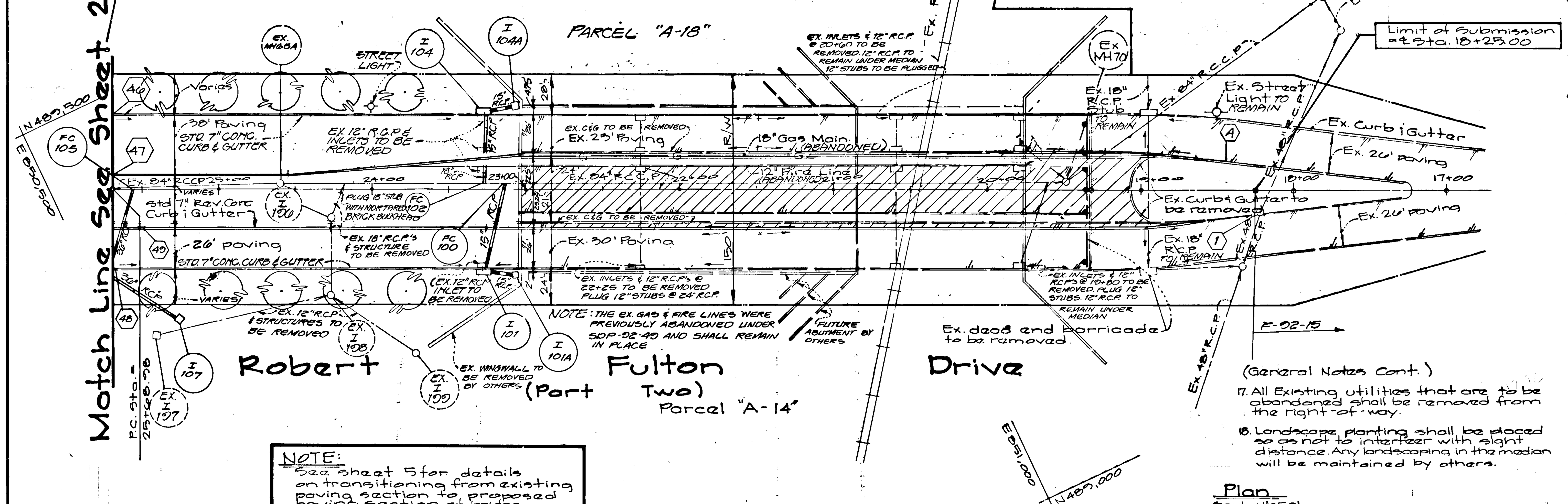
Top of Curb Data			
Symbol	Station	T.C. Elev.	offset
1	18+25.	331.35	17'L.
A	18+43.99	331.12	18.69'R.
46	25+68.49	334.12	47.80'R.
47	25+68.98	334.94	9.80'R.
48	25+68.98	334.06	50.80'L

For top of curb elevations (3) thru (45) See transition detail on sheet 5

NOTES

1. FIELD CONNECTIONS SHALL BE IN ACCORDANCE WITH STD. DET. SD 2.01.
2. CONSTRUCT NEW C&G IN AREAS OF INLET REMOVAL.
3. CONCRETE CURB TRANSITIONS: STA. 19+63 TO 19+75 RT. & LT. MEDIAN STA. 20+88 TO 20+94 RT & LT. MEDIAN SEE DETAIL.
4. TRAFFIC BARRIER THREE BEAM ANCHORAGE USING MD. STD. 661.01:
   - STA. 23+01.50 TO 23+34 LT.
   - STA. 20+84.50 TO 21+17 LT. MEDIAN
   - STA. 19+46 TO 19+78.50 RT. & RT. MEDIAN.
5. TRAFFIC BARRIER W/ BEAM TYPE 2 END FLARE USING HO. CO. STD. R7.17: STA. 18+71 TO 19+46 RT. & RT. MEDIAN
   - STA. 21+70 TO 21+92 - LT. MEDIAN
   - STA. 23+34 TO 24+09 LT.
6. FOR INFORMATION ON FUTURE BRIDGEWORK, SEE PLANS 'REHABILITATION OF RAILROAD OVERPASS FOR GENERAL ELECTRIC APPLIANCE PARK ROADWAY SHEET BY WALLACE, MONTGOMERY & ASSOCIATES.



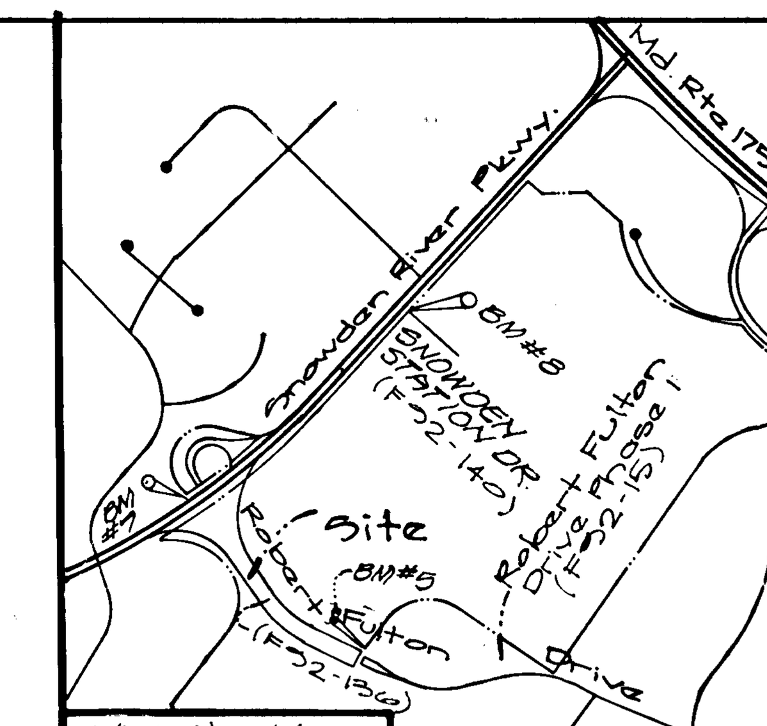
General Notes

1. All storm drain & paving shall be constructed in accordance with the latest edition & specifications of Howard County & MDSHA.
2. Types of storm drainage refer to the standard details of Howard County & MDSHA.
3. Trench compacting for storm drains within road or street R/W limits shall be in accordance with "Howard County Design Manual Vol. IV" (Class C trench bedding to be used for all storm drains except where shown otherwise.)
4. Information concerning underground utilities was obtained from available records, but the contractor must determine the exact location and elevation of the main by digging test pits by hand, at all utility crossings, well in advance of construction.
5. All utility companies shall be notified 24 hours in advance of construction.
6. All traffic services, parking & signing to be done in accordance with the "Manual of Uniform Traffic Control Devices," 1988 edition.
7. Sag and Crest Vertical Curves were designed in accordance with "Howard County Design Manual Vol. II."
8. The contractor or developer shall contact the construction Inspection Survey Division 24 hours in advance of commencement of work.
9. Design speed: see chart, sheet 6 Zoning: M-1/B-2
10. Storm water management provided by an ex. regional facility on site, whose adequacy was studied under plans prepared by Whitman, Requardt & Associates. (F92-1001).
11. Stopping sight distance shown are . . in accordance with "Howard County Design Manual Vol. III" fig. 22
12. Street lights shall be provided at the locations shown in the street light schedule shown on sheet 6 and in accordance with "Howard County Design Manual Vol. III."
13. ALL STORM DRAINS BEING REMOVED SHALL HAVE THEIR OPENINGS CAPPED AND BUTTRESSED.
14. SEE DEPARTMENT OF PLANNING & ZONING FILE NUMBERS S-84-44, S-85-55, F-88-91, F-87-96, F-85-55, VP-84-150, VP-85-34, F-90-175, VP-85-35, VP-86-81, VP-88-17, WP-88-63, WP-90-141, AA-91-15, ZB-915, S-92-10, SDP-92-49, F-92-15, F-92-57 & FDP-215.
15. A FIELD INSPECTION BY ALL APPROPRIATE HOWARD COUNTY AGENCIES SHALL BE COMPLETED PRIOR TO DEDICATION.
16. COORDINATES ARE BASED ON NAD '27 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 2243002 AND NO. 2243003.

(General Notes Cont.)

17. All Existing utilities that are to be abandoned shall be removed from the right-of-way.
18. Landscape planting shall be placed so as not to interfeer with sight distance. Any landscaping in the median will be maintained by others.

Plan
Scale: 1" = 50'



Vicinity Map
Scale: 1" = 2000'

Approved
Department of Public Works

[signature]	9/3/92
Chief, Land Development Div. M.K.	Date
[signature]	9/3/92
Chief, Bureau of Highways	Date
[signature]	9-3-92
Chief, Bureau of Engineering	Date

Approved
Department of Planning and Zoning

[signature]	9/14/92
Chief, Division of Community Planning and Land Development	Date

[signature]
Carlton K. Gutschick
Professional Eng.
Md. Reg. No. 12975

GLW GUTSCHICK LITTLE & WEBER, P.A.
ENGINEERS, PLANNERS, SURVEYORS
3909 NATIONAL DRIVE · SUITE 250 · BURTONSVILLE OFFICE PARK · BURTONSVILLE, MD. 20866
TEL.: (301) 421-4024

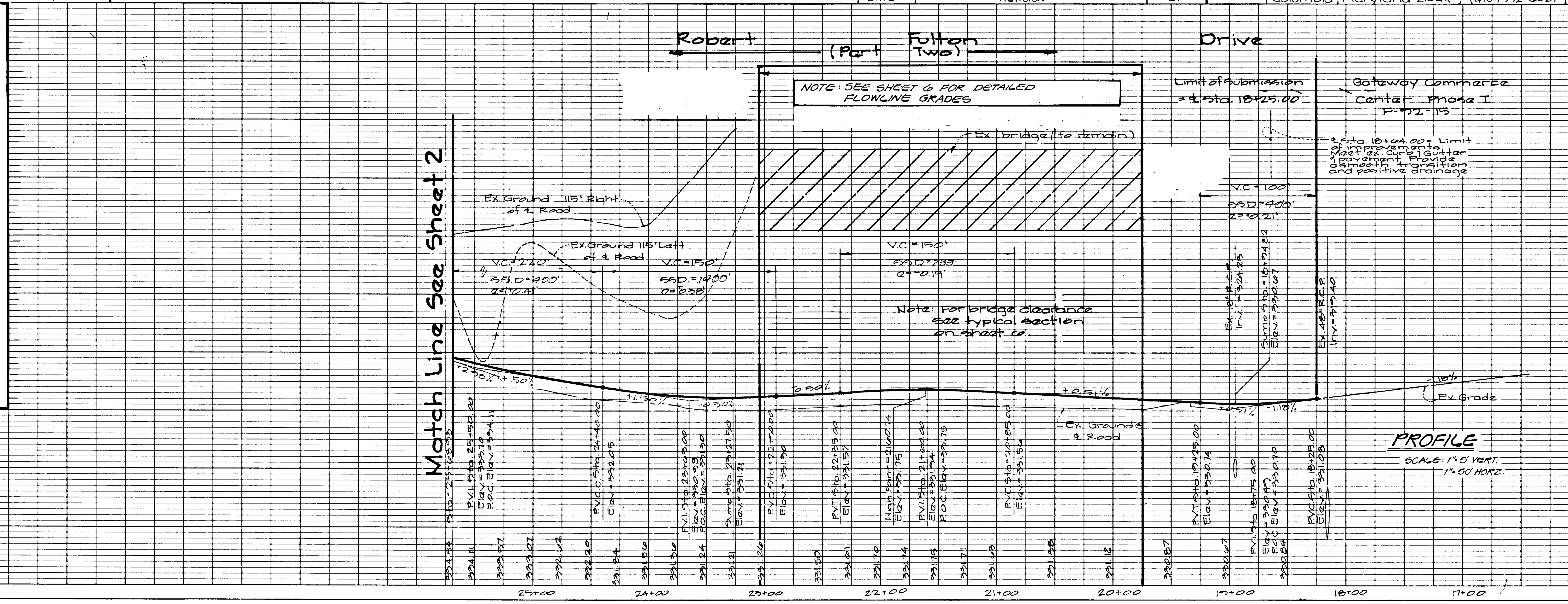
DESIGNED: ASC	Gateway Commerce Center ROBERT FULTON DRIVE 18+64.00 to 25+68.98 6th Election District Howard County, Maryland	SCALE: As Shown
DRAWN: MCF		DRAWING: 1 of 13
CHECKED: CKG		
DATE: JUNE 4, 1992	The Howard Research & Development Corp. The Rouse Building 10275 Little Patuxent Parkway Columbia, Maryland 21044 ; (410) 992-6027	JOB NO. 91-055

DATE	REVISION	BY
3-1-94	separate into part one & part two	mcf
3-17-93	ADD WORK WITHIN BRIDGE	ASC/HK
7-20-92	ADDRESSED HO. CO. COMMENTS	ASC
6-4-92	BID SET	

SHEET INDEX

LEGEND

- EX. PAVEMENT
- EX. C&G
- EX. STORM DRAIN
- PROP. PAVEMENT
- PROP. C&G
- PROP. STORM DRAIN
- STREET TREE
- STREET LIGHT
- EX. PVMT. TO BE REMOVED



PROFILE

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

1158

F-92-136

Top of Curb Elevations

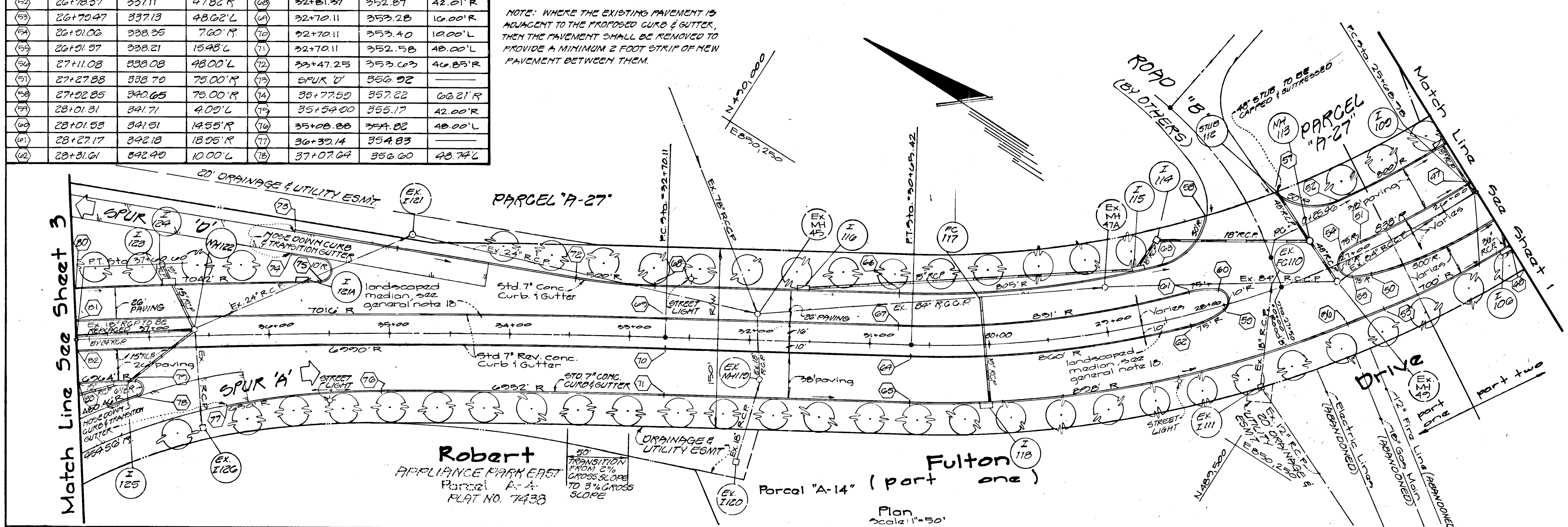
Symbol	Station	T.C. Elev.	offset	Symbol	Station	T.C. Elev.	offset	Symbol	Station	T.C. Elev.	offset
47	25+68.98	334.94	9.80'R	63	28+42.60	342.08	44.76'R	79	37+09.46	356.07	36.00'L
48	25+68.98	334.06	50.80'L	64	30+65.42	349.26	10.00'L	80	37+60.60	356.20	42.00'R
49	25+65.18	334.56	24.80'L	65	30+65.42	348.44	48.00'L	81	37+60.60	357.03	16.00'R
50	26+76.16	337.69	18.68'L	66	30+75.44	348.81	42.00'R	82	37+60.60	357.15	10.00'L
51	26+73.51	337.79	9.82'R	67	30+75.44	349.39	16.00'R	83	37+60.60	356.32	36.00'L
52	26+78.37	337.11	47.82'R	68	32+81.37	352.87	42.01'R				
53	26+79.47	337.13	48.62'L	69	32+70.11	353.28	16.00'R				
54	26+91.06	338.35	7.60'R	70	32+70.11	353.40	10.00'L				
55	26+91.57	338.21	15.98'L	71	32+70.11	352.58	48.00'L				
56	27+11.08	338.08	48.00'L	72	33+47.25	353.63	46.85'R				
57	27+27.88	338.79	75.00'R	73	SPUR 'D'	356.92	———				
58	27+92.85	340.65	75.00'R	74	35+77.59	357.22	66.21'R				
59	28+01.31	341.71	4.09'L	75	35+54.00	355.17	42.00'R				
60	28+01.53	341.51	14.55'R	76	35+08.88	354.82	48.00'L				
61	28+27.17	342.18	18.95'R	77	36+39.14	354.83	———				
62	28+31.61	342.49	10.00'L	78	37+07.64	356.60	48.74'L				

NOTE: WHERE THE EXISTING PAVEMENT IS ADJACENT TO THE PROPOSED CURB & GUTTER, THEN THE PAVEMENT SHALL BE REMOVED TO PROVIDE A MINIMUM 2 FOOT STRIP OF NEW PAVEMENT BETWEEN THEM.

℄ Curve Data

Street Name	P.C.Sta.	P.T.Sta.	Arc	Radius	Δ	Tangent	Chord
Robert Fulton Dr.	25+68.98	30+65.72	496.44	850.00	33°27'48"	347.82	N47°43'11"W;489.41'
Robert Fulton Dr.	32+70.11	37+60.60	490.48	7000.00	4°00'53"	245.34	N32°59'43"W;490.38

DATE	REVISION	BY
6-4-92	BID SET	———
7-20-92	ADDRESSED HO.CO. COMMENTS	ASC
8-17-93	ADD I121A, REV. C&G 18+00 TO 27+00	ASC/HK
3.1.94	separate into part 1 & part 2	mcf



Approved
Department of Public Works

Chief, Land Development Div. — Date 9/3/92

Chief, Bureau of Highways — Date 9/3/92

Chief, Bureau of Engineering — Date 9-3-92

Carlton K. Gutschick
Professional Eng.
Md. Reg. No. 12975

Approved
Department of Planning and Zoning

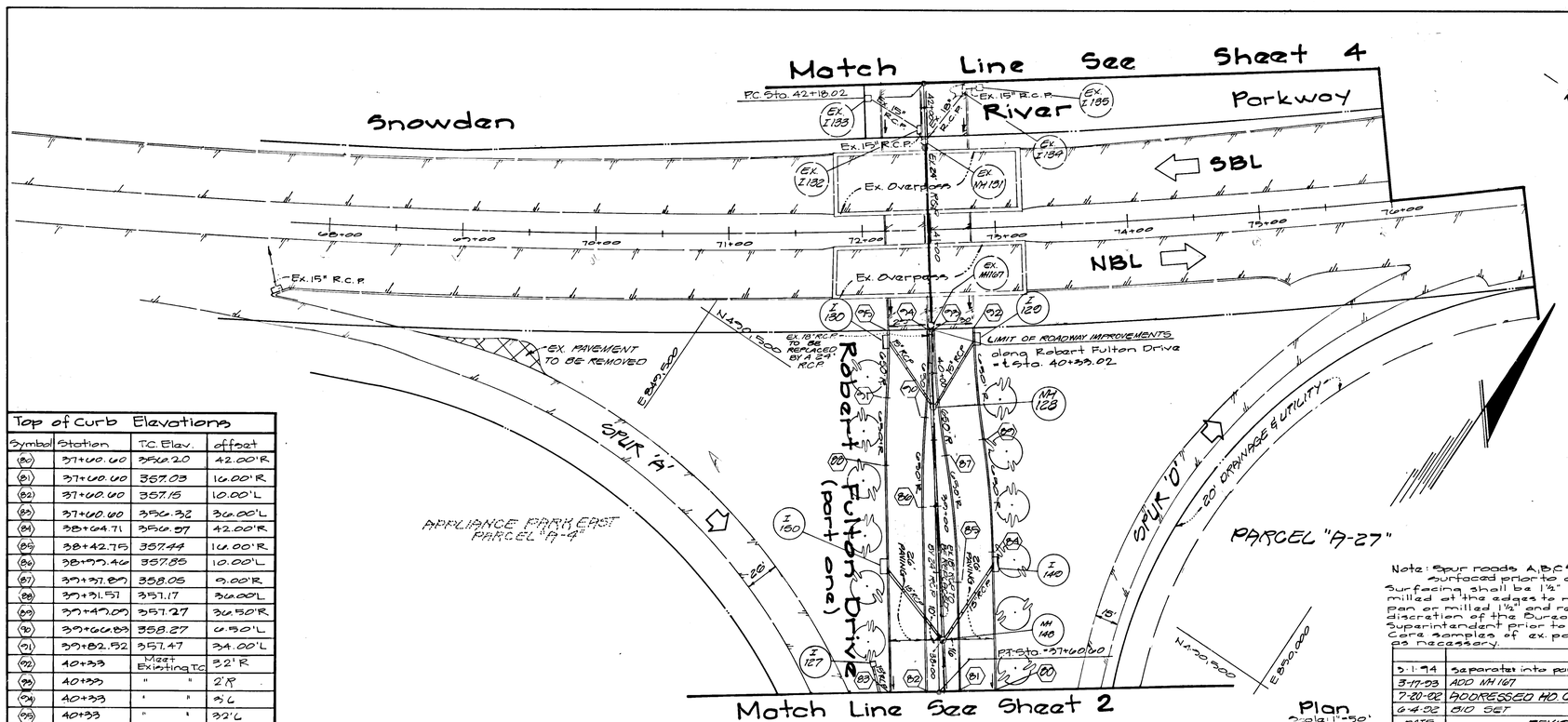
Chief, Division of Community Planning and Land Development — Date 9/4/92

GLW GUTSCHICK LITTLE & WEBER, P.A.
ENGINEERS, PLANNERS, SURVEYORS
3909 NATIONAL DRIVE · SUITE 250 · BURTONSVILLE OFFICE PARK · BURTONSVILLE, MD. 20866
TEL.: (301) 421-4024

DESIGNED	Gateway Commerce Center	SCALE
ASC	ROBERT FULTON DRIVE	As Shown
DRAWN	25+68.98 to 37+60.60	DRAWING
MCF	6th Election District	2 of 13
CHECKED	Howard County, Maryland	
CKG		
DATE	The Howard Research & Development Corp. The Rouse Building 10275 Little Patuxent Parkway Columbia, Maryland 21044; (410) 992-6027	JOB NO.
JUNE 4, 1992		91-055

1158

F-92-136



Plan
Scale: 1"=50'

Top of Curb Elevations			
Symbol	Station	T.C. Elev.	offset
(80)	37+60.60	356.20	42.00'R
(81)	37+60.60	357.03	16.00'R
(82)	37+60.60	357.15	10.00'L
(83)	37+60.60	356.32	36.00'L
(84)	38+64.71	356.57	42.00'R
(85)	38+42.75	357.44	16.00'R
(86)	38+97.46	357.85	10.00'L
(87)	39+31.80	358.05	9.00'R
(88)	39+31.51	357.17	36.00'L
(89)	39+49.09	357.27	36.50'R
(90)	39+66.83	358.27	6.50'L
(91)	39+82.52	357.47	34.00'L
(92)	40+33	Meet Existing T.C.	3.2' R
(93)	40+33	" "	2'R
(94)	40+33	" "	8'L
(95)	40+33	" "	32'L

Note: Spur roads A, B, C & D shall be surfaced prior to dedication. Surfacing shall be 1½" standard overlay milled at the edges to meet the existing gutter pan or milled 1½" and resurfaced at the discretion of the Bureau of Highway Superintendent prior to dedication. Core samples of ex. paving will be taken as necessary.

DATE	REVISION	BY
5-1-94	separated into part 1 & part 2	MCF
3-17-03	ADD NH 167	ASC/HK
7-20-02	ADDRESSED HO. CO. COMMENTS	ASC
6-4-02	BID SET	

Approved
Department of Public Works
Chief, Land Development Div. — Date 9/5/92
Chief, Bureau of Highways — Date 9/5/92
Chief, Bureau of Engineering — Date 9.3.92

Carlton K. Gutschick
Professional Eng.
Md. Reg. No. 12775

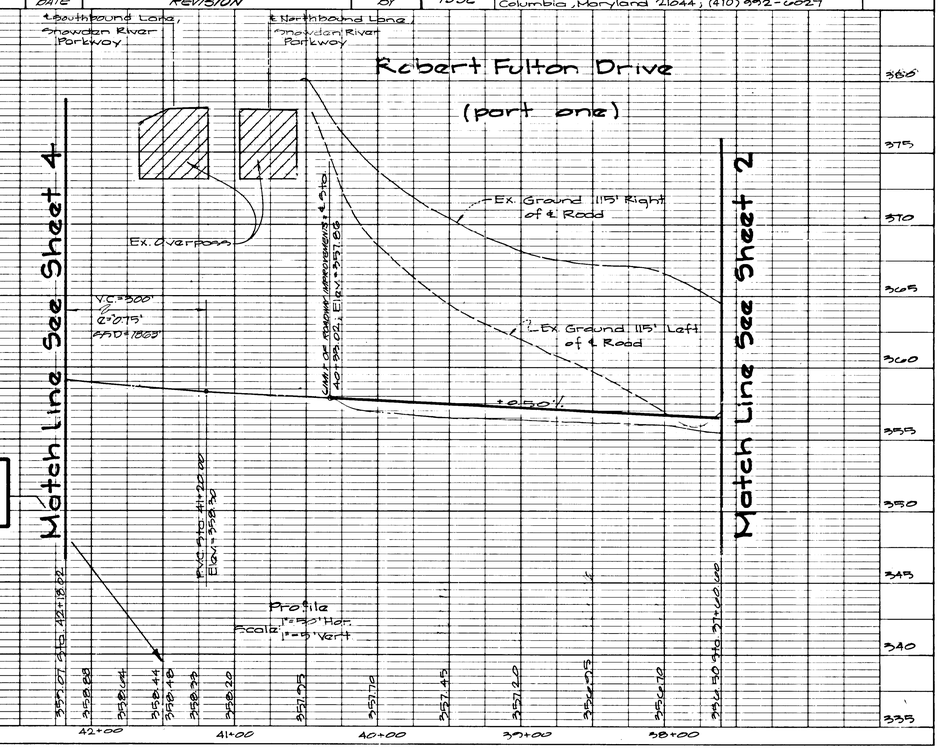
Approved
Department of Planning and Zoning
Chief, Division of Community Planning and Land Development — Date 9/14/92

GLW GUTSCHICK LITTLE & WEBER, P.A.
ENGINEERS, PLANNERS, SURVEYORS
3909 NATIONAL DRIVE · SUITE 250 · BURTONSVILLE OFFICE PARK · BURTONSVILLE, MD. 20866
TEL.: (301) 421-4024

DESIGNED ASC | DRAWN MCF | CHECKED CKG | DATE JUNE 4, 1992 | SCALE As Shown | DRAWING 3 of 13 | JOB NO. 91-055

Gateway Commerce Center
ROBERT FULTON DRIVE
37+60.60 to 42+18.02
6th Election District
Howard County, Maryland

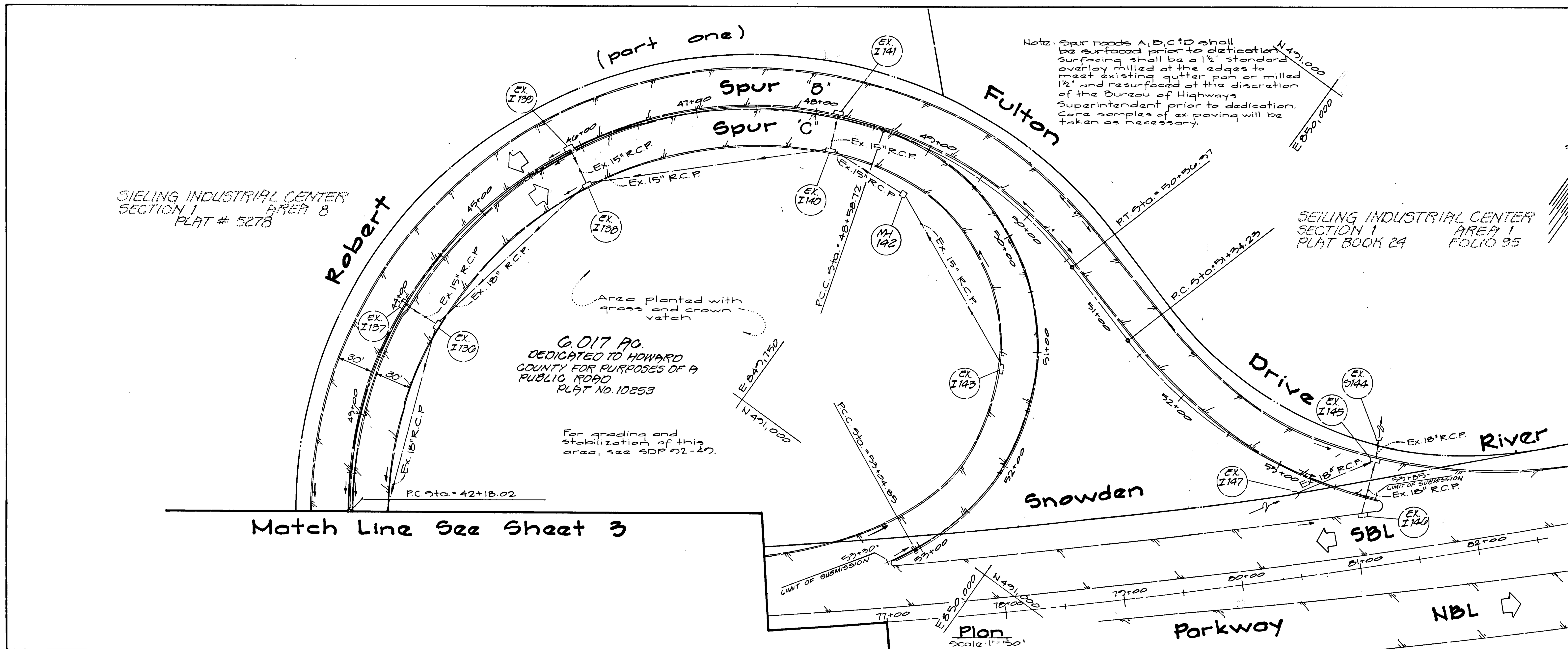
The Howard Research & Development Corp.
The Rouse Building
10275 Little Patuxent Parkway
Columbia, Maryland 21044, (410) 992-6027



NOTE:
Location of P.G.L. changes at ℄ sta 41+50.00 see detail on sheet 5.

1158

F-92-136



(port one)
Spur 'B'
Spur 'C'
Robert
Fulton
Drive
River
Snowden
Parkway
SBL
NBL
Match Line See Sheet 3
Note: Spur roads A, B, C & D shall be surfaced prior to dedication. Surfacing shall be a 1½" standard overlay milled at the edges to meet existing gutter pan or milled 1½" and resurfaced at the discretion of the Bureau of Highways Superintendent prior to dedication. Core samples of ex. paving will be taken as necessary.
SIELING INDUSTRIAL CENTER
SECTION 1 AREA 8
PLAT # 5278
SEILING INDUSTRIAL CENTER
SECTION 1 AREA 1
PLAT BOOK 24 FOLIO 95
Area planted with grass and crown vetch
6.017 AC.
DEDICATED TO HOWARD COUNTY FOR PURPOSES OF A PUBLIC ROAD
PLAT NO. 10253
For grading and stabilization of this area, see SDP 92-40.
P.C. Sta. = 42+18.02
P.T. Sta. = 50+36.57
P.C. Sta. = 51+34.23
LIMIT OF SUBMISSION
Plan
Scale: 1" = 50'

DATE	REVISION	BY
6-4-92	BID SET	
7-20-92	ADDRESSED HO. CO. COMMENTS	ASC
9/4/92	Grading & Stabilization note	d.e.v.
3-1-94	separate into part 1 & part 2	mef

Approved
Department of Public Works.

Chief, Land Development Div. — Date 9/4/92
Chief, Bureau of Highways — Date 9/3/92
Chief, Bureau of Engineering — Date 9-3-92

Carlton K. Gutschick
Professional Eng.
Md. Reg. No. 12975

Approved
Department of Planning and Zoning
Chief, Division of Community Planning and Land Development — Date

GLW GUTSCHICK LITTLE & WEBER, P.A.
ENGINEERS, PLANNERS, SURVEYORS
3909 NATIONAL DRIVE · SUITE 250 · BURTONSVILLE OFFICE PARK · BURTONSVILLE, MD 20866
TEL.: (301) 421-4024

Goteway Commerce Center
Robert Fulton Drive
6th Election District
Howard County, Maryland

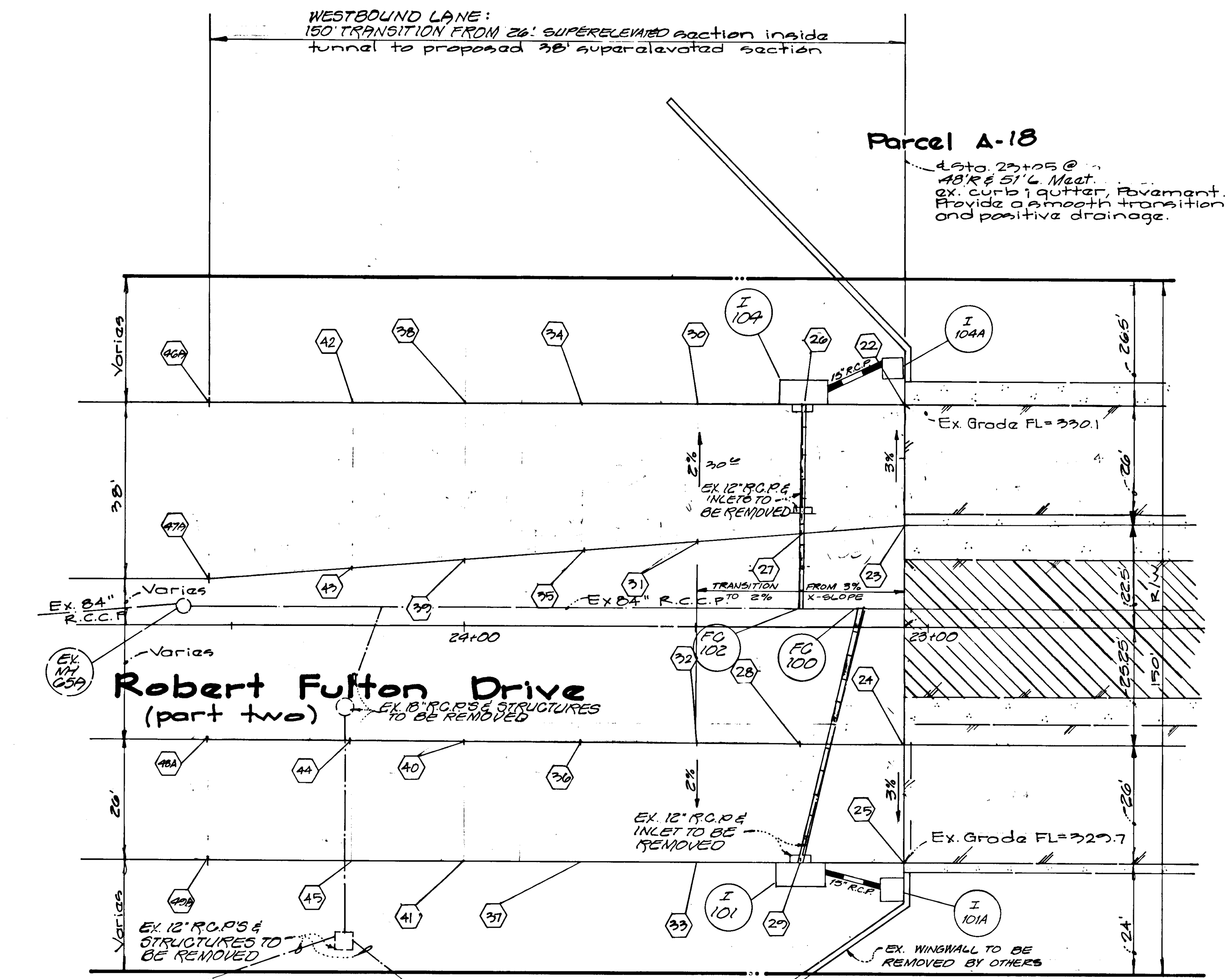
The Howard Research & Development Corp.
The Rouse Building
10275 Little Patuxent Parkway
Columbia, Maryland 21044
(410) 992-6027

DESIGNED: ASC
DRAWN: MCF
CHECKED: CKG
DATE: JUNE 4, 1992
SCALE: As Shown
DRAWING: 4 of 13
JOB NO. 91-055

F-92-136

Curb Data East of Ex. Bridge					
Point No.	℄ Station	Offset	P.G.L. Elev.	T.C. Elev.	Description
1	18+25	17'L.	331.08	331.35	P.O.L. BEGIN TRANSITION FROM 2% TO 3% - X-SLOPE
2	18+64	21'R.	330.75	330.95	BEGIN TRANSITION TO 3% X-SLOPE
3	18+73.71	21.34'R	330.71	330.94	P.O.C. 500'Rad.
4	18+69.00	21.67'L	330.72	331.10	P.C. 500'Rad
5	18+75.00	22.35'L	330.70	331.10	END TRANS. FROM 2% TO 3% X-SLOPE
6	18+94.00	22.00'R	330.67	330.79	P.O.C. 500'Rad.
7	19+00.00	24.39'L	330.67	331.03	P.O.L.
8	18+97.00	51.19'L	330.67	329.77	at ex inlet (P.O.C. 500'R)
9	19+01.99	48'R	330.67	329.97	at ex. inlet (P.T. 500'R)
10	19+03.53	22.21'	330.74	331.08	P.T. 500' RAD., END TRANSITION TO 3% X-SLOPE
11	19+25.00	48.19'R	330.74	330.32	P.O.L.
12	18+94.37	24.04'L	330.67	331.05	P.O.C.
13	19+27.02	51.19'L	330.75	329.93	P.T. 500'Rad.
14	19+50.00	48.18'R	330.87	330.45	P.O.L.
15	19+39.15	22.19'R	330.81	331.22	P.O.L.
16	19+28.55	25.19'L	330.76	331.15	P.T. 500'RAD.
17	19+50.00	51.18'L	330.87	330.09	P.O.L.
18	19+74.67	48.16'R	331.00	Meet Ex T.C.	at bridge
19	19+74.80	22.16'R.	331.00	331.40	at bridge
20	19+74.00	25.16'L	331.00	330.37	at bridge
21	19+74.79	51.19'L	331.00	Meet. Ex. T.C.	at bridge
A	18+43.99	18.69'R	330.89	331.12	P.C.

Curb Data West of Ex. Bridge					
Point #	℄ Station	Offset	P.G.L. Elev.	T.C. Elev.	Description
22	23+05.18	48' R	331.24	Meet Ex. T.C.	@ bridge
23	23+05.18	22' R	331.24	331.65	@ bridge, begin X-SLOPE TRANSITION
24	23+05.18	24.94'L	331.24	331.59	@ bridge, BEGIN X-SLOPE TRANS.
25	23+05.18	50.94'L	331.24	Meet Ex T.C.	@ bridge
26	23+27.50	47.95' R	331.21	330.79	P.O.L.
27	23+27.50	20.18' R	331.21	331.49	P.O.L.
28	23+27.50	24.95'L	331.21	331.43	P.O.L.
29	23+27.50	50.95'L	331.21	330.20	P.O.L.
30	23+50.00	47.92' R	331.24	330.82	P.O.L.
31	23+50.00	18.31' R	331.24	331.47	P.O.L., END X-SLOPE TRANS.
32	23+50.00	24.94'L	331.24	331.34	P.O.L., END X-SLOPE TRANS.
33	23+50.00	50.94'L	331.24	330.60	P.O.L.
34	23+75.00	47.92' R	331.36	330.94	P.O.L.
35	23+75.00	16.35'R	331.36	331.63	P.O.L. +0
36	23+75.00	24.92'L	331.36	331.46	P.O.L.
37	23+75.00	50.92'L	331.36	330.88	P.O.L.
38	24+00.00	47.90' R	331.56	331.14	P.O.L.
39	24+00.00	14.33'R	331.56	331.87	P.O.L.
40	24+00.00	24.90'L	331.56	331.66	P.O.L.
41	24+00.00	50.90'L	331.56	331.08	P.O.L.
42	24+25.00	47.89'R	331.84	331.42	P.O.L.
43	24+25.00	12.31' R	331.84	332.19	P.O.L.
44	24+25.00	24.89'L	331.84	331.94	P.O.L.
45	24+25.00	50.89'L	331.84	331.36	P.O.L.
46A	24+55.06	47.87' R	332.28	331.86	P.O.L.
47A	24+55.06	9.87'R	332.28	332.68	Angle Break, end pvm't width transition
48A	24+55.06	24.87'L	332.28	332.38	P.O.L.
49A	24+55.06	50.87'L	332.28	331.80	P.O.L.



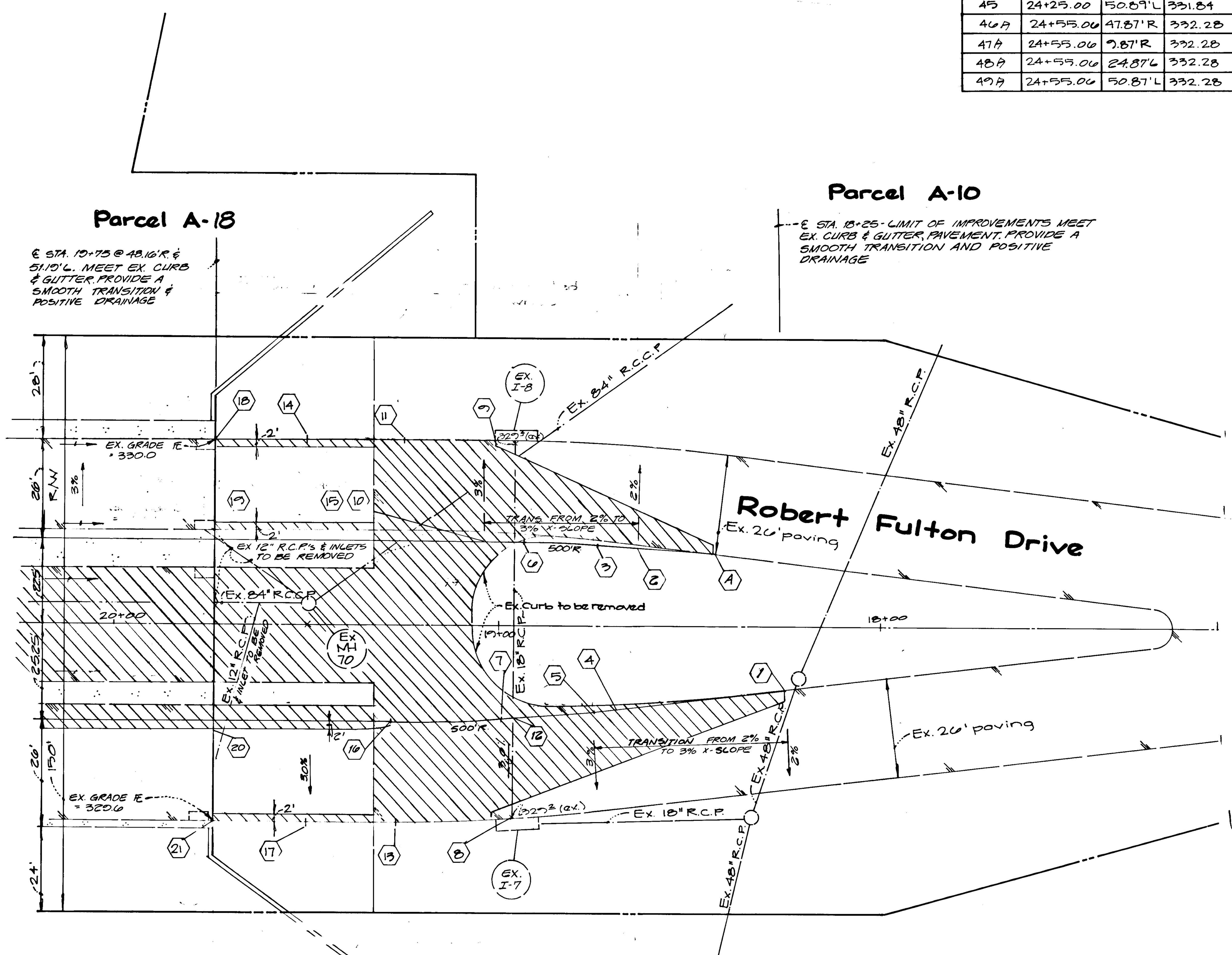
Transition Detail West of Existing Bridge

Scale: 1" = 20'

(part two)

Parcel A-14

NOTE: FOR DETAIL THRU BRIDGE SEE SHEET 6



EX. PAVING TO BE REMOVED

Transition Detail East of Existing Bridge

Scale: 1" = 20'

(part two)

Parcel A-14

Approved:
Department of Public Works

Chief, Land Development Division M.K. — Date 9/2/92

Chief, Bureau of Highways — Date 8/24/92

Chief, Bureau of Engineering — Date 9.3.92

Carlton K. Gutschick
Professional Eng.
Md Reg. No 12975

Approved:
Department of Planning & Zoning

Chief, Division of Community Planning and Land Development — Date 9/14/92

GLW Gutschick Little & Weber, P.A.
CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE · SUITE 250 · BURTONSVILLE OFFICE PARK · BURTONSVILLE, MD. 20866
TELEPHONE: (301)421-4024 NO.VA. (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186

DATE	REVISION	BY	APP'R.
3.1.94	separate into part 1 & part 2	mcf	
3-17-93	REV. TRANSITION PER X-SEC. SHEET 6	ASC/HK	
7-20-92	ADDRESSED HO. CO. COMMENTS	ASC	
6-4-92	BID SET	—	

PREPARED FOR:
The Howard Research and Development Corp.
The Rouse Building
10275 Little Patuxent Parkway
Columbia, Maryland 21044
(410) 992-6027

TRANSITION DETAILS AT RAILROAD BRIDGE

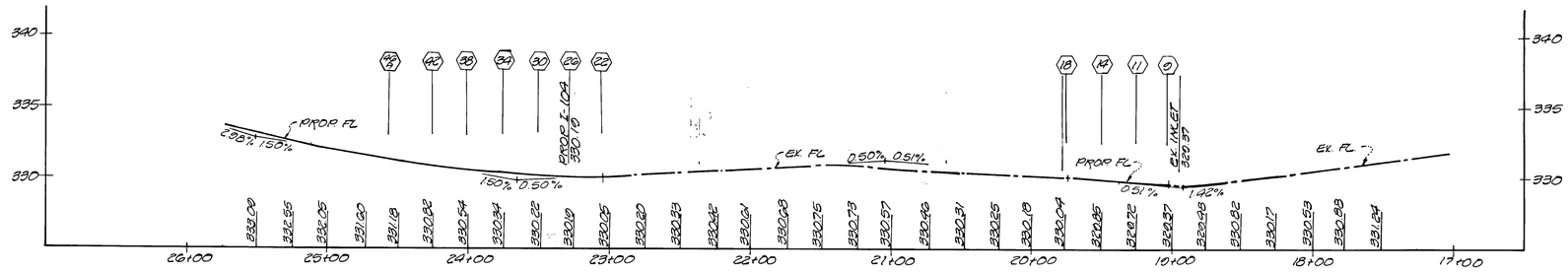
Gateway Commerce Center

Robert Fulton Drive

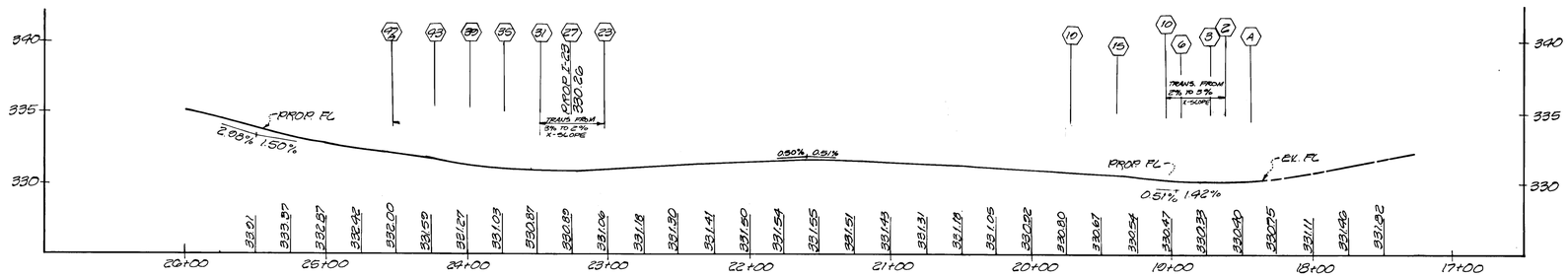
Sixth Election District — Howard County, Maryland

DES.: A.S.C.	SCALE: As Shown	ZONING: M-1/B2	G.L.W. FILE No.: 91055
DRN.: G.A.H. / CHK.: CKG	DATE: JUNE 4, 1992	TAX MAP No.: 42	SHEET: 5 of 13

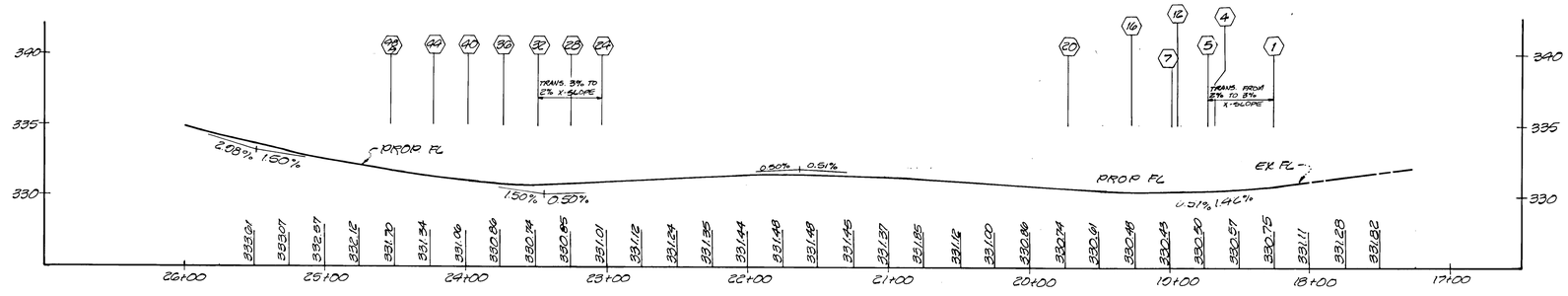
F-92-136



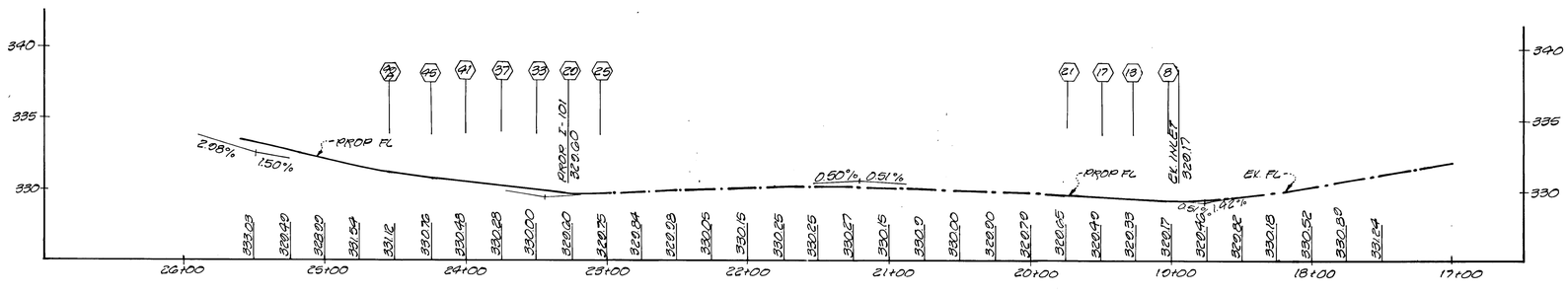
FL 'D' ~ WESTBOUND LANE ~ NORTH SIDE
(part two)



FL 'C' ~ WESTBOUND LANE ~ SOUTHSIDE
(part two)

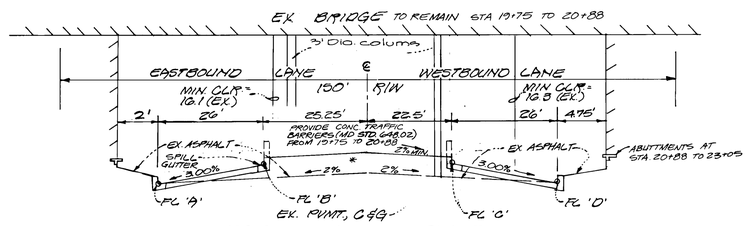


FL 'B' ~ EASTBOUND LANE ~ NORTHSIDE
(part two)



FL 'A' ~ EASTBOUND LANE ~ SOUTH SIDE
(part two)

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



ROBERT FULTON DRIVE
(STA. 19+75 to 23+05)
(Not to Scale)
(part two)

* RAILROAD BALLAST 19+75 TO 20+88
EARTHFILL 20+88 TO 23+05

DAVID L. LITTLE
PROFESSIONAL ENGINEER
NO. REG. NO 12622

APPROVED:
DEPARTMENT OF PUBLIC WORKS
[signature] 9/8/92
CHIEF, LAND DEVELOPMENT DIV. DATE

[signature] 9/4/92
CHIEF, BUREAU OF HIGHWAYS DATE

[signature] 9.3.92
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED:
DEPARTMENT OF PLANNING AND ZONING
[signature] 9/10/92
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

GW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE · SUITE 250 · BURTONSVILLE OFFICE PARK · BURTONSVILLE, MD. 20866
TELEPHONE: (301)421-4024 NO.VA. (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186

DATE	REVISION	BY	APP'R.
3:1:94	Separate into part 1 & part 2	mef	
3-17-93	REV. CROSS SECTION	ASC/K	
7-20-92	NEW SHEET	ASC	

PREPARED FOR:
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION
THE ROUSE BUILDING
10275 LITTLE PATUXENT PKWY
COLUMBIA, MARYLAND 21044
(410) 992-6027

GRADE UNDER RAILROAD BRIDGE DETAILS (10+75 to 23+05)

GATEWAY COMMERCE CENTER
ROBERT FULTON DRIVE

SIXTH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

DES.:	SCALE	ZONING	G.L.W. FILE No.
ASC	AS SHOWN	M-1/B2	91-055
DRN.: CH	DATE	TAX MAP No.	SHEET
CHK.:	JULY 20, 1992	42	6 of 13

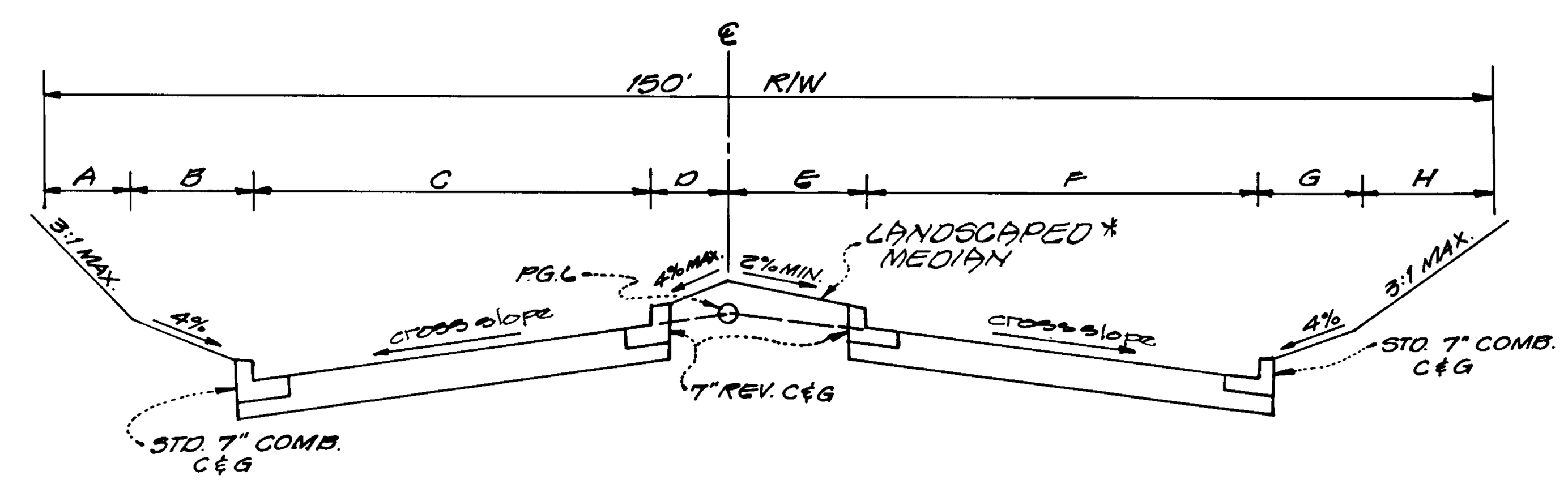
F-92-136

163077

SUPER ELEVATION CHART

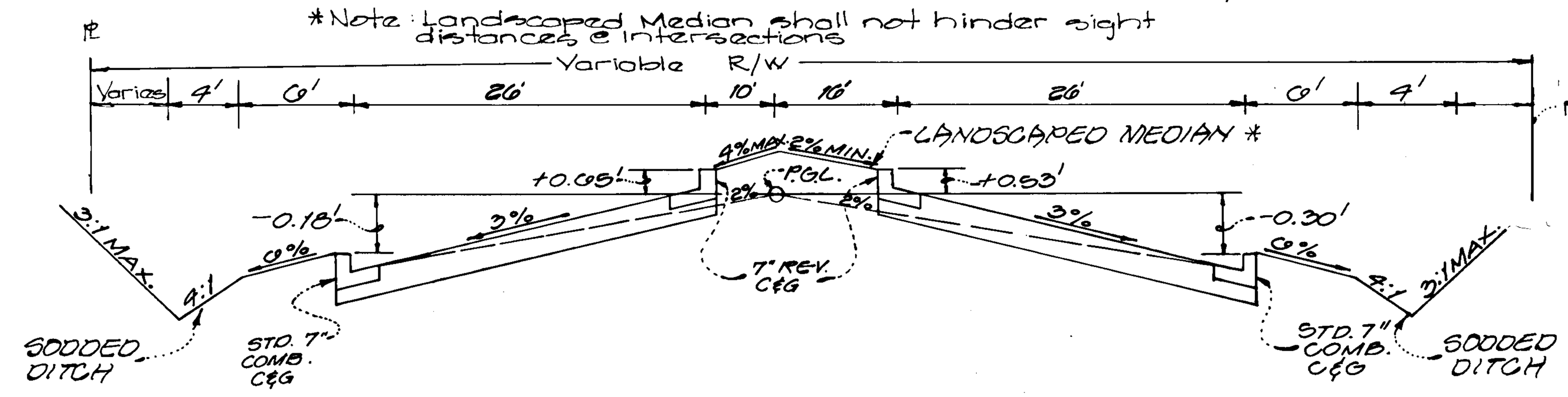
SPUR 'C' (part one)				
STA.	PGL ELEV.	SLOPE	T.C. RIGHT	T.C. LEFT
NORMAL SECTION				
41+50	358.44	-2.00%	358.38	359.04
41+75	358.64	-3.00%	358.30	359.24
42+00	358.87	-4.00%	358.21	359.44
42+25	359.15	-5.00%	358.24	359.75
42+50	359.48	-6.00%	358.28	360.08
FULL SUPER ELEVATION				
52+80	377.05	-6.00%	375.85	377.65
53+00	377.23	-5.20%	376.26	377.83
53+25	377.49	-4.20%	376.80	378.09
53+30	377.54	-4.00%	376.91	378.14
END C&G LT.				

SPUR 'B' (part one)				
STA.	PGL ELEV.	SLOPE	T.C. RIGHT	T.C. LEFT
NORMAL SECTION				
40+85	358.13	-2.00%	358.73	358.07
41+00	358.20	-1.40%	358.80	358.31
41+25	358.33	-0.40%	358.93	358.73
41+50	358.44	+0.60%	359.04	359.30
41+75	358.64	+1.60%	359.24	359.79
42+00	358.87	+2.60%	359.47	360.30
42+25	359.15	+3.60%	359.75	360.87
42+50	359.48	+4.60%	360.08	361.48
42+75	359.84	+5.60%	360.44	362.13
42+85	360.00	+6.00%	360.60	362.40
FULL SUPER ELEVATION				
49+40	373.87	+6.00%	374.47	376.27
49+50	373.95	+5.60%	374.55	376.24
49+75	374.07	+4.60%	374.67	376.07
50+00	374.14	+3.60%	374.74	375.86
50+25	374.16	+2.60%	374.76	375.59
50+50	374.13	+1.60%	374.73	375.28
50+75	374.04	+0.60%	374.64	374.90
51+00	373.91	-0.40%	374.51	374.31
51+25	373.70	-1.40%	374.30	373.81
51+50	373.51	-2.40%	374.11	373.34
51+75	373.30	-3.40%	373.90	372.84
52+00	373.10	-4.40%	373.70	372.36
52+25	372.90	-5.40%	373.50	371.87
52+40	372.78	-6.00%	373.38	371.58
FULL SUPER ELEVATION				
53+15	372.16	-6.00%	372.76	370.96
53+25	372.08	-5.60%	372.68	370.99
53+50	371.87	-4.60%	372.47	371.07
53+75	371.67	-3.60%	372.27	371.15
53+85	371.59	-3.20%	372.19	371.19
END C&G RT.				

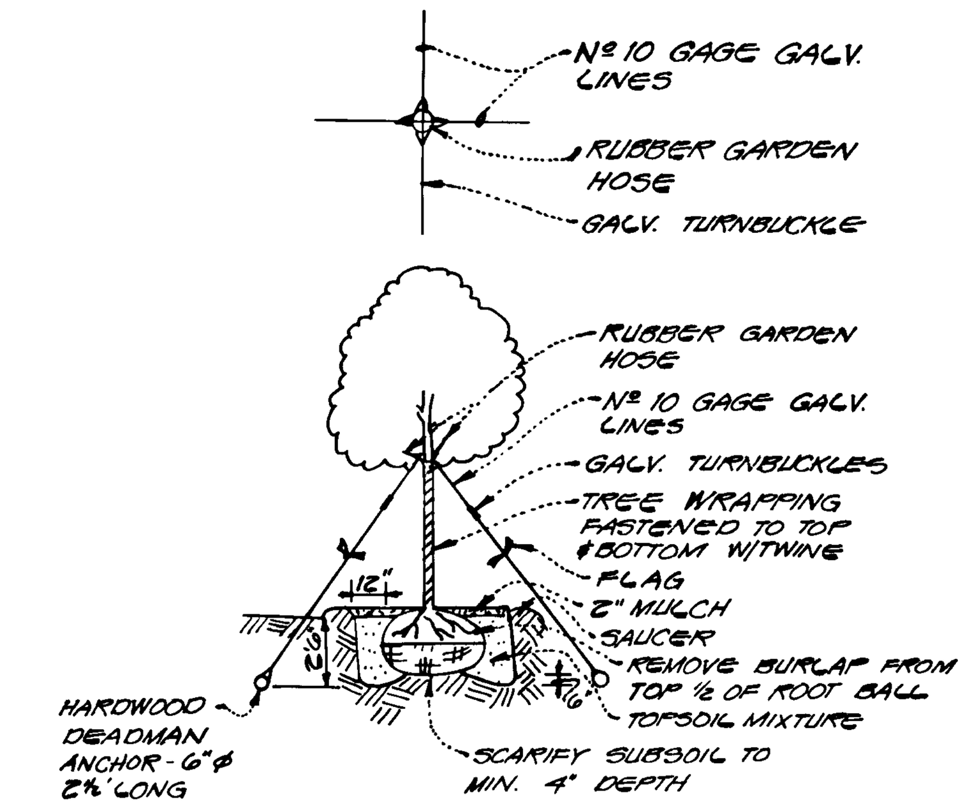


ROBERT FULTON DRIVE (50 MPH DESIGN SPEED)												
	FROM	TO	A	B	C	D	E	F	G	H	PAVING SECTION	Cross Slope
part two	18+25	19+75	← VARIES →								P5 OR P5 ALT.	2%
part two	19+75	23+05	SEE	DETAIL		ON	SHEET		6			3%
part two	23+05	24+55	VARIES	18'	30'	← VARIES →			18'	VARIES		2%
part one	24+55	30+65	VARIES	18'	30'	← VARIES →		38'	18'	VARIES		
part one	30+65	+00	9'	18'	38'	10'	16'	26'	18'	15'		
part one	33+00	37+00	← Varies →			10'	16'	← Varies →				Varies
part one	37+00	38+42	4'	6'	26'	10'	16'	26'	6'	4'		3%
part one	38+42	40+33	← Varies →									Varies

*Note: Landscaped Median shall not hinder sight distances @ intersections

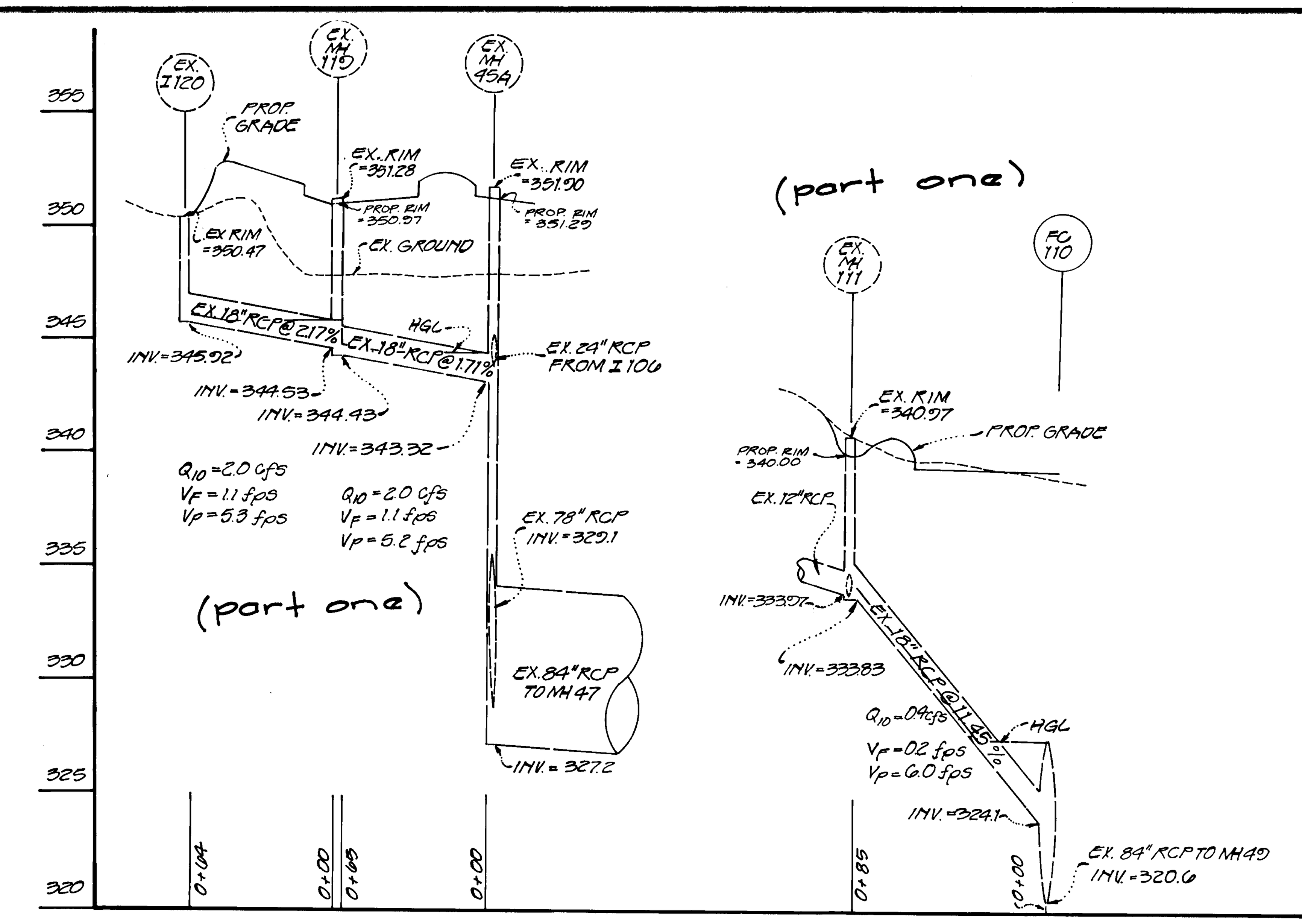


ROBERT FULTON DRIVE (50 MPH DESIGN SPEED)
(STA. 37+00 TO STA. 38+42)
Not to Scale
(part one)



TYPICAL TREE GUYING

NOTE: CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND UTILITIES PRIOR TO DIGGING FINAL LOCATIONS OF TREES MAY BE ADJUSTED SLIGHTLY TO ACCOMODATE FIELD CONDITIONS PLANTING PROCEDURES SHALL COMPLY WITH "LANDSCAPE SPECIFICATIONS FOR THE BALTIMORE-WASHINGTON METROPOLITAN AREAS." SUBSTITUTIONS TO THE ABOVE SPECIES MAY BE PERMITTED, PROVIDED THAT THE PLANTING IS IN ACCORDANCE WITH THE STREET TREE AND LANDSCAPE REQUIREMENTS AS SPECIFIED IN SECTION 16.131 OF THE HOWARD COUNTY SUBDIVISIONS REGULATIONS.



STREET TREES: THE LOCATION, TYPE AND NUMBER OF TREES SHOWN ON THESE PLANS ARE TENTATIVE AND ARE USED FOR BOND PURPOSES ONLY. THE FINAL LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMADATE FIELD CONDITIONS AND BUILDERS LANDSCAPE PROGRAM. BOND RELEASE IS CONTINGENT UPON SECTION 16.131 OF THE HOWARD COUNTY SUBDIVISION AS APPROVED BY THE DEPT. OF PLANNING AND ZONING. APPROVAL BY THE DEPT OF PLANNING AND ZONING IS REQUIRED PRIOR TO ANY CHANGE OF ANY TYPE OR LOCATION OF TREES SHOWN ON THESE PLANS.					
QUAN.	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	
72	ACER RUBRUM	RED MAPLE	2½" - 3"	B&B	

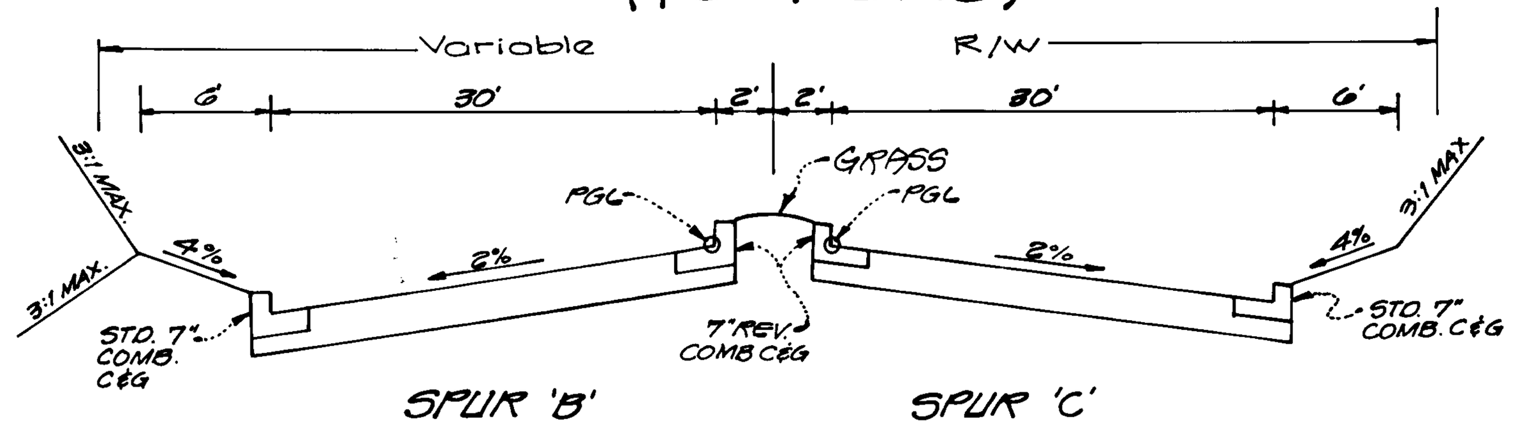
STORM DRAIN PROFILES

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

Note: storm drain field connections shall be in accordance with std. det. S.D. 2.01 Ex. MH's and inlets are to be adjusted to meet proposed grades. Ex. 84" drainage system to be dedicated to Howard Co. under separate Contract F 92-1000 All other Ex. Storm Drains shown as public will be dedicated with this contract.

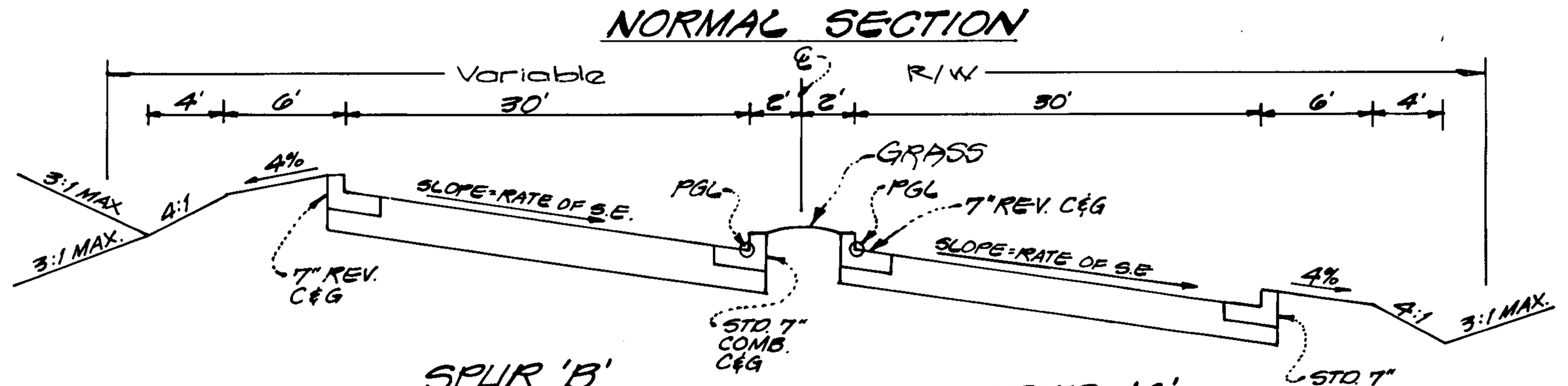
All existing storm drains are a minimum of Class III.

SPUR 'B' & 'C' CROSS SECTIONS
(part one)



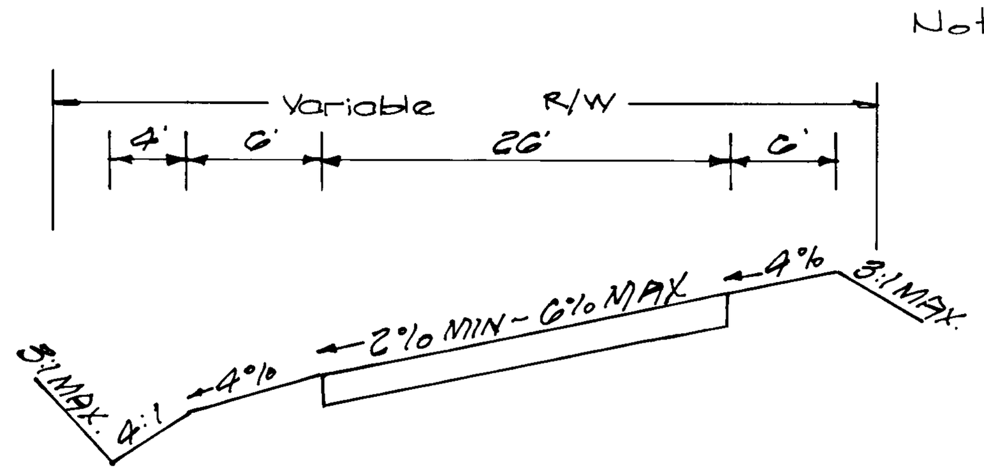
SPUR 'B' SPUR 'C'

NORMAL SECTION

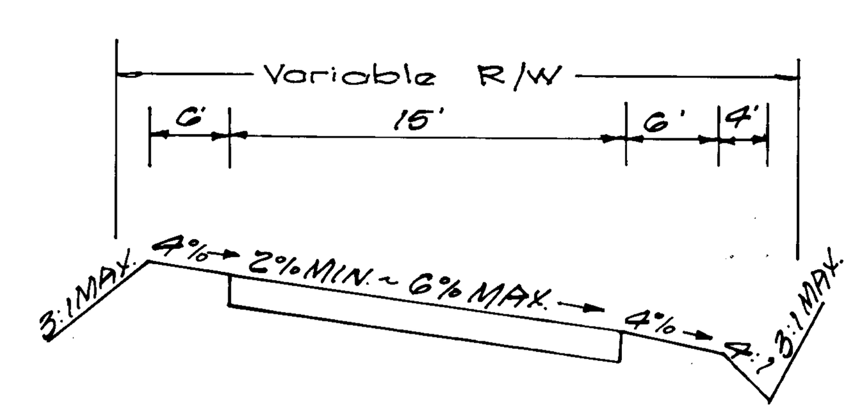


SPUR 'B' SPUR 'C'

SUPER ELEVATED SECTION
Not to Scale



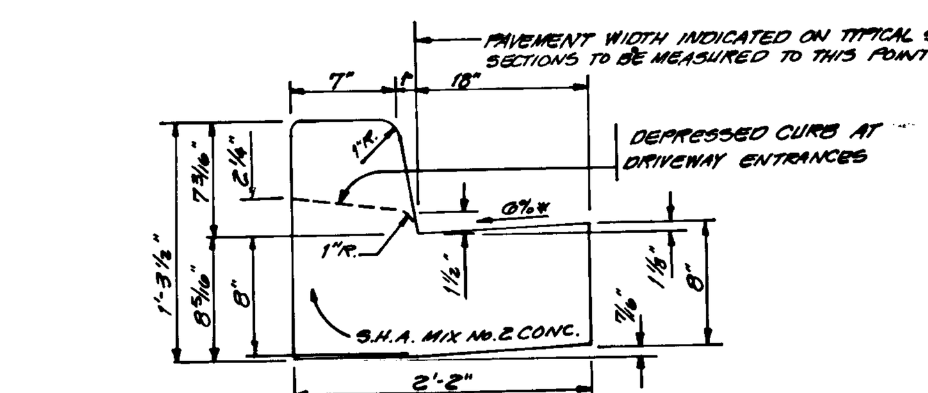
SPUR A SECTION
Not to Scale
(part one)



SPUR 'D' SECTION
Not to Scale
(part one)

Note: Spur roads A, B, C & D shall be resurfaced prior to dedication

* OR APPROVED EQUIVALENT



STANDARD 7" COMBINATION CURB & GUTTER

* GUTTER PAN AT THE 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.

STREET LIGHT SCHEDULE			
LOCATION	LAMP TYPE	MOUNTING	POLE TYPE
℄ STA. 24+00 56' RT.; ROBERT FULTON DRIVE	250 W - HIGH PRESSURE SODIUM VAPOR	PENDANT	BRONZE POLE AND TRANSFORMER BASE. 30' HT.
℄ STA. 27+50 57' LT.; ROBERT FULTON DRIVE	" "	" "	" "
℄ STA. 32+50 49' RT.; ROBERT FULTON DRIVE	" "	" "	" "
℄ STA. 35+50 55' LT.; ROBERT FULTON DRIVE	" "	" "	" "

Approved
Department of Public Works

[signature] 9/3/92
Chief, Land Development Div. M.K. Date

[signature] 9/3/92
Chief, Bureau of Highways Date

[signature] 9.3.92
Chief, Bureau of Engineering Date

Approved
Department of Planning and Zoning
[signature] 9/14/92
Chief, Division of Community Planning and Land Development Date

[seal: STATE OF MARYLAND — CARLTON K. GUTSCHICK — 12975 — REGISTERED PROFESSIONAL ENGINEER]
[signature]
CARLTON K. GUTSCHICK
PROFESSIONAL ENGINEER
MD. REG. No. 12975

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE · SUITE 250 · BURTONSVILLE OFFICE PARK · BURTONSVILLE, MD. 20866
TELEPHONE: (301)421-4024 NO.VA. (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186

DATE	REVISION	BY	APP'R.
3-1-94	separate into part 1 & part 2	mcf.	
3-17-93	CORR. RIM ELEV. ON PROFILES	ASC/HK	
7-20-92	ADDRESSED HO. CO. COMMENTS	ASC	
6-4-92	BID SET	—	

PREPARED FOR:
The Howard Research & Development Corp.
The Rouse Building
10275 Little Patuxent Pkwy.
Columbia, Maryland 21044
(410) 992-6027

DETAILS & EXISTING STORM DRAIN PROFILES

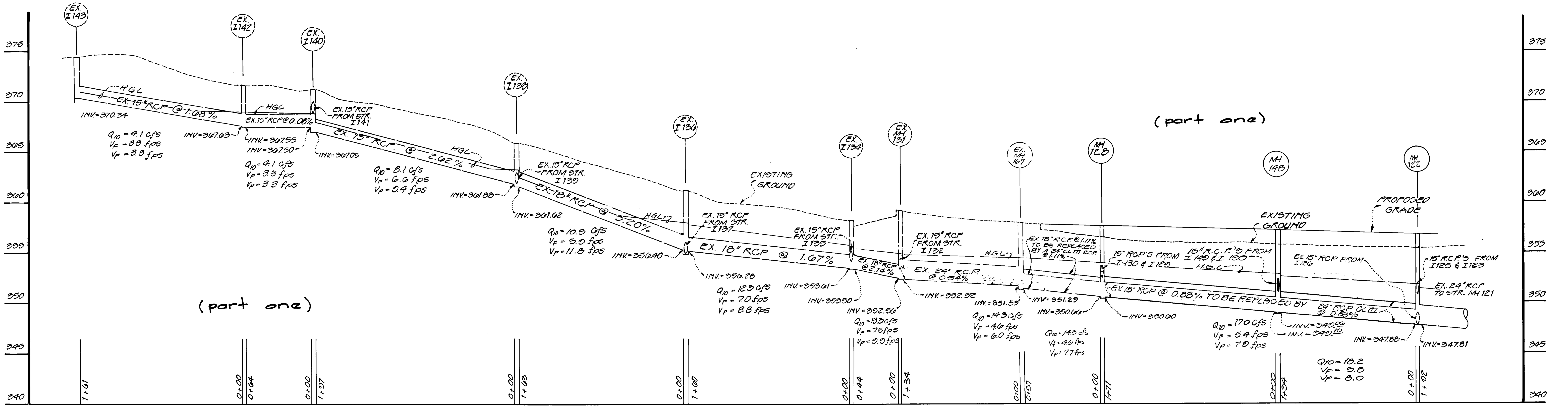
Gateway Comerce Center
ROBERT FULTON DRIVE

6th Election District Howard County, Maryland

DES.: ASC	SCALE	ZONING	G.L.W. FILE No.
DRN.: HK	AS SHOWN	B2/M-1	91-055
CHK.: CKG	DATE	TAX MAP No.	SHEET
	JUNE 4, 1992	42	7 OF 13

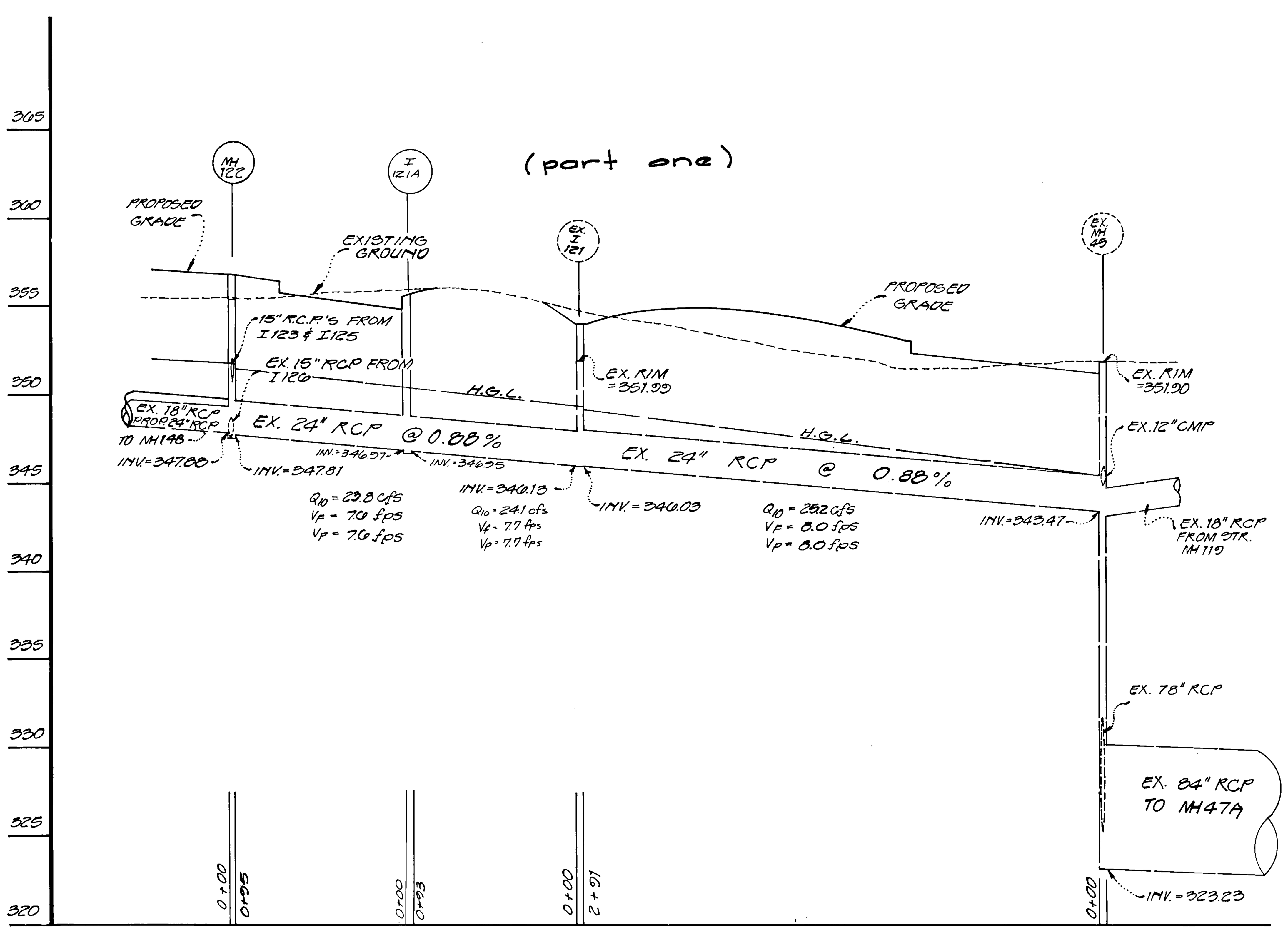
F-92-136

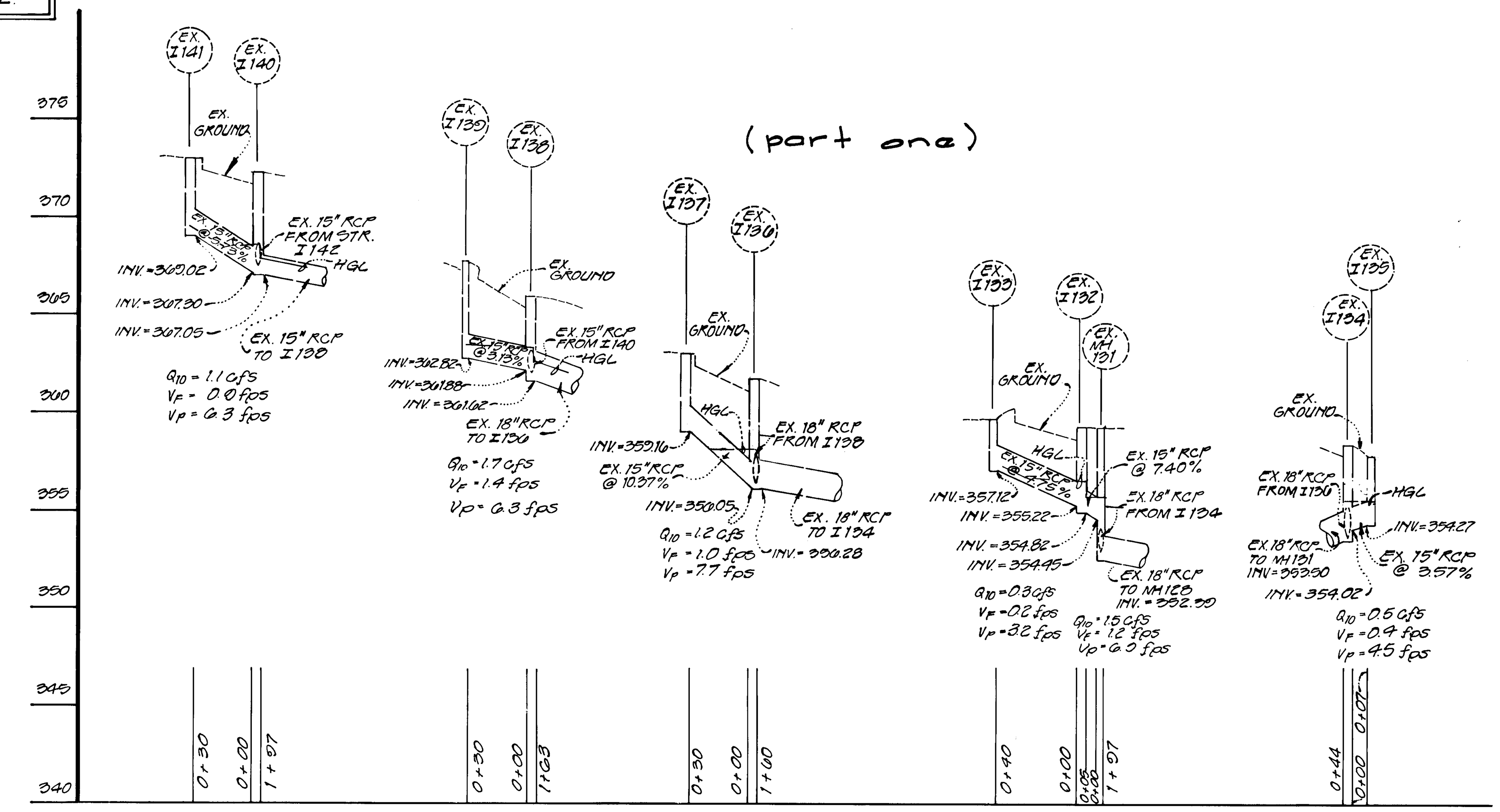
163277



STORM DRAIN PROFILES

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





Note:
All existing storm drains are a minimum of Class III.

Approved
Department of Public Works

Chief, Land Development Division Date 9/1/92

Chief, Bureau of Highways Date 9/4/92

Chief, Bureau of Engineering Date 9-3-92

Approved
Department of Planning and Zoning

Chief, Division of Community Planning and Land Development Date 9/14/92

CARLTON K. GUTSCHICK
PROFESSIONAL ENGINEER
MD. REG. No. 12575

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS
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TELEPHONE: (301)421-4024 NO.VA. (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186

DATE	REVISION	BY	APP'R.
3-1-94	separate into part 1 & part 2	mcf	
3-17-93	ADD MH 167 & I 121A	ASC/ak	
7-20-92	ADDRESSED HO. CO. COMMENTS	ASC	
6-4-92	BID SET	—	

PREPARED FOR:
The Howard Research & Development Corp.
The Rouse Building
10275 Little Patuxent Parkway
Columbia, Maryland, 21044
(410) 992-6027

Storm Drain Profiles

Gateway Commerce Center
A Resubdivision of Parcel A-11

6th Election District — Howard County, Maryland

DES.: A.S.C.	SCALE: AS SHOWN	ZONING: M-1/B-2	G.L.W. FILE No.: 91-055
DRN.: C.M.B.	DATE: JUNE 4, 1992	TAX MAP No.: 42	SHEET: 8 OF 13
CHK.: CKG			

F-92-136

NOTE: FOR STRUCTURES 151 THRU 166 SEE SCHEDULE ON SHEET 10.

STRUCTURE SCHEDULE

F.C.C. AS-BUILT No.	STR. #	TYPE	TOP ELEV.		INVERTS		REMARKS	LOCATION ①
			UPPER	LOWER	IN	OUT		
——	FC 100	FIELD CONN.	——	——	319.1	315.6	HC SD 2.01	23+15, 4'R.
——	I 101	A-10	330.20	330.20	——	325.26	HC SD 4.02	23+27.50, 50.05'L.
——	FC 102	FIELD CONN.	——	——	319.9	315.7	HC SD 2.01	23+27.50, 4'R.
——								
——	I 104	A-10	330.75	330.75	——	326.99	HC SD 4.02	23+27.50, 47.09'R
——	FC 105	FIELD CONN.	——	——	320.6	317.1	HC SD 2.01	25+55, 1'R.
——	I 106	A-10	334.32	334.05	324.70	323.25	HC SD 4.02	25+73.98, 50.80'L.
——	I 107	'S' INLET W/ MOD. 'D' TOP	332.00	——	——	327.00	HC. SD 4.11	25+25, 85'L. (4 OPENINGS)
——	FC 108	FIELD CONN.	——	——	320.7	317.2	HC SD 2.01	25+70, 0'R.
——	I 109	A-10	334.36	334.10	——	326.12	HC SD 4.02	25+73.49, 47.80'R.
——	EX. FC110	FIELD CONN.	——	——	324.1 ⑤	320.6 ⑤	HC SD 2.01	27+56, 5'R.
3205	EX. I 111	MANHOLE	340.00	——	333.97	333.83	②	27+90, 74'L.
——	112	STUB	——	——	——	329.93	——	27+27, 75'R.
——	MH 113	MANHOLE	338.02	——	329.60 / 332.25	327.00	HC G 5.03	27+13, 27'R.
——	I 114	'D' INLET	341.00	——	337.86	337.36	HC SD 4.11	28+42, 67'R.
——	I 115	A-10	342.90	342.58	338.84	338.34	HC SD 4.02	28+65, 44.5'R.
——	I 116	A-10	350.74	350.51	——	346.78	HC SD 4.02	31+55, 42'R.
——	FC 117	FIELD CONN.	——	——	330.0	326.5	HC SD 2.01	30+08, 40'R.
——	I 118	A-10	346.98	346.67	——	338.68	HC SD 4.02	30+05, 48'L.
3165	EX. MH119	MANHOLE	350.97	——	344.53	344.43	③	31+90, 33'L.
3166	EX. I 120	MANHOLE	350.47	——	——	345.92	②	32+08, 102'L.
——	EX. I 121	MANHOLE	354.00	——	346.18 ⑤	346.03 ⑤	②	34+80, 83'R.
3151	MH122	MANHOLE	356.90	347.83	347.88 / 345.17 / 350.87	347.81	HC SD 5.01	36+62, 5'R.
——	I 123	A-10	355.82	355.77	351.37	351.27	HC SD 4.02	36+80, 42'R.
——	I 124	'K' W/GRATE	354.00	——	——	351.50	HC SD 4.12	36+85, 60'R.
——	I 125	A-10	356.14	356.09	351.93	351.83	HC SD 4.16	37+20, 36'L.
——	Ex. I 126	MANHOLE	353.00	——	——	348.25	②	36+59, 78'L
——	I 127	'K' W/GRATE	355.00	——	——	352.50	HC SD 4.12	37+80, 51'L.
——	MH 128	MANHOLE	358.60	——	352.73 / 352.73 / 350.66	350.60	HC G 5.01	39+75, 0'R.
——	I 129	A-10	357.75	357.69	——	353.93	HC SD 4.02	40+23, 31.7'R.
——	I 130	A-10	357.73	357.67	——	353.93	HC SD 4.02	40+23, 32.4'L.
——	EX. MH131	MANHOLE	359.24	——	354.45 / 352.36	352.32	HC G 5.01	41+73.02, 0'R.
——	EX. I 132	DBL. 'S' COMB.	359.34	359.25	355.22	354.82	HC SD 4.34	41+84.02 SPUR 'B', 2'L
——	EX. I 133	'K' W/GRATE	359.76	——	——	357.16	HC SD 4.12	42+08.02 SPUR 'B', 42'L
——	EX. I 134	DBL. 'S' COMB.	358.35	358.35	354.02 / 353.61	353.50	HC SD 4.34	42+13.02 SPUR 'A', 32'R.
——	EX. I 135	'K' W/GRATE	357.76	——	——	354.27	HC SD 4.12	42+13.02 SPUR 'A', 42'R.
——	EX. I 136	DBL. 'S' COMB.	361.27	361.15	356.40 / 356.05	356.28	HC SD 4.34	43+98.02 SPUR 'A', 32'R.
——	EX. I 137	DBL. 'S' COMB.	363.19	362.96	——	359.16	HC SD 4.34	43+98.02 SPUR 'B', 2'L.
——	EX. I 138	DBL. 'S' COMB.	366.07	365.77	361.88 / 361.88	361.62	HC SD 4.34	45+88.02 SPUR 'A' 32'R.
——	EX. I 139	DBL. 'S' COMB.	367.87	367.68	——	362.82	HC SD 4.34	45+88.02 SPUR 'B' 2'L.
——	EX. I 140	DBL. 'S' COMB.	371.40	371.23	367.50 / 367.30	367.05	HC SD 4.34	48+18.02 SPUR 'A', 32'R.
——	EX. I 141	DBL. 'S' COMB.	373.18	372.98	——	369.02	HC SD 4.34	48+18.02 SPUR 'B', 2'L.
——	EX MH142	MANHOLE	371.75	——	367.63	367.55	③	49+68.02 SPUR 'A', 42'R.
——	EX. I 143	DBL. 'S' COMB.	374.65	374.49	——	370.34	HC SD 4.34	51+18.22 SPUR 'A', 32'R.
——	EX. S144	'C' ENDWALL	——	——	365.97	——	HC SD 5.21	53+78.02 SPUR 'B', 47'L.
——	EX. I 145	DBL. 'S' COMB.	370.77	370.77	366.22 / 366.20	366.09	HC SD 4.34	53+78.02 SPUR 'B', 32'L.
——	EX. I 146	DBL. 'S' COMB.	374.06	374.06	——	369.81	HC SD 4.34	81+09 SNOWDEN RIVER PKY.
——	EX. I 147	'C' ENDWALL	——	——	——	367.30	HC SD 5.21	53+25.02 SPUR 'B', 14'R.
2828	EX. MH 70	MANHOLE	331.80	——	——	——	③	19+42, 6'R
3227	EX. MH65A	MANHOLE	332.90	——	——	——	③	29+60, 3'R
3217	EX. MH49	MANHOLE	338.16	——	——	——	③	27+05, 8'R
3192	EX. MH47A	MANHOLE	343.30	——	——	——	③	28+97, 37'R
3164	EX. MH45	MANHOLE	351.29	——	——	——	③	31+95, 22'R.
——	MH 148	MANHOLE	357.70	——	351.35 / 351.35 / 349.10	349.06	HCG 5.01	38+00, 3'R.
——	I 149	A-10	356.70	356.65	——	352.00	HC SD 4.02	38+55, 42'R.
——	I 150	A-10	356.82	356.77	——	352.00	HC SD 4.02	38+55, 36'L.

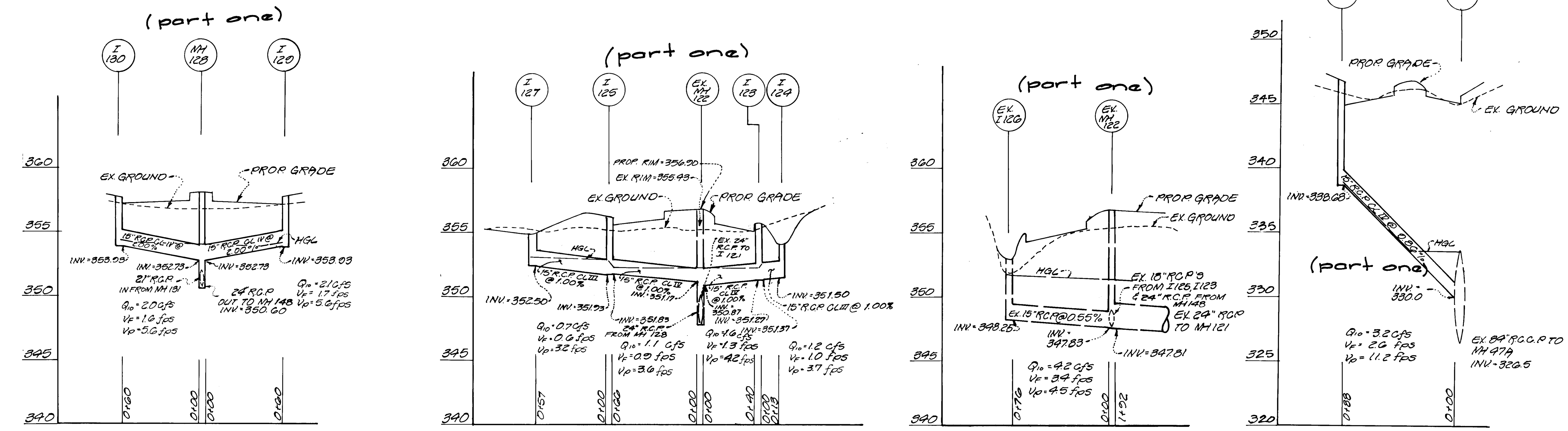
(Margin brackets beside the schedule: part two (FC 100 – EX. FC110); part one (EX. I 111 – EX. I 147); ④ (EX. MH131 – EX. I 147); part two (EX. MH 70); part one (EX. MH65A – I 150).)

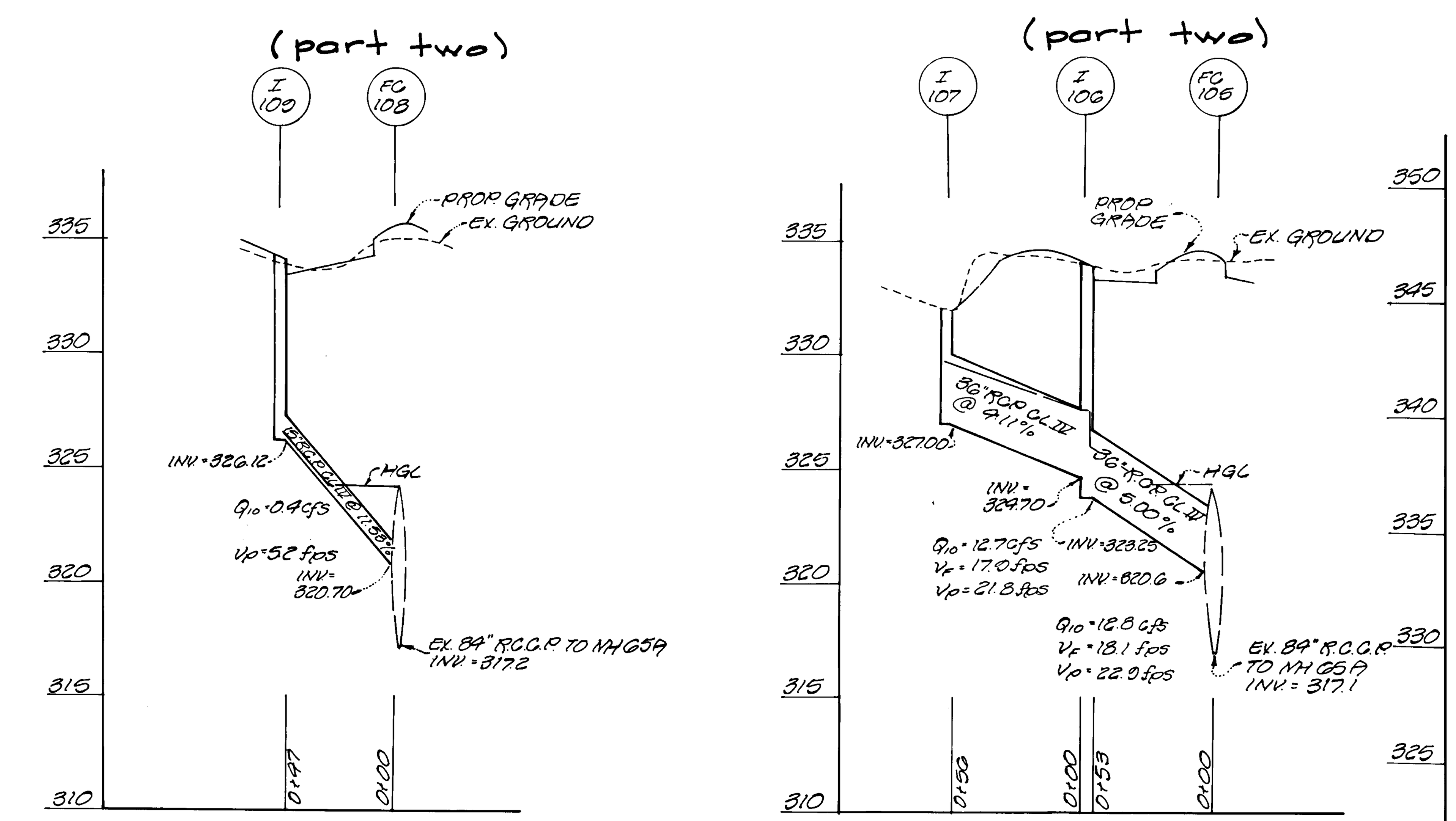
① LOCATIONS ARE GIVEN TO THE ℄ OF THE STRUCTURE.
② STRUCTURE IS AN EXISTING MANHOLE WITH A GRATE TOP. THE GRATE TOP IS TO BE REPLACED WITH A 'D' INLET TOP (HC SD 4.11) WITH 4 OPENINGS AT THIS ELEVATION.
③ EXISTING GRATE TOP IS TO BE REPLACED WITH A MANHOLE TOP (HC G 5.01/5.03) AT THIS ELEVATION.
④ ELEVATIONS ARE AS-BUILT PER FIELD RUN TOPO BY G.L.W., P.A.
⑤ ASSUMED

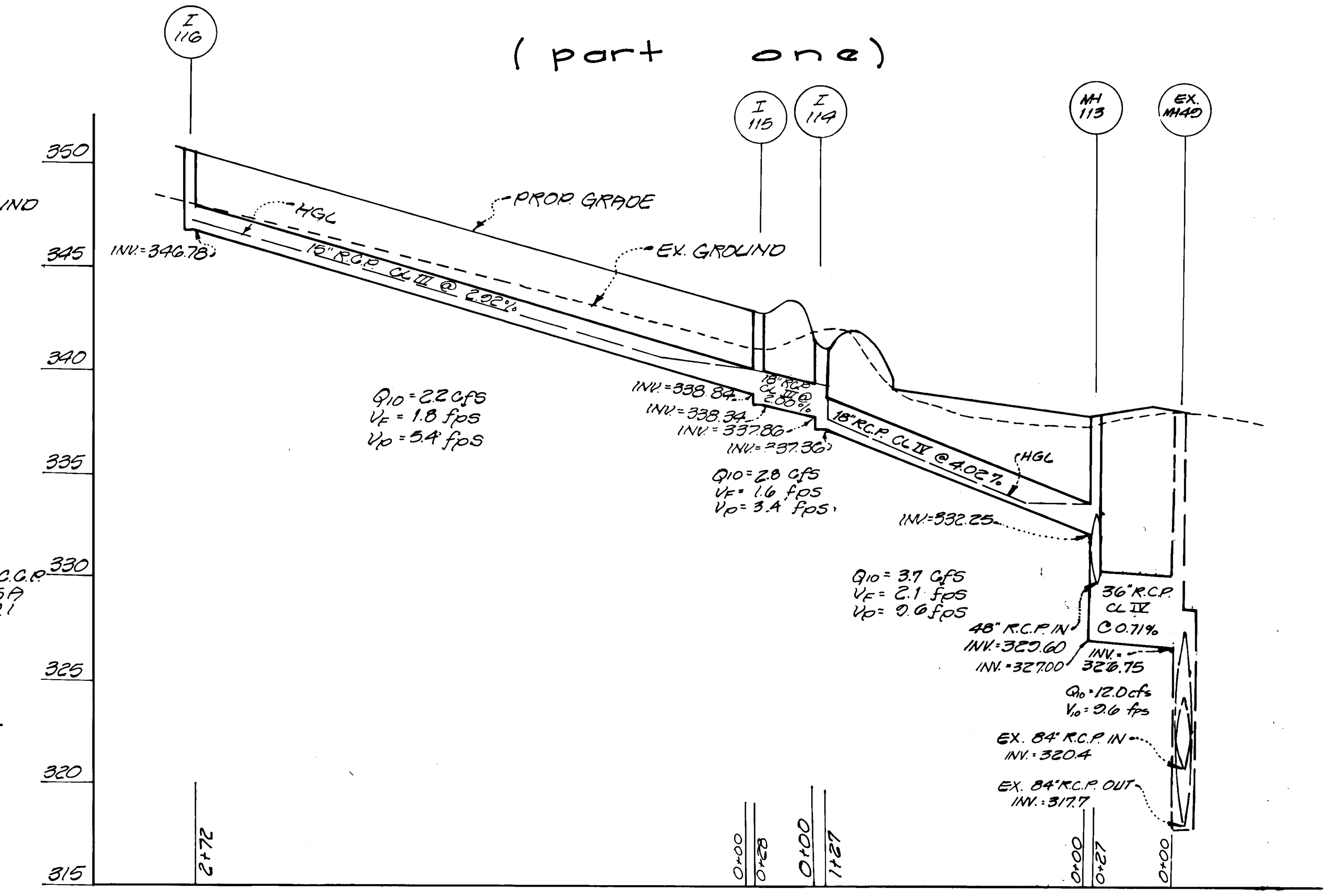
BRICK OR PRECAST MAY BE USED FOR ALL STRUCTURES

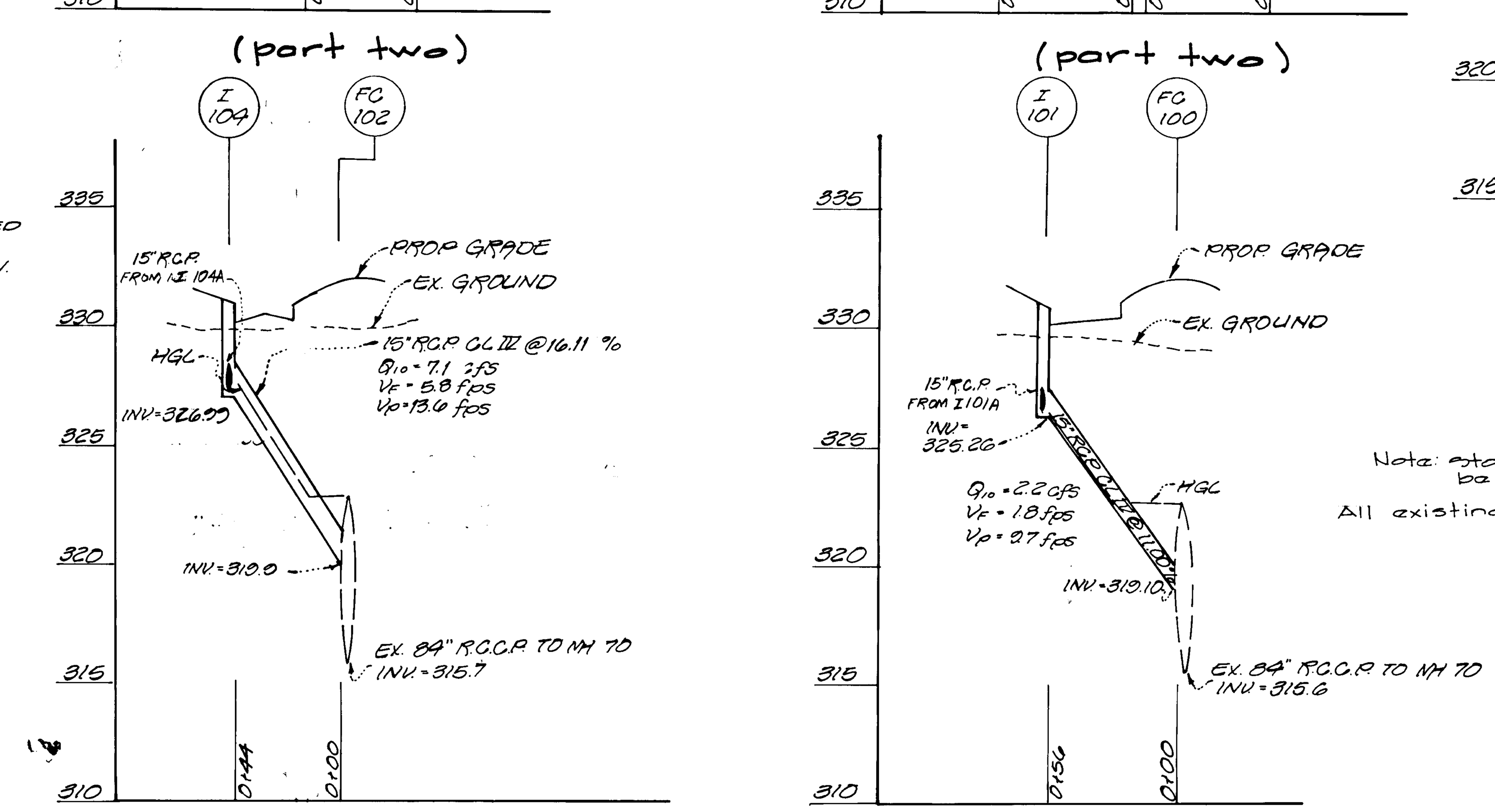
PIPE SCHEDULE FOR PROPOSED STORM DRAIN (part one & part two)

SIZE	TYPE	LENGTH
15"	RCP CL III	342 L.F.
15"	RCP CL IV	591 L.F.
18"	RCP CL IV	141 L.F.
24"	RCP CL III	36 L.F.
30"	RCP CL IV	110 L.F.
48"	RCP CL IV	74 L.F.









Note: storm drain field connections shall be in accordance with std. det. SD 2.01

All existing storm drains are a minimum of Class III.

Approved
Department of Public Works

[signature]	9/3/92
Chief, Land Development Div.	Date
[signature]	8/24/92
Chief, Bureau of Highways	Date
[signature]	9.3.92
Chief, Bureau of Engineering	Date

Approved
Department of Planning and Zoning

[signature]	9/14/92
Chief, Division of Community Planning and Land Development	Date

STATE OF MARYLAND — CARLTON K. GUTSCHICK — REG. No. 12975 — PROFESSIONAL ENGINEER

[signature]
CARLTON K. GUTSCHICK
PROFESSIONAL ENGINEER
MD. REG. No. 12975

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE · SUITE 250 · BURTONSVILLE OFFICE PARK · BURTONSVILLE, MD. 20866
TELEPHONE: (301)421-4024 NO.VA. (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186

DATE	REVISION	BY	APP'R.
3-1-94	separate into part 1 & part 2	mcf.	
3-17-93	LOWER PIPE 113 TO 49, REMOVE 103, MINOR NUMBER CORRECTIONS	ASC/HK	
7-20-92	ADDRESSED HO. CO. COMMENTS	ASC	
6-4-92	BID SET	——	——

PREPARED FOR:
The Howard Research & Development Corp.
The Rouse Building
10275 Little Patuxent Pkwy.
Columbia, Maryland 21044
(410) 992-6027

Storm Drain Profiles

Gateway Commerce Center

ROBERT FULTON DRIVE

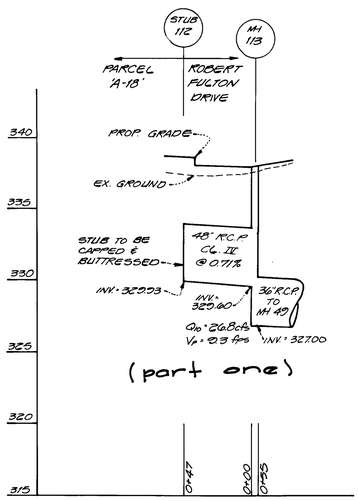
6th Election District — Howard County, Maryland

DES.: A.S.C.	SCALE: AS SHOWN	ZONING: M-1/B-2	G.L.W. FILE No.: 91-055
DRN.: HK/CH	DATE: JUNE 4, 1992	TAX MAP No.: 42	SHEET: 9 OF 13
CHK.: CKG			

F-92-136

1158

163277

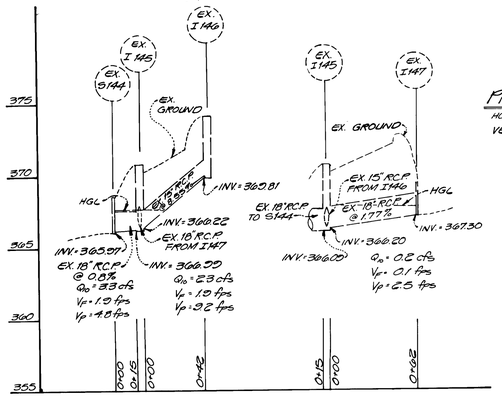


(part one)

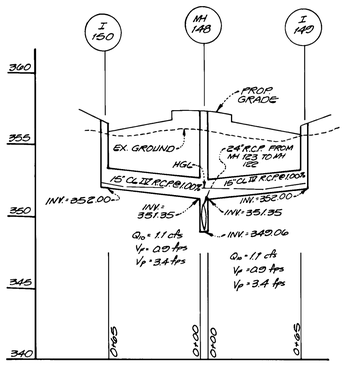
(part two)

STRUCTURE SCHEDULE

F.C.C. AS-BUILT NO.	STR.#	TYPE	TOP ELEV. UPPER	TOP ELEV. LOWER	INVERTS IN	INVERTS OUT	REMARKS	LOCATION
——	EX MH 167	MANHOLE	360.00	——	351.59	351.29	ADJUST RIM TO NEW ELEV.	40+32, 0'R
——	I 121A	A-10 INLET	355.34	355.23	346.97	346.95	H.C.SD 4.02	35+80, 42'R.
——	I 101A	'D' INLET	333.10	——	——	329.00	ONE SIDE OPEN	23+07.55½'R
——	I 104A	'D' INLET	333.10	——	——	329.00	ONE SIDE OPEN	23+07.55½'L



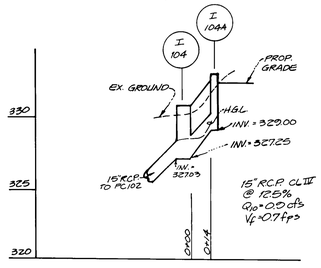
(part one)



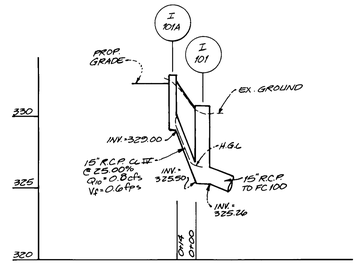
All existing storm drains are a minimum of Class III.

Ex. MH's and inlets are to be adjusted to meet prop. grades. Ex. 84" drainage system to be dedicated to Howard Co. under separate contract F 92-1000. All other existing storm drain shown as public will be dedicated with this contract.

(part two)



(part two)



PROFILE SCALE

HORZ: 1"=50'
VERT: 1"=5'

APPROVED
DEPARTMENT OF PUBLIC WORKS
CHIEF, LAND DEVELOPMENT DIV. — DATE 9/2/92
CHIEF, BUREAU OF HIGHWAYS — DATE 9/10/92
CHIEF, BUREAU OF ENGINEERING — DATE 9-8-92

APPROVED
DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 9/24/92

CARLTON K. GUTSCHICK
PROFESSIONAL ENGINEER
MD. REG. No. 12075

GLW GUTSCHICK LITTLE & WEBER, P.A.
ENGINEERS, PLANNERS, SURVEYORS
3909 NATIONAL DRIVE · SUITE 250 · BURTONSVILLE OFFICE PARK · BURTONSVILLE, MD. 20866
TELEPHONE: (301) 421-4024

DES. ASC | DRN. AK | CHK. CKG

DATE	REVISION	BY	APP'R.
3-1-94	separate into part 1 & part 2.	mcs	
3-17-93	ADD MH 167 I 121A, REV. INV. OUT MH 113, I 104A, I 101A	ASC/AK	
7-20-92	NEW SHEET	ASC	

PREPARED FOR:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
10275 LITTLE PATUXENT PKWY.
COLUMBIA, MARYLAND 21044
(410) 992-6027

STORM DRAIN PROFILES

GATEWAY COMMERCE CENTER

ROBERT FULTON DRIVE

6TH ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G.L.W. FILE No.
AS SHOWN	M-1/B-2	91-055
DATE	TAX MAP No.	SHEET
JUNE 4, 1992	42	10 OF 13

F-92-136

DRAINAGE AREA TABULATION

INLET NO	AREA (AC)	% IMPERVIOUS	% GRASS	'C' ①	INLET NO	AREA (AC)	% IMPERVIOUS	% GRASS	'C' ①
I101	1.1	20	80	0.30	I127	0.6	0	100	0.16
I103					I129	0.5	45	55	0.48
I104	2.6	35	65	0.41	I130	0.9	60	40	0.58
I106	1.0	40	60	0.44	I132	0.2	100	0	0.80
I107	32.0	80 ②	20	0.72	I133	0.2	0	100	0.16
I109	1.0	40	60	0.44	I134	0.1	100	0	0.80
I111	0.4	0	100	0.16	I135	0.5	0	100	0.16
I114	1.0	0	100	0.16	I136	0.7	20	80	0.30
I115	0.3	40	60	0.44	I137	0.2	75	25	0.68
I116	0.8	35	65	0.41	I138	0.8	20	80	0.30
I118	1.1	40	60	0.44	I139	0.3	70	30	0.65
I120	1.0	20	80	0.30	I140	1.7	20	80	0.30
I121	1.2	15	85	0.27	I141	0.2	70	30	0.65
I123	0.1	70	30	0.65	I143	1.5	35	65	0.41
I124	1.1	0	100	0.16	I145	0.3	75	25	0.68
I125	0.1	70	30	0.65	I146	0.4	76	25	0.68
I126	2.1	20	80	0.30	I147	0.2	0	100	0.16
I149	0.2	70	30	0.65	I150	0.2	70	00	0.65
STUB 112	26.8	——	——	——	——	——	——	——	——
I121A	0.2	50	50	0.51					

① SOILS: CHILLUM & SASSAFRAS (TYPE 'B')
C = 0.86 FOR IMPERVIOUS AREA
C = 0.16 FOR GRASS 2%-6% SLOPE
C = 0.21 FOR GRASS >6% SLOPE
② ASSUMED FOR FUTURE DEVELOPMENT

SEDIMENT TRAP NO. 1
STONE Sediment Trap

Drainage Area =
23 Ac. 23 Ac.
(Pre-Development) (Post-Development)

Storage Required = 23 (1800) = 41,400 cu.ft.
Storage Depth = 3 feet
Cleanout Elevation = 327.5
Outlet Elevation = 330.5
Bottom Elevation = 327.5
Side Slopes = 2:1
Surface Area @ Elevation 330.5 (*L.O.S.) = 20241 sq.ft.
Surface Area @ Elevation 327.5 (bottom) = 800 sq.ft.

WEIR LENGTH = 14'
EMBANKMENT ELEV. = 333.5

Volume Provided = $\frac{20241 + 800}{2} \times 3 = 41,236$

L.O.S. = Limit of Storage

SEDIMENT TRAP NO. 2
RIP RAP Sediment Trap

Drainage Area =
5.8 Ac. 32 Ac.
(Pre-Development) (Post-Development)

Storage Required = 5.8 (1800) = 10,440 cu.ft.
Storage Depth = 4 feet
Cleanout Elevation = 339.5
Outlet Elevation = 342.5
Bottom Elevation = 337.5
Side Slopes = 2:1
Surface Area @ Elevation 341.5 (*L.O.S.) = 3444 sq.ft.
Surface Area @ Elevation 337.5 (bottom) = 2,100 sq.ft.

WEIR LENGTH = 14'
EMBANKMENT ELEV. = 345.5

Volume Provided = $\frac{3444 + 2,100}{2} \times 4 = 11,088$

L.O.S. = Limit of Storage

LEGEND
EX. CONTOUR 360
GRADING FOR SEDIMENT CONTROL 340
FINAL CONTOUR
EX. STORM DRAIN
PROP. STORM DRAIN
EX. PAVEMENT
STABILIZED CONSTRUCTION ENTRANCE SCE
EARTH DIKE EO A-1
DRAINAGE DIVIDE
LIMIT OF DISTURBANCE
INLET PROTECTION I.P.
TEMPORARY INLET BLOCKING T.B.

TEMP SWALE TSA-1
MAX. DRAINAGE AREA TO SED. TRAP

BENCH MARKS SET BY GUTSCHICK, LITTLE & WEBER, P.A.
B.M. #5: NE CORNER OF TUNNEL WALL AT THE ANGLE POINT. ELEV. = 333.20
B.M. #7: SQUARE CUT ON RAIL AT END OF BRIDGE. ELEV. = 330.30
B.M. #8: SQUARE CUT INTO RIGHT FRONT CORNER OF CATCH BASIN, NE. CORNER OF INTERSECTION SNOWDEN RIVER PKWY. & SNOWDEN STATION DRIVE ELEV. = 360.91

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements.
U.S. Soil Conservation Service — Date 8/18/92

This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.
John R. Robertson 8/19/92
Howard S.C.D. — 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 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 4-15-92

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."
Date 4-15-92

Carlton K. Gutschick
Professional Eng.
Md. Reg. No. 12975

Approved
Department of Public Works
Chief, Land Development Div. — Date 9/3/92
Chief, Bureau of Highways — M.K. — Date 9/24/92
Chief, Bureau of Engineering — Date 9-3-92

Approved
Department of Planning and Zoning
Chief, Division of Community Planning and Land Development — Date 9/4/92

MATCH LINE SEE SHEET 12

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE · SUITE 250 · BURTONSVILLE OFFICE PARK · BURTONSVILLE, MD. 20866
TELEPHONE: (301)421-4024 NO.VA. (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186

DATE	REVISION	BY	APP'R.
3.1.94	separate into part 1 & part 2.	mcf.	
3-17-93	REV. DA'S 103,104,116,121A ADD DIST. AREA UNDER RR BRIDGE	ASC/MC	
7.20.92	ADDRESSED HD CO. COMMENTS	ASC	
6-9-92	BID SET		

PREPARED FOR:
The Howard Research & Development Corp.
The Rouse Building
10275 Little Patuxent Parkway
Columbia, Maryland 21044
Phone: (410)-992-6027

GRADING AND SEDIMENT CONTROL PLAN AND DRAINAGE AREA MAP

Gateway Commerce Center
ROBERT FULTON DRIVE
6th Election District, Howard County, Maryland

DES.: ASC	SCALE 1"=50	ZONING M-1/B-2	G.L.W. FILE No. 91-055
DRN.: HK/MCF	DATE JUNE 4, 1992	TAX MAP No. 42	SHEET 11 OF 13
CHK.: CKG			

183277

F-92-136

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

U.S. Soil Conservation Service — Date 8/19/92

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

Howard S.C.D. — Date 8/19/92

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 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 4-15-92

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."

Date 4-15-92

Approved
Department of Public Works

Chief, Land Development Div. — Date 9/3/92
M.K.
Chief, Bureau of Highways — Date 8/24/92
Chief, Bureau of Engineering — Date 9-3-92

Carlton K. Gutschick
Professional Eng.
Md. Reg. No. 12975

Approved
Department of Planning and Zoning
Chief, Division of Community Planning and Land Development — Date 9/14/92

1158

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE · SUITE 250 · BURTONSVILLE OFFICE PARK · BURTONSVILLE, MD. 20866
TELEPHONE: (301)421-4024 NO.VA. (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186

183277

DATE	REVISION	BY	APP'R.
3-1-94	separate into part 1 & part 2	mcf	
3-17-93	ADD MH 107, I 121A	ASC/HK	
7-20-92	ADDRESSED HO. CO. COMMENTS	ASC	
6-4-92	BID SET	—	—

PREPARED FOR:
The Howard Research & Development Corp.
The Rouse Buildings
10275 Little Patuxent Parkway
Columbia, Maryland 21044
Phone: (410)-992-6027

GRADING AND SEDIMENT CONTROL PLAN AND DRAINAGE AREA MAP

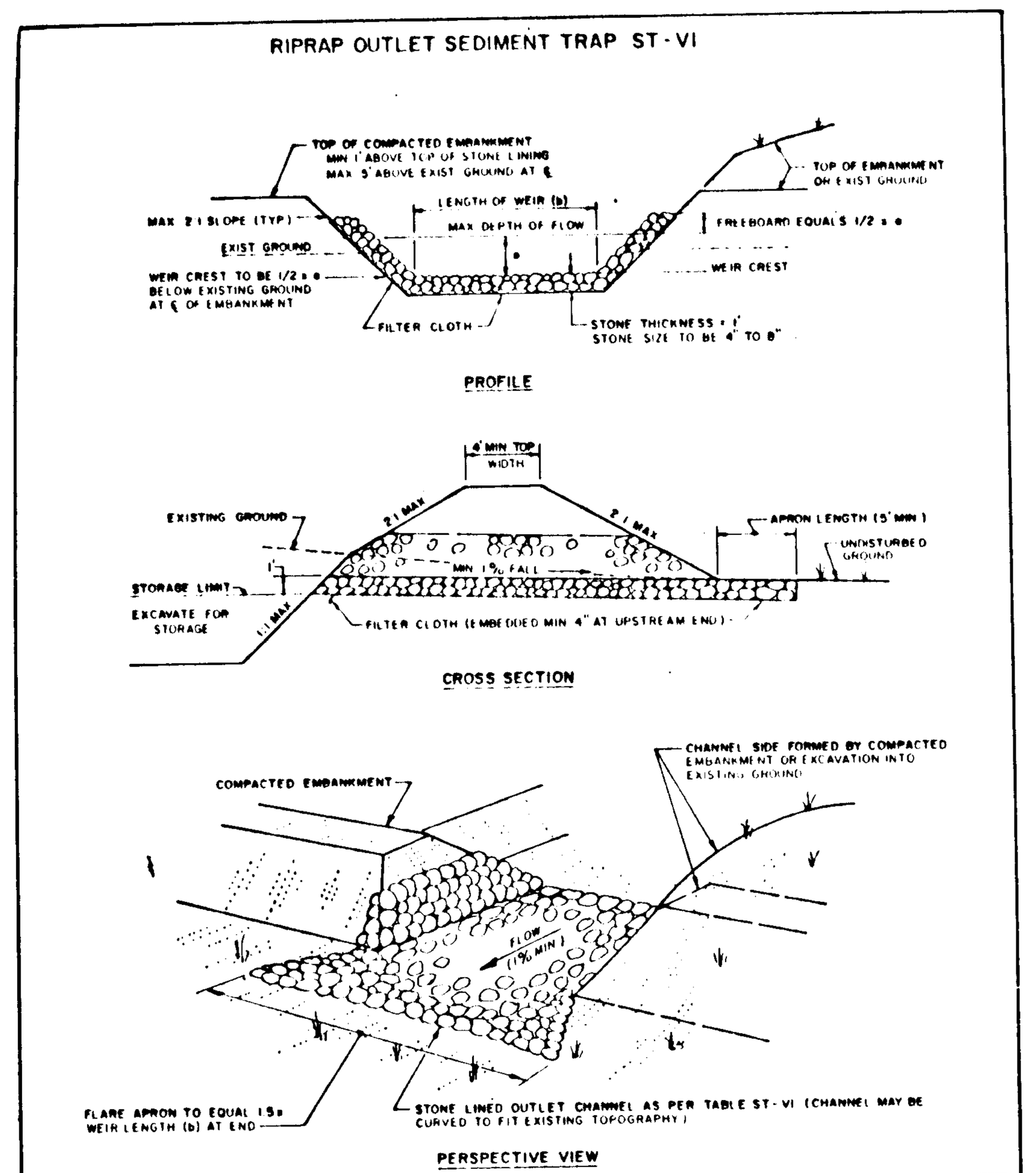
Gateway Commerce Center

ROBERT FULTON DRIVE
6th Election District, Howard County, Maryland

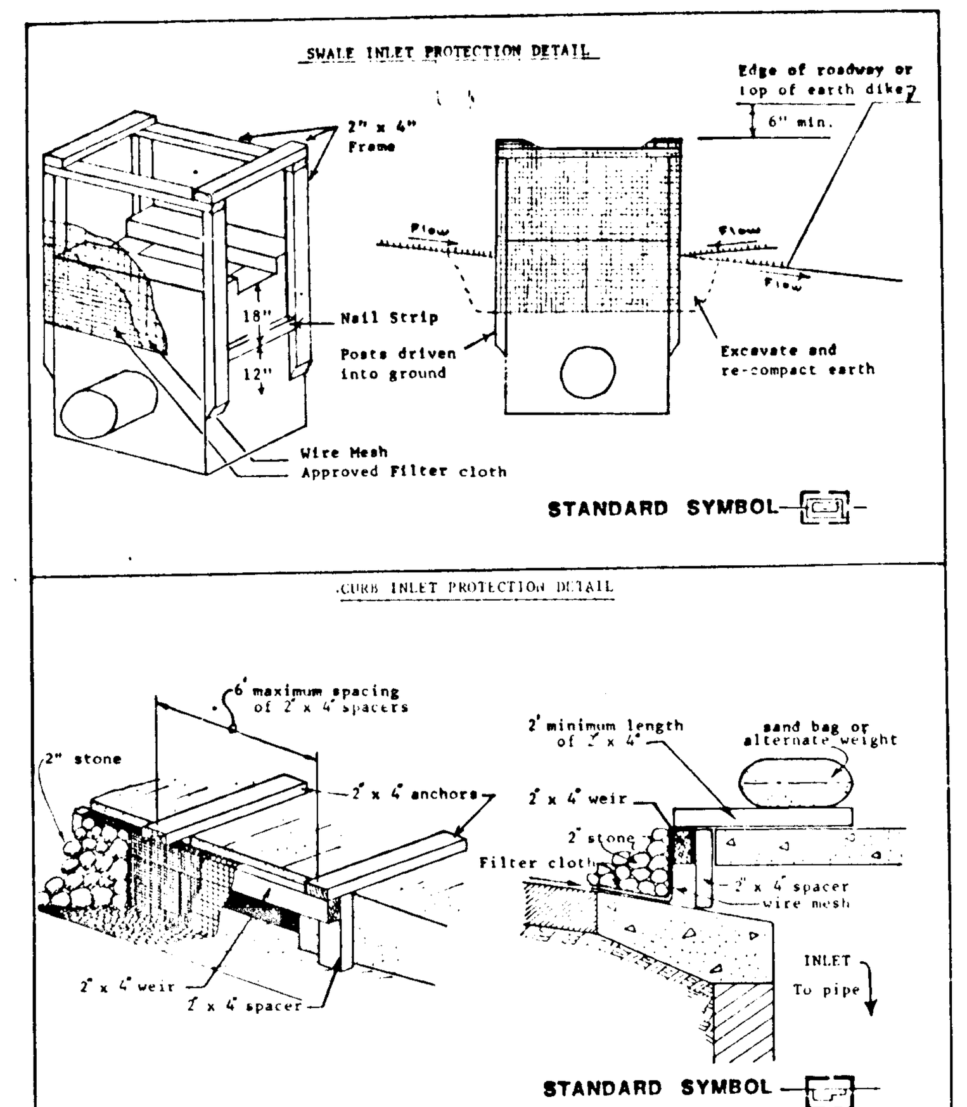
DES.: ASC	SCALE 1" = 50'	ZONING M-1/B-2	G.L.W. FILE No. 91-055
DRN.: HK/MCF	DATE JUNE 4, 1992	TAX MAP No. 42	SHEET 12 OF 13
CHK.: CKG			

F-92-136

RIPRAP OUTLET SEDIMENT TRAP ST-VI



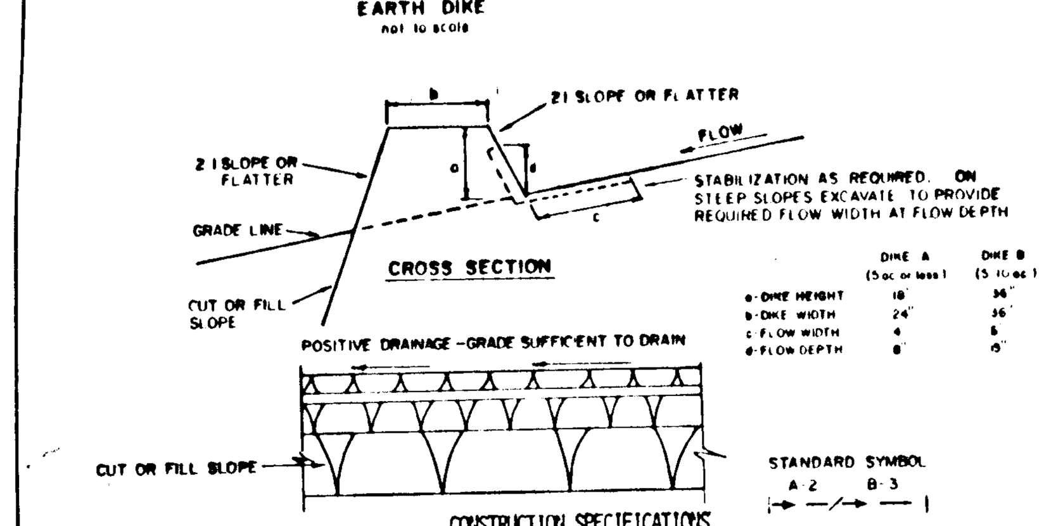
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	RIPRAP OUTLET SEDIMENT TRAP	STANDARD DRAWING ST-VI



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	INLET PROTECTION DETAIL	STANDARD DRAWING IPD-1

21.04

EARTH DIKE
not to scale



CONSTRUCTION SPECIFICATIONS

1. ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
3. TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
5. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. RUNOFF SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
6. STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.

FLOW CHANNEL STABILIZATION

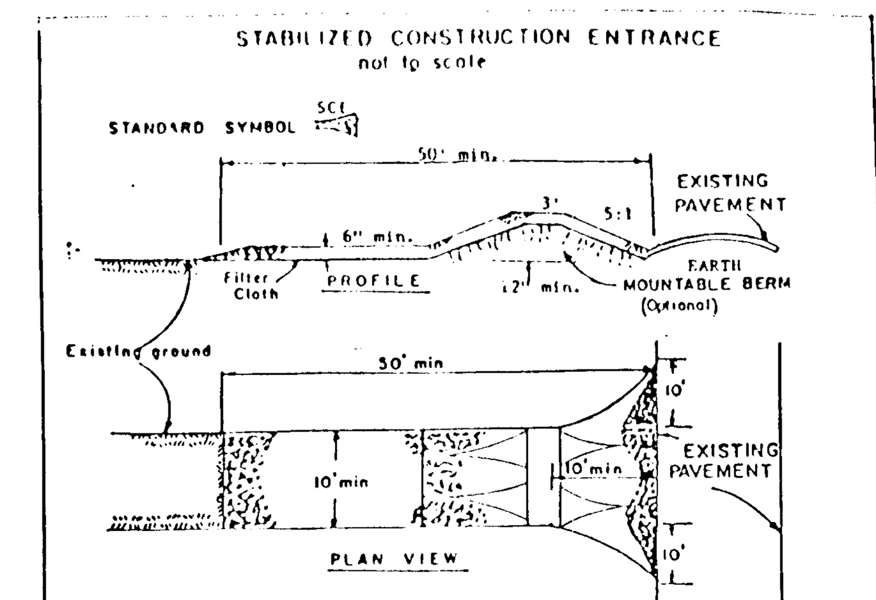
TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCELSIOR; SOD; 2" STONE
3	5.1-8.0%	SEED WITH JUTE, OR SOD; 2" STONE	LINED RIP-RAP 4-8"
4	8.1-20%	LINED RIP-RAP 4-8"	ENGINEERING DESIGN

A. STONE TO BE 2 INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
B. RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.
7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	EARTH DIKE	STANDARD DRAWING ED-1

10.03

STABILIZED CONSTRUCTION ENTRANCE
not to scale



CONSTRUCTION SPECIFICATIONS

1. Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness - Not less than six (6) inches.
4. Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain.

SOIL CONSERVATION , Md.	STABILIZED CONSTRUCTION ENTRANCE	Standard Drawing SCE-1

14.0

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. (992-2437)

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 1983 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 EROSIONS AND SEDIMENT CONTROL for permanent seedings (Sec. 51), 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: 500 Acres
   - Area Disturbed: 9.7 Acres
   - Area to be roofed or paved: 5.1 Acres
   - Area to be vegetatively stabilized: 4.6 Acres
   - Total Cut 0 Cu.Yds. — SITE WAS MASS
   - Total Fill 0 Cu.Yds. GRADED UNDER S.D.P. 92-49
   - Off-Site waste/borrow area location Columbia Gateway (within an area with an approved and active sediment control plan: (SDP 92-49)

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.

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 unreaform 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.

Maryland SCS/WRA — April 1983

CONSTRUCTION SPECIFICATIONS FOR ST-VI

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 five (5) feet, measured at centerline of embankment.
3. All fill slopes shall be 2:1 or flatter; cut slopes 1:1 or flatter.
4. Elevation of the top of any dike directing water into trap must equal or exceed the height of embankment.
5. Storage area provided shall be figured by computing the volume available behind the outlet channel up to an elevation of one (1) foot below the level weir crest.
6. Filter cloth shall be placed over the bottom and sides of the outlet channel prior to placement of stone. Sections of fabric must overlap at least one (1) foot with section nearest the entrance placed on top. Fabric shall be embedded at least six (6) inches into existing ground at entrance of outlet channel.
7. Stone used in the outlet channel shall be four (4) to eight(8) inches (riprap). To provide a filtering effect, a layer of filter cloth shall be embedded one (1) foot back into the upstream face of the outlet stone or a one (1) foot thick layer of two (2) inch or finer aggregate shall be placed on the upstream face of the outlet.
8. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
9. The structure shall be inspected after each rain and repaired as needed.
10. Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
11. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.
12. Drainage area for this practice is limited to 15 acres or less.

16.14

STANDARD AND SPECIFICATIONS
FOR
STORM DRAIN INLET PROTECTION

Definition

Filter cloth installed around inlets in the form of a fence or across an opening, thereby reducing sediment content of sediment laden water.

Purpose

To prevent sediment laden water from entering a storm drain system through inlets.

Conditions Where Practice Applies

This practice shall be used where the drainage area to an inlet is disturbed, it is not possible to temporarily divert the storm drain outfall into a sediment trapping device and watertight blocking of inlets is not advisable. It is not to be used in place of sediment trapping devices. This practice may be used in conjunction with storm drain diversion to help prevent siltation of pipes installed with a low slope angle.

Construction Specifications

I. Materials

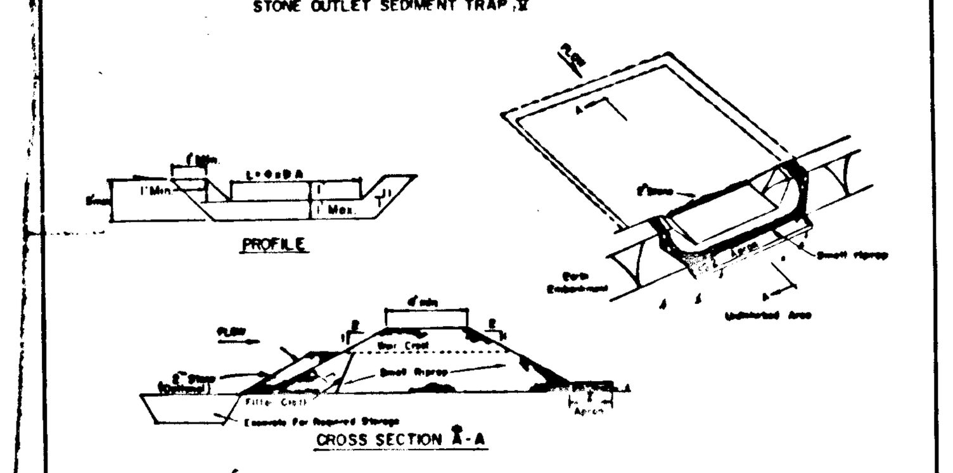
A. Wooden frame is to be constructed of 2" x 4" construction grade lumber.

B. Wire mesh must be of sufficient strength to support filter fabric, and stone for curb inlets, with water fully impounded against it.

C. Filter cloth must be of a type approved for this purpose; resistant to sunlight with sieve size, EOS, 40-85, to allow sufficient passage of water and removal of sediment.

4. Stone is to be 2" in size and clean, since fines would clog the cloth.

STONE OUTLET SEDIMENT TRAP ST-V



OPTION: A one foot layer of 2" stone may be placed on the upstream side of the riprap in place of the embedded filter cloth.

CONSTRUCTION SPECIFICATIONS FOR ST-V

1. 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 and 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.
3. All cut and fill slopes shall be 2:1 or flatter.
4. The stone used in the outlet shall be small riprap 4"-8" along with a 1' thickness of 2" aggregate placed on the up-grade side on the small riprap or embedded filter cloth in the riprap.
5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to ½ the design depth of the trap.
6. The structure shall be inspected after each rain and repairs made as needed.
7. Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
8. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

Maximum Drainage Area: 5 Acres

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	STONE OUTLET SEDIMENT TRAP	STANDARD DRAWING ST-V

16.12

Construction Sequence

1. Obtain grading permit.
2. Arrange a pre-construction meeting with the Sediment Control Inspector.
3. Install the construction entrance, earth dikes and inlet protection at I-197. Install the new tops and inlet protection at I-111 I-120, I-121 and I 126.
4. Construct Trap #2.
5. Remove the existing inlets and 12" RCP's in the tunnel and install FC 100, I-101, FC 201, I 103, I 104, and the associated inlet protection.
6. Install Trap #1.
7. Install the new tops at MH 119, MH 122, MH 70, MH 65A, MH 49, MH 47A and MH 45.
8. Rough grade as necessary.
9. Install the new storm drainage. Provide temporary watertight blocking at I-105, I-109, I-115, I-116, I-118, I-123, I-149, I-121A, I-150 and I-125. Install inlet protection at I-114, I-124 and I-127. All storm drainage under construction shall be blocked from receiving runoff at the end of each work day.
10. Reroute the earth dikes from I-197 to I-107. Remove I-195 through I-199 and associated pipes.
11. Install curb and gutter and base paving except where prohibited by traps.
12. Once the drainage area to each inlet is stabilized and permission is granted by the sediment control inspector, remove the temporary blocking.
13. Once all inlets are unblocked, remove traps. Complete curb and gutter and base paving.
14. With permission of the Sediment Control Inspector, remove any remaining sediment control features.
15. Install the paving surface course.

TEMPORARY SEEDING NOTES

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

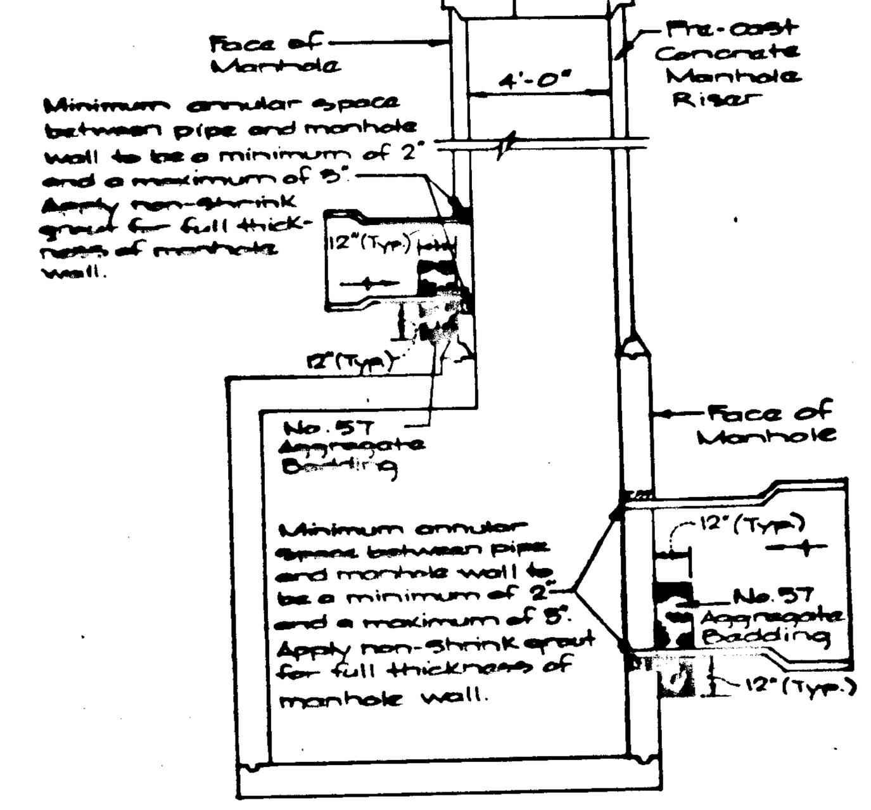
Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding (unless previously loosened)

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

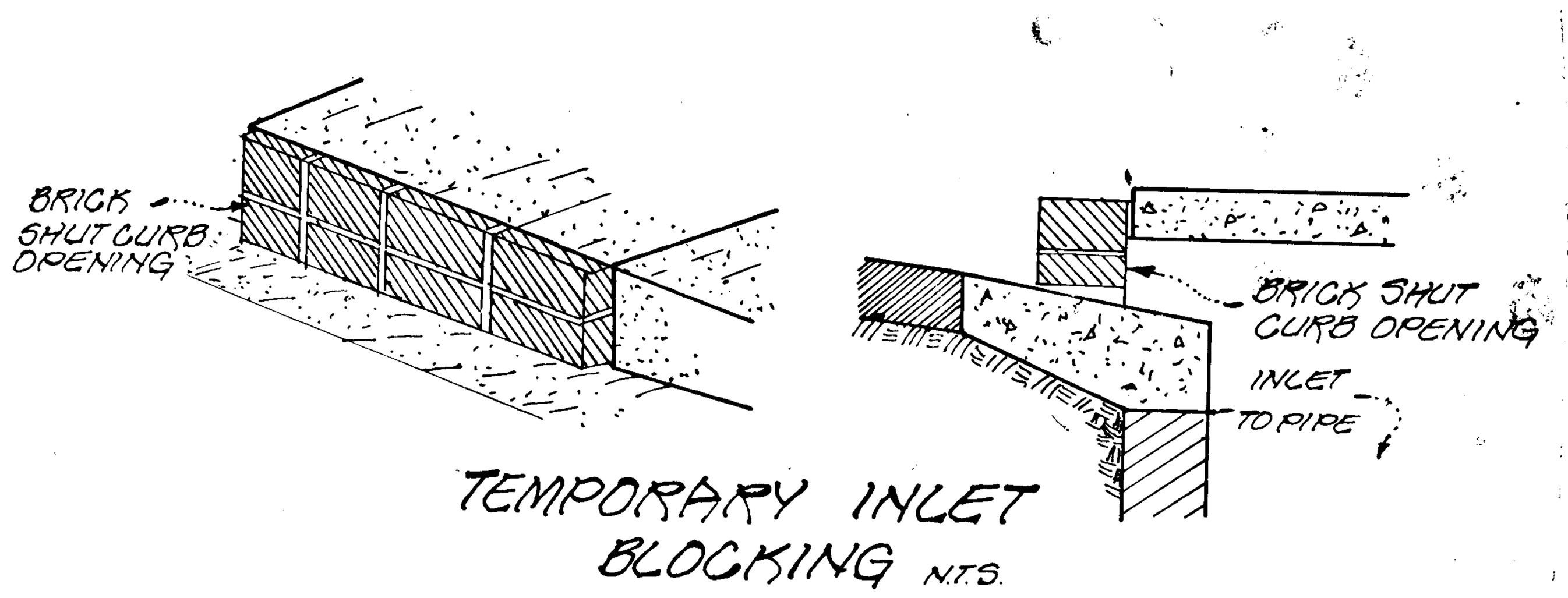
Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs./1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq ft). For the period November 16 thru February 28, protect 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 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

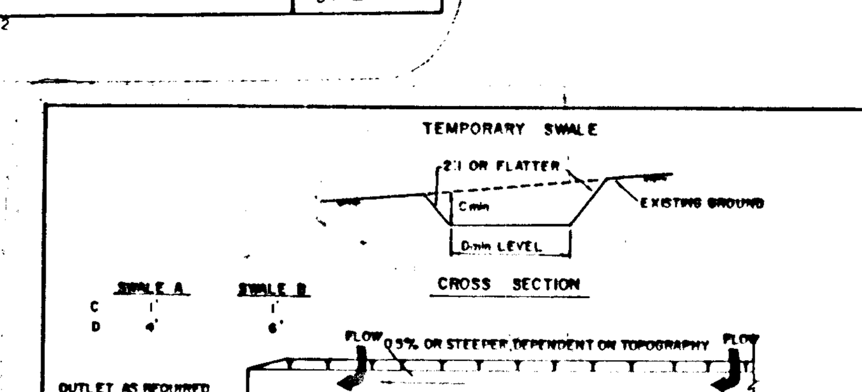


Pipe to Manhole Connection
No Scale



TEMPORARY INLET BLOCKING N.T.S.

TEMPORARY SWALE



CONSTRUCTION SPECIFICATIONS

1. ALL TEMPORARY SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE 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. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED ON CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. STABILIZATION SHALL BE AS PER THE CHART BELOW:

FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	A (5 AC OR LESS)	B (5 AC - 10 AC)
1	0.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE OR EXCELSIOR
3	5.1-8.0%	SEED WITH JUTE OR EXCELSIOR; SOD	LINED RIP-RAP 4-8" RECYCLED CONCRETE EQUIVALENT
4	8.1-20%	LINED 4-8" RIP-RAP	ENGINEERED DESIGN

9. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	TEMPORARY SWALE	STANDARD DRAWING TS-1

13.03

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 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."

[illegible] 4-15-92
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."

[illegible] 4-15-92
Date

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

John R. Robertson
Howard S.C.D. — Date 8/19/92

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

[illegible] 8/19/92
U.S. Soil Conservation Service — Date

[illegible]
Carlton K. Gutschick
Professional Eng.
Md Reg. No 12975

Approved:
Department of Public Works

[illegible] 9/2/92
Chief, Land Development Division M.K. — Date

[illegible] 8/26/92
Chief, Bureau of Highways — Date

[illegible] 9-3-92
Chief, Bureau of Engineering — Date

Approved:
Department of Planning & Zoning

[illegible] 9/14/92
Chief, Division of Community Planning and Land Development — Date

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE · SUITE 250 · BURTONSVILLE OFFICE PARK · BURTONSVILLE, MD 20866
TELEPHONE (301)421-4024 NO.VA. (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186

DATE	REVISION	BY	APP'R.
3-17-93	ADD 0.9AC. DISTURBED, PAVED, I-121A IN #9 OF CONST. SEQ	ASC/HK	
7-20-92	ADDRESSED HO. CO. COMMENTS	ASC	
6-4-92	BID SET	—	—

PREPARED FOR:
The Howard Research and Development Corp.
The Rouse Building
10275 Little Patuxent Parkway
Columbia, Maryland 21044
(410) 992-6027

Details
Gateway Commerce Center
Robert Fulton Drive
Sixth Election District — Howard County, Maryland

DES.: A.S.C.	SCALE: As Shown	ZONING: M-1/B2	G.L.W. FILE No.: 91055
DRN.: G.A.H.	DATE: JUNE 4, 1992	TAX MAP No.: 42	SHEET: 13 of 13
CHK.: CKG			

F-92-136

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