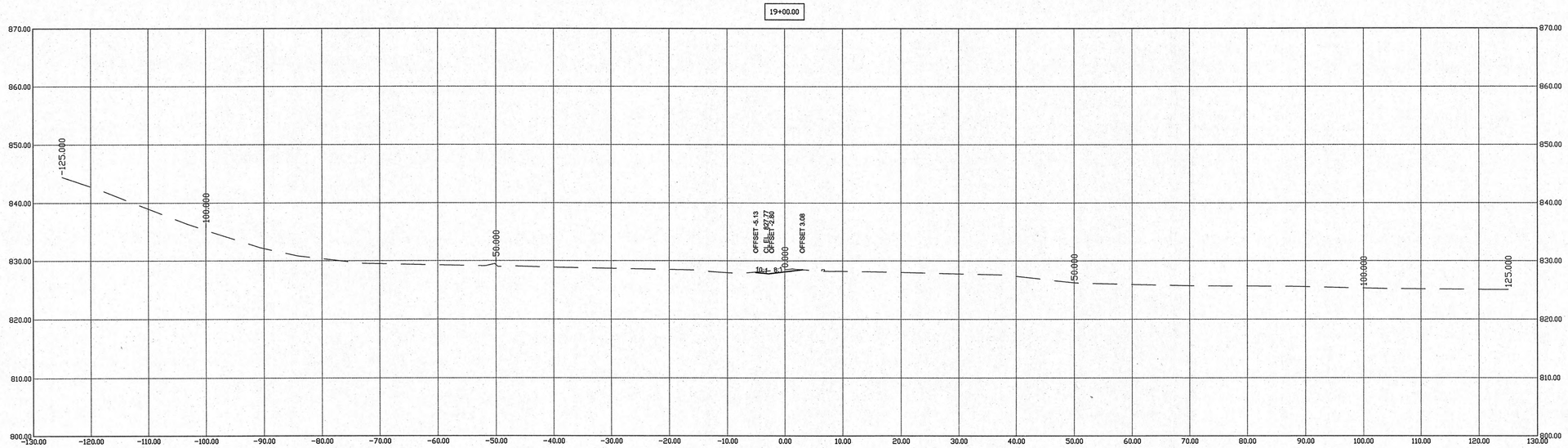
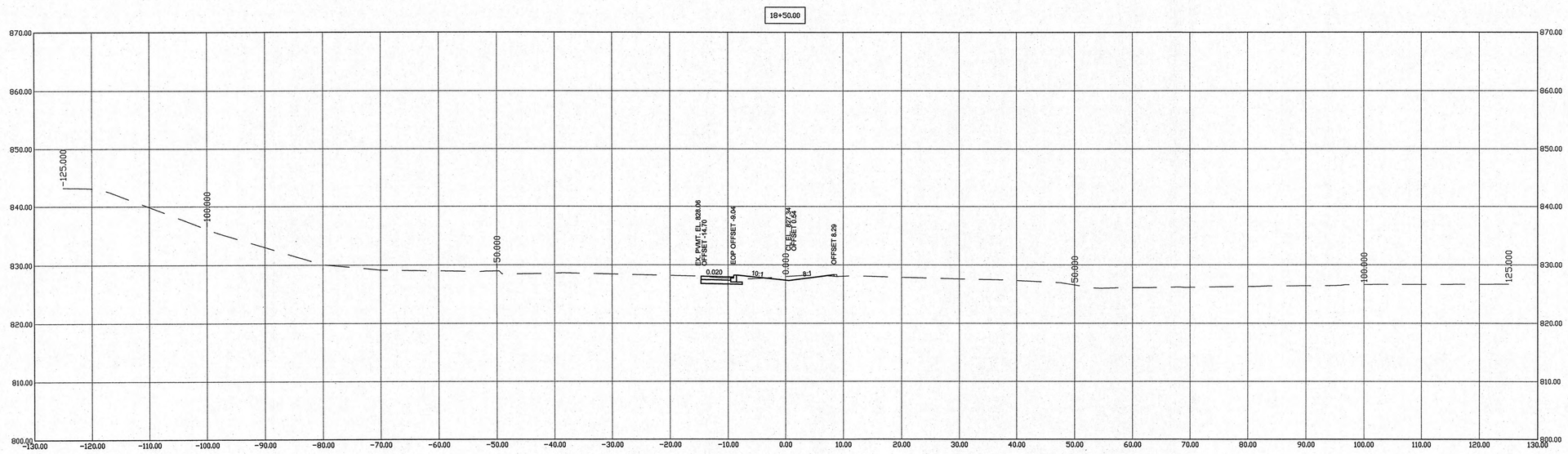




GRAPHIC SCALE

(IN FEET)
1 inch = 10 ft.

Cross Sections

Horizontal Scale: 1" = 10.00'
Vertical Scale: 1" = 10.00'

Know what's below. Call before you dig.

SLCE INCORPORATED
Site Infrastructure Transportation Engineers
2033 Castate Lane, Suite 101 Knoxville, TN 37932
Phone: (865) 693-5910 Fax: (865) 693-5868

ANNETTE C. HOMMEL
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 00109704
STATE OF TENNESSEE

US Highway 70 - Cross Sections (18+50 - 19+00)

Pinnacle Point Phase II

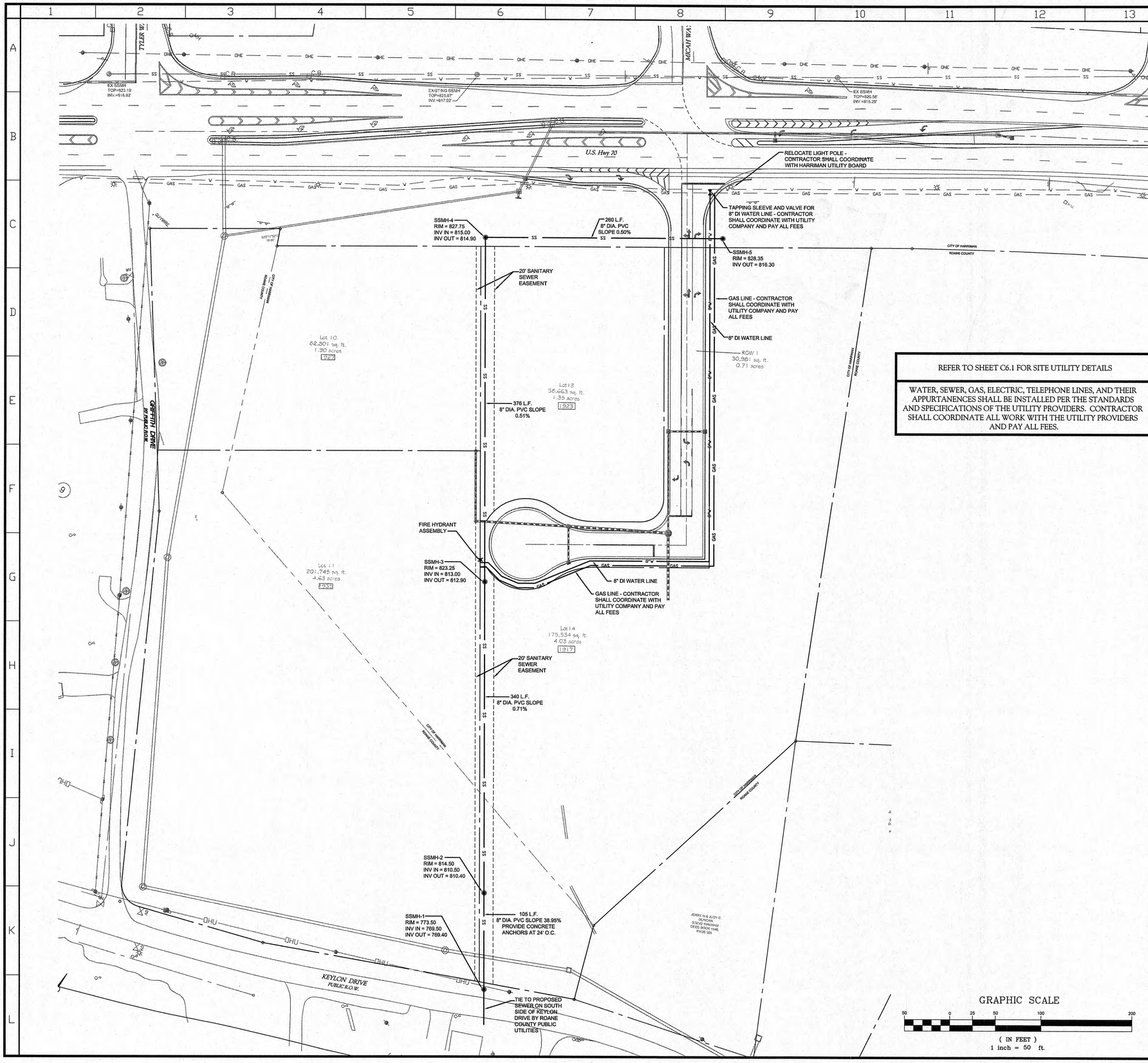
US Highway 70
Harriman, Tennessee

DRAWN BY: gch DATE: 5/11/10
CHECKED BY: --- FILE: 1767 US 70

REVISIONS

NO.	DATE	COMMENTS

C7.7



REFER TO SHEET C6.1 FOR SITE UTILITY DETAILS

WATER, SEWER, GAS, ELECTRIC, TELEPHONE LINES, AND THEIR APPURTANENCES SHALL BE INSTALLED PER THE STANDARDS AND SPECIFICATIONS OF THE UTILITY PROVIDERS. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE UTILITY PROVIDERS AND PAY ALL FEES.

SITE UTILITY NOTES

1. ALL FILL MATERIAL IS TO BE IN PLACE, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES. ALL FILL MATERIALS SHALL BE STRUCTURAL FILL AS DESCRIBED IN THE SPECIFICATIONS FOR "EARTHWORK".

2. DRAWINGS DO NOT PURPORT TO SHOW ALL EXISTING UTILITIES. 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 COMPANIES AT LEAST 72 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.

3. CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS A MINIMUM OF 72 HOURS BEFORE COMMENCEMENT OF UTILITY INSTALLATION AND FOR COORDINATION OF CONNECTIONS TO EXISTING LINES.

4. LINES UNDERGROUND SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING. CONTRACTOR SHALL PAY ALL FEES.

5. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICE. AS BUILT DRAWINGS SHALL BE PREPARED AND SUBMITTED TO UTILITY PROVIDERS AS REQUIRED AFTER CONSTRUCTION AND COPIED TO ENGINEER OF RECORD.

6. CONTRACTOR SHALL MAINTAIN A MINIMUM COVER OF 3 FEET ON WATER LINES AND 4 FEET ON SEWER LINES.

7. WATER, SEWER, AND STORM LINES SHALL BE KEPT 10 FEET APART HORIZONTALLY AND 18 INCHES APART VERTICALLY WHEN CROSSING (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE), UNLESS NOTED OTHERWISE.

8. WHEN CROSSING, WATER LINES SHALL BE CONSTRUCTED ABOVE SEWER LINES AND STORM LINES, UNLESS A LACK OF DEPTH ABOVE THE SEWER OR STORM LINE NECESSITATES CONSTRUCTION OF WATER LINES BENEATH SEWER LINES OR STORM LINES. IN THE EVENT OF A VERTICAL CONFLICT, THE FOLLOWING MODIFICATIONS MUST OCCUR:
-SEWER LINES SHALL BE ENCASED IN CONCRETE AT LEAST 10 FEET ON BOTH SIDES OF THE CROSSING.
-STORM LINES SHALL HAVE "O-RING" GASKETS WITH HUGGER BAND COUPLING AT LEAST 10 FEET ON BOTH SIDES OF THE CROSSING.
-WATER LINES SHALL BE DUCTILE IRON PIPE WITH MECHANICAL JOINTS AND APPROPRIATE THRUST BLOCKING MEETING THE REQUIREMENTS OF ANSI 21.10 OR 21.11 (AWWA C-151)(CLASS 50).

9. WATER LINES SHALL BE AS FOLLOWS:
-PIPE SIZES LESS THAN 4 INCHES: SEAMLESS COPPER TUBING (TYPE "K" SOFT COPPER PER ASTM B88) OR PVC WATER PIPE (ASTM D2241, CONTINUALLY MARKED AS REQUIRED).
-PIPE SIZES 4 INCHES AND LARGER: DUCTILE IRON WATER PIPE (AWWA C151, PRESSURE CLASS 350 (4 INCHES -12 INCHES), PRESSURE CLASS 250 (14 INCHES -16 INCHES) CONTINUALLY MARKED AS REQUIRED.

10. ALL WATER JOINTS ARE TO BE MECHANICAL JOINTS WITH THRUST BLOCKING AS DESCRIBED IN SPECIFICATIONS.

11. SANITARY SEWER PIPE SHALL BE AS FOLLOWS:
-PVC (ASTM D3034, RATED SDR 35, CONTINUALLY MARKED AS REQUIRED), FOR PIPES LESS THAN 12 FEET DEEP.
-DUCTILE IRON PIPE (AWWA C151), FOR PIPES MORE THAN 12 FEET DEEP.

12. TOPS OF EXISTING MANHOLES SHALL BE RAISED OR LOWERED AS NECESSARY TO BE FLUSH WITH PROPOSED PAVEMENT ELEVATIONS AND 6 INCHES ABOVE FINISHED GROUND ELEVATIONS IN UNPAVED AREAS.

13. GAS LINES SHALL BE SIZED, LOCATED, AND INSTALLED BY UTILITY PROVIDER. CONTRACTOR SHALL COORDINATE AND PAY ALL FEES.

14. MINIMUM TRENCH WIDTH SHALL BE 2 FEET.

15. ALL CONCRETE FOR ENCASEMENTS SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH AT 3000 P.S.I.

16. REFER TO ARCHITECTURAL/MEP PLANS FOR TIE-IN OF ALL UTILITIES.

SITE UTILITY LEGEND

W	EXISTING WATER LINE
OHE	EXISTING ELECTRIC
GAS	EXISTING GAS
SS	EXISTING SANITARY SEWER
	EXISTING STORM PIPE (FOR REFERENCE ONLY)
GAS	PROPOSED GAS LINE
SS	PROPOSED SANITARY SEWER LINE
FM	PROPOSED SANITARY SEWER FORCE MAIN
6"W	PROPOSED WATER LINE
	PROPOSED STORM PIPE - FOR REFERENCE ONLY
DI	DUCTILE IRON
EX	EXISTING
	ISOLATION GATE VALVE
MH	MANHOLE
SS	SANITARY SEWER
FH	FIRE HYDRANT ASSEMBLY

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

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ANNETTE C. HOMMEL REGISTERED ENGINEER AGRICULTURE No. 00109104 STATE OF TENNESSEE

Site Utility Plan

Pinnacle Point Phase II

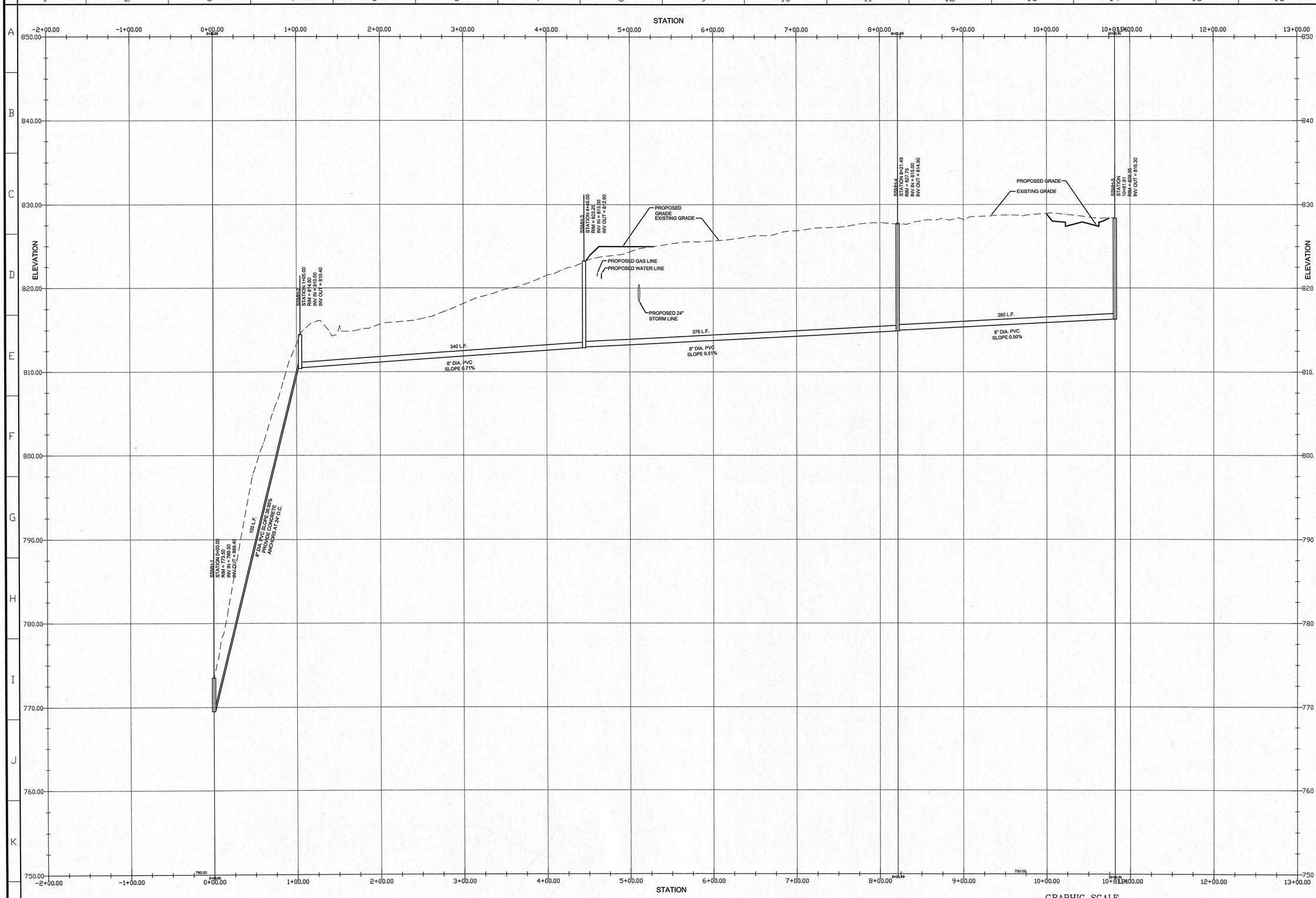
US Highway 70
Harriman, Tennessee

DRAWN BY: ach DATE: 6/3/10
CHECKED BY: --- FILE: 1767 Utility

REVISIONS

NO.	DATE	COMMENTS

C5.0



Sanitary Sewer Profile

Horizontal Scale: 1" = 50'
Vertical Scale: 1" = 5'

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

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ANNETTE C. HOMMEL III
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 00099134
STATE OF TENNESSEE

Sanitary Sewer Profile

Pinnacle Point Phase II

US Highway 70
Harriman, Tennessee

DRAWN BY: ach DATE: 6/3/10
CHECKED BY: --- FILE: 1767 Utility

REVISIONS

NO.	DATE	COMMENTS

C5.1

MATERIALS

A. CONSTRUCTION AND MATERIALS SHALL MEET OR EXCEED REQUIREMENTS OF THIS SECTION AND APPLICABLE STATE HIGHWAY DEPARTMENT SPECIFICATIONS SECTION(S) REFERRED TO OR NOTED ON THE CONSTRUCTION DRAWINGS WHICH PERTAIN TO PAVING BASE COURSE DESIGN, MATERIALS, PREPARATION, AND EXECUTION. MATERIALS SHALL BE AS INDICATED IN THE CONSTRUCTION DOCUMENTS AND SHALL COMPLY WITH STATE HIGHWAY DEPARTMENT SPECIFICATIONS REGARDING SOURCE, QUALITY, GRADATION, SOUNDNESS, ABSORPTION, LIQUID LIMIT, PLASTICITY INDEX, AND MIX PROPORTIONING.

B. SOIL MATERIALS
1. CLASS II: COARSE-GRAINED SOILS; CONFORMING TO ASTM D2487 GROUP SYMBOL, GW, GP, SW AND SP.
2. CLASS III: COARSE-GRAINED SOILS WITH FINES; CONFORMING TO ASTM D2487 SYMBOL GM, GC, SM AND SC.
3. CLASS IV-A: FINE-GRAINED SOILS (INORGANIC); CONFORMING TO ASTM D2487 GROUP SYMBOL ML AND CL.
4. CLASS IV-B: FINE GRAINED SOILS (INORGANIC); CONFORMING TO ASTM D2487 GROUP SYMBOL MH AND CH.
5. CLASS V: ORGANIC SOILS; CONFORMING TO ASTM D2487 GROUP SYMBOL OL, OH, AND PT.

C. AGGREGATE MATERIAL
1. COARSE AGGREGATE TYPE A1: MATERIAL SHALL BE SOUND CRUSHED LIMESTONE, CRUSHED SLAG, GRANULATED SLAG, CRUSHED GRAVEL, OR OTHER TYPES OF SUITABLE MATERIAL MEETING THE REQUIREMENTS OF THIS SECTION. CRUSHED LIMESTONE, CRUSHED SLAG AND CRUSHED GRAVEL SHALL MEET THE FOLLOWING GRADING REQUIREMENTS:

SIEVE SIZE	PERCENT PASSING
1 1/2 INCHES	100
1 INCH	75-100
3/4 INCH	60-100
3/8 INCH	35-75
NO. 4	30-60
NO. 30	7-30
NO. 200	0-5

2. COARSE AGGREGATE TYPE A2: MATERIAL SHALL BE CRUSHED CARBONATE, CRUSHED GRAVEL, CRUSHED AIR-COOLED SLAG, GRANULATED SLAG, A MIXTURE OF CRUSHED AND GRANULATED SLAG, OR OTHER TYPES OF SUITABLE MATERIAL MEETING THE REQUIREMENTS OF THIS ITEM. CRUSHED CARBONATE STONE OR MIXTURES OF CRUSHED AND GRANULATED SLAGS SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE SIZE	PERCENT PASSING
2 INCHES	100
1 INCH	70-100
3/4 INCH	50-90
NO. 4	30-60
NO. 30	7-30
NO. 200	0-5

3. AGGREGATE TYPE A3: PEA GRAVEL - NATURAL STONE; WASHED, FREE OF CLAY, SHALE, ORGANIC MATTER; GRADED IN ACCORDANCE WITH ASTM C136 AND D2487; TO THE FOLLOWING LIMITS:
A. MINIMUM SIZE: 1/4 INCH
B. MAXIMUM SIZE: 5/8 INCH

4. FINE AGGREGATE TYPE A4: SAND - NATURAL RIVER OR BANK SAND; WASHED; FREE OF SILT, CLAY, LOAM, FRIABLE OR SOLUBLE MATERIALS, AND ORGANIC MATTER; GRADED IN ACCORDANCE WITH ASTM C136 AND D2487; WITHIN THE FOLLOWING LIMITS:

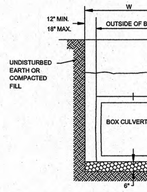
SIEVE SIZE	PERCENT PASSING
NO. 4	90-100
NO. 50	7-40
NO. 200	0-5

5. CLASS I-A: MATERIAL SHALL BE SOUND CRUSHED LIMESTONE, CRUSHED SLAG, GRANULATED SLAG, CRUSHED GRAVEL, OR OTHER TYPES OF SUITABLE MATERIAL MEETING THE REQUIREMENTS OF THIS ITEM. CRUSHED LIMESTONE, CRUSHED SLAG AND CRUSHED GRAVEL SHALL MEET THE FOLLOWING GRADING REQUIREMENTS:

SIEVE SIZE	PERCENT PASSING
1-1/2 INCHES	100
NO. 4	< 10
NO. 200	< 5

6. CLASS I-B: MATERIAL SHALL BE CRUSHED CARBONATE, CRUSHED GRAVEL, CRUSHED AIR-COOLED SLAG, GRANULATED SLAG, A MIXTURE OF CRUSHED AND GRANULATED SLAG, OR OTHER TYPES OF SUITABLE MATERIAL MEETING THE REQUIREMENTS OF THIS ITEM. CRUSHED CARBONATE STONE OR MIXTURES OF CRUSHED AND GRANULATED SLAGS SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE SIZE	PERCENT PASSING
1-1/2 INCHES	100
NO. 4	< 50
NO. 200	< 5



CONCRETE BOX CULVERT
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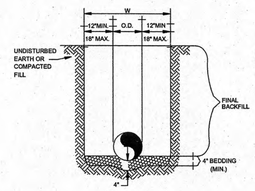
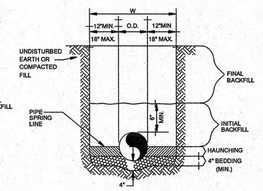


REINFORCED CONCRETE PIPE (RCP)
N.T.S.



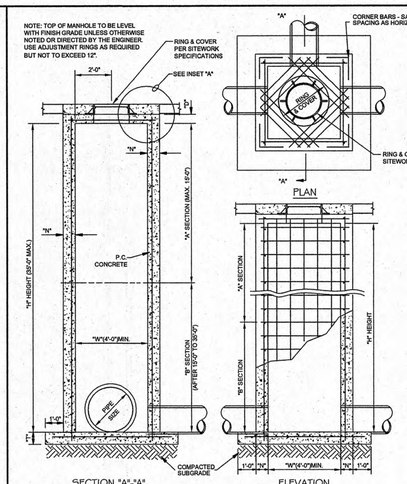
ALL OTHER PIPES INCLUDING SPIRAL RIB
N.T.S.

GENERAL NOTES

1. BEDDING SHALL BE CLASS I-A WORKED BY HAND. IF GROUNDWATER IS ANTICIPATED, THEN BEDDING SHALL BE CLASS I-B COMPACTED TO 85% STANDARD PROCTOR.
2. HAUNCHING SHALL BE WORKED AROUND THE PIPE BY HAND TO ELIMINATE VOIDS AND SHALL BE CLASS I-A OR CLASS I-B OR CLASS II COMPACTED TO 85% PROCTOR.
3. INITIAL BACKFILL SHALL BE CLASS I-A WORKED BY HAND, OR CLASS I-B OR CLASS II COMPACTED TO 85% STANDARD PROCTOR.
4. INITIAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS III COMPACTED TO 90% STANDARD PROCTOR.
5. FINAL BACKFILL SHALL BE CLASS I, II, OR III COMPACTED AS NOTED IN NOTES 3. AND 4.
6. FINAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS IV-A COMPACTED TO 85% STANDARD PROCTOR.
7. ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2321-LATEST EDITION.
8. ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 8" LOOSE LIFTS IN ACCORDANCE WITH ASTM D 698. CLASS III AND IV-A MATERIALS SHALL BE COMPACTED NEAR OPTIMUM MOISTURE CONTENT.
9. FILL SALVAGED FROM EXCAVATION SHALL BE FREE OF DEBRIS, ORGANICS AND ROCKS LARGER THAN 3".
10. ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED, OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL ORDINANCES. (SEE SPECIFICATIONS)

STORM SEWER TRENCH & BEDDING
N.T.S.

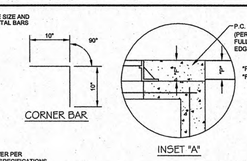
NOTE: TOP OF MANHOLE TO BE LEVEL WITH FINISH GRADE UNLESS OTHERWISE NOTED OR DIRECTED BY THE ENGINEER. USE ADJUSTMENT RINGS AS REQUIRED BUT NOT TO EXCEED 12".



SECTION "A"-"A"

PLAN

ELEVATION



CORNER BAR

INSET "A"

GENERAL NOTES:
1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER
2. ALL REINFORCING BARS TO HAVE 2" COVER.
3. SEE GRADING AND DRAINAGE PLAN FOR PIPE SIZES, LOCATIONS, AND FLOW LINES.
4. PIPES SHALL CONNECT TO THE ENDS OR SIDES OF THE INLET. CONNECTION SHALL NOT BE MADE AT CORNERS OF BOX.
5. ALL REINFORCING BARS TO BE GRADE 60.
6. PRECAST MANHOLE MAY BE USED UNLESS OTHERWISE NOTED OR DIRECTED BY THE ENGINEER.

PRECAST MANHOLE SPECIFICATIONS

ASTM C478
CONCRETE: 4000 PSI AE (MIN.)
JOINT: WATERTIGHT RUBBER GASKET

REINFORCEMENT SCHEDULE, BASE	
SECTION	
"A"	#4's @ 6" E.W.
"B"	#6's @ 6" E.W.

TABLE OF "W" DIMENSIONS

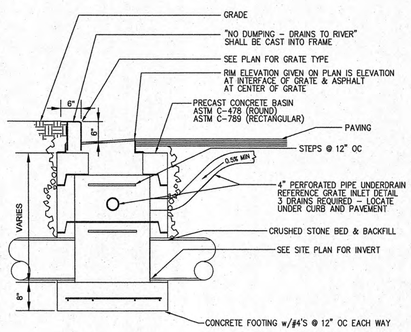
PIPE SIZE	SKEW OF CROSS DRAIN			
SINGLE	STRAIGHT	30°	45°	
24"	4'-0"	4'-0"	4'-10"	
30"	4'-0"	4'-7"	5'-8"	
36"	4'-0"	5'-3"	6'-5"	
42"	5'-3"	5'-11"	7'-3"	
48"	5'-10"	6'-7"	8'-0"	
60"	7'-0"	7'-10"	9'-8"	
DOUBLE	FOR "A" SECTION ONLY			
24"	7'-0"	7'-10"	9'-5"	
30"	8'-2"	9'-2"	11'-0"	
36"	9'-4"	10'-4"	12'-6"	
42"	10'-6"	11'-10"	14'-2"	
48"	11'-8"	13'-2"	15'-10"	

REINFORCEMENT SCHEDULE, WALLS			
SECTION	WIDTH ("W")	HOR.	VERT.
"A"	4'	#4's @ 9"	#4's @ 10"
	BETWEEN 4' & 7'	#6's @ 9"	#4's @ 10"
	GREATER THAN 7'	#5's @ 4 1/2"	#4's @ 10"
"B"	4'	#4's @ 6"	#4's @ 10"
	BETWEEN 4' & 7'	#6's @ 6"	#4's @ 10"

TABLE OF "T" & "N" DIMENSIONS				
SECTION	WIDTH ("W")	"T"	"N"	"O"
"A"	BETWEEN 4' & 7'	6" + PIPE THICKNESS	8"	8"
	GREATER THAN 7'	6" + PIPE THICKNESS	8"	8"
"B"	4'	6" + PIPE THICKNESS	8"	8"
	BETWEEN 4' & 7'	6" + PIPE THICKNESS	10"	8"

REINFORCEMENT SCHEDULE, TOP		
DIMENSIONS	STEEL	SPECIAL PATTERN
W1 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER
W2 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER
W1 = 7' OR LESS	#4's @ 6" E.W.	DIAGONAL @ COVER
W2 = 7' OR GREATER	#4'S @ 6" E.W.	DIAGONAL @ COVER
W1 = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL @ COVER
W2 = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL @ COVER

JUNCTION BOX
N.T.S.



CURB INLET
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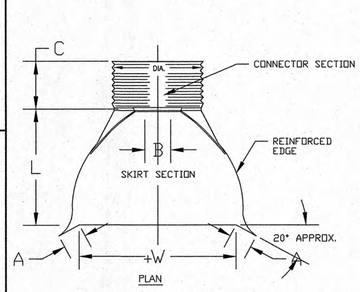
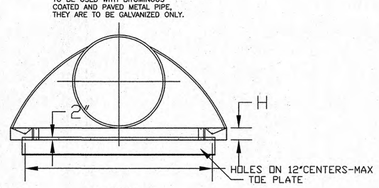
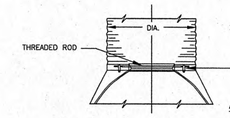


PLAN

WHERE FLARED END-SECTIONS ARE TO BE USED WITH BITUMINOUS COATED AND PAVED METAL PIPE, THEY ARE TO BE GALVANIZED ONLY.



ELEVATION



ALTERNATE CONNECTION

TOE PLATE, WHERE NEEDED, TO BE PUNCHED TO MATCH IN SKIRT LIP. 3/8" GALV. BOLTS TO BE FURNISHED. LENGTH OF TOE PLATE IS W + 10" FOR 12" TO 30" DIA. PIPE AND W + 22" FOR 36" TO 60" DIA. PIPE.

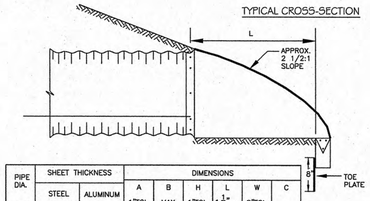
SKIRT SECTION FOR 12" TO 30" DIA. PIPE TO BE MADE IN ONE PIECE.

SKIRT SECTION FOR 36" TO 54" DIA. PIPE MAY BE MADE FROM TWO SHEETS JOINED BY RIVETING OR BOLTING ON CENTER LINE. 60" MAY BE CONSTRUCTED IN 3 PIECES.

CONNECTOR SECTION, CORNER PLATE AND TOE PLATE TO BE SAME SHEET THICKNESS AS SKIRT.

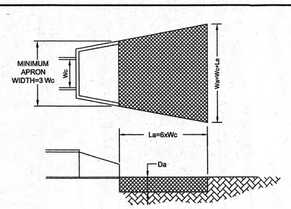
END-SECTIONS AND FITTINGS ARE TO BE GALVANIZED STEEL OR ALUMINUM ALLOY FOR USE WITH LIKE PIPE.

TYPICAL CROSS-SECTION



PIPE DIA.	SHEET THICKNESS		DIMENSIONS					
	STEEL	ALUMINUM	A 1"TOL.	B MAX.	H 1"TOL.	L $1\frac{1}{2}$"TOL.	W 2"TOL.	C
12"	.064"	.060"	6"	6"	6"	21"	24"	24"
15"	.064"	.060"	7"	8"	6"	26"	30"	24"
18"	.064"	.060"	8"	10"	6"	31"	36"	24"
21"	.064"	.060"	10"	12"	6"	36"	42"	24"
24"	.064"	.060"	10"	13"	6"	41"	48"	24"
27"/30"	.064"	.075"	12"	16"	8"	51"	60"	24"
36"	.064"	.075"	14"	19"	9"	60"	72"	36"
42"	.064"	.105"	16"	22"	11"	69"	84"	36"
48"	.064"	.105"	18"	27"	12"	78"	90"	24"
54"	.064"/.079"	.105"	18"	30"	12"	84"	102"	36"
60"	.064"/.109"	.105"/.135"	18"	33"	12"	87"	114"	36"

FLARED END SECTION
N.T.S.



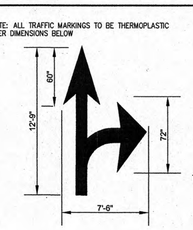
Wc = WIDTH OF CULVERT
La = LENGTH OF RIP-RAP APRON
Wa = WIDTH OF RIPRAP APRON AT END
D(50) = MEDIAN RIPRAP SIZE
D(max) = MAXIMUM SIZE OF RIPRAP = 1.5 x D(50)
Da = DEPTH OF RIP-RAP APRON = 1.5 x D(max)

D(50) SIZE	
Wc = 30" or less	6"
Wc = 36"	8"
Wc = 42"	9"
Wc = 48"	11"
Wc = 54"-60"	12"
Wc = 66"	14"
Wc = 72"	15"

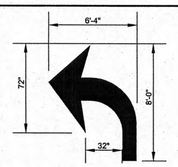
REFER TO TENNESSEE EROSION AND SEDIMENT CONTROL HANDBOOK

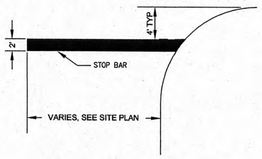
RIP RAP OUTLET PROTECTION
N.T.S.

NOTE: ALL TRAFFIC MARKINGS TO BE THERMOPLASTIC PER DIMENSIONS BELOW



TRAFFIC FLOW ARROWS





TYPICAL PAVEMENT MARKINGS
N.T.S.

SLE INCORPORATED
Site Infrastructure Transportation Engineers
2033 Castate Lane, Suite 101 Knoxville, TN 37932
Phone: (865) 693-5010 Fax: (865) 693-5868

ANNETTE C. HOMMEL REGISTERED ENGINEER AGRICULTURE COMMERCE NO. 00109704 STATE OF TENNESSEE

Site Details

Pinnacle Point Phase II

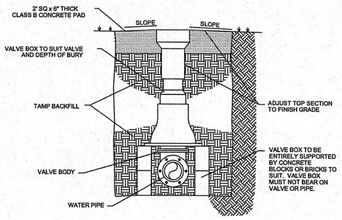
US Highway 70
Harriman, Tennessee

DRAWN BY: ach DATE: 6/3/10
CHECKED BY: --- FILE: 1767 Details

REVISIONS

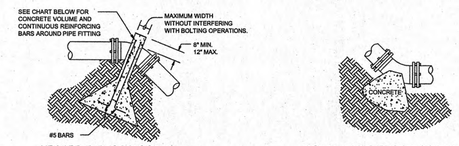
NO.	DATE	COMMENTS

C6.0



GATE VALVE

N.T.S.



UPWARD THRUST BLOCKING

DOWNWARD THRUST BLOCKING

(SEE HORIZONTAL BLOCKING DETAIL)

(ALL BENDS SIMILAR)

UPWARD THRUST BLOCKING													
(REQUIRED REINFORCING BARS & CUBIC YARDS OF P.C. CONCRETE													
	90° BEND			45° BEND			22 1/2° BEND			11 1/4° BEND			
PIPE SIZE	CONC. C.Y.	REINF		CONC. C.Y.	REINF		CONC. C.Y.	REINF		CONC. C.Y.	REINF		
		QTY.	SIZE		QTY.	SIZE		QTY.	SIZE		QTY.	SIZE	

NOTES:

1. DO NOT COVER BELLS OR FLANGES WITH CONCRETE
2. WRAP ALL FITTINGS WITH VISQUEEN.
3. BACK ALL TEES ACCORDING TO SIZE OF BRANCH.
4. BACKING FUTURE LINE EXTENSIONS SHALL BE SUCH THAT LATER REMOVAL IS POSSIBLE.
5. ALL BENDS WHERE FITTINGS ARE USED, BOTH HORIZONTAL OR VERTICAL SHALL BE BACKED.
6. REACTION BACKING TABLE IS BASED ON _____ P.S.I. AND SOIL BEARING PRESSURE OF _____ lb./sq.ft. ADDITIONAL BACKING MAY BE REQUIRED IN SOME AREAS AS DIRECTED BY ENGINEERS.
7. ALL CONCRETE SHALL BE 2500 P.S.I.
8. 18" AND LARGER REQUIRES SPECIFIC ANTI-THRUST DESIGN.

VERTICAL THRUST BLOCKING

N.T.S.

MATERIALS

A. CONSTRUCTION AND MATERIALS SHALL MEET OR EXCEED REQUIREMENTS OF THIS SECTION AND APPLICABLE STATE HIGHWAY DEPARTMENT SPECIFICATIONS SECTION(S) REFERRED TO OR NOTED ON THE CONSTRUCTION DRAWINGS WHICH PERTAIN TO PAVING BASE COURSE DESIGN, MATERIALS, PREPARATION, AND EXECUTION. MATERIALS SHALL BE AS INDICATED IN THE CONSTRUCTION DOCUMENTS AND SHALL COMPLY WITH STATE HIGHWAY DEPARTMENT SPECIFICATIONS REGARDING SOURCE, QUALITY, GRADATION, SOUNDNESS, ABSORPTION, LIQUID LIMIT, PLASTICITY INDEX, AND MIX PROPORTIONING.

B. SOIL MATERIALS
1. CLASS I: COARSE-GRAINED SOILS; CONFORMING TO ASTM D2487 GROUP SYMBOL, GW, GP, SW AND SP.
2. CLASS III: COARSE-GRAINED SOILS WITH FINES; CONFORMING TO ASTM D2487 SYMBOL GM, GC, SM AND SC.
3. CLASS IV-A: FINE-GRAINED SOILS (INORGANIC); CONFORMING TO ASTM D2487 GROUP SYMBOL ML AND CL.
4. CLASS IV-B: FINE GRAINED SOILS (INORGANIC); CONFORMING TO ASTM D2487 GROUP SYMBOL MH AND CH.
5. CLASS V: ORGANIC SOILS; CONFORMING TO ASTM D2487 GROUP SYMBOL OL, OH, AND PT.

C. AGGREGATE MATERIAL
1. COARSE AGGREGATE TYPE A1: MATERIAL SHALL BE SOUND CRUSHED LIMESTONE, CRUSHED SLAG, GRANULATED SLAG, CRUSHED GRAVEL, OR OTHER TYPES OF SUITABLE MATERIAL MEETING THE REQUIREMENTS OF THIS SECTION. CRUSHED LIMESTONE, CRUSHED SLAG AND CRUSHED GRAVEL SHALL MEET THE FOLLOWING GRADING REQUIREMENTS:

SIEVE SIZE	PERCENT PASSING
1 1/2 INCHES	100
1 INCH	75-100
3/4 INCH	60-100
3/8 INCH	35-75
NO. 4	30-60
NO. 30	7-30
NO. 200	0-5

2. COARSE AGGREGATE TYPE A2: MATERIAL SHALL BE CRUSHED CARBONATE, CRUSHED GRAVEL, CRUSHED AIR-COOLED SLAG, GRANULATED SLAG, A MIXTURE OF CRUSHED AND GRANULATED SLAG, OR OTHER TYPES OF SUITABLE MATERIAL MEETING THE REQUIREMENTS OF THIS ITEM. CRUSHED CARBONATE STONE OR MIXTURES OF CRUSHED AND GRANULATED SLAGS SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE SIZE	PERCENT PASSING
2 INCHES	100
1 INCH	70-100
3/4 INCH	50-90
NO. 4	30-60
NO. 30	7-30
NO. 200	0-5

3. AGGREGATE TYPE A3: PEA GRAVEL - NATURAL STONE; WASHED, FREE OF CLAY, SHALE, ORGANIC MATTER; GRADED IN ACCORDANCE WITH ASTM C136 AND D2487; TO THE FOLLOWING LIMITS:
A. MINIMUM SIZE: 1/4 INCH
B. MAXIMUM SIZE: 5/8 INCH

4. FINE AGGREGATE TYPE A4: SAND - NATURAL RIVER OR BANK SAND; WASHED; FREE OF SILT, CLAY, LOAM, FRIABLE OR SOLUBLE MATERIALS, AND ORGANIC MATTER; GRADED IN ACCORDANCE WITH ASTM C136 AND D2487; WITHIN THE FOLLOWING LIMITS:

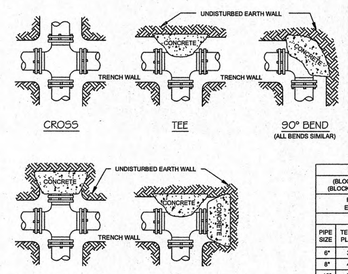
SIEVE SIZE	PERCENT PASSING
NO. 4	90-100
NO. 50	7-40
NO. 200	0-5

5. CLASS I-A: MATERIAL SHALL BE SOUND CRUSHED LIMESTONE, CRUSHED SLAG, GRANULATED SLAG, CRUSHED GRAVEL, OR OTHER TYPES OF SUITABLE MATERIAL MEETING THE REQUIREMENTS OF THIS ITEM. CRUSHED LIMESTONE, CRUSHED SLAG AND CRUSHED GRAVEL SHALL MEET THE FOLLOWING GRADING REQUIREMENTS:

SIEVE SIZE	PERCENT PASSING
1-1/2 INCHES	100
NO. 4	< 10
NO. 200	< 5

6. CLASS I-B: MATERIAL SHALL BE CRUSHED CARBONATE, CRUSHED GRAVEL, CRUSHED AIR-COOLED SLAG, GRANULATED SLAG, A MIXTURE OF CRUSHED AND GRANULATED SLAG, OR OTHER TYPES OF SUITABLE MATERIAL MEETING THE REQUIREMENTS OF THIS ITEM. CRUSHED CARBONATE STONE OR MIXTURES OF CRUSHED AND GRANULATED SLAGS SHALL MEET THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE SIZE	PERCENT PASSING
1-1/2 INCHES	100
NO. 4	< 50
NO. 200	< 5



CROSS

TEE

90° BEND

(ALL BENDS SIMILAR)

CROSS WITH PLUG

TEE WITH PLUG

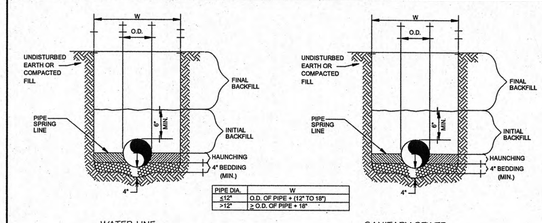
HORIZONTAL THRUST BLOCKING					
(BLOCKING HEIGHT GREATER THAN PIPE O.D.) (BLOCKING WIDTH BETWEEN 1 & 2 TIMES HEIGHT)					
REQUIRED SQ. FT. OF UNDISTURBED EARTH WALL FOR REACTION BACKING					
		TYPE OF FITTINGS			
PIPE SIZE	TEE & PLUG	BENDS			
		90°	45°	22 1/2°	11 1/4°
6"	3	3	2	1	1
8"	4	4	3	2	2
10"	7	7	4	2	2
12"	10	10	5	3	3

NOTES:

1. DO NOT COVER BELLS OR FLANGES WITH CONCRETE
2. WRAP ALL FITTINGS WITH VISQUEEN.
3. BACK ALL TEES ACCORDING TO SIZE OF BRANCH.
4. BACKING FUTURE LINE EXTENSIONS SHALL BE SUCH THAT LATER REMOVAL IS POSSIBLE.
5. ALL BENDS WHERE FITTINGS ARE USED, BOTH HORIZONTAL OR VERTICAL SHALL BE BACKED.
6. REACTION BACKING TABLE IS BASED ON _____ P.S.I. AND SOIL BEARING PRESSURE OF _____ lb./sq.ft. ADDITIONAL BACKING MAY BE REQUIRED IN SOME AREAS AS DIRECTED BY ENGINEERS.
7. ALL CONCRETE SHALL BE 2500 P.S.I.
8. 18" AND LARGER REQUIRES SPECIFIC ANTI-THRUST DESIGN.

HORIZONTAL THRUST BLOCKING

N.T.S.



PIPE DIA.	W
≤12"	O.D. OF PIPE + (12" TO 18")
>12"	≥ O.D. OF PIPE + 18"

WATER LINE

N.T.S.

SANITARY SEWER

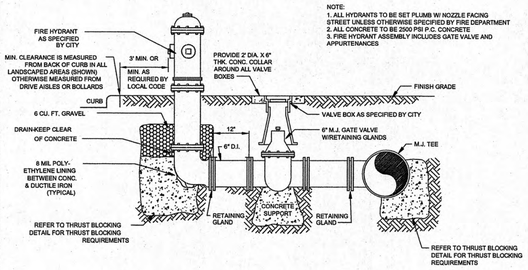
N.T.S.

GENERAL NOTES

1. BEDDING SHALL BE CLASS I-A WORKED BY HAND. IF GROUNDWATER IS ANTICIPATED, THEN BEDDING SHALL BE CLASS I-B COMPACTED TO 85% STANDARD PROCTOR.
2. HAUNCHING SHALL BE WORKED AROUND THE PIPE BY HAND TO ELIMINATE VOIDS AND SHALL BE CLASS I-A OR CLASS I-B OR CLASS II COMPACTED TO 85% PROCTOR.
3. INITIAL BACKFILL SHALL BE CLASS I-A WORKED BY HAND, OR CLASS I-B OR CLASS II COMPACTED TO 85% STANDARD PROCTOR.
4. INITIAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS III COMPACTED TO 90% STANDARD PROCTOR.
5. FINAL BACKFILL SHALL BE CLASS I, II, OR III COMPACTED AS NOTED IN NOTES 3. AND 4.
6. FINAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS IV-A COMPACTED TO 95% STANDARD PROCTOR.
7. ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2321-69.
8. ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 8" LOOSE LIFTS IN ACCORDANCE WITH ASTM D 698. CLASS III AND IV-A MATERIALS SHALL BE COMPACTED NEAR OPTIMUM MOISTURE CONTENT.
9. FILL SALVAGED FROM EXCAVATION SHALL BE FREE OF DEBRIS, ORGANICS AND ROCKS LARGER THAN 3".
10. ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED, OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL ORDINANCES. (SEE SPECIFICATIONS)

UTILITY TRENCH AND BEDDING

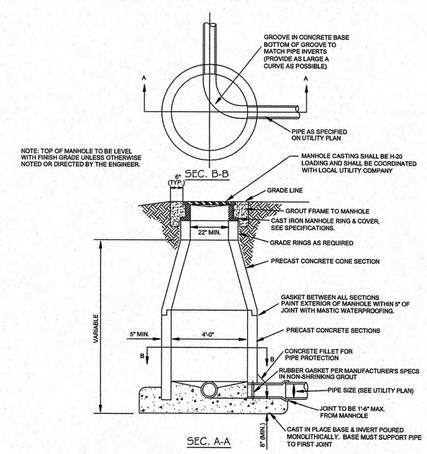
N.T.S.



NOTE:
1. ALL HYDRANTS TO BE SET PLUMB W/ NOZZLE FACING STREET UNLESS OTHERWISE SPECIFIED BY FIRE DEPARTMENT
2. ALL CONCRETE TO BE 2500 PSI P.C. CONCRETE
3. FIRE HYDRANT ASSEMBLY INCLUDES GATE VALVE AND APPURTENANCES

FIRE HYDRANT ASSEMBLY

N.T.S.



PRECAST SANITARY SEWER MANHOLE

N.T.S.

SITE INCORPORATED
Site Infrastructure Transportation Engineers
2033 Castalia Lane, Suite 101
Knoxville, TN 37932
Phone: (865) 693-5010
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ANNETTE C. HOMMEL
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 00109104
STATE OF TENNESSEE

Site Utility Details

Pinnacle Point Phase II

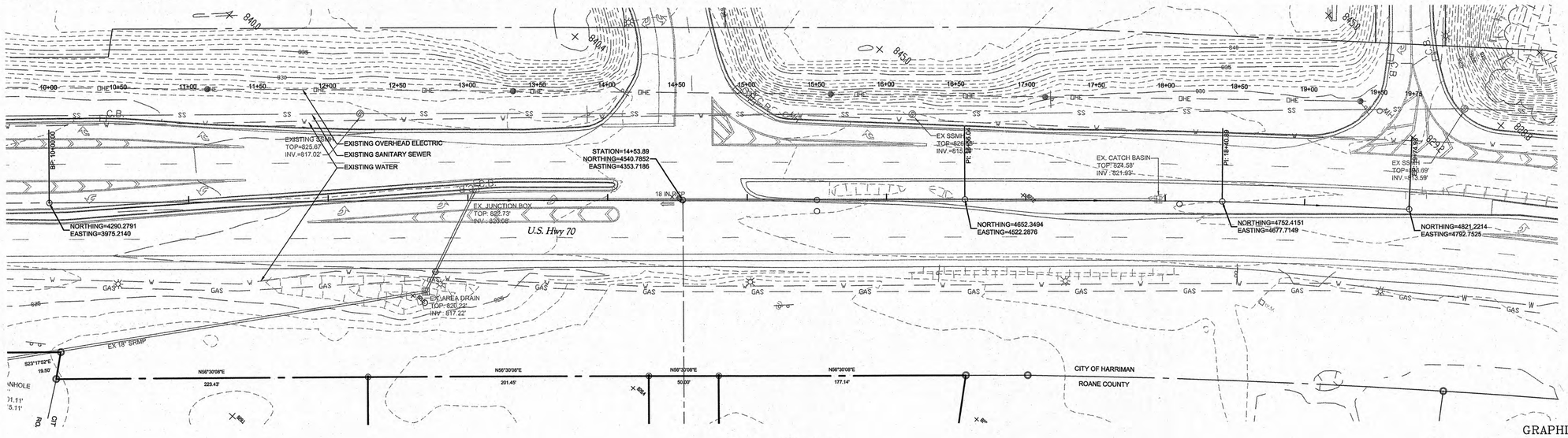
US Highway 70
Harriman, Tennessee

DRAWN BY: ach DATE: 6/3/10
CHECKED BY: --- FILE: 1767 Details

REVISIONS

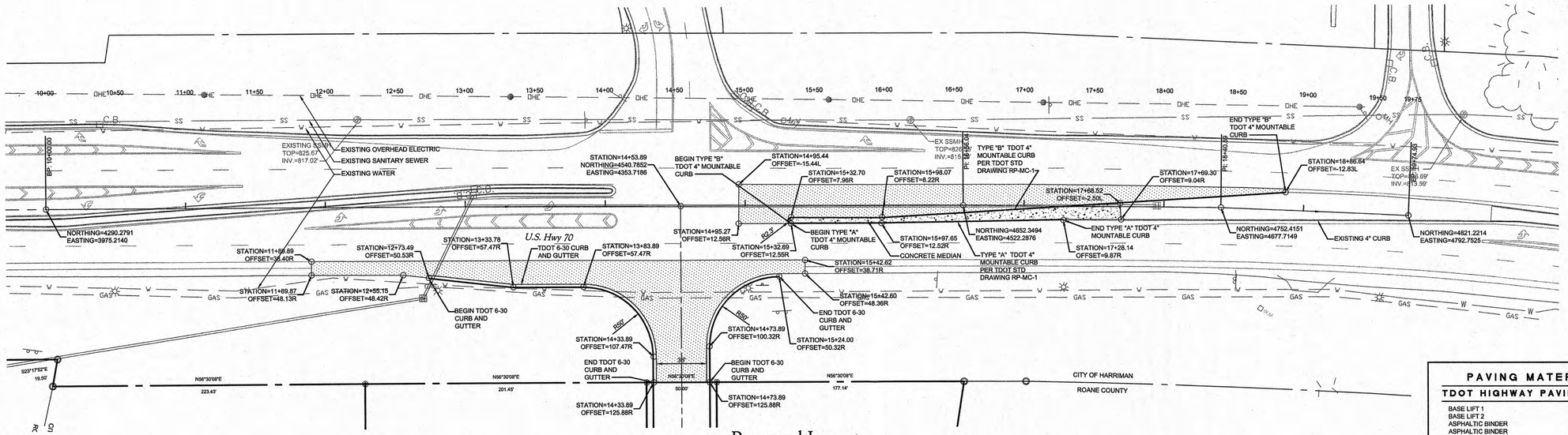
NO.	DATE	COMMENTS

C6.1



Present Layout

1" = 40.00'



Proposed Layout

1" = 40.00'

PAVING MATERIALS SCHEDULE

TDOT HIGHWAY PAVING

BASE LIFT 1	4"	TDOT TYPE A, CLASS A & GRADING D
BASE LIFT 2	4"	TDOT TYPE A, CLASS A & GRADING D
ASPHALTIC BINDER	3.5"	TDOT GRADING A
ASPHALTIC BINDER	2"	TDOT GRADING B-MOD
ASPHALTIC TOPPING	1.25"	TDOT GRADING D

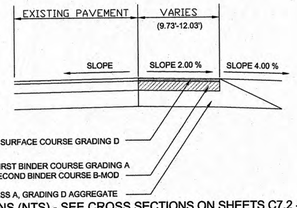
PRIME COAT 0.25 GAL PER SQ. YD. OVER TOP BASE LIFT

CONCRETE MEDIAN

BASE LIFT	4"	TDOT TYPE A, CLASS A & GRADING D
CONCRETE	4"	3500 psi, Type I

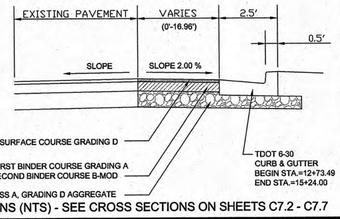
ALL WORK IN TDOT RIGHT-OF-WAY SHALL MEET THE TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, MARCH 1, 2006.

TYPICAL CROSS SECTION
STA 11+89.89 - STA 12+73.49



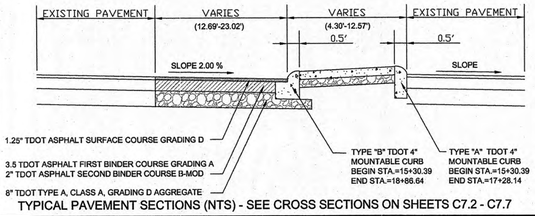
TYP PVMT SECTIONS (NTS) - SEE CROSS SECTIONS ON SHEETS C7.2 - C7.7

TYPICAL CROSS SECTION
STA 12+73.49 - STA 15+24.00



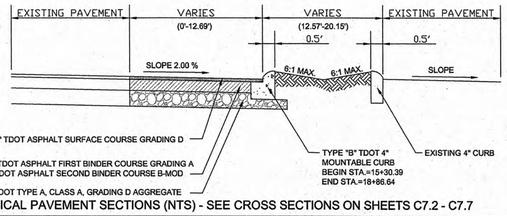
TYP. PVMT SECTIONS (NTS) - SEE CROSS SECTIONS ON SHEETS C7.2 - C7.7

TYPICAL CROSS SECTION
STA 15+30.39 - STA 17+68.52



TYPICAL PAVEMENT SECTIONS (NTS) - SEE CROSS SECTIONS ON SHEETS C7.2 - C7.7

TYPICAL CROSS SECTION
STA 17+68.52 - STA 18+86.64



TYPICAL PAVEMENT SECTIONS (NTS) - SEE CROSS SECTIONS ON SHEETS C7.2 - C7.7

STE INCORPORATED
Site Infrastructure Transportation Engineers
2033 Castate Lane, Suite 101 Knoxville, TN 37932
Phone: (865) 693-5010 Fax: (865) 693-5668

ANNETTE C. HOMAN
REGISTERED ENGINEER
AGRICULTURE
No. 00101974
STATE OF TENNESSEE

US Highway 70 - Present and Proposed

Pinnacle Point Phase II

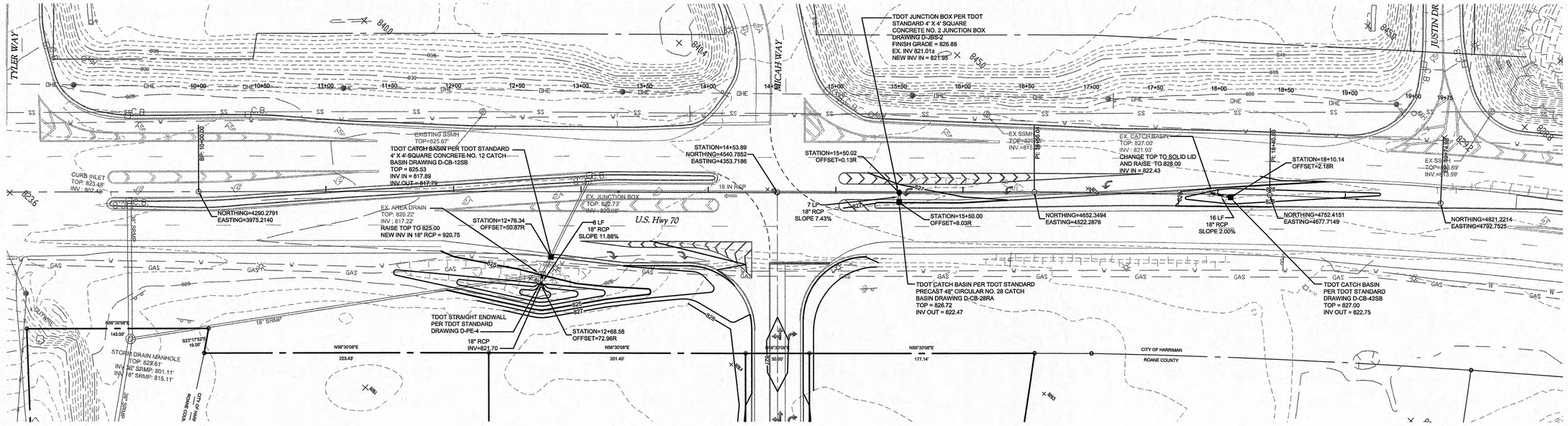
US Highway 70
Harriman, Tennessee

DRAWN BY: ach DATE: 5/11/10
CHECKED BY: --- FILE: 1767 US 70

REVISIONS

NO.	DATE	COMMENTS

C7.0



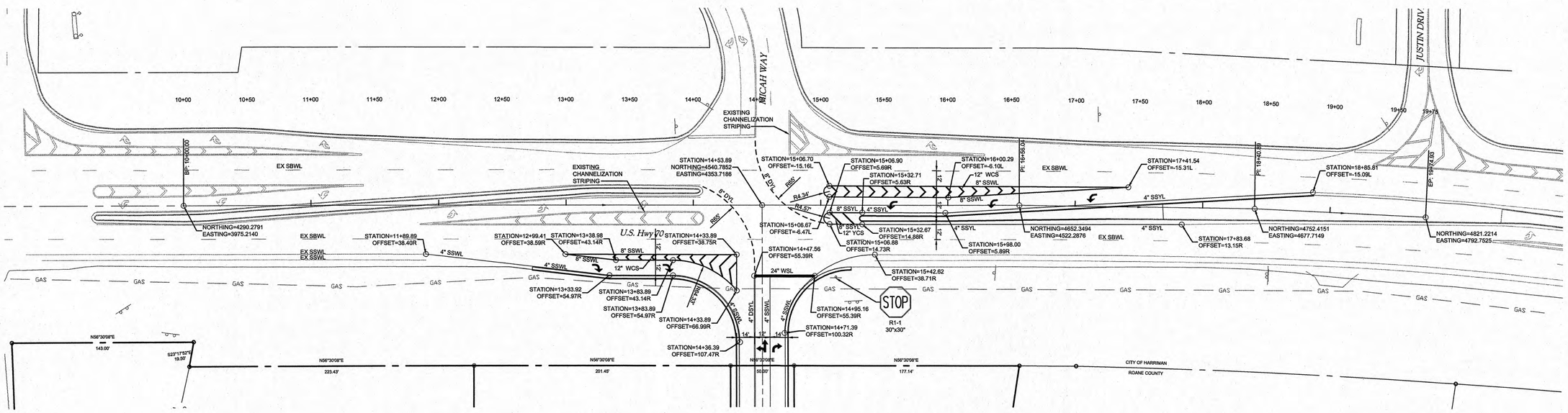
Grading and Drainage Plan

1" = 40.00'

GRAPHIC SCALE

(IN FEET)
1 inch = 40 ft.

North



Striping Plan

1" = 40.00'

ABBREVIATIONS

DSYL - DOUBLE SOLID YELLOW LINE
SSWL - SINGLE SOLID WHITE LINE
SSYL - SINGLE SOLID YELLOW LINE
SBWL - SINGLE BROKEN WHITE LINE
DYL - DOTTED YELLOW LINE
WCS - WHITE CHANNELIZING STRIPING
YCS - YELLOW CHANNELIZING STRIPING
WSL - WHITE STOP LINE (24")

NOTES

1. ALL WORK IN TDOT RIGHT-OF-WAY SHALL MEET THE TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, MARCH 1, 2006
2. CONTRACTOR SHALL REMOVE ALL EXISTING PAVEMENT MARKINGS THAT DO NOT CONFORM TO TDOT STANDARDS FOR MODIFIED INTERSECTION.
3. ALL PAVEMENT MARKINGS SHALL BE 125 MIL THERMOPLASTIC.
4. TEMPORARY PAVEMENT LINE MARKINGS ON INTERMEDIATE LAYERS OF PAVEMENT SHALL BE REFLECTIVE TAPE OR REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS BEFORE DARK HOURS. SHORT, UNMARKED SECTIONS SHALL NOT BE ALLOWED.
5. ALL LINES SHALL BE 4" WIDE UNLESS OTHERWISE NOTED.
6. ALL MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE MUTCD AND TDOT STANDARD DRAWINGS T-M-1 THROUGH T-M-4.

Know what's below. Call before you dig.

SITE INCORPORATED
Site Infrastructure Transportation Engineers
2033 Castaic Lane, Suite 101 Knoxville, TN 37932
Phone: (865) 693-5010 Fax: (865) 693-5868

ANNETTE C. HOMMEL
REGISTERED ENGINEER
AGRICULTURE
NO. 00109104
STATE OF TENNESSEE

US Highway 70 - Grading and Drainage & Striping Plan

Pinnacle Point Phase II

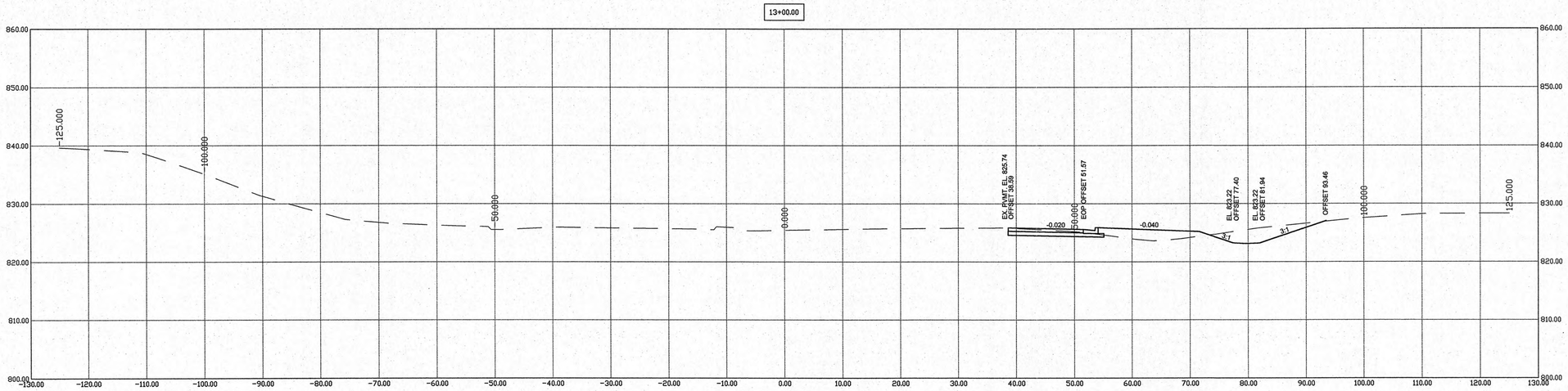
US Highway 70
Harriman, Tennessee

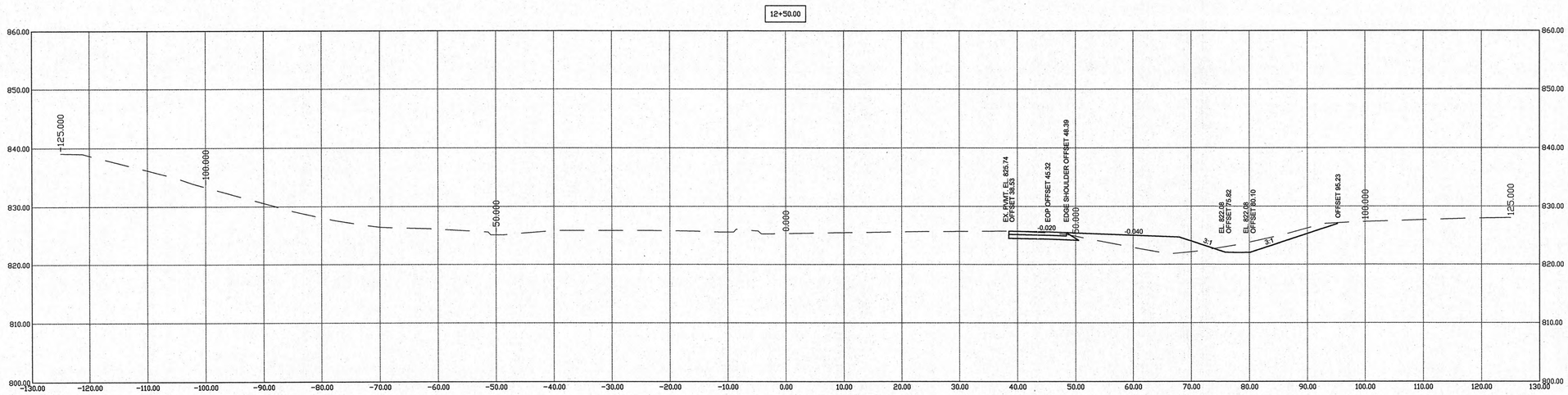
DRAWN BY: gch DATE: 5/11/10
CHECKED BY: --- FILE: 1767 US 70

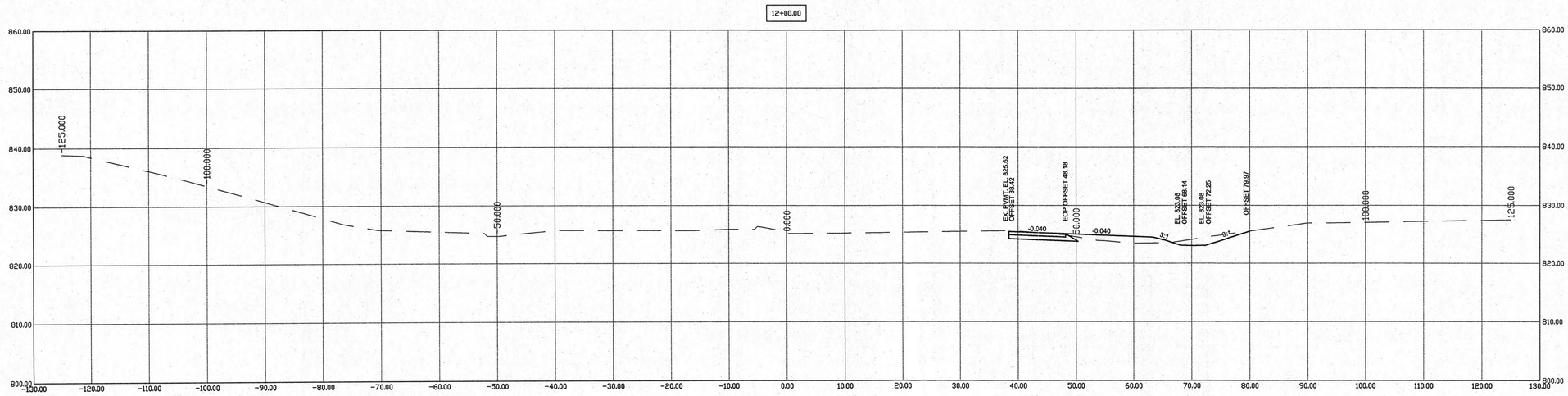
REVISIONS

NO.	DATE	COMMENTS

C7.1







GRAPHIC SCALE

(IN FEET)
1 inch = 10 ft.

Cross Sections

Horizontal Scale: 1" = 10.00'
Vertical Scale: 1" = 10.00'

Know what's below. Call before you dig.

SITE INCORPORATED
Site Infrastructure Transportation Engineers
2033 Cantrell Lane, Suite 101 Knoxville, TN 37932
Phone: (865) 693-5010 Fax: (865) 693-5868

ANNETTE C. HOMMEL
REGISTERED ENGINEER
AGRICULTURE
NEW MEXICO
No. 00 10 5 134
STATE OF TENNESSEE

US Highway 70 - Cross Sections (12+00 - 13+00)

Pinnacle Point Phase II

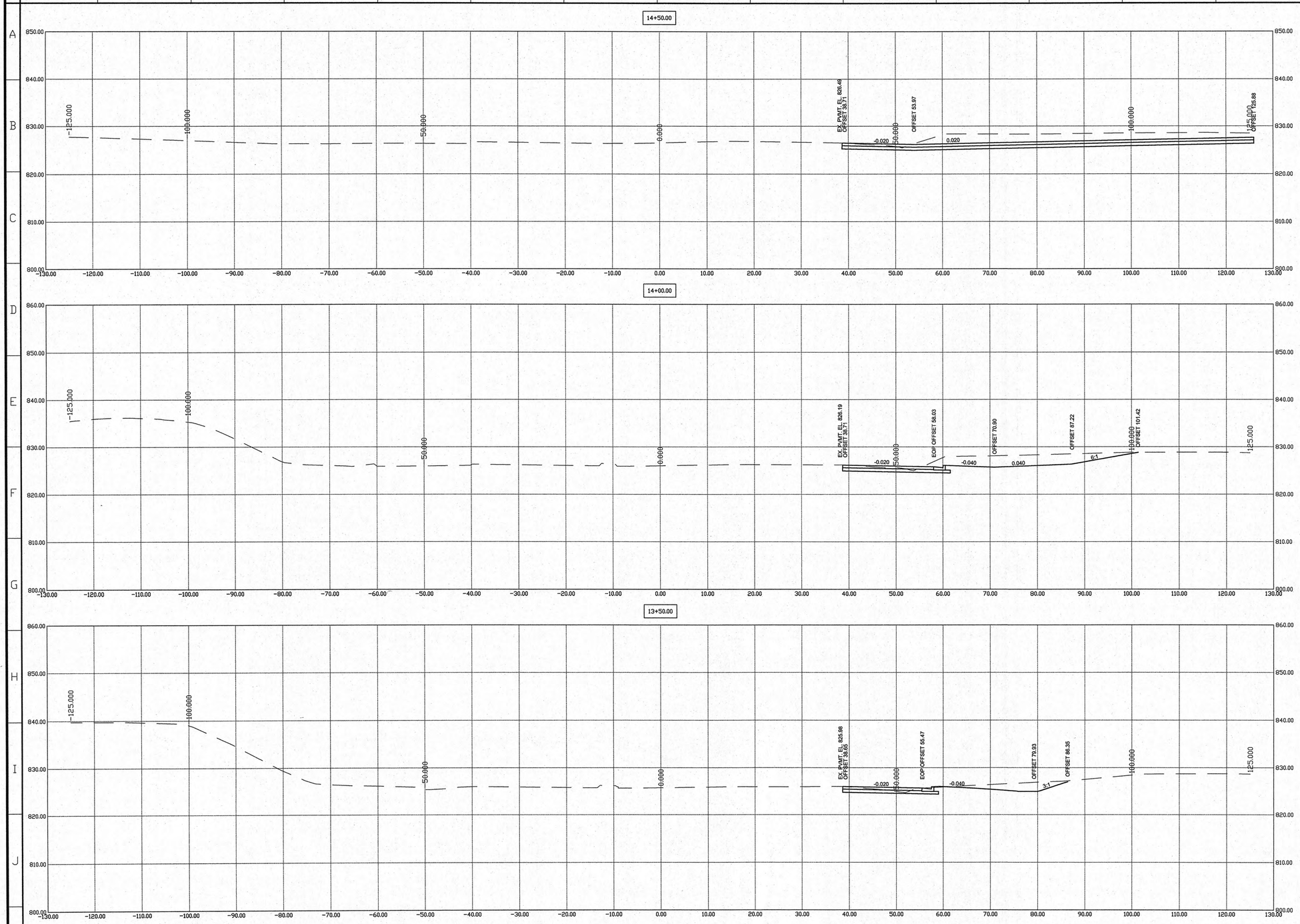
US Highway 70
Harriman, Tennessee

DRAWN BY: gch DATE: 5/11/10
CHECKED BY: --- FILE: 1767 US 70

REVISIONS

NO.	DATE	COMMENTS

C7.2



GRAPHIC SCALE

(IN FEET)
1 inch = 10 ft.

Cross Sections

Horizontal Scale: 1" = 10.00'
Vertical Scale: 1" = 10.00'

Know what's below. Call before you dig.

SIGE INCORPORATED
Site Infrastructure Transportation Engineers
2033 Cassais Lane, Suite 101 Knoxville, TN 37932
Phone: (865) 693-5010 Fax: (865) 693-5868

ANNETTE C. HOMMEL
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
NO. 00109134
STATE OF TENNESSEE

US Highway 70 - Cross Sections (13+50 - 14+50)

Pinnacle Point Phase II

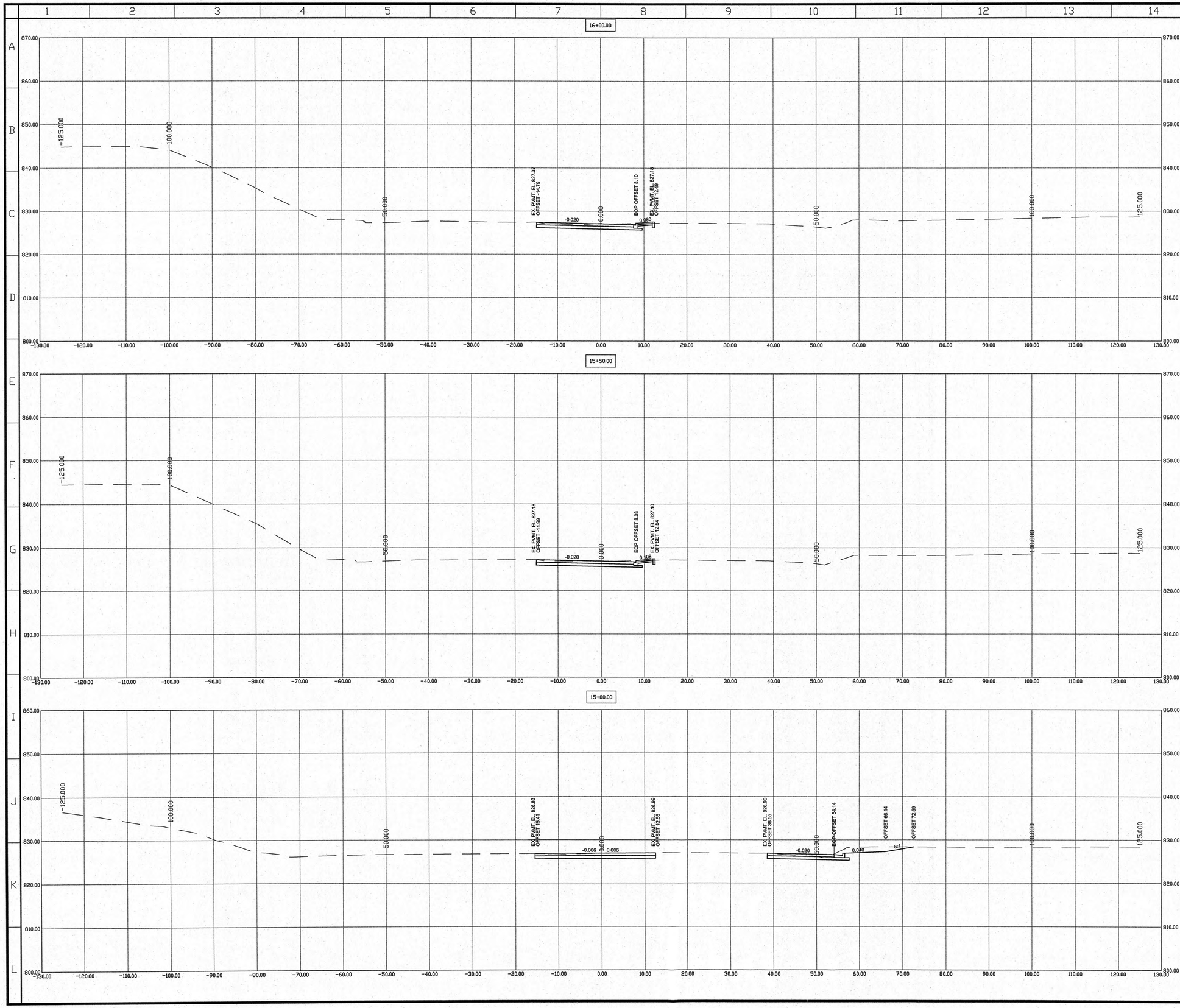
US Highway 70
Harriman, Tennessee

DRAWN BY: och DATE: 5/11/10
CHECKED BY: --- FILE: 1767 US 70

REVISIONS

NO.	DATE	COMMENTS

C7.3



GRAPHIC SCALE

(IN FEET)
1 inch = 10 ft.

Cross Sections

Horizontal Scale: 1" = 10.00'
Vertical Scale: 1" = 10.00'

Know what's below. Call before you dig.

SLR INCORPORATED
Site Infrastructure Transportation Engineers
2033 Castaic Lane, Suite 101
Phone: (865) 693-5010
Knoxville, TN 37932
Fax: (865) 693-5868

ANNETTE C. HOMMEL
REGISTERED ENGINEER
AGRICULTURE
No. 00104154
STATE OF TENNESSEE

US Highway 70 - Cross Sections (15+00 - 16+00)

Pinnacle Point Phase II

US Highway 70
Harriman, Tennessee

DRAWN BY: dch DATE: 5/11/10
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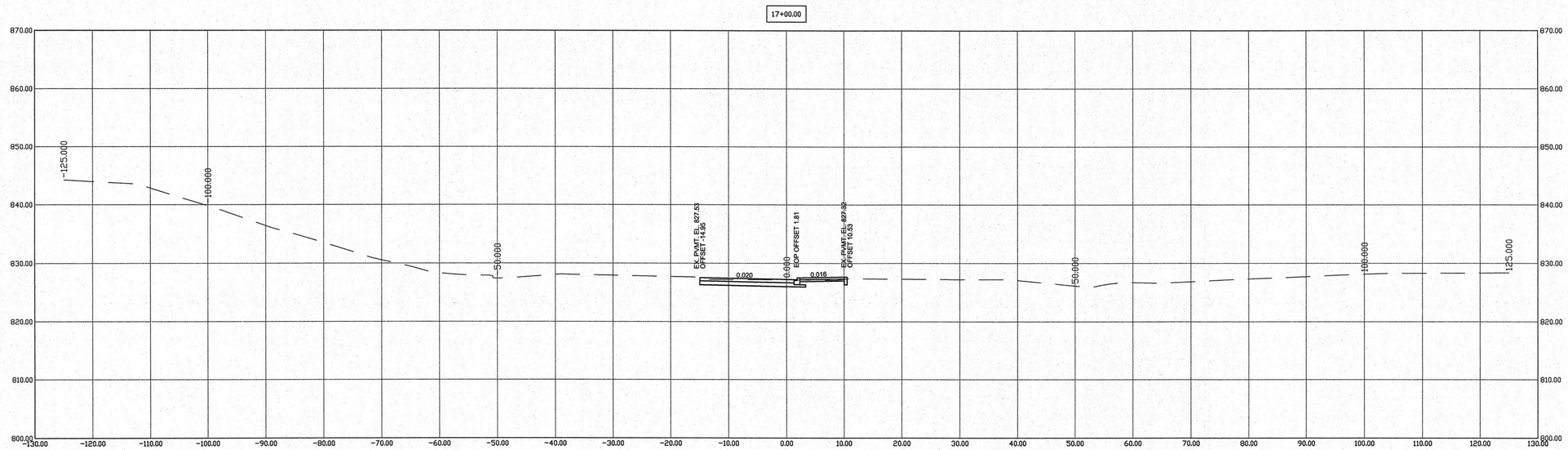
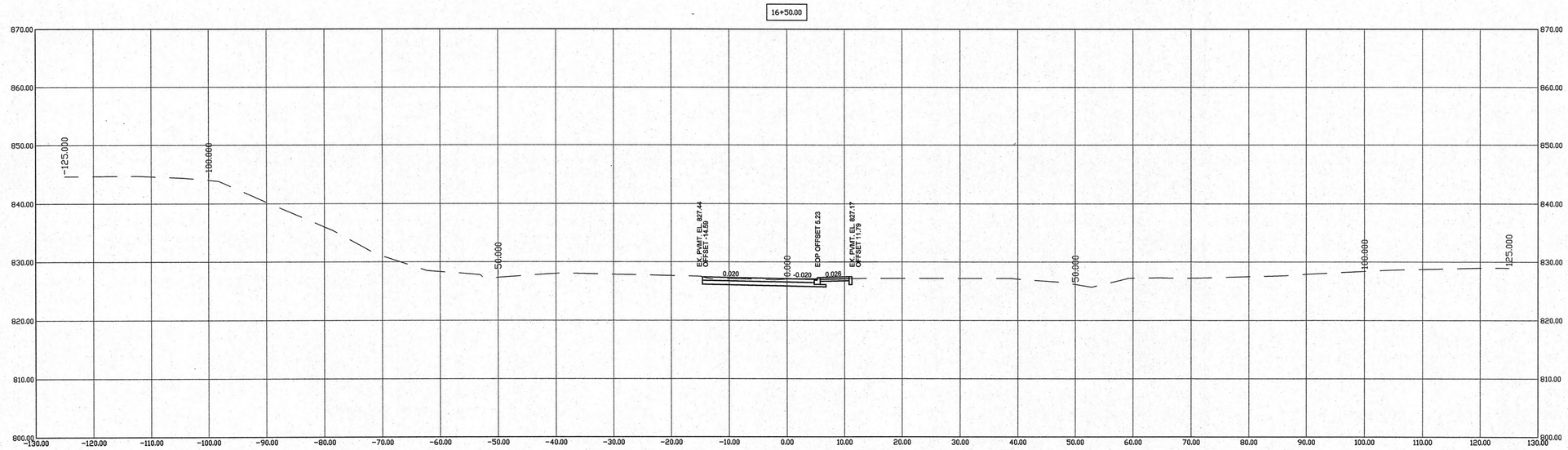
REVISIONS

NO.	DATE	COMMENTS

C7.4





GRAPHIC SCALE

(IN FEET)
1 inch = 10 ft.

Cross Sections

Horizontal Scale: 1" = 10.00'
Vertical Scale: 1" = 10.00'

Know what's below. Call before you dig.

SLE INCORPORATED
Site Infrastructure Transportation Engineers
2033 Castate Lane, Suite 101
Knoxville, TN 37932
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ANNETTE C. HOMMEL
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
NO. 00 069 054
STATE OF TENNESSEE

US Highway 70 - Cross Sections (16+50 - 17+00)

Pinnacle Point Phase II

US Highway 70
Harriman, Tennessee

DRAWN BY: gch DATE: 5/11/10
CHECKED BY: --- FILE: 1767 US 70

REVISIONS

NO.	DATE	COMMENTS

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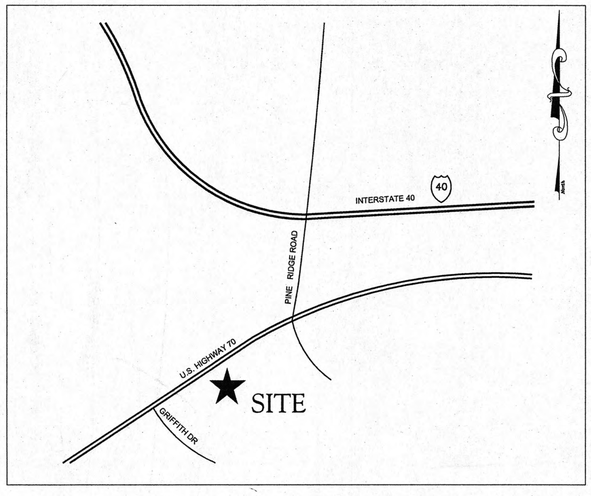

Vicinity Map

NTS

Site Development Plans
for
Pinnacle Point Phase II

SITE DEVELOPMENT DRAWINGS

C0.0	Cover Sheet	06/03/10
C1.0	Boundary and Topographical Survey	03/15/10
C2.0	Storm Water Pollution Prevention Plan - Site Map - Phase I	06/03/10
C2.1	Storm Water Pollution Prevention Plan - Site Map - Phase II	06/03/10
C2.2	Storm Water Pollution Prevention Plan - Site Map - Details	06/03/10
C3.0	Grading and Drainage Plan	06/03/10
C4.0	Site Layout and Paving Plan	06/03/10
C4.1	Road Profiles	06/03/10
C5.0	Site Utility Plan	06/03/10
C5.1	Sanitary Sewer Profile	06/03/10
C6.0	Site Details	06/03/10
C6.1	Site Utility Details	06/03/10
C7.0	U.S. Highway 70 - Present and Proposed	05/11/10
C7.1	U.S. Highway 70 - Grading and Drainage & Stiping Plan	05/11/10
C7.2	U.S. Highway 70 - Cross Sections (12+00 - 13+00)	05/11/10
C7.3	U.S. Highway 70 - Cross Sections (13+50 - 14+50)	05/11/10
C7.4	U.S. Highway 70 - Cross Sections (15+00 - 16+00)	05/11/10
C7.5	U.S. Highway 70 - Cross Sections (16+50 - 17+00)	05/11/10
C7.6	U.S. Highway 70 - Cross Sections (17+50 - 18+00)	05/11/10
C7.7	U.S. Highway 70 - Cross Sections (18+50 - 19+00)	05/11/10

Contacts

Water
Roane Central Utility District
2727 Roane State Highway
Harriman, Tennessee 37748
Phone: (865) 882-5762

Sanitary Sewer
Roane County Public Utilities
123 Post Oak Valley Road
Rockwood, Tennessee 37854
Mike Stout
Phone: (865) 804-7947

Gas
Harriman Utilities Board
300 North Roane Street
Harriman, Tennessee 37748
(865) 882-3242

Telephone
AT&T
9733 Parkside Drive
Knoxville, Tennessee 37922
Phone: (865) 539-8515

Storm Water
City of Harriman
300 Roane Street
Harriman, Tennessee 37748
Phone: (865) 882-9414

Electric
Harriman Utilities Board
300 North Roane Street
Harriman, Tennessee 37748
(865) 882-3242

T.D.O.T.
Region I
7328 Region Lane
Knoxville, Tennessee 37901
Kevin, Furtick
(865) 594-2456

SITE INCORPORATED
Site Infrastructure Transportation Engineers
2033 Cantrell Lane, Suite 101 Knoxville, TN 37932
Phone: (865) 693-5010 Fax: (865) 693-5868

ANNETTE C. HOMMEL
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
00109025
STATE OF TENNESSEE

Cover Sheet

Pinnacle Point Phase II
US Highway 70
Harriman, Tennessee

DRAWN BY: ach DATE: 6/3/10
CHECKED BY: ACH FILE: 1767 Cover

REVISIONS

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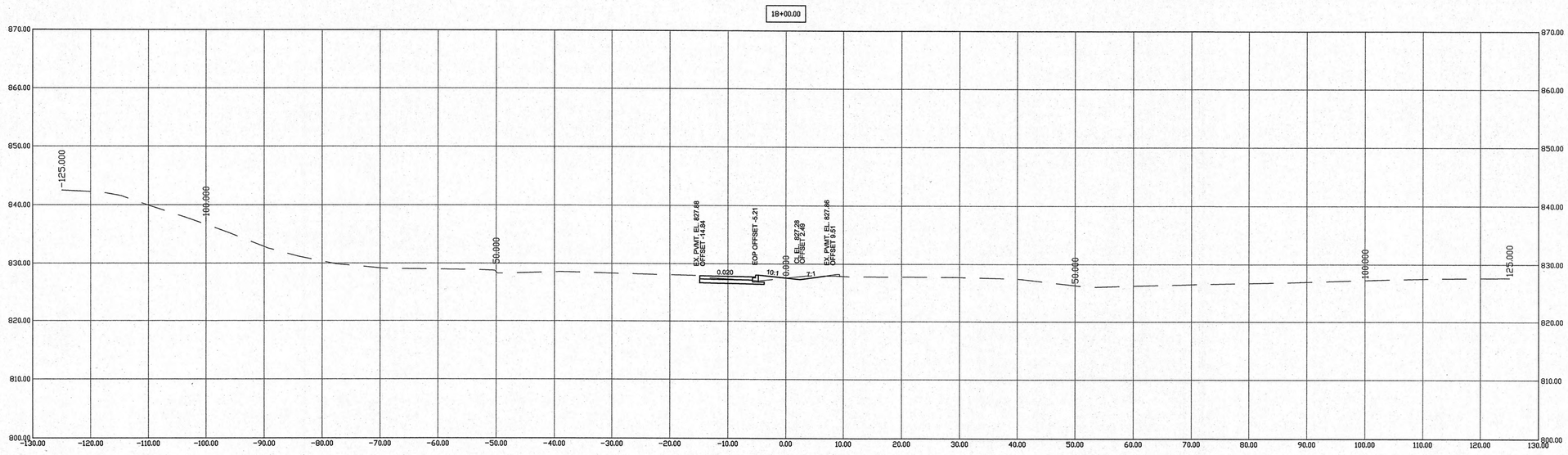

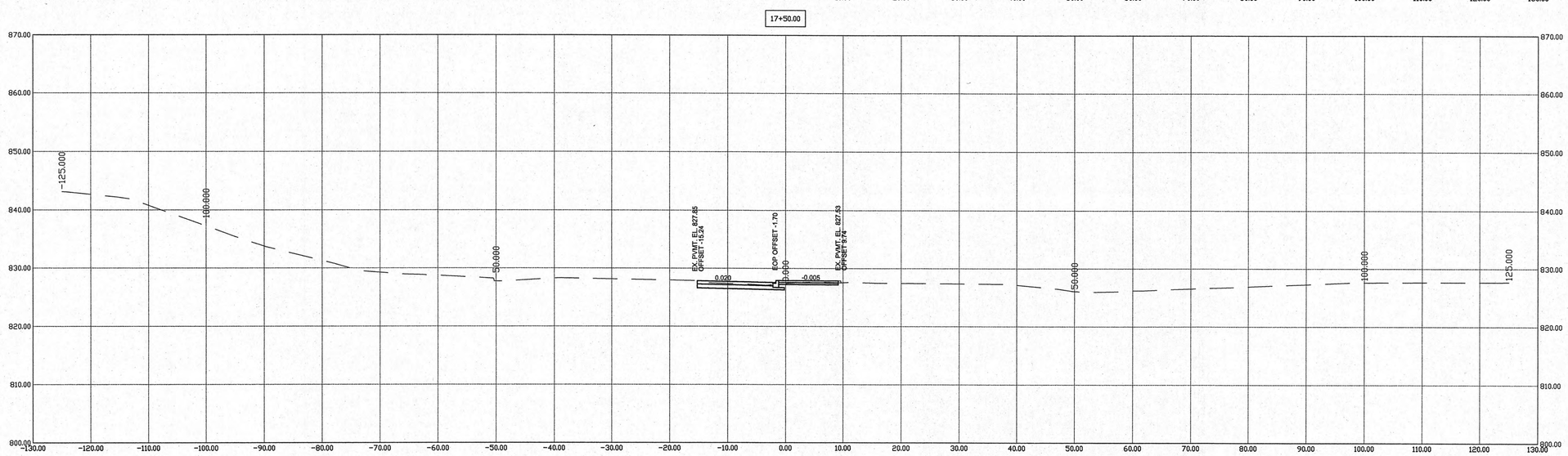

GRAPHIC SCALE

(IN FEET)
1 inch = 10 ft.

Cross Sections

Horizontal Scale: 1" = 10.00'
Vertical Scale: 1" = 10.00'

Know what's below. Call before you dig.

SITE INCORPORATED
Site Infrastructure Transportation Engineers
2033 Castate Lane, Suite 101 Knoxville, TN 37932
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ANNETTE C. HOMMEL
REGISTERED ENGINEER
AGRICULTURE COMMERCE
No. 00109704
STATE OF TENNESSEE
5/11/10

US Highway 70 - Cross Sections (17+50 - 18+00)

Pinnacle Point Phase II

US Highway 70
Harriman, Tennessee

DRAWN BY: ach DATE: 5/11/10
CHECKED BY: --- FILE: 1767 US 70

REVISIONS

NO.	DATE	COMMENTS

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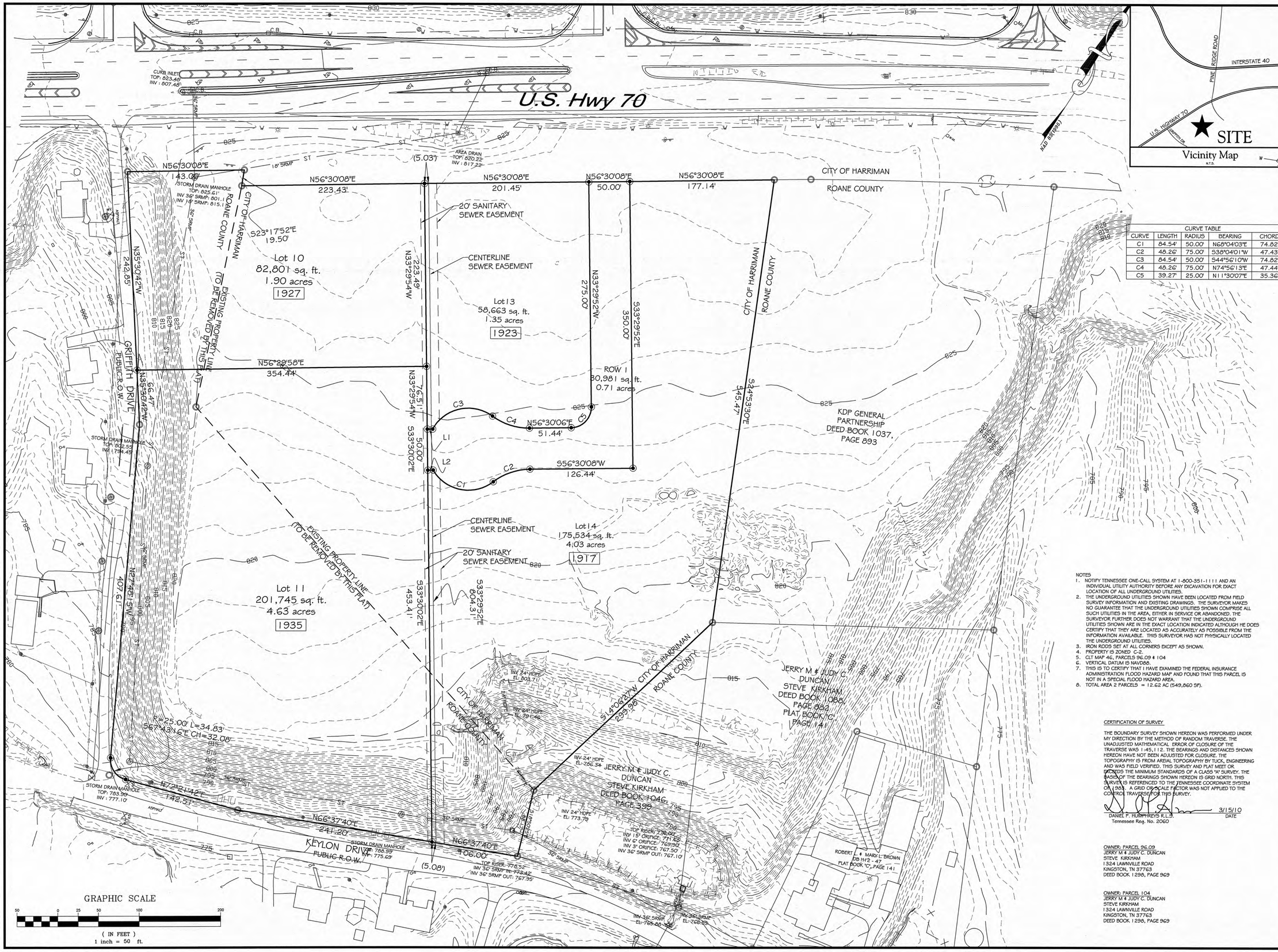

CURVE TABLE				
CURVE	LENGTH	RADIUS	BEARING	CHORD
C1	84.54'	50.00'	N68°04'03"E	74.82'
C2	48.26'	75.00'	S38°04'01"W	47.43'
C3	84.54'	50.00'	S44°56'10"W	74.82'
C4	48.26'	75.00'	N74°56'13"E	47.44'
C5	39.27'	25.00'	N11°30'07"E	35.36'

NOTES

1. NOTIFY TENNESSEE ONE-CALL SYSTEM AT 1-800-351-1111 AND AN INDIVIDUAL UTILITY AUTHORITY BEFORE ANY EXCAVATION FOR EXACT LOCATION OF ALL UNDERGROUND UTILITIES.
2. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THIS SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.
3. IRON RODS SET AT ALL CORNERS EXCEPT AS SHOWN.
4. PROPERTY IS ZONED C-2.
5. CLT MAP 46, PARCELS 96.09 & 104
6. VERTICAL DATUM IS NAVD88.
7. THIS IS TO CERTIFY THAT I HAVE EXAMINED THE FEDERAL INSURANCE ADMINISTRATION FLOOD HAZARD MAP AND FOUND THAT THIS PARCEL IS NOT IN A SPECIAL FLOOD HAZARD AREA.
8. TOTAL AREA 2 PARCELS = 12.62 AC (549,860 SF).

CERTIFICATION OF SURVEY

THE BOUNDARY SURVEY SHOWN HEREON WAS PERFORMED UNDER MY DIRECTION BY THE METHOD OF RANDOM TRAVERSE. THE UNADJUSTED MATHEMATICAL ERROR OF CLOSURE OF THE TRAVERSE WAS 1:45,112. THE BEARINGS AND DISTANCES SHOWN HEREON HAVE NOT BEEN ADJUSTED FOR CLOSURE. THE TOPOGRAPHY IS FROM AREIAL TOPOGRAPHY BY TUCK ENGINEERING AND WAS FIELD VERIFIED. THIS SURVEY AND PLAT MEET OR EXCEEDS THE MINIMUM STANDARDS OF A CLASS "A" SURVEY. THE BASIS OF THE BEARINGS SHOWN HEREON IS GRID NORTH. THIS SURVEY IS REFERENCED TO THE TENNESSEE COORDINATE SYSTEM OF 1983. A GRID OR SCALE FACTOR WAS NOT APPLIED TO THE CONTROL TRAVERSE FOR THIS SURVEY.

DANIEL P. HUMPHREYS R.L.S. — 3/15/10 DATE
Tennessee Reg. No. 2060

OWNER: PARCEL 96.09
JERRY M & JUDY C. DUNCAN
STEVE KIRKHAM
1324 LAWNVILLE ROAD
KINGSTON, TN 37763
DEED BOOK 1298, PAGE 969

OWNER: PARCEL 104
JERRY M & JUDY C. DUNCAN
STEVE KIRKHAM
1324 LAWNVILLE ROAD
KINGSTON, TN 37763
DEED BOOK 1298, PAGE 969

SITE INCORPORATED
Site Infrastructure Transportation Engineers
2033 Castaic Lane, Suite 101 Knoxville, TN 37932
Phone: (865) 693-5010 Fax: (865) 693-5868

DANIEL P. HUMPHREYS REGISTERED ENGINEER AND LICENSED LAND SURVEYOR COMMERCE 3/15/10 TENNESSEE NO. 2060

Boundary and Topographical Survey of
Physicians Plaza of Roane County
U.S. Hwy 70
Roane County, City of Harriman, Tennessee

DRAWN BY: DPH DATE: 3/15/10
CHECKED BY: DPH FILE: 11975outh

REVISIONS

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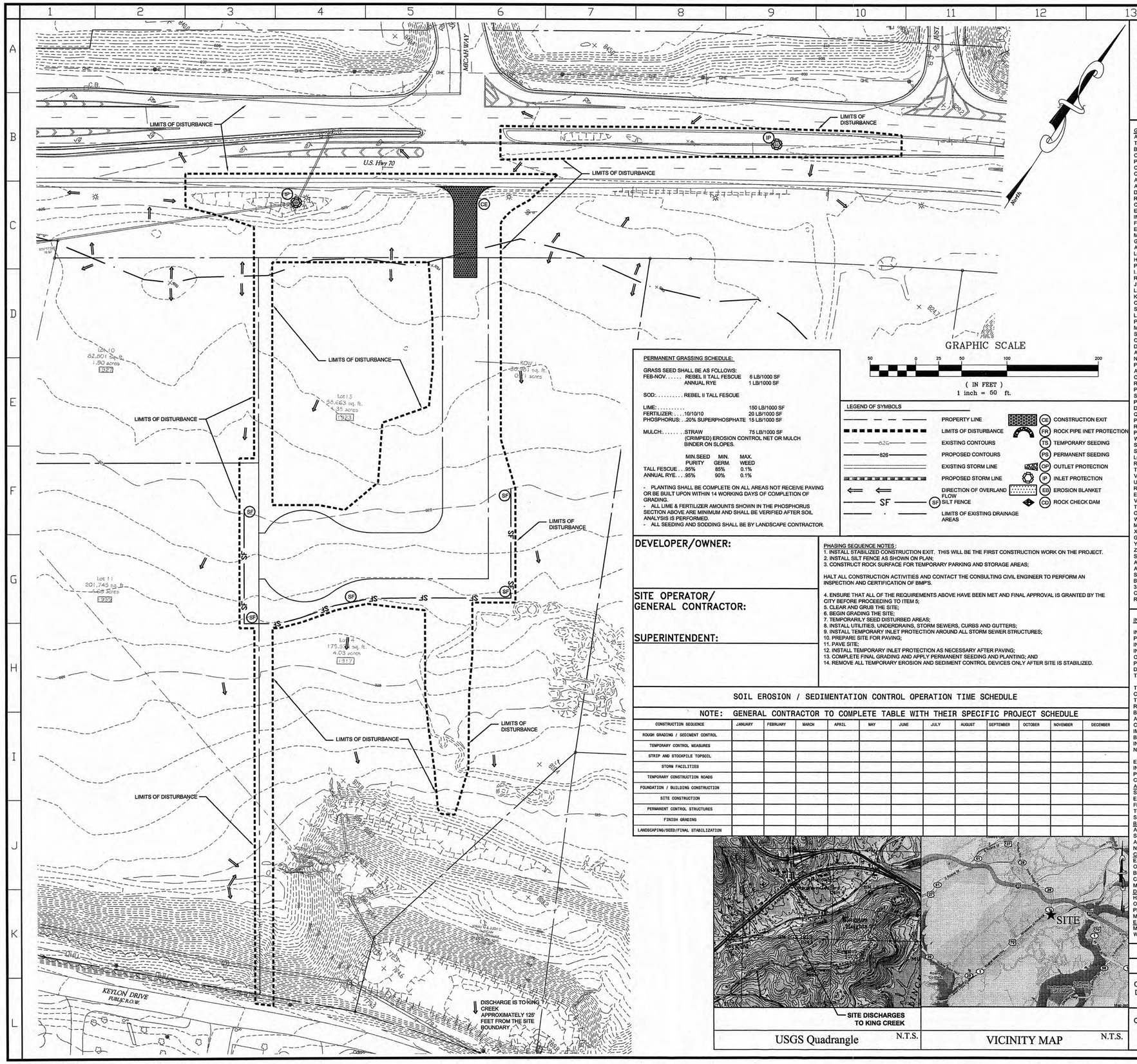

PERMANENT GRASSING SCHEDULE:

GRASS SEED SHALL BE AS FOLLOWS:

FEB-NOV.	REBEL II TALL FESCUE	6 LB/1000 SF
	ANNUAL RYE	1 LB/1000 SF

SOD: . . . . . REBEL II TALL FESCUE

LIME:		150 LB/1000 SF
FERTILIZER:	10/10/10	20 LB/1000 SF
PHOSPHORUS:	20% SUPERPHOSPHATE	15 LB/1000 SF
MULCH:	STRAW	75 LB/1000 SF
	(CRIMPED) EROSION CONTROL NET OR MULCH BINDER ON SLOPES.	

	MIN.SEED PURITY	MIN. GERM.	MAX. WEED
TALL FESCUE. . .	95%	85%	0.1%
ANNUAL RYE. . . .	95%	90%	0.1%

- 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 PERFORMED.
- ALL SEEDING AND SODDING SHALL BE BY LANDSCAPE CONTRACTOR.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

LEGEND OF SYMBOLS

PROPERTY LINE	CE CONSTRUCTION EXIT
LIMITS OF DISTURBANCE	FR ROCK PIPE INET PROTECTION
826 EXISTING CONTOURS	TS TEMPORARY SEEDING
828 PROPOSED CONTOURS	PS PERMANENT SEEDING
EXISTING STORM LINE	OP OUTLET PROTECTION
PROPOSED STORM LINE	IP INLET PROTECTION
DIRECTION OF OVERLAND FLOW	EB EROSION BLANKET
SF SILT FENCE	CD ROCK CHECK DAM
LIMITS OF EXISTING DRAINAGE AREAS	

DEVELOPER/OWNER:

SITE OPERATOR/ GENERAL CONTRACTOR:

SUPERINTENDENT:

PHASING SEQUENCE NOTES :
1. INSTALL STABILIZED CONSTRUCTION EXIT. THIS WILL BE THE FIRST CONSTRUCTION WORK ON THE PROJECT.
2. INSTALL SILT FENCE AS SHOWN ON PLAN;
3. CONSTRUCT ROCK SURFACE FOR TEMPORARY PARKING AND STORAGE AREAS;

HALT ALL CONSTRUCTION ACTIVITIES AND CONTACT THE CONSULTING CIVIL ENGINEER TO PERFORM AN INSPECTION AND CERTIFICATION OF BMP'S.

4. ENSURE THAT ALL OF THE REQUIREMENTS ABOVE HAVE BEEN MET AND FINAL APPROVAL IS GRANTED BY THE CITY BEFORE PROCEEDING TO ITEM 5;
5. CLEAR AND GRUB THE SITE;
6. BEGIN GRADING THE SITE;
7. TEMPORARILY SEED DISTURBED AREAS;
8. INSTALL UTILITIES, UNDERDRAINS, STORM SEWERS, CURBS AND GUTTERS;
9. INSTALL TEMPORARY INLET PROTECTION AROUND ALL STORM SEWER STRUCTURES;
10. PREPARE SITE FOR PAVING;
11. PAVE SITE;
12. INSTALL TEMPORARY INLET PROTECTION AS NECESSARY AFTER PAVING;
13. COMPLETE FINAL GRADING AND APPLY PERMANENT SEEDING AND PLANTING; AND
14. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES ONLY AFTER SITE IS STABILIZED.

SOIL EROSION / SEDIMENTATION CONTROL OPERATION TIME SCHEDULE

NOTE: GENERAL CONTRACTOR TO COMPLETE TABLE WITH THEIR SPECIFIC PROJECT SCHEDULE

CONSTRUCTION SEQUENCE	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
ROUGH GRADING / SEDIMENT CONTROL												
TEMPORARY CONTROL MEASURES												
STRIP AND STOCKPILE TOPSOIL												
STORM FACILITIES												
TEMPORARY CONSTRUCTION ROADS												
FOUNDATION / BUILDING CONSTRUCTION												
SITE CONSTRUCTION												
PERMANENT CONTROL STRUCTURES												
FINISH GRADING												
LANDSCAPING/SEED/FINAL STABILIZATION												

USGS Quadrangle N.T.S.

VICINITY MAP N.T.S.

EROSION CONTROL NARRATIVE FOR PINNACLE POINT PHASE II, HIGHWAY 70 AT PINE RIDGE ROAD, HARRIMAN, TN:

THE SITE IS LOCATED ON THE SOUTH SIDE OF HIGHWAY 70, WEST OF PINE RIDGE ROAD IN THE CITY OF HARRIMAN, ROANE COUNTY, TENNESSEE. THE LATITUDE IS 35°53'27" NORTH AND LONGITUDE IS 84°32'51" WEST. CONSTRUCTION ACTIVITIES FOR THIS PROJECT IS TO CONSTRUCT A ROAD ITS ASSOCIATED DRAINAGE AND UTILITY INFRASTRUCTURE. THE AREA OF DISTURBANCE WILL BE APPROXIMATELY 2.70 ACRES. THE EXISTING SITE TO BE DISTURBED IS CURRENTLY A GRASSY FIELD WITH GENERALLY LEVEL TOPOGRAPHY. THE EXISTING DRAINAGE PATTERN FOR THE SITE FLOWS TOWARD THE SOUTH. THERE IS AN EXISTING DETENTION POND ON THE SOUTH SIDE OF THE SITE WHERE ALL OF THE POST-DEVELOPED STORM WATER WILL BE DIRECTED. THE PROPERTY TO THE NORTH AND EAST IS COMMERCIAL, TO THE SOUTH AND WEST IS RESIDENTIAL.

SITE DISCHARGE FLOWS TO KING CREEK APPROXIMATELY 125 FT FROM THE SITE BOUNDARY. KING CREEK IS NOT LISTED ON THE 2008 303(D) LIST. KING CREEK DISCHARGES TO THE CLINCH RIVER APPROXIMATELY 3000 FT DOWNSTREAM. THE CLINCH RIVER IS LISTED ON THE 2008 303(D) LIST.

GENERAL EROSION AND SEDIMENTATION CONTROL NOTES:

A. THE STORM WATER POLLUTION PREVENTION PLAN IS COMPRISED OF THIS DRAWING, THE STANDARD DETAILS, THE PLAN NARRATIVE, PLUS THE PERMIT AND ALL SUBSEQUENT REPORTS AND RELATED DOCUMENTS.
B. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE STATE OF TENNESSEE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (NPDES PERMIT) AND BECOME FAMILIAR WITH THEIR CONTENTS.
C. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES (BMP'S) AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
D. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
E. SITE MAP MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.
F. CONTRACTOR SHALL HOLD CLEARING AND GRUBBING TO THE MINIMUM NECESSARY FOR GRADING AND EQUIPMENT OPERATION OR AS REQUIRED BY THE GENERAL PERMIT. CONSTRUCTION SHALL BE SEQUENCED TO MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED AREAS. SEE SEQUENCE OF CONSTRUCTION NOTES.
G. GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES.
H. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) AND MUDDY WATER PUMPED FROM EXCAVATION AND WORK AREAS SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
I. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
J. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPRESSION OPERATIONS IS PROHIBITED.
K. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
L. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE INITIATED AS SOON AS PRACTICABLE.
M. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS STOPPED FOR AT LEAST 14 DAYS, SHALL BE TEMPORARILY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAT 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. PRE-CONSTRUCTION GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED MORE THAN 10 DAYS PRIOR TO GRADING OR EARTH MOVING UNLESS THE AREA IS SEEDED AND/OR MULCHED OR OTHER TEMPORARY GROUND COVER IS INSTALLED.
N. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANDSCAPING PLAN.
O. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.
P. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
Q. OFF-SITE ACCUMULATIONS OF SEDIMENT SHALL BE REMOVED UNLESS IN STREAMS IN WHICH CASE WATER POLLUTION CONTROL SHALL BE CONTACTED.
R. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.
S. ON-SITE & OFF-SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.
T. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
U. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, STRAW BALES, ETC.) TO PREVENT EROSION.
V. ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY. THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.
W. ALL CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
X. EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSTALLED PRIOR TO DISTURBANCE OF EXISTING GROUND COVER. THEY MUST REMAIN IN PLACE AND FUNCTIONAL THROUGHOUT THE CONSTRUCTION PERIOD.
Y. DISCHARGE WATER MUST NOT HAVE AN OBJECTIONABLE COLOR CONTRAST.
Z. SEDIMENT SHALL BE REMOVED FROM SEDIMENT TRAPS, SILT FENCES, SEDIMENTATION PONDS, AND OTHER SEDIMENT CONTROLS AS NECESSARY, AND MUST BE REMOVED WHEN DESIGN CAPACITY IS REDUCED BY 50%.
AA. STORM SEWER SYSTEM SHALL BE INSTALLED AS SOON AS POSSIBLE DURING THE CONSTRUCTION PROCESS, AND ALL RUNOFF SHALL BE DIRECTED TO THE DRAINAGE SYSTEM. THE CONTRACTOR SHALL INSTALL AND MAINTAIN SILT BARRIERS AROUND ALL DRAINAGE STRUCTURES UNTIL ALL CONSTRUCTION HAS BEEN COMPLETED.
BB. A PROTECTIVE BLANKET OR SOIL STABILIZATION MAT SHALL BE INSTALLED ON ALL SLOPES STEEPER THAN 3H:1V.
CC. UPON COMPLETE STABILIZATION OF THE SITE, SILT FENCES AND OTHER TEMPORARY SILT BARRIERS SHALL BE REMOVED OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORM WATER DISCHARGES.

INSPECTIONS AND SYSTEM MAINTENANCE:

INSPECTIONS SHALL BE PERFORMED AT LEAST TWICE EVERY CALENDAR WEEK, AT LEAST 72 HOURS APART. THE PURPOSE OF THE SITE INSPECTION PROCESS IS TO ASSESS PERFORMANCE OF POLLUTANT CONTROLS. THE INSPECTIONS WILL BE CONDUCTED BY THE GENERAL CONTRACTOR'S SITE SUPERINTENDENT. BASED ON THESE INSPECTIONS, THE GENERAL CONTRACTOR WILL DECIDE WHETHER IT IS NECESSARY TO MODIFY THIS SWPPP, ADD OR RELOCATE CONTROLS, OR REVISE OR IMPLEMENT ADDITIONAL BEST MANAGEMENT PRACTICES IN ORDER TO PREVENT POLLUTANTS FROM LEAVING THE SITE VIA STORM WATER RUNOFF. THE GENERAL CONTRACTOR HAS THE DUTY TO CAUSE POLLUTANT CONTROL MEASURES TO BE REPAIRED, MODIFIED, MAINTAINED, SUPPLEMENTED, OR TAKE ADDITIONAL STEPS AS NECESSARY IN ORDER TO ACHIEVE EFFECTIVE POLLUTANT CONTROL.

THE INSPECTION REPORT FORM (APPENDIX C OF THE GENERAL PERMIT) MUST IDENTIFY ALL DEFICIENCIES, ANY CORRECTIONS, WHETHER THEY ARE IDENTIFIED DURING THE CURRENT INSPECTION OR HAVE OCCURRED SINCE THE PREVIOUS INSPECTION, AND ANY ADDITIONAL COMMENTS. FOR INSPECTIONS FOLLOWING A 0.5" OR HIGHER RAIN EVENT, REPORT SHALL CLEARLY NOTE THE RAINFALL TOTAL AS MEASURED IN THE ON-SITE RAIN GAUGE. BASED ON INSPECTION RESULTS, ANY MODIFICATION NECESSARY TO INCREASE EFFECTIVENESS OF THIS SWPPP TO AN ACCEPTABLE LEVEL MUST BE MADE WITHIN 48 HOURS OF THE INSPECTION. THE INSPECTION REPORTS MUST BE COMPLETE AND ADDITIONAL REMARKS SHOULD BE INCLUDED IF NEEDED TO FULLY DESCRIBE A SITUATION. AN IMPORTANT ASPECT OF THE INSPECTION REPORT IS THE DESCRIPTION OF ADDITIONAL MEASURES THAT NEED TO BE TAKEN TO ENHANCE PLAN EFFECTIVENESS. THE INSPECTION REPORT MUST IDENTIFY WHETHER THE SITE WAS IN COMPLIANCE WITH THE SWPPP AT THE TIME OF INSPECTION AND SPECIFICALLY IDENTIFY ALL INCIDENTS OF NON-COMPLIANCE.

EXAMPLES OF SPECIFIC ITEMS TO EVALUATE DURING SITE INSPECTIONS ARE LISTED BELOW. THIS LIST IS NOT INTENDED TO BE COMPREHENSIVE. DURING EACH INSPECTION, THE INSPECTOR MUST EVALUATE OVERALL POLLUTANT CONTROL SYSTEM PERFORMANCE AS WELL AS PARTICULAR DETAILS OF INDIVIDUAL SYSTEM COMPONENTS. ADDITIONAL FACTORS SHOULD BE CONSIDERED AS APPROPRIATE TO THE CIRCUMSTANCES.
A. LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE MUST BE INSPECTED FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING. A STABILIZED CONSTRUCTION EXIT SHALL BE CONSTRUCTED WHERE VEHICLES ENTER AND EXIT. EXITS SHALL BE MAINTAINED OR SUPPLEMENTED AS NECESSARY TO PREVENT THE RELEASE OF SEDIMENT FROM VEHICLES LEAVING THE SITE. ANY SEDIMENT DEPOSITED ON THE ROADWAY SHALL BE SWEPT AS NECESSARY THROUGHOUT THE DAY OR AT THE END OF EVERY DAY AND DISPOSED OF IN AN APPROPRIATE MANNER. SEDIMENT SHALL NOT BE WASHED INTO STORM SEWER SYSTEMS.
B. SEDIMENT BARRIERS, TRAPS AND BASINS MUST BE INSPECTED AND THEY MUST BE CLEANED OUT AT SUCH TIME AS THEIR ORIGINAL CAPACITY HAS BEEN REDUCED BY 50 PERCENT. ALL MATERIAL EXCAVATED FROM BEHIND SEDIMENT BARRIERS OR IN TRAPS AND BASINS SHALL BE INCORPORATED INTO ON-SITE SOILS OR SPREAD OUT ON AN UPLAND PORTION OF THE SITE AND STABILIZED. ADDITIONAL SEDIMENT BARRIERS MUST BE CONSTRUCTED AS NEEDED.
C. INSPECTIONS SHALL EVALUATE DISTURBED AREAS AND AREAS USED FOR STORING MATERIALS THAT ARE EXPOSED TO RAINFALL FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM OR DISCHARGING FROM THE SITE. IF NECESSARY, THE MATERIALS MUST BE COVERED OR ORIGINAL COVERS MUST BE REPAIRED OR SUPPLEMENTED. ALSO, PROTECTIVE BERMS MUST BE CONSTRUCTED, IF NEEDED, IN ORDER TO CONTAIN RUNOFF FROM MATERIAL STORAGE AREAS. ALL STATE AND LOCAL REGULATIONS PERTAINING TO MATERIAL STORAGE AREAS WILL BE ADHERED TO.
D. GRASSED AREAS SHALL BE INSPECTED TO CONFIRM THAT A HEALTHY STAND OF GRASS IS MAINTAINED. THE SITE HAS ACHIEVED FINAL STABILIZATION ONCE ALL AREAS ARE COVERED WITH BUILDING FOUNDATION OR PAVEMENT, OR HAVE A STAND OF GRASS WITH AT LEAST 70 PERCENT DENSITY OR GREATER IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS. THE VEGETATIVE DENSITY MUST BE MAINTAINED TO BE CONSIDERED STABILIZED. AREAS MUST BE WATERED, FERTILIZED, AND RESEEDED AS NEEDED TO ACHIEVE THIS REQUIREMENT.
E. ALL DISCHARGE POINTS MUST BE INSPECTED TO DETERMINE WHETHER EROSION AND SEDIMENT CONTROL MEASURES ARE EFFECTIVE IN PREVENTING DISCHARGE OF SEDIMENT FROM THE SITE OR IMPACTS TO RECEIVING WATERS.

REFER TO SHEET C2.2 FOR EROSION CONTROL DETAILS

ALL CUT OR FILL SLOPES SHALL BE 3:1 OR GREATER.

CONTRACTOR SHALL INSTALL TOPSOIL, PERMANENT GRASS COVER AND MULCH TO ALL DISTURBED AREAS NOT TO BE PAVED OR BUILT UPON WITHIN 14 DAYS OF COMPLETION OF GRADING.

CURRENT VERSIONS OF THIS STORM WATER POLLUTION PREVENTION PLAN, THE NOTICE OF INTENT, AND THE NOTICE OF COVERAGE SHALL BE KEPT ON THE SITE FOR THE DURATION OF THE PROJECT.

SITE INCORPORATED
Site Infrastructure Transportation Engineers
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Phone: (865) 693-5010 Fax: (865) 693-5868

ANNETTE C. HOMMEL
REGISTERED ENGINEER
AGRICULTURE
No. 00109 03
STATE OF TENNESSEE

Storm Water Pollution Prevention Plan - Site Map - Phase I

Pinnacle Point Phase II

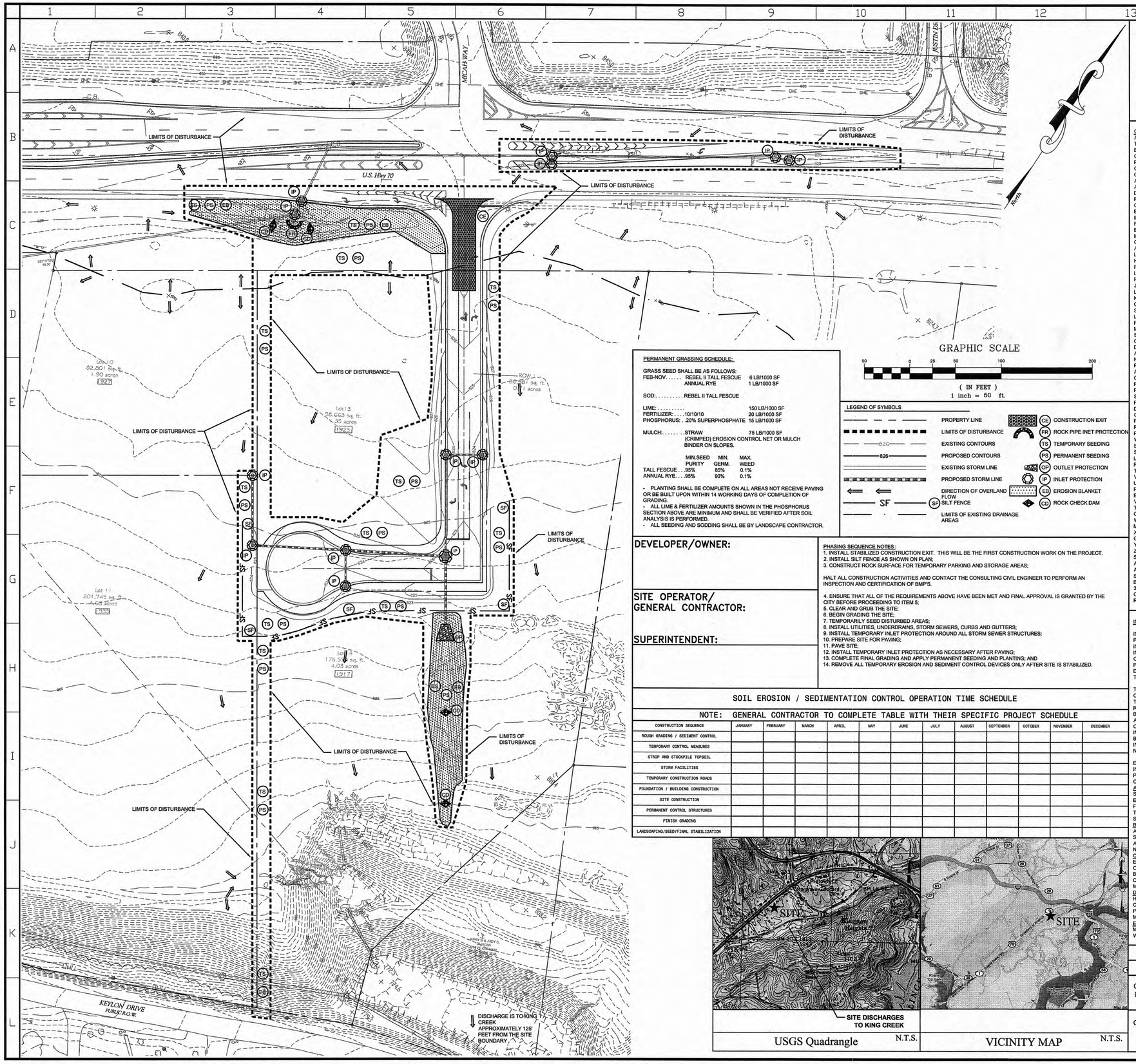
US Highway 70
Harriman, Tennessee

DRAWN BY: ach DATE: 6/3/10
CHECKED BY: --- FILE: 1767 SWPP

REVISIONS

NO.	DATE	COMMENTS

C2.0



GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50 ft.

PERMANENT GRASSING SCHEDULE:

GRASS SEED SHALL BE AS FOLLOWS:
FEB-NOV. . . . . REBEL II TALL FESCUE 6 LB/1000 SF
ANNUAL RYE 1 LB/1000 SF

SOD: . . . . . REBEL II TALL FESCUE

LIME: . . . . . 150 LB/1000 SF
FERTILIZER: . . . . 10/10/10 20 LB/1000 SF
PHOSPHORUS: . . 20% SUPERPHOSPHATE 15 LB/1000 SF

MULCH: . . . . . STRAW 75 LB/1000 SF
(CRIMPED) EROSION CONTROL NET OR MULCH BINDER ON SLOPES.

	MIN.SEED PURITY	MIN. GERM.	MAX. WEED
TALL FESCUE . . .	95%	85%	0.1%
ANNUAL RYE	95%	90%	0.1%

- 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 PERFORMED.
- ALL SEEDING AND SODDING SHALL BE BY LANDSCAPE CONTRACTOR.

LEGEND OF SYMBOLS

	PROPERTY LINE	CE	CONSTRUCTION EXIT
	LIMITS OF DISTURBANCE	FR	ROCK PIPE INET PROTECTION
820	EXISTING CONTOURS	TS	TEMPORARY SEEDING
826	PROPOSED CONTOURS	PS	PERMANENT SEEDING
	EXISTING STORM LINE	OP	OUTLET PROTECTION
	PROPOSED STORM LINE	IP	INLET PROTECTION
	DIRECTION OF OVERLAND FLOW	EB	EROSION BLANKET
SF	SILT FENCE	CD	ROCK CHECK DAM
	LIMITS OF EXISTING DRAINAGE AREAS		

DEVELOPER/OWNER:

SITE OPERATOR/
GENERAL CONTRACTOR:

SUPERINTENDENT:

PHASING SEQUENCE NOTES :
1. INSTALL STABILIZED CONSTRUCTION EXIT. THIS WILL BE THE FIRST CONSTRUCTION WORK ON THE PROJECT.
2. INSTALL SILT FENCE AS SHOWN ON PLAN;
3. CONSTRUCT ROCK SURFACE FOR TEMPORARY PARKING AND STORAGE AREAS;

HALT ALL CONSTRUCTION ACTIVITIES AND CONTACT THE CONSULTING CIVIL ENGINEER TO PERFORM AN INSPECTION AND CERTIFICATION OF BMP'S.

4. ENSURE THAT ALL OF THE REQUIREMENTS ABOVE HAVE BEEN MET AND FINAL APPROVAL IS GRANTED BY THE CITY BEFORE PROCEEDING TO ITEM 5;
5. CLEAR AND GRUB THE SITE;
6. BEGIN GRADING THE SITE;
7. TEMPORARILY SEED DISTURBED AREAS;
8. INSTALL UTILITIES, UNDERDRAINS, STORM SEWERS, CURBS AND GUTTERS;
9. INSTALL TEMPORARY INLET PROTECTION AROUND ALL STORM SEWER STRUCTURES;
10. PREPARE SITE FOR PAVING;
11. PAVE SITE;
12. INSTALL TEMPORARY INLET PROTECTION AS NECESSARY AFTER PAVING;
13. COMPLETE FINAL GRADING AND APPLY PERMANENT SEEDING AND PLANTING; AND
14. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES ONLY AFTER SITE IS STABILIZED.

SOIL EROSION / SEDIMENTATION CONTROL OPERATION TIME SCHEDULE

NOTE: GENERAL CONTRACTOR TO COMPLETE TABLE WITH THEIR SPECIFIC PROJECT SCHEDULE

CONSTRUCTION SEQUENCE	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
ROUGH GRADING / SEDIMENT CONTROL												
TEMPORARY CONTROL MEASURES												
STRIP AND STOCKPILE TOPSOIL												
STORM FACILITIES												
TEMPORARY CONSTRUCTION ROADS												
FOUNDATION / BUILDING CONSTRUCTION												
SITE CONSTRUCTION												
PERMANENT CONTROL STRUCTURES												
FINISH GRADING												
LANDSCAPING/SEED/FINAL STABILIZATION												

USGS Quadrangle N.T.S.

VICINITY MAP N.T.S.

EROSION CONTROL NARRATIVE FOR PINNACLE POINT PHASE II, HIGHWAY 70 AT PINE RIDGE ROAD, HARRIMAN, TN:

THE SITE IS LOCATED ON THE SOUTH SIDE OF HIGHWAY 70, WEST OF PINE RIDGE ROAD IN THE CITY OF HARRIMAN, ROANE COUNTY, TENNESSEE. THE LATITUDE IS 35°53'27" NORTH AND LONGITUDE IS 84°32'51" WEST. CONSTRUCTION ACTIVITIES FOR THIS PROJECT IS TO CONSTRUCT A ROAD ITS ASSOCIATED DRAINAGE AND UTILITY INFRASTRUCTURE. THE AREA OF DISTURBANCE WILL BE APPROXIMATELY 2.70 ACRES. THE EXISTING SITE TO BE DISTURBED IS CURRENTLY A GRASSY FIELD WITH GENERALLY LEVEL TOPOGRAPHY. THE EXISTING DRAINAGE PATTERN FOR THE SITE FLOWS TOWARD THE SOUTH. THERE IS AN EXISTING DETENTION POND ON THE SOUTH SIDE OF THE SITE WHERE ALL OF THE POST-DEVELOPED STORM WATER WILL BE DIRECTED. THE PROPERTY TO THE NORTH AND EAST IS COMMERCIAL, TO THE SOUTH AND WEST IS RESIDENTIAL.

SITE DISCHARGE FLOWS TO KING CREEK APPROXIMATELY 125 FT FROM THE SITE BOUNDARY. KING CREEK IS NOT LISTED ON THE 2008 303(D) LIST. KING CREEK DISCHARGES TO THE CLINCH RIVER APPROXIMATELY 3000 FT DOWNSTREAM. THE CLINCH RIVER IS LISTED ON THE 2008 303(D) LIST.

GENERAL EROSION AND SEDIMENTATION CONTROL NOTES:

A. THE STORM WATER POLLUTION PREVENTION PLAN IS COMPRISED OF THIS DRAWING, THE STANDARD DETAILS, THE PLAN NARRATIVE, PLUS THE PERMIT AND ALL SUBSEQUENT REPORTS AND RELATED DOCUMENTS.
B. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE STATE OF TENNESSEE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (NPDES PERMIT) AND BECOME FAMILIAR WITH THEIR CONTENTS.
C. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES (BMP'S) AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
D. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
E. SITE MAP MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.
F. CONTRACTOR SHALL HOLD CLEARING AND GRUBBING TO THE MINIMUM NECESSARY FOR GRADING AND EQUIPMENT OPERATION OR AS REQUIRED BY THE GENERAL PERMIT. CONSTRUCTION SHALL BE SEQUENCED TO MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED AREAS. SEE SEQUENCE OF CONSTRUCTION NOTES.
G. GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES.
H. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) AND MUDDY WATER PUMPED FROM EXCAVATION AND WORK AREAS SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
I. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
J. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPRESSION OPERATIONS IS PROHIBITED.
K. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
L. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS PLAN, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE INITIATED AS SOON AS PRACTICABLE.
M. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS STOPPED FOR AT LEAST 14 DAYS, SHALL BE TEMPORARILY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAT 14 DAYS FROM THE LAST CONSTRUCTION ACTIVITY OCCURING IN THESE AREAS. PRE-CONSTRUCTION GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED MORE THAN 10 DAYS PRIOR TO GRADING OR EARTH MOVING UNLESS THE AREA IS SEEDED AND/OR MULCHED OR OTHER TEMPORARY GROUND COVER IS INSTALLED.
N. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANDSCAPING PLAN.
O. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.
P. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
Q. OFF-SITE ACCUMULATIONS OF SEDIMENT SHALL BE REMOVED UNLESS IN STREAMS IN WHICH CASE WATER POLLUTION CONTROL SHALL BE CONTACTED.
R. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.
S. ON-SITE & OFF-SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.
T. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
U. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, STRAW BALES, ETC.) TO PREVENT EROSION.
V. ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY. THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.
W. ALL CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
X. EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSTALLED PRIOR TO DISTURBANCE OF EXISTING GROUND COVER. THEY MUST REMAIN IN PLACE AND FUNCTIONAL THROUGHOUT THE CONSTRUCTION PERIOD.
Y. DISCHARGE WATER MUST NOT HAVE AN OBJECTIONABLE COLOR CONTRAST.
Z. SEDIMENT SHALL BE REMOVED FROM SEDIMENT TRAPS, SILT FENCES, SEDIMENTATION PONDS, AND OTHER SEDIMENT CONTROLS AS NECESSARY, AND MUST BE REMOVED WHEN DESIGN CAPACITY IS REDUCED BY 50%.
AA. STORM SEWER SYSTEM SHALL BE INSTALLED AS SOON AS POSSIBLE DURING THE CONSTRUCTION PROCESS, AND ALL RUNOFF SHALL BE DIRECTED TO THE DRAINAGE SYSTEM. THE CONTRACTOR SHALL INSTALL AND MAINTAIN SILT BARRIERS AROUND ALL DRAINAGE STRUCTURES UNTIL ALL CONSTRUCTION HAS BEEN COMPLETED.
BB. A PROTECTIVE BLANKET OR SOIL STABILIZATION MAT SHALL BE INSTALLED ON ALL SLOPES STEEPER THAN 3H:1V.
CC. UPON COMPLETE STABILIZATION OF THE SITE, SILT FENCES AND OTHER TEMPORARY SILT BARRIERS SHALL BE REMOVED OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORM WATER DISCHARGES.

INSPECTIONS AND SYSTEM MAINTENANCE:

INSPECTIONS SHALL BE PERFORMED AT LEAST TWICE EVERY CALENDAR WEEK, AT LEAST 72 HOURS APART. THE PURPOSE OF THE SITE INSPECTION PROCESS IS TO ASSESS PERFORMANCE OF POLLUTANT CONTROLS. THE INSPECTIONS WILL BE CONDUCTED BY THE GENERAL CONTRACTOR'S SITE SUPERINTENDENT. BASED ON THESE INSPECTIONS, THE GENERAL CONTRACTOR WILL DECIDE WHETHER IT IS NECESSARY TO MODIFY THIS SWPPP, ADD OR RELOCATE CONTROLS, OR REVISE OR IMPLEMENT ADDITIONAL BEST MANAGEMENT PRACTICES IN ORDER TO PREVENT POLLUTANTS FROM LEAVING THE SITE VIA STORM WATER RUNOFF. THE GENERAL CONTRACTOR HAS THE DUTY TO CAUSE POLLUTANT CONTROL MEASURES TO BE REPAIRED, MODIFIED, MAINTAINED, SUPPLEMENTED, OR TAKE ADDITIONAL STEPS AS NECESSARY IN ORDER TO ACHIEVE EFFECTIVE POLLUTANT CONTROL.

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JANETTE C. HOMMEL
REGISTERED ENGINEER
AGRICULTURE
NO. 00109
STATE OF TENNESSEE

Storm Water Pollution Prevention Plan - Site Map - Phase II

Pinnacle Point Phase II

US Highway 70
Harriman, Tennessee

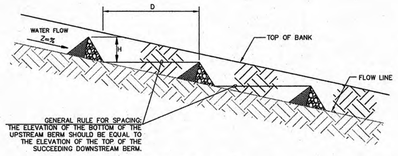
DRAWN BY: cch DATE: 6/3/10
CHECKED BY: --- FILE: 1767 SWPP

REVISIONS

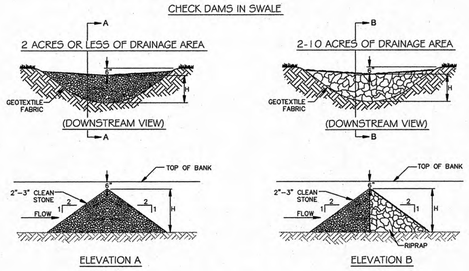
NO.	DATE	COMMENTS

C2.1

NOTE: SEE SITE MAP FOR LOCATION OF CHECK DAM(S).

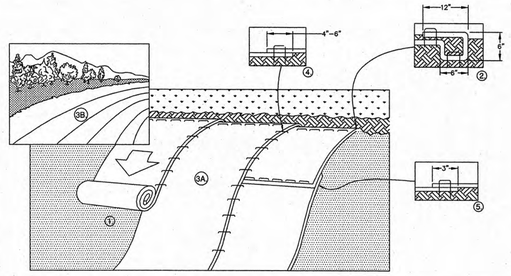


CHECK DAMS IN SWALE



ROCK CHECK DAM

N.T.S.



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH AS SHOWN IN DETAIL.
2. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS PER MANUFACTURES RECOMMENDATION.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH MINIMUM 6" OVERLAP. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.

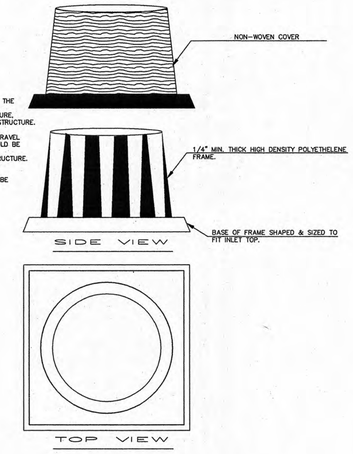
NOTES:
1. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.
2. FOLLOW EROSION CONTROL TECHNOLOGY COUNCIL SPECIFICATION FOR PRODUCT SELECTION.

EROSION CONTROL BLANKET (SLOPE INSTALLATION)

N.T.S.

TYPICAL CONSTRUCTION SEQUENCE FOR DOME FRAME & COVER

1. EXCAVATE APPROXIMATELY 4" TO 6" BELOW THE TOP OF THE INLET STRUCTURE.
2. PLACE THE FRAME ONTO THE INLET STRUCTURE, ENSURING PROPER SEATING OF FRAME TO STRUCTURE.
3. SLIDE THE COVER OVER THE FRAME.
4. FILL THE COVER POCKETS WITH SOIL, #57 GRAVEL OR EQUIVALENT. THE COVER POCKETS SHOULD BE COMPLETELY FILLED TO ENSURE A GOOD SEAL BETWEEN THE GROUND AND INLET STRUCTURE.
5. BACK FILL AROUND THE FRAME AND COVER ASSEMBLY IS NOT REQUIRED TO COMPLETE INSTALLATION; HOWEVER, BACKFILLING MAY BE NECESSARY TO COMPLETE EXCAVATION REQUIREMENTS FOR THE SITE.



DOMED INLET PROTECTION (PREFABRICATED)

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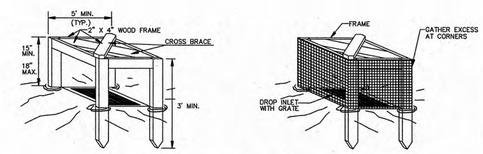

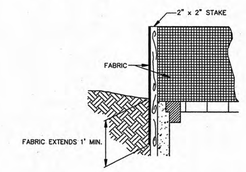

SILT FENCE INLET PROTECTION

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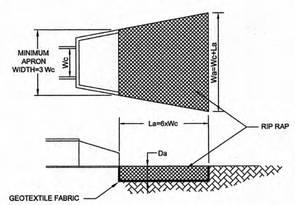

Wc = WIDTH OF CULVERT
La = LENGTH OF RIP-RAP APRON
Wa = WIDTH OF RIPRAP APRON AT END
D(50) = MEDIAN RIPRAP SIZE
D(max) = MAXIMUM SIZE OF RIPRAP = 1.5 x D(50)
Da = DEPTH OF RIP-RAP APRON = 1.5 x D(max)

	D(50) SIZE
Wc = 30" or less	6"
Wc = 36"	8"
Wc = 42"	9"
Wc = 48"	11"
Wc = 54"-60"	12"
Wc = 66"	14"
Wc = 72"	15"

REFER TO TENNESSEE EROSION AND SEDIMENT CONTROL HANDBOOK

RIP-RAP OUTLET PROTECTION

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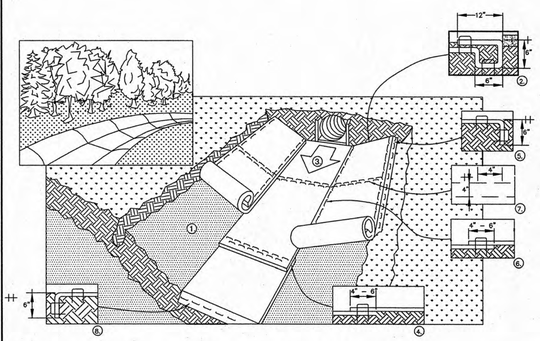
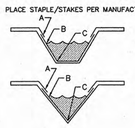


1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12"APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12"PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS PER MANUFACTURER'S RECOMMENDATIONS.
4. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4"-6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE BLANKETS.
5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 4"-6" (DEPENDING ON BLANKET TYPE) AND STAPLED. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE SEAM STITCH ON THE BLANKET BEING OVERLAPPED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FOOT (9m-12m) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
9. PLACE STAPLE/STAKES PER MANUFACTURER'S RECOMMENDATION FOR THE APPROPRIATE CHANNEL FLOW OR SHORELINE APPLICATION.

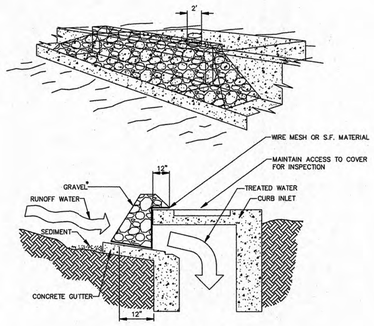


CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

NOTE:
1. HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.
2. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS.
3. FOLLOW EROSION CONTROL TECHNOLOGY COUNCIL SPECIFICATION FOR PRODUCT SELECTION.

EROSION PROTECTION BLANKET (CHANNEL INSTALLATION)

N.T.S.



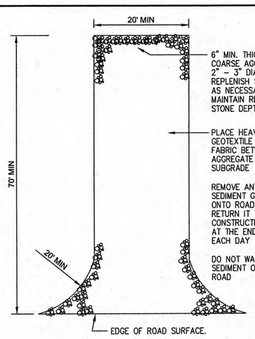
SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE PONDING IN FRONT OF THE STRUCTURE IS NOT LIKELY TO CAUSE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

* GRAVEL SHALL BE 2"-3" CLEAN STONE

GRAVEL CURB INLET SEDIMENT FILTER

N.T.S.



TEMPORARY CONSTRUCTION ENTRANCE

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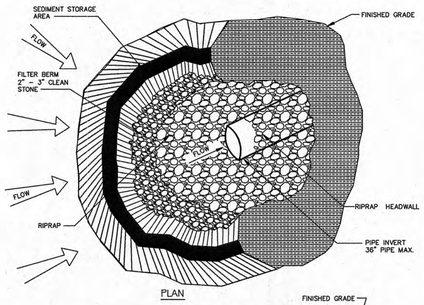
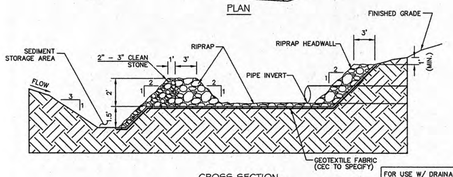


PLAN

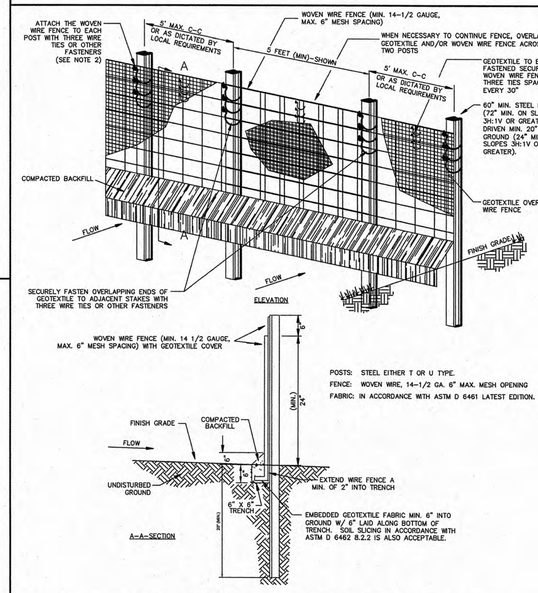


CROSS-SECTION

FOR USE W/ DRAINAGE AREAS LESS THAN 5 ACRES

ROCK PIPE INLET PROTECTION

N.T.S.



POSTS: STEEL EITHER T OR U TYPE.
FENCE: WOVEN WIRE, 14-1/2 GA. 6" MAX. MESH OPENING
FABRIC: IN ACCORDANCE WITH ASTM D 6461 LATEST EDITION.

1. INSTALLATION SHALL COMPLY WITH ASTM D 6462 LATEST EDITION.
2. ATTACH THE WOVEN WIRE FENCE TO EACH POST AND THE GEOTEXTILE TO THE WOVEN WIRE FENCE (SPACED EVERY 30") WITH THREE WIRE TIES OR OTHER FASTENERS, ALL SPACED WITHIN THE TOP 8" OF THE FABRIC. ATTACH EACH TIE DIAGONALLY 45 DEGREES THROUGH THE FABRIC, WITH EACH PUNCTURE AT LEAST 1" VERTICALLY APART. ALSO, EACH TIE PLACED ON A POST SHOULD BE POSITIONED TO HANG ON A POST NIPPLE WHEN TIGHTENED TO PREVENT SAGGING.
3. WHEN TWO SECTIONS OF GEOTEXTILE ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED ACROSS TWO POSTS, 60" MIN. AS SHOWN.
4. MAINTENANCE SHALL BE PERFORMED AS NOTED IN THE SWPPP. DEPTH OF ACCUMULATED SEDIMENTS MAY NOT EXCEED ½ THE HEIGHT OF THE FENCE. MAINTENANCE CLEANOUT MUST BE CONDUCTED REGULARLY TO PREVENT ACCUMULATED SEDIMENTS FROM REACHING ½ THE HEIGHT OF THE FENCE FABRIC ABOVE GRADE.
5. ALL SILT FENCE SHALL INCLUDE WIRE SUPPORT UNLESS THE STATIC SLICING EQUIPMENT IS UTILIZED TO INSTALL THE FENCE PER DETAIL- SILT FENCE INSTALLATION (SLICING METHOD).
6. WRAP APPROXIMATELY 6" OF FABRIC AROUND THE END POSTS AND SECURE WITH 3 TIES.
7. COMPACTING IS VITALLY IMPORTANT FOR EFFECTIVE RESULTS. COMPACT THE SOIL IMMEDIATELY NEXT TO THE SILT FENCE FABRIC WITH THE FRONT WHEEL OF THE TRACTOR, SKID STEER, OR ROLLER EXERTING AT LEAST 60 POUNDS PER SQ. INCH. COMPACT THE UPSTREAM SIDE FIRST, AND THEN EACH SIDE TWICE FOR A TOTAL OF FOUR TRIPS.
8. ADD POST CAPS AS NEEDED BASED ON SITE CONDITIONS AND APPLICABLE AGENCY REQUIREMENTS.

SEDIMENTATION FENCE WITH WIRE SUPPORT

N.T.S.

SITE INCORPORATED
Site Infrastructure Transportation Engineers
2033 Castalia Lane, Suite 101 Knoxville, TN 37932
Phone: (865) 693-5010 Fax: (865) 693-5868

ANNETTE C. HOMMEL
REGISTERED ENGINEER
AGRICULTURE
No. 00009154
STATE OF TENNESSEE

Storm Water Pollution Prevention Plan - Details

Pinnacle Point Phase II

US Highway 70
Harriman, Tennessee

DRAWN BY: ach DATE: 6/3/10
CHECKED BY: --- FILE: 1767 SWPPP

REVISIONS

NO.	DATE	COMMENTS

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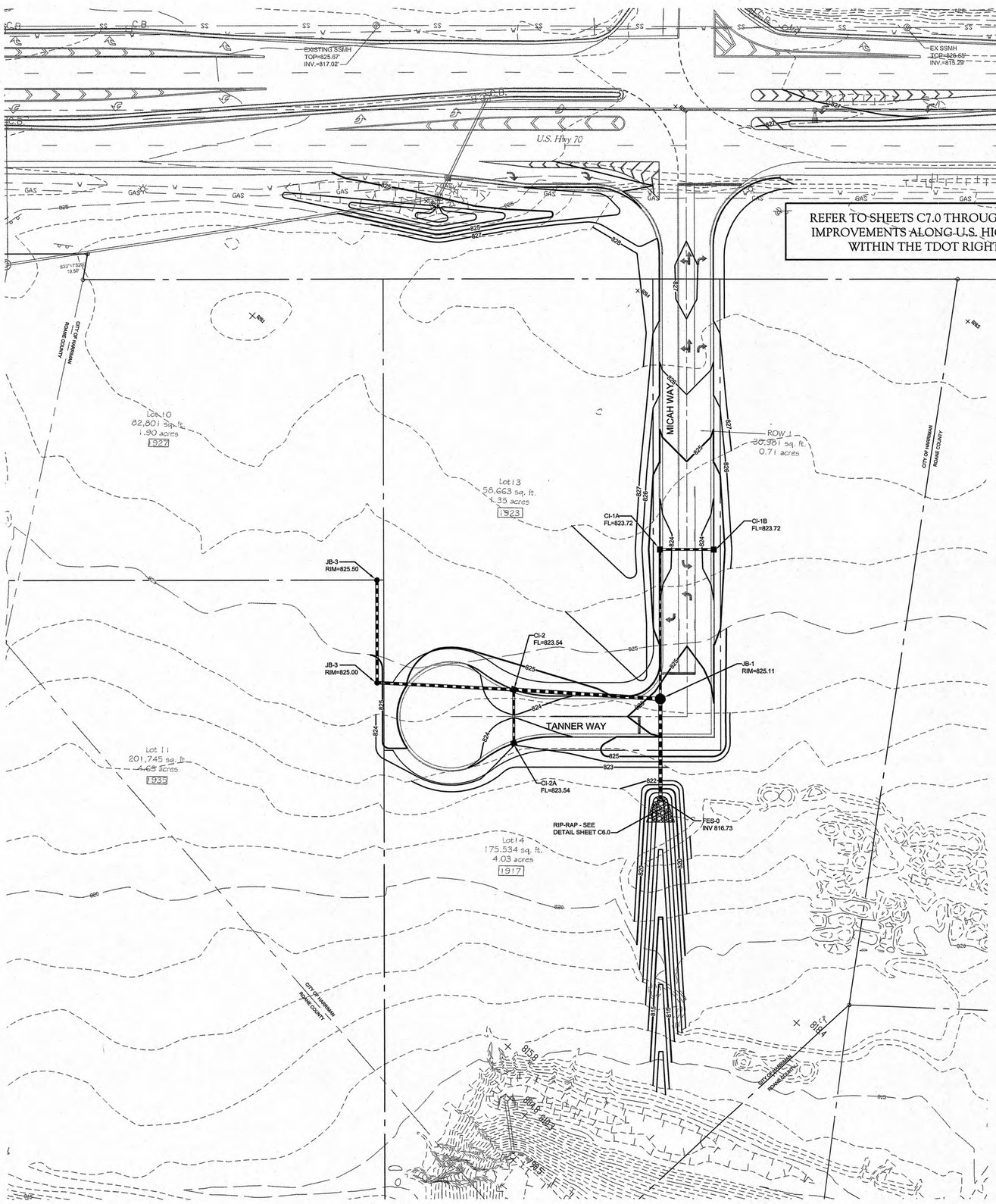


LEGEND:

980	EXISTING CONTOUR LINE
980	PROPOSED CONTOUR LINE
FL	FLOW LINE
EX 18" RCP	EXISTING STORM SEWER PIPE
	PROPOSED STORM SEWER PIPE
	EXISTING CATCH BASIN/JUNCTION BOX
FES	PROPOSED FLARED END SECTION
CI	PROPOSED CURB INLET
JB	PROPOSED JUNCTION BOX

SITE STORM SYSTEM NOTES:

SPIRAL RIB METAL PIPE (SRMP)
18" DIAMETER THROUGH 30" DIAMETER TO BE ALUMINIZED STEEL TYPE 2, 16 GAUGE, 0.064" THICKNESS WITH 3/4" X 3/4" X 7-1/2" EXTERNAL RIBS IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF ASTM A760 (STEEL) UNLESS NOTED OTHERWISE.

ALL PIPING SHALL HAVE "RE-ROLLED ANNULAR ENDS" FOR CONNECTIONS AND USE BANDS AT JOINTS BETWEEN PIPES UNLESS NOTED OTHERWISE.

REINFORCED CONCRETE PIPE (RCP)
ASTM C 76, CLASS III, WALL B (CLASS V UNDER RAILROADS) UNLESS NOTED OTHERWISE, TO BE INSTALLED WITH FLEXIBLE PLASTIC, BITUMEN GASKETS AT JOINTS.

GASKETS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C443 OR "TONGUE AND GROOVE" TYPE FILLED WITH CEMENT MORTAR.

MINIMUM COVER
MINIMUM COVER FROM TOP OF PIPE TO FINISH GRADE SHALL BE 2' - 0".

FIELD APPLIED COATINGS
ALL FERROUS METALS SHALL BE FACTORY COATED.

TOUCH UP ALL FACTORY COATINGS WITH SIMILAR MATERIALS.

CONFLICTS WITH WATER MAINS
WHERE WATER MAINS MUST BE CONSTRUCTED BENEATH THE STORM SEWER DUE TO LACK OF DEPTH ABOVE THE STORM SEWER (WATERLINES MUCH BE LOCATED 18" ABOVE THE STORM SEWER AND SHALL HAVE 4.0' OF COVER OVER THE WATER MAIN) THEN "O-RING" GASKETS SHALL BE USED WITH THE HUGGER BAND COUPLING FOR A DISTANCE OF 10' ON EITHER SIDE OF THE WATERLINE.

STORM PIPE SCHEDULE

Line ID	Line Size/Type (in)	Line Length (ft)	Inv Down (ft)	Inv Up (ft)	Line Slope (%)
HW0-JB1	30 SRMP	74	816.73	817.12	0.53
JB1-CI2	30 SRMP	110	817.22	817.82	0.55
CI2-JB3	24 SRMP	102	817.92	818.46	0.55
JB3-JB4	24 SRMP	77	818.58	819.00	0.55
JB1-CI1A	18 SRMP	111	818.11	819.22	1.00
CI1A-CI1B	18 SRMP	40	819.32	819.72	1.00
CI2-CI2A	18 SRMP	39	819.14	819.54	1.01

PERMANENT GRASSING SCHEDULE:

GRASS SEED SHALL BE AS FOLLOWS:
FEB-NOV. . . . . REBEL II TALL FESCUE 6 LB/1000 SF
ANNUAL RYE 1 LB/1000 SF

SOD:. . . . . REBEL II TALL FESCUE

LIME: . . . . . 150 LB/1000 SF
FERTILIZER: . . . .10/10/10 20 LB/1000 SF
PHOSPHORUS: . .20% SUPERPHOSPHATE 15 LB/1000 SF

MULCH:. . . . . .STRAW 75 LB/1000 SF
(CRIMPED) EROSION CONTROL NET OR MULCH BINDER ON SLOPES.

	MIN.SEED PURITY	MIN. GERM.	MAX. WEED
TALL FESCUE . . .	95%	85%	0.1%
ANNUAL RYE. . . .	95%	90%	0.1%

- 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 PERFORMED.
- ALL SEEDING AND SODDING SHALL BE BY GRADING CONTRACTOR.

ALL ELEVATIONS (RIM, THROAT, GRATE, TOP) AT STORM STRUCTURES ARE INTENDED TO INDICATE FLOW LINE ELEVATIONS

REFER TO SHEET C6.0 FOR GRADING AND DRAINAGE DETAILS.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EARTHWORK REQUIRED TO PREPARE THE UNCLASSIFIED SITE TO THE LINES AND GRADES AS SHOWN ON PLANS. THIS INCLUDES, BUT IS NOT LIMITED TO, ANY QUANTITY OF IMPORT OR EXPORT OF STRUCTURAL FILL AND/OR DISPOSAL OF UNSUITABLE MATERIAL, AS REQUIRED. ALL COSTS SHALL BE INCLUDED IN OVERALL BASE BID. ALL EXCAVATION SHALL BE CONSIDERED UNCLASSIFIED.

SITE GRADING NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF EXISTING STRUCTURES INCLUDING REMOVAL OF ANY EXISTING UTILITIES SERVING THE STRUCTURE. UTILITIES ARE TO BE REMOVED TO THE RIGHT-OF-WAY. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANY AND PAY ALL FEES.

2. 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 COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. THE CONTRACTOR SHALL RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES AND PAY ALL FEES.

3. THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY EXISTING STRUCTURES THAT ARE DAMAGED DURING, AND AS A RESULT OF, CONSTRUCTION. REPAIRS AND/OR REPLACEMENTS SHALL BE MADE AS NECESSARY TO RETURN THE DAMAGED STRUCTURE(S) TO ORIGINAL OR BETTER CONDITION. REPAIRS AND/OR REPLACEMENTS SHALL BE AT THE CONTRACTORS EXPENSE.

4. THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE GENERAL N.P.D.E.S. PERMIT FOR STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.

5. EXISTING AND PROPOSED GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT.

6. ALL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.

7. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATIONS SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL GRASS DISTURBED AREAS PER GRASSING SCHEDULE UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.

8. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.

9. CONTRACTOR SHALL ADJUST AND/OR SAW CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.

10. TOPOGRAPHIC INFORMATION TAKEN FROM A TOPOGRAPHIC SURVEY BY SITE, INCORPORATED, DATED 03/15/10. IF CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, HE SHALL HAVE MADE, AT HIS EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR AND SUBMIT IT TO THE OWNER FOR REVIEW.

11. CONTRACTOR SHALL INSPECT, REPAIR, AND CLEAN ALL EXISTING DRAINAGE STRUCTURES AND PIPING. ALL SEDIMENT AND DEBRIS SHALL BE REMOVED.

12. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED.

13. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH PAVEMENT AND SHALL HAVE TRAFFIC BEARING RING & COVERS. MANHOLES IN UNPAVED AREAS SHALL BE 6 INCHES ABOVE FINISH GRADE. LIDS SHALL BE LABELED "STORM SEWER".

14. ALL STORM STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED MORTAR INVERT FROM INVERT IN TO INVERT OUT.

15. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.

16. MINIMUM COVER FROM TOP OF PIPE TO FINISH GRADE SHALL BE 2 FEET.

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

18. RIP-RAP STONE FOR EROSION PROTECTION SHALL BE PROVIDED AT ALL STORMWATER DISCHARGE LOCATIONS.

19. WATER, SEWER, AND STORM LINES SHALL BE KEPT 10 FEET APART HORIZONTALLY AND 18 INCHES APART VERTICALLY WHEN CROSSING (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE), UNLESS NOTED OTHERWISE.

20. WHEN CROSSING, WATER LINES SHALL BE CONSTRUCTED ABOVE SEWER LINES AND STORM LINES, UNLESS A LACK OF DEPTH ABOVE THE SEWER OR STORM LINE NECESSITATES CONSTRUCTION OF WATER LINES BENEATH SEWER LINES OR STORM LINES. IN THE EVENT OF A VERTICAL CONFLICT, THE FOLLOWING MODIFICATIONS MUST OCCUR:
-SEWER LINES SHALL BE DUCTILE IRON PIPE WITH MECHANICAL JOINTS AT LEAST 10 FEET ON BOTH SIDES OF THE CROSSING.
-STORM LINES SHALL HAVE "O-RING" GASKETS WITH HUGGER BAND COUPLING AT LEAST 10 FEET ON BOTH SIDES OF THE CROSSING.
-WATER LINES SHALL BE DUCTILE IRON PIPE WITH MECHANICAL JOINTS AND APPROPRIATE THRUST BLOCKING MEETING THE REQUIREMENTS OF ANSI 21.10 OR 21.11 (AWWA C-151)(CLASS 50).

STRIPPING AND COMPACTION SCHEDULE:

TOPSOIL STRIPPING DEPTH 3"-4" AVERAGE. DEEPER IF REQUIRED LOCALLY.

REQUIRED COMPACTION PERCENTAGES (% MAX DRY DENSITY)

STANDARD PROCTOR TEST METHOD ASTM TEST # D-698

PAVED AREA 98%

TESTING:

ALLOW 1 COMPACTION TEST PER EA. 2500 S.F. (MAX 50' X 50' AREA) PER LIFT AT BUILDING AREAS.

ALLOW 1 COMPACTION TEST PER EACH 10,000 S.F. OF CUT OR NATURAL GRADE AT BUILDING AREA.

ALLOW 1 COMPACTION TEST PER EA. 5500 S.F. (MAX 75' X 75' AREA) PER LIFT AT PARKING AREA.

ALLOW 1 COMPACTION TEST PER EACH 40,000 S.F. OF CUT OR NATURAL GRADE AT PARKING AREA.

MAXIMUM LOOSE LIFT THICKNESS SHALL BE 8", UNLESS NOTED OTHERWISE.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

SITE INCORPORATED
Site Infrastructure Transportation Engineers
2033 Castate Lane, Suite 101 Knoxville, TN 37932
Phone: (865) 693-5010 Fax: (865) 693-5868

LYNETTE C. HOMMES
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 00101934
STATE OF TENNESSEE

Site Grading and Drainage Plan

Pinnacle Point Phase II

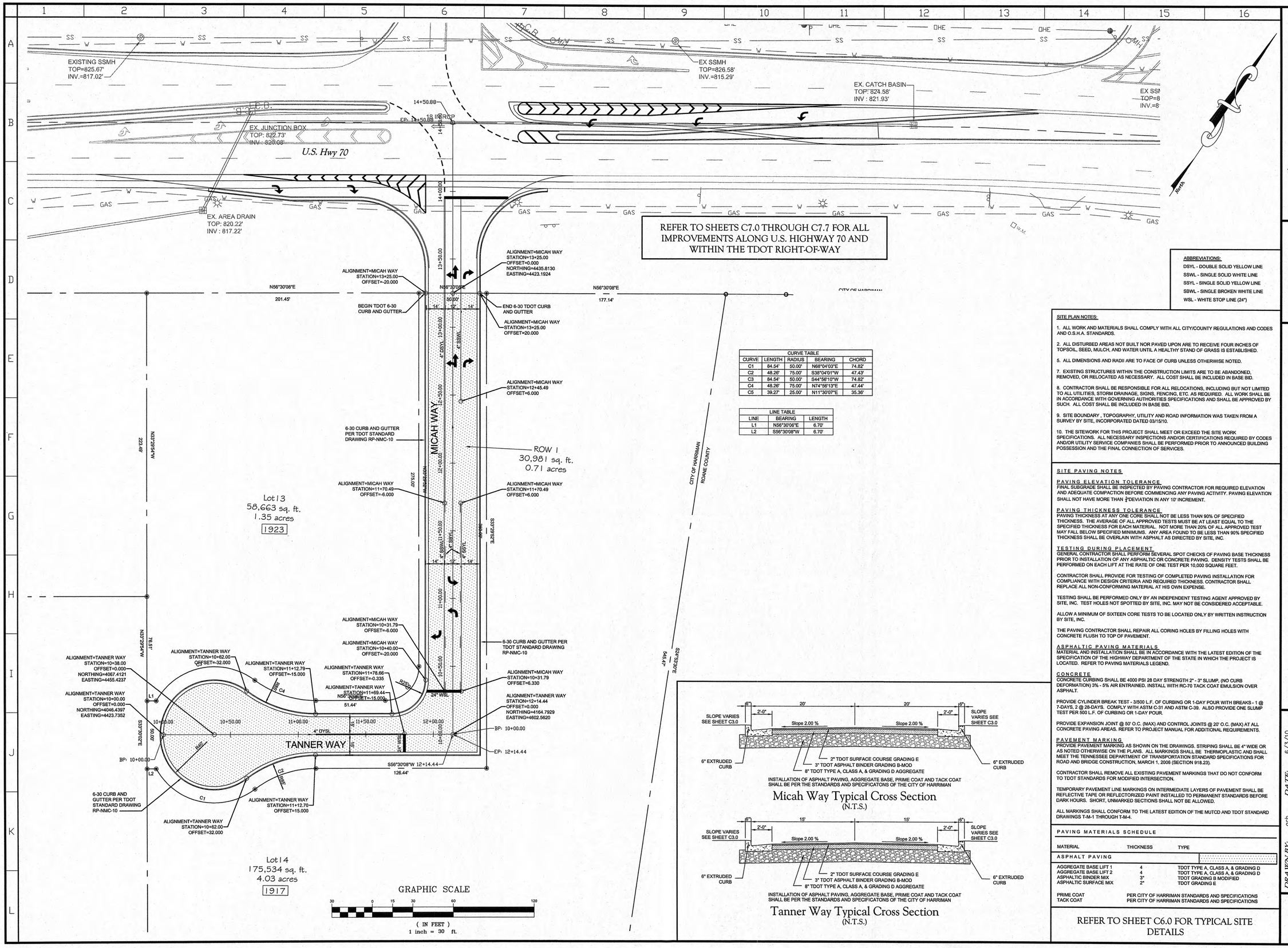
US Highway 70
Harriman, Tennessee

DRAWN BY: ach DATE: 6/3/10
CHECKED BY: --- FILE: 1767 Grading

REVISIONS

NO.	DATE	COMMENTS

C3.0



CURVE TABLE				
CURVE	LENGTH	RADIUS	BEARING	CHORD
C1	84.54'	50.00'	N68°04'03"E	74.82'
C2	48.26'	75.00'	S38°04'01"W	47.43'
C3	84.54'	50.00'	S44°56'10"W	74.82'
C4	48.26'	75.00'	N74°56'13"E	47.44'
C5	39.27'	25.00'	N11°30'07"E	35.36'

LINE TABLE		
LINE	BEARING	LENGTH
L1	N56°30'08"E	6.70'
L2	S56°30'08"W	6.70'

Micah Way Typical Cross Section
(N.T.S.)

Tanner Way Typical Cross Section
(N.T.S.)

REFER TO SHEET C6.0 FOR TYPICAL SITE DETAILS

ABBREVIATIONS:

DSYL - DOUBLE SOLID YELLOW LINE
SSWL - SINGLE SOLID WHITE LINE
SSYL - SINGLE SOLID YELLOW LINE
SBWL - SINGLE BROKEN WHITE LINE
WSL - WHITE STOP LINE (24")

SITE PLAN NOTES:

1. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL CITY/COUNTY REGULATIONS AND CODES AND O.S.H.A. STANDARDS.

2. ALL DISTURBED AREAS NOT BUILT NOR PAVED UPON ARE TO RECEIVE FOUR INCHES OF TOPSOIL, SEED, MULCH, AND WATER UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED.

5. ALL DIMENSIONS AND RADII ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.

7. EXISTING STRUCTURES WITHIN THE CONSTRUCTION LIMITS ARE TO BE ABANDONED, REMOVED, OR RELOCATED AS NECESSARY. ALL COST SHALL BE INCLUDED IN BASE BID.

8. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, INCLUDING BUT NOT LIMITED TO ALL UTILITIES, STORM DRAINAGE, SIGNS, FENCING, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COST SHALL BE INCLUDED IN BASE BID.

9. SITE BOUNDARY , TOPOGRAPHY, UTILITY AND ROAD INFORMATION WAS TAKEN FROM A SURVEY BY SITE, INCORPORATED DATED 03/15/10.

10. THE SITEWORK FOR THIS PROJECT SHALL MEET OR EXCEED THE SITE WORK SPECIFICATIONS. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICES.

SITE PAVING NOTES

PAVING ELEVATION TOLERANCE
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 ½"DEVIATION IN ANY 10' INCREMENT.

PAVING THICKNESS TOLERANCE
PAVING THICKNESS AT ANY ONE 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 SITE, INC.

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 INSTALLATION 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 SITE, INC. TEST HOLES NOT SPOTTED BY SITE, INC. MAY NOT BE CONSIDERED ACCEPTABLE.

ALLOW A MINIMUM OF SIXTEEN CORE TESTS TO BE LOCATED ONLY BY WRITTEN INSTRUCTION BY SITE, INC.

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 EDITION OF THE SPECIFICATION OF THE HIGHWAY DEPARTMENT OF THE STATE IN WHICH THE PROJECT IS LOCATED. REFER TO PAVING MATERIALS LEGEND.

CONCRETE
CONCRETE CURBING SHALL BE 4000 PSI 28 DAY STRENGTH 2" - 3" SLUMP, (NO 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 OR 1-DAY POUR.

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

PAVEMENT MARKING
PROVIDE PAVEMENT MARKING AS SHOWN ON THE DRAWINGS. STRIPING SHALL BE 4" WIDE OR AS NOTED OTHERWISE ON THE PLANS. ALL MARKINGS SHALL BE THERMOPLASTIC AND SHALL MEET THE TENNESSEE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, MARCH 1, 2006 (SECTION 918.23).

CONTRACTOR SHALL REMOVE ALL EXISTING PAVEMENT MARKINGS THAT DO NOT CONFORM TO TDOT STANDARDS FOR MODIFIED INTERSECTION.

TEMPORARY PAVEMENT LINE MARKINGS ON INTERMEDIATE LAYERS OF PAVEMENT SHALL BE REFLECTIVE TAPE OR REFLECTORIZED PAINT INSTALLED TO PERMANENT STANDARDS BEFORE DARK HOURS. SHORT, UNMARKED SECTIONS SHALL NOT BE ALLOWED.

ALL MARKINGS SHALL CONFORM TO THE LATEST EDITION OF THE MUTCD AND TDOT STANDARD DRAWINGS T-M-1 THROUGH T-M-4.

PAVING MATERIALS SCHEDULE

MATERIAL	THICKNESS	TYPE
ASPHALT PAVING		
AGGREGATE BASE LIFT 1	4	TDOT TYPE A, CLASS A, & GRADING D
AGGREGATE BASE LIFT 2	4	TDOT TYPE A, CLASS A, & GRADING D
ASPHALTIC BINDER MIX	3"	TDOT GRADING B MODIFIED
ASPHALTIC SURFACE MIX	2"	TDOT GRADING E
PRIME COAT		PER CITY OF HARRIMAN STANDARDS AND SPECIFICATIONS
TACK COAT		PER CITY OF HARRIMAN STANDARDS AND SPECIFICATIONS

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Site Infrastructure Transportation Engineers
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ANNETTE C. HOMMEL
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 00 0903
STATE OF TENNESSEE

Site Layout and Paving Plan

Pinnacle Point Phase II

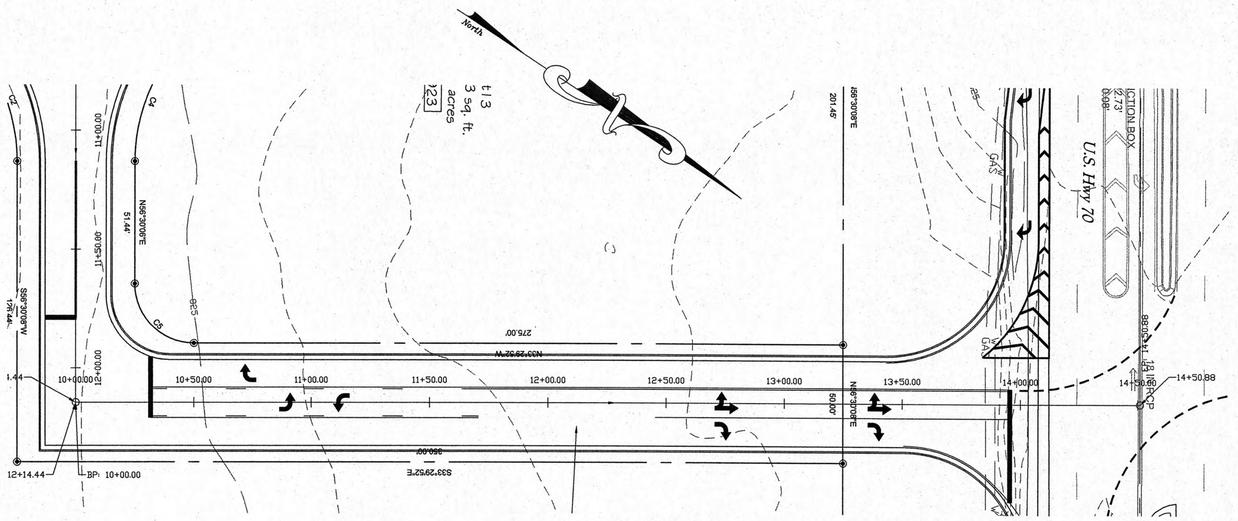
US Highway 70
Harriman, Tennessee

DRAWN BY: ach DATE: 6/3/10
CHECKED BY: --- FILE: 1767 Layout

REVISIONS

NO.	DATE	COMMENTS

C4.0

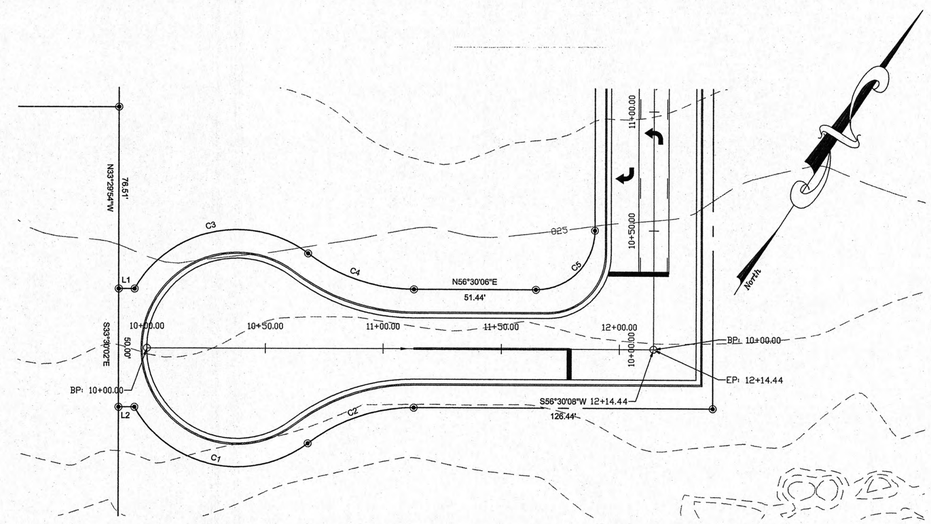


Road Plan - Micah Way

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

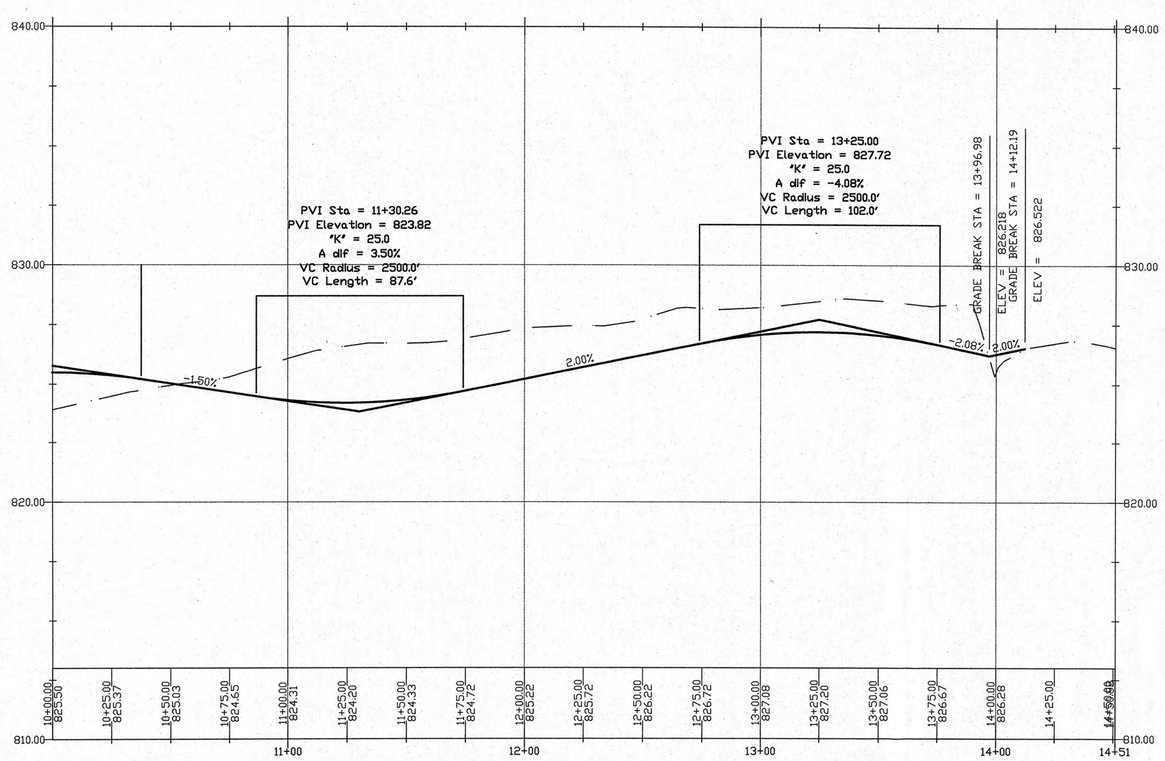


Road Plan - Tanner Way

GRAPHIC SCALE

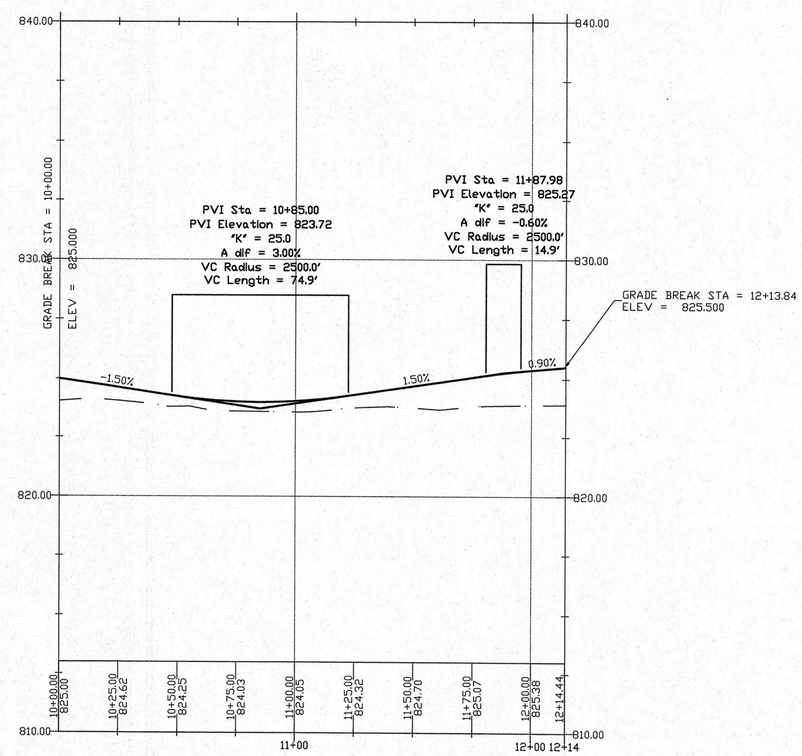
30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.



Road Profile - Micah Way

Horizontal Scale: 1" = 30.00'
Vertical Scale: 1" = 3.00'



Road Profile - Tanner Way

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