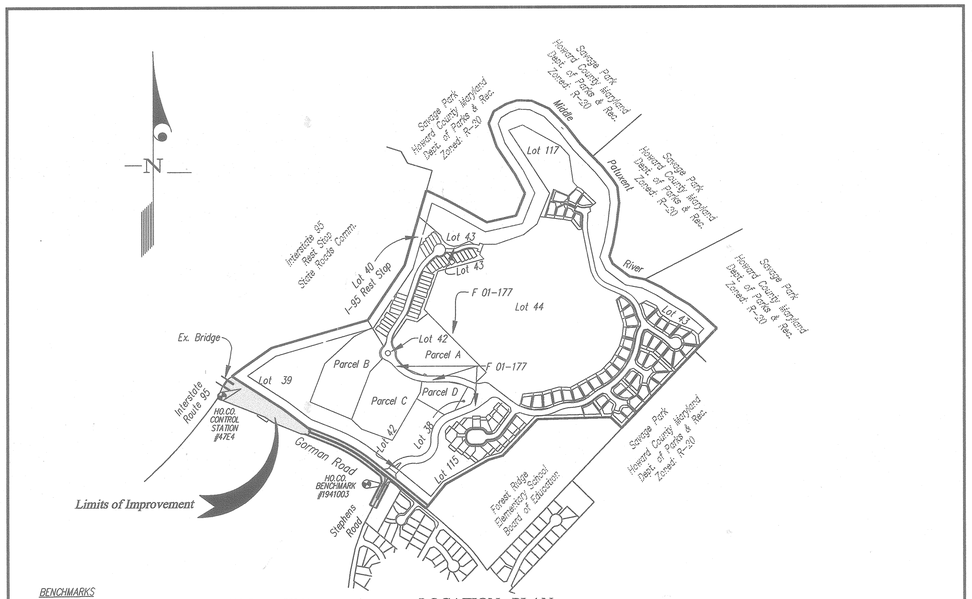
CONSTRUCTION PLAN FOR ROAD IMPROVEMENTS TO GORMAN ROAD STA. 97+99.27 TO 118+00 AND STEPHENS ROAD STA. 0+00 TO 2+55

GENERAL NOTES

1. THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
2. PROJECT BACKGROUND:
   LOCATION: GORMAN ROAD @ STEPHENS ROAD
   TAX MAP: 36-18, 37-13
   ZONING: R-ED, R-SC-MXD-3, AND PEC-MXD-3.
   ELECTION DISTRICT: 6
   AREA OF ROAD R/W TO BE DEDICATED: 1.53 Ac.
   LIMIT OF SUBMISSION: 6.24 Ac. (DISTURBED AREA)
3. SEE DEPARTMENT OF PLANNING & ZONING FILE NUMBERS:
   S 00-13, WP 00-88, WP 00-126, WP 01-60, PB 345, WP 01-94, F 01-177, AND ZB-979.
4. THE TOPOGRAPHY SHOWN HAS A 2' CONTOUR INTERVAL AND WAS DETERMINED BY : AIERL PHOTOGRAPHY BY DAFT, McCUNE & WALKER, SUMMER 1998.
5. PUBLIC WATER AND SEWER TO BE UTILIZED.
   SITE IS IN METROPOLITAN DISTRICT.
6. HORIZONTAL AND VERTICAL CONTROL BASED ON HOWARD COUNTY CONTROL STATIONS 21941003 & 21941004.
7. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM BEST AVAILABLE RECORDS. THE CONTRACTOR MUST DETERMINE THIS EXACT LOCATION AND ELEVATION OF THE MAINS BY DIGGING TEST PITS BY HAND AT ALL CROSSINGS WELL IN ADVANCE OF CONSTRUCTION. ANY DISCREPANCIES MUST BE COMMUNICATED TO THE ENGINEER AT ONCE.
8. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY AND MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
9. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS /DIVISION OF CONSTRUCTION INSPECTION AT 1 (410) 313 – 1880 AT LEAST FIVE (5) DAYS PRIOR TO THE START OF WORK.
10. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THE PLANS.

MISS UTILITY	1-800-257-7777
VERIZON	1-800-446-5266
HOWARD COUNTY BUREAU OF UTILITIES	410-313-4900
AT&T CABLE LOCATION DIVISION	393-3553
BALTIMORE GAS & ELECTRIC CO.	410-850-4620 & 410-787-9068

11. TYPES OF STORM DRAINS REFER TO THE STANDARD DETAILS OF HOWARD COUNTY AND MDSHA.
12. TRENCH COMPACTION FOR STORM DRAINS WITHIN ROADS AND STREET RIGHT – OF – WAYS LIMITS SHALL BE IN ACCORDANCE WITH "HOWARD COUNTY DESIGN MANUAL", VOL. IV, STANDARD G-2.01.
13. SEDIMENT CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH " 1994 MARYLAND STANDARDS AND SPECIFICATION FOR SOILS EROSION AND SEDIMENT CONTROL".
14. TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
15. STREET TREES SHALL BE PLANTED A MINIMUM OF FIVE (5) FEET FROM STORM DRAIN, WATERLINE OR SEWER PIPE MANHOLES; ALSO A MINIMUM OF TWENTY (20) FEET FROM STREET LIGHTS.
16. COMPACTION IN FILL AREAS SHALL BE IN ACCORDANCE WITH AASHTO T-180 OR AS APPROVED IN THE DESIGN MANUAL VOLUME IV.
17. WETLAND STREAM DELINEATION BY DAFT, McCUNE AND WALKER.
18. TRAFFIC STUDY WAS PREPARED AND SUBMITTED AS PART OF THE SKETCH PLAN FOR THE STONE LAKE SUBDIVISION, FILE NUMBER S 00-13.
19. ALL ROADS IN THIS SUBDIVISION ARE PUBLIC.
20. STREET TREE LOCATIONS SHOWN ARE TENTATIVE AND ARE TO BE USED FOR BOND PURPOSES ONLY. THE FINAL LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMMODATE FIELD CONDITIONS AND BUILDERS LANDSCAPE PROGRAM.
21. FOREST CONSERVATION OBLIGATIONS FOR THE ACREAGE SHOWN ON THIS PLAT HAS BEEN OR WILL BE ADDRESSED WITH THE SUBDIVISION PLANS FOR STONE LAKE (F 01-177) AND EMERSON, SECTION 2.
22. STORM WATER MANAGEMENT FOR THIS SITE HAS BEEN SUBMITTED AND APPROVED UNDER F-01-177. THE FACILITY IS PRIVATELY OWNED AND MAINTAINED. THE TYPE OF FACILITY IS A WET POND WITH DETENTION.
23. ON AUGUST 11,2000, WP 00-88; WAIVER SECTION 16.116 b(1) AND (2) WAS GRANTED WHICH PROHIBITS GRADING OR CLEARING ON STEEP SLOPES OVER 25% IF THE CONTIGUOUS AREA IS MORE THAN 20,000 SQUARE FEET; AND SECTION16.116(C), WAS GRANTED, WHICH PROHIBITS GRADING OR CLEARING IN WETLANDS, WETLAND BUFFERS, STREAMS, STREAM BUFFERS AND FLOODPLAINS, SUBJECT TO FIVE CONDITIONS IN THE APPROVAL LETTER.
24. ON AUGUST 11,2000, WP 00-126; WAIVER OF SECTION 16.144 (C)(2) AND 16.114q(3) WAS GRANTED WHICH REQUIRES THAT A DEVELOPER SUBMIT ADDITIONAL INFORMATION TO THE SRC WITHIN 45 DAYS OF RECEIVING NOTICES TO DO SO OR THE PLAN WILL BE DENIED, SUBJECT TO ONE CONDITION IN THE APPROVAL LETTER.
25. ON JANUARY 16, 2000, WP 01-60; WAIVER OF SECTION 16.120 c (2) WAS GRANTED WHICH REQUIRES ALL LOTS TO HAVE FRONTAGE ON A PUBLIC ROAD; AND SECTION 16.120 c (4) WHICH LIMITS THE LENGTH OF A PRIVATE ROAD FOR SFA UNITS TO 200, SUBJECT TO ONE CONDITION IN THE APPROVAL LETTER.
26. ON, APRIL 3, 2001, WP 01-94, WAIVER OF SECTIONS 16.116 b (1) AND (2) WAS GRANTED WHICH CLEARING ON STEEP SLOPES OVER 25% AND GREATER THAN 20,000 SQUARE FEET IN CONTIGUOUS AREA, SUBJECT TO THREE CONDITIONS.

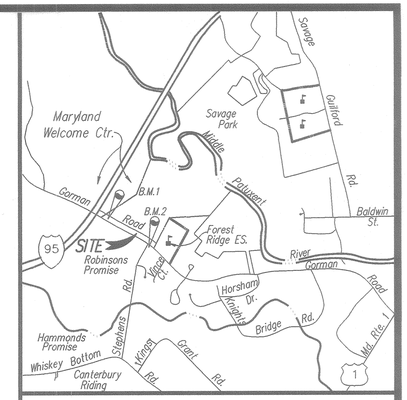


BENCHMARKS
HO. CO. #47E4 N 535846.1380 E 1355431.1960 Elev. = 338.91
HO. CO. #1941003 N 535018.4535 E 1356707.1187

LOCATION PLAN
SCALE: 1"=600'

LEGEND

- EXISTING STREET LIGHT
- PROPOSED STREET LIGHT
- (4) PROP. TOP OF CURB ELEVATION
- EX. 12"W EXISTING WATER MAIN
- EX. 18"SD EXISTING STORM DRAIN
- EXIST. CURB/CURB & GUTTER
- PROP. CURB & GUTTER
- EXISTING PAVING
- 396 EXISTING CONTOUR
- 96 PROPOSED CONTOUR
- PROPOSED STREET TREES
- STEEP SLOPES (25% OR GREATER)
- STREAM BUFFER
- WETLAND BUFFER
- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING TREE LINE
- LIMIT OF DISTURBANCE



VICINITY MAP
1"=2000'

BENCHMARKS

B.M. 1 HOWARD COUNTY CONTROL STATION 47E4
B.M. 2 HOWARD COUNTY CONTROL STATION 1941003.

SHEET INDEX

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 1-16-02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 1/29/02
Chief, Development Engineering Division — Date

AS-BUILT
G. SCOTT SHANABERGER PROF. LS. # 10849 DATE

SHANABERGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 201
ELLICOTT CITY, MARYLAND 21043

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

99140\gorman\99140CSP1.DWG | DES. | DRN. DCF | CHK.

DATE	REVISION	BY	APP'R.

OWNER :
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MD 21044
PH: 410-992-6089
ATTN: MR. BOB JENKINS

COVER SHEET
ROAD CONSTRUCTION PLANS
IMPROVEMENTS TO GORMAN ROAD
AND STEPHENS ROAD
GORMAN ROAD FROM 97+99.27 TO 118+00
STEPHENS ROAD FROM 0+00 TO 2+55
ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED R-SC-MXD-3 PEC-MXD-3	99140
DATE	TAX MAP – GRID	SHEET
OCT., 2001	47 – 9/10	1 OF 12

F-01-185

99140CSP1.dwg 12-20-01 2:58:12 pm EST

Street Light Schedule

Location	Lamp Type	Fixture Type	Pole Type
℄ sta. 101+95 Gorman Road, 36' Right	250 Watt H.P. sodium vapor	cobra Head on a 12' arm	30' Bronze Aluminum
℄ sta. 102+00 Gorman Road, 40' Left	" "	" "	" "
℄ sta. 102+95 Gorman Road, 26' Right	" "	" "	" "

Note: For traffic pole locations and information concerning the intersection, see the detail on sheet 8.

Note:
Due to the superelevated section along Gorman Road, there are three proposed grade lines (P.G.L.) shown from centerline station 110+00 to the limit of improvements at centerline station 118+00. However, from the limit of improvements at centerline station 97+99.27 to centerline station 110+00 Gorman Road will be a crowned section with one P.G.L. located along the road centerline.

LEGEND

— ıı — ıı —	Edge of existing road
⌒⌒⌒⌒	Existing treeline
—◆—	BGE Conduit
▭	BGE Conduit Manhole
■	Traffic Signal Handbox
☐	BGE Pull Box

PLAN
SCALE: 1"=50'

Widening along Stephens Road

℄ station	Pavement width
0+40.21 - 0+51	26'
0+51 - 1+10	transition from 26' to 22'
1+10 - 1+50	22'
1+50 - 2+55	transition from 22' to 13'

Note: Existing pavement width = 10.5'±

℄ CURVE DATA

STREET NAME	P.C. STA.	P.R.C. STA.	P.T. STA.	RADIUS	ARC	TANGENT	CHORD	BEARING	DELTA
GORMAN ROAD	104+29.55	———	108+20.41	1350.00'	390.86'	196.81'	389.40'	S 60°02'30"E	16°35'10"
GORMAN ROAD	110+84.17	———	113+13.43	1145.02'	229.26'	115.01'	228.88'	S 62°59'40"E	11°27'47"

Note: Since the improvements are limited to overlaying the existing pavement and providing road widening, an existing ground line along the centerline of the road has not been shown.

STREET TREE SCHEDULE

SYMBOL	NAME (BOTANICAL/COMMON)	SIZE	QUANTITY	REMARKS
⊙	Acer Sacharum / Green Mountain Sugar Maple	2"–2½" cal.	48	B & B Full Heads

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Andrew M Dancke HS 1-16-02
Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Cindy Hamilton HB 1/29/02
Chief, Division of Land Development Date
1/28/02
Chief, Development Engineering Division CE Date

PROFILE
HORIZ.: 1"=50'
VERT.: 1"=5'

5.21.03 △1 Revise SD Labels From I-4 - Es-1, Add MH A & Rev. Label I-8 to I-2

GLW GUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DESIGNED DEV	**ROAD CONSTRUCTION PLANS IMPROVEMENTS TO GORMAN ROAD AND STEPHENS ROAD** GORMAN ROAD FROM 97+99.27 TO 118+00 STEPHENS ROAD FROM 0+00 TO 2+55 ELECTION DISTICT No.6 HOWARD COUNTY, MARYLAND	SCALE AS SHOWN
DRAWN JAU/CAD		DRAWING 2 OF 12
CHECKED DEV/	PREPARED FOR: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 ATTN.: MR. BOB JENKINS PH.: (410) 992-6089	ZONING R-ED, PEC-MXD-3, R-SC-MXD-3
DATE Oct., 2001		JOB No. 99140

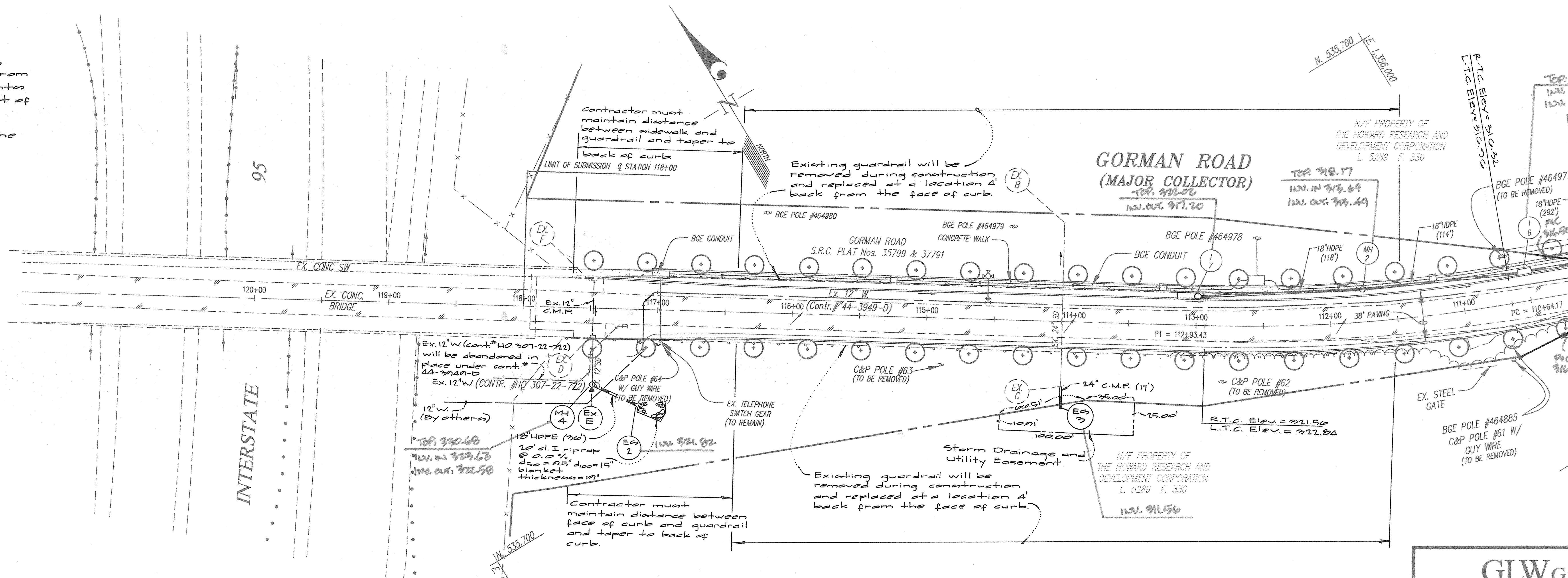
AS-BUILT
G. Scott Shanaberger 11/15/2004
G. SCOTT SHANABERGER Date
PROF. L.S. #10849

SHANABERGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 201
ELLICOTT CITY, MARYLAND 21043

F-01-185

99140RPG2.dwg 5-18-01 11:00:21 am EST

Note:
Due to the superelevated section along Gorman Road, there are three proposed grade lines (P.G.L.) shown from centerline station 110+00 to the limit of improvements at centerline station 118+00. However, from the limit of improvements at centerline station 97+99.27 to centerline station 110+00 Gorman Road will be a crowned section with one P.G.L. located along the road centerline.



LEGEND

- Edge of existing road
- Existing treeline
- BGE Conduit
- BGE Conduit Manhole
- BGE Pull Box

Note: Since the improvements are limited to overlaying the existing pavement and providing road widening, an existing ground line along the centerline of the road has not been shown.

PLAN
SCALE: 1"=50'

℄ CURVE DATA									
STREET NAME	P.C. STA.	P.R.C. STA.	P.T. STA.	RADIUS	ARC	TANGENT	CHORD	BEARING	DELTA
GORMAN ROAD	104+29.55	———	108+20.41	1350.00'	390.86'	196.81'	389.40'	S 60°02'39"E	16°35'19"
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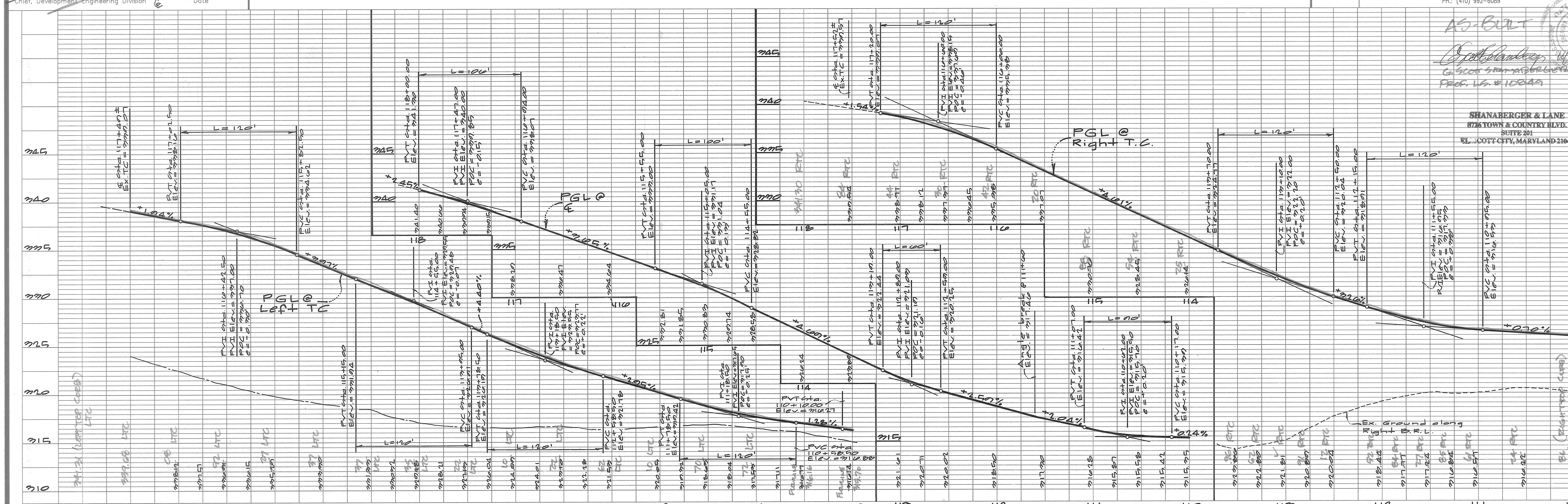
STREET TREE SCHEDULE				
SYMBOL	NAME (BOTANICAL/COMMON)	SIZE	QUANTITY	REMARKS
⊙	Acer Sacharum / Green Mountain Sugar Maple	2"-2½" cal.	38	B & B Full Heads

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 1-16-02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 1/29/02
Chief, Development Engineering Division — Date 1/22/02

PROFILE
HORIZ.: 1"=50'
VERT. 1"=5'



AS-BUILT

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8726 TOWN & COUNTRY BLVD.
SUITE 201
ELLICOTT CITY, MARYLAND 21043

GLW GUTSCHICK LITTLE & WEBER, P.A.
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BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

DESIGNED DEV	ROAD CONSTRUCTION PLANS IMPROVEMENTS TO GORMAN ROAD AND STEPHENS ROAD	SCALE AS SHOWN
DRAWN JAU/CAD	GORMAN ROAD FROM 97+99.27 TO 118+00 STEPHENS ROAD FROM 0+00 TO 2+55 ELECTION DISTICT No.6 HOWARD COUNTY, MARYLAND	DRAWING 3 OF 12
CHECKED DEV/	PREPARED FOR: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 ATTN.: MR. BOB JENKINS PH.: (410) 992-6089	ZONING R-ED, PEC-MXD-3, R-SC-MXD-3
DATE Oct., 2001		JOB No. 99140

F-01-185

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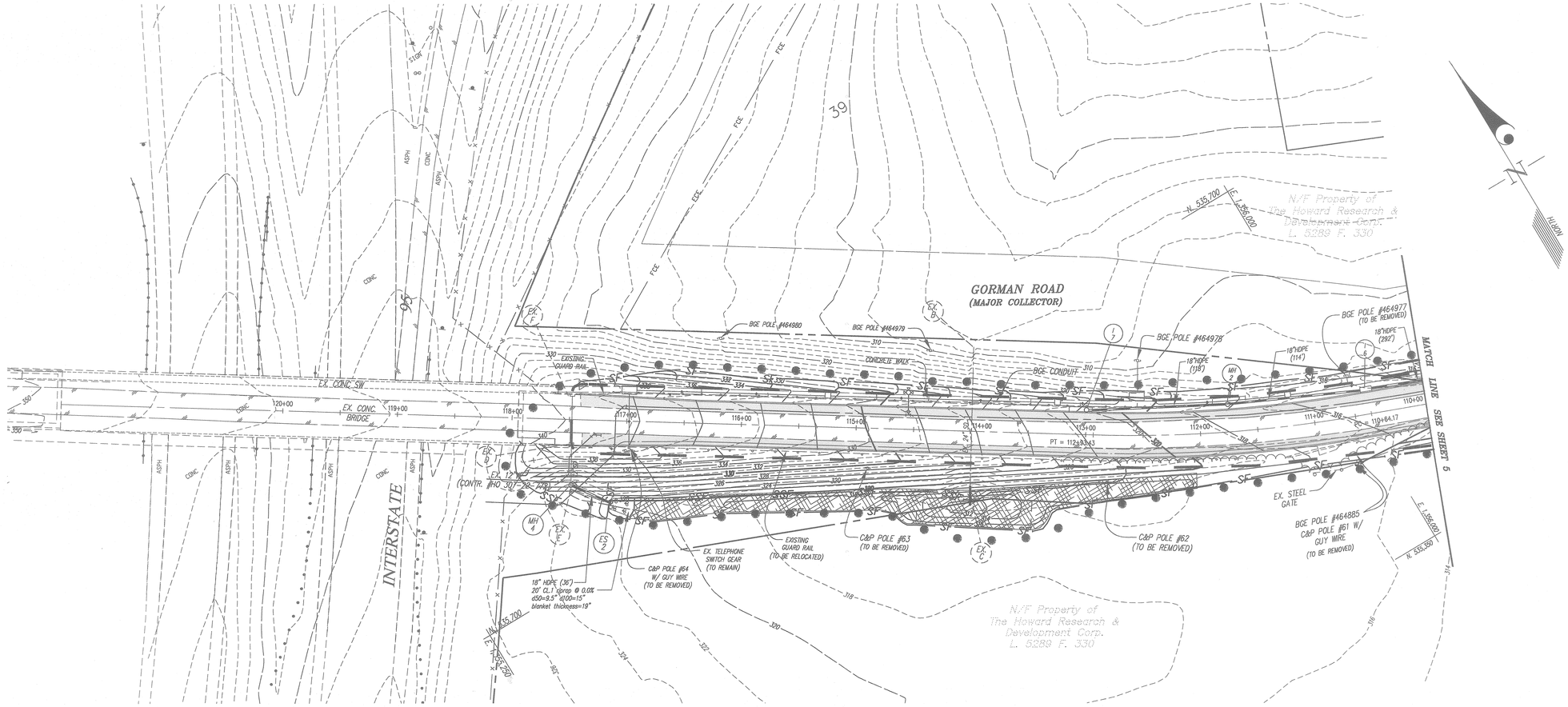

LEGEND

- SF — SILT FENCE
- SSF — SUPER SILT FENCE
- LIMIT OF DISTURBANCE
- EROSION CONTROL MATTING
- DRAINAGE AREA DIVIDE TO TRAP #1

Approved: Howard County Department of Public Works

Chief, Bureau of Highways — Date 1-16-02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Director — Date

Chief, Division of Land Development — Date 1/29/02

Chief, Development Engineering Division — Date 1/28/02

ENGINEER'S CERTIFICATE

"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 and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

12/20/01
Date

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and/or construction 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 HSCD."

Signature of Developer/Builder — 12/20/01 Date

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

Natural Resources Conservation Service — 1/24/02 Date

This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

Howard S.C.D. — 1/24/02 Date

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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99140\gorman\99140GP1.DWG | DES. | DRN. | CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR :

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
ATTN: MR. BOB JENKINS
PH.: (410) 992-6089

ROAD GRADING/SEDIMENT CONTROL PLAN

ROAD CONSTRUCTION PLANS
IMPROVEMENTS TO GORMAN ROAD AND STEPHENS ROAD

GORMAN ROAD FROM 97+99.27 TO 118+00
STEPHENS ROAD FROM 0+00 TO 2+55

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED R-SC-MXD-3 PEC-MXD-3	99140
DATE	TAX MAP – GRID	SHEET
OCT., 2001	47-9/10	4 of 12

F-01-185

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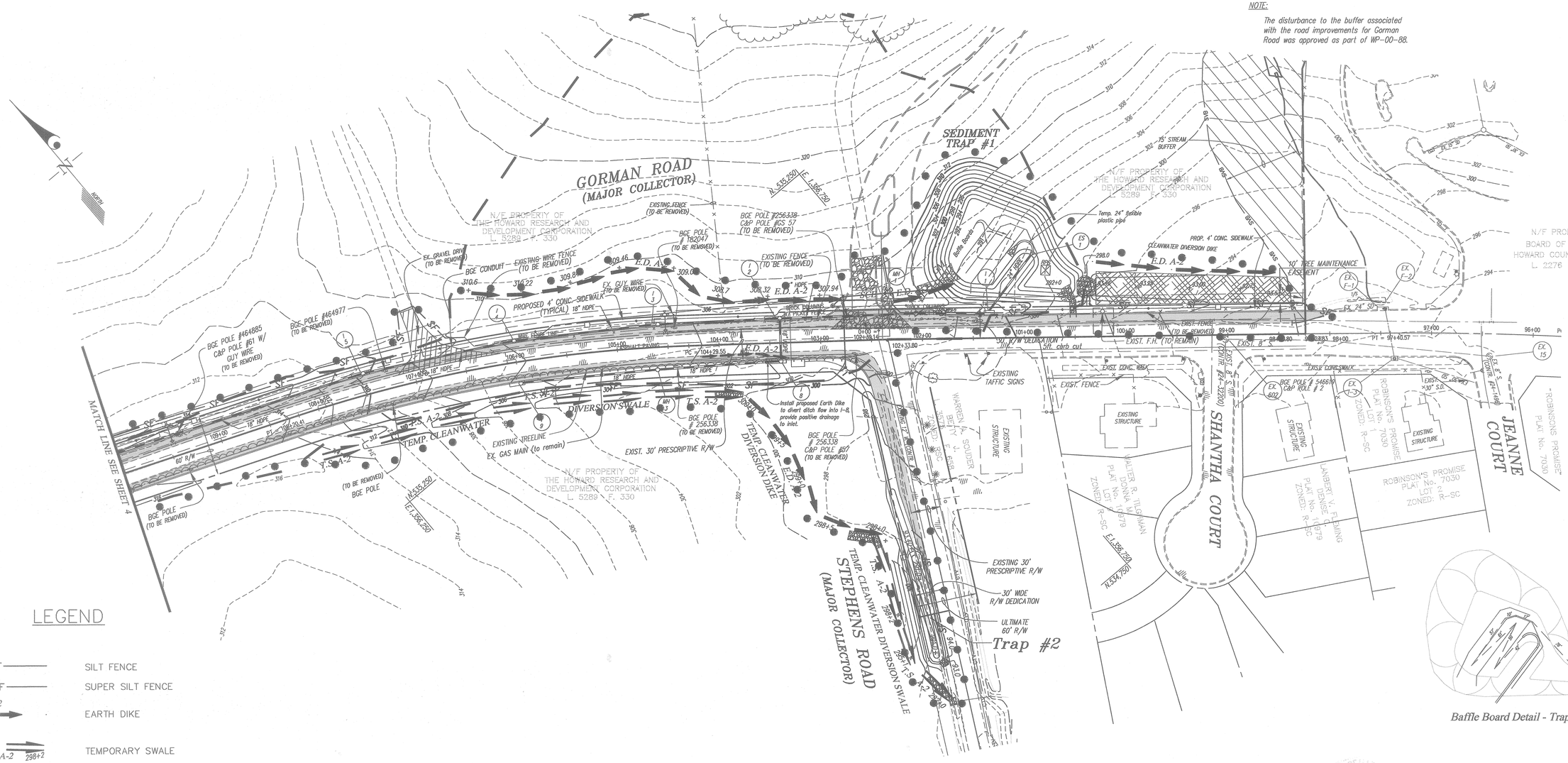
NOTE:

The disturbance to the buffer associated with the road improvements for Gorman Road was approved as part of WP-00-88.



LEGEND

- SF — SILT FENCE
- SSF — SUPER SILT FENCE
- E.D. A-2 — EARTH DIKE
- T.S. A-2 298+2 — TEMPORARY SWALE
- S.C.E. — STABILIZED CONSTRUCTION ENTRANCE
- LIMIT OF DISTURBANCE
- EROSION CONTROL MATTING
- DRAINAGE AREA DIVIDE TO TRAP #1

NOTE: TURN ALL ENDS ON SILT FENCE/ SUPER SILT FENCE UPHILL BY 2 FEET.

STONE/RIP RAP OUTLET SEDIMENT TRAP # 1 (ST-IV)

Before Dev. Drainage Area = 6.59 Acres
After Dev. Drainage Area = 8.10 Acres

STORAGE REQUIREMENTS

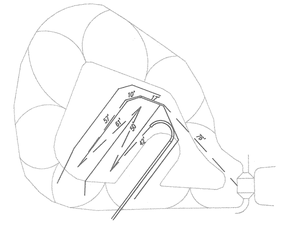
Temp. SWM =	21,275 Cu. Ft.
Sediment Control =	14,580 Cu. Ft.
Storage Provided =	35,855 Cu. Ft.
Top of Dam Elev. =	298.00
Bottom =	291.00
Cleanout Elev. =	292.49
Wet Volume Elev. =	293.46
Wet Volume =	14,580 cf
Dry Volume Elev. =	295.17
Dry Volume =	14,580 cf
Temp. SWM Elev. =	295.93
Weir Crest Elev. =	296.00
Before Dev. Q2 =	4.51 CFS
After Dev. Q2 =	18.17 CFS
Managed Q2 =	2.34 CFS

STONE/RIP RAP OUTLET SEDIMENT TRAP # 2 (ST-IV)

Before Dev. Drainage Area = 0.5 Acres
After Dev. Drainage Area = 0.5 Acres

STORAGE REQUIREMENTS

Sediment Control =	1,800 Cu. Ft.
Storage Provided =	1,800 Cu. Ft.
Top of Dam Elev. =	294.00
Bottom =	291.00
Cleanout Elev. =	292.49
Wet Volume Elev. =	292.00
Wet Volume =	900 cf
Dry Volume Elev. =	293.00
Dry Volume =	900 cf
Weir Crest Elev. =	293.00



Baffle Board Detail - Trap #1

Approved: Howard County Department of Public Works
Chief, Bureau of Highways — Date 11-16-02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 11/29/02

Chief, Development Engineering Division — Date 11/23/02

This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

Howard S.C.D. — Date 1/29/02

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

Natural Resources Conservation Service — Date 1/29/02

Engineer's Certificate

"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 and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

12/20/01

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and/or construction 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 HSCD."

Signature of Developer/Builder — Date 12/20/01

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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99140\gorman\99140GP2.DWG | DES. | DRN. | CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR :

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
ATTN: MR. BOB JENKINS
PH.: (410) 992-6089

ROAD GRADING/SEDIMENT CONTROL PLAN
ROAD CONSTRUCTION PLANS
IMPROVEMENTS TO GORMAN ROAD AND STEPHENS ROAD

GORMAN ROAD FROM 97+99.27 TO 118+00
STEPHENS ROAD FROM 0+00 TO 2+55

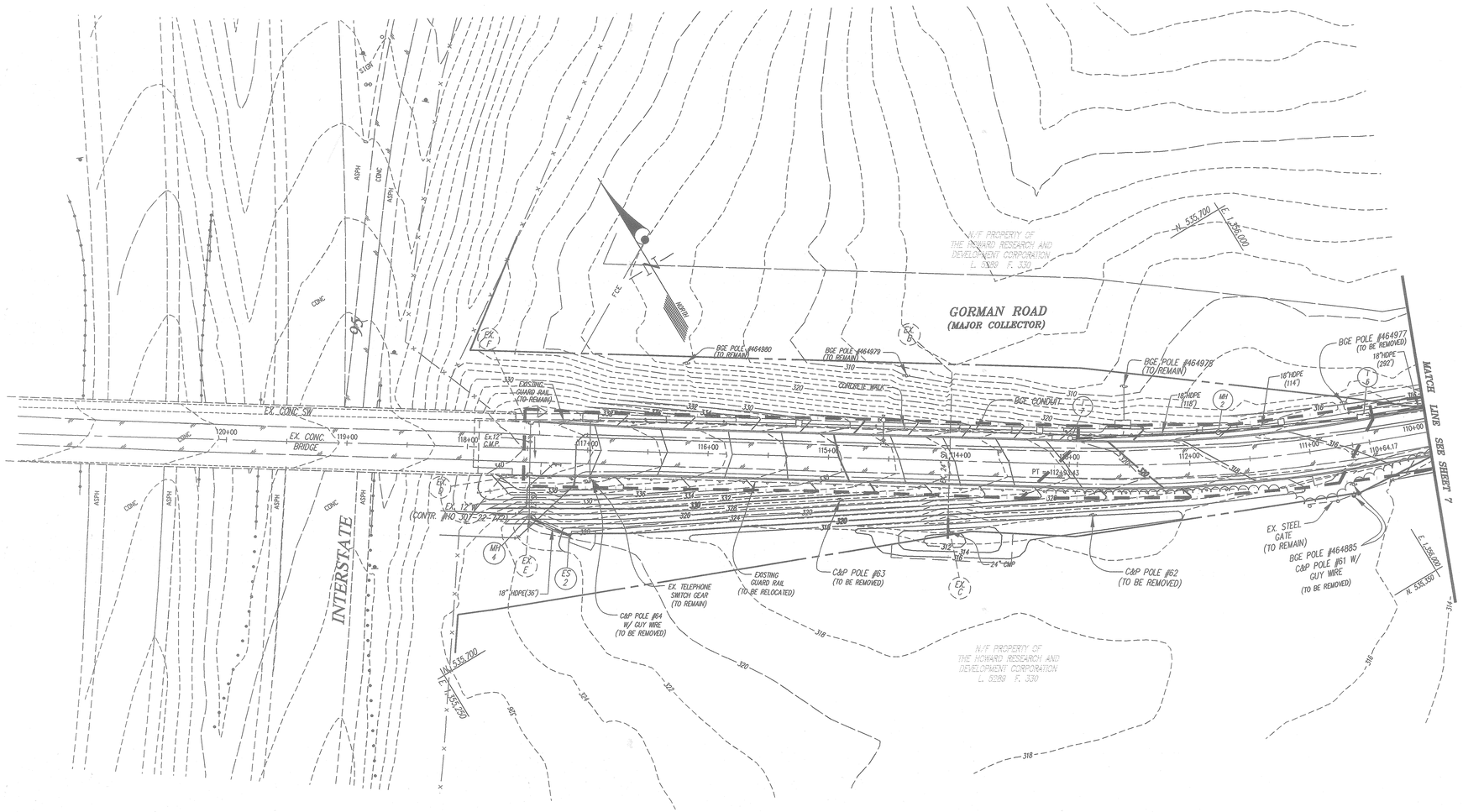
ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED R-SC-MXD-3 PEC-MXD-3	99140
DATE	TAX MAP – GRID	SHEET
OCT., 2001	47-9/10	5 of 12

F-01-185

99140GP2.dwg 11-1-01 3:20:59 pm EST

DRAINAGE AREA INFORMATION			
INLET	AREA	'C' VALUE	% IMP.
I-6	0.39	0.70	65%
I-7	0.63	0.90	94%



Approved: Howard County Department of Public Works

Chief, Bureau of Highways — Date 1-16-02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Chief, Division of Land Development — Date 1/29/02

Chief, Development Engineering Division — Date 1/25/02

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

99140\gorman\99140DA1.DWG | DES. | DRN. | CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR :

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
ATTN: MR. BOB JENKINS
PH.: (410) 992-6089

DRAINAGE AREA MAP
ROAD CONSTRUCTION PLANS
IMPROVEMENTS TO GORMAN ROAD AND STEPHENS ROAD

GORMAN ROAD FROM 97+99.27 TO 118+00
STEPHENS ROAD FROM 0+00 TO 2+55

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED R-SC-MXD-3 PEC-MXD-3	99140
DATE	TAX MAP - GRID	SHEET
OCT., 2001	47-9/10	6 of 12

F-01-185

99140DA1.dwg 12-20-01 3:00:25 pm EST

DRAINAGE AREA INFORMATION

INLET	AREA	'C' VALUE	% IMP.
I-1	———	———	———
I-2	0.83	0.50	36%
I-3	1.00	0.50	36%
I-4	0.76	0.50	36%
I-5	0.45	0.70	65%
I-8	0.30	0.90	94%
I-9	0.39	0.90	94%

Approved: Howard County Department of Public Works

1-16-02

Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

~~Director~~ ~~Date~~

Cindy Hamilton 1/29/02

Chief, Division of Land Development Date

1/23/02

Chief, Development Engineering Division Date

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

99140\gorman\99140DA2.DWG

	DES.	DRN.	CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR :

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10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
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DRAINAGE AREA MAP

ROAD CONSTRUCTION PLANS
IMPROVEMENTS TO GORMAN ROAD
AND STEPHENS ROAD

GORMAN ROAD FROM 97+99.27 TO 118+00
STEPHENS ROAD FROM 0+00 TO 2+55

ELECTION DISTRICT No. 6

HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED R-SC-MXD-3 PEC-MXD-3	99140
DATE	TAX MAP - GRID	SHEET
OCT., 2001	47-9/10	7 of 12

F-01-185

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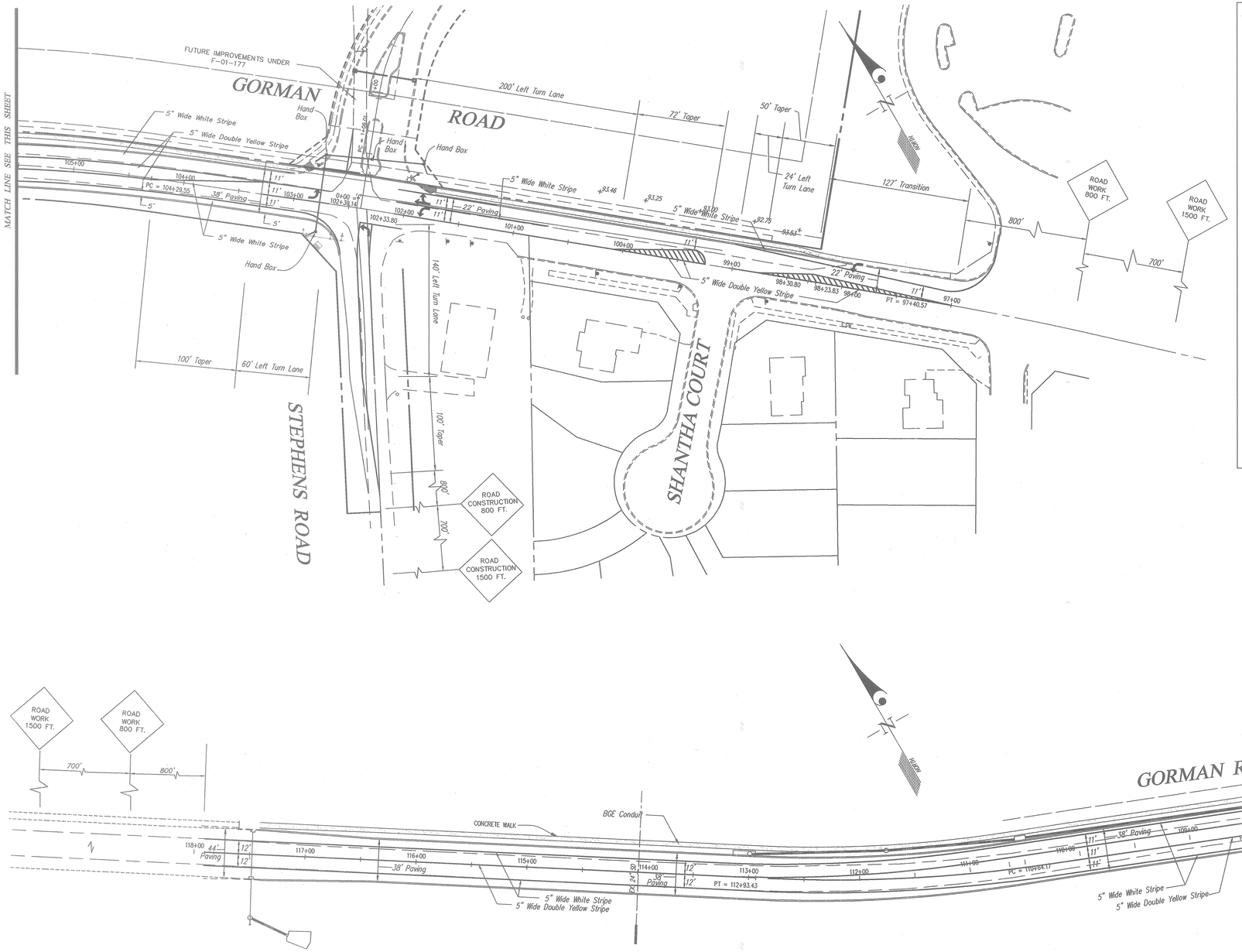
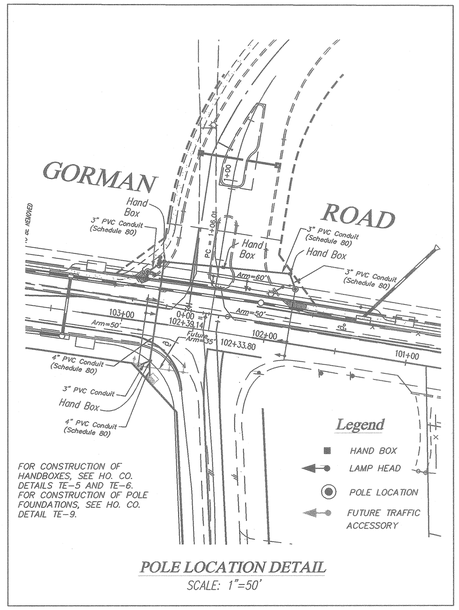
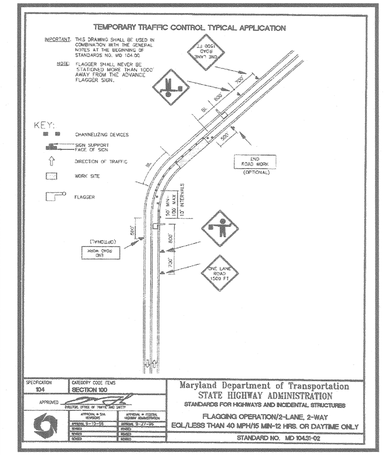
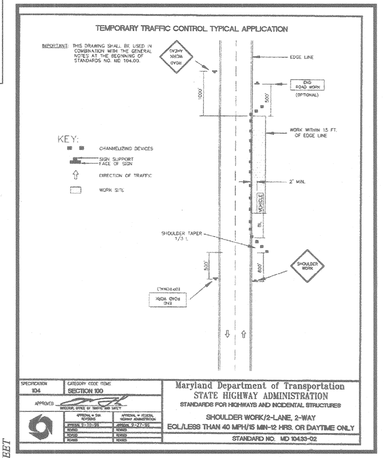


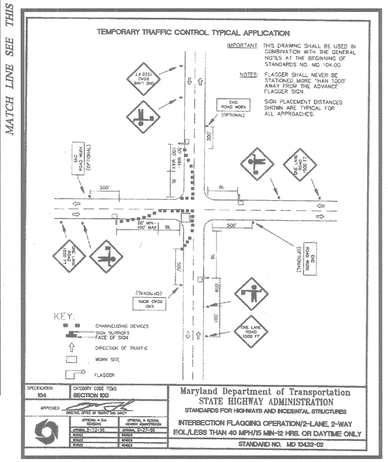


FOR CONSTRUCTION OF HANDBOXES, SEE HO. CO. DETAILS TE-5 AND TE-6. FOR CONSTRUCTION OF POLE FOUNDATIONS, SEE HO. CO. DETAIL TE-9.

POLE LOCATION DETAIL
SCALE: 1"=50'







PAVEMENT MARKING NOTES

1. ALL PAVEMENT MARKINGS TO BE APPLIED USING "SETFAST PREMIXIUM ALKYD TRAFFIC PAINT" BY SHERWIN WILLIAMS OR APPROVED EQUAL.
2. EXISTING PAVEMENT MARKINGS THAT ARE IN CONFLICT WITH THE PROPOSED PAVEMENT MARKINGS FOR THIS CONTRACT WILL BE REMOVED BY GRINDING.
3. EXACT LOCATION OF STOP LINES IS TO BE ESTABLISHED IN THE FIELD BY THE HOWARD COUNTY TRAFFIC DIVISION. CALL DIANE SCHWARZMAN AT 313-2430.

SIGNING NOTES

1. SIGN ERECTED AT THE SIDE OF THE ROAD SHALL BE MOUNTED AT A HEIGHT OF AT LEAST 7 FEET MEASURED FROM THE BOTTOM OF THE SIGN TO THE NEAR EDGE OF THE PAVEMENT.
2. ALL SIGNS TO BE MOUNTED ON 4"X4"X12" WOLMANIZED, (PRESSURE TREATED), WOODEN POSTS.
3. SIGNS SHALL BE 12" TO 18" FROM EDGE OF SIGN TO CURB LINE. STOP SIGNS SHALL BE LOCATED 15' BACK FROM INTERSECTING STREET CURB LINE OR AS DIRECTED BY HOWARD COUNTY TRAFFIC DIVISION.

STATE OF MARYLAND CARLTON R. GUTSCHICK PROFESSIONAL ENGINEER

Approved: Howard County Department of Public Works
Chief, Bureau of Highways — 1-16-02 Date

Approved: Howard County Department of Planning and Zoning
Chief, Div. of Land Development — 1/29/02 Date
Chief, Development Engineering Division — 1/24/02 Date

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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99140\gorman\99140Rst.dwg | DES. MJT | DRN. JAU | CHK. MJT

DATE	REVISION	BY	APP'R.

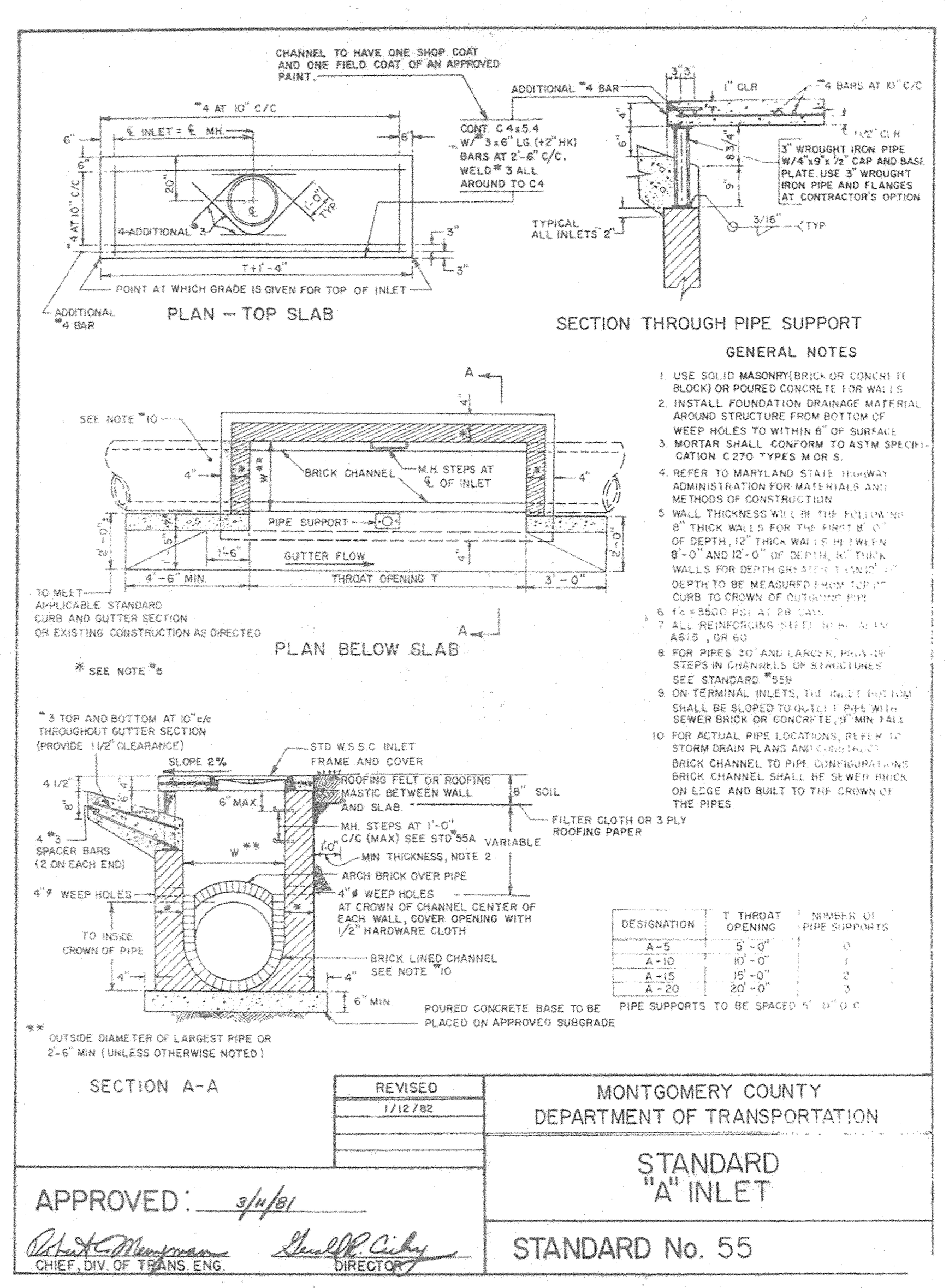
PREPARED FOR :
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MD. 21044
PH: 410-992-6089
ATTN: BOB JENKINS

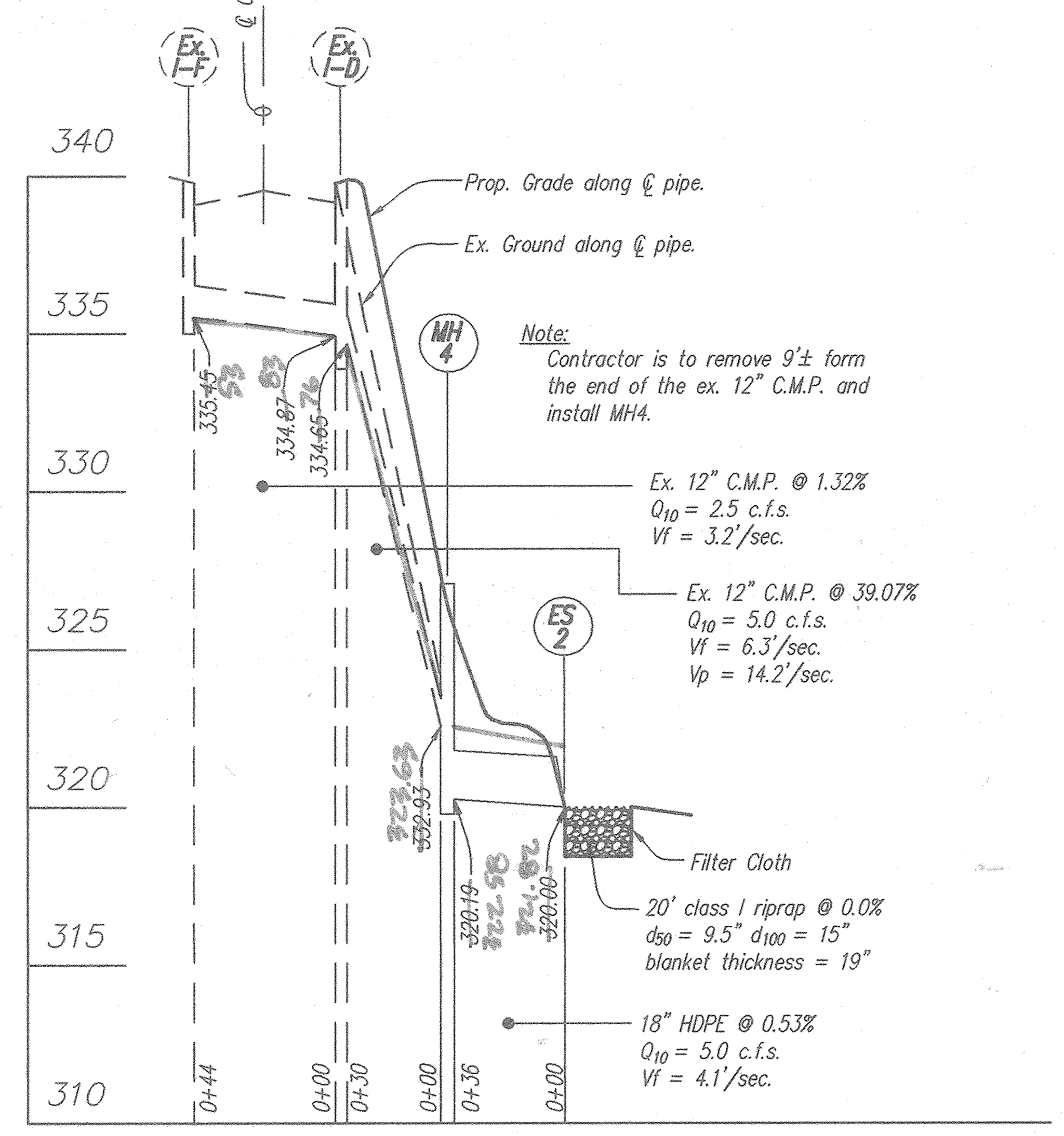
STRIPING PLAN
ROAD CONSTRUCTION PLANS
IMPROVEMENTS TO GORMAN ROAD AND STEPHENS ROAD
GORMAN ROAD FROM 97+99.27 TO 118+00
STEPHENS ROAD FROM 0+00 TO 2+55
ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=50'	R-ED R-SC-MXD-3 PEC-MXD-3	99140
DATE	TAX MAP - GRID	SHEET
OCT., 2001	47 -9/10	8 OF 12

F 01-185

99140RST.dwg 12-20-01 3:09:12 pm EST





PIPE SUMMARY ⚠1

SIZE	TYPE	LENGTH
18"	HDPE	902LF
14x23	HERCP CL. HE-I	785LF
24"	CMP	17 L.F.
18"	HDPE	36 L.F.

HDPE indicates High Density Polyethylene Pipe.

* Hi-Q by Hancor, N-12 by ADS or an approved equal.

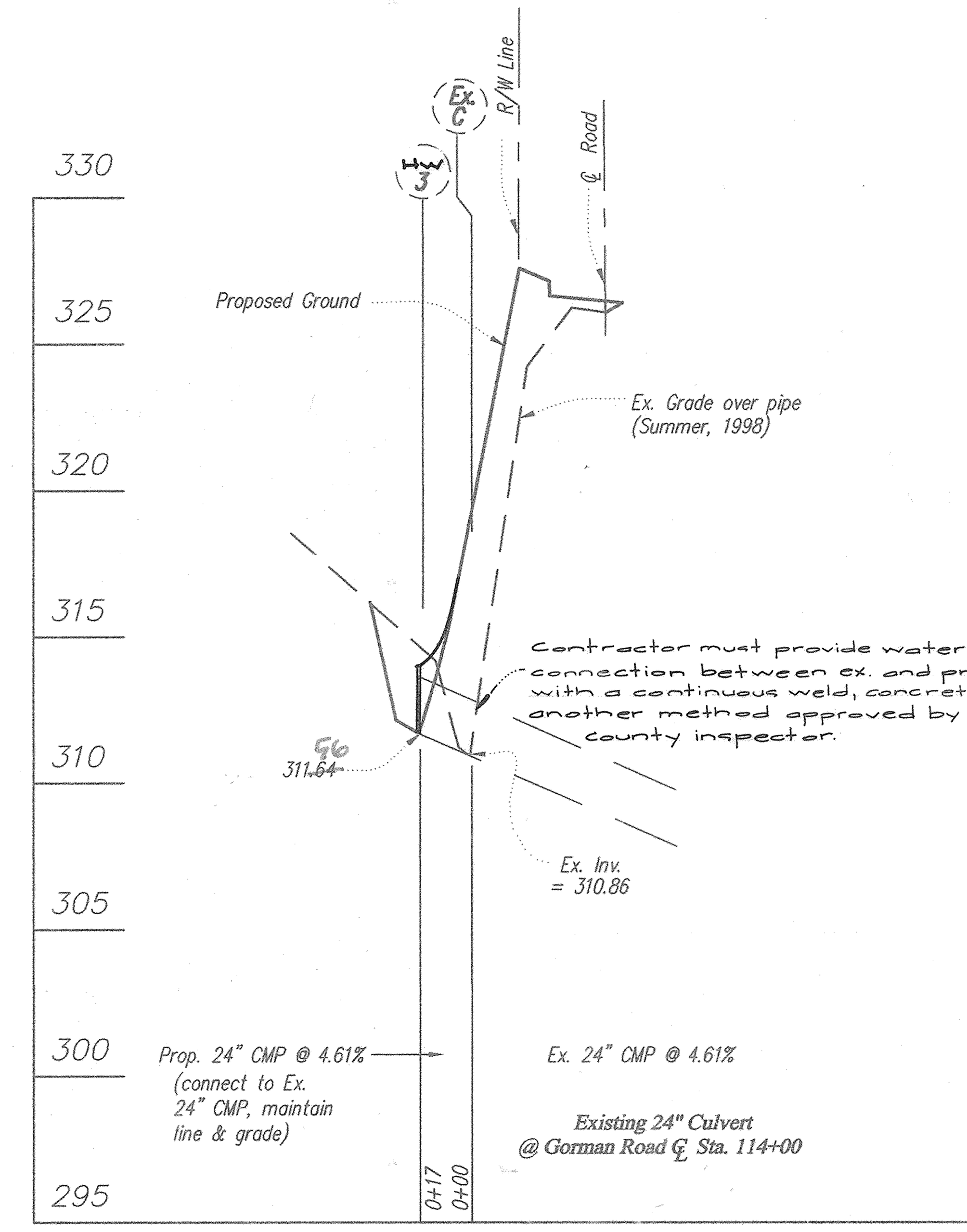
18" RCP Class V 38LF

24" HDPE 27 LF

STRUCTURE SCHEDULE ⚠1

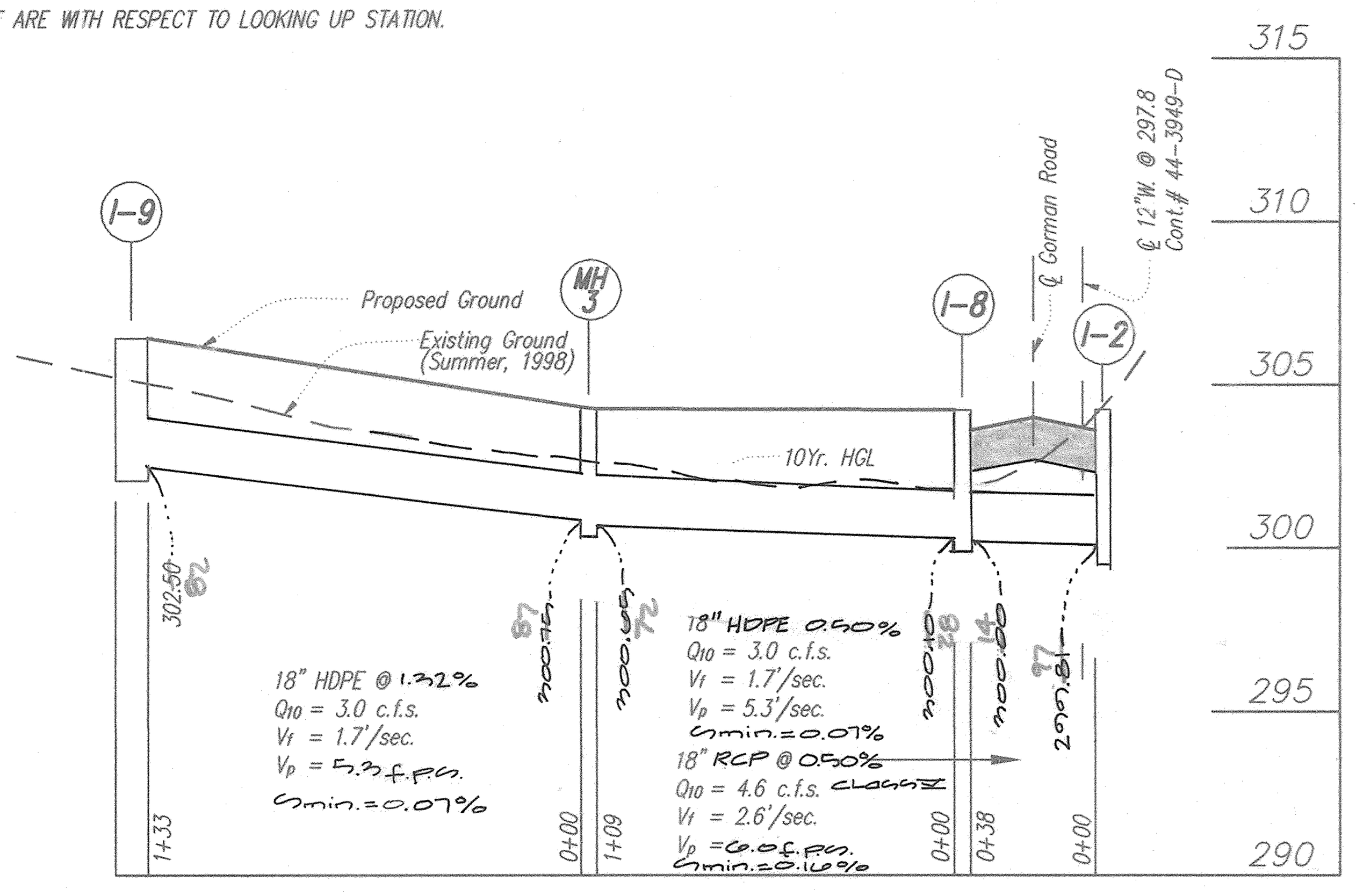
NO	TYPE	WIDTH (INSIDE)	TOP ELEVATION UPPER	TOP ELEVATION LOWER	INVERT ELEVATION UPPER	INVERT ELEVATION LOWER	STD. DETAIL	LOCATIONS	REMARKS
I-1	A-20 "B" INL.	6'	301.56	300.85	298.00	297.50	MC-501.01	℄ STATION 101+34, 19' RIGHT	
I-2	A-20 "B" INL.	6'	304.07	303.93	297.81	299.71	MC 502.02	℄ STATION 103+40, 19' RIGHT	
I-3	A-15 "B" INL.	6'	304.72	304.64	301.24	301.14	MC 502.02	℄ STATION 104+61, 19' RIGHT	
I-4	A-15	3.5'	306.46	306.14	302.83	302.73	SHA DET 374.62	℄ STATION 106+00, 19' RIGHT	
I-5	COG 15		310.71	309.96	305.60	305.35	SHA DET. MD. 374.62	℄ STATION 107+50, 19' RIGHT	
I-6	A-10	3'	316.26	316.19	311.53	311.28	HO. CO. DET. SD 4.41	℄ STATION 110+51, 19' RIGHT	
I-7	COG 20	4'	322.44	321.66	———	317.50	SHA DET. MD. 374.62	℄ STATION 113+06, 19' RIGHT	
I-8	A-20	2.5'	304.07	303.93	300.10	300.00	MC-501.01	℄ STATION 103+40, 19' LEFT	
I-9	A 15	4'	303.46	306.14	———	302.50	SHA DET. MD. 374.62	℄ STATION 106+00, 19' LEFT	
MH-1	Shallow MH	—	303.18	———	299.10	298.65	HO. CO. DET. G5.03	℄ STATION 102+06, 24' RIGHT	
MH-2	STD. MH	4'	317.97	———	314.00	313.75	HO. CO. DET. G 5.12	℄ STATION 111+75, 25' RIGHT	
MH-3	Shallow MH	4'	304.88	———	300.75	300.65	HO. CO. DET. G 5.12	℄ STATION 104+62, 24' LEFT	
MH-4	STD. MH	4'	327.00	———	322.93	320.18	HO. CO. DET. G 5.12	℄ STATION 117+46, 55' LEFT	
MH-A	Shallow MH	—	300.00	———	297.14	294.47	Ho. Co. Det. G5.03	See Plan	
ES-1	HDPE END SECT.	———	———	296.00	———	294.00	BY MANUFACTURER	℄ STATION 100+90, 85' RIGHT	
ES-2	HDPE END SECT.	———	———	321.50	———	320.00	BY MANUFACTURER	℄ STATION 117+12, 71' LEFT	
HW-3	Type 'C' Headwall	———	———	———	———	311.64	Ho. Co. Det. SD 5.21	℄ STATION 114+00, 65' LEFT	

LOCATIONS FOR INLETS ARE TO THE ℄ OF STRUCTURE AT THE FACE OF CURB AND FOR MANHOLES ARE TO CENTER OF STRUCTURE.
LEFT AND RIGHT ARE WITH RESPECT TO LOOKING UP STATION.



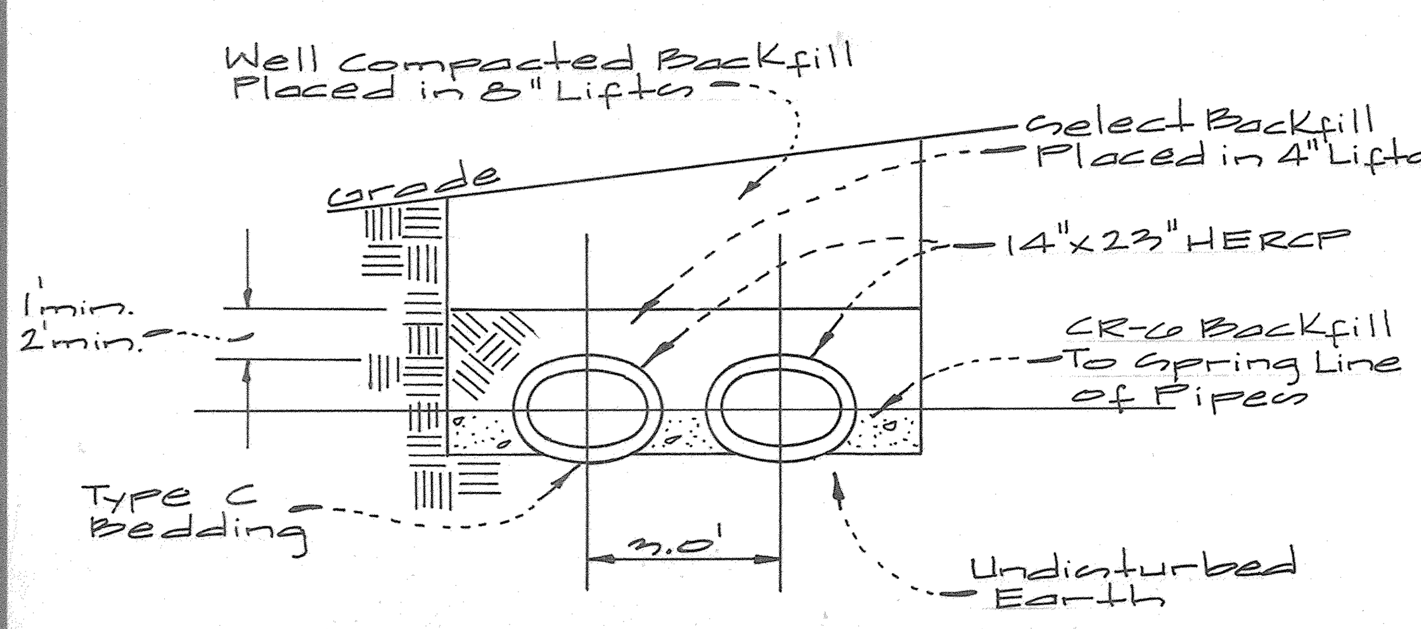
PROFILE

SCALE: HORIZ.: 1"=50'
VERT.: 1"=5'



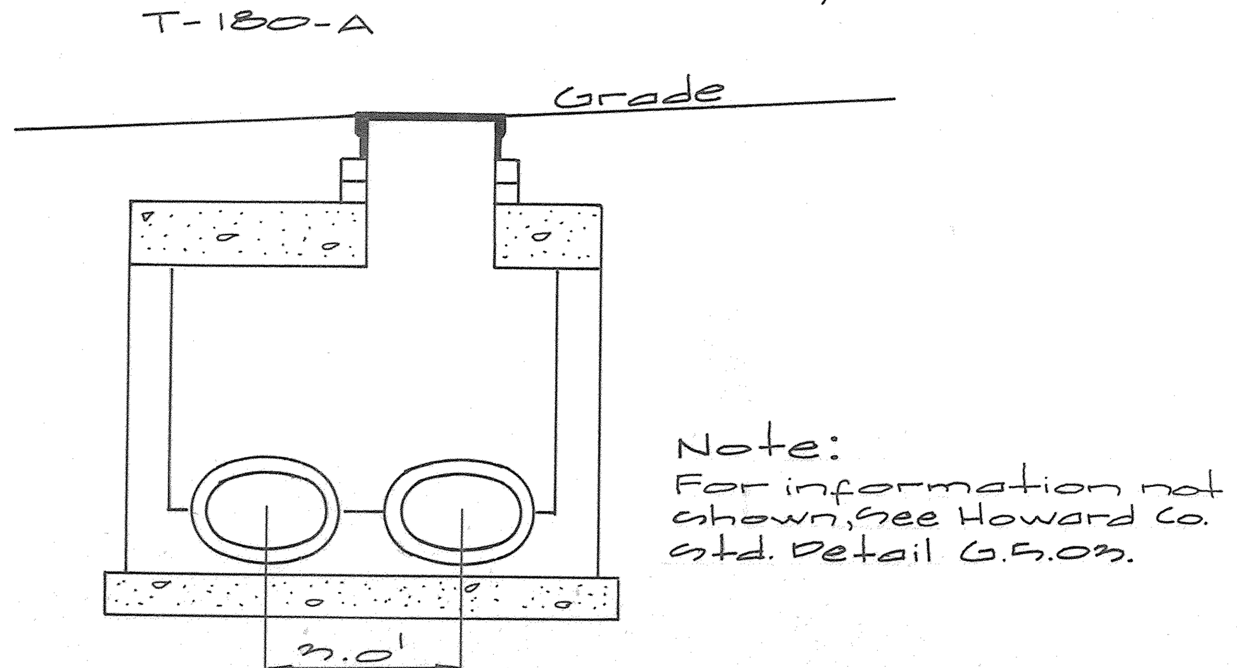
PROFILE

SCALE: HORIZ.: 1"=50'
VERT.: 1"=5'

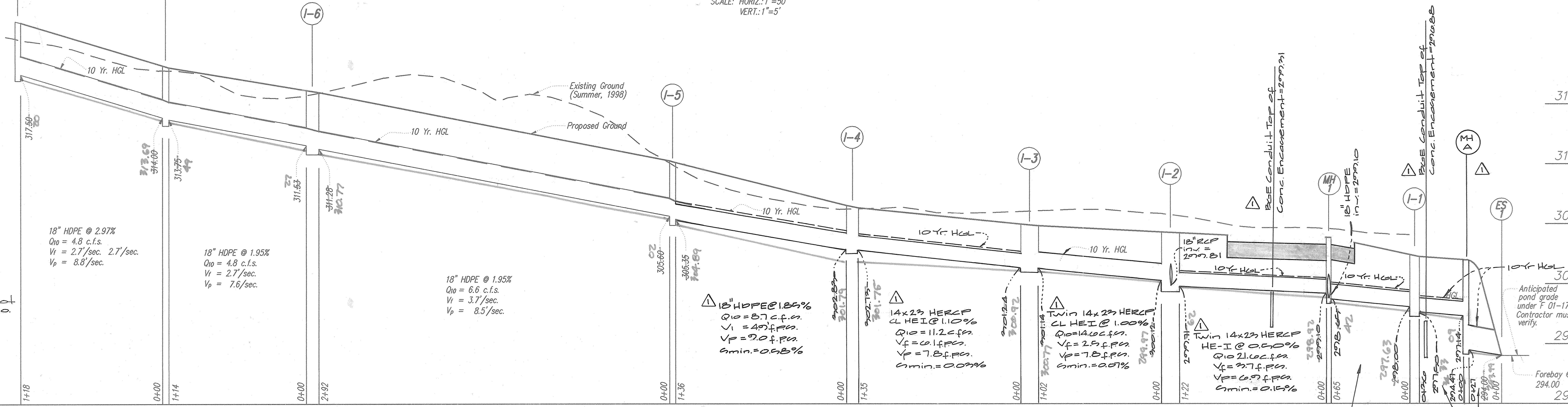


Typical Section Thru Twin HERCP

Note: Trench Compaction Density shall be 95% as determined by AASHTO T-180-A



Section Through Twin HERCP Pipes at Connection to G.5.03



PROFILE

SCALE: HORIZ.: 1"=50'
VERT.: 1"=5'

AS-BUILT
G. Scott Shanaberger
Prof. L.S. # 10849

SHANABERGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 201
ELLICOTT CITY, MARYLAND 21043

Twin 14x23 HERCP @ 1.00% (Class HE-I) Q_{10}=30.1 cfs. V_{10}=5.2 f.ps. V_P=9.7 f.ps. Smin=0.29%

24" HDPE @ 1.74% Q_{10}=30.1 cfs. V_{10}=9.6 f.ps. V_P=11.8 f.ps. Smin.=1.50%

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 6-16-02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 1/29/02
Chief, Development Engineering Division — Date 1/23/02

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DATE	REVISION	BY	APP'R.
5.21.03	Rev. Profiles I-5 thru ES1 & I-7 thru I-2, Pipe schd. & structure schd. ⚠1	WSJ	

PREPARED FOR:
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PKWY.
COLUMBIA, MD 21044
ATTN: BOB JENKINS
(410) 992-6089

STORM DRAIN PROFILES

ROAD CONSTRUCTION PLANS
IMPROVEMENTS TO GORMAN ROAD
AND STEPHENS ROAD
GORMAN ROAD FROM 97+99.27 TO 118+00
STEPHENS ROAD FROM 0+00 TO 2+55
ELECTION DISTICT No.6
HOWARD COUNTY, MARYLAND

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED R-SC-MXD-3 PEC-MXD-3	99140
OCT., 2001	47-9/10	9 OF 12

F-01-185

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ROAD INFORMATION CHART & NOTES

ROAD NAME & STATION	ROAD CLASSIFICATION	ZONING	DESIGN SPEED	PAVING SECTION	CROSS SECTION
Gorman Road 98+00 to 101+00	Major Collector	Note 1	40 MPH	P-5	5
Gorman Road 101+00 to 102+67	Major Collector	Note 1	40 MPH	P-5	4
Gorman Road 102+67 to 105+62	Major Collector	Note 1	40 MPH	P-5	3
Gorman Road 105+62 to 109+32	Major Collector	Note 1	40 MPH	P-5	2
Gorman Road 109+32 to 109+85	Major Collector	Note 1	40 MPH	P-5	* Note 3 & 9
Gorman Road 109+85 to 113+68	Major Collector	Note 1	40 MPH	P-5	* Note 4 & 9
Gorman Road 113+68 to 115+79	Major Collector	Note 1	40 MPH	P-5	* Note 5 & 9
Gorman Road 115+79 to 117+00	Major Collector	Note 1	40 MPH	P-5	* Note 6 & 9
Gorman Road 117+00 to 117+50	Major Collector	Note 1	40 MPH	P-5	* Note 7 & 9
Gorman Road 117+50 to 118+00	Major Collector	Note 1	40 MPH	P-5	* Note 8 & 9
Stephens Road 0+12 to 2+55	Local Road	R-SC-MXD-3	40 MPH	P-5	6 Note 9

NOTES:

1. Zoning classifications for subject property are: R-ED, R-SC-MXD-3, and PEC-MXD-3.
2. Stations shown for limits of cross sections and transitions described below are approximate and can be modified with engineer's approval to better suit field conditions.
3. The Eastbound Lane will transition from a normal crowned section (2% cross slope) at 109+32 to 0% cross slope at 109+85 and the superelevation will begin. The cross slope for the Westbound Lane will remain 2%.
4. The Eastbound and Westbound Lanes are both superelevated and the cross slope varies. See sheet 3 of these drawings for the top of curb elevations and centerline grades in order to calculate the cross slope at any given point.
5. The Westbound Lane begins transitions from superelevated cross slope at 113+75 to the existing cross slope station 114+75. The remainder of the operation from 114+75 to 117+50 in the Westbound is mill and overlay of the existing pavement and widening to the full road width. The Eastbound Lane continues to transition through the superelevated section and obtains a cross slope of 0% at station 115+79.
6. The Eastbound Lane transitions from the 0% cross slope at station 115+79 to the existing cross slope of Gorman Road at station 117+00.
7. From station 117+00 to 117+50 the work in both the East and West Bound lanes will consist of the removal and replacement of the existing pavement and widening to the full road width.
8. From station 117+50 to 118+00 the work in both the East and West Bound Lanes will consist of the removal and replacement of the existing pavement.
9. The contractor shall provide at least 1 (one) foot sawcut into existing pavement and place a minimum of 1½" surface course pavement to meet the required grade and conform to the standard P-5 section in accordance with Ha.Co.Det. & 10.01 prior to pavement overlay.

* Due to transition of the road section in this area, it does not conform to any of the sections shown. Survey/construction coordination must be used for proper elevations.

1 Superelevated– see detail provided on this sheet.

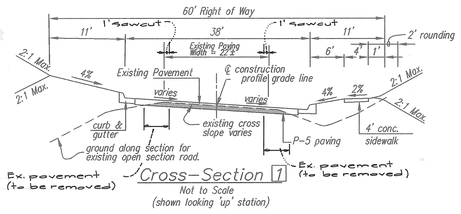
2 Crowned section (centerline of paving at the centerline of the right of way).

3 Crowned section (centerline of paving is shifted from centerline of the right of way).

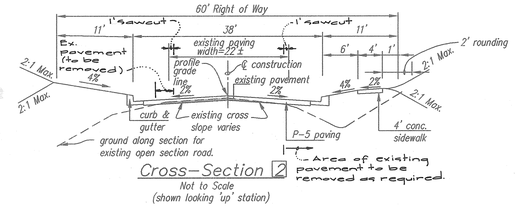
4 Crowned section (improvements to westbound lane only, centerline of paving is shifted). from centerline R/W

5 Crowned section (improvements to westbound lane only, centerline of paving is at centerline right of way).

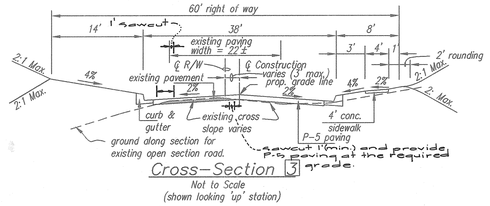
6 Crowned section (improvements to southbound lane only).



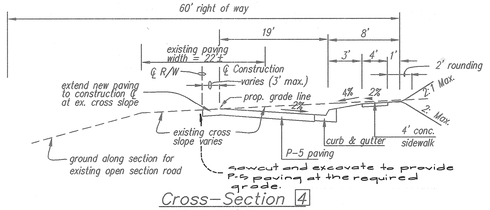
Cross-Section 1
Not to Scale
(shown looking 'up' station)



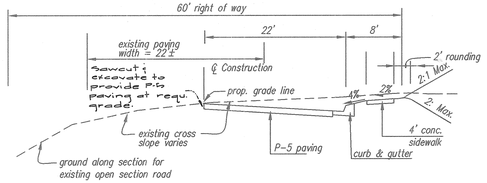
Cross-Section 2
Not to Scale
(shown looking 'up' station)



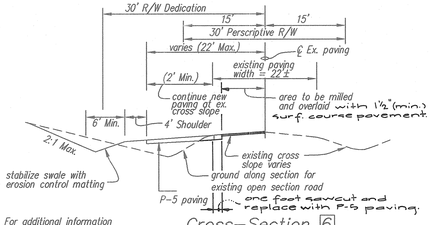
Cross-Section 3
Not to Scale
(shown looking 'up' station)



Cross-Section 4
Not to Scale
(shown looking 'up' station)

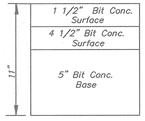


Cross-Section 5
Not to Scale
(shown looking 'up' station)

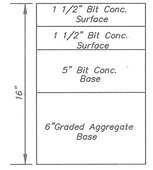


Cross-Section 6
Not to Scale
(looking north toward Gorman Road)

For additional information concerning road widening, see Howard County detail, R 10.01.

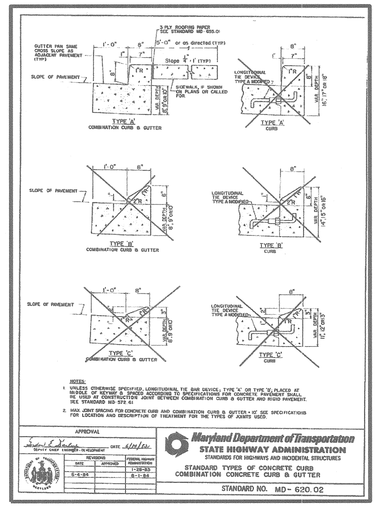


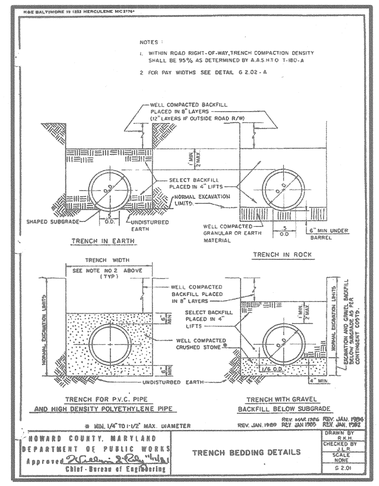
P-5 Full Depth Bituminous Concrete
N.T.S.

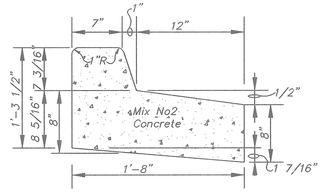


P-5 Granular Base (Alternate)
N.T.S.

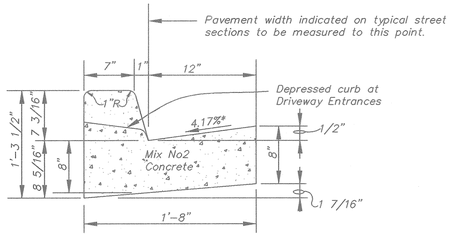
Paving Sections
N.T.S.
Note: Other equivalent paving sections may be used where approved by a Geotechnical.





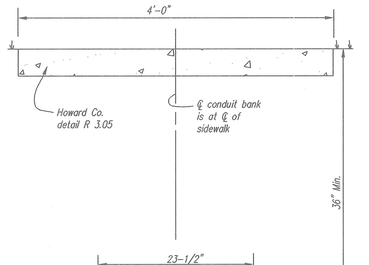


Reverse 7" Combination Curb & Gutter
N.T.S.



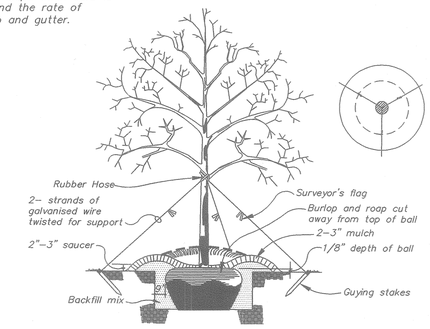
Standard 7" Combination Curb & Gutter
N.T.S.

* Gutter pan at median edge of intermediate arterials or the high side of superelevated sections shall be sloped at the same rate and in the same direction as the pavement. Match pavement cross slope when curb is located on the low side of superelevated section and the rate of superelevation is greater than 3% for modified curb and gutter.



Conduit Location Detail
Not to Scale

Notes:
1. Provide temporary anchoring to prevent the conduit from floating or changing alignment while pouring envelope.
2. See trenching requirements, sheet 11, for additional construction specifications.



Typical Tree Guying Detail
N.T.S.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 1-16-02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 1/29/02
Chief, Development Engineering Division — Date 1/25/02

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

/DWGS/99140/Gorman/99140SD.DWG | DES. DEV | DRN: CADD/FMM | CHK.

DATE	REVISION	BY	APP'R.

PREPARED FOR :
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PKWY.
COLUMBIA, MD 21044
ATTN: BOB JENKINS
(410) 992-6089

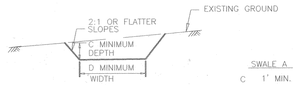
ROAD CONSTRUCTION NOTES & DETAILS
ROAD CONSTRUCTION PLANS
IMPROVEMENTS TO GORMAN ROAD
AND STEPHENS ROAD
GORMAN ROAD FROM 97+99.27 TO 118+00
STEPHENS ROAD FROM 0+00 TO 2+55
ELECTION DISTRICT No.6
HOWARD COUNTY, MARYLAND
ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED R-SC-MXD-3 PEC-MXD-3	99140
OCT., 2001	47-9/10	10 OF 12

F-01-185

99140SD.dwg 12-20-01 3:03:08 pm EST

DETAIL 2 - TEMPORARY SWALE



CROSS SECTION

	SWALE A	SWALE B
C	1' MIN.	1' MIN.
D	4' MIN.	6' MIN.

OUTLET AS REQUIRED

PLAN VIEW

DRAINAGE AREA = 10 ac (MAX)
SLOPE = 10% (MAX)

STANDARD SYMBOL
A - 2/ B - 3

FLOW CHANNEL STABILIZATION
GRADE 0.5% MIN. 10% MAX.

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4"-7" stone or recycled concrete equivalent pressed into soil in a minimum 7" layer.

Construction Specifications

1. All temporary swales shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.

2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.

3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed stabilized area at a non-erosive velocity.

4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the swale.

5. The swale shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.

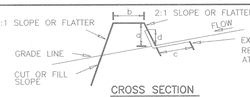
6. Fill, if necessary, shall be compacted by earth moving equipment.

7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the swale.

8. Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE A - 2 - 4	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 1 - EARTH DIKE



CROSS SECTION

	DIKE A	DIKE B
a-DIKE HEIGHT	18"	30"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	12"	24"

POSITIVE DRAINAGE SUFFICIENT TO DRAIN

CUT OR FILL SLOPE

PLAN VIEW

STANDARD SYMBOL
A-2 B-3

FLOW CHANNEL STABILIZATION
GRADE 0.5% MIN. 10% MAX.

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.

2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.

3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.

4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.

5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.

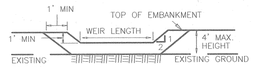
6. Fill shall be compacted by earth moving equipment.

7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.

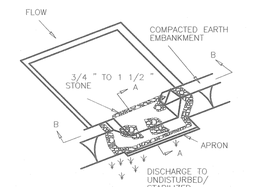
8. Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE A - 1 - 6	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 10A - STONE / RIP-RAP OUTLET SEDIMENT TRAP - ST IV

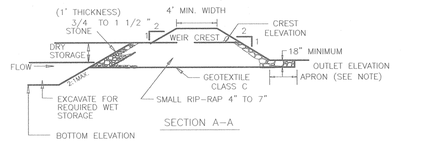


SECTION B-B



PERSPECTIVE VIEW

2:1 MAX.



SECTION A-A

NOTE: 5' MIN LENGTH UP TO 5 ACRES, OVER 5 ACRES USE 10' MIN.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 9 - 16	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

STONE RIP-RAP OUTLET SEDIMENT TRAP - ST IV

Construction Specifications

1. The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.

2. The fill material for the embankment shall be free of roots or other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed. Maximum height of embankment shall be 4', measured at centerline of embankment.

3. All cut and fill slopes shall be 2:1 or flatter.

4. Elevation of the top of any dike directing water into trap must equal or exceed the height of trap embankment.

5. Storage area provided shall be figured by computing the volume measured from top of excavation. (For storage requirements see Table 9).

6. Geotextile Class C shall be placed over the bottom and sides of the outlet channelprior to placement of stone. Section of fabric must overlap at least 1' with section nearest the entrance placed on top. Fabric shall be embedded at least 6" into existing ground at entrance of outlet channel.

7. 4" - 7" stone shall be used to construct the weir and 4" - 12" or Class I rip-rap shall be used to construct the outlet channel.

8. Outlet - An outlet shall include a means of conveying the discharge in an erosion free manner to an existing stable channel. Protection against scour at the discharge point shall be provided as necessary.

9. Outlet channel must have positive drainage from the trap.

10. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 of the wet storage depth of the trap (900 cf/ac). Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

11. The structure shall be inspected periodically after each rain and repaired as needed.

12. Construction of traps shall be carried out in such a manner that sediment pollution is abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentrated inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.

13. The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 9 - 16A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

I. General

A. This Subsection prescribes trenching requirements for the installation of gas and/or electric distribution facilities. Regulations governing trenching safety, boring, shoring, tunneling, etc. and the details are contained in Distribution Work Practices.

1. This standard sets forth trenching requirements for the installation of gas pipe and electric cable. Adhering to the dimensions in this standard, the designer, in cooperation with construction, will determine the most economical trenching method.

2. Any deviations from this standard shall be promptly referred to the Construction Standards and Practices Unit of the Electric System Operations and Planning Department.

3. If field conditions do not allow the specified separations, contact the Construction Standards and Practices Unit.

4. The state and county enforcement divisions must be contacted twenty-four to forty-eight hours prior to construction. At each construction site requiring erosion and sediment control, at least one person responsible for the construction shall hold a certificate of training (green card) for sediment and erosion control issued by the State Department of Natural Resources. Contractors from out-of-state must be certified. A copy of the Grading Permit and approved plan shall be available on-site to the grading inspector at all times.

B. Miss Utility

1. Contact "Miss Utility" before any excavating or trenching begins. 48 hours advanced notice shall be given to "Miss Utility" except in emergency situations.

2. The location of water, sewer, and other utilities shown on the drawings are for informational purposes and are not guaranteed to be correct.

C. Erosion and Sediment Control

1. All Erosion and Sediment Control Requirements must be applied as needed. See the Environmental Work Practices manual for detailed requirements.

D. Shoring

1. All shoring must comply with OSHA specifications.

II. Requirements

A. Trench width and depth (minimum cover) are determined by a number of factors, such as: cable operating voltage, number and size of cables, gas pipe and operating pressure, separation required between facilities being installed and from existing facilities, right-of-way width, storage of excavated material, and trenching equipment capability and availability.

1. A minimum cover, the distance from the top of the electric cable and/or gas pipe to the final grade of the surface under which the electric cable or gas pipe is being installed, is required as a protection for the electric cable and/or gas pipe.

2. Gas pipe and electric cable installations shall take place following the installations of water and sewer mains and services.

3. Before excavating in new developments or to new homes, a crew shall not begin trenching until the Service Planner in New Business Construction Department (SP) has established, with documentation, that grading is within 6" of final grade. The SP shall have the grading stamp or documented statement signed by the building superintendent or the person responsible for the construction site.

4. In certain instances, such as in advance of street improvement, profiles may be furnished. The trench shall be excavated to the indicated depths.

5. A road crossing requires special considerations. Open cutting is preferred, but boring or providing a sleeve may be required or be economically more feasible.

III. Trenching General

A. The trench for all gas and electric lines shall be excavated in as straight a line as practical.

B. Earth and paving material removed from a trench shall be piled in such a manner as to avoid unnecessary public inconvenience and complaints and to avoid silting of adjacent areas, storm sewers, streams, etc. In the event of inclement weather. Earth removed from a trench, suitable for use as a backfill, shall be reasonably protected to prevent excessive drying or wetting. Soil stabilizer (Mat'l No. 42-955) shall be used on wet backfill to reduce the possibility of sunken trenches.

1. Excavated material shall never be placed closer than 24" from the side of the trench or excavation.

2. Earth and paving materials shall be piled separately to ensure that only earth is used in the backfilling of the trench. All paving materials removed from a trench shall be hauled away.

C. The trench bottom shall be excavated in a manner to provide a firm continuous bearing surface. The bottom and sides of the trench shall be reasonably smooth and free of rocks, stones and sharp projections that could damage plastic pipes, steel pipe coatings, or electric cables.

1. Solid rock or significantly rocky soil shall be removed to a depth of 2" below the standard trench depth and the trench so excavated shall be padded with clean earth or sand to a minimum depth of 2" so the pipe or electric cables will be protected from any hard points of rock which might project above the bottom of the trench.

2. The bottom of all trenches shall be carefully graded so voids or depressions will not exist under the pipe or cable to be installed.

3. The condition of the trench bottom shall be inspected before the gas pipe or electric cable is installed to ensure that it is free of projections that may cause damage.

D. If blasting is required, necessary permits are required and adequate protection against personal injury or property damage shall be provided. For details, refer to the Gas Distribution Standards GC 709-7.

1. The use of electric detonating or firing devices for blasting is prohibited on or in the vicinity of Electric Transmission Lines. Blasting charges may also be restricted to protect Company or other property, as deemed advisable.

E. Where common trenching is permitted, the installations shall be made as described and shown in these standards.

IV. Service Trenching Requirements

A. The service trench shall be laid out in a perpendicular straight line from the main to the house where practical. If the trench is in a lawn, care must be exercised to disturb a minimal amount of sod. The excavated earth is to be placed on ground covers to protect the grass and when the service is completed, the lawn shall be restored by replacing the sod.

B. The trench for all gas and electric services shall be excavated to provide at least 24" of cover over the assembled pipe and/or cable from the finished grade.

C. The trench width for services shall facilitate the installation of the service and permit compacting of the backfill.

STANDARD AND 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 supplied 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 respective soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.
- *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 a 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 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 if 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.*

II. 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 1 - Vegetative Stabilization Methods and Materials.*

III. 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*

SEQUENCE OF CONSTRUCTION

1. Obtain grading permit and arrange for an on-site pre-onstruction meeting with the sediment control inspector (SCI). 1 day

2. Install stabilized construction entrance in the area of the existing driveway to serve as a staging area. Construct Trap #1 and cleanwater diversion dike/swales, and the stabilized ECM channel below trap #1, install the cleanwater diversion dikes and swales along the south side of Gorman road and construct Trap #2. Install storm drain run from ES-1 through I-9 and divert ditch flow along Gorman Road into opening of I-8 with an Earth Dike. (provide positive drainage from ditch into opening) Construct the storm drain extension at Ex. "C" and storm drain run from ES-2 to MH-4, then construct and stabilize proposed swale from ES-2 to Ex. "C". Wrap swale with silt fence to prevent unnecessary disturbance to the stabilized channel. 3 weeks

NOTE: No other construction activity is permitted until the construction items in S.O.C. #2 have been completed.

3. With permission from the SCI to proceed, fine grade the site and install utilities (BGE conduit, water and storm drains). Also remove or relocate any existing utilities as directed on these plans. 1 month

4. Install the concrete sidewalk and curb and gutter. 2 weeks

5. Install the base paving in the areas being widened, perform milling of the existing pavement as determined by these plans and then put down the surface course (1-1/2" min) over the base paved and milled areas. (2 months)

6. With permission from the SCI to proceed, remove sediment control devices and stabilize any remaining disturbed areas. Note: Trap 1 and the earth dike draining to it are to remain in place until F-01-177 is completed and stabilized. (1 week)

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. (410) 1.31-1880

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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

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 and 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 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 31), sod (Sec. 54), temporary seedings (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	:	1.53	Acres
Area Disturbed	:	6.24	Acres
Area to be roofed or paved	:	1.53	Acres
Area to be vegetatively stabilized	:	4.71	Acres
Total Cut	:	100	Cu. Yds.
Total Fill	:	3000	Cu. Yds.
Off-site waste/borrow area location:		F-01-177	

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 DPW Sediment Control Inspector.

10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.

11. Trenches for the construction of utilities is limited to 3 pipe lengths or that which shall be backfilled and stabilized within one working day whichever is shorter.

PERMANENT SEEDING NOTES

Apply to graded or cleared area 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, discing or other acceptable means before seeding (unless 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 square feet) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding. Harrow or disc 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 disc 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. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre 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 seeded 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, discing or other acceptable means before seeding (unless 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 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 rate and methods not covered.

ENGINEER'S CERTIFICATE

"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 and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

12/20/01
Date

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and/or construction 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 HSCD."

Signature of Developer/Builder
12/20/01
Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chief, Bureau of Highways — Date 1-16-02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Chief, Division of Land Development — Date 1/29/02
Chief, Development Engineering Division — Date 1/28/02

This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

Howard S.C.D. — Date 1/24/02

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

Natural Resources Conservation Service — Date 1/28/02

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DATE	REVISION	BY	APP'R.

PREPARED FOR :
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PKWY.
COLUMBIA, MD 21044
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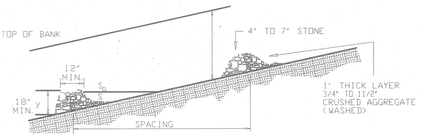
SEDIMENT CONTROL DETAILS
ROAD CONSTRUCTION PLANS
IMPROVEMENTS TO GORMAN ROAD AND STEPHENS ROAD
GORMAN ROAD FROM 97+99.27 TO 118+00
STEPHENS ROAD FROM 0+00 TO 2+55
ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

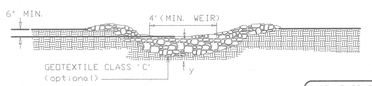
SCALE	ZONING	G. L. W. FILE No.
AS SHOWN	R-ED R-SC-MXD-3 PEC-MXD-3	99140
OCT., 2001	47-9/10	11 OF 12

F-01-185

DETAIL 7 - STONE CHECK DAM



DITCH PROFILE



CROSS SECTION

STANDARD SYMBOL

STANDARD STONE CHECK DAM DESIGN

SLOPE	SPACING
2% or less	80'
2.1% to 4%	40'
4.1% to 7%	25'
7.1% to 10%	15'
over 10%	use lined waterway design

Construction Specifications

1. Swales and ditches shall be prepared in accordance with the construction specifications described in Section A-2, Standards and Specifications for Temporary Swale.

2. The check dam shall be constructed of 4"-7" stone. The stone shall be placed so that it completely covers the width of the channel and keyed into the channel banks.

3. The top of the check dam shall be constructed so the the center is approximately 6" lower than the outer edges, forming a weir that water can flow across.

4. The maximum height of the check dam at the center shall not exced 2'.

5. The upstream sideof the check dam shall be lined with approximately 1' of 3/4" to 11/2" crushed aggregate.

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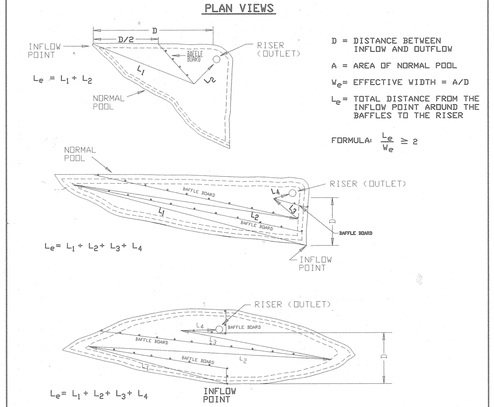
DETAIL 18 - SEDIMENT BASIN BAFFLES

PLAN VIEWS



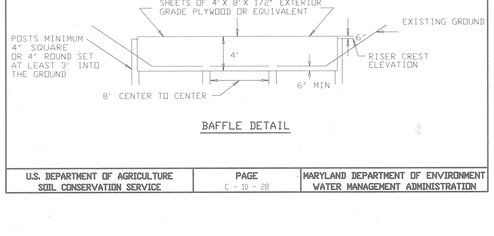
D = DISTANCE BETWEEN INFLOW AND OUTFLOW

A = AREA OF NORMAL POOL

W_e = EFFECTIVE WIDTH = A/D

L_e = TOTAL DISTANCE FROM THE INFLOW POINT AROUND THE BAFFLES TO THE RISER

FORMULA: $\frac{L_e}{W_e} \geq 2$



BAFFLE DETAIL

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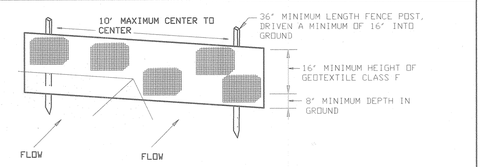
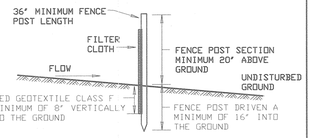
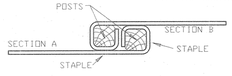
DETAIL 22 - SILT FENCE



PERSPECTIVE VIEW



TOP VIEW



CROSS SECTION

STANDARD SYMBOL

SF

JOINING TWO ADJACENT SILT FENCE SECTIONS

Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall neet 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

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

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SILT FENCE

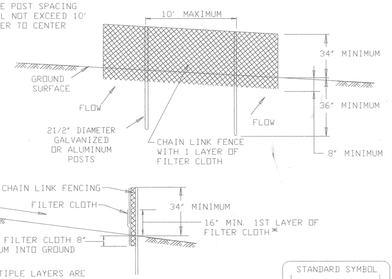
Silt Fence Design Criteria

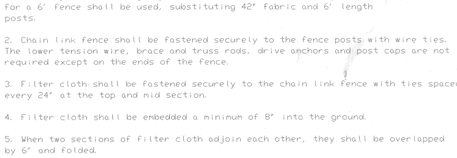
Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

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.

DETAIL 33 - SUPER SILT FENCE

NOTE: FENCE POST SPACING SHALL NOT EXCEED 10' CENTER TO CENTER





STANDARD SYMBOL

SSF

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

Design Criteria

Slope	Slope Steepness	Slope Length (max.mum)	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

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DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and/or construction 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 HSCD."

Robt A. Jenkins — 12/20/01
Signature of Developer/Builder — Date

ENGINEER'S CERTIFICATE

"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 and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

— 12/20/01
Date

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

Natural Resources Conservation Service — 1/24/02 Date

This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

Howard S.C.D. — 1/24/02 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

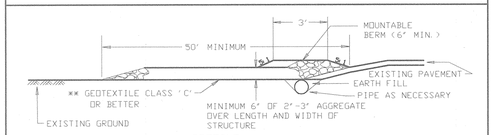
Chief, Bureau of Highways — 1-16-02 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

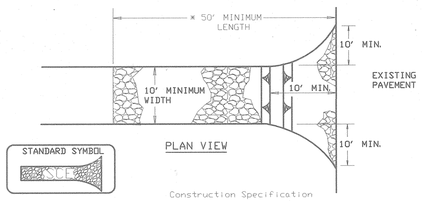
Chief, Division of Land Development — 1/29/02 Date

Chief, Development Engineering Division — 1/30/02 Date

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



PROFILE



PLAN VIEW

STANDARD SYMBOL

SCE

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 reclained 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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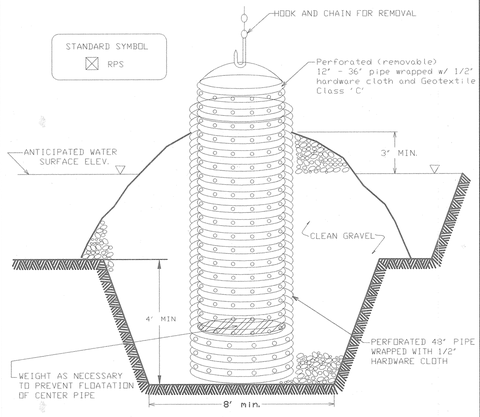
DETAIL 20A - REMOVABLE PUMPING STATION



ELEVATION

Construction Specifications

1. The outer pipe should be 48" dia. or small, 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 fron 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" slits 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.

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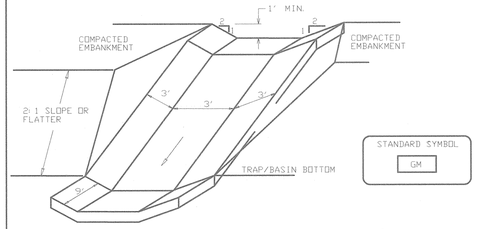
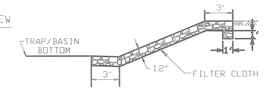
DETAIL 6 - GABION INFLOW PROTECTION



PERSPECTIVE VIEW



PROFILE ALONG CENTERLINE

Construction Specifications

1. Gabion inflow protection shall be constructed of 9' x 3' x 9" gabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes, and a 3' bottom width.

2. Geotextile Class C shall be installed under all gabion baskets.

3. The stone used to fill the gabion baskets shall be 4" - 7".

4. Gabions shall be installed in accordance with manufacturers recommendations.

5. Gabion Inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.

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