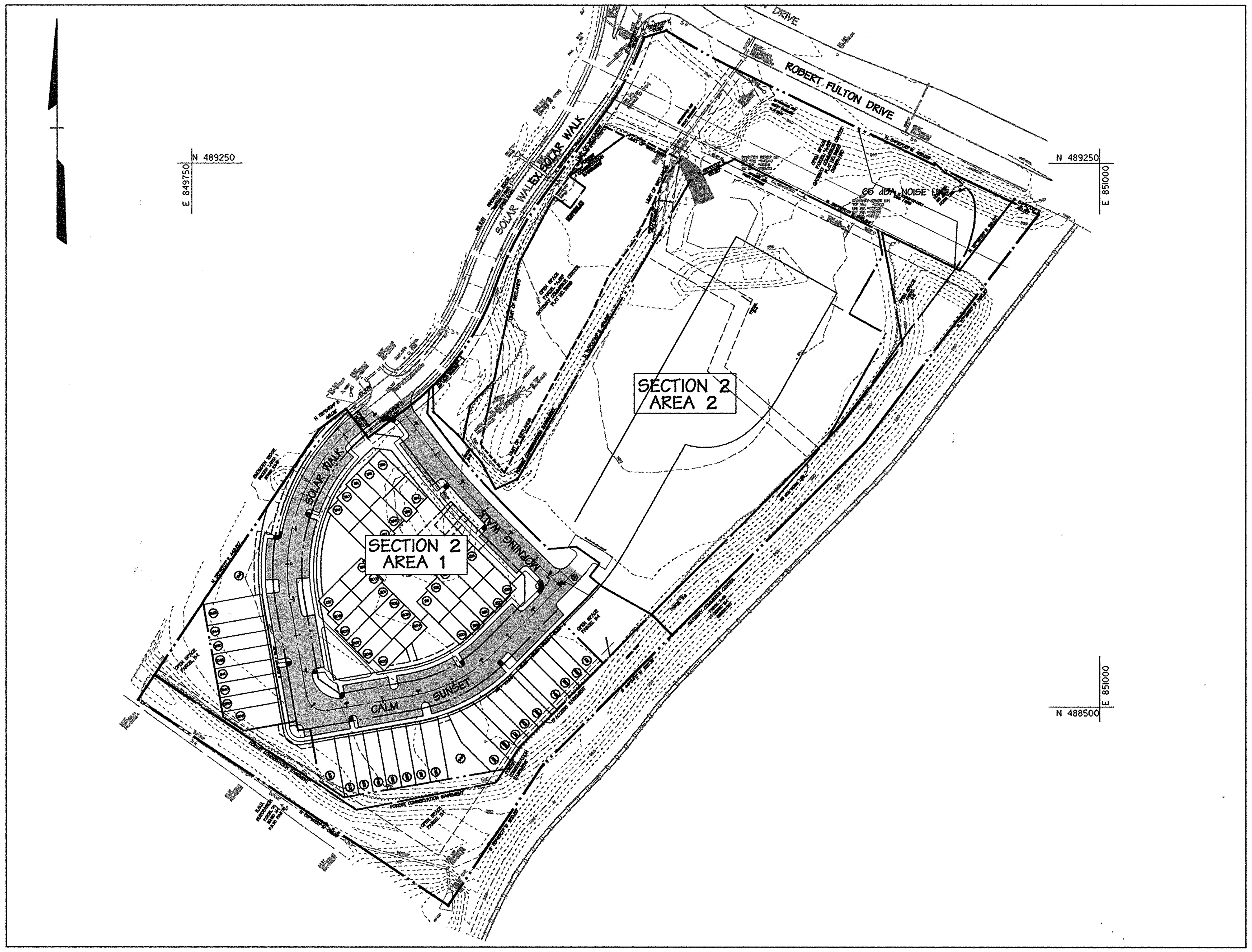
SNOWDEN RIDGE
SECTION 2 AREA 1
LOTS 136 THRU 194
A RESUBDIVISION OF GATEWAY COMMERCE CENTER PARCEL A–54 & A–59
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND



PLAN VIEW
SCALE: 1"=100'

SHEET INDEX	
NO.	PLAN
1 OF 9	COVER SHEET
2 OF 9	ROAD CONSTRUCTION PLAN & PROFILE
3 OF 9	ROAD AND FILLET PROFILES
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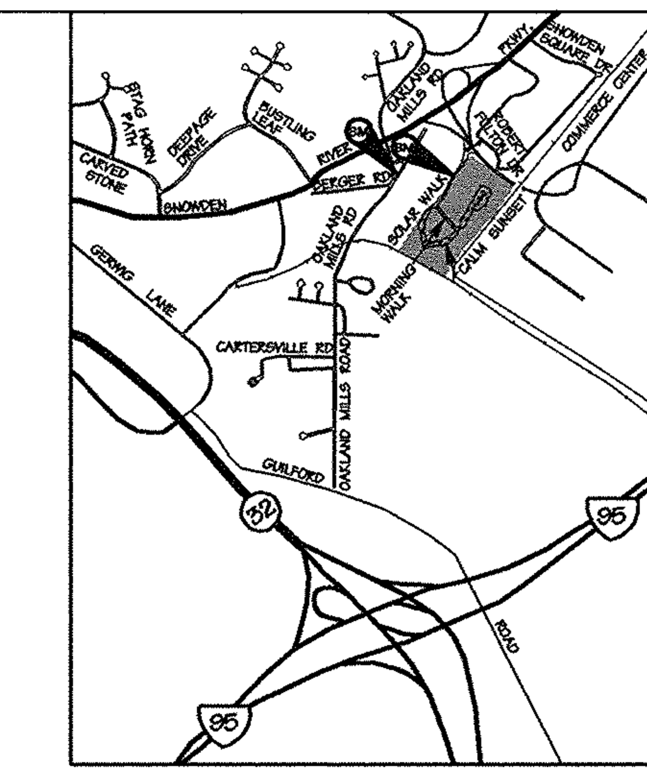
5 OF 9	STORM DRAIN PROFILES
6 OF 9	DRAINAGE AREA MAP
7 OF 9	MASS GRADING SEDIMENT CONTROL & STREET TREE PLAN
8 OF 9	SEDIMENT CONTROL DETAILS
9 OF 9	SEDIMENT CONTROL DETAILS



LOCATION MAP
SCALE: 1" = 2000'

BENCHMARK

DESCRIPTION
"X" CUT TOP OF BOLT WEST SIDE G&E TRANS. TOWER # 425442 ELEV. = 374.29'

DESCRIPTION
CUT NAIL IN G&E POLE ELEV = 387.97

*LOCAL BENCHMARKS ABOVE ESTABLISHED FROM HOWARD COUNTY SURVEY CONTROL POINTS #2243002 AND #2243003.

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CURRENT HOWARD COUNTY DESIGN MANUAL, VOLUME IV, AND MARYLAND STATE HIGHWAY ADMINISTRATION STANDARDS AND SPECIFICATIONS FOR CONSTRUCTION, WHERE APPLICABLE, EXCEPT WHERE WAIVERS HAVE BEEN APPROVED.
2. EXISTING ZONING IS RA-15 PER 10-93 COMPREHENSIVE ZONING.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
4. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
5. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICES. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
6. EXISTING UTILITIES SHOWN ARE TAKEN FROM A FIELD SURVEY AND AVAILABLE PLANS OF RECORD. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS TO VERIFY THEIR LOCATION AND ELEVATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF LOCATION OF UTILITIES IS OTHER THAN SHOWN.
7. ANY DAMAGE CAUSED BY THE CONTRACTOR TO EXISTING PUBLIC RIGHT-OF-WAY, EXISTING PAVING, EXISTING CURB AND GUTTER, EXISTING UTILITIES, ETC. SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
8. TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH TWO-FOOT CONTOUR INTERVALS BY KCI AND FIELD VERIFIED BY DAFT-MCCUNE-WALKER, INC. IN 1997.
9. THIS PROPERTY IS LOCATED WITHIN THE HOWARD COUNTY METROPOLITAN DISTRICT.
10. WATER IS PUBLIC. CONTRACT NO. 24-3660-D. SEWER IS PUBLIC. CONTRACT NO. 24-3660-D
11. ALL OPEN SPACE TO BE GRANTED TO COLUMBIA ASSOCIATION OR H.O.A.
12. HORIZONTAL DATUM: NAD 83/ VERTICAL DATUM: NGVD 29
13. SEE COUNTY FILE NOS.: SP 98-03, F-95-138, WP 95-30, SDP 95-88, SP 95-01, SP 95-09, ZB 949M, F-93-47, WP 92-172, F-92-140, F 92-136, WP 98-117
14. THERE ARE NO WETLANDS, FLOODPLAINS OR STREAMS ON THIS SITE PER PLATS 11958 AND 11959.
15. NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT AS A MASTER STUDY WAS APPROVED FOR GATEWAY COMMERCE CENTRE.
16. THE BOUNDARY SHOWN HEREON IS BASED ON PREVIOUSLY RECORDED PLATS FOR THIS SUBDIVISION AND A BOUNDARY SURVEY BY CENTURY ENGINEERING, INC. AS AMENDED BY GUTSCHICK, LITTLE & WEBER, P.A. DATED APRIL 1994.
17. SWM QUALITY AND QUANTITY CONTROLS PROVIDED IN REGIONAL FACILITY PER F-97-98 WET POND.
18. SIDEWALKS AND SIDEWALK RAMPS SHALL BE IN ACCORDANCE WITH CURRENT ADA REQUIREMENTS.
19. THERE ARE NO KNOWN CEMETERIES OR BURIAL GROUNDS ON THIS SITE.
20. ELECTRIC, GAS, CABLE AND TELEPHONE LINES DESIGNED BY OTHERS.
21. THE 65 dBA LINE SHOWN ON THESE PLANS IS TAKEN FROM A NOISE STUDY TITLED "THE ROUSE COMPANY GATEWAY DEVELOPMENT HIGHWAY AND RAILWAY TRAFFIC NOISE ASSESMENT" BY MILLER HENNING ASSOCIATES, INC. AND DATED NOVEMBER 16, 1994. (SEE F-95-138)
22. WAIVERS TO THE HOWARD COUNTY DESIGN MANUAL VOLUME III FOR RIGHT-OF-WAY WIDTH REDUCTION TO 40 FT. FOR SOLAR WALK AND FOR INTERSECTION SIGHT DISTANCE AT SOLAR WALK AND MORNING WALK HAVE BEEN GRANTED. A WAIVER TO REMOVE THE CROWN IN MORNING WALK HAS ALSO BEEN GRANTED.
23. PROVIDE HANDICAP RAMPS WHERE SHOWN IN PLAN. SEE HOWARD COUNTY STD. DETAIL R-4.01 AND R-4.02.
24. THE CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES.
25. UNLESS OTHERWISE NOTED, DIMENSIONS FROM THE CURB ARE MEASURED FROM FACE OF CURB.
26. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE. ANY STREET TREE MUST BE PLANTED A MINIMUM OF 5' FROM AN INLET.
27. WP 98-117 WAS APPROVED ON JUNE 12, 1998 WHICH REACTIVATED PREVIOUSLY SUBMITTED PLANS F-98-49 AND SDP 98-60. UNDER SUBDIVISION SECTION NUMBER 16.144 (n) AND SECTION NUMBER 16.156 (f)(2).
28. PERIMETER LANDSCAPING AND PER UNIT LANDSCAPING TO BE PROVIDED BY BUILDER AT SITE PLAN STAGE, PARKIING LOT LANDSCAPING PROVIDED BY STREET TREE PLANTING ON ROAD DRAWINGS.
29. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT AND WETLAND BUFFER. HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.

"Conditions and Management Practices for Working in Nontidal Wetlands and their Buffers- Utility Line Installation"

a) For utility line installation, strip, stockpile and maintain separately the top 6" of soil material from the nontidal wetlands and buffer, to be replaced as the top layer of the backfilled material.

b) Use previously excavated material as utility line backfill, unless it contains waste material products, unsightly debris, toxic material or any other deleterious substance. Use clean borrow material when excavated material is not suitable for use as backfill"

c) Remove excavated material, construction material or debris to an upland disposal area outside of any waterway, floodplain, nontidal wetland, or buffer. Place materials in a location and manner which does not adversely impact surface or subsurface water flow into or out of the nontidal wetland"

d) Maintain the hydrologic regime of nontidal wetlands outside the limits of disturbance.

e) Rectify any nontidal wetland buffers temporarily impacted by the permitted activity. All stabilization in the wetland buffer shall be of the following recommended species: Annual Ryegrass (Lolium multiflorum), Millet (Setaria italica), Oats (Uniola sp.), and/or Rye (Secale cereale). Other non-persistent vegetation may be acceptable, but must be approved by the Nontidal Wetlands and Waterways Division. Kentucky 31 fescue shall not be utilized in the wetland buffer. All temporary fills shall be removed in their entirety on or before the completion of construction"

f) After utility line installation has been completed, make post construction grades and elevations of nontidal wetlands and their buffers the same as original grades and elevations"

g) Place heavy equipment on mats or suitably operate the equipment to prevent damage to the nontidal wetland and buffer"

h) No removal of vegetation, grading, filling, draining or other alteration of the nontidal wetlands or buffer outside the limits of disturbance shall occur without written authorization from the Water Management Administration and the Howard County Department of Planning and Zoning.

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
[signature] 9/2/98
CHIEF, BUREAU OF HIGHWAYS HS — DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
[signature] 9/10/98
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

[signature] 9/4/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

Date	No.	Revision Description

8/21/98
Date

Professional Engr. No. 10551

SNOWDEN RIDGE

SECTION 2, AREA 1
LOTS 136 THRU 194, PARCELS B–1 THRU B–4
A RESUBDIVISION OF GATEWAY COMMERCE CENTER
PARCELS A–54 AND A–59

OWNER /DEVELOPER:
HOWARD RESEARCH & DEVELOPMENT CORP/GEAPE II, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MD 21044

DMW
Daft·McCune·Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296–3333
Fax 296–4705

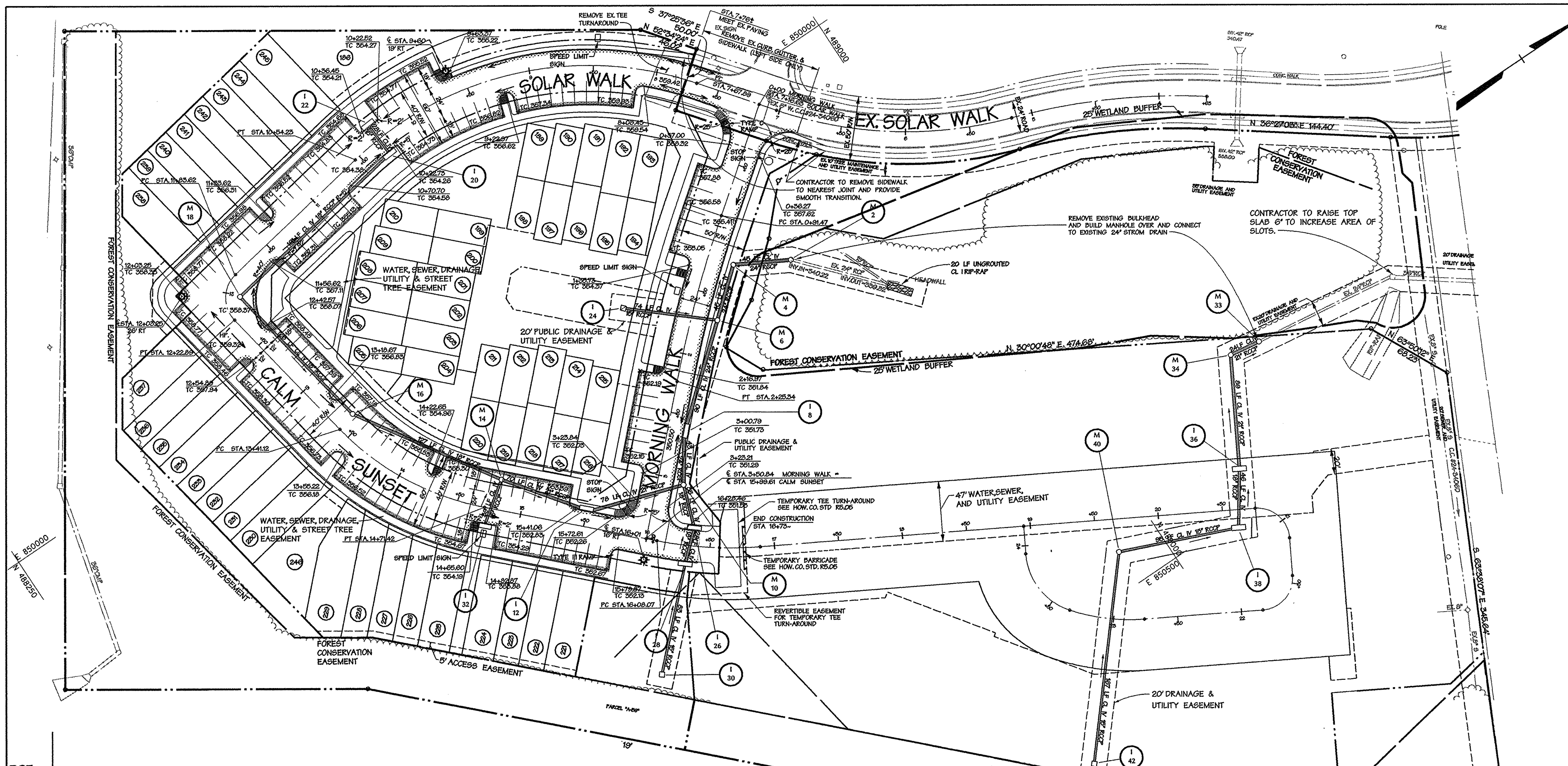
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

AREA
SECTION 2, AREA 1
TAX MAP 42 — P/o PARCEL 513
6TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE
COVER SHEET

Des By JWM	Scale AS SHOWN	Proj. No. 95118D1
Drn By JMH	Date June 16, 1998	1 OF 9
Chk By	Approved	

F-98-49



CURB & GUTTER LEGEND

- STANDARD 7" C&G
- REVERSE 7" C&G
- REVERSE 6" C&G
- STANDARD 6" C&G

STREET LIGHT LEGEND

100 WATT HIGH PRESSURE SODIUM (HPS) VAPOR "TRADITIONAIRE" POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE.

STREET SIGN LEGEND

- 24" X 30" RECTANGLE, R2-1, SPEED LIMIT 25
- 30" X 30" OCTAGON, R1-1, STOP SIGN

CURVE DATA LABEL, SEE SHT. 4 OF 9 FOR ROADWAY CURVE DATA TABLES.

NOTES:

1. SEE SHEET 3 OF 9 FOR PROFILE OF MORNING WALK.
2. ALL CURVE RADII 6' UNLESS NOTED OTHERWISE.
3. DEPRESS TOP OF CURB AT HADICAPPED RAMPS (SEE DETAIL)

ROADWAY CURVE LEGEND

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS — DATE 9/2/98

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/10/98

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/4/98

Date	No.	Revision Description

SNOWDEN RIDGE

SECTION 2, AREA 1
LOTS 136 THRU 194, PARCELS B-1 THRU B-4
A RESUBDIVISION OF GATEWAY COMMERCE CENTER
PARCELS A-54 AND A-59

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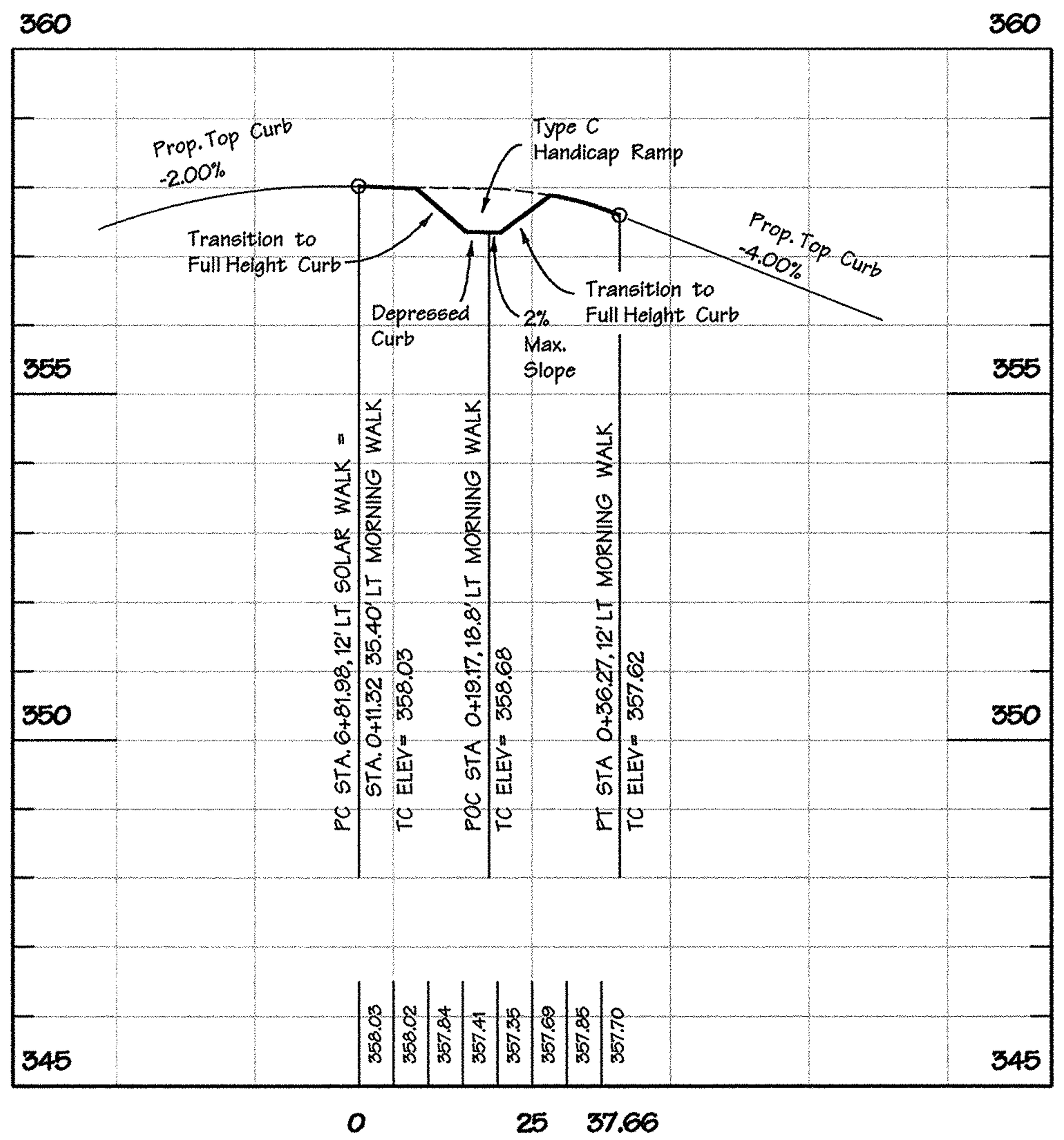
8/21/98
Date

Professional Engr. No. 10551

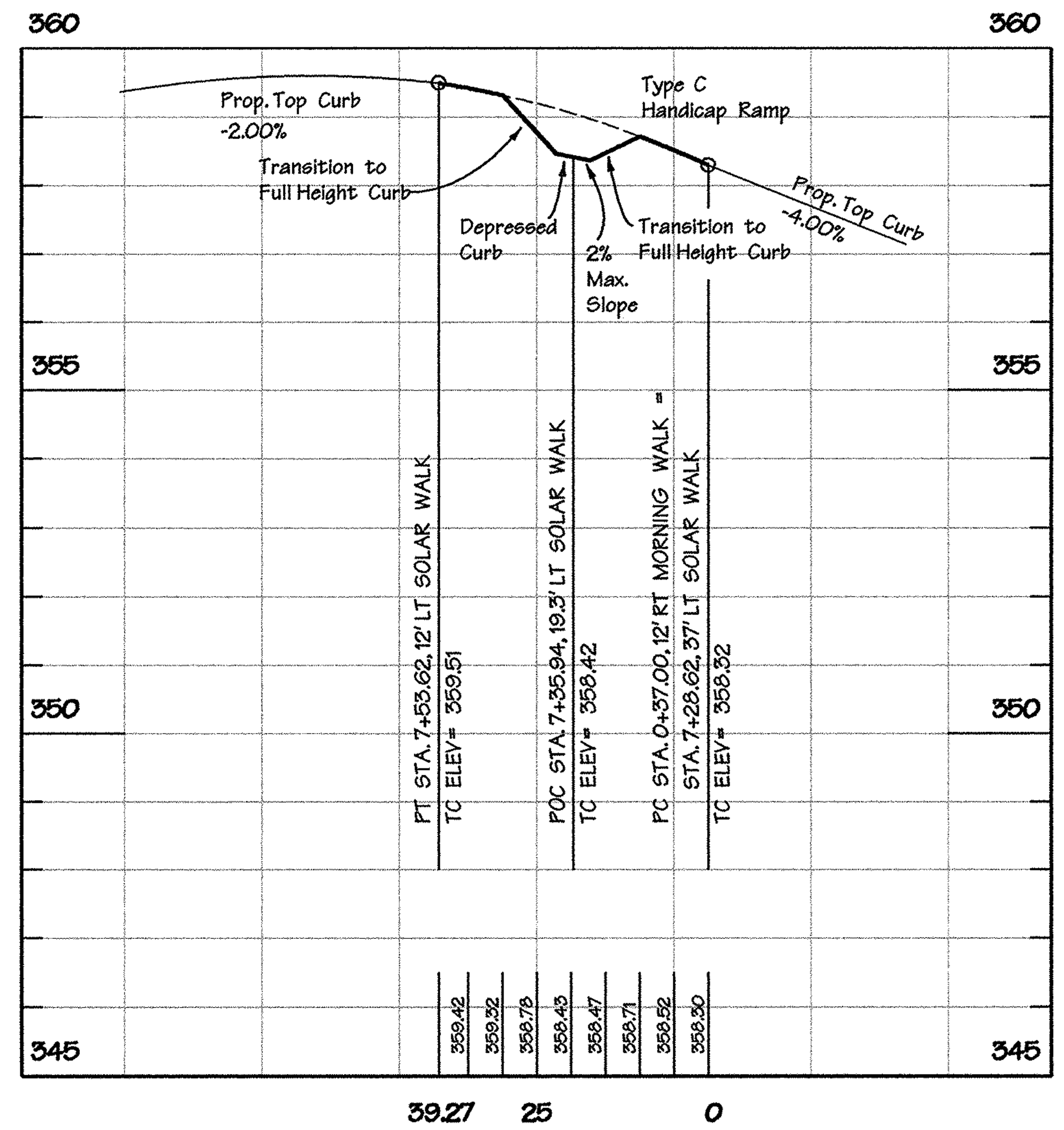
AREA: SECTION 2, AREA 1
TAX MAP 42 — P/O PARCEL 513
6TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE: ROAD CONSTRUCTION PLAN AND PROFILE

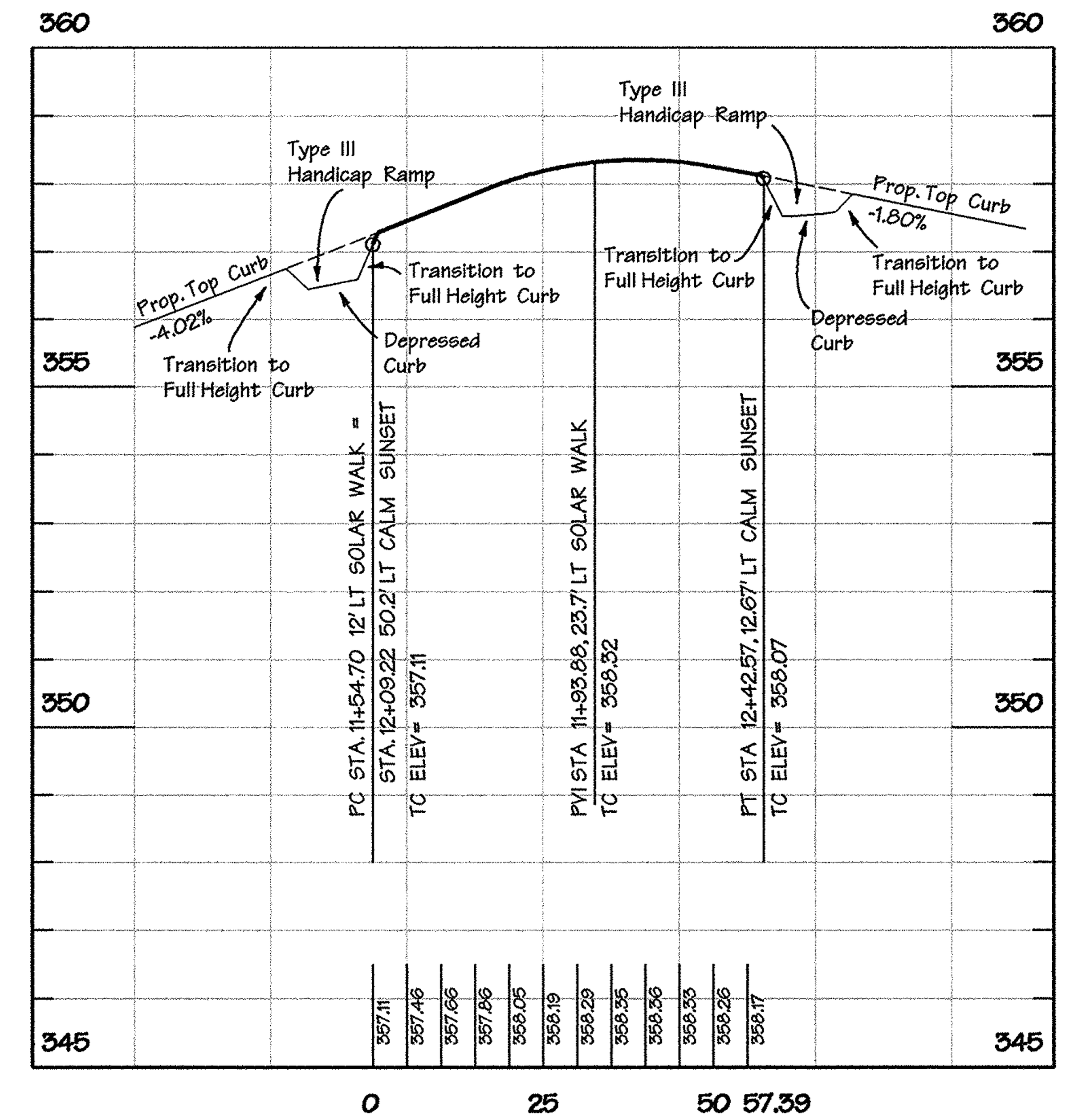
Des By	JMH	Scale	1" = 50'	Proj. No.	95118D1
Drn By	JMH	Date	June 16, 1998	2 OF 9	
Chk By		Approved			



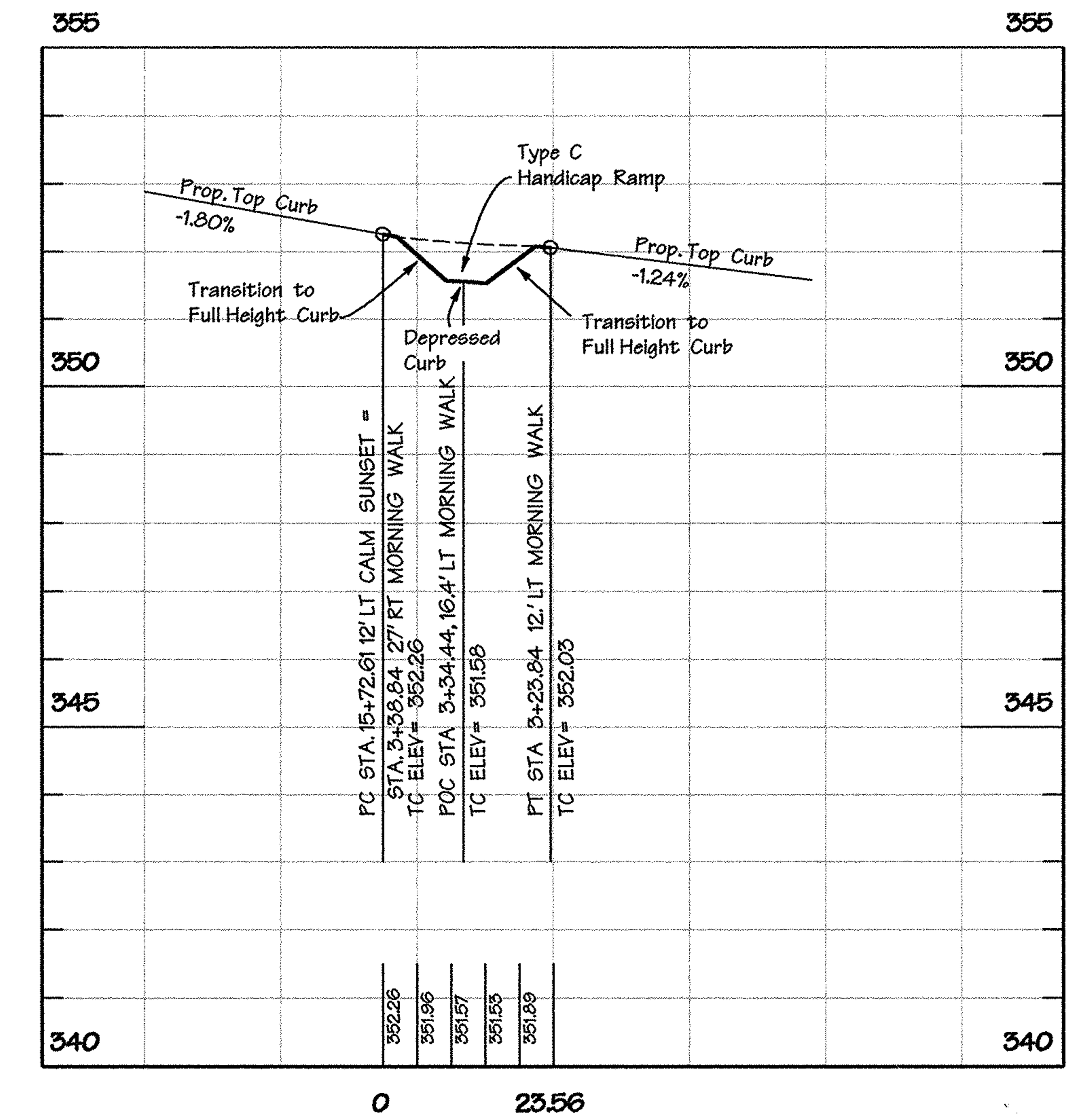
INTERSECTION OF SOLAR WALK AND MORNING WALK
NORTHEAST FILLET CURB PROFILE
SCALE: HORZ 1" = 20'
VERT 1" = 2'



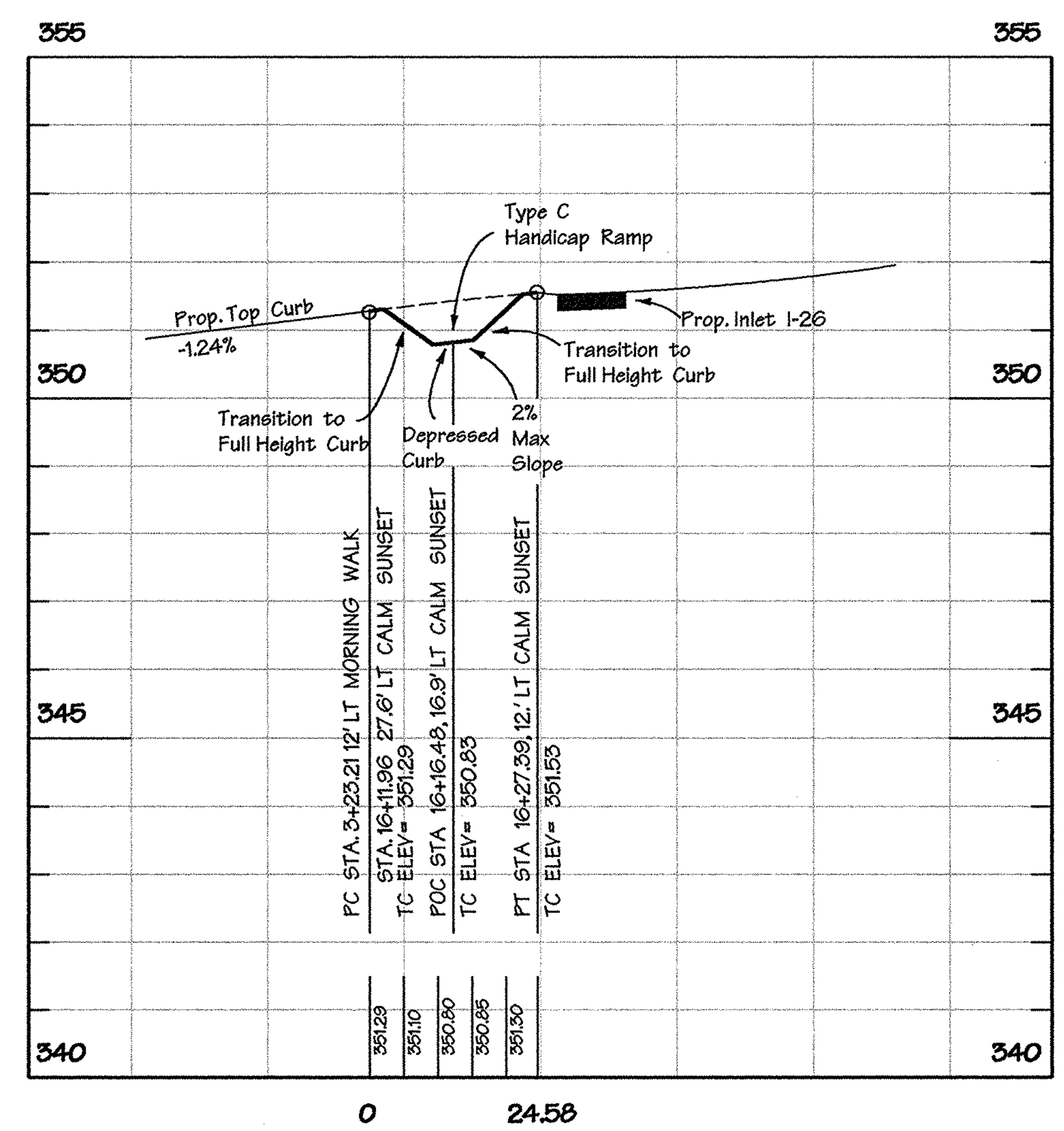
INTERSECTION OF SOLAR WALK AND MORNING WALK
SOUTHEAST FILLET CURB PROFILE
SCALE: HORZ 1" = 20'
VERT 1" = 2'



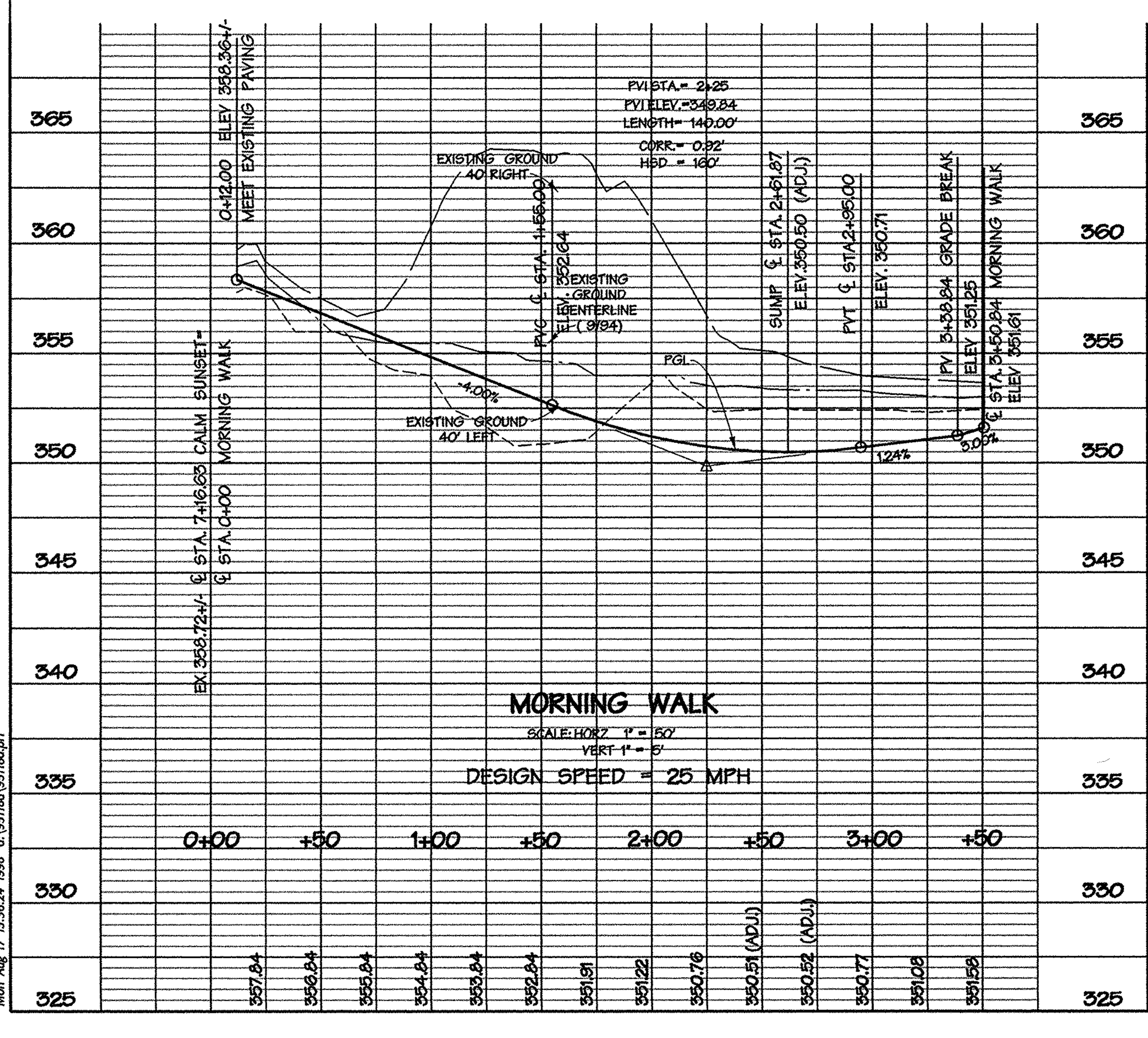
INTERSECTION OF SOLAR WALK AND CALM SUNSET
NORTHEAST FILLET CURB PROFILE
SCALE: HORZ 1" = 20'
VERT 1" = 2'



INTERSECTION OF CALM SUNSET AND MORNING WALK
SOUTHWEST FILLET CURB PROFILE
SCALE: HORZ 1" = 20'
VERT 1" = 2'



INTERSECTION OF CALM SUNSET AND MORNING WALK
NORTHWEST FILLET CURB PROFILE
SCALE: HORZ 1" = 20'
VERT 1" = 2'



APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS — DATE 9/2/98

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/10/98

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/4/98

Date	No.	Revision Description

SNOWDEN RIDGE

SECTION 2, AREA 1
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PARCELS A-54 AND A-59

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A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

8/21/98
Date

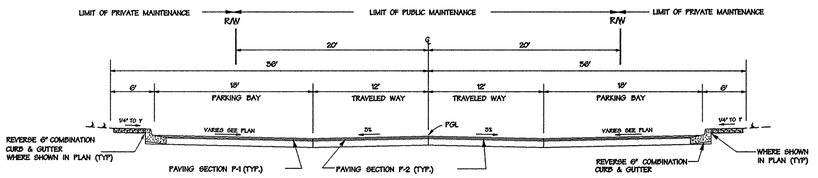
Professional Engr. No. 10557

AREA
SECTION 2, AREA 1
TAX MAP 42 P/O PARCEL 513
6TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE
ROAD AND FILLET PROFILES

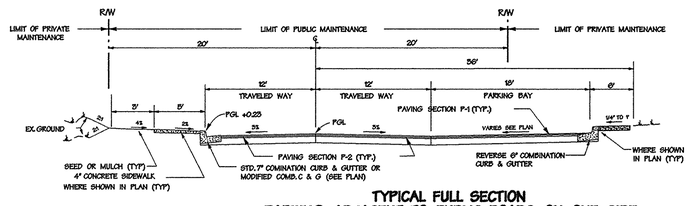
Des By	JMH	Scale 1" = 50'	Proj. No. 95118D1
Drn By	FJZ	Date June 16, 1998	3 OF 9
Chk By		Approved	

F-98-49



TYPICAL FULL SECTION
PARKING ADJACENT TO PUBLIC ROADS

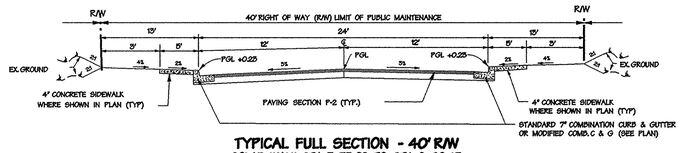
SOLAR WALK: STA 9+63.37 TO STA 10+22.75, CALM SUNSET: STA 10+70.70 TO STA. 11+56.62, STA. 12+42.57 TO STA. 15+41.06



TYPICAL FULL SECTION
PARKING ADJACENT TO PUBLIC ROADS ON ONE SIDE

SOLAR WALK: STA.8+08.43 TO STA.9+63.37, STA.10+22.75 TO STA 10+70.70,
CALM SUNSET: STA.11+56.62 TO STA.12+42.57, STA.15+41.06 TO STA.16+28.46

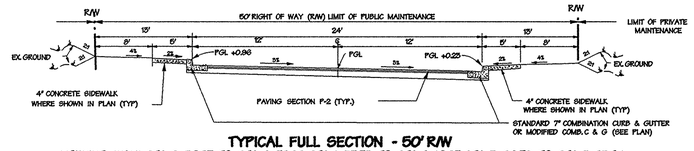
NOT TO SCALE
25 MPH DESIGN SPEED
CLASSIFICATION: CUL-DE-SAC (UNDER 600' IN LENGTH)



TYPICAL FULL SECTION - 40' R/W

SOLAR WALK: STA.7+53.62 TO STA.8+08.43

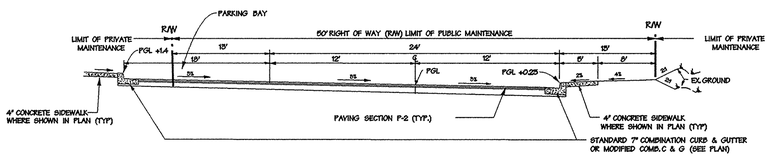
NOT TO SCALE
DESIGN SPEED: 25 MPH



TYPICAL FULL SECTION - 50' R/W

MORNING WALK: STA.0+36.27 TO STA.0+52.99, STA.1+35.73 TO STA.2+16.97, STA.3+00.79 TO STA.3+23.84

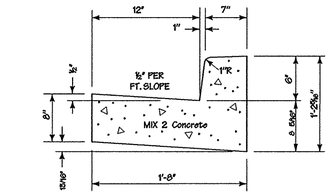
NOT TO SCALE
DESIGN SPEED: 25 MPH



TYPICAL FULL SECTION - 50' R/W
PARKING ADJACENT TO PUBLIC ROADS ON ONE SIDE

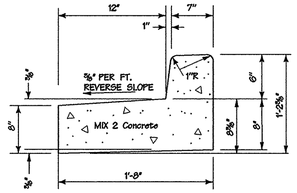
MORNING WALK: STA.0+52.99 TO STA.1+35.73, STA.2+16.97 TO STA.3+00.79

NOT TO SCALE
DESIGN SPEED: 25 MPH



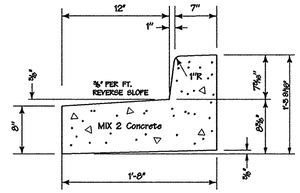
STANDARD 6" COMBINATION CURB AND GUTTER

NO SCALE



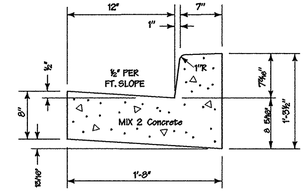
REVERSE 6" COMBINATION CURB & GUTTER

NO SCALE



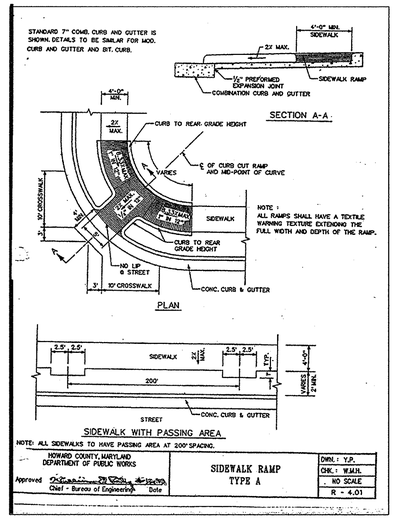
REVERSE 7" COMBINATION CURB & GUTTER

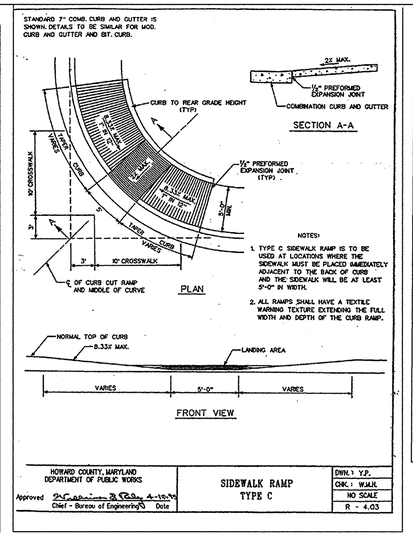
NO SCALE

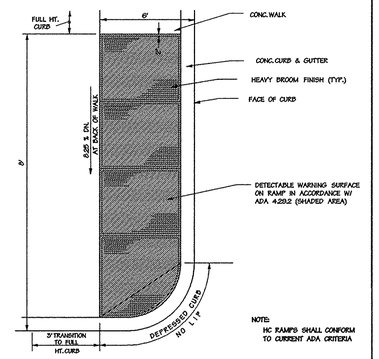


STANDARD 7" COMBINATION CURB AND GUTTER

NO SCALE

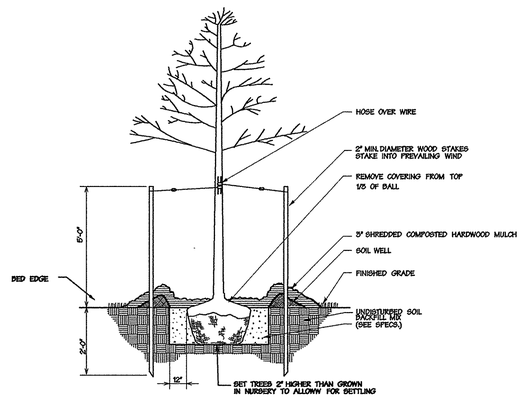






HANDICAPPED RAMP TYPE III

NOT TO SCALE



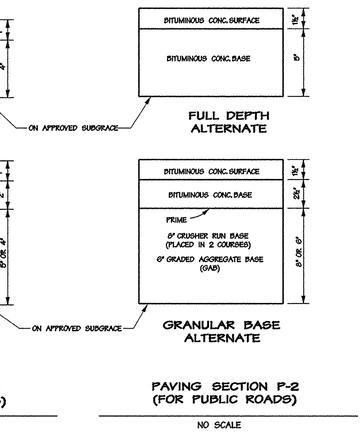
DECIDUOUS TREE DETAIL

(TO 3" CALIPER)

CURVE DATA "SOLAR WALK"						
NAME	DELTA	RADIUS	LENGTH	TANGENT	CHORD	
1	62° 37' 11"	262.00'	286.345'	159.360'	S 21°15'48" W	272.305'
2	90° 00' 00"	25.00'	39.270'	25.000'	S 55°02'47" E	35.355'

CURVE DATA "CALM SUNSET"						
NAME	DELTA	RADIUS	LENGTH	TANGENT	CHORD	
2	90° 00' 00"	25.00'	39.270'	25.000'	S 55°02'47" E	35.355'
3	35° 03' 02"	213.00'	130.302'	67.262'	N 62°25'42" E	128.280'
4	09° 22' 29"	300.00'	49.087'	24.598'	N 40°12'56" E	49.032'

CURVE DATA "MORNING WALK"						
NAME	DELTA	RADIUS	LENGTH	TANGENT	CHORD	
5	07° 40' 13"	1000.00'	133.872'	67.036'	S 41°15'43" E	133.772'



PAVING SECTION P-1
(FOR PARKING AREAS)

NO SCALE

PAVING SECTION P-2
(FOR PUBLIC ROADS)

NO SCALE

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 9/2/98

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 7/6/98

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/4/98

Date	No.	Revision Description

SNOWDEN RIDGE

SECTION 2, AREA 1
LOT 136 THRU 194, PARCELS B-1 THRU B-4
A RESUBDIVISION OF GATEWAY COMMERCE CENTER
PARCELS A-54 AND A-59

OWNER /DEVELOPER:
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(410) 296-3333
Fax 296-4705
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

8/21/98
Date

Professional Engr. No. 10531

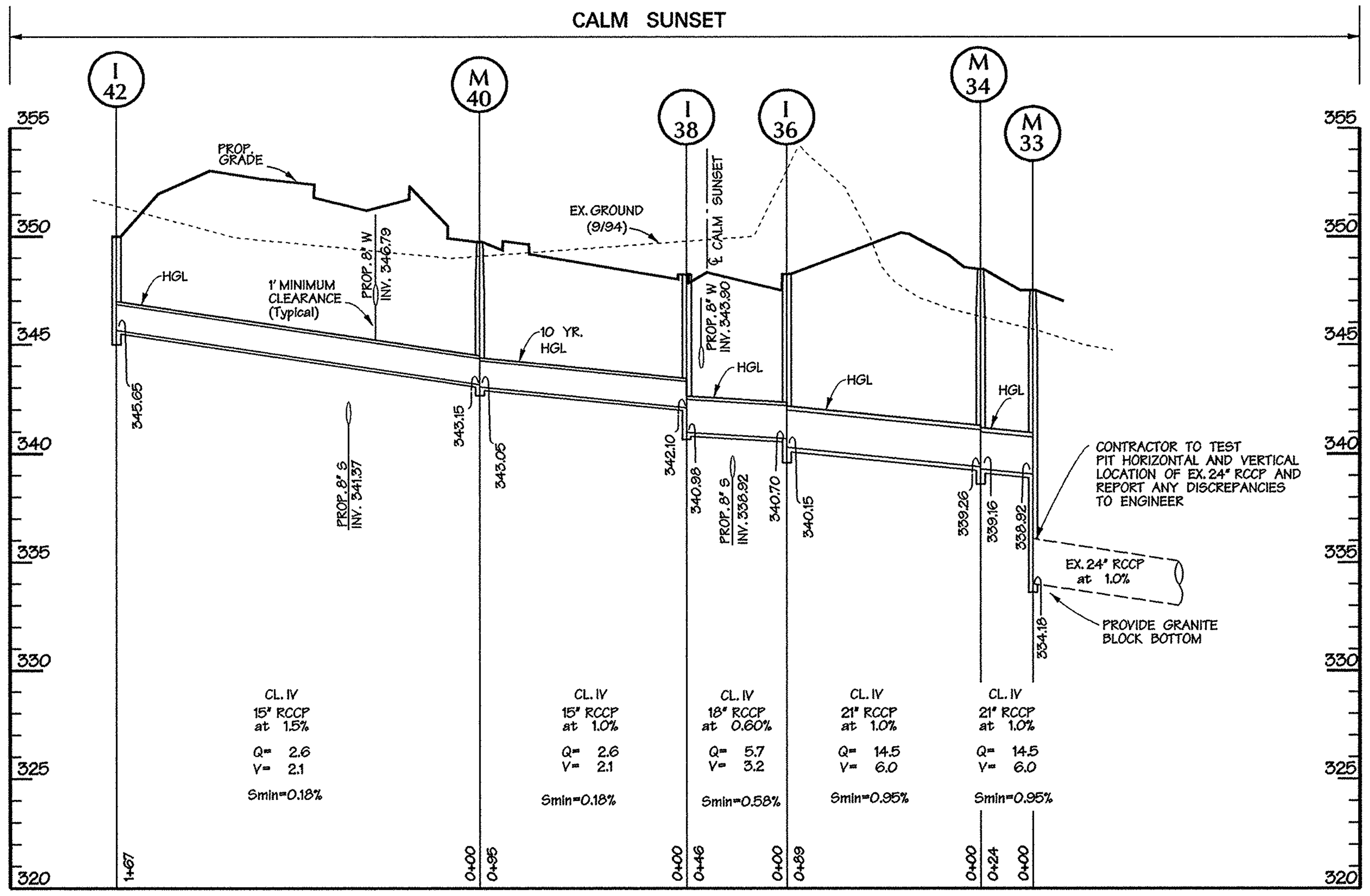
AREA
SECTION 2, AREA 1
TAX MAP 42 P/O PARCEL 513
6TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

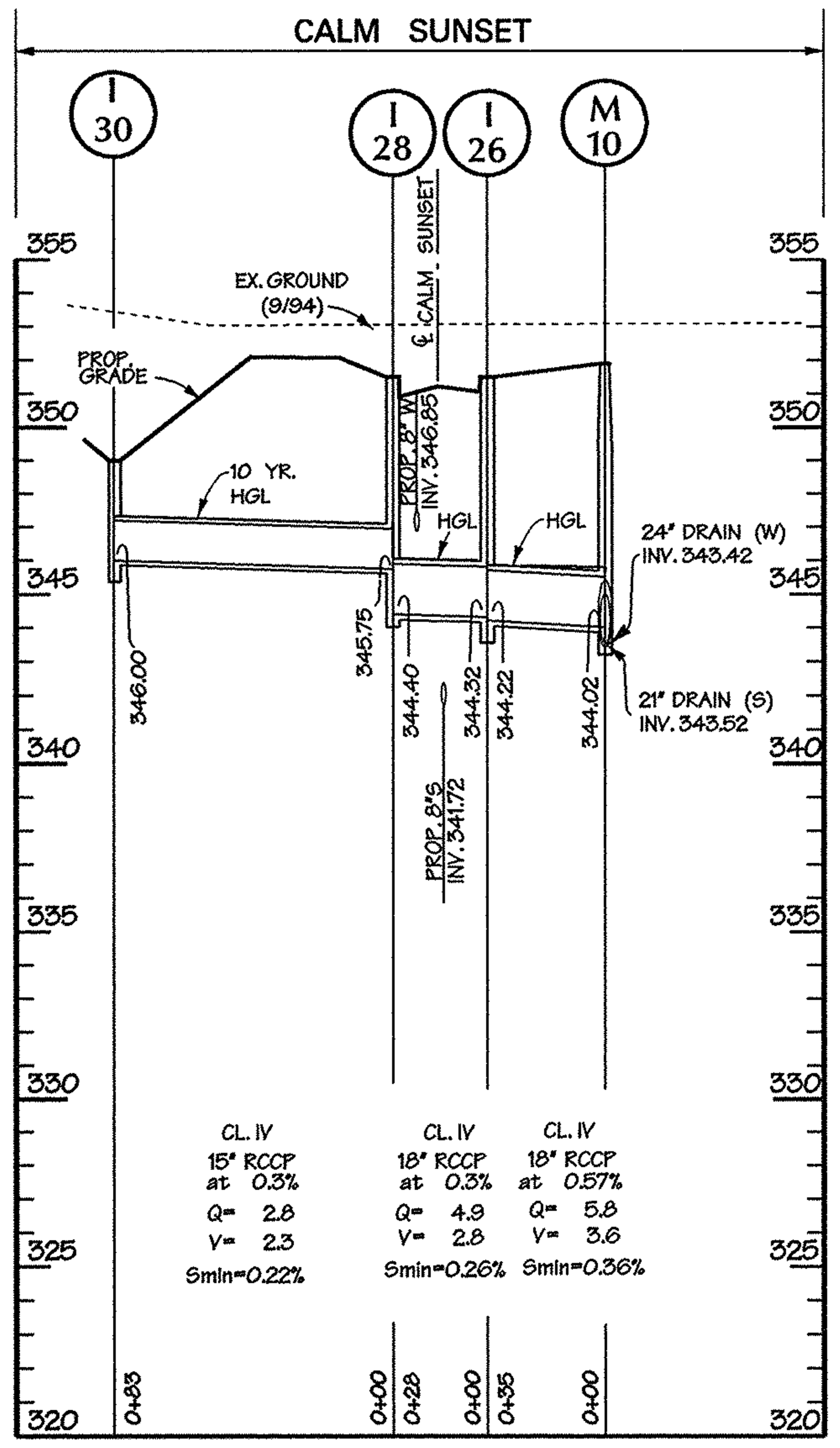
TITLE
ROAD CONSTRUCTION DETAILS

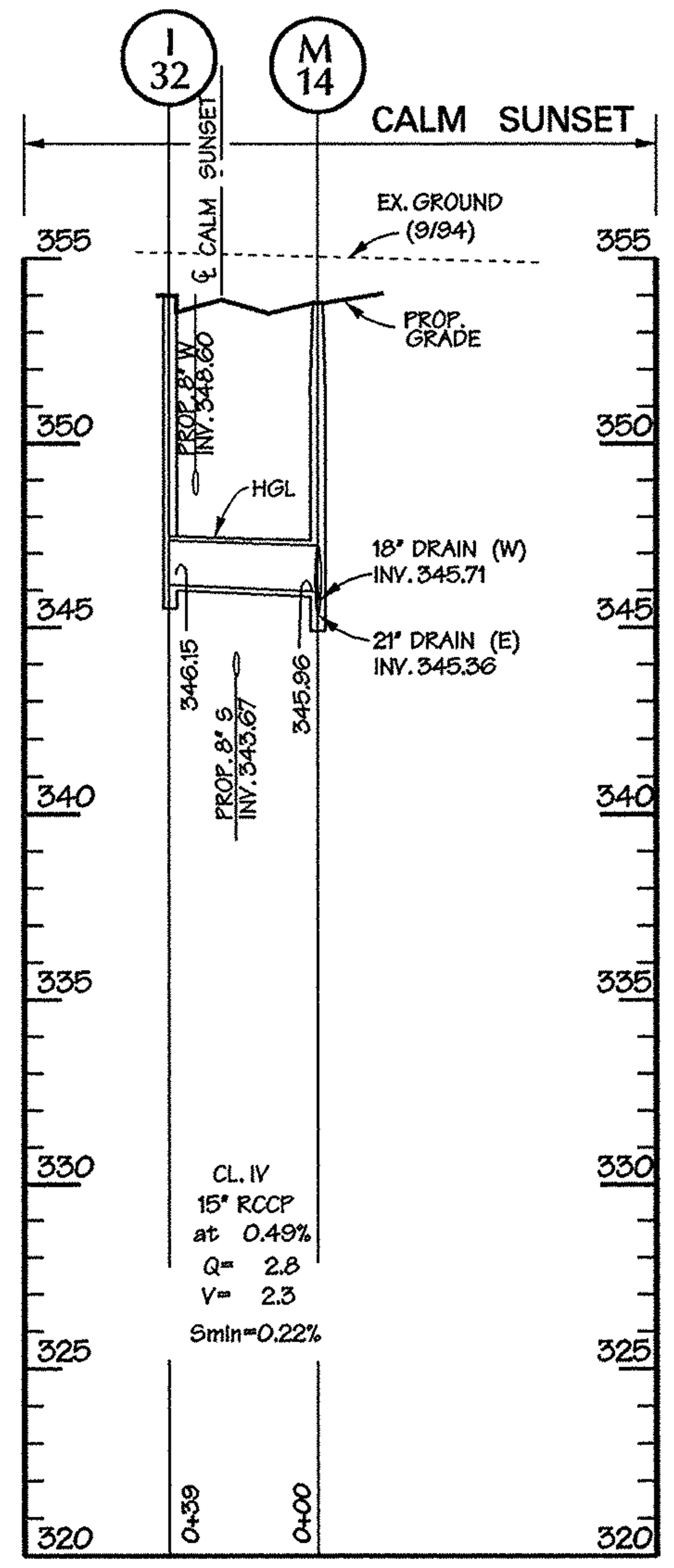
Des By	JWM	Scale	1" = 50'	Proj. No.	95118D1
Drn By	ADL	Date	June 16, 1998		
Chk By		Approved			4 OF 9

F-98-49

Mon Aug 17 15:39:36 1998 d:\95118d\95118d4.dtl







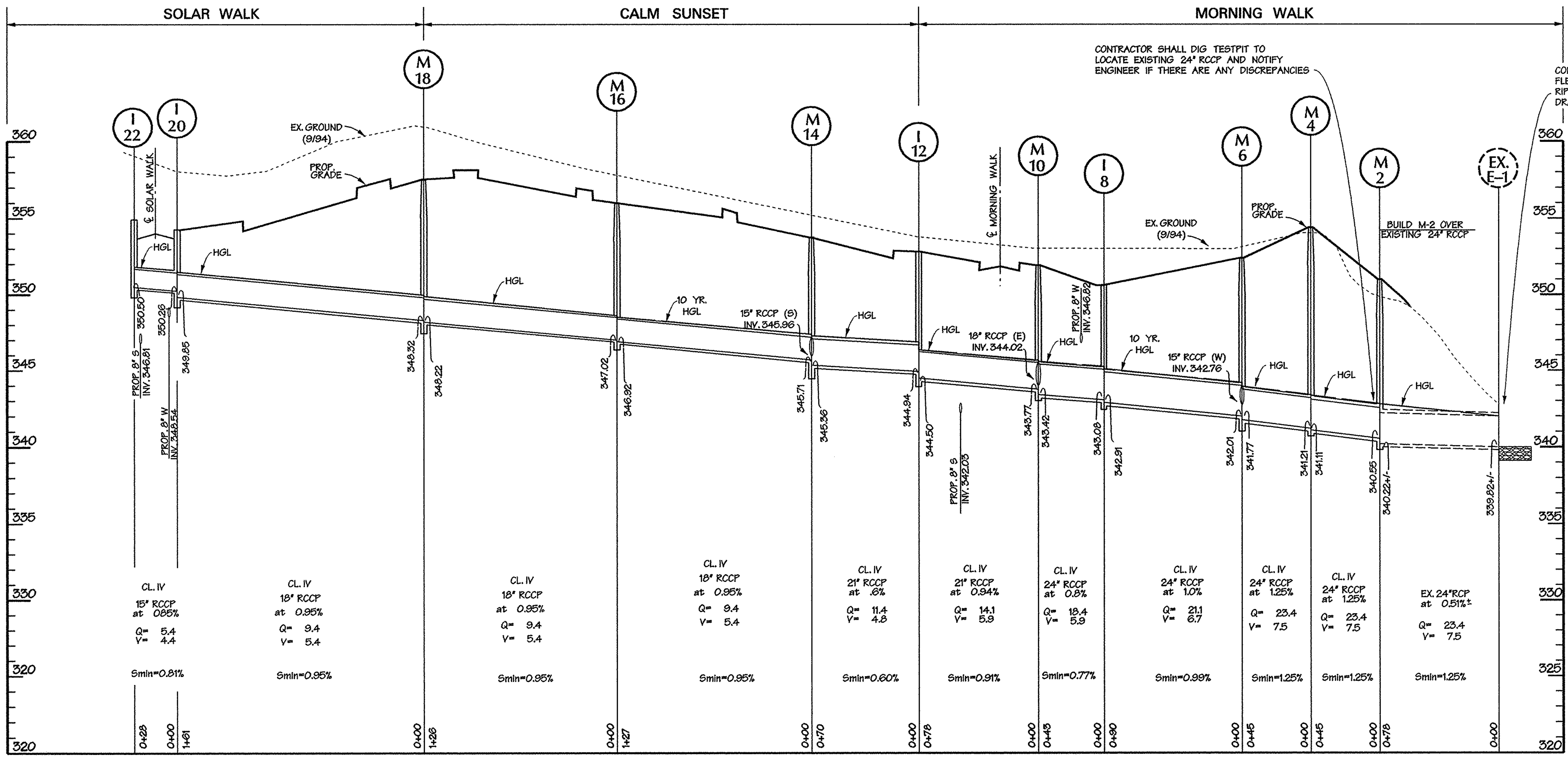
PIPE SCHEDULE

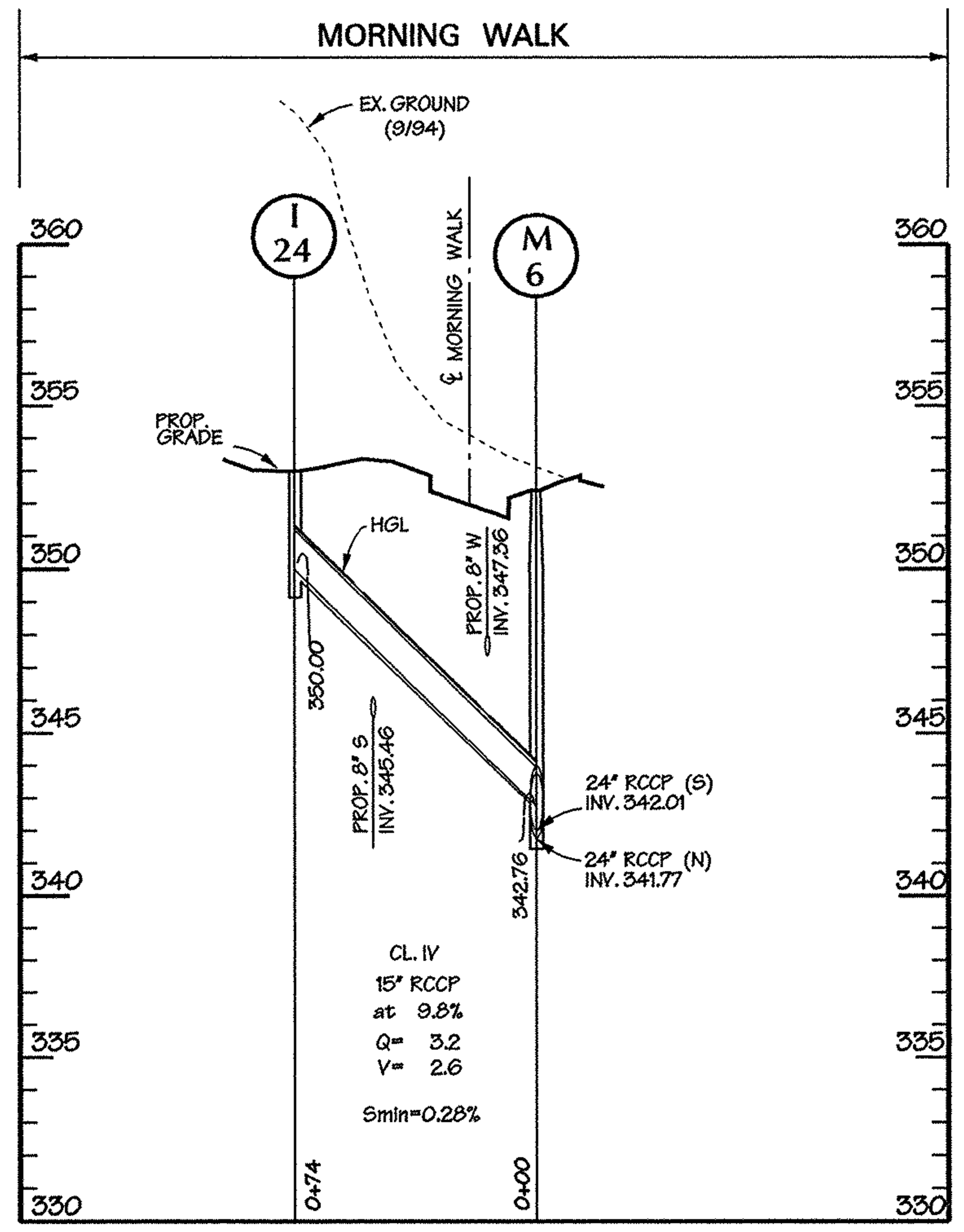
SIZE	TYPE	LENGTH
24"	RCCP CLASS IV	223 LF
21"	RCCP CLASS IV	261 LF
18"	RCCP CLASS IV	523 LF
15"	RCCP CLASS IV	486 LF

STRUCTURE SCHEDULE

NO.	TYPE	SIZE WIDTH	INVERTS IN	INVERTS OUT	TOP ELEV. UPPER	TOP ELEV. LOWER	LOCATION	REMARKS
M-2	4' STD. MANHOLE	48" R	340.55	340.22	351.0	----	SEE PLAN	G-5.12
M-4	4' STD. MANHOLE	48" R	341.21	341.11	354.4	----	℄ MORNING WALK STA. 1+25.64 20.72' LEFT	G-5.12
M-6	4' STD. MANHOLE	48" R	342.01	341.77	352.4	----	℄ MORNING WALK STA. 1+71.50 20.22' LEFT	G-5.12
I-8	A-10 INLET	4.0	343.08	342.91	350.64	----	℄ MORNING WALK STA. 2+61.90 12.00' LEFT	SD-4.02
M-10	4' STD. MANHOLE	48" R	343.52	343.42	351.8	----	℄ MORNING WALK STA. 3+03.93 20.55' LEFT	G-5.12
I-12	A-10 INLET	4.0	344.74	344.30	352.78	352.58	℄ CALM SUNSET STA. 15+49.56 12.00' LEFT	SD-4.02
M-14	4' STD. MANHOLE	48" R	345.51	345.16	353.75	----	℄ CALM SUNSET STA. 14+80.21 23.29' LEFT	G-5.12
M-16	4' STD. MANHOLE	48" R	346.88	346.78	356	----	℄ CALM SUNSET STA. 13+39.26 15.54' LEFT	G-5.12
M-18	4' STD. MANHOLE	48" R	348.24	348.14	357.5	----	℄ SOLAR WALK STA. 12+02.50 11.20' LEFT	G-5.12
I-20	A-10 INLET	4.0	350.26	349.85	354.28	----	℄ SOLAR WALK STA. 10+30.30 12.00' LEFT	SD-4.02
I-22	A-10 INLET	4.0	----	350.50	354.28	----	℄ SOLAR WALK STA. 10+29.54 12.00' RIGHT	SD-4.02
I-24	SINGLE WR	2.0	----	350.00	353	----	℄ MORNING WALK STA. 1+79.86 53.09' RIGHT	SD-4.37
I-26	A-10 INLET	4.0	344.32	344.22	351.5	----	℄ CALM SUNSET STA. 16+34.16 12.00' LEFT	SD-4.02
I-28	A-10 INLET	4.0	345.75	344.4	351.5	----	℄ CALM SUNSET STA. 13+33.95 12.00' RIGHT	SD-4.02
I-30	SINGLE WR	2.0	----	346.00	349.0	----	N 488,626.54 E 850,360.57	SD-4.37
I-32	A-10 INLET	4.0	----	346.15	354.13	353.94	℄ CALM SUNSET STA. 14+74.40 12.00' RIGHT	SD-4.02
M-33	4' STD. MANHOLE	48" R	340.57	----	347.5	----	SEE PLAN	G-5.12
M-34	4' STD. MANHOLE	48" R	340.91	340.81	348.5	----	N 489,123.76 E 850,391.98	G-5.12
I-36	A-10 INLET	4.0	342.35	341.80	348.26	----	℄ CALM SUNSET STA. 20+65.88 30.00' LEFT	SD-4.02
I-38	A-10 INLET	4.0	343.28	342.81	348.70	----	℄ CALM SUNSET STA. 20+61.75 12.00' RIGHT	SD-4.02
M-40	4' STD. MANHOLE		344.50	344.40	349.76	----	℄ CALM SUNSET STA. 19+67.33 25.59' RIGHT	G-5.12
I-42	SINGLE WR	2.0	----	347.00	350.00	----	N 488,853.37 E 850,594.47	SD-4.37

NOTE: ALL INVERTS TO BE FULLY DEVELOPED





APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 9/2/98

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/10/98

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/4/98

Date	No.	Revision Description

SNOWDEN RIDGE

SECTION 2, AREA 1
LOTS 136 THRU 194, PARCELS B-1 THRU B-4
A RESUBDIVISION OF GATEWAY COMMERCE CENTER
PARCELS A-54 AND A-59

OWNER /DEVELOPER:
HOWARD RESEARCH & DEVELOPMENT CORP/GEAPE II, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MD 21044

DMW
Daft·McCune·Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
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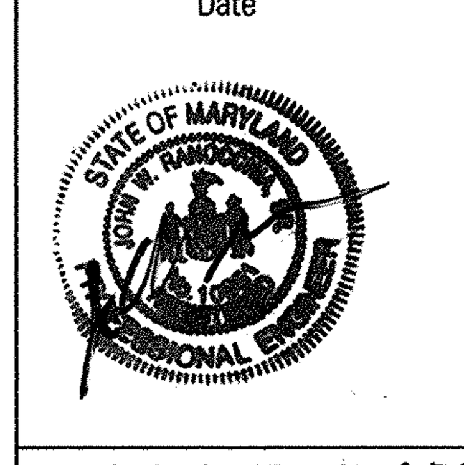
Fax 296-4705
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

SECTION 2, AREA 1
TAX MAP 42 P/O PARCEL 513
6th ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE
STORM DRAIN PROFILES

8/21/98
Date

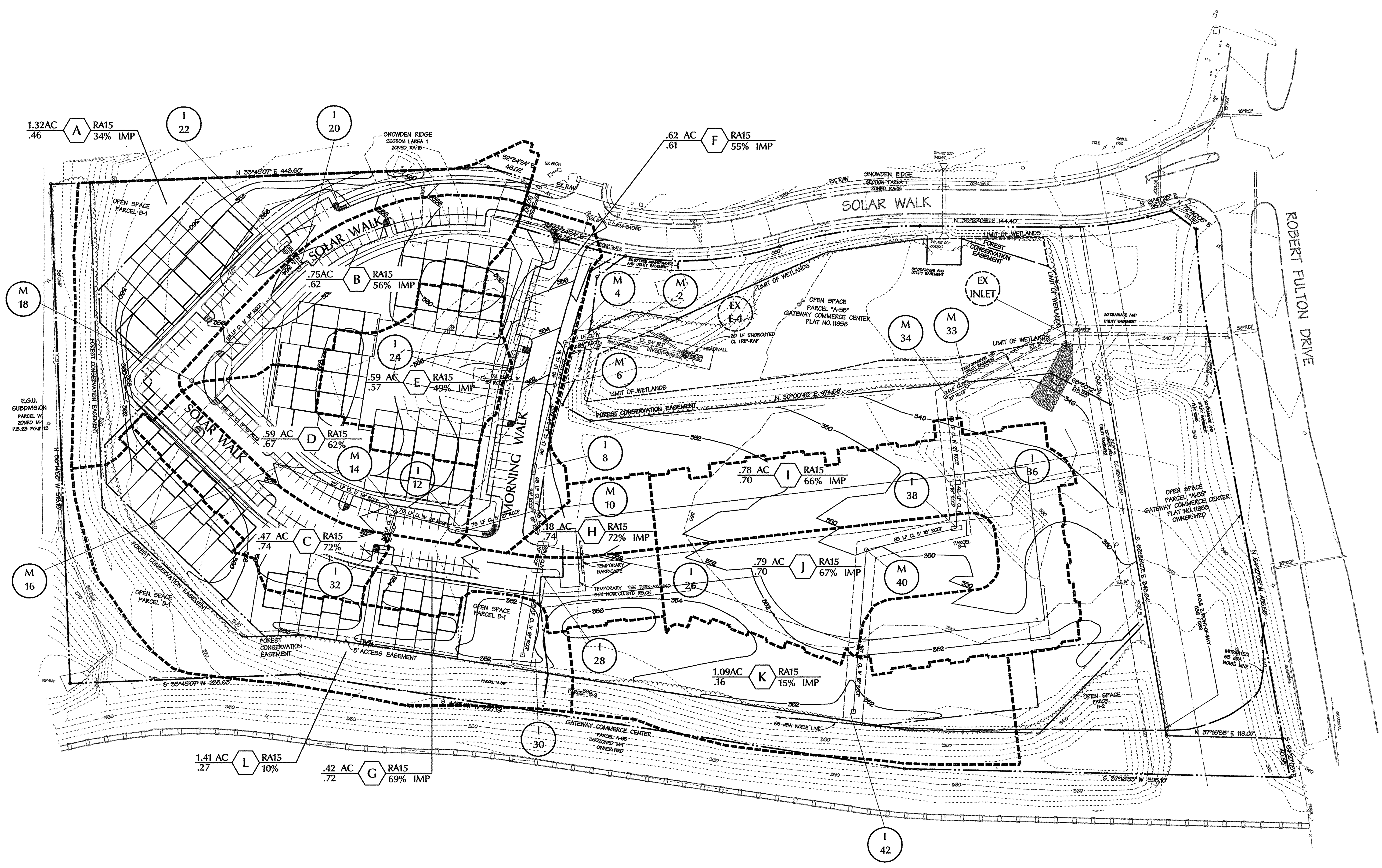


Professional Engr. No. 10551

Des By	JWM	Scale	Horiz. 1" = 50' Vert. 1" = 5'	Proj. No.	95118.D1
Drn By	ADL	Date	JUNE 16, 1998	5 OF 9	
Chk By		Approved			

F-98-49

Mon Aug 17 15:53:54 1998 d:\95118\95118d.sdf



LEGEND

ACRES / C — F — % Imp.

STROM DRAIN DRAINAGE AREA LIMIT

210 EXISTING CONTOUR

210 PROPOSED CONTOUR

36"RCP EXISTING STORMDRAIN

21" D. PROPOSED STORMDRAIN

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

[signature] 9/2/98
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

[signature] 9/10/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[signature] 9/4/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Date	No.	Revision Description

SNOWDEN RIDGE

SECTION 2, AREA 1
LOTS 136 THRU 194, PARCELS B-1 THRU B-4
A RESUBDIVISION OF GATEWAY COMMERCE CENTER
PARCELS A-54 AND A-59

OWNER / DEVELOPER:

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Fax 296-4705

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

8/21/98
Date

STATE OF MARYLAND PROFESSIONAL ENGINEER

Professional Engr. No. 10551

AREA

SECTION 2, AREA 1
TAX MAP 42 P/O PARCEL 531
6th ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE

DRAINAGE AREA MAP

Des By JWM	Scale 1" = 50'	Proj. No. 95118.D
Drn By ADL	Date JUNE 5, 1998	6 OF 9
Chk By	Approved	

F-98-49

Tue Aug 18 08:52:58 1998 d:\95118d\95118d.da1

STREET TREE TABULATION

KEY	QNTY.	PLANT NAME	SIZE	REMARKS
⊙	30	ACER RUBRUM OCTOBER GLORY RED MAPLE	2½"C	B&B
⊙	24	ZELKOVA SERRATA VILLAGE GREEN VILLAGE GREEN ZELKOVA	2½"C	B&B

* SEE SHEET 4 OF 9 FOR PLANTING DETAILS

SEQUENCE OF CONSTRUCTION

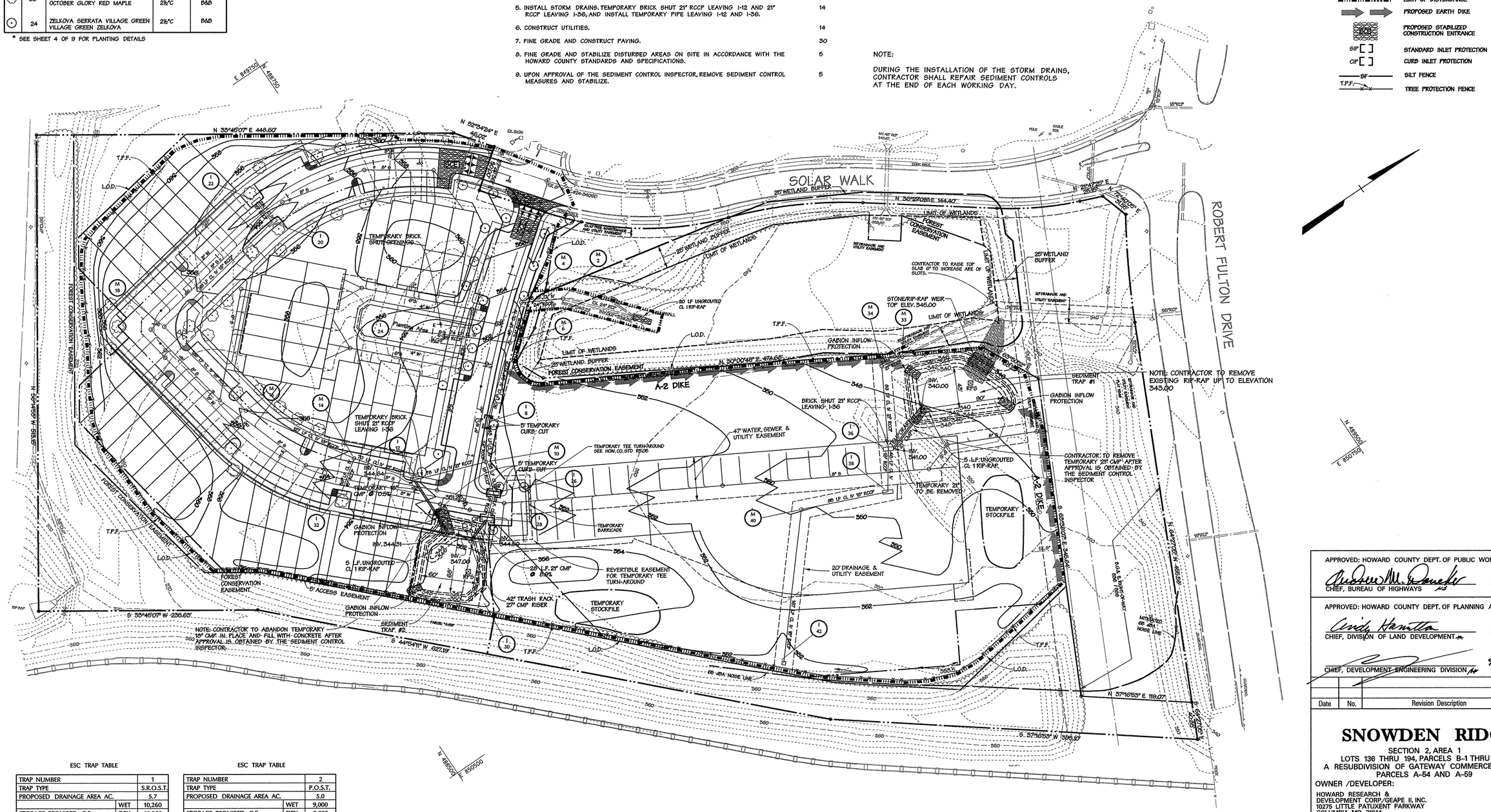
	DAYS
1. OBTAIN A GRADING PERMIT	2
2. INSTALL THE TREE PROTECTION FENCE..	2
3. CLEAR AND GRUB AS NECESSARY FOR SEDIMENT AND EROSION CONTROL MEASURES.	2
4. INSTALL THE PROPOSED SEDIMENT AND EROSION CONTROL MEASURES.	14
5. INSTALL STORM DRAINS. TEMPORARY BRICK SHUT 21" RCCP LEAVING I-12 AND 21" RCCP LEAVING I-36, AND INSTALL TEMPORARY PIPE LEAVING I-12 AND I-36.	14
6. CONSTRUCT UTILITIES.	14
7. FINE GRADE AND CONSTRUCT PAVING.	30
8. FINE GRADE AND STABILIZE DISTURBED AREAS ON SITE IN ACCORDANCE WITH THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS.	5
9. UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL MEASURES AND STABILIZE.	5

NOTE:

DURING THE INSTALLATION OF THE STORM DRAINS, CONTRACTOR SHALL REPAIR SEDIMENT CONTROLS AT THE END OF EACH WORKING DAY.

LEGEND

- 210 — EXISTING CONTOUR
- 210 — PROPOSED CONTOUR
- PROPOSED CURB & GUTTER
- 18" RCCP — PROPOSED STORM DRAIN
- LIMIT OF DISTURBANCE
- PROPOSED EARTH DIKE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE
- SIP — STANDARD INLET PROTECTION
- CIP — CURB INLET PROTECTION
- SF — SILT FENCE
- T.P.F. — TREE PROTECTION FENCE



ESC TRAP TABLE

TRAP NUMBER		1
TRAP TYPE		S.R.O.S.T.
PROPOSED DRAINAGE AREA AC.		5.7
	WET	10,260
STORAGE REQUIRED C.F.	DRY	10,260
	TOTAL	20,520
	WET	12,144
STORAGE PROVIDED C.F.	DRY	10,853
	TOTAL	22,997
EXISTING GROUND ELEV.		346.00
TOP EMBANKMENT ELEV.		346.00
WEIR CREST ELEV.		345.00
CLEANOUT ELEV.		341.36
BOTTOM ELEV.		340.00
DEPTH OF CHANNEL (a)		1.0'
OUTLET WIDTH (b)		23.0'
BOTTOM DIMENSION		43' X 90'
TRAP SIDESLOPES		2 : 1
	WET	3.0
TRAP DEPTH	DRY	2.0
	TOTAL	5.0
WET STORAGE ZONE ELEV.		340.00 – 343.00
DRY STORAGE ZONE ELEV.		343.00 – 345.00

ESC TRAP TABLE

TRAP NUMBER		2
TRAP TYPE		P.O.S.T.
PROPOSED DRAINAGE AREA AC.		5.0
	WET	9,000
STORAGE REQUIRED C.F.	DRY	9,000
	TOTAL	18,000
	WET	11,480
STORAGE PROVIDED C.F.	DRY	10,385
	TOTAL	21,865
EXISTING GROUND ELEV.		353.00
TOP EMBANKMENT ELEV.		0
WEIR CREST ELEV.		351.00
CLEANOUT ELEV.		347.64
BOTTOM ELEV.		344.00
DEPTH OF CHANNEL (a)		NA
OUTLET WIDTH (b)		NA
BOTTOM DIMENSION		60' X 68'
TRAP SIDESLOPES		2 : 1
	WET	5.0
TRAP DEPTH	DRY	2.0
	TOTAL	7.0
WET STORAGE ZONE ELEV.		344.00 – 349.00
DRY STORAGE ZONE ELEV.		349.00 – 351.00

DEVELOPER'S CERTIFICATION:

"I/WE CERTIFY THAT ALL DEVELOPMENT AND 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 DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO, AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER — 8-21-98 DATE
PRINT NAME BELOW SIGNATURE
Albert F. Edwards, P.E.

ENGINEER'S CERTIFICATION:

"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 REQUIRMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF ENGINEER — 8/21/98 DATE
PRINT NAME BELOW SIGNATURE
John W. Ramacciotti, Sr.

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS

U.S. NATURAL RESOURCE CONSERVATION SERVICE — 8/31/98 DATE

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

HOWARD S.C.D. — 8/31/98 DATE

8/21/98 Date

STATE OF MARYLAND — JOHN W. RAMACCIOTTI — PROFESSIONAL ENGINEER

Professional Engr. No. 10551

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — 9/2/98 DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — 9/10/98 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 9/14/98 DATE

Date	No.	Revision Description

SNOWDEN RIDGE

SECTION 2, AREA 1
LOTS 136 THRU 194, PARCELS B-1 THRU B-4
A RESUBDIVISION OF GATEWAY COMMERCE CENTER
PARCELS A-54 AND A-59

OWNER /DEVELOPER:

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COLUMBIA, MD 21044

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200 East Pennsylvania Avenue
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Fax 296-4705

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

AREA
SECTION 2, AREA 1
TAX MAP 42 P/O PARCEL B-1,513
6TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE
MASS GRADING, SEDIMENT CONTROL & STREET TREE PLAN

Des By	JWM	Scale	1" = 50'	Proj. No.	95118D1
Dm By	JWM	Date	JUNE 16, 1998		7 OF 9
Chk By		Approved			

F-98-49

Tue Aug 18 08:54:30 1998 d:\95118d\95118d.dwf

21.0 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 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 salvages from the existing site may be used provided that is 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 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$^{3}/_{16}$ 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.

II. For sites having disturbed areas under 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 the appropriate approval 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$^{3}/_{16}$ - 8$^{3}/_{16}$ higher in elevation.

III. Topsoil shall be uniformly distributed in a 4$^{3}/_{16}$ - 8$^{3}/_{16}$ layer and lightly compacted to a minimum thickness of 4$^{3}/_{16}$. 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 a 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:

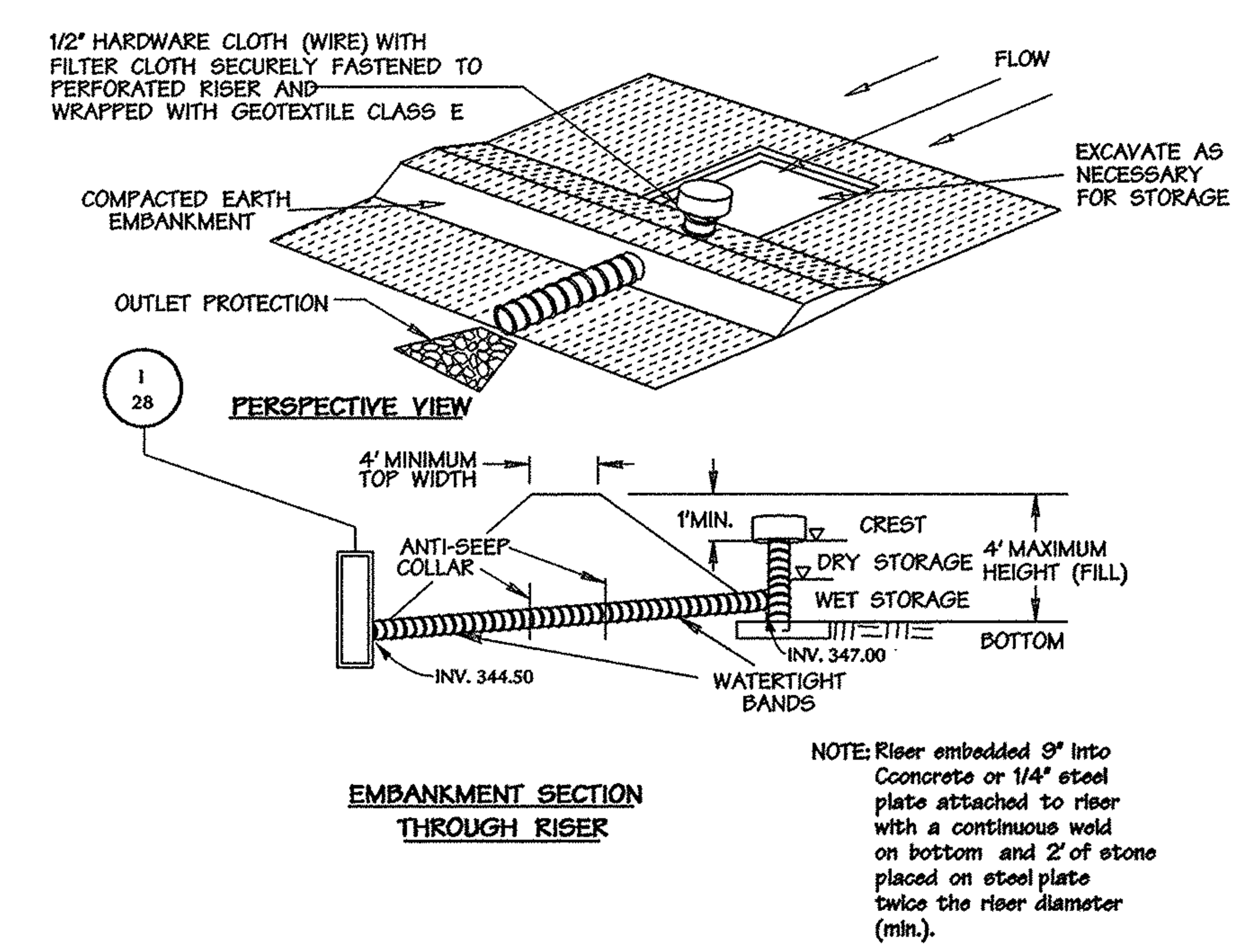
a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.

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 a rate of 1 ton/1,000 square feet.

IV. Composted sludge shall be amended with a potassium fertilizer applied at a rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guidelines Specifications, Soil Preparation and Sodding. MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

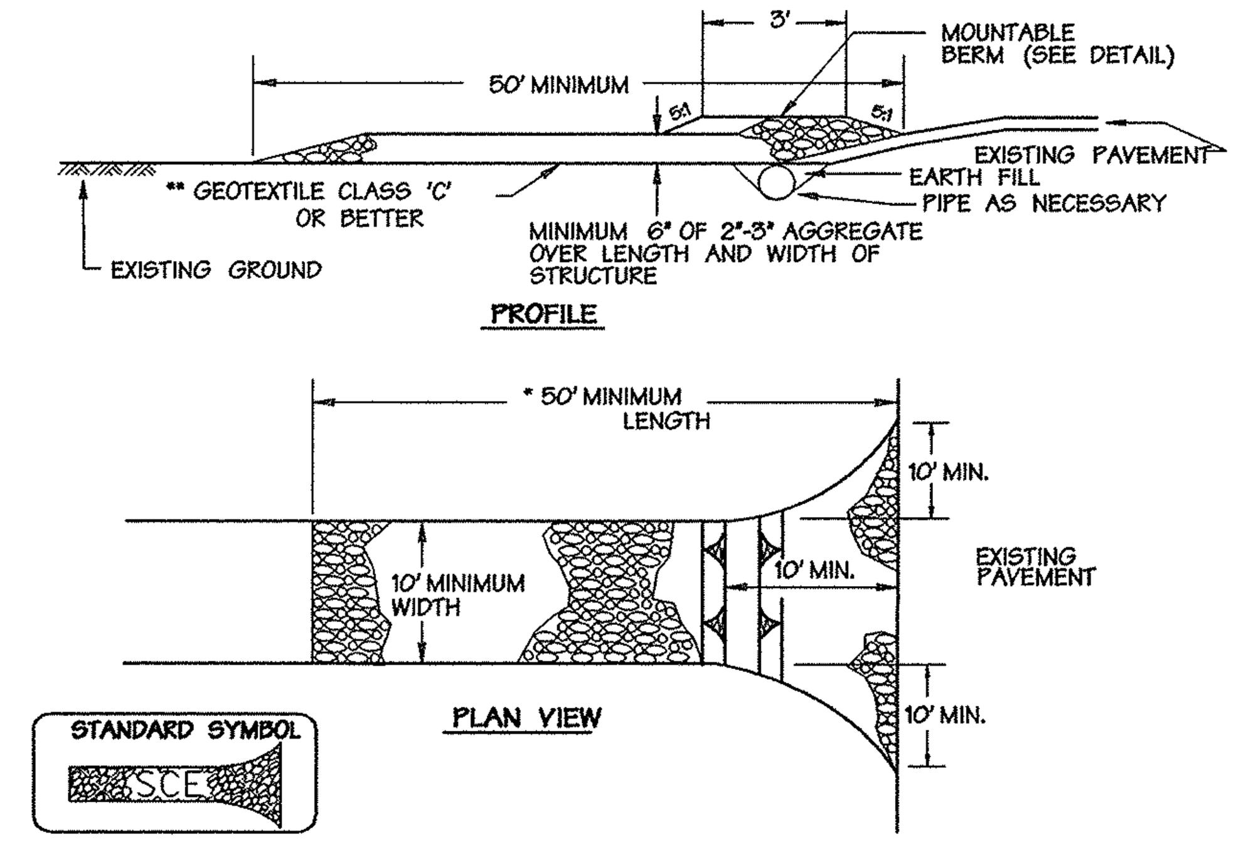


U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

C - 9 - 7

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

PIPE OUTLET SEDIMENT TRAP – ST I



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 Class C (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.

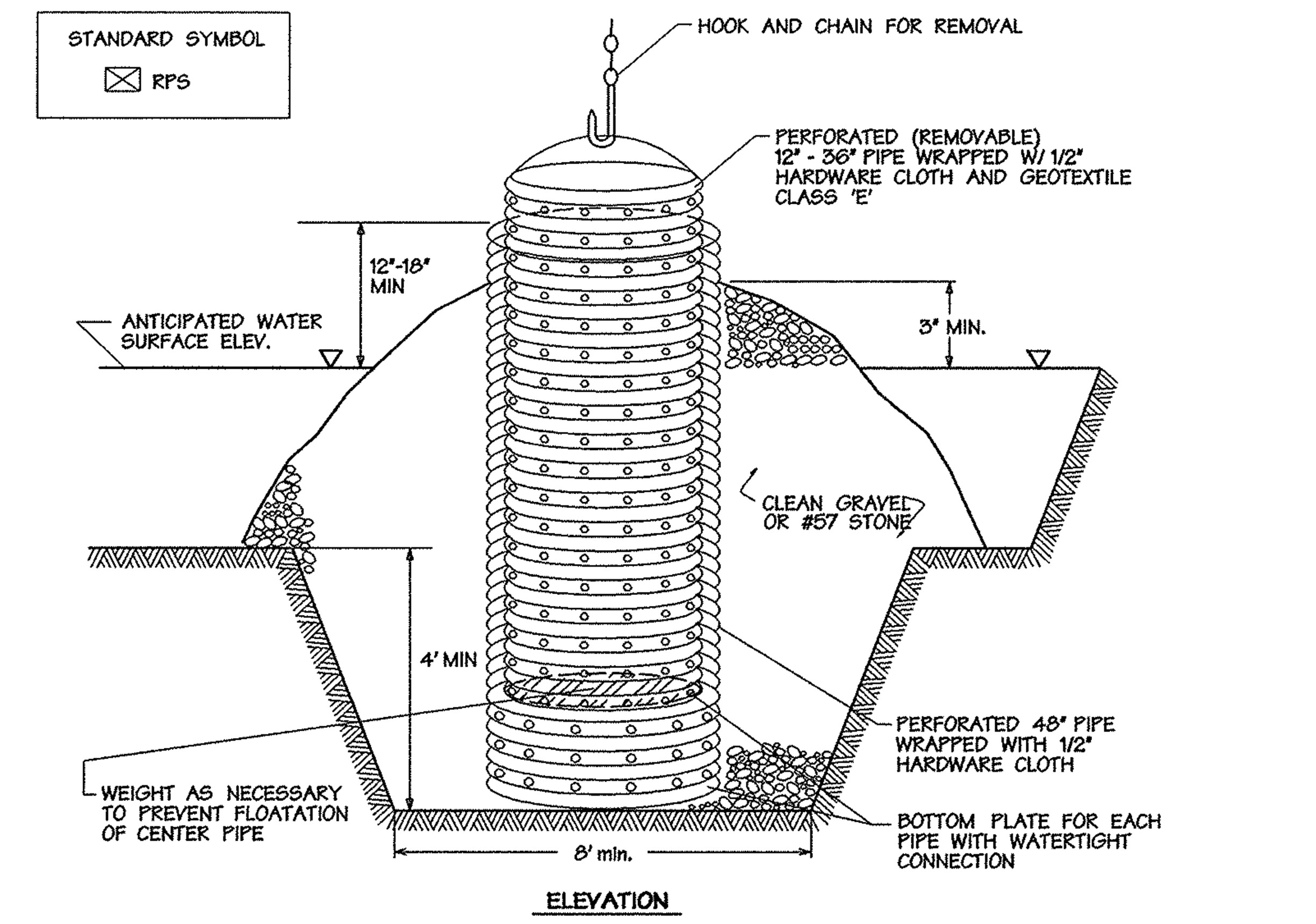
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

F - 17 - 3

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



Construction Specifications

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

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

D - 12 - 5

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

REMOVABLE PUMPING STATION

NOT TO SCALE

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 acres Dolomitic Limestone (92 lbs/1000 sq. ft.) and 1000 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./1000sq.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./1000sq.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./1000sq.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 - 90 lbs./1000sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after applications using mulch anchoring tool or 218 gallons per acre (5 gal/1000sq.ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000sq.ft.) for anchoring.

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

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./1000sq.ft.)

Seeding - For the periods March 1 thru April 30, and August 15 thru October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs./1000sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (.07 lbs./1000sq.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 - 90 lbs./1000sq.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.

PERMANENT SEEDING NOTES

Construction Specifications

1. The area under the 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 oversized stones, rocks, organic material, or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
3. The total trap volume as measured from the bottom to riser crest elevation shall be 3600 cubic feet per acre of drainage area (see Table 9). The top of embankment must be* 1' above the riser crest elevation.
4. Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap (900cf/ac). The sediment shall be deposited in a suitable area and in such a manner that it will not erode.
5. The structure shall be inspected periodically and after each rain and repairs made as necessary.
6. Construction operations shall be carried out in such a manner that erosion and water pollution are 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.
7. The structure shall be removed and area stabilized when the drainage area has been properly stabilized.
8. All cut and fill slopes shall be 2:1 or flatter.
9. All pipe connections shall be watertight.
10. Above the wet storage elevation, the riser shall be perforated with 1/2" wide by 6" long slits or 1" diameter holes spaced 6" vertically and horizontally. No perforations will be allowed within 6" of the horizontal barrel.
11. The riser shall be wrapped with 1/2" hardware cloth (wire) then wrapped with Geotextile Class E. The filter cloth shall extend 6" above the highest slit and 6" below the lowest slit. Where ends of filter cloth come together, they shall be overlapped, folded and fastened to prevent bypass. Filter cloth shall be replaced as necessary to prevent clogging.
12. Straps or connecting bands shall be used to hold the filter cloth and wire fabric in place. They shall be placed at the top and bottom of the cloth.
13. Fill material around the pipe spillway shall be hand compacted in 4" layers. A minimum of 2' of hand-compacted backfill shall be placed over the pipe spillway before crossing it with construction equipment.
14. The riser shall be anchored with either a concrete base or steel plate base to prevent flotation. Concrete bases shall be at least twice the riser diameter and 12" deep with the riser embedded 9". Steel plate bases shall be at least twice the riser diameter, 1/4" minimum thickness and attached to the bottom of the riser by a continuous weld to form a watertight connection. Then place 2' of stone, gravel or tamped earth on the plate.
15. Anti seep collars shall be constructed in accordance with plans (ref. table 16 and Details C-10-23 AND C-10-24).
16. Concentric trash rack and anti-vortex device design details are on Detail C-10-26 AND C-10-26A.
17. Refer to Section D for dewatering requirements of sediment traps.
18. Outlet - An outlet shall be provided, which includes a means of conveying the discharge in an erosion free manner to an existing stable channel.
19. Where discharge occurs at the property line, local ordinances and drainage easement requirements shall be met.

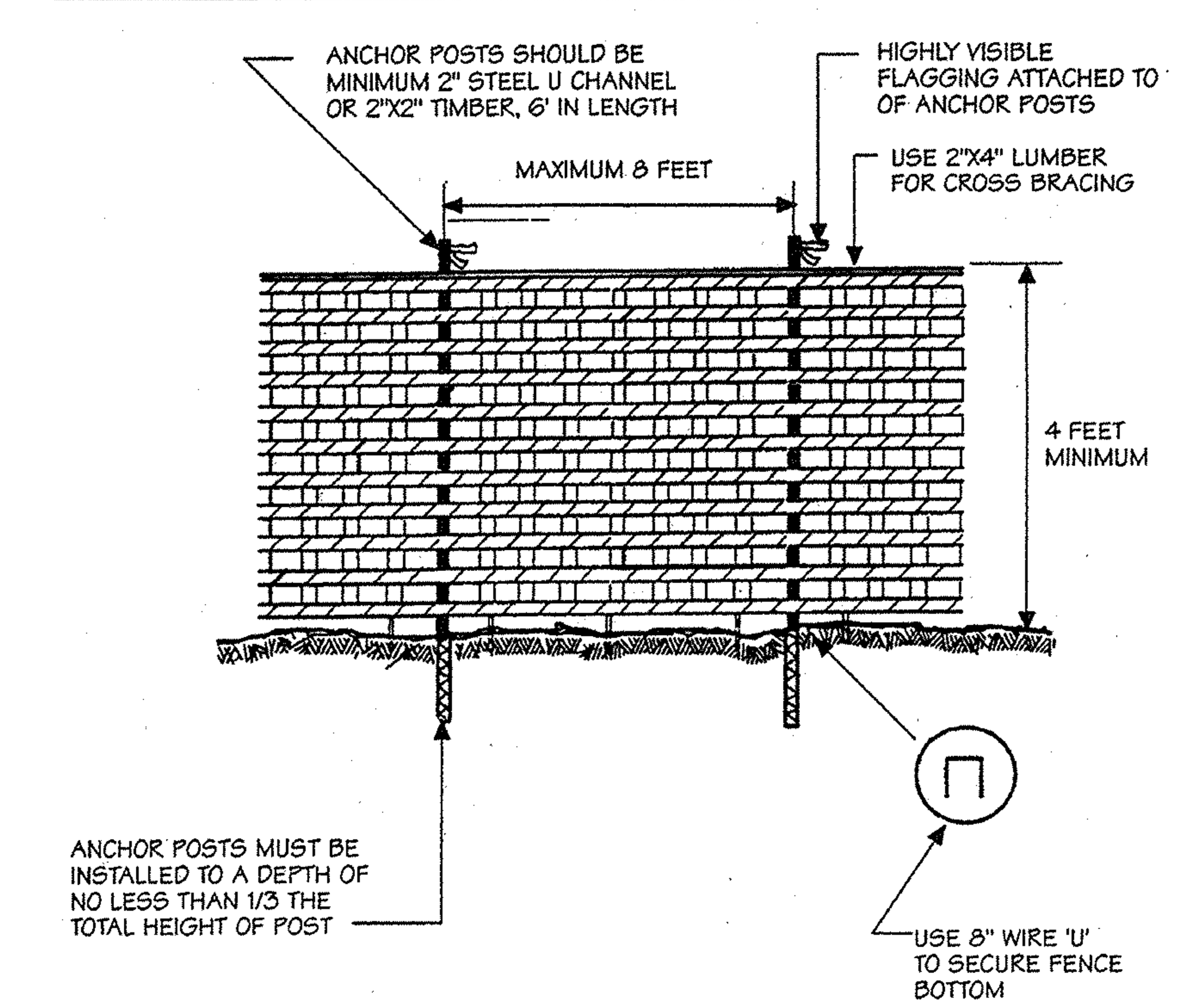
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

C - 9 - 7A

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

PIPE OUTLET SEDIMENT TRAP – ST I

NOT TO SCALE



Notes:
1. Blaze orange or blue plastic mesh fence for forest protection device, only.
2. Boundaries of Retention Area will be established as part of the forest conservation plan review process.
3. Boundaries of Retention Area should be staked and flagged prior to installing device.
4. Avoid damage to critical root zone. Do not damage or sever large roots when installing posts.
5. Protection signs are required, See Figure C-4.
6. Device should be maintained throughout construction.

TREE PROTECTION FENCE

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

[signature] 9/2/98
CHIEF, BUREAU OF HIGHWAYS — DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

Cindy Hamilton 9/10/98
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

[signature] 9/4/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

Date	No.	Revision Description

SNOWDEN RIDGE

SECTION 2, AREA 1
LOTS 136 THRU 194, PARCELS B-1THRU B-4
A RESUBDIVISION OF GATEWAY COMMERCE CENTER
PARCELS A-54 AND A-59

OWNER /DEVELOPER:

HOWARD RESEARCH &
DEVELOPMENT CORP/GEAPE II, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MD 21044

DMW
Daft·McCune·Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3333
Fax 296-4705

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

AREA
SECTION 2, AREA 1
TAX MAP 42 — P/O PARCEL ~~B-1~~ 513
6TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE
MASS GRADING, EROSION & SEDIMENT CONTROL PLAN DETAILS

Des By	JWM	Scale	AS SHOWN	Proj. No.	95118D1
Drn By	JWM	Date	June 16, 1998	8 OF 9	
Chk By		Approved			

F-98-49

DEVELOPER'S CERTIFICATION:

"I/WE CERTIFY THAT ALL DEVELOPMENT AND 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 DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

[signature] 8-21-98
SIGNATURE OF DEVELOPER — DATE
PRINT NAME BELOW SIGNATURE
Albert F. Edwards, P.E.

ENGINEER'S CERTIFICATION:

"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 REQUIRMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

[signature] 8/21/98
SIGNATURE OF ENGINEER — DATE
PRINT NAME BELOW SIGNATURE
John W. Ranocchia, Sr.

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS

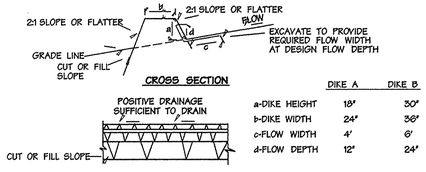
Cheryl Simmons 8/31/98
U.S. NATURAL RESOURCE CONSERVATION SERVICE — DATE

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

John R Robertson 8/31/98
HOWARD S.C.D. — DATE

8/21/98
Date

Professional Engr. No. 10551



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

STANDARD SYMBOL
A-2 B-5

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.

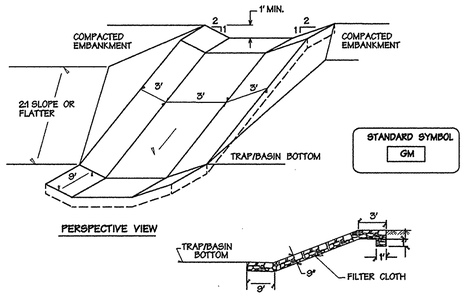
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

A - 1 - 6

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

EARTH DIKE

NOT TO SCALE



STANDARD SYMBOL
GM

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.

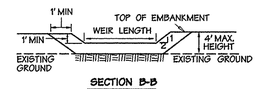
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

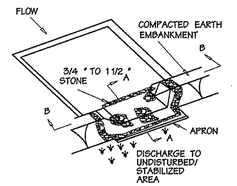
B - 7 - 2

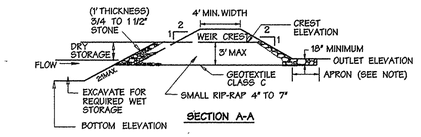
MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

GABION INFLOW PROTECTION

NOT TO SCALE







NOTE: 5' min. length, up to 5 acres. Over 5 acres, use 10' min.

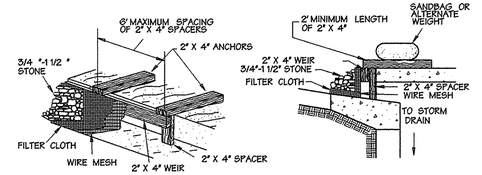
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

C - 9 - 16

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

STONE / RIP-RAP OUTLET SEDIMENT TRAP – ST IV

NOT TO SCALE



MAX. DRAINAGE AREA = 1/4 ACRE

STANDARD SYMBOL
CIP

Construction Specifications

1. Attach a continuous piece of 1/2" X 1/2" wire mesh (30" minimum width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
2. Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.
3. Securely nail the 2" X 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).
4. Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
6. Form the 1/2" x 1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4" x 1 1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

E - 16 - 55

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

CURB INLET PROTECTION (COG OR COS INLETS)

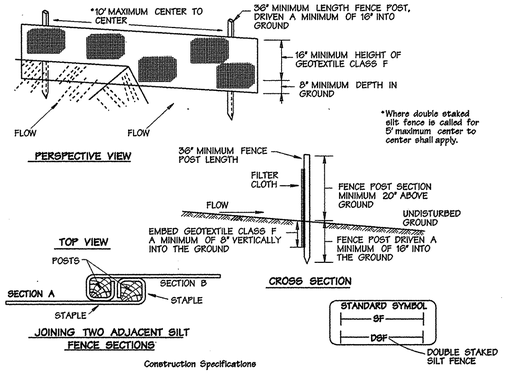
NOT TO SCALE

1. A minimum of 24 hours notice must be given to the Howard County Office of Inspections and Permits prior to the start of any construction (992-2457).
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. Seven calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1
   B. Fourteen 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 seedings, sod, temporary seeding, and mulching (section G). 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	11.366 acres
Area disturbed	9.0 acres
Area to be roofed or paved	1.15 acres
Area to be vegetatively stabilized	7.85 acres
Total cut	16,405 cubic yards
Total fill	13,400 cubic yards
Off-site waste/borrow area location	waste = N/A

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 controls 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 the initial approval by the inspection agency is made.

SEDIMENT CONTROL GENERAL NOTES



STANDARD SYMBOL
SF
DSF
DOUBLE STAKED SILT FENCE

Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" 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 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 ft/minute (max.)	Test: MSTM 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.

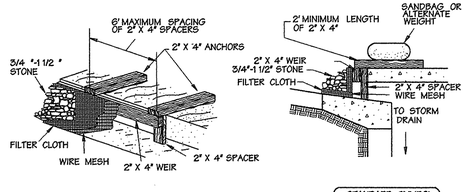
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

E - 15 - 5

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

SILT FENCE

NOT TO SCALE



MAX. DRAINAGE AREA = 1/4 ACRE

STANDARD SYMBOL
CIP

Construction Specifications

1. Attach a continuous piece of 1/2" X 1/2" wire mesh (30" minimum width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
2. Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.
3. Securely nail the 2" X 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).
4. Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
6. Form the 1/2" x 1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4" x 1 1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

E - 16 - 55

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

CURB INLET PROTECTION (COG OR COS INLETS)

NOT TO SCALE

Constuction 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 channel prior 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

C - 9 - 16A

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

STONE / RIP-RAP OUTLET SEDIMENT TRAP – ST IV

DEVELOPER'S CERTIFICATION:

"WE CERTIFY THAT ALL DEVELOPMENT AND 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 DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER
PRINT NAME BELOW SIGNATURE
Albert F. Edwards, P.E.

8-21-98
DATE

ENGINEER'S CERTIFICATION:

"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."

SIGNATURE OF ENGINEER
PRINT NAME BELOW SIGNATURE
John W. Ranocchia, Sr.

8/21/98
DATE

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS

U.S. NATURAL RESOURCE CONSERVATION SERVICE — DATE 8/31/98

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

HOWARD S.C.D. — DATE 8/31/98

8/24/98
Date

Professional Engr. No. 10551

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 9/2/98

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/1/98

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 8/7/98

Date	No.	Revision Description

SNOWDEN RIDGE

SECTION 2, AREA 1
LOTS 136 THRU 194, PARCELS B-1 THRU B-4
A RESUBDIVISION OF GATEWAY COMMERCE CENTER
PARCELS A-54 AND A-59

OWNER / DEVELOPER:

HOWARD RESEARCH & DEVELOPMENT CORP./GEAPE II, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MD 21044

DMW
Daft-McCune-Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3333
Fax 296-4705

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

AREA
SECTION 2, AREA 1
TAX MAP 42 P/O PARCEL B-4 5/3
6TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE
MASS GRADING, EROSION & SEDIMENT CONTROL PLAN DETAILS

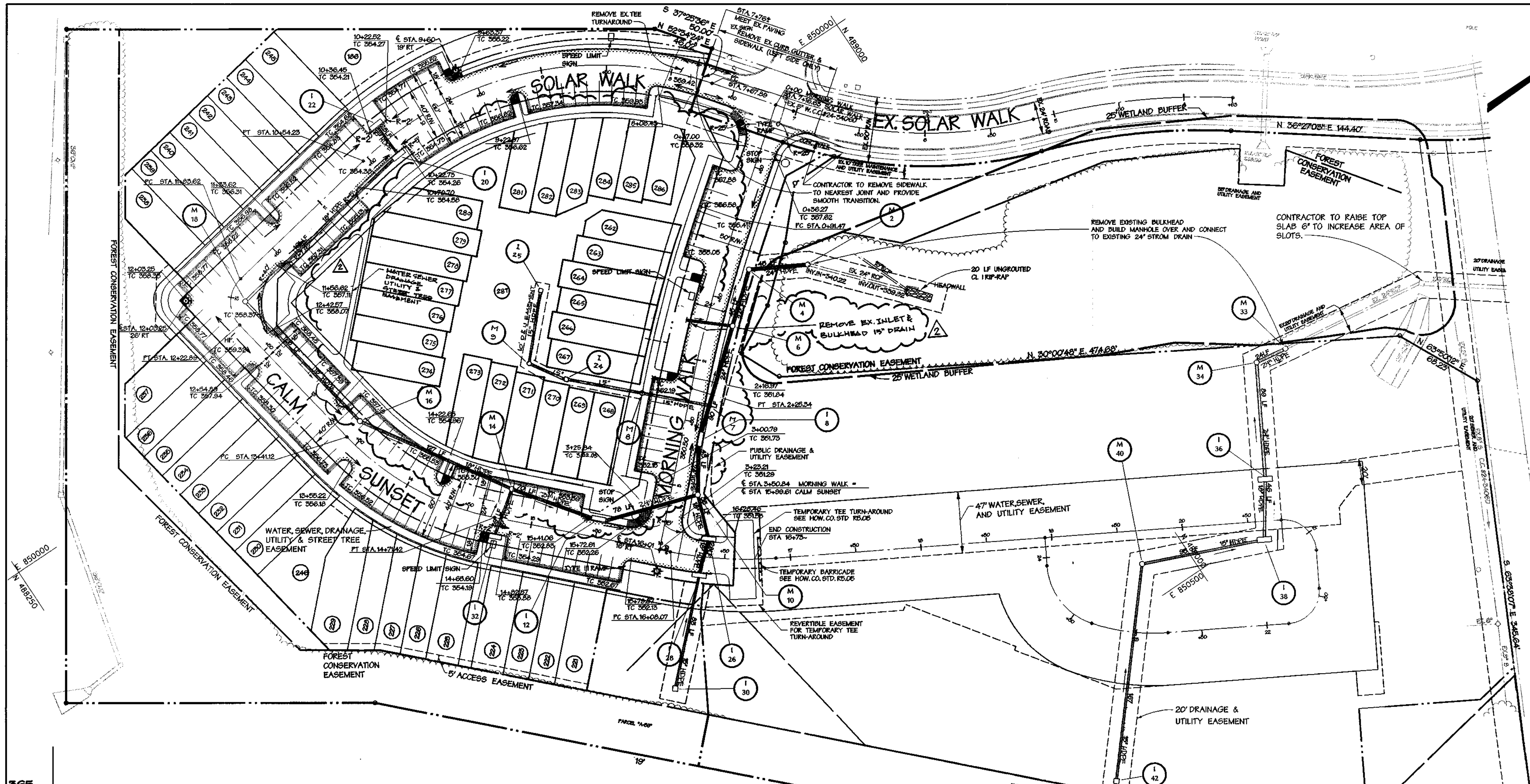
Des By	JWM	Scale	AS SHOWN
Dm By	JWM	Date	June 16, 1998
Chk By		Approved	

Proj. No. 95118D1

9 OF 9

F-98-49

Mon Aug 17 16:21:58 1998 d:\95118d\95118d.sc3



CURB & GUTTER LEGEND

....	STANDARD 7" C&G
~~	REVERSE 7" C&G
▒▒▒▒	REVERSE 6" C&G
//////	STANDARD 6" C&G

STREET LIGHT LEGEND

✪ 100 WATT HIGH PRESSURE SODIUM (HPS) VAPOR "TRADITIONAIRE" POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE.

STREET SIGN LEGEND

- ▯ 24" X 30" RECTANGLE, R2-1, SPEED LIMIT 25
- ○ 30" X 30" OCTAGON, R1-1, STOP SIGN

CURVE DATA LABEL, SEE SHT. 4 OF 9 FOR ROADWAY CURVE DATA TABLES.

NOTES:

1. SEE SHEET 3 OF 9 FOR PROFILE OF MORNING WALK.
2. ALL CURVE RADII 6' UNLESS NOTED OTHERWISE.
3. DEPRESS TOP OF CURB AT HADICAPPED RAMPS (SEE DETAIL)

ROADWAY CURVE LEGEND

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 9/2/98

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/10/98

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/4/98

Date	No.	Revision Description
2-12-01	2	REV. LOTS, ADDED STORMDRAIN, REMOVE INLET.
5/12/99	1	ALL RCCP TO HDPE, 21" TO 24"

SNOWDEN RIDGE

SECTION 2, AREA 1
LOTS 166-193, 202-287 PARCELS B-1 THRU B-4
A RESUBDIVISION OF GATEWAY COMMERCE CENTER
PARCELS A-54 AND A-59

OWNER /DEVELOPER:

HOWARD RESEARCH &
DEVELOPMENT CORP/GEAPE II, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MD 21044

DMW

Daft·McCune·Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3333
Fax 296-4705

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

8/21/98
Date

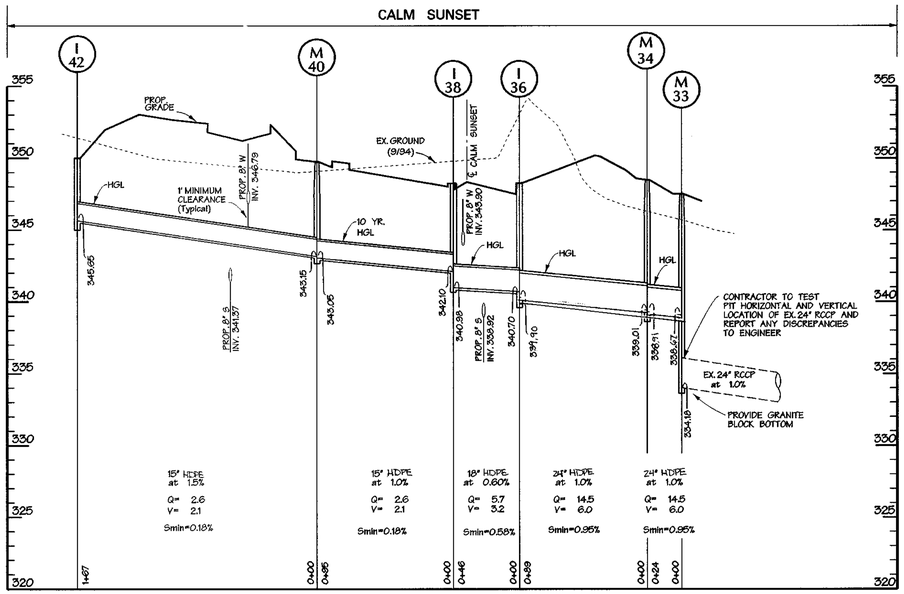
Professional Engr. No. 10551

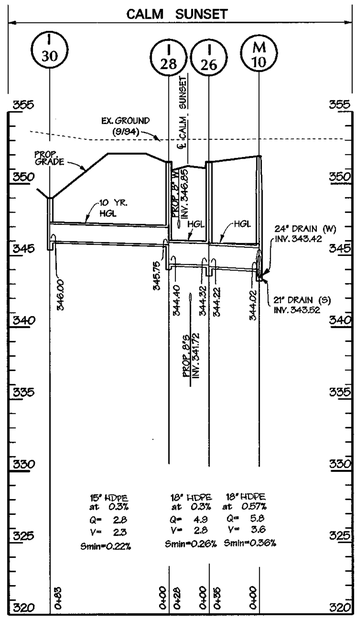
AREA: SECTION 2, AREA 1
TAX MAP 42 — P/O PARCEL 513
6TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

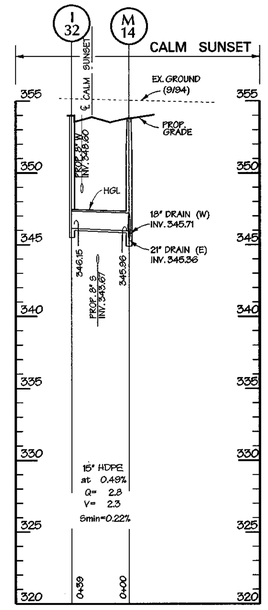
TITLE: **ROAD CONSTRUCTION PLAN AND PROFILE**

Des By JMH	Scale 1" = 50'	Proj. No. 95118D1
Drn By JMH	Date June 16, 1998	2 OF 9
Chk By	Approved	

F-98-49







PIPE SCHEDULE

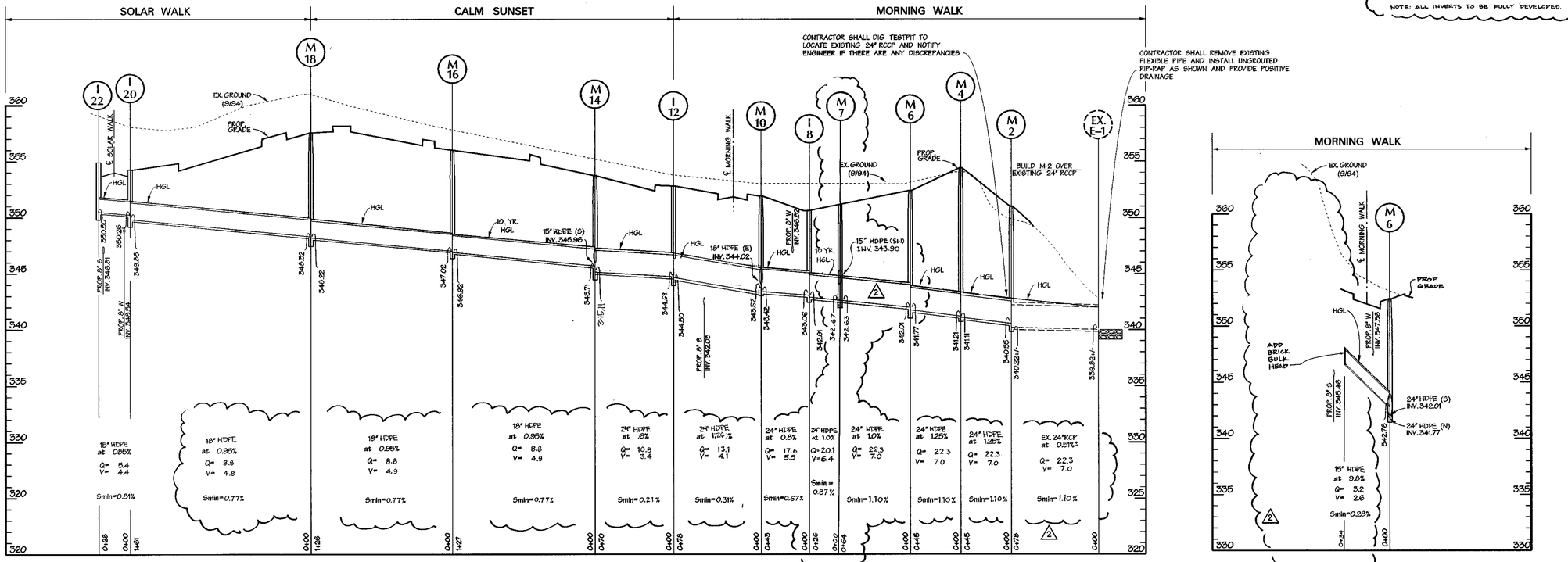
SIZE	TYPE	LENGTH
24"	HDPE	484 LF
18"	HDPE	525 LF
15"	HDPE	613 LF

2

STRUCTURE SCHEDULE

NO.	TYPE	SIZE WIDTH	INVERTS IN	INVERTS OUT	TOP ELEV. UPPER	TOP ELEV. LOWER	LOCATION	REMARKS
M-2	4' STD. MANHOLE	48" R	340.56	340.22	361.0	----	SEE PLAN	G-5.12
M-4	4' STD. MANHOLE	48" R	341.21	341.11	354.4	----	℄ MORNING WALK STA. 1+25.64 20.72' LEFT	G-5.12
M-6	4' STD. MANHOLE	48" R	342.01	341.77	362.4	----	℄ MORNING WALK STA. 1+71.50 20.22' LEFT	G-5.12
I-8	A-10 INLET	4.0	343.08	342.91	350.64	----	℄ MORNING WALK STA. 2+61.90 12.00' LEFT	SD-4.02
M-10	4' STD. MANHOLE	48" R	343.52	343.42	356.8	----	℄ MORNING WALK STA. 3+05.93 20.59' LEFT	G-5.12
I-12	A-10 INLET	4.0	344.21	344.50	352.78	352.58	℄ CALM SUNSET STA. 15+48.56 12.00' LEFT	SD-4.02
M-14	4' STD. MANHOLE	48" R	345.71	345.11	358.75	----	℄ CALM SUNSET STA. 14+80.21 23.23' LEFT	G-5.12
M-16	4' STD. MANHOLE	48" R	347.02	346.92	356	----	℄ CALM SUNSET STA. 13+38.26 15.54' LEFT	G-5.12
M-18	4' STD. MANHOLE	48" R	348.32	348.22	357.5	----	℄ SOLAR WALK STA. 12+02.50 11.20' LEFT	G-5.12
I-20	A-10 INLET	4.0	350.26	349.95	364.26	----	℄ SOLAR WALK STA. 10+30.30 12.00' LEFT	SD-4.02
I-22	A-10 INLET	4.0	----	350.50	364.28	----	℄ SOLAR WALK STA. 10+28.54 12.00' RIGHT	SD-4.02
I-24	SINGLE WR	2.0	334.53	346.43	351.5	----	℄ MORNING WALK STA. 2+35 95' RIGHT	SD-4.27
I-26	A-10 INLET	4.0	344.32	344.22	361.5	----	℄ CALM SUNSET STA. 16+34.16 12.00' LEFT	SD-4.02
I-25	A-10 INLET	4.0	345.75	344.4	361.5	----	℄ CALM SUNSET STA. 13+35.95 12.00' RIGHT	SD-4.02
I-30	SINGLE WR	2.0	----	346.00	349.0	----	N 488,626.54 E 850,360.27	SD-4.27
I-32	A-10 INLET	4.0	----	346.15	364.13	363.84	℄ CALM SUNSET STA. 14+74.40 12.00' RIGHT	SD-4.02
M-33	4' STD. MANHOLE	48" R	340.77	----	347.5	----	SEE PLAN	G-5.12
M-34	4' STD. MANHOLE	48" R	339.01	338.91	349.5	----	N 489,125.76 E 850,391.96	G-5.12
I-36	A-10 INLET	4.0	340.70	339.90	348.28	----	℄ CALM SUNSET STA. 20+85.88 30.00' LEFT	SD-4.02
I-38	A-10 INLET	4.0	342.10	340.98	348.70	----	℄ CALM SUNSET STA. 20+61.76 12.00' RIGHT	SD-4.02
M-40	4' STD. MANHOLE		345.15	345.05	349.76	----	℄ CALM SUNSET STA. 19+67.33 25.59' RIGHT	G-5.12
I-42	SINGLE WR	2.0	----	345.95	350.00	----	N 488,855.37 E 850,584.47	SD-4.27
I-23	SINGLE WR	2.0	----	347.50	351.5	----	℄ MORNING WALK STA. 1+80 12.5' RIGHT	SD-4.27
M-7	4' MANHOLE OVER EX. 36"	48"R	342.67	342.63	351.05±	----	℄ MORNING WALK STA. 2+35 16' LEFT	G-5.14
M-8	4' STD. MANHOLE	48"R	345.96	345.86	352.15	----	℄ MORNING WALK STA. 2+35 36' RIGHT	G-5.12
M-9	6' SHALLOW MANHOLE	48"R	346.54	346.84	352.30	----	℄ MORNING WALK STA. 2+29 126' RIGHT	G-5.12

NOTE: ALL INVERTS TO BE FULLY DEVELOPED. 2



APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 9/2/98

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/10/98

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/4/98

Date	No.	Revision Description
2-12-01	2	REV. PROFILE I-22 TO EX. F-1, ADDED PROFILE I-25 TO M-7
5/12/99	1	ALL RCCP TO HDPE, 21" TO 24"

SNOWDEN RIDGE

SECTION 2, AREA 1
LOTS 168-193, 262-287, PARCELS B-1 THRU B-4
A RESUBDIVISION OF GATEWAY COMMERCE CENTER
PARCELS A-54 AND A-59

OWNER /DEVELOPER:
HOWARD RESEARCH & DEVELOPMENT CORP./GEAPE II, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MD 21044

DMW
Daft-McCune-Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3333
Fax 296-4705

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

9/21/98
Date

STATE OF MARYLAND — JOHN W. MCCUNE — No. 10551 — PROFESSIONAL ENGINEER

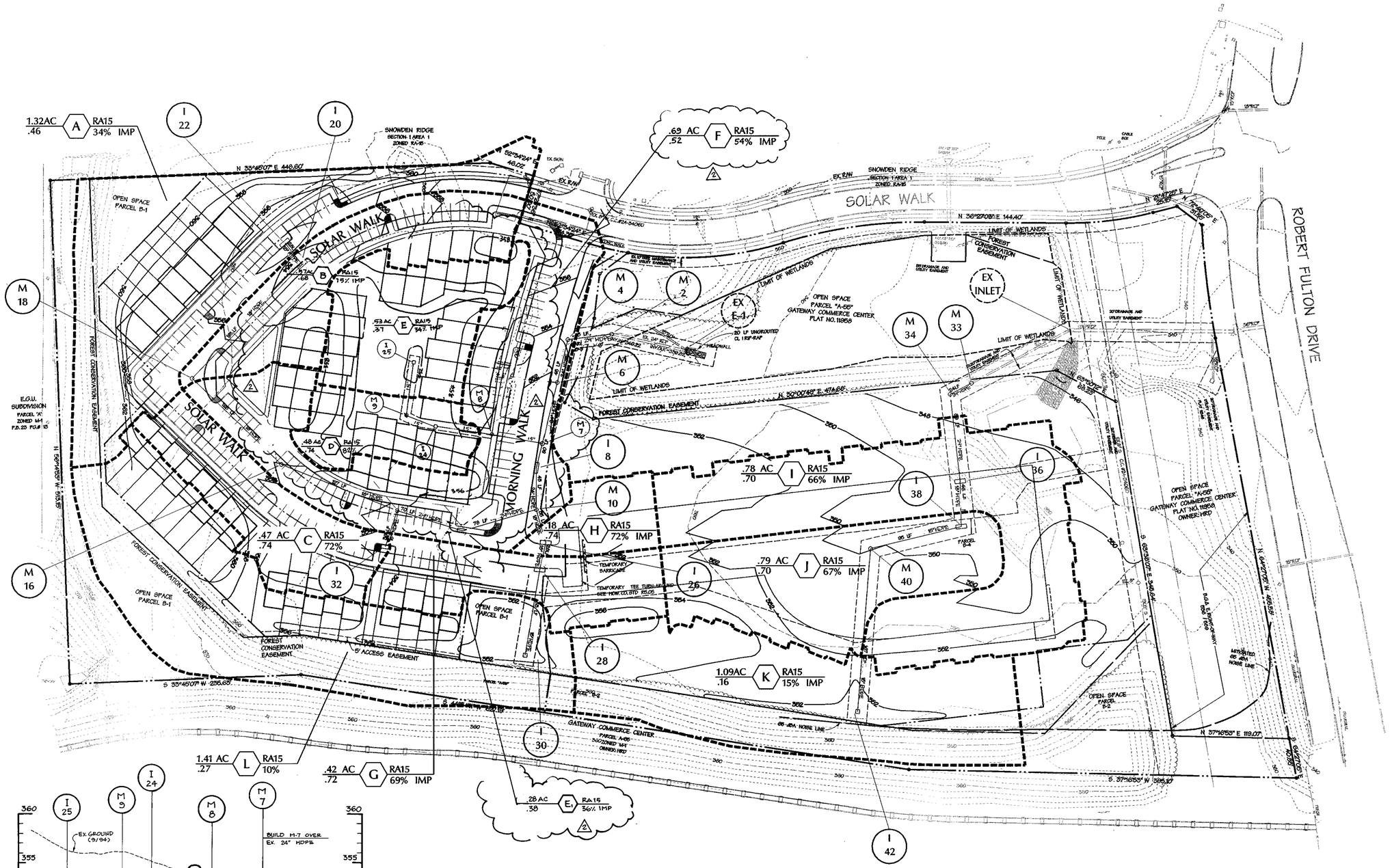
Professional Engr. No. 10551

SECTION 2, AREA 1
TAX MAP 42 P/O PARCEL 513
6th ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE
STORM DRAIN PROFILES

Des By	JWM	Scale	Horiz. 1" = 50' Vert. 1" = 5'	Proj. No.	95118.D1
Drn By	ADL	Date	JUNE 16, 1998		5 OF 9
Chk By		Approved			

F-98-49



LEGEND

ACRES / C — F — % Imp.

STROM DRAIN DRAINAGE AREA LIMIT

210 — EXISTING CONTOUR

210 — PROPOSED CONTOUR

EXISTING STORMDRAIN

PROPOSED STORMDRAIN

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 9/2/98

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/10/98

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/4/98

Date	No.	Revision Description
2-12-01	2	REVISED LOTS, REVISED DRAINAGE AREAS.
5/12/99	1	ALL RCP TO HDPE, 21" TO 24"

SNOWDEN RIDGE

SECTION 2, AREA 1
LOTS 168-193, 262-287, PARCELS B-1 THRU B-4
A RESUBDIVISION OF GATEWAY COMMERCE CENTER
PARCELS A-54 AND A-59

OWNER / DEVELOPER:

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Fax 296-4705

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

6/24/98
Date

Professional Engr. No. 10651

AREA
SECTION 2, AREA 1
TAX MAP 42 P/O PARCEL 531
6th ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE
DRAINAGE AREA MAP

Des By JWM	Scale 1"=50'	Proj. No. 95118.D	
Drn By ADL	Date JUNE 5, 1998		6 OF 9
Chk By	Approved		

F-98-49

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STREET TREE TABULATION

KEY	QNTY.	PLANT NAME	SIZE	REMARKS
⊙	30	ACER RUBRUM OCTOBER GLORY RED MAPLE	2½"C	B&B
⊙	24	ZELKOVA SERRATA VILLAGE GREEN VILLAGE GREEN ZELKOVA	2½"C	B&B

* SEE SHEET 4 OF 9 FOR PLANTING DETAILS

SEQUENCE OF CONSTRUCTION

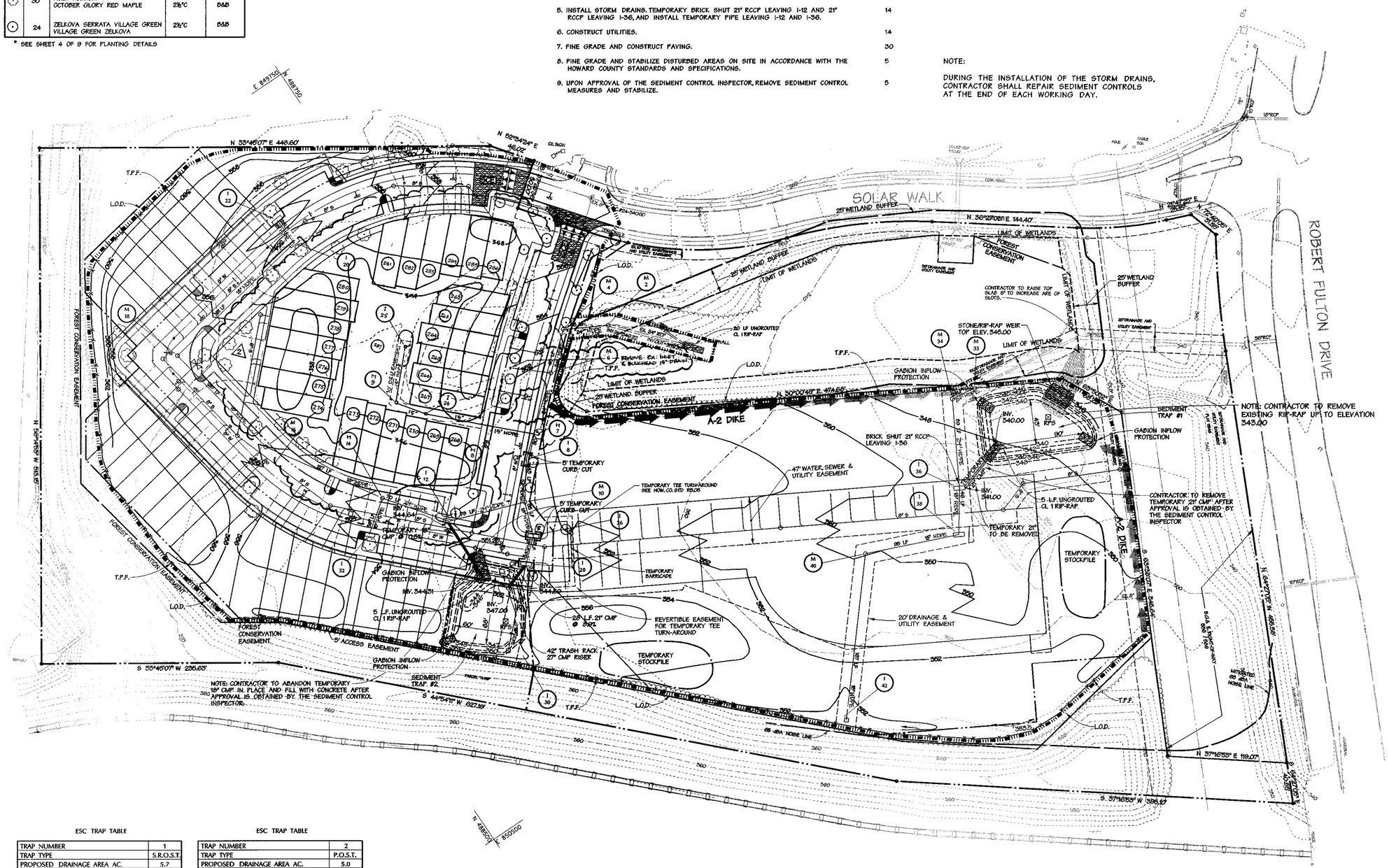
	DAYS
1. OBTAIN A GRADING PERMIT	2
2. INSTALL THE TREE PROTECTION FENCE..	2
3. CLEAR AND GRUB AS NECESSARY FOR SEDIMENT AND EROSION CONTROL MEASURES.	2
4. INSTALL THE PROPOSED SEDIMENT AND EROSION CONTROL MEASURES.	14
5. INSTALL STORM DRAINS. TEMPORARY BRICK SHUT 21" RCCP LEAVING I-12 AND 21" RCCP LEAVING I-36, AND INSTALL TEMPORARY PIPE LEAVING I-12 AND I-36.	14
6. CONSTRUCT UTILITIES.	14
7. FINE GRADE AND CONSTRUCT PAVING.	30
8. FINE GRADE AND STABILIZE DISTURBED AREAS ON SITE IN ACCORDANCE WITH THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS.	5
9. UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL MEASURES AND STABILIZE.	5

NOTE:

DURING THE INSTALLATION OF THE STORM DRAINS, CONTRACTOR SHALL REPAIR SEDIMENT CONTROLS AT THE END OF EACH WORKING DAY.

LEGEND

- 210 — EXISTING CONTOUR
- 210 — PROPOSED CONTOUR
- PROPOSED CURB & GUTTER
- 18" RCCP — PROPOSED STORM DRAIN
- LIMIT OF DISTURBANCE
- PROPOSED EARTH DIKE
- PROPOSED STABILIZED CONSTRUCTION ENTRANCE
- SIP — STANDARD INLET PROTECTION
- CIP — CURB INLET PROTECTION
- SF — SILT FENCE
- T.P.F. — TREE PROTECTION FENCE



ESC TRAP TABLE

TRAP NUMBER		1
TRAP TYPE		S.R.O.S.T.
PROPOSED DRAINAGE AREA AC.		5.7
	WET	10,260
STORAGE REQUIRED C.F.	DRY	10,260
	TOTAL	20,520
	WET	12,144
STORAGE PROVIDED C.F.	DRY	10,853
	TOTAL	22,997
EXISTING GROUND ELEV.		346.00
TOP EMBANKMENT ELEV.		346.00
WEIR CREST ELEV.		345.00
CLEANOUT ELEV.		341.36
BOTTOM ELEV.		340.00
DEPTH OF CHANNEL (a)		1.0'
OUTLET WIDTH (b)		23.0'
BOTTOM DIMENSION		43' X 90'
TRAP SIDESLOPES		2 : 1
	WET	3.0
TRAP DEPTH	DRY	2.0
	TOTAL	5.0
WET STORAGE ZONE ELEV.		340.00 – 343.00
DRY STORAGE ZONE ELEV.		343.00 – 345.00

ESC TRAP TABLE

TRAP NUMBER		2
TRAP TYPE		P.O.S.T.
PROPOSED DRAINAGE AREA AC.		5.0
	WET	9,000
STORAGE REQUIRED C.F.	DRY	9,000
	TOTAL	18,000
	WET	11,480
STORAGE PROVIDED C.F.	DRY	10,385
	TOTAL	21,865
EXISTING GROUND ELEV.		353.00
TOP EMBANKMENT ELEV.		0
WEIR CREST ELEV.		351.00
CLEANOUT ELEV.		347.64
BOTTOM ELEV.		344.00
DEPTH OF CHANNEL (a)		N/A
OUTLET WIDTH (b)		N/A
BOTTOM DIMENSION		60' X 68'
TRAP SIDESLOPES		2 : 1
	WET	5.0
TRAP DEPTH	DRY	2.0
	TOTAL	7.0
WET STORAGE ZONE ELEV.		344.00 – 349.00
DRY STORAGE ZONE ELEV.		349.00 – 351.00

DEVELOPER'S CERTIFICATION:

"I/WE CERTIFY THAT ALL DEVELOPMENT AND 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 DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO, AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER — 8-21-98 DATE
PRINT NAME BELOW SIGNATURE
Albert F. Edwards, P.E.

ENGINEER'S CERTIFICATION:

"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 REQUIRMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF ENGINEER — 8/21/98 DATE
PRINT NAME BELOW SIGNATURE
John W. Rauschia, Sr.

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS

U.S. NATURAL RESOURCE CONSERVATION SERVICE — 8/31/98 DATE

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

HOWARD S.C.D. — 8/31/98 DATE

8/21/98 Date

Professional Engr. No. 10551

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — 9/2/98 DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — 9/10/98 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 9/4/98 DATE

Date	No.	Revision Description
2-12-01	2	REVISED LOTS, ADDED STORMDRAINS, REMOVED INLET PER REVISIONS TO F-19-44
5/12/99	1	ALL RCP TO HDPE, 21" TO 24"

SNOWDEN RIDGE

SECTION 2, AREA 1
LOTS 166-175, 202-207, PARCELS B-1 THRU B-4
A RESUBDIVISION OF GATEWAY COMMERCE CENTER
PARCELS A-54 AND A-59

OWNER /DEVELOPER:

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A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

AREA
SECTION 2, AREA 1
TAX MAP 42 P/O PARCEL B-1,513
6TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE
MASS GRADING, SEDIMENT CONTROL & STREET TREE PLAN

Des By	JWM	Scale	1" = 50'	Proj. No.	95118D1
Drn By	JWM	Date	JUNE 16, 1998		
Chk By		Approved			7 OF 9

F-98-49

Tue, Aug 18, 08:54:30 1998 d:\95118d\95118d1.dwg