INDEX OF DRAWINGS

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY CAPITAL PROJECT J-4138
FAIRVIEW AVENUE
DRAINAGE AND ROADWAY IMPROVEMENTS

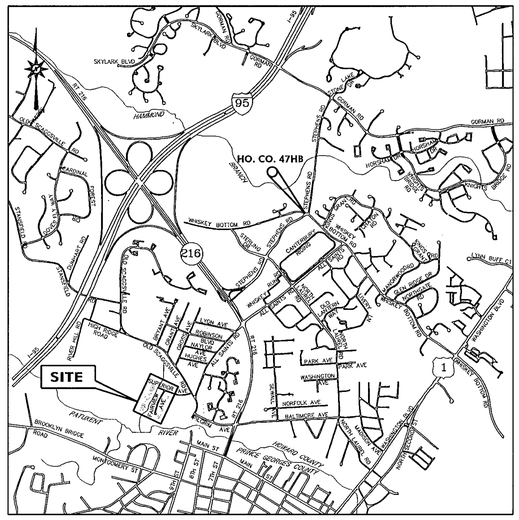
GENERAL NOTES

1. This contract shall be constructed under provisions of the Maryland Department of Transportation, State Highway Administration (S.H.A.) "Standard Specifications for Construction and Materials," dated January 2001, and revisions thereof and additions thereto; the special provisions included in the invitation for bids book; the Administrations Book of Standards for Highways and Incidental Structures; as well as the Howard County Design Manual Volume-IV- Standards and Specifications & Details for Construction dated December 1980 and revisions thereof and additions thereto.
2. The Contractor shall notify the Department of Public Works/Bureau of Engineering/ Construction Inspection Division at (410) 313-1870 at least five (5) working days prior to the start of work.
3. 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 contact the following utilities at least 5 days prior to beginning any work under this contract. For additional information and requirements with respect to utilities, see Special Provisions.

   BGE (410) 224-5286
   Bureau of Utilities (410) 313-4910
   Miss Utility 1-800-257-7777
   Verizon 1-800-743-0033 / (410) 224-5286
4. Project Background:
   Location: Laurel, Maryland
   Tax Map: 50
   Election District: 6
5. Traffic control devices, markings, and signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
6. 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.
7. The existing utilities shown hereon are located from the best information available, but no guarantee is made to their accuracy. The approximate location 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.
8. Horizontal and vertical control is based on the Maryland State Plane Coordinate System (NAD 83/91 and NAVD 88) and is referenced to the following Howard County Geodetic Survey Control Point: 47HB.
9. Clearing shall be limited to the "Limit of Disturbance" as shown on the sediment and erosion control plan. Grading shall be done in such a manner as to provide positive drainage. Contractor shall seed and mulch all disturbed areas except as otherwise directed.
10. The contractor shall take extreme caution not to disturb the existing vegetation outside the limits of construction. Soil stabilization shall conform to "Maryland Standards and Specifications for Soil Erosion and Sediment Control," dated 1994, published jointly by Water Management Administration, Soil Conservation Service, and State Soil Conservation Committee.
11. 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-180.

BENCHMARKS

Howard County Survey Control
Description: 47HB
N 531,895.7905 E 1,356,076.3261 ELEV. 296.821
CONCRETE MONUMENT SET AT STEPHENS ROAD AND WHISKEY BOTTOM CIRCLE AREA.



LOCATION MAP
SCALE: 1" = 2000'

By the Owner/Developer:
"I/We certify that all development and/or construction will be done according to these plans for sediment and erosion control, and that all responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

Signature of Owner/Developer — Date
Print name below signature

By the Engineer:
"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature of Engineer — Date
Print name below signature
CHARLES F. NOLAN

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements.

USDA-Natural Resources Conservation Service — 10/30/07 Date

These plans are approved for soil erosion and sediment control by the Howard Soil Conservation District.

Howard S.C.D. — 10/30/07 Date

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS ARE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15212, EXPIRATION DATE:12/28/2008."

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 10-24-07
CHIEF, BUREAU OF ENGINEERING — DATE 10/23/07
CHIEF, BUREAU OF HIGHWAYS — DATE 10-24-07
CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT — DATE 10/19/07

NOLAN Associates, Inc.
Engineers - Civil/Structural/Inspections
4705 Dorsey Hall Drive
Suite 124
Ellicott City, Maryland 21042
Phone:(410) 995-3651 Fax:(410) 995-1363

STATE OF MARYLAND — CHARLES F. NOLAN — No. 15212 — REGISTERED PROFESSIONAL ENGINEER

DES:	GWF/JW
DRN:	JW/JAH
CHK:	GWF
DATE:	

BY	NO.	REVISION	DATE

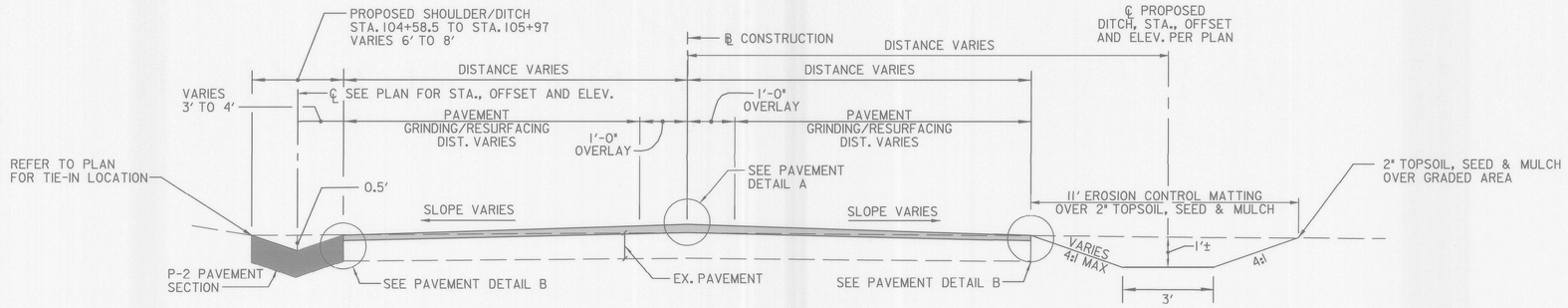
TITLE SHEET

600' SCALE MAP NO. _____ BLOCK NO. _____

FAIRVIEW AVENUE
DRAINAGE AND ROADWAY IMPROVEMENTS
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

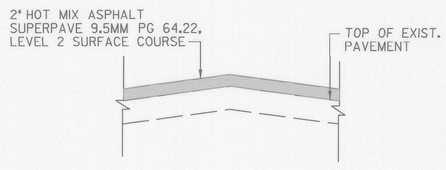
SCALE:

SHEET 1 OF 8



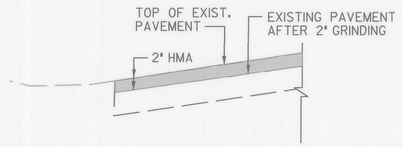
TYPICAL ROADWAY SECTION FAIRVIEW AVE. FROM STA. 101+86 TO STA. 108+14.08

NOT TO SCALE



PAVEMENT DETAIL A

NOT TO SCALE



PAVEMENT DETAIL B

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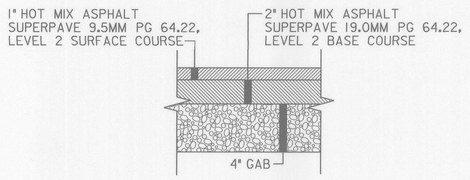
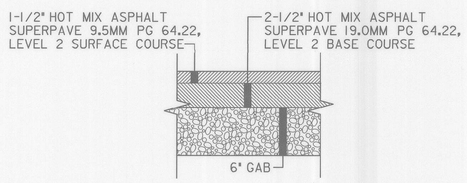


DRIVEWAY (P-1) PAVEMENT SECTION DETAIL

NOT TO SCALE



FULL DEPTH (P-2) PAVEMENT SECTION DETAIL

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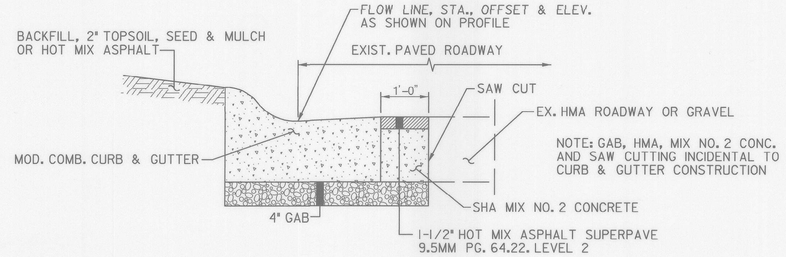


DETAIL FOR MODIFIED COMBINATION CURB AND GUTTER CONSTRUCTION

NOT TO SCALE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Michael A. Evanisko 10-24-07
DIRECTOR OF PUBLIC WORKS DATE

10/23/07
CHIEF, BUREAU OF ENGINEERING DATE

10-24-07
CHIEF, BUREAU OF HIGHWAYS DATE

Steve Shaner 10/19/07
CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DATE

NOLAN Associates, Inc.
Engineers - Civil/Structural/Inspections
4785 Dorsey Hall Drive
Suite 124
Ellicott City, Maryland 21042
Phone: (410) 995-3651 Fax: (410) 995-1363

DES: GWF/JW					
DRN: JAH					
CHK: GWF					
DATE: OCTOBER 2007	BY	NO.	REVISION	DATE	600' SCALE MAP NO. _____ BLOCK NO. _____

TYPICAL ROADWAY SECTION AND PAVEMENT DETAILS

FAIRVIEW AVENUE
DRAINAGE AND ROADWAY IMPROVEMENTS
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN

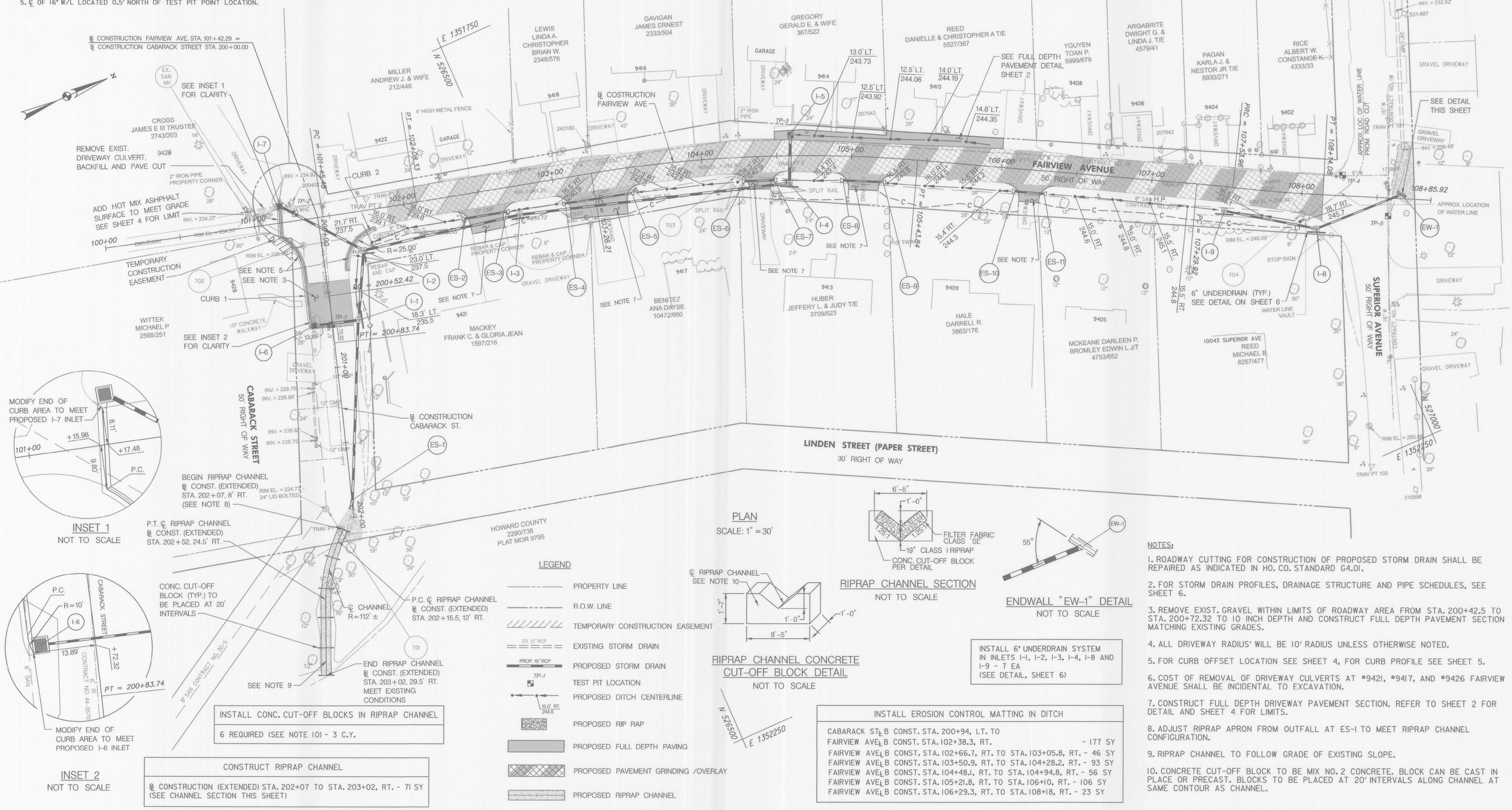
SHEET 2 OF 8

WATER LINE TEST PIT INFORMATION					
TEST PIT POINT	NORTH	EAST	GRADE ELEV.	DEPTH TO TOP W/L	REMARKS
TP-1	526,360	1,351,889	234.60	3.90′	1
TP-2	526,367	1,351,812	237.05	3.0′	2
TP-3	526,689	1,351,897	243.96	3.67′	3
TP-4	527,014	1,352,069	243.51	4.25′	4
TP-5	527,031	1,352,106	244.59	5.5′	5

1. ℄ OF 6" W/L LOCATED 0.83′ SOUTH OF TEST PIT POINT LOCATION.
2. ℄ OF 1-1/4" W/L LOCATED 6.5′ WEST OF TEST PIT POINT LOCATION.
3. ℄ OF 6" W/L LOCATED 3.0′ EAST OF TEST PIT POINT LOCATION.
4. ℄ OF 6" W/L DIRECTLY UNDER TEST PIT POINT LOCATION.
5. ℄ OF 16" W/L LOCATED 0.5′ NORTH OF TEST PIT POINT LOCATION.

CONSTRUCT MODIFIED COMBINATION CURB AND GUTTER HO. CO. SHA STD. NO. R-3.01 (SEE PROFILES AND PAVEMENT EDGE PLAN)	
FAIRVIEW AVE. ℄ CONST. STA. 101+17.48, LT. TO CABARACK ST. ℄ CONST. STA. 200+72.32, RT.	- 85 L.F.
FAIRVIED AVE. ℄ CONST. STA. 101+78.19, RT. TO CABARACK ST. ℄ CONST. STA. 200+36.3639, LT.	- 34 L.F.

INSTALL CLASS I RIP RAP OUTLET PROTECTION	
ES-1 CABARACK ST. ℄ CONSTRUCTION STA. 210+94.35 - 32 SY	
EW-1 FAIRVIEW AVE. ℄ CONSTRUCTION STA. 108+66.00, LT. - 49 SY	



INSET 1
NOT TO SCALE

INSET 2
NOT TO SCALE

INSTALL CONC. CUT-OFF BLOCKS IN RIPRAP CHANNEL
6 REQUIRED (SEE NOTE 10) - 3 C.Y.

CONSTRUCT RIPRAP CHANNEL
℄ CONSTRUCTION (EXTENDED) STA. 202+07 TO STA. 203+02, RT. - 71 SY (SEE CHANNEL SECTION THIS SHEET)

LEGEND

- PROPERTY LINE
- R.O.W. LINE
- TEMPORARY CONSTRUCTION EASEMENT
- EX. 12" RCP — EXISTING STORM DRAIN
- PROP. 15" RCP — PROPOSED STORM DRAIN
- TP-1 — TEST PIT LOCATION
- 15.0' RT. 244.6 — PROPOSED DITCH CENTERLINE
- PROPOSED RIP RAP
- PROPOSED FULL DEPTH PAVING
- PROPOSED PAVEMENT GRINDING /OVERLAY
- PROPOSED RIPRAP CHANNEL

PLAN
SCALE: 1" = 30'

RIPRAP CHANNEL CONCRETE CUT-OFF BLOCK DETAIL
NOT TO SCALE

RIPRAP CHANNEL SECTION
NOT TO SCALE

ENDWALL "EW-1" DETAIL
NOT TO SCALE

INSTALL 6" UNDERDRAIN SYSTEM IN INLETS I-1, I-2, I-3, I-4, I-8 AND I-9 - 7 EA (SEE DETAIL, SHEET 6)

INSTALL EROSION CONTROL MATTING IN DITCH	
CABARACK ST℄ B CONST. STA. 200+94, LT. TO FAIRVIEW AVE℄ B CONST. STA. 102+38.3, RT.	- 177 SY
FAIRVIEW AVE℄ B CONST. STA. 102+66.7, RT. TO STA. 103+05.8, RT.	- 46 SY
FAIRVIEW AVE℄ B CONST. STA. 103+50.9, RT. TO STA. 104+28.2, RT.	- 93 SY
FAIRVIEW AVE℄ B CONST. STA. 104+48.1, RT. TO STA. 104+94.8, RT.	- 56 SY
FAIRVIEW AVE℄ B CONST. STA. 105+21.8, RT. TO STA. 106+10, RT.	- 106 SY
FAIRVIEW AVE℄ B CONST. STA. 106+29.3, RT. TO STA. 108+18, RT.	- 23 SY

NOTES:

1. ROADWAY CUTTING FOR CONSTRUCTION OF PROPOSED STORM DRAIN SHALL BE REPAIRED AS INDICATED IN HO. CO. STANDARD G4.01.
2. FOR STORM DRAIN PROFILES, DRAINAGE STRUCTURE AND PIPE SCHEDULES, SEE SHEET 6.
3. REMOVE EXIST. GRAVEL WITHIN LIMITS OF ROADWAY AREA FROM STA. 200+42.5 TO STA. 200+72.32 TO 10 INCH DEPTH AND CONSTRUCT FULL DEPTH PAVEMENT SECTION MATCHING EXISTING GRADES.
4. ALL DRIVEWAY RADIUS' WILL BE 10′ RADIUS UNLESS OTHERWISE NOTED.
5. FOR CURB OFFSET LOCATION SEE SHEET 4, FOR CURB PROFILE SEE SHEET 5.
6. COST OF REMOVAL OF DRIVEWAY CULVERTS AT #9421, #9417, AND #9426 FAIRVIEW AVENUE SHALL BE INCIDENTAL TO EXCAVATION.
7. CONSTRUCT FULL DEPTH DRIVEWAY PAVEMENT SECTION. REFER TO SHEET 2 FOR DETAIL AND SHEET 4 FOR LIMITS.
8. ADJUST RIPRAP APRON FROM OUTFALL AT ES-1 TO MEET RIPRAP CHANNEL CONFIGURATION.
9. RIPRAP CHANNEL TO FOLLOW GRADE OF EXISTING SLOPE.
10. CONCRETE CUT-OFF BLOCK TO BE MIX NO. 2 CONCRETE. BLOCK CAN BE CAST IN PLACE OR PRECAST. BLOCKS TO BE PLACED AT 20′ INTERVALS ALONG CHANNEL AT SAME CONTOUR AS CHANNEL.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 10-24-07
CHIEF, BUREAU OF ENGINEERING — DATE 10/23/07
CHIEF, BUREAU OF HIGHWAYS — DATE 10-24-07
CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT — DATE 10/19/07

NOLAN Associates, Inc.
Engineers - Civil/Structural/Inspections
4785 Dorsey Hall Drive
Suite 124
Ellicott City, Maryland 21042
Phone: (410) 995-3651 Fax: (410) 995-1383

DES: GWF/JW
DRN: JAH
CHK: GWF
DATE: OCTOBER 2007

BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

ROADWAY PLAN

FAIRVIEW AVENUE
DRAINAGE AND ROADWAY IMPROVEMENTS
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

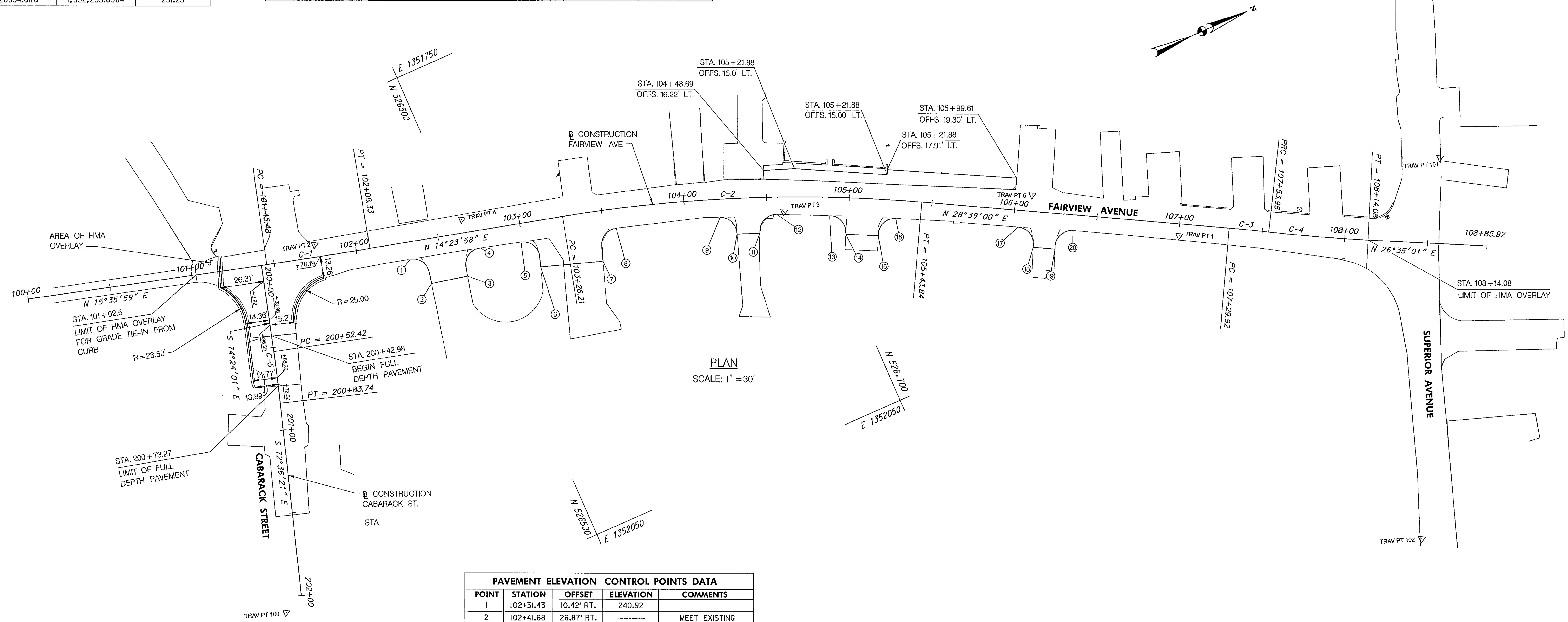
SCALE: AS SHOWN

SHEET 3 OF 8

TRAVERSE POINTS CONTROL COORDINATES			
POINT NO.	NORTH	EAST	ELEVATION
TRAV PT 1	526893.6700	1,352,027.4400	245.64
TRAV PT 2	526414.1800	1,351,821.7200	239.70
TRAV PT 3	526681.3000	1,351,918.0700	244.37
TRAV PT 4	526501.4500	1,351,843.6900	241.68
TRAV PT 5	526822.5500	1,351,969.2500	244.70
TRAV PT 100	526309.7008	1,352,017.3473	223.82
TRAV PT 101	527056.6785	1,352,047.8891	239.82
TRAV PT 102	526954.6116	1,352,253.0964	251.25

CURVE DATA – FAIRVIEW AVENUE					
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH
C-1	1°12'01.08" LT	1°54'35.49"	3,000.00'	31.4249'	62.8476'
C-2	14°15'02.10" RT	6°32'53.12"	875.00'	109.3793'	217.6297'
C-3	1°22'39.97" RT	5°43'46.48"	1,000.00'	12.0239'	24.0466'
C-4	3°26'39.58" LT	5°43'46.48"	1,000.00'	30.0665'	60.1149'

CURVE DATA – CABARACK STREET					
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH
C-5	1°47'39.46" RT	5°43'46.48"	1,000.00'	15.6595'	31.3164'



PAVEMENT ELEVATION CONTROL POINTS DATA				
POINT	STATION	OFFSET	ELEVATION	COMMENTS
1	102+31.43	10.42' RT.	240.92	
2	102+41.68	26.87' RT.	———	MEET EXISTING
3	102+63.85	26.05' RT.	———	MEET EXISTING
4	102+73.95	10.57' RT.	241.59	
5	102+98.94	11.12' RT.	241.86	
6	103+08.27	27.74' RT.	———	MEET EXISTING
7	103+46.60	30.36' RT.	———	MEET EXISTING
8	103+57.41	11.75' RT.	242.65	
9	104+21.36	10.97' RT.	243.81	
10	104+31.39	24.78' RT.	———	MEET EXISTING
11	104+45.17	24.83' RT.	———	MEET EXISTING
12	104+55.98	10.31' RT.	244.33	
13	104+88.41	11.01' RT.	244.46	
14	104+98.62	21.46' RT.	———	MEET EXISTING
15	105+18.72	21.99' RT.	———	MEET EXISTING
16	105+28.78	10.95' RT.	244.77	
17	106+03.07	10.06' RT.	245.28	
18	106+13.20	21.43' RT.	———	MEET EXISTING
19	106+26.33	21.43' RT.	———	MEET EXISTING
20	106+36.26	9.50' RT.	245.49	

FAIRVIEW AVENUE BASELINE CONSTRUCTION CONTROL COORDINATES		
STATION	NORTH	EAST
POB 100+00.00	526,242.9085	1,351,781.8709
PC 101+45.48	526,383.0339	1,351,820.9940
PT 102+08.33	526,443.7390	1,351,837.2594
PC 103+26.21	526,557.9107	1,351,866.5726
PT 105+43.84	526,759.8413	1,351,946.2160
PC 107+29.92	526,923.1380	1,352,035.4334
PRC 107+53.96	526,944.0998	1,352,047.2154
PT 108+14.08	526,997.0188	1,352,075.7161
POE 109+00.00	527,061.2641	1,352,107.8646

CABARACK STREET BASELINE CONSTRUCTION CONTROL COORDINATES		
STATION	NORTH	EAST
POB 200+00.00	526,379.9583	1,351,820.1353
PC 200+52.42	526,365.8609	1,351,870.6274
PT 200+83.74	526,356.9686	1,351,900.6534
POE 202+00.00	526,322.2136	1,352,011.5969

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[signature] 10-24-07
DIRECTOR OF PUBLIC WORKS — DATE

[signature] 10/23/07
CHIEF, BUREAU OF ENGINEERING — DATE

[signature] 10-24-07
CHIEF, BUREAU OF HIGHWAYS — DATE

Steve Sharar 10/19/07
CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT — DATE

NOLAN Associates, Inc.
Engineers - Civil/Structural/Inspections
4785 Dorsey Hall Drive
Suite 124
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Phone: (410) 995-3651 Fax: (410) 995-1363

DES: GWF/JW
DRN: JAH
CHK: GWF
DATE: OCTOBER 2007

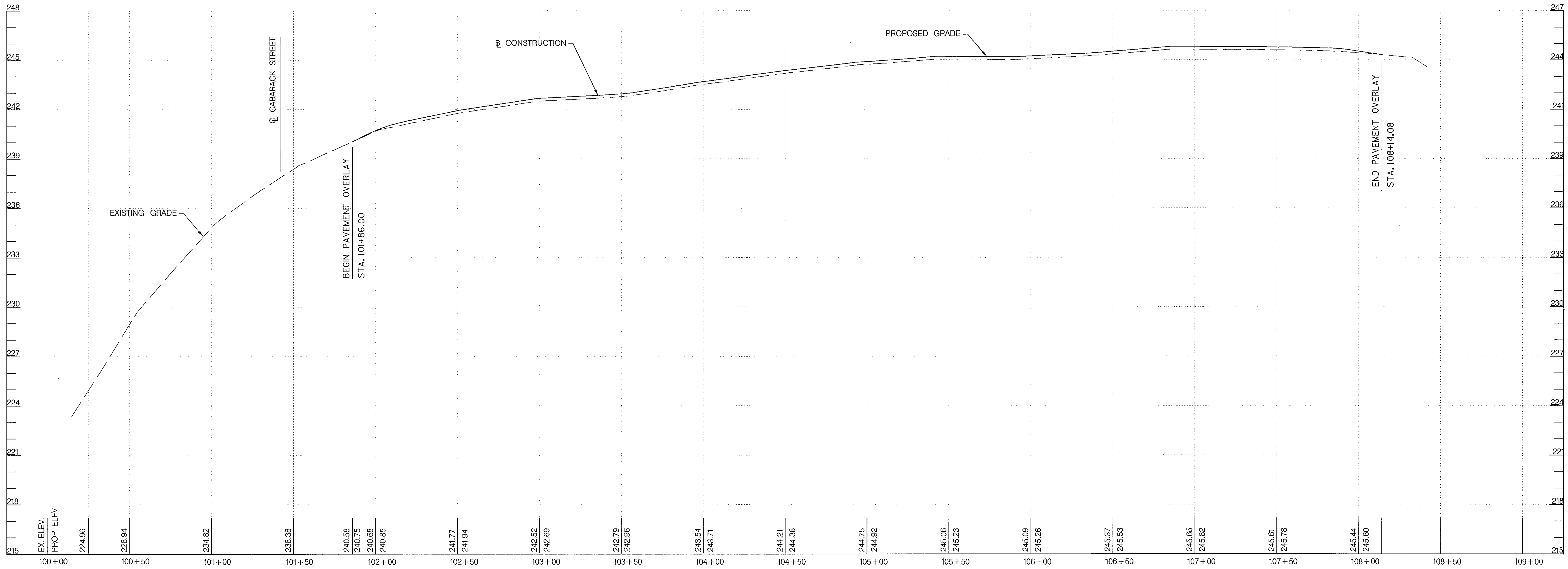
BY	NO.	REVISION	DATE

PAVEMENT EDGE PLAN & CONTROL POINT DATA

600' SCALE MAP NO. ________ BLOCK NO. ________

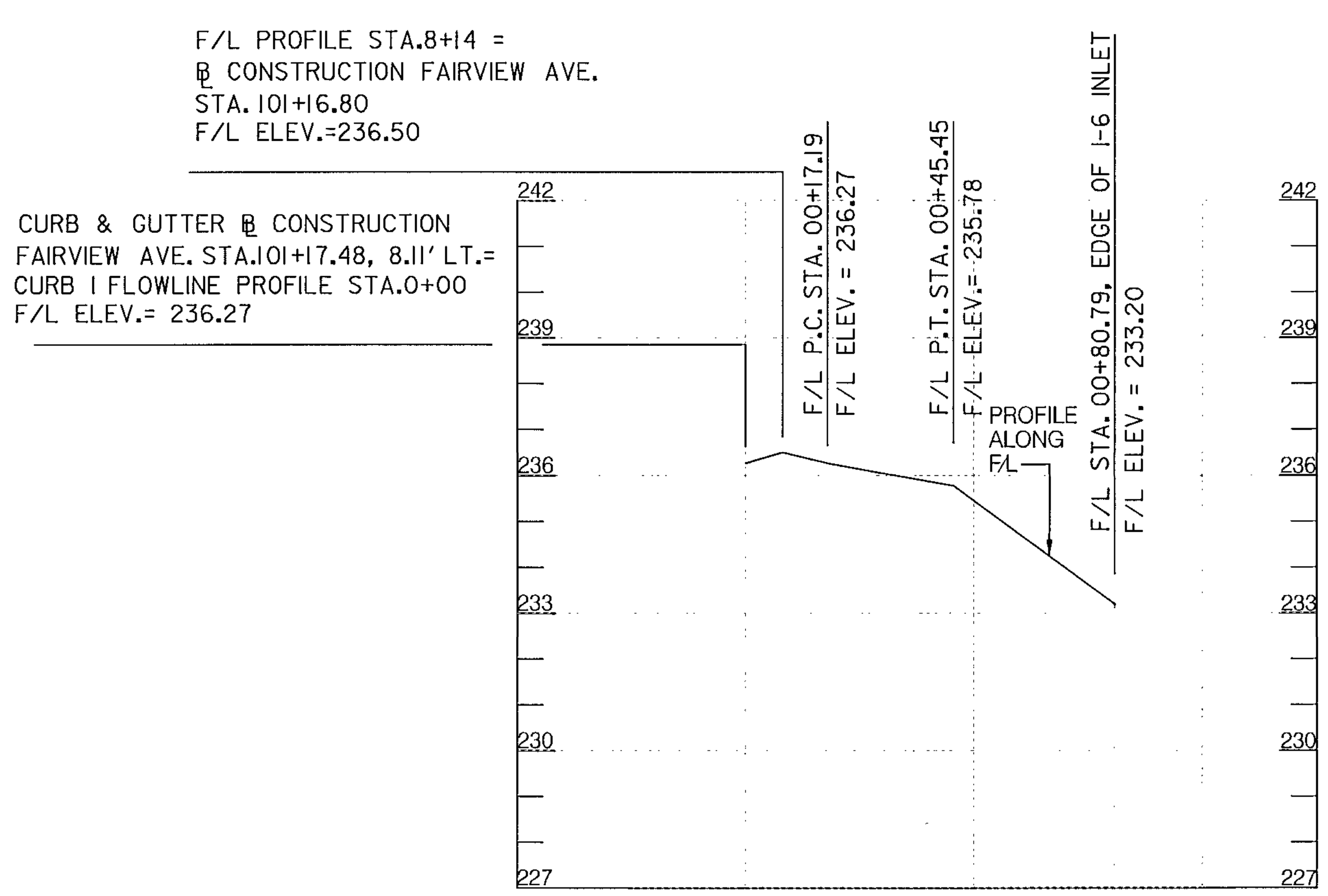
FAIRVIEW AVENUE
DRAINAGE AND ROADWAY IMPROVEMENTS
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN



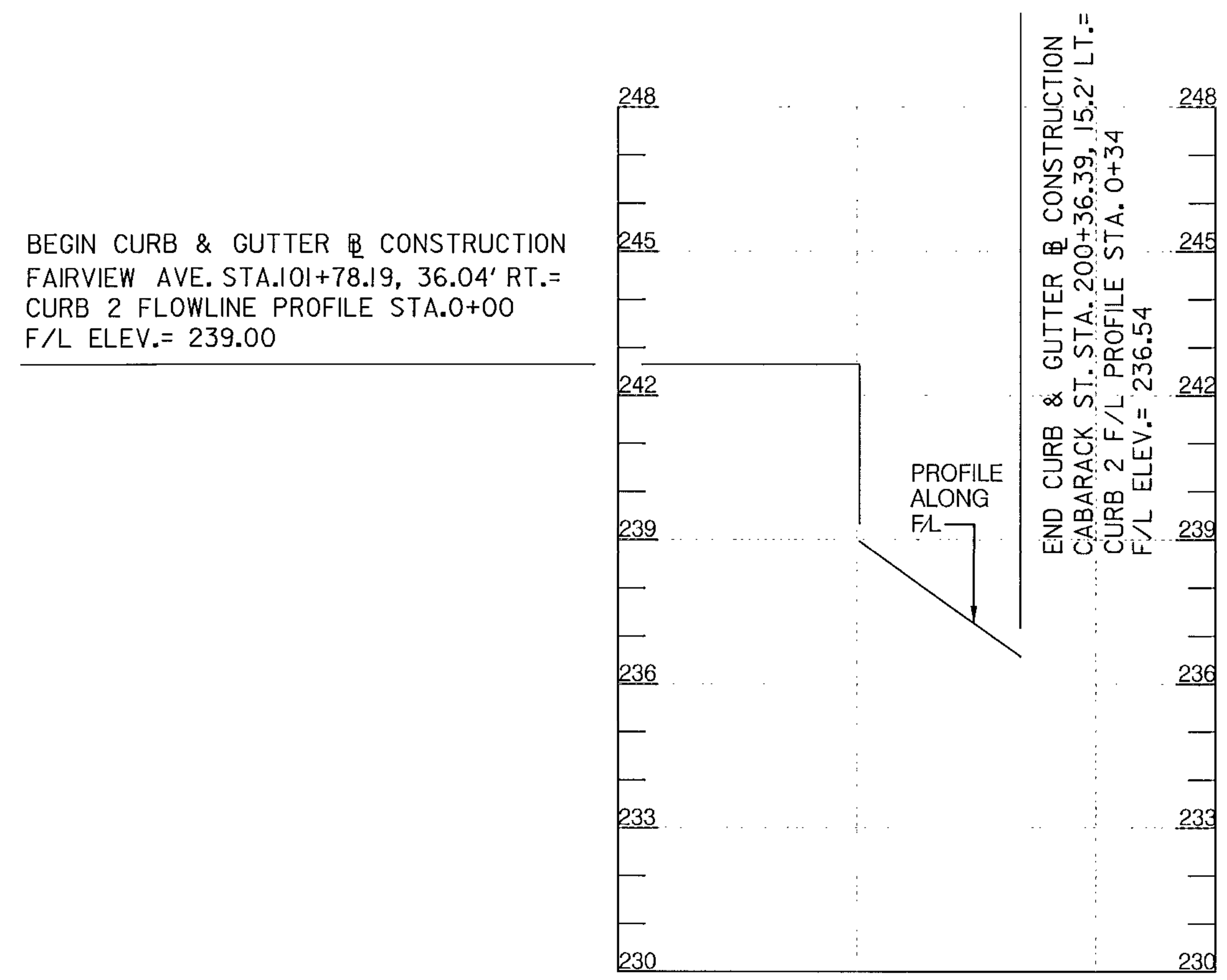
FAIRVIEW AVENUE ℄ CONSTRUCTION PROFILE

SCALE: HORIZ. 1" =30'
VERT. 1" =3'



CURB 1 FLOWLINE PROFILE

SCALE: HORIZ. 1" =30'
VERT. 1" =3'



CURB 2 FLOWLINE PROFILE

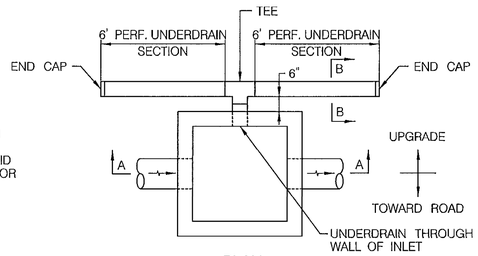
SCALE: HORIZ. 1" =30'
VERT. 1" =3'

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	NOLAN Associates, Inc.	DES: GWF/JW					
Michael A. [signature] 10-24-07 DIRECTOR OF PUBLIC WORKS DATE	[signature] 10/23/07 CHIEF, BUREAU OF ENGINEERING DATE	Engineers - Civil/Structural/Inspections 4785 Dorsey Hall Drive Suite 124 Ellicott City, Maryland 21042	DRN: JW/JAH	ROADWAY AND CURB PROFILES	FAIRVIEW AVENUE DRAINAGE AND ROADWAY IMPROVEMENTS ELECTION DISTRICT NO. 6 HOWARD COUNTY, MARYLAND	SCALE: AS SHOWN
[signature] 10-24-07 CHIEF, BUREAU OF HIGHWAYS DATE	Steve Sharar 10/19/07 CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT DATE	Phone:(410) 995-3651 Fax:(410) 995-1363	CHK: GWF			SHEET 5 OF 8
			DATE: BY NO. REVISION DATE	600' SCALE MAP NO. ____ BLOCK NO. ____		

DRAINAGE STRUCTURE SCHEDULE

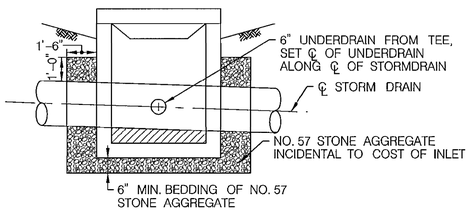
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP EL.	STD. NO.
I-1	TYPE 'D' INLET (2)	STA. 200+70.8, 17.5' LT.	227.60 (15") 227.35 (18")	227.25	235.83	HO. CO. STD. NO. 4.39
I-2	TYPE 'D' INLET (2)	STA. 101+69.2, 26.0' RT.	230.48 (15") 230.23 (18")	230.13	237.83	HO. CO. STD. NO. 4.39
I-3	TYPE 'D' INLET (2)	STA. 102+75.0, 19.4' RT.	235.18	235.08	241.43	HO. CO. STD. NO. 4.39
I-4	TYPE 'D' INLET (2)	STA. 104+56.8, 18.0' RT.	237.22	236.97	244.17	HO. CO. STD. NO. 4.39
I-5	TYPE 'S' INLET	STA. 104+58.5, 14.5' LT.	——	237.28	243.30	HO. CO. STD. NO. 4.22
I-6	TYPE 'S' INLET	STA. 200+70.8, 12.1' RT.	——	227.75	233.20	HO. CO. STD. NO. 4.22
I-7	TYPE 'S' INLET	STA. 101+18.4, 11.0' LT.	——	230.79	235.50	HO. CO. STD. NO. 4.22
I-8	TYPE 'D' INLET (2)	STA. 108+11.0, 22.7' RT.	241.77	241.52	246.83	HO. CO. STD. NO. 4.39
I-9	TYPE 'D' INLET (2)	STA. 107+50.0, 15.5' RT.	——	242.39	245.33	HO. CO. STD. NO. 4.39
ES-1	CONC. END SECTION	STA. 201+88.4, 0.4' LT.	224.16	224.00	——	HO. CO. STD. NO. 5.52
ES-2	12" METAL END SECTION, 16 GA.	STA. 102+38.3, 16.0' RT.	240.03	240.00	——	HO. CO. STD. NO. 5.61
ES-3	12" METAL END SECTION, 16 GA.	STA. 102+66.7, 16.0' RT.	240.50	240.47	——	HO. CO. STD. NO. 5.61
ES-4	12" METAL END SECTION, 16 GA.	STA. 103+05.8, 17.0' RT.	240.94	240.92	——	HO. CO. STD. NO. 5.61
ES-5	12" METAL END SECTION, 16 GA.	STA. 103+50.9, 17.5' RT.	241.58	241.56	——	HO. CO. STD. NO. 5.61
ES-6	12" METAL END SECTION, 16 GA.	STA. 104+28.2, 16.4' RT.	242.93	242.90	——	HO. CO. STD. NO. 5.61
ES-7	12" METAL END SECTION, 16 GA.	STA. 104+48.1, 16.0' RT.	243.27	243.24	——	HO. CO. STD. NO. 5.61
ES-8	12" METAL END SECTION, 16 GA.	STA. 104+94.8, 16.5' RT.	243.50	243.49	——	HO. CO. STD. NO. 5.61
ES-9	12" METAL END SECTION, 16 GA.	STA. 105+21.8, 16.5' RT.	243.72	243.71	——	HO. CO. STD. NO. 5.61
ES-10	12" METAL END SECTION, 16 GA.	STA. 106+10.0, 15.3' RT.	244.33	244.32	——	HO. CO. STD. NO. 5.61
ES-11	12" METAL END SECTION, 16 GA.	STA. 106+29.3, 15.0' RT.	244.43	244.41	——	HO. CO. STD. NO. 5.61
EW-1	TYPE 'C' END WALL (1)	STA. 108+66.0, 2.7' LT.	——	240.66	——	HO. CO. STD. NO. 5.21

(1) ENDWALL IS SKEWED 55° FROM ℄ 18" S.D., SEE PLAN
(2) INSTALL 6" UNDERDRAIN SYSTEM AS SHOWN IN DETAIL, THIS SHEET

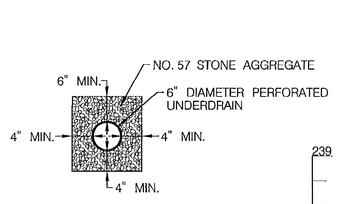


PLAN

NOTES:
1. UNDERDRAIN TO BE PLACED ON UPGRADE SIDE OF INLET.
2. UNDERDRAIN SYSTEM TO BE PAID FOR ON A "PER EACH" BASIS FOR EACH INLET.
3. REFER TO MDSHA STANDARD SPECIFICATION SECTION 306 FOR ADDITIONAL INFORMATION.



SECTION A-A



SECTION B-B

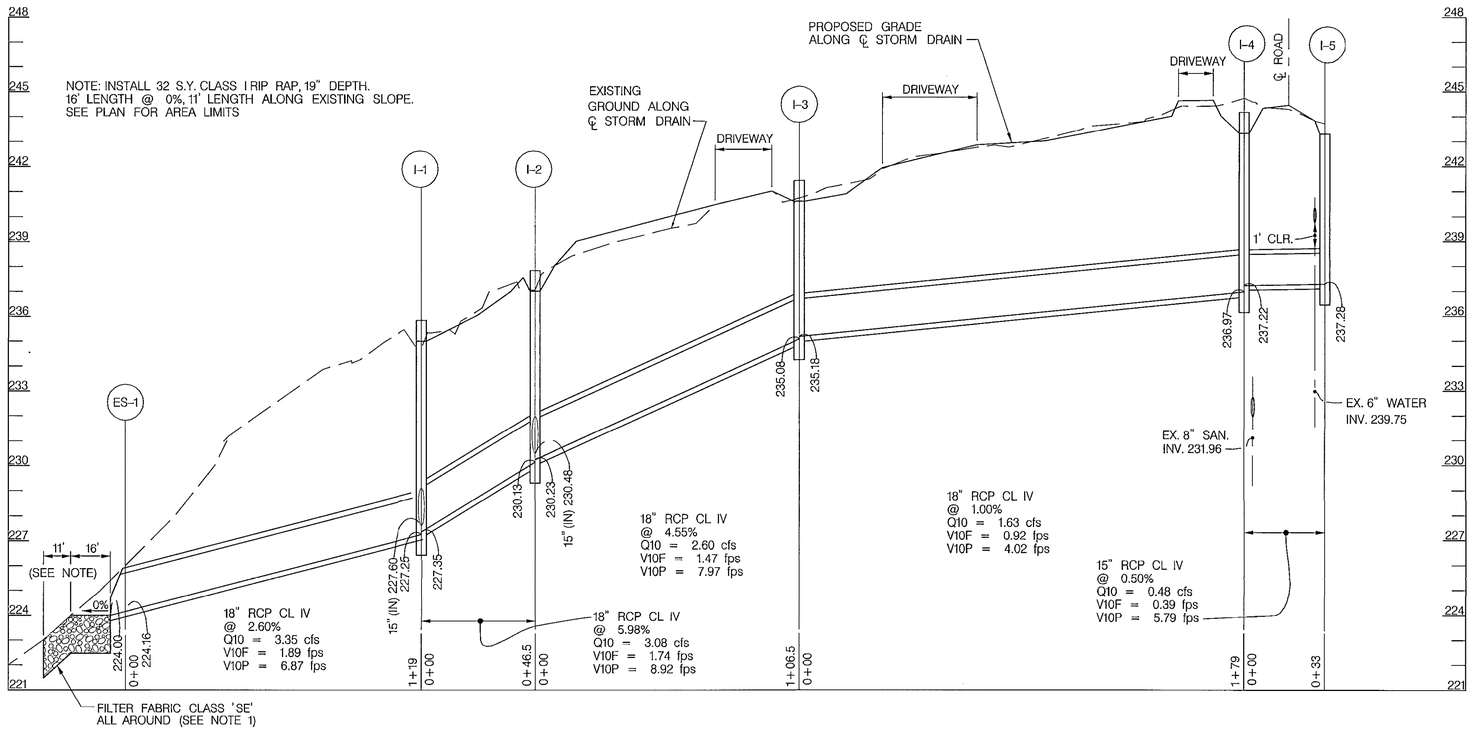
UNDERDRAIN SYSTEM DETAIL FOR STORM DRAIN INLETS

SCALE: NOT TO SCALE

DRAINAGE PIPE SCHEDULE

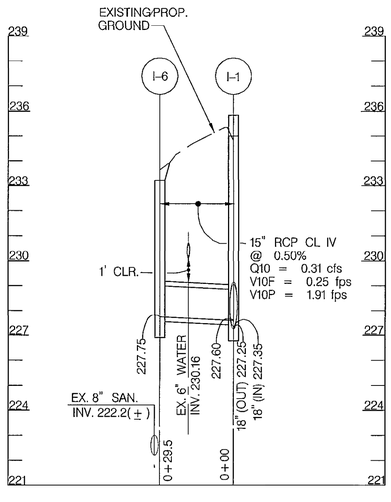
FROM STRUCT.	TO STRUCT.	SIZE (IN.)	TYPE	LENGTH (FT.)
ES-1	I-1	18"	RCP CL IV	119
I-1	I-2	18"	RCP CL IV	47
I-2	I-3	18"	RCP CL IV	107
I-3	I-4	18"	RCP CL IV	179
I-4	I-5	15"	RCP CL IV	33
I-6	I-1	15"	RCP CL IV	30
I-7	I-2	15"	RCP CL IV	63
I-8	EW-1	18"	RCP CL IV	60
I-9	I-8	15"	RCP CL IV	62
ES-2	ES-3	14"X9"	ALCMP, 16 GA.	28.5
ES-4	ES-5	14"X9"	ALCMP, 16 GA.	44.5
ES-6	ES-7	14"X9"	ALCMP, 16 GA.	20
ES-8	ES-9	14"X9"	ALCMP, 16 GA.	26.5
ES-10	ES-11	14"X9"	ALCMP, 16 GA.	19

NOTE:
1. COST AND INSTALLATION OF FILTER FABRIC SHALL BE INCIDENTAL TO CLASS I RIP RAP.



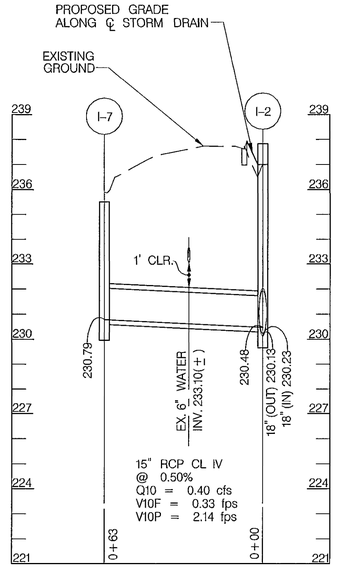
STORM DRAIN PROFILE ES-1 TO 1-5

SCALE: HORIZ. 1" = 30'
VERT. 1" = 3'



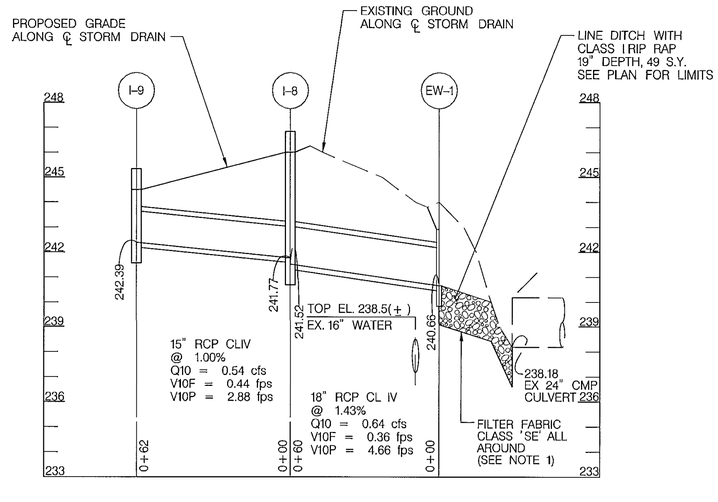
STORM DRAIN PROFILE I-6 TO 1-1

SCALE: HORIZ. 1" = 30'
VERT. 1" = 3'



STORM DRAIN PROFILE I-7 TO 1-2

SCALE: HORIZ. 1" = 30'
VERT. 1" = 3'



STORM DRAIN PROFILE I-9 TO EW-1

SCALE: HORIZ. 1" = 30'
VERT. 1" = 3'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 10-24-07
CHIEF, BUREAU OF ENGINEERING — DATE 10/23/07
CHIEF, BUREAU OF HIGHWAYS — DATE 10-24-07
CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT — Steve Shevon — DATE 10/19/07

NOLAN Associates, Inc.
Engineers - Civil/Structural/Inspections
4785 Dorsey Hall Drive
Suite 124
Ellicott City, Maryland 21042
Phone: (410) 995-3651 Fax: (410) 995-1363

PROFESSIONAL ENGINEER — 15812 — 10/24/07

DES: GWF				
DRN: JW/JAH				
CHK: GWF				
DATE: OCTOBER 2007	BY	NO.	REVISION	DATE

600' SCALE MAP NO. _____ BLOCK NO. _____

STORM DRAIN PROFILES
DRAINAGE STRUCTURE & PIPE SCHEDULES

FAIRVIEW AVENUE
DRAINAGE AND ROADWAY IMPROVEMENTS
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

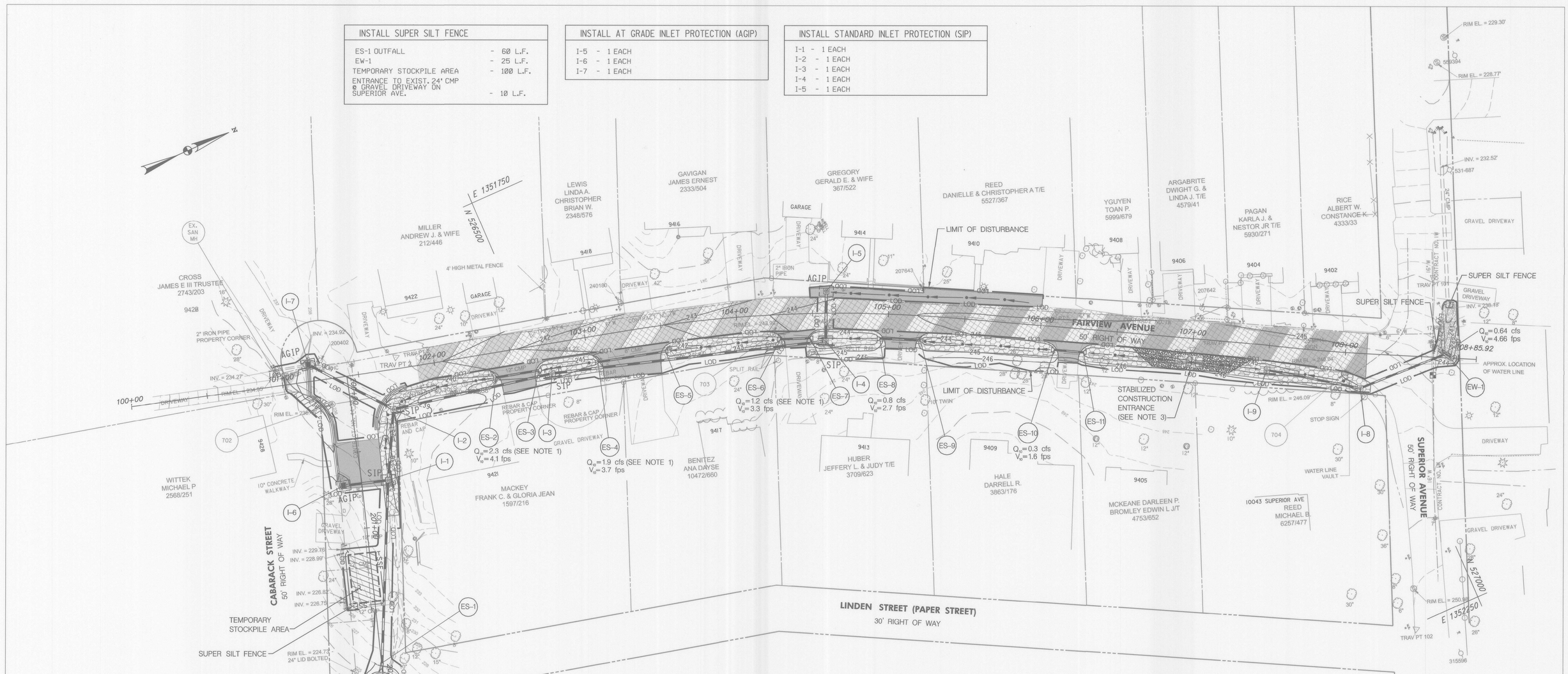
SCALE: AS SHOWN

SHEET 6 OF 8

INSTALL SUPER SILT FENCE	
ES-1 OUTFALL	- 60 L.F.
EW-1	- 25 L.F.
TEMPORARY STOCKPILE AREA	- 100 L.F.
ENTRANCE TO EXIST. 24" CMP @ GRAVEL DRIVEWAY ON SUPERIOR AVE.	- 10 L.F.

INSTALL AT GRADE INLET PROTECTION (AGIP)
I-5 - 1 EACH
I-6 - 1 EACH
I-7 - 1 EACH

INSTALL STANDARD INLET PROTECTION (SIP)
I-1 - 1 EACH
I-2 - 1 EACH
I-3 - 1 EACH
I-4 - 1 EACH
I-5 - 1 EACH



PLAN
SCALE: 1" = 30'

NOTES:

1. DISCHARGE SHOWN REPRESENTATIVE OF NO FLOW INTERCEPTION BY PROPOSED INLETS (ASSUME CLOGGED).
2. FOR SEQUENCE OF CONSTRUCTION, SEE SHEET 8.
3. LOCATION OF STABILIZED CONSTRUCTION ENTRANCE SHOWN FOR INFORMATION PURPOSE. THE EXACT LOCATION TO BE NEGOTIATED IN FIELD.
4. FOR RIPRAP CHANNEL NOTES AND DETAILS, REFER TO SHEET 3.

SUMMARY OF EARTHWORK

EXCAVATION	
CUT	175 C.Y.
TOPSOIL REMOVED UNDER CUT	135 C.Y.
EXCAVATION AVAILABLE	40 C.Y.
DENSIFICATION (0.85%)	34 C.Y.
EXCAVATION AVAILABLE FOR EMBANKMENT	34 C.Y.

EMBANKMENT REQUIRED	
FILL REQUIRED	15 C.Y.
EXCAVATION AVAILABLE FOR EMBANKMANT	-34 C.Y.
WASTE	19 C.Y.

N 526500
E 1352250

THIS PLAN IS FOR SEDIMENT AND EROSION CONTROL PURPOSE ONLY

LEGEND

AGIP	AT GRADE INLET PROTECTION
SIP	STANDARD INLET PROTECTION
LOD	LIMIT OF DISTURBANCE
SSF	SUPER SILT FENCE
	RIGHT OF WAY LINE
	PROPERTY LINE
450	EXISTING CONTOUR
450	PROPOSED CONTOUR
	PROPOSED FULL DEPTH PAVING
	PROPOSED PAVEMENT GRINDING /OVERLAY
	EROSION CONTROL MATTING
	TEMPORARY STOCKPILE AREA
EX. 12" RCP	EXISTING STORMDRAIN
PROP. 15" RCP	PROPOSED STORMDRAIN
SCE	STABILIZED CONSTRUCTION ENTRANCE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 10-24-07
CHIEF, BUREAU OF ENGINEERING — DATE 10/23/07
CHIEF, BUREAU OF HIGHWAYS — DATE 10-24-07
CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT — DATE 10/19/07

NOLAN Associates, Inc.
Engineers - Civil/Structural/Inspections
4785 Dorsey Hall Drive
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Phone: (410) 995-3651 Fax: (410) 995-1363

DES: GWF/JW				
DRN: JAH				
CHK: GWF				
DATE: OCTOBER 2007	BY	NO.	REVISION	DATE

EROSION AND SEDIMENT CONTROL PLAN & SUMMARY OF EARTHWORK

600' SCALE MAP NO. _____ BLOCK NO. _____

FAIRVIEW AVENUE
DRAINAGE AND ROADWAY IMPROVEMENTS
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN

SHEET 7 OF 8

SPECIFICATIONS FOR VEGETATION ESTABLISHMENT

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation:--Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments:--In lieu of soil test recommendations, use one of the following schedules:

1. Preferred--Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.)
2. Acceptable--Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.

Seeding--For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue and 2 lbs per acre (.05 lbs/1000 sq. ft.) of weeping lovegrass. During the period of October 16 thru February 28, protect site by Option (1) - 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) - Use sod. Option (3) - Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching--Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

Maintenance--Inspect all seeding areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.

Seedbed preparation:--Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments:--Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.).

Seeding--For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq. ft.). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq. ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching--Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed free small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slopes 8 ft. or higher, use 348 gal per acre (8 gal/1000 sq. ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

STANDARD SEDIMENT CONTROL NOTES

1. A minimum of 24 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction, (313-1850).
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current 'MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL', and revisions thereto.
3. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec.51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
7. Site Analysis

Total Area of Site	0.44	Acres
Area Disturbed	0.46	Acres
Area to be roofed or paved	0.13	Acres
Area to be vegetatively stabilized	0.31	Acres
Total Cut	175	Cu. Yds.
Total Fill	15	Cu. Yds.
Offsite Waste/Borrow Area Location	To Be Determined By Contractor at a site with an active grading permit.	

It is the responsibility of the contractor to identify the soil/borrow site and notify and gain the approval from the sediment control inspector of the site and its grading permit number at the time of construction.

8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment control must be provided, if deemed necessary by the Howard County

SPECIFICATIONS FOR TOPSOIL

Definition: Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose: To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

I. This practice is limited to areas having 2:1 or flatter slopes where:
   a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
   b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
   c. The original soil to be vegetated contains material toxic to plant growth.
   d. The soil is so acidic that treatment with limestone is not feasible.

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:
   i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
   ii. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.
   iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

III. For sites having disturbed areas under 5 acres:
   i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

IV. For sites having disturbed areas over 5 acres:
   i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
      a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
      b. Organic content of topsoil shall be not less than 1.5 percent by weight.
      c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
      d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by appropriate authority, may be used in lieu of natural topsoil.

   ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

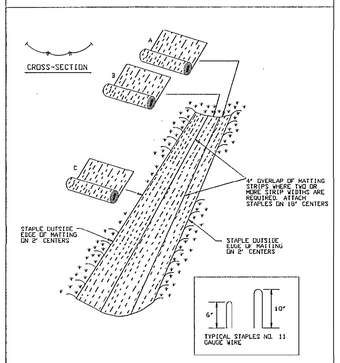
V. Topsoil Application
   i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
   ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4"-8" higher in elevation.
   iii. Topsoil shall be uniformly distributed in a 4"-8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
   iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

VI. Alternative for Permanent Seeding. - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
   i. Composted Sludge Material for use as soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
      a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of Environment under COMAR 26.04.06.
      b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a Ph of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
      c. Composted sludge shall be applied at the rate of 1 ton/1,000 square feet.
   ii. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1000 square feet, and 1/3 the normal lime application rate.

SEQUENCE OF CONSTRUCTION

	DURATION
1. OBTAIN GRADING PERMIT.	
2. NOTIFY HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS (410-313-1880) AT LEAST 24 HOURS BEFORE STARTING ANY WORK.	
3. INSTALL SUPER SILT FENCE AT STOCKPILE AREA. CONSTRUCT STORM DRAIN SYSTEMS ES-1 TO I-5 AND EW-1 TO I-9. BEGIN CONSTRUCTION AT ES-1 AND EW-1 PROCEEDING UP-GRADE WITH THE AMOUNT OF OPEN EXCAVATION THAT CAN BE BACKFILLED AND STABILIZED AT END OF WORK DAY. INSTALL SUPER SILT FENCE AT ES-1 AND EW-1 OUTFALL. INSTALL INLET PROTECTION AT INLETS AS INSTALLED. FOR INLET I-3, I-4 AND I-9 THE DRAINAGE AREA EXCEEDS 1/4 AC. FOR THESE INLETS. WRAP SUPER SILT FENCE AROUND INLET IN ADDITION TO STANDARD INLET PROTECTION.	3 WEEKS
4. CONSTRUCT RIPRAP CHANNEL AS INDICATED ON ROADWAY PLAN FROM ES-1 TO BASE OF SLOPE. PHASE CONSTRUCTION AT LOW END AND PROCEED UP-GRADE PERFORMING ONLY THE AMOUNT OF EXCAVATION THAT CAN BE STABILIZED AT THE END OF THE WORK DAY. CONTRACTOR SHALL BE AWARE OF STEEP SLOPES IN AREA AND UTILIZE EQUIPMENT FOR CONSTRUCTION THAT WILL REDUCE AMOUNT OF DISTURBANCE.	2 DAYS
5. GRADE EARTHEN DITCH AND INSTALL DRIVEWAY CULVERTS AND ASSOCIATED PAVING OR GRADED AGGREGATE BASE TO ALLOW DRIVEWAY USE. PHASE CONSTRUCTION AT LOW END AND PROCEED UP-GRADE PERFORMING THE ONLY AMOUNT OF GRADING THAT CAN BE STABILIZED AT THE END OF THE WORK DAY.	2 WEEKS
6. REMOVE EXISTING PAVEMENT AND CONSTRUCT PAVED SHOULDER/DITCH ALONG LEFT SIDE OF FAIRVIEW AVE THAT DRAINS TO I-5. LIMIT THE AMOUNT OF EXCAVATION THAT CAN BE BACKFILLED AND STABILIZED AT THE END OF WORK DAY.	3 DAYS
7. CONSTRUCT CURB AND GUTTER SECTIONS.	3 DAYS
8. EXCAVATE AND PLACE FULL DEPTH PAVEMENT SECTION ALONG CABARACK STREET LIMITING THE AMOUNT OF WORK THAT CAN BE DONE AND STABILIZED WITH GRADED AGGREGATE BASE (G.A.B.) AT THE END OF THE WORK DAY.	1 WEEK
9. GRIND AND OVERLAY REMAINING ROADWAY AREA.	1 WEEK
10. STABILIZE ANY REMAINING DISTURBED AREAS.	1 DAY
11. WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES.	1 DAY
	TOTAL: 8 WEEKS±

DETAIL 30 - EROSION CONTROL MATTING



EROSION CONTROL MATTING

Construction Specifications

1. Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".

2. Staple the 4" overlap in the channel center using an 18" spacing between staples.

3. Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.

4. Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.

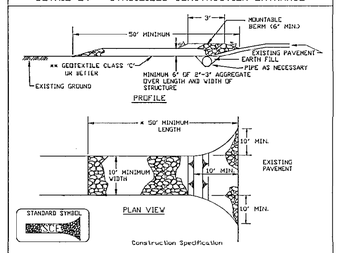
5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", shingle fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.

6. The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed-in.

U.S. DEPARTMENT OF AGRICULTURE — SOIL CONSERVATION SERVICE | PAGE D - 22 - 2A | MARYLAND DEPARTMENT OF ENVIRONMENT — WATER MANAGEMENT ADMINISTRATION

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).

2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.

3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.

4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

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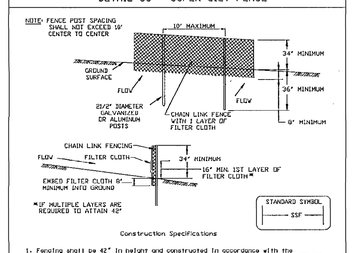
DETAIL 33 - SUPER SILT FENCE



Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.

2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.

3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.

4. Filter cloth shall be embedded a minimum of 8" into the ground.

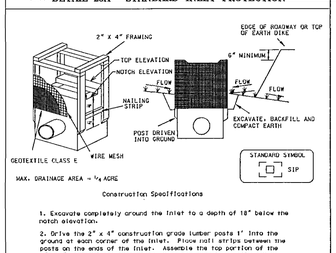
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.

6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height

7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min)	Test: MSMT 509
Flow Rate	0.3 gal/ft²/minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

DETAIL 23A - STANDARD INLET PROTECTION



Construction Specifications

1. Excavate completely around the inlet to a depth of 18" below the notch elevation.

2. Drive the 2" x 4" construction grade lumber posts 1' into the ground at each corner of the inlet. Place roll strips between the posts on the ends of the inlet. Assemble the top portion of the 2" x 4" frame using the overlap joint shown on Detail 23A. The top of the frame (weir) must be 6" below adjacent roadways where flooding and safety issues may arise.

3. Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.

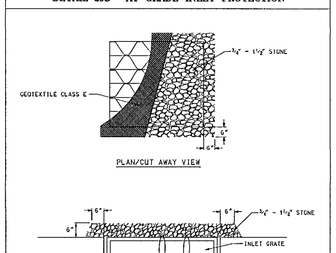
4. Stretch the Geotextile Class E tightly over the wire mesh with the geotextile extending from the top of the frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.

5. Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides.

6. If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.

7. The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.

DETAIL 23B - AT GRADE INLET PROTECTION



Construction Specifications

1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.

2. Place 3/4" to 1 1/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

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THIS PLAN IS FOR SEDIMENT AND EROSION CONTROL PURPOSE ONLY

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS	DATE 10-24-07	CHIEF, BUREAU OF ENGINEERING	DATE 10/23/07
CHIEF, BUREAU OF HIGHWAYS	DATE 10-24-07	CHIEF, DIVISION OF TRANSPORTATION PROJECTS AND WATERSHED MANAGEMENT	DATE 10/9/07

NOLAN Associates, Inc.
Engineers - Civil/Structural/Inspections
4785 Dorsey Hall Drive
Suite 124
Ellicott City, Maryland 21042
Phone: (410) 995-3651 Fax: (410) 995-1363

10/1/07

DES: GWF/JW					
DRN: JAH					
CHK: GWF					
DATE: OCTOBER 2007	BY	NO.	REVISION	DATE	

600' SCALE MAP NO. _____ BLOCK NO. _____

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

FAIRVIEW AVENUE
DRAINAGE AND ROADWAY IMPROVEMENTS
ELECTION DISTRICT NO. 6
HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN

SHEET 8 OF 8