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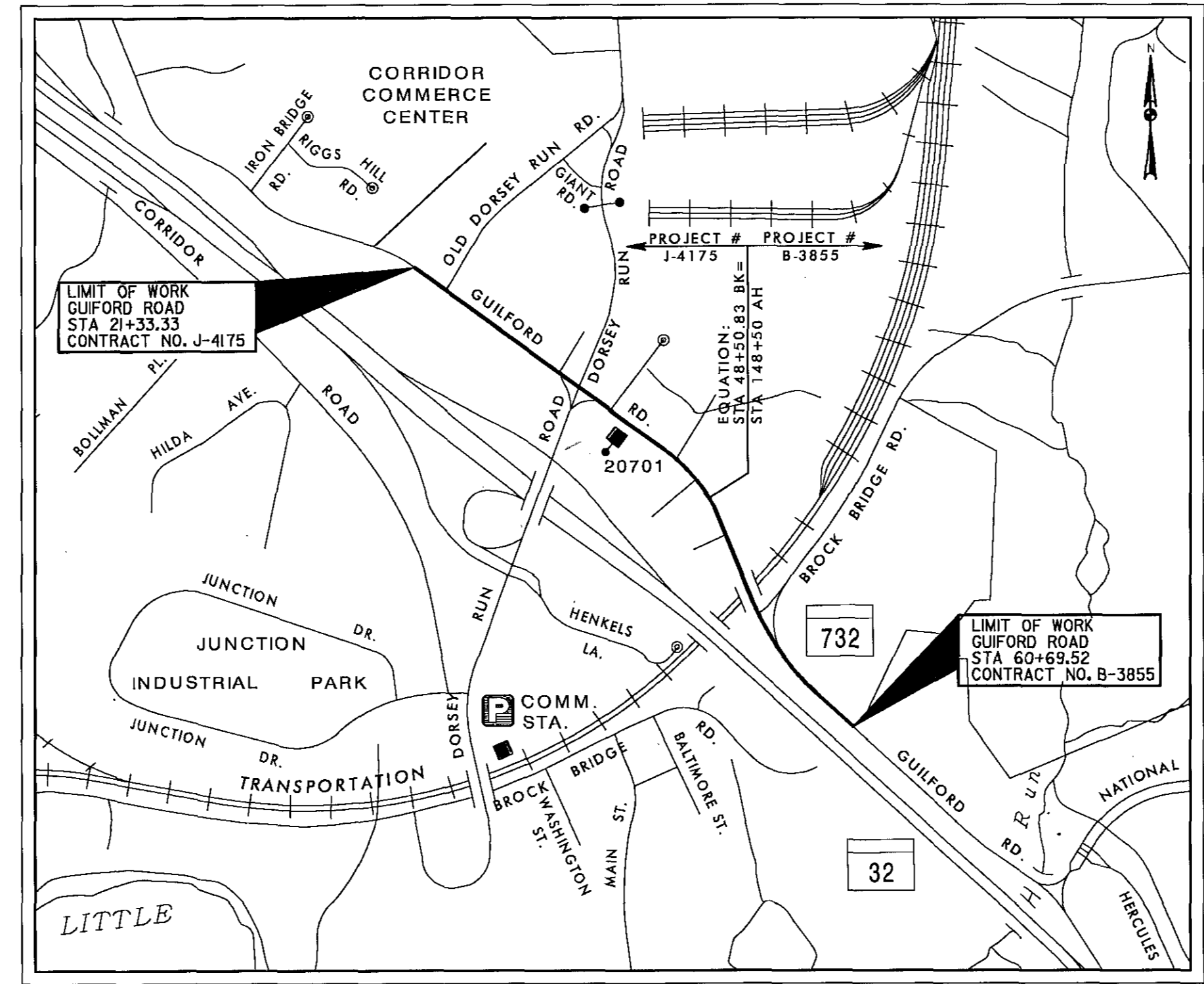
**SYMBOL LEGEND**  
**CONVENTIONAL SIGNS**

STATE, COUNTY OR CITY LINES	---	SILT FENCE	--- SF ---
PROPOSED TRAFFIC BARRIER - W BEAM	--- T ---	SUPER SILT FENCE	--- SSF ---
EXISTING TRAFFIC BARRIER - W BEAM	--- T ---	STRAW BALE STRUCTURE	--- S.B.S. ---
FENCE LINE	--- X ---	PLACED RIPRAP DITCH	--- R.P.D. ---
RIGHT OF WAY LINE	--- R.O.W. ---	TEMPORARY SEDIMENT TRAP WITH STONE OUTLET STRUCTURE	--- T.S.T. ---
EXISTING ROADWAY	--- R.O.W. ---	WATER LINE	--- GAS ---
RAILROAD	--- R.R. ---	GAS LINE	--- GAS ---
BASELINE SURVEY	--- B.S. ---	FIBER OPTIC	--- UG FO ---
FIRE HYDRANT	--- F.H. ---	SANITARY SEWER LINE	--- SAN ---
PROPOSED CULVERT	--- C ---	UNDERGROUND TELEPHONE	--- UG TELE ---
EXISTING CULVERT	--- C ---	UNDERGROUND ELECTRIC	--- UG ELEC. ---
EXISTING INLET	--- I ---	BASELINE CONSTRUCTION	--- 10+00 --- 11+00 ---
MARSH	--- M ---	LIMIT OF CUT	--- C ---
HEDGE	--- H ---	LIMIT OF FILL	--- F ---
GROUND ELEVATION	--- G.E. ---	LIMIT OF DISTURBANCE	--- L.O.D. ---
GRADE ELEVATION	--- G.E. ---	NEW PAVEMENT	--- N.P. ---
SIDE DITCH OR SURFACE DRAIN DITCH (UNPAVED) WITH DITCH INVERTS	--- S.D. ---	PAVEMENT OVERLAY	--- P.O. ---
ELECTRIC BOX	--- E.B. ---	PAVEMENT REMOVAL	--- P.R. ---
TRAFFIC SIGN	--- T.S. ---	CURB AND GUTTER	--- C.G. ---
		PIPE WITH INLET AND MANHOLE	--- P.I.M. ---
		DRAINAGE STRUCTURE IDENTIFICATION NUMBER	--- D.S.I.N. ---

- GENERAL NOTES**
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY, PLUS MSHA STANDARDS & SPECIFICATIONS AS APPLICABLE.
  - THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
  - THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION WORK.
  - THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES AT LEAST THREE DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS:
 

BELL TELEPHONE SYSTEM	393-3649
LONG DISTANCE CABLE DIVISION	393-3653 OR 3954
BALTIMORE GAS AND ELECTRIC	559-8000 EXT. 691
HOWARD COUNTY BUREAU OF UTILITIES	313-1870
HOWARD COUNTY CONSTRUCTION INSPECTION SURVEY DIVISION	313-24122418
  - PROJECT BACKGROUND:
 

LOCATION: ANNAPOLIS JUNCTION, MARYLAND	
TAX MAP: 48 (HOWARD CO.), 13 (ANNE ARUNDEL CO.)	
ELECTION DISTRICT: 6TH (HOWARD CO.), 1ST (ANNE ARUNDEL CO.)	
  - TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
  - ANY DAMAGE CAUSED BY THE CONTRACTOR TO EXISTING PUBLIC RIGHT-OF-WAY, EXISTING PAVING, EXISTING CURB AND GUTTER, EXISTING UTILITIES, ETC. SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
  - THE EXISTING UTILITIES SHOWN HEREON ARE LOCATED FROM CONSTRUCTION DRAWINGS OF RECORD. THE APPROXIMATE LOCATIONS OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTOR'S INFORMATION AND CONVENIENCE. THE CONTRACTOR SHALL LOCATE EXISTING UTILITIES TO HIS OWN SATISFACTION AND WELL IN ADVANCE OF ANY CONSTRUCTION ACTIVITIES. ADDITIONALLY, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT ALL EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE.
  - ALL HYDRAULIC DATA IS FOR THE 10-YEAR STORM UNLESS OTHERWISE NOTED.
  - ALL FILL AREAS SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED AND VERIFIED IN ACCORDANCE WITH AASHTO T-99.
  - ALL LIMITS OF DISTURBANCE MUST BE APPROVED ON SITE BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS CONSTRUCTION INSPECTION DIVISION OR THEIR AGENTS.
  - WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATION OF THE TEST PIT. TABLES CONTAINING THE RESULTS OF THE TEST PIT OR PITS ARE INCLUDED ON THE PLAN SHEETS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE. REQUIRED TEST PITS TO BE DUG ARE REPRESENTED BY THE SYMBOL .
  - PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
  - HORIZONTAL DATUM: NAD 83/91. VERTICAL DATUM: NGVD 88.
  - ALL PIPE ELEVATIONS ARE INVERT ELEVATIONS.
  - PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
  - ELDERLY AND HANDICAP FACILITIES - THE DESIGN OF THIS PROJECT HAS INCORPORATED FACILITIES FOR THE ELDERLY AND HANDICAPPED IN COMPLIANCE WITH STATE AND FEDERAL LEGISLATION.



**LOCATION MAP**  
SCALE 1" = 1000'

**SOILS LEGEND**

	A-2, SAND AND FINES		A-4-7, CLAYEY SILT
	A-2-4, SILTY SAND		A-5, SILT
	A-2-7, CLAYEY SAND		A-7, CLAY
	A-4-2, SANDY SILT		A-7-2, SANDY CLAY
	ROCK, PENETRATED BY POWER SOIL AUGER		PLAN LOCATION OF SOIL BORINGS
	PLAN LOCATION OF STORM WATER MANAGEMENT BORINGS		BORING TARGETS AND PROFILES SCALE: HORIZONTAL-NONE VERTICAL-1"= 10'

LL-LIQUID LIMIT N.P.-NON-PLASTIC O.M.C.-OPTIMUM MOISTURE CONTENT  
 P.I.-PLASTICITY INDEX M.D.D.-MAXIMUM DRY DENSITY P.C.F.-POUNDS PER CUBIC FOOT  
 M.D.D. & O.M.C. PER A.A.S.H.T.O. DESIGNATION T-180, METHOD C

UNLESS OTHERWISE NOTED ON PLANS, ALL SOIL SURVEY BORINGS FOR ROADWAY CONSTRUCTION WERE LEFT OPEN FOR 24 HOURS WITH NO EXCESS MOISTURE OR FREE WATER ENCOUNTERED DURING TIME OF SOIL SURVEY (4/00)

PLAN LOCATION OF TEST HOLES

CAPITAL PROJECT NO. J-4175 AND B-3855

# Guilford Road Improvements Dorsey Run Road to Brock Bridge Road

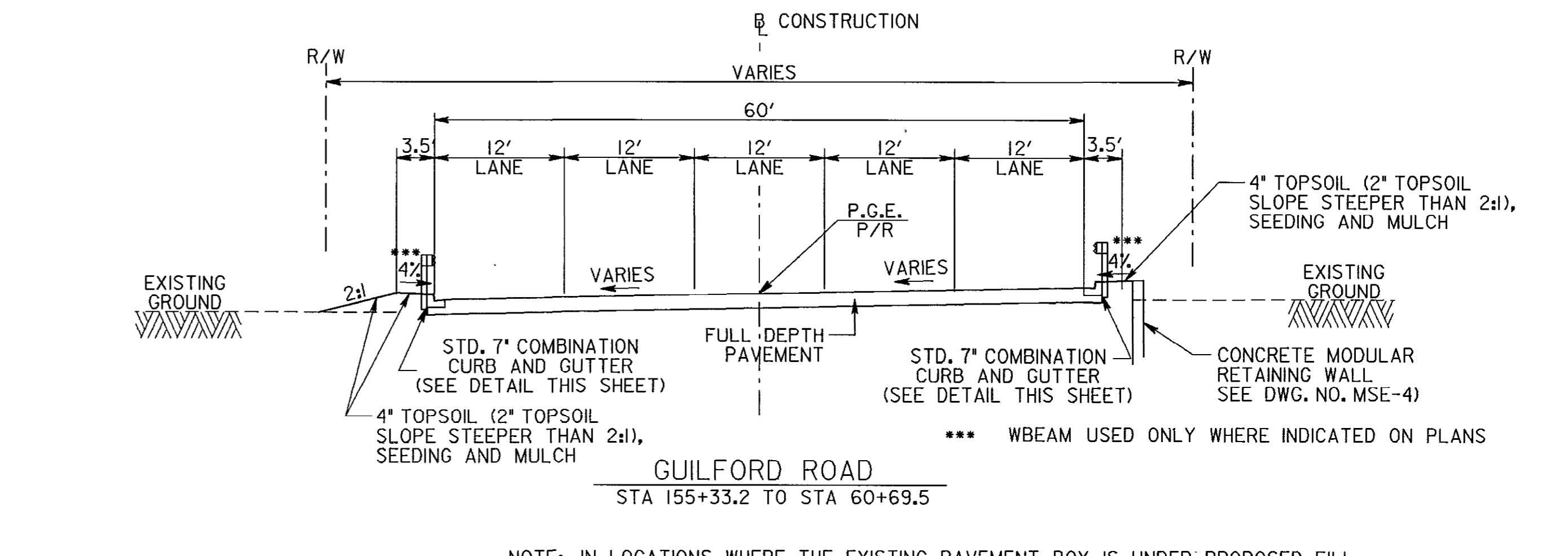
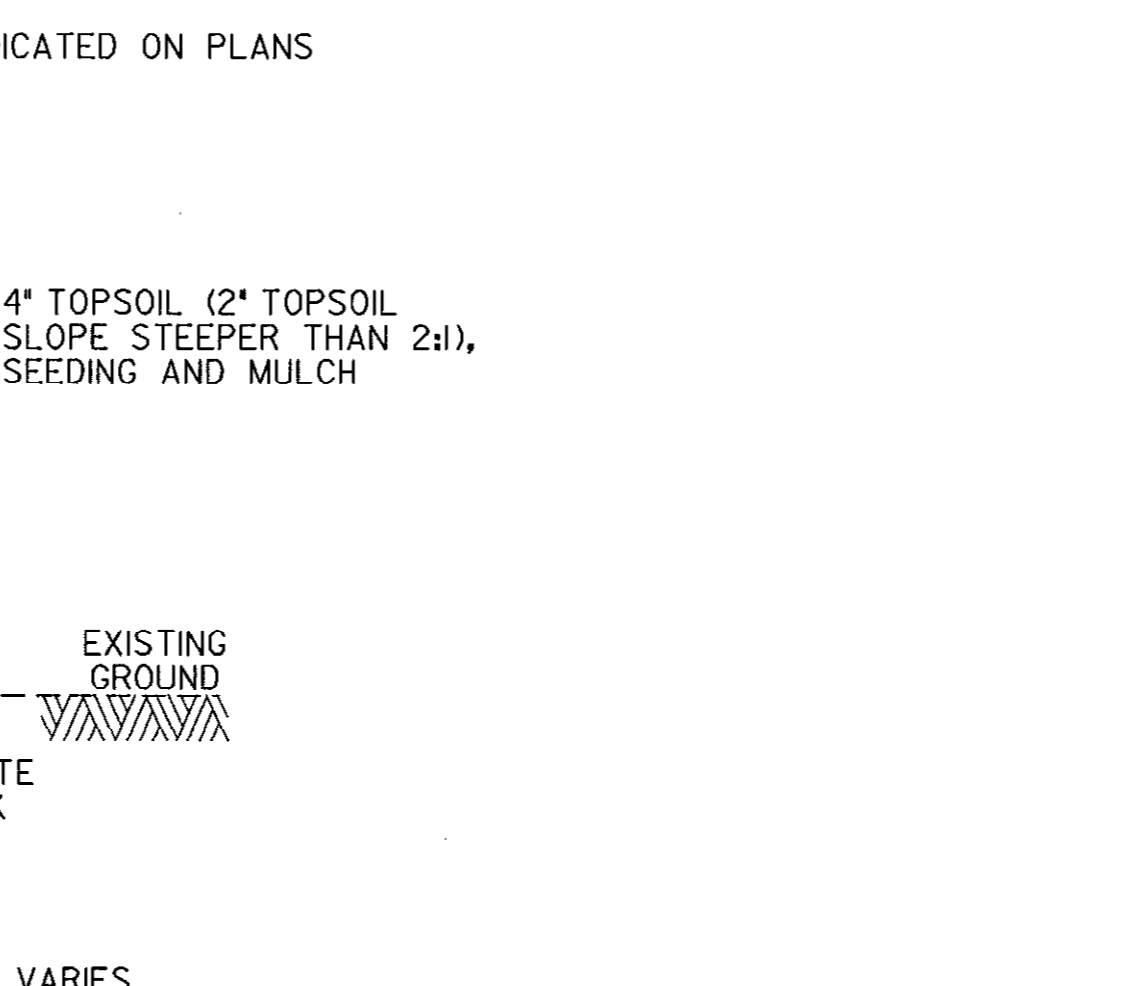
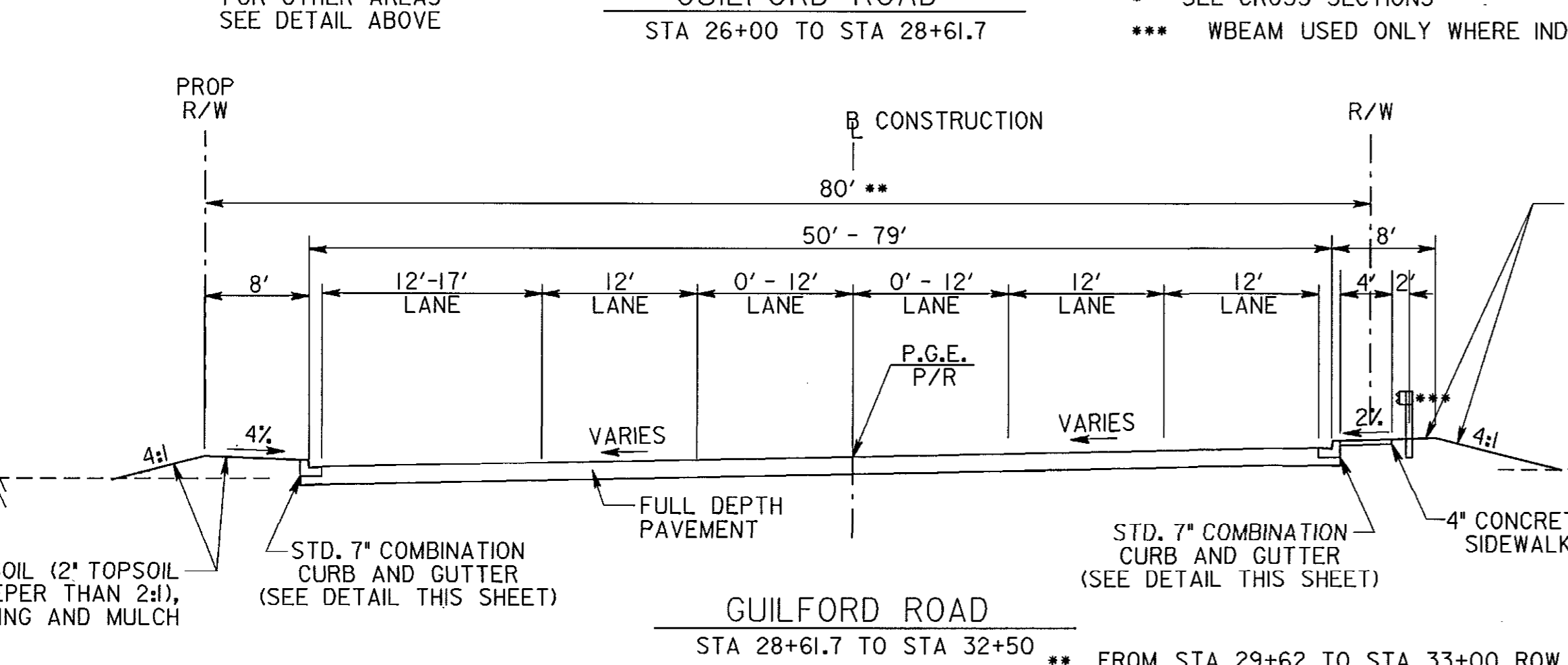
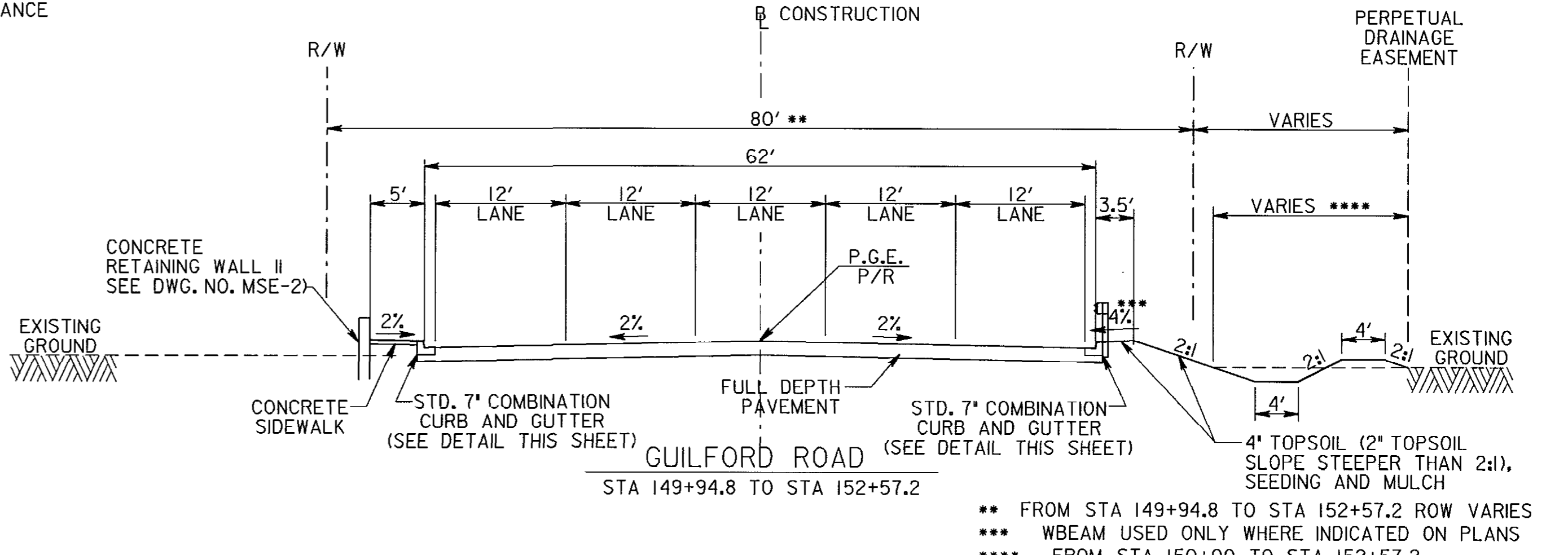
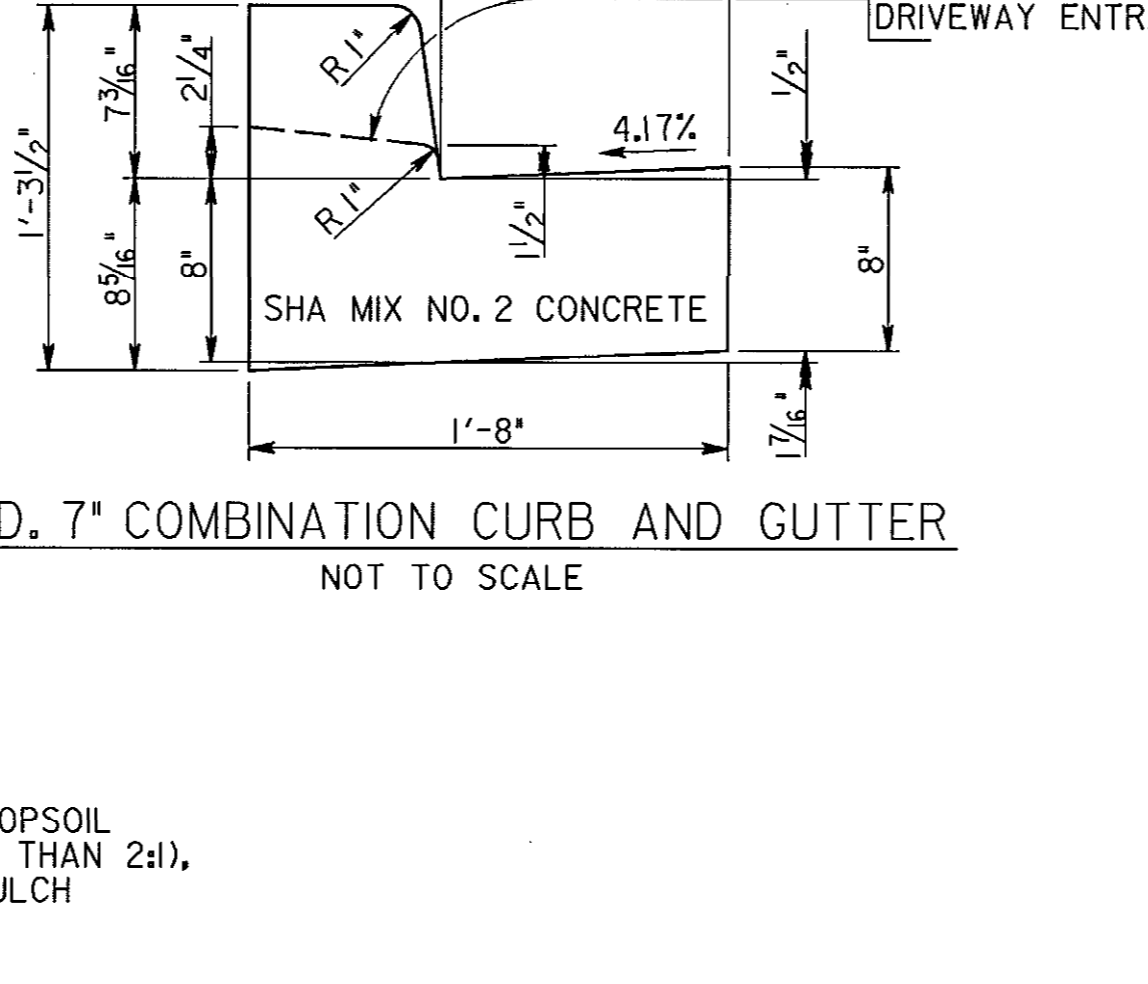
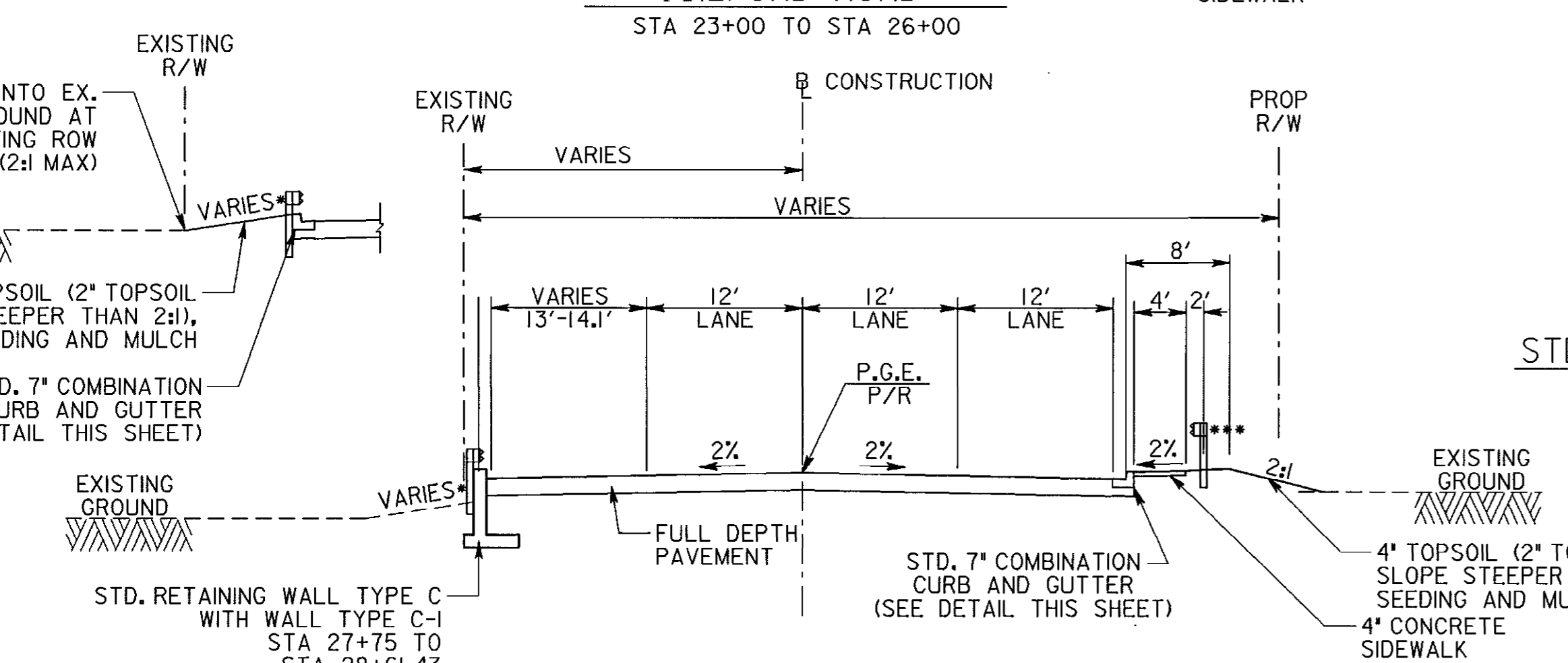
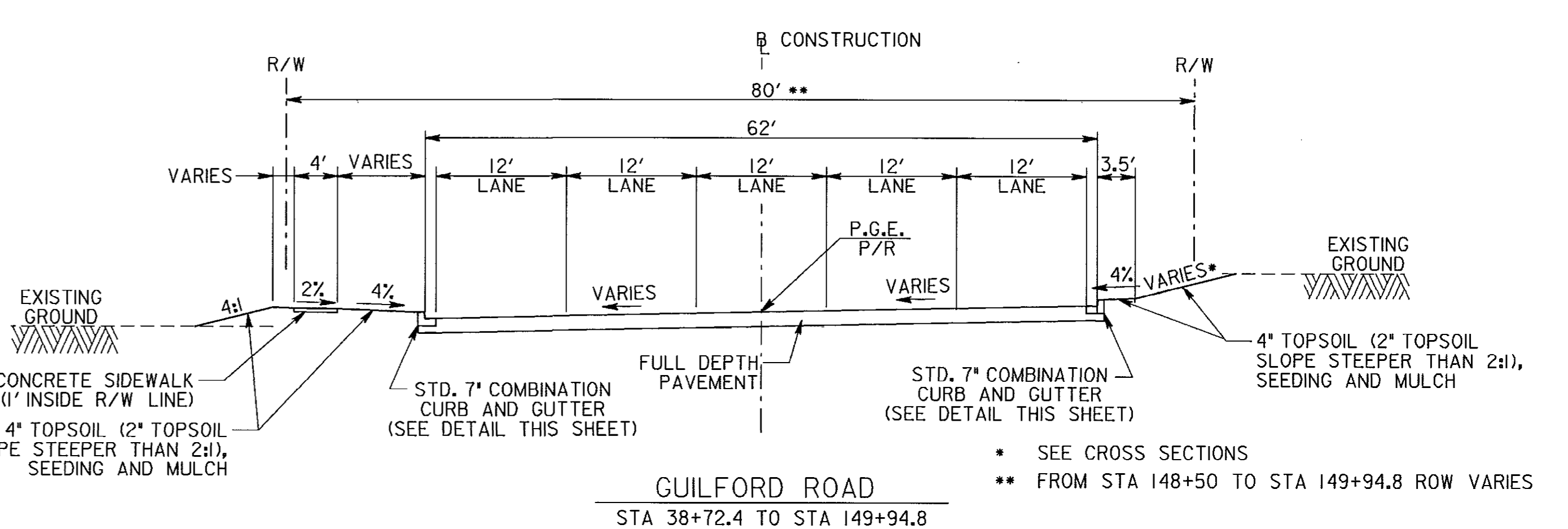
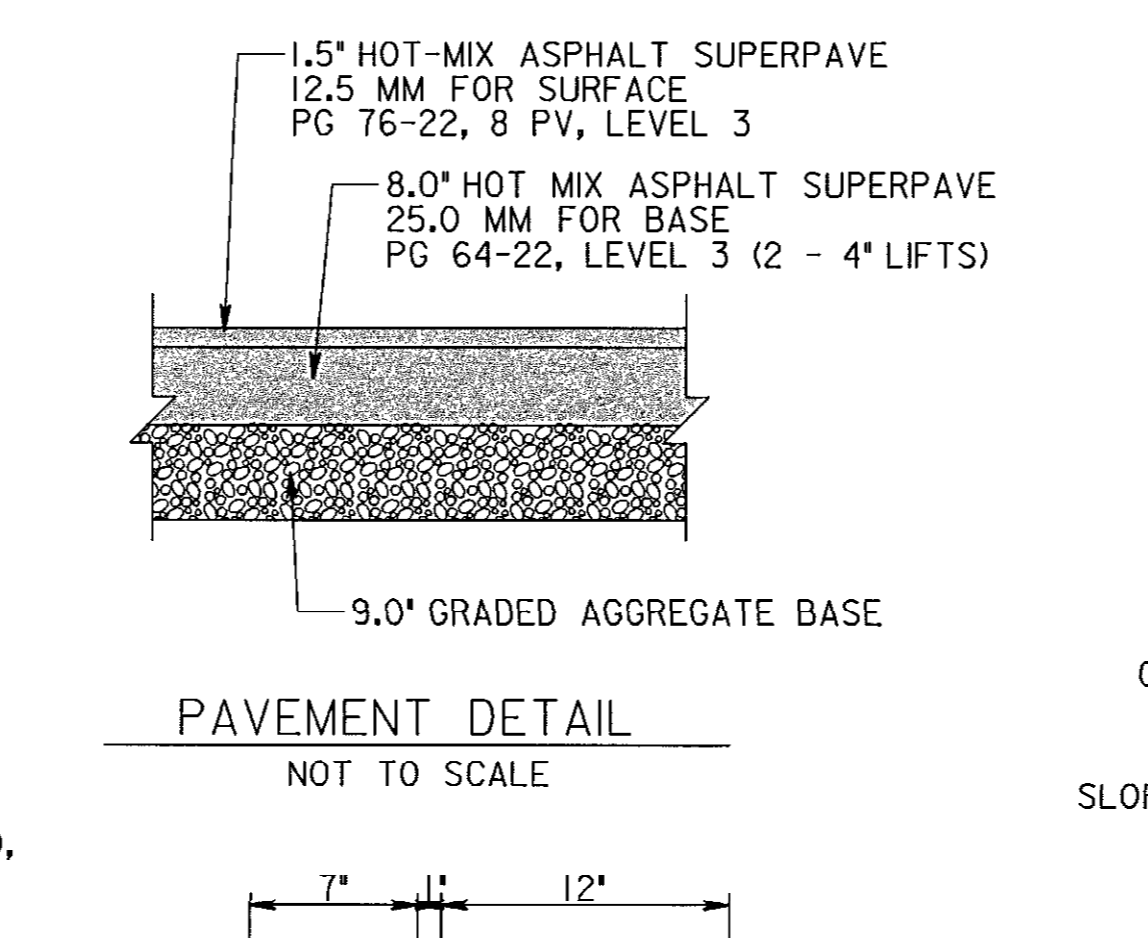
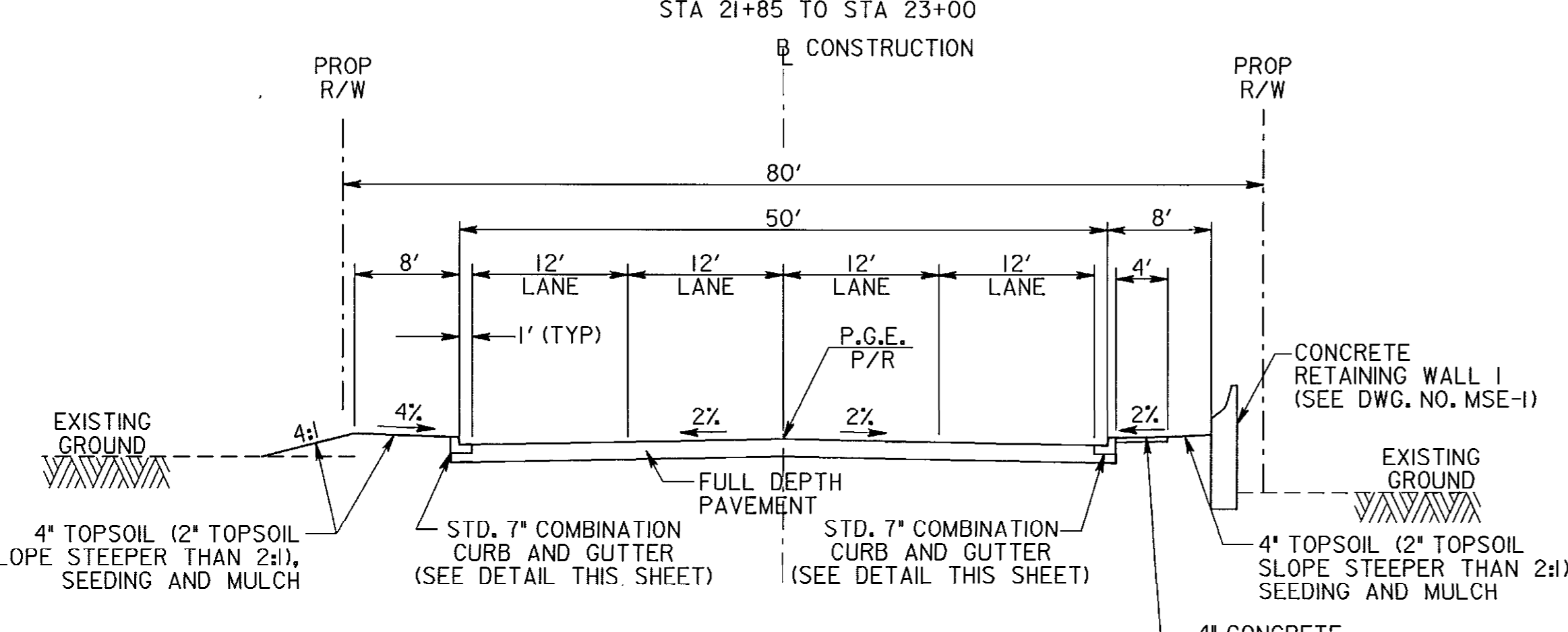
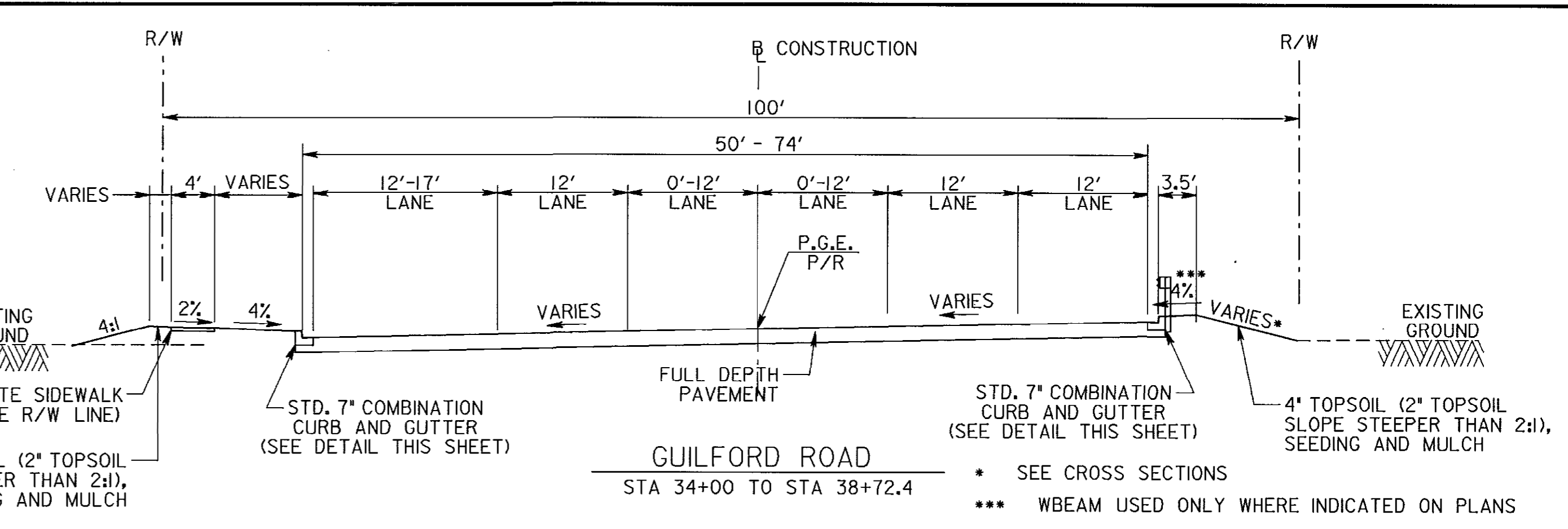
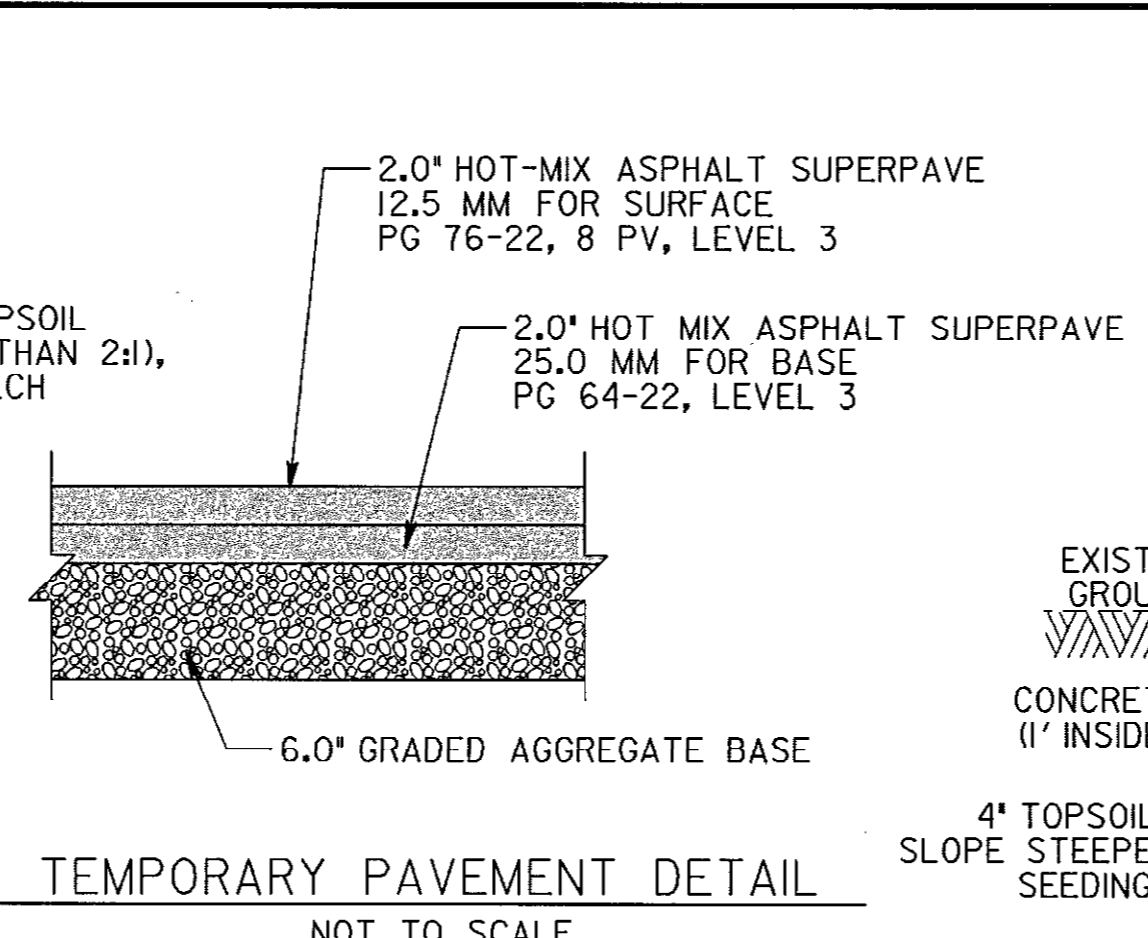
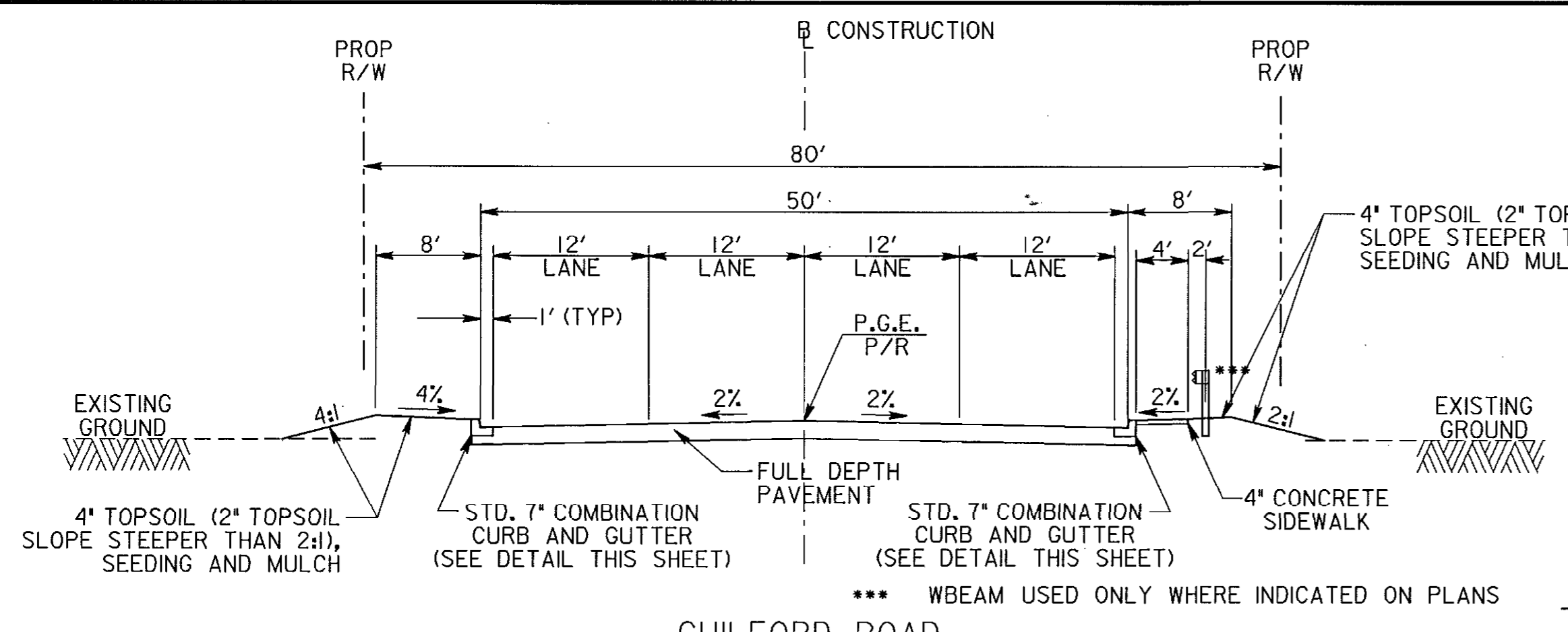
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS  
ROADWAY CLASSIFICATION: MINOR ARTERIAL  
DESIGN SPEED = 40 MPH

**ROW PLAT NUMBERS**

4-4175-1	J-4175-10	J-4175-19
J-4175-2	J-4175-11, 1 OF 2	J-4175-20, 1 OF 3
J-4175-3	J-4175-12, 1 OF 2	J-4175-20, 2 OF 3
J-4175-4	J-4175-13	J-4175-20, 3 OF 3
J-4175-5	J-4175-14, 1 OF 2	J-4175-21
J-4175-6	J-4175-15, 2 OF 2	J-4175-22
J-4175-7	J-4175-16	J-4175-23
J-4175-8	J-4175-17	J-4175-24
J-4175-9	J-4175-18	J-4175-25

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND  DIRECTOR OF PUBLIC WORKS DATE 8/17/06  CHIEF, BUREAU OF HIGHWAYS DATE 8-8-06	GANNETT FLEMING, INC.  BALTIMORE, MARYLAND  CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE 8/17/06	DES: GF DRN: GF CHK: GF DATE: 8-06	TIOI SCALE AS SHOWN SHEET 1 OF 156
GUILFORD ROAD IMPROVEMENTS TITLE SHEET CAPITAL PROJECT No. J-4175 AND B-3855			



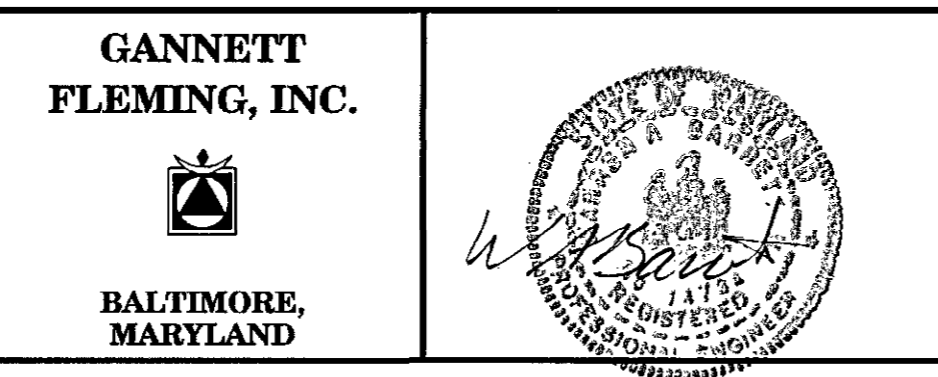
NOTE: IN LOCATIONS WHERE THE EXISTING PAVEMENT BOX IS UNDER PROPOSED FILL, THE EXISTING PAVEMENT SHALL BE SCARIFIED AND FILLED OVER.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 8/1/06  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 8/1/06  
CHIEF, BUREAU OF ENGINEERING DATE

*[Signature]* 8/1/06  
CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE



DES: RLM			
DRN: JMK			
CHK: SHH			
DATE: 8-06			
BY	NO.		DATE

GUILFORD ROAD IMPROVEMENTS  
TYPICAL SECTIONS AND DETAILS

CAPITAL PROJECT No. J-4175 AND B-3855

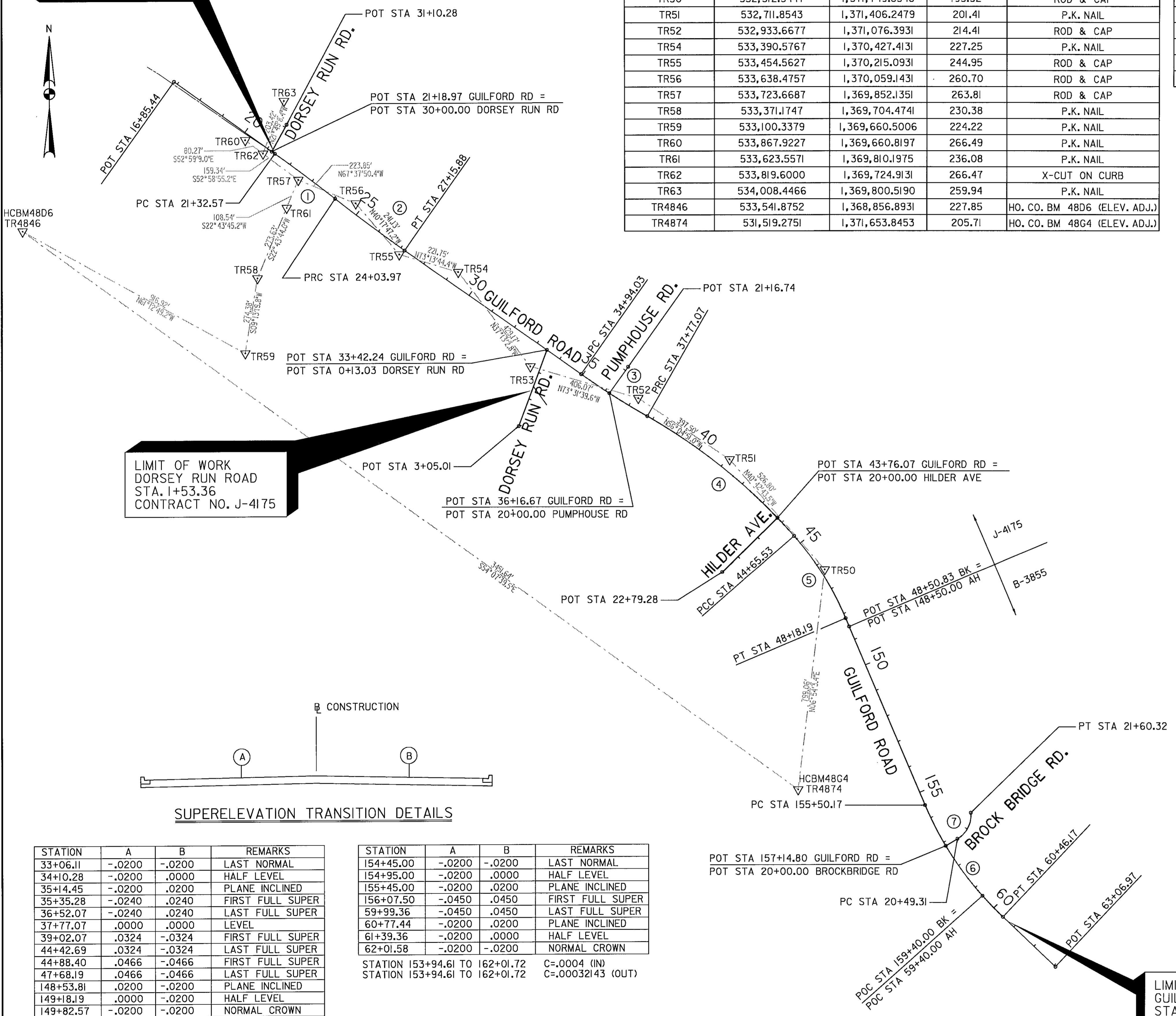
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SCALE  
1" = 10'

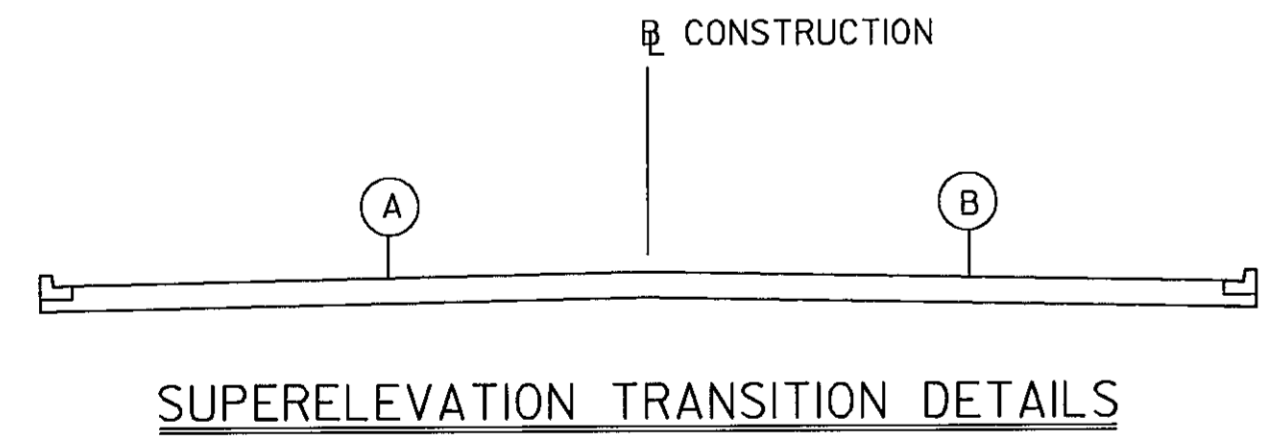
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2 OF 156

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LIMIT OF WORK  
GUILFORD ROAD  
STA. 21+33.33  
CONTRACT NO. J-4175



LIMIT OF WORK  
DORSEY RUN ROAD  
STA. 1+53.36  
CONTRACT NO. J-4175



SUPERELEVATION TRANSITION DETAILS

STATION	A	B	REMARKS
33+06.11	-.0200	-.0200	LAST NORMAL
34+10.28	-.0200	.0000	HALF LEVEL
35+14.45	-.0200	.0200	PLANE INCLINED
35+35.28	-.0240	.0240	FIRST FULL SUPER
36+52.07	-.0240	.0240	LAST FULL SUPER
37+77.07	.0000	.0000	LEVEL
39+02.07	.0324	-.0324	FIRST FULL SUPER
44+42.69	.0324	-.0324	LAST FULL SUPER
44+88.40	.0466	-.0466	FIRST FULL SUPER
47+68.19	.0466	-.0466	LAST FULL SUPER
148+53.81	.0200	-.0200	PLANE INCLINED
149+18.19	.0000	-.0200	HALF LEVEL
149+82.57	-.0200	-.0200	NORMAL CROWN

STATION	A	B	REMARKS
154+45.00	-.0200	-.0200	LAST NORMAL
154+95.00	-.0200	.0000	HALF LEVEL
155+45.00	-.0200	.0200	PLANE INCLINED
156+07.50	-.0450	.0450	FIRST FULL SUPER
59+99.36	-.0450	.0450	LAST FULL SUPER
60+77.44	-.0200	.0200	PLANE INCLINED
61+39.36	-.0200	.0000	HALF LEVEL
62+01.58	-.0200	-.0200	NORMAL CROWN

STATION 153+94.61 TO 162+01.72 C=.0004 (IN)  
STATION 153+94.61 TO 162+01.72 C=.00032143 (OUT)

STATION 33+06.11 TO 37+77.07 C=.000192  
STATION 37+77.07 TO 44+42.69 C=.0002592  
STATION 44+42.69 TO 49+82.57 C=.0003107

TRAVERSE COORDINATES				
DESCRIPTION	NORTH	EAST	ELEVATION	DESCRIPTION
TR50	532,312.5447	1,371,749.8548	193.32	ROD & CAP
TR51	532,711.8543	1,371,406.2479	201.41	P.K. NAIL
TR52	532,933.6677	1,371,076.3931	214.41	ROD & CAP
TR54	533,390.5767	1,370,427.4131	227.25	P.K. NAIL
TR55	533,454.5627	1,370,215.0931	244.95	ROD & CAP
TR56	533,638.4757	1,370,059.1431	260.70	ROD & CAP
TR57	533,723.6687	1,369,852.1351	263.81	ROD & CAP
TR58	533,371.747	1,369,704.4741	230.38	P.K. NAIL
TR59	533,100.3379	1,369,660.5006	224.22	P.K. NAIL
TR60	533,867.9227	1,369,660.8197	266.49	P.K. NAIL
TR61	533,623.5571	1,369,810.1975	236.08	P.K. NAIL
TR62	533,819.6000	1,369,724.9131	266.47	X-CUT ON CURB
TR63	534,008.4466	1,369,800.5190	259.94	P.K. NAIL
TR4846	533,541.8752	1,368,856.8931	227.85	HO. CO. BM 48D6 (ELEV. ADJ.)
TR4874	531,519.2751	1,371,653.8453	205.71	HO. CO. BM 48G4 (ELEV. ADJ.)

HORIZONTAL CURVE DATA							
CURVE NO.	LOCATION	DELTA	DC	R	L	T	E
①	GUILFORD ROAD	2° 42' 49.51" RT	0° 59' 59.73"	5,730.00'	271.40'	135.72'	1.61'
②	GUILFORD ROAD	3° 07' 08.19" LT	0° 59' 59.73"	5,730.00'	311.92'	156.00'	2.12'
③	GUILFORD ROAD	5° 24' 20.06" LT	1° 54' 35.49"	3,000.00'	283.04'	141.62'	3.34'
④	GUILFORD ROAD	19° 05' 06.31" RT	2° 46' 19.60"	2,066.87'	688.47'	347.45'	29.00'
⑤	GUILFORD ROAD	18° 04' 47.94" RT	5° 07' 36.38"	1,117.58'	352.66'	177.81'	14.06'
⑥	GUILFORD ROAD	23° 40' 56.84" LT	4° 46' 28.73"	1,200.00'	496.00'	251.59'	26.09'
⑦	BROCK BRIDGE ROAD	63° 36' 08.45" LT	57° 17' 44.81"	100.00'	111.01'	62.01'	17.66'

PROJECT COORDINATES					
B/L CONSTRUCTION GUILFORD ROAD					
CURVE	DESCRIPTION	STATION	NORTH	EAST	BEARING
①	POT	16+85.44	534,079.0581	1,369,404.3660	S 54° 23' 45.66" E
	PC	21+32.57	533,818.7480	1,369,767.9099	S 54° 23' 45.66" E
	PI	22+68.29	533,739.7329	1,369,878.2609	S 51° 40' 56.15" E
②	PRC	24+03.97	533,655.5816	1,369,984.7470	S 51° 40' 56.15" E
	PI	25+59.96	533,558.8600	1,370,107.1399	S 54° 48' 04.34" E
	PT	27+15.88	533,468.9410	1,370,234.6140	S 54° 48' 04.34" E
③	PC	34+94.03	533,020.4048	1,370,870.4831	S 54° 48' 04.34" E
	PI	36+35.65	532,938.7713	1,370,986.2110	S 60° 12' 24.41" E
	PRC	37+77.07	532,868.4031	1,371,109.1145	S 60° 12' 24.41" E
④	PI	41+24.52	532,695.7640	1,371,410.6422	S 41° 07' 18.10" E
	PCC	44+65.53	532,434.0230	1,371,639.1480	S 23° 02' 30.16" E
	PI	46+43.34	532,300.0784	1,371,756.0846	S 23° 02' 30.16" E
⑤	PT	48+18.19	532,136.4568	1,371,825.6785	S 23° 02' 30.16" E
	POT	148+50.00	532,106.4225	1,371,838.4531	S 23° 02' 30.16" E
	PC	155+50.17	531,462.1147	1,372,112.4993	S 23° 02' 30.16" E
⑥	PI	158+01.76	531,230.5926	1,372,210.9736	S 23° 02' 30.16" E
	PT	60+46.17	531,058.1218	1,372,394.1499	S 46° 43' 27.00" E
	POT	63+06.97	530,879.3428	1,372,584.0260	S 46° 43' 27.00" E

B/L CONSTRUCTION DORSEY RUN ROAD (NORTH OF GUILFORD RD)					
CURVE	DESCRIPTION	STATION	NORTH	EAST	BEARING
	POT	30+00.00	533,826.6659	1,369,756.8520	N 28° 58' 47.18" E
	POT	31+10.28	533,923.1379	1,369,810.2828	

B/L CONSTRUCTION DORSEY RUN ROAD (SOUTH OF GUILFORD RD)					
CURVE	DESCRIPTION	STATION	NORTH	EAST	BEARING
	POT	0+13.03	533,107.8988	1,370,746.4468	S 20° 15' 09.95" W
	POT	3+05.01	532,833.9751	1,370,645.3761	

B/L CONSTRUCTION PUMPHOUSE ROAD					
CURVE	DESCRIPTION	STATION	NORTH	EAST	BEARING
	POT	20+00.00	532,951.7823	1,370,972.1141	N 35° 45' 23.15" E
	POT	21+16.74	533,046.5209	1,371,040.3323	

B/L CONSTRUCTION HILDER AVE.					
CURVE	DESCRIPTION	STATION	NORTH	EAST	BEARING
	POT	20+00.00	532,500.1235	1,371,578.8709	S 45° 17' 37.92" W
	POT	22+79.28	532,303.6610	1,371,380.3827	

B/L CONSTRUCTION BROCKBRIDGE ROAD					
CURVE	DESCRIPTION	STATION	NORTH	EAST	BEARING
⑦	POT	20+00.00	531,315.5060	1,372,187.1094	N 59° 08' 43.80" E
	PC	20+49.31	531,340.7957	1,372,229.4416	
	PI	21+11.32	531,372.5958	1,372,282.6716	
	PT	21+60.32	531,434.4138	1,372,277.8533	N 4° 27' 24.65" W

LIMIT OF WORK  
GUILFORD ROAD.  
STA. 60+69.52  
CONTRACT NO. B-3855

• POT STA 48+49.75 BK. = POT STA 148+50.00 AHD.  
• POT STA 159+40.00 BK. = POT STA 59+40.00 AHD.

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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 8/16/06  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 8/17/06  
CHIEF, BUREAU OF ENGINEERING DATE

*[Signature]* 8/17/06  
CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

GANNETT  
FLEMING, INC.

*[Logo]*

BALTIMORE,  
MARYLAND



DES: RLM					
DRN: JMR					
CHK: SH					
DATE: 8-06					
BY	NO.				DATE

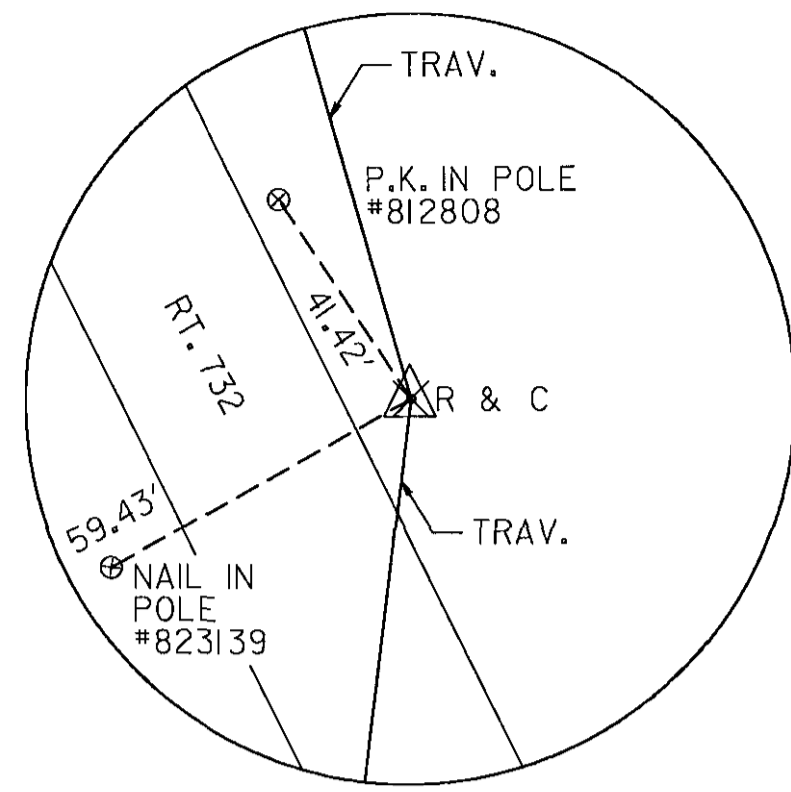
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GUILFORD ROAD IMPROVEMENTS  
GEOMETRY SHEET

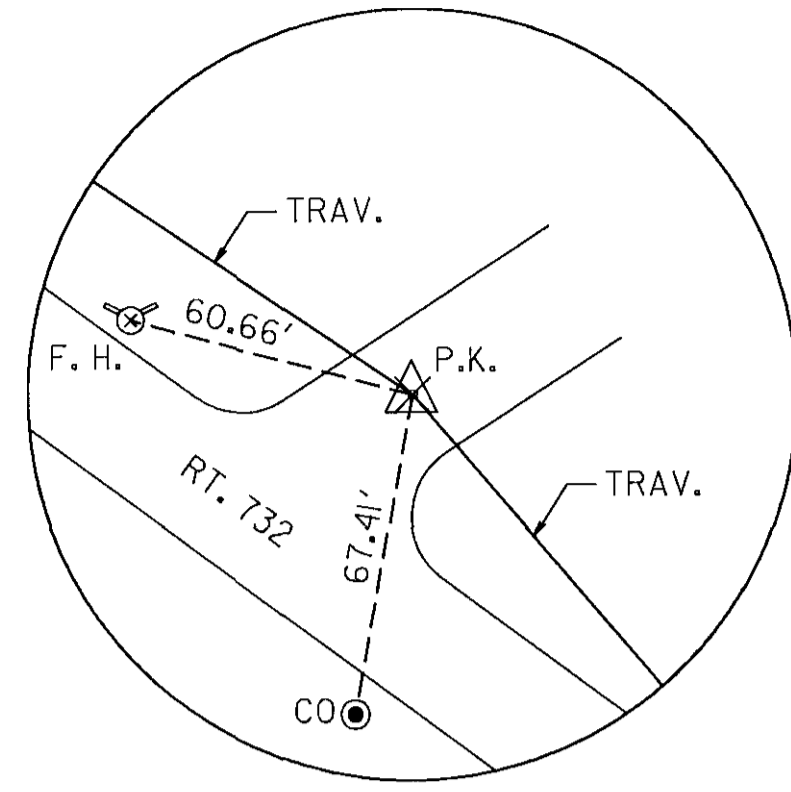
CAPITAL PROJECT No. J-4175 AND B-3855

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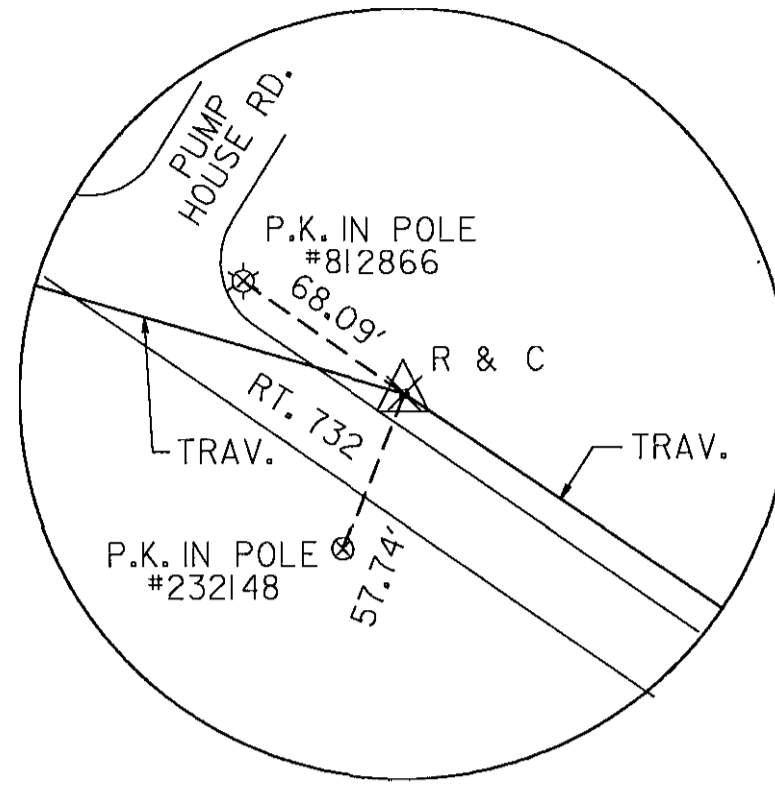
SHEET  
3 OF 156



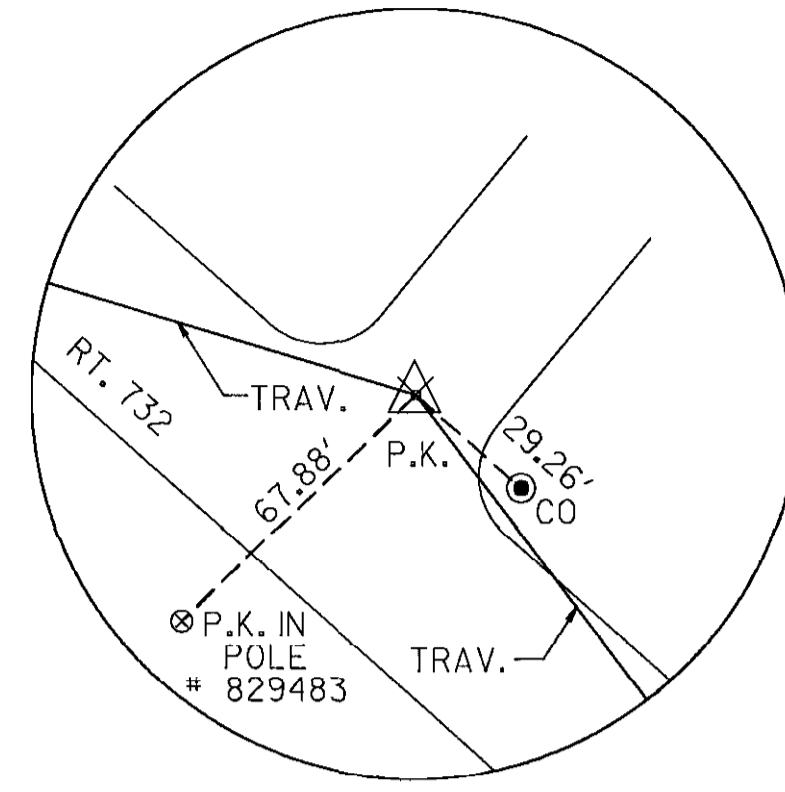
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CONTROL TRAVERSE  
GUILFORD ROAD



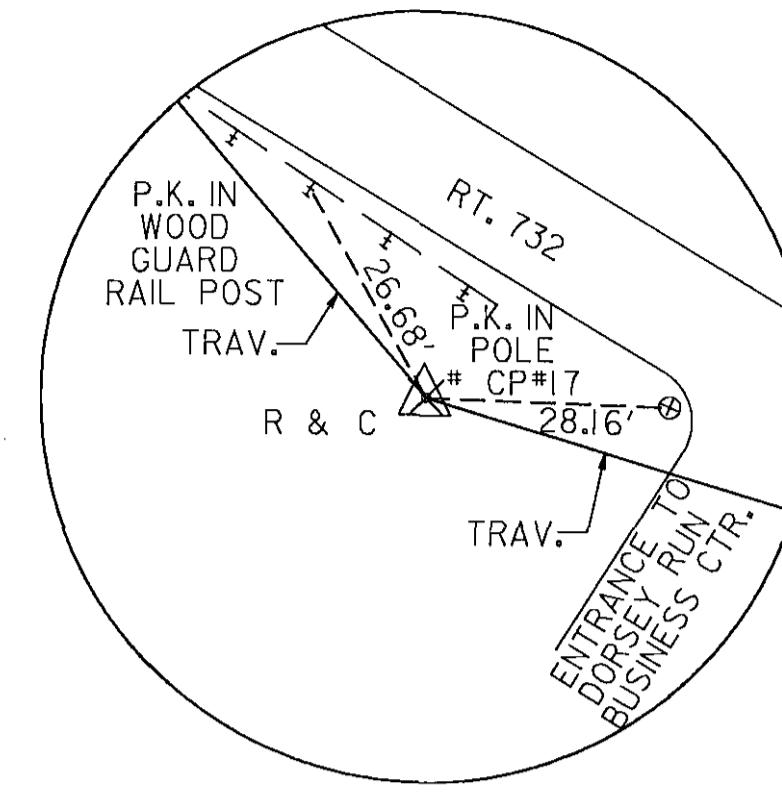
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CONTROL TRAVERSE  
GUILFORD ROAD



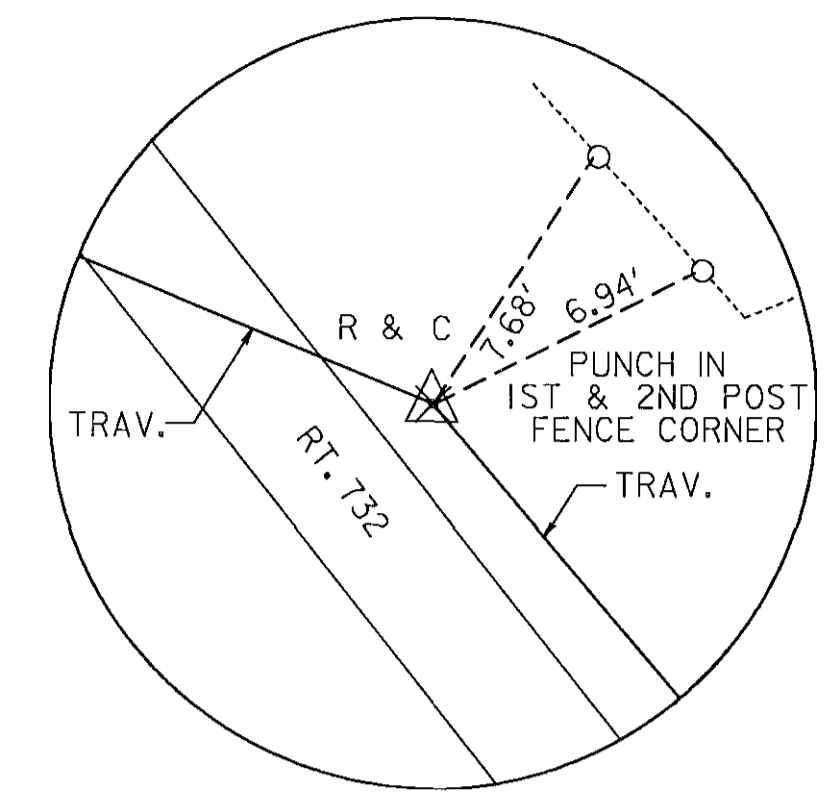
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CONTROL TRAVERSE  
GUILFORD ROAD



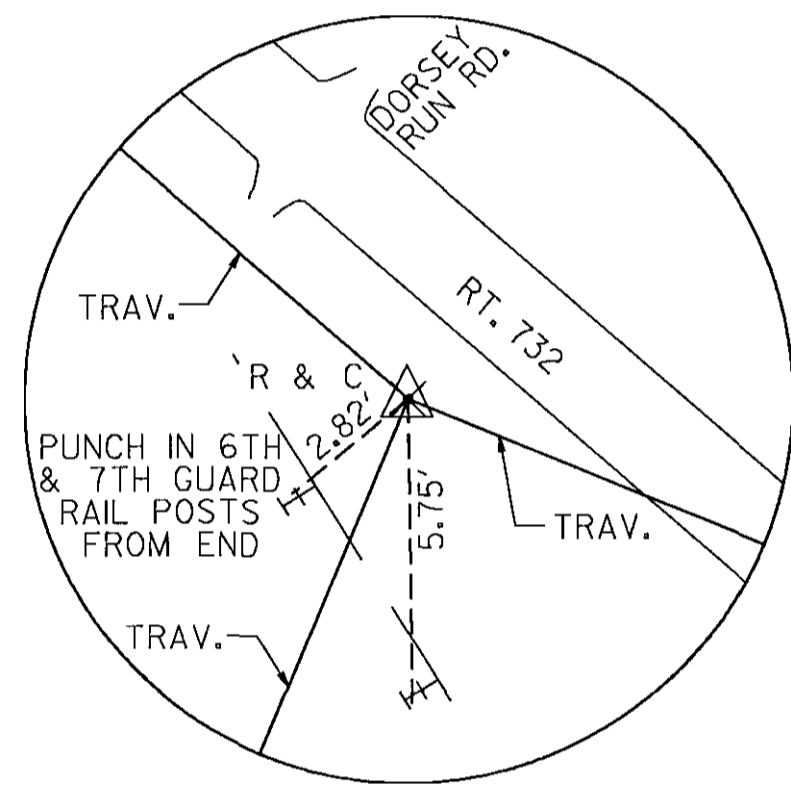
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CONTROL TRAVERSE  
GUILFORD ROAD



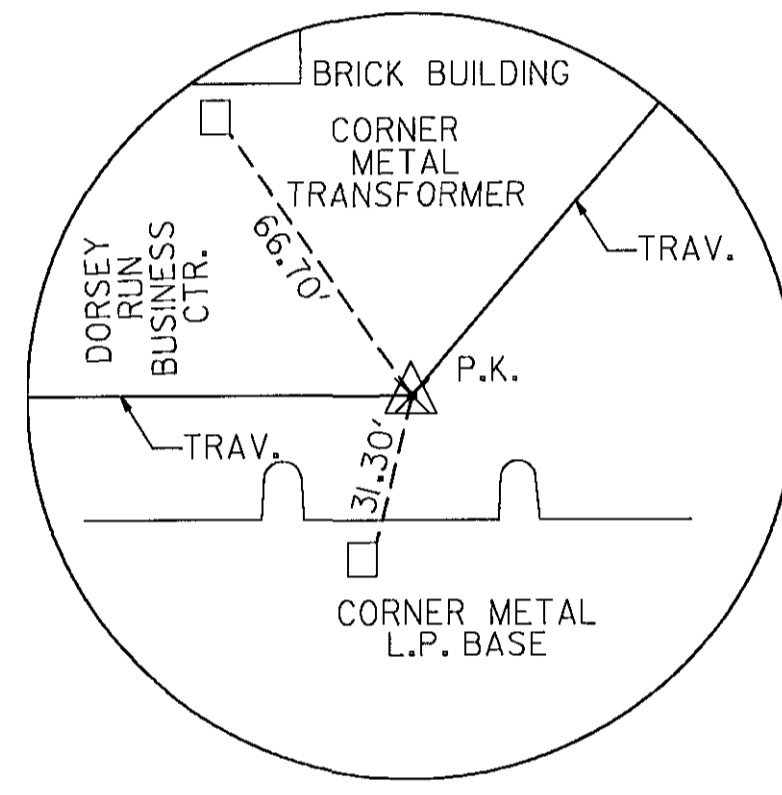
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CONTROL TRAVERSE  
GUILFORD ROAD



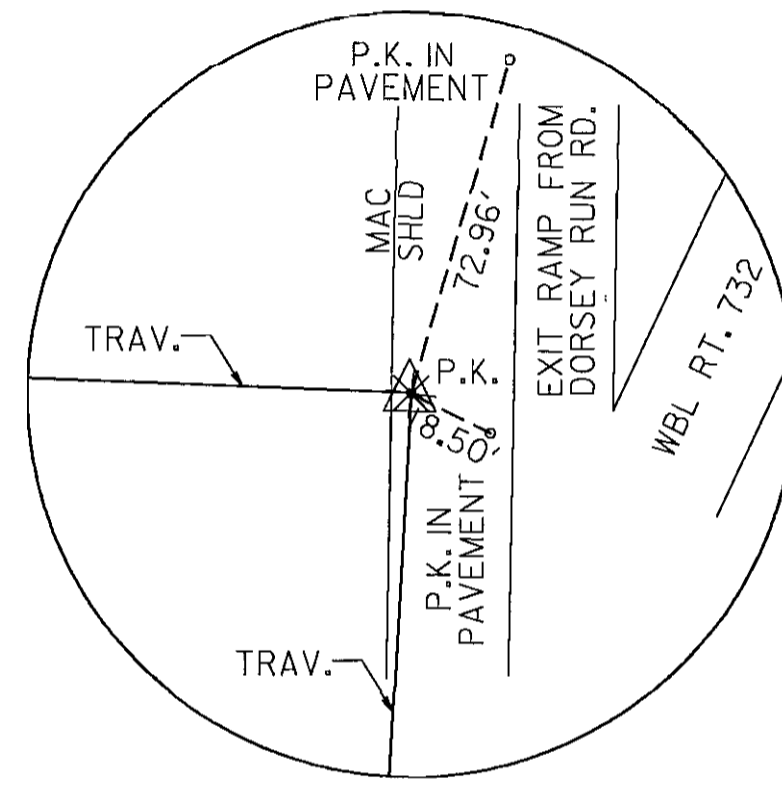
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CONTROL TRAVERSE  
GUILFORD ROAD



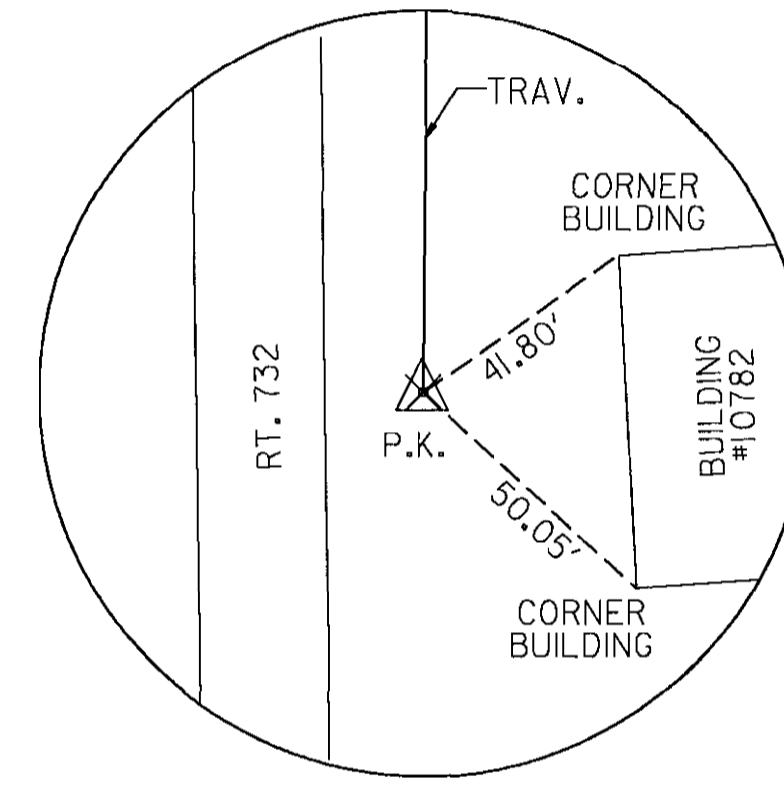
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CONTROL TRAVERSE  
GUILFORD ROAD



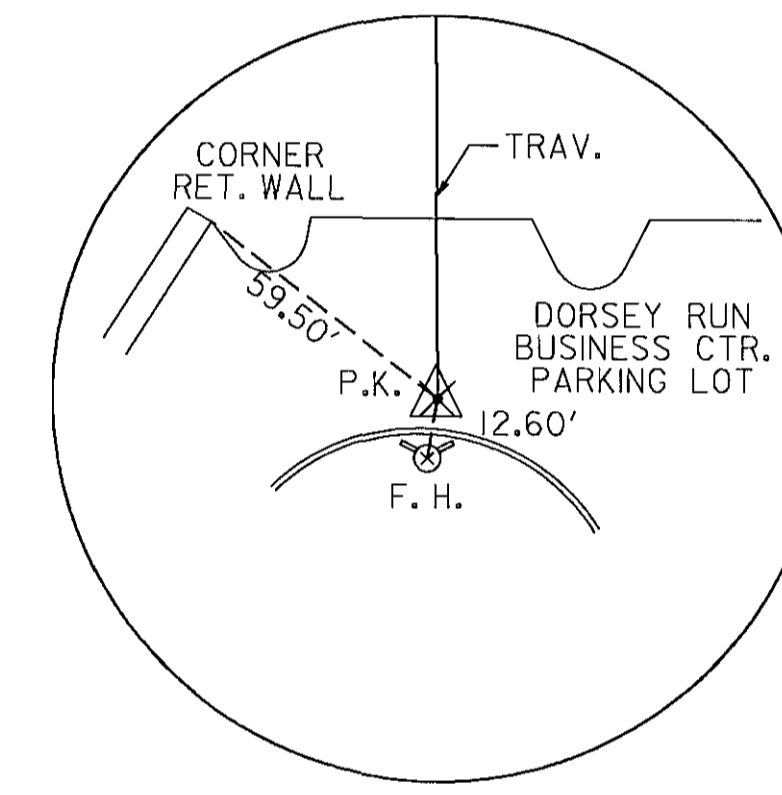
TRAV 58  
CONTROL TRAVERSE  
GUILFORD ROAD



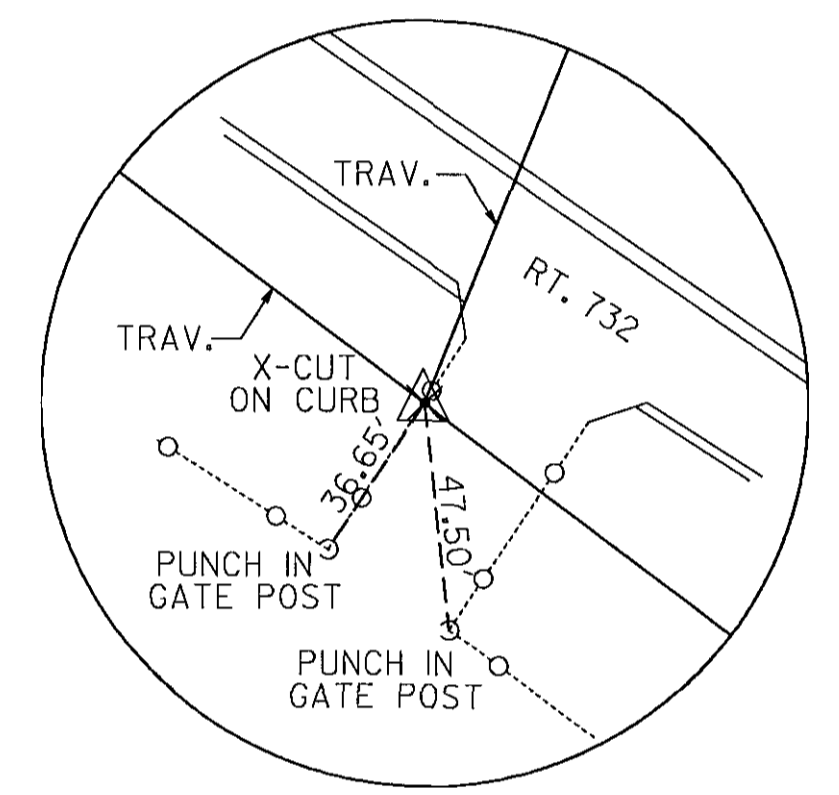
TRAV 59  
CONTROL TRAVERSE  
GUILFORD ROAD



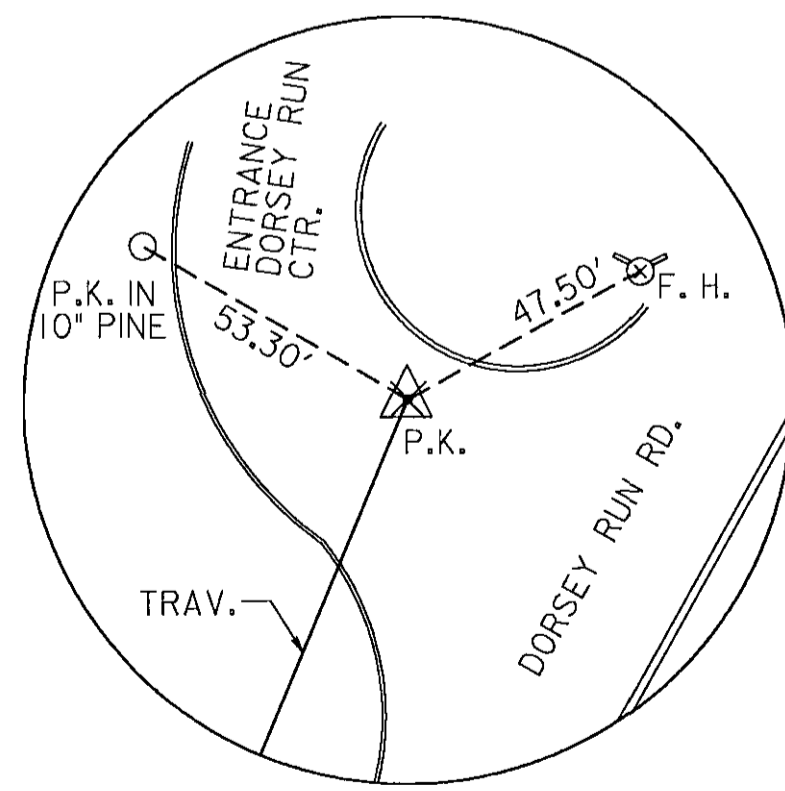
TRAV 60  
CONTROL TRAVERSE  
GUILFORD ROAD



TRAV 61  
CONTROL TRAVERSE  
GUILFORD ROAD



TRAV 62  
CONTROL TRAVERSE  
GUILFORD ROAD



TRAV 63  
CONTROL TRAVERSE  
GUILFORD ROAD

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Raymond*  
DIRECTOR OF PUBLIC WORKS  
DATE 8/6/06

*Charles H. Johnson*  
CHIEF, BUREAU OF ENGINEERING  
DATE 8/17/06

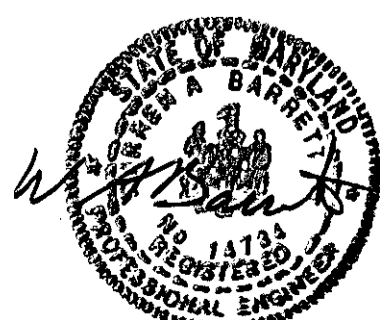
*William R. M...*  
CHIEF, BUREAU OF HIGHWAYS  
DATE 8-8-06

*Don Stankovic*  
CHIEF DIVISION OF TRANSPORTATION,  
SPECIAL PROJECTS DIVISION  
DATE 8/1/06

GANNETT  
FLEMING, INC.



BALTIMORE,  
MARYLAND



DES: RLM

DRN: SWG

CHK: SHH

DATE: 8-06

BY	NO.	DATE

GUILFORD ROAD IMPROVEMENTS  
TRAVERSE REFERENCE SHEET

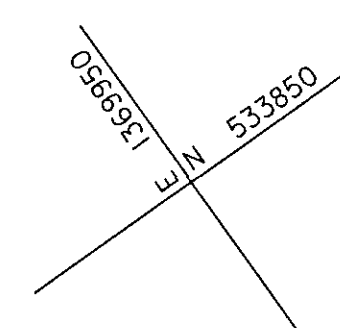
CAPITAL PROJECT No. J-4175 AND B-3855

TROI

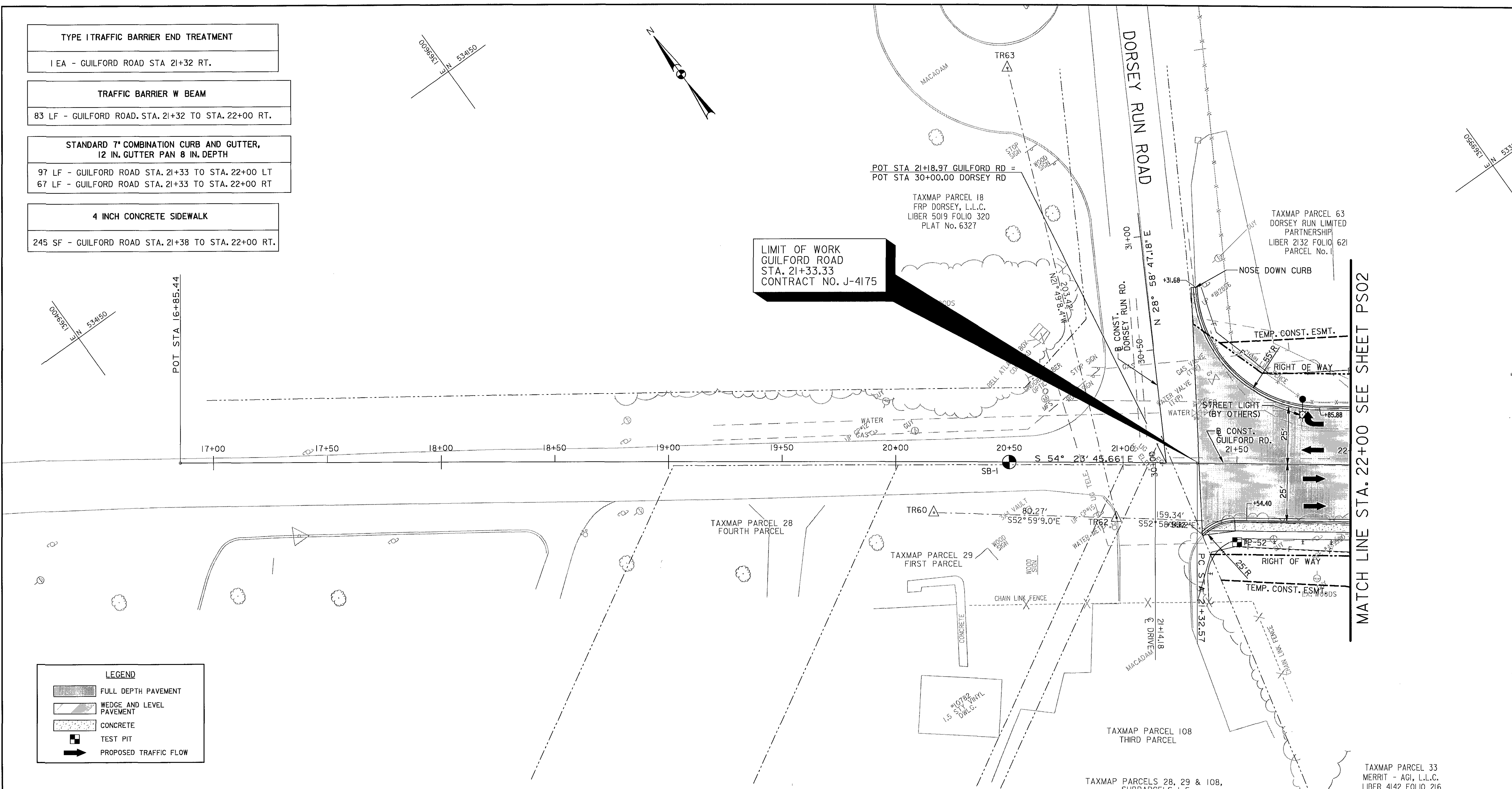
SCALE  
1" = 200'

SHEET  
4 OF 156

TYPE I TRAFFIC BARRIER END TREATMENT
1 EA - GUILFORD ROAD STA 21+32 RT.
TRAFFIC BARRIER W BEAM
83 LF - GUILFORD ROAD, STA. 21+32 TO STA. 22+00 RT.
STANDARD 7" COMBINATION CURB AND GUTTER, 12 IN. GUTTER PAN 8 IN. DEPTH
97 LF - GUILFORD ROAD STA. 21+33 TO STA. 22+00 LT 67 LF - GUILFORD ROAD STA. 21+33 TO STA. 22+00 RT
4 INCH CONCRETE SIDEWALK
245 SF - GUILFORD ROAD STA. 21+38 TO STA. 22+00 RT.



**LIMIT OF WORK**  
**GUILFORD ROAD**  
**STA. 21+33.33**  
**CONTRACT NO. J-4175**



MATCH LINE STA. 22+00 SEE SHEET PS02

LEGEND	
	FULL DEPTH PAVEMENT
	WEDGE AND LEVEL PAVEMENT
	CONCRETE
	TEST PIT
	PROPOSED TRAFFIC FLOW

CROSS REFERENCES	
ITEM	DWG. NO.
TYPICAL SECTION	TS01
GEOMETRY PLAN	GS01
PROFILE SHEETS	PR01
STORM DRAIN PROFILES	
E & S PLANS	ES01
SIGNING & PVMT MARKING PLAN	SP01

TEST HOLE DATA				
TEST HOLE	STATION	OFFSET	UTILITY	COVER (FT)
TP-52	21+50.28	34.53' RT.	2' TELEPHONE	2.55

UTILITY ADJUSTMENT					
STATION	OFFSET	EXISTING ELEV.	PROPOSED ELEV.	DIFFERENCE	TYPE
21+32.20	22.08' LT.	265.91'	265.95'	0.04'	WATER VALVE
21+34.49	26.35' LT.	265.77'	266.18'	0.41'	WATER VALVE
21+37.52	22.65' LT.	265.84'	265.88'	0.05'	WATER VALVE
21+39.76	36.99' LT.	265.23'	265.36'	0.12'	GAS VALVE

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 LINESTYLE: LIBRARY-MDSHALES  
 07/27/2006  
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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*Randy W. ...* 5/13/06  
 DIRECTOR OF PUBLIC WORKS DATE

*Richard L. ...* 5/17/06  
 CHIEF, BUREAU OF ENGINEERING DATE

*William J. ...* 8-06  
 CHIEF, BUREAU OF HIGHWAYS DATE

*John ...* 8/7/06  
 CHIEF, DIVISION OF TRANSPORTATION, DATE  
 SPECIAL PROJECTS DIVISION

**GANNETT FLEMING, INC.**

BALTIMORE, MARYLAND

DES: RLM				
DRN: JAR				
CHK: SJH				
DATE: 8-06	BY	NO.		DATE


GUILFORD ROAD IMPROVEMENTS

PLAN SHEET  
 STA 20+59 TO STA 22+00

CAPITAL PROJECT No. J-4175 AND B-3855

PS01
SCALE 1" = 20'
SHEET 5 OF 156

MATCH LINE STA. 22+00 SEE SHEET PS01

MATCH LINE STA. 28+50 SEE SHEET PS03

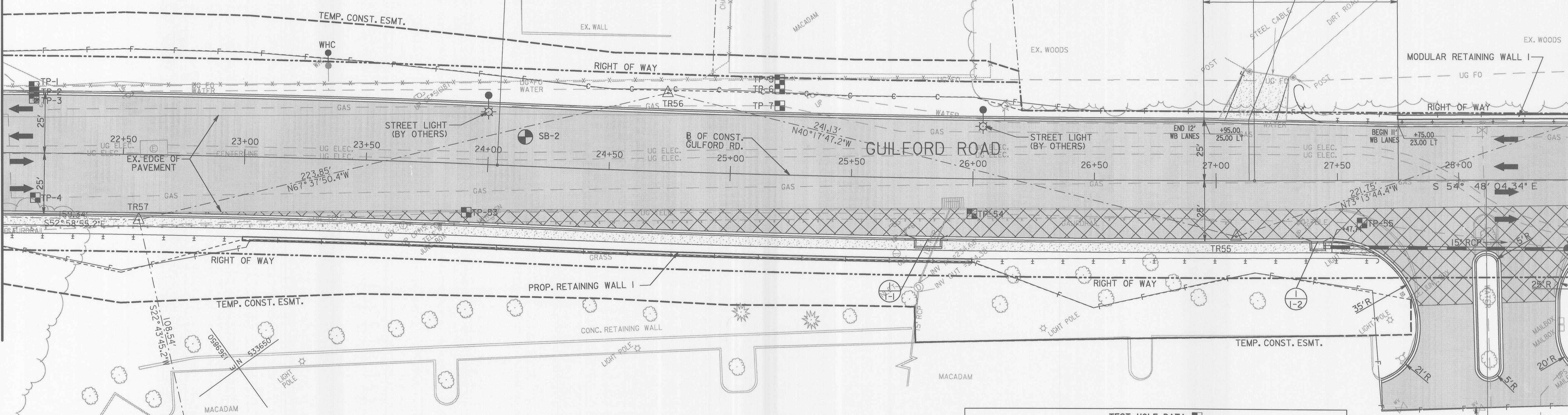
**GUILFORD RD. CURVE 1**  
 PI STA 22+68.29  
 DELTA = 2° 42' 49.51" (RT)  
 D = 0° 59' 59.73"  
 L = 271.40'  
 T = 135.72'  
 R = 5,730.00'  
 E = 1.61'  
 S/E = NC

**GUILFORD RD. CURVE 2**  
 PI STA 25+59.96  
 DELTA = 3° 07' 08.19" (LT)  
 D = 0° 59' 59.73"  
 L = 311.92'  
 T = 156.00'  
 R = 5,730.00'  
 E = 2.12'  
 S/E = NC

REMAINDER OF TAXMAP PARCEL 185  
 ELIZABETH KING L14 F.510  
 IAC 3/4 CEMETERY

TAXMAP PARCEL 63  
 DORSEY RUN LIMITED PARTNERSHIP  
 LIBER 2132 FOLIO 621  
 PARCEL No. 1

PARCEL No. 2  
 L. 2132 F. 621



**TYPE I TRAFFIC BARRIER END TREATMENT**

- 1 EA - GUILFORD ROAD STA 27+67 RT.
- 1 EA - GUILFORD ROAD STA 27+35 LT.

**TRAFFIC BARRIER THRIE BEAM ANCHORAGE AT RETAINING WALL**

- 1 EA - GUILFORD ROAD STA 23+00 RT.
- 1 EA - GUILFORD ROAD STA 26+00 RT.

**4 INCH CONCRETE SIDEWALK**

- 2239 SF - GUILFORD ROAD STA. 22+00 TO STA. 27+63 RT.

**REMOVAL OF EXISTING MASONRY**

- 1 CY - GUILFORD ROAD STA. 25+92 RT.

**TRAFFIC BARRIER W BEAM**

- 100 LF - GUILFORD ROAD STA. 22+00 TO STA. 23+00 RT.
- 167 LF - GUILFORD ROAD STA. 26+00 TO STA. 27+67 RT.
- 125 LF - GUILFORD RD. STA. 27+35 TO STA. 28+50 LT.

**STANDARD 7" COMBINATION CURB AND GUTTER, 12 IN. GUTTER PAN 8 IN. DEPTH**

- 650 LF - GUILFORD ROAD STA. 22+00 TO STA. 28+50 LT
- 632 LF - GUILFORD ROAD STA. 22+00 TO STA. 27+83 RT
- 115 LF - GUILFORD ROAD STA. 28+12 RT
- 67 LF - GUILFORD ROAD STA. 28+50 RT

**7" PCC PAVEMENT FOR DRIVEWAY MIX 6**

- 48 SY - GUILFORD ROAD STA. 27+13.64 LT

**REMOVAL OF EXISTING PIPE**

- 19 LF - GUILFORD ROAD STA. 25+84 TO STA. 25+91 RT.

**RELOCATE WATER HOUSE CONNECTION**

- 1 EA - GUILFORD ROAD STA. 23+32.87, 43.51' LT

**CLEAN EXISTING PIPE**

- 16 LF - GUILFORD ROAD STA. 25+78 TO STA. 25+85 RT.

**STRUCTURE SCHEDULE**

STRUCTURE	BASELINE	STATION	OFFSET	TYPE	TOP ELEV.	INV. OUT	STD. NO.
I/1-1	GUILFORD	25+82.04	25.00' RT	STD. A-10 INLET	254.35'	240.67'	SD-4.41
I/1-2	GUILFORD	27+41.74	25.00' RT	STD. A-5 INLET	242.52'	237.44'	SD-4.40

STATION, OFFSET AND ELEVATION ARE TAKEN AT TOP FACE OF CURB AT CENTER OF THE STRUCTURE FOR A-5 AND A-10 INLETS. FOR 15" COG INLETS MEASUREMENTS ARE TAKEN AT FACE OF CURB AT CENTER OF THE BASE UNIT. REMAINING STRUCTURES ARE MEASURED FROM CENTER OF STRUCTURE MIN. DEPTH PAYMENT PER EACH A-5 OR A-10 INLET SHALL BE 6" MEASURED FROM THE INVERT OUT OF INLET TO THE TOP OF THE TROUGH SLAB. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 6" INCLUDING ALL APPURTENANCES.

**UTILITY ADJUSTMENT**

STATION	OFFSET	EXISTING ELEV.	PROPOSED ELEV.	DIFFERENCE	TYPE
22+62.50	2.51' LT.	264.31'	265.00'	0.69'	ELECTRICAL
27+75.68	93.56' RT.	232.84'	232.90'	0.06'	WATER VALVE
28+09.84	20.52' LT.	235.00'	236.72'	1.72'	WATER VALVE

**TEST HOLE DATA**

TEST HOLE	STATION	OFFSET	UTILITY	COVER (FT)
TP-1	22+12.85	27.45' LT.	FIBER OPTIC	N/A
TP-2	22+12.88	25.35' LT.	WATER	N/A
TP-3	22+12.93	22.55' LT.	GAS	N/A
TP-4	22+13.93	18.36' RT.	GAS	N/A
TP-5	25+19.36	39.12' LT.	FIBER OPTIC	N/A
TP-6	25+19.48	35.33' LT.	WATER	N/A
TP-7	25+19.70	28.43' LT.	GAS	N/A
TP-53	23+92.00	19.97' RT.	2" TELEPHONE	4.40
TP-54	25+99.80	14.41' RT.	2" TELEPHONE	3.46
TP-55	27+60.02	17.50' RT.	2" TELEPHONE	2.55

**CROSS REFERENCES**

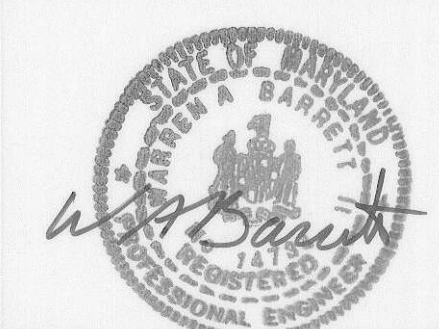
ITEM	DWG. NO.
TYPICAL SECTION	TS01
GEOMETRY PLAN	GS01
PROFILE SHEETS	PR02
STORM DRAIN PROFILES	SD02
E & S PLANS	ES02
SIGNING & PVMT MARKING PLAN	SP02
RETAINING WALL I	MSE-1
MODULAR RETAINING WALL I	MSE-4

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*Jamie M. ...*  
 DIRECTOR OF PUBLIC WORKS DATE 8/16/06  
*Willie J. ...*  
 CHIEF, BUREAU OF HIGHWAYS DATE 8-1-06

*Paul ...*  
 CHIEF, BUREAU OF ENGINEERING DATE 8/17/06  
*Jay ...*  
 CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE 8/17/06

**GANNETT FLEMING, INC.**  
 BALTIMORE, MARYLAND



DES: RLM  
 DRN: JMR  
 CHK: SHH  
 DATE: 8-06

BY	NO.	DATE

GUILFORD ROAD IMPROVEMENTS  
 PLAN SHEET  
 STA 22+00 TO STA 28+50  
 CAPITAL PROJECT No. J-4175 AND B-3855

PS02  
 SCALE 1" = 20'  
 SHEET 6 OF 156

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 LINESTYLE: LIBRARY-MDSHALS  
 DT: 2/17/2006  
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**REMOVAL OF EXISTING MASONRY**  
 1 CY - GUILFORD ROAD STA. 34+29 RT.  
 1 CY - GUILFORD ROAD STA. 34+53 RT.  
 1 CY - DORSEY RUN ROAD STA. 0+81 LT.

**4 INCH SCHEDULE 80 PVC CONDUIT (24 INCH DEPTH) •**  
 49 LF - GUILFORD ROAD STA. 28+87 TO STA. 29+35 LT.  
 78 LF - GUILFORD ROAD STA. 30+37 LT. TO STA. 30+37 RT.  
 51 LF - GUILFORD ROAD STA. 31+08 TO STA. 31+59 LT.

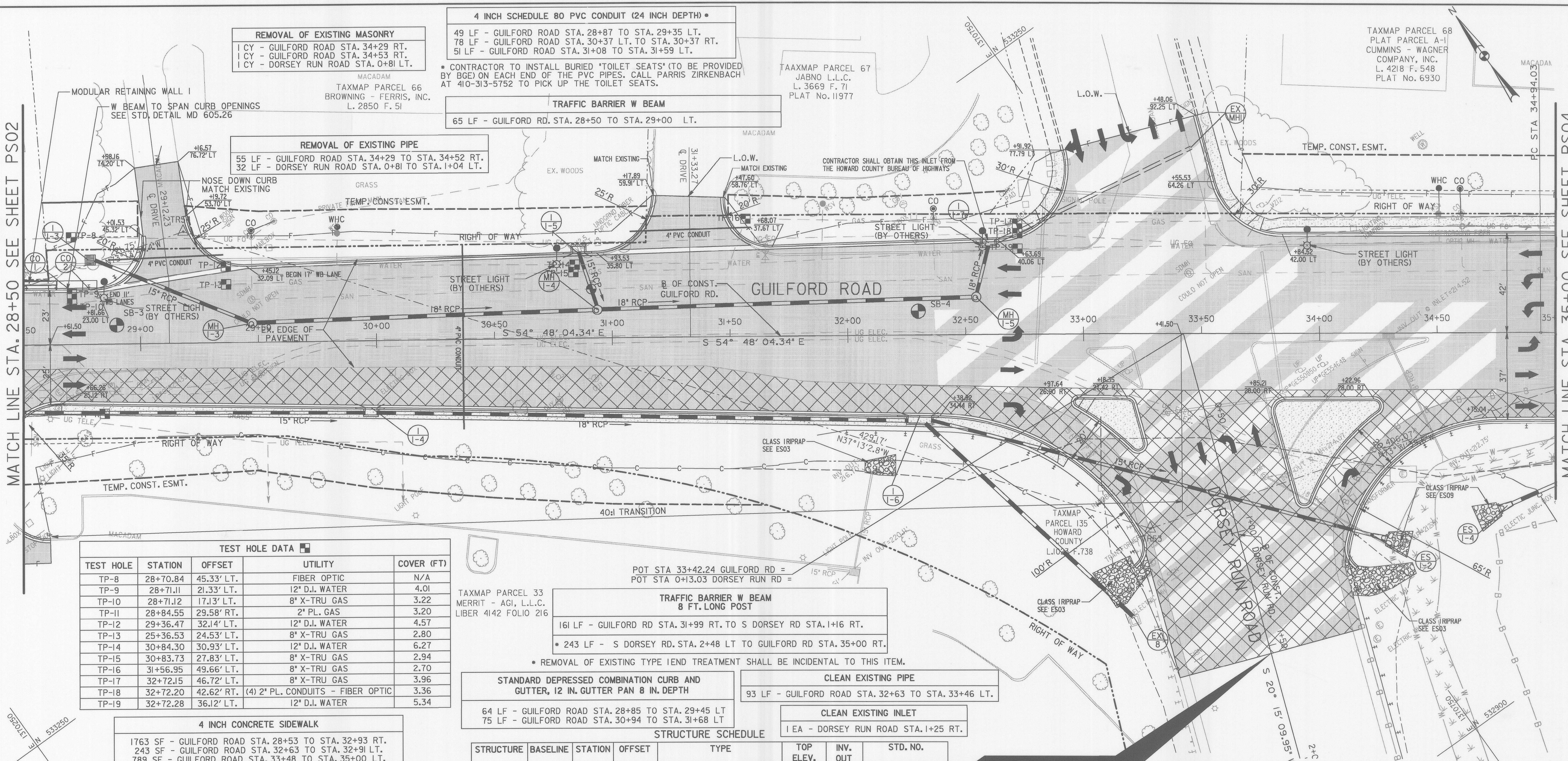
• CONTRACTOR TO INSTALL BURIED 'TOILET SEATS' (TO BE PROVIDED BY BGE) ON EACH END OF THE PVC PIPES. CALL PARRIS ZIRKENBACH AT 410-313-5752 TO PICK UP THE TOILET SEATS.

**TRAFFIC BARRIER W BEAM**  
 65 LF - GUILFORD RD. STA. 28+50 TO STA. 29+00 LT.

**REMOVAL OF EXISTING PIPE**  
 55 LF - GUILFORD ROAD STA. 34+29 TO STA. 34+52 RT.  
 32 LF - DORSEY RUN ROAD STA. 0+81 TO STA. 1+04 LT.

MATCH LINE STA. 28+50 SEE SHEET PS02

MATCH LINE STA. 35+00 SEE SHEET PS04



**TEST HOLE DATA**

TEST HOLE	STATION	OFFSET	UTILITY	COVER (FT)
TP-8	28+70.84	45.33' LT.	FIBER OPTIC	N/A
TP-9	28+71.11	21.33' LT.	12" D.I. WATER	4.01
TP-10	28+71.12	17.13' LT.	8" X-TRU GAS	3.22
TP-11	28+84.55	29.58' RT.	2" PL. GAS	3.20
TP-12	29+36.47	32.14' LT.	12" D.I. WATER	4.57
TP-13	25+36.53	24.53' LT.	8" X-TRU GAS	2.80
TP-14	30+84.30	30.93' LT.	12" D.I. WATER	6.27
TP-15	30+83.73	27.83' LT.	8" X-TRU GAS	2.94
TP-16	31+56.95	49.66' LT.	8" X-TRU GAS	2.70
TP-17	32+72.15	46.72' LT.	8" X-TRU GAS	3.96
TP-18	32+72.20	42.62' RT.	(4) 2" PL. CONDUITS - FIBER OPTIC	3.36
TP-19	32+72.28	36.12' LT.	12" D.I. WATER	5.34

**TRAFFIC BARRIER W BEAM 8 FT. LONG POST**  
 161 LF - GUILFORD RD STA. 31+99 RT. TO S DORSEY RD STA. 1+16 RT.  
 • 243 LF - S DORSEY RD. STA. 2+48 LT TO GUILFORD RD STA. 35+00 RT.

**STANDARD DEPRESSED COMBINATION CURB AND GUTTER, 12 IN. GUTTER PAN 8 IN. DEPTH**  
 64 LF - GUILFORD ROAD STA. 28+85 TO STA. 29+45 LT  
 75 LF - GUILFORD ROAD STA. 30+94 TO STA. 31+68 LT

**CLEAN EXISTING PIPE**  
 93 LF - GUILFORD ROAD STA. 32+63 TO STA. 33+46 LT.

**CLEAN EXISTING INLET**  
 1 EA - DORSEY RUN ROAD STA. 1+25 RT.

**STRUCTURE SCHEDULE**

STRUCTURE	BASELINE	STATION	OFFSET	TYPE	TOP ELEV.	INV. OUT	STD. NO.
I/1-3	GUILFORD	28+78.98	35.51' LT	STD. TYPE K INLET	229.50'	220.00'	SD-4.12
I/1-4	GUILFORD	29+97.51	28.40' RT	STD. A-5 INLET	226.54'	220.98'	SD-4.40
I/1-5	GUILFORD	30+86.04	35.62' LT	STD. A-5 INLET	223.61'	217.03'	SD-4.40
I/1-6	GUILFORD	32+30.32	34.22' RT	STD. A-10 INLET	221.35'	215.57'	SD-4.41
I/1-7	GUILFORD	32+59.97	38.64' LT	DOUBLE TYPE S INLET	220.31'	213.30'	SD-4.23
ES/1-2	DORSEY	01+14.04	49.78' LT	CONCRETE END SECTION	N/A	211.59'	SD-5.51
ES/1-4	GUILFORD	34+79.18	73.38' RT	CONCRETE END SECTION	N/A	208.01'	SD-5.51
MH/1-3	GUILFORD	29+47.48	8.15' LT	4' STANDARD PRECAST MH	228.56'	219.05'	G-5.12
MH/1-4	GUILFORD	30+93.76	11.80' LT	4' STANDARD PRECAST MH	223.33'	216.71'	G-5.12
MH/1-5	GUILFORD	32+54.66	15.76' LT	4' SHALLOW PRECAST MH	220.81	215.73'	G-5.12
CO/1	GUILFORD	28+70.16	23.00' LT	10' COG OPENING	233.33'	N/A	MD-374.68
CO/2	GUILFORD	28+78.66	23.00' LT	5' COG OPENING	232.81	N/A	MD-374.68

STATION, OFFSET AND ELEVATION ARE TAKEN AT TOP FACE OF CURB AT CENTER OF THE STRUCTURE FOR COG OPENINGS, A-5 AND A-10 INLETS. REMAINING STRUCTURES ARE MEASURED FROM CENTER OF THE STRUCTURE. MIN. DEPTH PAYMENT PER EACH A-5 OR A-10 INLET SHALL BE 6"2" MEASURED FROM THE INVERT OUT OF INLET TO THE TOP OF THE TROUGH SLAB. MIN. DEPTH PAYMENT PER EACH K OR S INLET SHALL BE 3"6" MEASURED FROM THE INVERT OUT OF INLET TO THE TOP OF THE GRATE. MIN. DEPTH PAYMENT PER EACH STD. MH SHALL BE 9"0" MEASURED FROM THE INVERT OUT OF MH TO THE TOP OF THE FRAME. MIN. DEPTH PAYMENT PER EACH SHALLOW MH SHALL BE 3"0" MEASURED FROM THE INVERT OUT OF MH TO THE TOP OF THE FRAME. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF THE MIN. DEPTH PAYMENT INCLUDING ALL APPURTENANCES.

**LIMIT OF WORK**  
 DORSEY RUN ROAD  
 STA. 1+53.36  
 CONTRACT NO. J-4175

**UTILITY ADJUSTMENT**  
 (SEE SHT. PS08)

STATION	OFFSET	EXISTING ELEV.	PROPOSED ELEV.	DIFFERENCE	TYPE
RELOCATE WATER HOUSE CONNECTION					
1 EA - GUILFORD ROAD STA. 29+83.85, 48.22' LT					
1 EA - GUILFORD ROAD STA. 34+51.17, 61.07' LT					
RELOCATE SANITARY CLEANOUT					
1 EA - GUILFORD ROAD STA. 29+47.32, 47.19' LT					
1 EA - GUILFORD ROAD STA. 32+36.67, 53.25' LT					
1 EA - GUILFORD ROAD STA. 34+60.16, 60.89' LT					
TYPE I TRAFFIC BARRIER END TREATMENT					
1 EA - GUILFORD ROAD STA 29+00 LT.					
7" PCC PAVEMENT MIX 7					
143 SY - GUILFORD ROAD STA. 33+00 AND STA. 34+00 ISLANDS					

**CROSS REFERENCES**

ITEM	DWG. NO.
TYPICAL SECTION	TS01
GEOMETRY PLAN	GS01
PROFILE SHEETS	PR03
STORM DRAIN PROFILES	SD02
E & S PLANS	ES03
TRAFFIC SIGNALIZATION PLANS	SG01
SIGNING & PVMT MARKING PLAN	SP03
MODULAR RETAINING WALL I	MSE-4

**LEGEND**

- FULL DEPTH PAVEMENT
- WEDGE AND LEVEL PAVEMENT
- CONCRETE
- PAVEMENT TO BE PAID FOR BY THE DEVELOPER
- TEST PIT
- PROPOSED TRAFFIC FLOW

**TYPE A TRAFFIC BARRIER END TREATMENT**  
 1 EA - GUILFORD ROAD STA 31+87 TO STA 31+99 RT.

**REMOVAL AND DISPOSAL OF EXISTING TRAFFIC BARRIER**  
 40 LF - S DORSEY RD STA 0+76 TO STA 1+16 RT

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

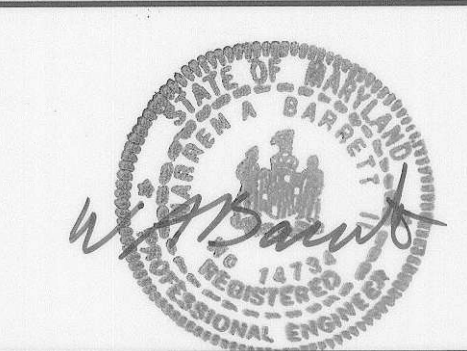
*James J. ...* 8/18/06  
 DIRECTOR OF PUBLIC WORKS DATE

*William J. ...* 8/1/06  
 CHIEF, BUREAU OF HIGHWAYS DATE

*...* 8/1/06  
 CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

**GANNETT FLEMING, INC.**

*...*  
 BALTIMORE, MARYLAND



DES: RCM  
 DRN: JMR  
 CHK: SH  
 DATE: 8-06

BY	NO.	DATE

GUILFORD ROAD IMPROVEMENTS

PLAN SHEET  
 STA 28+50 TO STA 35+00

CAPITAL PROJECT No. J-4175 AND B-3855

SCALE  
 1" = 20'

SHEET  
 1 OF 156

LIMIT OF WORK  
PUMPHOUSE ROAD  
STA. 21+04.24  
CONTRACT NO. J-4175

TAXMAP PARCEL 68  
PLAT PARCEL A-1  
CUMMINS - WAGNER  
COMPANY, INC.  
L. 4218 F. 548  
PLAT No. 6930

GUILFORD RD.  
CURVE 3  
PI STA 36+35.65  
DELTA = 5° 24' 20.06" (LT)  
D = 1° 54' 35.49"  
L = 283.04'  
T = 141.62'  
R = 3,000.00'  
S/E = 3.34'  
S/E = 2.40%

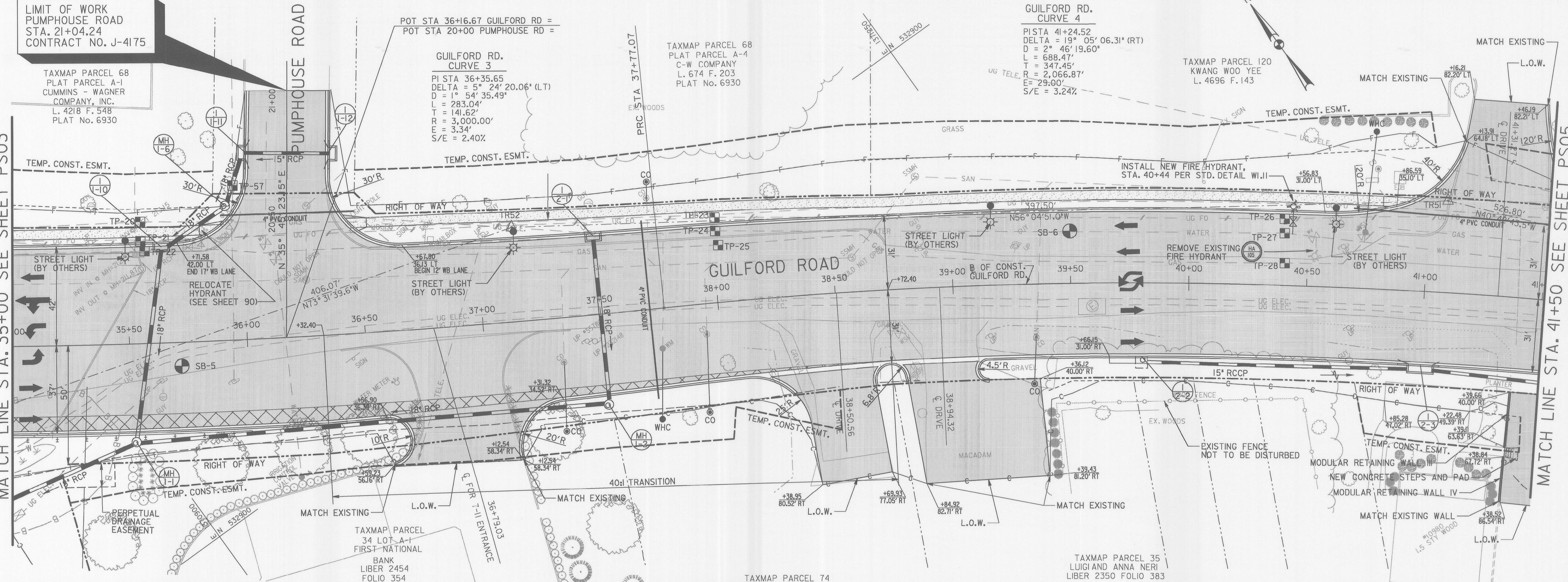
TAXMAP PARCEL 68  
PLAT PARCEL A-4  
C-W COMPANY  
L. 674 F. 203  
PLAT No. 6930

GUILFORD RD.  
CURVE 4  
PI STA 41+24.52  
DELTA = 19° 05' 06.31" (RT)  
D = 2° 46' 19.60"  
L = 688.47'  
T = 347.45'  
R = 2,066.87'  
S/E = 29.90'  
S/E = 3.24%

TAXMAP PARCEL 120  
KWANG WOO YEE  
L. 4696 F. 143

MATCH LINE STA. 35+00 SEE SHEET PS03

MATCH LINE STA. 41+50 SEE SHEET PS05



**STANDARD DEPRESSED COMBINATION CURB AND GUTTER, 12 IN. GUTTER PAN 8 IN. DEPTH**  
103 LF - GUILFORD ROAD STA. 38+10 TO STA. 39+14 RT

**4 INCH CONCRETE SIDEWALK**  
347 SF - GUILFORD ROAD STA. 35+00 TO STA. 35+92 LT.  
1811 SF - GUILFORD ROAD STA. 36+43 TO STA. 40+97 LT.

**STANDARD 7" COMBINATION CURB AND GUTTER, 12 IN. GUTTER PAN 8 IN. DEPTH**  
151 LF - GUILFORD ROAD STA. 35+00 TO STA. 36+04 LT  
549 LF - GUILFORD ROAD STA. 36+40 TO STA. 41+14 LT  
22 LF - GUILFORD ROAD STA. 41+46 TO STA. 41+50 LT  
188 LF - GUILFORD ROAD STA. 35+00 TO STA. 36+59 RT  
136 LF - GUILFORD ROAD STA. 37+12 TO STA. 38+30 RT  
26 LF - GUILFORD ROAD STA. 38+65 TO STA. 38+79 RT  
248 LF - GUILFORD ROAD STA. 39+14 TO STA. 41+50 RT

**TRAFFIC BARRIER W BEAM**  
102 LF - GUILFORD ROAD STA. 35+00 TO STA. 36+00 RT.

**TEST HOLE DATA**

TEST HOLE	STATION	OFFSET	UTILITY	COVER (FT)
TP-20	35+56.03	51.43' LT.	GAS	N/A
TP-21	35+55.95	43.33' LT.	FIBER OPTIC	N/A
TP-22	35+57.60	39.04' LT.	12" D.I. WATER	4.03
TP-23	38+01.82	35.79' LT.	(4) 2" PL. CONDUITS - FIBER OPTIC	3.15
TP-24	38+01.52	30.10' LT.	12" D.I. WATER	6.73
TP-25	38+02.26	24.07' LT.	8" X-TRU GAS	2.82
TP-26	40+40.00	28.01' LT.	FIBER OPTIC	N/A
TP-27	40+40.13	21.91' LT.	WATER	N/A
TP-28	40+40.52	9.34' LT.	GAS	N/A
TP-57	35+96.55	65.22' LT.	1" ELEC. CABLE OVER 2" PL. GAS	2.55

**RELOCATE WATER HOUSE CONNECTION**  
I EA - GUILFORD ROAD STA. 37+71.76, 46.87' RT  
I EA - GUILFORD ROAD STA. 40+76.89, 66.15' LT

**RELOCATE SANITARY CLEANOUT**  
I EA - GUILFORD ROAD STA. 37+31.51, 48.06' RT  
I EA - GUILFORD ROAD STA. 37+75.09, 53.46' LT  
I EA - GUILFORD ROAD STA. 37+92.45, 45.98' RT  
I EA - GUILFORD ROAD STA. 39+33.63, 42.25' RT

**UTILITY ADJUSTMENT**  
(SEE SHT. PS08)

STATION	OFFSET	EXISTING ELEV.	PROPOSED ELEV.	DIFFERENCE	TYPE

**STRUCTURE SCHEDULE**

STRUCTURE	BASELINE	STATION	OFFSET	TYPE	TOP ELEV.	INV. OUT	STD. NO.
I/1-10	GUILFORD	35+64.79	40.69 LT	DOUBLE TYPE S INLET	215.90'	208.91'	SD-4.23
I/1-11	PUMPHOUSE	20+78.05	17.49 LT	STD. A-5 INLET	214.84'	210.02'	SD-4.40
I/1-12	PUMPHOUSE	20+77.65	17.35 RT	STD. A-5 INLET	214.63'	210.45	SD-4.40
I/2-1	GUILFORD	37+49.90	33.01' LT	DOUBLE TYPE S INLET	214.11'	210.13'	SD-4.23
MH/1-1	GUILFORD	35+51.96	41.49' RT	4' STANDARD PRECAST MH	218.05'	208.41'	G-5.12
MH/1-2	GUILFORD	37+50.01	38.37' RT	4' SHALLOW PRECAST MH	215.40'	209.70'	G-5.12
MH/1-6	GUILFORD	35+92.85	56.79 LT	4' SHALLOW PRECAST MH	215.18'	209.25'	G-5.12
I/2-2	GUILFORD	39+79.82	31.06' RT	STD. COG-15 INLET	206.82'	202.82'	MD-374.51
I/2-3	GUILFORD	41+00	31.00' RT	STD. A-10 INLET	201.82'	198.31'	SD-4.41

**CONCRETE STEPS**  
1 CY - GUILFORD ROAD STA 41+41 RT.

**CONCRETE PAD (4 INCH CONCRETE SIDEWALK)**  
15 SF - GUILFORD ROAD STA 41+43 RT.

**TYPE I TRAFFIC BARRIER END TREATMENT**  
1 EA - GUILFORD ROAD STA 36+00 RT.

**CROSS REFERENCES**

ITEM	DWG. NO.
TYPICAL SECTION	TS01
GEOMETRY PLAN	GS01
PROFILE SHEETS	PRO4
STORM DRAIN PROFILES	SD01
E & S PLANS	ES04
SIGNING & PVMT MARKING PLAN	SP04
MODULAR RETAINING WALLS III AND IV	MSE-7

**LEGEND**

- FULL DEPTH PAVEMENT
- WEDGE AND LEVEL PAVEMENT
- CONCRETE
- PAVEMENT TO BE PAID FOR BY THE DEVELOPER
- TEST PIT
- PROPOSED TRAFFIC FLOW

**REMOVAL OF EXISTING PIPE**  
4 LF - GUILFORD ROAD STA. 35+55 TO STA. 35+56 LT.  
79 LF - GUILFORD ROAD STA. 35+16 RT. TO STA. 35+57 LT.

**REMOVAL OF EXISTING MASONRY**  
1 CY - GUILFORD ROAD STA. 35+16 RT.  
1 CY - GUILFORD ROAD STA. 35+55 LT.  
1 CY - GUILFORD ROAD STA. 35+56 LT.

\* CONTRACTOR TO INSTALL BURIED "TOILET SEATS" (TO BE PROVIDED BY BGE) ON EACH END OF THE PVC PIPES. CALL PARRIS ZIRKENBACH AT 410-313-5752 TO PICK UP THE TOILET SEATS.

STATION, OFFSET AND ELEVATION ARE TAKEN AT TOP FACE OF CURB AT CENTER OF THE STRUCTURE FOR A-5 AND A-10 INLETS. FOR 15" COG INLETS MEASUREMENTS ARE TAKEN AT FACE OF CURB AT CENTER OF THE BASE UNIT. REMAINING STRUCTURES ARE MEASURED FROM CENTER OF STRUCTURE. MIN. DEPTH PAYMENT PER EACH 15" COG, A-5 OR A-10 INLET SHALL BE 6'2" MEASURED FROM THE INVERT OUT OF INLET TO THE TOP OF THE TROUGH SLAB. MIN. DEPTH PAYMENT PER EACH K OR S INLET SHALL BE 3'6" MEASURED FROM THE INVERT OUT OF INLET TO THE TOP OF THE GRATE. MIN. DEPTH PAYMENT PER EACH STD. MH SHALL BE 9'0" MEASURED FROM THE INVERT OUT OF MH TO THE TOP OF THE FRAME. MIN. DEPTH PAYMENT PER EACH SHALLOW MH SHALL BE 3'10" MEASURED FROM THE INVERT OUT OF MH TO THE TOP OF THE FRAME. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF THE MIN. DEPTH PAYMENT INCLUDING ALL APPURTENANCES.

SCALE: 1" = 20'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James J. Williams* 8/8/06  
DIRECTOR OF PUBLIC WORKS DATE

*Charles H. Gannett* 8/17/06  
CHIEF, BUREAU OF ENGINEERING DATE

*William Z. Hubert* 8-8-06  
CHIEF, BUREAU OF HIGHWAYS DATE

*John Stankovic* 8/16/06  
CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

**GANNETT FLEMING, INC.**

*John Stankovic*  
REGISTERED PROFESSIONAL ENGINEER  
BALTIMORE, MARYLAND

DES: RLM  
DRN: JMR  
CHK: SIH  
DATE: 8-06

BY	NO.	DATE

GUILFORD ROAD IMPROVEMENTS

PLAN SHEET  
STA 35+00 TO STA 41+50

CAPITAL PROJECT No. J-4175 AND B-3855

PS04  
SCALE 1" = 20'  
SHEET 8 OF 156



UTILITY ADJUSTMENT					
STATION	OFFSET	EXISTING ELEV.	PROPOSED ELEV.	DIFFERENCE	TYPE
41+76.40	17.59' LT.	200.01'	200.41'	0.40'	WATER VALVE
42+50.00	34.50' LT.	200.92'	199.69'	-1.23'	FIBER OPTIC*
42+81.14	50.33' LT.	201.92'	200.85'	-1.07'	SANITARY
43+86.31	45.95' LT.	197.01'	197.75'	0.74'	SANITARY
44+85.00	14.00' RT.	193.72'	194.09'	0.37'	ELECTRICAL

GUILFORD RD. CURVE 4  
 PISTA 41+24.52  
 DELTA = 19° 05' 06.31" (RT)  
 D = 2° 46' 19.60"  
 L = 688.47'  
 T = 347.45'  
 R = 2,066.87'  
 E = 29.00'  
 S/E = 3.24%

REMOVE AND SALVAGE EXISTING FENCE  
 299 LF - GUILFORD ROAD STA. 44+69 LT. TO STA. 47+50 LT.

6 FOOT CHAIN LINK FENCE WITH BARBED WIRE  
 311 LF - GUILFORD ROAD STA. 44+69 LT. TO STA. 47+50 LT.

12 FOOT GATE FOR 6 FOOT CHAIN LINK FENCE WITH BARBED WIRE  
 1 EA - GUILFORD ROAD STA. 45+63 LT.

RELOCATE WATER HOUSE CONNECTION  
 1 EA - GUILFORD ROAD STA. 42+02.04, 42.32' RT  
 1 EA - GUILFORD ROAD STA. 43+97.35, 42.32' RT  
 1 EA - GUILFORD ROAD STA. 44+02.51, 50.12' LT  
 1 EA - GUILFORD ROAD STA. 45+08.28, 42.32' RT  
 1 EA - GUILFORD ROAD STA. 46+48.30, 57.18' LT

GUILFORD RD. CURVE 5  
 PI STA 46+43.34  
 DELTA = 18° 04' 47.94" (RT)  
 D = 5° 07' 36.38"  
 L = 352.66'  
 T = 177.81'  
 R = 1,117.58'  
 E = 14.06'  
 S/E = 4.66%

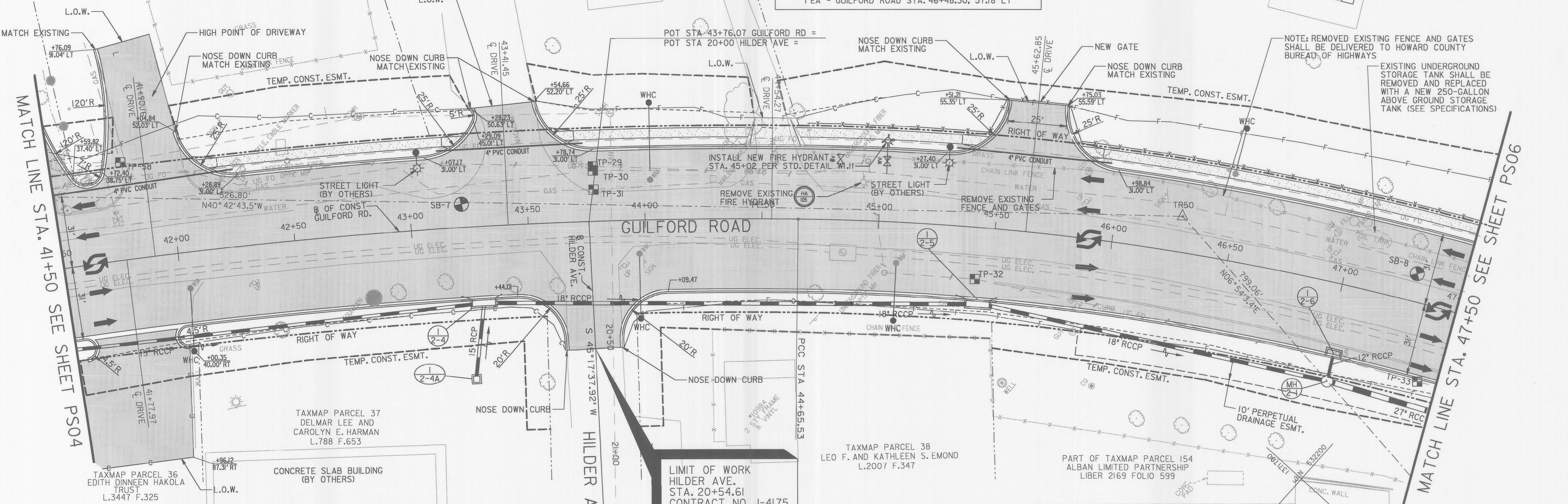
\* TO BE ADJUSTED BY OTHERS

TAXMAP PARCEL 69  
 WILLIAM D. AND NANCY M. JOHNSTON  
 L. 922 F. 247

TAXMAP PARCEL 70  
 ANTONIO AND MARIA ALHO  
 L. 2368 F. 77

TAXMAP PARCEL 119  
 HARRY THOMAS FRANKLIN AND BARBARA DARLENE FRANKLIN  
 L. 417 F. 128

APPROXIMATE LOCATION OF NEW 250 GALLON TANK - EXACT LOCATION WILL BE BASED ON THE DECISION OF THE PROPERTY OWNER



7" PCC PAVEMENT FOR DRIVEWAY MIX 6  
 26 SY - GUILFORD ROAD STA. 44+54.27 LT

STANDARD 7" COMBINATION CURB AND GUTTER, 12 IN. GUTTER PAN 8 IN. DEPTH  
 95 LF - GUILFORD ROAD STA. 41+50 TO STA. 41+76 LT  
 148 LF - GUILFORD ROAD STA. 42+05 TO STA. 43+28 LT  
 225 LF - GUILFORD ROAD STA. 43+55 TO STA. 45+51 LT  
 194 LF - GUILFORD ROAD STA. 45+75 TO STA. 47+50 LT  
 18 LF - GUILFORD ROAD STA. 41+50 TO STA. 41+56 RT  
 191 LF - GUILFORD ROAD STA. 42+00 TO STA. 43+65 RT  
 366 LF - GUILFORD ROAD STA. 43+89 TO STA. 47+50 RT

LEGEND  
 FULL DEPTH PAVEMENT  
 WEDGE AND LEVEL PAVEMENT  
 CONCRETE  
 TEST PIT  
 PROPOSED TRAFFIC FLOW

4 INCH CONCRETE SIDEWALK  
 39 SF - GUILFORD ROAD STA. 41+59 TO STA. 41+72 LT.  
 456 SF - GUILFORD ROAD STA. 42+10 TO STA. 43+25 LT.  
 338 SF - GUILFORD ROAD STA. 43+60 TO STA. 44+45 LT.  
 330 SF - GUILFORD ROAD STA. 44+64 TO STA. 45+46 LT.  
 694 SF - GUILFORD ROAD STA. 45+81 TO STA. 47+50 LT.

CROSS REFERENCES	ITEM	DWG. NO.
TYPICAL SECTION		TS01
GEOMETRY PLAN		GS01
PROFILE SHEETS		PR05
STORM DRAIN PROFILES		SD03
E & S PLANS		ES05
SIGNING & PVMT MARKING PLAN		SP05

STANDARD DEPRESSED COMBINATION CURB AND GUTTER, 12 IN. GUTTER PAN 8 IN. DEPTH  
 44 LF - GUILFORD ROAD STA. 41+55 TO STA. 42+00 RT

TEST HOLE DATA				
TEST HOLE	STATION	OFFSET	UTILITY	COVER (FT)
TP-29	43+78.27	23.58' LT.	FIBER OPTIC	N/A
TP-30	43+78.29	21.78' LT.	WATER	N/A
TP-31	43+78.37	13.68' LT.	GAS	N/A
TP-32	45+42.99	22.22' RT.	FIBER OPTIC	N/A
TP-33	47+41.65	32.74' RT.	(2) 2" PL. CONDUITS - FIBER OPTIC	2.96
TP-58	41+80.44	42.00' LT.	3" PLASTIC GAS	3.15

4 INCH SCHEDULE 80 PVC CONDUIT (24 INCH DEPTH) \*  
 78 LF - GUILFORD ROAD STA. 41+50 TO STA. 42+27 LT.  
 63 LF - GUILFORD ROAD STA. 43+12 TO STA. 43+74 LT.  
 66 LF - GUILFORD ROAD STA. 45+31 TO STA. 45+96 LT.

\* CONTRACTOR TO INSTALL BURIED 'TOILET SEATS' (TO BE PROVIDED BY BGE) ON EACH END OF THE PVC PIPES. CALL PARRIS ZIRKENBACH AT 410-313-5752 TO PICK UP THE TOILET SEATS.

STRUCTURE SCHEDULE							
STRUCTURE	BASELINE	STATION	OFFSET	TYPE	TOP ELEV.	INV. OUT	STD. NO.
1/2-4	GUILFORD	43+29.32	31.00' RT	STD. A-10 INLET	196.32	192.74	SD-4.4i
1/2-4A	GUILFORD	43+24.32	65.31' RT	STD. D INLET	194.88	191.88	SD-4.1i
1/2-5	GUILFORD	45+45.06	31.00' RT	STD. A-10 INLET	193.12	189.59	SD-4.4i
1/2-6	GUILFORD	47+03.01	29.69' RT	DOUBLE TYPE S INLET	190.48	187.62	SD-4.23
MH/2-1	GUILFORD	47+02.98	41.92' RT	5' SHALLOW PRECAST MH	189.00	186.30	G-5.13

STATION, OFFSET AND ELEVATION ARE TAKEN AT TOP FACE OF CURB AT CENTER OF THE STRUCTURE FOR A-5 AND A-10 INLETS. FOR 15' COG INLETS MEASUREMENTS ARE TAKEN AT FACE OF CURB AT CENTER OF THE BASE UNIT. REMAINING STRUCTURES ARE MEASURED FROM CENTER OF STRUCTURE. MIN. DEPTH PAYMENT PER EACH 15' COG, A-5 OR A-10 INLET SHALL BE 6'2" MEASURED FROM THE INVERT OUT OF INLET TO THE TOP OF THE TROUGH SLAB. MIN. DEPTH PAYMENT PER EACH K OR S INLET SHALL BE 3'6" MEASURED FROM THE INVERT OUT OF INLET TO THE TOP OF THE GRATE. MIN. DEPTH PAYMENT PER EACH STD. MH SHALL BE 9'0" MEASURED FROM THE INVERT OUT OF MH TO THE TOP OF THE FRAME. MIN. DEPTH PAYMENT PER EACH SHALLOW MH SHALL BE 3'10" MEASURED FROM THE INVERT OUT OF MH TO THE TOP OF THE FRAME. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF THE MIN. DEPTH PAYMENT INCLUDING ALL APPURTENANCES.

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: [Signature] 8/16/06  
 Chief, Bureau of Engineering: [Signature] 8/17/06  
 Chief, Bureau of Highways: [Signature] 8/16/06  
 Chief, Division of Transportation, Special Projects Division: [Signature] 8/16/06

GANNETT FLEMING, INC.  
 BALTIMORE, MARYLAND  
 [Logo]

DES: RLM  
 DRN: JMR  
 CHK: SIH  
 DATE: 8-06

BY	NO.	DATE

GUILFORD ROAD IMPROVEMENTS  
 PLAN SHEET  
 STA 41+50 TO STA 47+50  
 CAPITAL PROJECT No. J-4175 AND B-3855  
 SCALE 1" = 20'  
 SHEET 9 OF 156

CONTRACT NO. B-3855

TYPE G TRAFFIC BARRIER END TREATMENT

1 EA - GUILFORD ROAD STA 149+61 TO STA 150+00 RT.

CONTRACT NO. B-3855

TRAFFIC BARRIER W BEAM  
8 FT. LONG POST

250 LF - GUILFORD ROAD STA 150+00 TO STA 152+50 RT.

CONTRACT NO. B-3855

RELOCATE WATER HOUSE CONNECTION

1 EA - GUILFORD ROAD STA. 149+36.46, 62.14' LT

CONTRACT NO. J-4175

4 INCH SCHEDULE 80 PVC CONDUIT (24 INCH DEPTH) \*

67 LF - GUILFORD ROAD STA. 47+92 TO STA. 148+57 LT.

\* CONTRACTOR TO INSTALL BURIED 'TOILET SEATS' (TO BE PROVIDED BY BGE) ON EACH END OF THE PVC PIPES. CALL PARRIS ZIRKENBACH AT 410-313-5752 TO PICK UP THE TOILET SEATS.

REMOVAL OF EXISTING MASONRY

1 CY - GUILFORD ROAD STA. 149+26 LT.  
1 CY - GUILFORD ROAD STA. 149+67 RT.

REMOVAL OF EXISTING PIPE

80 LF - GUILFORD ROAD STA. 149+25 LT. TO STA. 149+67 RT.

CONTRACT NO. B-3855

REMOVE AND SALVAGE EXISTING FENCE

97 LF - GUILFORD ROAD STA. 148+50 LT. TO STA. 149+21 LT.

6 FOOT CHAIN LINK FENCE WITH BARBED WIRE

70 LF - GUILFORD ROAD STA. 148+50 LT. TO STA. 149+20 RT.

STRUCTURE SCHEDULE

STRUCTURE	BASELINE	STATION	OFFSET	TYPE	TOP ELEV.	INV. OUT	STD. NO.
1/2-7	GUILFORD	48+22.22	31.00' RT	STD. A-10 INLET	190.34	185.70	SD-4.41
1/2-8	GUILFORD	50+30.25	31.00' LT	STD. A-10 INLET	193.44	189.86	SD-4.41
1/2-9	GUILFORD	149+51.31	31.00' RT	STD. A-10 INLET	191.55	187.45	SD-4.41
1/2-11	GUILFORD	151+00.01	31.00' RT	STD. A-10 INLET	195.89	189.48	SD-4.41
MH/2-2	GUILFORD	48+25.37	43.02' RT	5' SHALLOW PRECAST MH	189.80	185.41	G-5.13
MH/2-3	GUILFORD	50+50.66	52.72' RT	5' SHALLOW PRECAST MH	188.00	184.20	G-5.13
MH/2-4	GUILFORD	50+47.03	37.68' RT	4' STANDARD PRECAST MH	193.00	186.00	G-5.12
EW/2-1	GUILFORD	50+53.72	62.58' RT	TYPE C ENDWALL	186.26	184.16	SD-5.21

STATION, OFFSET AND ELEVATION ARE TAKEN AT TOP FACE OF CURB AT CENTER OF THE STRUCTURE FOR A-10 INLETS. REMAINING STRUCTURES ARE MEASURED FROM CENTER OF STRUCTURE. MIN. DEPTH PAYMENT PER EACH A-10 INLET SHALL BE 6'2" MEASURED FROM THE INVERT OUT OF INLET TO THE TOP OF THE TROUGH SLAB. MIN. DEPTH PAYMENT PER EACH STD. MH SHALL BE 9'0" MEASURED FROM THE INVERT OUT OF MH TO THE TOP OF THE FRAME. MIN. DEPTH PAYMENT PER EACH SHALLOW MH SHALL BE 3'10" MEASURED FROM THE INVERT OUT OF MH TO THE TOP OF THE FRAME. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF THE MIN. DEPTH PAYMENT INCLUDING ALL APPURTENANCES.

CONTRACT NO. J-4175

REMOVE AND SALVAGE EXISTING FENCE

52 LF - GUILFORD ROAD STA. 47+50 LT. TO STA. 47+93 LT.  
28 LF - GUILFORD ROAD STA. 48+31 LT. TO STA. 48+51 LT.

6 FOOT CHAIN LINK FENCE WITH BARBED WIRE

124 LF - GUILFORD ROAD STA. 47+50 LT. TO STA. 48+51 LT.

12 FOOT GATE FOR 6 FOOT CHAIN LINK FENCE WITH BARBED WIRE

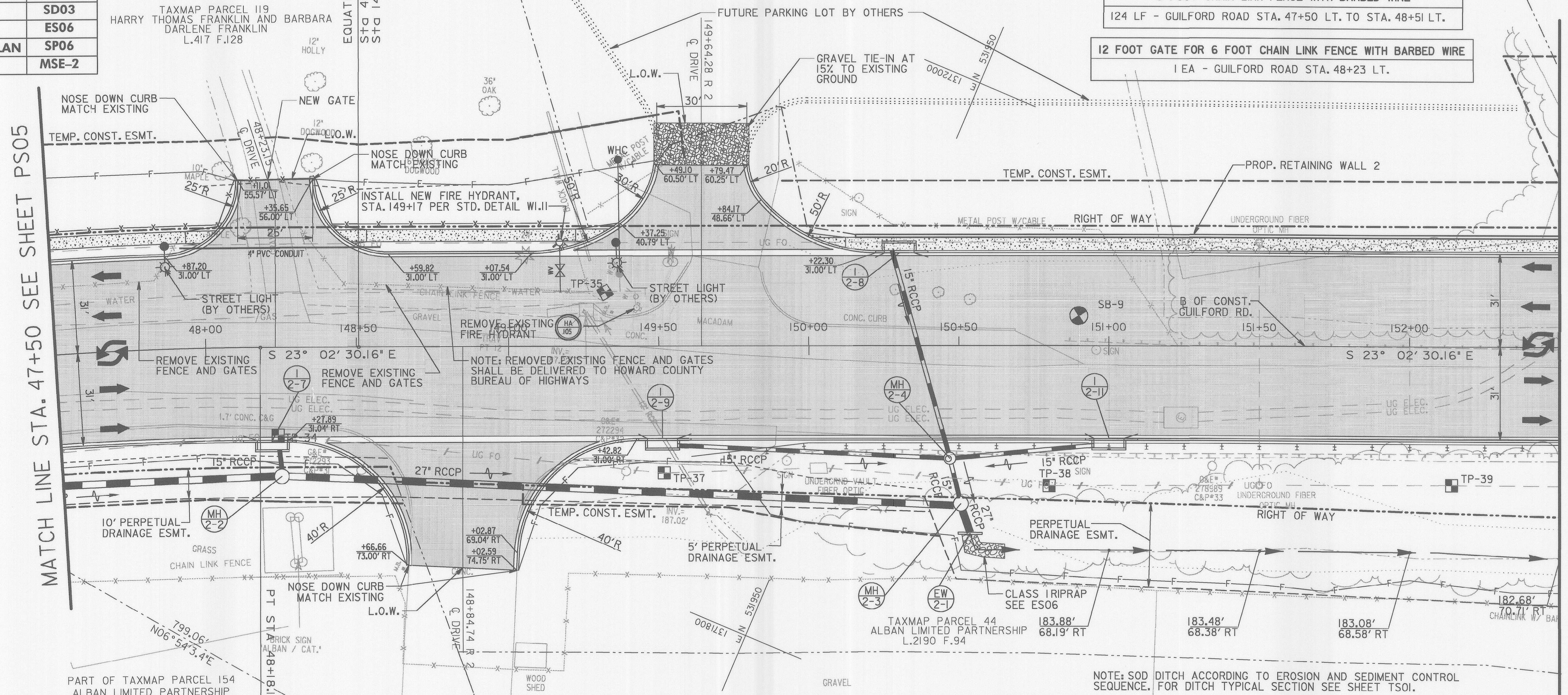
1 EA - GUILFORD ROAD STA. 48+23 LT.

TAXMAP PARCEL 42  
ANDREW MARC GENERAL  
PARTNERSHIP  
L.642 F.264

CROSS REFERENCES	
ITEM	DWG. NO.
TYPICAL SECTION	TS01
GEOMETRY PLAN	GS01
PROFILE SHEETS	PR06
STORM DRAIN PROFILES	SD03
E & S PLANS	ES06
SIGNING & PVMT MARKING PLAN	SPO6
RETAINING WALL 2	MSE-2

MATCH LINE STA. 47+50 SEE SHEET PS05

MATCH LINE STA. 152+50 SEE SHEET PS07



LEGEND

- FULL DEPTH PAVEMENT
- WEDGE AND LEVEL PAVEMENT
- CONCRETE
- TEST PIT
- PROPOSED TRAFFIC FLOW

CONTRACT NO. J-4175

STANDARD DEPRESSED COMBINATION CURB AND GUTTER, 12 IN. GUTTER PAN 8 IN. DEPTH

23 LF - GUILFORD ROAD STA. 48+28 TO STA. 48+51 RT

CONTRACT NO. J-4175

STANDARD 7" COMBINATION CURB AND GUTTER, 12 IN. GUTTER PAN 8 IN. DEPTH

77 LF - GUILFORD ROAD STA. 47+50 TO STA. 48+11 LT  
29 LF - GUILFORD ROAD STA. 48+35 TO STA. 48+51 LT  
100 LF - GUILFORD ROAD STA. 47+50 TO STA. 48+51 RT

CONTRACT NO. B-3855

STANDARD DEPRESSED COMBINATION CURB AND GUTTER, 12 IN. GUTTER PAN 8 IN. DEPTH

115 LF - GUILFORD ROAD STA. 149+07 TO STA. 150+22 LT  
93 LF - GUILFORD ROAD STA. 148+50 TO STA. 149+43 RT

CONTRACT NO. B-3855

STANDARD 7" COMBINATION CURB AND GUTTER, 12 IN. GUTTER PAN 8 IN. DEPTH

114 LF - GUILFORD ROAD STA. 148+50 TO STA. 149+49 LT  
284 LF - GUILFORD ROAD STA. 149+79 TO STA. 152+50 LT  
40 LF - GUILFORD ROAD STA. 148+50 TO STA. 148+67 RT  
374 LF - GUILFORD ROAD STA. 149+03 TO STA. 152+50 RT

CONTRACT NO. J-4175

4 INCH CONCRETE SIDEWALK

223 SF - GUILFORD ROAD STA. 47+50 TO STA. 48+05 LT.  
30 SF - GUILFORD ROAD STA. 48+42 TO STA. 48+51 LT.

CONTRACT NO. B-3855

4 INCH CONCRETE SIDEWALK

331 SF - GUILFORD ROAD STA. 148+50 TO STA. 149+36 LT.  
1073 SF - GUILFORD ROAD STA. 149+99 TO STA. 152+50 LT.

CONTRACT NO. B-3855

6 INCH CRUSHER RUN AGGREGATE CR-6

50 SY - GUILFORD ROAD STA. 148+48 TO STA. 149+80 LT.

DIRT DIRT DIRT

UTILITY ADJUSTMENT

STATION	OFFSET	EXISTING ELEV.	PROPOSED ELEV.	DIFFERENCE	TYPE
(SEE SHT. PS08)					

TEST HOLE DATA

TEST HOLE	STATION	OFFSET	UTILITY	COVER (FT)
TP-34	48+24.15	29.36' RT.	(2) 2" PL. CONDUITS - FIBER OPTIC	5.31
TP-35	149+32.09	17.93' LT.	12" D.I. WATER	5.43
TP-37	149+51.86	42.40' RT.	(2) 2" PL. CONDUITS - FIBER OPTIC	3.34
TP-38	150+80.03	46.70' RT.	(2) 2" PL. CONDUITS - FIBER OPTIC	3.07
TP-39	152+14.01	46.11' RT.	(2) 2" PL. CONDUITS - FIBER OPTIC	2.07

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Janet W. ...*  
DIRECTOR OF PUBLIC WORKS  
DATE: 8/10/06

*Richard P. ...*  
CHIEF, BUREAU OF ENGINEERING  
DATE: 8/10/06

GANNETT  
FLEMING, INC.



BALTIMORE,  
MARYLAND



DES: RLM  
DRN: JMR  
CHK: SHH  
DATE: 8-06

BY	NO.	DATE

GUILFORD ROAD IMPROVEMENTS

PLAN SHEET  
STA 47+50 TO STA 152+00  
CAPITAL PROJECT No. J-4175 AND B-3855

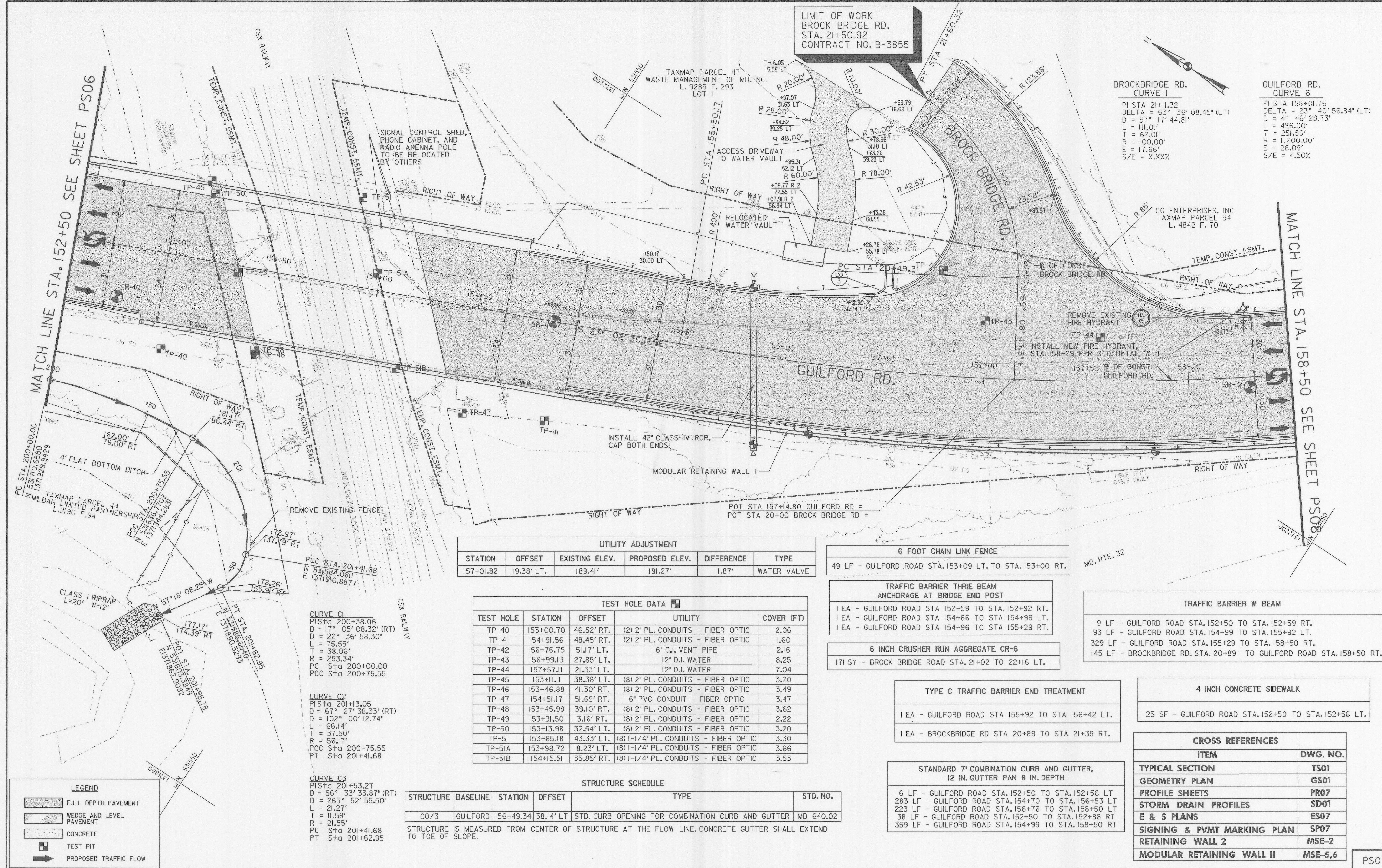
PS06

SCALE

1" = 20'

SHEET

10 OF 156



LIMIT OF WORK  
 BROCK BRIDGE RD.  
 STA. 21+50.92  
 CONTRACT NO. B-3855

BROCKBRIDGE RD. CURVE 1		GUILFORD RD. CURVE 6	
PI STA	21+11.32	PI STA	158+01.76
DELTA	63° 36' 08.45" (LT)	DELTA	23° 40' 56.84" (LT)
D	57' 17" 44.81'	D	4° 46' 28.73"
L	111.01'	L	496.00'
T	62.01'	T	251.59'
R	100.00'	R	1,200.00'
E	17.66'	E	26.09'
S/E	= X.XXX	S/E	= 4.50%

STATION	OFFSET	EXISTING ELEV.	PROPOSED ELEV.	DIFFERENCE	TYPE
157+01.82	19.38' LT.	189.41'	191.27'	1.87'	WATER VALVE

**6 FOOT CHAIN LINK FENCE**  
 49 LF - GUILFORD ROAD STA. 153+09 LT. TO STA. 153+00 RT.

**TRAFFIC BARRIER THREE BEAM ANCHORAGE AT BRIDGE END POST**  
 1 EA - GUILFORD ROAD STA. 152+59 TO STA. 152+92 RT.  
 1 EA - GUILFORD ROAD STA. 154+66 TO STA. 154+99 LT.  
 1 EA - GUILFORD ROAD STA. 154+96 TO STA. 155+29 RT.

**TRAFFIC BARRIER W BEAM**  
 9 LF - GUILFORD ROAD STA. 152+50 TO STA. 152+59 RT.  
 93 LF - GUILFORD ROAD STA. 154+99 TO STA. 155+92 LT.  
 329 LF - GUILFORD ROAD STA. 155+29 TO STA. 158+50 RT.  
 145 LF - BROCKBRIDGE RD. STA. 20+89 TO GUILFORD ROAD STA. 158+50 RT.

**6 INCH CRUSHER RUN AGGREGATE CR-6**  
 171 SY - BROCK BRIDGE ROAD STA. 21+02 TO 22+16 LT.

**TYPE C TRAFFIC BARRIER END TREATMENT**  
 1 EA - GUILFORD ROAD STA. 155+92 TO STA. 156+42 LT.  
 1 EA - BROCKBRIDGE RD STA. 20+89 TO STA. 21+39 RT.

**4 INCH CONCRETE SIDEWALK**  
 25 SF - GUILFORD ROAD STA. 152+50 TO STA. 152+56 LT.

**STANDARD 7" COMBINATION CURB AND GUTTER, 12 IN. GUTTER PAN 8 IN. DEPTH**  
 6 LF - GUILFORD ROAD STA. 152+50 TO STA. 152+56 LT.  
 283 LF - GUILFORD ROAD STA. 154+70 TO STA. 156+53 LT.  
 223 LF - GUILFORD ROAD STA. 156+76 TO STA. 158+50 LT.  
 38 LF - GUILFORD ROAD STA. 152+50 TO STA. 152+88 RT.  
 359 LF - GUILFORD ROAD STA. 154+99 TO STA. 158+50 RT.

ITEM	DWG. NO.
TYPICAL SECTION	TS01
GEOMETRY PLAN	GS01
PROFILE SHEETS	PR07
STORM DRAIN PROFILES	SD01
E & S PLANS	ES07
SIGNING & PVMT MARKING PLAN	SP07
RETAINING WALL 2	MSE-2
MODULAR RETAINING WALL II	MSE-5,6

TEST HOLE	STATION	OFFSET	UTILITY	COVER (FT)
TP-40	153+00.70	46.52' RT.	(2) 2" PL. CONDUITS - FIBER OPTIC	2.06
TP-41	154+91.56	48.45' RT.	(2) 2" PL. CONDUITS - FIBER OPTIC	1.60
TP-42	156+76.75	51.17' LT.	6" C.I. VENT PIPE	2.16
TP-43	156+99.13	27.85' LT.	12" D.J. WATER	8.25
TP-44	157+57.11	21.33' LT.	12" D.J. WATER	7.04
TP-45	153+11.11	38.38' LT.	(8) 2" PL. CONDUITS - FIBER OPTIC	3.20
TP-46	153+46.88	41.30' RT.	(8) 2" PL. CONDUITS - FIBER OPTIC	3.49
TP-47	154+51.17	51.69' RT.	6" PVC CONDUIT - FIBER OPTIC	3.47
TP-48	153+45.99	39.10' RT.	(8) 2" PL. CONDUITS - FIBER OPTIC	3.62
TP-49	153+31.50	3.16' RT.	(8) 2" PL. CONDUITS - FIBER OPTIC	2.22
TP-50	153+13.98	32.54' LT.	(8) 2" PL. CONDUITS - FIBER OPTIC	3.20
TP-51	153+85.18	43.33' LT.	(8) 1-1/4" PL. CONDUITS - FIBER OPTIC	3.30
TP-51A	153+98.72	8.23' LT.	(8) 1-1/4" PL. CONDUITS - FIBER OPTIC	3.66
TP-51B	154+15.51	35.85' RT.	(8) 1-1/4" PL. CONDUITS - FIBER OPTIC	3.53

STRUCTURE	BASELINE	STATION	OFFSET	TYPE	STD. NO.
CO/3	GUILFORD	156+49.34	38.14' LT	STD. CURB OPENING FOR COMBINATION CURB AND GUTTER	MD 640.02

STRUCTURE IS MEASURED FROM CENTER OF STRUCTURE AT THE FLOW LINE. CONCRETE GUTTER SHALL EXTEND TO TOE OF SLOPE.

**LEGEND**

- FULL DEPTH PAVEMENT
- WEDGE AND LEVEL PAVEMENT
- CONCRETE
- TEST PIT
- PROPOSED TRAFFIC FLOW

**CURVE C1**  
 PI Sta 200+38.06  
 D = 17° 05' 08.32" (RT)  
 D = 22° 36' 58.30"  
 L = 75.55'  
 T = 38.06'  
 R = 253.34'  
 PC Sta 200+00.00  
 PCC Sta 200+75.55

**CURVE C2**  
 PI Sta 201+13.05  
 D = 67° 27' 38.33" (RT)  
 D = 102° 00' 12.74"  
 L = 66.14'  
 T = 37.50'  
 R = 56.17'  
 PCC Sta 200+75.55  
 PT Sta 201+41.68

**CURVE C3**  
 PI Sta 201+53.27  
 D = 56° 33' 33.87" (RT)  
 D = 265° 52' 55.50"  
 L = 21.27'  
 T = 11.59'  
 R = 21.55'  
 PC Sta 201+41.68  
 PT Sta 201+62.95

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*Jan P. New* 8/16  
 DIRECTOR OF PUBLIC WORKS DATE

*Paula Sisson* 8/16  
 CHIEF, BUREAU OF ENGINEERING DATE

*William E. Hahn* 8-8-06  
 CHIEF, BUREAU OF HIGHWAYS DATE

*Jay Stewart* 8/1/06  
 CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

**GANNETT FLEMING, INC.**

BALTIMORE, MARYLAND



DES: RLM				
DRN: JMR				
CHK: SH				
DATE: 8-06				
BY	NO.			DATE


GUILFORD ROAD IMPROVEMENTS

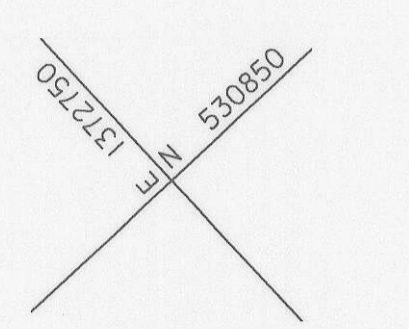
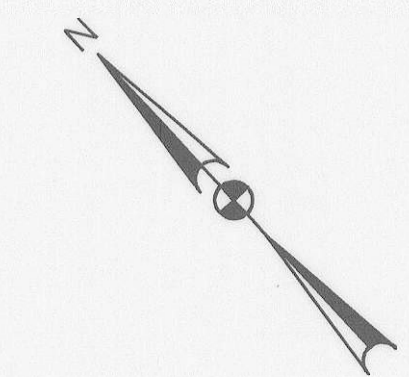
PLAN SHEET  
 STA 152+50 TO STA 158+50

CAPITAL PROJECT No. J-4175 AND B-3855

SCALE  
 1" = 20'

SHEET  
 11 OF 156

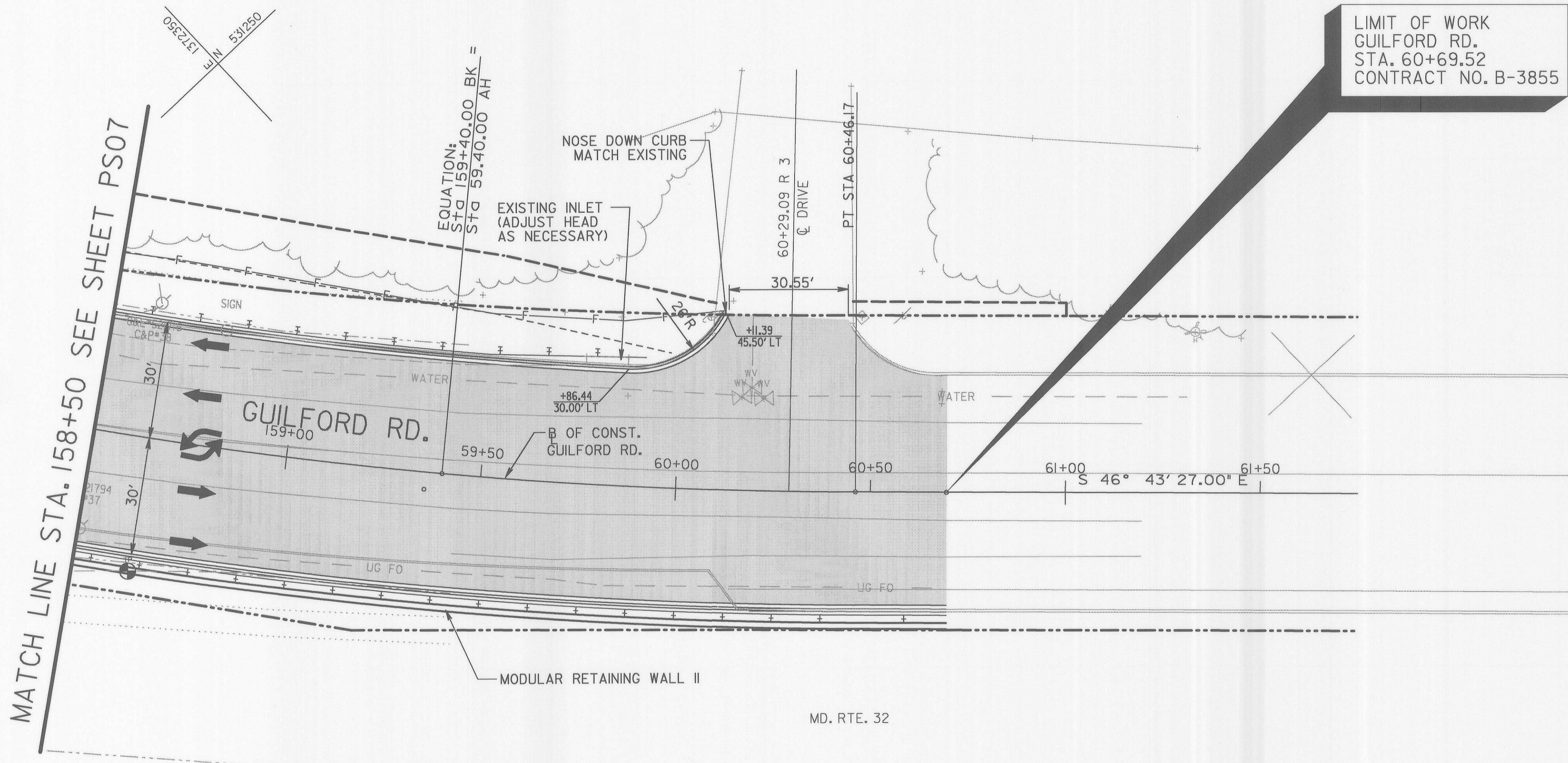
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GUILFORD RD.  
CURVE 6  
PI STA 158+01.76  
DELTA = 23° 40' 56.84" (LT)  
D = 4° 46' 28.73"  
L = 496.00'  
T = 251.59'  
R = 1,200.00'  
E = 26.09'  
S/E = 4.50%

TAXMAP PARCEL 54  
CG ENTERPRISES, INC  
L. 4842 F. 70

LIMIT OF WORK  
GUILFORD RD.  
STA. 60+69.52  
CONTRACT NO. B-3855



UTILITY ADJUSTMENT (SHEET PS03)					
STATION	OFFSET	EXISTING ELEV.	PROPOSED ELEV.	DIFFERENCE	TYPE
28+65.45	20.25' RT.	231.23'	232.68'	1.45'	ELECTRICAL
28+74.06	20.41' RT.	230.72'	232.30'	1.58'	ELECTRICAL
28+88.91	20.04' RT.	229.85'	231.51'	1.66'	GAS VALVE
29+47.17	17.88' LT.	226.96'	228.39'	1.43'	SANITARY
31+65.32	34.15' LT.	221.35'	221.90'	0.55'	WATER VALVE
33+28.26	97.09' RT.	216.92'	217.52'	0.60'	ELECTRICAL
33+32.10	105.57' RT.	216.91'	217.28'	0.37'	ELECTRICAL
33+44.92	25.47' LT.	219.44'	219.55'	0.11'	SANITARY
34+35.10	59.92' RT.	214.57'	217.00'	2.43'	ELECTRICAL
34+61.00	44.92' LT.	217.36'	218.40'	1.04'	FIBER OPTIC*

\* TO BE ADJUSTED BY OTHERS

UTILITY ADJUSTMENT (SHEET PS04)					
STATION	OFFSET	EXISTING ELEV.	PROPOSED ELEV.	DIFFERENCE	TYPE
35+94.67	48.91' LT.	215.32'	215.29'	-0.03'	GAS VALVE
35+94.81	52.41' LT.	215.25'	215.23'	-0.02'	GAS VALVE **
36+09.67	39.82' LT.	214.98'	215.22'	0.24'	WATER VALVE
36+13.78	33.09' LT.	214.86'	215.31'	0.45'	WATER VALVE
36+26.18	24.06' LT.	214.98'	215.41'	0.43'	SANITARY
36+27.97	55.01' LT.	214.33'	214.64'	0.31'	SANITARY
38+57.98	14.46' LT.	211.59'	212.39'	0.80'	SANITARY
38+86.19	47.02' LT.	210.97'	212.52'	1.55'	SANITARY
39+59.10	9.67' RT.	206.98'	207.89'	0.92'	ELECTRICAL
40+87.45	47.34' LT.	202.00'	203.34'	1.34'	ELECTRICAL
41+48.65	39.03' LT.	201.91'	201.29'	-0.62'	SANITARY

\*\* CONTRACTOR SHALL RELOCATE SO THAT VALVE IS NOT IN THE CURB AND GUTTER

UTILITY ADJUSTMENT (SHEET PS06)					
STATION	OFFSET	EXISTING ELEV.	PROPOSED ELEV.	DIFFERENCE	TYPE
151+24.00	24.00' RT.	192.99'	196.21'	3.22'	ELECTRICAL
151+50.00	34.50' LT.	184.65'	197.54'	12.89'	FIBER OPTIC*
151+50.00	46.39' RT.	189.18'	191.64'	2.46'	FIBER OPTIC*

\* TO BE ADJUSTED BY OTHERS

UTILITY ADJUSTMENT (THIS SHEET)					
STATION	OFFSET	EXISTING ELEV.	PROPOSED ELEV.	DIFFERENCE	TYPE
60+16.35	23.83' LT.	179.03'	178.88'	-0.15'	WATER VALVE
60+18.94	26.35' LT.	178.79'	178.77'	-0.02'	WATER VALVE
60+22.15	23.64' LT.	178.89'	178.81'	-0.08'	WATER VALVE

CROSS REFERENCES	
ITEM	DWG. NO.
TYPICAL SECTION	TS01
GEOMETRY PLAN	GS01
PROFILE SHEETS	PR08
STORM DRAIN PROFILES	
E & S PLANS	ES08
SIGNING & PVMT MARKING PLAN	SP08
MODULAR RETAINING WALL II	MSE-3,4

TYPE C TRAFFIC BARRIER END TREATMENT  
1 EA - GUILFORD ROAD STA 59+41 TO STA 59+91 LT.

CLEAN EXISTING INLET  
1 EA - GUILFORD ROAD STA 59+80, 12' LT

TRAFFIC BARRIER W BEAM  
225 LF - GUILFORD ROAD STA. 158+50 TO STA. 60+70 RT.  
89 LF - GUILFORD ROAD STA. 158+50 TO STA. 59+41 LT.

STANDARD 7" COMBINATION CURB AND GUTTER,  
12 IN. GUTTER PAN 8 IN. DEPTH  
163 LF - GUILFORD ROAD STA. 158+50 TO STA. 60+11 LT  
224 LF - GUILFORD ROAD STA. 158+50 TO STA. 60+70 RT

ADJUST EXISTING INLET  
1 EA - GUILFORD ROAD STA 59+80, 12' LT

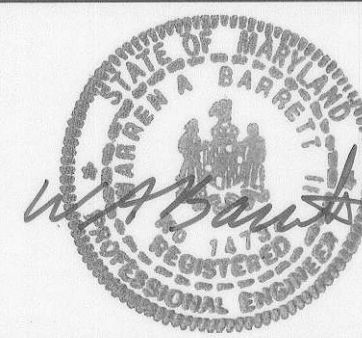
LEGEND	
	FULL DEPTH PAVEMENT
	WEDGE AND LEVEL PAVEMENT
	CONCRETE
	TEST PIT
	PROPOSED TRAFFIC FLOW

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*William Z. Mahall* 8-4-06  
DIRECTOR OF PUBLIC WORKS DATE  
CHIEF, BUREAU OF HIGHWAYS DATE

*David L. Gannon* 8/7/06  
CHIEF, BUREAU OF ENGINEERING DATE  
*John Stewart* 8/7/06  
CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

GANNETT FLEMING, INC.  
BALTIMORE, MARYLAND



DES: RLM  
DRN: JAR  
CHK: SH  
DATE: 8-06

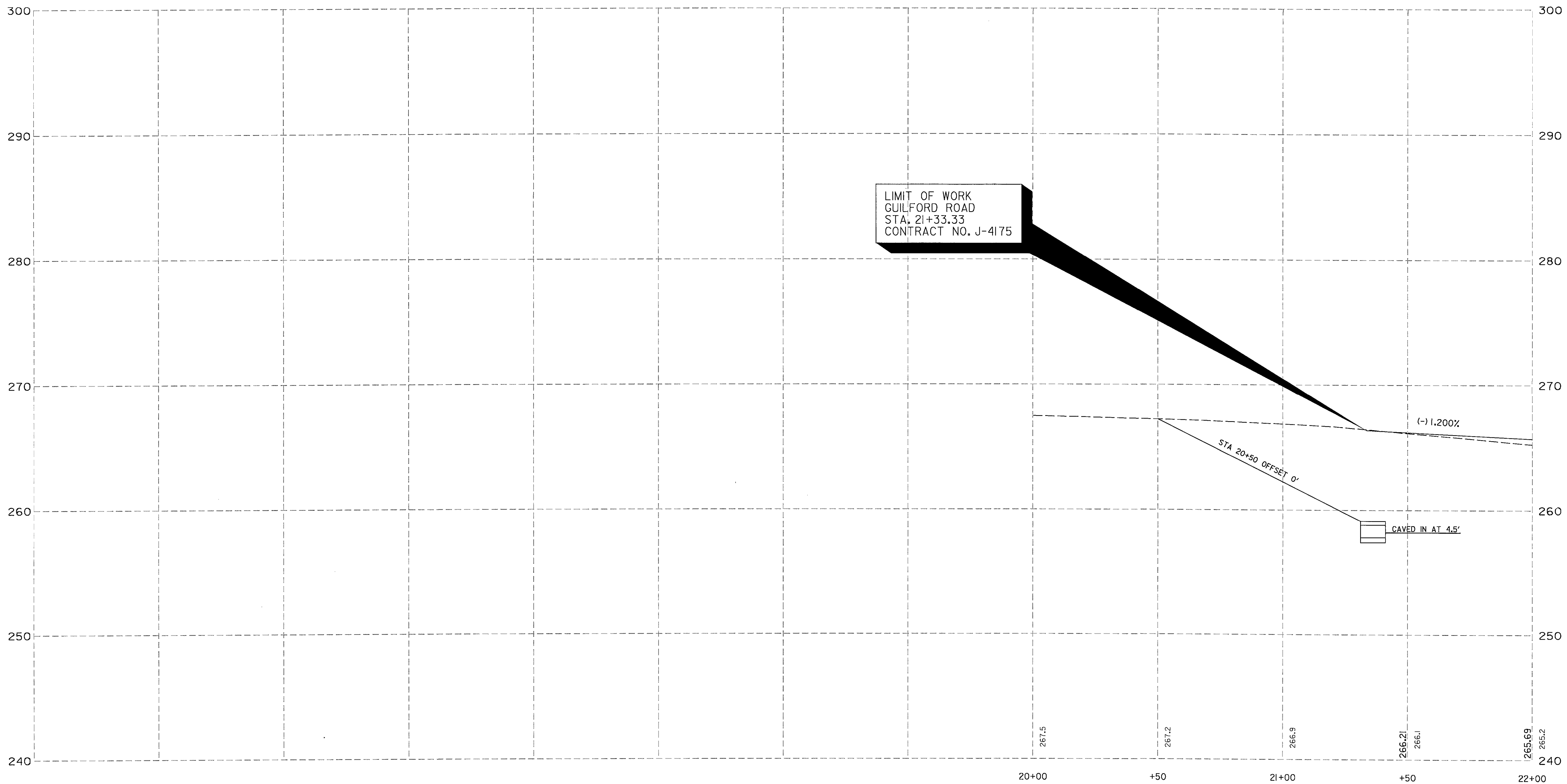
BY	NO.	DATE

GUILFORD ROAD IMPROVEMENTS  
PLAN SHEET  
STA 158+50 TO STA 63+00  
CAPITAL PROJECT No. J-4175 AND B-3855

PS08

SCALE  
1" = 20'

SHEET  
12 OF 156



LIMIT OF WORK  
 GUILFORD ROAD  
 STA. 21+33.33  
 CONTRACT NO. J-4175

(-) 1.200%

STA 20+50 OFFSET 0'

CAVED IN AT 4.5'

267.5      267.2      266.9      266.2      265.2  
 20+00      +50      21+00      +50      22+00

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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND


*Jan P. ...* 8/8/06  
 DIRECTOR OF PUBLIC WORKS      DATE

*Paul A. ...* 8/7/06  
 CHIEF, BUREAU OF ENGINEERING      DATE

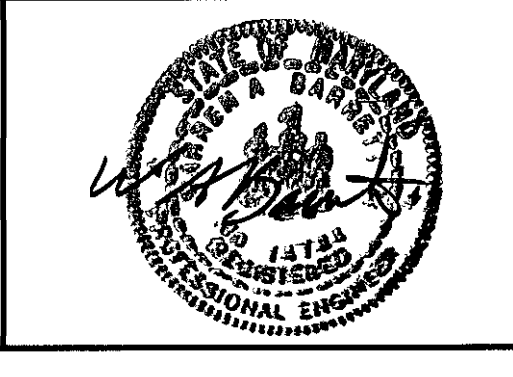
*William F. ...* 8-8-06  
 CHIEF, BUREAU OF HIGHWAYS      DATE

*Jay ...* 8/7/06  
 CHIEF, DIVISION OF TRANSPORTATION,      DATE  
 SPECIAL PROJECTS DIVISION

GANNETT  
 FLEMING, INC.



BALTIMORE,  
 MARYLAND



DES: RLM				
DRN: JAR				
CHK: SH				
DATE: 8-06	BY	NO.		DATE


GUILFORD ROAD IMPROVEMENTS

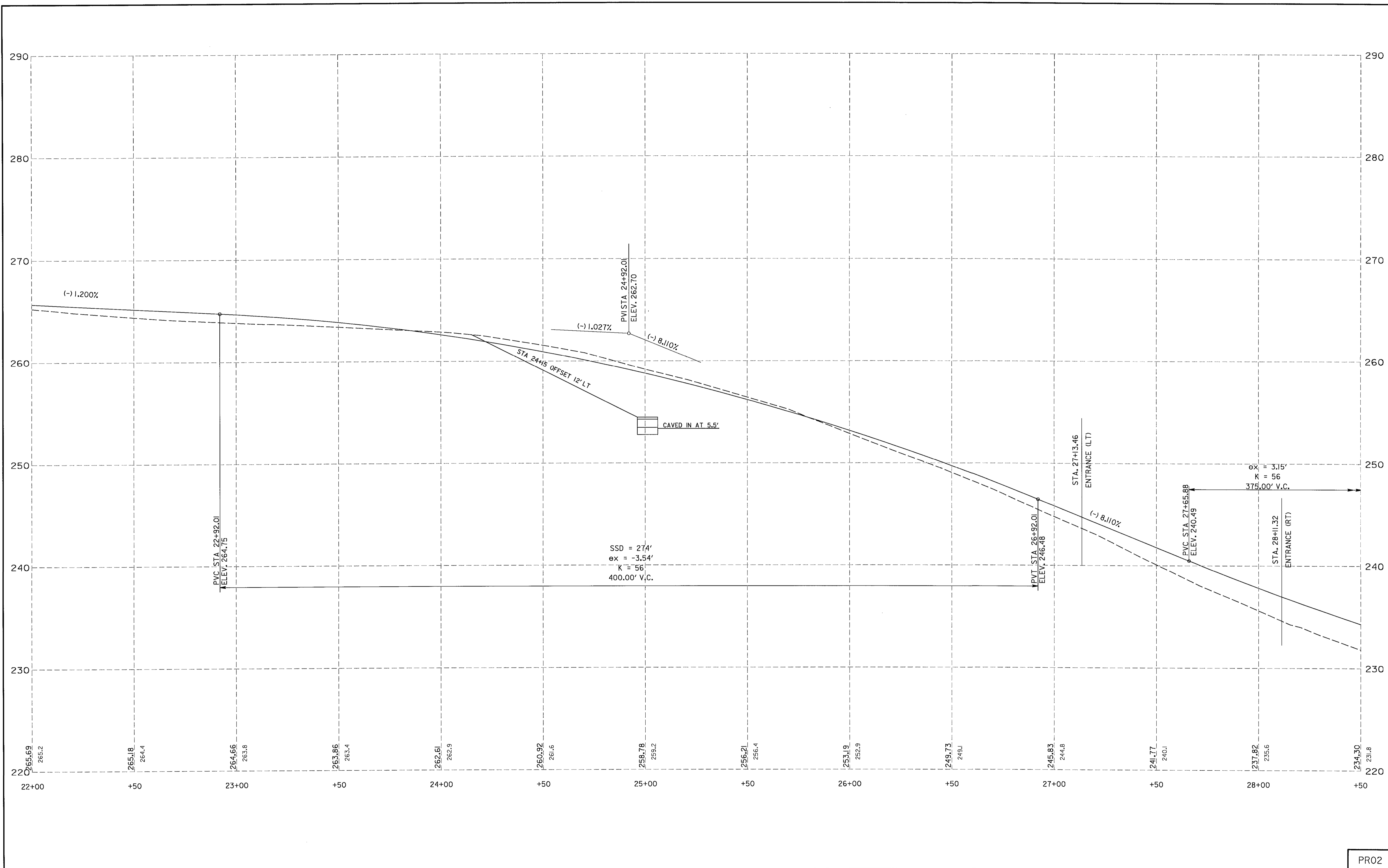
ROADWAY PROFILE SHEET  
 STA 20+00 TO STA 22+00

CAPITAL PROJECT No. J-4175 AND B-3855

PROJ

SCALE  
 1" = 20'

SHEET  
 13 OF 156



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 8/6/06  
DIRECTOR OF PUBLIC WORKS DATE

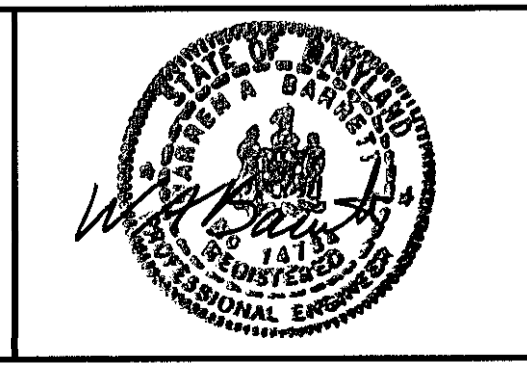
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CHIEF, BUREAU OF ENGINEERING DATE

*[Signature]* 8-8-06  
CHIEF, BUREAU OF HIGHWAYS DATE

*[Signature]* 8/7/06  
CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

**GANNETT FLEMING, INC.**

BALTIMORE, MARYLAND



DES: RLM			
DRN: JMR			
CHK: SIH			
DATE: 8-06			
BY	NO.		DATE


GUILFORD ROAD IMPROVEMENTS

ROADWAY PROFILE SHEET  
STA 22+00 TO STA 28+50

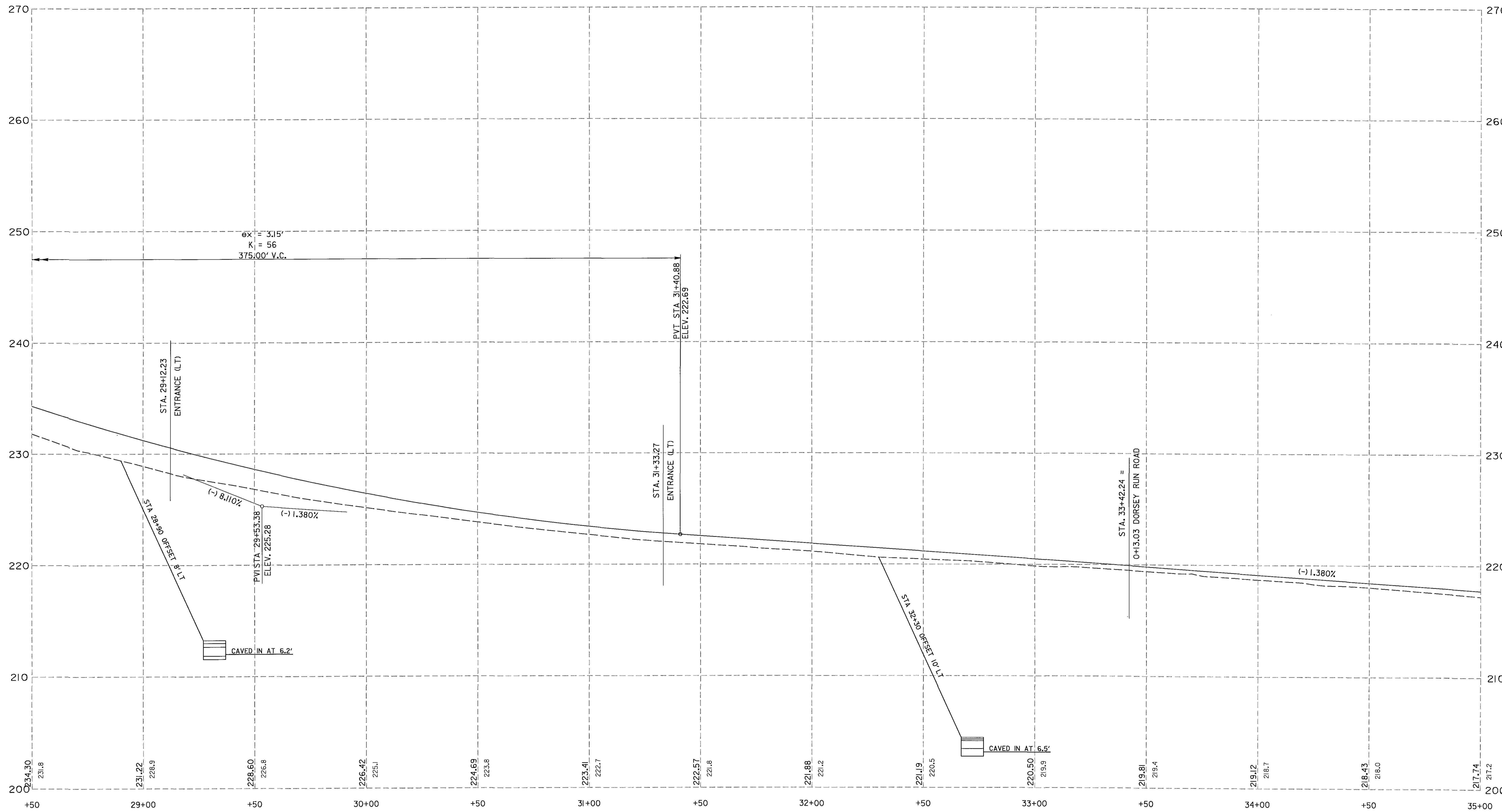
CAPITAL PROJECT No. J-4175 AND B-3855

PR02

SCALE  
1" = 20'

SHEET  
14 OF 156

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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*[Signature]* 8/8/06  
 DIRECTOR OF PUBLIC WORKS DATE

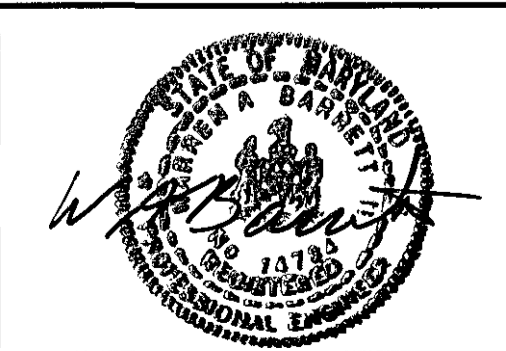
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 CHIEF, BUREAU OF ENGINEERING DATE

*[Signature]* 8/7/06  
 CHIEF, BUREAU OF HIGHWAYS DATE

CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION

**GANNETT FLEMING, INC.**

BALTIMORE, MARYLAND



DES: RLM			
DRN: JMR			
CHK: SH			
DATE: 8-06			
BY	NO.		DATE

GUILFORD ROAD IMPROVEMENTS

ROADWAY PROFILE SHEET  
 STA 28+50 TO STA 35+00

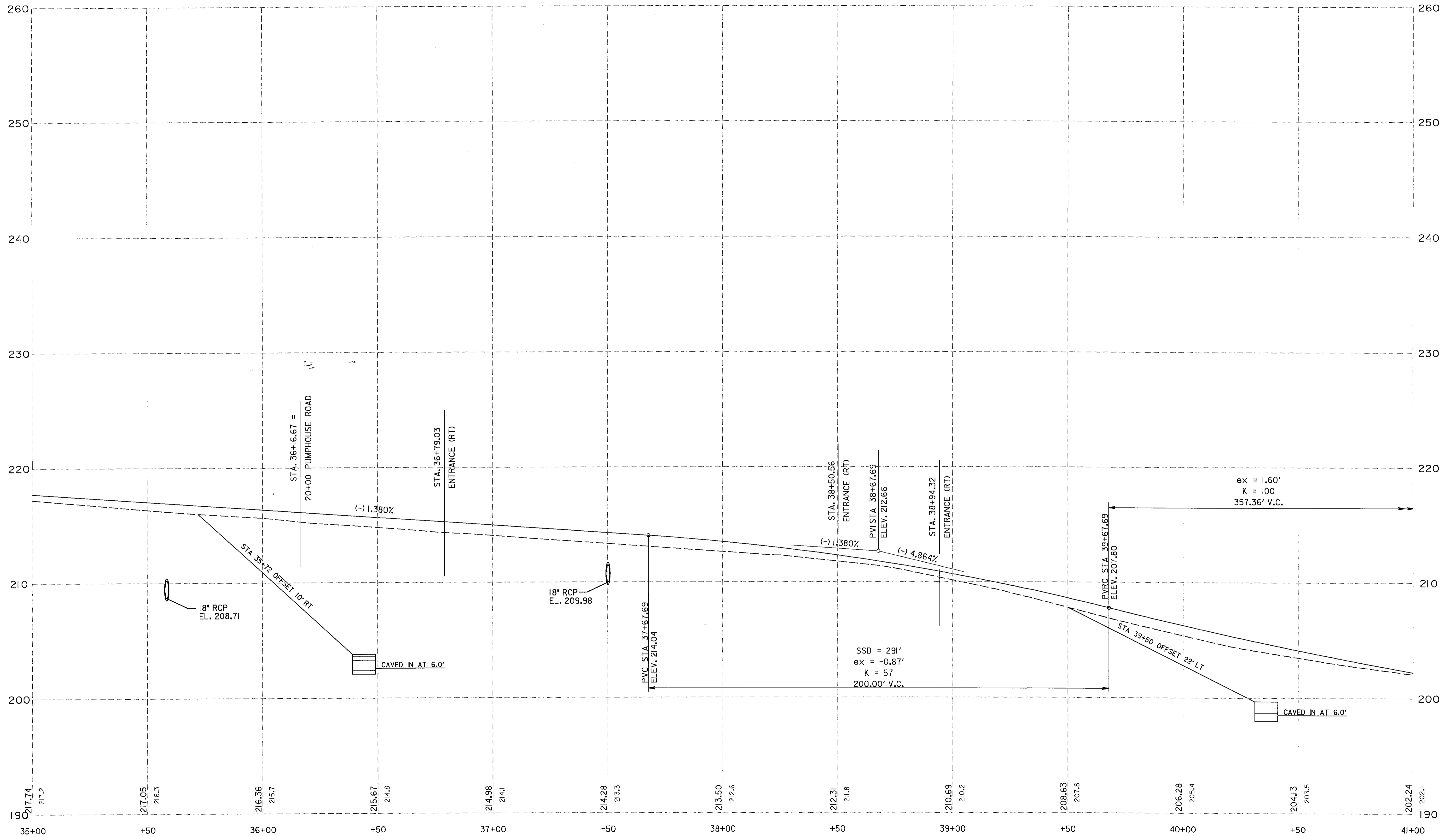
CAPITAL PROJECT No. J-4175 AND B-3855

PRO3

SCALE  
 1" = 20'

SHEET  
 15 OF 156

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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND


*James J. Chen* 8/6/06  
 DIRECTOR OF PUBLIC WORKS DATE

*Paul R. Gannon* 8/17/06  
 CHIEF, BUREAU OF ENGINEERING DATE

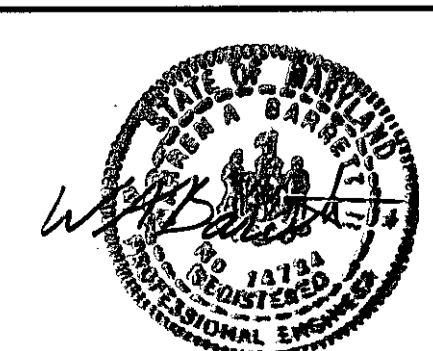
*William A. Walsh* 8-8-06  
 CHIEF, BUREAU OF HIGHWAYS DATE

*John St. John* 8/16/06  
 CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

**GANNETT FLEMING, INC.**



BALTIMORE, MARYLAND



DES: RCM			
DRN: JMR			
CHK: SIH			
DATE: 8-06			
BY	NO.		DATE

GUILFORD ROAD IMPROVEMENTS

ROADWAY PROFILE SHEET  
 STA 35+00 TO STA 41+50

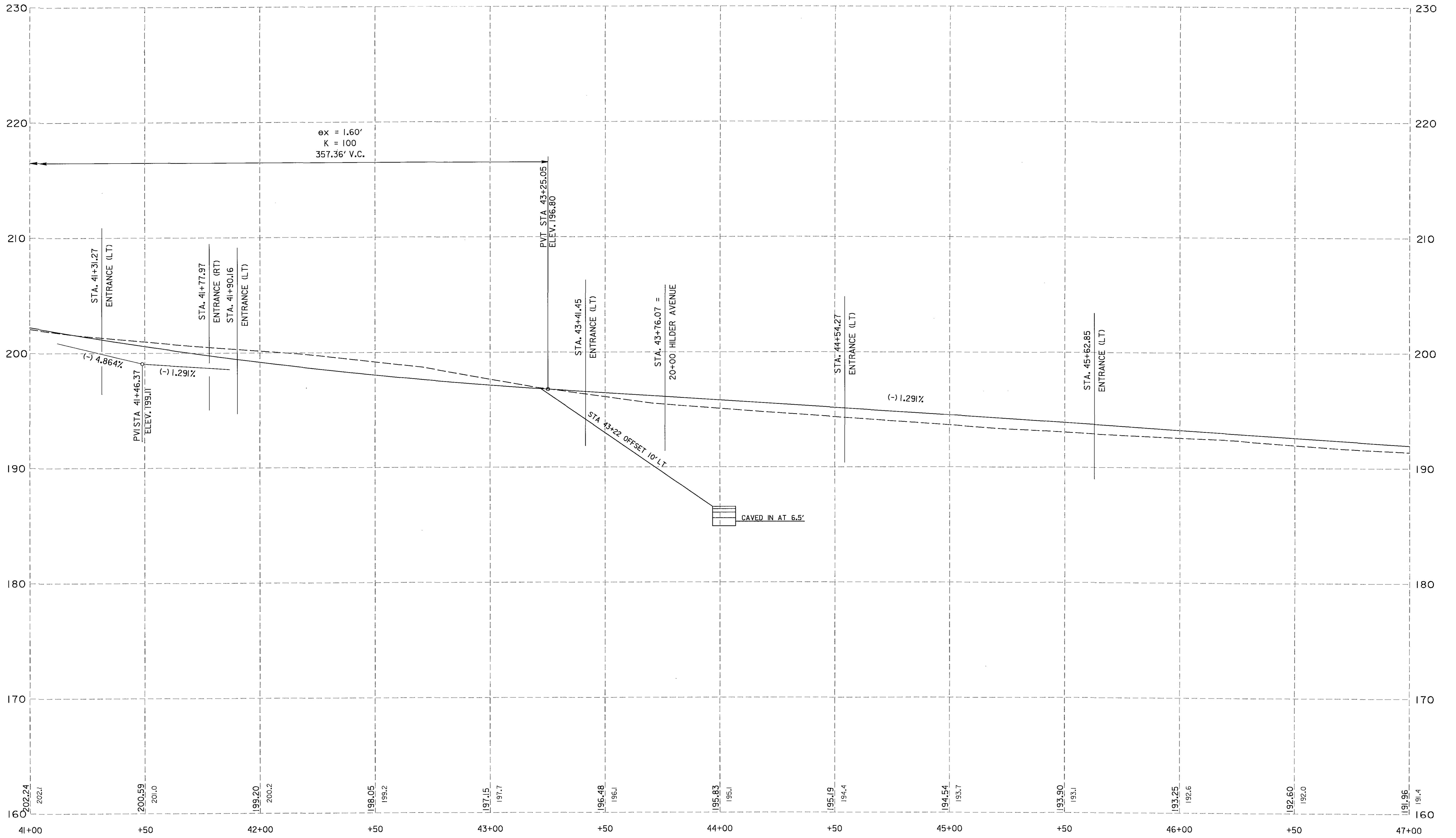
CAPITAL PROJECT No. J-4175 AND B-3855

PRO4

SCALE  
 1" = 20'

SHEET  
 16 OF 156

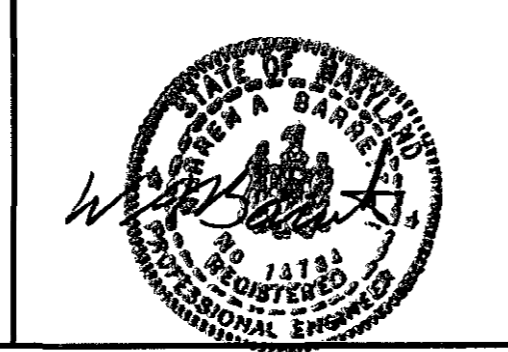




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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: *Janet W. Slobin* 5/18/06  
 Chief, Bureau of Engineering: *Carroll S. Brown* 8/7/06  
 Chief, Bureau of Highways: *William R. ...* 8-8-06  
 Chief, Division of Transportation, Special Projects Division: *Jay Steady for* 8/7/06

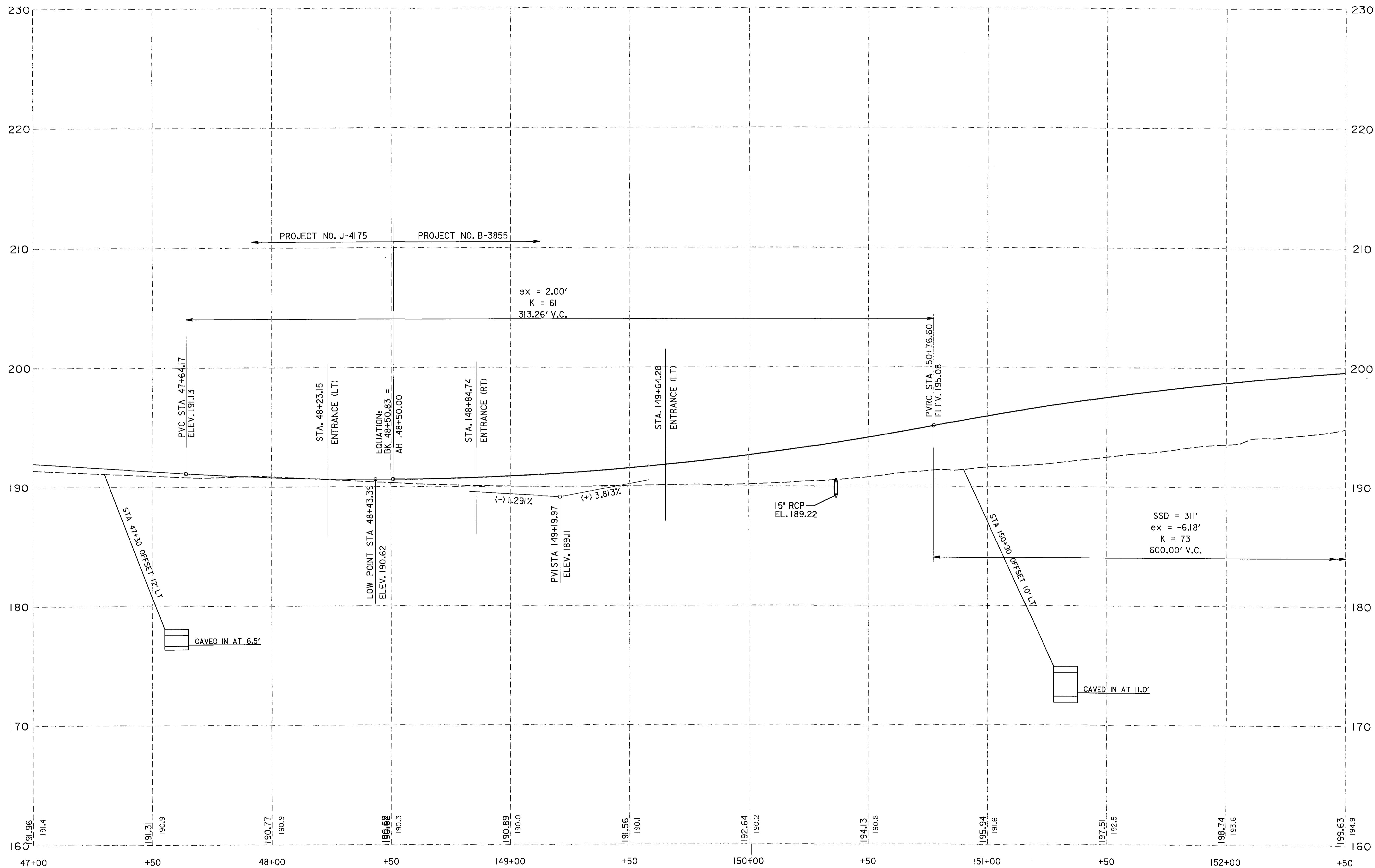
**GANNETT FLEMING, INC.**  
  
 BALTIMORE, MARYLAND



DES: RCM					
DRN: JAR					
CHK: SH					
DATE: 8-06	BY	NO.		DATE	


GUILFORD ROAD IMPROVEMENTS  
 ROADWAY PROFILE SHEET  
 STA 41+50 TO STA 47+00  
 CAPITAL PROJECT No. J-4175 AND B-3855

PRO5  
 SCALE  
 1" = 20'  
 SHEET  
 17 OF 156



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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*James W. ...*  
 DIRECTOR OF PUBLIC WORKS      DATE: 8/16/06

*Paul J. ...*  
 CHIEF, BUREAU OF ENGINEERING      DATE: 8/16/06

*William J. ...*  
 CHIEF, BUREAU OF HIGHWAYS      DATE: 8-20-06

*John ...*  
 CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION      DATE: 8/16/06

**GANNETT FLEMING, INC.**

BALTIMORE, MARYLAND



DES: RLM				
DRN: JMR				
CHK: SJH				
DATE: 8-06				
BY	NO.			DATE


GUILFORD ROAD IMPROVEMENTS

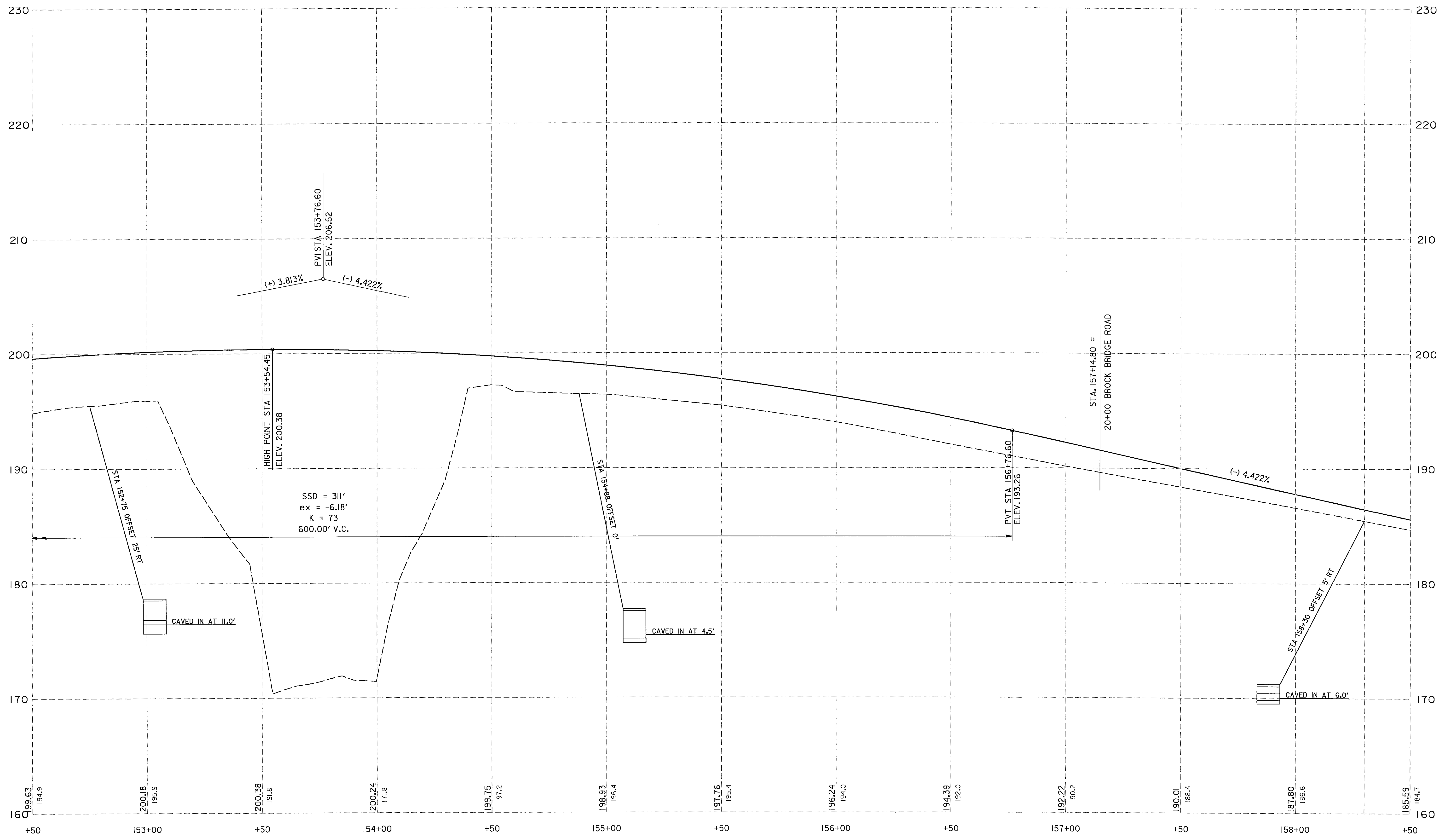
ROADWAY PROFILE SHEET  
 STA 47+00 TO STA 152+50

CAPITAL PROJECT No. J-4175 AND B-3855

PROG

SCALE  
 1" = 20'

SHEET  
 18 OF 156



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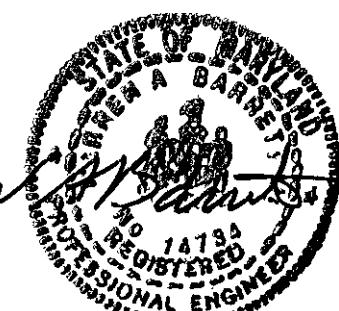
DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*James W. Williams* 5/3/06  
 DIRECTOR OF PUBLIC WORKS DATE  
*William F. Williams* 8-8-06  
 CHIEF, BUREAU OF HIGHWAYS DATE  
*Richard J. Jensen* 8/7/06  
 CHIEF, BUREAU OF ENGINEERING DATE  
*John Stewart* 8/7/06  
 CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

**GANNETT  
 FLEMING, INC.**



BALTIMORE,  
 MARYLAND



DES: RLM

DRN: JMR

CHK: SHH

DATE: 8-06

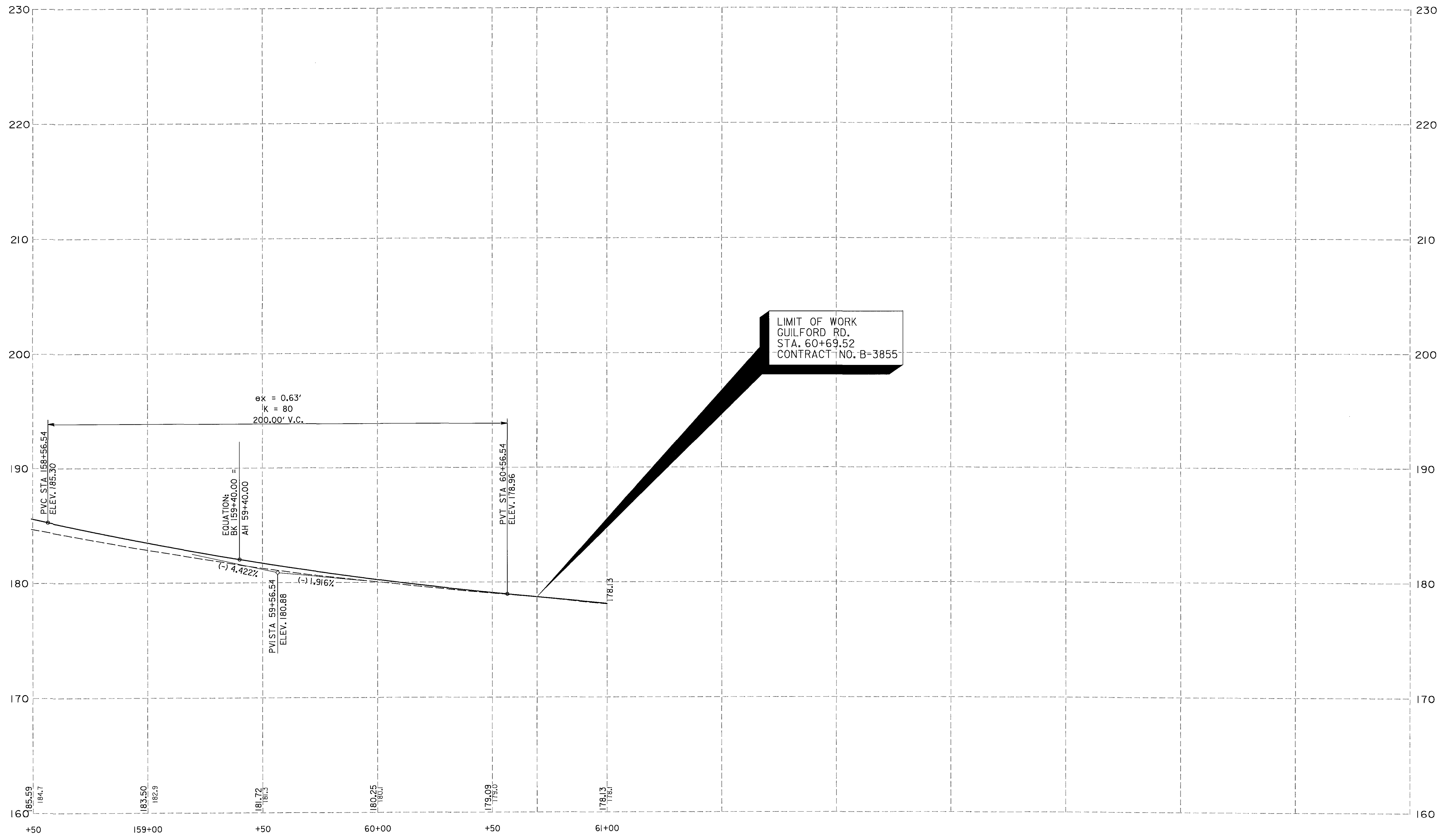
BY	NO.	DATE

GUILFORD ROAD IMPROVEMENTS  
 ROADWAY PROFILE SHEET  
 STA 152+50 TO STA 158+50  
 CAPITAL PROJECT No. J-4175 AND B-3855

PRO7

SCALE  
1" = 20'

SHEET  
 19 OF 156



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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*Jan 9* 5/10/06  
 DIRECTOR OF PUBLIC WORKS      DATE

*Paul K. Penning* 5/1/06  
 CHIEF, BUREAU OF ENGINEERING      DATE

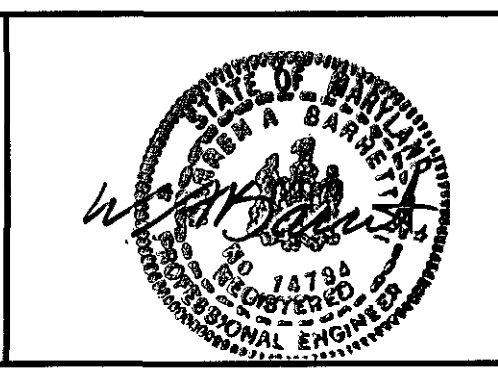
*Walter F. Mahall* 8-8-06  
 CHIEF, BUREAU OF HIGHWAYS      DATE

*Jan Harty* 8/1/06  
 CHIEF, DIVISION OF TRANSPORTATION,  
 SPECIAL PROJECTS DIVISION      DATE

**GANNETT  
 FLEMING, INC.**



BALTIMORE,  
 MARYLAND



DES: KCM				
DRN: JMK				
CHK: SIH				
DATE: 8-06	BY	NO.		DATE


GUILFORD ROAD IMPROVEMENTS

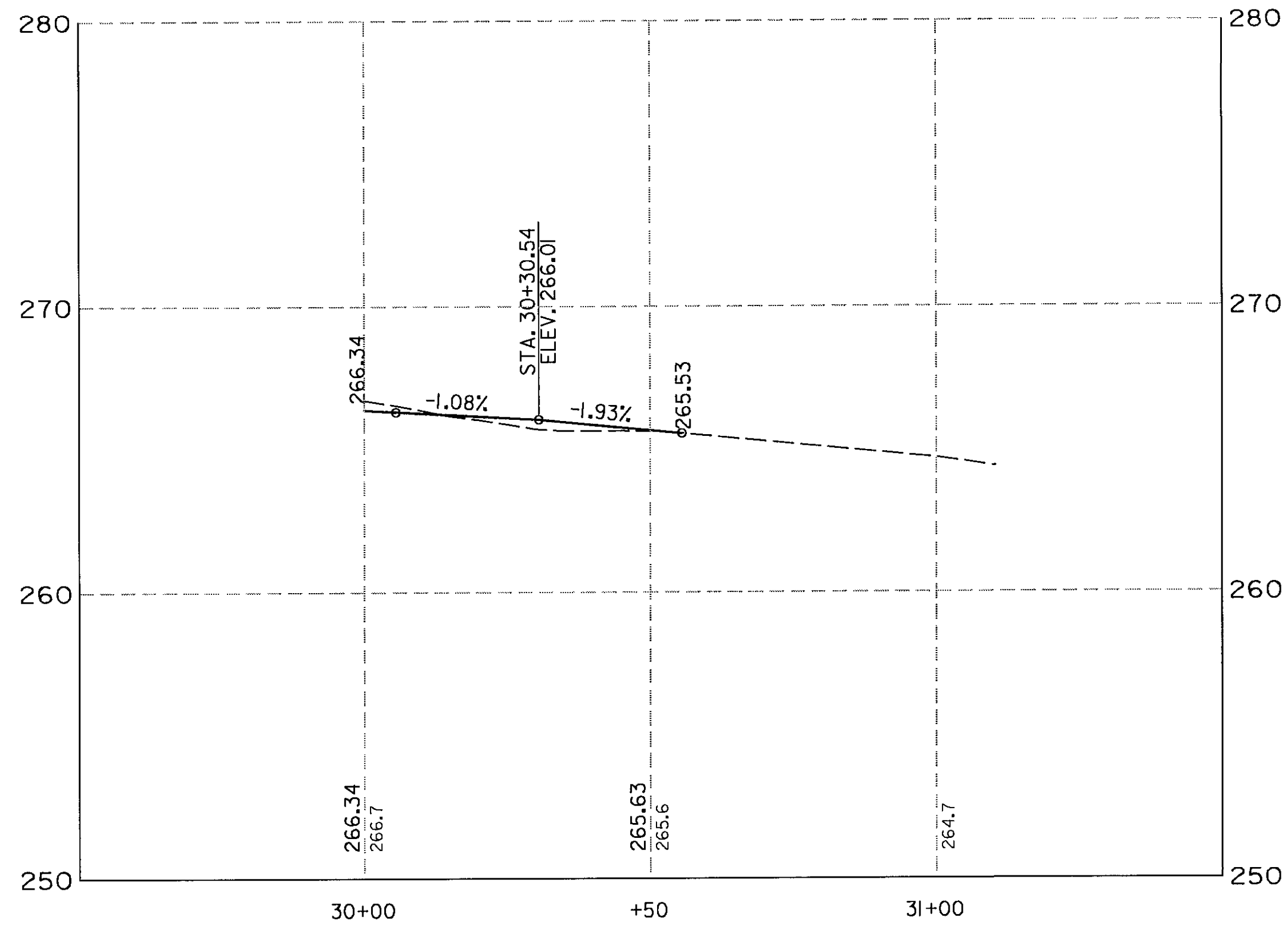
ROADWAY PROFILE SHEET  
 STA 158+50 TO STA 161+00

CAPITAL PROJECT No. J-4175 AND B-3855

PRO8

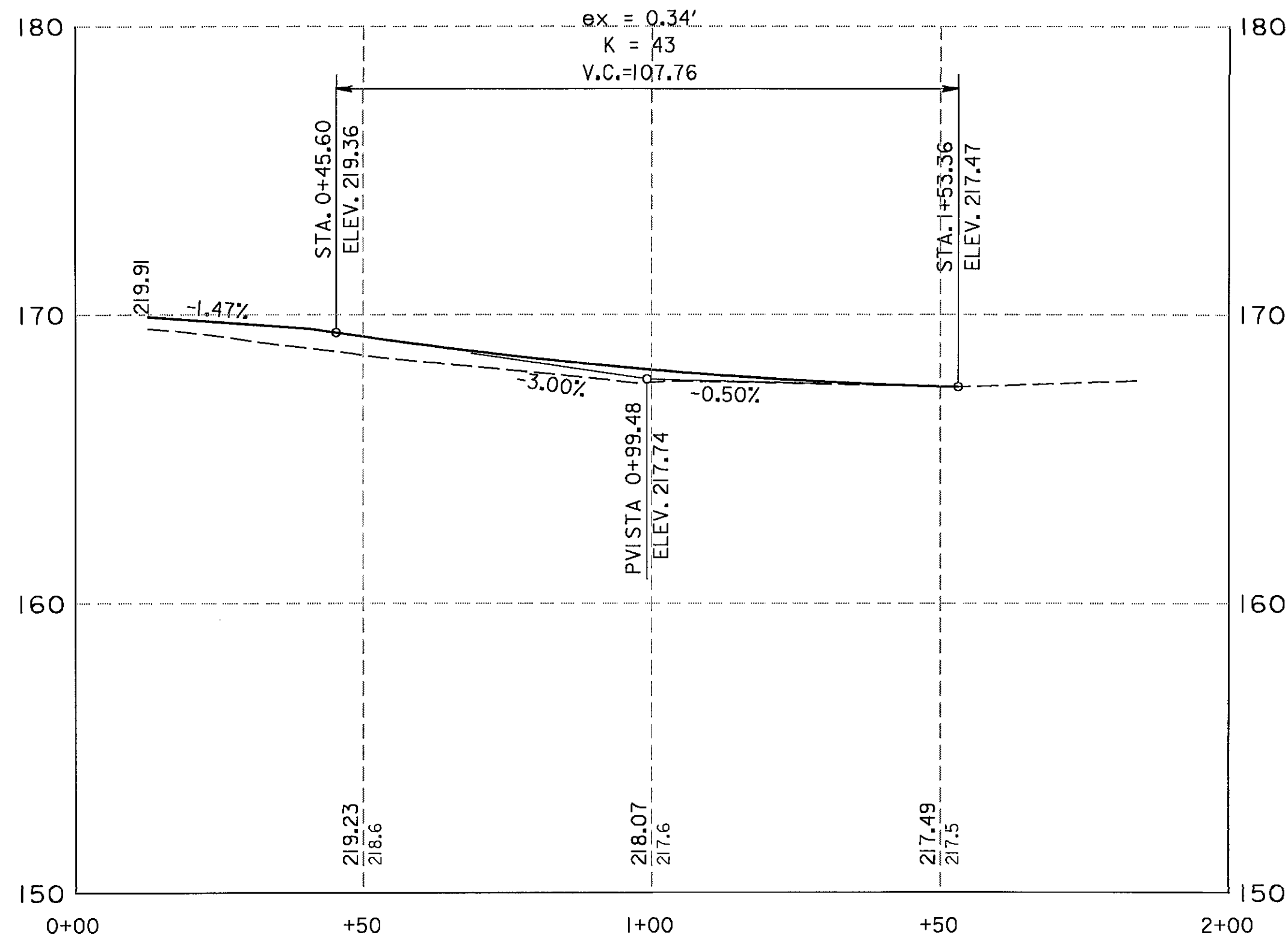
SCALE  
 1" = 20'

SHEET  
 20 OF 156



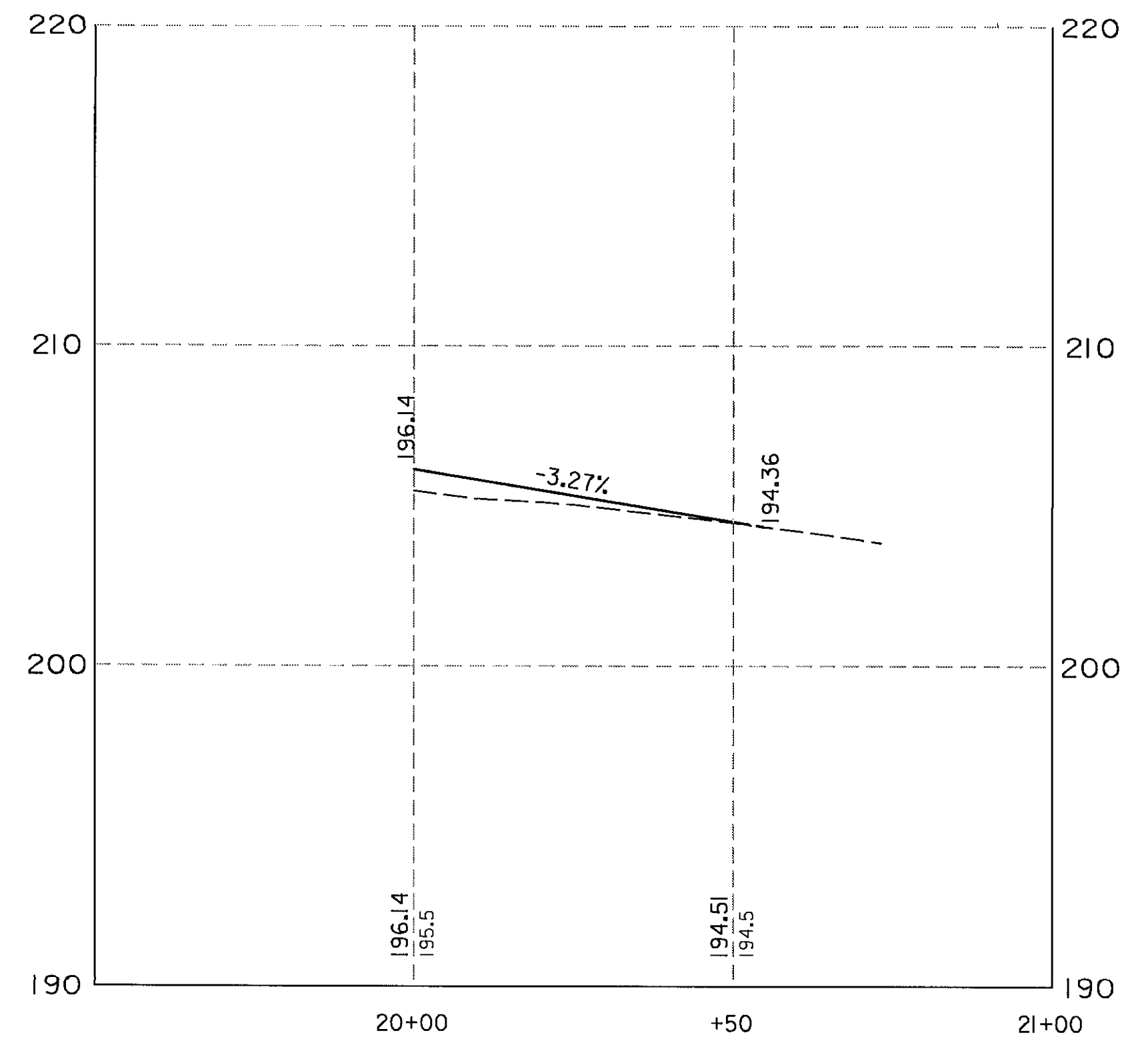
DORSEY RUN ROAD (NORTH OF GUILFORD ROAD)

HORZ. SCALE 1" = 20'  
VERT. SCALE 1" = 4'



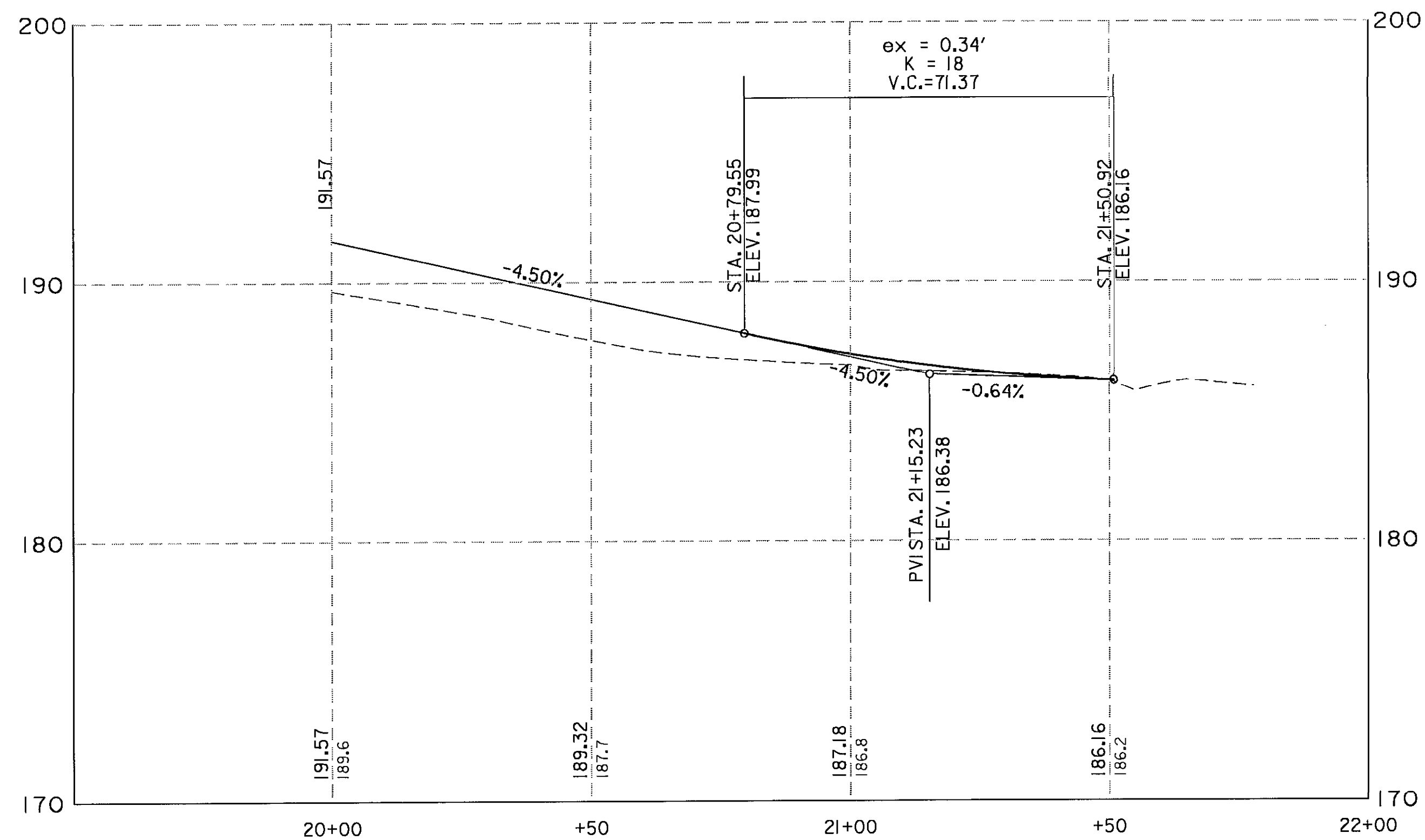
DORSEY RUN ROAD (SOUTH OF GUILFORD ROAD)

HORZ. SCALE 1" = 20'  
VERT. SCALE 1" = 4'



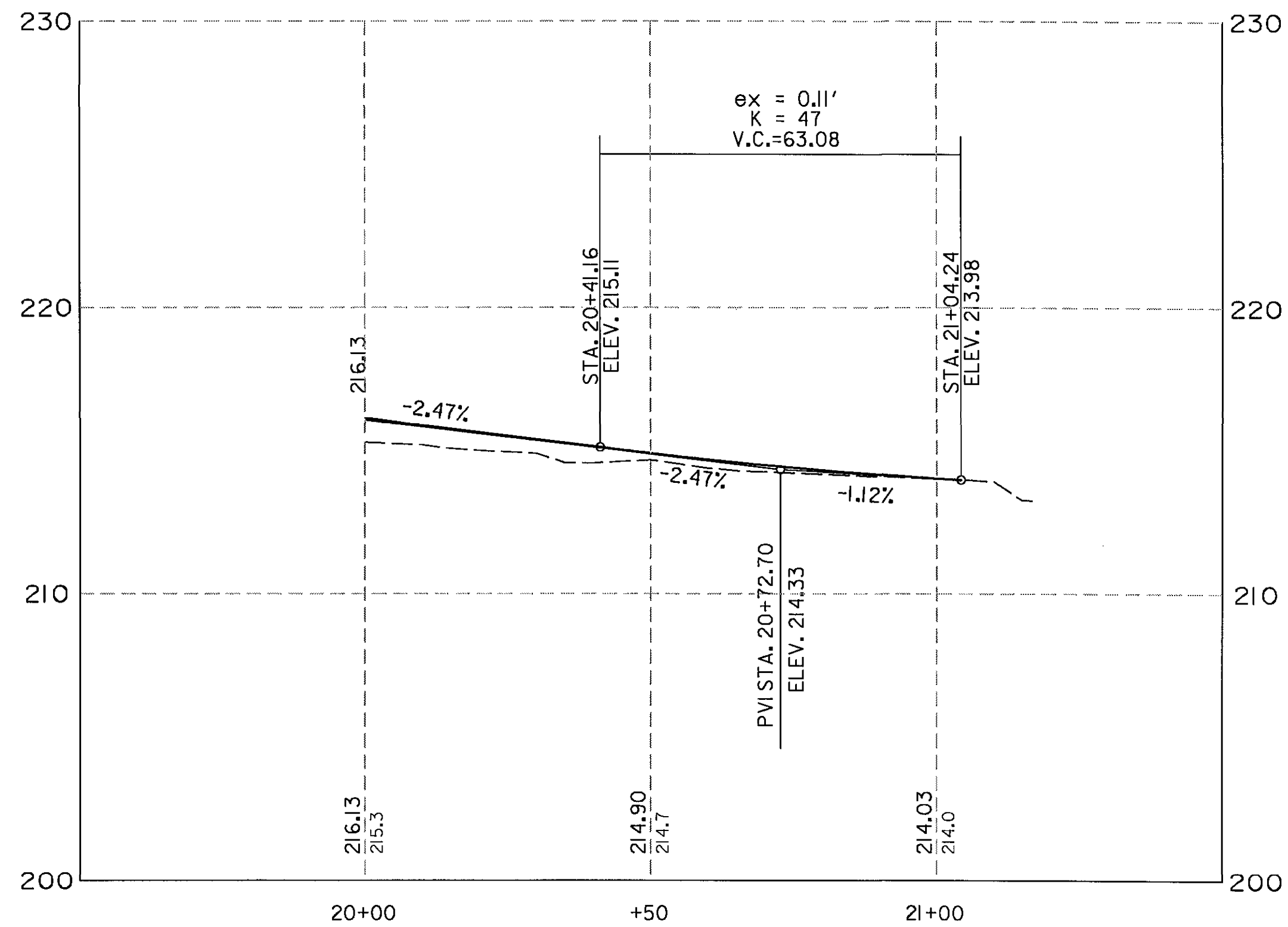
HILDER AVE.

HORZ. SCALE 1" = 20'  
VERT. SCALE 1" = 4'



BROCKBRIDGE ROAD

HORZ. SCALE 1" = 20'  
VERT. SCALE 1" = 4'



PUMPHOUSE ROAD

HORZ. SCALE 1" = 20'  
VERT. SCALE 1" = 4'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND


*John J. Iker* 5/16/06  
DIRECTOR OF PUBLIC WORKS DATE

*William J. Mahoney* 8-8-06  
CHIEF, BUREAU OF HIGHWAYS DATE

*Paul J. Penney* 5/17/06  
CHIEF, BUREAU OF ENGINEERING DATE

*Jim Standy* 8/7/06  
CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

GANNETT  
FLEMING, INC.



BALTIMORE,  
MARYLAND



DES: RLM			
DRN: JAR			
CHK: SIH			
DATE: 8-06			
BY	NO.		DATE

GUILFORD ROAD IMPROVEMENTS

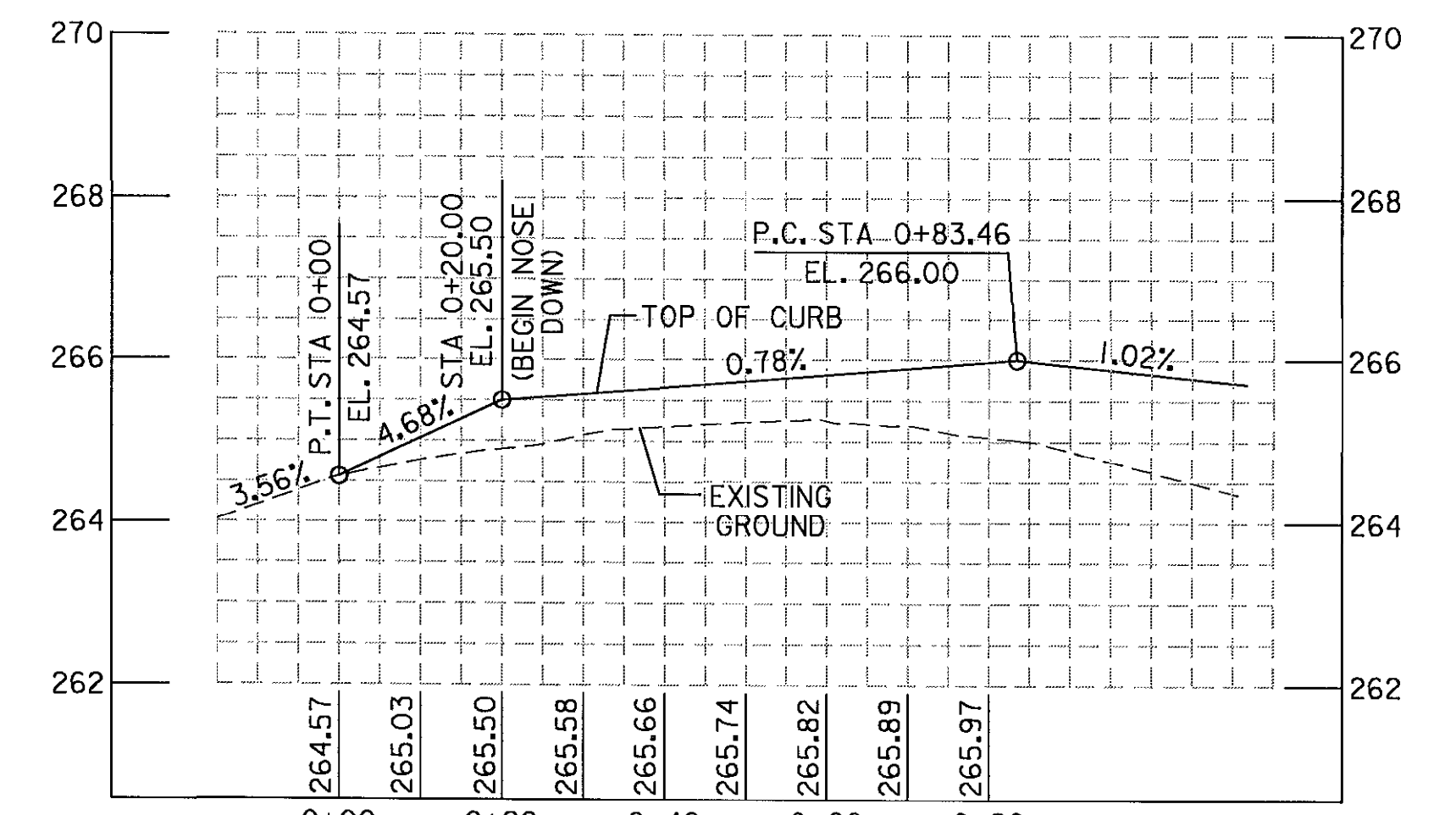
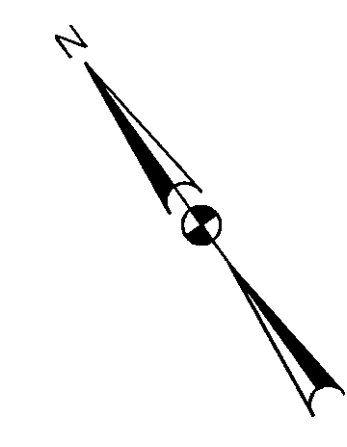
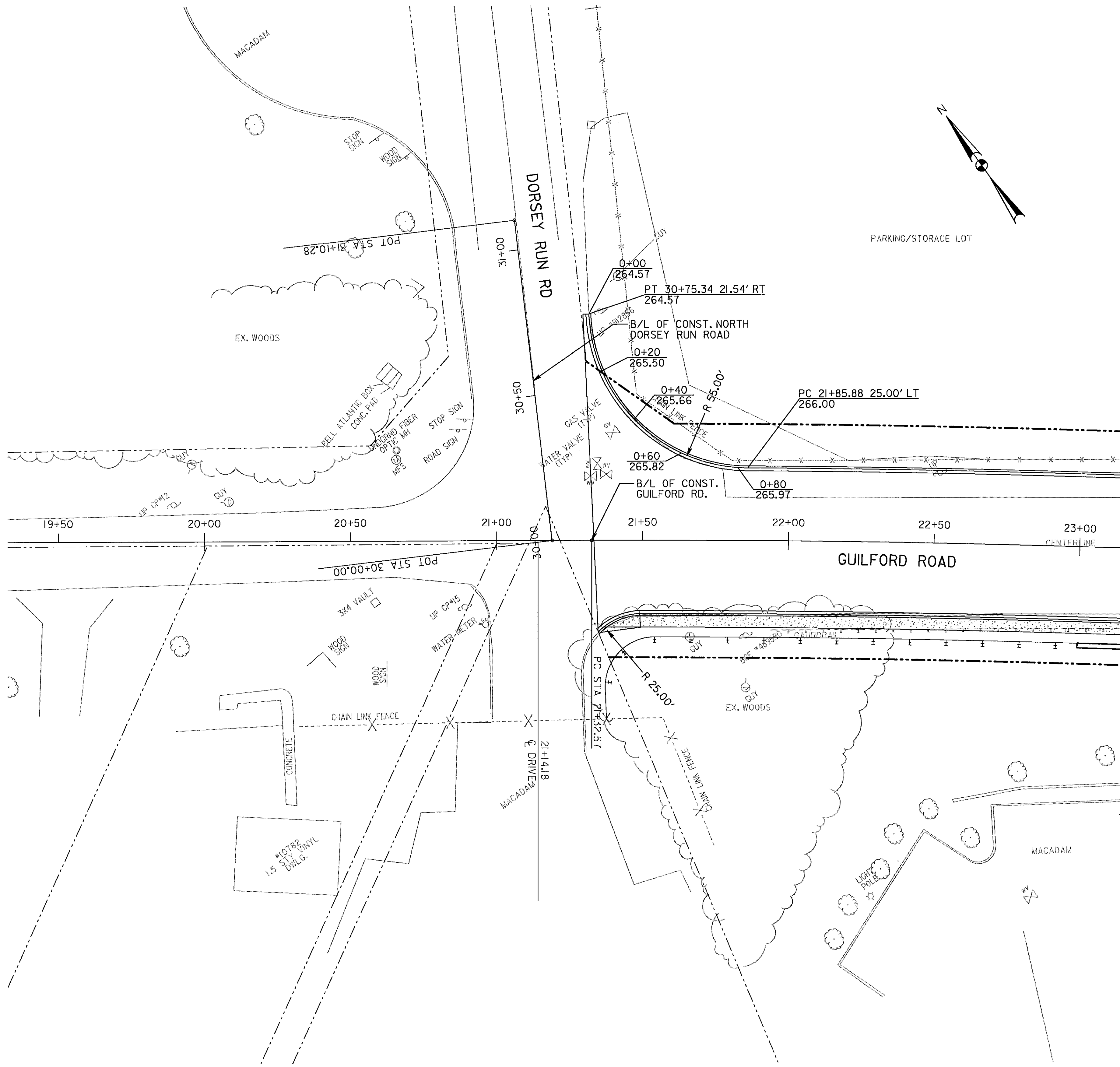
ROADWAY PROFILE SHEET  
STA 19+50 TO STA 21+00

CAPITAL PROJECT No. J-4175 AND B-3855

PRO9

SCALE  
1" = 20'

SHEET  
21 OF 156



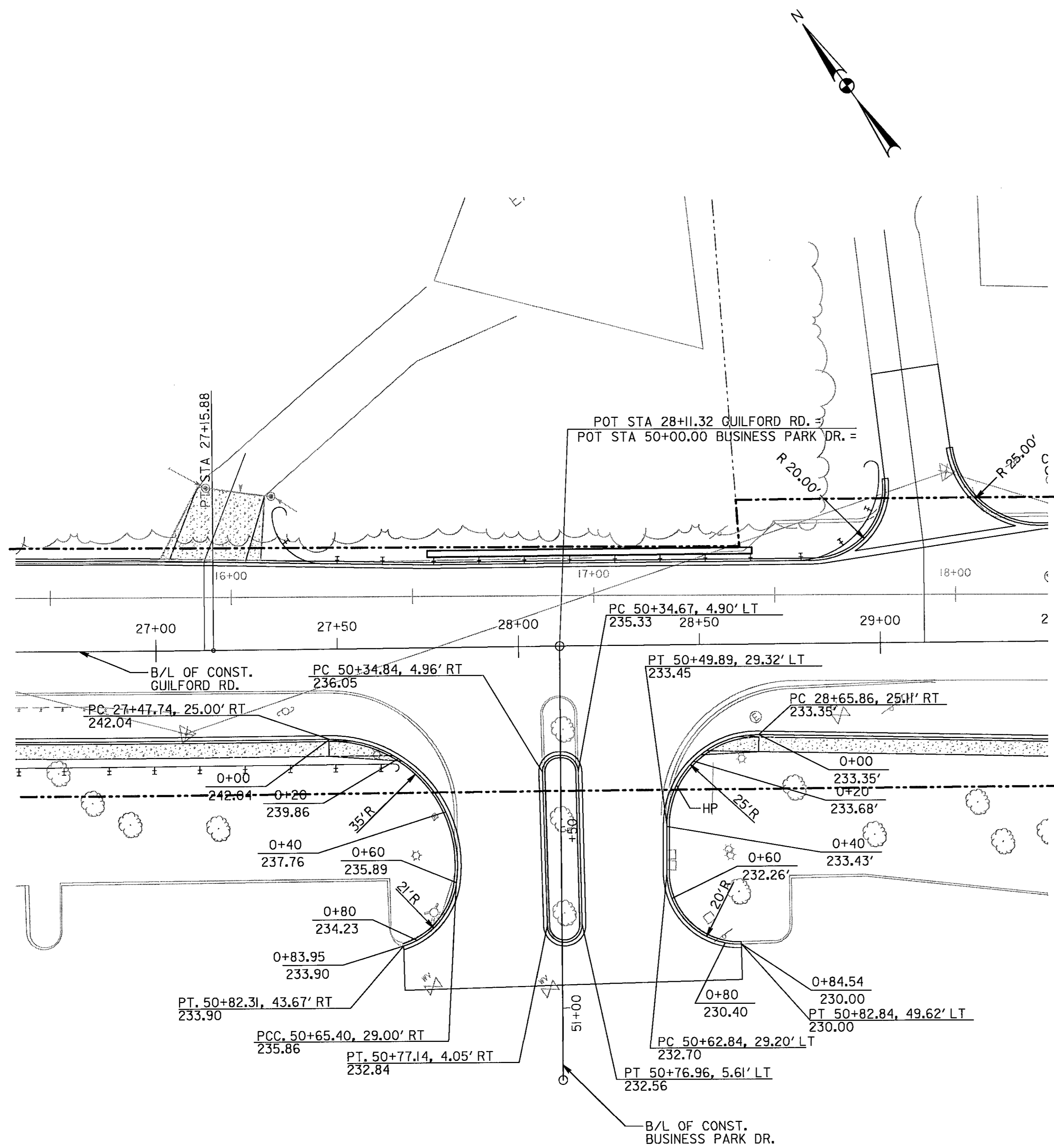
TOP OF CURB PROFILE FOR N.E. CURB RETURN OF GUILFORD RD AND DORSEY RUN ROAD

NOTE: ALL ELEVATIONS SHOWN ARE TOP OF CURB ELEVATIONS, UNLESS OTHERWISE NOTED.

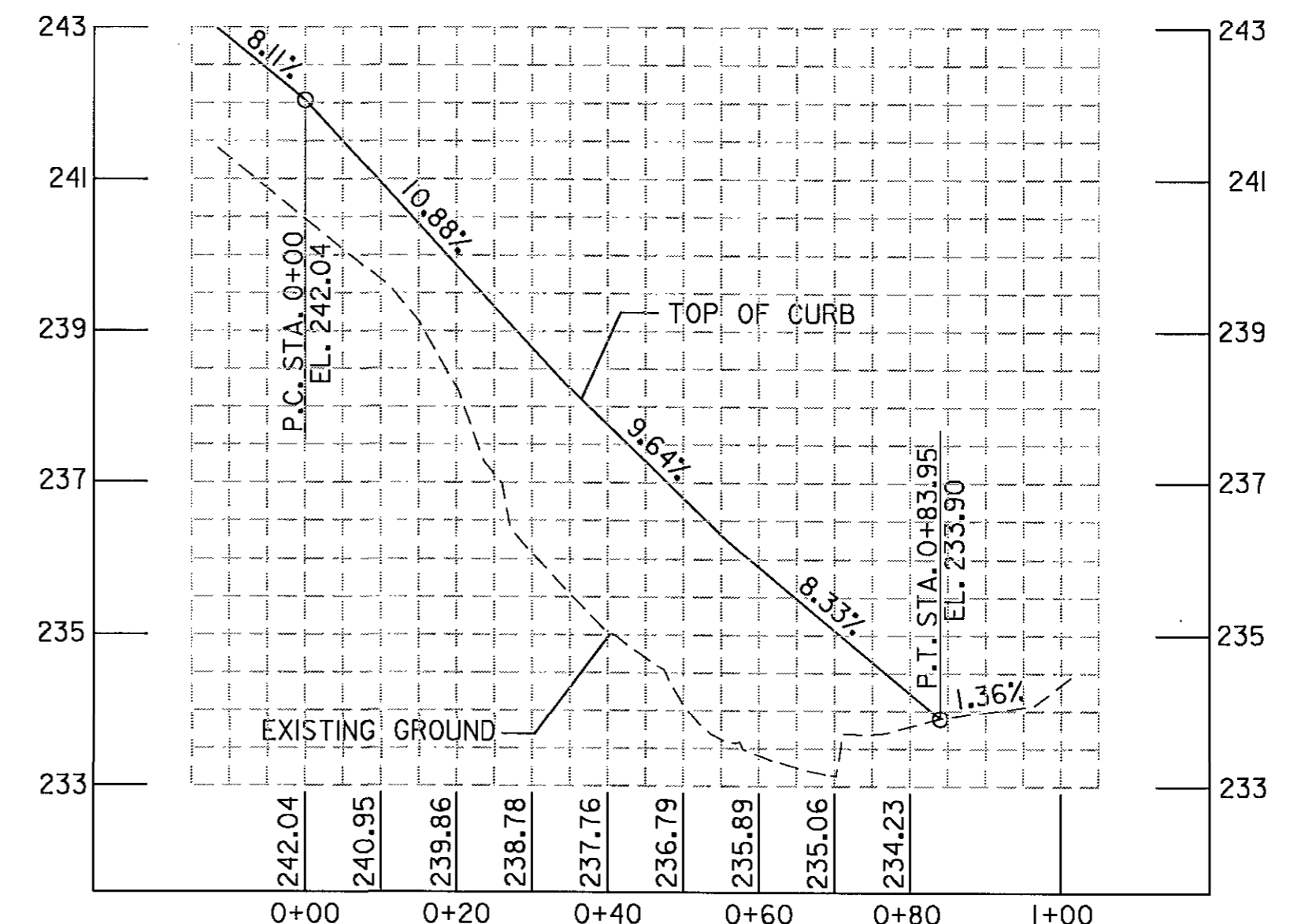
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 LINESYLE LIBRARY=MDSHALS  
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DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND		<b>GANNETT FLEMING, INC.</b> BALTIMORE, MARYLAND			
<i>Robert J. Williams</i> DIRECTOR OF PUBLIC WORKS	8/8/06 DATE	<i>Robert J. Williams</i> CHIEF, BUREAU OF ENGINEERING	8/7/06 DATE	DES: RLM	
<i>William J. McLaughlin</i> CHIEF, BUREAU OF HIGHWAYS	8-8-06 DATE	<i>William J. McLaughlin</i> CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION	8/7/06 DATE	DRN: JMR CHK: SIH DATE: 8-06	BY: _____ NO. _____ DATE _____

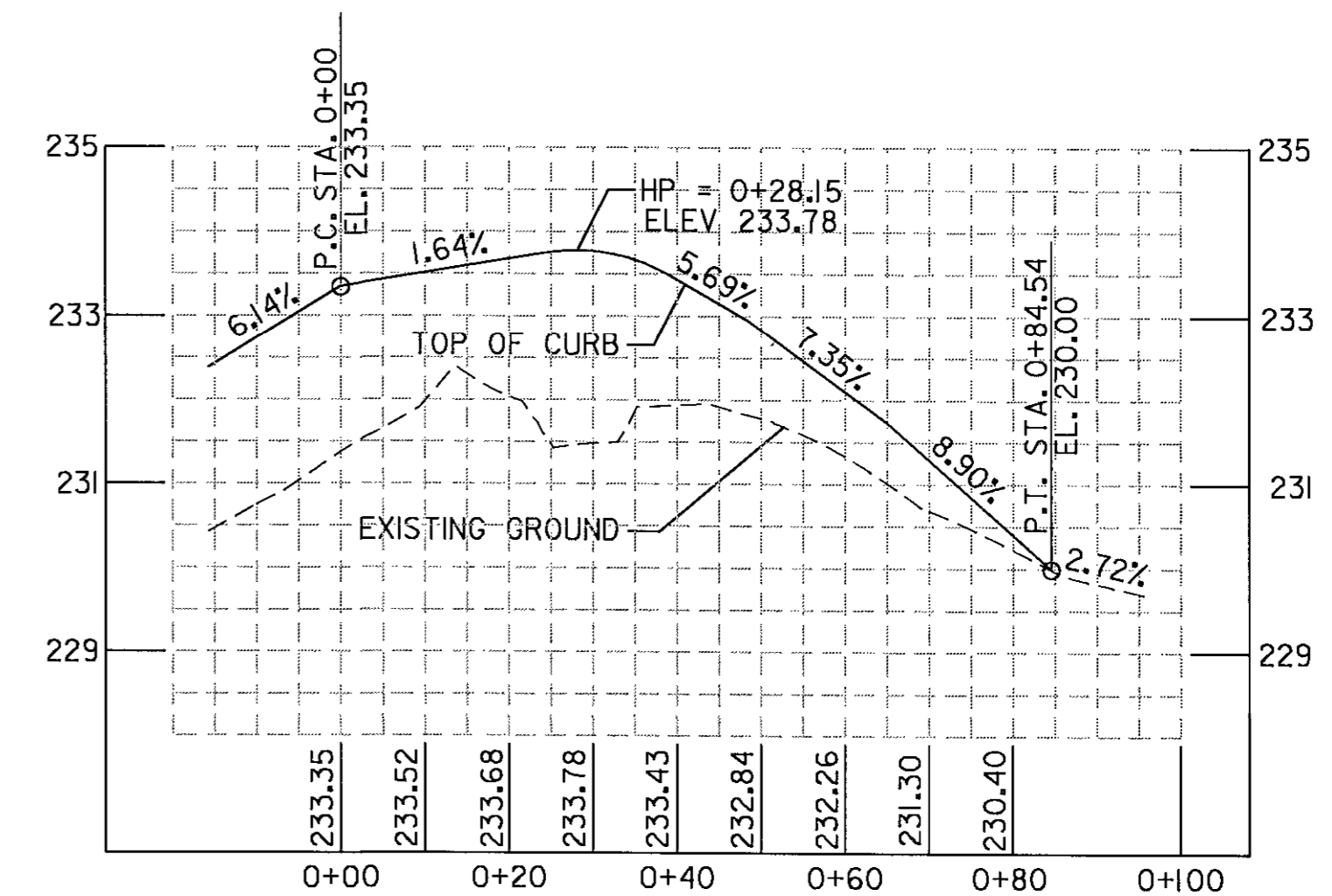
GUILFORD ROAD IMPROVEMENTS DORSEY RUN ROAD (NORTH) INTERSECTION DETAILS		IDOI
CAPITAL PROJECT No. J-4175 AND B-3855		SCALE 1" = 20'
		SHEET 22 OF 156



NOTE: ALL ELEVATIONS SHOWN ARE TOP OF CURB ELEVATIONS, UNLESS OTHERWISE NOTED.



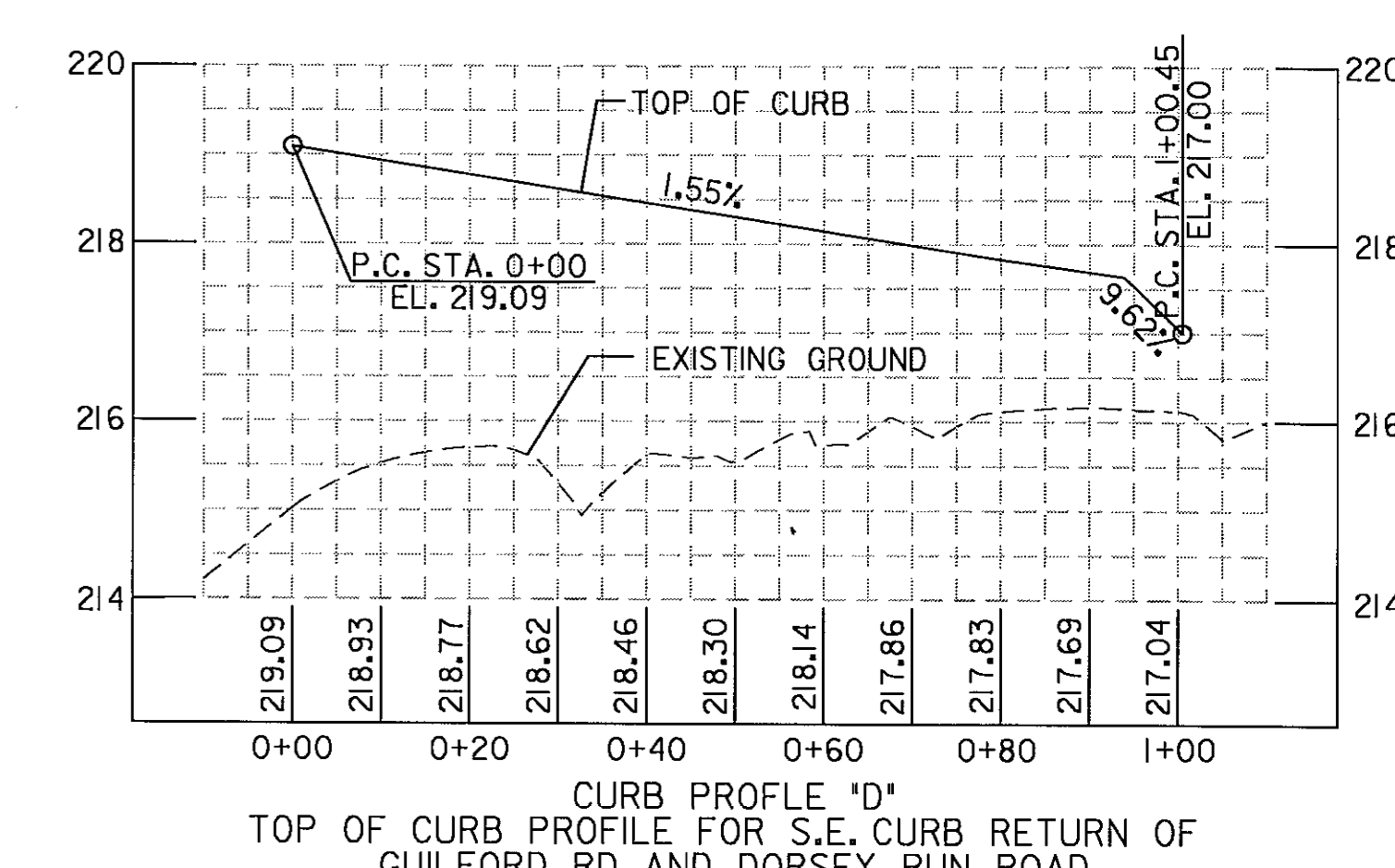
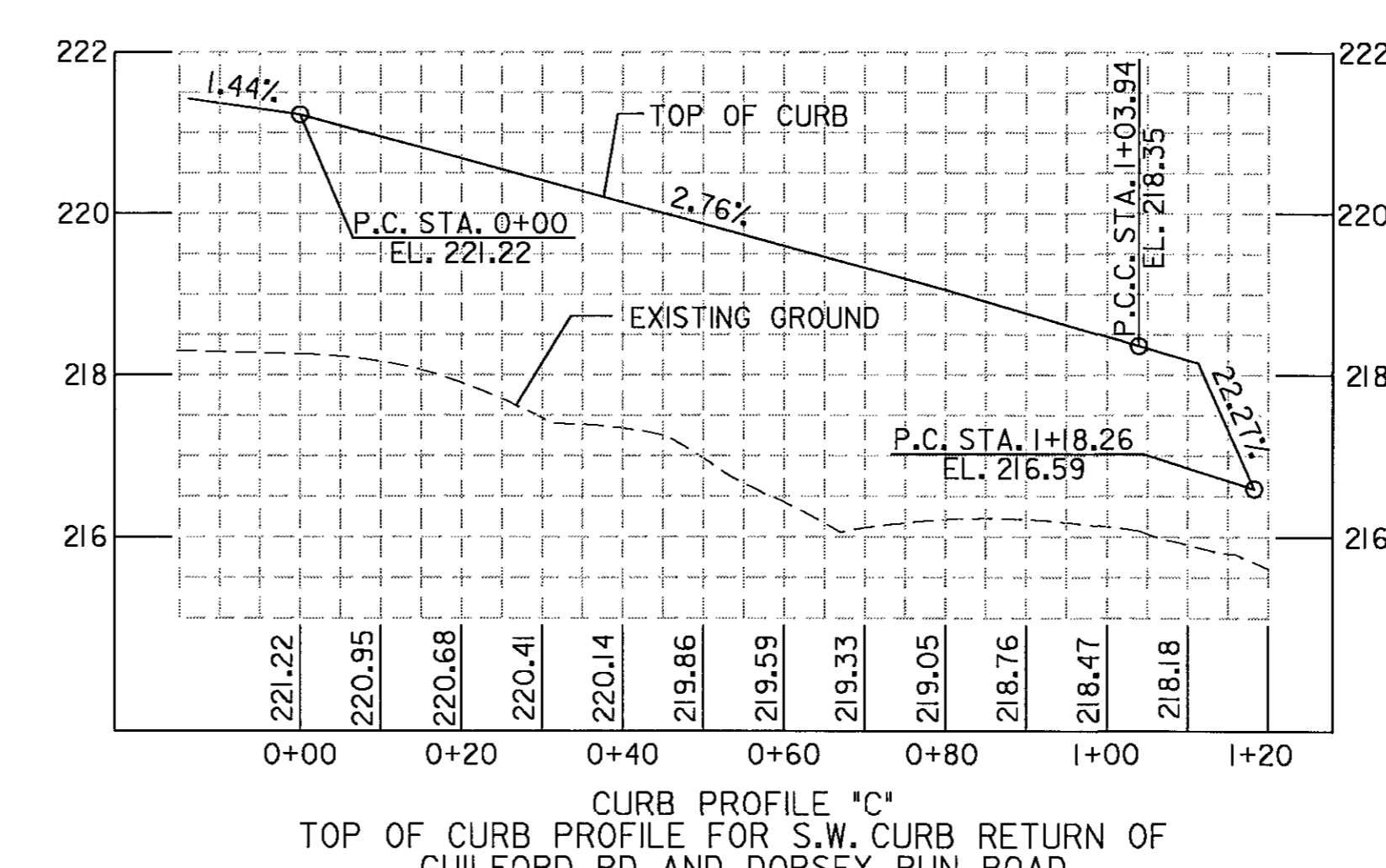
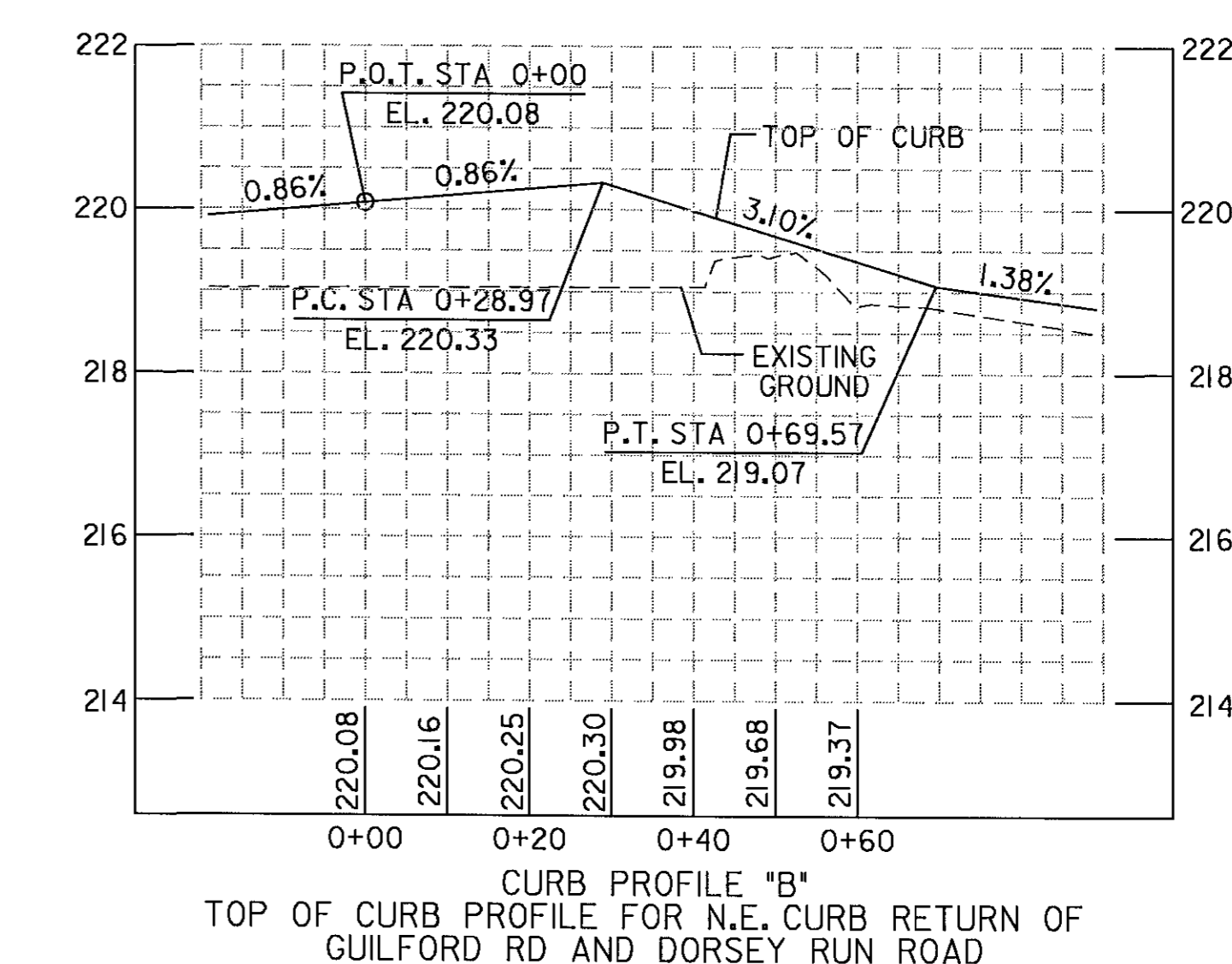
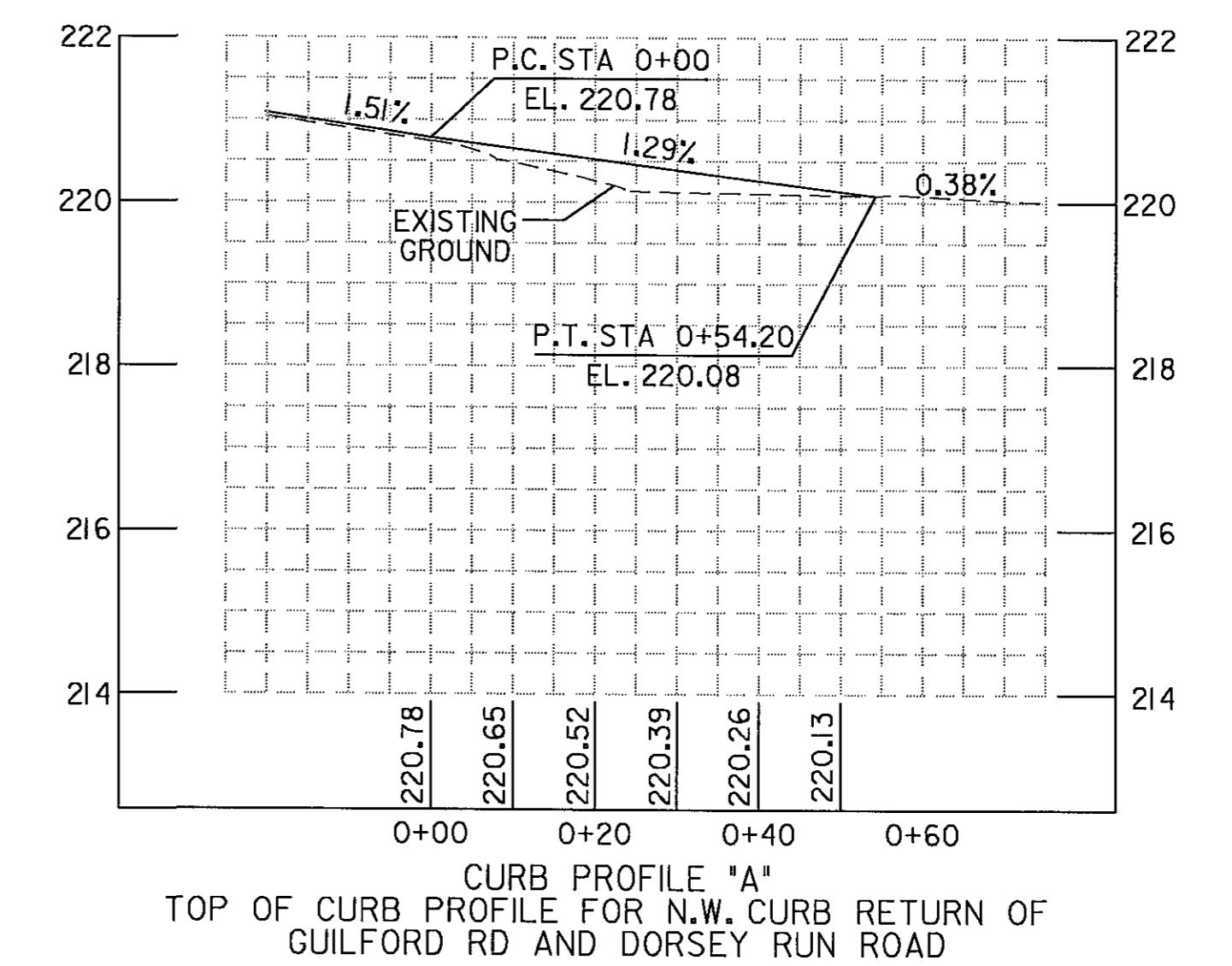
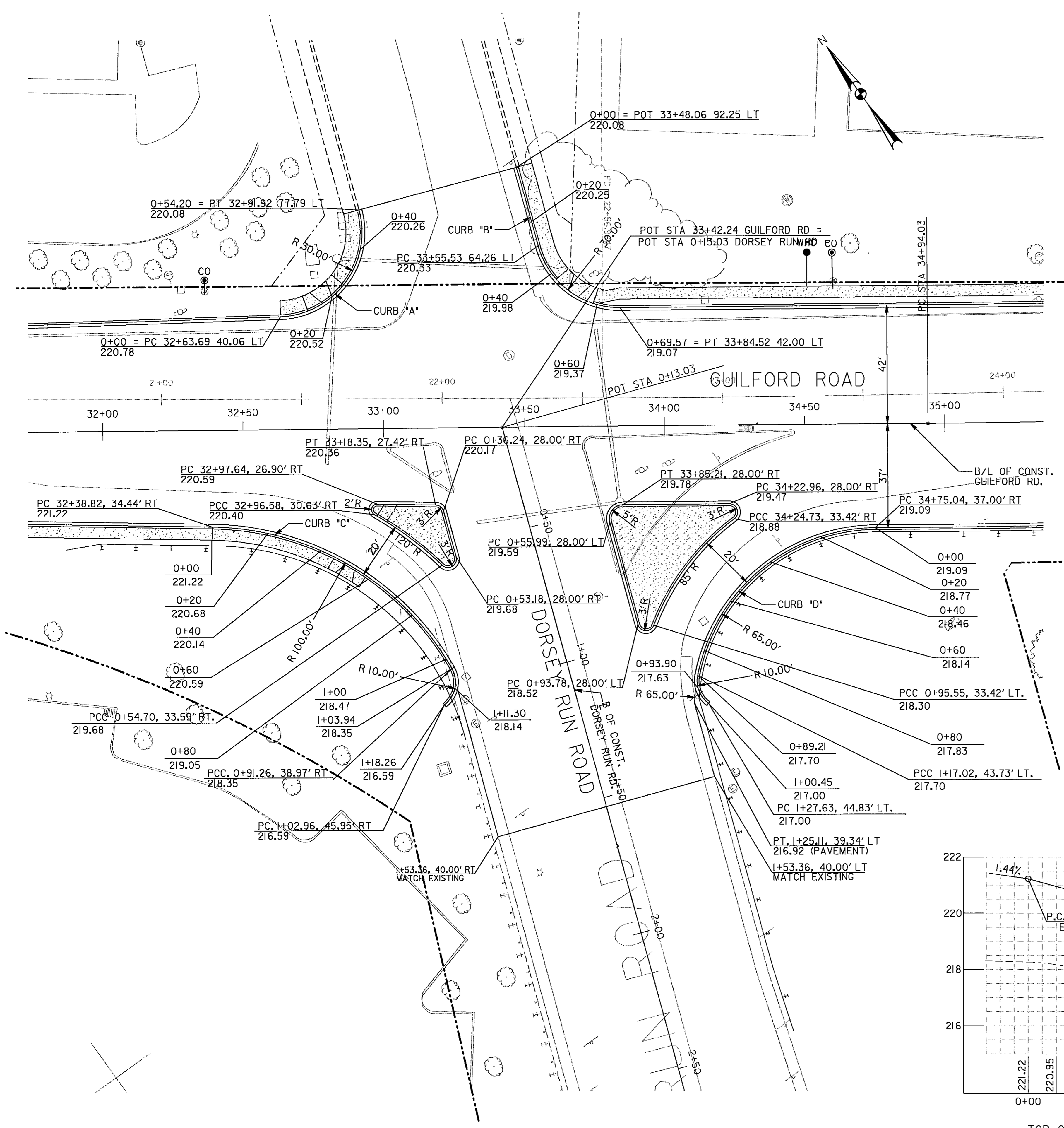
TOP OF CURB PROFILE FOR S.W. CURB RETURN OF GUILFORD RD AND BUSINESS PARK DRIVE



TOP OF CURB PROFILE FOR S.E. CURB RETURN OF GUILFORD RD AND BUSINESS PARK DRIVE

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 LINESSTYLE LIBRARY-MDSHALS  
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DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND		<b>GANNETT FLEMING, INC.</b>  BALTIMORE, MARYLAND		DES: RLM DRN: JMR CHK: SIH DATE: 8-06		GUILFORD ROAD IMPROVEMENTS BUSINESS PARK DRIVE INTERSECTION DETAILS CAPITAL PROJECT No. J-4175 AND B-3855		ID02 SCALE 1" = 20' SHEET 23 OF 156
[Signature] DIRECTOR OF PUBLIC WORKS DATE: 8/8/06	[Signature] CHIEF, BUREAU OF ENGINEERING DATE: 8/1/06	[Signature] CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION	[Signature] CHIEF, BUREAU OF HIGHWAYS DATE: 8/8/06	[Signature] CHIEF, BUREAU OF ENGINEERING DATE: 8/1/06	[Signature] CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION	[Signature] CHIEF, BUREAU OF HIGHWAYS DATE: 8/8/06	[Signature] CHIEF, BUREAU OF ENGINEERING DATE: 8/1/06	[Signature] CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION



FONT LIBRARY: SHAFONTS  
 LINES STYLE LIBRARY: MDSHALS  
 07/27/2006  
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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: *William Z. Calabrese* 5/13/06  
 Chief, Bureau of Highways: *William Z. Calabrese* 8-7-06  
 Chief, Bureau of Engineering: *Paul D. Ryan* 8/7/06  
 Chief, Division of Transportation, Special Projects Division: *Paul D. Ryan* 8/7/06

**GANNETT FLEMING, INC.**  
 BALTIMORE, MARYLAND

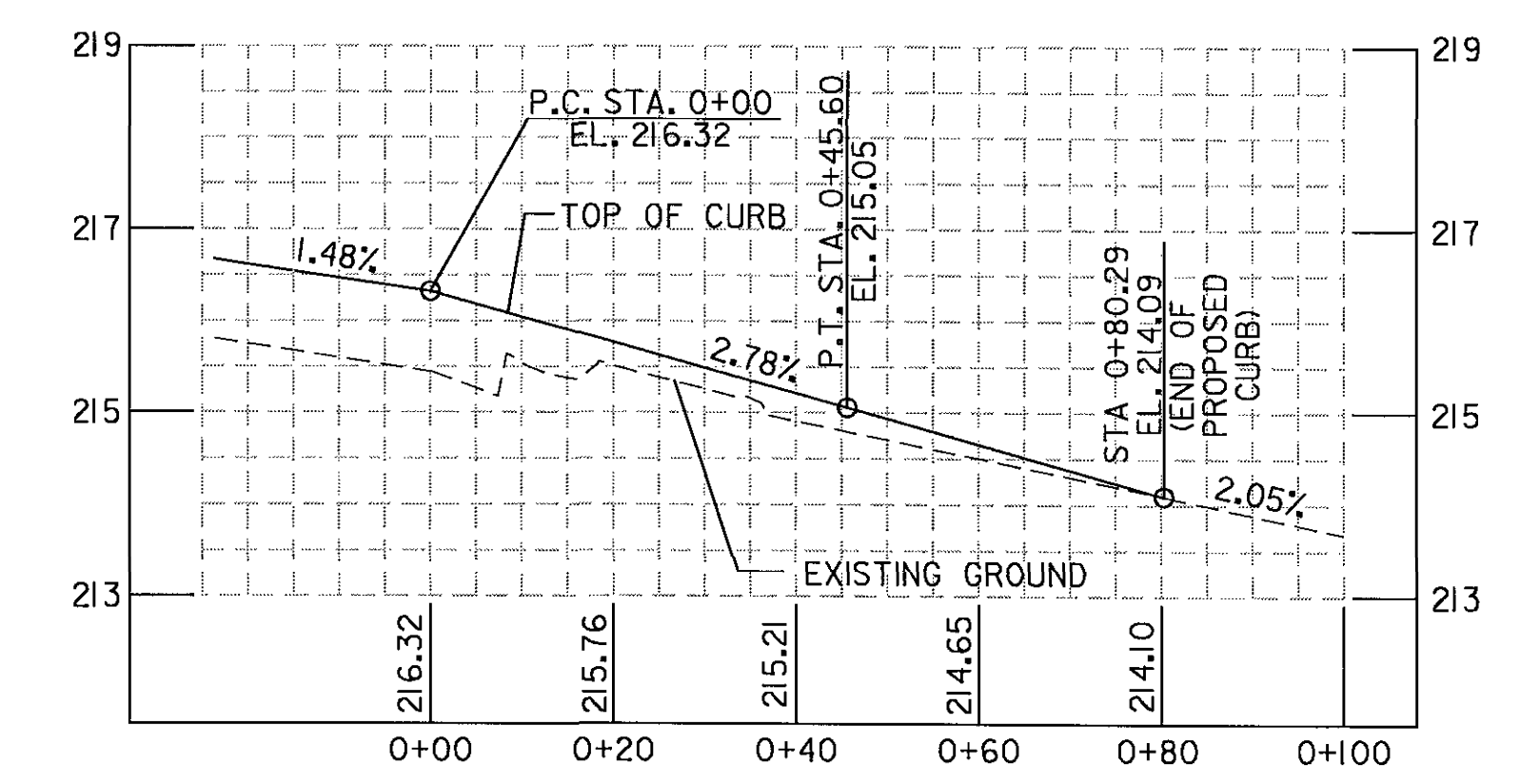
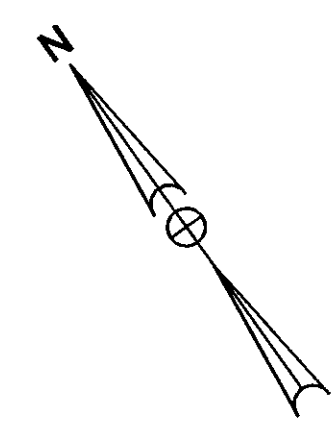
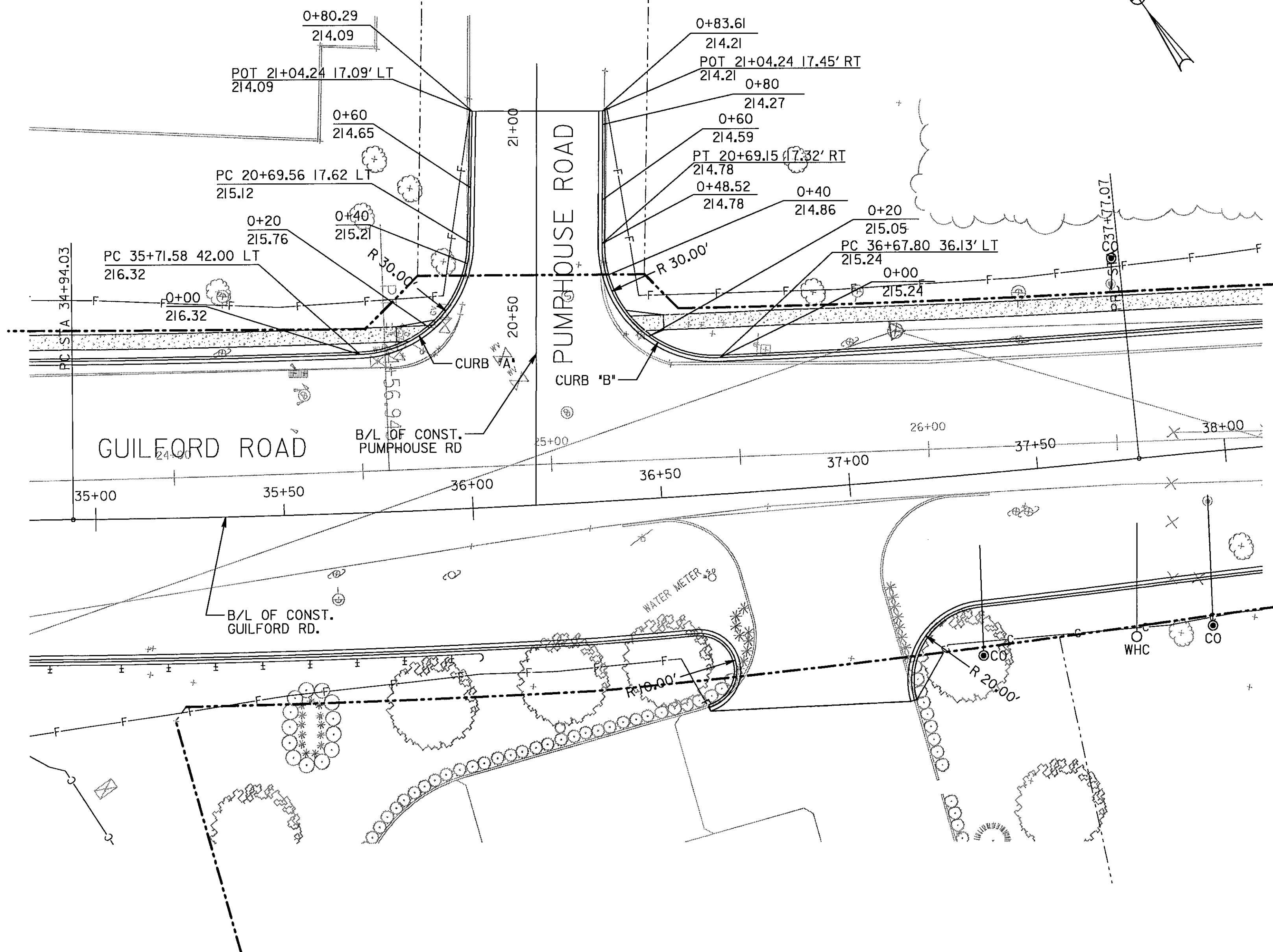


DES: RLM					
DRN: JMR					
CHK: SIH					
DATE: 8-06					
BY	NO.				DATE

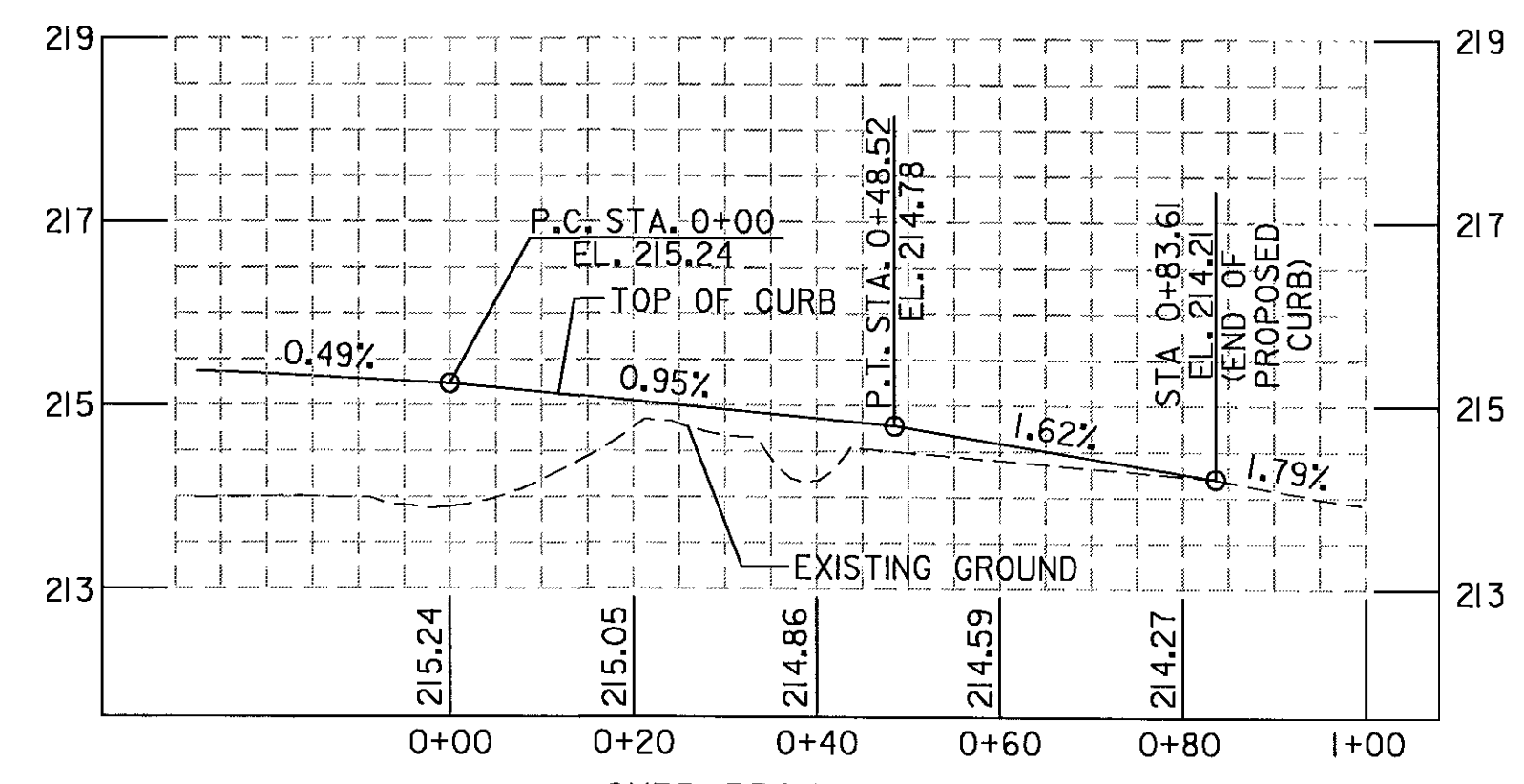

NOTE: ALL ELEVATIONS SHOWN ARE TOP OF CURB ELEVATIONS, UNLESS OTHERWISE NOTED.  
 GUILFORD ROAD IMPROVEMENTS  
 DORSEY RUN ROAD (SOUTH)  
 INTERSECTION DETAILS  
 CAPITAL PROJECT No. J-4175 AND B-3855

ID03  
 SCALE  
 1" = 20'  
 SHEET  
 24 OF 156





CURB PROFILE "A"  
TOP OF CURB PROFILE FOR N.W. CURB RETURN OF  
GUILFORD RD AND PUMPHOUSE ROAD



CURB PROFILE "B"  
TOP OF CURB PROFILE FOR N.E. CURB RETURN OF  
GUILFORD RD AND PUMPHOUSE ROAD

NOTE: ALL ELEVATIONS SHOWN ARE TOP OF CURB  
ELEVATIONS, UNLESS OTHERWISE NOTED.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 5/8/06  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 8/7/06  
CHIEF, BUREAU OF ENGINEERING DATE

*[Signature]* 8-8-06  
CHIEF, BUREAU OF HIGHWAYS DATE

*[Signature]* 8/7/06  
CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

GANNETT  
FLEMING, INC.

BALTIMORE,  
MARYLAND



DES: RCM				
DRN: JMR				
CHK: SH				
DATE: 8-06				
BY	NO.			DATE

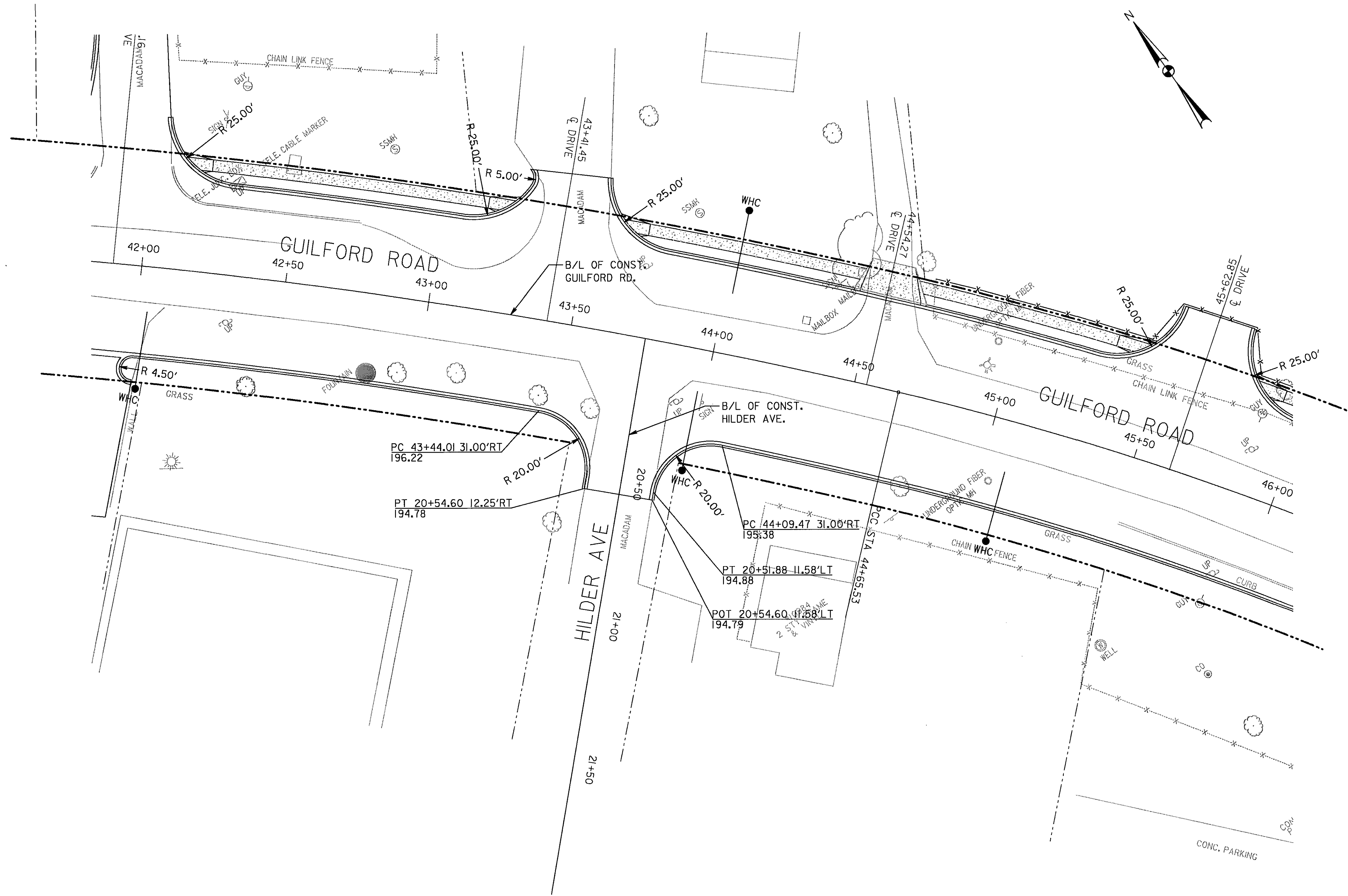
GUILFORD ROAD IMPROVEMENTS  
PUMPHOUSE ROAD  
INTERSECTION DETAILS

CAPITAL PROJECT No. J-4175 AND B-3855

ID04

SCALE  
1" = 20'

SHEET  
25 OF 156



NOTE: ALL ELEVATIONS SHOWN ARE TOP OF CURB ELEVATIONS, UNLESS OTHERWISE NOTED.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND


*Jan 9 06* 8/8/06  
DIRECTOR OF PUBLIC WORKS DATE

*Paul G. Simon* 8/7/06  
CHIEF, BUREAU OF ENGINEERING DATE

*William J. Mahesh* 8-8-06  
CHIEF, BUREAU OF HIGHWAYS DATE

*Jan Steinhilber* 8/7/06  
CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

**GANNETT FLEMING, INC.**



BALTIMORE, MARYLAND



DES: RLM				
DRN: JMR				
CHK: SIH				
DATE: 8-06				
BY	NO.			DATE

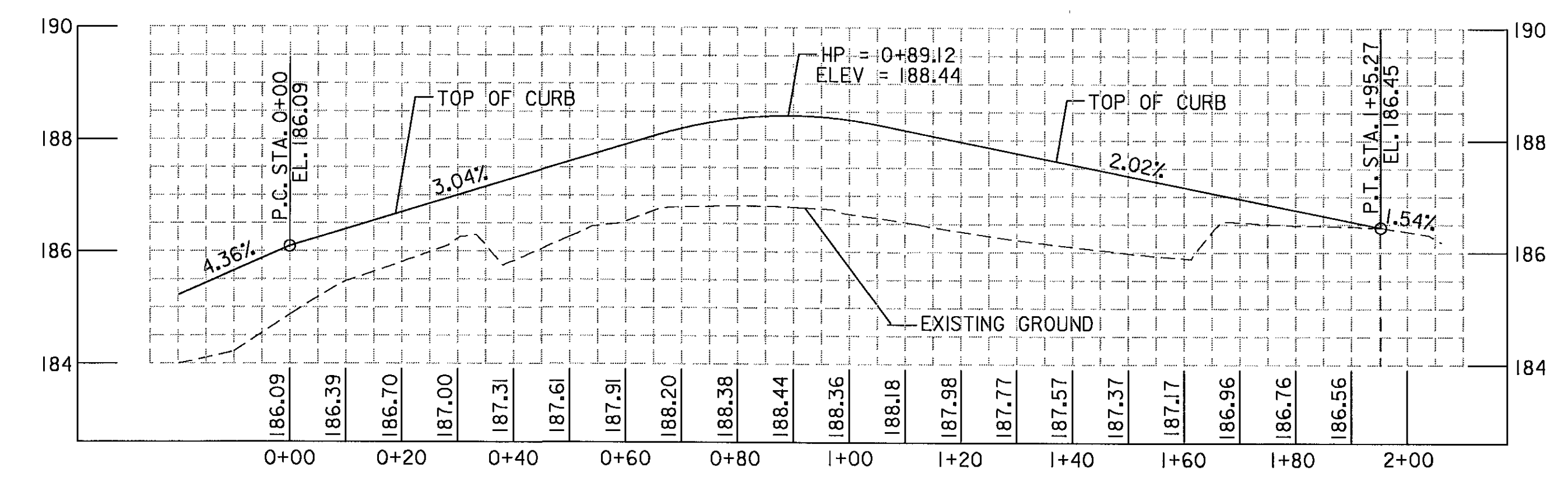
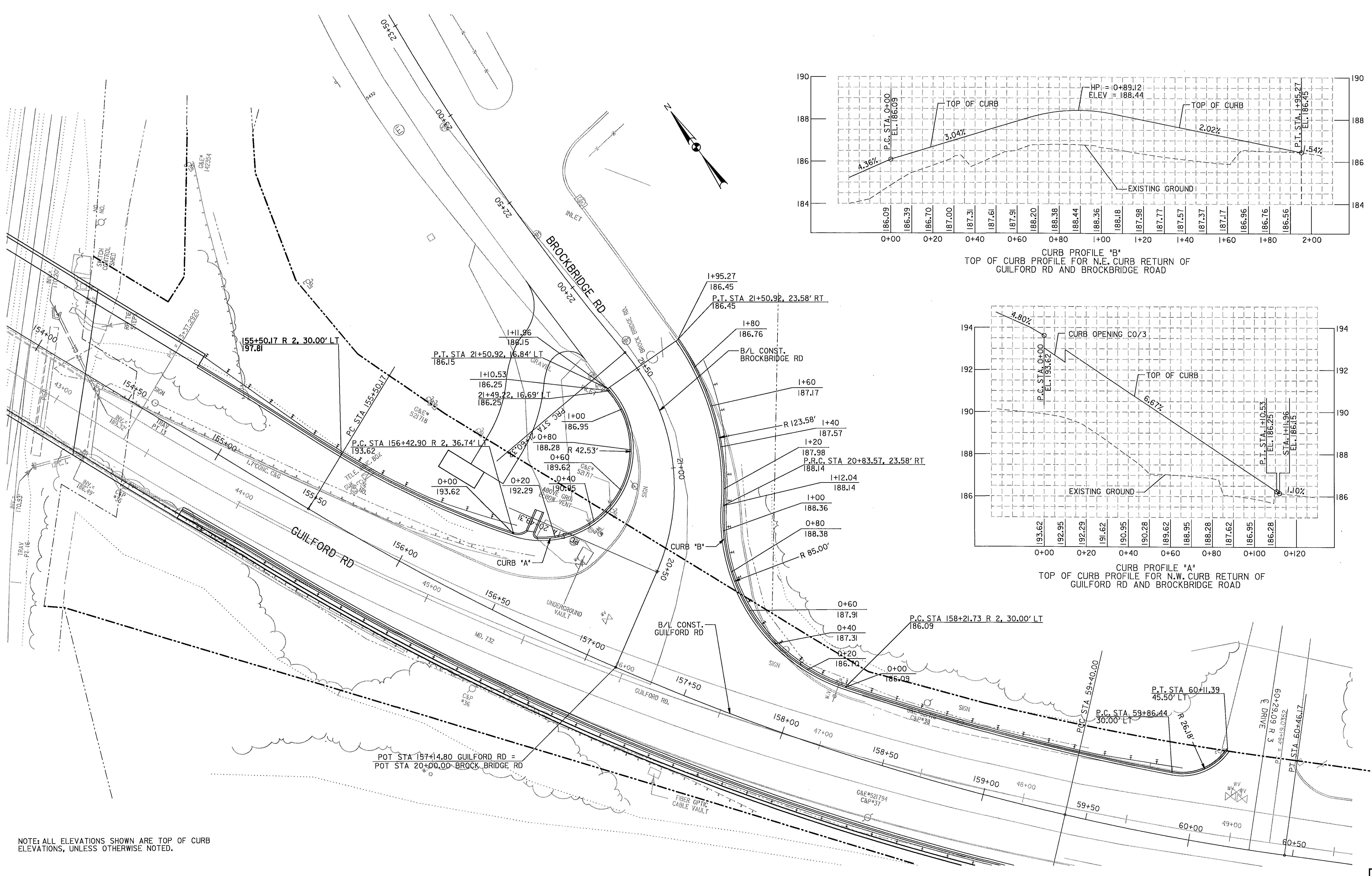
GUILFORD ROAD IMPROVEMENTS  
HILDER AVE.  
INTERSECTION DETAILS

CAPITAL PROJECT No. J-4175 AND B-3855

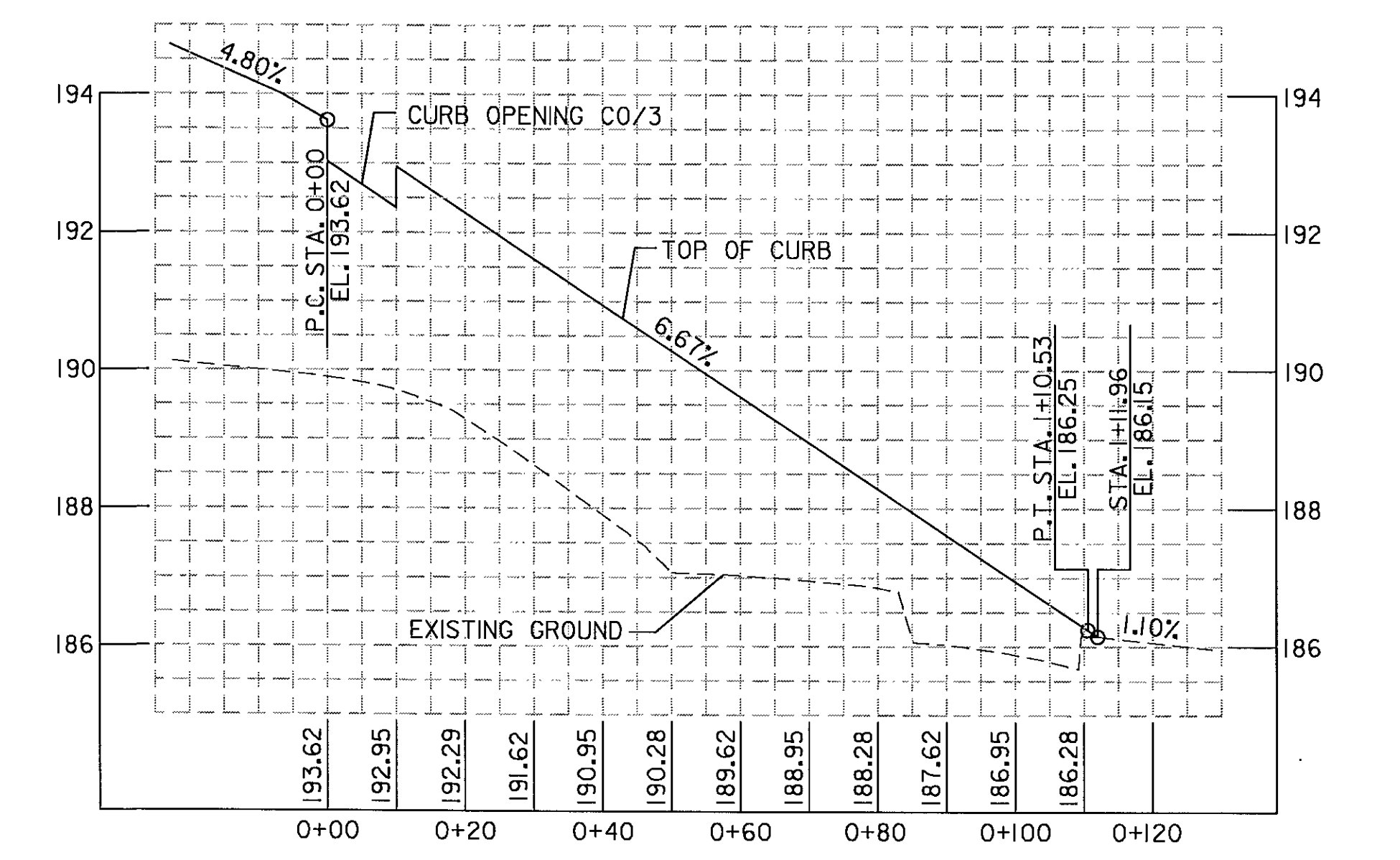
ID05

SCALE  
1" = 20'

SHEET  
26 OF 156



CURB PROFILE "B"  
TOP OF CURB PROFILE FOR N.E. CURB RETURN OF  
GUILFORD RD AND BROCKBRIDGE ROAD



CURB PROFILE "A"  
TOP OF CURB PROFILE FOR N.W. CURB RETURN OF  
GUILFORD RD AND BROCKBRIDGE ROAD

NOTE: ALL ELEVATIONS SHOWN ARE TOP OF CURB  
ELEVATIONS, UNLESS OTHERWISE NOTED.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*W. J. M. M. M.* 8/7/06  
DIRECTOR OF PUBLIC WORKS DATE

*Paul J. ...* 8/7/06  
CHIEF, BUREAU OF ENGINEERING DATE

*...* 8-8-06  
CHIEF, BUREAU OF HIGHWAYS DATE

*...* 8/7/06  
CHIEF, DIVISION OF TRANSPORTATION, DATE  
SPECIAL PROJECTS DIVISION

GANNETT  
FLEMING, INC.

BALTIMORE,  
MARYLAND



DES: RLM					
DRN: JMK					
CHK: SIH					
DATE: 8-06					
BY	NO.				DATE

GUILFORD ROAD IMPROVEMENTS  
BROCKBRIDGE RD  
INTERSECTION DETAILS

CAPITAL PROJECT No. J-4175 AND B-3855

ID06

SCALE  
1" = 20'

SHEET  
27 OF 156

# GRADING TABLE


STATION		CLASS I C.Y.	EMBANKMENT	TOPSOIL		UNSUITABLE MATERIAL		INFILTRATION TRENCH EXCAVATION	SWM EXCAVATION	SWM EMBANKMENT	CUT ADJUSTED	CUT DENSIFIED	SPECIAL BORROW	REMARKS
FROM	TO			CUT	FILL	CUT	FILL							
21+00.00	21+17.00	1.3	7.0	0.0	2.4	1.34	0	0	0	0	0.0	0.0	NA	
21+17.00	21+50.00	55.0	18.0	0.0	8.9	40.04	0	0	0	0	15.0	12.3	NA	
21+50.00	22+00.00	130.0	48.2	0.0	16.9	96.26	0	0	0	0	33.7	27.6	NA	
22+00.00	22+50.00	82.7	75.2	0.0	21.1	62.31	0	0	0	0	20.4	16.7	NA	
22+50.00	23+00.00	71.9	81.8	0.0	19.1	52.27	0	0	0	0	19.6	16.1	NA	
23+00.00	23+50.00	96.2	74.0	0.0	16.0	63.28	0	0	0	0	33.0	27.0	NA	
23+50.00	24+00.00	150.1	65.8	3.1	11.5	72.87	0	0	0	0	74.2	60.8	NA	
24+00.00	24+50.00	200.1	64.2	5.5	8.1	72.58	0	0	0	0	122.0	100.0	NA	
24+50.00	25+00.00	209.7	69.9	4.6	9.0	71.75	0	0	0	0	133.4	109.4	NA	
25+00.00	25+50.00	193.6	76.1	4.1	9.7	70.88	0	0	0	0	118.7	97.3	NA	
25+50.00	26+00.00	169.2	66.7	2.0	13.7	69.36	0	0	0	0	97.8	80.2	NA	
26+00.00	26+50.00	137.0	51.6	0.0	17.9	64.19	0	0	0	0	72.8	59.7	NA	
26+50.00	27+00.00	108.5	48.0	0.0	11.2	54.52	0	0	0	0	54.0	44.3	NA	
27+00.00	27+15.88	34.8	11.0	0.0	7.0	15.30	0	0	0	0	19.5	16.0	NA	
27+15.88	27+50.00	53.8	23.9	0.0	12.1	23.23	0	0	0	0	30.5	25.0	NA	
27+50.00	28+00.00	42.8	164.8	0.0	10.5	10.45	0	0	0	0	32.4	26.5	NA	
28+00.00	28+50.00	31.0	184.9	0.0	17.5	0.41	0	0	0	0	30.6	25.1	NA	
28+50.00	29+00.00	35.2	95.0	1.0	14.2	0.36	0	0	0	0	33.9	27.8	NA	
29+00.00	29+07.21	9.3	12.9	6.7	1.8	3.33	0	0	0	0	-0.7	-0.6	NA	
29+07.21	29+50.00	51.3	50.6	13.1	4.3	21.89	0	0	0	0	16.3	13.4	NA	
29+50.00	30+00.00	94.8	31.2	16.4	4.9	23.71	0	0	0	0	54.7	44.9	NA	
30+00.00	30+50.00	162.4	14.0	18.6	4.6	57.28	0	0	0	0	86.5	70.9	NA	
30+50.00	31+00.00	205.9	5.3	16.1	3.0	77.74	0	0	0	0	112.0	91.8	NA	
31+00.00	31+32.21	153.1	1.4	10.0	0.8	67.68	0	0	0	0	75.4	61.8	NA	
31+32.21	31+50.00	74.4	1.0	9.3	4.7	41.83	0	0	0	0	23.3	19.1	NA	
31+50.00	32+00.00	147.3	57.1	5.8	15.5	98.85	0	0	0	0	42.7	35.0	NA	
32+00.00	32+50.00	92.1	134.9	0.0	25.5	56.66	0	0	0	0	35.4	29.0	NA	
32+50.00	33+00.00	58.4	162.9	0.0	33.8	13.45	0	0	0	0	44.9	36.8	NA	
33+00.00	33+50.00	33.9	140.4	0.0	26.8	4.0	0	0	0	0	29.8	24.5	NA	
33+50.00	34+00.00	57.3	99.6	0.0	12.9	31.07	0	0	0	0	26.2	21.5	NA	
34+00.00	34+50.00	101.0	146.8	0.0	15.6	52.28	0	0	0	0	48.7	39.9	NA	
34+50.00	35+00.00	116.0	201.7	0.0	22.2	68.33	0	0	0	0	1104.9	906.0	NA	
35+00.00	35+50.00	126.9	126.2	0.0	23.4	86.12	0	0	1057.2	130.4	1098.0	900.4	NA	
35+50.00	36+00.00	134.5	40.4	0.0	15.1	94.12	0	0	1057.2	130.4	1097.6	900.0	NA	
36+00.00	36+20.00	81.8	7.0	0.0	10.2	42.31	0	0	0	0	39.5	32.4	NA	
36+20.00	36+50.00	122.6	6.5	0.0	23.3	49.19	0	0	0	0	73.4	60.2	NA	
36+50.00	37+00.00	204.1	12.5	10.4	21.1	46.30	0	0	0	0	147.4	120.9	NA	
37+00.00	37+50.00	216.4	22.5	19.1	10.1	29.84	0	0	0	0	167.5	137.3	NA	
37+50.00	38+00.00	191.5	33.4	18.4	11.6	25.54	0	0	0	0	147.6	121.0	NA	
38+00.00	38+50.00	205.9	49.8	11.8	7.5	37.68	0	0	0	0	156.4	128.2	NA	
38+50.00	38+59.00	37.3	11.7	11.2	8.1	9.13	0	0	0	0	17.0	13.9	NA	
38+59.00	39+00.00	178.1	53.0	14.2	11.8	41.31	0	0	0	0	122.6	100.5	NA	
39+00.00	39+25.00	131.4	33.3	10.3	9.8	12.02	0	0	0	0	109.1	89.5	NA	
39+25.00	39+50.00	121.1	34.4	11.6	14.5	6.01	0	0	0	0	103.6	84.9	NA	
39+50.00	40+00.00	172.4	52.4	13.5	19.5	21.39	0	0	0	0	137.6	112.8	NA	
40+00.00	40+50.00	175.7	56.5	14.8	20.4	23.89	0	0	0	0	137.0	112.3	NA	
40+50.00	41+00.00	222.6	69.2	10.1	13.1	37.81	0	0	0	0	174.7	143.2	NA	
41+00.00	41+14.00	81.0	9.6	2.3	7.8	13.81	0	0	0	0	64.8	53.2	NA	
41+14.00	41+48.00	213.1	4.9	0.0	5.5	37.73	0	0	0	0	175.4	143.8	NA	
41+48.00	41+50.00	12.5	0.5	8.4	4.2	2.37	0	0	0	0	1.7	1.4	NA	
41+50.00	41+90.00	267.1	4.3	9.6	3.9	57.61	0	0	0	0	199.9	163.9	NA	
41+90.00	42+00.00	71.6	0.0	13.9	0.0	17.27	0	0	0	0	40.5	33.2	NA	
42+00.00	42+50.00	348.7	0.0	25.5	0.0	76.89	0	0	0	0	246.3	202.0	NA	
42+50.00	43+00.00	314.1	0.0	22.5	0.0	58.81	0	0	0	0	232.8	190.9	NA	
43+00.00	43+41.00	214.0	0.0	10.6	0.0	60.40	0	0	0	0	142.9	117.2	NA	
43+41.00	43+50.00	38.6	0.0	1.0	3.0	16.58	0	0	0	0	21.1	17.3	NA	

CUT ADJUSTED = CLASS I EXCAVATION MINUS SOD MAT (CUT) MINUS ROOT MAT (CUT) PLUS S.W.M. EXCAVATION PLUS INFILTRATION TRENCH EXCAVATION

NOTE: IN LOCATIONS WHERE THE EXISTING PAVEMENT BOX IS UNDER PROPOSED FILL, THE EXISTING PAVEMENT SHALL BE SCARIFIED AND FILLED OVER.

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DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
<i>[Signature]</i> DIRECTOR/OF PUBLIC WORKS DATE: 8-8-06	<i>[Signature]</i> 8/7/06 CHIEF, BUREAU OF ENGINEERING DATE: 8/7/06
CHIEF, BUREAU OF HIGHWAYS DATE: 8-8-06	

**GANNETT  
FLEMING, INC.**  
  
 BALTIMORE,  
MARYLAND





DES: RLM				
DRN: JMR				
CHK: SHH				
DATE: 8-06	BY	NO.		DATE


GUILFORD ROAD IMPROVEMENTS GRADING TABLE CAPITAL PROJECT No. J-4175 AND B-3855	SCALE N/A  SHEET 28 OF 156
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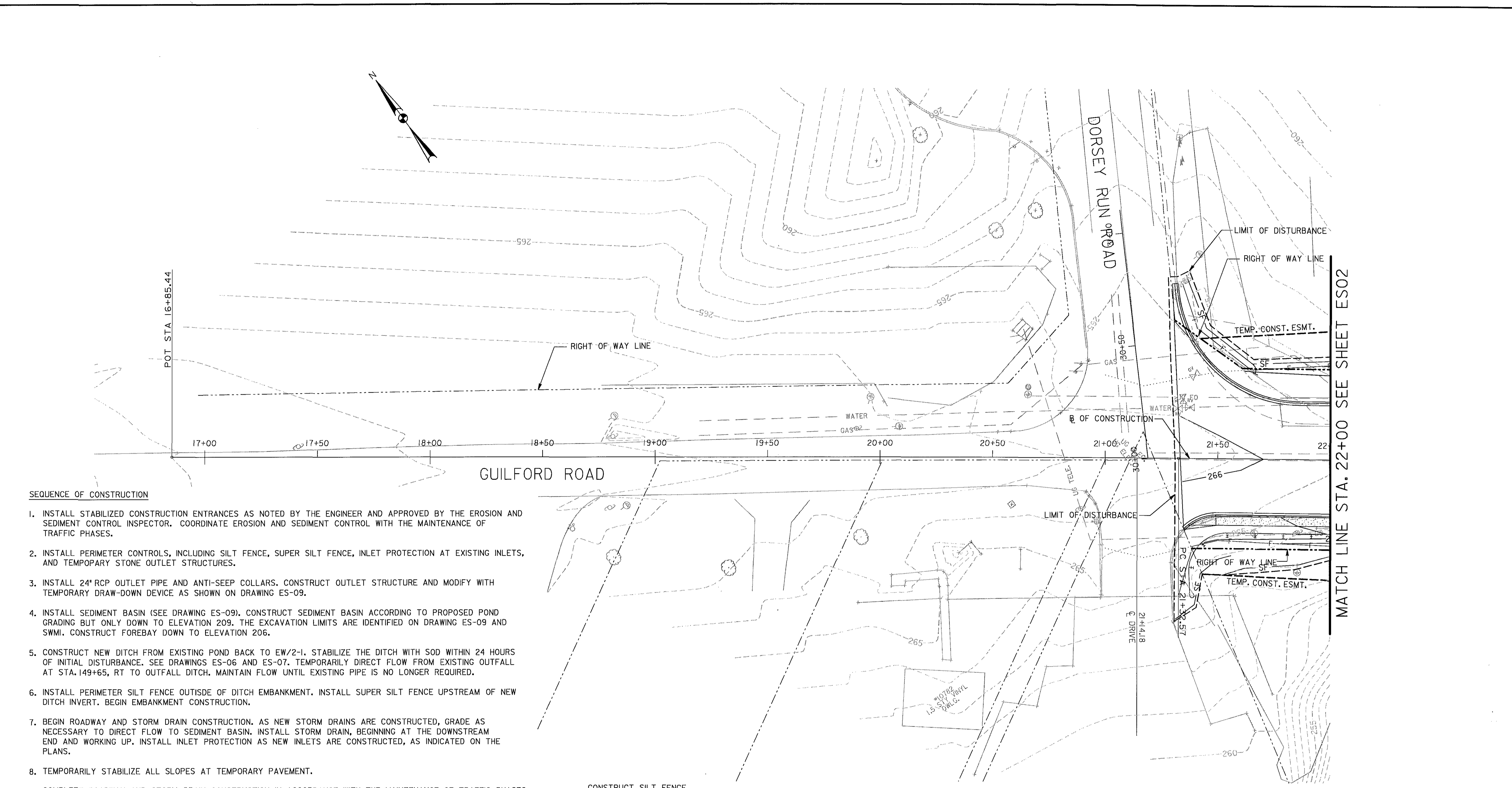
# GRADING TABLE

STATION		CLASS I C.Y.	EMBANKMENT	TOPSOIL		UNSUITABLE MATERIAL		INFILTRATION TRENCH EXCAVATION	SWM EXCAVATION	SWM EMBANKMENT	CUT ADJUSTED	CUT DENSIFIED	SPECIAL BORROW	REMARKS
FROM	TO			CUT	FILL	CUT	FILL							
43+50.00	43+78.00	110.7	4.5	0.0	6.7	33.94	0	0	0	0	76.7	62.9	NA	
43+78.00	44+00.00	75.8	8.2	0.0	17.4	13.91	0	0	0	0	61.9	50.7	NA	
44+00.00	44+50.00	132.7	12.2	0.0	15.2	29.09	0	0	0	0	103.6	85.0	NA	
44+50.00	44+56.00	13.3	0.4	12.2	1.5	3.26	0	0	0	0	-2.1	-1.8	NA	
44+56.00	45+00.00	115.7	1.5	18.2	10.3	21.52	0	0	0	0	76.0	62.4	NA	
45+00.00	45+50.00	130.1	5.2	6.0	10.3	22.56	0	0	0	0	101.6	83.3	NA	
45+50.00	45+62.85	30.8	1.9	0.0	14.1	2.97	0	0	0	0	27.9	22.8	NA	
45+62.85	46+00.00	83.9	18.4	0.0	28.2	17.64	0	0	0	0	66.3	54.3	NA	
46+00.00	46+50.00	99.1	59.3	0.0	28.4	50.42	0	0	0	0	48.6	39.9	NA	
46+50.00	47+00.00	110.6	75.6	0.0	28.9	55.19	0	0	0	0	55.4	45.4	NA	
47+00.00	47+50.00	113.7	99.0	0.0	29.2	59.20	0	0	0	0	54.5	44.7	NA	
47+50.00	48+00.00	140.1	83.1	0.0	21.3	62.35	0	0	0	0	77.7	63.7	NA	
48+00.00	48+24.00	80.1	12.6	0.0	14.1	30.08	0	0	0	0	50.0	41.0	NA	
48+24.00	48+50.83	81.4	17.2	0.0	17.3	32.05	0	0	0	0	49.4	40.5	NA	
48+50.83	148+85.00	115.1	40.2	0.0	13.4	41.63	0	0	0	0	73.5	60.3	NA	
148+85.00	149+00.00	56.5	17.5	0.0	17.0	18.77	0	0	0	0	37.8	31.0	NA	
149+00.00	149+50.00	104.5	98.0	0.0	14.9	45.26	0	0	0	0	59.3	48.6	NA	
149+50.00	149+75.00	21.5	60.6	0.0	6.7	10.46	0	0	0	0	11.0	9.0	NA	
149+75.00	150+00.00	14.3	83.8	0.0	13.3	3.27	0	0	0	0	11.0	9.0	NA	
150+00.00	150+50.00	0.5	306.9	0.0	18.5	0.50	0	0	0	0	0.0	0.0	NA	
150+50.00	151+00.00	0.0	497.1	0.0	21.5	0.00	0	0	0	0	0.0	0.0	NA	
151+00.00	151+50.00	0.0	711.6	0.0	22.9	0.00	0	0	0	0	0.0	0.0	NA	
151+50.00	152+00.00	17.2	856.3	0.0	23.4	0.00	0	0	0	0	17.2	14.1	NA	
152+00.00	152+50.00	22.8	877.0	0.0	25.3	0.00	0	0	0	0	22.8	18.7	NA	
152+50.00	153+00.00	5.6	425.6	0.0	23.6	0.00	0	0	0	0	5.6	4.6	NA	
153+00.00	153+50.00	0.0	0.0	0.0	9.8	0.00	0	0	0	0	0.0	0.0	NA	
153+50.00	154+00.00	0.0	366.5	0.0	0.0	0.00	0	0	0	0	0.0	0.0	NA	
154+00.00	154+50.00	0.0	733.0	0.0	6.2	0.00	0	0	0	0	0.0	0.0	NA	
154+50.00	155+00.00	0.0	690.3	0.0	17.3	0.00	0	0	0	0	0.0	0.0	NA	
155+00.00	155+50.00	0.0	551.1	0.0	19.8	0.00	0	0	0	0	0.0	0.0	NA	
155+50.00	156+00.00	0.1	377.7	0.0	15.9	0.00	0	0	0	0	0.1	0.1	NA	
156+00.00	156+50.00	0.1	249.8	0.0	15.7	0.00	0	0	0	0	0.1	0.1	NA	
156+50.00	157+00.00	51.8	164.4	0.0	9.4	41.51	0	0	0	0	10.3	8.5	NA	
157+00.00	157+50.00	86.7	93.8	0.0	2.1	72.20	0	0	0	0	14.5	11.9	NA	
157+50.00	158+00.00	48.3	55.9	0.0	5.0	43.84	0	0	0	0	4.4	3.6	NA	
158+00.00	158+50.00	41.5	72.0	0.0	8.4	38.02	0	0	0	0	3.5	2.9	NA	
158+50.00	159+00.00	71.6	80.8	0.0	8.2	61.16	0	0	0	0	10.5	8.6	NA	
159+00.00	59+50.00	96.0	69.9	0.0	6.4	76.68	0	0	0	0	19.3	15.8	NA	
59+50.00	60+00.00	119.8	57.0	0.0	3.1	84.97	0	0	0	0	34.8	28.5	NA	
60+00.00	60+50.00	129.3	37.5	0.0	0.7	87.04	0	0	0	0	42.3	34.7	NA	
TOTALS		9,364	10,887	392	1,218	3,423	0	0	3,172	391	8,721	7,151	NA	

CUT ADJUSTED = CLASS I EXCAVATION MINUS SOD MAT (CUT) MINUS ROOT MAT (CUT) PLUS S.W.M. EXCAVATION PLUS INFILTRATION TRENCH EXCAVATION  
 NOTE: IN LOCATIONS WHERE THE EXISTING PAVEMENT BOX IS UNDER PROPOSED FILL,  
 THE EXISTING PAVEMENT SHALL BE SCARIFIED AND FILLED OVER.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>W. J. Sublet</i> 8-8-06 Chief, Bureau of Highways: <i>W. J. Sublet</i> 8-8-06	GANNETT FLEMING, INC.  BALTIMORE, MARYLAND		DES: RCM DRN: JMR CHK: SHH DATE: 8-06	GUILFORD ROAD IMPROVEMENTS GRADING TABLE CAPITAL PROJECT No. J-4175 AND B-3855	SCALE SHEET 29 OF 156
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MATCH LINE STA. 22+00 SEE SHEET ES02

**SEQUENCE OF CONSTRUCTION**

1. INSTALL STABILIZED CONSTRUCTION ENTRANCES AS NOTED BY THE ENGINEER AND APPROVED BY THE EROSION AND SEDIMENT CONTROL INSPECTOR. COORDINATE EROSION AND SEDIMENT CONTROL WITH THE MAINTENANCE OF TRAFFIC PHASES.
2. INSTALL PERIMETER CONTROLS, INCLUDING SILT FENCE, SUPER SILT FENCE, INLET PROTECTION AT EXISTING INLETS, AND TEMPORARY STONE OUTLET STRUCTURES.
3. INSTALL 24" RCP OUTLET PIPE AND ANTI-SEEP COLLARS. CONSTRUCT OUTLET STRUCTURE AND MODIFY WITH TEMPORARY DRAW-DOWN DEVICE AS SHOWN ON DRAWING ES-09.
4. INSTALL SEDIMENT BASIN (SEE DRAWING ES-09). CONSTRUCT SEDIMENT BASIN ACCORDING TO PROPOSED POND GRADING BUT ONLY DOWN TO ELEVATION 209. THE EXCAVATION LIMITS ARE IDENTIFIED ON DRAWING ES-09 AND SWMI. CONSTRUCT FOREBAY DOWN TO ELEVATION 206.
5. CONSTRUCT NEW DITCH FROM EXISTING POND BACK TO EW/2-1. STABILIZE THE DITCH WITH SOD WITHIN 24 HOURS OF INITIAL DISTURBANCE. SEE DRAWINGS ES-06 AND ES-07. TEMPORARILY DIRECT FLOW FROM EXISTING OUTFALL AT STA. 149+65, RT TO OUTFALL DITCH. MAINTAIN FLOW UNTIL EXISTING PIPE IS NO LONGER REQUIRED.
6. INSTALL PERIMETER SILT FENCE OUTSIDE OF DITCH EMBANKMENT. INSTALL SUPER SILT FENCE UPSTREAM OF NEW DITCH INVERT. BEGIN EMBANKMENT CONSTRUCTION.
7. BEGIN ROADWAY AND STORM DRAIN CONSTRUCTION. AS NEW STORM DRAINS ARE CONSTRUCTED, GRADE AS NECESSARY TO DIRECT FLOW TO SEDIMENT BASIN. INSTALL STORM DRAIN, BEGINNING AT THE DOWNSTREAM END AND WORKING UP. INSTALL INLET PROTECTION AS NEW INLETS ARE CONSTRUCTED, AS INDICATED ON THE PLANS.
8. TEMPORARILY STABILIZE ALL SLOPES AT TEMPORARY PAVEMENT.
9. COMPLETE ROADWAY AND STORM DRAIN CONSTRUCTION IN ACCORDANCE WITH THE MAINTENANCE OF TRAFFIC PHASES.
10. STABILIZE ALL REMAINING DISTURBED AREAS.
11. PRIOR TO CONSTRUCTION OF THE SAND DRAIN THE SEDIMENT BASIN SHALL BE DEWATERED. SEDIMENTS SHALL BE CLEANED OUT OF THE BASIN AND THE 24" RCP AND DISPOSED OF IN AN APPROPRIATE LOCATION APPROVED BY THE INSPECTOR. SEDIMENT LADEN WATER SHALL BE DIRECTED TO AN APPROVED DEWATERING DEVICE SUCH AS A REMOVEABLE PUMPING STATION.
12. DURING A TWO DAY DRY PERIOD, INSTALL SAND FILTER INCLUDING 6" PERFORATED PVC PIPE AND GRAVEL. COMPLETE STORMWATER MANAGEMENT FACILITY GRADING (SEE DRAWING ES-09 FOR NECESSARY CONTROLS.) REMOVE TEMPORARY DRAW-DOWN DEVICE, CAP AND ORIFICE PLATE FROM OUTLET STRUCTURE. INSTALL TRASH RACKS AS PER OUTLET STRUCTURE DETAIL.
13. FOLLOWING STABILIZATION OF THE SITE, REMAINING SEDIMENT CONTROLS SHOULD BE REMOVED WITH THE APPROVAL OF THE INSPECTOR.

**CONSTRUCT SILT FENCE**

- STA. 21+31 TO STA. 21+56, RT GUILFORD ROAD (41 LF)
- STA. 21+52 TO STA. 22+00, RT GUILFORD ROAD (49 LF)
- STA. 21+36 TO STA. 22+00, LT GUILFORD ROAD (90 LF)

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

*Jim Meyer* 8/14/06  
 U.S. Natural Resources Conservation Service Date

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

*John K. Roberts* 8/14/06  
 Howard Soil Conservation District Date

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*John A. ...* 8/17/06  
 DIRECTOR OF PUBLIC WORKS DATE  
*Wanda Z. ...* 8-8-06  
 CHIEF, BUREAU OF HIGHWAYS DATE

*David D. ...* 8/17/06  
 CHIEF, BUREAU OF ENGINEERING DATE

*Jim Stewart* 8/17/06  
 CHIEF, DIVISION OF TRANSPORTATION, DATE  
 SPECIAL PROJECTS DIVISION

**GANNETT FLEMING, INC.**



BALTIMORE, MARYLAND



DES: ATN				
DRN: WPE				
CHK: ETK				
DATE: 8-06				
BY	NO.			DATE

GUILFORD ROAD IMPROVEMENTS

EROSION & SEDIMENT CONTROL  
 STA 20+59 TO STA 22+00

CAPITAL PROJECT No. J-4175 AND B-3855

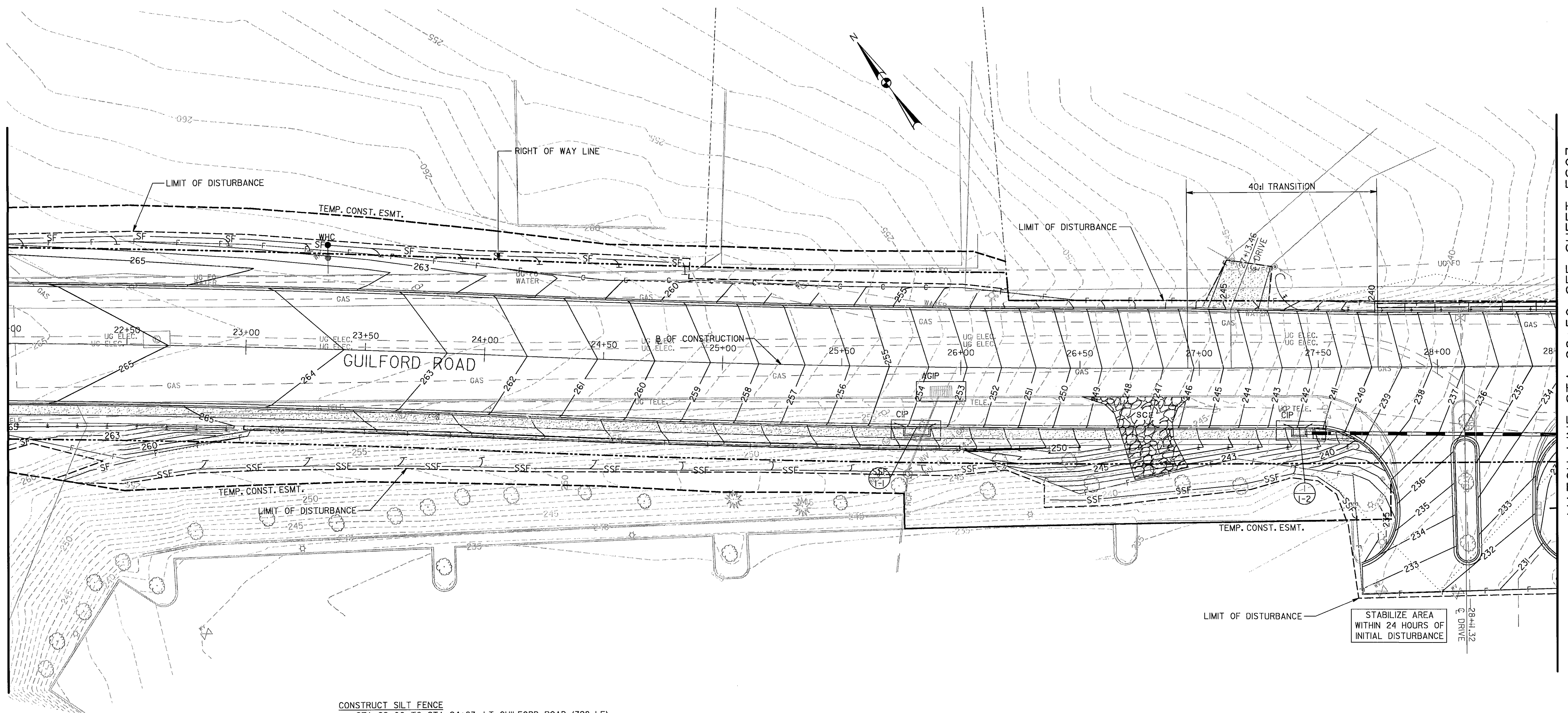
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SHEET  
 31 OF 156

FOR PRELIMINARY ESTIMATIONS  
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MATCH LINE STA. 22+00 SEE SHEET ES01

MATCH LINE STA. 28+50 SEE SHEET ES03



- CONSTRUCT SILT FENCE**  
STA. 22+00 TO STA. 24+83, LT GUILFORD ROAD (328 LF)  
STA. 22+00 TO STA. 22+21, RT GUILFORD ROAD (21 LF)  
STA. 22+23 TO STA. 22+55, RT GUILFORD ROAD (32 LF)
- CONSTRUCT SUPER SILT FENCE**  
STA. 22+48 TO STA. 26+17, RT GUILFORD ROAD (407 LF)  
STA. 26+38 TO STA. 27+66, RT GUILFORD ROAD (142 LF)
- CONSTRUCT INLET PROTECTION AT:**  
I/1-1, I/1-2 (2 EA.)  
EX. INLET AT STA. 25+92, RT GUILFORD ROAD (1 EA.)
- CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE**  
STA. 26+50 TO STA. 27+00, RT GUILFORD ROAD (1 EA.)

NOTE: CONTRACTOR SHALL RELOCATE AND/OR ADJUST THE STABILIZED CONSTRUCTION ENTRANCES AS NECESSARY TO PERFORM GRADING ACTIVITIES, AS DIRECTED BY THE ENGINEER.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
*John R. Rhutson* 8/10/06  
 J.S. Natural Resources Conservation Service Date

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*John R. Rhutson* 8/10/06  
 Howard Soil Conservation District Date

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*James J. Clark* 8/10/06  
 DIRECTOR OF PUBLIC WORKS DATE

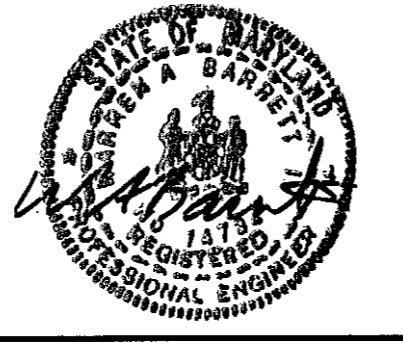
*William Z. ...* 8-8-06  
 CHIEF, BUREAU OF HIGHWAYS DATE

*Charles J. ...* 8/17/06  
 CHIEF, BUREAU OF ENGINEERING DATE

*Jay ...* 8/17/06  
 CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

**GANNETT FLEMING, INC.**

BALTIMORE, MARYLAND



DES: ATW					
DRN: NPE					
CHK: ETK					
DATE: 8-06					
BY	NO.				DATE


GUILFORD ROAD IMPROVEMENTS

EROSION & SEDIMENT CONTROL  
 STA 22+00 TO STA 28+50

CAPITAL PROJECT No. J-4175 AND B-3855

ES02

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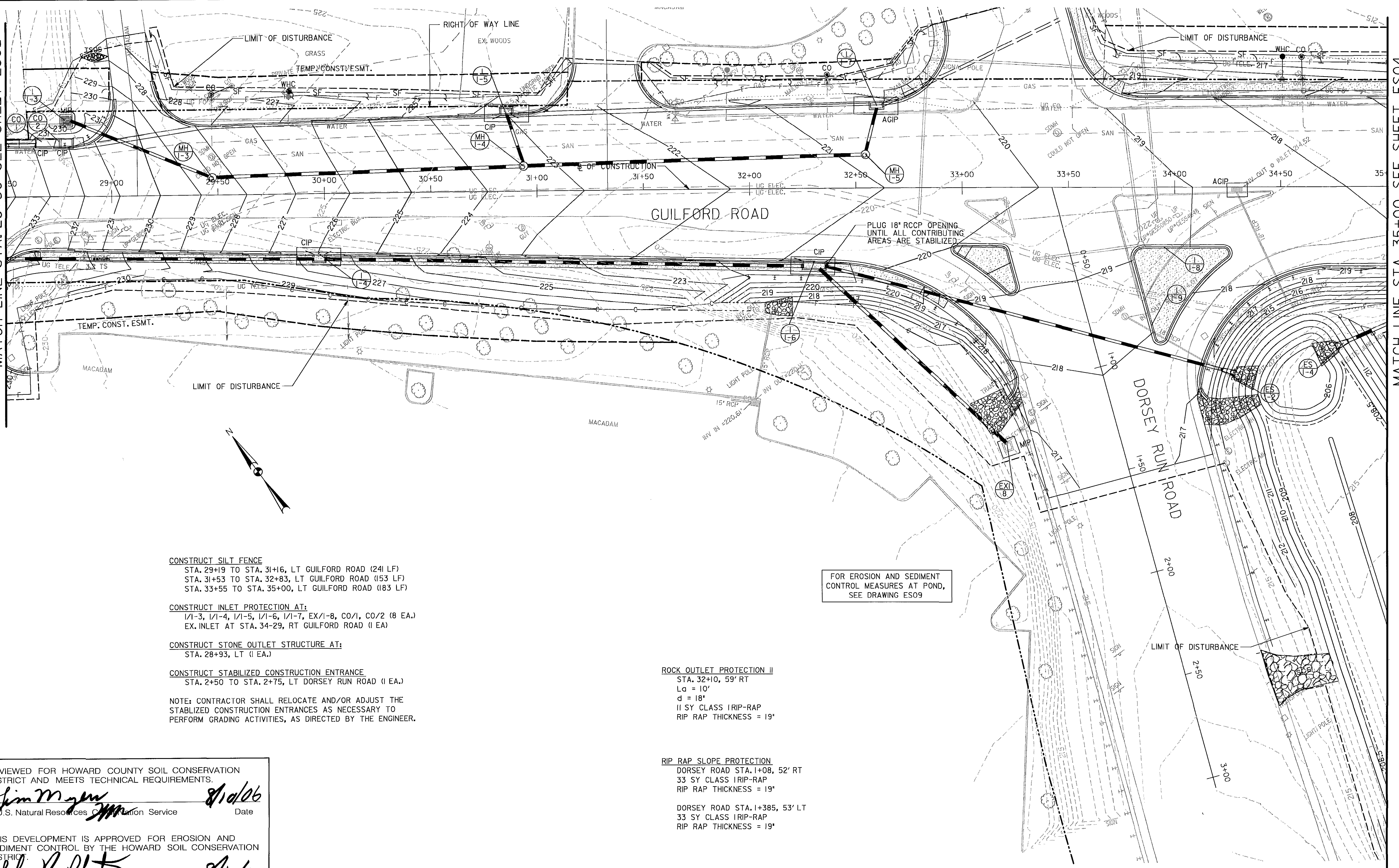
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 32 OF 156

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MATCH LINE STA. 28+50 SEE SHEET ES02

MATCH LINE STA. 35+00 SEE SHEET ES04



**CONSTRUCT SILT FENCE**  
 STA. 29+19 TO STA. 31+16, LT GUILFORD ROAD (241 LF)  
 STA. 31+53 TO STA. 32+83, LT GUILFORD ROAD (153 LF)  
 STA. 33+55 TO STA. 35+00, LT GUILFORD ROAD (183 LF)

**CONSTRUCT INLET PROTECTION AT:**  
 I/1-3, I/1-4, I/1-5, I/1-6, I/1-7, EX/I-8, CO/1, CO/2 (8 EA.)  
 EX. INLET AT STA. 34-29, RT GUILFORD ROAD (1 EA.)

**CONSTRUCT STONE OUTLET STRUCTURE AT:**  
 STA. 28+93, LT (1 EA.)

**CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE**  
 STA. 2+50 TO STA. 2+75, LT DORSEY RUN ROAD (1 EA.)

NOTE: CONTRACTOR SHALL RELOCATE AND/OR ADJUST THE STABILIZED CONSTRUCTION ENTRANCES AS NECESSARY TO PERFORM GRADING ACTIVITIES, AS DIRECTED BY THE ENGINEER.

FOR EROSION AND SEDIMENT CONTROL MEASURES AT POND, SEE DRAWING ES09

**ROCK OUTLET PROTECTION II**  
 STA. 32+10, 59' RT  
 L<sub>a</sub> = 10'  
 d = 18"  
 II SY CLASS IRIP-RAP  
 RIP RAP THICKNESS = 19"

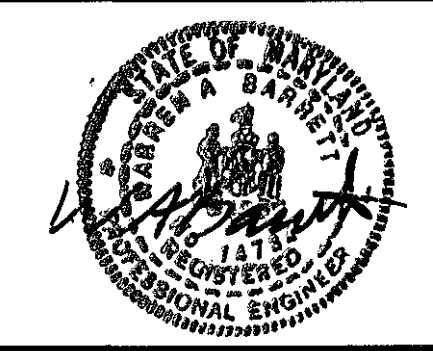
**RIP RAP SLOPE PROTECTION**  
 DORSEY ROAD STA. 1+08, 52' RT  
 33 SY CLASS IRIP-RAP  
 RIP RAP THICKNESS = 19"  
  
 DORSEY ROAD STA. 1+385, 53' LT  
 33 SY CLASS IRIP-RAP  
 RIP RAP THICKNESS = 19"

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
*Jim M. [Signature]* 8/10/06  
 S. Natural Resources [Signature] Service Date

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*John R. [Signature]* 8/10/06  
 Howard Soil Conservation District Date

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: *[Signature]* 8/10/06  
 Chief, Bureau of Engineering: *[Signature]* 8/10/06  
 Chief, Bureau of Highways: *[Signature]* 8/8/06  
 Chief, Division of Transportation, Special Projects Division: *[Signature]* 8/10/06

GANNETT FLEMING, INC.  
 BALTIMORE, MARYLAND



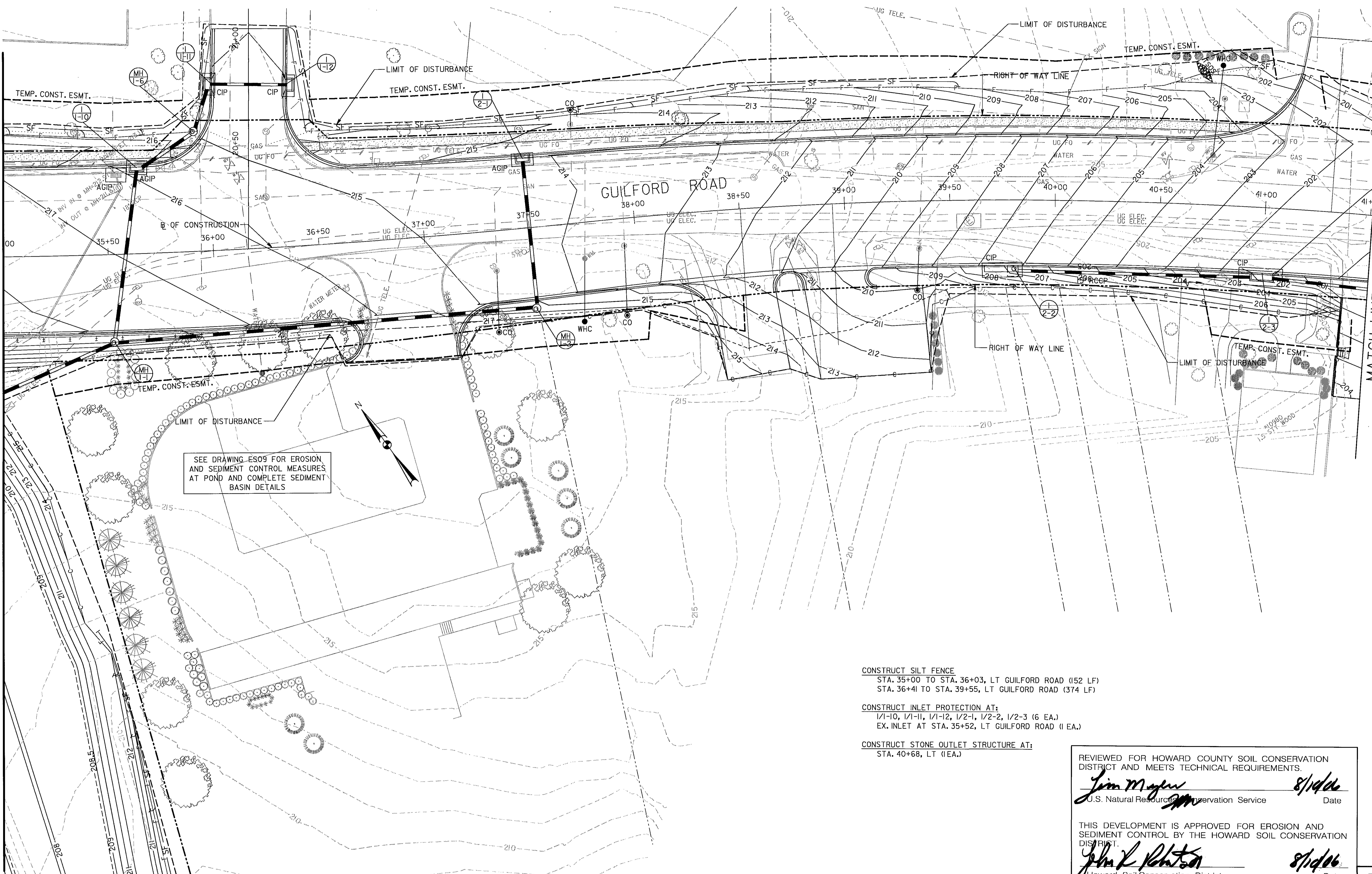
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GUILFORD ROAD IMPROVEMENTS  
 EROSION AND SEDIMENT CONTROL  
 STA 28+50 TO STA 35+00  
 CAPITAL PROJECT No. J-4175 AND B-3855

ES03  
 SCALE  
 1" = 20'  
 SHEET  
 33 OF 156

MATCH LINE STA. 35+00 SEE SHEET ES03

MATCH LINE STA. 41+50 SEE SHEET ES05



SEE DRAWING ES09 FOR EROSION AND SEDIMENT CONTROL MEASURES AT POND AND COMPLETE SEDIMENT BASIN DETAILS

- CONSTRUCT SILT FENCE  
STA. 35+00 TO STA. 36+03, LT GUILFORD ROAD (152 LF)  
STA. 36+41 TO STA. 39+55, LT GUILFORD ROAD (374 LF)
- CONSTRUCT INLET PROTECTION AT:  
1/1-10, 1/1-11, 1/1-12, 1/2-1, 1/2-2, 1/2-3 (6 EA.)  
EX. INLET AT STA. 35+52, LT GUILFORD ROAD (1 EA.)
- CONSTRUCT STONE OUTLET STRUCTURE AT:  
STA. 40+68, LT (1 EA.)

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

*Jim Meyer* 8/14/06  
U.S. Natural Resources Conservation Service Date

*John K. Robinson* 8/14/06  
Howard Soil Conservation District Date

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Carlynn* 8/17/06  
DIRECTOR OF PUBLIC WORKS DATE

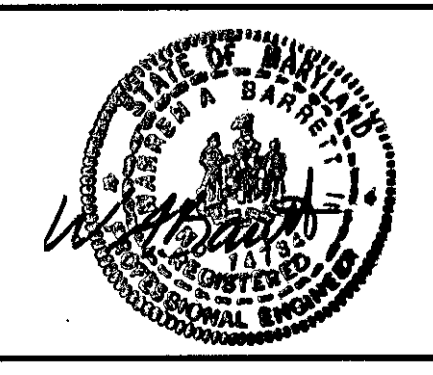
*Richard P. Pearson* 8/17/06  
CHIEF, BUREAU OF ENGINEERING DATE

*William J. Mahoney* 8-9-06  
CHIEF, BUREAU OF HIGHWAYS DATE

*Jim Stewart* 8/17/06  
CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

**GANNETT FLEMING, INC.**

BALTIMORE, MARYLAND



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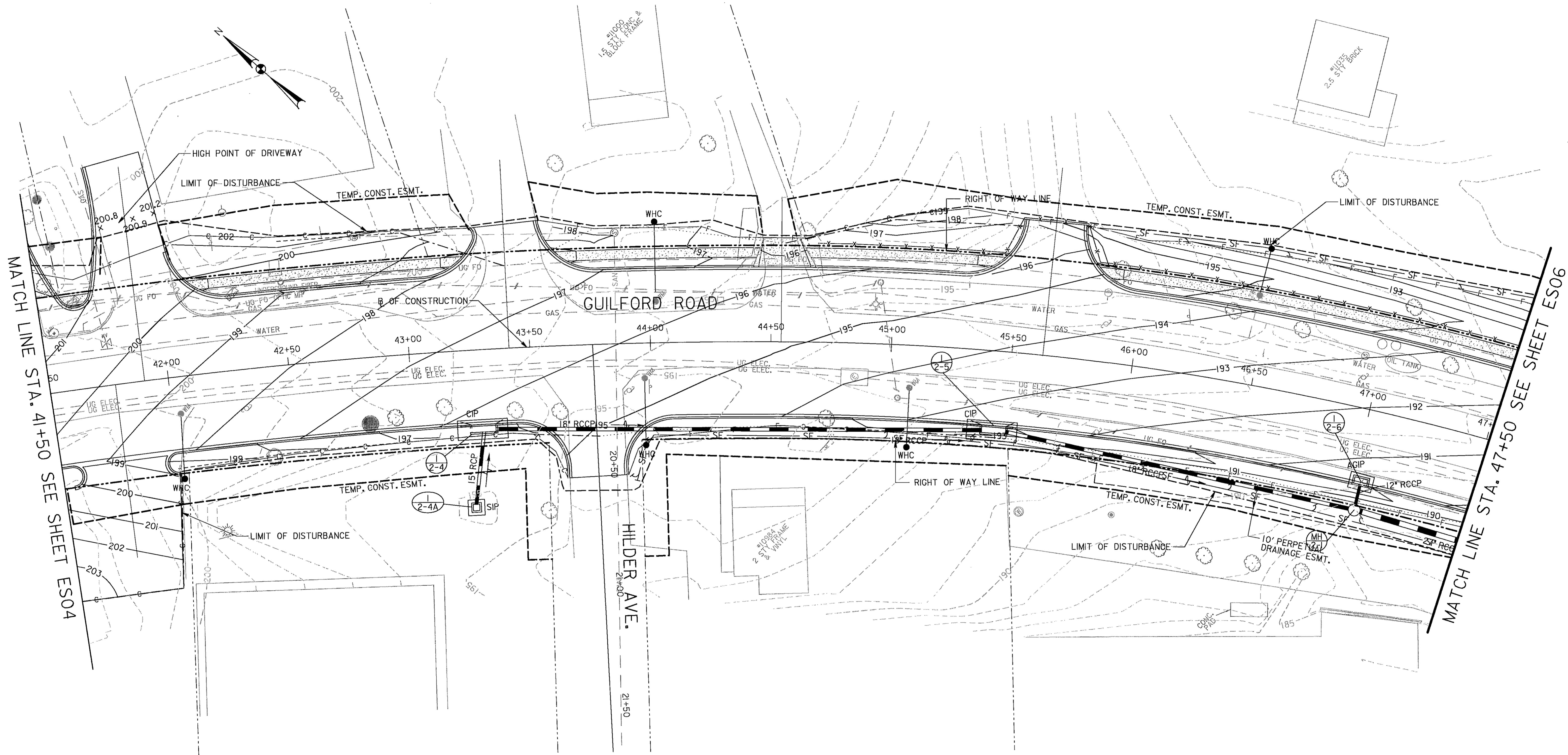
GUILFORD ROAD IMPROVEMENTS

EROSION AND SEDIMENT CONTROL  
STA 35+00 TO STA 41+50

CAPITAL PROJECT No. J-4175 AND B-3855

SCALE  
1" = 20'

SHEET  
34 OF 156



CONSTRUCT SILT FENCE  
 STA. 43+91 TO STA. 47+50, RT GUILFORD RD (386 LF)  
 STA. 45+80 TO STA. 47+50, LT GUILFORD RD (195 LF)

CONSTRUCT INLET PROTECTION AT:  
 1/2-4, 1/2-4A, 1/2-5, 1/2-6 (4 EA.)

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
*Jim M. [Signature]* 8/10/06  
 U.S. Natural Resources Conservation Service Date

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*John R. [Signature]* 8/10/06  
 Howard Soil Conservation District Date

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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND


*[Signature]* 8/7/06  
 DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 8/7/06  
 CHIEF, BUREAU OF ENGINEERING DATE

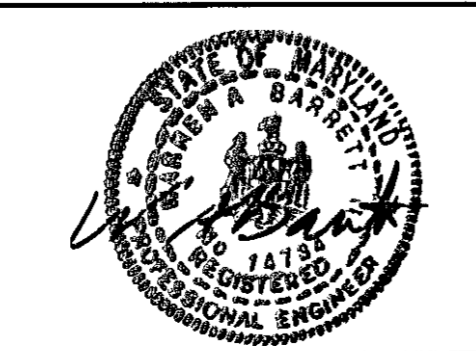
*[Signature]* 8/7/06  
 CHIEF, BUREAU OF HIGHWAYS DATE

*[Signature]* 8/7/06  
 CHIEF, DIVISION OF TRANSPORTATION, DATE  
 SPECIAL PROJECTS DIVISION

**GANNETT FLEMING, INC.**



BALTIMORE, MARYLAND



DES: ATJ					
DRN: NPE					
CHK: ETK					
DATE: 8-06	BY	NO.		DATE	

GUILFORD ROAD IMPROVEMENTS

EROSION & SEDIMENT CONTROL  
 STA 41+50 TO STA 47+50

CAPITAL PROJECT No. J-4175 AND B-3855

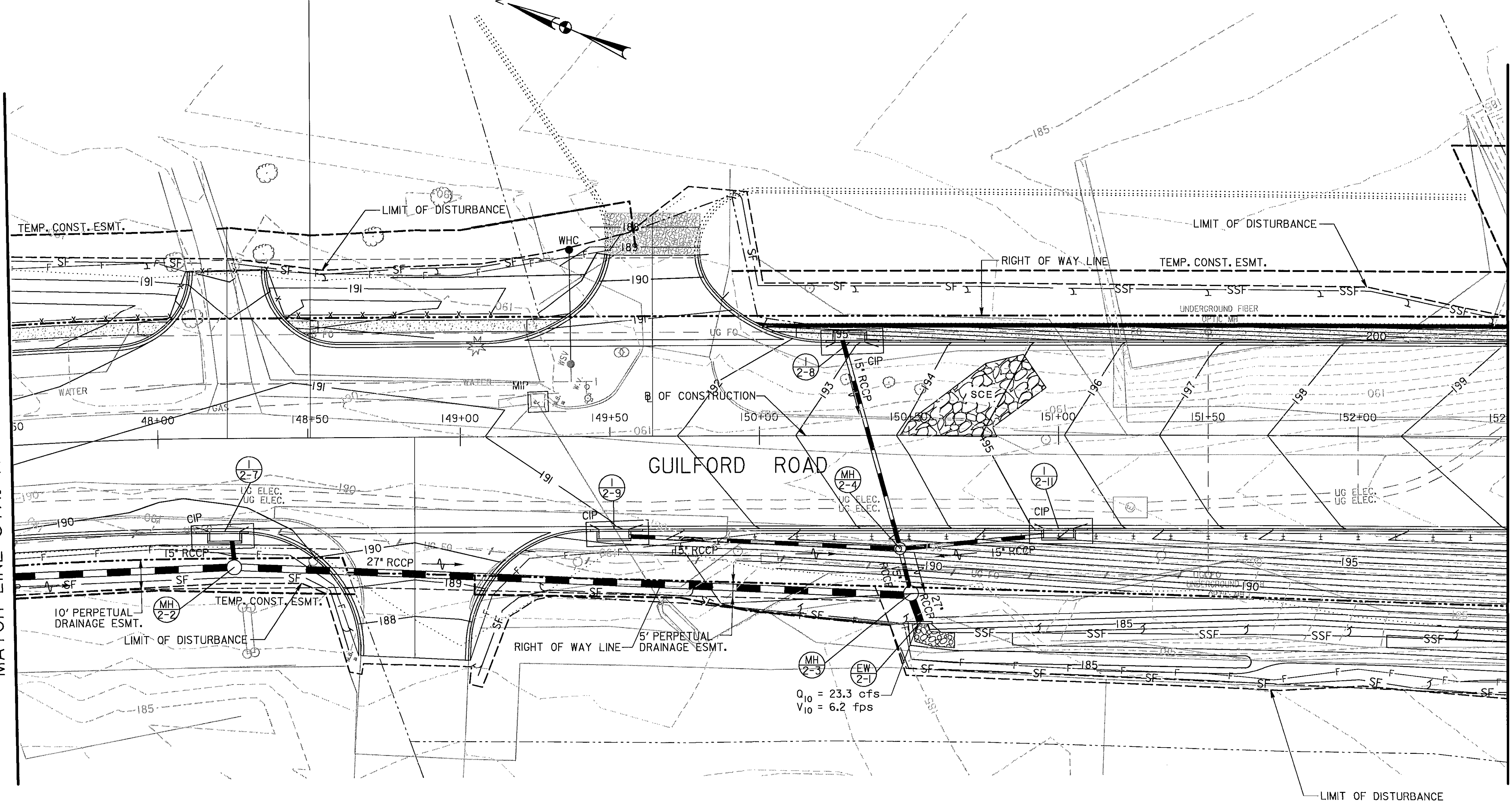
ES05

SCALE  
 1" = 20'

SHEET  
 35 OF 156

MATCH LINE STA. 47+50 SEE SHEET ES05

MATCH LINE STA. 152+50 SEE SHEET ES07



NOTE: SEE SEQUENCE OF CONSTRUCTION FOR OUTFALL DITCH CONSTRUCTION, DRAWING ES-01

**ROCK OUTLET PROTECTION II**  
 STA. 150+58, 67' RT  
 L<sub>a</sub> = 20'  
 d = 12"  
 9 SY CLASS IRIP-RAP  
 RIP RAP THICKNESS = 19"

**CONSTRUCT SILT FENCE**  
 STA. 47+50 TO STA. 48+15, LT GUILFORD ROAD (71 LF)  
 STA. 47+50 TO STA. 148+64, RT GUILFORD ROAD (131 LF)  
 STA. 48+25 TO STA. 149+27, LT GUILFORD ROAD (110 LF)  
 STA. 149+06 TO STA. 150+50, RT GUILFORD ROAD (180 LF)  
 STA. 149+91 TO STA. 151+04, LT GUILFORD ROAD (143 LF)  
 STA. 150+47 TO STA. 152+50, LT GUILFORD ROAD (212 LF)

**CONSTRUCT SUPER SILT FENCE**  
 STA. 150+58 TO STA. 152+50, RT GUILFORD ROAD (212 LF)  
 STA. 151+03 TO STA. 152+45, LT GUILFORD ROAD (156 LF)

**CONSTRUCT INLET PROTECTION AT:**  
 EX. INLET AT STA. 149+27, LT (1 EA.)  
 1/2-7, 1/2-8, 1/2-9, 1/2-11 (4 EA.)

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
*Jim Meyer* 8/10/06  
 U.S. Natural Resources Conservation Service Date

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*John V. Roberts* 8/10/06  
 Howard Soil Conservation District Date

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*James J. ...* 8/7/06  
 DIRECTOR OF PUBLIC WORKS DATE

*Paul R. ...* 5/17/06  
 CHIEF, BUREAU OF ENGINEERING DATE

*John ...* 8/7/06  
 CHIEF, DIVISION OF TRANSPORTATION, DATE  
 SPECIAL PROJECTS DIVISION

**GANNETT FLEMING, INC.**  
  
 BALTIMORE, MARYLAND

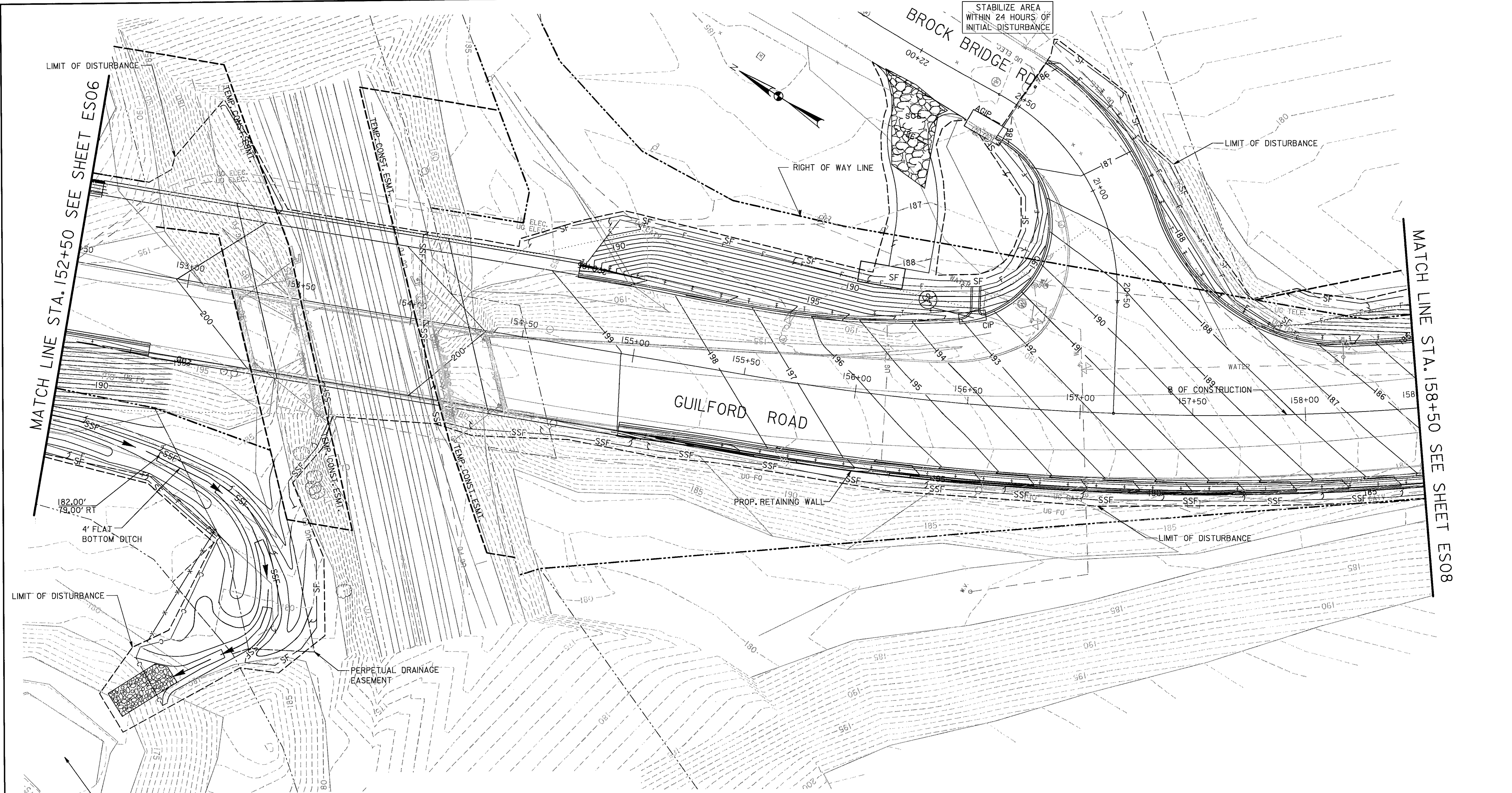


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DRN: NPE					
CHK: ETK					
DATE: 8-06	BY	NO.		DATE	

GUILFORD ROAD IMPROVEMENTS  
 EROSION & SEDIMENT CONTROL  
 STA 47+50 TO STA 152+00  
 CAPITAL PROJECT No. J-4175 AND B-3855

SCALE: 1" = 20'  
 SHEET 36 OF 156

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MATCH LINE STA. 152+50 SEE SHEET ES06

MATCH LINE STA. 158+50 SEE SHEET ES08

STABILIZE AREA  
WITHIN 24 HOURS OF  
INITIAL DISTURBANCE

MD 32 POND  
CONSTRUCTED UNDER  
SHA CONTRACT NO.  
HO 292-508-770  
MDE NO. 88-SF-0016

**CONSTRUCT SILT FENCE**  
 STA. 152+50 TO STA. 153+31, RT GUILFORD ROAD (99 LF)  
 STA. 154+44 TO STA. 156+47, LT GUILFORD ROAD (309 LF)  
 STA. 21+52 TO STA. 157+95, LT GUILFORD ROAD (170 LF)  
 STA. 157+94 TO STA. 158+50, LT GUILFORD ROAD (59 LF)  
 STA. 153+54 TO STA. 153+72, RT GUILFORD ROAD (82 LF)

**CONSTRUCT SUPER SILT FENCE**  
 STA. 152+50 TO STA. 153+54, RT GUILFORD ROAD (193 LF)  
 STA. 153+01 TO STA. 153+36, LT GUILFORD ROAD (58 LF)  
 STA. 153+63 TO STA. 153+65, RT GUILFORD ROAD (67 LF)  
 STA. 154+24 TO STA. 158+50 GUILFORD ROAD (570 LF)

**CONSTRUCT INLET PROTECTION AT:**  
 CO/3 (1 EA.)  
 EX. INLET AT STA. 21+58, LT BROCK BRIDGE ROAD (1 EA.)

**CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE**  
 STA. 21+77 TO STA. 22+10, LT BROCK BRIDGE RD (1 EA.)

NOTE: CONTRACTOR SHALL RELOCATE AND/OR ADJUST THE  
 STABILIZED CONSTRUCTION ENTRANCES AS NECESSARY TO  
 PERFORM GRADING ACTIVITIES, AS DIRECTED BY THE ENGINEER.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION  
 DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
*Jim Meyer* 8/14/06  
 U.S. Natural Resources Conservation Service Date

THIS DEVELOPMENT IS APPROVED FOR EROSION AND  
 SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION  
 DISTRICT.  
*John R. Platon* 8/14/06  
 Howard Soil Conservation District Date

ES07

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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*James W. ...* 8/16/06  
 DIRECTOR OF PUBLIC WORKS DATE

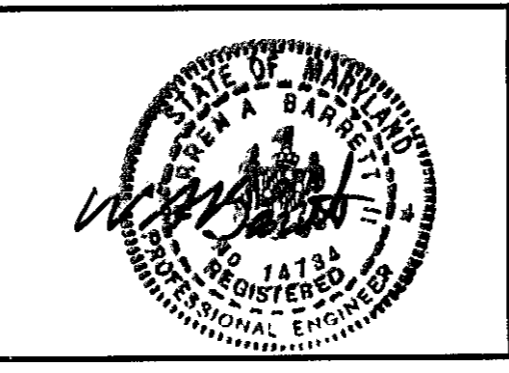
*Paul ...* 8/17/06  
 CHIEF, BUREAU OF ENGINEERING DATE

*John ...* 8/17/06  
 CHIEF, DIVISION OF TRANSPORTATION, DATE  
 SPECIAL PROJECTS DIVISION

**GANNETT  
 FLEMING, INC.**



**BALTIMORE,  
 MARYLAND**



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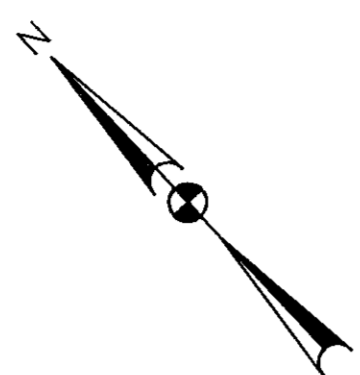

GUILFORD ROAD IMPROVEMENTS

EROSION & SEDIMENT CONTROL  
 STA 152+50 TO STA 158+50

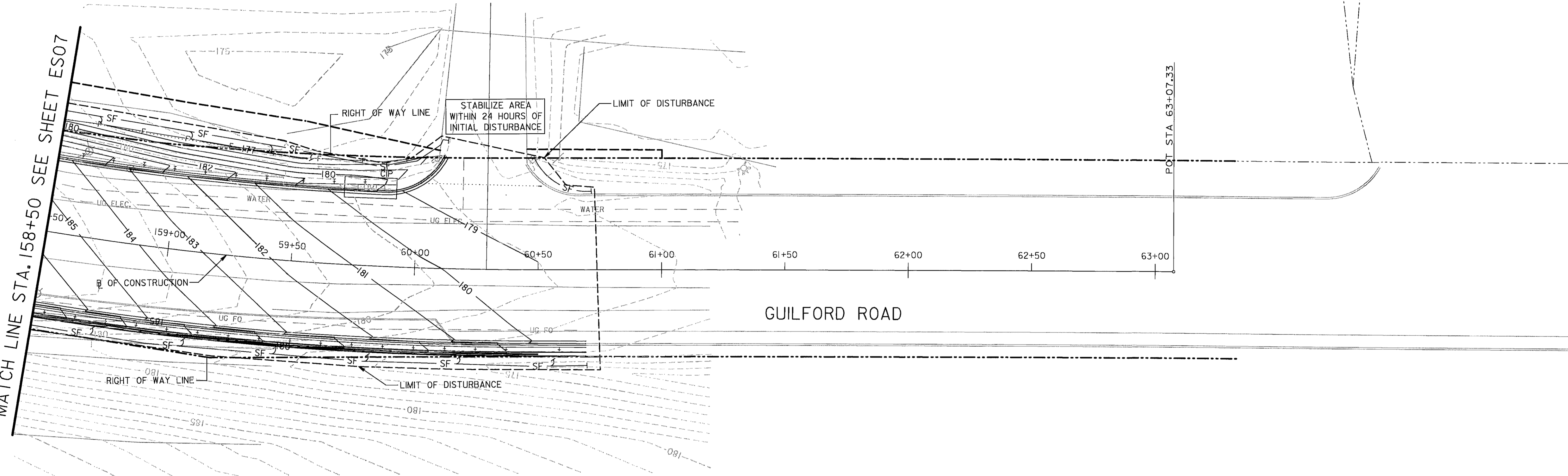
CAPITAL PROJECT No. J-4175 AND B-3855

SCALE  
 1" = 20'

SHEET  
 31 OF 156



MATCH LINE STA. 158+50 SEE SHEET ES07



CONSTRUCT SILT FENCE  
STA. 158+50 TO STA. 60+12, LT GUILFORD ROAD (175 LF)  
STA. 158+50 TO STA. 60+70, RT GUILFORD ROAD (248 LF)  
STA. 60+48 TO STA. 60+71, LT GUILFORD ROAD (29 LF)

CONSTRUCT INLET PROTECTION AT:  
EX. INLET AT STA. 59+80, LT GUILFORD ROAD (1 EA.)

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
*Jim Mayler* 8/14/06  
U.S. Natural Resources Conservation Service Date  
THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*John R. Robertson* 8/14/06  
Howard Soil Conservation District Date

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
Director of Public Works: *William Z. Hubert* 8-8-06  
Chief, Bureau of Engineering: *Charles E. Soper* 5/17/06  
Chief, Division of Transportation, Special Projects Division: *Jim Steady* 8/17/06

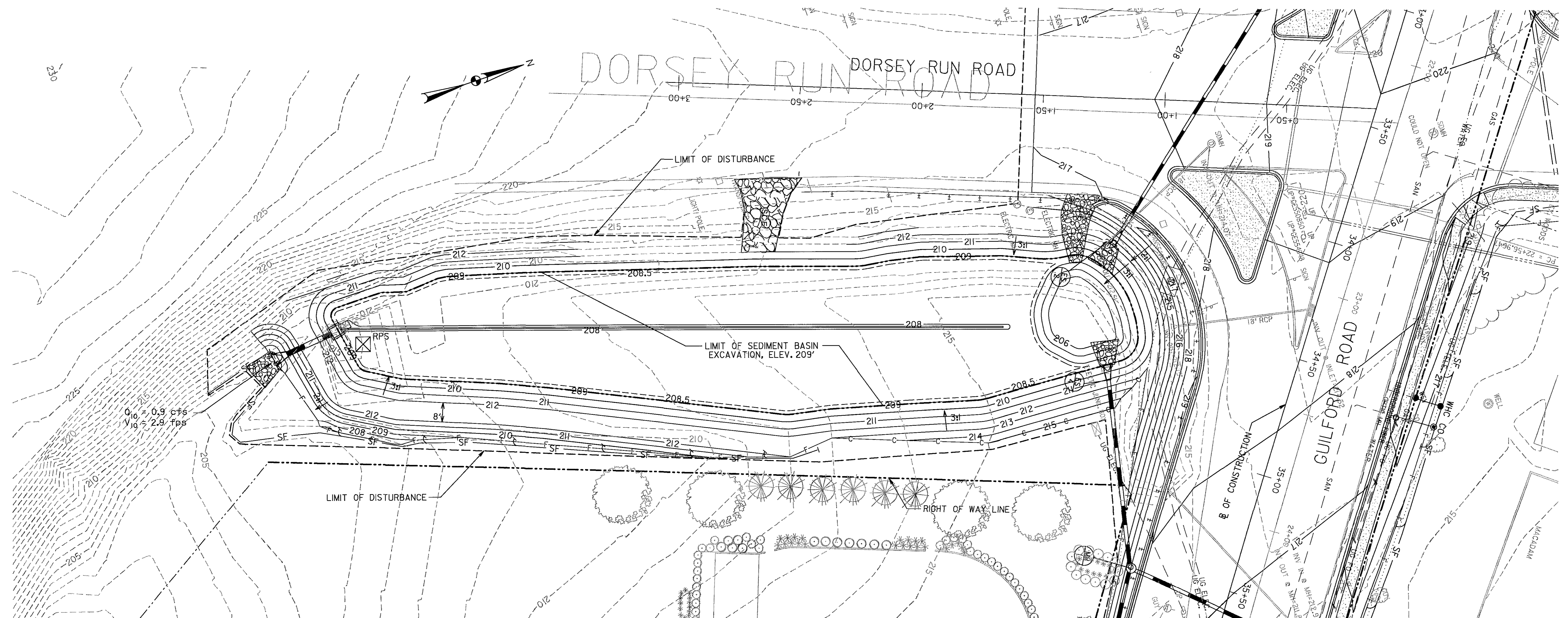
GANNETT FLEMING, INC.  
BALTIMORE, MARYLAND



DES: ATW					
DRN: NPE					
CHK: ETK					
DATE: 8-06	BY	NO.			DATE

GUILFORD ROAD IMPROVEMENTS  
EROSION & SEDIMENT CONTROL  
STA 158+50 TO STA 63+00  
CAPITAL PROJECT No. J-4175 AND B-3855

ES08  
SCALE 1" = 20'  
SHEET 38 OF 156



SEE DRAWING ES03 AND ES04 FOR EROSION AND SEDIMENT CONTROL MEASURES ALONG GUILFORD ROAD

**CONSTRUCT SILT FENCE**  
 STA. 35+44 TO STA. 35+66, RT (300 LF)  
 STA. 35+60 TO STA. 35+81, RT (31 LF)

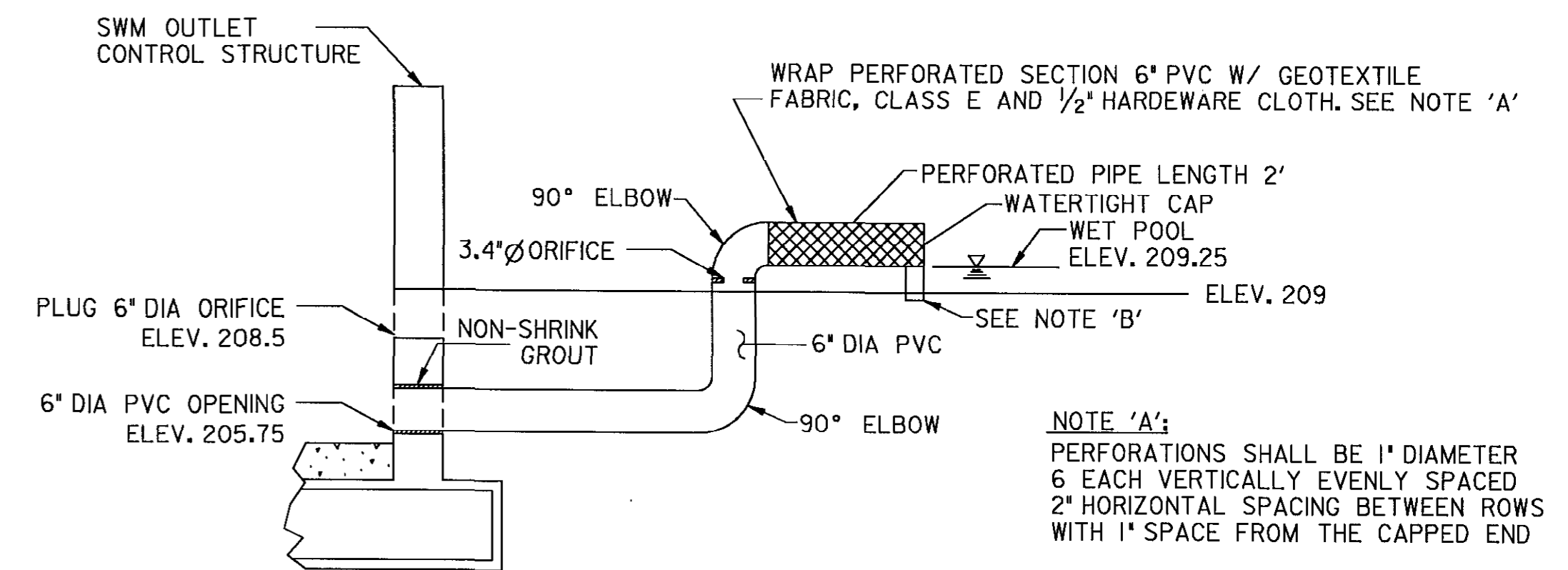
**INSTALL REMOVABLE PUMPING STATION**  
 STA. 35+49, 371' LT

**ROCK OUTLET PROTECTION II**  
 STA. 35+69, 407' LT  
 L<sub>a</sub> = 10'  
 d = 18"  
 MIN DEPTH = 1.0'  
 12 SY CLASS IRIP-RAP  
 RIP RAP THICKNESS = 19"

**ROCK OUTLET PROTECTION III**  
 STA. 34+24, 87' RT  
 L<sub>a</sub> = 10'  
 d = 18"  
 10 SY CLASS IRIP-RAP  
 RIP RAP THICKNESS = 19"

**ROCK OUTLET PROTECTION III**  
 STA. 34+82, 73' RT  
 L<sub>a</sub> = 10'  
 d = 18"  
 10 SY CLASS IRIP-RAP  
 RIP RAP THICKNESS = 19"

**SEDIMENTATION BASIN**  
 D.A. = 2.43 AC  
 STORAGE REQUIRED = 0.20 AC-FT (8748 CF)  
 STORAGE PROVIDED:  
 WET = 4374 CF  
 DRY = 4374 CF  
 ELEV. AT DEWATERING = 209.25  
 CLEANOUT ELEV. = 209.13  
 RISER CREST ELEV. = 209.50  
 BOTTOM ELEV. BASIN = 209.00



TEMPORARY DRAW-DOWN DEVICE DETAIL  
 N.T.S.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.  
 Jim Meyer 8/10/06  
 U.S. Natural Resources Conservation Service Date  
 THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 John H. Robertson 8/10/06  
 Howard Soil Conservation District Date

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works DATE 8/7/06  
 Chief, Bureau of Engineering DATE 8/7/06  
 Chief, Bureau of Highways DATE 8/7/06  
 Chief, Division of Transportation, Special Projects Division DATE 8/7/06

GANNETT FLEMING, INC.  
 BALTIMORE, MARYLAND



DES: ATN				
DRN: NPE				
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BY	NO.			DATE

GUILFORD ROAD IMPROVEMENTS  
 EROSION AND SEDIMENT CONTROL PLAN  
 AT STORMWATER MANAGEMENT POND  
 CAPITAL PROJECT No. J-4175 AND B-3855

ES09  
 SCALE 1" = 20'  
 SHEET 39 OF 156

STANDARD EROSION AND SEDIMENT CONTROL NOTES

1. A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION AT (410) 313-1850
2. THE CONTRACTOR SHALL NOTIFY THE OFFICE OF INSPECTION IN WRITING AND BY TELEPHONE AT THE FOLLOWING POINTS:
  - A. THE REQUIRED PRE-CONSTRUCTION MEETING.
  - B. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES.
  - C. DURING THE INSTALLATION OF SEDIMENT BASINS (TO BE CONVERTED INTO PERMANENT STORMWATER MANAGEMENT STRUCTURES) AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN). NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION OF EACH STEP IS MANDATORY.
  - D. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S).
  - E. PRIOR TO REMOVAL OF ANY SEDIMENT CONTROL DEVICES.
  - F. PRIOR TO FINAL ACCEPTANCE.
3. THE CONTRACTOR SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE AND, SHALL HAVE THEM INSPECTED AND APPROVED BY THE AGENCY INSPECTOR PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES. MINOR SEDIMENT CONTROL DEVICE LOCATION ADJUSTMENTS MAY BE MADE IN THE FIELD WITH THE APPROVAL OF THE WMA INSPECTOR. THE CONTRACTOR SHALL ENSURE THAT ALL RUNOFF FROM THE DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES, AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR PERMISSION FROM THE AGENCY INSPECTOR. THE CONTRACTOR MUST OBTAIN PRIOR AGENCY APPROVAL FOR CHANGES TO THE SEDIMENT CONTROL PLAN AND/OR SEQUENCE OF CONSTRUCTION.
4. THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO PUBLIC ROADS. ALL MATERIALS DEPOSITED ONTO PUBLIC ROADS SHALL BE REMOVED IMMEDIATELY.
5. THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN AN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIMES AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE AGENCY INSPECTOR.
6. ALL SEDIMENT BASINS, TRAP EMBANKMENTS AND SLOPES, PERIMETER DIKES, SWALES AND ALL DISTURBED SLOPES STEEPER OR EQUAL TO 3:1 SHALL BE STABILIZED WITH SOD OR SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES, AS SOON AS POSSIBLE BUT NO LATER THAN SEVEN (7) CALENDAR DAYS AFTER ESTABLISHMENT. ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. (REQUIREMENT FOR STABILIZATION MAY BE REDUCED TO THREE (3) DAYS FOR SENSITIVE AREA.)
7. THE CONTRACTOR SHALL APPLY SOD OR SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS AND STOCKPILES WITHIN FOURTEEN (14) CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED IN THE AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. (REQUIREMENT MAY BE REDUCED TO SEVEN (7) DAYS FOR SENSITIVE AREAS.)
8. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE CONTRACTOR SHALL STABILIZE AND HAVE ESTABLISHED PERMANENT STABILIZATION FOR ALL CONTRIBUTORY DISTURBED AREAS USING SOD OR AN APPROVED PERMANENT SEED MIXTURE WITH REQUIRED SOIL AMENDMENT AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHERE THE SLOPE DOES NOT EXCEED 10% AND GRADING HAS BEEN DONE TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED AS SOON AS POSSIBLE, BUT NO LATER THAN FOURTEEN (14) CALENDAR DAYS AFTER ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, TEMPORARY SEED AND ANCHORED STRAW MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE APPLIED BY MARCH 15 OR EARLIER IF GROUND AND WEATHER CONDITIONS ALLOW.
9. THE SITE'S APPROVAL LETTER, APPROVED EROSION AND SEDIMENT CONTROL PLANS, DAILY LOG BOOKS AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF AGENCIES RESPONSIBLE FOR THE PROJECT.
10. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING PROTECTIVE DEVICES TO LOWER THE WATER DOWNSLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF CUT OR FILL SLOPES UNTIL THE SLOPE AND DRAINAGE ARE TO IT ARE FULLY STABILIZED, AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAINAGE. PROTECTIVE METHODS MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY TO OCCUR.
11. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING, RIPRAP OR BY OTHER APPROVED STABILIZATION MEASURES.
12. TEMPORARY SEDIMENT CONTROL DEVICES MAY BE REMOVED, WITH PERMISSION OF THE AGENCY INSPECTORS, WITHIN THIRTY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NON-MAINTENANCE AREAS PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW-MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE STABILIZATION.
13. NO PERMANENT CUT OF FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NON-MAINTENANCE AREAS PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE STABILIZATION.
14. FOR FINISHED GRADING, THE CONTRACTOR SHALL PROVIDE ADEQUATE GRADIENTS SO AS TO PREVENT WATER FROM STANDING ON THE SURFACE MORE THAN TWENTY-FOUR (24) HOURS AFTER THE END OF A RAINFALL EXCEPT IN DESIGNATED DRAINAGE COURSES AND SWALE FLOW AREAS WHICH MAY DRAIN AS LONG AS FORTY-EIGHT (48) HOURS AFTER THE END OF A RAINFALL. AREAS DESIGNED TO HAVE A STANDING WATER SHALL NOT BE REQUIRED TO MEET THIS REQUIREMENT.
15. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A FOUNDATION WHICH IS EXISTING OR UNDER CONSTRUCTION. NO STRUCTURE MAY BE CONSTRUCTED WITHIN 20 FEET OF AN ACTIVE SEDIMENT TRAP OR BASIN.
16. THE INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SAFETY OR SEDIMENT CONTROL MEASURES, IF DEEMED NECESSARY.
17. ALL TRAP DEPTH DIMENSIONS ARE RELATIVE TO THE OUTLET ELEVATION. ALL TRAPS MUST HAVE A STABLE OUTFALL. ALL TRAPS AND BASINS SHALL HAVE STABLE INFLOW POINTS.
18. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. REFER TO APPROPRIATE SPECIFICATIONS FOR TEMPORARY SEEDING, PERMANENT SEEDING, MULCHING, SODDING AND GROUND COVERS.
19. TEMPORARY SEDIMENT TRAP(S) SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO A POINT ONE HALF (1/2) THE DEPTH BETWEEN THE OUTLET CHEST AND THE BOTTOM OF THE TRAP. SEDIMENT BASINS SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO ONE HALF (1/2) THE DEPTH BETWEEN THE DEWATERING ELEVATION AND THE BOTTOM OF THE BASIN.
20. SEDIMENT REMOVED FROM TRAPS (AND BASINS) SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN, WETLAND OR TREE-SAVE AREA. WHEN PUMPING SEDIMENT LADEN WATER, THE DISCHARGE MUST BE DIRECTED TO A SEDIMENT TRAPPING DEVICE PRIOR TO RELEASE FROM THE SITE.
21. WHERE DEEMED APPROPRIATE BY THE ENGINEER OR INSPECTOR, SEDIMENT BASINS AND TRAPS MAY NEED TO BE SURROUNDED WITH AN APPROVED SAFETY FENCE. THE FENCE MUST CONFORM TO LOCAL ORDINANCES AND REGULATIONS. THE DEVELOPER OR OWNER SHALL CHECK WITH LOCAL BUILDING OFFICIALS ON APPLICABLE SAFETY REQUIREMENTS. WHERE SAFETY FENCE IS DEEMED APPROPRIATE AND LOCAL ORDINANCES DO NOT SPECIFY FENCING SIZES AND TYPES, THE FOLLOWING SHALL BE USED AS A MINIMUM STANDARD: THE SAFETY FENCE MUST BE MADE OF WELDED WIRE AND AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THEN 8 FEET, HAVE MESH OPENINGS NO GREATER THAN 2 INCHES IN WIDTH AND 4 INCHES IN HEIGHT WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED AND IN GOOD CONDITION AT ALL TIMES.
22. SEDIMENT CONTROL FOR UTILITY CONSTRUCTION IN AREAS OUTSIDE OF DESIGNED CONTROLS OR AS DIRECTED BY ENGINEER OR INSPECTOR;
  - A. CALL "MISS UTILITY" AT 1-800-257-777 48 HOURS PRIOR TO THE START OF WORK.
  - B. EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH.
  - C. TRENCHES FOR UTILITY INSTALLATION SHALL BE BACKFILLED, COMPACTED AND STABILIZED AT THE END OF EACH WORKING DAY. NO MORE TRENCH SHALL BE OPENED THAN CAN BE COMPLETED THE SAME DAY.
  - D. TEMPORARY SILT FENCE SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF ANY DISTURBED AREA INTENDED TO REMAIN DISTURBED FOR MORE THAN ONE DAY.
23. OFF-SITE SPOIL OR BORROW AREAS PROPERTY MUST HAVE PRIOR APPROVAL BY THE LOCAL AUTHORITIES. ALL WASTE AND BORROW AREAS OFF-SITE MUST BE PROTECTED BY SEDIMENT CONTROL MEASURES AND STABILIZED.
24. EXTREME CARE AT SITES WHERE INFILTRATION DEVICES ARE USED FOR THE CONTROL OF STORMWATER. THIS WILL PREVENT RUNOFF FROM UNSTABILIZED AREAS FROM ENTERING THE STRUCTURE DURING CONSTRUCTION. SEDIMENT CONTROL DEVICES PLACED IN INFILTRATION AREAS MUST HAVE BOTTOM ELEVATIONS AT LEAST TWO (2) FEET HIGHER THAN THE FINISH GRADE BOTTOM ELEVATION OF THE INFILTRATION PRACTICE. WHEN CONVERTING A SEDIMENT TRAP TO AN INFILTRATION DEVICE, ALL ACCUMULATED SEDIMENT MUST BE REMOVED AND DISPOSED OF PRIOR TO FINAL GRADING OF THE INFILTRATION DEVICE.
25. ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS IN UNPAVED AREAS SHALL BE STABILIZED AND PROTECTED TO PREVENT TRACKING OF MUD ONTO PUBLIC HIGHWAYS.
26. WHEN A STORM DRAIN SYSTEM OUTFALL IS DIRECTED TO A SEDIMENT TRAP OR SEDIMENT BASIN AND THE SYSTEM IS TO BE USED FOR TEMPORARILY CONVEYING SEDIMENT LADEN WATER, ALL STORM DRAIN INLETS IN NON-SUMP AREAS SHALL HAVE TEMPORARY ASPHALT BERMS CONSTRUCTED AT THE TIME OF BASE PAVING TO DIRECT GUTTER FLOW INTO THE INLETS TO AVOID SURCHARGING AND OVER-FLOW OF INLETS IN SUMP AREAS.

BY THE ENGINEER:

"I/WE CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IS WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT."

Elizabeth T. Kanner JULY, 2006 ELIZABETH T. KANNER  
 SIGNATURE DATE PRINT NAME  
 4701 MOUNT HOPE DRIVE SUITE A, BALTIMORE, MD 21215 (410) 585-1460  
 ADDRESS TELEPHONE

BY THE DEVELOPER:

"I/WE HEREBY CERTIFY THAT ALL CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A MARYLAND DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT."

STEVE SHARAR, CHIEF DATE  
 TRANSPORTATION AND AND SPECIAL PROJECTS DIVISION

SOIL STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN SEVEN (7) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND FOURTEEN DAYS (14) AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

SITE INFORMATION:

TOTAL AREA W/IN LIMIT OF DISTURBANCE	11.0 Ac
TOTAL AREA OF EARTH DISTURBANCE	457630 S.F.
TOTAL VOLUME OF CUT	12043 C.Y.
TOTAL VOLUME OF FILL	17245 C.Y.
TOTAL EXISTING AREA PAVED W/IN LOD	259778 S.F.
TOTAL PROPOSED AREA PAVED W/IN LOD	298401 S.F.
OFFSITE WASTE/BORROW AREA LOCATION IS UNKNOWN AT THIS TIME BUT WILL BE FROM A SITE WITH AN ACTIVE GRADING PERMIT.	

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

Jim Meyer 8/10/06  
 U.S. Natural Resources Conservation Service Date

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Robertson 8/10/06  
 Howard Soil Conservation District Date


DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

James J. Webb 8/7/06  
 DIRECTOR OF PUBLIC WORKS DATE


Richard S. Soren 8/17/06  
 CHIEF, BUREAU OF ENGINEERING DATE

Jim Stueck 8/7/06  
 CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

GANNETT FLEMING, INC.



BALTIMORE, MARYLAND



DES: ATN					
DRN: NPE					
CHK: ETK					
DATE: 8-06					
BY	NO.				DATE

GUILFORD ROAD IMPROVEMENTS

EROSION & SEDIMENT CONTROL NOTES

CAPITAL PROJECT No. J-4175 AND B-3855

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SHEET 40 OF 156



Section I - Vegetative Stabilization Methods and Materials

A. Site Preparation

- I. Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
- II. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
- III. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.

B. Soil amendments (Fertilizer and Lime Specifications)

- I. Soil tests must be performed to determine the exact ratios and applications rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
- II. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.

- III. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98-100% will pass through #20 mesh sieve.

- IV. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.

C. Seedbed Preparation

1. Temporary Seeding

- a. Seedbed preparation shall consist of loosening soil to a depth of 3' to 5' by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth but left in the roughened condition. Sloped areas (greater than 3%) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
- b. Apply fertilizer and lime as prescribed on the plans.
- c. Incorporate lime and fertilizer into the top 3" - 5" of soil by disking or other suitable means.

II. Permanent Seeding

a. Minimum soil conditions required for permanent vegetative establishment:

1. Soil pH shall be between 6.0 and 7.0
2. Soluble salts shall be less than 500 parts per million (ppm).
3. The soil shall contain less than 40% clay but enough fine grained material (30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or serotia lespedeza is to be planted, then a sandy soil (< 30% silt plus clay) would be acceptable. Soil shall contain 1.5% minimum organic matter by weight. Soil must contain sufficient pore space to permit adequate root penetration. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.

- b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3 - 5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.

- c. Apply soil amendments as per soil test or as included on the plans.

- d. Mix soil amendments into the top 3 - 5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3%) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1 - 3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.

D. Seed Specifications

- I. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.

NOTE: Seed tags shall be made available to the inspector to verify type and rate of seed used.

- II. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. NOTE: It is very important to keep inoculant as cool as possible until used. Temperatures above 75-80 F can weaken bacteria and make the inoculant less effective.

E. Methods of Seeding

- I. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeder, or a cultipacker seeder.
  - a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen: maximum of 100 lbs. Per acre total of soluble nitrogen; P205 (phosphorus): 200 lbs/acre; K20 (potassium): 200 lbs/acre.
  - b. Lime - use only ground agricultural limestone. (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
  - c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
- II. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
  - a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 25 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
  - b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

- III. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
  - a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
  - b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

F. Mulch Specifications (in order of preference)

- I. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonably bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
  - II. Wood Cellulose Fiber Mulch (WCFM)
    - a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
    - b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
    - c. WCFM, including dye, shall contain no germination or growth inhibiting factors.
    - d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
    - e. WCFM material shall contain no elements or compounds at concentration levels that will be phytotoxic.
    - f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum

NOTE: Only sterile straw mulch should be used in areas where one species of grass is desired.

G. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.

- I. If grading is completed outside of the seeding season, mulch alone shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
- II. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
- III. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.
- H. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:
  - I. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
  - II. Wood cellulose fiber may be used for anchoring straw. The fiber blinder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
  - III. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. The remainder of area should appear uniform after blinder application. Synthetic binders - such as Acrylic DLR (Agro-Tack) DCA-10, Petroseal, Terra Tack II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
  - IV. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' wide and 300 to 3000 feet long.

Section II - Temporary Seeding

Vegetation - annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed Mixtures - Temporary Seeding

APPLY ACCORDING TO TEMPORARY SEEDING SUMMARY TABLE SHOWN BELOW.

- II. For sites having soil tests performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in. Soil tests are not required for Temporary Seeding.

Temporary Seeding Summary

Seed Mixture (For Hardiness Zone 6b) (From Table 26)					Fertilizer Rate (10-10-10)		Lime Rate
No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depth	N	P205	
	Rye	140	3/1 - 4/30 5/15 - 11/15	1-2 in.	600 lb/acre (15 lb/1000 sf)	2 tons/acre (100 lb/1000 sf)	
	Berly or Rye Plus Foxtail Millet	150	3/1 - 10/15	1 in.			

Section III: Permanent Seeding

Seeding grass and legumes to establish ground cover for a minimum period of one year on disturbed areas generally receiving low maintenance.

A. Seed Mixtures - Permanent Seeding

APPLY ACCORDING TO PERMANENT SEEDING SUMMARY TABLE SHOWN BELOW.

- II. For sites having disturbed areas over 5 acres, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in.

- III. For areas receiving low maintenance, apply ureaform fertilizer (46-0-0) at 3 1/2 lbs/1000 sq. ft. (150 lbs/acre) in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

THE HARDINESS ZONE FOR THIS PROJECT IS 6B.

Permanent Seeding Summary

Seed Mixture (For Hardiness Zone 6b) (From Table 25)				Fertilizer Rate (10-20-30)			Lime Rate
No.	Species	Application Rate (lb/acre)	Seeding Dates	N	P205	K20	
10	Tall Fescue (80%) Hard Fescue (20%)	120 30	3/1 - 5/15 8/15 - 11/15	90 lb/acre (2 lb/1000 sf)	175 lb/acre (4 lb/1000 sf)	175 lb/acre (4 lb/1000 sf)	2 tons/acre (100 lb/1000 sf)
7	Tall Fescue (83%) Weeping Lovegrass (2%) Serotia Lespedeza (15%)	110 3 20	3/1 - 5/15 5/16 - 8/14 8/15 - 10/15				

Section IV - Sod: To provide quick cover on disturbed areas 2:1 grade or flatter:

A. General specifications

- I. Class of turfgrass sod shall be Maryland or Virginia State Certified or Approved. Sod labels shall be made available to the Job Foreman and Inspector.
- II. Sod shall be machine cut at a uniform soil thickness of 3/4", plus or minus 1/4" AT the time of cutting. Measurement for thickness shall exclude top growth and thatch. Individual pieces of sod shall be cut to the suppliers width and length. Maximum allowable deviation from standard widths and lengths shall be 5 percent. Broken pads and torn or uneven ends will not be acceptable.
- III. Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
- IV. Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
- V. Sod shall be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period shall be approved by an agronomist or soil scientist prior to its installation.

B. Sod Installation

- I. During periods of excessively high temperature or in areas having dry subsoil, the subsoil shall be lightly irrigated immediately prior to laying the sod.
- II. The first row of sod shall be laid in a straight line with subsequent rows placed parallel to and tightly wedged against each other. Lateral joints shall be staggered to promote more uniform growth and strength. Ensure that sod is not stretched or over lapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
- III. Wherever possible, sod shall be laid with the long edges parallel to the contour and with staggering joints. Sod shall be rolled and tamped, pegged or otherwise secured to prevent slippage on slopes and to ensure solid contact between sod roots and the underlying soil surface.
- IV. Sod shall be watered immediately following rolling or tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. The operations of laying, tamping and irrigating for any piece of sod shall be completed within eight hours.

C. Sod Maintenance

- I. In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first week and in sufficient quantities to maintain moist soil to a depth of 4". Watering should be done during the heat of the day to prevent wilting.
- II. After the first week, sod watering is required as necessary to maintain adequate moisture content.
- III. The first mowing of sod should not be attempted until the sod is firmly rooted. No more than 1/3 of the grass leaf shall be removed by the initial cutting or subsequent cuttings. Grass height shall be maintained between 2" and 3" unless otherwise specified.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

*Jim Meyer* 8/1/06  
U.S. Natural Resources Conservation Service Date

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

*John R. Roberts* 8/1/06  
Howard Soil Conservation District Date

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Jan N. ...* 8/1/06  
DIRECTOR OF PUBLIC WORKS DATE

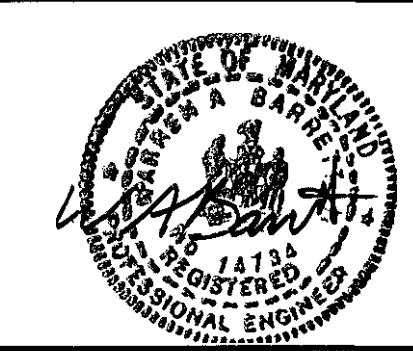
*William Z. ...* 8-8-06  
CHIEF, BUREAU OF HIGHWAYS DATE

*Richard ...* 8/1/06  
CHIEF, BUREAU OF ENGINEERING DATE

*Jan ...* 8/1/06  
CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

GANNETT  
FLEMING, INC.

BALTIMORE,  
MARYLAND



DES: ATW  
DRN: NPE  
CHK: ETK  
DATE: 8-06

BY	NO.	DATE

GUILFORD ROAD IMPROVEMENTS

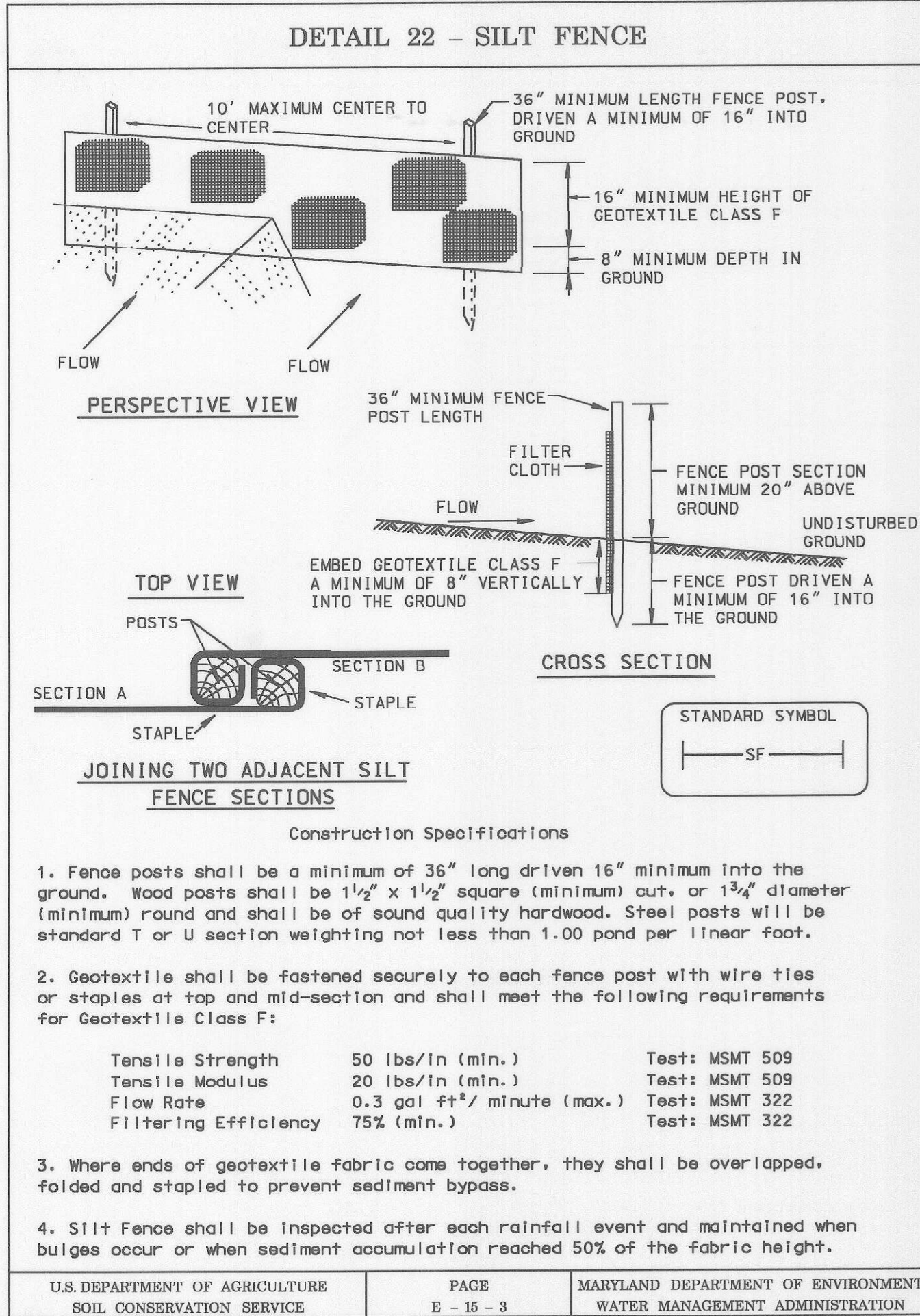
EROSION & SEDIMENT CONTROL NOTES

CAPITAL PROJECT No. J-4175 AND B-3855

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SHEET 41 OF 156

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### SILT FENCE

**Silt Fence Design Criteria**

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

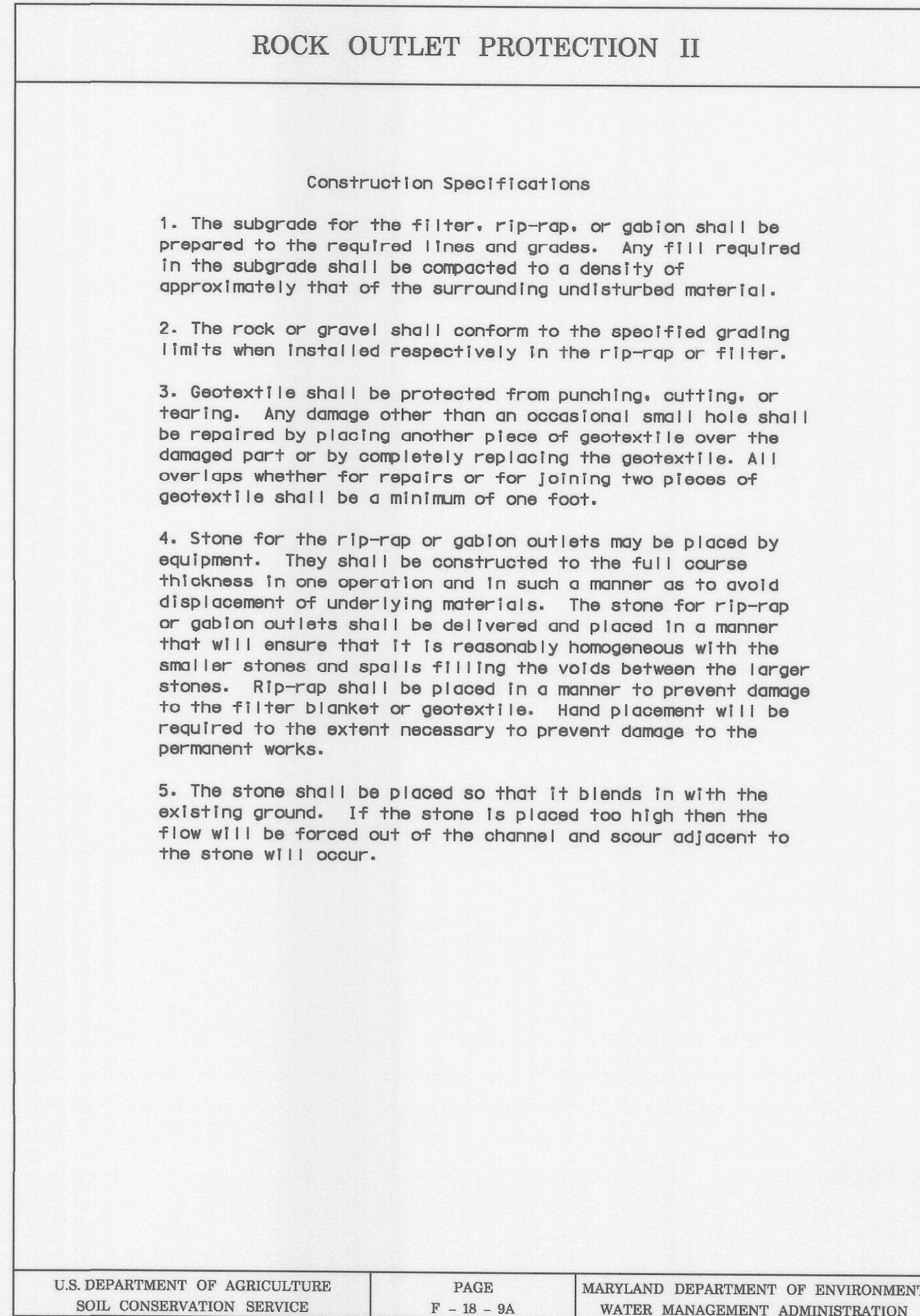
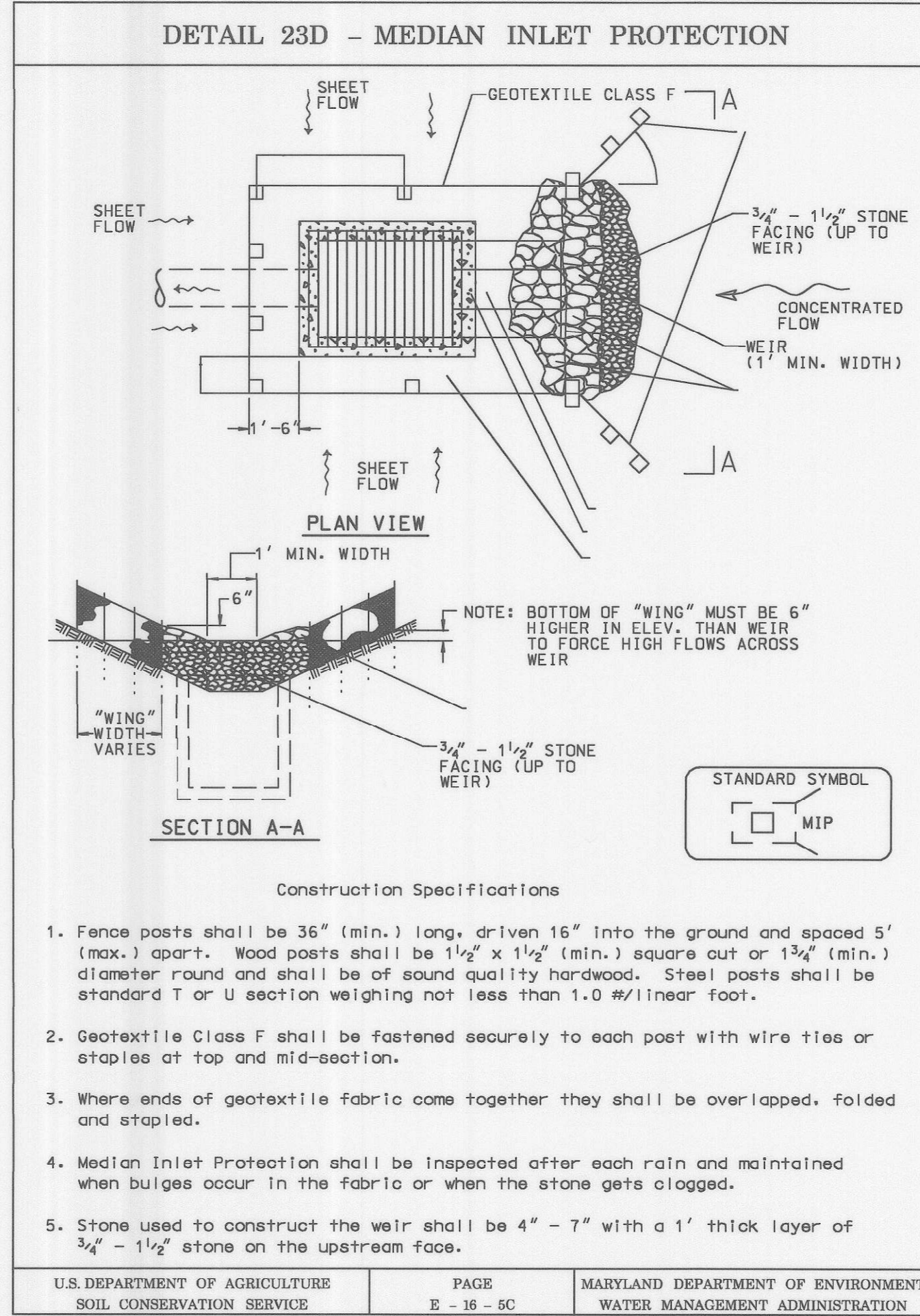
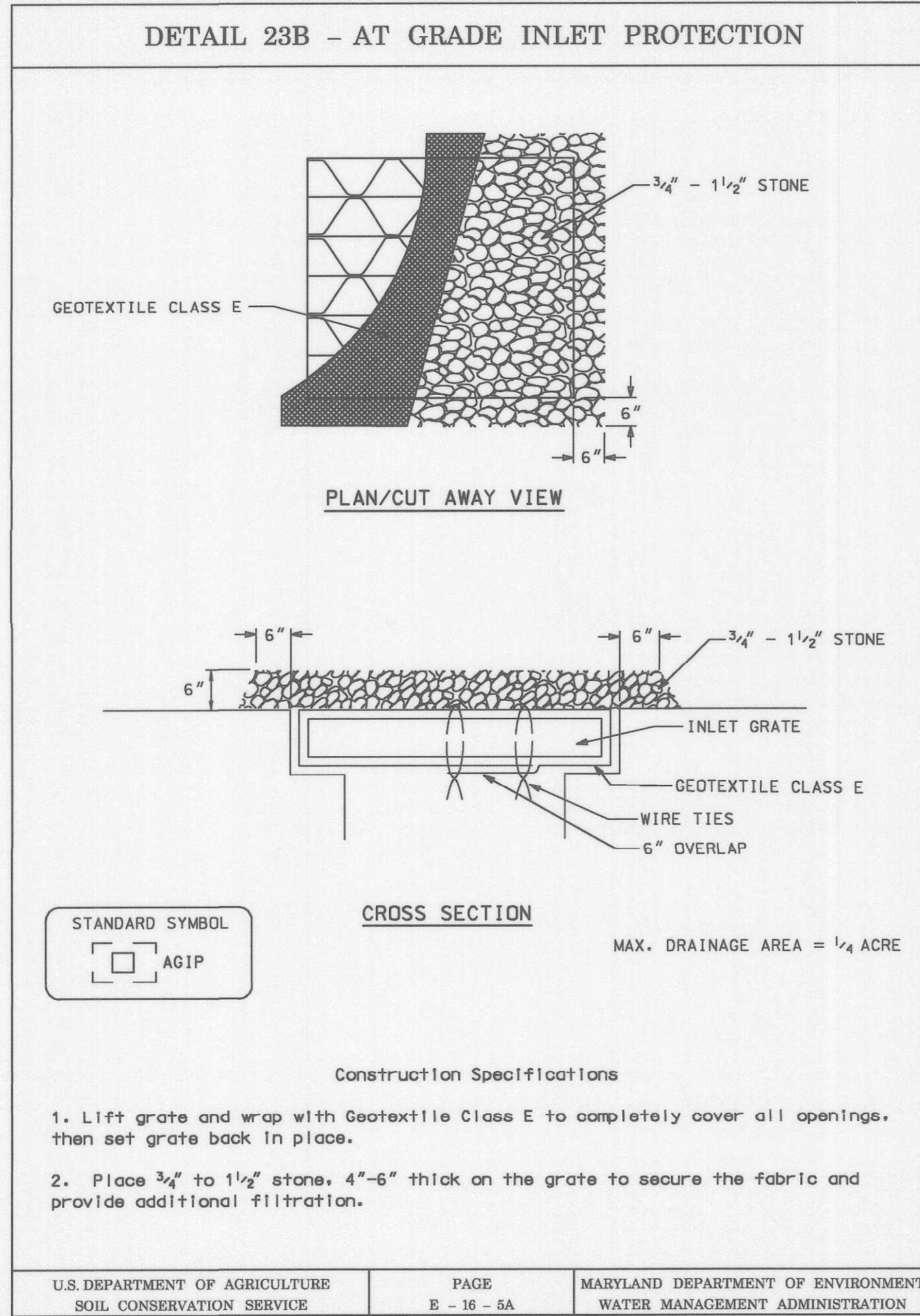
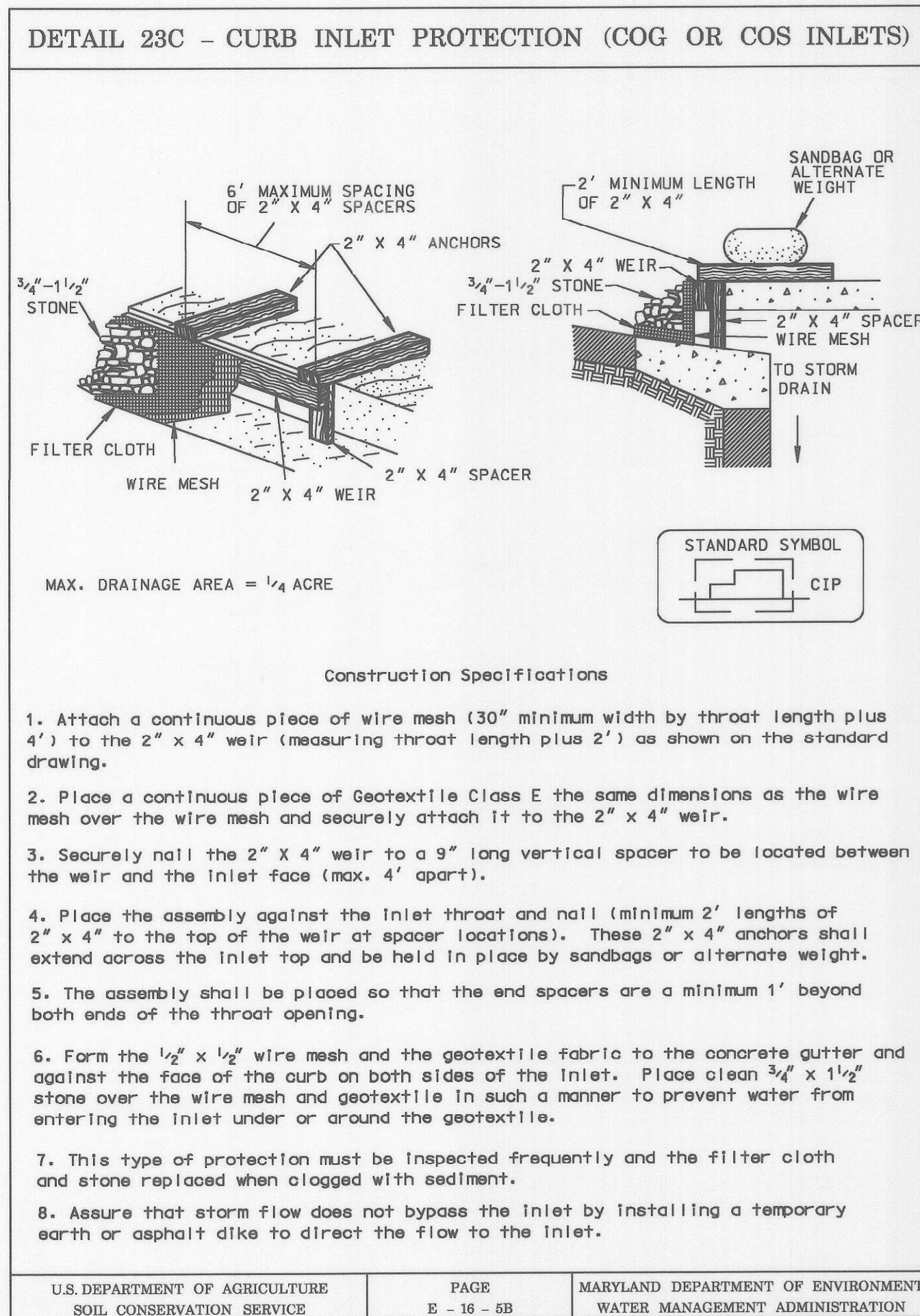
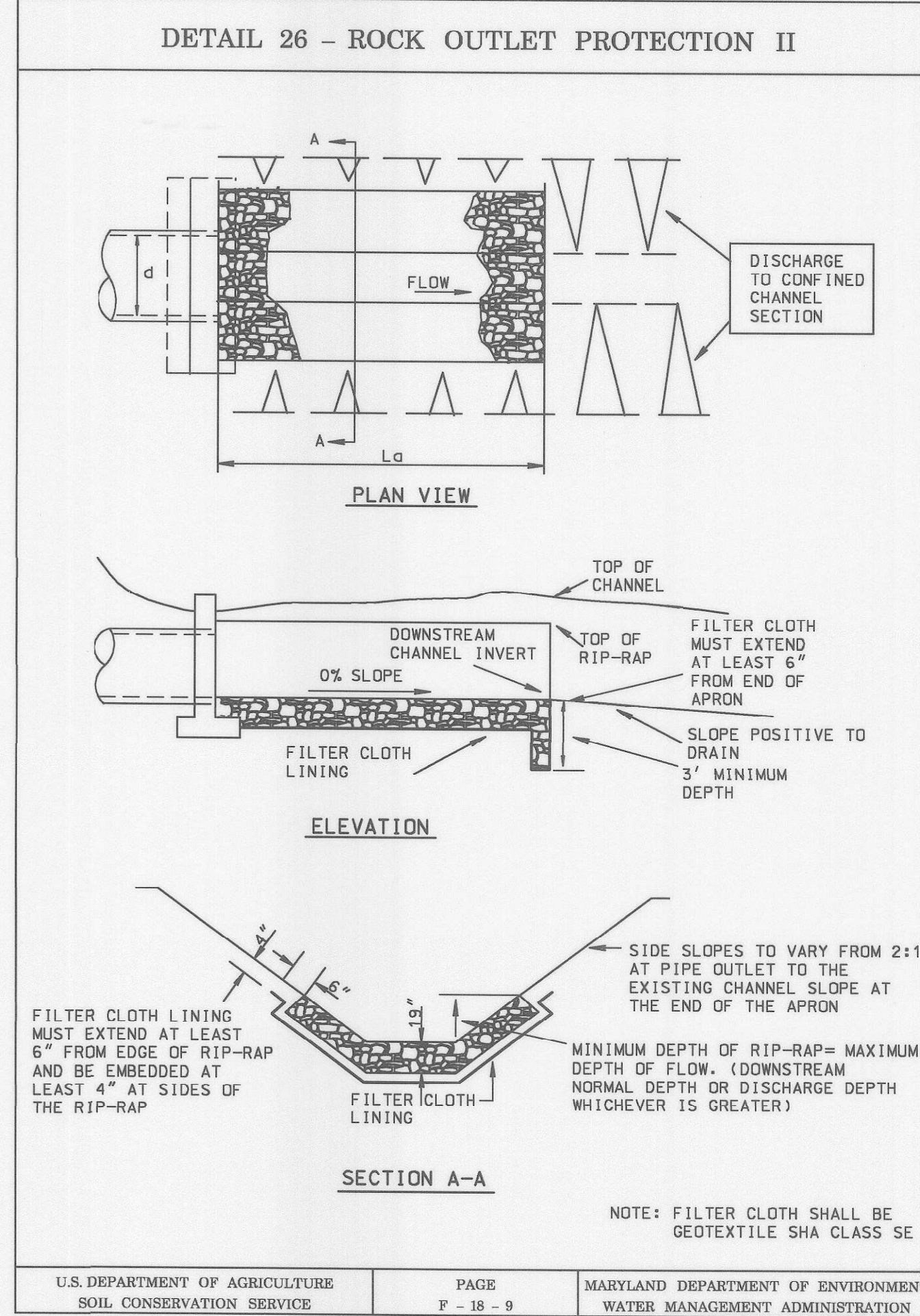
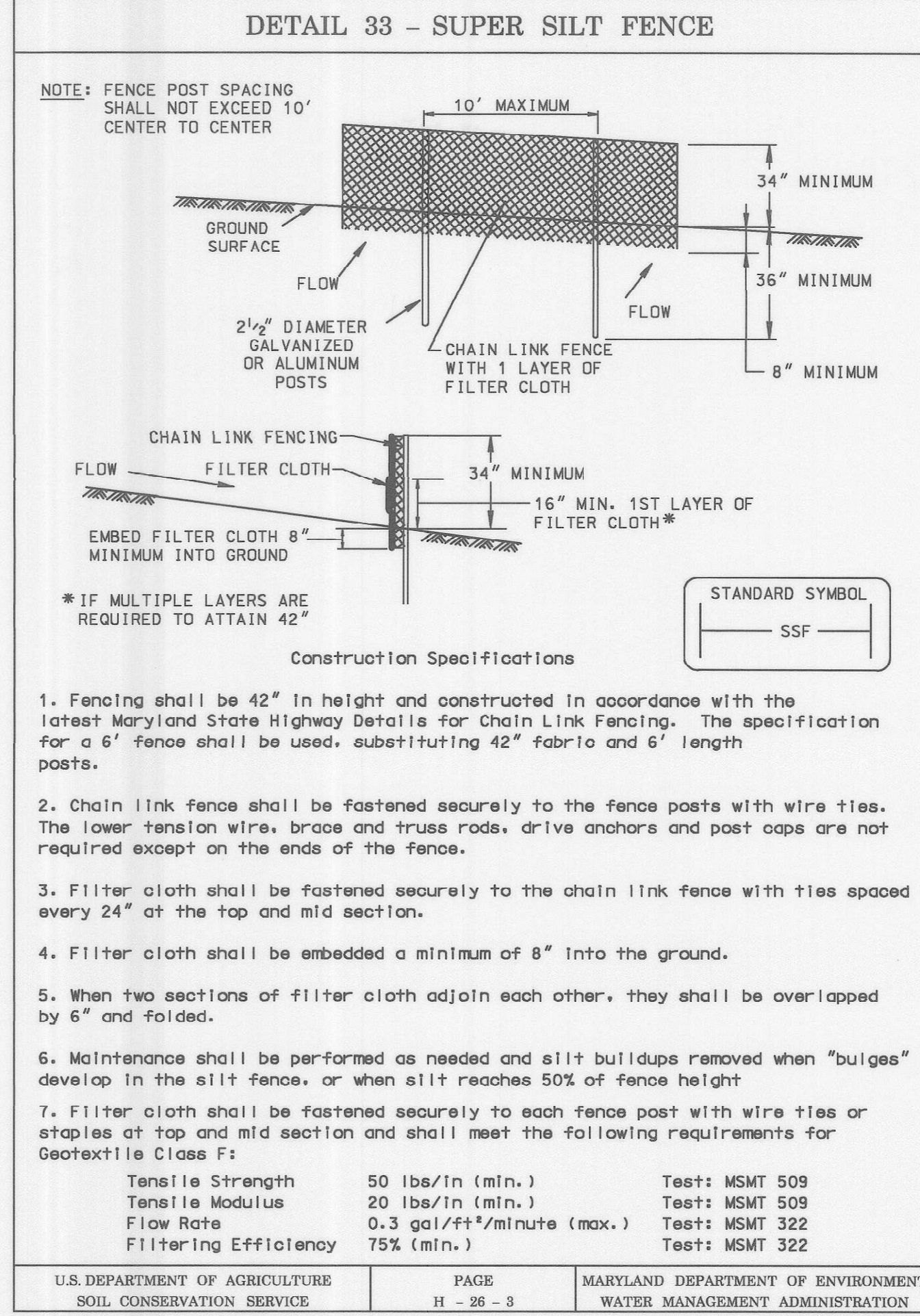
**Note:** In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

### SUPER SILT FENCE

**Design Criteria**

Slope	Slope Steepness	Slope Length (maximum)	Silt Fence Length (maximum)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,500 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE | PAGE E-16-3A | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

*Jan M. [Signature]* Date: 8/17/06  
 U.S. Natural Resources Conservation Service

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT

*John K. [Signature]* Date: 8/17/06  
 Howard Soil Conservation District

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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*David [Signature]* 8/17/06  
 DIRECTOR OF PUBLIC WORKS DATE

*Robert [Signature]* 8/17/06  
 CHIEF, BUREAU OF ENGINEERING DATE

*W. [Signature]* 8-8-06  
 CHIEF, BUREAU OF HIGHWAYS DATE

*Jan [Signature]* 8/17/06  
 CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

GANNETT FLEMING, INC.

*[Signature]*  
 BALTIMORE, MARYLAND

DES: ATW  
 DRN: NPE  
 CHK: ETK  
 DATE: 8-06

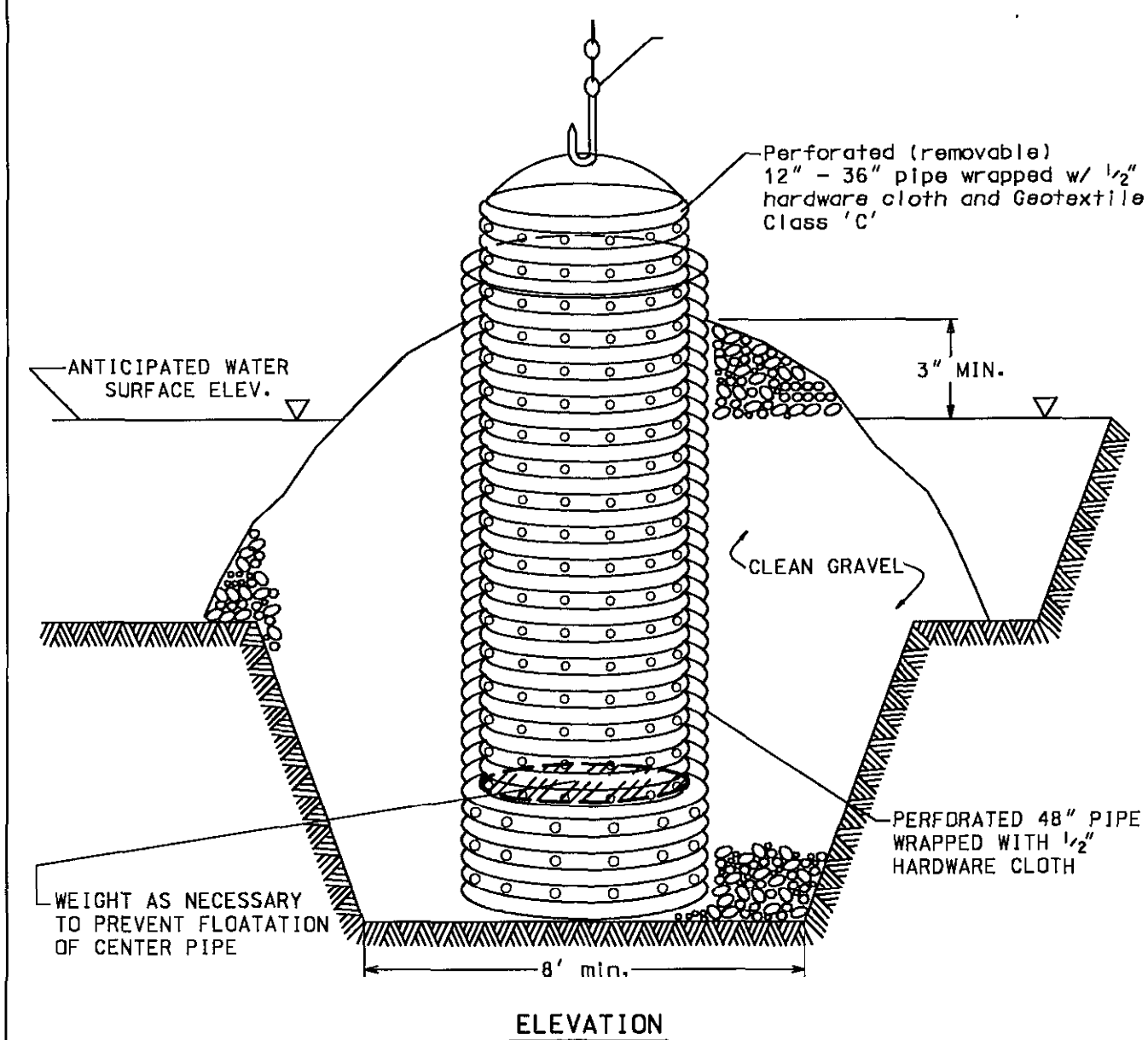
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GUILFORD ROAD IMPROVEMENTS  
 EROSION & SEDIMENT CONTROL DETAILS

CAPITAL PROJECT No. J-4175 AND B-3855

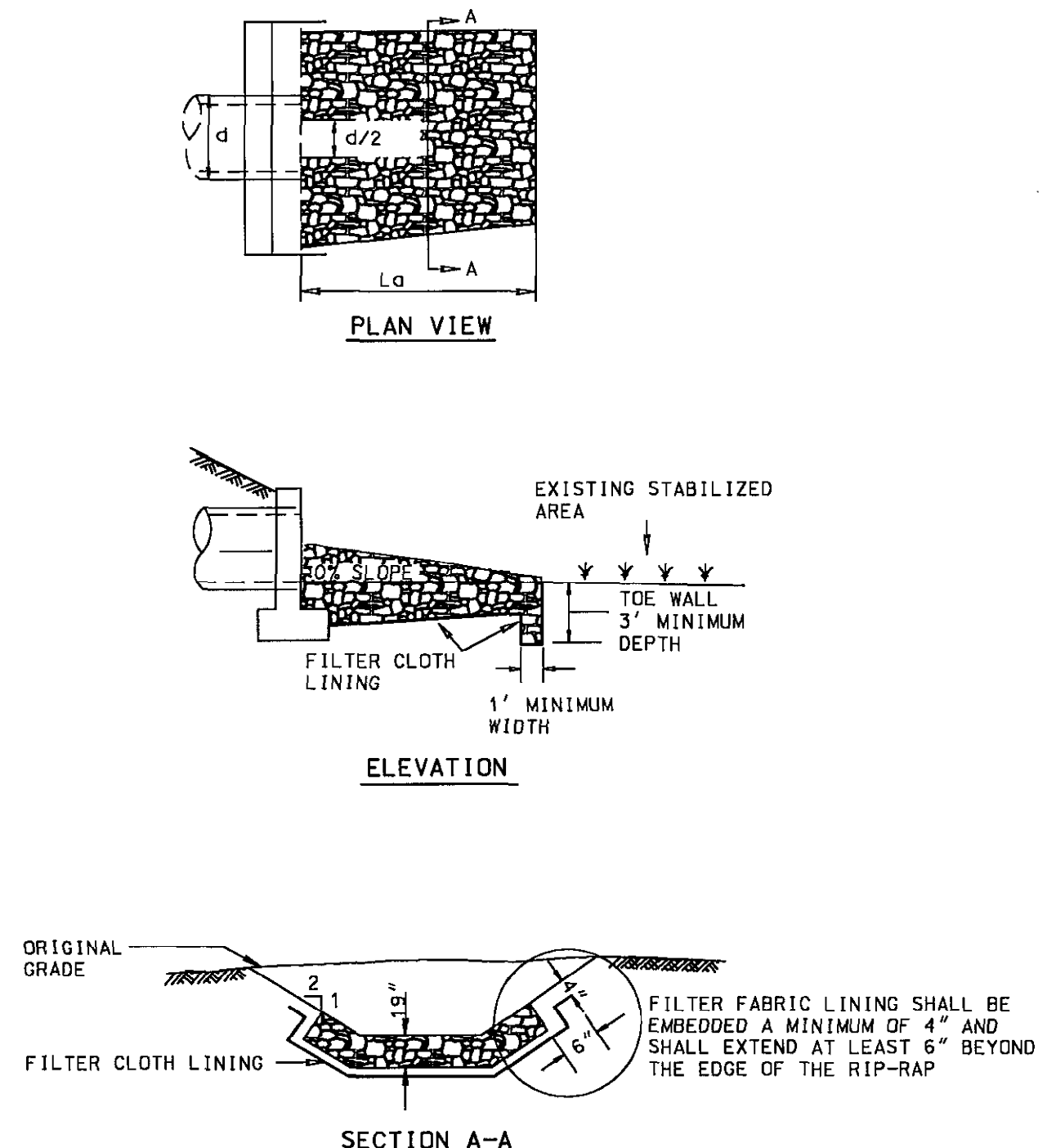
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 SHEET: 42 OF 156

DETAIL 20A - REMOVABLE PUMPING STATION



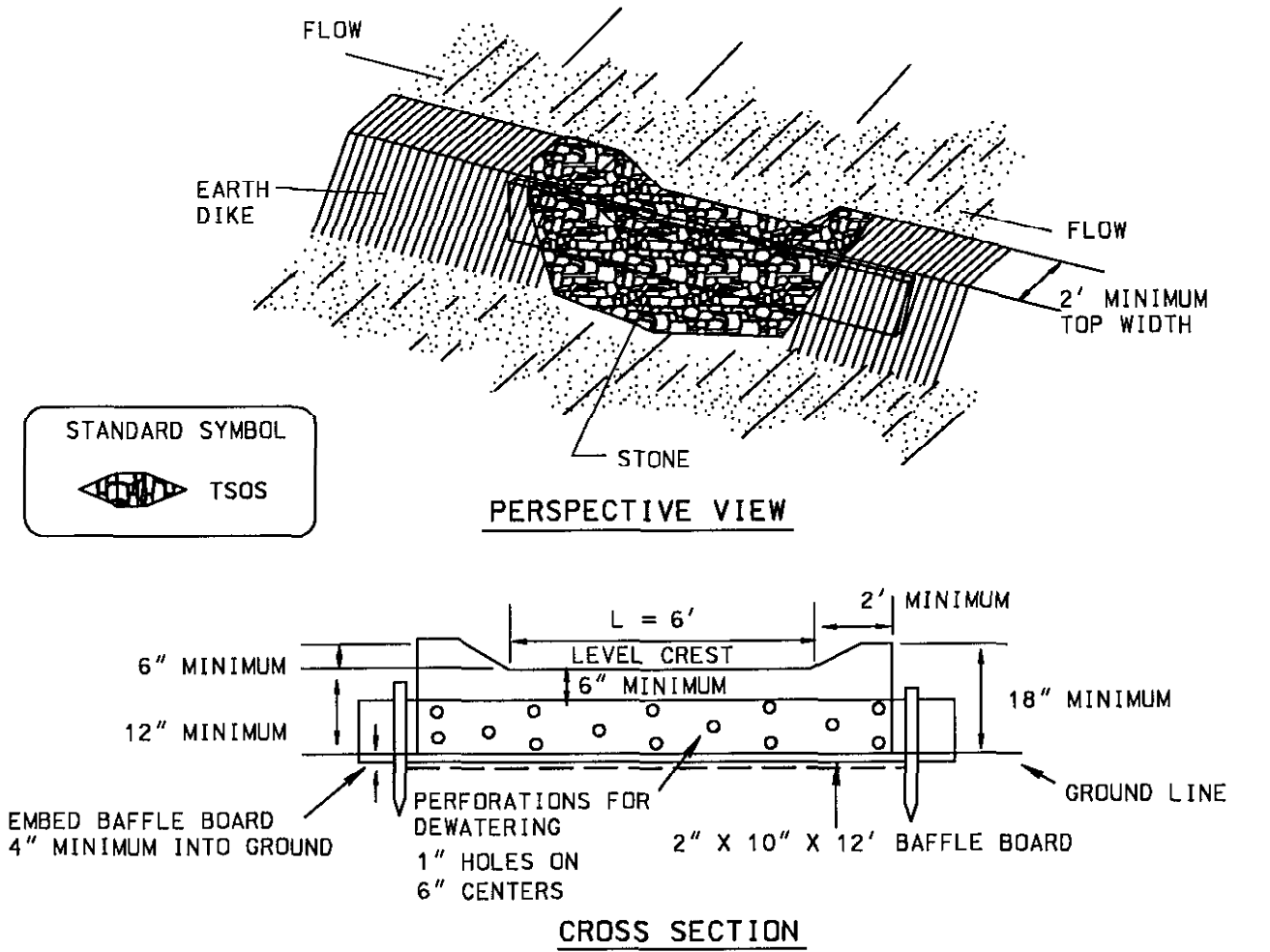
- Construction Specifications
1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
  2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
  3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" x 6" slots or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class C.
  4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

DETAIL 27 - ROCK OUTLET PROTECTION III



NOTE: FILTER CLOTH SHALL BE GEOTEXTILE CLASS C

DETAIL 19 - STONE OUTLET STRUCTURE



- Construction Specifications
1. Crushed stone shall be used. Gravel may be used if crushed stone is not available. The stone shall be 2"-3" in size.
  2. The crest of the stone dike shall be at least 6" lower than the lowest elevation of the top of the earth dike and shall be level.
  3. The stone outlet structure shall be embedded into the soil a minimum of 4".
  4. The minimum length of the crest of the stone outlet structure shall be 6'.
  5. The stone outlet structure shall be inspected after each rain. Stone shall be replaced when the structure ceases to function and ponding results.
  6. The baffle board shall be extended one foot into the dike, staked and embedded 4" into the existing ground.
  7. The drainage area to this structure shall be less than 1/2 acre.

ROCK OUTLET PROTECTION III

- Construction Specifications
1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
  2. The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.
  3. Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.
  4. Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.
  5. The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

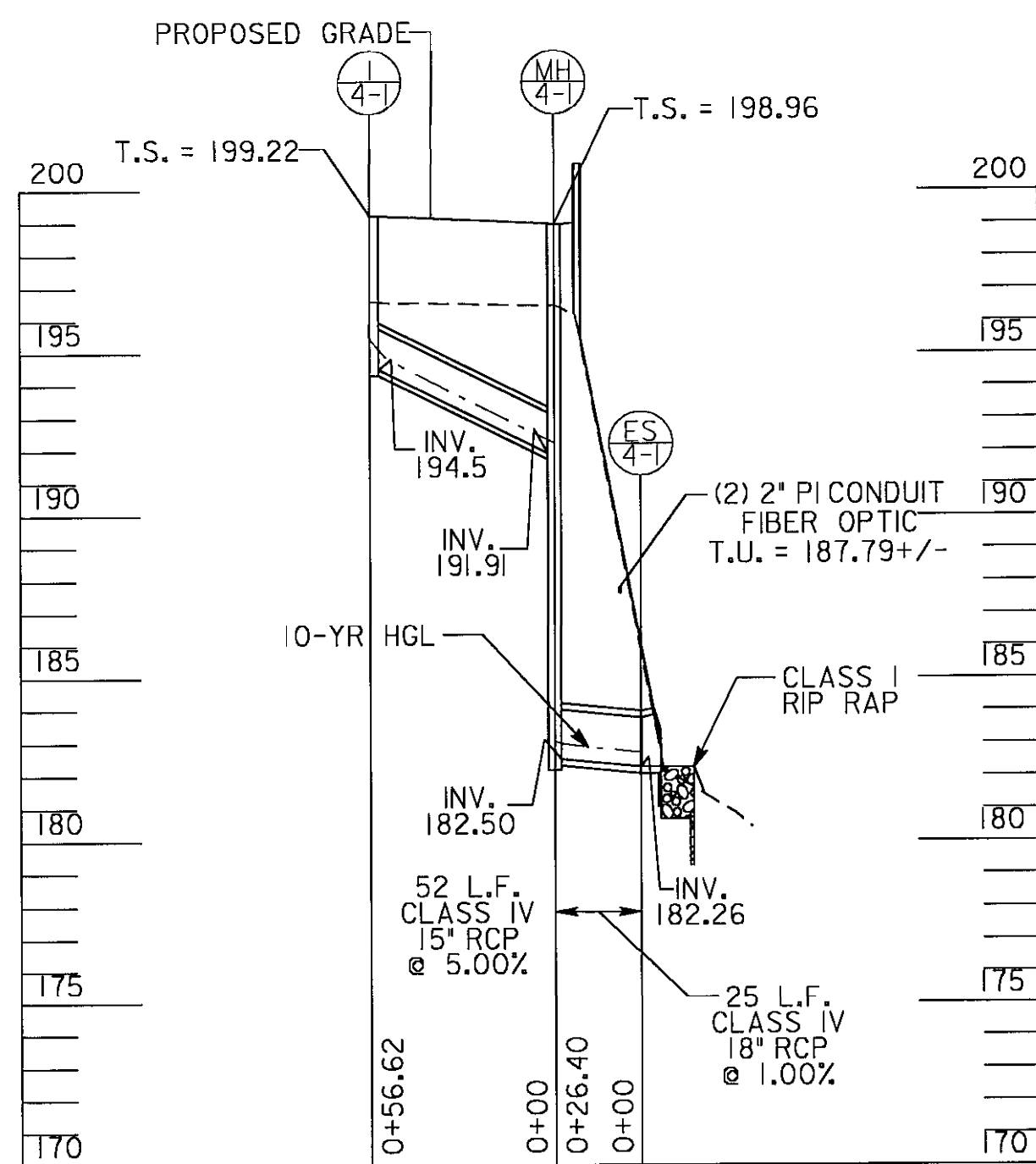
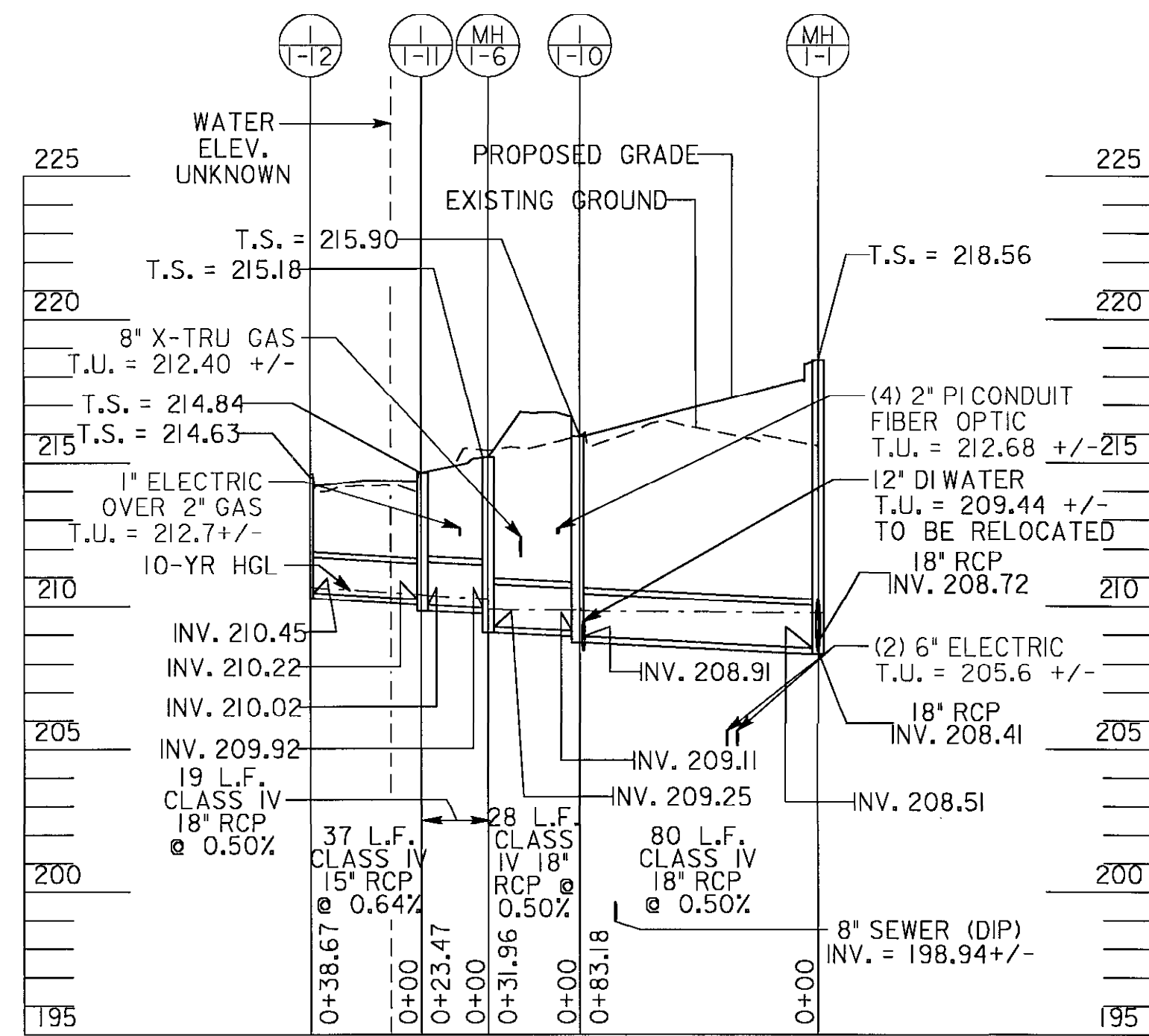
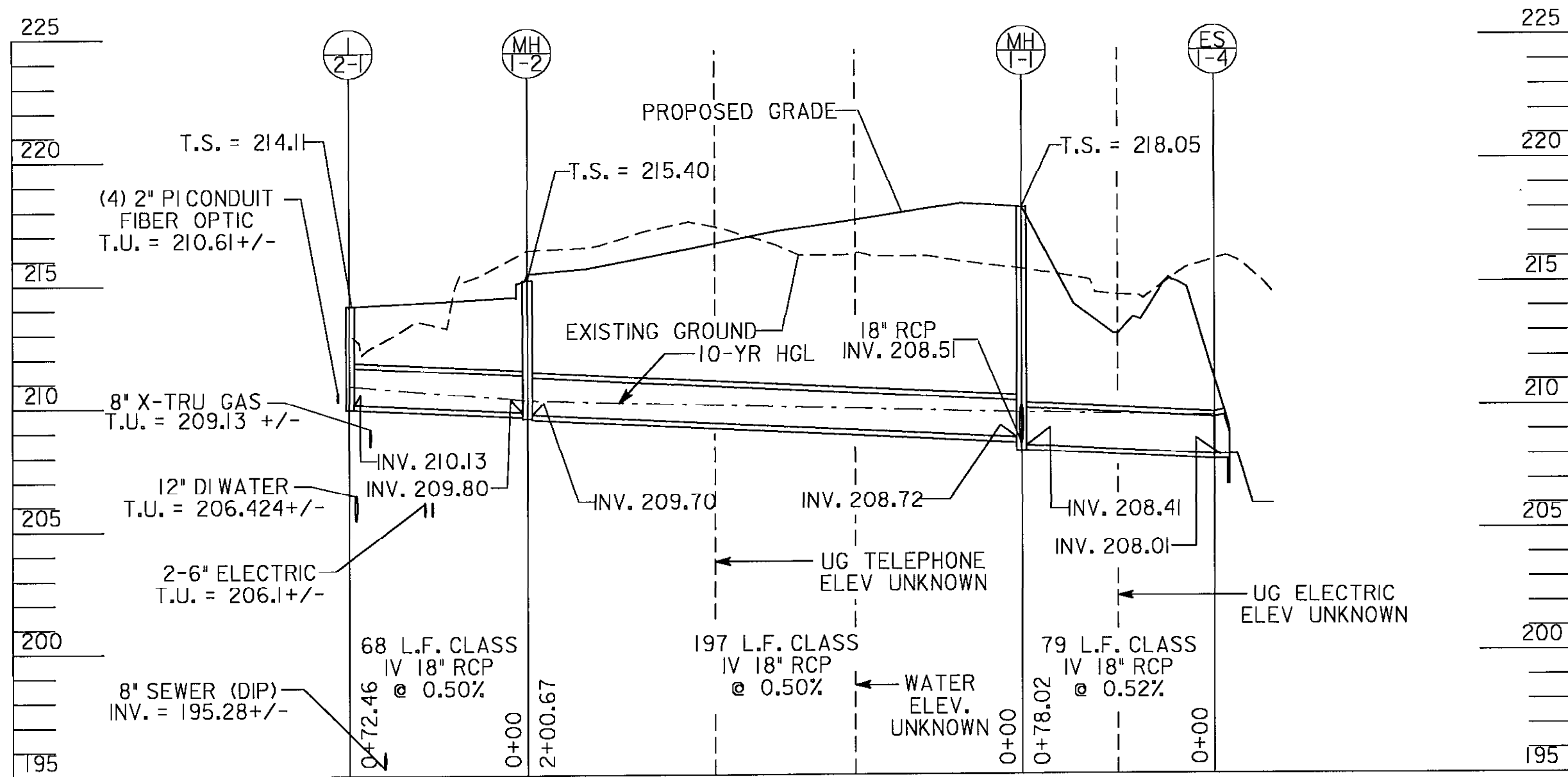
REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS  
 J. M. [Signature] 8/17/06  
 U.S. Natural Resources Conservation Service Date  
 THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT  
 J. K. [Signature] 8/17/06  
 Howard Soil Conservation District Date

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 J. A. [Signature] 8/17/06 DIRECTOR OF PUBLIC WORKS DATE  
 W. [Signature] 8/8/06 CHIEF, BUREAU OF HIGHWAYS DATE  
 GANNETT FLEMING, INC.  
 BALTIMORE, MARYLAND  
 [Seal of Professional Engineer]  
 DES: ATW  
 DRN: NPE  
 CHK: ETK  
 DATE: 8-06

BY	NO.	DATE

GUILFORD ROAD IMPROVEMENTS  
 EROSION & SEDIMENT CONTROL DETAILS  
 CAPITAL PROJECT No. J-4175 AND B-3855  
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 SHEET 43 OF 156

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CROSS REFERENCES	
ITEM	DWG. NO.
TYPICAL SECTION	TS01
GEOMETRY PLAN	GS01
PROFILE SHEETS	PR01
ROADWAY PLANS	PS01
E & S PLANS	ES01
SIGNING & PVMT MARKING PLAN	SP01

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: *David J. Smith* 8/7/06  
 Chief, Bureau of Engineering: *Richard J. ...* 8/7/06  
 Chief, Bureau of Highways: *William J. ...* 8-8-06  
 Chief, Division of Transportation, Special Projects Division: *Jan ...* 8/7/06

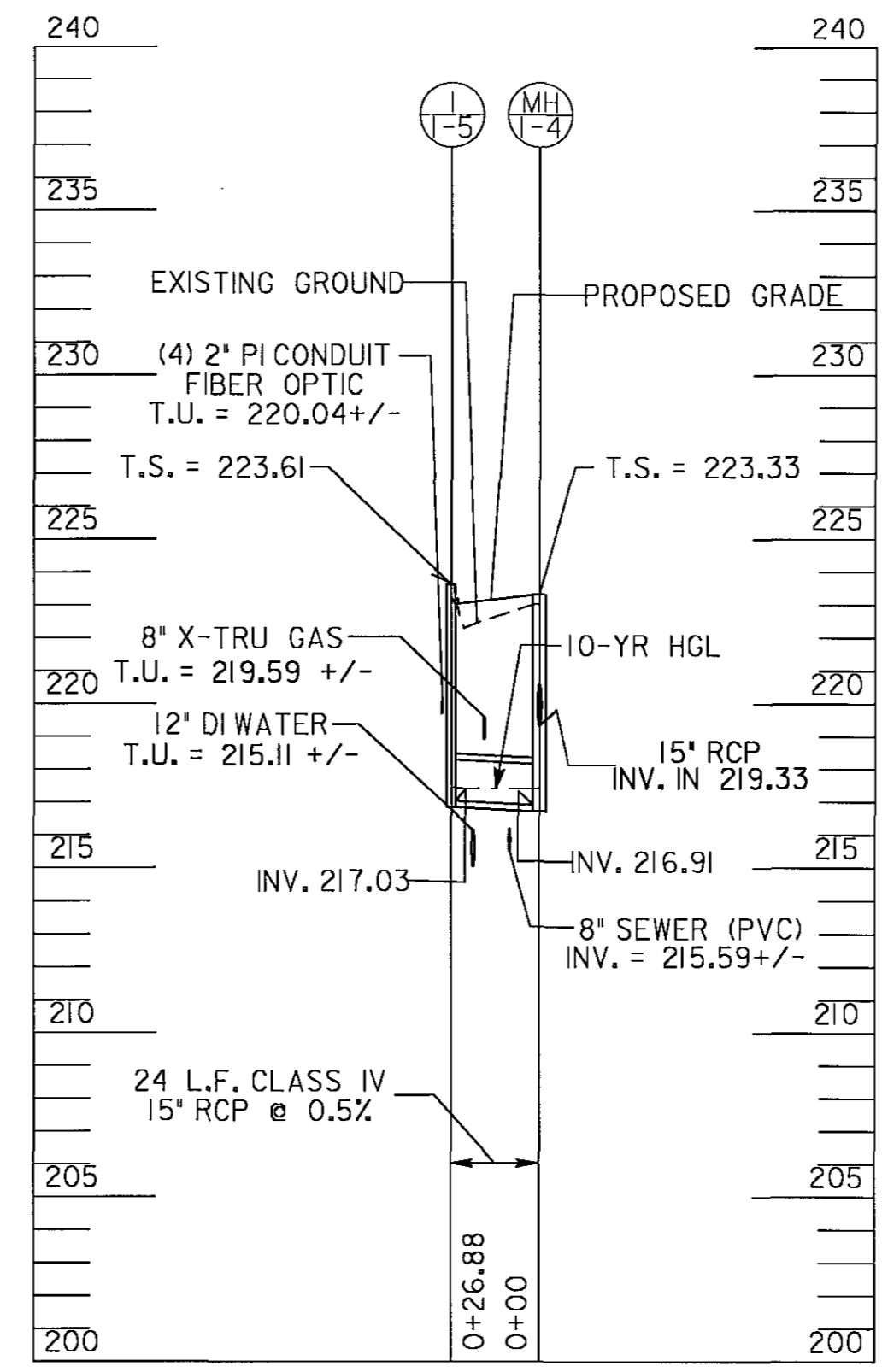
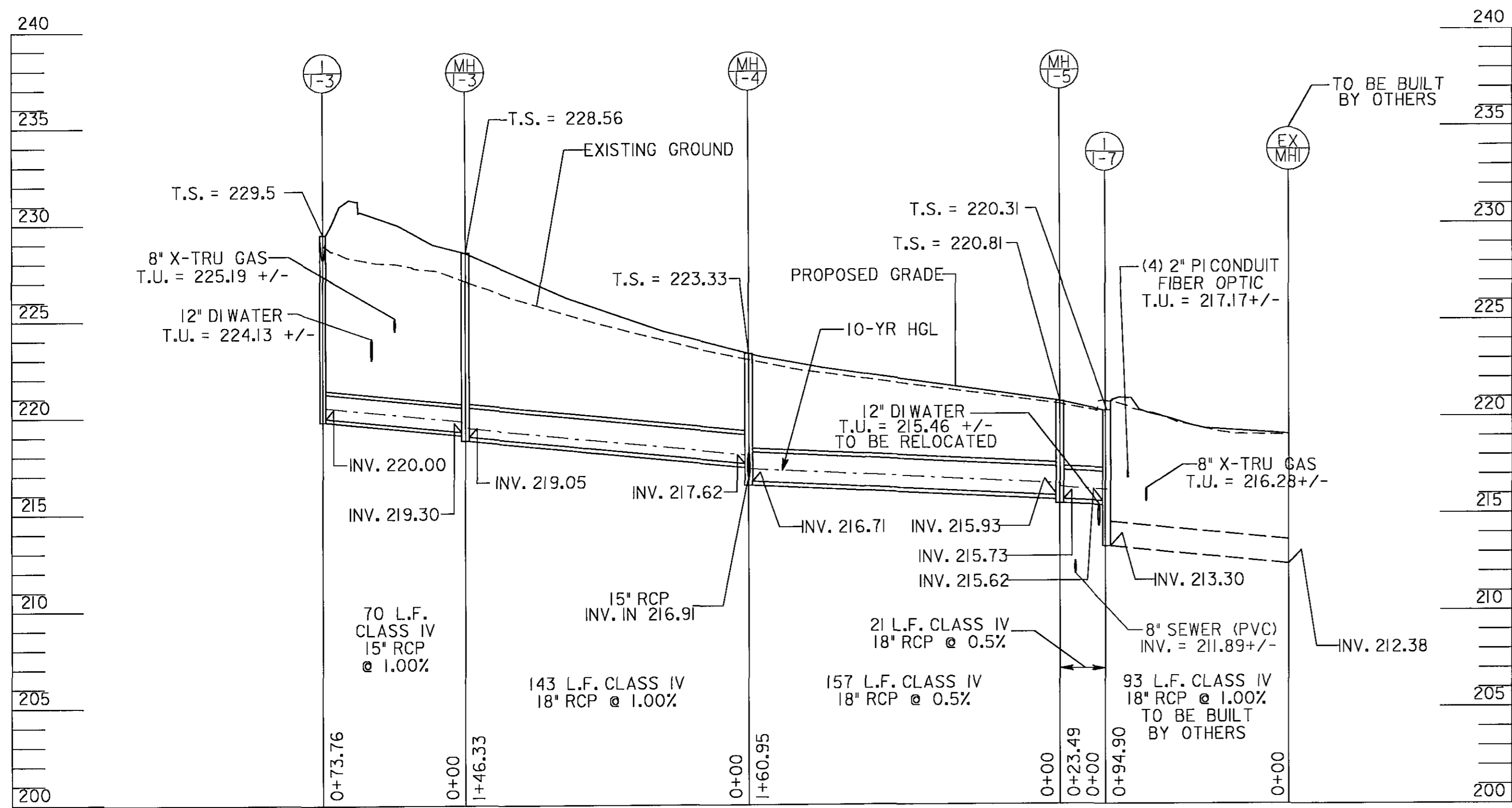
**GANNETT FLEMING, INC.**  
  
 BALTIMORE, MARYLAND



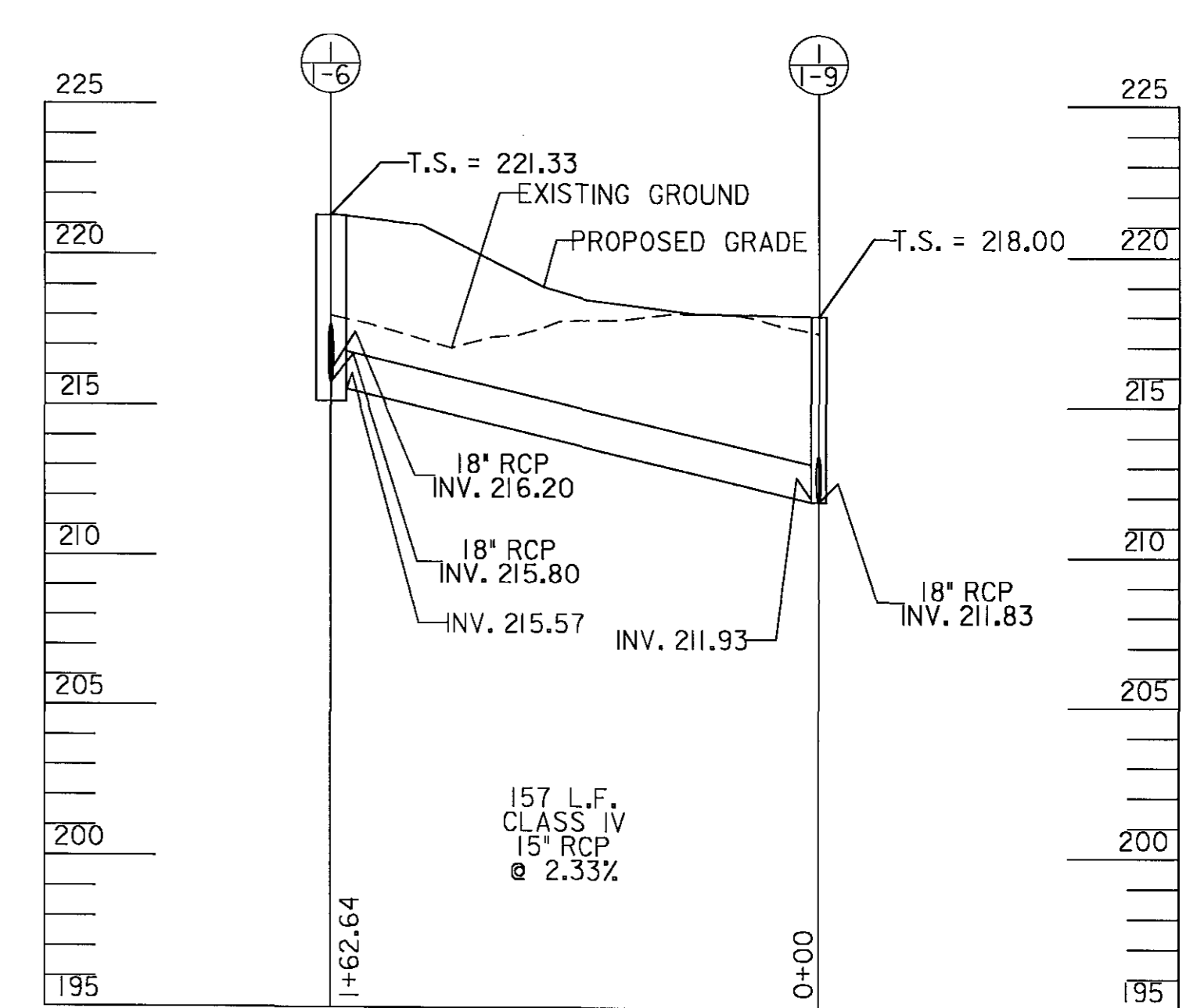
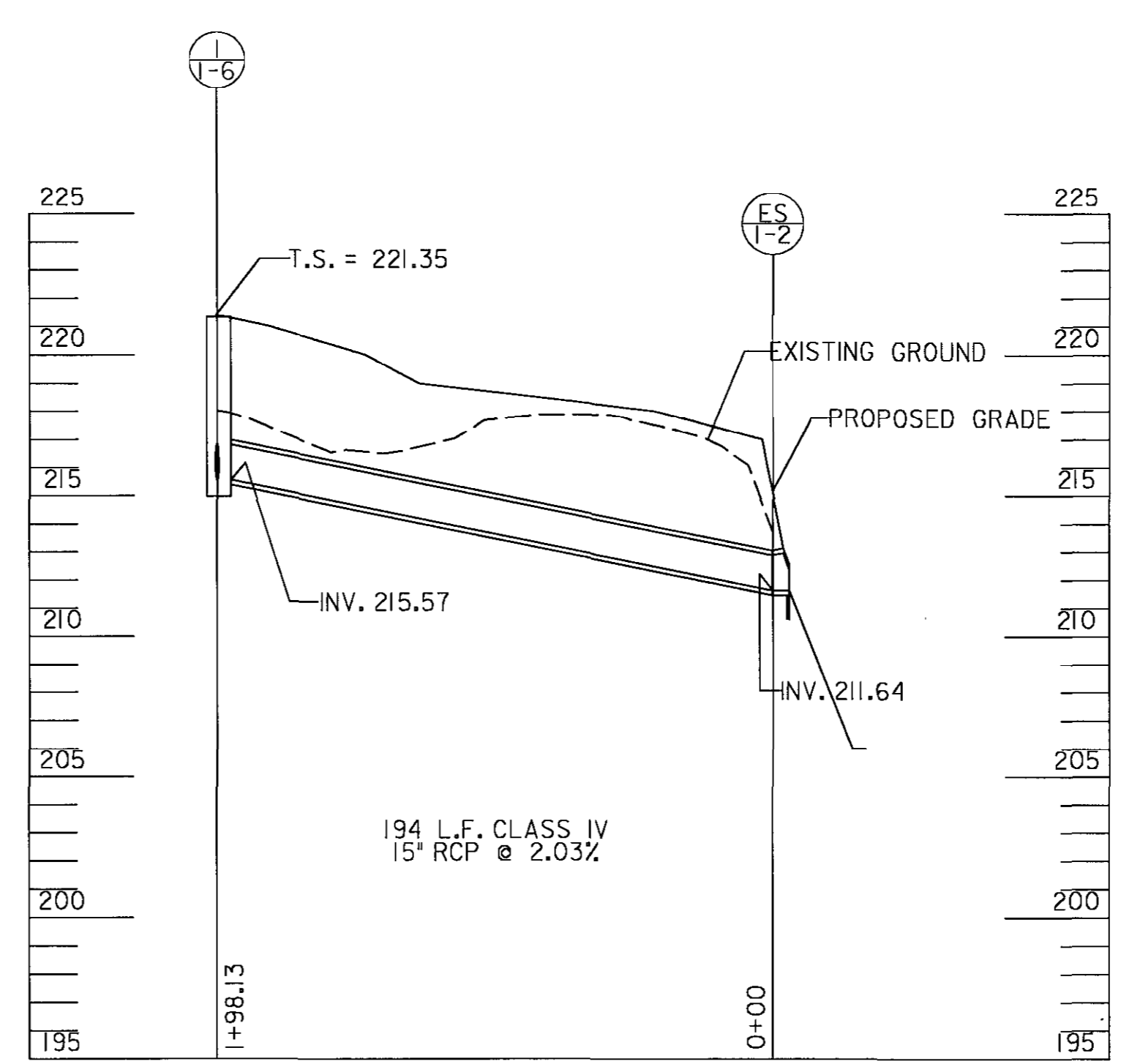
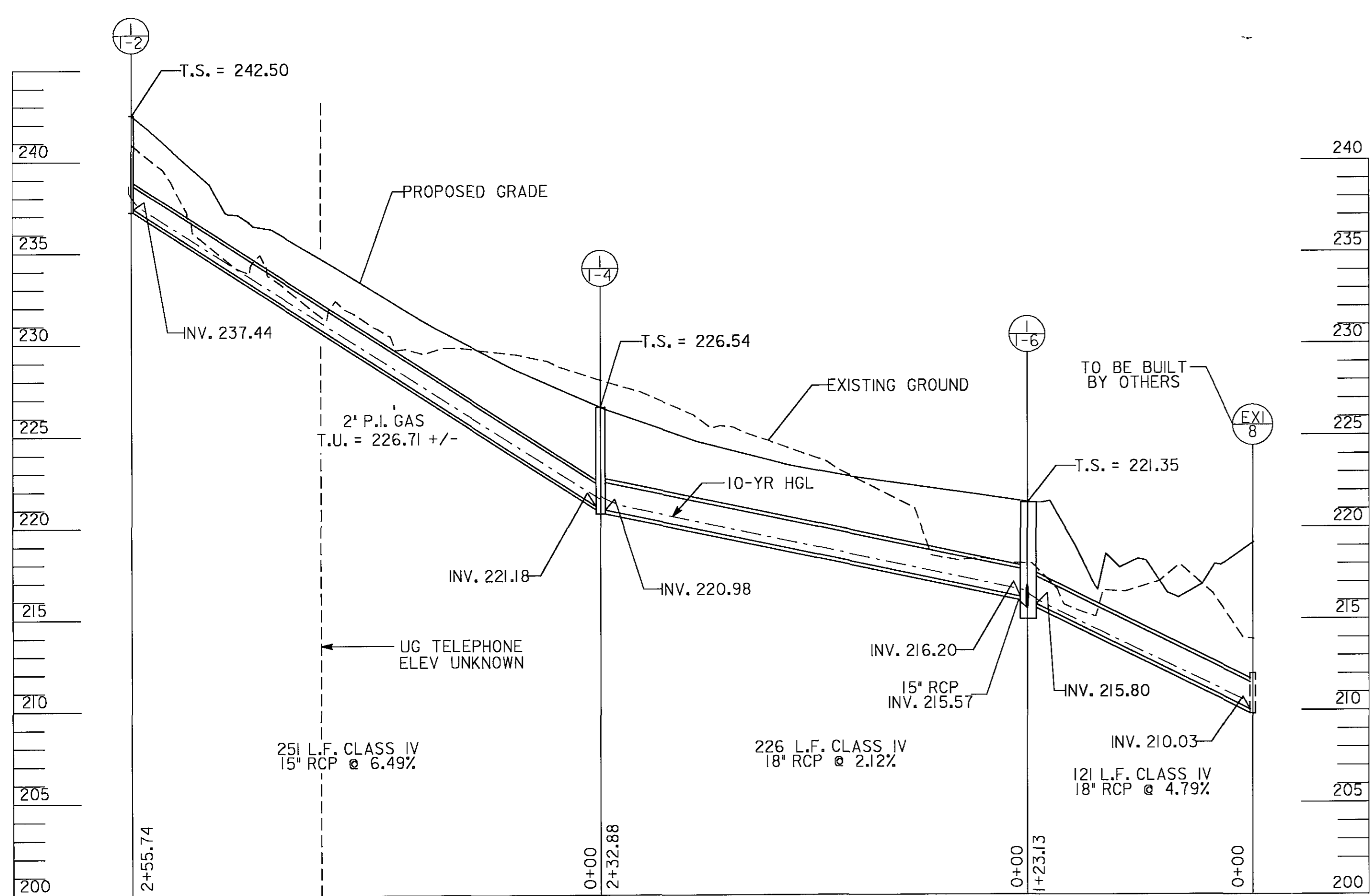
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 DRN: ETK  
 CHK: SHH  
 DATE: 8-06

GUILFORD ROAD IMPROVEMENTS  
 STORM DRAIN PROFILES  
 CAPITAL PROJECT No. J-4175 AND B-3855

SD01  
 SCALE  
 H: 1"=50'  
 V: 1"=5'  
 SHEET  
 41 OF 156



CROSS REFERENCES	
ITEM	DWG. NO.
TYPICAL SECTION	TS01
GEOMETRY PLAN	GS01
PROFILE SHEETS	PR01
ROADWAY PLANS	PS01
E & S PLANS	ES01
SIGNING & PVMT MARKING PLAN	SP01



DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*John J. [Signature]* 8/1/06  
 DIRECTOR OF PUBLIC WORKS DATE

*Paul D. [Signature]* 8/7/06  
 CHIEF, BUREAU OF ENGINEERING DATE

*John [Signature]* 8/7/06  
 CHIEF, DIVISION OF TRANSPORTATION, DATE  
 SPECIAL PROJECTS DIVISION

**GANNETT FLEMING, INC.**

**BALTIMORE, MARYLAND**



DES: LGT	
DRN: ETK	
CHK: SH	
DATE: 8-06	
BY	NO.
DATE	

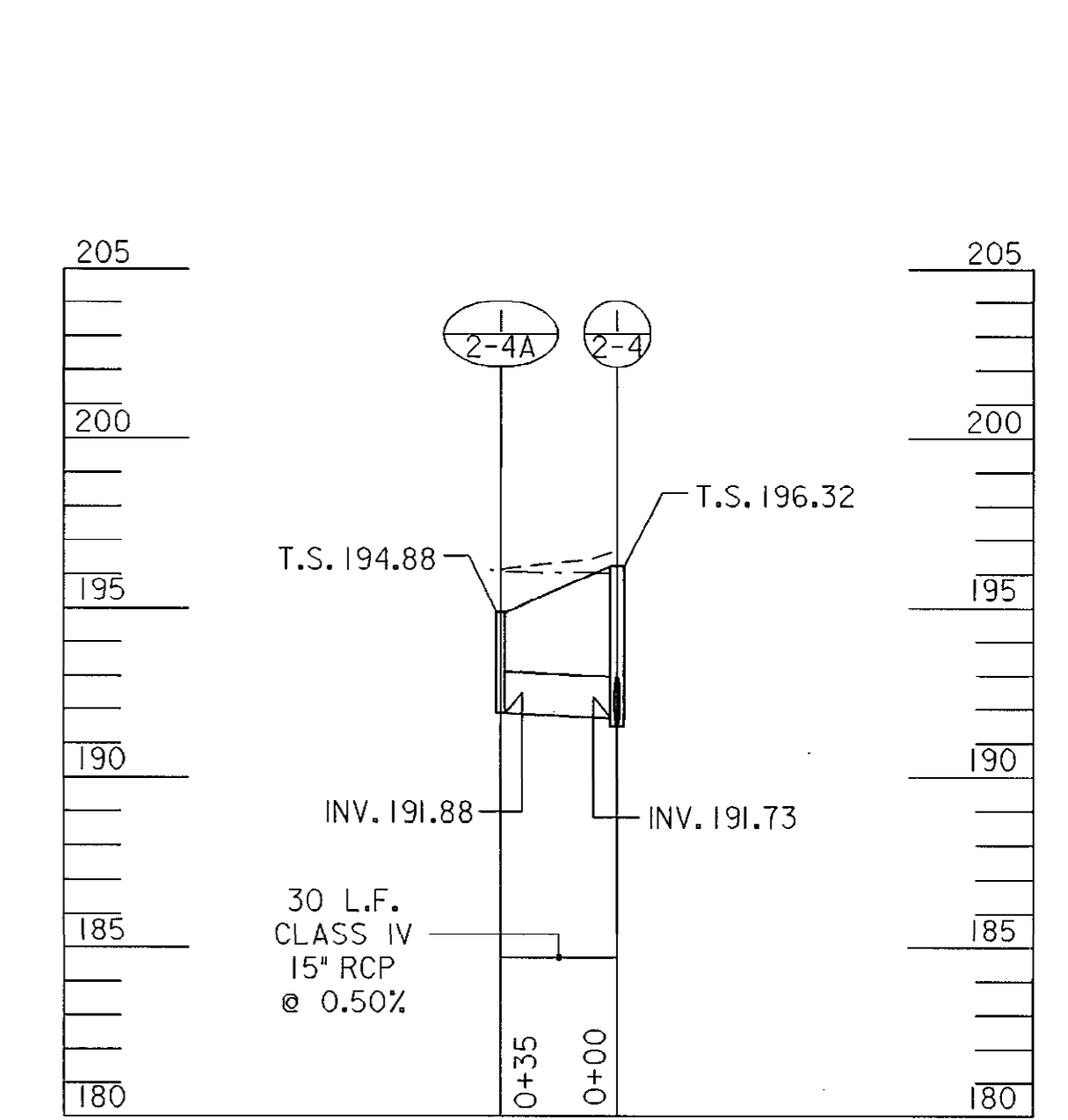
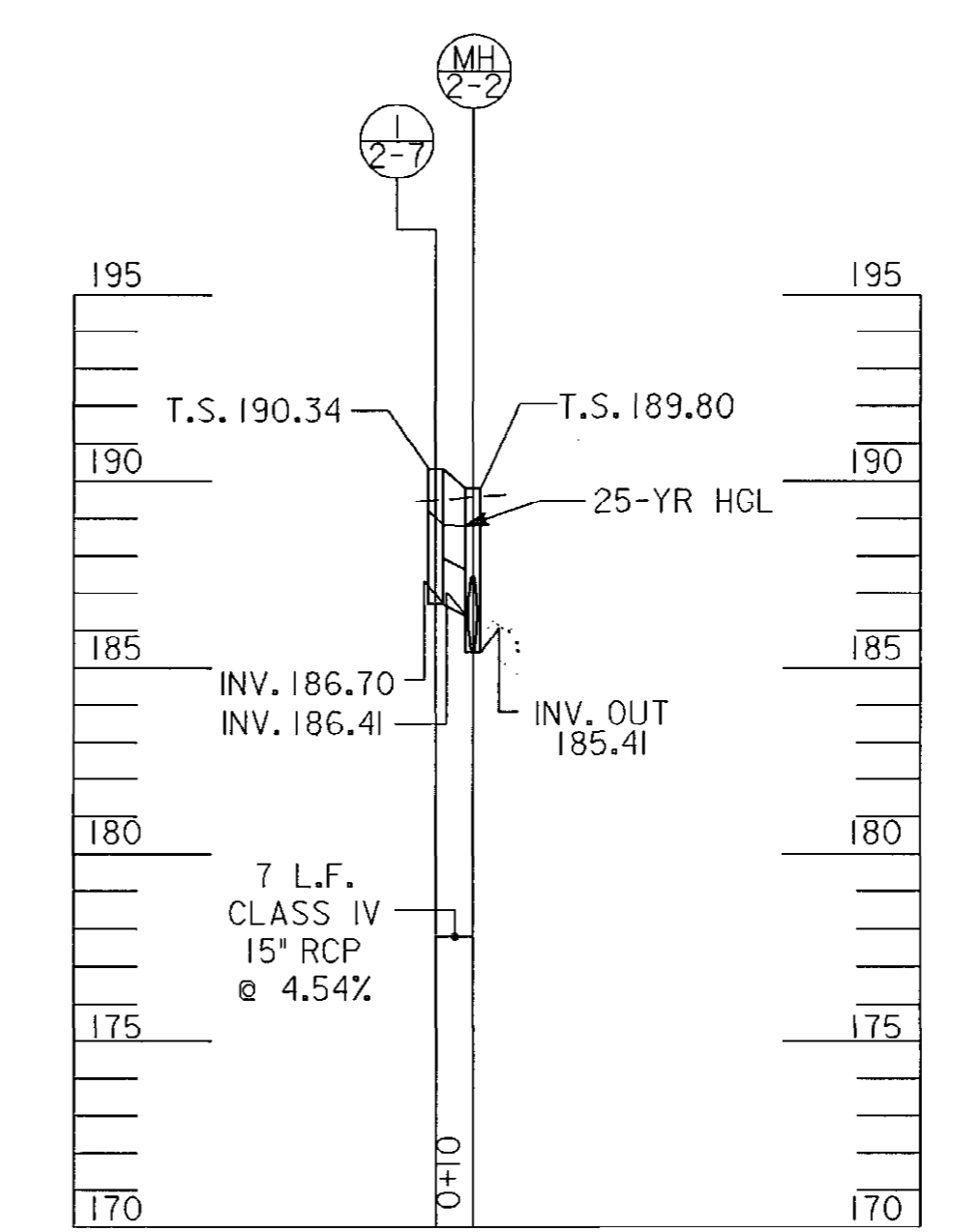
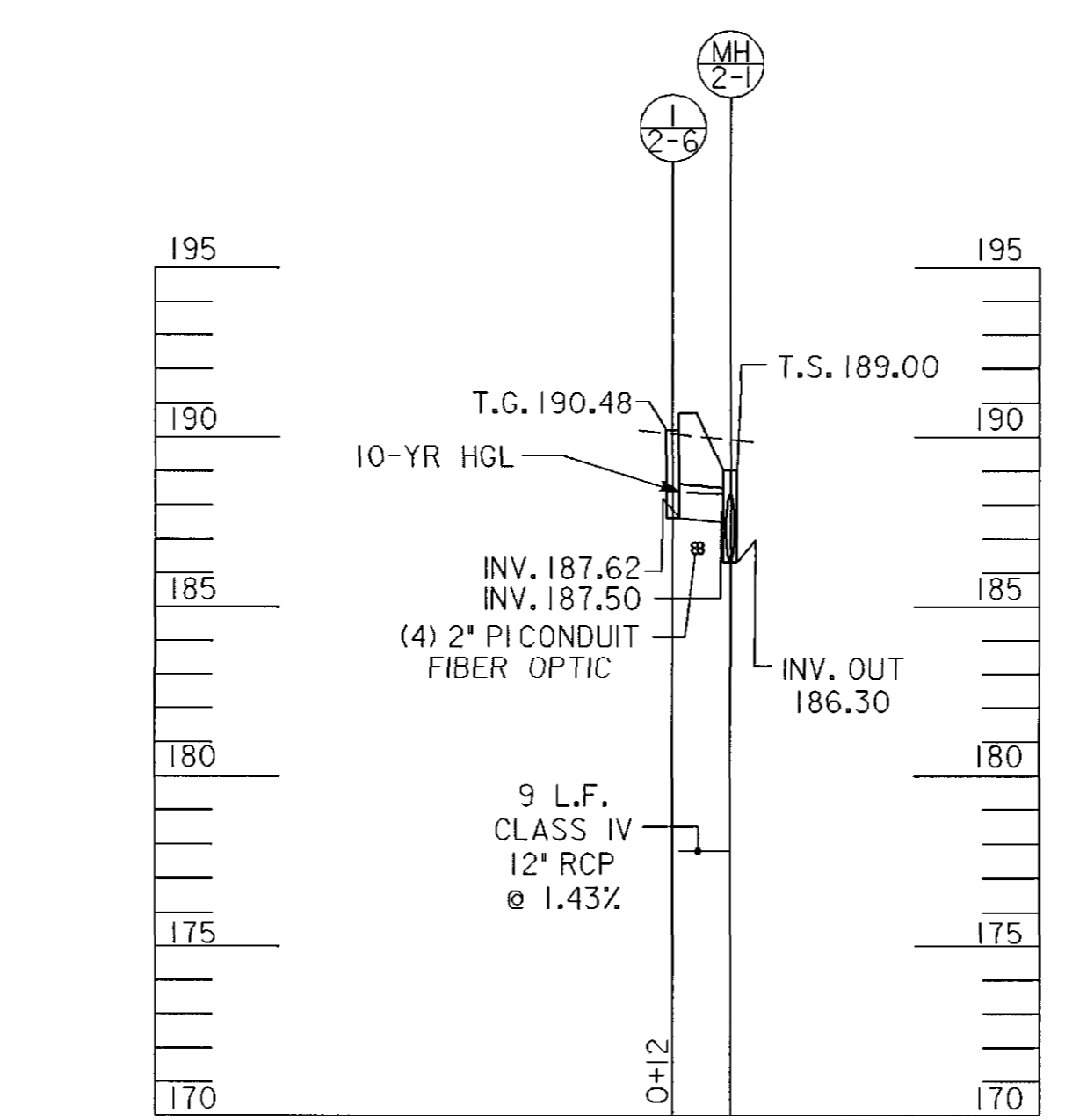
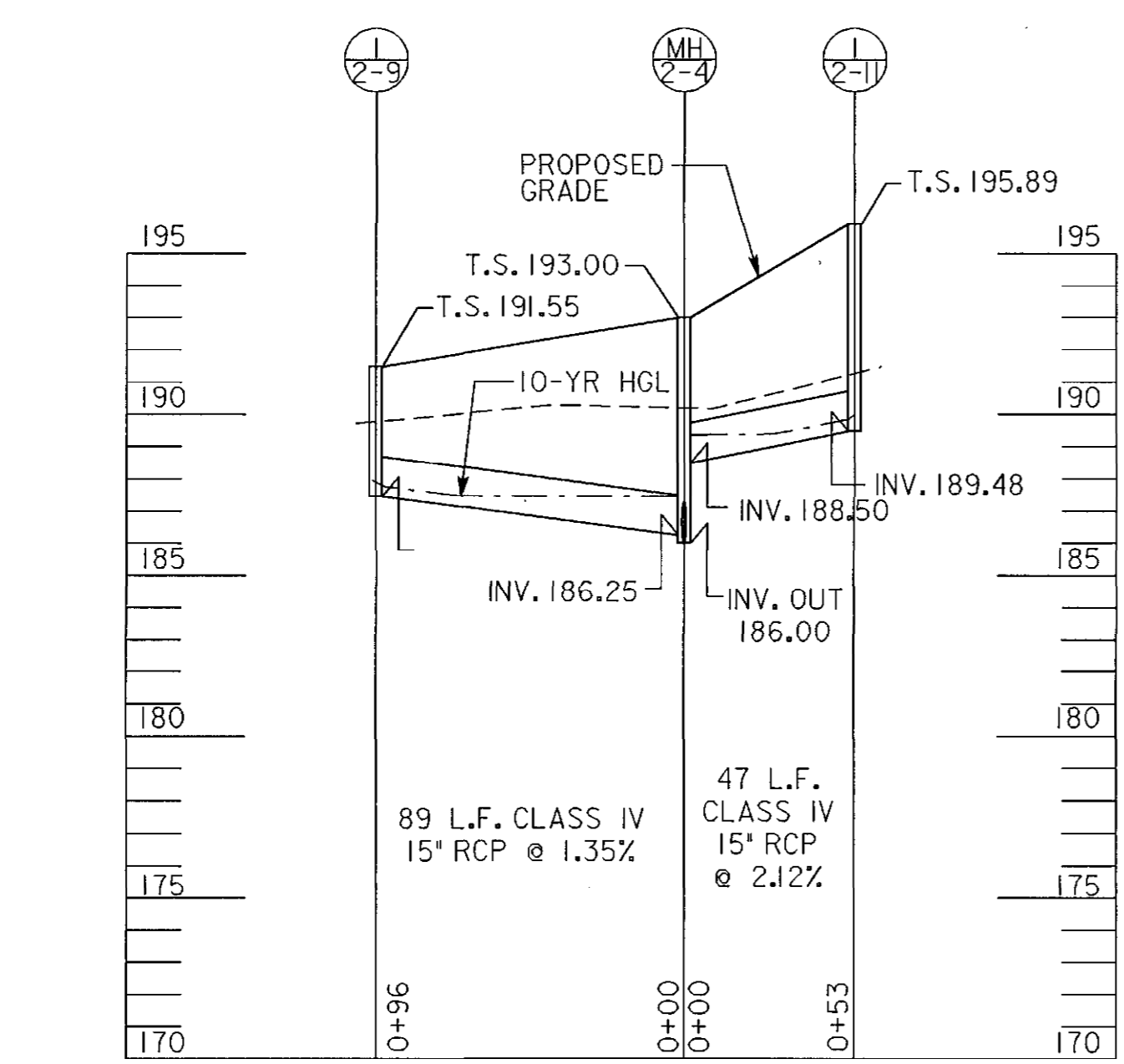
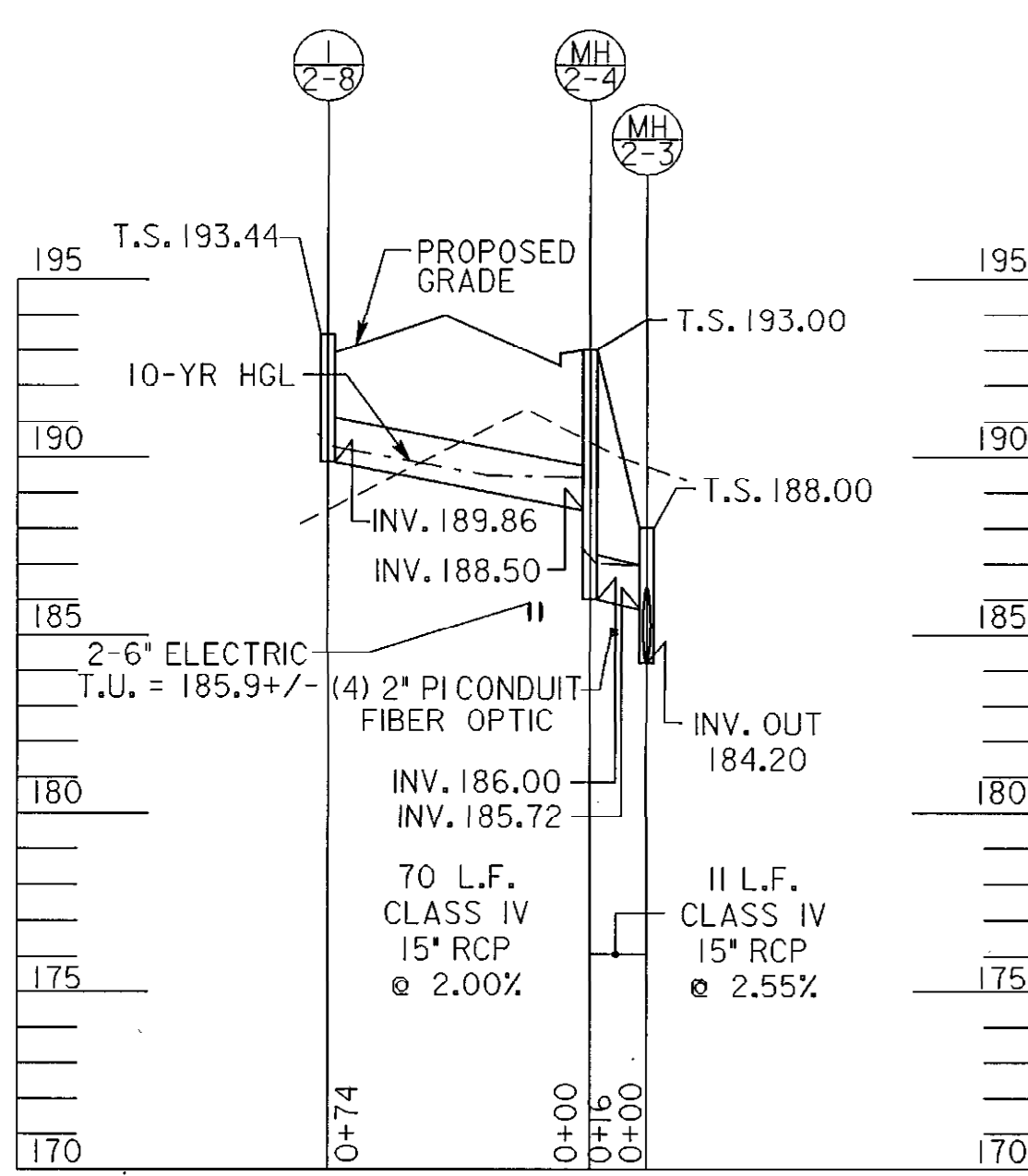
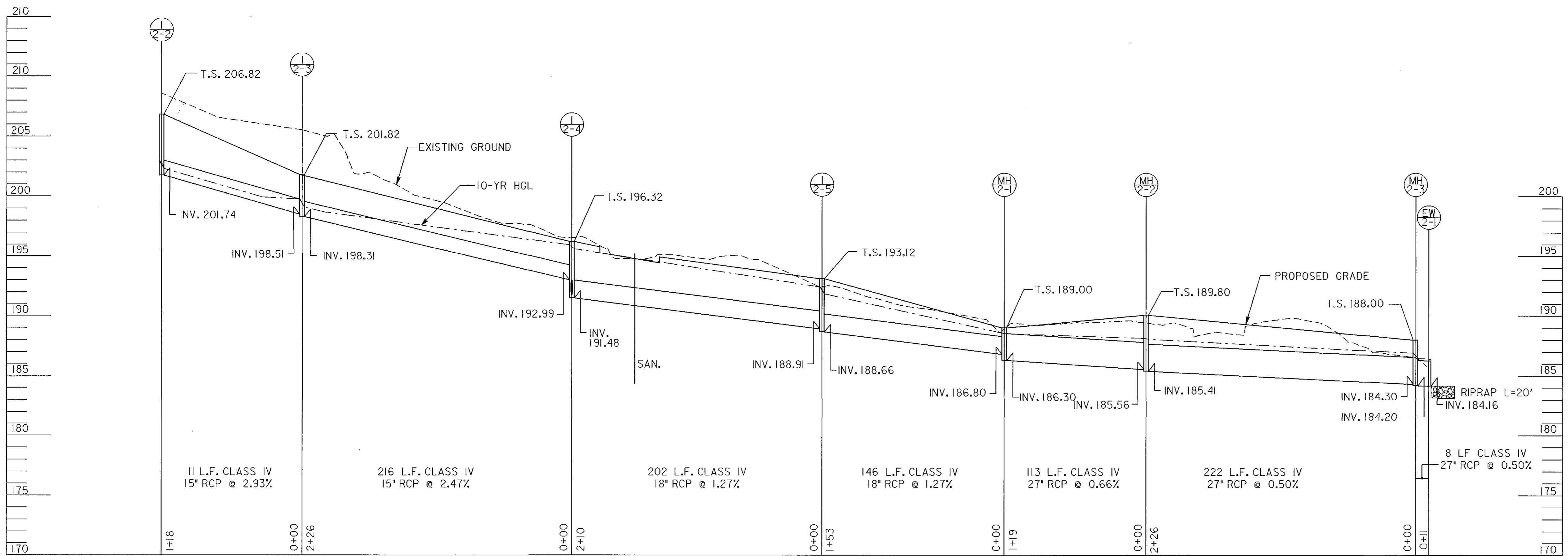
GUILFORD ROAD IMPROVEMENTS  
 STORM DRAIN PROFILES

CAPITAL PROJECT No. J-4175 AND B-3855

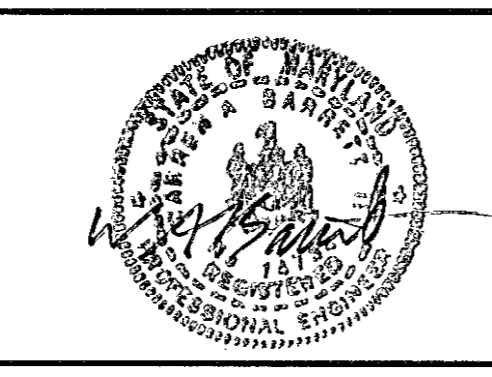
SD02

SCALE  
 H: 1"=50'  
 V: 1"=5'

SHEET  
 45 OF 156



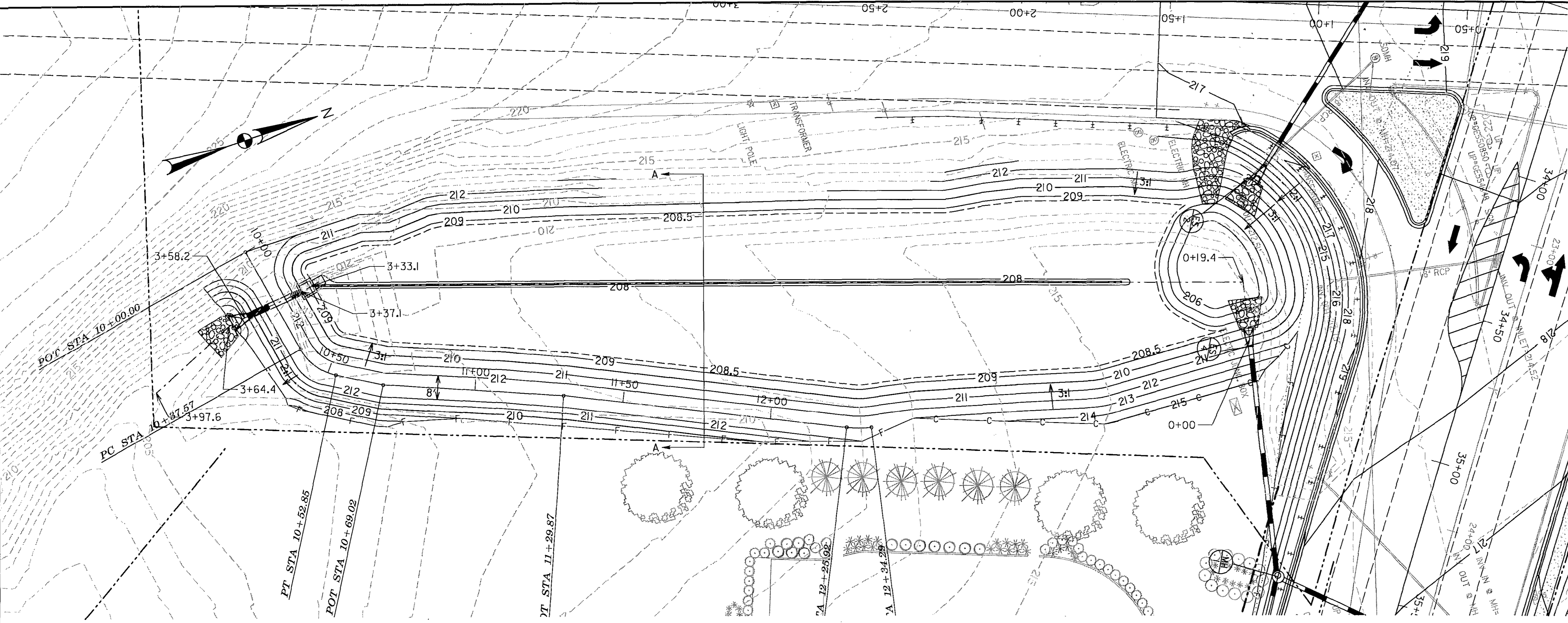
DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 DATE: 8/7/06  
 CHIEF, BUREAU OF ENGINEERING  
 DATE: 8/7/06  
 CHIEF, DIVISION OF TRANSPORTATION,  
 SPECIAL PROJECTS DIVISION



DES: ATN			
DRN: NPE			
CHK: ETK			
DATE: 8-06	BY	NO.	DATE

GUILFORD ROAD IMPROVEMENTS  
 STORM DRAIN PROFILES  
 CAPITAL PROJECT No. J-4175 AND B-3855

SD03  
 SCALE  
 H: 1"=50'  
 V: 1"=5'  
 SHEET  
 46 OF 156



THE SAND DRAIN SHALL NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA IS STABILIZED.

IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF THE SAND DRAIN AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF SAND DRAIN IS EXCAVATED USING A LOADER, THE CONTRACTOR SHALL USE WIDE TRACK OR MARSH TRACK EQUIPMENT, OR LIGHT EQUIPMENT WITH TURF TYPE TIRES.

BACKFILL FOR THE SAND DRAIN SHALL BE PLACED IN LIFTS OF 12-18 INCHES. NO HEAVY EQUIPMENT IS ALLOWED IN THE BASIN AREA. GRADE WITH LIGHT EQUIPMENT SUCH AS A COMPACT LOADER OR A DOZER/LOADER WITH MARSH TRACKS.

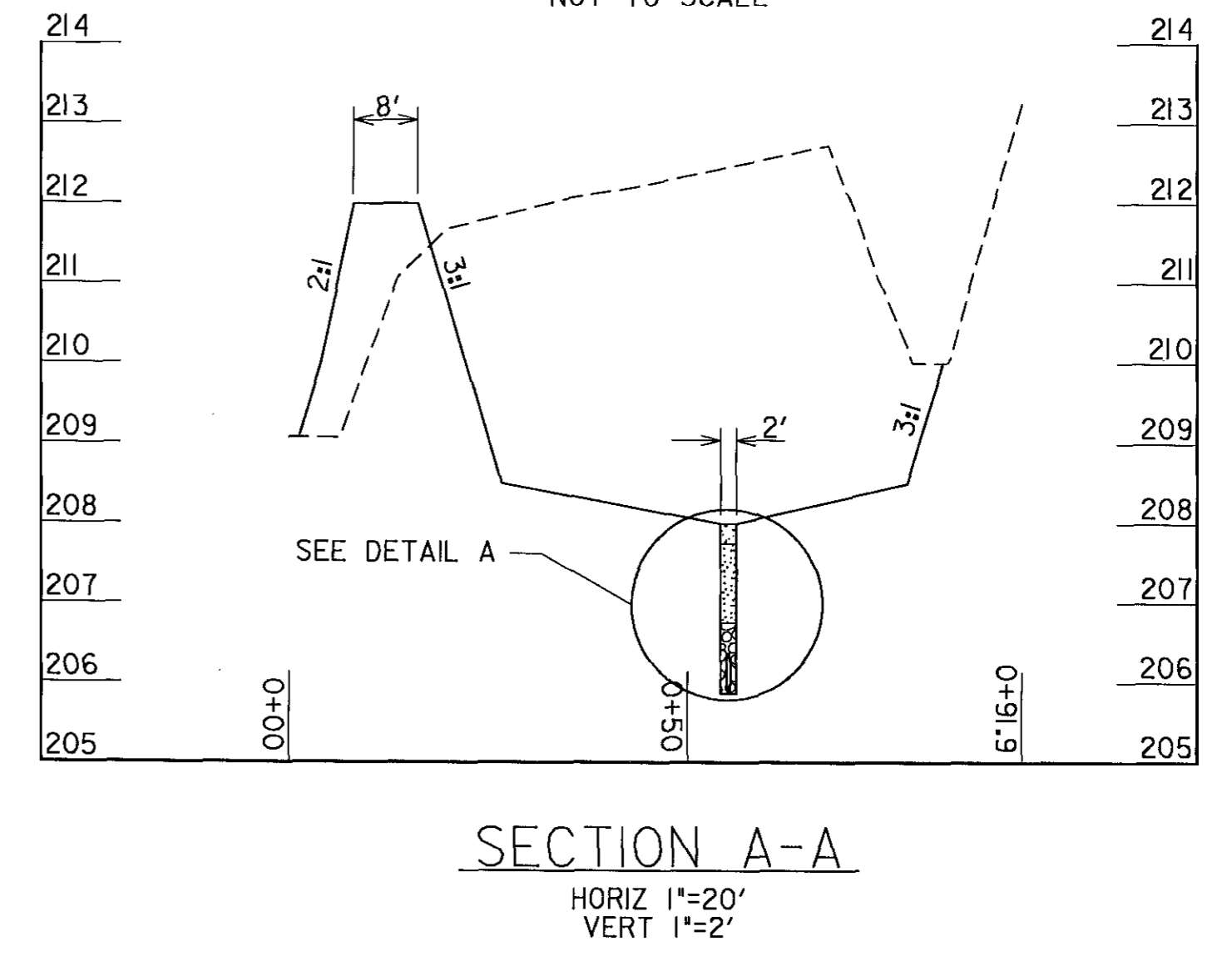
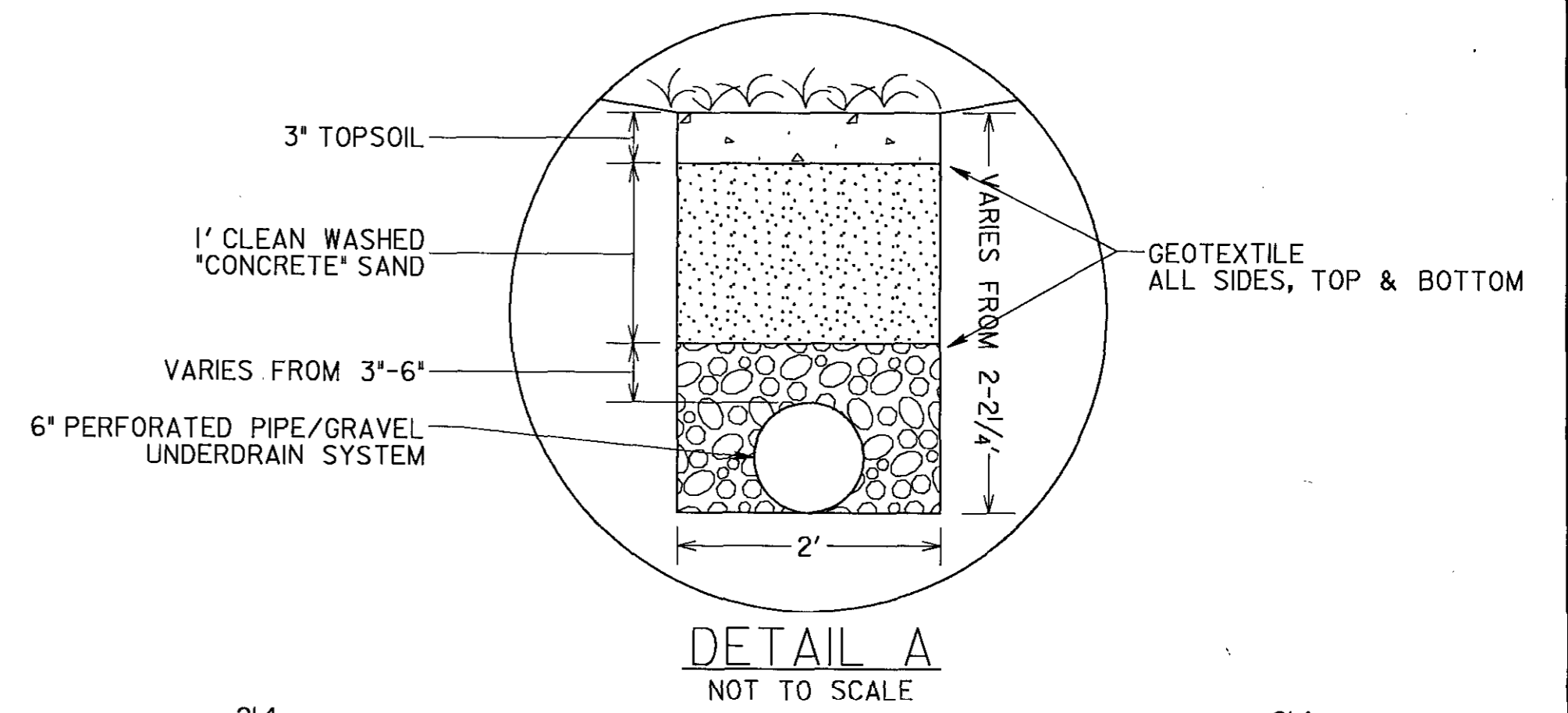
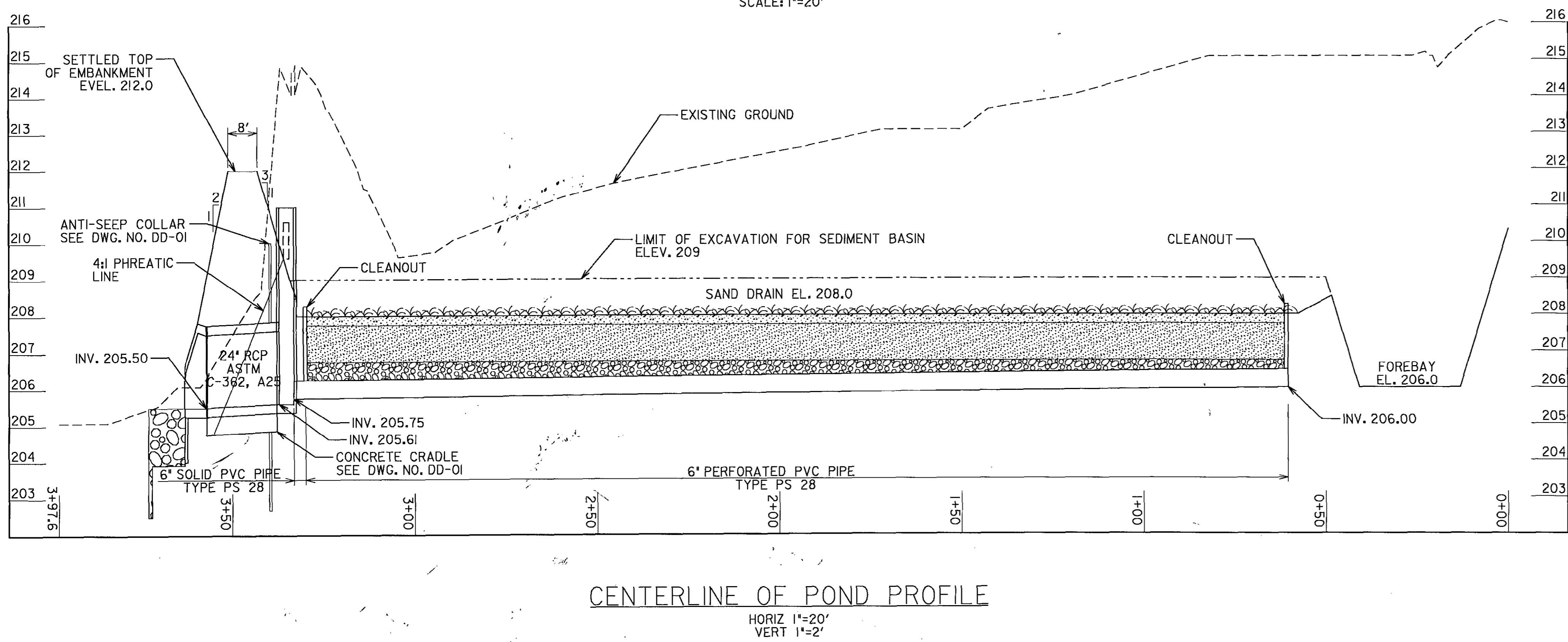
OBSERVATION WELLS OF 6 INCH SOLID PVC PIPE SHALL BE PLACED AT THE END OF THE UNDERDRAIN RUNS. UNDERDRAIN SHALL BE BACKFILLED WITH NO. 57 STONE.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

U.S. Natural Resources Conservation Service \_\_\_\_\_ Date \_\_\_\_\_

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Howard Soil Conservation District \_\_\_\_\_ Date \_\_\_\_\_



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 8/7/06  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 8/7/06  
CHIEF, BUREAU OF HIGHWAYS DATE

*[Signature]* 8/7/06  
CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

GANNETT FLEMING, INC.

*[Logo]*

BALTIMORE, MARYLAND

DES: LGT					
DRN: ETK					
CHK: SHH					
DATE: 8-06	BY	NO.			DATE

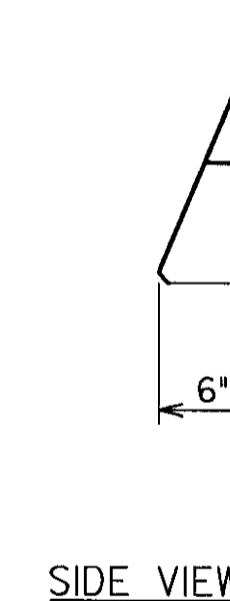
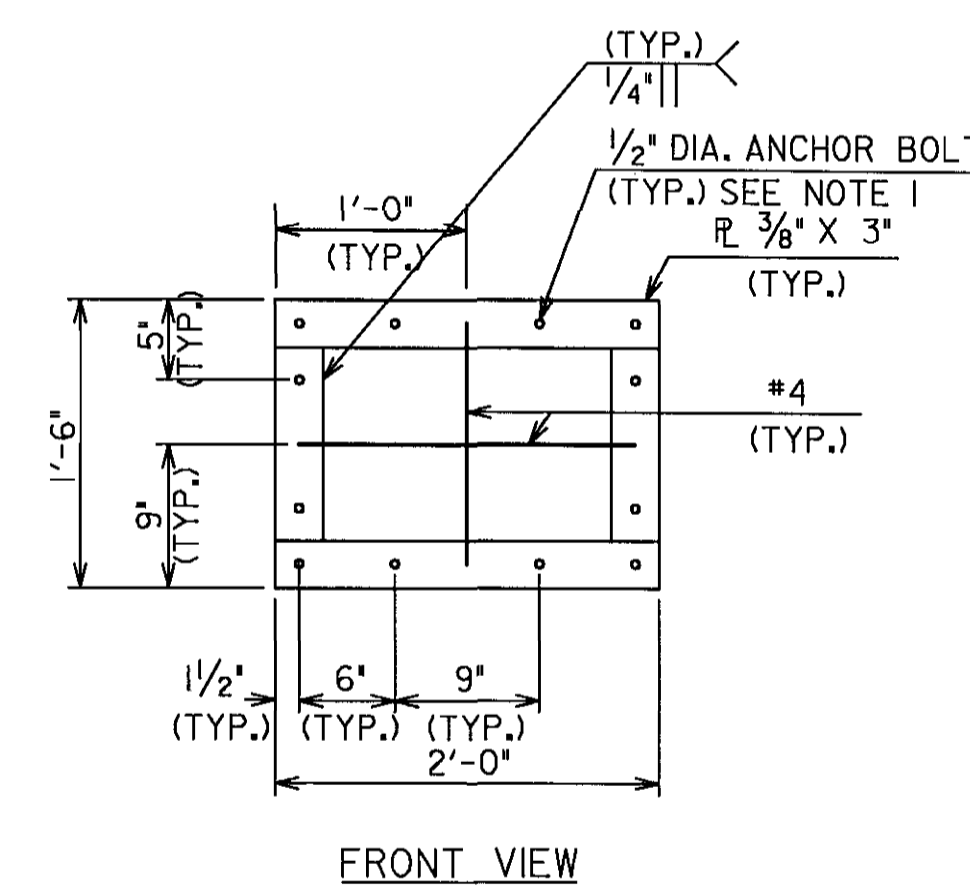
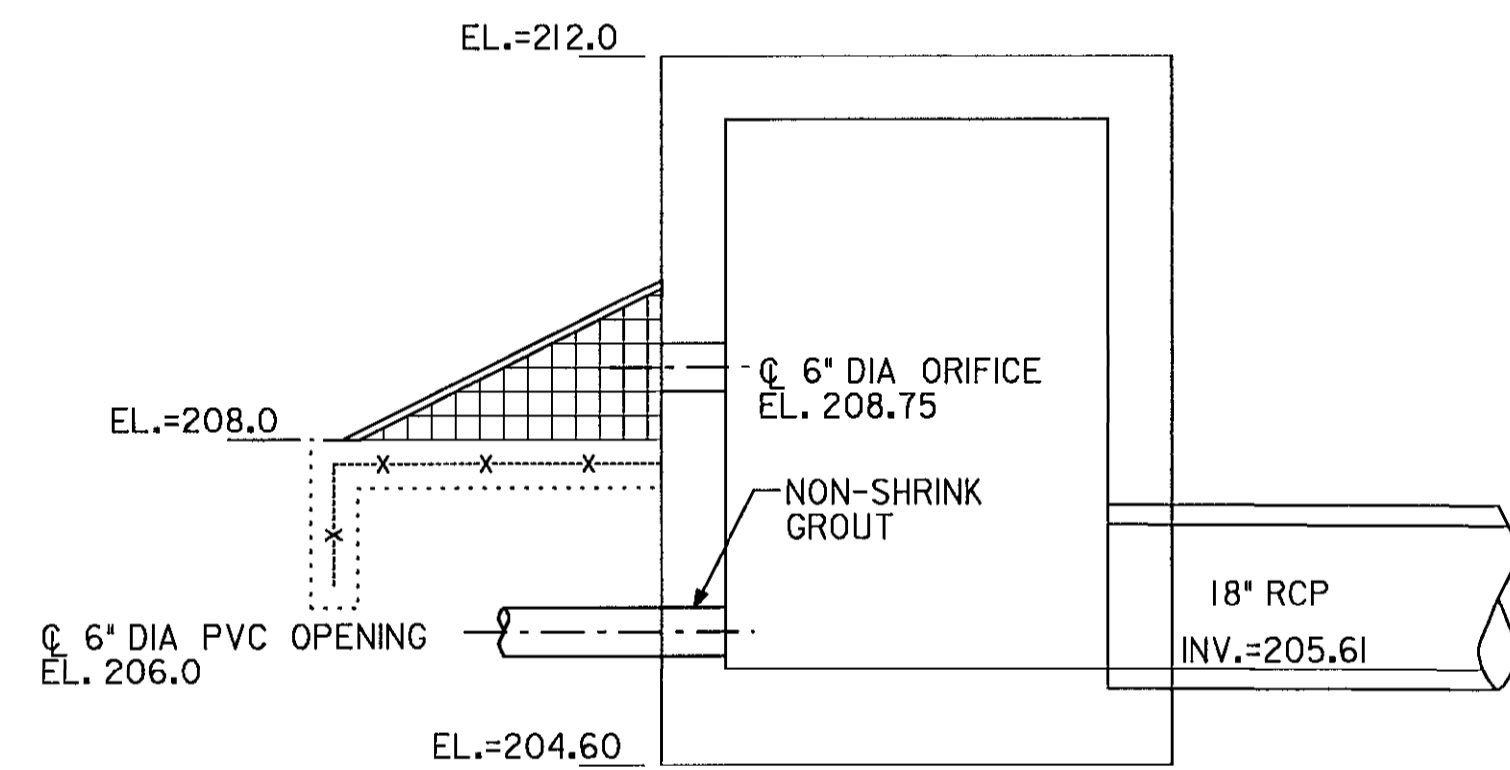
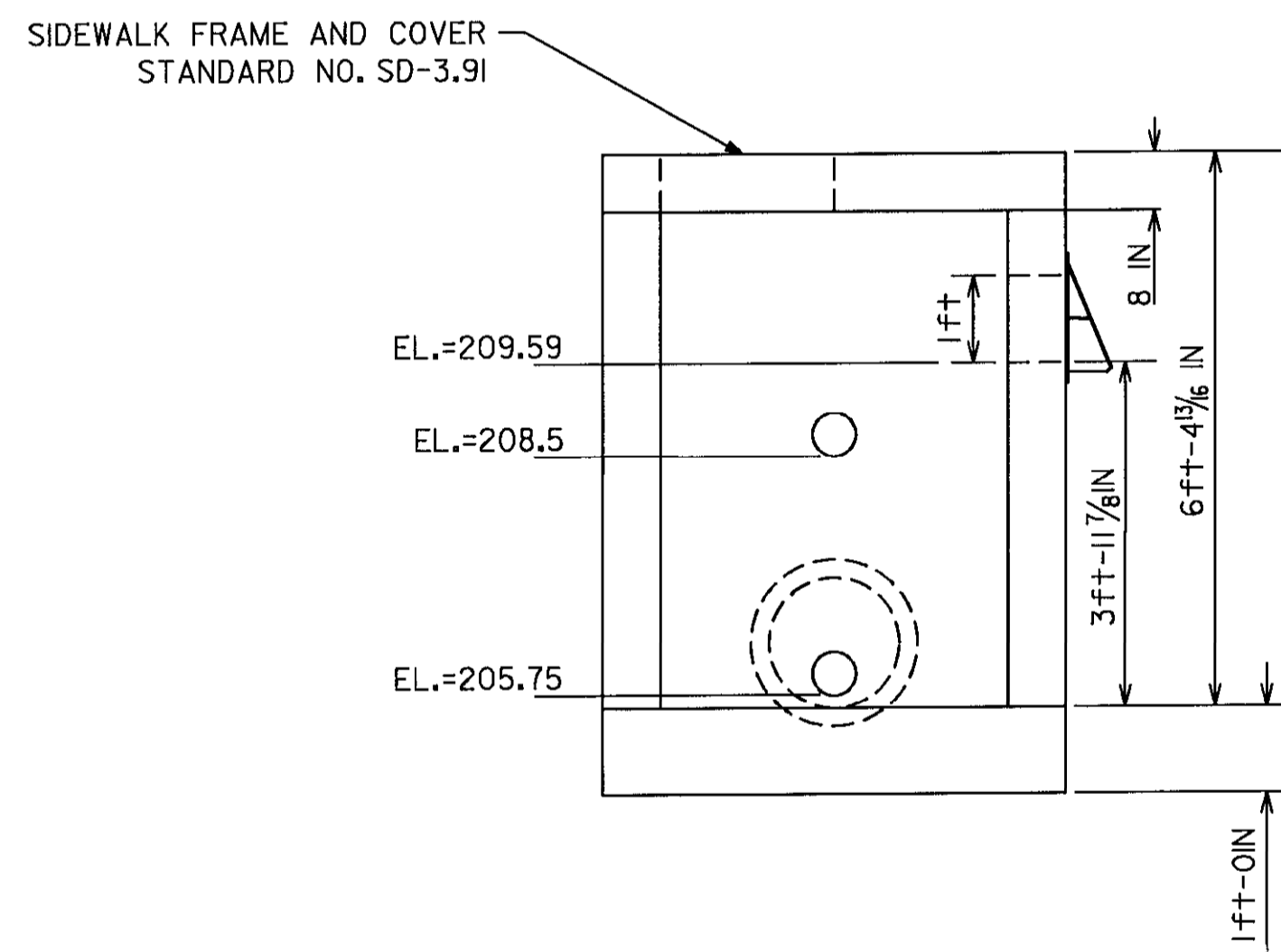
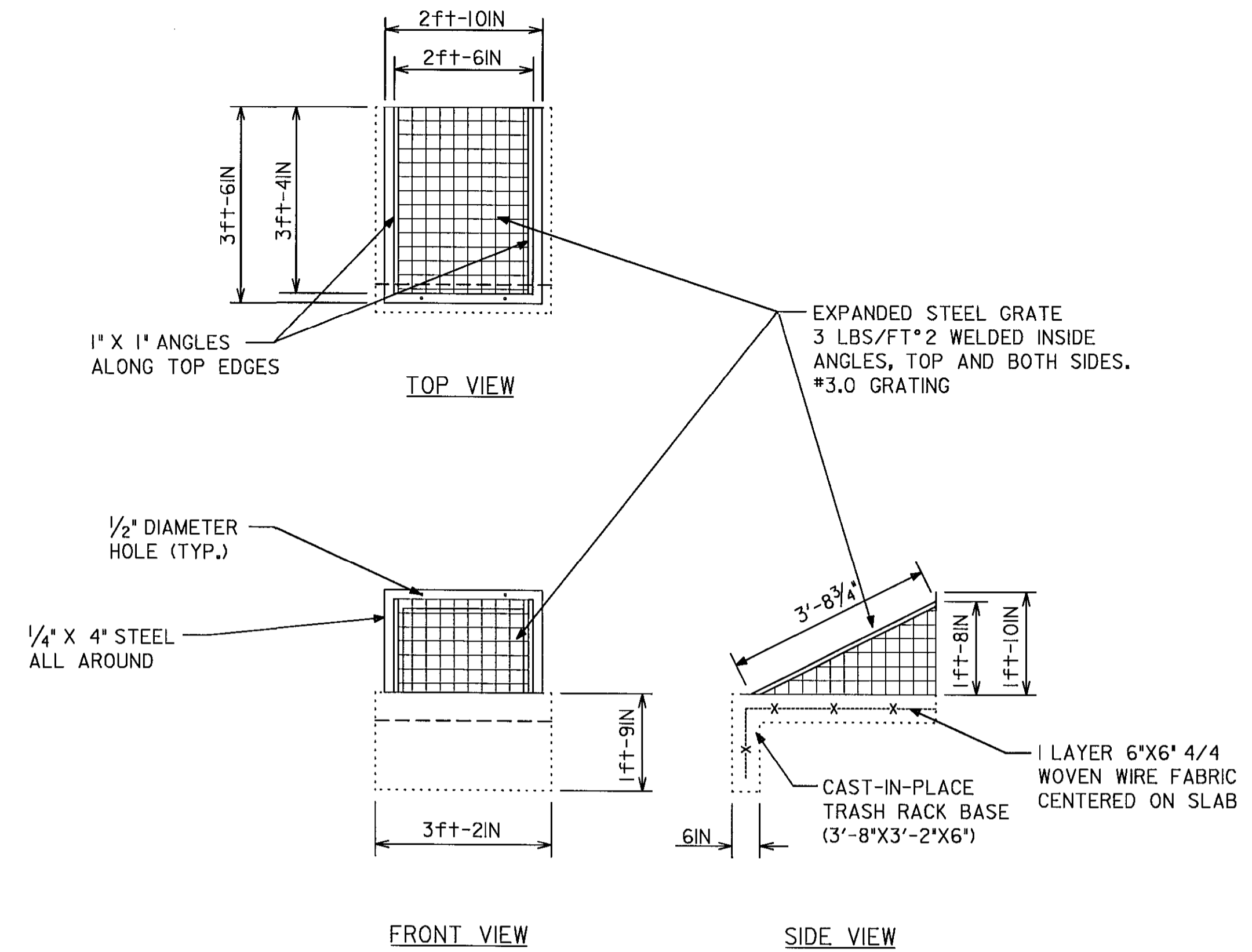
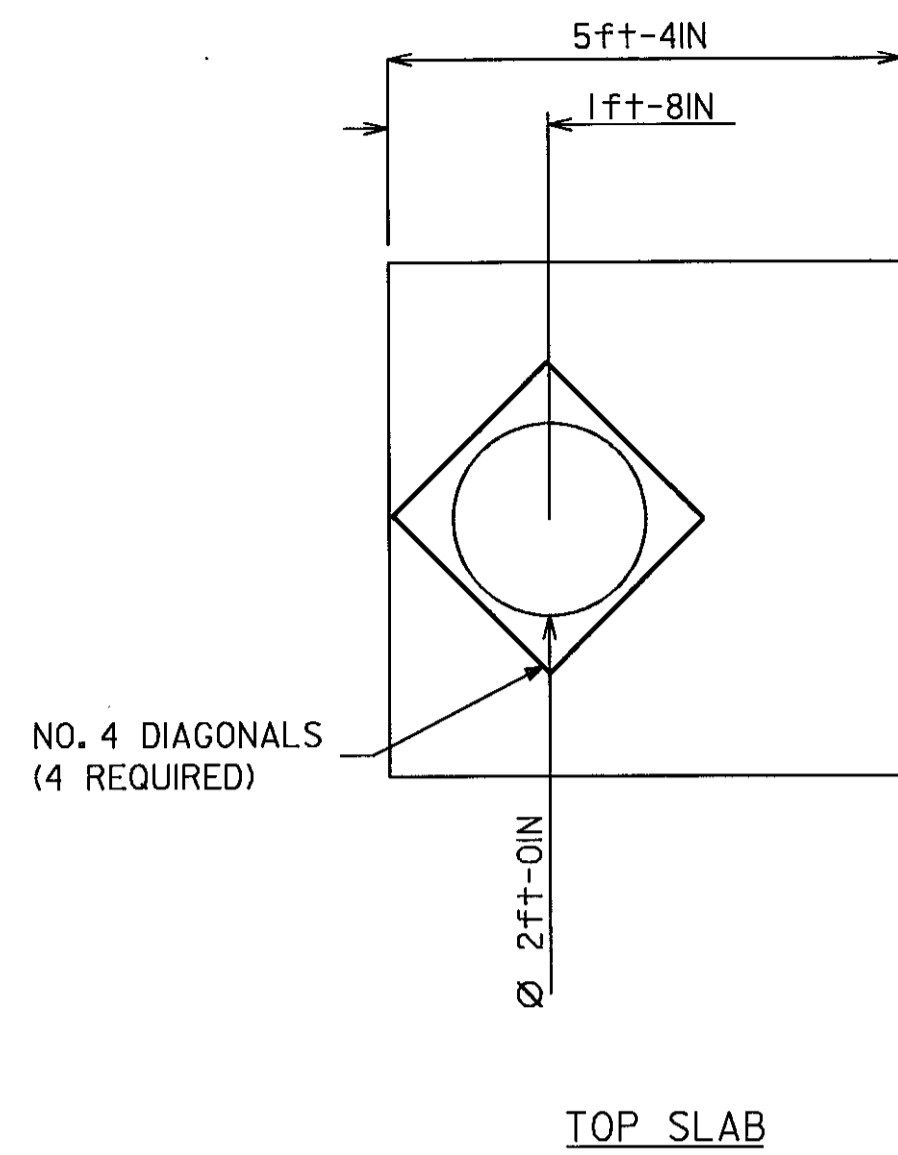
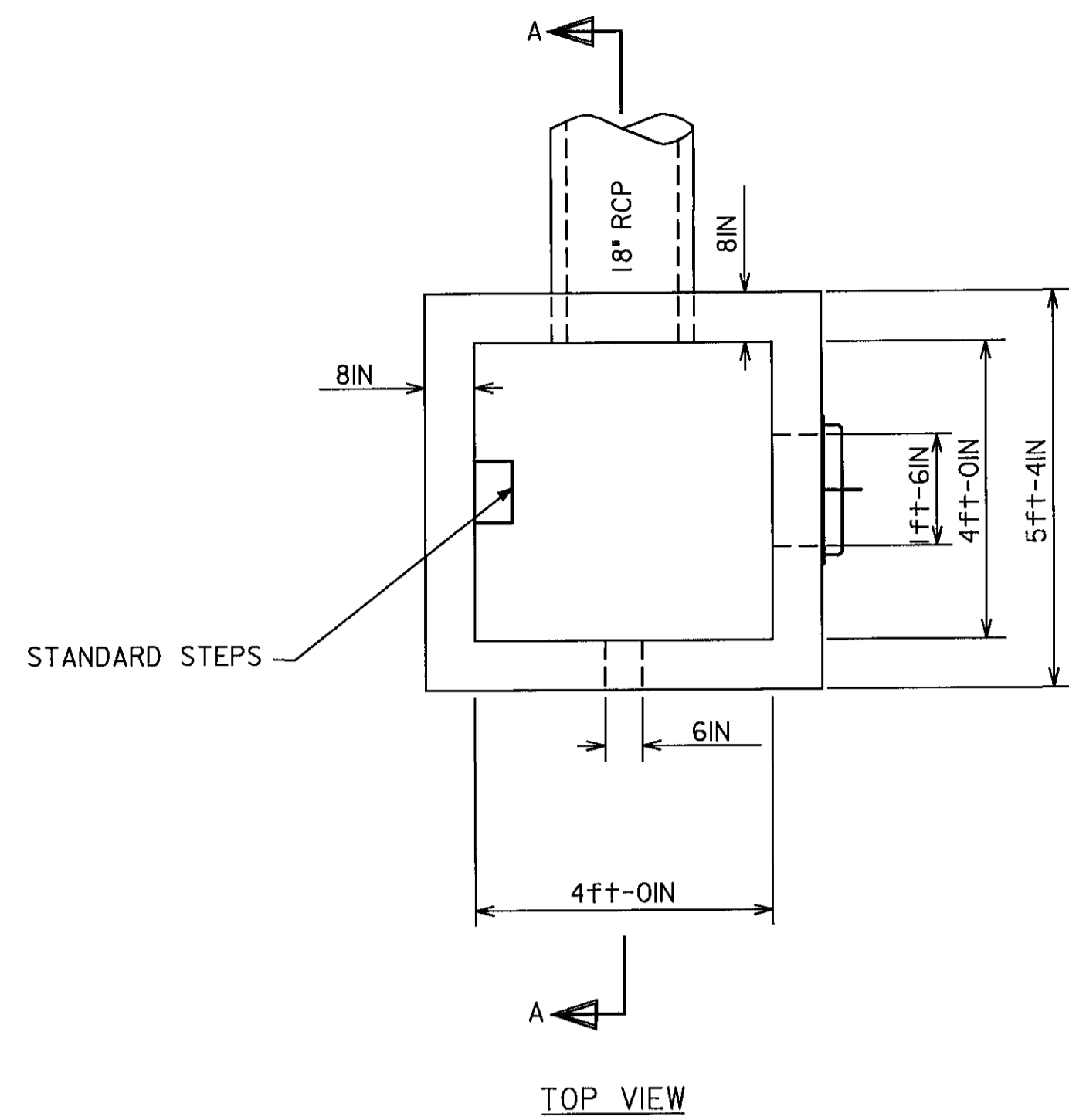
GUILFORD ROAD IMPROVEMENTS  
STORMWATER MANAGEMENT  
PLAN AND PROFILE SHEET

CAPITAL PROJECT No. J-4175 AND B-3855

SWMI

SCALE AS SHOWN

SHEET 47 OF 136



TRASH RACK NOTES:

1. TRASH RACK ANCHOR BOLTS SHALL BE 1/2" DIA. WITH SELF-LOCKING HEX NUTS AND WASHERS. PROVIDE MIN. 3" EMBEDMENT OF ANCHOR BOLTS INTO RISER WALLS.
2. ALL TRASH RACK COMPONENTS AND CONNECTIONS SHALL BE GALVANIZED AFTER WELDING PER ASTM A123.
3. INSIDE OF TRASH RACK ANCHOR PLATES SHALL BE ALIGNED WITH LIMITS OF WEIR.

- NOTES:
1. REINFORCEMENT TO BE GALVANIZED NO. 4 BARS @ 6" C/C 2 WAYS, 2" COVER IF CAST-IN-PLACE OR 2 LAYERS OF 4 X 4-W4.0 X W4.0 WELDED WIRE FABRIC IF PRECAST.
  2. CONCRETE PRECAST - MIX NO. 3 CAST-IN-PLACE - MIX NO. 6

OUTLET STRUCTURE DETAILS  
SCALE: 1/2"=1'-0"

TRASH RACK  
SCALE: 1"=1'-0"

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

U.S. Natural Resources Conservation Service Date

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Howard Soil Conservation District Date

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

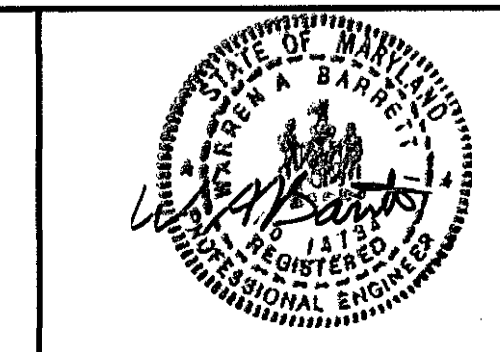
*John P. Clark* 8/7/06  
DIRECTOR OF PUBLIC WORKS DATE

*Richard J. ...* 8/7/06  
CHIEF, BUREAU OF ENGINEERING DATE

*W. ...* 8-8-06  
CHIEF, BUREAU OF HIGHWAYS DATE

*...* 8/7/06  
CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

GANNETT FLEMING, INC.  
BALTIMORE, MARYLAND



DES: LGT					
DRN: ETK					
CHK: SH					
DATE: 8-06	BY	NO.		DATE	

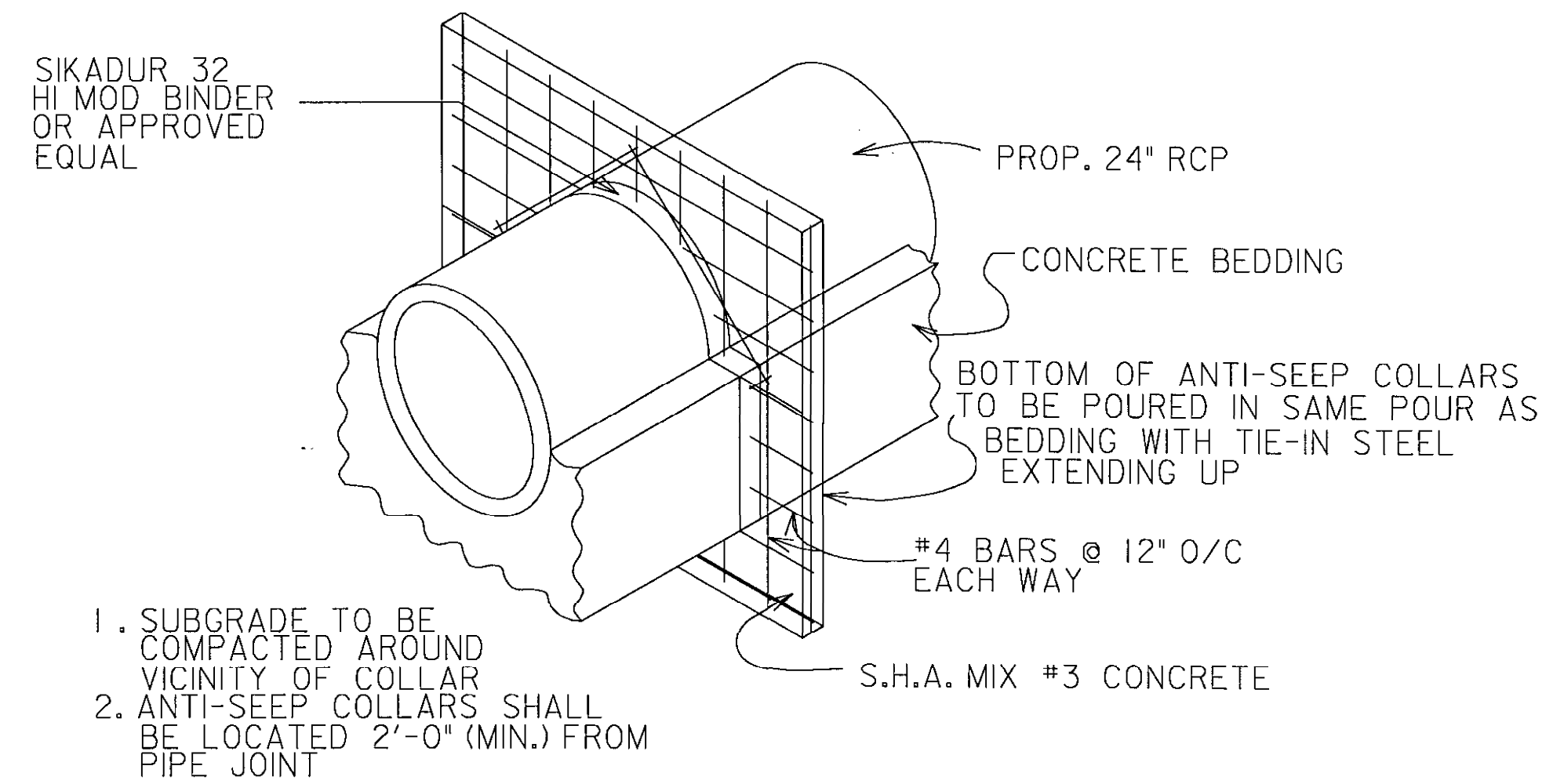
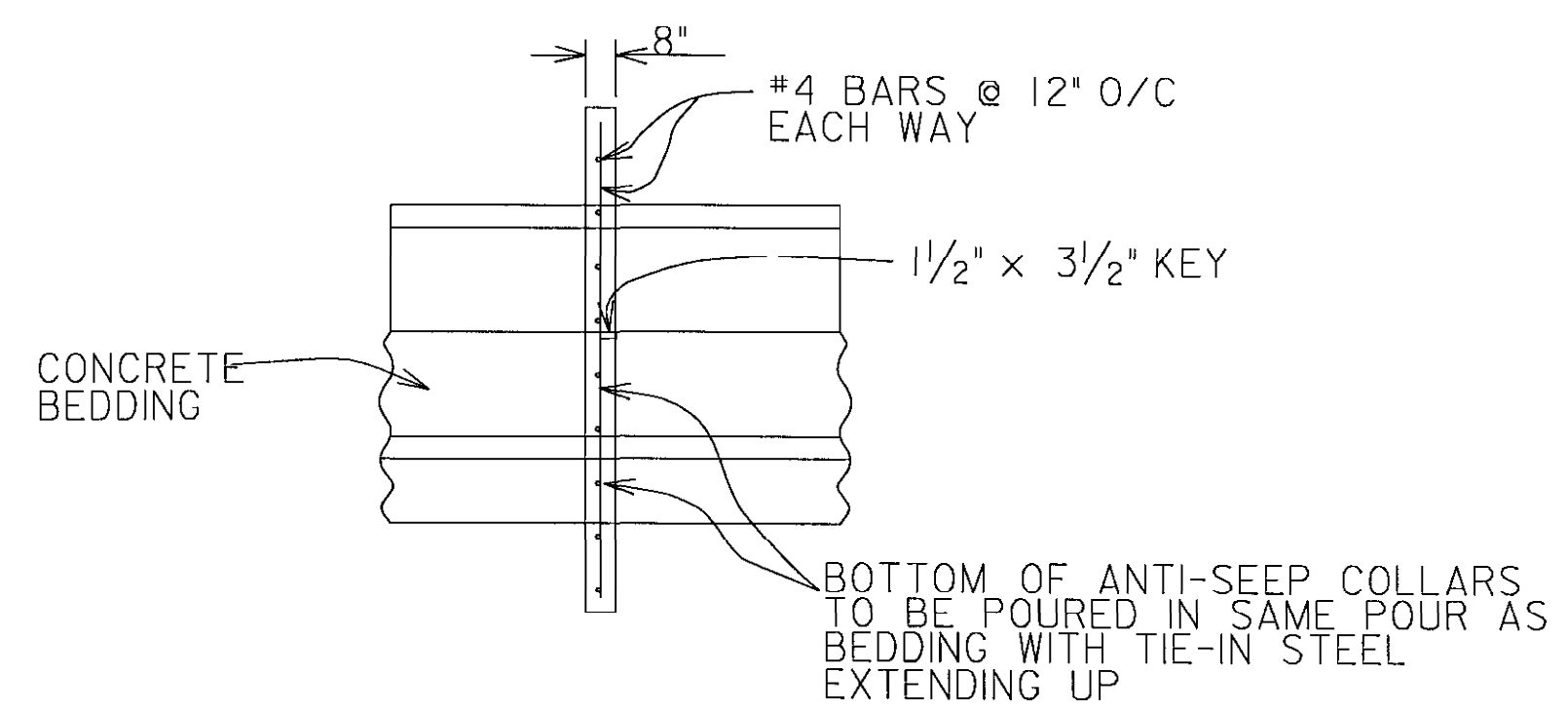
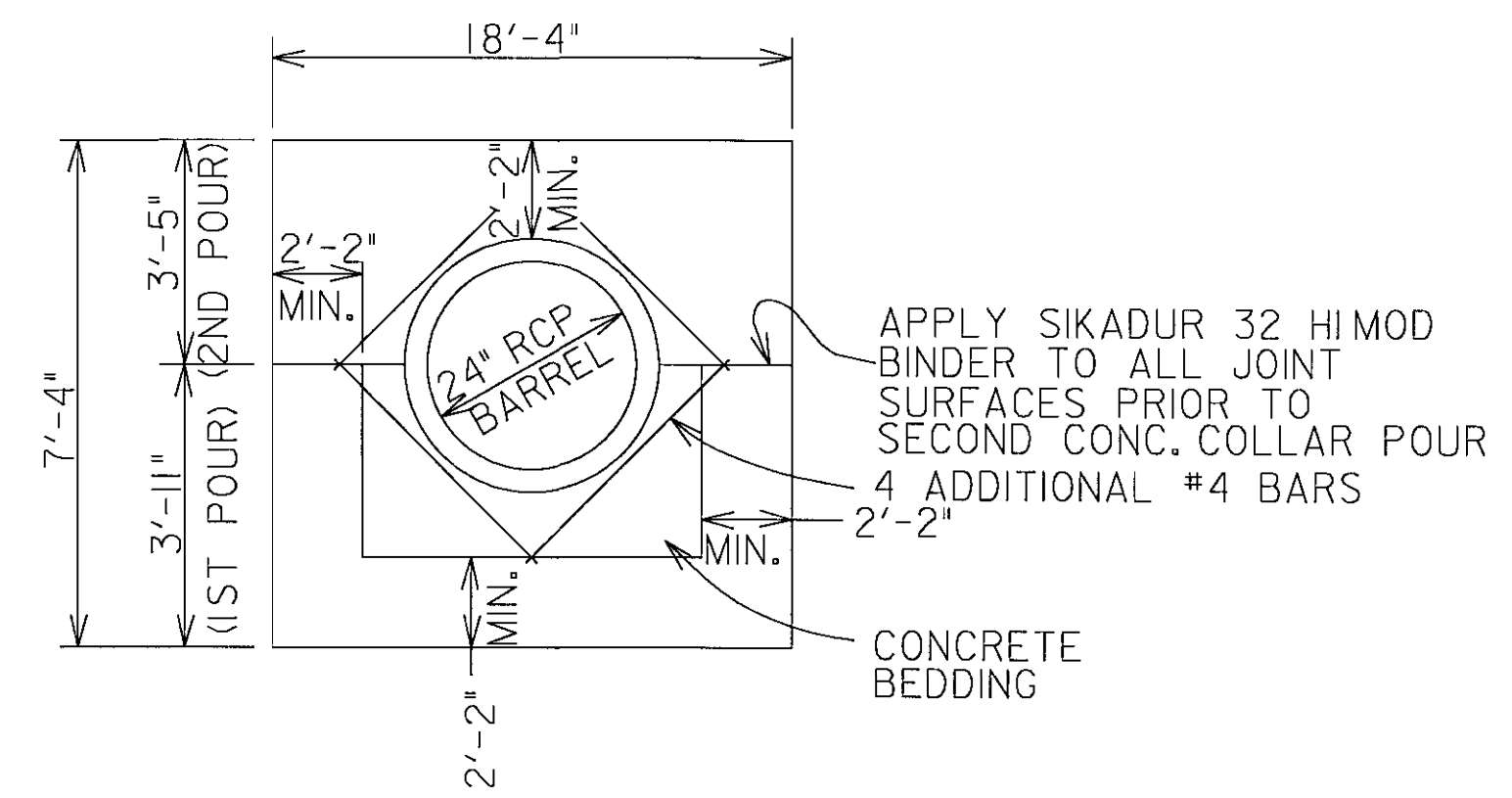
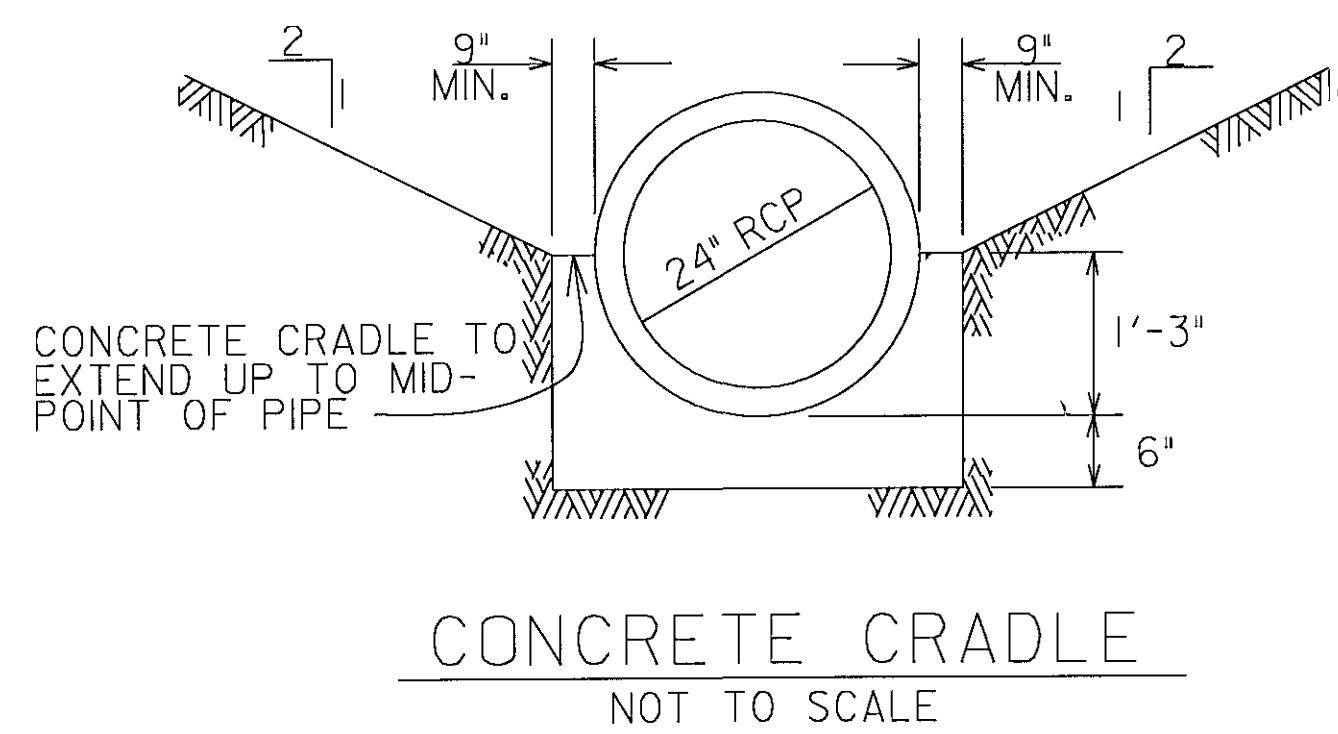
GUILFORD ROAD IMPROVEMENTS  
STORMWATER MANAGEMENT DETAILS

CAPITAL PROJECT No. J-4175 AND B-3855

SCALE AS SHOWN

SHEET 48 OF 156





1. SUBGRADE TO BE COMPACTED AROUND VICINITY OF COLLAR
2. ANTI-SEEP COLLARS SHALL BE LOCATED 2'-0" (MIN.) FROM PIPE JOINT

ANTI-SEEP COLLAR DETAIL  
NOT TO SCALE

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

U.S. Natural Resources Conservation Service Date

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Howard Soil Conservation District Date

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*John H. ...* 8/7/06  
DIRECTOR OF PUBLIC WORKS DATE

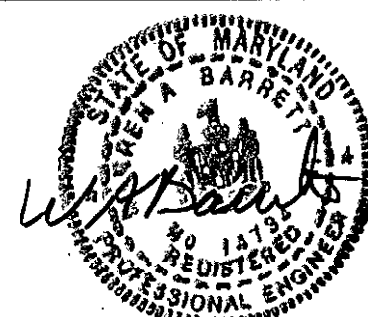
*William J. ...* 8/7/06  
CHIEF, BUREAU OF ENGINEERING DATE

*John ...* 8/7/06  
CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

GANNETT  
FLEMING, INC.



BALTIMORE,  
MARYLAND



DES: LGT

DRN: ETK

CHK: SIH

DATE: 8-06

BY ND.

DATE

GUILFORD ROAD IMPROVEMENTS

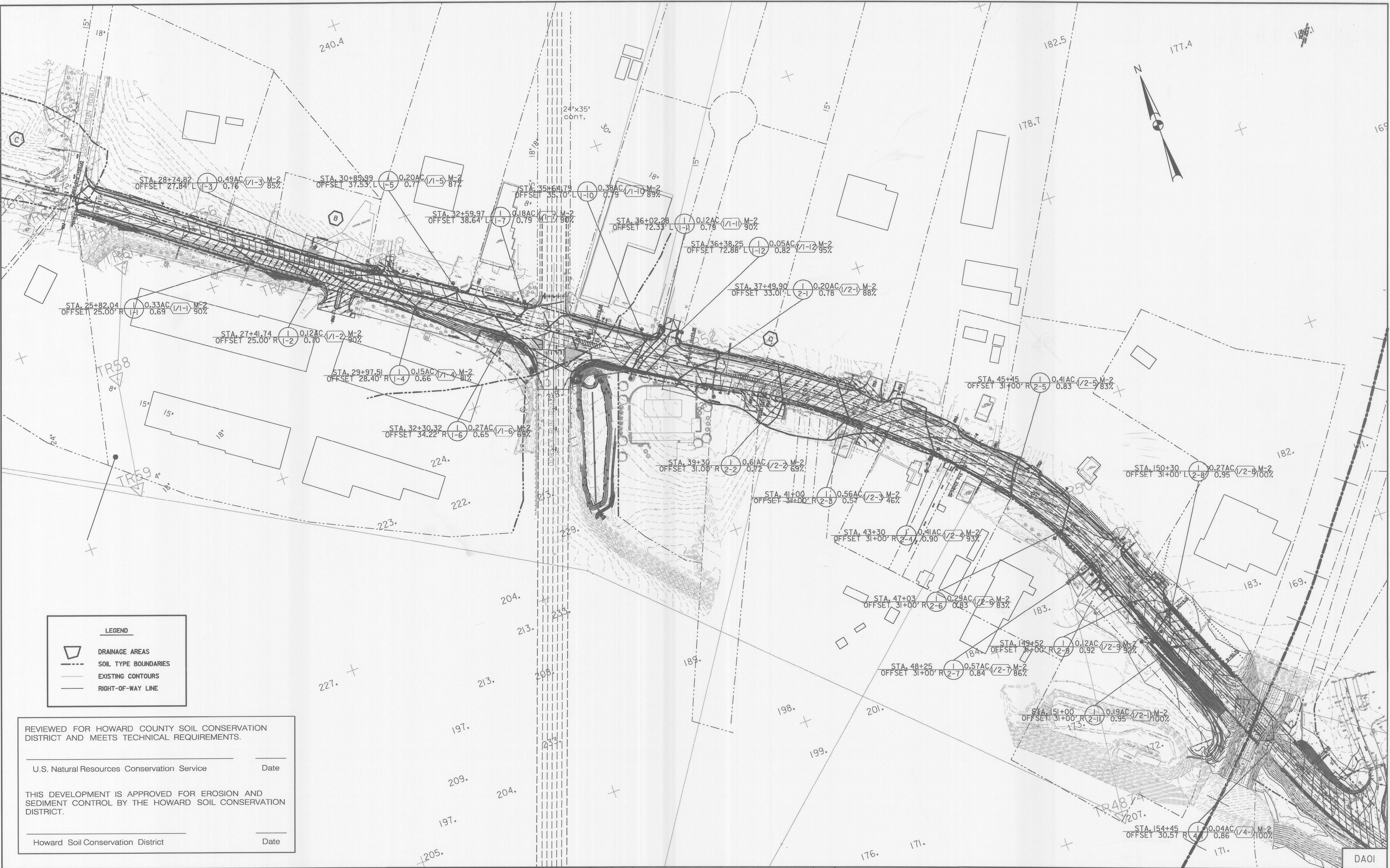
DRAINAGE DETAILS

CAPITAL PROJECT No. J-4175 AND B-3855

DDOI

SCALE  
AS SHOWN

SHEET  
49 OF 156



**LEGEND**

- DRAINAGE AREAS
- SOIL TYPE BOUNDARIES
- EXISTING CONTOURS
- RIGHT-OF-WAY LINE

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

\_\_\_\_\_  
U.S. Natural Resources Conservation Service      Date

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

\_\_\_\_\_  
Howard Soil Conservation District      Date

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*John A. ...* 8/7/06      *Paul ...* 8/7/06  
DIRECTOR OF PUBLIC WORKS      DATE      CHIEF, BUREAU OF ENGINEERING      DATE

*William ...* 8-8-06      *John ...* 8/7/06  
CHIEF, BUREAU OF HIGHWAYS      DATE      CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION      DATE

**GANNETT FLEMING, INC.**

BALTIMORE, MARYLAND

REGISTERED PROFESSIONAL ENGINEER

DES: LGT					
DRN: ETK					
CHK: SIH					
DATE: 8-06	BY	NO.		DATE	

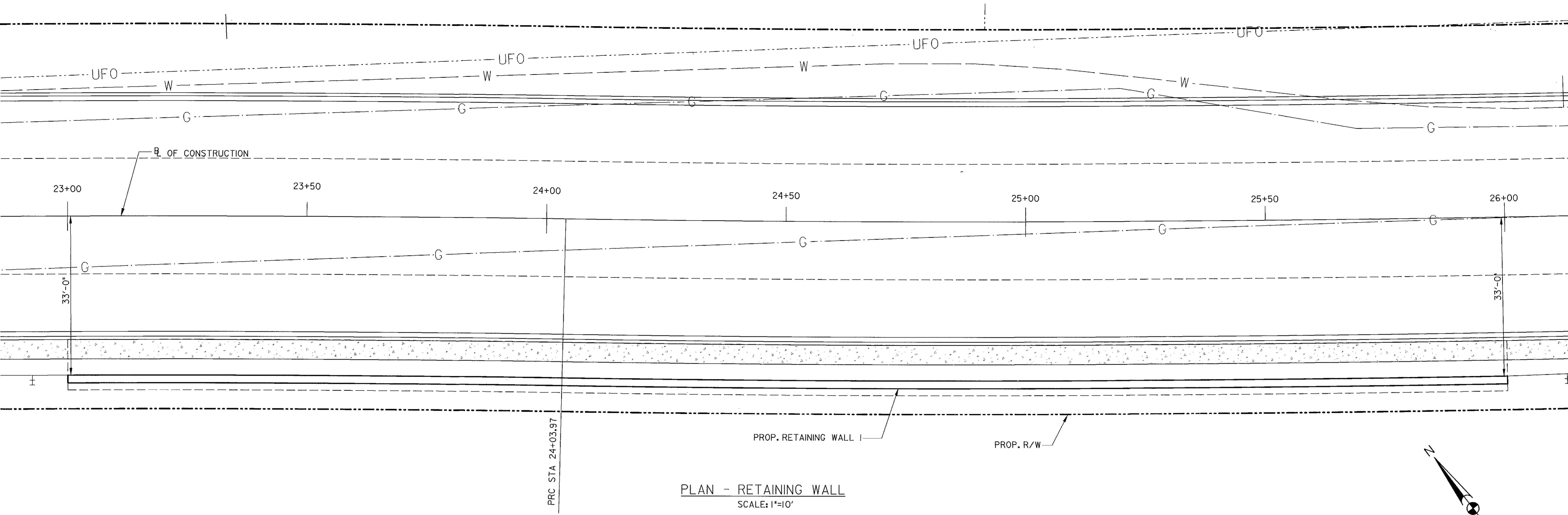
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GUILFORD ROAD IMPROVEMENTS  
DRAINAGE AREA MAP

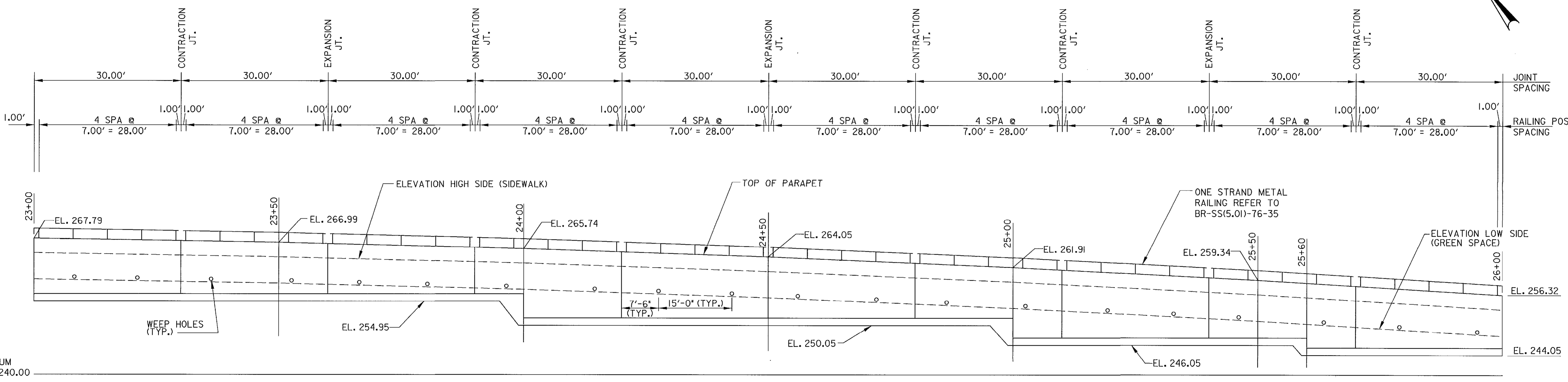
CAPITAL PROJECT No. J-4175 AND B-3855

SCALE  
1"=100'

SHEET  
50 OF 156



PLAN - RETAINING WALL  
SCALE: 1"=10'



ELEVATION  
SCALE: 1"=10'

NOTE: 1. FOR DETAILS OF STEPPED FOOTING REFER TO RW(6.09)-83-155  
2. FOR TYPICAL SECTION SEE SHEET 53.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
*Jan. 7/16* 8/16  
 DIRECTOR OF PUBLIC WORKS DATE  
*William J. Muller* 8-8-06  
 CHIEF, BUREAU OF HIGHWAYS DATE  
*Paul J. Seaton* 8/7/06  
 CHIEF, BUREAU OF ENGINEERING DATE  
*Jim Stewart* 8/7/06  
 CHIEF, DIVISION OF TRANSPORTATION, DATE  
 SPECIAL PROJECTS DIVISION

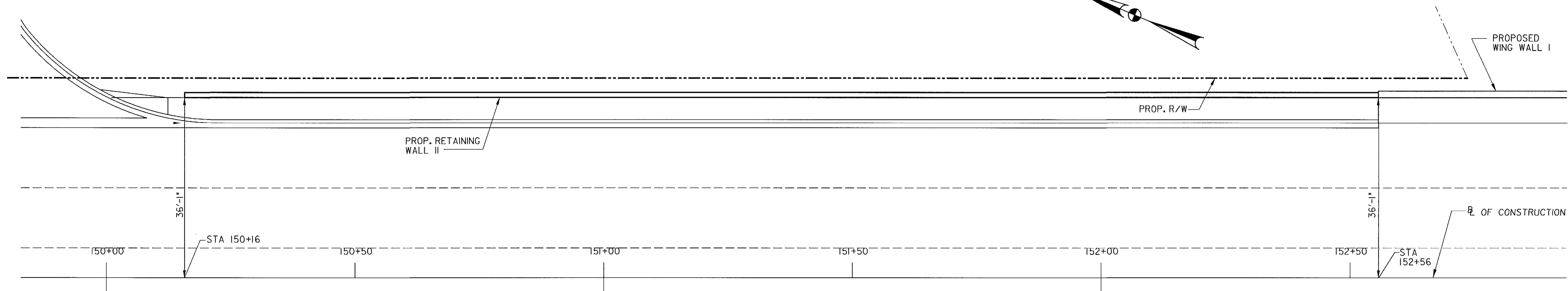
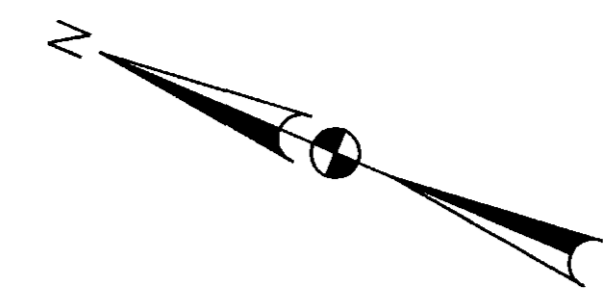
**GANNETT FLEMING, INC.**  
  
 BALTIMORE, MARYLAND



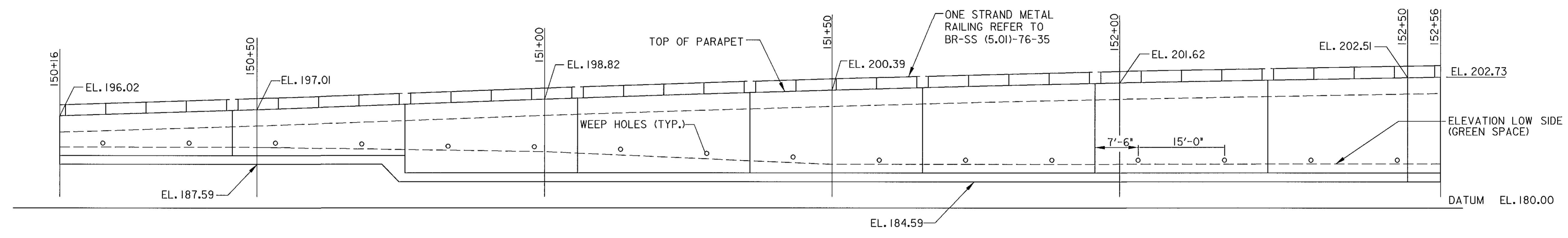
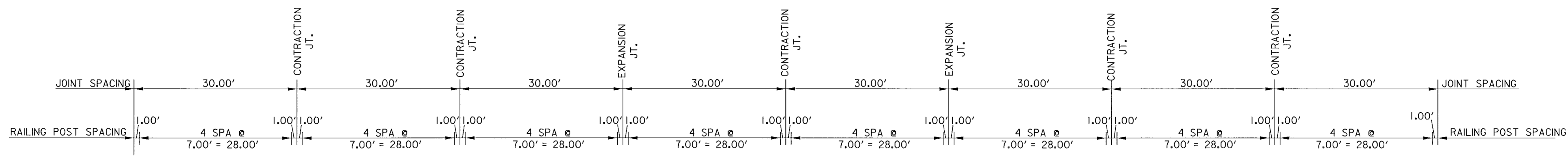
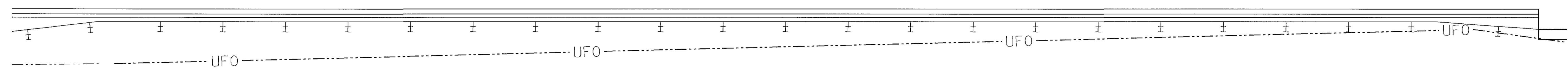
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DRN:	GMJ			
CHK:	SBW			
DATE:	8-06			
BY:				
NO.:				
DATE:				

GUILFORD ROAD IMPROVEMENTS  
 RETAINING WALL I  
 PLAN AND ELEVATION  
 CAPITAL PROJECT No. J-4175 AND B-3855

MSE-1  
 SCALE  
 1" = 10'  
 SHEET  
 51 OF 156



PLAN - RETAINING WALL  
SCALE: 1"=10'



ELEVATION  
SCALE: 1"=10'

- NOTE:
1. FOR DETAILS OF STEPPED FOOTING REFER TO RW(6.09)-83-155
  2. FOR TYPICAL SECTION SEE SHEET 53.
  3. FOR CONTINUATION OF WINGWALL I, SEE SHEET SI-1.

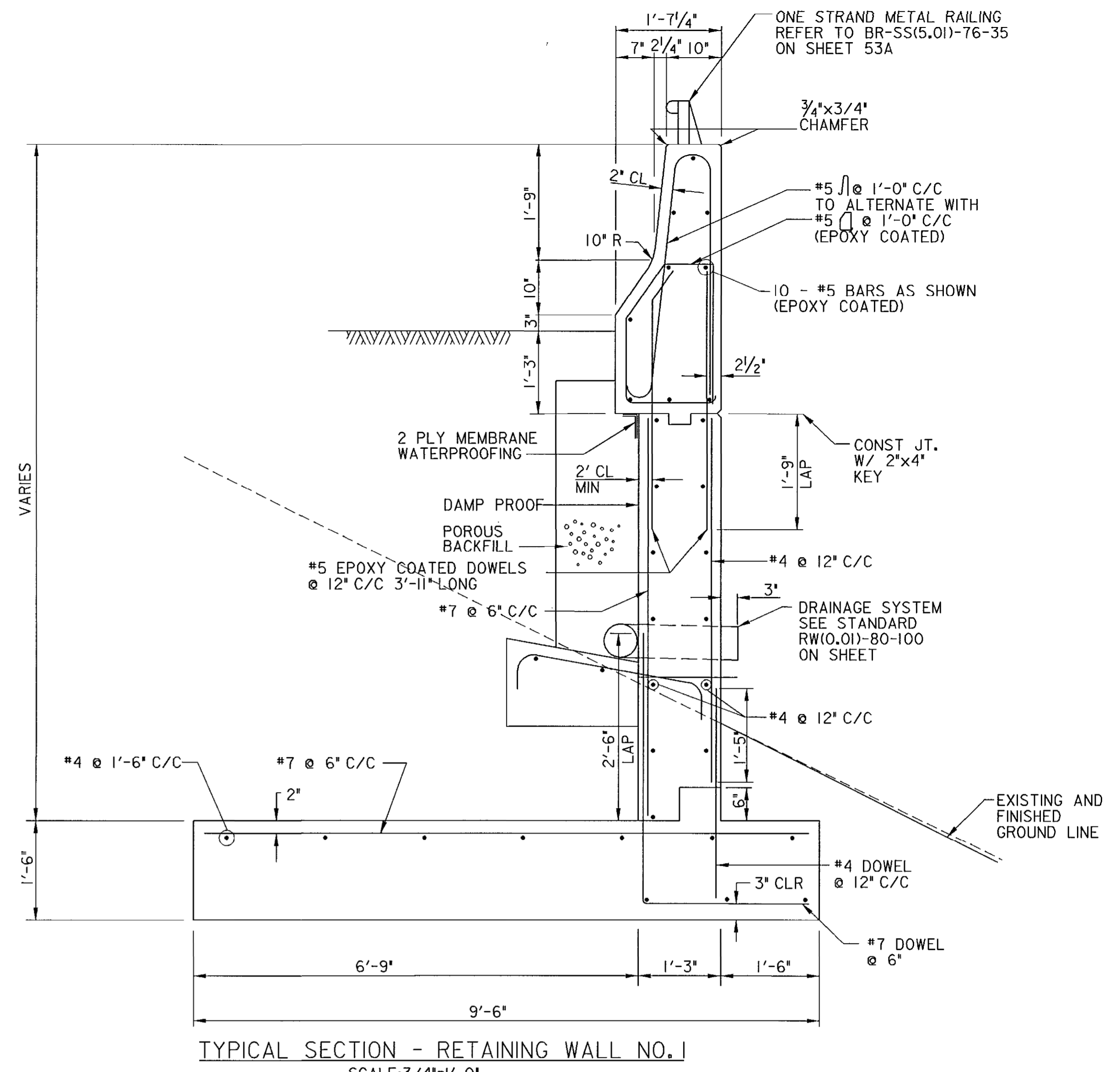
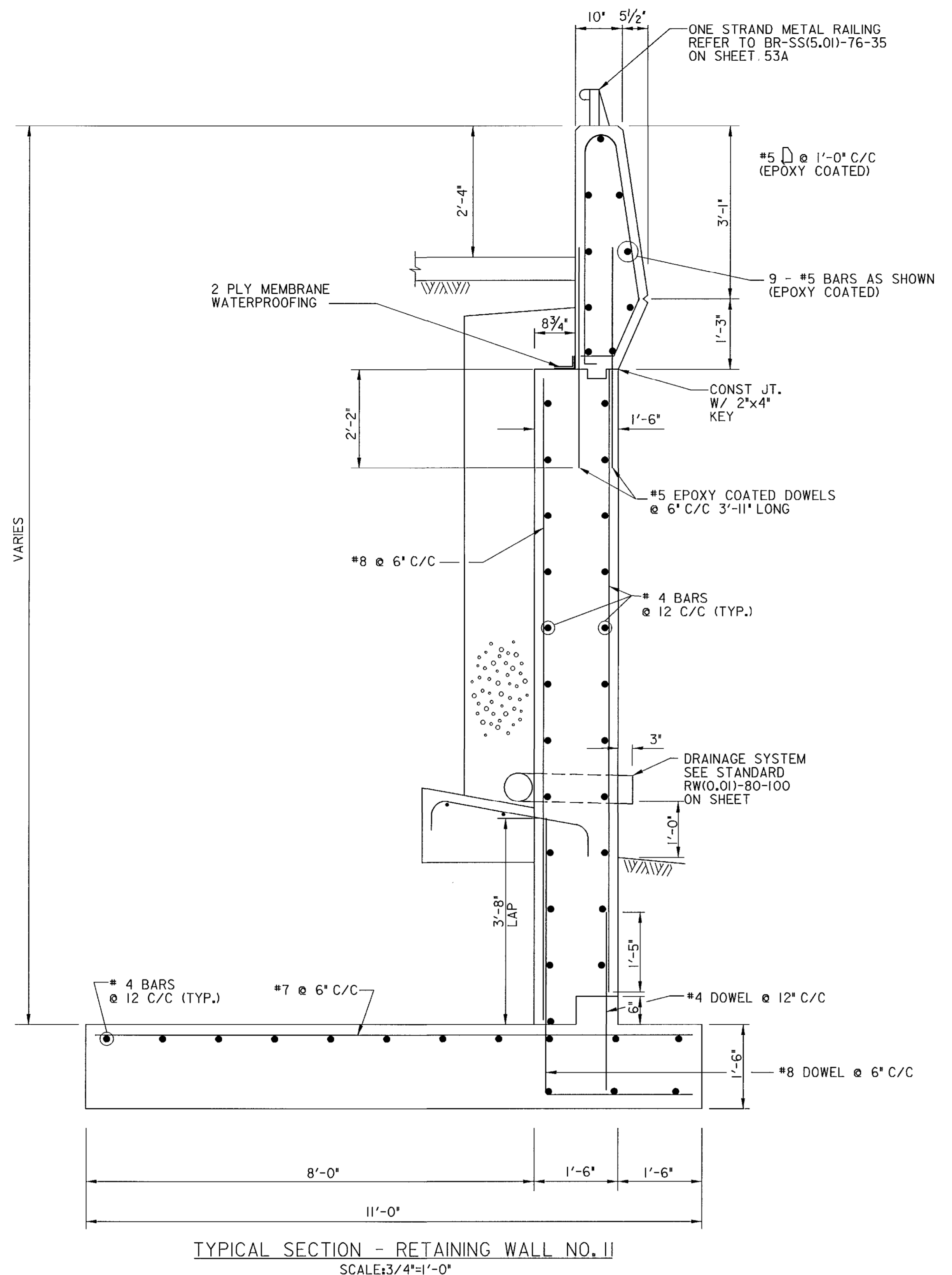
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LINESTYLE LIBRARY=MSHALS  
\$DATE\$  
\$FILE\$

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND		 <b>GANNETT FLEMING, INC.</b> BALTIMORE, MARYLAND	 REGISTERED PROFESSIONAL ENGINEER
Director of Public Works <i>William J. Marshall</i> DATE: 8-8-06	Chief, Bureau of Engineering <i>Charles E. Johnson</i> DATE: 8/7/06		

DES: WR			
DRN: WR			
CHK: CAM			
DATE: 12/5/02	BY	NO.	DATE

GUILFORD ROAD IMPROVEMENTS RETAINING WALL II PLAN AND ELEVATION	
CAPITAL PROJECT No. J-4175 AND B-3855	

MSE-2
SCALE 1" = 10'
SHEET 52 OF 156



- GENERAL NOTES:
1. MAX. ALLOWABLE BEARING PRESSURE = 3000 PSF.
  2. USE MIX NO. 3 CONCRETE EXCEPT FOR DRAINAGE BLOCK WHICH IS MIX NO. 1.
  3. FOR PLAN AND ELEVATION VIEW OF RETAINING WALL NO. I SEE SHEET 51.
  4. FOR PLAN AND ELEVATION VIEW OF RETAINING WALL NO. II SEE SHEET 52.

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LINE STYLE LIBRARY=MSHALS  
DATE=\$  
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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*John P. ...* 8/1/06  
DIRECTOR OF PUBLIC WORKS DATE

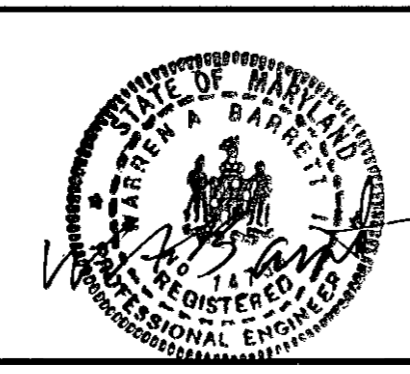
*Charles C. ...* 8/1/06  
CHIEF, BUREAU OF ENGINEERING DATE

*Jay ...* 8/1/06  
CHIEF, BUREAU OF HIGHWAYS DATE

*Jay ...* 8/1/06  
CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

**GANNETT FLEMING, INC.**

BALTIMORE, MARYLAND



DES: CAM/WR					
DRN: GMJ					
CHK: CAM					
DATE: SBW/CAM	BY	NO.			DATE

GUILFORD ROAD IMPROVEMENTS  
RETAINING WALL TYPICAL SECTION

CAPITAL PROJECT No. J-4175 AND B-3855

MSE-3

SCALE AS SHOWN

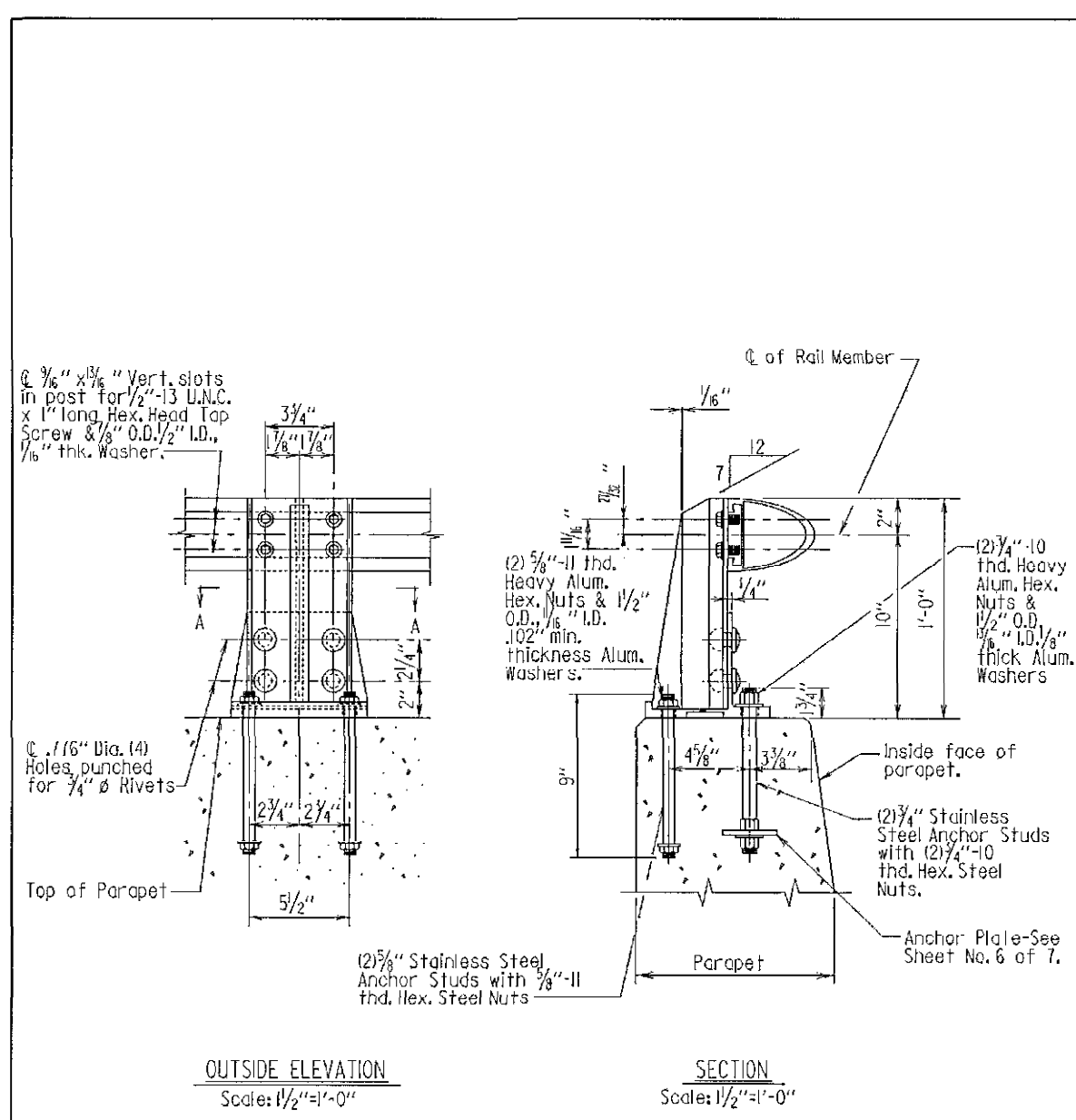
SHEET 53 OF 156

**GENERAL NOTES**

- All railings shall be fabricated and erected as indicated on the Plans.
- Posts shall be set perpendicular to top of parapet. For post spacing see Plans. Maximum 8'-0" Spacing.
- Rails shall be parallel to the grade of the roadway. Rail section shall be attached to as many posts as possible, but not less than three (except where indicated otherwise on Plans).
- The center line of any splice and/or expansion joint shall be located at least 2'-0" away from center line of a post except where indicated otherwise on Plans. Expansion and/or splice joints for each strand of two strand railing shall be placed in the same location and in the same panel.
- Material for rails, posts (including bases), splices and clamp bars shall conform to ASTM B 221, Alloy 6061 T6. Rails shall have a mill finish. Posts shall have a mill finish except that any sawed surfaces shall have a finish comparable to 250 Microinch. Rails and splices shall conform to ASTM B 221, Alloy 6061 T6 for chemical composition only.
- Material for rail end caps shall conform to ASTM B 209, Alloy 6061 T6. Material for cast rail end caps shall meet the requirements of B 100, Alloy 5074, 55A and 51A for chemical composition only.
- Material for anchor studs shall meet the requirements of A 276, Type 304 Stainless Steel, annealed, hot finished, ultimate strength to 600 psi, 20 percent minimum elongation. Threads may be rolled or cut.
- Material for heavy hex nuts shall conform to ASTM B 211, Alloy 6061 T6 or 6262 T9.
- Material for steel nuts shall conform to ASTM A 307.
- Material for aluminum washers shall be ALCLAD conforming to ASTM B 209, Alloy 5081 T6 or 7015 T6.
- Material for rivets shall conform to ASTM B 316, Alloy 6061 T6 and 6053 T6 for chemical composition only, and MIL-R-1550 in all other respects. The rivets shall be button head and cone point and shall be cold driven.
- Bolts may be used in lieu of rivets for connecting post to post base plate. Material for bolts shall be of stainless steel conforming to ASTM A 193, Identification Symbol BA. Nuts shall conform to ASTM A 194, Type 8 or 8 NA. Material for washers shall conform to ASTM A 216, Type 304. Specified torque level for bolts connecting base plate to post shall be 150 to 175 Ft-lb. Burr threads by centerpunching at top of nut. Punch marks shall be spaced at 100 degrees.
- Material for clamp bar top screws and cap screws shall be stainless steel conforming to ASTM A 193, Identification Symbol BA.
- Material for anchor plates shall be steel conforming to ASTM A 709, Grade 36.
- Material for pins shall be Alloy 6061 T6 and pins shall be press fit.
- Post bases shall sit on a single thickness of preformed fabric bearing pad conforming to 90.02.03. The pad shall contact the entire bottom surface of the base plate with not more than 1/8" protruding beyond the base plate on any side.
- Weld metal for the welded base plate shall be 5356 A-1.

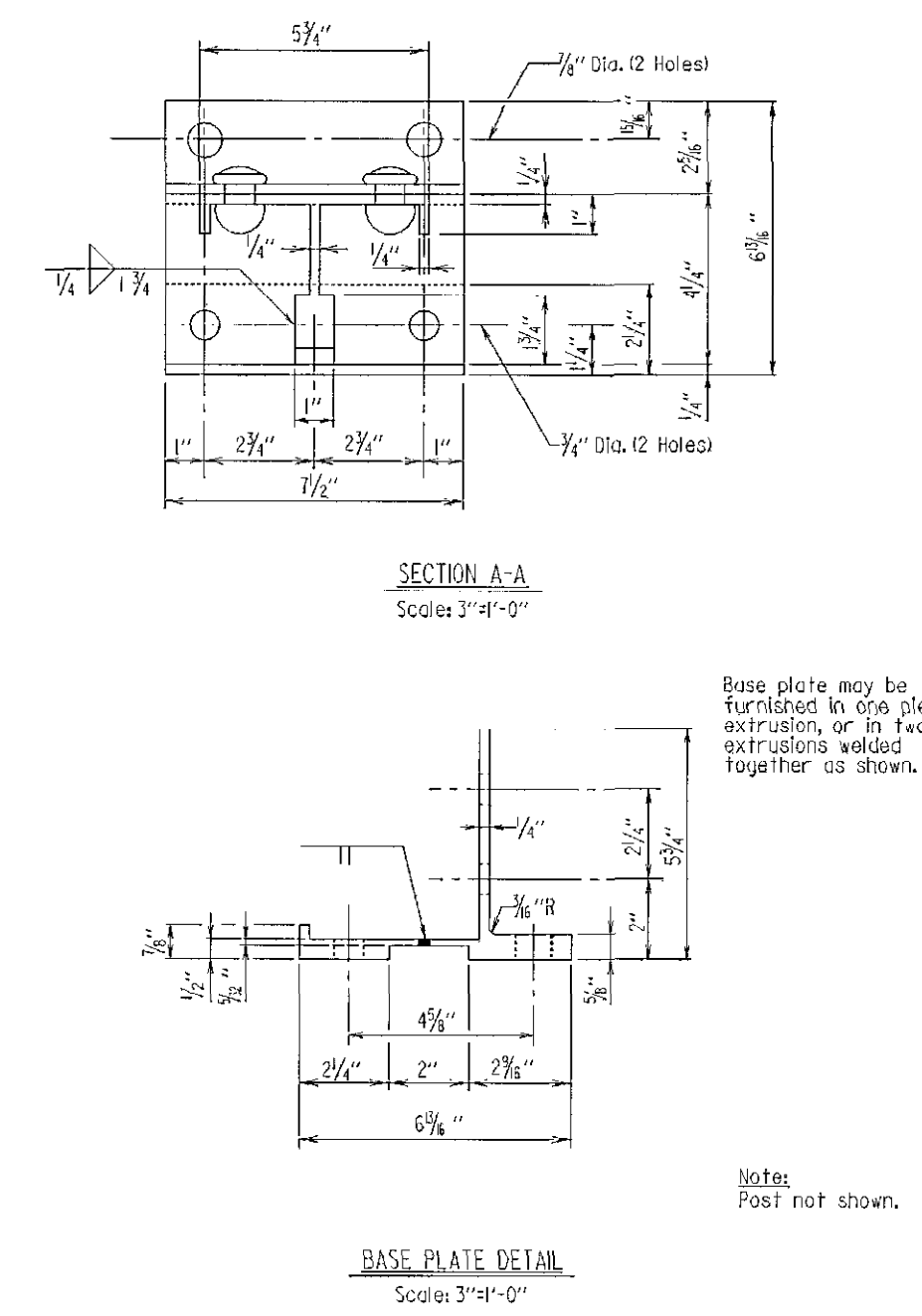
APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
DESIGNED BY	GENERAL NOTES
CHECKED BY	ALUMINUM BRIDGE RAILING
DATE	2-23-77
REVISIONS	
NO.	DESCRIPTION
1	1-15-75
2	2-24-76
3	3-16-77
FINAL APPROVAL	STANDARD NO. BR-5515.01-16-35 SHEET 1 OF 7

BRIDGE DEVELOPMENT



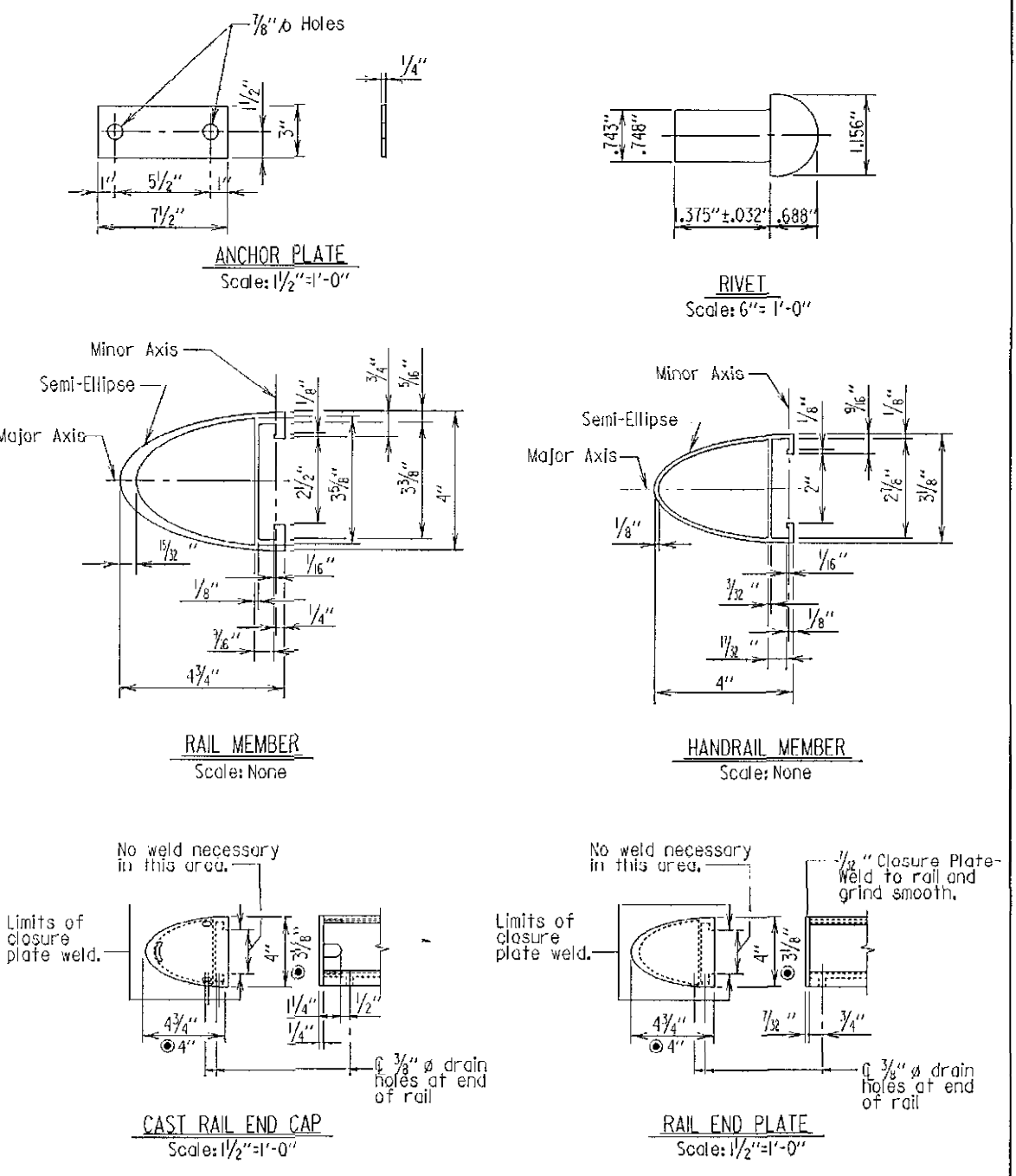
APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
DESIGNED BY	ONE STRAND
CHECKED BY	ALUMINUM BRIDGE RAILING
DATE	2-23-77
REVISIONS	
NO.	DESCRIPTION
1	1-15-75
2	2-24-76
3	3-16-77
FINAL APPROVAL	STANDARD NO. BR-5515.01-16-35 SHEET 2 OF 7

BRIDGE DEVELOPMENT



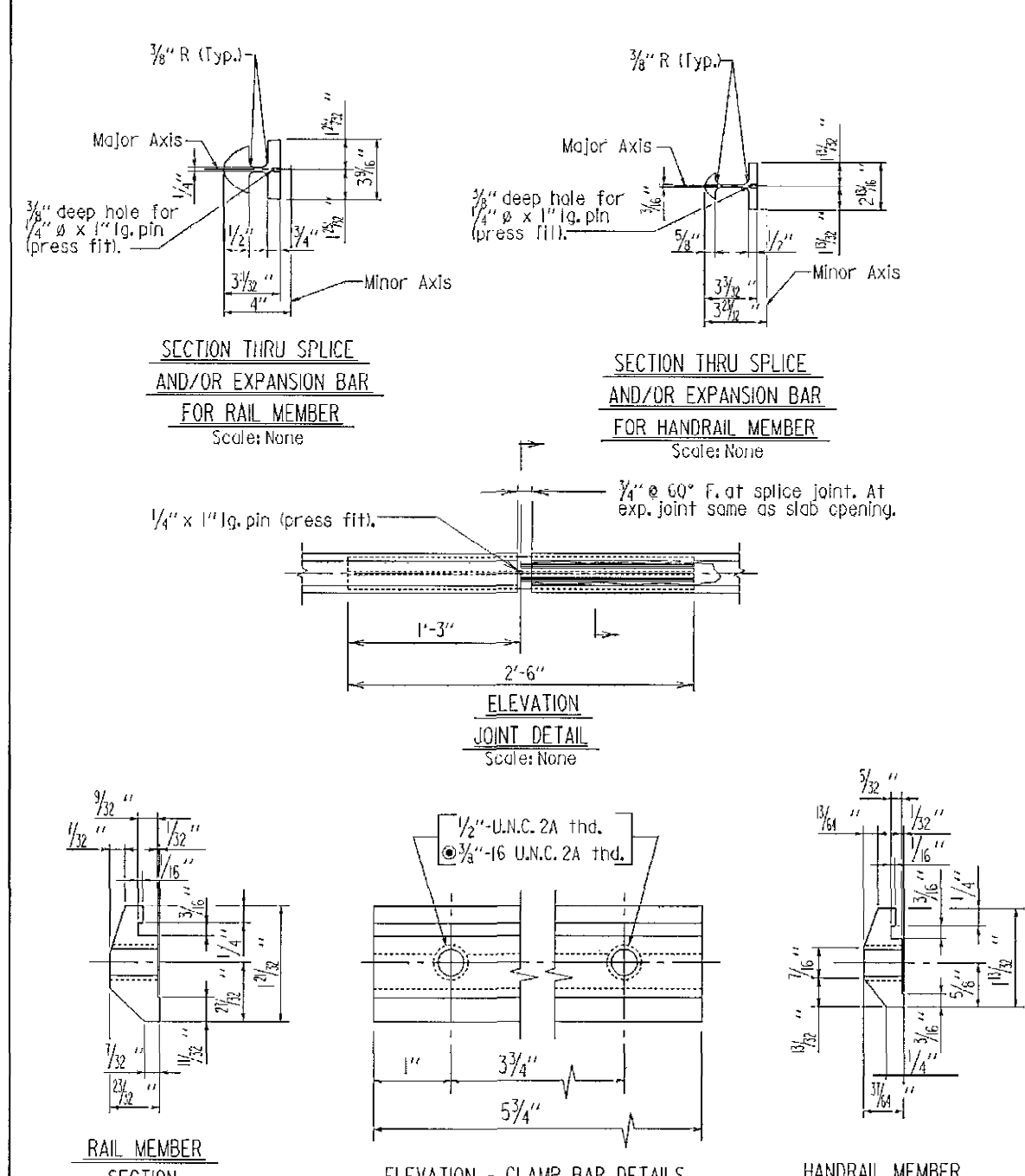
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DESIGNED BY	BASE PLATE DETAILS
CHECKED BY	ALUMINUM BRIDGE RAILING
DATE	2-23-77
REVISIONS	
NO.	DESCRIPTION
1	1-15-75
2	2-24-76
3	3-16-77
FINAL APPROVAL	STANDARD NO. BR-5515.01-16-35 SHEET 5 OF 7

BRIDGE DEVELOPMENT



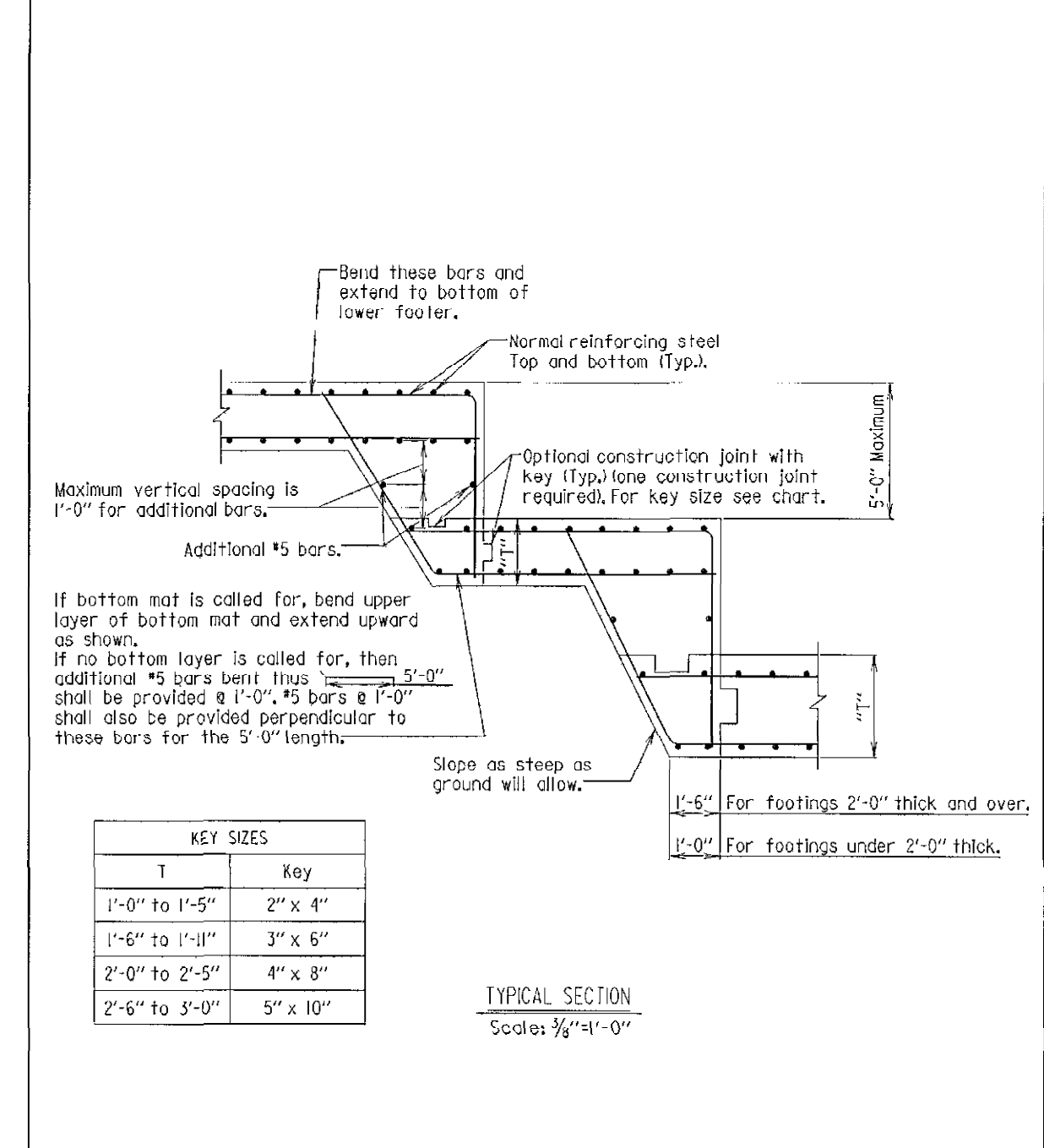
APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
DESIGNED BY	MISCELLANEOUS DETAILS
CHECKED BY	ALUMINUM BRIDGE RAILING
DATE	2-23-77
REVISIONS	
NO.	DESCRIPTION
1	1-15-75
2	2-24-76
3	3-16-77
FINAL APPROVAL	STANDARD NO. BR-5515.01-16-35 SHEET 6 OF 7

BRIDGE DEVELOPMENT



APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
DESIGNED BY	MISCELLANEOUS DETAILS
CHECKED BY	ALUMINUM BRIDGE RAILING
DATE	2-23-77
REVISIONS	
NO.	DESCRIPTION
1	1-15-75
2	2-24-76
3	3-16-77
FINAL APPROVAL	STANDARD NO. BR-5515.01-16-35 SHEET 7 OF 7

BRIDGE DEVELOPMENT



APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF BRIDGE DEVELOPMENT
DESIGNED BY	STEPPED FOOTING DETAIL
CHECKED BY	
DATE	12-9-83
REVISIONS	
NO.	DESCRIPTION
1	1-18-91
2	3-24-96
3	7-16-02
FINAL APPROVAL	STANDARD NO. RW6J21-83-155 SHEET 1 OF 1

BRIDGE DEVELOPMENT

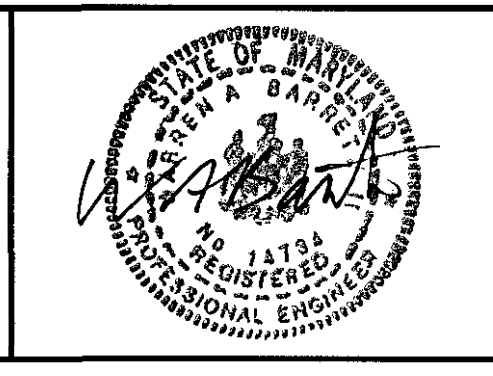
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

8/106  
DATE 8-8-06  
DATE

Chief, Bureau of Engineering  
Chief, Division of Transportation, Special Projects Division

**GANNETT FLEMING, INC.**

**BALTIMORE, MARYLAND**

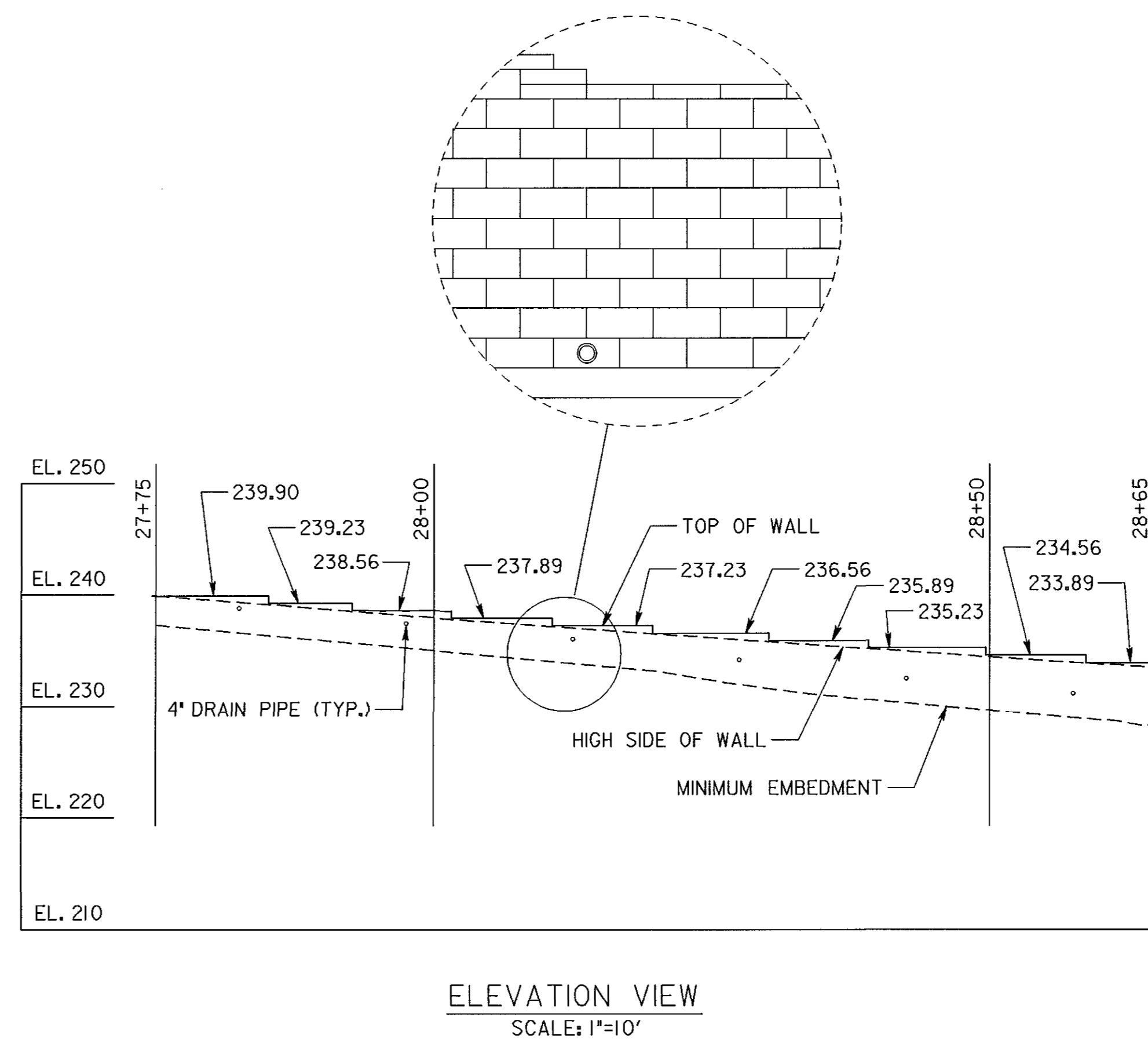
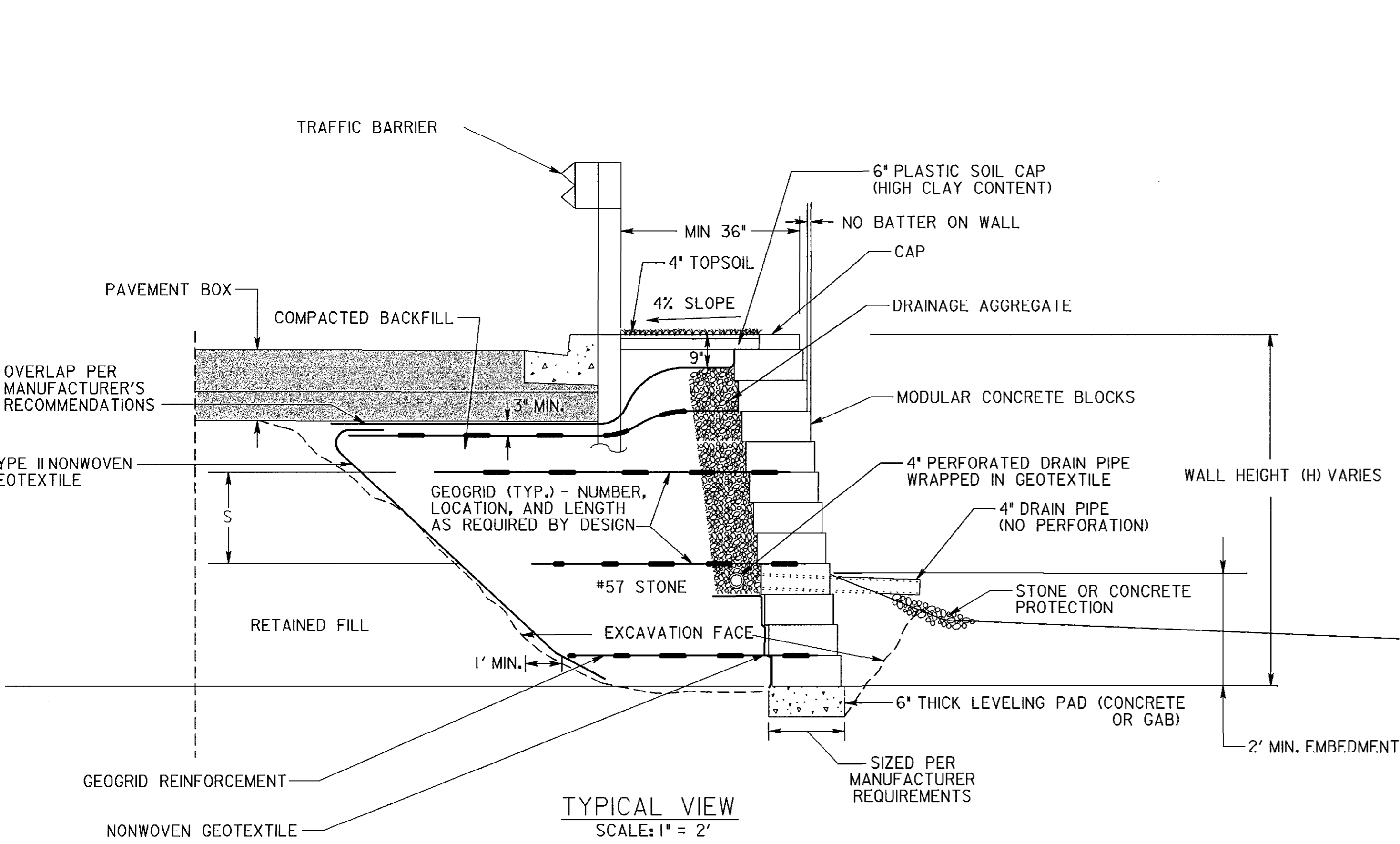


DES: SHA			
DRN: SHA			
CHK: CAM			
DATE: 8-06			
BY	NO.	DATE	

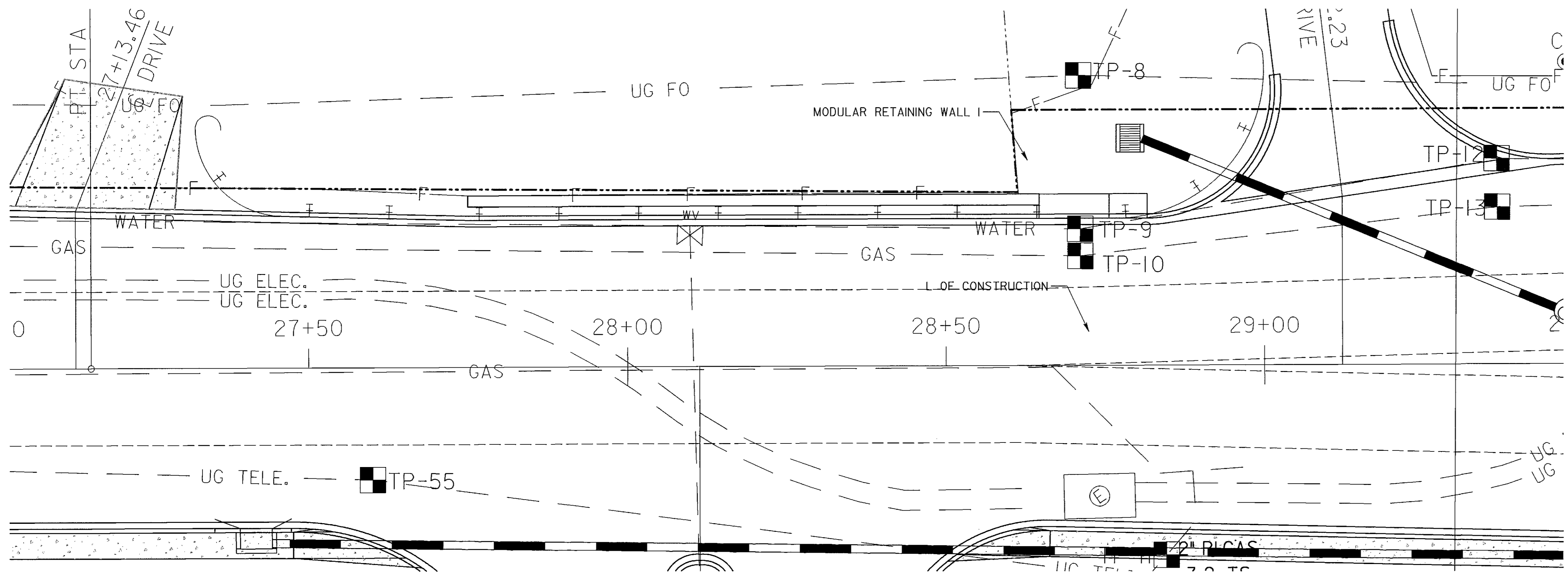

GUILFORD ROAD IMPROVEMENTS  
RETAINING WALL DETAILS

CAPITAL PROJECT No. J-4175 AND B-3855

MSE-3A  
SCALE AS SHOWN  
SHEET 53A OF 156



- NOTES:
1. STEP WALL AND LEVELING PAD IN ACCORDANCE WITH THE GROUND PROFILE
  2. THE TOTAL EXPOSED HEIGHT OF WALL ABOVE THE EDGE OF THE ROADWAY SHOULD NOT EXCEED 8 INCHES
  3. COMPACTED BACKFILL SHALL EXHIBIT A MINIMUM ANGLE OF FRICTION OF 32 DEGREES
  4. SPACING (S) BETWEEN GEOGRIDS SHALL NOT EXCEED 32 INCHES
  5. MINIMUM ALLOWABLE SOIL BEARING CAPACITY, 3000PSF
  6. USE NON-WOVEN GEOTEXTILE (MIN. 8 OZ/SQ.YD)
  7. USE TENSAR GEOGRID OR EQUIVALENT FOR SOIL REINFORCEMENT
  8. THE MAXIMUM HEIGHT OF THE WALL, INCLUDING THE 4" CAP, SHOULD NOT EXCEED 92 INCHES
  9. THE WALL SHALL HAVE A MINIMUM EMBEDMENT OF 2 FEET



CROSS REFERENCES	
ITEM	DWG. NO.
PLAN SHEETS	PS02, PS03
PROFILE SHEETS	PR02, PR03
TYPICAL SECTIONS	TS01

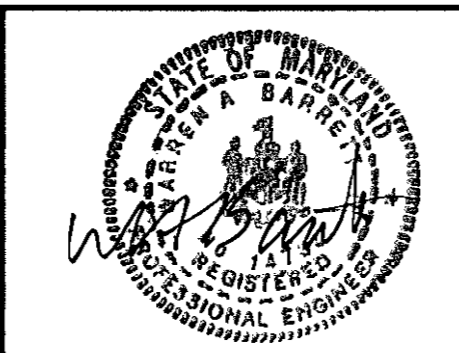
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

DATE: 8/7/06  
DATE: 8-8-06

CHIEF, BUREAU OF ENGINEERING  
CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION

**GANNETT FLEMING, INC.**

BALTIMORE, MARYLAND



DES:	WR				
DRN:	WR				
CHK:	JD				
DATE:	2002	BY	NO.		DATE

GUILFORD ROAD IMPROVEMENTS  
MODULAR RETAINING WALL I

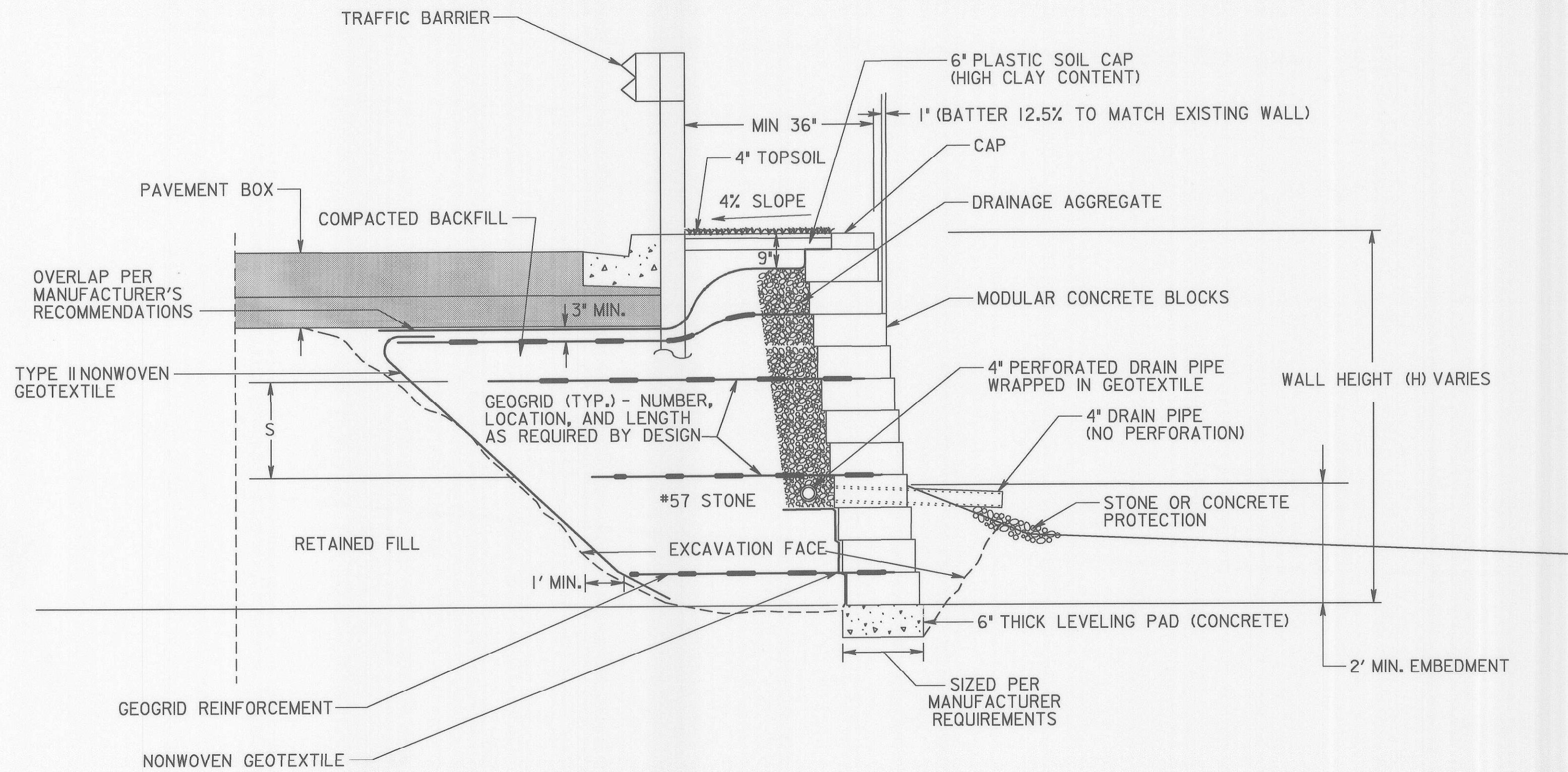
CAPITAL PROJECT No. J-4175 AND B-3855

MSE-4

SCALE AS NOTED

SHEET 54 OF 156

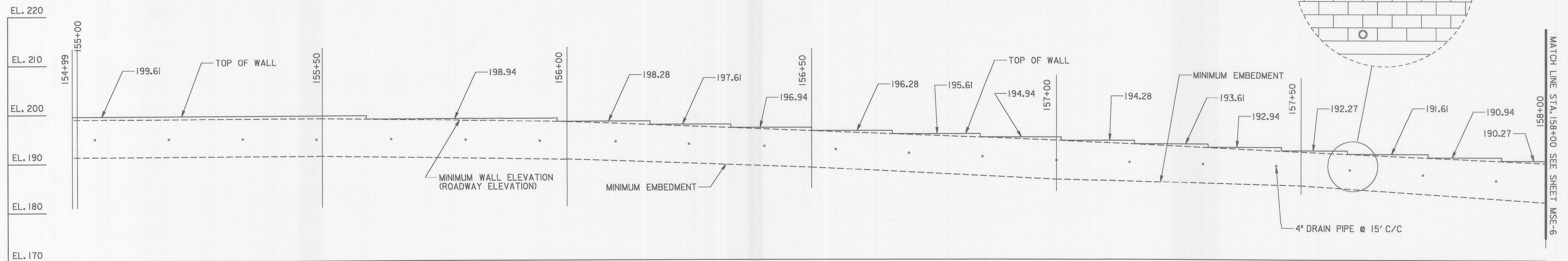
CROSS REFERENCES	
ITEM	DWG. NO.
PLAN SHEETS	PS07, PS08
PROFILE SHEETS	PR07, PR08
TYPICAL SECTIONS	TS01



NOTES:

1. STEP WALL AND LEVELING PAD IN ACCORDANCE WITH THE GROUND PROFILE
2. THE TOTAL EXPOSED HEIGHT OF WALL ABOVE THE EDGE OF THE ROADWAY SHOULD NOT EXCEED 8 INCHES
3. COMPACTED BACKFILL SHALL EXHIBIT A MINIMUM ANGLE OF FRICTION OF 32 DEGREES
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7. USE TENSAR GEOGRID OR EQUIVALENT FOR SOIL REINFORCEMENT
8. THE MAXIMUM HEIGHT OF THE WALL, INCLUDING THE 4" CAP, SHOULD NOT EXCEED 92 INCHES
9. THE WALL SHALL HAVE A MINIMUM EMBEDMENT OF 2 FEET

TYPICAL SECTION  
MODULAR RETAINING WALL  
STATION 154+99 TO 60+69.52  
SCALE: 1" = 2'



ELEVATION

SCALE: 1" = 10'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Jan 12/06*  
DIRECTOR OF PUBLIC WORKS  
DATE 8-8-08

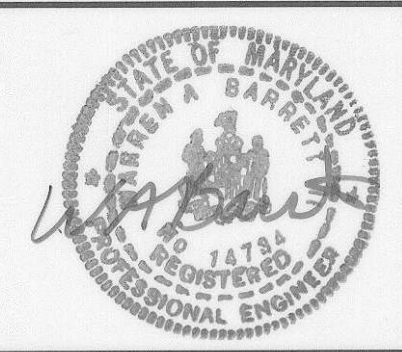
*Robert J. Ryan*  
CHIEF, BUREAU OF ENGINEERING  
DATE 8/7/06

*Jan 12/06*  
CHIEF, DIVISION OF TRANSPORTATION,  
SPECIAL PROJECTS DIVISION  
DATE 8/7/06

GANNETT  
FLEMING, INC.



BALTIMORE,  
MARYLAND



DES:	WR			
DRN:	WR			
CHK:	JD			
DATE:	2002	BY	NO.	DATE

GUILFORD ROAD IMPROVEMENTS  
MODULAR RETAINING WALL II

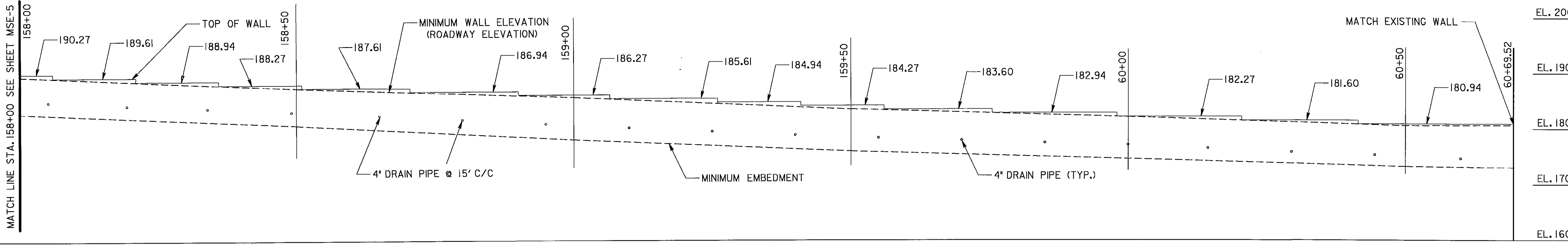
CAPITAL PROJECT No. J-4175 AND B-3855

MSE-5

SCALE  
AS NOTED

SHEET  
55 OF 156

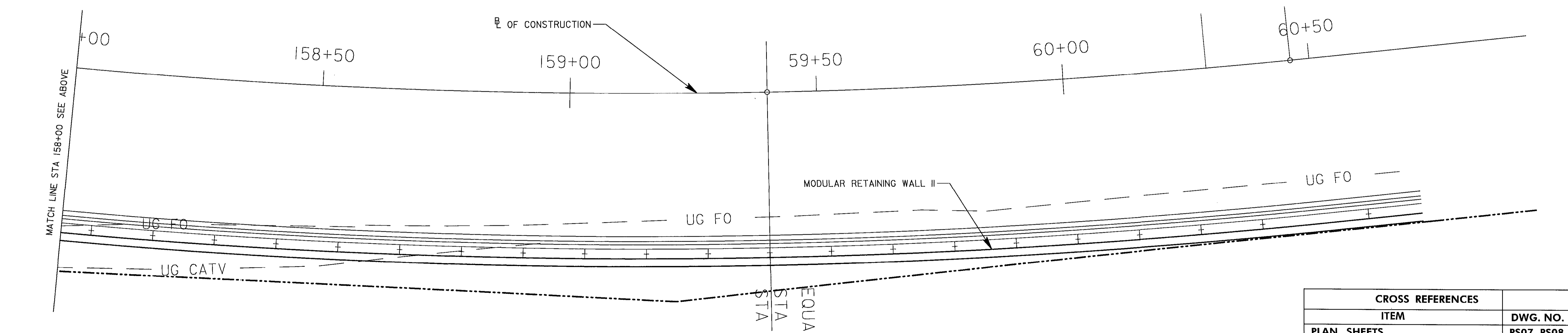
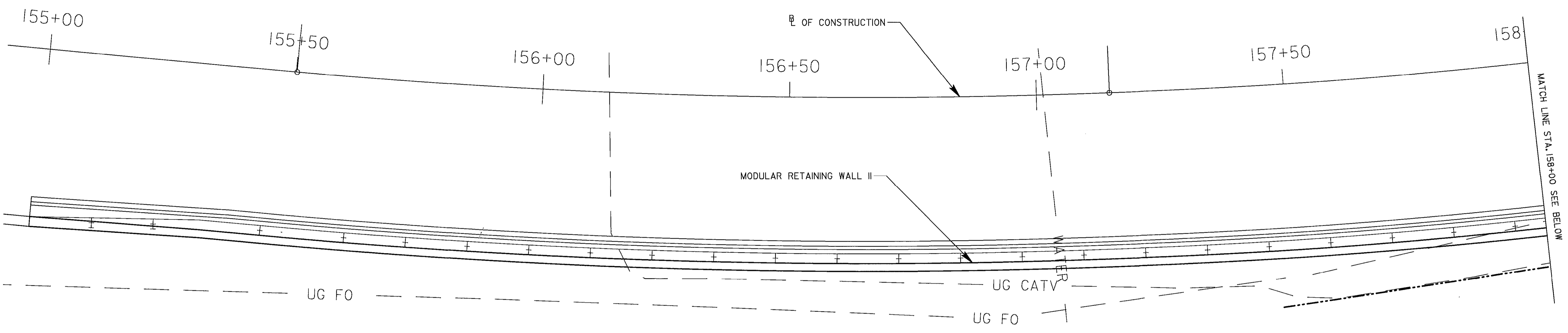




EL. 200
EL. 190
EL. 180
EL. 170
EL. 160

NOTE:  
 1. SEE CROSS SECTION DETAILS ON SHEET 54.  
 2. EXCAVATE 18 INCHES BELOW TOP OF LEVELING PAD. DO NOT BACKFILL BEFORE APPROVAL OF SUBGRADE BY GEOTECHNICAL ENGINEER. IF THE GEOTECHNICAL ENGINEER IDENTIFIES SOFT OR UNSUITABLE SUBGRADE, ADDITIONAL EXCAVATION MAY BE REQUIRED. BACKFILL WITH GRADED AGGREGATE BASE AND COMPACT TO 95% OF THE STANDARD MAXIMUM DRY DENSITY.

SCALE: 1" = 10'

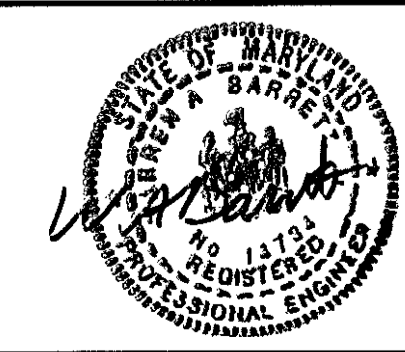


PLAN - RETAINING WALL  
 SCALE: 1"=10'

CROSS REFERENCES	
ITEM	DWG. NO.
PLAN SHEETS	PS07, PS08
PROFILE SHEETS	PR07, PR08
TYPICAL SECTIONS	TS01

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: *John J. ...* 8/17/06  
 Chief, Bureau of Engineering: *...* 8/17/06  
 Chief, Bureau of Highways: *...* 8-8-06  
 Chief, Division of Transportation, Special Projects Division: *...* 8/17/06

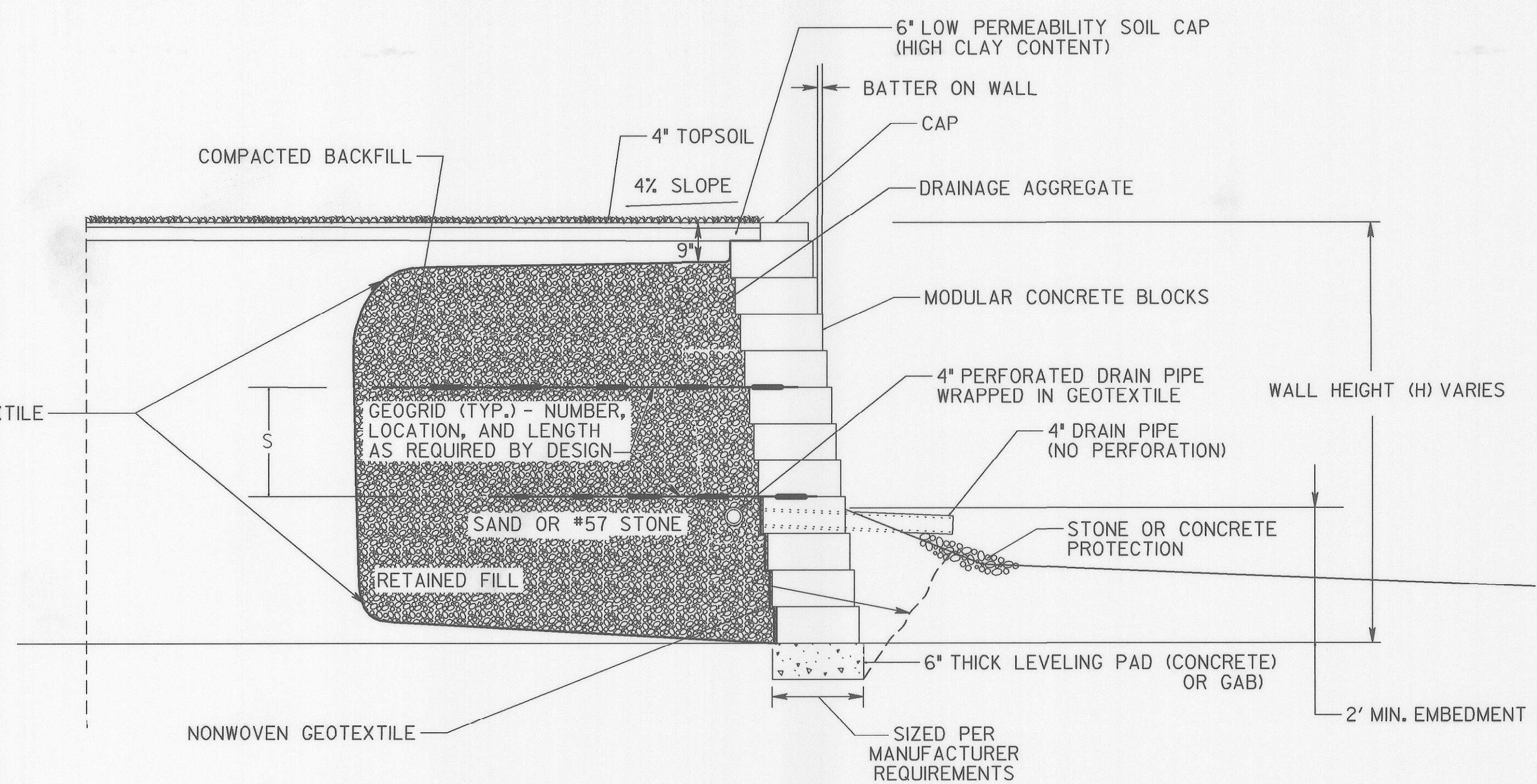
GANNETT FLEMING, INC.  
 BALTIMORE, MARYLAND



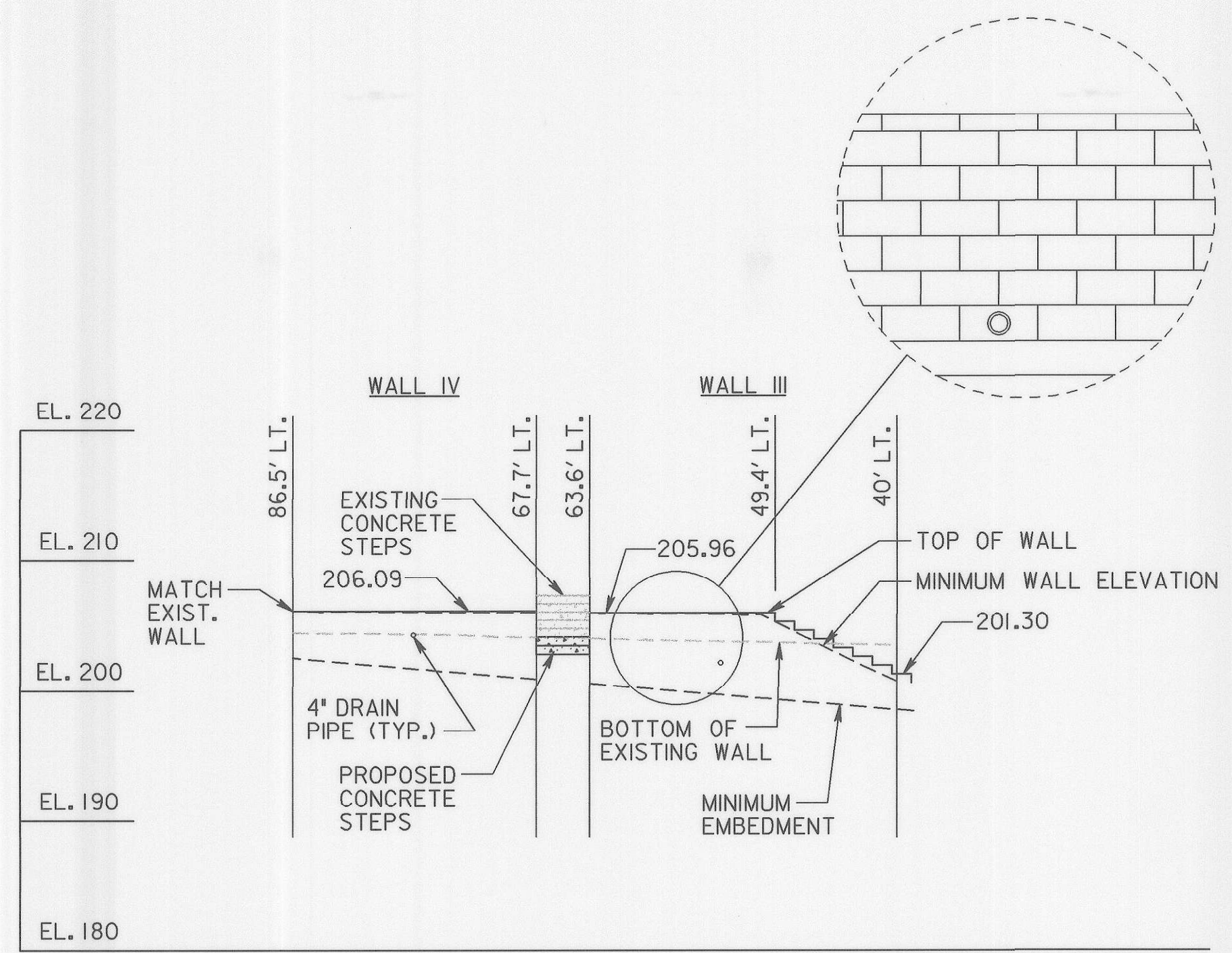
DES: WR				
DRN: WR				
CHK: JD				
DATE: 2002	BY	NO.	DATE	

GUILFORD ROAD IMPROVEMENTS  
 MODULAR RETAINING WALL II  
 CAPITAL PROJECT No. J-4175 AND B-3855

MSE-6  
 SCALE AS NOTED  
 SHEET 56 OF 156



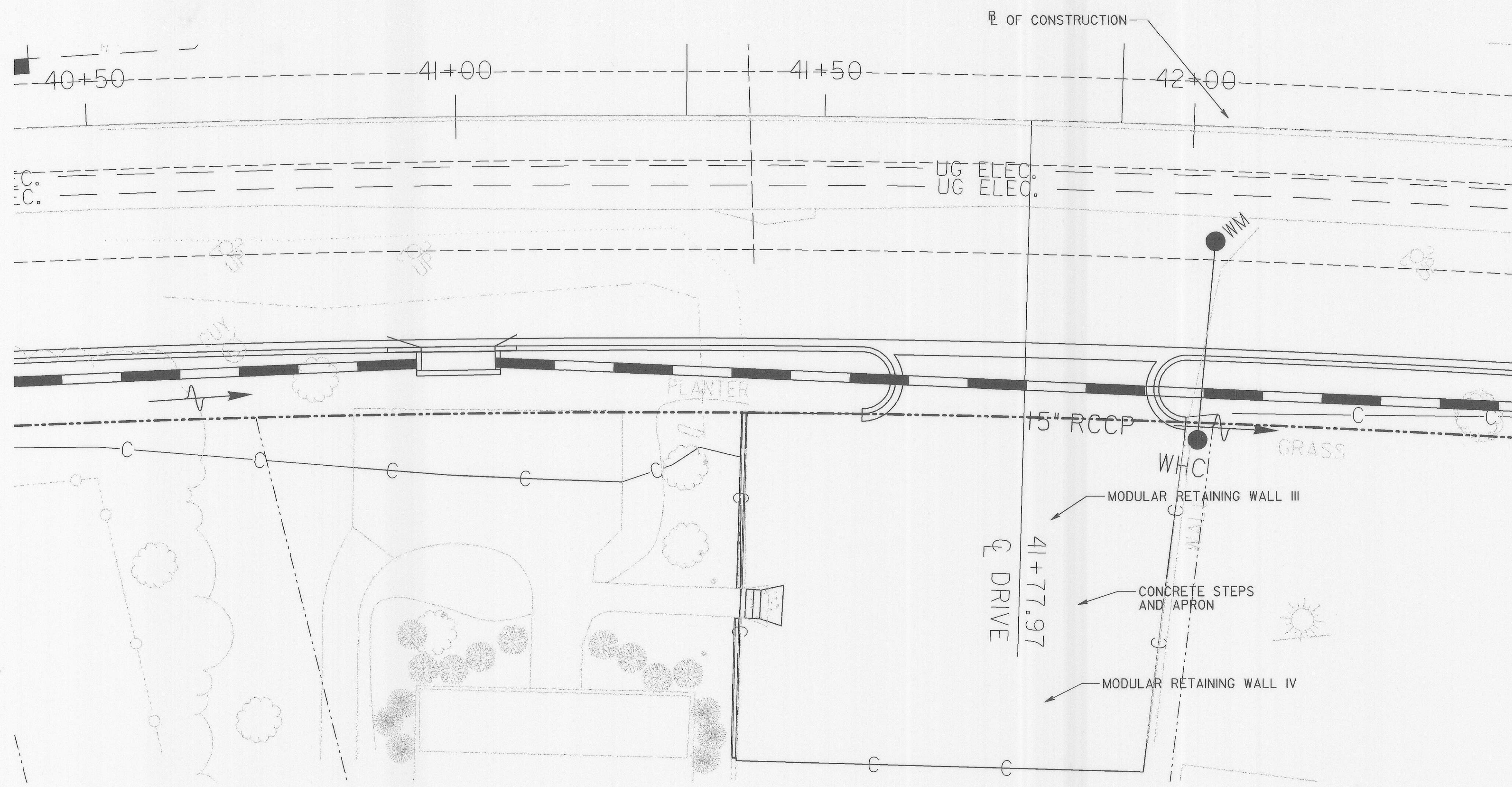
TYPICAL VIEW  
SCALE: 1" = 2'



ELEVATION VIEW  
SCALE: 1" = 10'

NOTES:

1. STEP WALL AND LEVELING PAD IN ACCORDANCE WITH THE GROUND PROFILE
2. THE TOTAL EXPOSED HEIGHT OF WALL ABOVE THE EDGE OF THE ROADWAY SHOULD NOT EXCEED 8 INCHES
3. COMPACTED BACKFILL SHALL EXHIBIT A MINIMUM ANGLE OF FRICTION OF 32 DEGREES
4. SPACING (S) BETWEEN GEOGRIDS SHALL NOT EXCEED 32 INCHES
5. MINIMUM ALLOWABLE SOIL BEARING CAPACITY, 3000PSF
6. USE NON-WOVEN GEOTEXTILE (MIN. 8 OZ/SQ.YD)
7. USE TENSAR GEOGRID OR EQUIVALENT FOR SOIL REINFORCEMENT
8. THE MAXIMUM HEIGHT OF THE WALL, INCLUDING THE 4" CAP, SHOULD NOT EXCEED 92 INCHES
9. THE WALL SHALL HAVE A MINIMUM EMBEDMENT OF 2 FEET



PLAN - RETAINING WALL  
SCALE: 1" = 10'

CROSS REFERENCES	
ITEM	DWG. NO.
PLAN SHEETS	PS04
PROFILE SHEETS	PR04
TYPICAL SECTIONS	TS01

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Don J. ...* 8/7/06  
DIRECTOR OF PUBLIC WORKS DATE

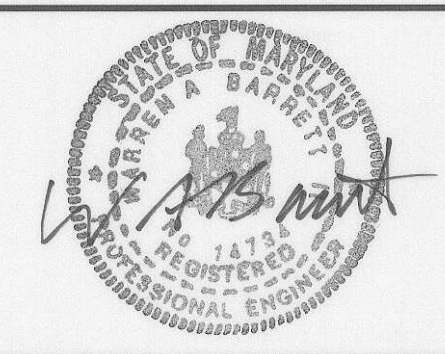
*Robert ...* 8/7/06  
CHIEF, BUREAU OF ENGINEERING DATE

*William ...* 8-8-06  
CHIEF, BUREAU OF HIGHWAYS DATE

*Jan ...* 8/7/06  
CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

**GANNETT FLEMING, INC.**

**BALTIMORE, MARYLAND**



DES:	WR				
DRN:	WR				
CHK:	JD				
DATE:	2002	BY	NO.		DATE

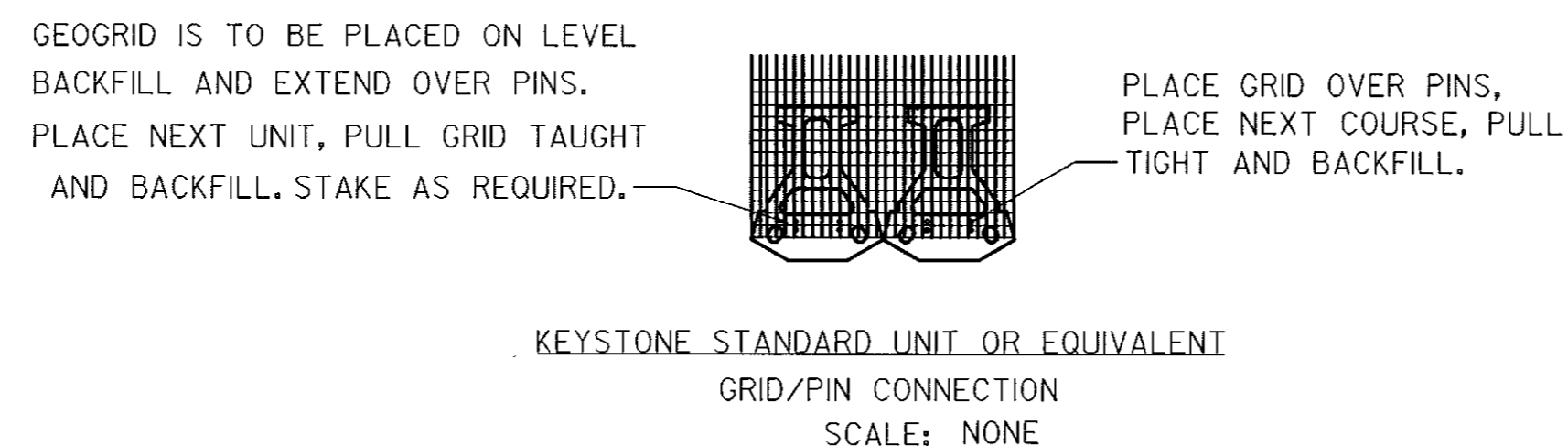
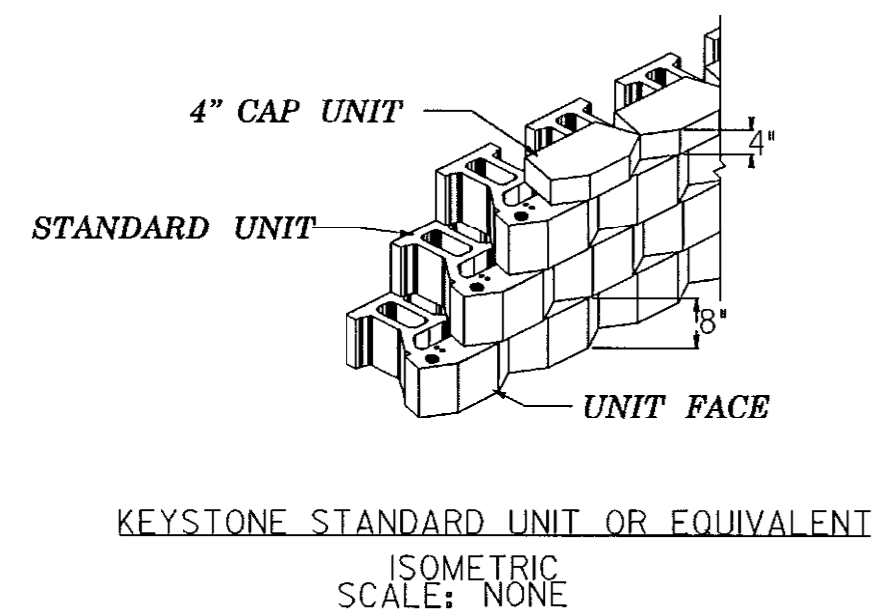
GUILFORD ROAD IMPROVEMENTS  
MODULAR RETAINING WALLS III AND IV

CAPITAL PROJECT No. J-4175 AND B-3855

MSE-7

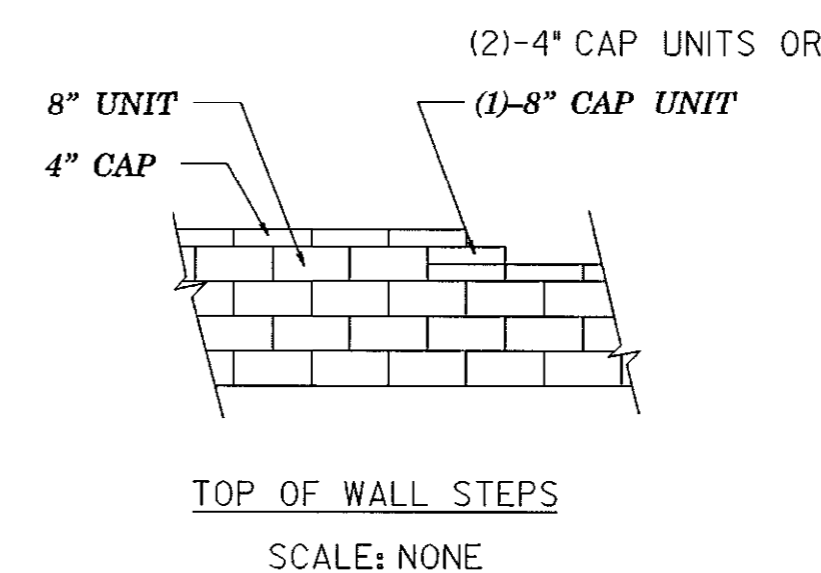
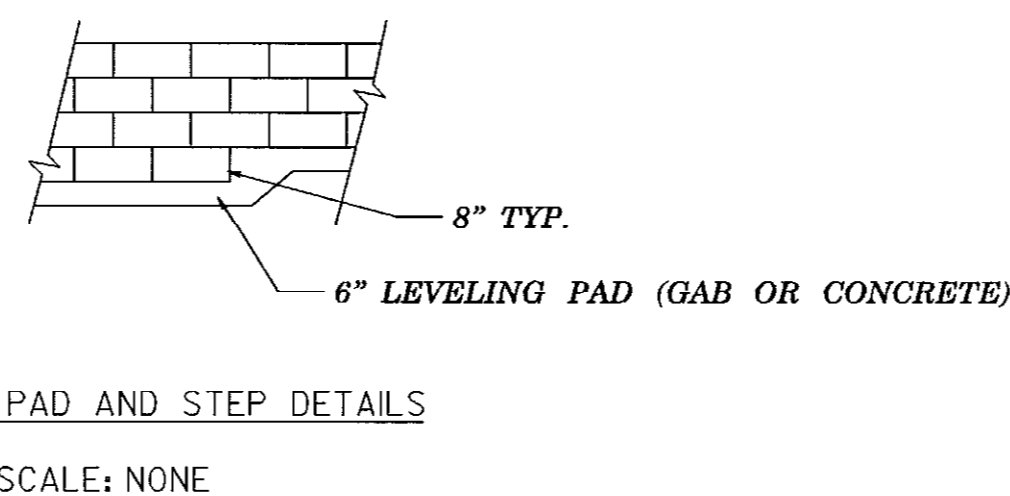
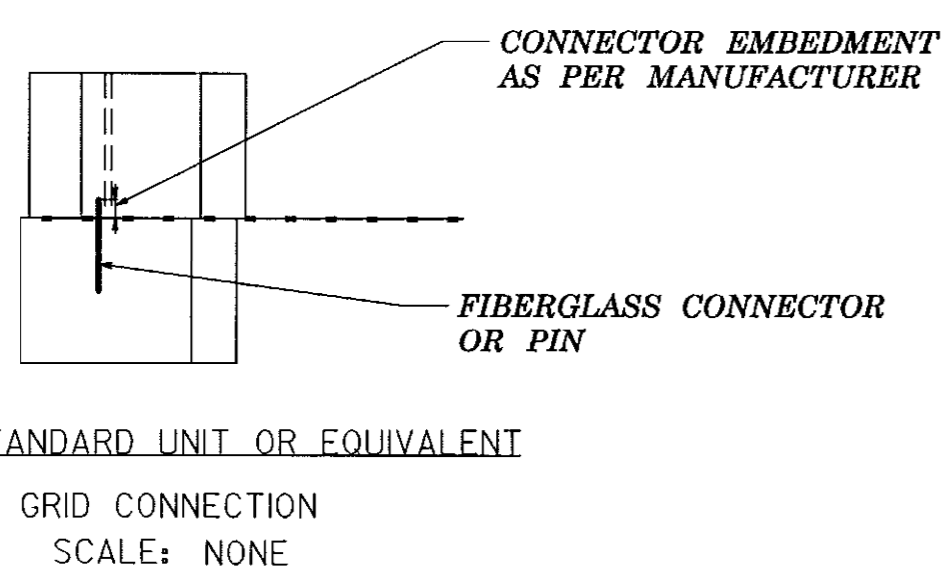
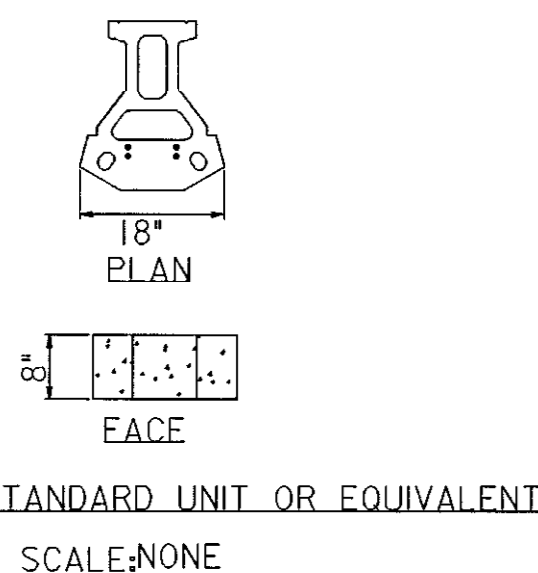
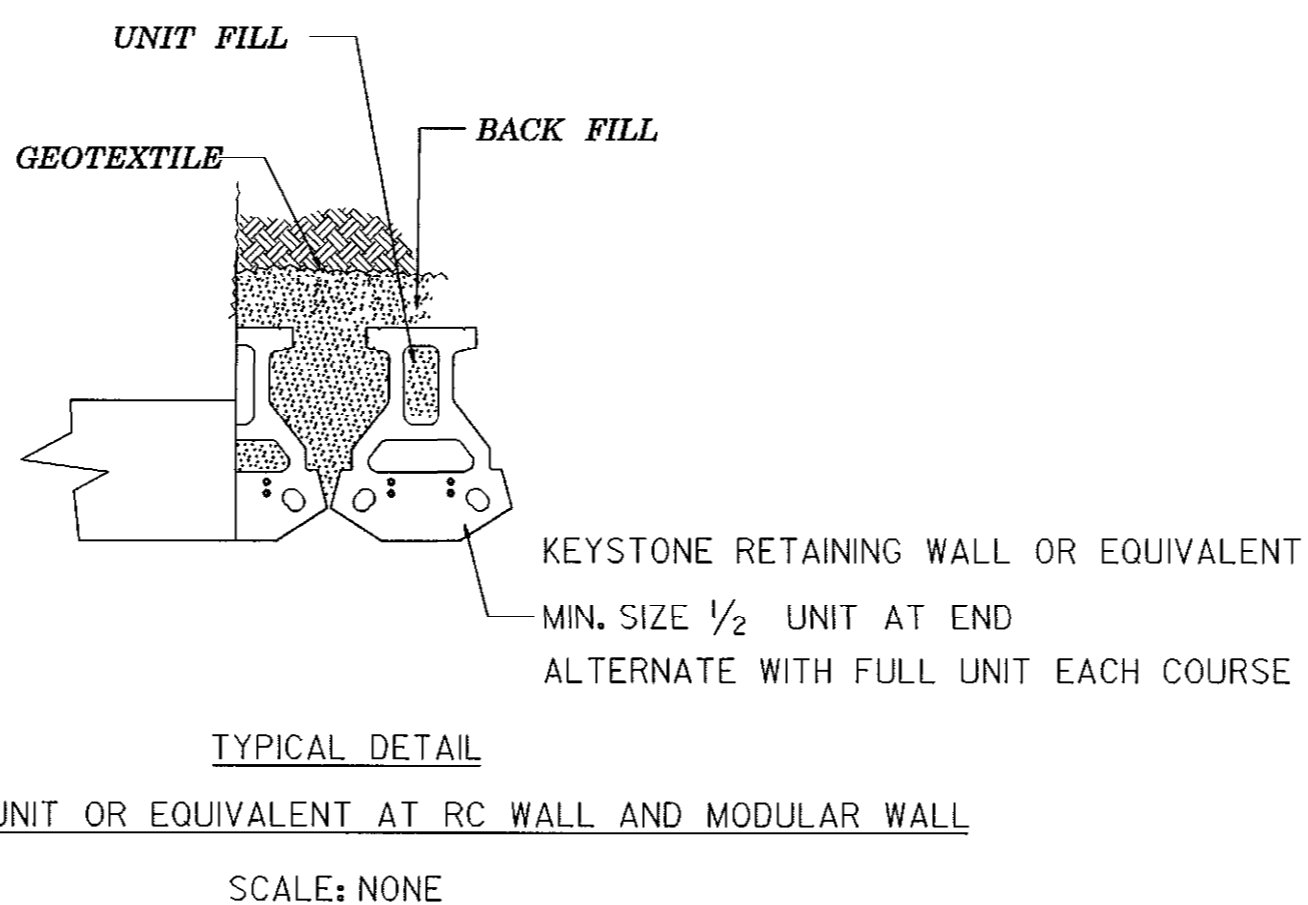
SCALE AS NOTED

SHEET 57 OF 156



**NOTES:**

1. APPLY ADHESIVE TO TOP UNIT BEFORE PLACING THE CAP UNIT, AS INSTRUCTED BY THE MANUFACTURER
2. PULL PINNED GEOGRID TAUT TO ELIMINATE LOOSE FOLDS. STAKE OR SECURE THE BACK EDGE OF GEOGRID BEFORE AND DURING BACKFILL COMPACTION
3. PLACE COMPACTED BACKFILL IN 8" LIFTS. PROVIDE MINIMUM 6" SOIL COVERAGE PRIOR TO DRIVING EQUIPMENT OVER GRID. AVOID DRIVING OR TURNING VEHICLES DIRECTLY OVER GRID.
4. LAY GEOGRID HORIZONTALLY ON COMPACTED BACKFILL. CONNECT THE GRID TO WALL UNITS BY HOOKING GEOGRID OVER PINS OR CONNECTORS.



DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Jan 9* 8/1/06  
DIRECTOR OF PUBLIC WORKS DATE

*W. F. Marshall* 8-8-06  
CHIEF, BUREAU OF HIGHWAYS DATE

*Donald P. Roman* 8/17/06  
CHIEF, BUREAU OF ENGINEERING DATE

*Jay Steinhilber* 8/17/06  
CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

**GANNETT FLEMING, INC.**

**BALTIMORE, MARYLAND**

DES: WR			
DRN: WR			
CHK: JD			
DATE: 2002			
BY	NO.		DATE

GUILFORD ROAD IMPROVEMENTS  
TYPICAL DETAILS FOR MODULAR RETAINING WALL

CAPITAL PROJECT No. J-4175 AND B-3855

MSE-8

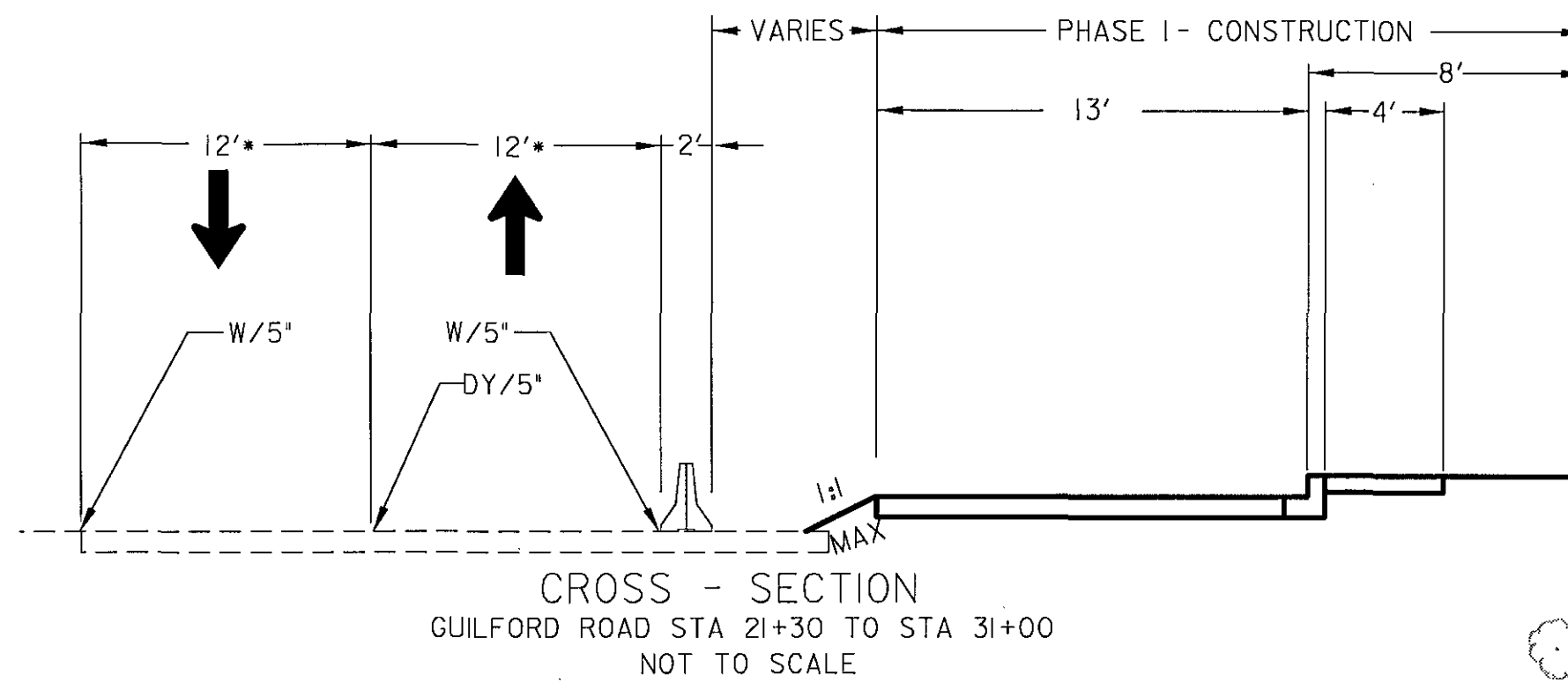
SCALE

SHEET 58 OF 156

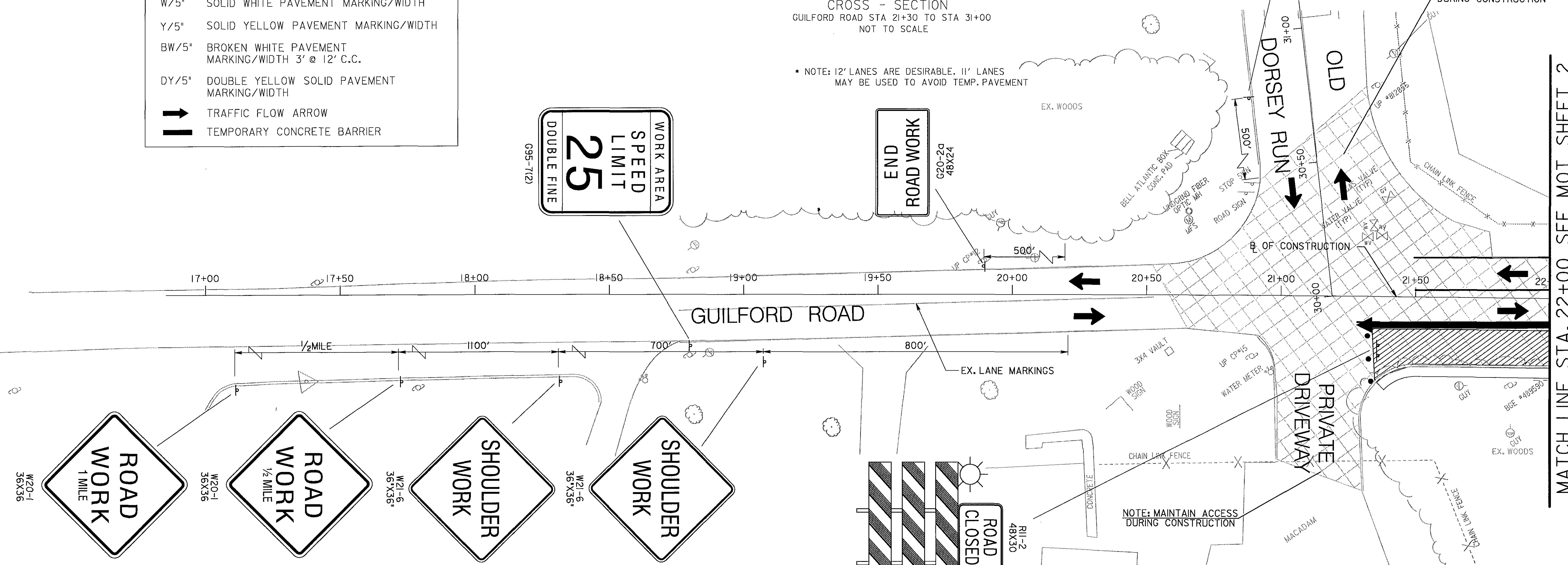
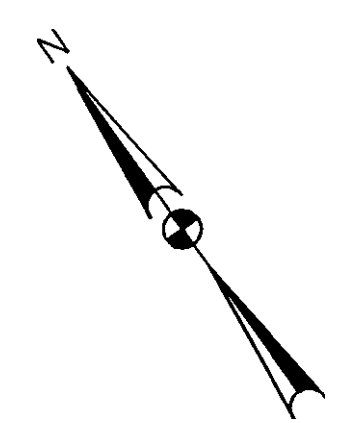
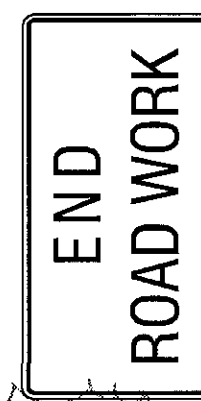
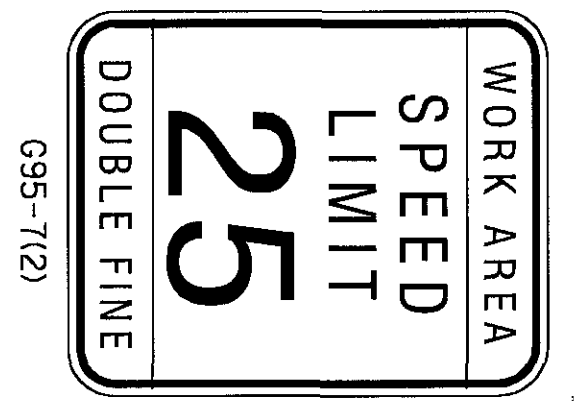
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LINESTYLE: LIBRARY=MDSHALS  
DATA: 8  
\$FILE\$

LEGEND	
	TYPE E TEMP. T.B. END TREATMENT
	SIGN MOUNTED ON WOOD POST
	CHANNELIZING DEVICE (DRUMS)
	TEMPORARY PAVEMENT
	PERMANENT CONSTRUCTION
	WEDGE AND LEVEL
	EXISTING PAVEMENT
W/5"	SOLID WHITE PAVEMENT MARKING/WIDTH
Y/5"	SOLID YELLOW PAVEMENT MARKING/WIDTH
BW/5"	BROKEN WHITE PAVEMENT MARKING/WIDTH 3' @ 12" C.C.
DY/5"	DOUBLE YELLOW SOLID PAVEMENT MARKING/WIDTH
	TRAFFIC FLOW ARROW
	TEMPORARY CONCRETE BARRIER

PHASE I - CONSTRUCTION



NOTE: 12' LANES ARE DESIRABLE. 11' LANES MAY BE USED TO AVOID TEMP. PAVEMENT



MATCH LINE STA. 22+00 SEE MOT SHEET 2

CONSTRUCTION SEQUENCE PHASE I

WHILE MAINTAINING TRAFFIC ON EXISTING GUILFORD ROAD THE CONTRACTOR SHALL PERFORM THE FOLLOWING:

PRIOR TO THE WORK IN PHASE I, ALL TEMPORARY PAVEMENT SHALL BE PLACED, THE TRAFFIC SIGNAL MAST ARM AND POLE WITHIN THE ISLAND SHALL BE REMOVED, THE NEW POLE SHALL BE INSTALLED AT THE FINAL LOCATION, AND THE EXISTING ISLANDS AT DORSEY RUN ROAD SHALL BE MODIFIED AS SHOWN ON THE PLANS.

PLACE ROAD WORK SIGNS AT THE WESTERN AND EASTERN LIMITS OF WORK ALONG GUILFORD ROAD. PLACE ROAD WORK AHEAD SIGNS ON ALL SIDE STREETS WITHIN THE LIMITS OF THE PROJECT AND MAINTAIN ALL APPLICABLE EXISTING SIGNS.

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PLACE TRAFFIC CONTROL DRUMS TO ALLOW EAST AND WEST TRAFFIC ON THE EXISTING NORTHERN SECTION OF GUILFORD ROAD.

CONSTRUCT THE SOUTHERN PERMANENT PAVING ALONG GUILFORD ROAD FROM STA 21+30 TO STA 48+25 AND THE NORTHERN SECTION FROM STA 33+75 TO 60+10.

MAINTAIN TWO-WAY TRAFFIC ON THE EXISTING NORTHERN SIDE OF GUILFORD ROAD.

CONSTRUCT APPROPRIATE DRAINAGE AND UTILITY RELOCATIONS DURING THE PHASED ROADWAY CONSTRUCTION.

MAINTAIN ACCESS TO ALL DRIVEWAYS, ALLEYS, AND ENTRANCES AS INDICATED ON THESE PLANS.

TRAFFIC CONTROL - GENERAL NOTES

- VARIABLE MESSAGE SIGN(S) AND/OR ARROW PANEL(S) SHALL BE USED AS DIRECTED BY THE ENGINEER IN THE FIELD.
- ALL REGULATORY SIGNING SHALL BE IN PLACE PRIOR TO CONSTRUCTION AND SHALL REMAIN OPERATIONAL THROUGHOUT THE DURATION OF CONSTRUCTION.
- THE CONTRACTOR SHALL GRIND TO REMOVE EXISTING PAVEMENT MARKINGS IN CONFLICT WITH CONSTRUCTION ACTIVITIES. NO PAINTED TEMPORARY PAVEMENT MARKINGS SHALL BE USED ON FINAL PAVEMENT SURFACES.
- ALL EXISTING SIGNS IN ACTIVE CONSTRUCTION AREAS SHALL BE REMOVED AND RELOCATED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.
- TEMPORARY TRAFFIC BARRIER SHALL HAVE DELINEATORS PLACED PER MD. STANDARD NO. 104.01-25

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

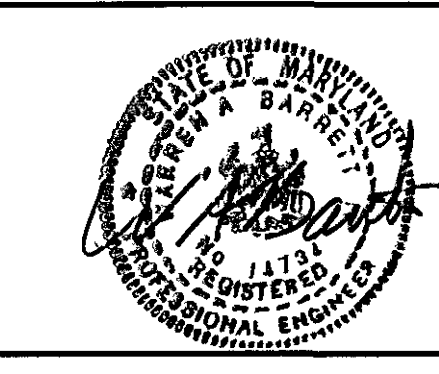
*John J. ...* 5/16/06  
DIRECTOR OF PUBLIC WORKS DATE

*Robert ...* 8/7/06  
CHIEF, BUREAU OF ENGINEERING DATE

*William ...* 8-8-06  
CHIEF, BUREAU OF HIGHWAYS DATE

*...* 8/7/06  
CHIEF, DIVISION OF TRANSPORTATION, SPECIAL PROJECTS DIVISION DATE

GANNETT FLEMING, INC.  
BALTIMORE, MARYLAND



DES: JAR					
DRN: DKS					
CHK: TCC					
DATE: 8-06	BY	NO.		DATE	

MOT-1

GUILFORD ROAD IMPROVEMENTS  
MAINTENANCE OF TRAFFIC PLANS PHASE I

CAPITAL PROJECT No. J-4175 AND B-3855

SCALE  
1" = 20'

SHEET  
59 OF 156