESPREADING WILL BE BY GRADING CONTRACTOR TO A MINIMUM DEPTH OF 6" AT ANY POINT EXCEPT ON SLOPE OF 2-1/2 TO 1 OR STEEPER WHERE TOPSOIL DEPTH SHALL BE 2" MIN. AT ANY POINT NOT RECEIVING SOD.

ALL AREAS TO RECEIVE NEW STRUCTURAL FILL OR OTHER NEW CONSTRUCTION SHALL BE PROOF ROLLED WITH A 10,000# VIBRATORY DRUM ROLLER IN PRESENCE OF SOILS TESTING AGENT BEFORE COMMENCING ANY CONSTRUCTION ACTIVITY. ALL AREAS TO BE COMPACTED SHALL RECEIVE 8 PASSES WITH COMPACTION ROLLER. SOIL ENGINEER SHALL NOTIFY T. CLINT HARRISON, P. E. THAT ALL AREAS HAVE PASSED PROOF ROLL INSPECTION PRIOR TO COMMENCEMENT OF CUT & FILL OF GRADING. DO NOT COMMENCE GRADING PRIOR TO SUCH

UNDERCUT-BACKFIL UNDERCUT SHALL MEAN EXCAVATION OR OTHER REMOVAL OF UNSUITABLE MATERIAL BELOW ELEVATION OF PROPOSED FINAL SUBGRADE. IN NO CASE SHALL THE TERM UNDERCUT BE USED TO DESCRIBE MATERIAL OCCURRING ABOVE FINAL SUBGRADE ELEVATION. EXTENT OF UNDERCUT OF UNSUITABLE MATERIALS, IF ANY MUST BE RECOMMENDED BY THE SOIL ENGINEER FOR THE DWNER'S APPROVAL. SOIL ENGINEER SHALL NOT HAVE UNILATERAL AUTHORITY TO DIRECT UNDERCUT ACTIVITIES WITHOUT APPROVAL OF THE OWNER'S REPRESENTATIVE. SDIL ENGINEER'S WRITTEN FIELD NOTES WILL BE REQUIRED TO SUBSTANTIATE AMOUNTS OF UNDERCUT. BACKFILL SHALL BE OF APPROVED MATERIAL ONLY. MONEY FOR REQUIRED TESTING SHALL BE INCLUDED IN QUOTED PRICES CONCERNING UNDERCUT AND BACKFILL.

WHERE TERMS OF BIDDING CALL FOR AN UNCLASSIFIED CONTRACT NO PAYMENTS FOR UNDERCUT/BACKFILL WILL BE CONSIDERED. SUCH QUOTES SHALL BE INCLUDED IN THE CONTRACTOR'S BASE BID. UNDERCUT & BACKFILL SHALL NOT CONSTITUTE AN EXTRA TO THE CONTRACT IN UNCLASSIFIED CONTRACTS.

STRUCTURAL FILL STRUCTURAL FILL SHALL BE COMPACTED AS SPECIFIED IN EXCAVATION AND GRADING SCHEDULE WITHIN +/- 2% OF OPTIMUM MOISTURE CONTENT. OFF SITE BORROW AREAS SHALL BE APPROVED BY T. CLINT HARRISON, P.E.. PLACE FILL AND BACKFILL IN LAYERS AS SPECIFIED IN EXCAVATION AND GRADING NOTES. USE DELETERIOUS MATERIAL, ORGANIC, OR ROCK LARGER THAN 6". IN-SITU SOILS MAY REQUIRE ADDITIONAL WATER OR MAY REQUIRE ADDITIONAL DRYING TO REACH OPTIMUM MOISTURE CONTENT FOR COMPACTION.

GRADING TOLERANCE GRADING CONTRACTOR SHALL BRING SUBGRADE TO WITHIN AN AVERAGE OF 1/10 OF ONE FOOT OF REQUIRED ELEVATION TO OBTAIN FINISHED GRADE INDICATED ON DRAWINGS EXCEPT AT LOCATIONS WHERE SPOT ELEVATIONS ARE SHOWN AND WHERE FLOOR ELEVATIONS ARE SHOWN WHICH SHALL BE WITHIN 1/10 OF 1 FOOT OF REQUIRED ELEVATIONS. FINAL SUBGRADE SHALL BE SPOT CHECKED BY A LICENSED SURVEYOR WITH NOT LESS THAN 1 SHOT PER 1.5 ACRES AND AT EACH FINISHED FLOOR ELEVATION AND A DRAWING PREPARED AND FORWARDED TO T. CLINT HARRISON, P.E. FOR APPROVAL PRIOR TO COMMENCING FINE GRADE OR PAVING OR BUILDING

CONTRACTOR SHALL BE RESPONSIBLE FOR MINOR ADJUSTMENTS IN GRADES AS DIRECTED BY T. CLINT HARRISON P.E. SUCH CHANGES SHALL BE LIMITED TO 1500 CUBIC YARDS TOTAL. NO ADDITIONAL COST WILL BE ALLOWED FOR THIS WORK. JST

CONTRACTOR SHALL INCLUDE PRICE OF ALL REQUIRED TESTING AS SET FORTH HEREIN TO BE PREFORMED BY AN INDEPENDENT QUALIFIED GEOTECHNICAL TESTING AGENT SUITABLE TO THE T. CLINT HARRISON, P.E. TEST REPORTS MUST USE GRAPHIC LOCATION MAP AT 1" = 200' SCALE FOR LOCATION OF DENSITY TESTS. ORIGINAL COPIES OF ALL TESTS SHALL BE FORWARDED DIRECTLY TO T. CLINT HARRISON. P. F. FROM TESTING AGENT. ALL TESTS SHALL SPECIFICALLY STATE THAT THE TEST EITHER PASSES OR FAILS TO MEET SPECIFICATIONS. CONTRACTOR SHALL INCLUDE IN HIS BASE BID 10 (TEN) SOIL COMPACTION TESTS AFTER COMPLETION OF THE WORK, LOCATED PER T.CLINT HARRISON, P.E..

SUBSURFACE INVESTIGATION COPIES OF THE OWNER'S SUBSURFACE INVESTIGATION ARE AVAILABLE TO BIDDERS UPON REQUEST. SUCH INFORMATION IS PROVIDED ONLY FOR THE BIDDERS CONVENIENCE. NO WARRANTIES ARE MADE OR IMPLIED CONCERNING ACCURACY OR EXTENT OF SUBSURFACE ROCK OR OTHER CONCEALED CONDITIONS. ANY ADDITIONAL INFORMATION REQUIRED FOR PROPER ESTIMATING SHALL BE OBTAINED BY THE BIDDER. NO GUARANTEES ARE GIVEN OR IMPLIED AS TO SUITABILITY OF EXISTING SUBSURFACE MATERIAL FOR REUSE AS STRUCTURAL FILL. SOIL BORING LOCATIONS, SHOWN IN SOILS REPORT, ARE APPROXIMATE LOCATIONS ONLY, AND ACTUAL LOCATIONS MAY VARY WIDELY. CONTRACTOR SHALL MAKE ON-SITE FIELD INSPECTION TO DETERMINE EXACT LOCATIONS OF BORING FOR BIDDING PURPOSES. BORING NUMBERS ARE KEYED TO SOIL REPORT.

WATER C. ((ПNTRПІ THE CONTRACTOR SHALL FURNISH ALL LABOR. MATERIALS AND EQUIPMENT NECESSARY TO KEEP THE WORK FREE OF WATER EITHER FROM SURFACE SOURCES OR FROM UNDERGROUND SOURCES OR BOTH. SELECTION OF EQUIPMENT AND METHODS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE AND IS RESPONSIBLE FOR ALL DAMAGE INCURRED IN HANDLING WATER CONDITIONS. ADDITIONALLY, THE CONTRACTOR SHALL PROVIDE MEANS NECESSARY TO AVOID DIRECT RUN-OFF FROM THIS PROJECT ONTO

GRASSING & SDDING GRASSING AND MULCHING OF ALL DISTURBED AREAS NOT PAVED OR BUILT UPON SHALL BE THE RESPONSIBILITY OF THE GRADING CONTRACTOR UNLESS NOTED OTHERWISE HARDENED SOIL SHALL BE LOOSENED TO A DEPTH OF 6" AND TOPSOIL RESPREAD AS NOTED BEFORE SEEDING.

SUDDING OF RETENTION BASIN AREAS IF NOTED ON DETAILS SHALL BE THE RESPONSIBILITY OF THE GRADING CONTRACTOR. GRADING CONTRACTOR SHALL ACT TO KEEP ALL INSTALLED SOD AREAS MOIST AS REQUIRED TO PROMOTE ROOTING OF SOD UNTIL STABLE GROWTH IS MAINTAINED. TYPE OF SOD USED SHALL BE CONSISTENT WITH TYPE OF SOIL EXISTING AT SITE.

EXPOSE MINIMUM AMOUNT OF SUBGRADE POSSIBLE AT ONE TIME TO ALLOW FOR EFFICIENT PROCEEDING OF THE WORK. GRASSING AND OTHER EROSION CONTROL MEANS SHALL BE EMPLOYED, MAINTAINED AND RECONSTRUCTED AS REQUIRED IF DESTROYED BY EROSION.

SEDIMENT DEPOSITED ON STREETS BY CONSTRUCTION ACTIVITIES SHALL BE CLEANED-UP IMMEDIATELY. GRASSING OF SWALES SHALL BE PERFORMED AS SOON AS ROUGH GRADING IS DONE. GRASSING AND/OR SODDING AS APPLICABLE OF STORM WATER BASIN MUST BE PERFORMED AT LEAST 45 DAYS PRIOR TO BASIN BEING PLACED IN SERVICE TO ALLOW TIME FOR ROOTING TO TAKE PLACE. GRASSING OF OTHER AREAS SHALL BE PERFORMED AS SOON AS FINE GRADING IS COMPLETED. IN ALL CASES GRASSING SHALL BE PERFORMED TWO MONTHS PRIOR TO

TEMPORARY SEDIMENT TRAPS, TEMP. DIVERSION SWALES, AND TEMP. SEDIMENT FENCES SHALL BE CONSTRUCTED AND/OR INSTALLED PRIOR TO STRIPPING OF TOPSOIL. PERMANENT AND/OR TEMPORARY STORM WATER DETENTION BASINS SHALL BE CONSTRUCTED DURING INITIAL PHASE OF CONSTRUCTION.

EROSION CONTROL FABRIC SHALL BE INSTALLED USING A MINIMUM OF TOP SOIL ON SLOPES STEEPER THAN 3:1. NOMINAL TOP SOIL DEPTH SHALL BE TWO INCHES AT SUCH EMBANKMENT. EROSION CONTROL FABRIC SHALL BE INSTALLED OVER THE SOIL. GRASS SHALL BE SOWN THROUGH EROSION CONTROL FABRIC. FOR 2:1 SLOPES, EROSION CONTROL FABRIC SHALL BE TENSAR MODEL ROLLMAX ERONET S-150 OR APPROVED EQUAL. FOR 1.5:1 SLOPES EROSION CONTROL FABRIC SHALL BE EAST COAST EROSION CONTROL MODEL ECSC-2B OR APPROVED EQUAL.

PROVIDE AND MAINTAIN INLET PROTECTION AROUND CATCH BASINS AND INLET HEADWALLS TO PREVENT SILTATION THROUGHOUT CONSTRUCTION. PROVIDE AND MAINTAIN CHECK DAMS IN NEWLY CONSTRUCTED TEMPORARY AND PERMANENT DIVERSION SWALES TO SLOW RUNDFF VELOCITIES TO PREVENT EROSION. RE-TOPSOIL OR REWORK TOPSOIL AND RESEED IN AREAS THAT EXPERIENCE EROSION THROUGHOUT

DO NOT REMOVE EROSION CONTROL MEASURES UNTIL ENTIRE SITE IS STABILIZED.

GRASS AND SODDING SHALL BE AS SPECIFIED ON THE DRAWINGS.

SAFETY SCREENS

SAFETY SCREENS HAVING A MAXIMUM OPENING OF 4" SHALL BE PROVIDED FOR ANY PIPE OR OPENING TO PREVENT CHILDREN OR LARGE ANIMALS FROM CRAWLING INTO THE STRUCTURES. SCREENS SHALL BE WELDED 3/8" BARS @ 6"

CONTRACTOR SHALL PAY ALL GRADING PERMIT FEES AND POST GRADING BOND, IF REQUIRED.

SPECIFICATION SHEET

ABBREVIATIONS LEGEND This list is not intended to be a complete list of all abbreviations used in these documents. They are shown as a convienence.

AMERICAN CONCRETE INSTITUTE AC I ADJUSTABLE ABOVE FINISHED FLOOR ALT ALTERNATE AMPERAGE ANG ANGL F APPL I CABLE APPROX APPROXIMATE APRVD APPROVED ARCHITECTURAL OR ARCHITECT ARCH MTZA AMERICAN SOCIETY OF TESTING OF MATERIALS BOTTOM OF CURB BELOW FINISH FLR BLDG BUILDING ві пск BENCHMARK BOTTOM BEARING CURB CUT CUBIC FFF CURB & GUTTER CONTROL JOINT CENTERLINE CLEAR CEILING CMU CONCRETE MASONRY UNIT COMPACTED CONC CONCRETE $C\square ND$ CONDENSAT CONT CONTINUOUS CONST CONSTRUCTION CONTR CONTRACTOR CTR CENTER CW COLD WATER CUBIC YARD DETAIL DETL DIAMETER DIMENSION DIM $D\square WN$ DOWNSPOUT DWG DRAWING FACH EIFS EXTERIOR INSULATION & FINISH

EXPANSION JOINT ELEC ELECTRICAL ELEV ELEVATION EDGE OF PAVEMENT ETC ET CETERA EACH WAY EXIST EXISTING EXPANSION EXTR FXTFRIDR FDN FUUNDATIU FFE FINISH FLOOR ELEVATION FIN FINISH FIXT FIXTURE FLΠΠR

FLR FR FIRE RESISTANT FRMG FRAMING FEET FTG FOOTING GAUGE GRAB BAR GENERAL CONTRACTOR GYPSUM $H\square RZ$ HORIZONTAL HEIGHT HNT WATER HEATING VENTILATING & AIR CONDITIONING INVERT ELEVATION INCH MULTY IIISNI

INTERIOR INTR INVERT TZIOL LINEAR FEET LAVATORY MASTINRY MATI MATERIAL MAX MAXIMIM MECH MECHANICAL MFG MANUFACTURE

MIN MINIMUM MIR MIRROR MOISTURE RESISTANT MTL METAL MTR METER NOT IN CONTRACT NUMBER ΝПМ NUMINAL NTS NOT TO SCALE ON CENTER OVERHEAD PARTN PARTITION PHASE

POST INDICATOR VALVE ΡΙV PLYWD PLYWOOD PRITR PROP PROPERTY POUNDS PER SQUARE FOOT PSF POUNDS PER SQUARE INCH PAINTED POLYVINYL CHLORIDE PVC RISFR RFF REFER/REFERENCE REINF REINFORCING RELOC RELOCATE REQD REQUIRED $R\square W$ RIGHT-NF-WAY SEWER SCHED SCHEDULE SIMILAR SPEC SPECIFICATIONS SQUARE SQUARE FEET STEEL

STOREFRONT STRUCT STRUCTURAL SUSP SUSPENDED SEWER SYSTEM TOP OF CURB TEXTURED THICKNESS TOILET TOP OF JOINT TOP OF MASONRY TOP OF STUD TOP OF WALL TOP OF BOND BEAM TDBB TOP OF BEAM TISSUE DISPENSER TYPICAL TOP OF WALL UNDERGROUND UNLESS NOTED OTHERWISE

UTILITY VERT VERTICAL WORK BY OTHERS WATER CLOSE WALL CONTROL JOINT WOOD OR WIDTH WEATHER PROOF

WTR

WWM

WEIGHT

WELDED WIRE MESH

WATER

THE SPECIFICATIONS FOR GRASSING LISTED BELOW MEET THE MINIMUM REQUIREMENTS OF THE T.D.E.C. GRADING PERMIT ISSUED FOR THE SITE THE EXCAVATOR SHALL ADHERE TO THESE SPECIFICATIONS AT A MINIMUM DURING CONSTRUCTION, GRASSING AND TURF INSTALLATION FOR LANDSCAPING AND/OR FINE GRADING SHALL USE SPECIFICATIONS PROVIDED BY THE LANDSCAPE ARCHITECT.

GRASSING SCHEDULE ______

GRASS SEED SHALL BE AS FOLLOWS: FEB-MAY. . TALL FESCUE (KY-31) RED FESCUE 20-30 LB/AC JUNE-AUG . . TALL FESCUE (KY-31) 60 LB/AC BROWN TOP MILLET 35 LB/AC SEPT-JAN . . . TALL FESCUE (KY-31) 70 LB/AC . RYF 25 LB/AC . FESCUE LIME: . . 3 TONS/AC FERTILIZER: . . . 10/10/10 .800 - 1000 LB/AC .500 - 800 LB/AC PHOSPHORUS: . . . SUPERPHOSPHATE .STRAW-1 1/2 TONS/AC (CRIMPED) MULCH: EROSION CONTROL NET OR MULCH BINDER ON SLOPES. SEED MAX. GERM. PURITY WEED TALL FESCUE. 90% 90% 95% 0, 5% . 98% RED FESCUE

MILLET - PLANTING SHALL BE COMPLETE ON ALL AREAS NOT RECEIVE PAVING OR BE BUILT UPON WITHIN 14 WORKING DAYS OF COMPLETION OF GRADING ALL LIME & FERTILIZER AMOUNTS SHOWN IN THE PHOSPHORUS

SECTION ABOVE ARE MINIMUM AND SHALL BE VERIFIED AFTER SOIL ANALYSIS IS ACCOMPLISHED. - ALL SOD SHALL BE BY LANDSCAPE CONTRACTOR, ALL OTHER GRASSING

SHALL BE BY GRADING CONTRACTOR. ______

SITE LAYDUT SITE LAYOUT NOTES

. 98%

PROPERTY LINE STAKEOUT ALL PROPERTY LINES SHALL BE MARKED FOR ROUGH LOCATION WITH CONTINUOUS SURVEYOR FLAGGING TAPE.

ALL PROPERTY CORNERS AND ALL DUTLOT CORNERS SHALL BE ROUGH PINNED WITH 2' HIGH METAL ROD OR EQUIVALENT AND FLAGGED WITH SURVEYOR TAPE AT COMPLETION OF ROUGH GRADING AND MAINTAINED THROUGHOUT COURSE OF

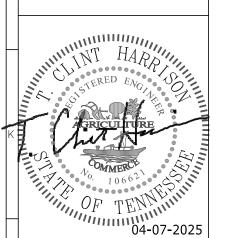
ROUGH LOCATION SHALL MEAN ACCURATE WITHIN 2' HORIZONTALLY. DO NOT ERR DUTSIDE PROPERTY LINE IN ANY CASE.

BUILDING STAKEDUT BUILDING DIMENSIONS SHOWN ON-SITE PLAN ARE NOMINAL DIMENSIONS ONLY INTENDED FOR USE IN DETERMINE APPROXIMATE SQUARE FOOTAGES. SEE FOUNDATION PLAN FOR ACTUAL DIMENSIONS OF CONSTRUCTION.

A SURVEYOR LICENSED IN THE STATE OF THE PROJECT LOCATION MUST BE USED IN LOCATING ALL BUILDINGS ON-SITE BEFORE WORK IS BEGUN ON FOOTINGS OF ANY BUILDINGS. T. CLINT HARRISON, P.E. SHALL BE NOTIFIED BY THE SURVEYOR UPON COMPLETION OF THIS WORK.

SITE WORK STAKEDUT CONSULT T. CLINT HARRISON, P.E. FOR ALL DIMENSIONS AND OTHER ITEMS LABELLED 'FIELD VERIFY" PRIUR IU INSTALLATIUN UF THAT WURK UR ANY RELATED WORK. ______ . CLINT HARRISON, P.E

- Civil Engineer 5123 Bethesda Road Morristown, TN 37814 ph. 423.277.1112 charrisoneng@gmail.com



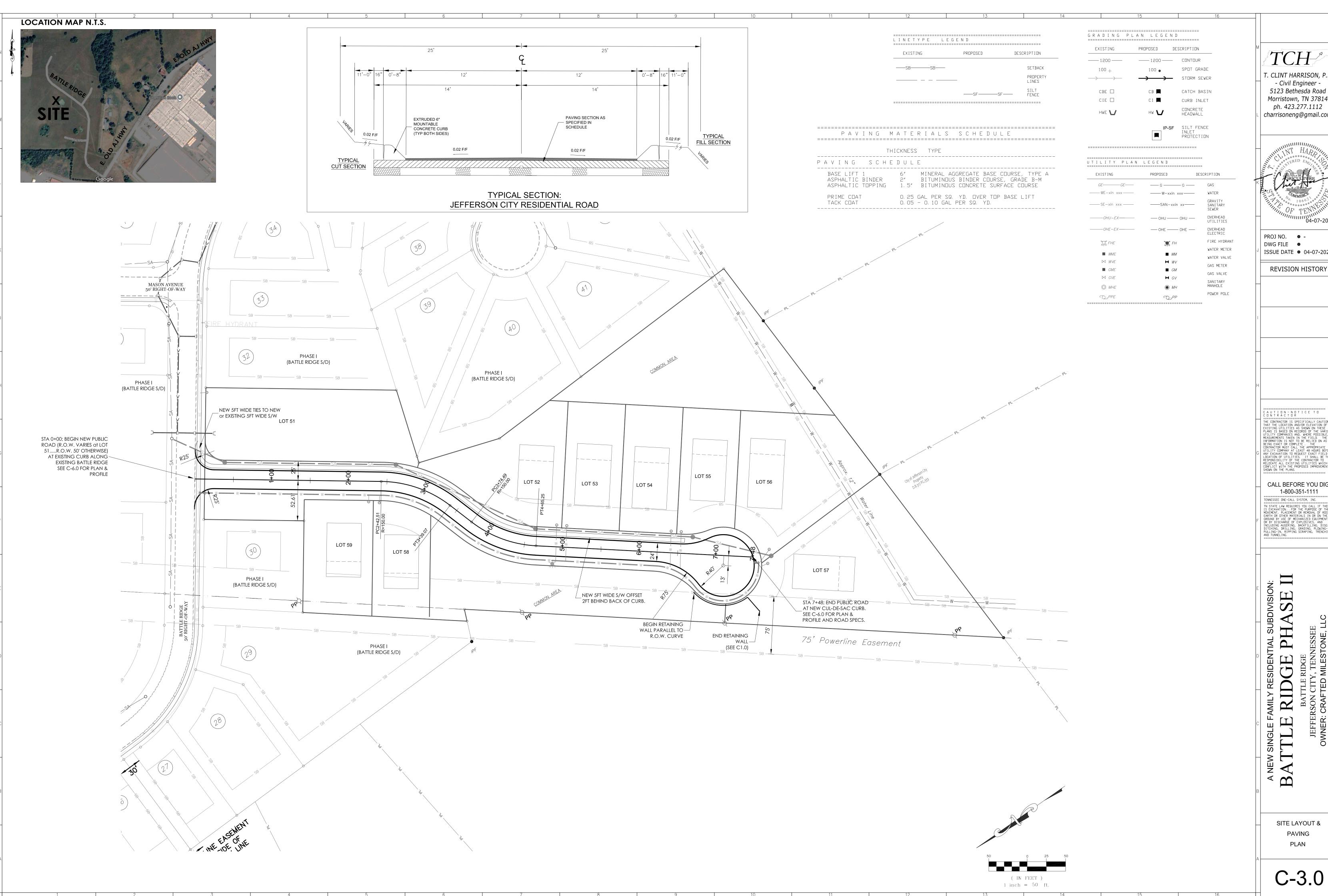
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> SPECIFICATION SHEET

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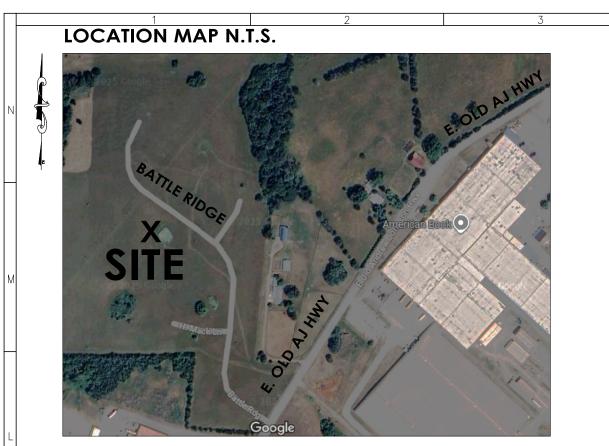
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SHOWN ON THE PLANS.

CALL BEFORE YOU DIG! 1-800-351-1111 TENNESSEE ONE-CALL SYSTEM, INC. TN STATE LAW REQUIRES YOU CALL IF THERE IS EXCAVATION...FOR THE PURPOSE OF THE MOVEMENT, DEACEMENT OR REMOVAL OF ROCK, EARTH OR DIFFERENCE OF MATERIALS IN OR ON THE GROUND BY USE OF MECHANIZED EQUIPMENT, OR BY DISCHARGE OF EXPLOSIVES, AND INCLUDING AUGERING, BACKFILLING, DIGGING, DITCHING, DRILLING, GRADING, PLOWING-IN, PULLING-IN, RIPPING SCRAPING, TRENCHING, AND TUNNELING.

SITE LAYOUT & PAVING PLAN

C-3.0



:=========		=========
INETYPE L	EGEND	
EXISTING	PROPOSED	DESCRIPTION
SBSB		SETBACK
		PROPERTY LINES

(IN FEET) 1 inch = 50 ft.

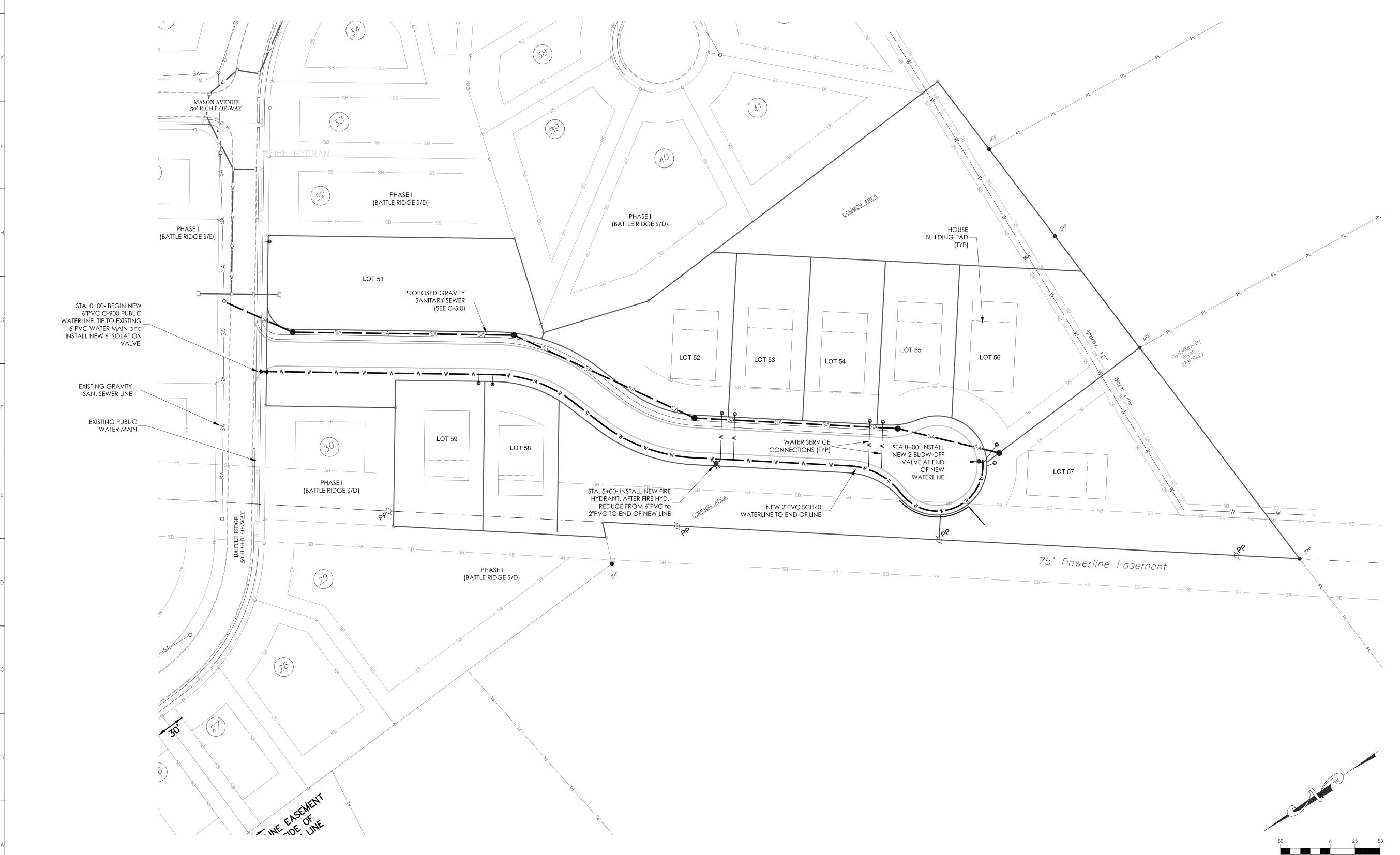
EXISTING	PROPOSED	DESCRIPTION
<u>1200</u>	<u> </u>	- CONTOUR
100 +	100 •	SPOT GRADE
	$\rightarrow \rightarrow$	- STORM SEWER
CBE 🗆	СВ 🔼	CATCH BASIN
CIE 🗆	CI 🔼	CURB INLET
HWE 🔽	ни 🔽	CONCRETE HEADWALL

GRADING PLAN LEGEND

IP-SF SILT FENCE INLET PROTECTION

EXISTING	PROPOSED D	ESCRIPTION
GEGE	—— G ——— G ——	GAS
WE-xin xxx	——— W-xxin xxx———	WATER
——SE-xin xxx ——	——SAN-xxin xx——	GRAVITY SANITARY SEWER
OHU-EX	— ОНИ — ОНИ —	OVERHEAD UTILITIES
OHE-EX	— ОНЕ — ОНЕ —	OVERHEAD ELECTRIC
C FHE	⋙ FH	FIRE HYDRA
71.	.,.	WATER METE
■ WME	₩ M	WATER VALV
₩VE	₩V	GAS METER
■ GME	⊠ GM	GAS VALVE
M OVE	N4 017	35 THETE

EXISTING	PROPOSED DE	SCRIPTION
GEGE	—— G ——— G ——	GAS
WE-xin xxx	——— W-xxin xxx———	WATER
——SE-xin xxx ——	——SAN-xxin xx——	GRAVITY SANITARY SEWER
———ОНU—EX-——	— ОНИ — ОНИ —	OVERHEAD UTILITIES
OHE-EX	— ОНЕ — ОНЕ —	OVERHEAD ELECTRIC
THE	∭ FH	FIRE HYDRANT
	,	WATER METER
■ WME	∠ WM	WATER VALVE
₩VE	₩V	GAS METER
∠ <i>GME</i>	■ GM	GAS VALVE
⋈ GVE	⋈ GV	SANITARY
MHE	MH	MANHOLE
~ PPE	⊕PP	POWER POLE



TN STATE LAW REQUIRES YOU CALL IF THERE IS EXCAVATION...FOR THE PURPOSE OF THE MOVEMENT, PLACEMENT OR REMOVAL OF ROCK, EARTH OR OTHER MATERIALS IN OR ON THE GROUND BY USE OF MECHANIZED EQUIPMENT, OR BY DISCHARGE OF EXPLOSIVES, AND INCLUDING AUGERING, BACKFILLING, DIGGING, DITCHING, DRILLING, GRADING, PLOVING-IN, PULLING-IN, RIPPING SCRAPING, TRENCHING, AND TUNNELING. A NEW SINGLE FAMILY RESIDENTIAL SUBDIVISION:

BATTLE RIDGE PHASE II

TCH

T. CLINT HARRISON, P.E - Civil Engineer -5123 Bethesda Road

Morristown, TN 37814 ph. 423.277.1112 charrisoneng@gmail.com

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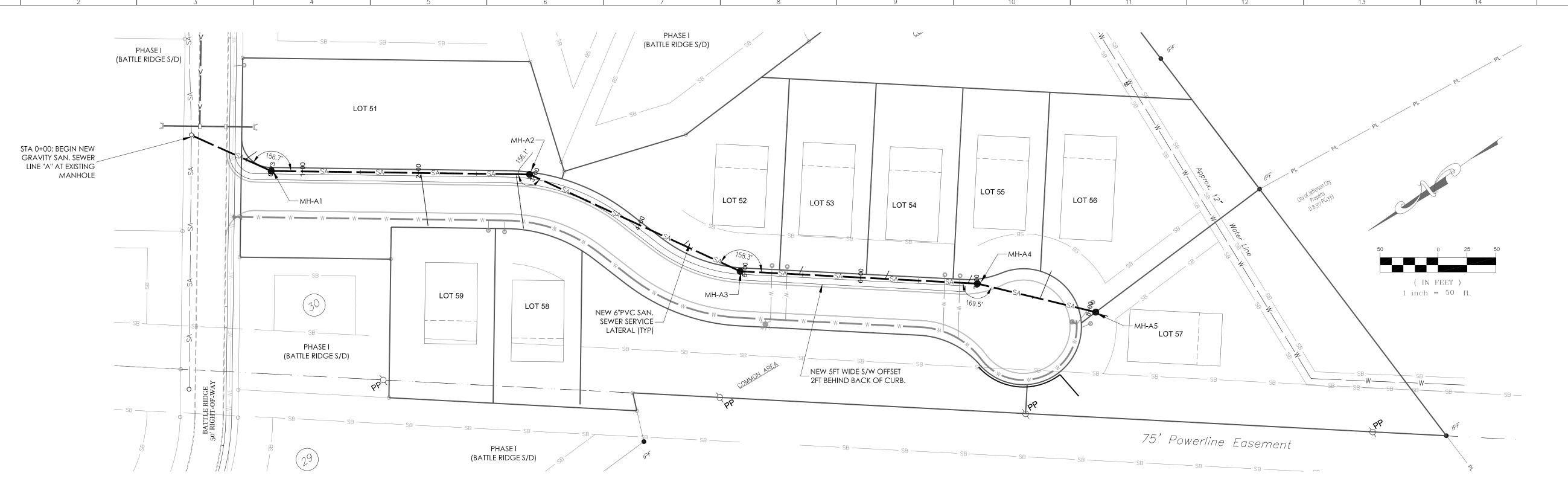
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION ID REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

CALL BEFORE YOU DIG! 1-800-351-1111

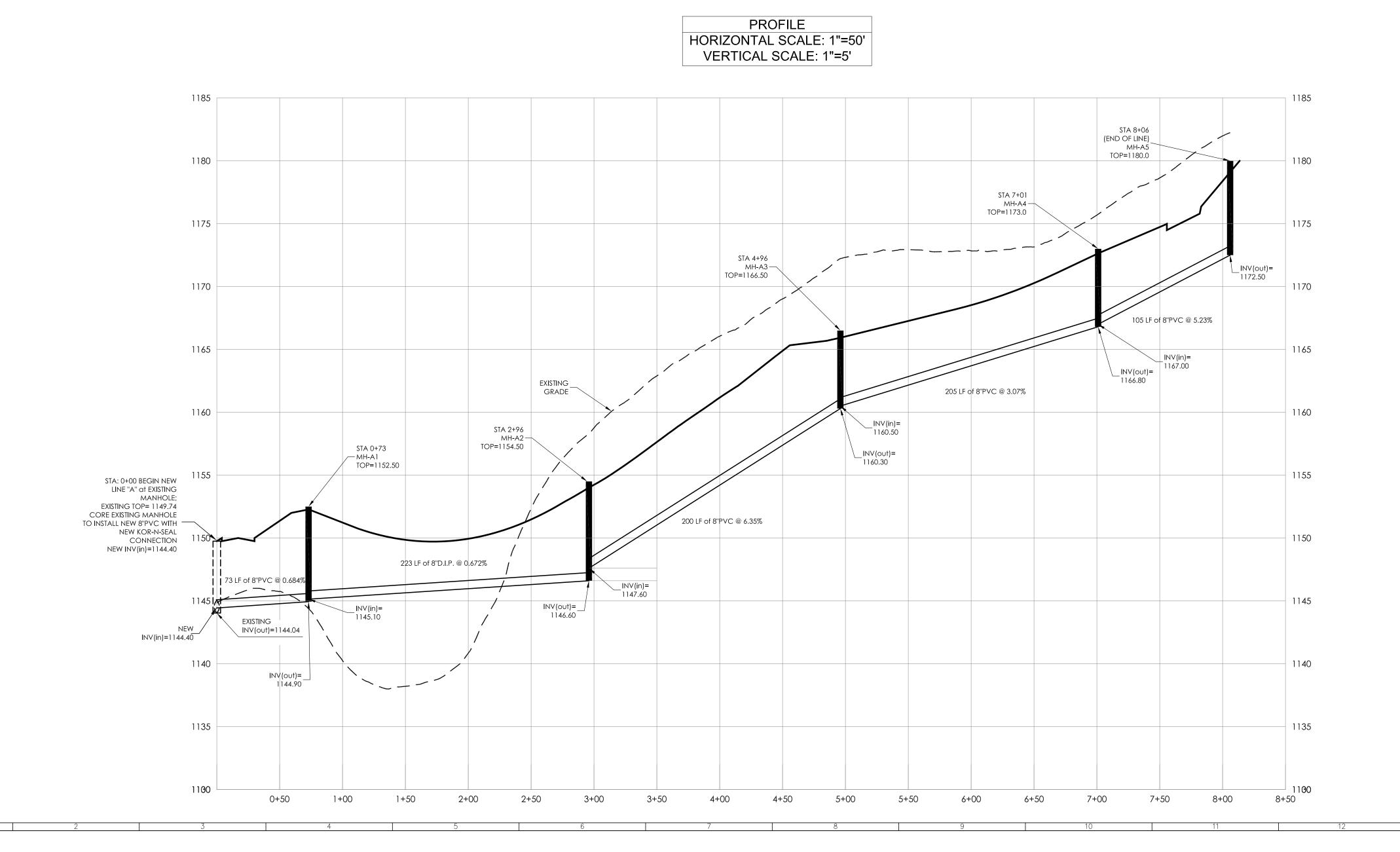
TENNESSEE ONE-CALL SYSTEM, INC.

SITE WATERLINE PLAN

C-4.0



PLAN VIEW - PROPOSED SEWER LINE "A"



EXISTING	PROPOSED DE	SCRIPTION
GEGE	—— G ——— G ——	GAS
WE-xin xxx	——— W-xxin xxx———	WATER
——SE—xin xxx ———	SAN-xxin xx	GRAVITY SANITARY SEWER
OHU-EX	— ОНИ — ОНИ —	OVERHEAD UTILITIES
OHE-EX	— ОНЕ — ОНЕ —	OVERHEAD ELECTRIC
THE	₩ FH	FIRE HYDRAN
		WATER METER
■ WME	■ WM	WATER VALVE
₩ WVE	₩ WV	GAS METER
■ GME	∠ GM	GAS VALVE
⋈ GVE	⋈ GV	SANITARY
MHE	MH	MANHOLE
T) PPE	∵ PP	POWER POLE

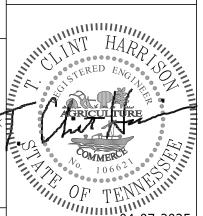
0)() (D 0)	
SAWROL	LEGEND

- W WATER LINE
- G GAS LINE
- S SANITARY SEWER
- STORM SEWER
- TELEPHONE

E ELECTRIC ====<u>*</u>

TCH T. CLINT HARRISON, P.E - Civil Engineer -

5123 Bethesda Road Morristown, TN 37814 ph. 423.277.1112 charrisoneng@gmail.com



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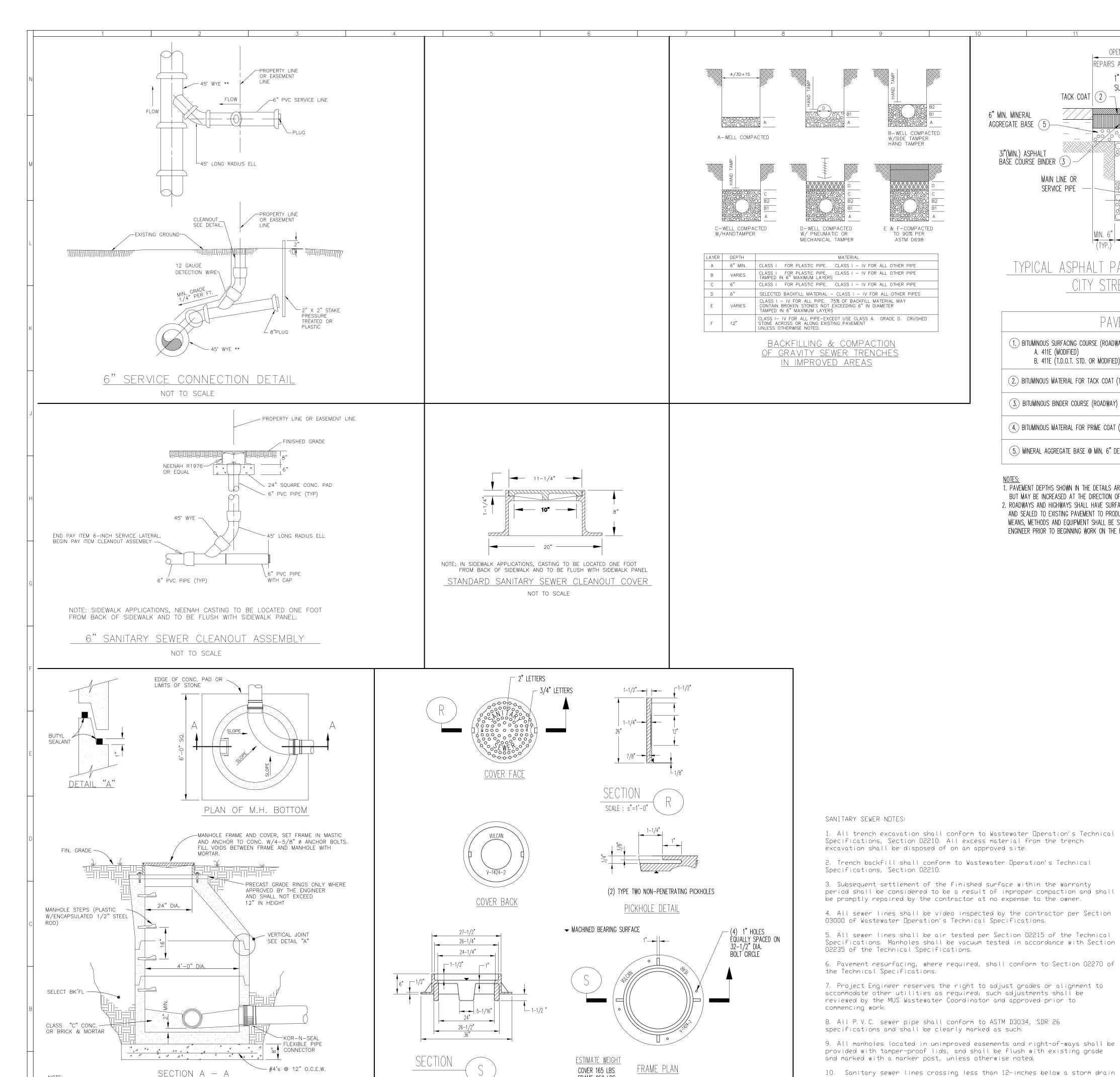
CAUTION-NOTICE TO CONTRACTOR THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION TO UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPUSED IMPROVEMENTS SHOWN ON THE PLANS.

CALL BEFORE YOU DIG! 1-800-351-1111 TENNESSEE DNE-CALL SYSTEM, INC.

A NEW SINGLE FA

SANITARY SEWER PLAN & PROFILE LINE "A"

C-5.0



6" MIN. CRUSHED STONE BENEATH ALL

MANHOLES. M.H.'S 14' DEEP OR DEEPER SHALL HAVE 6'x6' CLASS "A" CONC. PAD.

ALL PRECAST ELEMENTS TO MEET LATEST

APPLICABLE A.S.T.M. SPEC.

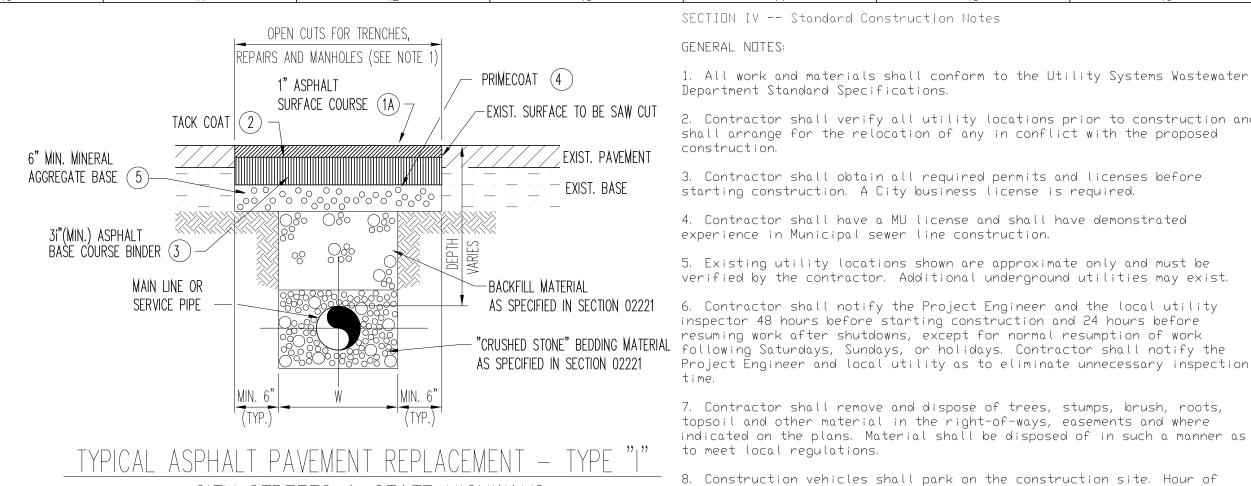
STANDARD MANHOLE

NOT TO SCALE

FRAME 250 LBS

TOTAL 415 LBS

HEAVY-DUTY STANDARD MANHOLE FRAME & COVER (FOR NEW MANHOLES)



CITY STREETS & STATE HIGHWAYS

PAVEMENT SCHEDULE
1. BITUMINOUS SURFACING COURSE (ROADWAY) — SEE SPECIFICATION 02610 A. 411E (MODIFIED) B. 411E (T.D.O.T. STD. OR MODIFIED)
2. BITUMINOUS MATERIAL FOR TACK COAT (TC) (RATE - 0.02 GAL./SQ.YARD)

(3.) BITUMINOUS BINDER COURSE (ROADWAY) @ MIN. 31" THICK - 307 B - SEE SPECIFICATION 02610

(5.) MINERAL AGGREGATE BASE @ MIN. 6" DEEP TYPE "A" BASE, GRADING "D".

(4.) BITUMINOUS MATERIAL FOR PRIME COAT (PC) (RATE - 0.35 GAL./SQ. YARD).

1. PAVEMENT DEPTHS SHOWN IN THE DETAILS ARE MINIMUM FOR THIS PROJECT,

BUT MAY BE INCREASED AT THE DIRECTION OF THE ENGINEER. 2. ROADWAYS AND HIGHWAYS SHALL HAVE SURFACE COURSE PLACED AND HEAT BLENDED AND SEALED TO EXISTING PAVEMENT TO PRODUCE A SMOOTH/SEALED SURFACE. MEANS, METHODS AND EQUIPMENT SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER PRIOR TO BEGINNING WORK ON THE PROJECT.

(12-inches or greater in diameter) shall be constructed with ductile iron

11. Ductile Iron Pipe shall conform to ANSI A21.51, Class 350, with

Protecto 401 Ceramic Epoxy lining exterior bituminous coated.

pipe.

SECTION IV -- Standard Construction Notes

GENERAL NOTES:

1. All work and materials shall conform to the Utility Systems Wastewater Department Standard Specifications.

2. Contractor shall verify all utility locations prior to construction and shall arrange for the relocation of any in conflict with the proposed construction.

3. Contractor shall obtain all required permits and licenses before starting construction. A City business license is required.

4. Contractor shall have a MU license and shall have demonstrated

experience in Municipal sewer line construction. 5. Existing utility locations shown are approximate only and must be

6. Contractor shall notify the Project Engineer and the local utility inspector 48 hours before starting construction and 24 hours before resuming work after shutdowns, except for normal resumption of work "CRUSHED STONE" BEDDING MATERIAL following Saturdays, Sundays, or holidays. Contractor shall notify the

> 7. Contractor shall remove and dispose of trees, stumps, brush, roots, topsoil and other material in the right-of-ways, easements and where indicated on the plans. Material shall be disposed of in such a manner as to meet local regulations.

8. Construction vehicles shall park on the construction site. Hour of construction shall be 7:00 AM to 6:00 PM, Monday through Saturday, unless otherwise approved by Director. Construction prohibited on Sunday.

9. Contractor shall keep and maintain a current set of drawings for the Project Engineer showing as-constructed data. The Project Engineer shall

10. Contractor shall submit a Maintenance Bond as required by the local utility (if applicable)

submit two sets of as-built/record drawings to MUS.

11. Contractor shall erect and maintain traffic control per the "Manual o Uniform Traffic Control Devices", Part VI, Construction and Maintenance, as adopted and modified by TDDT. The contractor or project engineer shall submit a plan for the traffic control to appropriate City, County and State personnel for approval.

12. Contractor shall perform all work necessary to complete this project in accordance with the plans including such incidentals as may be necessary to meet applicable agency requirements and others as necessary to provide a complete project.

13. Contractor shall keep an approved set of plans on the project site at

14. Any alteration or variance from these plans, except minor field adjustments needed to meet existing field conditions, shall first be approved by the applicable agency representative. Any alteration or variance from these plans shall be documented on construction field prints and transmitted to the Project Engineer.

15. Contractor shall provide the necessary erosion protection to minimize erosion and impact to adjacent property. See Erosion/Sedimentation Control Notes and Plan.

16. Open trenches shall be strictly limited to a maximum of 100 feet within street right-of-ways unless limited to a lesser amount by permit. No trenches will be allowed to remain open at night.

17. Contractor shall maintain and coordinate access to all effected properties.

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PROJ NO. • -

T. CLINT HARRISON, P.E

- Civil Engineer -

5123 Bethesda Road

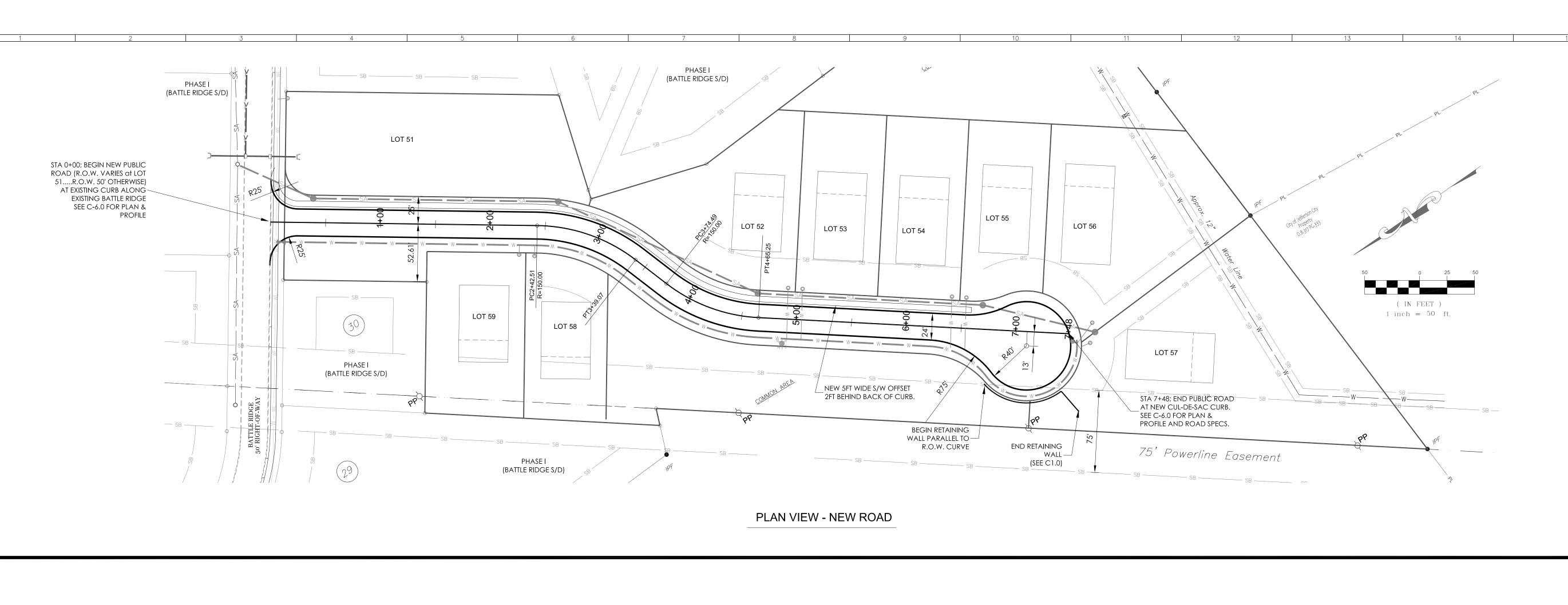
Morristown, TN 37814

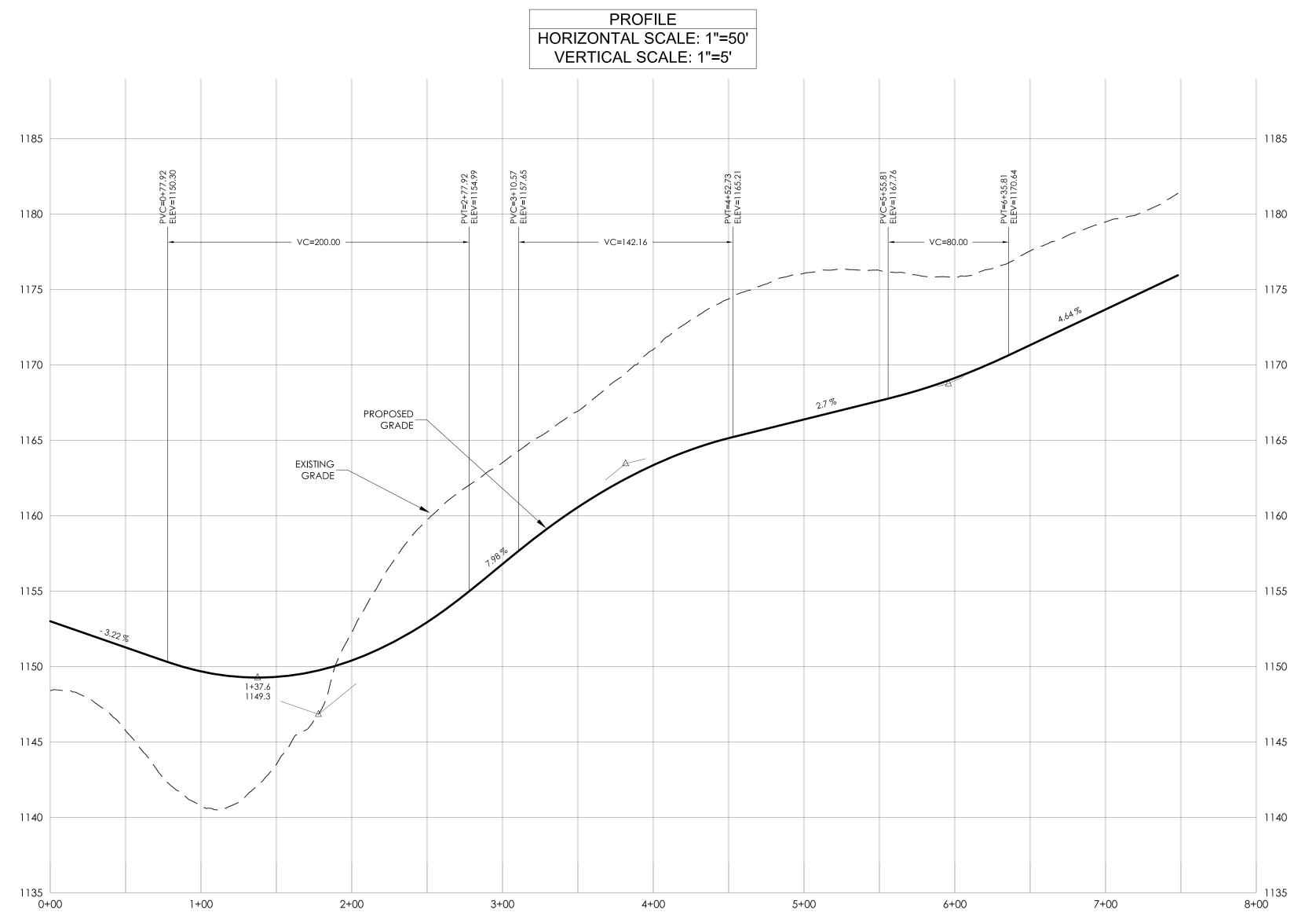
ph. 423.277.1112

charrisoneng@gmail.com

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SANITARY SEWER DETAIL SHEET





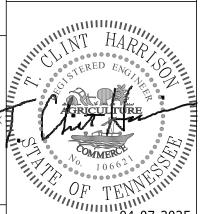
EXISTING	PROPOSED DI	ESCRIPTION
GEGE	—— G ——— G ——	GAS
WE-xin xxx	——— W-xxin xxx———	WATER
——SE-xin xxx ——	SAN-xxin xx	GRAVITY SANITARY SEWER
OHU-EX	— ОНИ —— ОНИ —	OVERHEAD UTILITIES
OHE-EX	— ОНЕ — ОНЕ —	OVERHEAD ELECTRIC
C, FHE	; FH	FIRE HYDR
- 141/5	·	WATER MEI
■ WME	■ <i>WM</i>	WATER VAL
₩ WVE	₩V	GAS METER
■ GME	■ GM	GAS VALVE
⋈ <i>GVE</i>	⋈ GV	SANITARY
MHE	MH	MANHOLE
CO SPPE	TO PP	POWER POL

SYMBOL	LEGEND
	2202.12

- W WATER LINE
- G GAS LINE
- S SANITARY SEWER
- ST) STORM SEWER
- T TELEPHONE
- E ELECTRIC

TCH T. CLINT HARRISON, P.E - Civil Engineer -

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CALL BEFORE YOU DIG! 1-800-351-1111

A NEW SINGLE FAMILY RESIDENTIAL SUBDIVISIC BATTLE RIDGE PHASE

ROAD PLAN & PROFILE

C-6.0