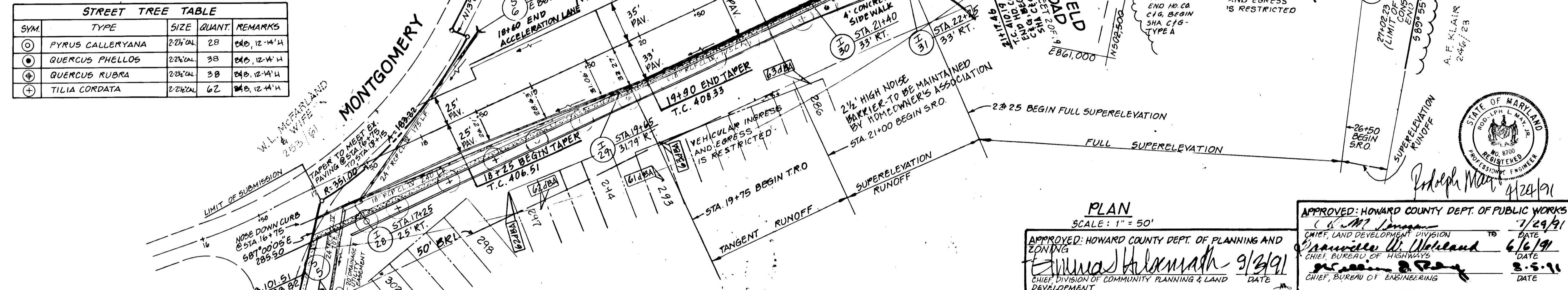


STREET LIGHT LEGEND

- 150 WATT SODIUM VAPOR LAMP PENDANT MOUNTED FIXTURE ON 25' GALVANIZED STEEL POLE
- 150 WATT SODIUM VAPOR LAMP POST TOP FIXTURE ON 14' GREY FIBERGLASS POLE
- 250 WATT SODIUM VAPOR LAMP PENDANT MOUNTED FIXTURE ON 30' GALVANIZED STEEL POLE

NOTE: STREET LIGHTS TO BE PLACED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL III.

SYM	TYPE	SIZE	QUANT	REMARKS
⊙	PYRUS CALLERYANA	2 1/2" DIA.	28	6" @ 12' W/4"
⊙	QUERCUS PHELLOS	2 1/2" DIA.	38	6" @ 12' W/4"
⊙	QUERCUS RUBRA	2 1/2" DIA.	38	6" @ 12' W/4"
⊙	TILIA CORDATA	2 1/2" DIA.	62	6" @ 12' W/4"



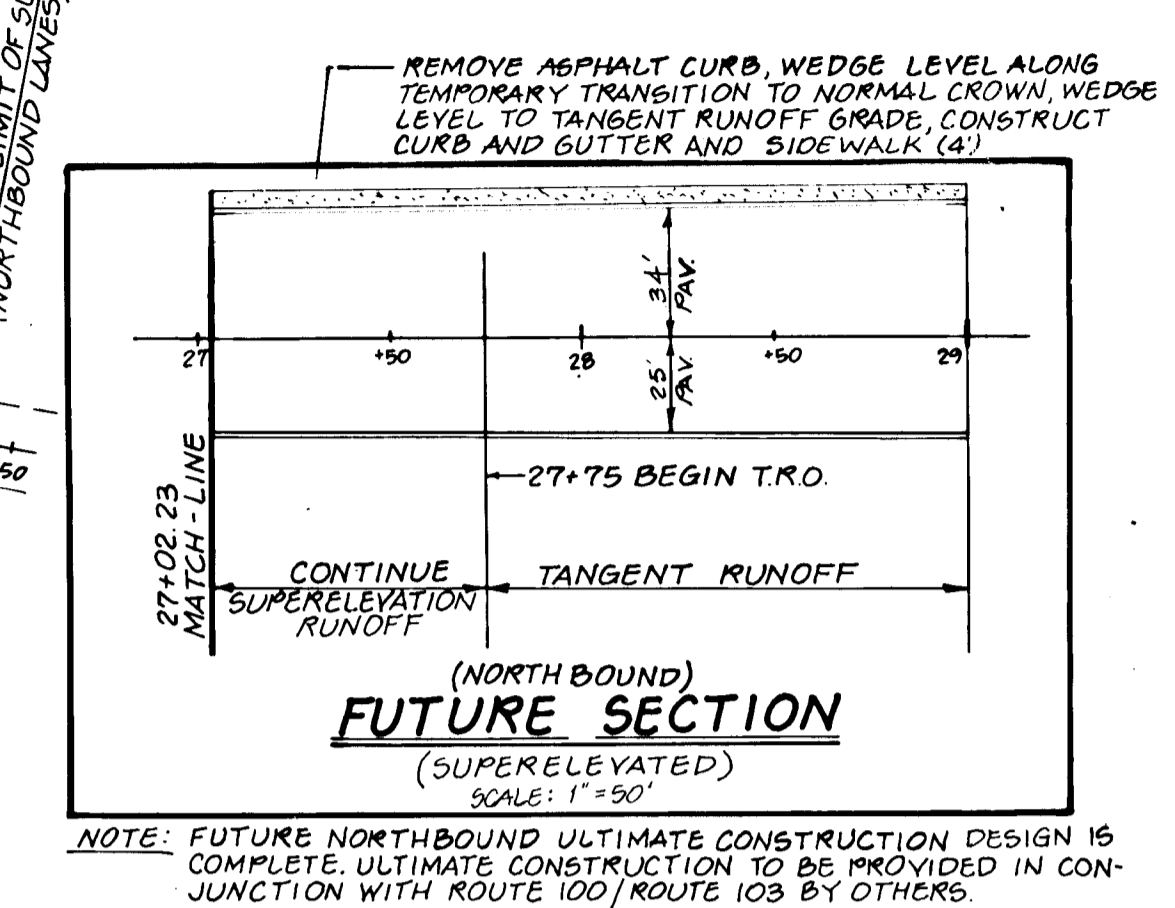
PLAN
SCALE: 1" = 50'

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Emmanuel Holomath 9/3/91
 CHIEF DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
Joseph W. ... 7/29/91
 CHIEF, LAND DEVELOPMENT DIVISION

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
Francis W. Holland 6/6/91
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
... 8-5-91
 CHIEF, BUREAU OF ENGINEERING

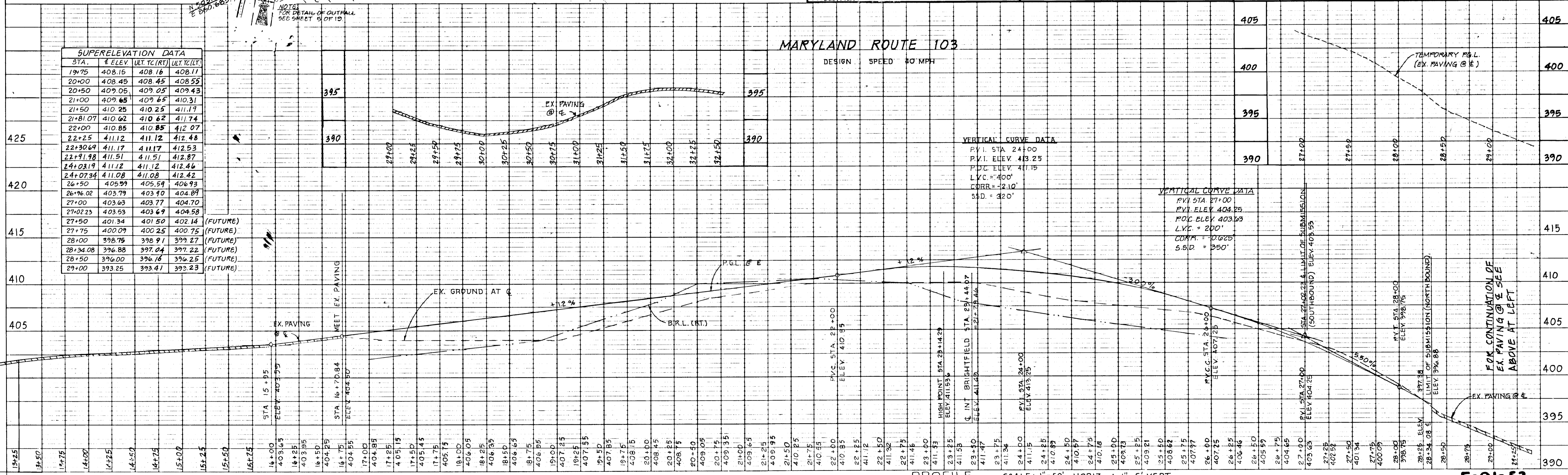


LAND DESIGN ENGINEERING, INC.
 10620 Guilford Road • Suite 210 • Jessup • Maryland 20784 • (301) 804-8284 • (301) 800-0034

DESIGNED	ROAD CONSTRUCTION PLANS MARYLAND ROUTE 103	SCALE AS SHOWN
DRAWN	BRIGHTFIELD SECTION 2	DRAWING 1 OF 13
CHECKED	First Election District Howard County, Maryland	JOB NO. 89-121
R.L.M.		FILE NO.
DATE 9/90	OWNERS: Kings Meade LTD. Partnership 10620 Guilford Rd. Ste. 200 Jessup, Maryland 20794	Maryland State Highway Adm. 707 N. Calvert St. Baltimore, Maryland 21203

SUPERELEVATION DATA

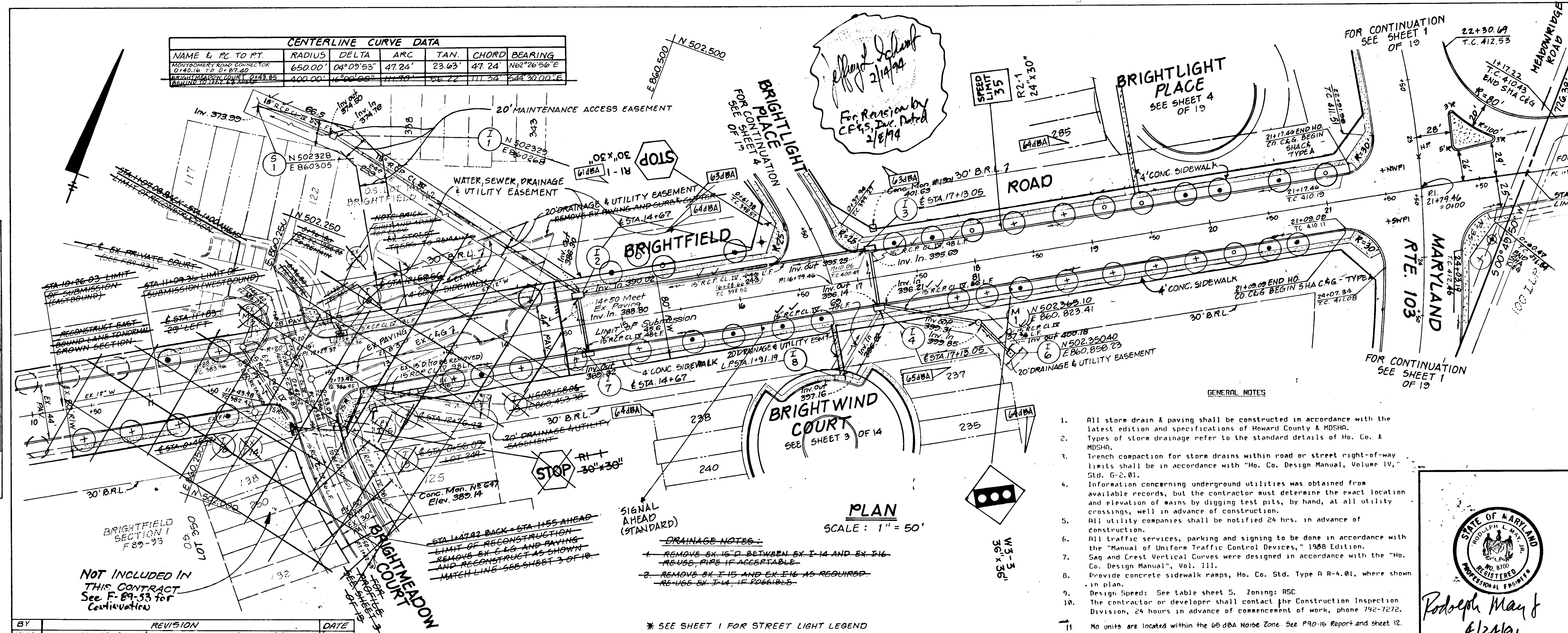
STA.	% ELEV.	ULT. TC (RT)	ULT. TC (LT)
19+75	408.15	408.16	408.17
20+00	408.45	408.45	408.55
20+50	409.05	409.05	409.43
21+00	409.65	409.65	410.31
21+50	410.25	410.25	411.19
21+81.07	410.62	410.62	411.74
22+00	410.85	410.85	412.07
22+25	411.12	411.12	412.48
22+30.69	411.17	411.17	412.53
22+91.98	411.51	411.51	412.87
24+02.19	411.12	411.12	412.46
24+07.34	411.08	411.08	412.42
26+50	405.59	405.59	406.93
26+96.02	403.79	403.90	404.89
27+00	403.63	403.77	404.70
27+02.23	403.53	403.69	404.58
27+50	401.34	401.50	402.14 (FUTURE)
27+75	400.09	400.25	400.75 (FUTURE)
28+00	398.75	398.91	399.27 (FUTURE)
28+34.08	396.88	397.04	397.22 (FUTURE)
28+50	396.00	396.16	396.25 (FUTURE)
29+00	393.25	393.41	393.23 (FUTURE)



1382

F-91-53

CENTERLINE CURVE DATA					
NAME & PC TO PT.	RADIUS	DELTA	ARC	TAN.	CHORD BEARING
MONTESSUMERY ROAD CONNECTOR 0+42.14 TO 2+87.40	650.00	04°09'53"	47.24'	23.03'	N62°26'56"E
BRIGHFIELD ROAD 2+87.40 TO 1+11.50	400.00	43°00'00"	111.50'	64.30'	S44°30'00"E



12. Previous Plan Submissions: PB Case 245, 5-89-02, 1-90-15, WP 91-95, WP-91-33.
13. It is understood that the developer will obtain council resolution on the relevant closings of sections of Old Montgomery Road and Montgomery Road prior to project approval by the Department of Public Works or he must provide another satisfactory design without such closings.
14. Stormwater quantity management will be provided by the existing facility at Brightfield 1/1 (F 89-19) in addition to the proposed temporary facility as shown on sheet 10.
15. These plans comply with the 1989 Design Manuals.
16. Benchmarks are Ito. Co. 2644004, elev. 402.135 and 2644005, elev. 416.981.
17. Signal Design Plan will be under separate contract and will be submitted to SHA's Howard Co. for approval. All required conduit will be constructed prior to surface course paving.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Oliver M. Pennington 7/29/91
Chief, Land Development Division

Dravelle W. Wehland 6/16/91
Chief, Bureau of Highways

Richard D. Gray 8-5-91
Chief, Bureau of Engineering

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Emma H. Hosenath 9/3/91
Chief, Division of Community Planning & Land Development

LAND DESIGN ENGINEERING, INC.
10620 Guilford Road • Suite 210 • Jessup • Maryland 20794 • (301)894-6264 • (301)860-0034

DESIGNED	ROAD CONSTRUCTION PLANS BRIGHTFIELD ROAD SECTION 2 First Election District Howard County, Maryland	SCALE AS SHOWN
DRAWN		DRAWING 2 OF 19
CHECKED R.L.M.		JOB NO. 89-101
DATE 9/90		FILE NO.

OWNERS:
Kings Meade LTD. Partnership Maryland State-Highway Adm.
10620 Guilford Rd. Ste. 200 707 N. Calvert St.
Jessup, Maryland 20794 Baltimore, Maryland 21203

- GENERAL NOTES**
- All storm drain & paving shall be constructed in accordance with the latest edition and specifications of Howard County & MDSEA.
 - Types of storm drainage refer to the standard details of Ho. Co. & MDSEA.
 - Trench compaction for storm drains within road or street right-of-way limits shall be in accordance with "Ho. Co. Design Manual, Volume 10," Std. 6-2.01.
 - Information concerning underground utilities was obtained from available records, but the contractor must determine the exact location and elevation of mains by digging test pits, by hand, at all utility crossings, well in advance of construction.
 - All utility companies shall be notified 24 hrs. in advance of construction.
 - All traffic services, parking and signing to be done in accordance with the "Manual of Uniform Traffic Control Devices," 1988 Edition.
 - Sag and Crest Vertical Curves were designed in accordance with the "Ho. Co. Design Manual", Vol. 111.
 - Provide concrete sidewalk ramps, Ho. Co. Std. Type A R-4.01, where shown in plan.
 - Design Speed: See table sheet 5. Zoning: RSC.
 - The contractor or developer shall contact the Construction Inspection Division, 24 hours in advance of commencement of work, phone 792-7272, in plan.
 - No units are located within the 65 dBA Noise Zone. See P90-16 Report and sheet 12.

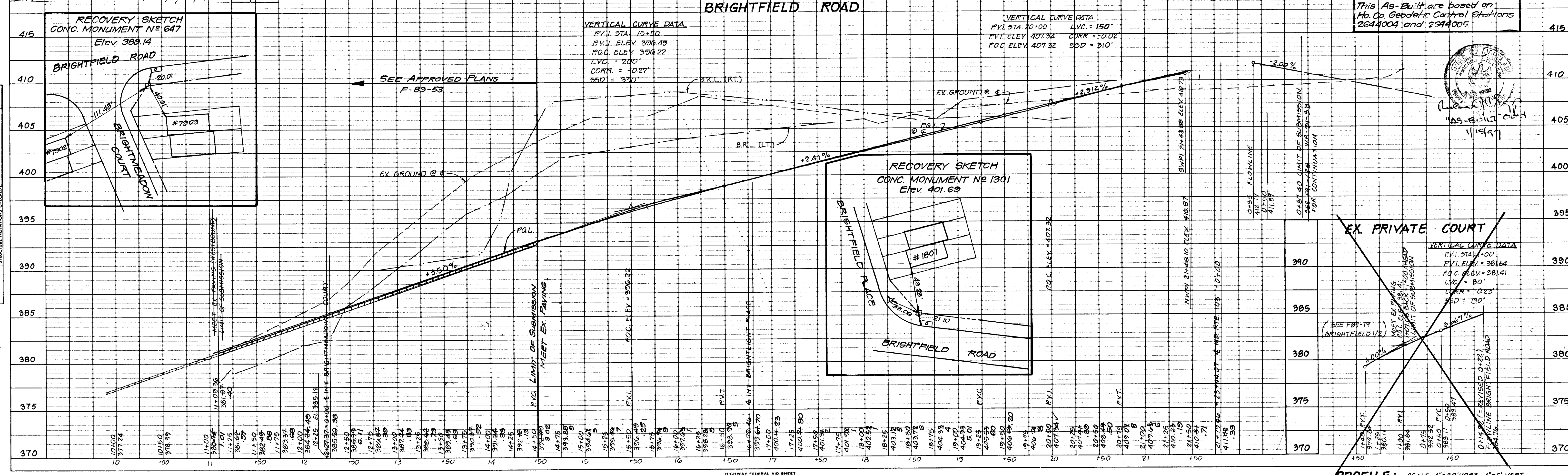
STATE OF MARYLAND
PROFESSIONAL ENGINEER

Rodolph May Jr
4/24/91

PLAN
SURVEYED
NOTED
CHECKED
BY DATE

BY	REVISION	DATE
LM	1. MAINTENANCE & ACCESS EASEMENT, NCP #1	3-18-91
	2. PIPE SIZE, I-1 TO S-1	
CELS	3. DRAINAGE & UTILITY EASEMENTS, BRIGHTFIELD ROAD & BRIGHTMEADOW ROAD, BY 5/2/93, ETC.	2-8-94

PROFILE
SURVEYED
NOTED
CHECKED
BY DATE



VERTICAL CURVE DATA

PVI STA 15+90
PVI ELEV 394.49
P.O.C. ELEV 394.22
LVC = 200'
CORR = -0.27'
SSD = 330'

VERTICAL CURVE DATA

PVI STA 20+00 LVC = 150'
PVI ELEV 401.34 CORR = -0.02'
P.O.C. ELEV 401.32 SSD = 310'

Horz. and Vert. Controls For This As-Built are based on Ho. Co. Geodetic Control Stations 2644004 and 2644005.

VERTICAL CURVE DATA

PVI STA 400
PVI ELEV = 381.64
P.O.C. ELEV = 381.41
LVC = 90'
CORR = -0.23'
SSD = 190'

PROFILE PLATE 1-SINGLE PLAN AND PROFILE-FULL LINE SCALE: 1" = 50' HORIZ., 1" = 5' VERT.

PROFILE: SCALE 1" = 50' HORIZ., 1" = 5' VERT. "AS-BUILT"

1382

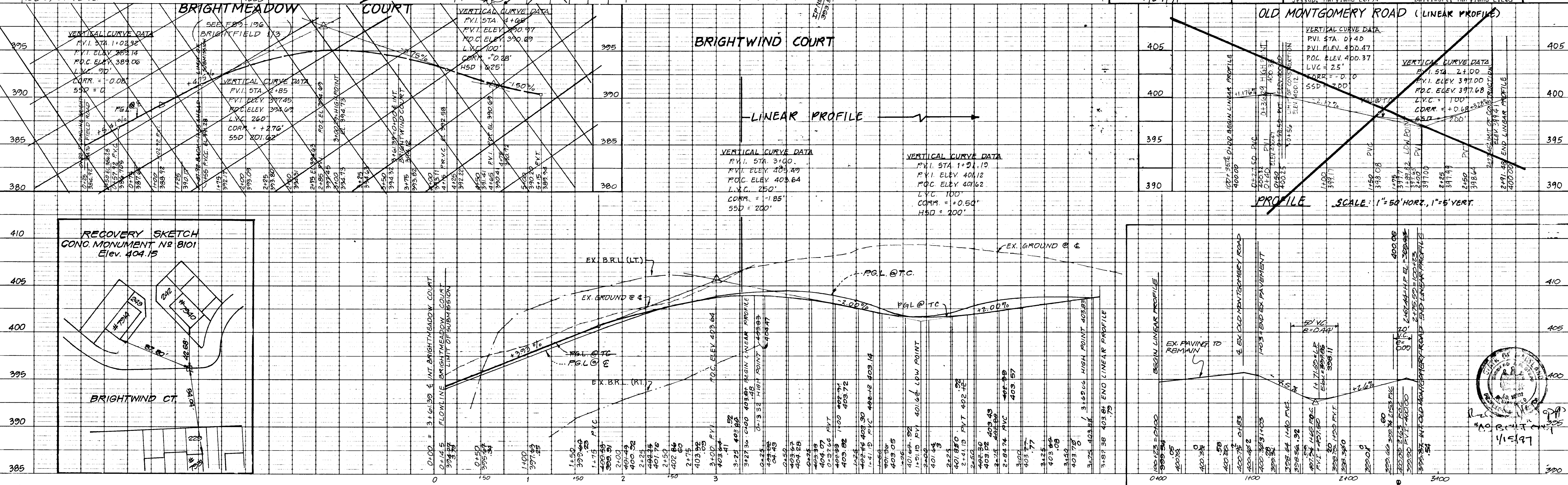
CENTERLINE CURVE DATA						
NAME & PC TO PT.	RADIUS	DELTA	ARC	TAN.	CHORD	BEARING
RECOVERY SKETCH 1+85.57 TO 1+71.78	125.00'	39°31'07"	86.22'	44.90'	84.52'	N31°14'27"E
BRIGHTMEADOW COURT 2+27.34 TO 4+14.25	124.48'	37°59'32"	86.89'	45.30'	85.14'	N08°30'29"E
OLD MONTGOMERY RD. 0+00 TO 0+87.01	109.62'	36°04'15"	69.01'	35.69'	67.88'	S71°50'51"E

PLAN	SUBMITTED	DATE
NOTE BOOK	NOTED	
No.	BY	

For Revision by C.E.S., Inc.
Dated 2/6/91. For Revision to
Linear Profile by C.E.S., Inc.
Dated 10/24/91

BY	REVISION	DATE
LM	ADDITION OF PARKING SPACE @ STA 2+61.42	5-24-92
C.E.S.	Delete Brightmeadow Ct on profile and plan view by C.E.S., Inc.	2-8-94
C.E.S.	Linear Profile changes. Revised access of Rte. 103 by C.E.S., Inc.	04/26/95

PROFILE	SUBMITTED	DATE
NOTE BOOK	NOTED	
No.	BY	



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

John M. Donagan
Chief, Land Development Division
Date: 7/29/91

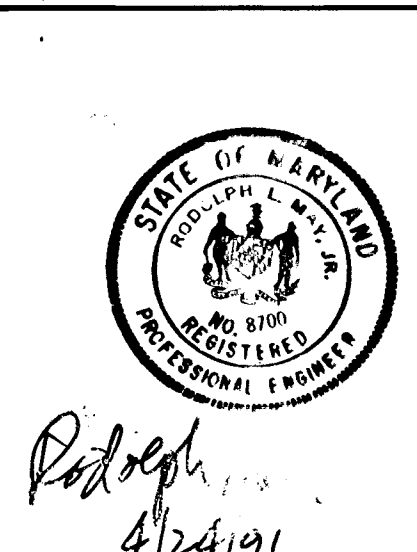
Graville W. Wehner
Chief, Bureau of Highway
Date: 6/6/91

William B. Davis
Chief, Bureau of Engineering
Date: 8-5-91

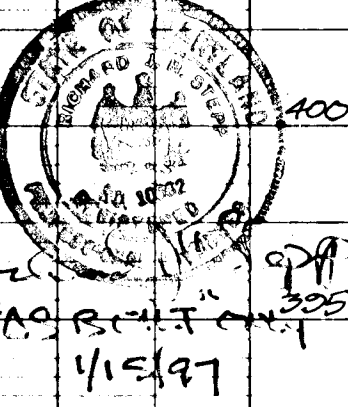
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Anna H. Hearn
Chief, Division of Community Planning & Land Development
Date: 9/3/91

DESIGNED	ROAD CONSTRUCTION PLANS	SCALE AS SHOWN
	BRIGHTWIND COURT	
	BRIGHTFIELD SECTION 2	DRAWING 3 OF 19
	First Election District	JOB NO. 89-101
	Howard County, Maryland	FILE NO.
DATE 9/90	OWNER: Kings Meade LTD. Partnership 10620 Guilford Rd. Ste. 200 Jessup, Maryland 20794	MARYLAND STATE HIGHWAY ADM. 787 N. Calvert St. Baltimore, Maryland 21203



1302



PROFILE PLATE 1-SINGLE PLAN AND PROFILE-FULL LINE SCALE: 1" = 50' HORIZ., 1" = 5' VERT.

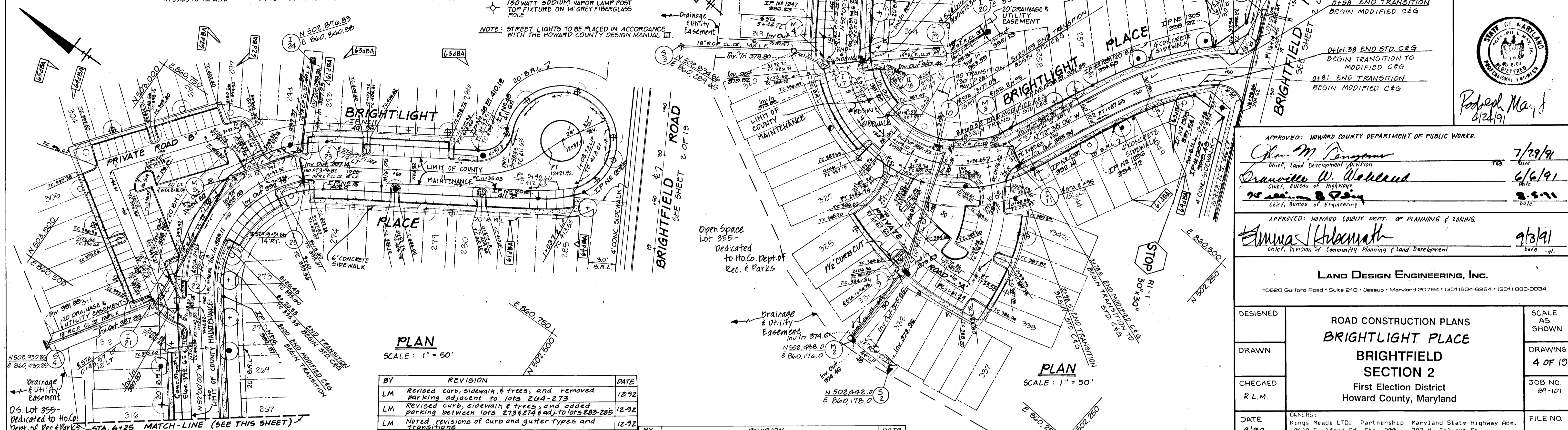
FLOWLINE PROFILE VERTICAL SCALE: 1" = 5' HORIZONTAL SCALE: 1" = 50'

F-91-53 "AS-BUILT"

CENTERLINE CURVE DATA					
NAME & PC TO PT.	RADIUS	DELTA	ARC	TAN.	CHORD BEARING
11+35.03 TO 12+21.92	124.48'	34°59'52"	86.89'	45.30'	85.14' S51°54'44"E
12+21.92 TO 13+00.00	125.00'	124°38'06"	271.91'	238.27'	N10°19'03"W
13+00.00 TO 14+16.84	130.00'	76°04'50"	218.00'	144.58'	S79°57'34"E
14+16.84 TO 15+59.54	125.00'	35°42'59"	187.63'	76.98'	N84°46'36"W
15+59.54 TO 17+00.00	125.00'	124°38'06"	271.91'	238.27'	N10°19'03"W

STREET LIGHT LEGEND

- 150 WATT SODIUM VAPOR LAMP PENDANT MOUNTED FIXTURE ON 25' GALVANIZED STEEL POLE
 - 150 WATT SODIUM VAPOR LAMP POST TOP FIXTURE ON 14' GREY FIBERGLASS POLE
- NOTE: STREET LIGHTS TO BE PLACED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL III.



PLAN
SCALE: 1" = 50'

BY	REVISION	DATE
LM	Revised curb, sidewalk, & trees, and removed parking adjacent to lots 204-213	12-92
LM	Revised curb, sidewalk & trees, and added parking between lots 213 & 214 & adj. to lots 283-285	12-92
LM	Noted revisions of curb and gutter types and transitions	12-92
LM	Revised coordinates at I-19 & I-20, station at M-4	12-92

BY	REVISION	DATE
LM	TOP OF CURB ELEVATIONS, PRIVATE ROADS A & B	3-10-92

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

John M. Pennington Chief, Land Development Division 7/29/92

Lawrence W. Heblaud Chief, Bureau of Highways 6/6/91

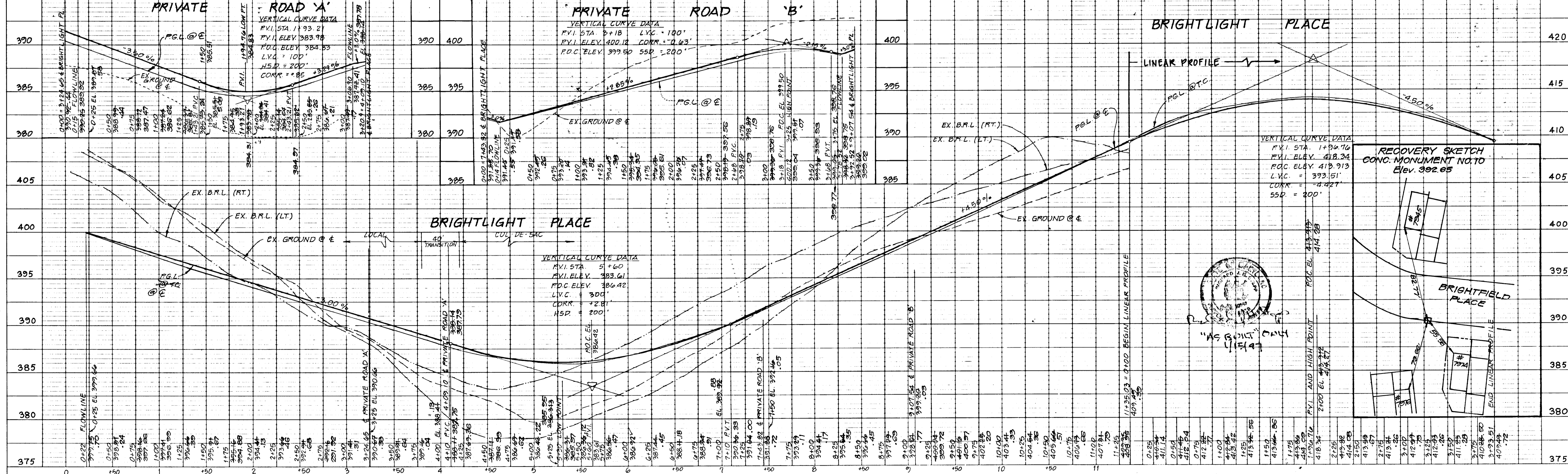
Thomas J. Smith Chief, Bureau of Engineering 8-5-91

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Emma H. Hahn Chief, Division of Community Planning & Land Development 9/3/91

LAND DESIGN ENGINEERING, INC.
10620 Guilford Road • Suite 210 • Jessup • Maryland 20794 • (301)604-6264 • (301)660-0034

DESIGNED	ROAD CONSTRUCTION PLANS BRIGHTLIGHT PLACE	SCALE AS SHOWN
DRAWN	BRIGHTFIELD SECTION 2	DRAWING 4 OF 19
CHECKED	First Election District Howard County, Maryland	JOB NO. 89-101
DATE	9/90	FILE NO.



PROFILES

HIGHWAY FEDERAL AID SHEET
PLATE 1-SINGLE PLAN AND PROFILE-FULL LINE
PRINTED IN U.S.A.

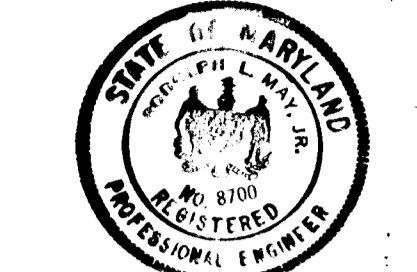
SCALE: 1" = 50' HORIZ., 1" = 5' VERT.

F-91-53
"AS-BUILT"

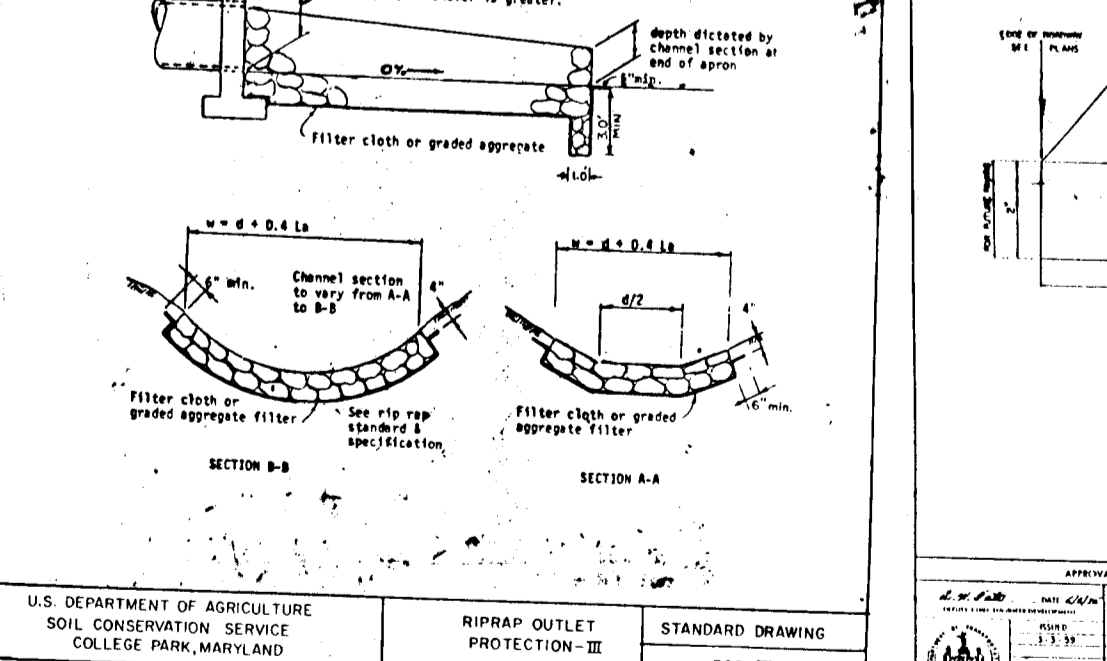
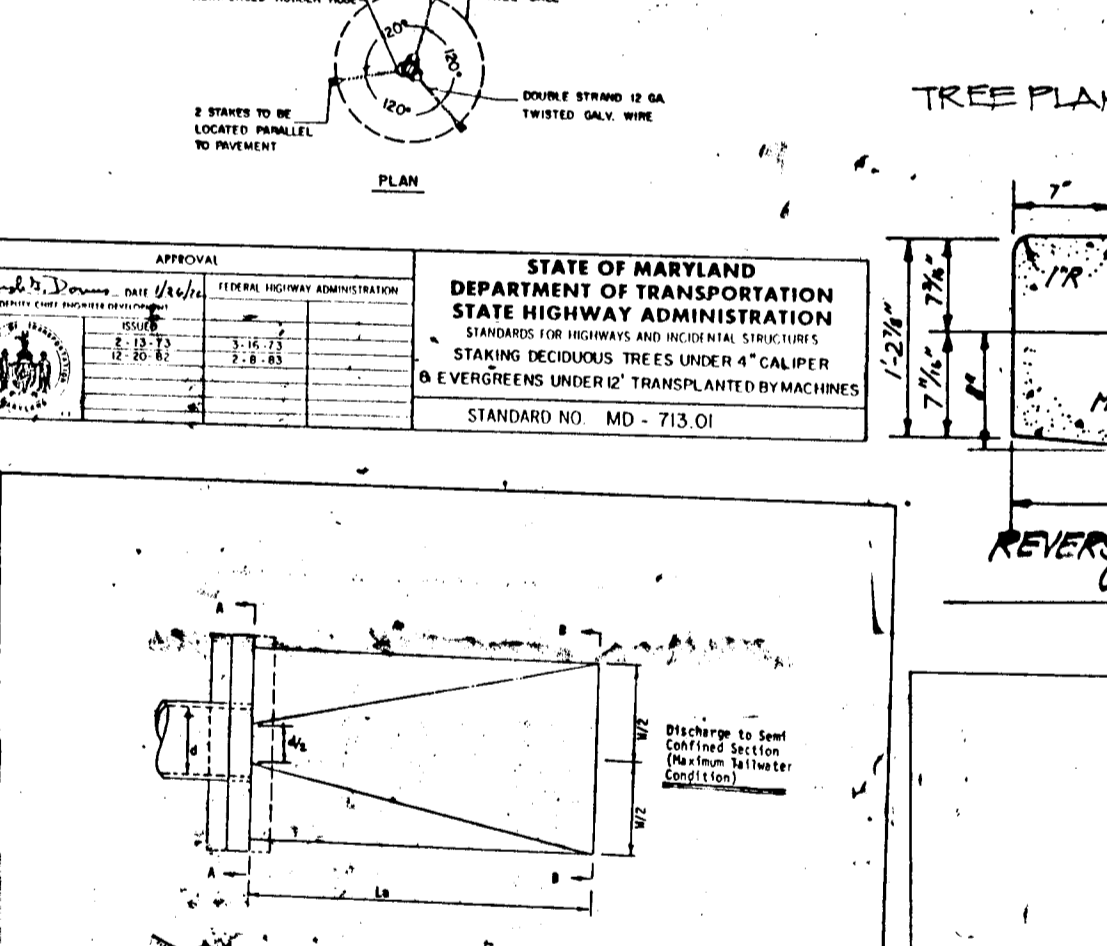
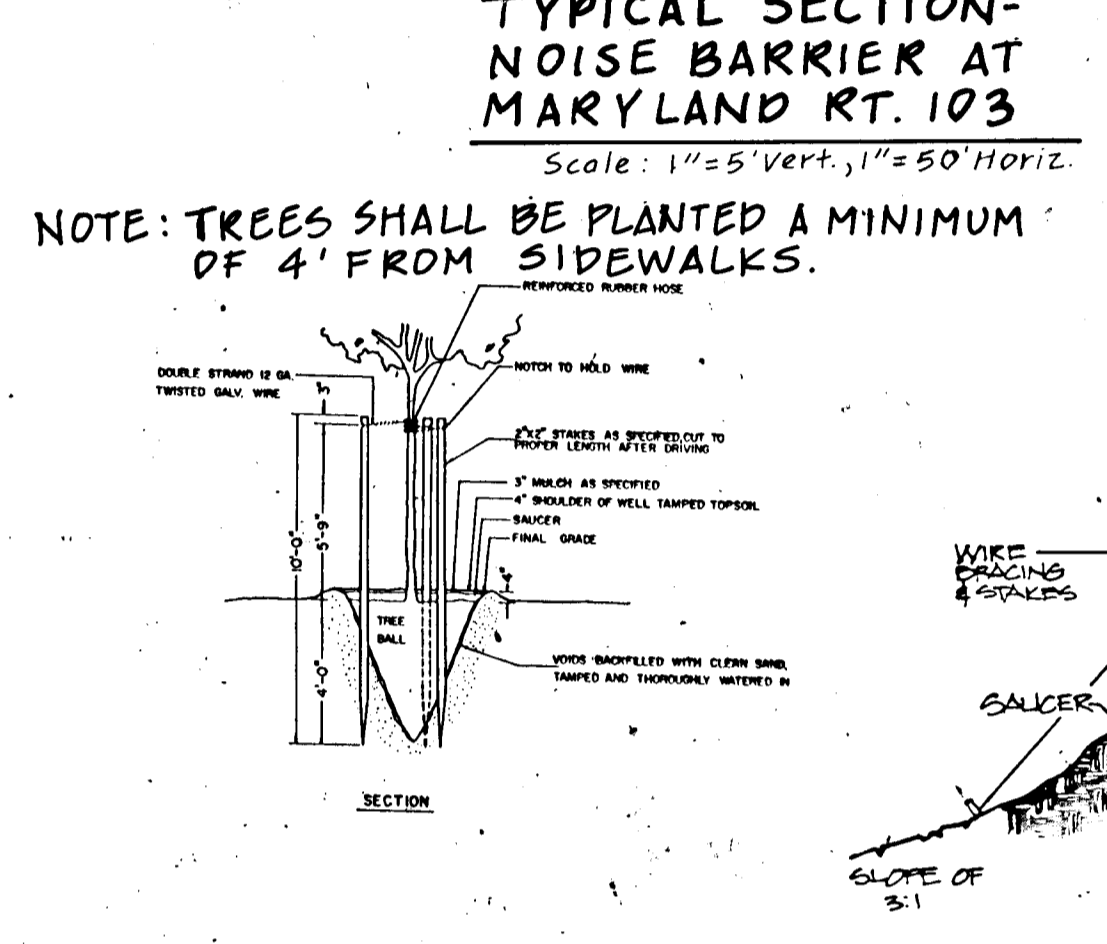
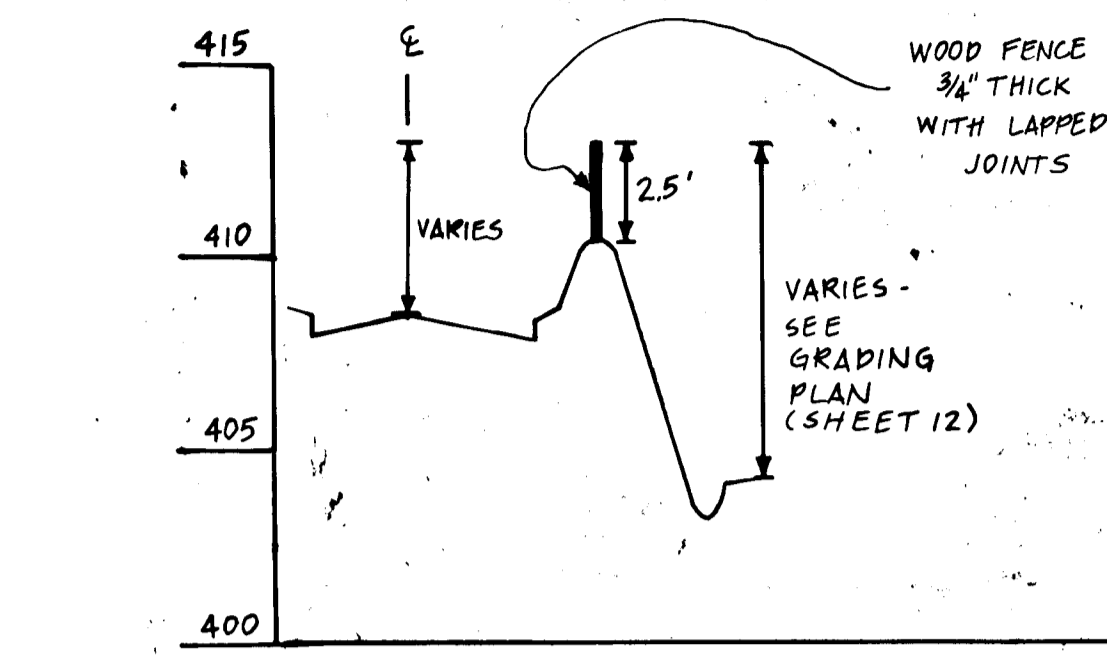
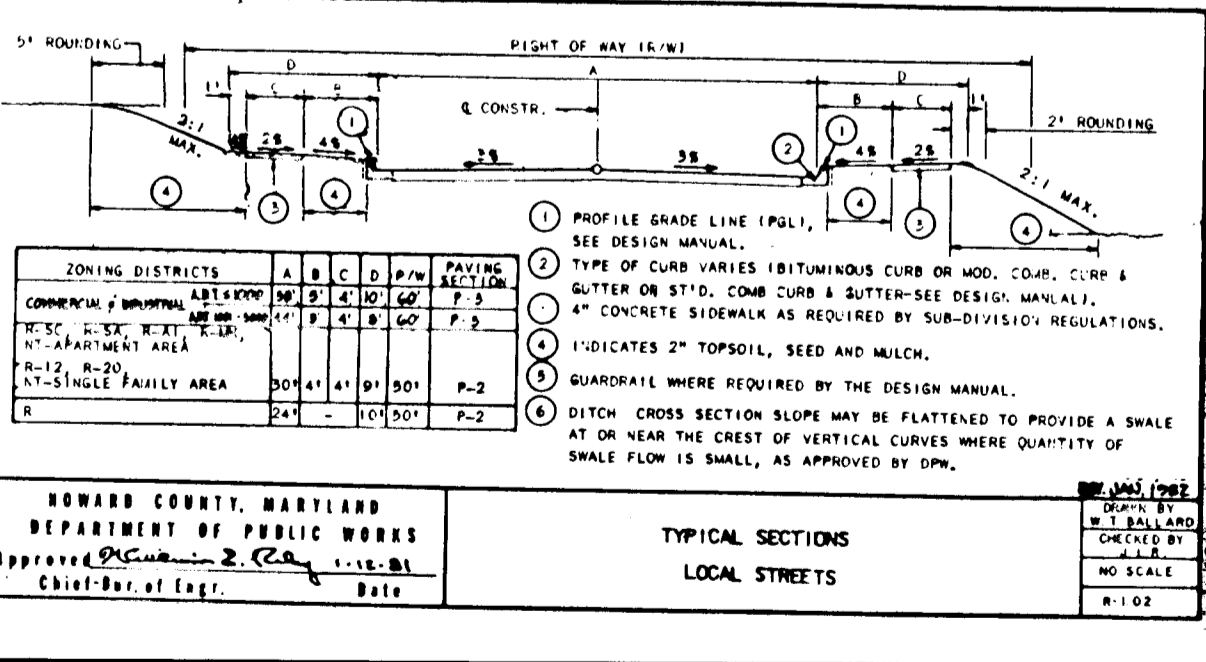
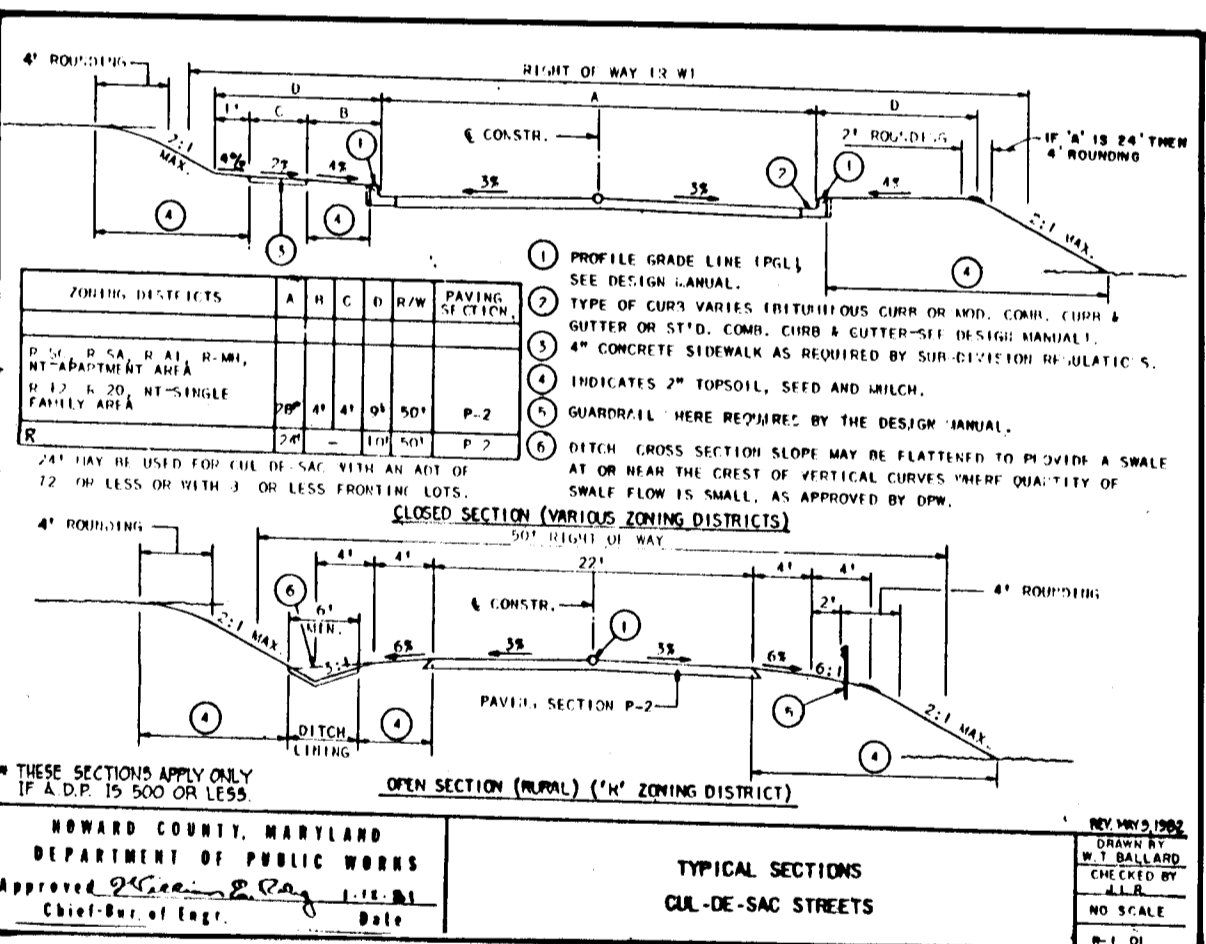
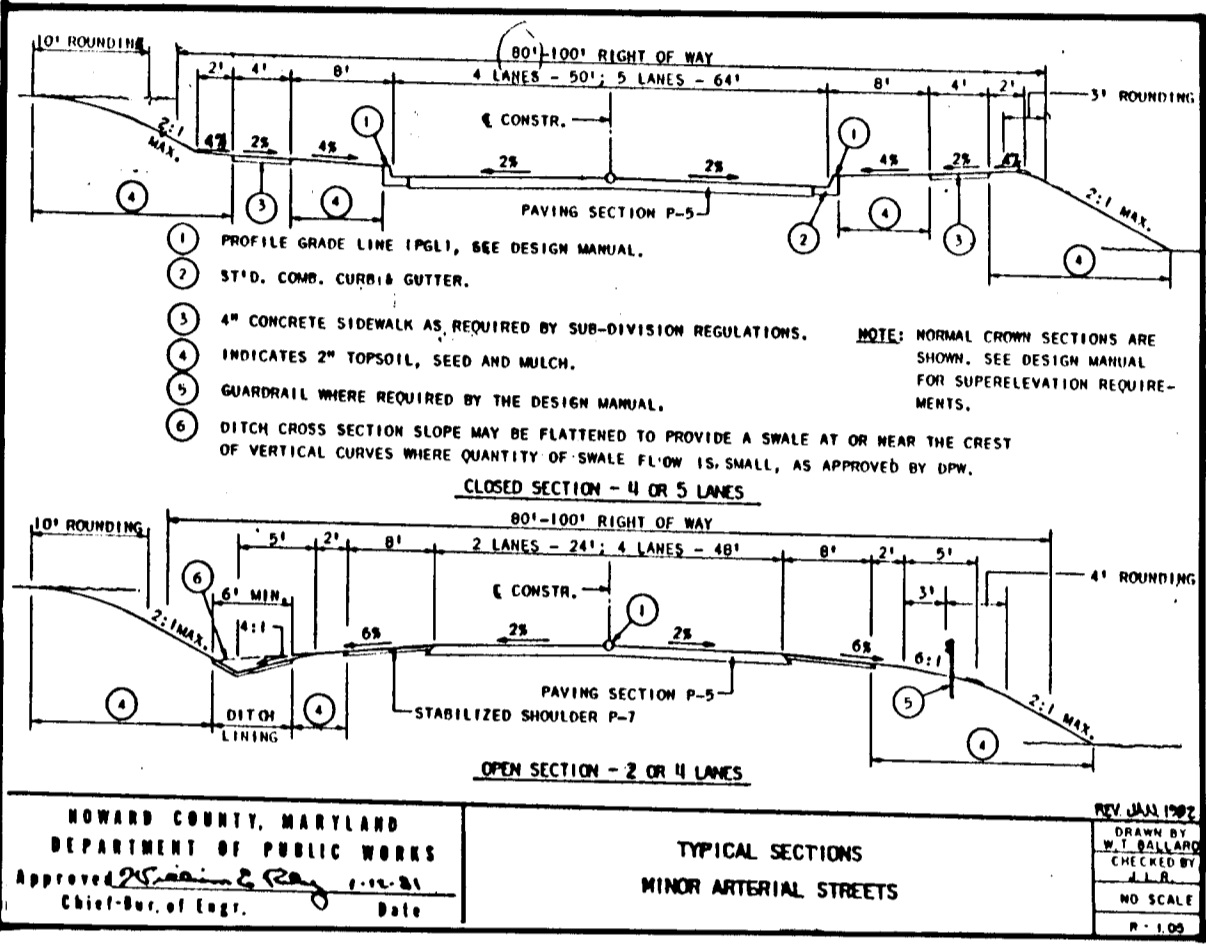
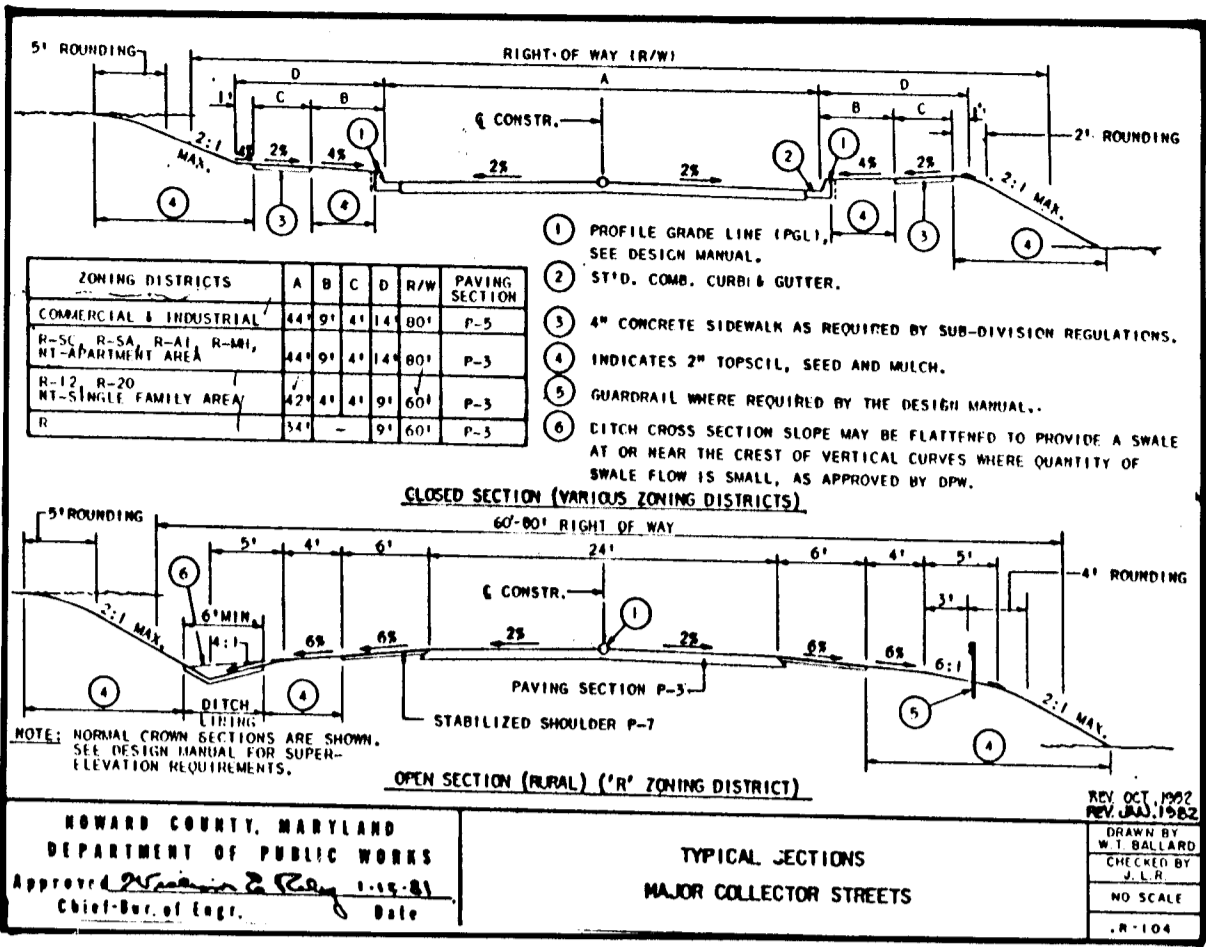
1382

DATE: _____
BY: _____
SUPPORTED BY: _____
NOTE BOOK NO. _____
ALTIMETER CHECKED: _____
OF WAY CHECKED: _____
NO. _____

DATE: _____
BY: _____
SUPPORTED BY: _____
NOTE BOOK NO. _____
GRADES CHECKED: _____
B.M.'S NOTED: _____
STRUCTURE NOTATIONS CHECKED: _____
NO. _____

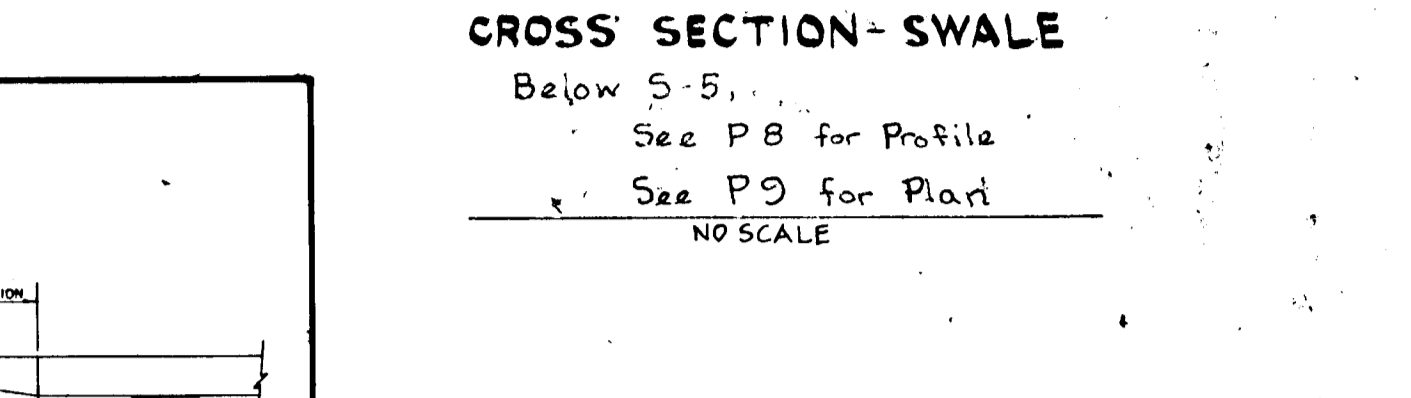
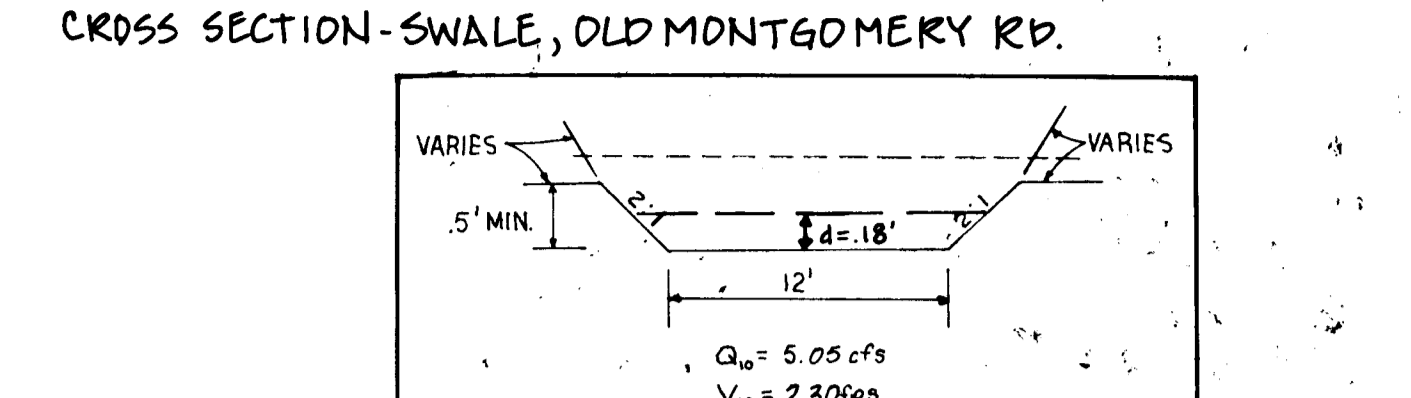
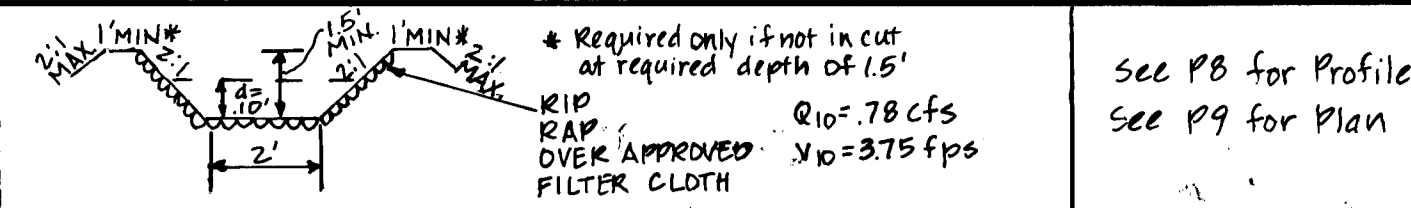
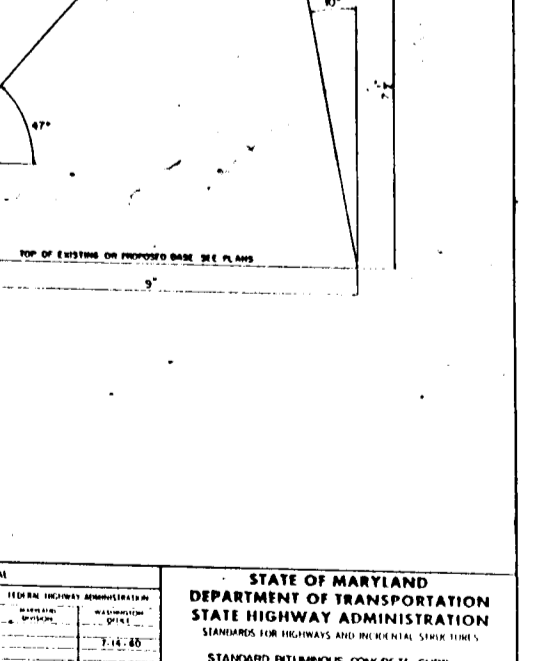
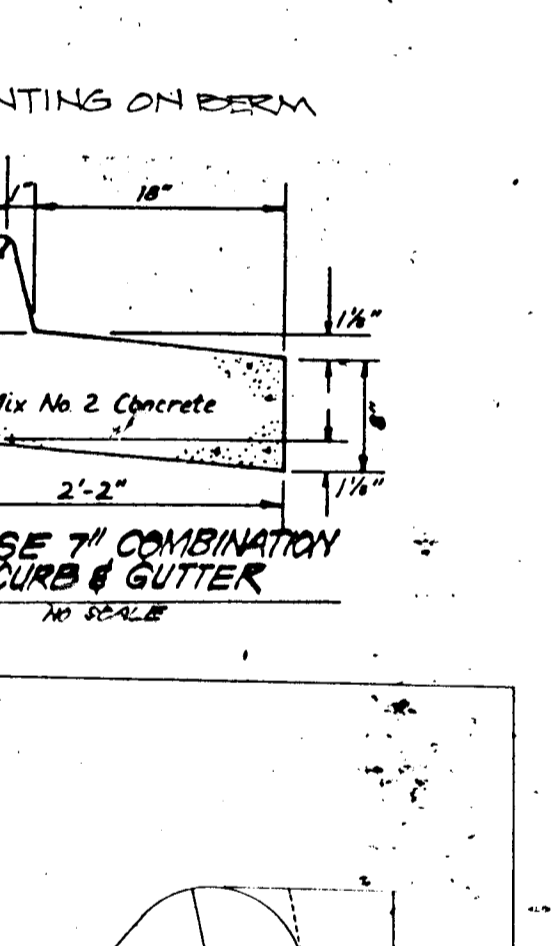
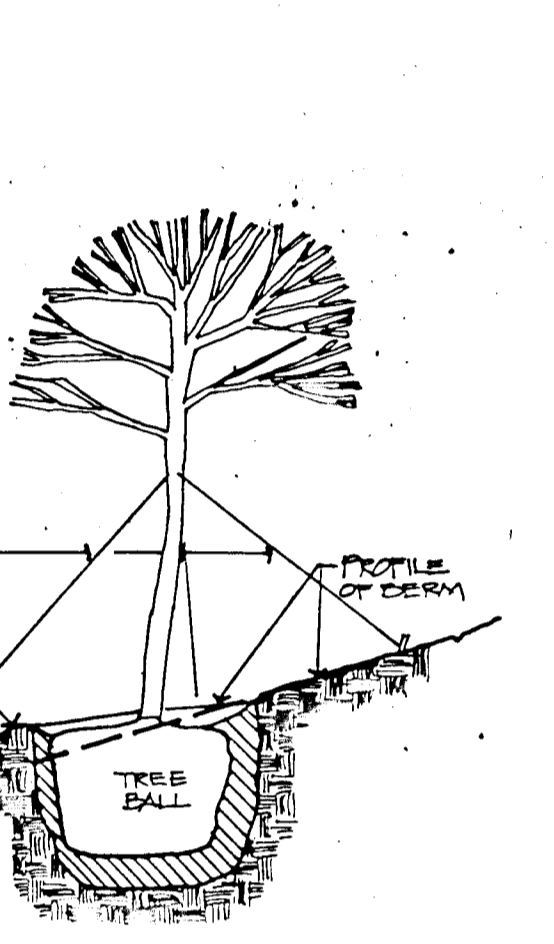


Robert M. Smith
Professional Engineer
12/2/91

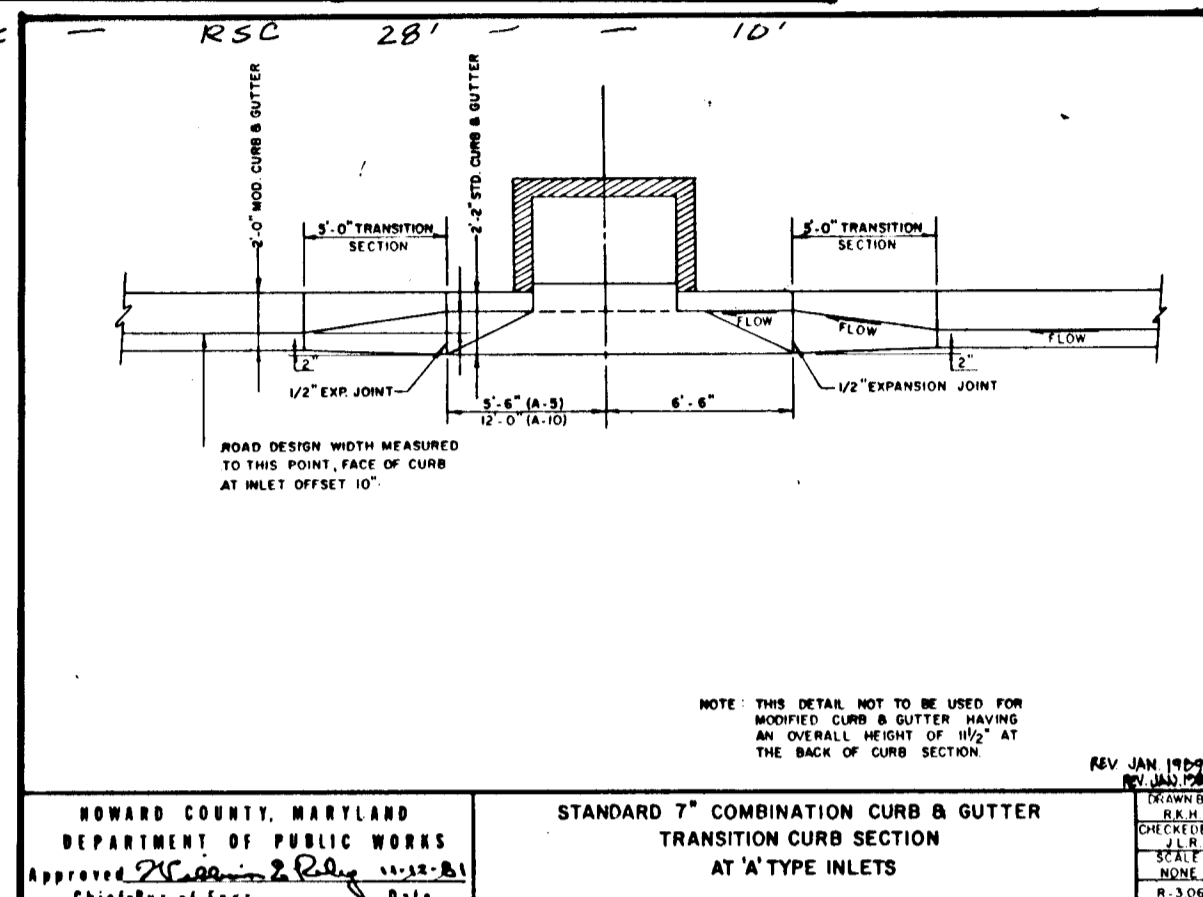


Standard Curb & Gutter	Modified Curb & Gutter	Road Names	Station + Sta	Pav. Sect.	Design Speed	Class	R/W	Zoning	A	B	C	D
		Relocated Md. Rt. 103	16+70.84-27+02.23	P-5	40 MPH	Minor Arterial	80'	RSC	50' 6"	1' 8"	4'	5' 14"
		Relocated Md. Rt. 103	27+02.23-28+34.08	P-5	40 MPH	Minor Arterial	1/2 R/W 40'	RSC	1/2 PAV 34'	2'	4'	6'
		Brightfield Road	0+00-1+14.92	P-3	40 MPH	Major Collector	80'	RSC	44'	9'	4'	14'
		Brightlight Place	4+00-4+00	P-2	30 MPH	Local Road	50'	RSC	30'	4'	4'	9'
		Brightlight Place	4+00-12+37.11	P-2	30 MPH	Cul-de-Sac	50'	RSC	28'	4'	6'	9'
		Brightwind Court	0+00-1+47.92	P-2	30 MPH	Local Road	50'	RSC	30'	4'	4'	9'
		Brightwind Court	0+00-4+29.44	P-2	30 MPH	Cul-de-Sac	50'	RSC	28'	4'	6'	9'
		Montgomery Rd. Conn.	0+00-8+74.0	P-5	40 MPH	M. Art.		RSC	64'	8'	4'	14'

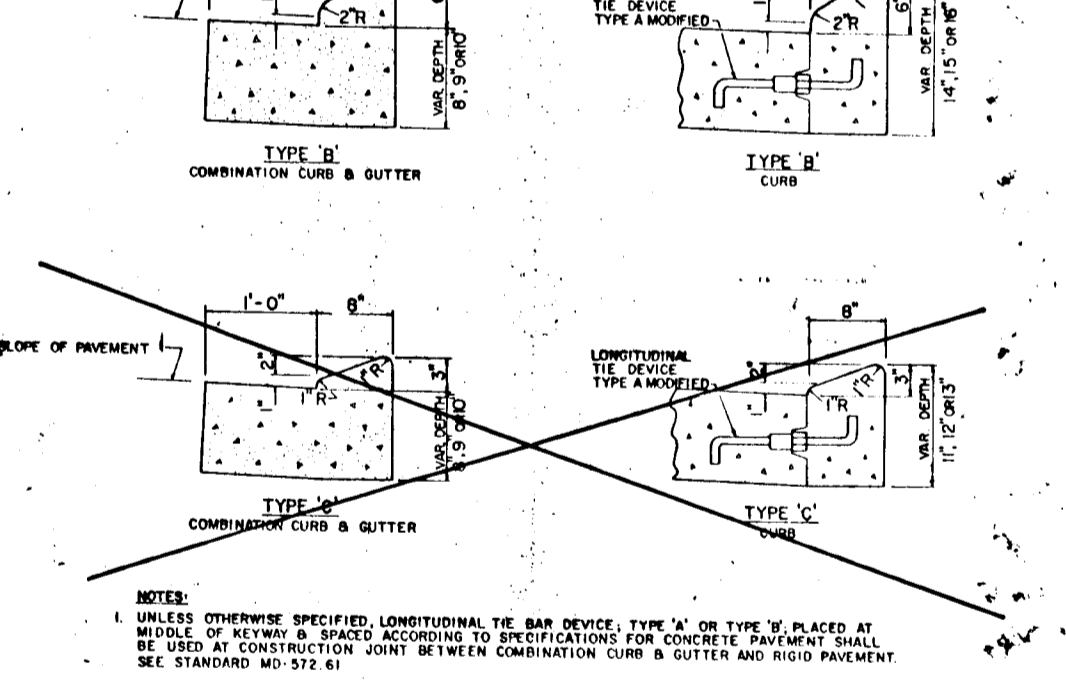
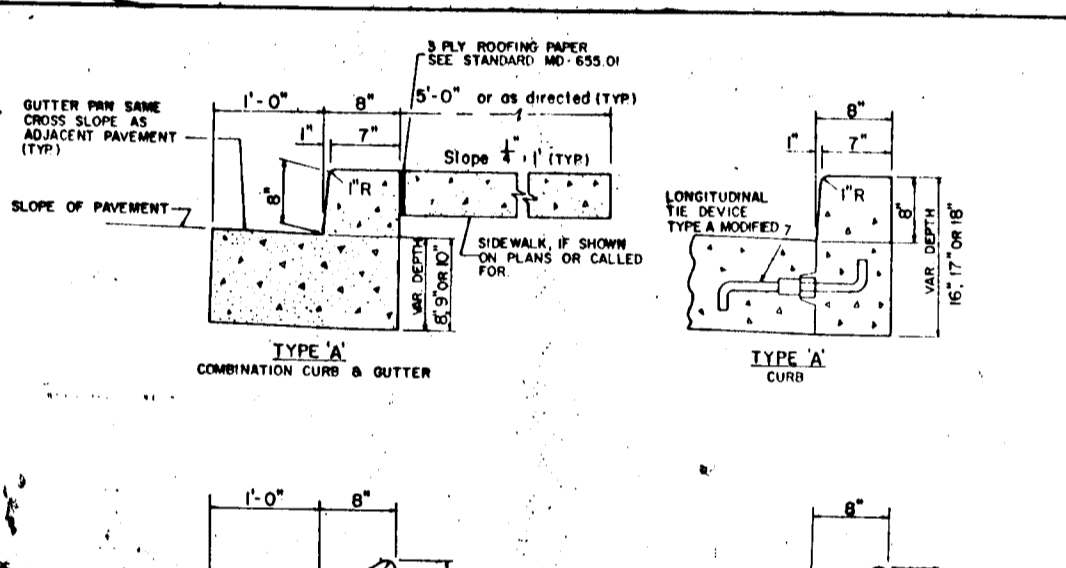
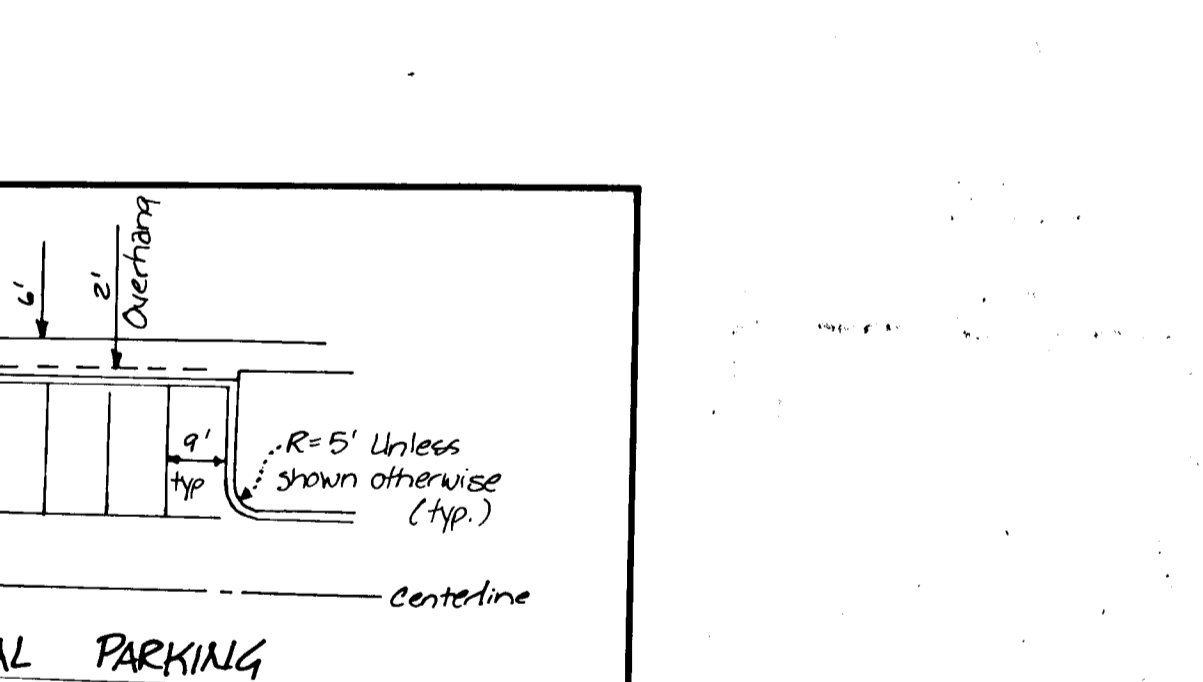
* MATCH TO ELEV WITH MODIFIED CURB. CROSS SLOPE TO CENTERLINE HELD @ 3% FOR MODIFIED CURB (RT. SIDE OF ROAD). CROSS SLOPE > 3% ON LEFT SIDE.



SECTION NUMBER	ROAD AND STREET CLASSIFICATION	FULL DEPTH BIT. CONC. ALTERNATE	GRANULAR BASE ALTERNATES
P-1	PARKING BAYS APARTMENTS AND COMMERCIAL INDUSTRIAL ZONES WITH NO HEAVY TRUCKS	1" BIT. CONC. SURFACE 4" BIT. CONC. BASE	1" BIT. CONC. SURFACE 2" BIT. CONC. BASE
P-2	TRAVELWAYS FOR APARTMENTS AND COMMERCIAL INDUSTRIAL ZONES WITH NO HEAVY TRUCKS	1 1/2" BIT. CONC. SURFACE 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 4" BIT. CONC. BASE
P-3	RESIDENTIAL ZONES MINOR AND MAJOR COLLECTOR COMMERCIAL INDUSTRIAL ZONES LOCAL AND CUL-DE-SAC STREETS ALLEYS	1 1/2" BIT. CONC. SURFACE 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 4" BIT. CONC. BASE
P-4	TRAVELWAYS INDUSTRIAL ZONES WITH HEAVY TRUCKS MORE THAN 10 HEAVY TRUCKS PER DAY	1 1/2" BIT. CONC. SURFACE 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 4" BIT. CONC. BASE
P-5	COMMERCIAL-INDUSTRIAL ZONES MINOR COLLECTOR	1 1/2" BIT. CONC. SURFACE 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 4" BIT. CONC. BASE



STRUCTURE	PIPE SIZE	Q (cfs)	d ₅₀	THICKNESS	LENGTH	WIDTH
S-1	15"	8.20	4"	9"	20'	6.05
S-2	15"	7.99	4"	9"	20'	6.05
S-3	18"	10.40	4"	9"	20'	4.70
S-4	18"	8.10	4"	9"	20'	4.70
S-5	24"	5.03	4"	9"	20'	12.00
S-7	24"	2.68	4"	9"	20'	6.00



ROAD NAME	Sta + Sta	F	G
Brightlight Place	0+00-4+00	15'	33'
Brightlight Place	4+00-11+39.03	14'	32'
Brightwind Court	0+00-3+52.78	14'	32'

**MARYLAND RT. 103
SEE SHEET 1**

APPROVED: *[Signature]* DATE: *[Date]*

LAND DESIGN ENGINEERING, INC.
10820 Guilford Road • Suite 210 • Jessup • Maryland 20794 • (301) 804-8254 • (301) 880-0034

**ROAD CONSTRUCTION PLANS
CONSTRUCTION DETAILS
BRIGHTFIELD
SECTION 2
First Election District
Howard County, Maryland**

Scale: As Shown
Drawing: 5 OF 19
Job No: 89-101
File No:

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

[Signature] DATE: 7/23/90
Chief, Land Development Division

[Signature] DATE: 6/6/91
Chief, Bureau of Highways

[Signature] DATE: 8-5-91
Chief, Bureau of Engineering

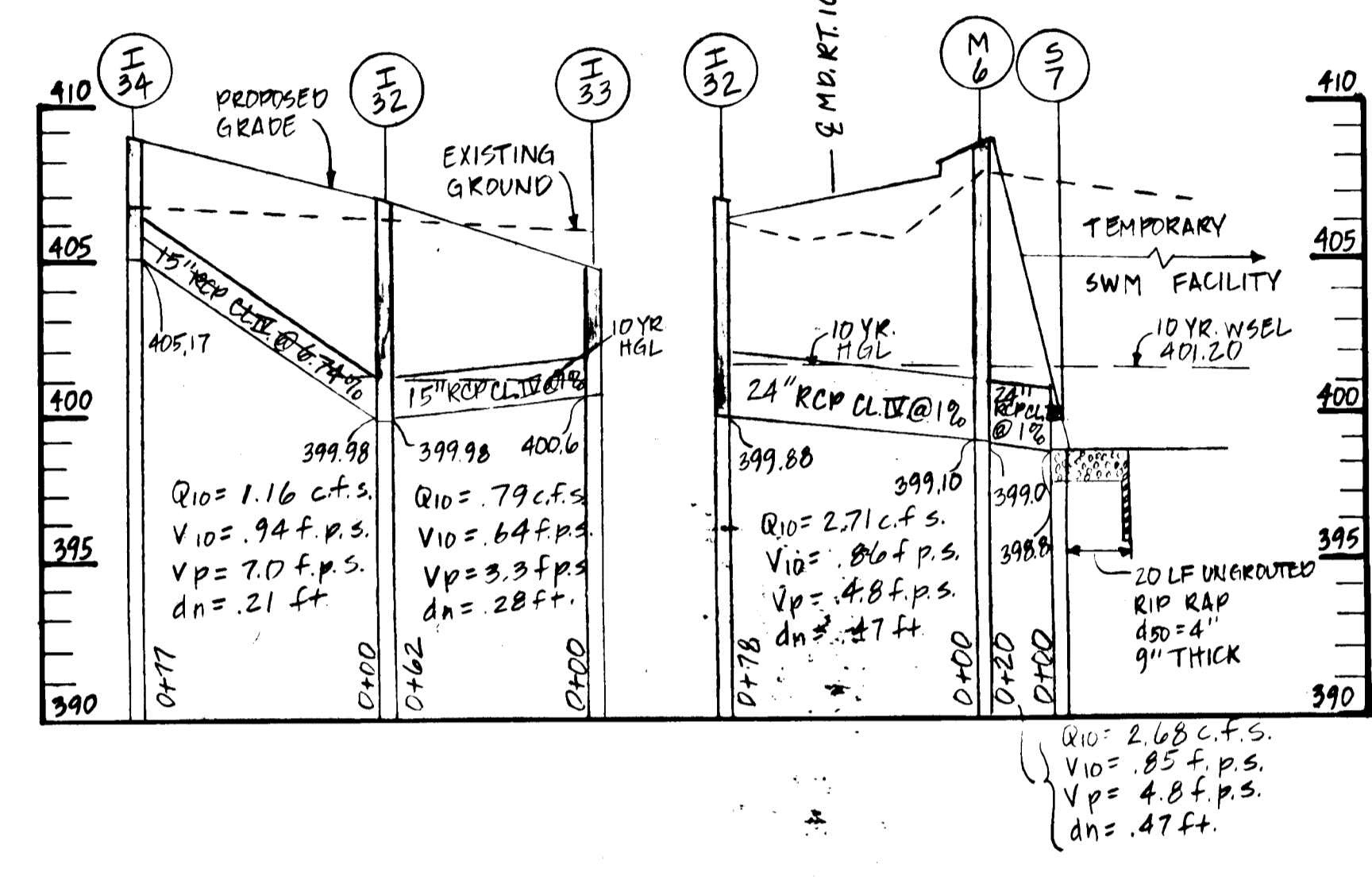
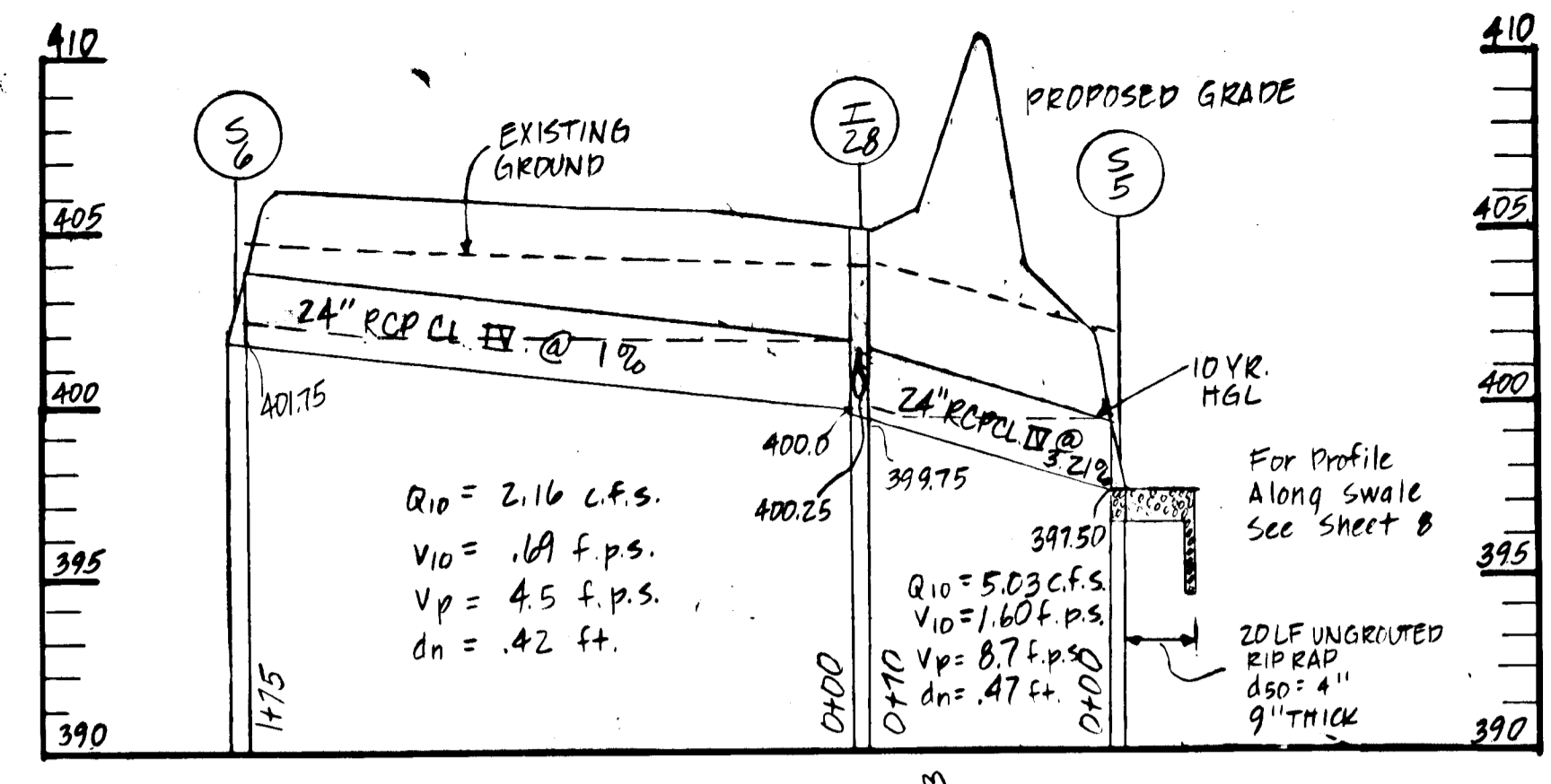
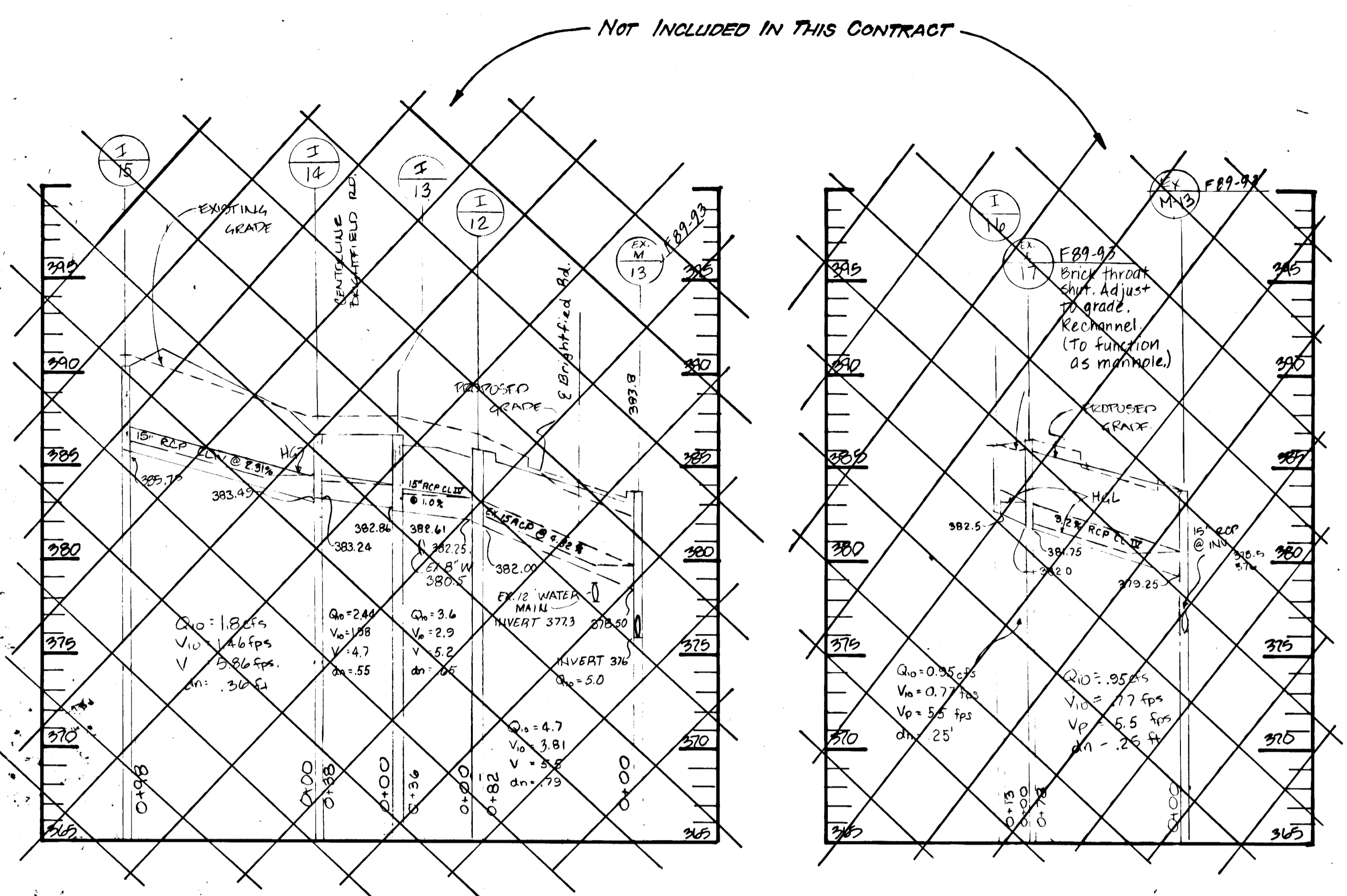
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING.

[Signature] DATE: 9/3/91
Chief, Division of Community Planning & Land Development

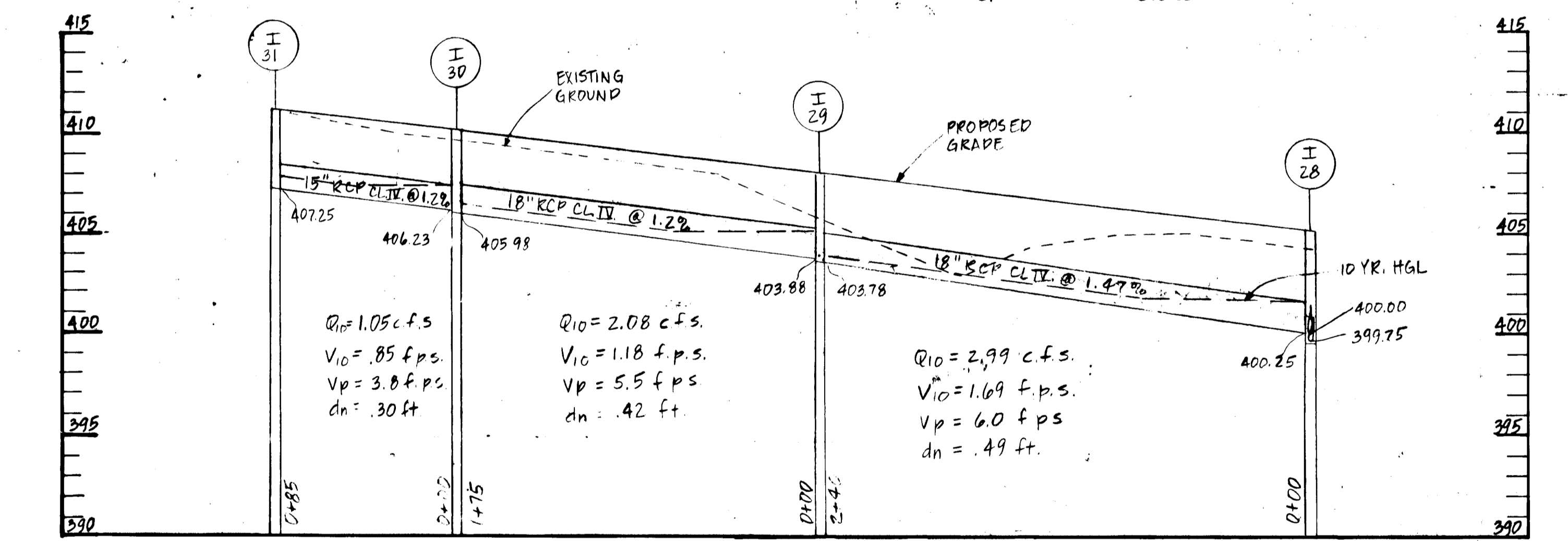
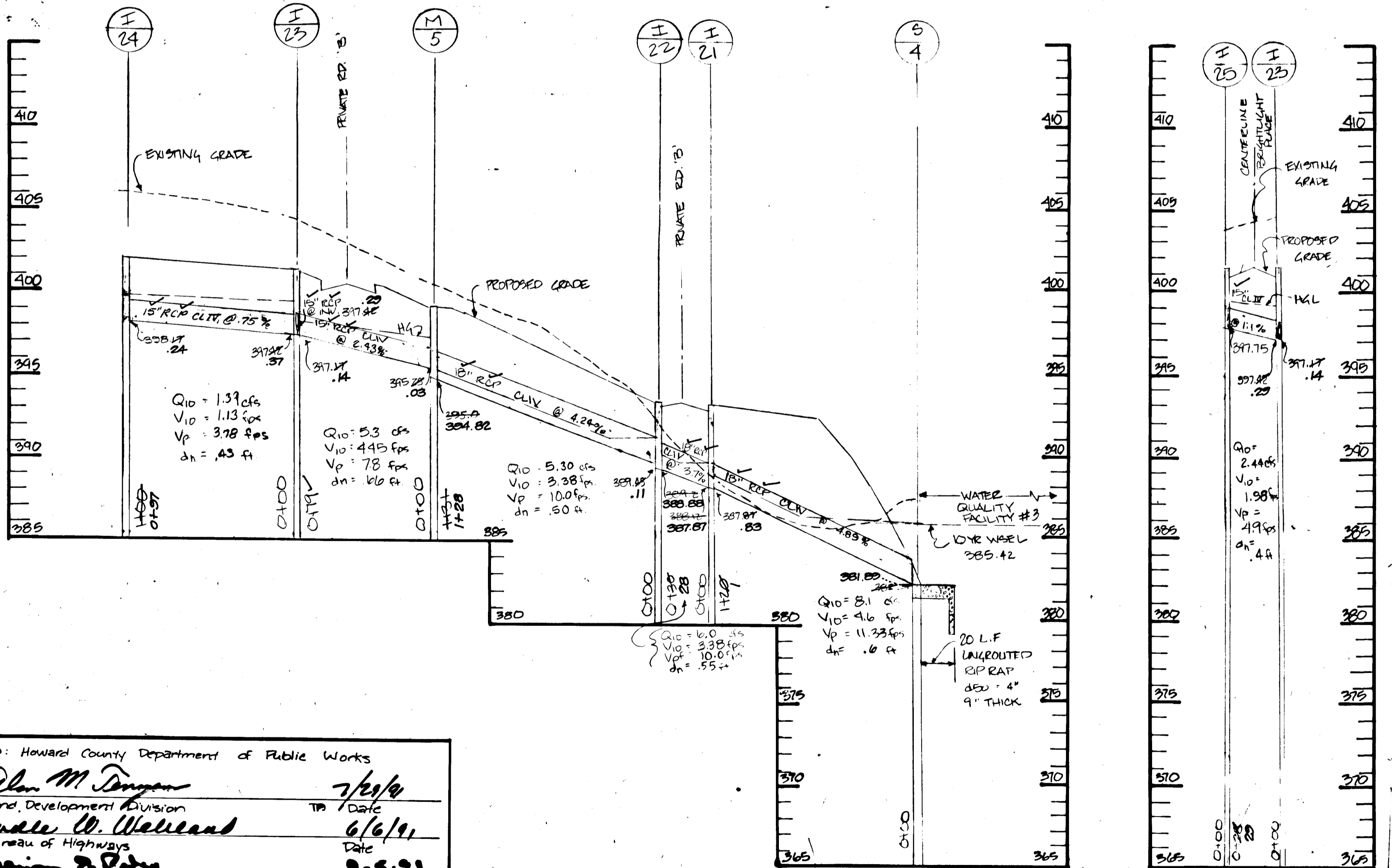
Engineers Seal:

STATE OF MARYLAND
Professional Engineer
[Signature] DATE: 4/24/91

1387



STRUCTURE SCHEDULE						
No.	TYPE	INN. IN.	INN. OUT.	TOP ELEVATION	REMARKS	CENTERLINE STATION
I-1	10" Inlet	374.78	374.50	378.50	30 4.11	See Plan-Openings All Sides
I-2	A-5 with defl.	385.25	386.30	383.82	30 4.01, 4.83	14767 Brightfield Road
I-3	A-5 with defl.	385.25	385.66	400.67	30 4.01, 4.83	17+12.05 Brightfield Road
I-4	A-5 with defl.	386.25	386.25	400.67	30 4.01, 4.83	17+12.05 Brightfield Road
I-5	Not used					
I-6	10" Inlet	400.25	400.25	404.5	30 4.11	See Plan-Openings All Sides
I-7	A-5 with defl.	388.32	388.24	383.82	30 4.01, 4.83	14767 Brightfield Road
I-8	A-5	388.32	388.24	401.02	30 4.01	1+91.19 Brightfield Court LR
I-9	A-5	388.32	388.24	384.05	30 4.01	14976 Private Road 'A'
I-10	A-5 with defl.	385.75	385.65	389.32	30 4.01, 4.83	2177.01 Brightlight Place
I-11	A-5 with defl.	385.75	385.65	389.32	30 4.01, 4.83	2177.01 Brightlight Place
I-12	A-5 with defl.	385.75	385.65	389.32	30 4.01, 4.83	2177.01 Brightlight Place
I-13	A-5 with defl.	385.75	385.65	389.32	30 4.01, 4.83	2177.01 Brightlight Place
I-14	A-5 with defl.	385.75	385.65	389.32	30 4.01, 4.83	2177.01 Brightlight Place
I-15	A-5 with defl.	385.75	385.65	389.32	30 4.01, 4.83	2177.01 Brightlight Place
I-16	A-5 with defl.	385.75	385.65	389.32	30 4.01, 4.83	2177.01 Brightlight Place
I-17	A-5	385.75	385.65	389.32	30 4.01	5150 Brightlight Place
I-18	A-5	385.75	385.65	389.32	30 4.01	5150 Brightlight Place
I-19	10" Inlet	385.75	385.65	389.32	30 4.11	See Plan-Openings All Sides
I-20	10" Inlet	385.75	385.65	389.32	30 4.11	See Plan-Openings All Sides
I-21	A-5 with defl.	385.75	385.65	389.32	30 4.01, 4.83	0498.57 Private Road 'B'
I-22	A-5 with defl.	385.75	385.65	389.32	30 4.01, 4.83	0498.57 Private Road 'B'
I-23	A-5 with defl.	385.75	385.65	389.32	30 4.01, 4.83	9+51.66 Brightlight Place
I-24	10" Inlet	385.75	385.65	389.32	30 4.11	See Plan-Openings All Sides
I-25	A-10	385.75	385.65	389.32	30 4.02	9+51.66 Brightlight Place
I-26	A-5 with defl.	385.75	385.65	389.32	30 4.01, 4.83	0498.57 Private Road 'B'
I-27	A-5 with defl.	385.75	385.65	389.32	30 4.01, 4.83	0498.57 Private Road 'B'
I-28	COG-15	403.88	403.78	408.14	MD 374.51	17+25 MD RT 103
I-29	COG-15	403.88	403.78	408.14	MD 374.51	19+65 MD RT 103
I-30	COG-15	403.88	403.78	408.14	MD 374.51	21+40 MD RT 103
I-31	COG-15	403.88	403.78	408.14	MD 374.51	22+25 MD RT 103
I-32	COG-15	403.88	403.78	408.14	MD 374.51	26+10 MD RT 103
I-33	COG-15	403.88	403.78	408.14	MD 374.51	26+75 MD RT 103
I-34	COG-15	403.88	403.78	408.14	MD 374.51	25+30 MD RT 103
M-1	Standard Manhole	385.75	385.65	389.32	30 4.01	4494.18 Brightfield Court
M-2	Standard Manhole	385.75	385.65	389.32	30 4.01	2485 Brightlight Place - 6' L
M-3	Standard Manhole	385.75	385.65	389.32	30 4.01	2485 Brightlight Place - 30' L
M-4	Standard Manhole	385.75	385.65	389.32	30 4.01	2485 Brightlight Place - 30' L
M-5	Standard Manhole	385.75	385.65	389.32	30 4.01	2485 Brightlight Place - 30' L
M-6	Standard Manhole	385.75	385.65	389.32	30 4.01	2485 Brightlight Place - 30' L
M-7	Standard Manhole	385.75	385.65	389.32	30 4.01	2485 Brightlight Place - 30' L
M-8	Standard Manhole	385.75	385.65	389.32	30 4.01	2485 Brightlight Place - 30' L
M-9	Standard Manhole	385.75	385.65	389.32	30 4.01	2485 Brightlight Place - 30' L
M-10	Standard Manhole	385.75	385.65	389.32	30 4.01	2485 Brightlight Place - 30' L
M-11	Standard Manhole	385.75	385.65	389.32	30 4.01	2485 Brightlight Place - 30' L
M-12	Standard Manhole	385.75	385.65	389.32	30 4.01	2485 Brightlight Place - 30' L



NOTE: THESE INLETS AND CULVERTS DESIGNED USING MSHA CRITERIA AND COMPUTATION FORMS.

APPROVED: Howard County Department of Public Works
 Date: 7/2/94
 Chief, Land Development Division
 Approved: W. Welland
 Date: 6/6/94
 Chief, Bureau of Highways
 Approved: R. P. [Signature]
 Date: 8-9-94
 Chief Bureau of Engineering
 Approved: Howard County Dept. of Planning & Zoning
 Date: 9/3/94
 Chief, Division of Community Planning & Land Development

DATE	REVISION	DATE
11-21-95	Revised Structure Schedule by EFS, JUE	
2-8-94	Delete Profiles and Revise Structure Schedule	
	REVISION	
	STRUCTURE SCHEDULE	
5-24-92	M-1	
3-18-92	STRUCTURE SCHEDULE: ARCHES I-11 THROUGH I-2 AND I-2 THROUGH I-1	

STATE OF MARYLAND
 ENGINEER'S SEAL
 For Revision by CFS, JUE
 Date: 2/8/94
 For Revision by CFS, JUE
 Date: 4/21/95

ROAD CONSTRUCTION PLANS
 STORM DRAIN PROFILES
 BRIGHTFIELD
 SECTION 2
 First Election District
 Howard County, Maryland

DESIGNED: [Signature]
 DRAWN: [Signature]
 CHECKED: [Signature]
 DATE: [Signature]

SCALE: HORIZ. 1"=50'
 VERT. 1"=5'
 SHEET: 7 OF 19
 DRAWING: 81-101
 JOB NO. [Signature]

FILE NO. F-91-53

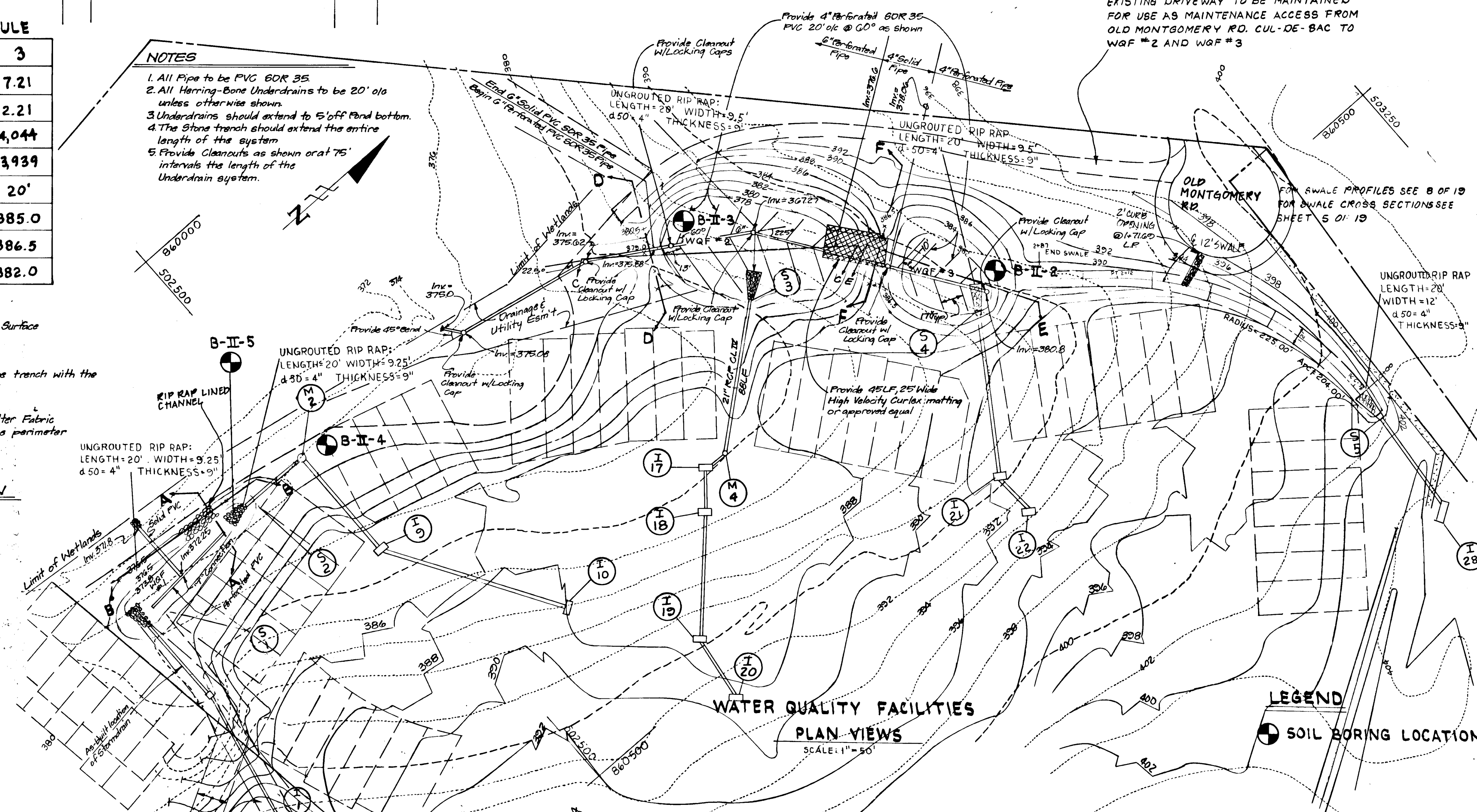
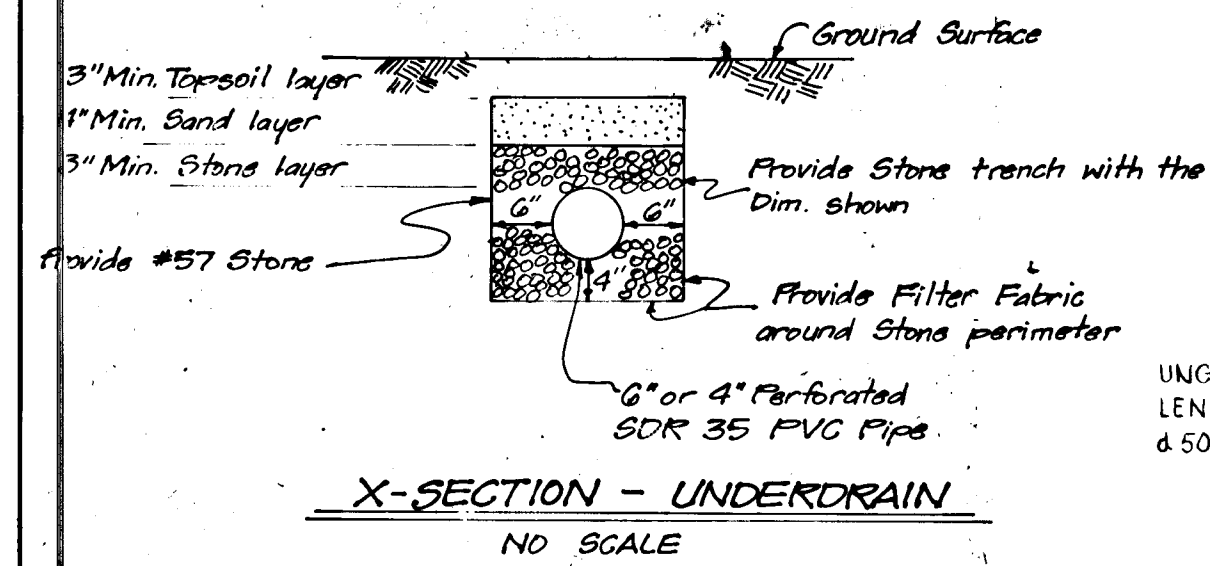
WATER QUALITY FACILITY SCHEDULE

WQF #	1	2	3
Contributing Area (Ac.)	5.74	11.91	7.21
Impervious Area (Ac.)	2.68	3.96	2.21
Pond Volume Required (CF) 1/2" Impervious Runoff	4,904	7,245	4,044
Pond Volume Provided (CF)	5,395	8,320	13,939
Weir Length	20'	20'	20'
Crest Elevation	375.0	379.0	385.0
Top Elevation	376.5	380.5	386.5
Bottom Elevation	372.0	378.0	382.0

No.	REVISIONS	DATE
3	Grading, Herring-Bone Underdrain System	11-21-95

NOTES

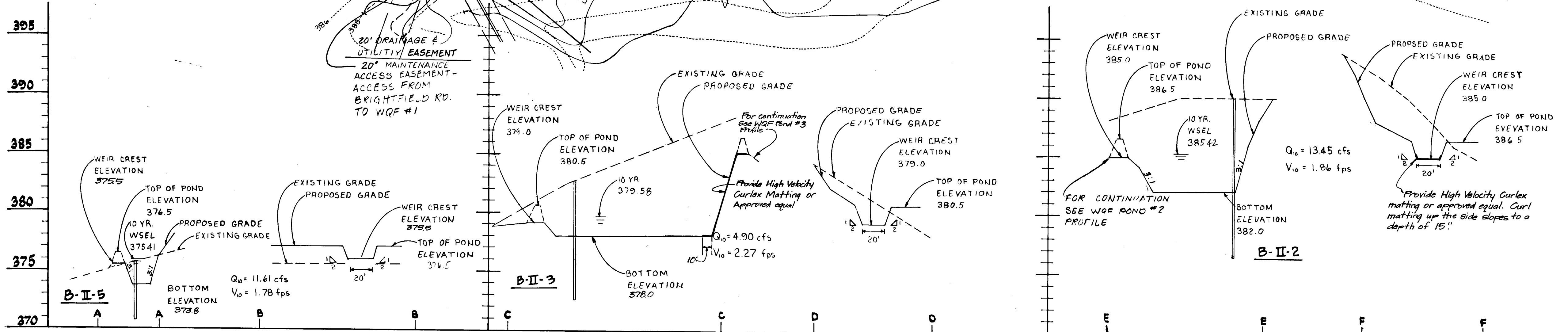
- All Pipe to be PVC GOR 35
- All Herring-Bone Underdrains to be 20' o/c unless otherwise shown
- Underdrains should extend to 5' off Pond bottom
- The Stone trench should extend the entire length of the system
- Provide Cleanouts as shown or at 75' intervals the length of the Underdrain system.



RECORD OF SOIL EXPLORATION

KIDDE CONSULTANTS, INC.

NO.	DEPTH	DESCRIPTION	TESTS	REMARKS
B-II-1	0.0 - 1.0	1st' topsoil		
B-II-1	1.0 - 2.0	medium grey silty clay with some sand (ML)		
B-II-1	2.0 - 3.0	medium grey silty clay with some sand (ML)		
B-II-1	3.0 - 4.0	medium grey silty clay with some sand (ML)		
B-II-1	4.0 - 5.0	medium grey silty clay with some sand (ML)		
B-II-1	5.0 - 6.0	medium grey silty clay with some sand (ML)		
B-II-1	6.0 - 7.0	medium grey silty clay with some sand (ML)		
B-II-1	7.0 - 8.0	medium grey silty clay with some sand (ML)		
B-II-1	8.0 - 9.0	medium grey silty clay with some sand (ML)		
B-II-1	9.0 - 10.0	medium grey silty clay with some sand (ML)		
B-II-1	10.0 - 11.0	medium grey silty clay with some sand (ML)		
B-II-1	11.0 - 12.0	medium grey silty clay with some sand (ML)		
B-II-1	12.0 - 13.0	medium grey silty clay with some sand (ML)		
B-II-1	13.0 - 14.0	medium grey silty clay with some sand (ML)		
B-II-1	14.0 - 15.0	medium grey silty clay with some sand (ML)		
B-II-1	15.0 - 16.0	medium grey silty clay with some sand (ML)		
B-II-1	16.0 - 17.0	medium grey silty clay with some sand (ML)		
B-II-1	17.0 - 18.0	medium grey silty clay with some sand (ML)		
B-II-1	18.0 - 19.0	medium grey silty clay with some sand (ML)		
B-II-1	19.0 - 20.0	medium grey silty clay with some sand (ML)		
B-II-1	20.0 - 21.0	medium grey silty clay with some sand (ML)		
B-II-1	21.0 - 22.0	medium grey silty clay with some sand (ML)		
B-II-1	22.0 - 23.0	medium grey silty clay with some sand (ML)		
B-II-1	23.0 - 24.0	medium grey silty clay with some sand (ML)		
B-II-1	24.0 - 25.0	medium grey silty clay with some sand (ML)		
B-II-1	25.0 - 26.0	medium grey silty clay with some sand (ML)		
B-II-1	26.0 - 27.0	medium grey silty clay with some sand (ML)		
B-II-1	27.0 - 28.0	medium grey silty clay with some sand (ML)		
B-II-1	28.0 - 29.0	medium grey silty clay with some sand (ML)		
B-II-1	29.0 - 30.0	medium grey silty clay with some sand (ML)		
B-II-1	30.0 - 31.0	medium grey silty clay with some sand (ML)		
B-II-1	31.0 - 32.0	medium grey silty clay with some sand (ML)		
B-II-1	32.0 - 33.0	medium grey silty clay with some sand (ML)		
B-II-1	33.0 - 34.0	medium grey silty clay with some sand (ML)		
B-II-1	34.0 - 35.0	medium grey silty clay with some sand (ML)		
B-II-1	35.0 - 36.0	medium grey silty clay with some sand (ML)		
B-II-1	36.0 - 37.0	medium grey silty clay with some sand (ML)		
B-II-1	37.0 - 38.0	medium grey silty clay with some sand (ML)		
B-II-1	38.0 - 39.0	medium grey silty clay with some sand (ML)		
B-II-1	39.0 - 40.0	medium grey silty clay with some sand (ML)		
B-II-1	40.0 - 41.0	medium grey silty clay with some sand (ML)		
B-II-1	41.0 - 42.0	medium grey silty clay with some sand (ML)		
B-II-1	42.0 - 43.0	medium grey silty clay with some sand (ML)		
B-II-1	43.0 - 44.0	medium grey silty clay with some sand (ML)		
B-II-1	44.0 - 45.0	medium grey silty clay with some sand (ML)		
B-II-1	45.0 - 46.0	medium grey silty clay with some sand (ML)		
B-II-1	46.0 - 47.0	medium grey silty clay with some sand (ML)		
B-II-1	47.0 - 48.0	medium grey silty clay with some sand (ML)		
B-II-1	48.0 - 49.0	medium grey silty clay with some sand (ML)		
B-II-1	49.0 - 50.0	medium grey silty clay with some sand (ML)		
B-II-1	50.0 - 51.0	medium grey silty clay with some sand (ML)		
B-II-1	51.0 - 52.0	medium grey silty clay with some sand (ML)		
B-II-1	52.0 - 53.0	medium grey silty clay with some sand (ML)		
B-II-1	53.0 - 54.0	medium grey silty clay with some sand (ML)		
B-II-1	54.0 - 55.0	medium grey silty clay with some sand (ML)		
B-II-1	55.0 - 56.0	medium grey silty clay with some sand (ML)		
B-II-1	56.0 - 57.0	medium grey silty clay with some sand (ML)		
B-II-1	57.0 - 58.0	medium grey silty clay with some sand (ML)		
B-II-1	58.0 - 59.0	medium grey silty clay with some sand (ML)		
B-II-1	59.0 - 60.0	medium grey silty clay with some sand (ML)		
B-II-1	60.0 - 61.0	medium grey silty clay with some sand (ML)		
B-II-1	61.0 - 62.0	medium grey silty clay with some sand (ML)		
B-II-1	62.0 - 63.0	medium grey silty clay with some sand (ML)		
B-II-1	63.0 - 64.0	medium grey silty clay with some sand (ML)		
B-II-1	64.0 - 65.0	medium grey silty clay with some sand (ML)		
B-II-1	65.0 - 66.0	medium grey silty clay with some sand (ML)		
B-II-1	66.0 - 67.0	medium grey silty clay with some sand (ML)		
B-II-1	67.0 - 68.0	medium grey silty clay with some sand (ML)		
B-II-1	68.0 - 69.0	medium grey silty clay with some sand (ML)		
B-II-1	69.0 - 70.0	medium grey silty clay with some sand (ML)		
B-II-1	70.0 - 71.0	medium grey silty clay with some sand (ML)		
B-II-1	71.0 - 72.0	medium grey silty clay with some sand (ML)		
B-II-1	72.0 - 73.0	medium grey silty clay with some sand (ML)		
B-II-1	73.0 - 74.0	medium grey silty clay with some sand (ML)		
B-II-1	74.0 - 75.0	medium grey silty clay with some sand (ML)		
B-II-1	75.0 - 76.0	medium grey silty clay with some sand (ML)		
B-II-1	76.0 - 77.0	medium grey silty clay with some sand (ML)		
B-II-1	77.0 - 78.0	medium grey silty clay with some sand (ML)		
B-II-1	78.0 - 79.0	medium grey silty clay with some sand (ML)		
B-II-1	79.0 - 80.0	medium grey silty clay with some sand (ML)		
B-II-1	80.0 - 81.0	medium grey silty clay with some sand (ML)		
B-II-1	81.0 - 82.0	medium grey silty clay with some sand (ML)		
B-II-1	82.0 - 83.0	medium grey silty clay with some sand (ML)		
B-II-1	83.0 - 84.0	medium grey silty clay with some sand (ML)		
B-II-1	84.0 - 85.0	medium grey silty clay with some sand (ML)		
B-II-1	85.0 - 86.0	medium grey silty clay with some sand (ML)		
B-II-1	86.0 - 87.0	medium grey silty clay with some sand (ML)		
B-II-1	87.0 - 88.0	medium grey silty clay with some sand (ML)		
B-II-1	88.0 - 89.0	medium grey silty clay with some sand (ML)		
B-II-1	89.0 - 90.0	medium grey silty clay with some sand (ML)		
B-II-1	90.0 - 91.0	medium grey silty clay with some sand (ML)		
B-II-1	91.0 - 92.0	medium grey silty clay with some sand (ML)		
B-II-1	92.0 - 93.0	medium grey silty clay with some sand (ML)		
B-II-1	93.0 - 94.0	medium grey silty clay with some sand (ML)		
B-II-1	94.0 - 95.0	medium grey silty clay with some sand (ML)		
B-II-1	95.0 - 96.0	medium grey silty clay with some sand (ML)		
B-II-1	96.0 - 97.0	medium grey silty clay with some sand (ML)		
B-II-1	97.0 - 98.0	medium grey silty clay with some sand (ML)		
B-II-1	98.0 - 99.0	medium grey silty clay with some sand (ML)		
B-II-1	99.0 - 100.0	medium grey silty clay with some sand (ML)		



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

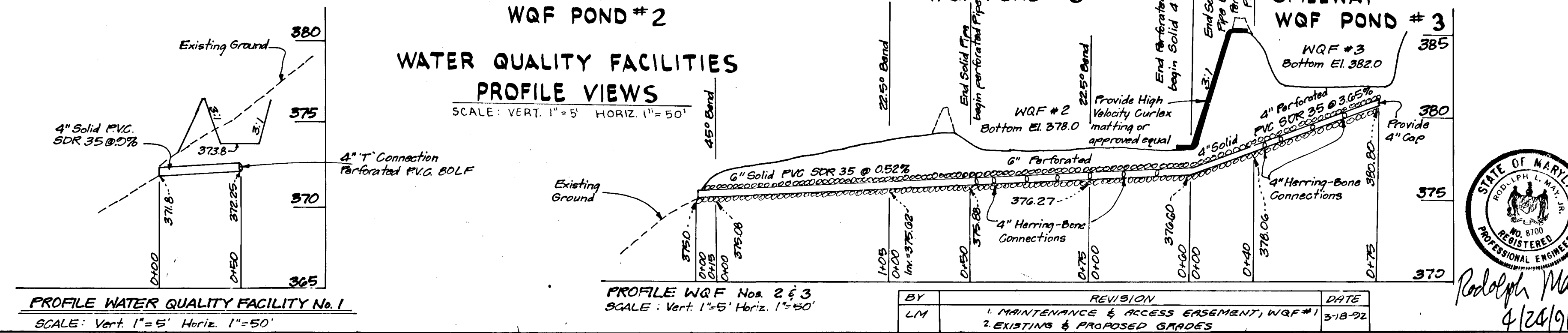
Howard W. Weiland 7/29/91
Chief, Land Development Division

James W. Weiland 6/16/91
Chief, Bureau of Highways

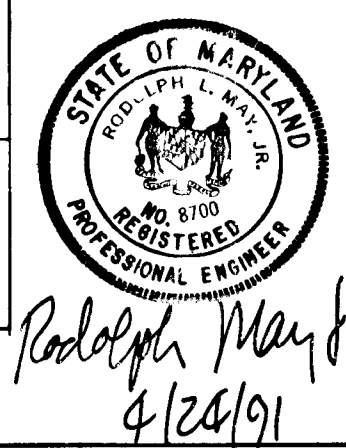
James W. Weiland 8-5-91
Chief, Bureau of Engineering

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING.

Anna H. Hoenes 9/3/91
Chief, Division of Community Planning & Land Development



For Revisions to WQF-1,3 by CP&S, Inc. Dated 11/14/95



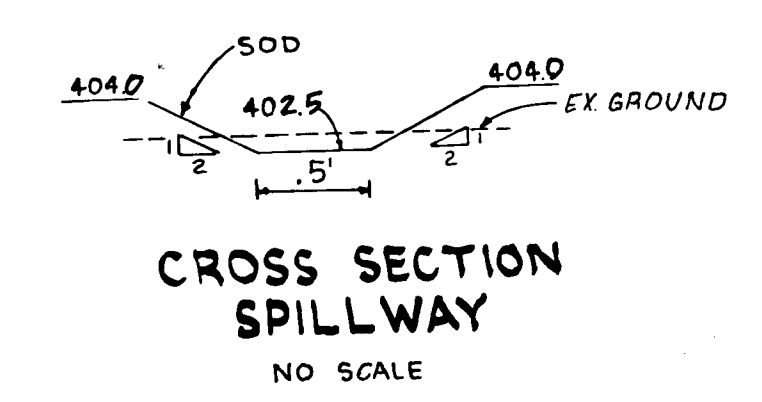
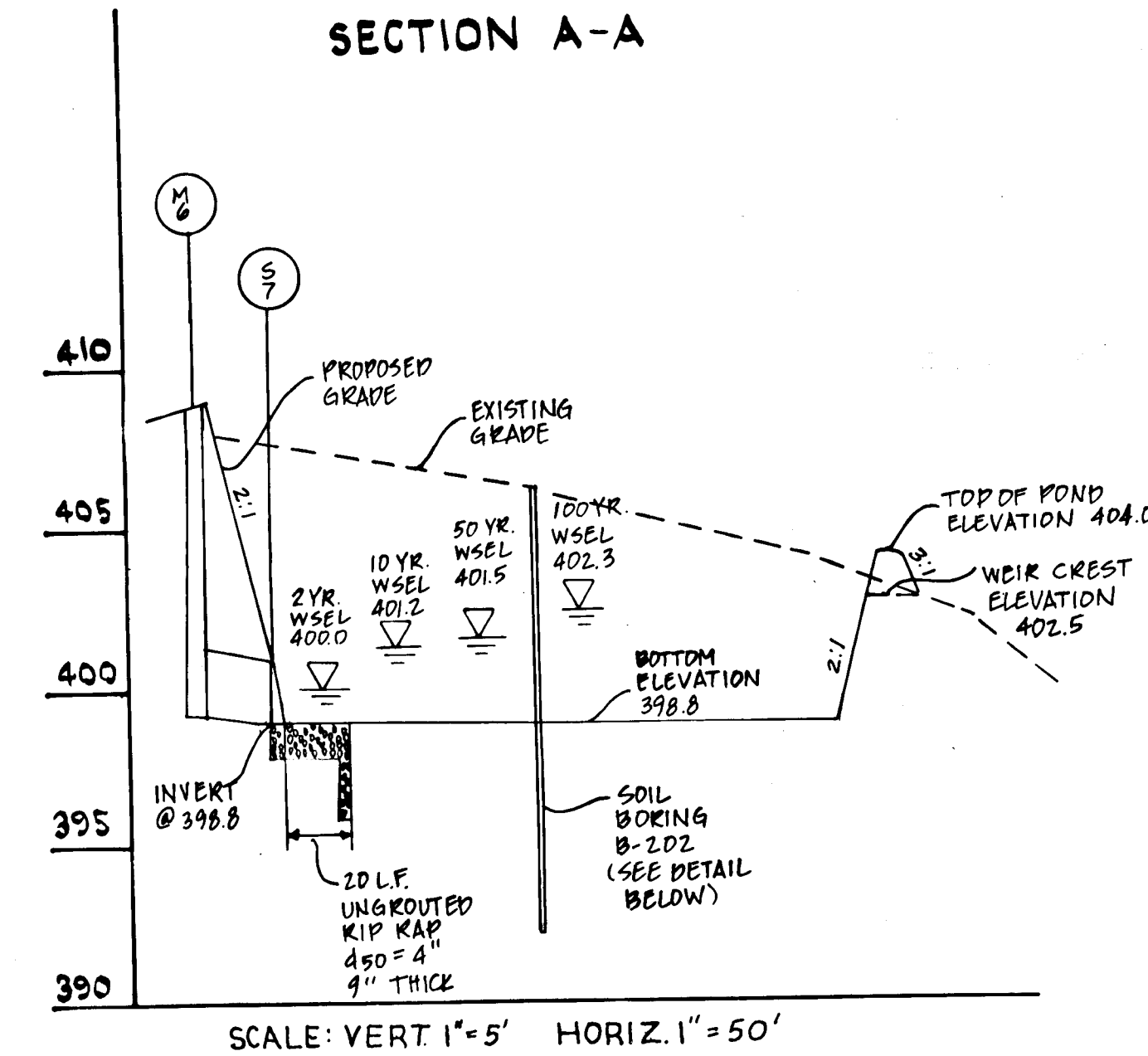
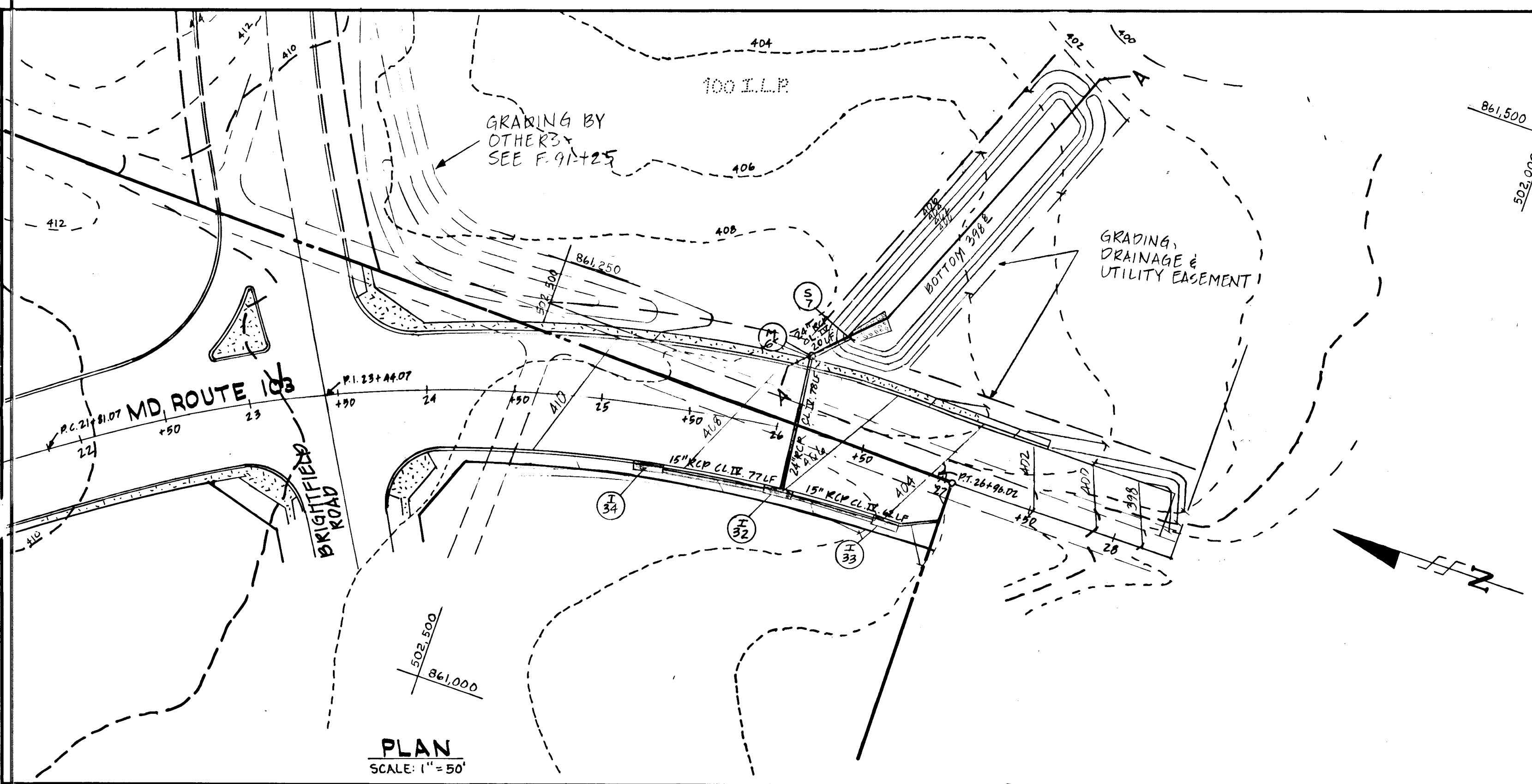
LAND DESIGN ENGINEERING, INC.
10620 Guilford Road • Suite 210 • Jessup • Maryland 20794 • (301)804-6254 • (301) 880-0034

**ROAD CONSTRUCTION PLANS
WATER QUALITY FACILITIES
PLAN AND PROFILES
BRIGHTFIELD
SECTION 2**
First Election District
Howard County, Maryland

DESIGNED: _____
DRAWN: _____
CHECKED: _____
DATE: _____

SCALE: AS SHOWN
SHEET 9 OF 10
JOB NO. 89-101
FILE NO. _____

OWNERS:
Kings Meade LTD. Partnership Maryland State Highway Adm.
10620 Guilford Rd. Ste. 200 787 N. Calvert St.
Jessup, Maryland 20794 Baltimore, Maryland 21203



CONSTRUCTION SPECIFICATIONS

I. SITE PREPARATION
 Areas under the embankment and structural works shall be cleared, grubbed and the topsoil stripped to remove all trees, vegetation, roots or other objectionable material. To facilitate clean out and restoration, it is recommended that the permanent pool area be cleared of all brush and trees.

II. EARTH FILL
Material
 The fill material shall be taken from approved designated borrow area or areas. It shall be free from roots, stumps, wood, rubbish, over-size stones, frozen or other objectionable materials. The embankment shall be constructed to an elevation which provides for anticipated settlement to the design elevation. The fill height all along the length of the embankment shall be increased at least 10 percent above the design elevation (including freeboard) unless otherwise shown on the plans.

Placement
 Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in 8-inch maximum thickness (before compaction) layers which are to be continuous over the entire length of the fill. The most porous borrow material shall be placed in the downstream portions of the embankment.

Compaction
 The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture so that it can be formed into a ball without crumbling. If water can be squeezed out of the ball, it is too wet to compact properly.

Core Trench
 Where specified, a core trench shall be excavated along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill material for the core trench shall be the most impervious material available and shall be compacted with equipment or rollers to assure maximum density and minimum permeability.

III. STRUCTURAL BACKFILL
 Backfill material shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall the contractor drive equipment over any part of a concrete structure or pipe unless there is a compacted fill of twenty-four inches or greater over the structure or pipe.

IV. PIPE CONDUITS
A. CORRUGATED METAL PIPE
 1. **Materials - (Steel Pipe)** - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

B. REINFORCED CONCRETE PIPE
 1. **Materials - Reinforced concrete pipe** shall have a rubber gasket joint and shall equal or exceed ASTM Specification C-301. Approved equivalents are AWWA Specification C-300, 301, and 302.
 2. **Bedding - All reinforced concrete pipe conduits** shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its diameter with a minimum thickness of 3". W.S.S.C. low cradle bedding is an approved equivalent.
 3. **Laying pipe - Bell and spigot pipe** shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed on the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe.
 4. **Backfilling** shall conform to structural backfill as shown above.
 5. **Other details (anti-seep collars, valves, etc.)** shall be as shown on the drawings.

V. CONCRETE
 Concrete shall meet minimum requirements set forth in Maryland State Highway Administration Specifications for Materials, Highways, Bridges, and Incidental Structures, Article 20.07 (Portland Cement Concrete Mixtures), Class A-1, or P-1.

VI. STABILIZATION
 All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway and borrow areas shall be stabilized by seeding and applying straw mulch in accordance with Standards and Specifications for Soil Erosion and Sediment Control in Urbanizing Areas immediately after finish grading.

Harford Drilling and Testing, Inc.
 Annapolis Junction, Maryland

Project Name: Brightfield GT Job No. 90032.C
 Date Started: 07-12-90 Date Completed: 07-12-90 Boring #: B-202
 Boring Location: Ground Water # 0 Hrs. Dry
 Elevation: Total Depth: 14.0' Ground Water @ 24 Hrs.: Dry, Cased 13.5'
 Drilled by: Pete Duval Equipment: Hand Augers

Strata Depth	Sample Depth	SAMPLE		DESCRIPTION (Color, Moisture, Proportions, etc.)
		No.	Blows/ft	
2.0'	2.0'	S-1		Orange-brown with trace light brown, moist, sandy clay, trace silt (CL) (Sandy Clay Loam)
3.0'	4.0'	S-2		Orange-brown with trace gray, moist, clayey silt, trace sand (ML)(Clay Loam)
7.0'	8.0'	S-3		Orange-brown with trace dark brown, moist to wet, silty fine sand, little clay (ML) (Sandy Loam)
11.0'	10.0'	S-4		Orange-brown with trace gray, moist, silt and clay, little sand (ML)(Clay Loam)
13.0'	12.0'	S-5		Orange-brown, moist, sandy clay, trace to little silt (CL)(Loam)
14.0'	14.0'			Bottom 14.0'

Standard Penetration Test: Driving 2-inch O.D. Sampler with 140-pound hammer freely falling 30 inches.

SOIL BORING

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 [Signature] 9/2/91
 CHIEF, DIVISION OF COMMUNITY, PLANNING & LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
 [Signature] 7/18/91
 CHIEF, DIVISION OF DEVELOPMENT SERVICES

APPROVED: [Signature] 6/16/91
 CHIEF, BUREAU OF ENGINEERING

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.
 [Signature] 5/17/91
 Soil Conservation Service Date

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.
 [Signature] 5/27/91
 Howard Soil Conservation District Date

BY THE DEVELOPER:
 "I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of 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] DATE

BY THE ENGINEER:
 "I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District."
 [Signature] DATE

LAND DESIGN ENGINEERING, INC.
 10620 Guilford Road • Suite 210 • Jessup • Maryland 20794 • (301)604-6264 • (301) 680-0034

ROAD CONSTRUCTION PLANS
 TEMPORARY
 STORM WATER MANAGEMENT
 BRIGHTFIELD
 SECTION 2
 First Election District
 Howard County, Maryland

Scale: AS SHOWN
 Drawing: 10 of 19
 Job No: 89-101
 File No:

APPROVED: [Signature] 4/24/91
 SIGNATURE OF ENGINEER DATE

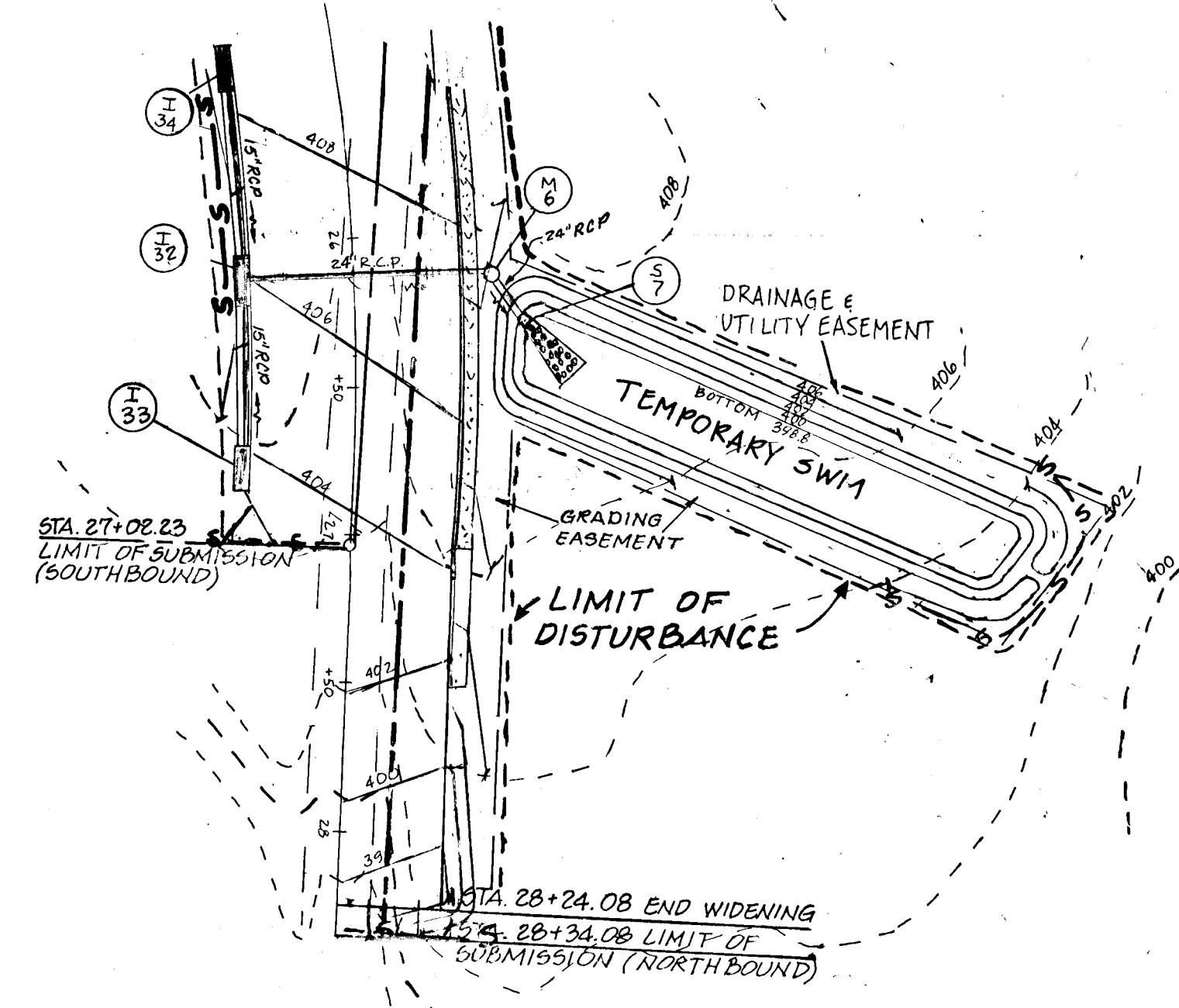
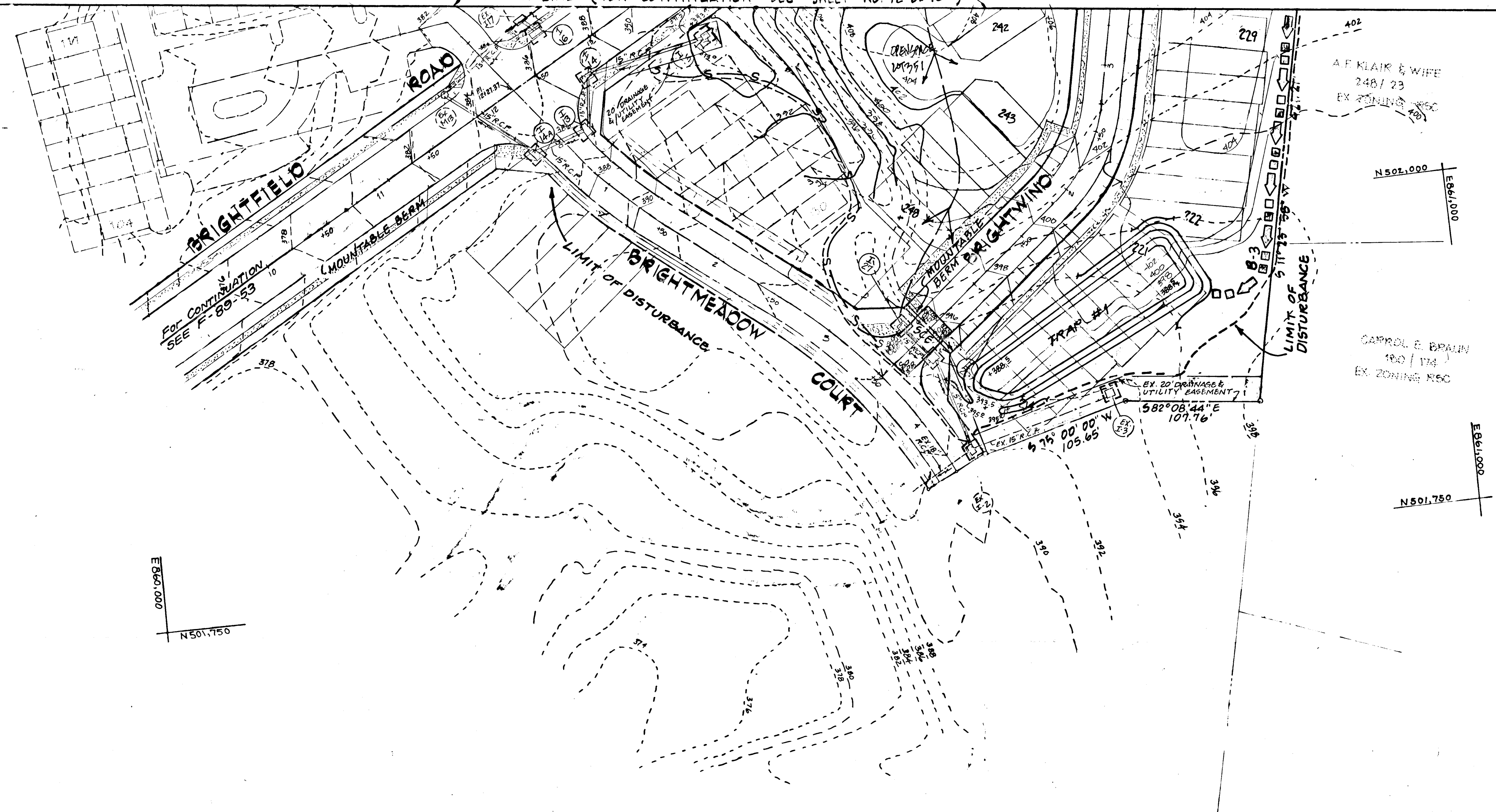
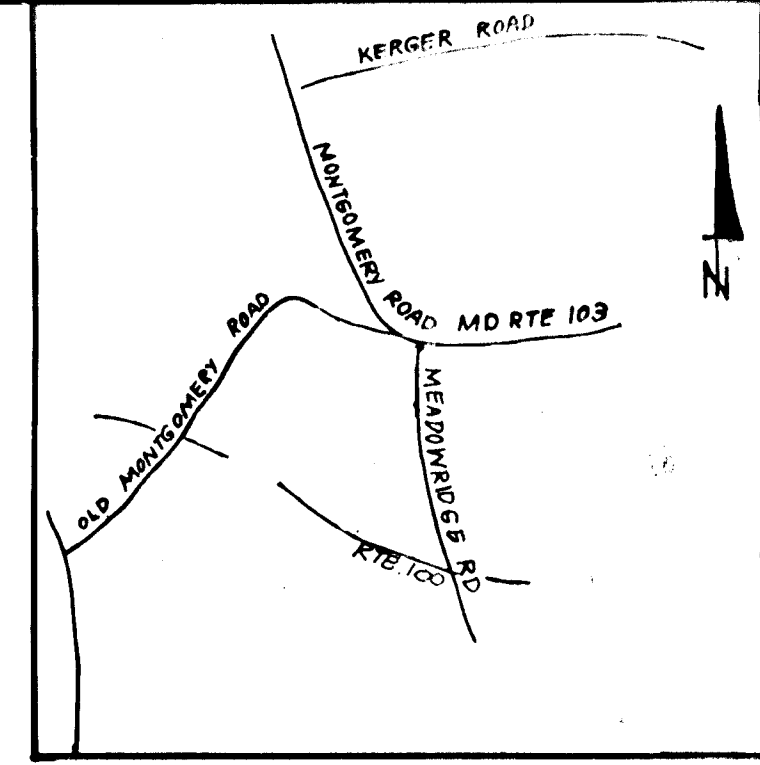
APPROVED: [Signature] 4/24/91
 SIGNATURE OF ENGINEER DATE

STATE OF MARYLAND
 REGISTERED PROFESSIONAL ENGINEER
 [Signature]

APPROVED: [Signature] 4/24/91
 SIGNATURE OF ENGINEER DATE

MATCH-LINE (FOR CONTINUATION SEE SHEET No. 12 OF 19)

NO.	NORTH	EAST
50	502,241.37	060,925.58
91	502,245.27	060,998.21
92	502,253.51	060,998.60
93	502,253.70	061,203.38
65	502,980.07	061,213.91
105	502,982.67	061,191.81
106	503,070.93	060,919.56
845	503,143.49	060,760.77
94	503,170.87	060,477.04
995	503,115.27	060,416.87



LEGEND

- DRAINAGE DIVIDE
- SILT FENCE
- EARTH DIKE
- MOUNTABLE BERM
- LIMIT OF DISTURBANCE
- INLET PROTECTION
- LIMIT OF SUBMISSION
- STABILIZED CONSTRUCTION ENTRANCE

John F. Liparini
 For Revision by
 CF&S, Inc. dated
 2/15/94

2	CHANGE PROPOSED GRADING AND SPACE LAYOUT	4-7-93
1	Rev. Limit of Disturbed by CF&S, Inc.	2-15-93
NS	REVISION	Date

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING.

Anna Hulsenath 9/13/91
 Chief, Division of Community Planning & Land Development

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

William W. Wallace 6/19/91
 CHIEF, BUREAU OF HIGHWAYS

John F. Liparini 5/17/91
 CHIEF, DIVISION OF LAND DEVELOPMENT

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.

John F. Liparini 5/17/91
 U.S. Soil Conservation Service

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

John F. Liparini 5/17/91
 Howard Soil Conservation District

BY THE DEVELOPER:

"I certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of 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."

John F. Liparini 4/24/91
 SIGNATURE OF DEVELOPER
 John F. Liparini

BY THE ENGINEER:

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

Rodolph L. May, Jr. 4/24/91
 SIGNATURE OF ENGINEER
 Rodolph L. May, Jr.

Engineers Seal:

LAND DESIGN ENGINEERING, INC.
 10620 Guilford Road • Suite 210 • Jessup • Maryland 20794 • (301) 804-6264 • (301) 800-0034

DESIGNED: _____ DATE: _____

DRAWN: _____ DATE: _____

CHECKED: _____ DATE: _____

DATE: _____

ROAD CONSTRUCTION PLANS
 GRADING AND
 SEDIMENT AND EROSION CONTROL PLAN
 BRIGHTFIELD
 SECTION 2
 First Election District
 Howard County, Maryland

Scale: 1"=50'
 Drawing: 11 OF 13
 Job No: _____
 File No: _____

BY THE DEVELOPER:
 "I/we certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of 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: *John F. Liparini*
 DATE: 4/24/91

BY THE ENGINEER:
 "I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District."
 Signature of Engineer: *Rodolph May Jr.*
 DATE: 4/24/91
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF MARYLAND
 No. 8100
 PROFESSIONAL ENGINEER
 CIVIL
 DARYL L. ASSOCIATES
 424 460
 ANNAPOLIS, MD 21403

John F. Liparini
 For Revision by
 C.F.S., Inc. Dated
 2/15/94

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.
 Signature: *James M. Holm*
 DATE: 5/17/91
 U.S. Soil Conservation Service

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.
 Signature: *John F. Liparini*
 DATE: 5/17/91
 Howard Soil Conservation District

1327

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 Signature: *Emma Akemath*
 DATE: 9/3/91
 CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
 Signature: *Rowelle W. Wehans*
 DATE: 6/6/91
 CHIEF, BUREAU OF HIGHWAYS

Signature: *William S. Goy*
 DATE: 2-5-91
 CHIEF, BUREAU OF ENGINEERING

MATCH-LINE (FOR CONTINUATION SEE SHEET NO. 11 OF 13)

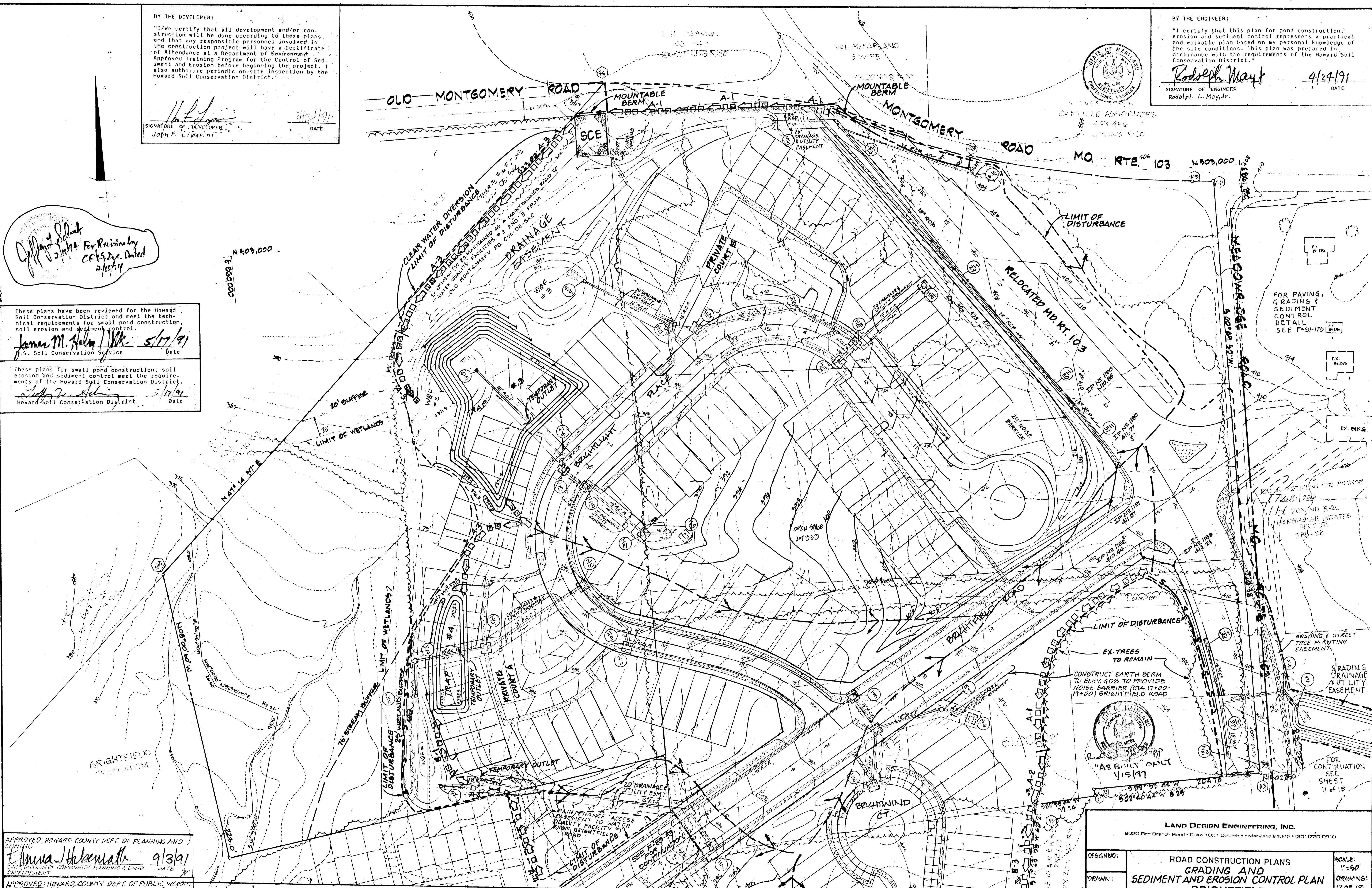
BY	REVISION	DATE
LIM	1. MAINTENANCE & ACCESS EASEMENT, WIDE #1	2-15-91
	2. PIPE SIZE, 1-1 TO 5-1	3-18-91
	3. EXISTING & PROPOSED GRADES	4-7-91
	4. GROUND SURFACE & EX. LOT 122 & LIMIT OF DISTURBANCE	4-7-91

UNITS: Kings Meade LTD. Partnership
 10600 Guilford Rd. Ste. 200
 Jessup, Maryland 20794

Maryland State Highway Adm.
 707 N. Calvert St.
 Baltimore, Maryland 21203

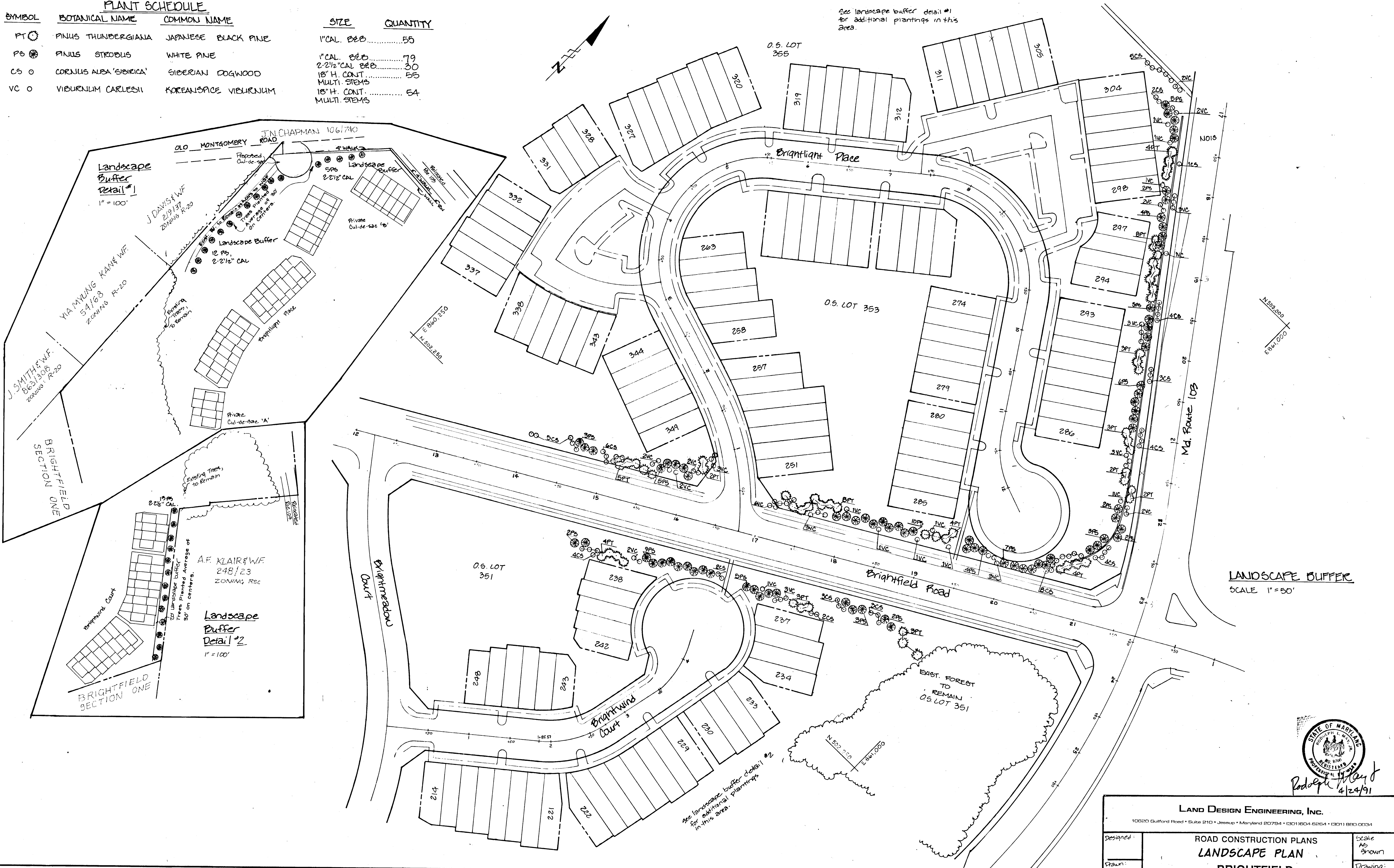
LAND DESIGN ENGINEERING, INC.
 8030 Red Branch Road • Suite 100 • Columbia • Maryland 21045 • (301)230-0810

DESIGNED:	ROAD CONSTRUCTION PLANS GRADING AND SEDIMENT AND EROSION CONTROL PLAN BRIGHTFIELD SECTION 2 First Election District Howard County, Maryland	SCALE: 1"=50'
DRAWN:		DRAWINGS: 12 OF 13
CHECKED:		JOB NO.
DATE:		FILE NO.



PLANT SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY
PT ○	PINUS THUNDERGIANA	JAPANESE BLACK PINE	1" CAL. B&B	55
PB ⊗	PINUS STROBUS	WHITE PINE	1" CAL. B&B	79
CS ○	CORNUS ALBA 'SIBIRICA'	SIBERIAN DOGWOOD	2-2 1/2" CAL. B&B	30
VC ○	VIBURNUM CARLESII	KOREAN SPICE VIBURNUM	18" H. CONT. MULTI. STEMS	55
			18" H. CONT. MULTI. STEMS	54



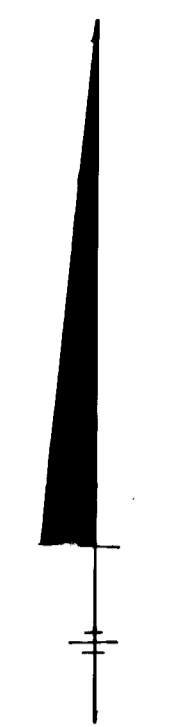
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Anna Holbert 9/3/91
 CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
 DIVISION OF LAND DEVELOPMENT
Charmelle G. Walcott 6/6/91
 CHIEF, BUREAU OF HIGHWAYS
Robert P. ... 8-5-91
 CHIEF, BUREAU OF ENGINEERING

LAND DESIGN ENGINEERING, INC.
 10620 Guilford Road • Suite 210 • Jessup • Maryland 20794 • (301) 664-6264 • (301) 660-0034

Designed:	ROAD CONSTRUCTION PLANS LANDSCAPE PLAN BRIGHTFIELD SECTION 2 First Election District Howard County, Maryland	Scale: As Shown
Drawn:		Drawing: 14 OF 19
Checked:		Job No.: 89-101
Date:		File No.:

OWNERS:
 Kings Meade LTD. Partnership Maryland State Highway Ad.
 10620 Guilford Rd. Ste. 200 707 N. Calvert St.
 Jessup, Maryland 20794 Baltimore, Maryland 21203

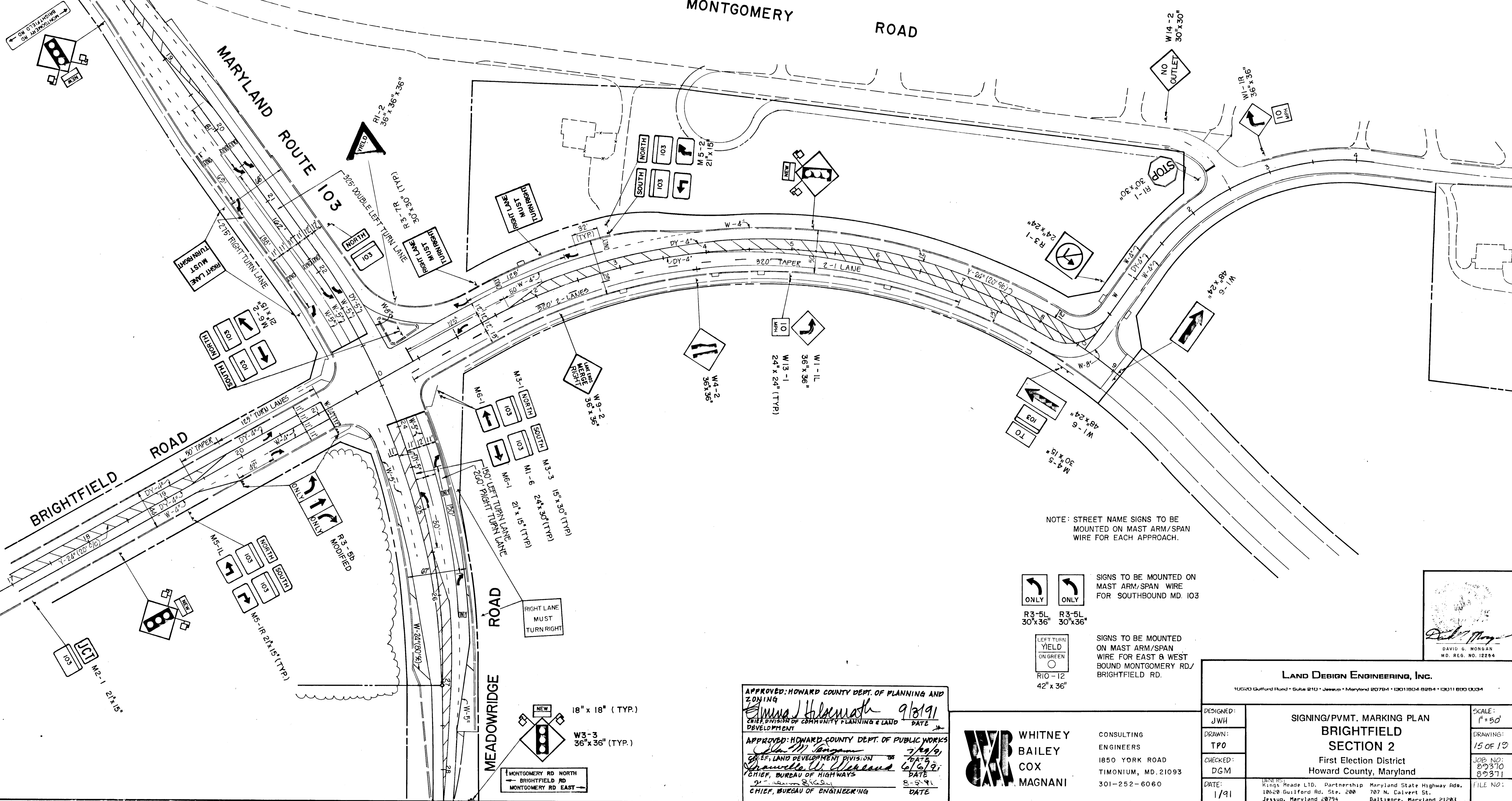


MONTGOMERY ROAD

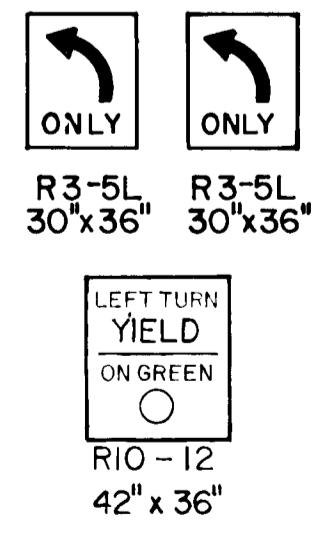
MARYLAND ROUTE 103

BRIGHTFIELD ROAD

MEADOWRIDGE ROAD



NOTE: STREET NAME SIGNS TO BE MOUNTED ON MAST ARM/SPAN WIRE FOR EACH APPROACH.



SIGNS TO BE MOUNTED ON MAST ARM/SPAN WIRE FOR SOUTHBOUND MD. 103

SIGNS TO BE MOUNTED ON MAST ARM/SPAN WIRE FOR EAST & WEST BOUND MONTGOMERY RD./ BRIGHTFIELD RD.

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Anna Holmuth 9/3/91
 CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
John M. Langham 7/29/91
 CHIEF, LAND DEVELOPMENT DIVISION

Charles W. Weiland 6/6/91
 CHIEF, BUREAU OF HIGHWAYS

John S. G. Sullivan 8-5-91
 CHIEF, BUREAU OF ENGINEERING

WHITNEY BAILEY COX MAGNANI
 CONSULTING ENGINEERS
 1850 YORK ROAD
 TIMONIUM, MD. 21093
 301-252-6060

LAND DESIGN ENGINEERING, INC. 10520 Guilford Road • Suite 210 • Jessup • Maryland 20794 • (301) 804-8284 • (301) 800-0034		DESIGNED: JWH	SIGNING/PVMT. MARKING PLAN BRIGHTFIELD SECTION 2 First Election District Howard County, Maryland	SCALE: 1" = 50'
DRAWN: TPO	DRAWING: 15 OF 13			
CHECKED: DGM	JOB NO: 80370			
DATE: 1/91	FILE NO: 80371			

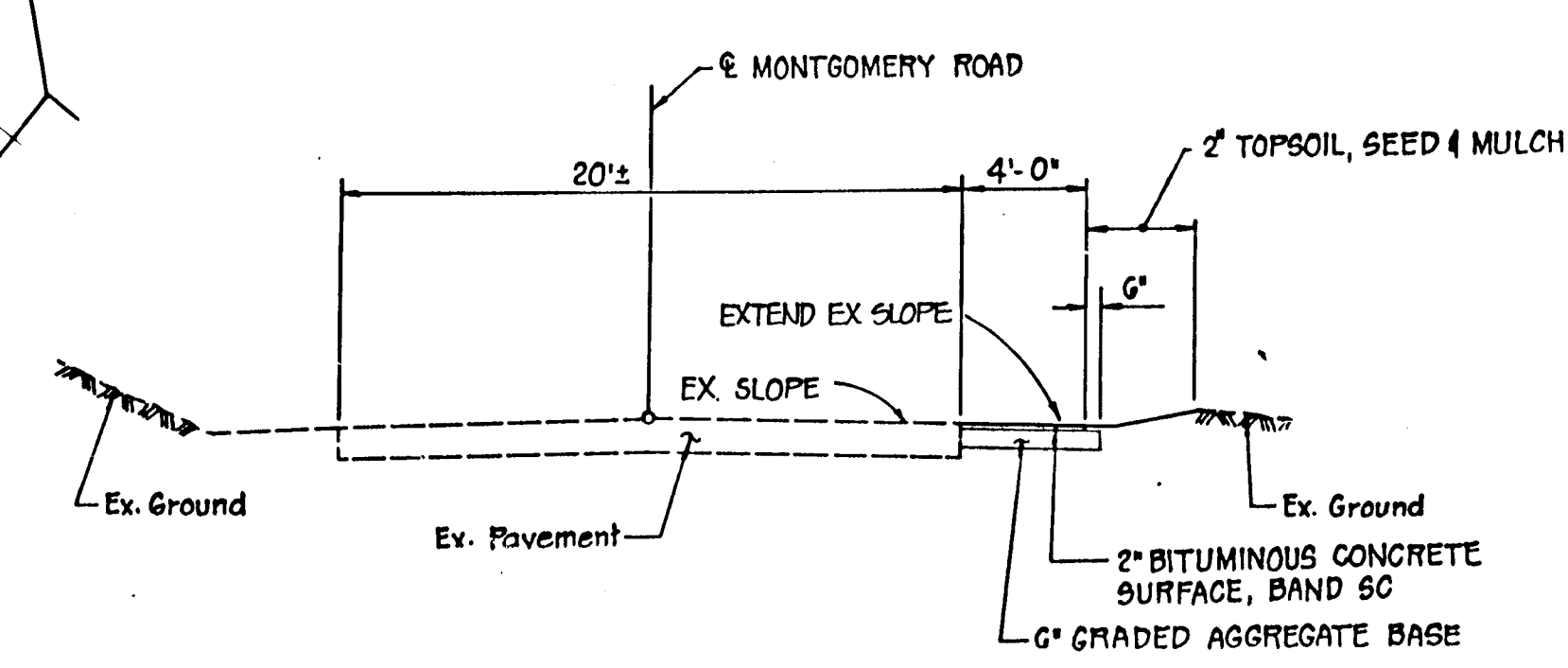
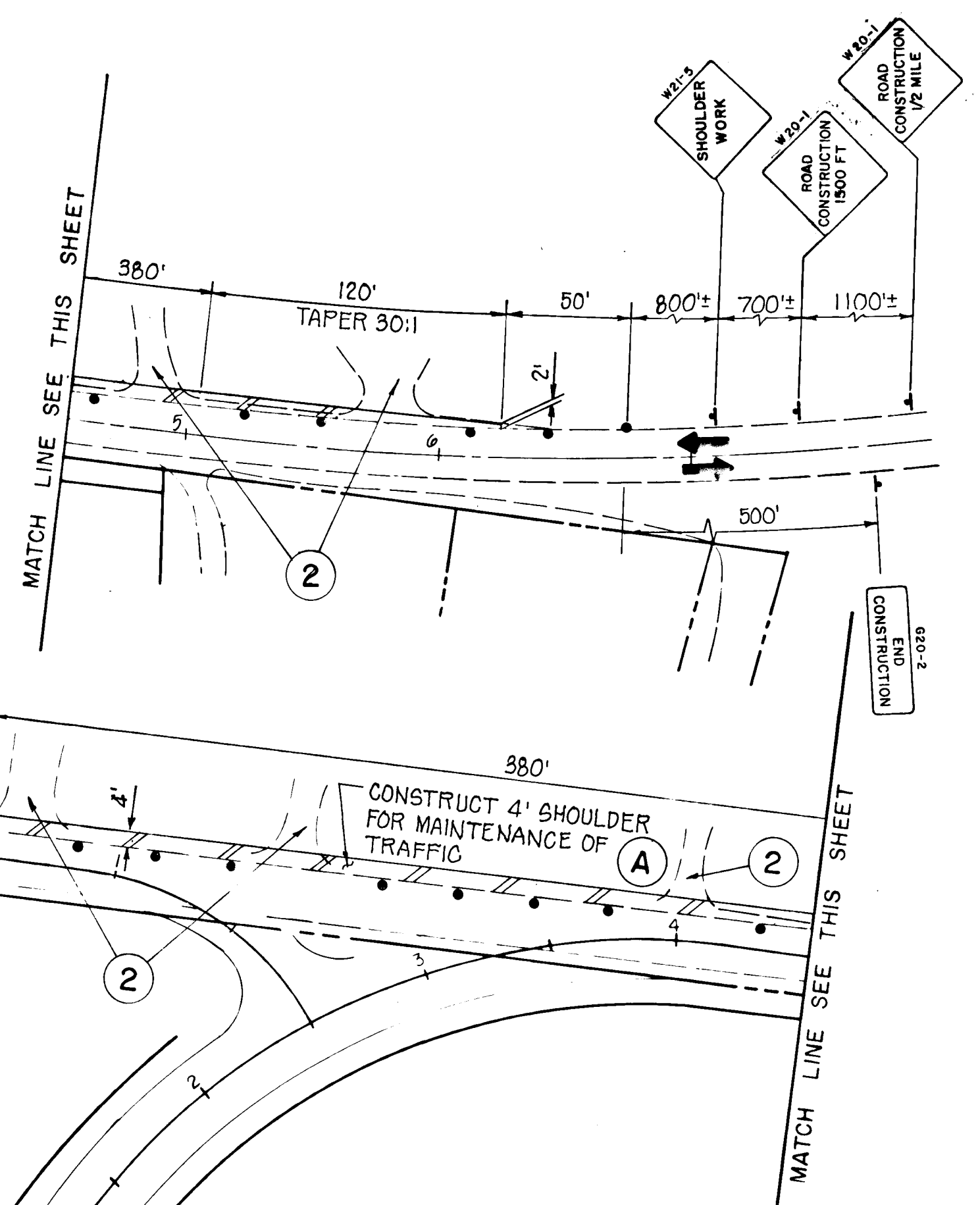
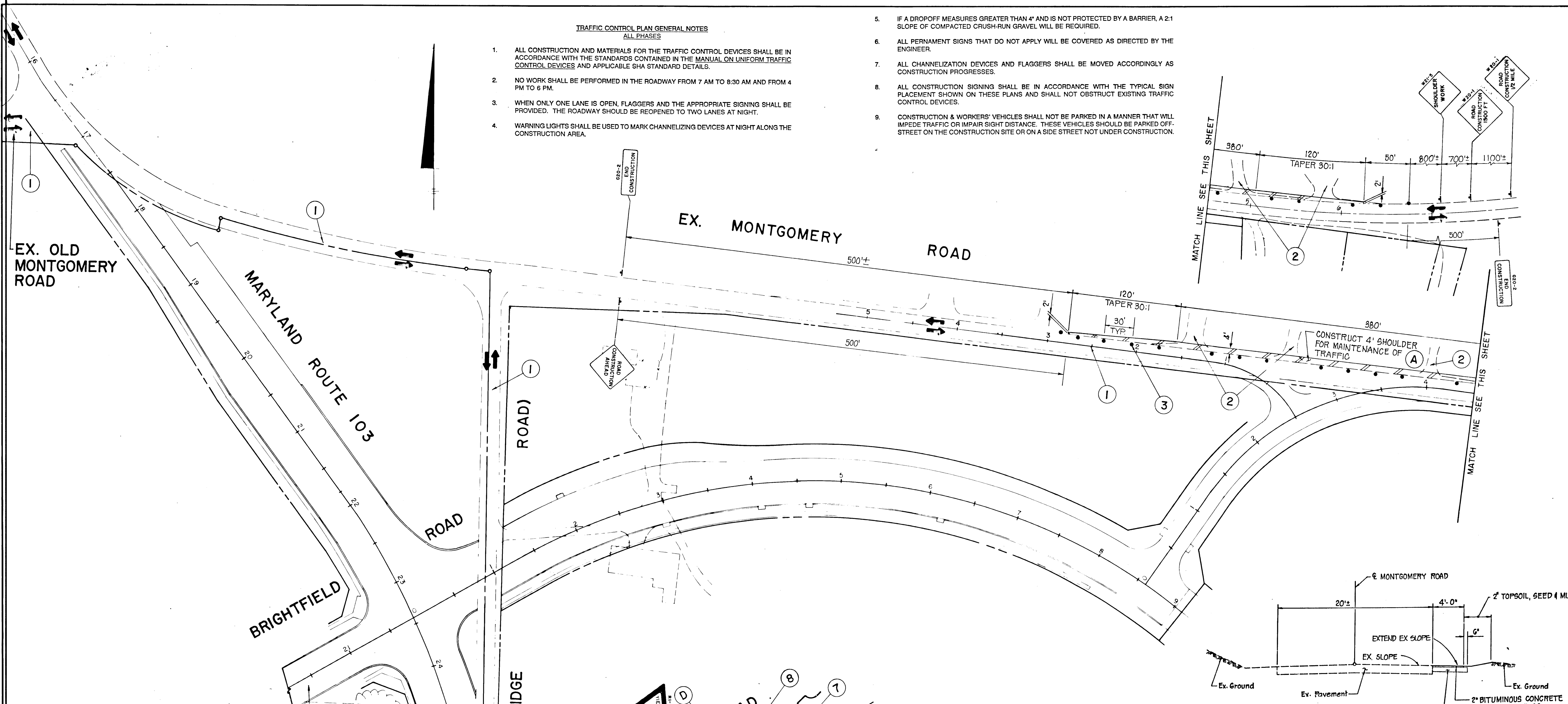
David G. Monagan
 DAVID G. MONAGAN
 MD. REG. NO. 12294

2821

TRAFFIC CONTROL PLAN GENERAL NOTES
ALL PHASES

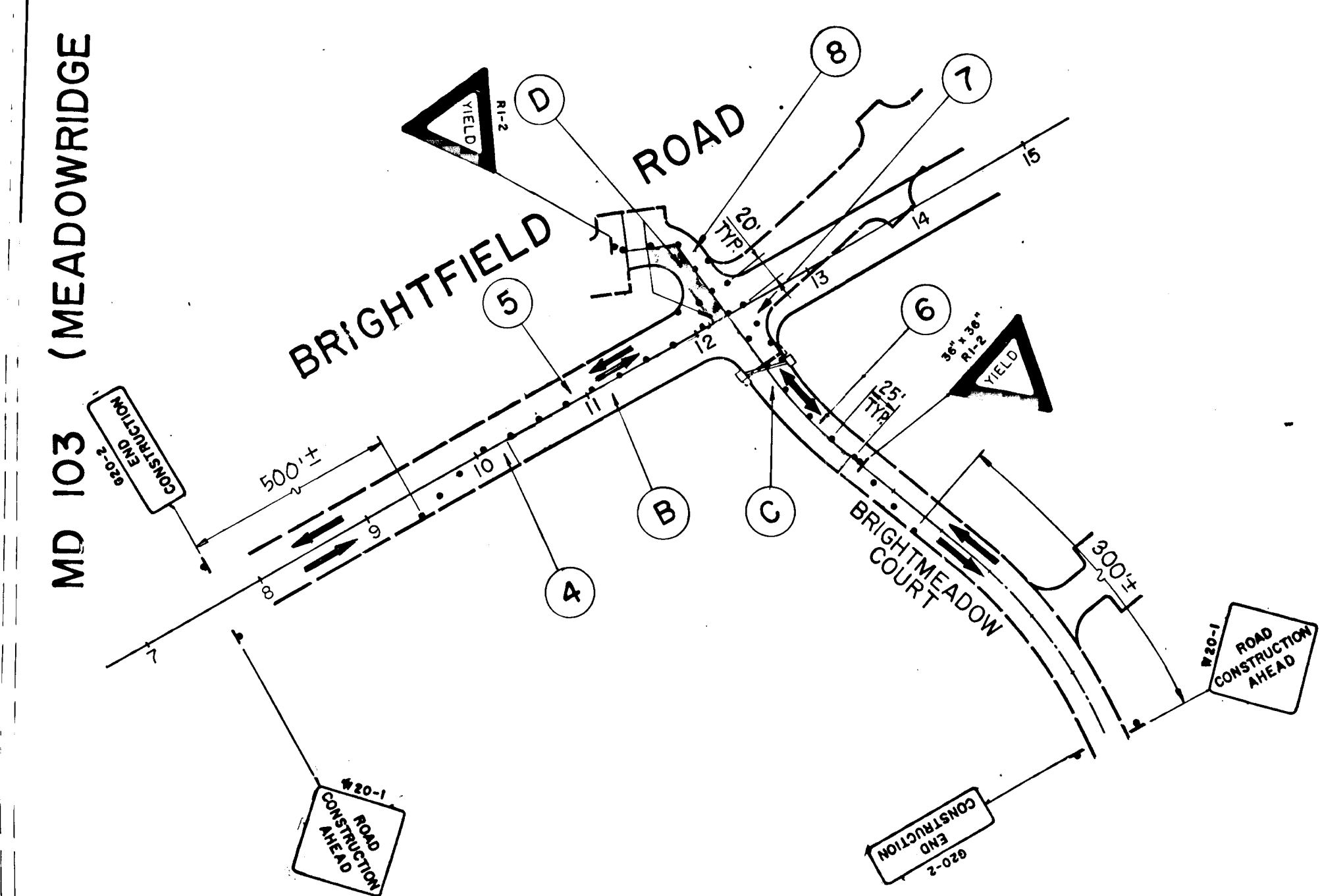
- ALL CONSTRUCTION AND MATERIALS FOR THE TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE STANDARDS CONTAINED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND APPLICABLE SHA STANDARD DETAILS.
- NO WORK SHALL BE PERFORMED IN THE ROADWAY FROM 7 AM TO 8:30 AM AND FROM 4 PM TO 6 PM.
- WHEN ONLY ONE LANE IS OPEN, FLAGGERS AND THE APPROPRIATE SIGNING SHALL BE PROVIDED. THE ROADWAY SHOULD BE REOPENED TO TWO LANES AT NIGHT.
- WARNING LIGHTS SHALL BE USED TO MARK CHANNELIZING DEVICES AT NIGHT ALONG THE CONSTRUCTION AREA.

- IF A DROPOFF MEASURES GREATER THAN 4" AND IS NOT PROTECTED BY A BARRIER, A 2:1 SLOPE OF COMPACTED CRUSH-RUN GRAVEL WILL BE REQUIRED.
- ALL PERMANENT SIGNS THAT DO NOT APPLY WILL BE COVERED AS DIRECTED BY THE ENGINEER.
- ALL CHANNELIZATION DEVICES AND FLAGGERS SHALL BE MOVED ACCORDINGLY AS CONSTRUCTION PROGRESSES.
- ALL CONSTRUCTION SIGNING SHALL BE IN ACCORDANCE WITH THE TYPICAL SIGN PLACEMENT SHOWN ON THESE PLANS AND SHALL NOT OBSTRUCT EXISTING TRAFFIC CONTROL DEVICES.
- CONSTRUCTION & WORKERS' VEHICLES SHALL NOT BE PARKED IN A MANNER THAT WILL IMPEDE TRAFFIC OR IMPAIR SIGHT DISTANCE. THESE VEHICLES SHOULD BE PARKED OFF-STREET ON THE CONSTRUCTION SITE OR ON A SIDE STREET NOT UNDER CONSTRUCTION.



- SEQUENCE OF CONSTRUCTION NOTES**
- CONSTRUCT SHOULDER FOR MAINTENANCE OF TRAFFIC FROM STA. 3+00 TO STA. 6+25.
 - RECONSTRUCT EASTBOUND LANES OF BRIGHTFIELD ROAD FROM STA. 10+26 TO STA. 12+27.
 - RECONSTRUCT WESTERN HALF OF BRIGHTMEADOW COURT FROM BRIGHTFIELD ROAD TO STA. 1+55 INCLUDING WESTERN HALF OF PROPOSED 15' RCP.
 - RECONSTRUCT WESTERN HALF OF EXISTING PRIVATE COURT FROM BRIGHTFIELD ROAD CURB LINE TO STA. 1+00. USE TWO-STAGE CONSTRUCTION OPERATION TO MAINTAIN ACCESS TO BRIGHTFIELD ROAD.
- MAINTENANCE OF TRAFFIC NOTES**
- MAINTAIN TRAFFIC ON EXISTING ROADWAY WITH EXISTING LANE GEOMETRY.
 - MAINTAIN ACCESS TO ALL PROPERTIES AT ALL TIMES.
 - STA. 3+00 FUTURE SHADY OAK LANE TO STA. 7+00 EX. MONTGOMERY ROAD
PLACE DRUMS TANGENT TO THE EXISTING NORTHERN EDGE LINE. MAINTAIN ONE LANE OF TRAFFIC IN EACH DIRECTION AT ALL TIMES.
 - STA. 10+01 TO STA. 9+26 BRIGHTFIELD ROAD
TRANSITION DRUMS FROM SOUTHERN CURB EDGE TO CENTER OF ROAD.
 - STA. 10+01 TO STA. 12+27 BRIGHTFIELD ROAD
PLACE DRUMS TANGENT TO CONSTRUCTION ZONE. MAINTAIN 1-10' LANE IN EACH DIRECTION.
 - STA. 0+00 TO STA. 1+55 BRIGHTMEADOW COURT
PLACE DRUMS TANGENT TO CONSTRUCTION ZONE. MAINTAIN 1-10' (MIN.) LANE FOR VEHICLE ACCESS. THE MAXIMUM LENGTH OF SINGLE LANE ROADWAY CANNOT EXCEED 50' DURING CONSTRUCTION OPERATIONS. TRAFFIC CONTROL DEVICES SHALL BE MOVED AS WORK PROGRESSES. TRANSITION DRUMS BACK TO THE WESTERN CURB EDGE WITH A 50' TAPER.
 - PLACE DRUMS ACROSS BRIGHTFIELD ROAD TO CHANNEL TRAFFIC.
 - PLACE DRUMS TANGENT TO CONSTRUCTION ZONE. MAINTAIN 1-10' (MIN.) LANE FOR VEHICLE ACCESS.

FOR CONSTRUCTION OF BRIGHTFIELD ROAD SEE DETAIL - A



LEGEND

- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASES
- EXISTING PAVEMENT TO BE REMOVED
- TEMPORARY PAVEMENT
- TEMPORARY PCC BARRIER (DOUBLE FACE)
- DRUMS
- SIGN FACE
- SIGN SUPPORT
- TRAFFIC LANE
- CRASH CUSHION

MONTGOMERY ROAD TYPICAL WIDENING SECTION
NOT TO SCALE

FOR MAINTENANCE OF TRAFFIC ONLY

DAVID G. MORGAN
MD. REG. NO. 12254

DETAIL - A
SCALE: 1" = 100'

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
Colin M. Longenecker 7/29/91
 CHIEF, LAND DEVELOPMENT DIVISION DATE
Drayville W. Welstead 6/6/91
 CHIEF, BUREAU OF HIGHWAYS DATE
Emilia H. Hearn 9/3/91
 CHIEF, BUREAU OF ENGINEERING DATE

WHITNEY BAILEY COX MAGNANI
CONSULTING ENGINEERS
1850 YORK ROAD
TIMONIUM, MD. 21093
301-252-6060

LAND DESIGN ENGINEERING, INC.
10323 Guilford Road • Suite 210 • Jessup • Maryland 20794 • (301)804-8284 • (301)800-0034

DESIGNED: JWH
DRAWN: TPO
CHECKED: DGM
DATE: 1/91

MAINTENANCE OF TRAFFIC PLAN-PHASE 1A BRIGHTFIELD SECTION 2
First Election District
Howard County, Maryland

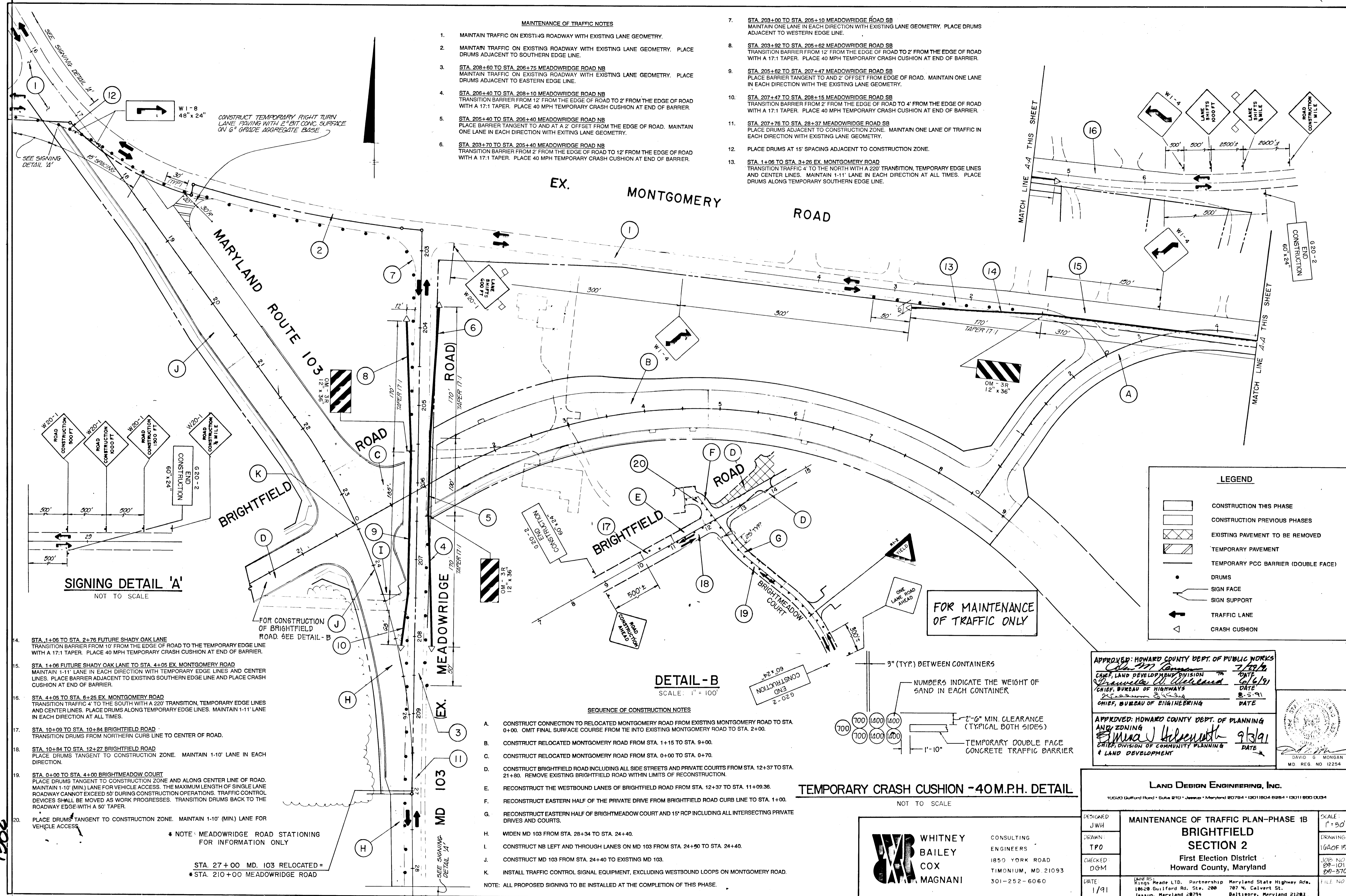
SCALE: 1" = 50'
DRAWING: 16 OF 19
JOB NO: 89-101
89-270
FILE NO: 89-101-270

DATE: 1/91
Kings Heide LTD. Partnership Maryland State Highway Adm.
18628 Guilford Rd. Ste. 200 787 N. Calvert St.
Jessup, Maryland 20794 Baltimore, Maryland 21203

1382

MAINTENANCE OF TRAFFIC NOTES

1. MAINTAIN TRAFFIC ON EXISTING ROADWAY WITH EXISTING LANE GEOMETRY.
2. MAINTAIN TRAFFIC ON EXISTING ROADWAY WITH EXISTING LANE GEOMETRY. PLACE DRUMS ADJACENT TO SOUTHERN EDGE LINE.
3. STA. 208+60 TO STA. 206+75 MEADOWRIDGE ROAD NB MAINTAIN TRAFFIC ON EXISTING ROADWAY WITH EXISTING LANE GEOMETRY. PLACE DRUMS ADJACENT TO EASTERN EDGE LINE.
4. STA. 206+40 TO STA. 208+10 MEADOWRIDGE ROAD NB TRANSITION BARRIER FROM 12' FROM THE EDGE OF ROAD TO 2' FROM THE EDGE OF ROAD WITH A 17:1 TAPER. PLACE 40 MPH TEMPORARY CRASH CUSHION AT END OF BARRIER.
5. STA. 205+40 TO STA. 206+40 MEADOWRIDGE ROAD NB PLACE BARRIER TANGENT TO AND AT A 2' OFFSET FROM THE EDGE OF ROAD. MAINTAIN ONE LANE IN EACH DIRECTION WITH EXISTING LANE GEOMETRY.
6. STA. 203+70 TO STA. 205+40 MEADOWRIDGE ROAD NB TRANSITION BARRIER FROM 2' FROM THE EDGE OF ROAD TO 12' FROM THE EDGE OF ROAD WITH A 17:1 TAPER. PLACE 40 MPH TEMPORARY CRASH CUSHION AT END OF BARRIER.
7. STA. 203+00 TO STA. 205+10 MEADOWRIDGE ROAD SB MAINTAIN ONE LANE IN EACH DIRECTION WITH EXISTING LANE GEOMETRY. PLACE DRUMS ADJACENT TO WESTERN EDGE LINE.
8. STA. 203+92 TO STA. 205+62 MEADOWRIDGE ROAD SB TRANSITION BARRIER FROM 12' FROM THE EDGE OF ROAD TO 2' FROM THE EDGE OF ROAD WITH A 17:1 TAPER. PLACE 40 MPH TEMPORARY CRASH CUSHION AT END OF BARRIER.
9. STA. 205+62 TO STA. 207+47 MEADOWRIDGE ROAD SB PLACE BARRIER TANGENT TO AND 2' OFFSET FROM EDGE OF ROAD. MAINTAIN ONE LANE IN EACH DIRECTION WITH THE EXISTING LANE GEOMETRY.
10. STA. 207+47 TO STA. 208+15 MEADOWRIDGE ROAD SB TRANSITION BARRIER FROM 2' FROM THE EDGE OF ROAD TO 4' FROM THE EDGE OF ROAD WITH A 17:1 TAPER. PLACE 40 MPH TEMPORARY CRASH CUSHION AT END OF BARRIER.
11. STA. 207+76 TO STA. 28+37 MEADOWRIDGE ROAD SB PLACE DRUMS ADJACENT TO CONSTRUCTION ZONE. MAINTAIN ONE LANE OF TRAFFIC IN EACH DIRECTION WITH EXISTING LANE GEOMETRY.
12. PLACE DRUMS AT 15' SPACING ADJACENT TO CONSTRUCTION ZONE.
13. STA. 1+06 TO STA. 3+26 EX. MONTGOMERY ROAD TRANSITION TRAFFIC 4' TO THE NORTH WITH A 220' TRANSITION, TEMPORARY EDGE LINES AND CENTER LINES. MAINTAIN 1-11' LANE IN EACH DIRECTION AT ALL TIMES. PLACE DRUMS ALONG TEMPORARY SOUTHERN EDGE LINE.



CONSTRUCT TEMPORARY RIGHT TURN LANE FINISH WITH 2" BIT CONC. SURFACE ON 6" GRADE AGGREGATE BASE

SEE SIGNING DETAIL 'A'

SIGNING DETAIL 'A'
NOT TO SCALE

14. STA. 1+06 TO STA. 2+76 FUTURE SHADY OAK LANE TRANSITION BARRIER FROM 10' FROM THE EDGE OF ROAD TO THE TEMPORARY EDGE LINE WITH A 17:1 TAPER. PLACE 40 MPH TEMPORARY CRASH CUSHION AT END OF BARRIER.
15. STA. 1+06 FUTURE SHADY OAK LANE TO STA. 4+05 EX. MONTGOMERY ROAD MAINTAIN 1-11' LANE IN EACH DIRECTION WITH TEMPORARY EDGE LINES AND CENTER LINES. PLACE BARRIER ADJACENT TO EXISTING SOUTHERN EDGE LINE AND PLACE CRASH CUSHION AT END OF BARRIER.
16. STA. 4+05 TO STA. 6+25 EX. MONTGOMERY ROAD TRANSITION TRAFFIC 4' TO THE SOUTH WITH A 220' TRANSITION, TEMPORARY EDGE LINES AND CENTER LINES. PLACE DRUMS ALONG TEMPORARY EDGE LINES. MAINTAIN 1-11' LANE IN EACH DIRECTION AT ALL TIMES.
17. STA. 10+09 TO STA. 10+84 BRIGHTFIELD ROAD TRANSITION DRUMS FROM NORTHERN CURB LINE TO CENTER OF ROAD.
18. STA. 10+84 TO STA. 12+27 BRIGHTFIELD ROAD PLACE DRUMS TANGENT TO CONSTRUCTION ZONE. MAINTAIN 1-10' LANE IN EACH DIRECTION.
19. STA. 0+00 TO STA. 4+00 BRIGHTMEADOW COURT PLACE DRUMS TANGENT TO CONSTRUCTION ZONE AND ALONG CENTER LINE OF ROAD. MAINTAIN 1-10' (MIN) LANE FOR VEHICLE ACCESS. THE MAXIMUM LENGTH OF SINGLE LANE ROADWAY CANNOT EXCEED 50' DURING CONSTRUCTION OPERATIONS. TRAFFIC CONTROL DEVICES SHALL BE MOVED AS WORK PROGRESSES. TRANSITION DRUMS BACK TO THE ROADWAY EDGE WITH A 50' TAPER.
20. PLACE DRUMS TANGENT TO CONSTRUCTION ZONE. MAINTAIN 1-10' (MIN) LANE FOR VEHICLE ACCESS.

* NOTE: MEADOWRIDGE ROAD STATIONING FOR INFORMATION ONLY

STA. 27+00 MD. 103 RELOCATED =
* STA. 210+00 MEADOWRIDGE ROAD

EX. MONTGOMERY ROAD

MARYLAND ROUTE 103

BRIGHTFIELD ROAD

BRIGHTFIELD ROAD

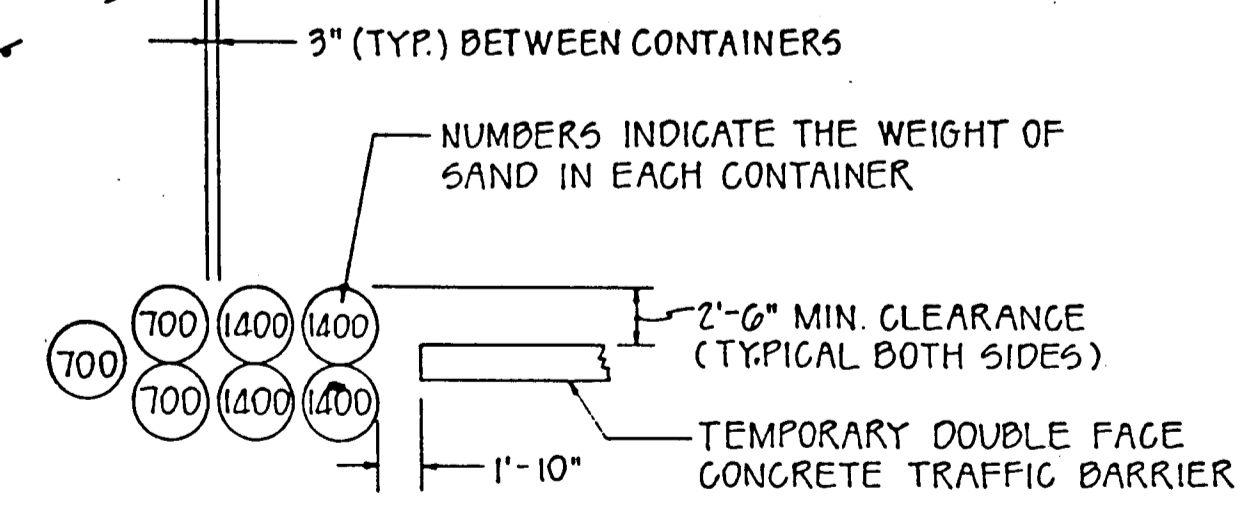
BRIGHTMEADOW COURT

EX. MEADOWRIDGE ROAD MD 103

DETAIL - B
SCALE: 1" = 100'

SEQUENCE OF CONSTRUCTION NOTES

- A. CONSTRUCT CONNECTION TO RELOCATED MONTGOMERY ROAD FROM EXISTING MONTGOMERY ROAD TO STA. 0+00. OMIT FINAL SURFACE COURSE FROM TIE INTO EXISTING MONTGOMERY ROAD TO STA. 2+00.
 - B. CONSTRUCT RELOCATED MONTGOMERY ROAD FROM STA. 1+15 TO STA. 9+00.
 - C. CONSTRUCT RELOCATED MONTGOMERY ROAD FROM STA. 0+00 TO STA. 0+70.
 - D. CONSTRUCT BRIGHTFIELD ROAD INCLUDING ALL SIDE STREETS AND PRIVATE COURTS FROM STA. 12+37 TO STA. 21+80. REMOVE EXISTING BRIGHTFIELD ROAD WITHIN LIMITS OF RECONSTRUCTION.
 - E. RECONSTRUCT THE WESTBOUND LANES OF BRIGHTFIELD ROAD FROM STA. 12+37 TO STA. 11+09.36.
 - F. RECONSTRUCT EASTERN HALF OF THE PRIVATE DRIVE FROM BRIGHTFIELD ROAD CURB LINE TO STA. 1+00.
 - G. RECONSTRUCT EASTERN HALF OF BRIGHTMEADOW COURT AND 15' RCP INCLUDING ALL INTERSECTING PRIVATE DRIVES AND COURTS.
 - H. WIDEN MD 103 FROM STA. 28+34 TO STA. 24+40.
 - I. CONSTRUCT NB LEFT AND THROUGH LANES ON MD 103 FROM STA. 24+50 TO STA. 24+40.
 - J. CONSTRUCT MD 103 FROM STA. 24+40 TO EXISTING MD 103.
 - K. INSTALL TRAFFIC CONTROL SIGNAL EQUIPMENT, EXCLUDING WESTBOUND LOOPS ON MONTGOMERY ROAD.
- NOTE: ALL PROPOSED SIGNING TO BE INSTALLED AT THE COMPLETION OF THIS PHASE.



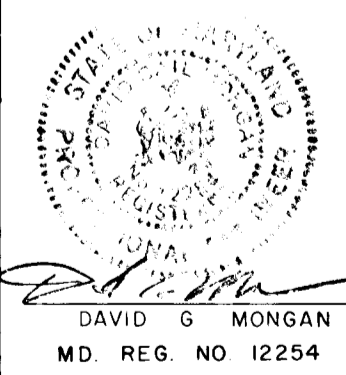
TEMPORARY CRASH CUSHION - 40M.P.H. DETAIL
NOT TO SCALE

WHITNEY BAILEY COX MAGNANI
CONSULTING ENGINEERS
1850 YORK ROAD
TIMONIUM, MD. 21093
301-252-6060

LEGEND	
[Hatched Box]	CONSTRUCTION THIS PHASE
[Dotted Box]	CONSTRUCTION PREVIOUS PHASES
[Cross-hatched Box]	EXISTING PAVEMENT TO BE REMOVED
[Diagonal Lines]	TEMPORARY PAVEMENT
[Double Line]	TEMPORARY PCC BARRIER (DOUBLE FACE)
[Circle]	DRUMS
[Arrow]	SIGN FACE
[Vertical Line]	SIGN SUPPORT
[Arrow]	TRAFFIC LANE
[Triangle]	CRASH CUSHION

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
[Signature] 7/27/91
 CHIEF, LAND DEVELOPMENT DIVISION
[Signature] 8/16/91
 CHIEF, BUREAU OF HIGHWAYS
[Signature] 8-5-91
 CHIEF, BUREAU OF ENGINEERING

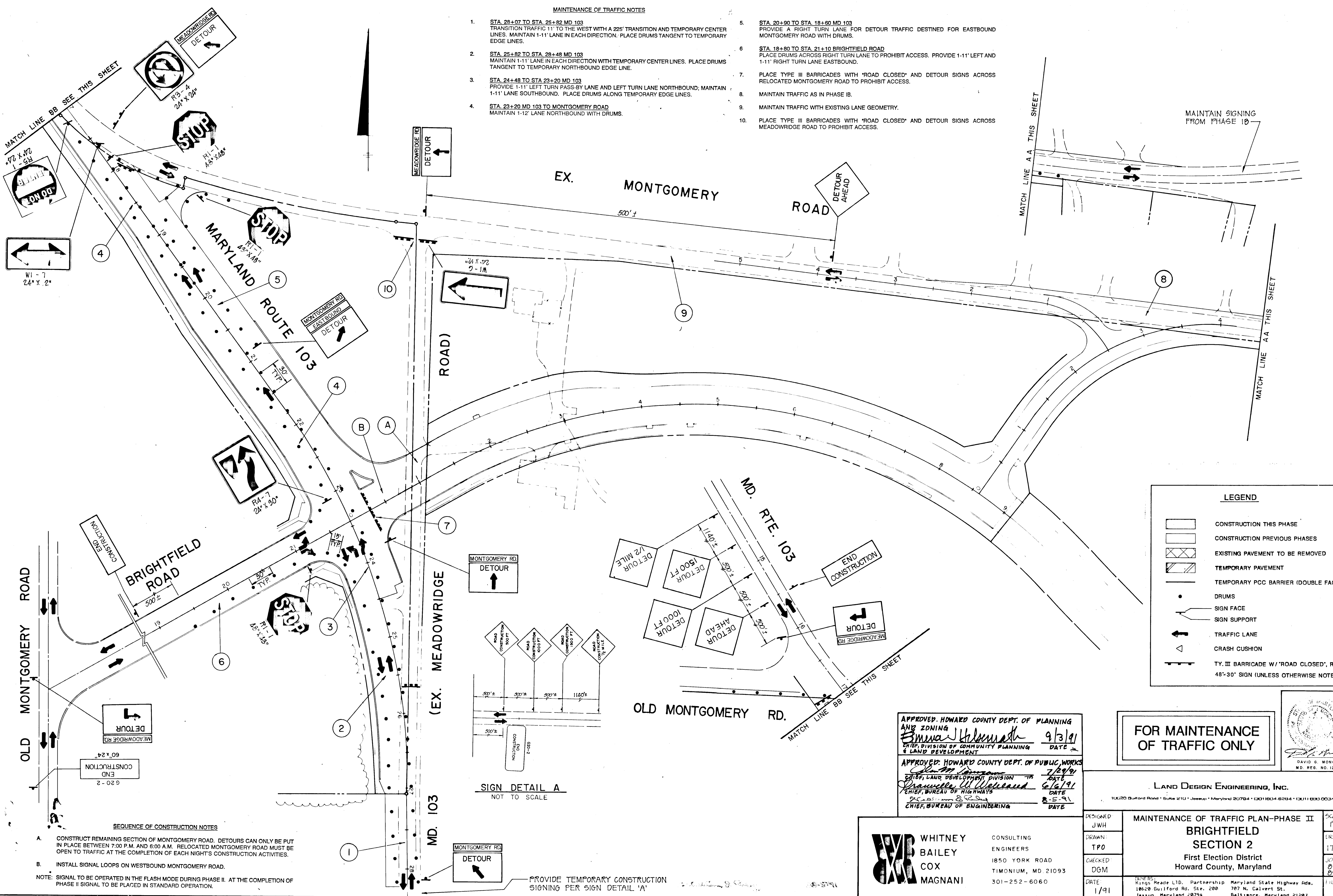
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
[Signature] 9/3/91
 CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT



LAND DESIGN ENGINEERING, INC. 10350 Guilford Road • Suite 210 • Jessup • Maryland 20794 • (301) 804-8284 • (301) 800-0334		
DESIGNED: JWH DRAWN: TPO CHECKED: DGM DATE: 1/91	MAINTENANCE OF TRAFFIC PLAN - PHASE 1B BRIGHTFIELD SECTION 2 First Election District Howard County, Maryland	SCALE: 1" = 50' DRAWING: 16A0F 19 JOB NO: 89-101 89-370 FILE NO:
(JOB NO.) Kings Heade LTD. Partnership Maryland State Highway Rd. 10620 Guilford Rd. Ste. 200 787 N. Calvert St. Jessup, Maryland 20794 Baltimore, Maryland 21203		

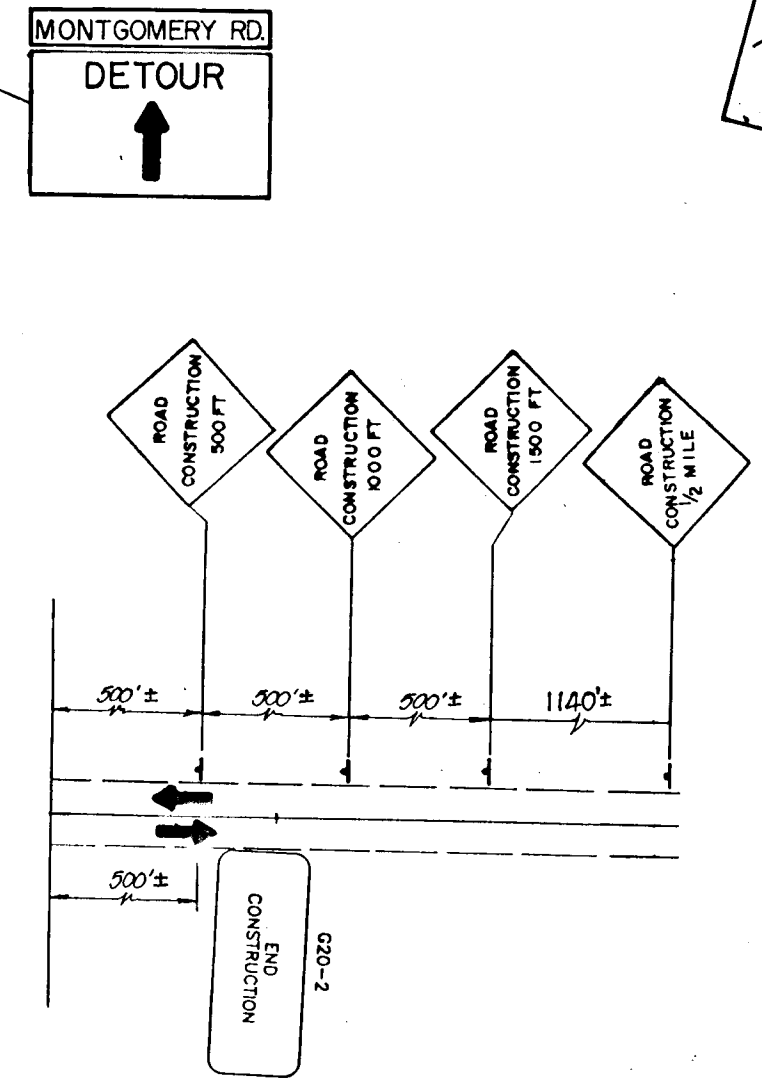
MAINTENANCE OF TRAFFIC NOTES

1. STA. 28+07 TO STA. 25+82 MD 103
TRANSITION TRAFFIC 11' TO THE WEST WITH A 225' TRANSITION AND TEMPORARY CENTER LINES. MAINTAIN 1-11' LANE IN EACH DIRECTION. PLACE DRUMS TANGENT TO TEMPORARY EDGE LINES.
2. STA. 25+82 TO STA. 28+48 MD 103
MAINTAIN 1-11' LANE IN EACH DIRECTION WITH TEMPORARY CENTER LINES. PLACE DRUMS TANGENT TO TEMPORARY NORTHBOUND EDGE LINE.
3. STA. 24+48 TO STA. 23+20 MD 103
PROVIDE 1-11' LEFT TURN PASS-BY LANE AND LEFT TURN LANE NORTHBOUND; MAINTAIN 1-11' LANE SOUTHBOUND. PLACE DRUMS ALONG TEMPORARY EDGE LINES.
4. STA. 23+20 MD 103 TO MONTGOMERY ROAD
MAINTAIN 1-12' LANE NORTHBOUND WITH DRUMS.
5. STA. 20+90 TO STA. 18+60 MD 103
PROVIDE A RIGHT TURN LANE FOR DETOUR TRAFFIC DESTINED FOR EASTBOUND MONTGOMERY ROAD WITH DRUMS.
6. STA. 18+80 TO STA. 21+10 BRIGHTFIELD ROAD
PLACE DRUMS ACROSS RIGHT TURN LANE TO PROHIBIT ACCESS. PROVIDE 1-11' LEFT AND 1-11' RIGHT TURN LANE EASTBOUND.
7. PLACE TYPE III BARRICADES WITH 'ROAD CLOSED' AND DETOUR SIGNS ACROSS RELOCATED MONTGOMERY ROAD TO PROHIBIT ACCESS.
8. MAINTAIN TRAFFIC AS IN PHASE IB.
9. MAINTAIN TRAFFIC WITH EXISTING LANE GEOMETRY.
10. PLACE TYPE III BARRICADES WITH 'ROAD CLOSED' AND DETOUR SIGNS ACROSS MEADOWBRIDGE ROAD TO PROHIBIT ACCESS.



LEGEND

- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASES
- EXISTING PAVEMENT TO BE REMOVED
- TEMPORARY PAVEMENT
- TEMPORARY PCC BARRIER (DOUBLE FACE)
- DRUMS
- SIGN FACE
- SIGN SUPPORT
- TRAFFIC LANE
- CRASH CUSHION
- TY. III BARRICADE W/ 'ROAD CLOSED', R 11-2, 48" X 30" SIGN (UNLESS OTHERWISE NOTED)



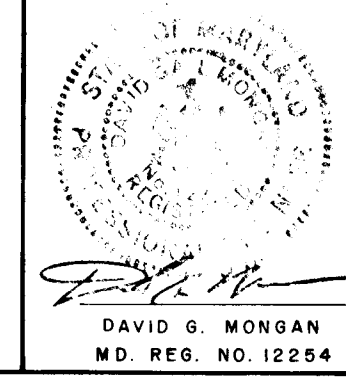
SIGN DETAIL A
NOT TO SCALE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Anna Holmsted 9/3/91
 CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
James W. Weiland 6/6/91
 CHIEF, BUREAU OF HIGHWAYS

David S. Mangan 8-5-91
 CHIEF, BUREAU OF ENGINEERING

FOR MAINTENANCE OF TRAFFIC ONLY



LAND DESIGN ENGINEERING, INC.

116120 Guilford Road • Suite 210 • Jessup, Maryland 20794 • (301) 804-8284 • (301) 810-0034

SEQUENCE OF CONSTRUCTION NOTES

- CONSTRUCT REMAINING SECTION OF MONTGOMERY ROAD. DETOURS CAN ONLY BE PUT IN PLACE BETWEEN 7:00 P.M. AND 6:00 A.M. RELOCATED MONTGOMERY ROAD MUST BE OPEN TO TRAFFIC AT THE COMPLETION OF EACH NIGHT'S CONSTRUCTION ACTIVITIES.
 - INSTALL SIGNAL LOOPS ON WESTBOUND MONTGOMERY ROAD.
- NOTE: SIGNAL TO BE OPERATED IN THE FLASH MODE DURING PHASE II. AT THE COMPLETION OF PHASE II SIGNAL TO BE PLACED IN STANDARD OPERATION.

PROVIDE TEMPORARY CONSTRUCTION SIGNING PER SIGN DETAIL 'A'

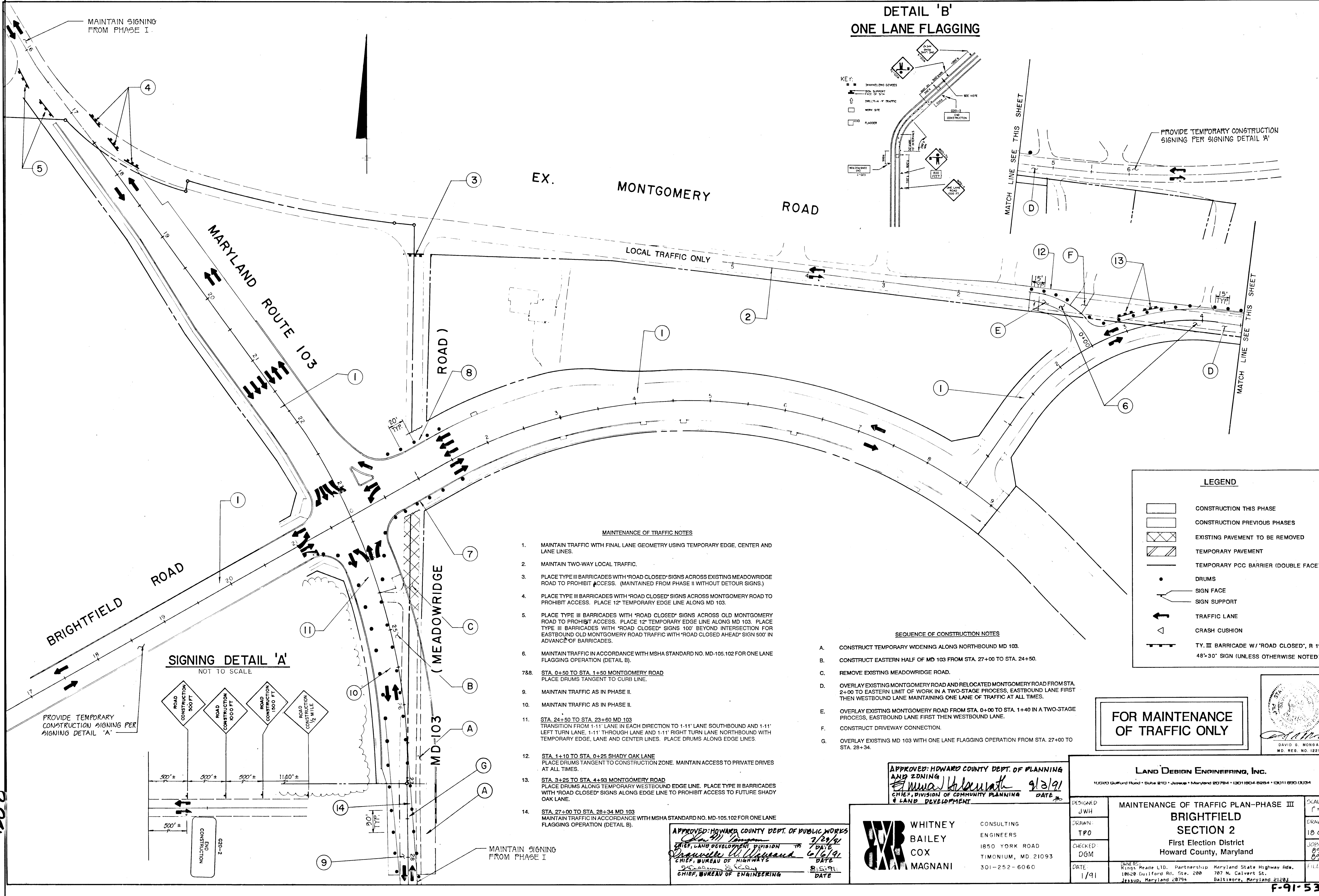
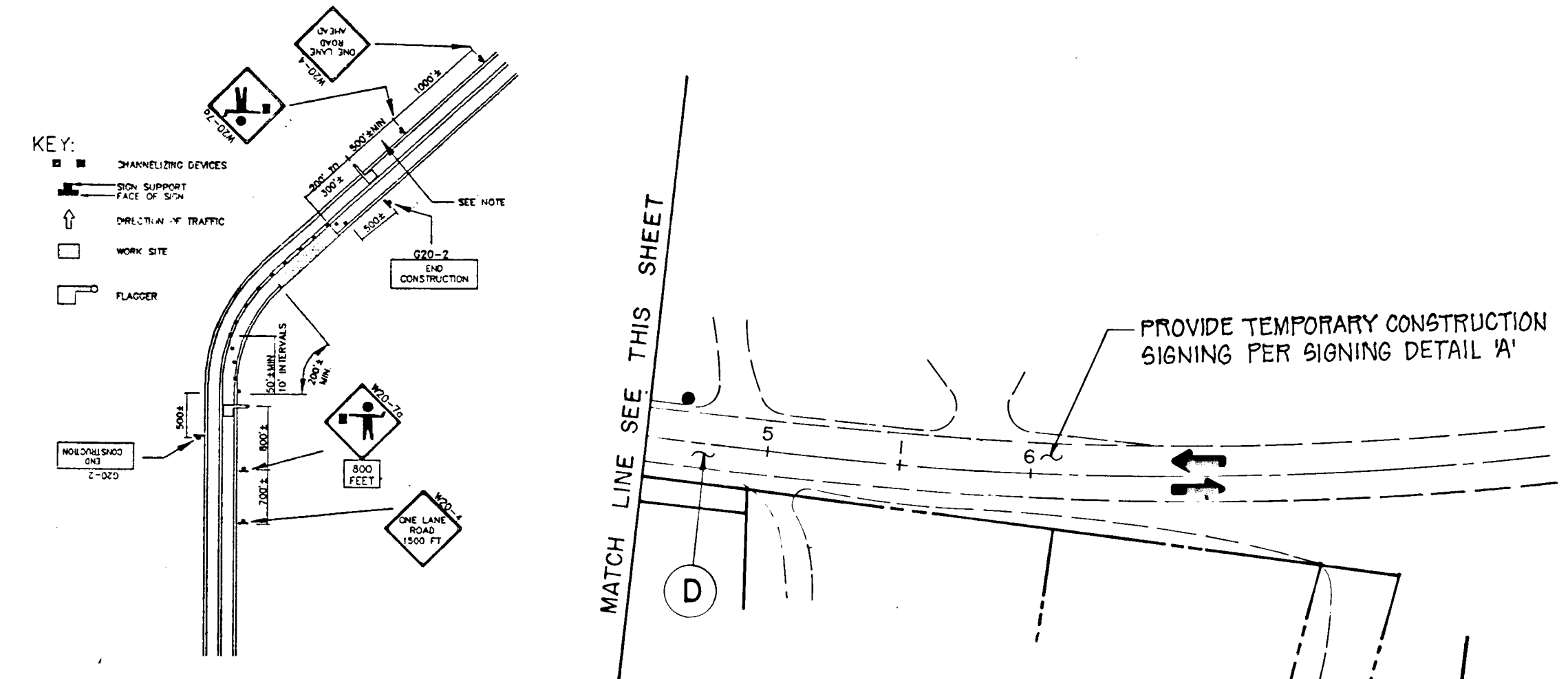
WHITNEY BAILEY COX MAGNANI
 CONSULTING ENGINEERS
 1850 YORK ROAD
 TIMONIUM, MD 21093
 301-252-6060

DESIGNED: JWH	MAINTENANCE OF TRAFFIC PLAN-PHASE II	SCALE: 1" = 50'
DRAWN: TPO	BRIGHTFIELD SECTION 2	DRAWING: 17 OF 19
CHECKED: DGM	First Election District	JOB NO: 89-101
DATE: 1/91	Howard County, Maryland	89-370
		FILE NO:

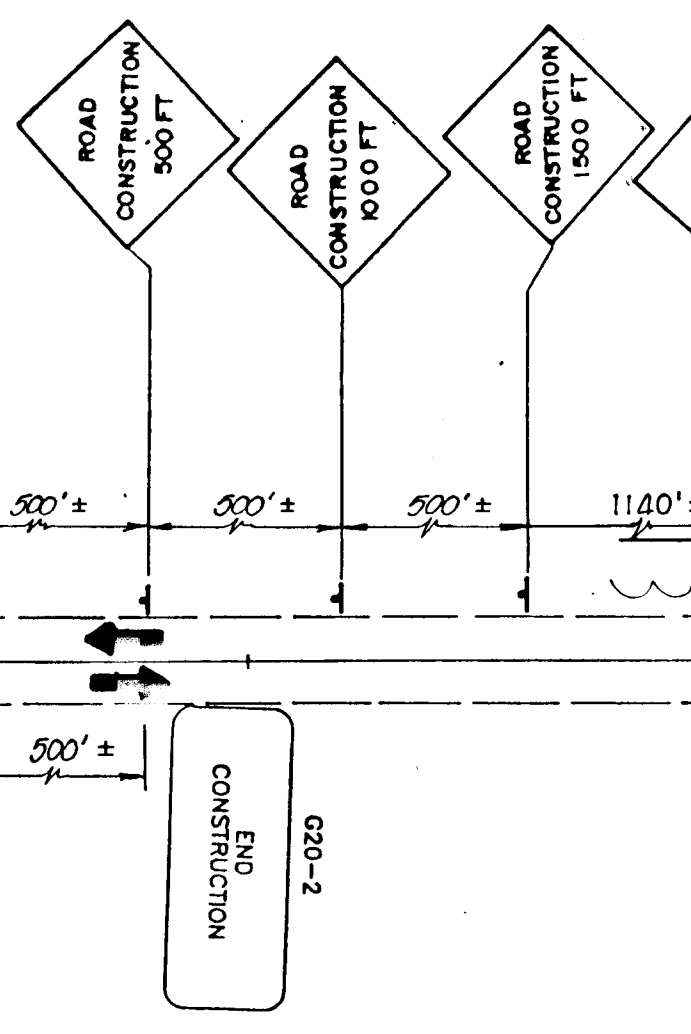
MINOR: Kings Heade LTD. Partnership Maryland State Highway Adm. 10620 Guilford Rd. Ste. 200 707 N. Calvert St. Jessup, Maryland 20794 Baltimore, Maryland 21201

1382

**DETAIL 'B'
ONE LANE FLAGGING**



SIGNING DETAIL 'A'
NOT TO SCALE



MAINTENANCE OF TRAFFIC NOTES

1. MAINTAIN TRAFFIC WITH FINAL LANE GEOMETRY USING TEMPORARY EDGE, CENTER AND LANE LINES.
2. MAINTAIN TWO-WAY LOCAL TRAFFIC.
3. PLACE TYPE III BARRICADES WITH 'ROAD CLOSED' SIGNS ACROSS EXISTING MEADOWRIDGE ROAD TO PROHIBIT ACCESS. (MAINTAINED FROM PHASE II WITHOUT DETOUR SIGNS.)
4. PLACE TYPE III BARRICADES WITH 'ROAD CLOSED' SIGNS ACROSS MONTGOMERY ROAD TO PROHIBIT ACCESS. PLACE 12" TEMPORARY EDGE LINE ALONG MD 103.
5. PLACE TYPE III BARRICADES WITH 'ROAD CLOSED' SIGNS ACROSS OLD MONTGOMERY ROAD TO PROHIBIT ACCESS. PLACE 12" TEMPORARY EDGE LINE ALONG MD 103. PLACE TYPE III BARRICADES WITH 'ROAD CLOSED' SIGNS 100' BEYOND INTERSECTION FOR EASTBOUND OLD MONTGOMERY ROAD TRAFFIC WITH 'ROAD CLOSED AHEAD' SIGN 500' IN ADVANCE OF BARRICADES.
6. MAINTAIN TRAFFIC IN ACCORDANCE WITH MSHA STANDARD NO. MD-105.102 FOR ONE LANE FLAGGING OPERATION (DETAIL B).
738. STA. 0+50 TO STA. 1+50 MONTGOMERY ROAD
PLACE DRUMS TANGENT TO CURB LINE.
9. MAINTAIN TRAFFIC AS IN PHASE II.
10. MAINTAIN TRAFFIC AS IN PHASE II.
11. STA. 24+50 TO STA. 23+60 MD 103
TRANSITION FROM 1-11' LANE IN EACH DIRECTION TO 1-11' LANE SOUTHBOUND AND 1-11' LEFT TURN LANE, 1-11' THROUGH LANE AND 1-11' RIGHT TURN LANE NORTHBOUND WITH TEMPORARY EDGE, LANE AND CENTER LINES. PLACE DRUMS ALONG EDGE LINES.
12. STA. 1+10 TO STA. 0+25 SHADY OAK LANE
PLACE DRUMS TANGENT TO CONSTRUCTION ZONE. MAINTAIN ACCESS TO PRIVATE DRIVES AT ALL TIMES.
13. STA. 3+25 TO STA. 4+93 MONTGOMERY ROAD
PLACE DRUMS ALONG TEMPORARY WESTBOUND EDGE LINE. PLACE TYPE III BARRICADES WITH 'ROAD CLOSED' SIGNS ALONG EDGE LINE TO PROHIBIT ACCESS TO FUTURE SHADY OAK LANE.
14. STA. 27+00 TO STA. 28+34 MD 103
MAINTAIN TRAFFIC IN ACCORDANCE WITH MSHA STANDARD NO. MD-105.102 FOR ONE LANE FLAGGING OPERATION (DETAIL B).

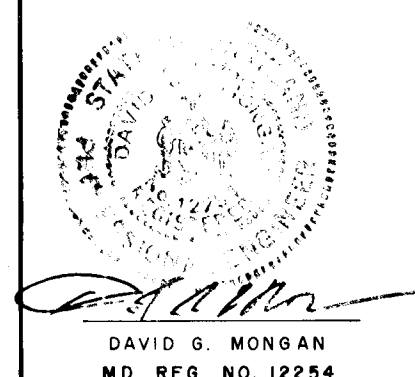
SEQUENCE OF CONSTRUCTION NOTES

- A. CONSTRUCT TEMPORARY WIDENING ALONG NORTHBOUND MD 103.
- B. CONSTRUCT EASTERN HALF OF MD 103 FROM STA. 27+00 TO STA. 24+50.
- C. REMOVE EXISTING MEADOWRIDGE ROAD.
- D. OVERLAY EXISTING MONTGOMERY ROAD AND RELOCATED MONTGOMERY ROAD FROM STA. 2+00 TO EASTERN LIMIT OF WORK IN A TWO-STAGE PROCESS, EASTBOUND LANE FIRST THEN WESTBOUND LANE MAINTAINING ONE LANE OF TRAFFIC AT ALL TIMES.
- E. OVERLAY EXISTING MONTGOMERY ROAD FROM STA. 0+00 TO STA. 1+40 IN A TWO-STAGE PROCESS, EASTBOUND LANE FIRST THEN WESTBOUND LANE.
- F. CONSTRUCT DRIVEWAY CONNECTION.
- G. OVERLAY EXISTING MD 103 WITH ONE LANE FLAGGING OPERATION FROM STA. 27+00 TO STA. 28+34.

LEGEND

- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASES
- EXISTING PAVEMENT TO BE REMOVED
- TEMPORARY PAVEMENT
- TEMPORARY PCC BARRIER (DOUBLE FACE)
- DRUMS
- SIGN FACE
- SIGN SUPPORT
- TRAFFIC LANE
- CRASH CUSHION
- TY. III BARRICADE W/ 'ROAD CLOSED', R 11-2, 48"X30" SIGN (UNLESS OTHERWISE NOTED)

FOR MAINTENANCE OF TRAFFIC ONLY

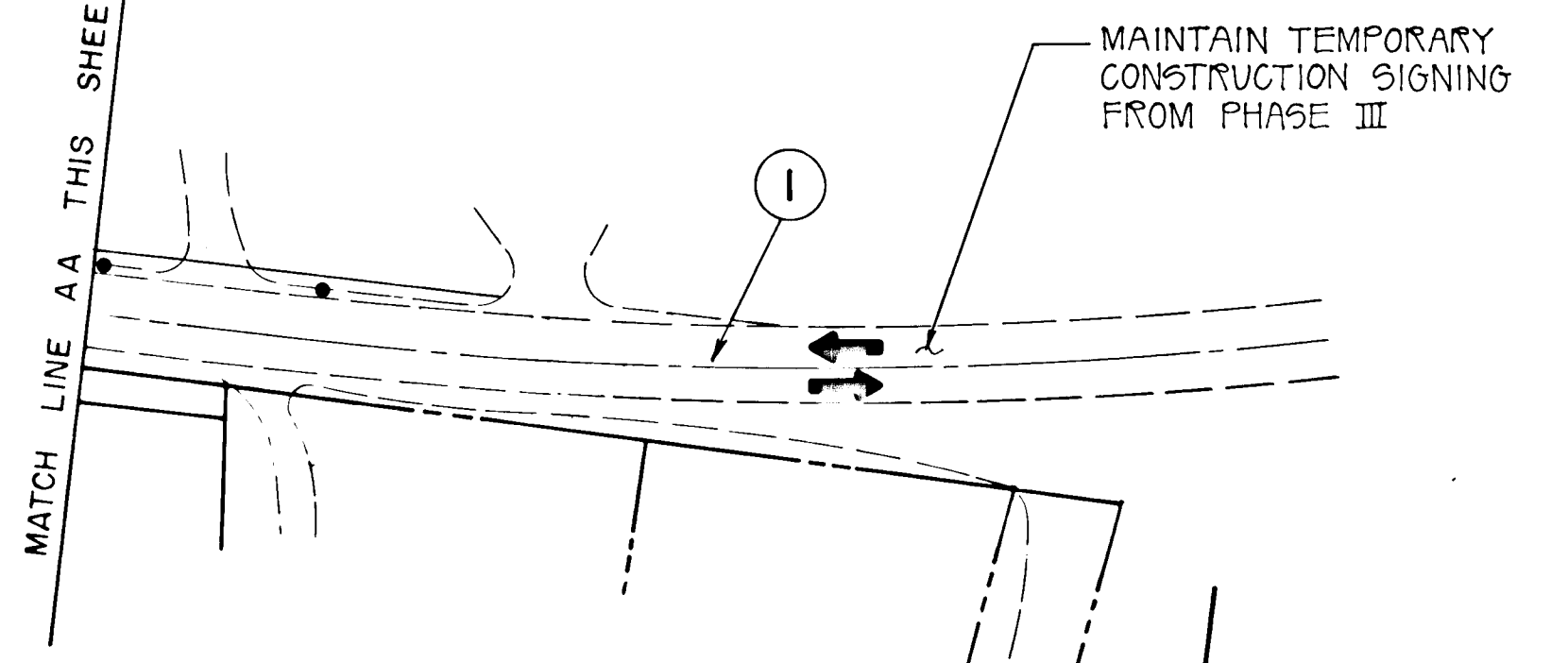
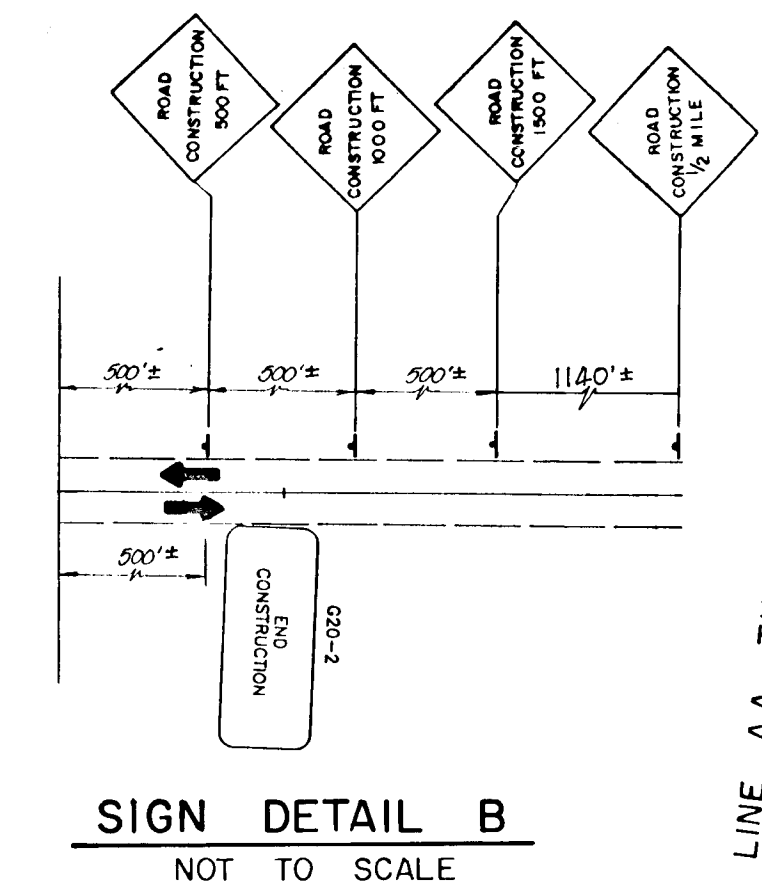
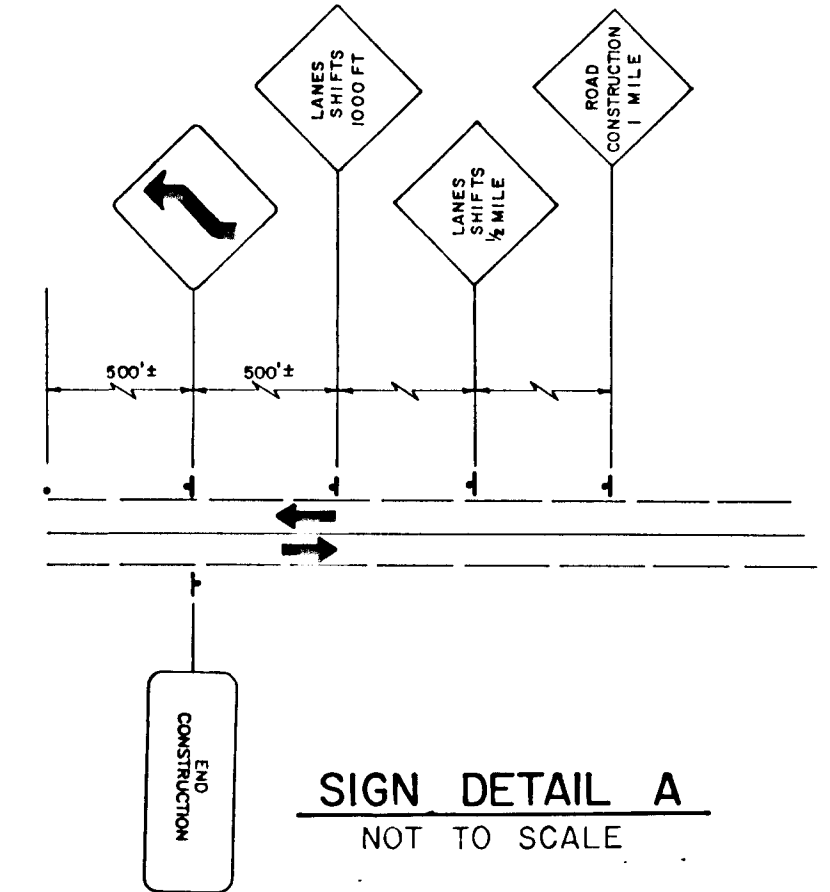
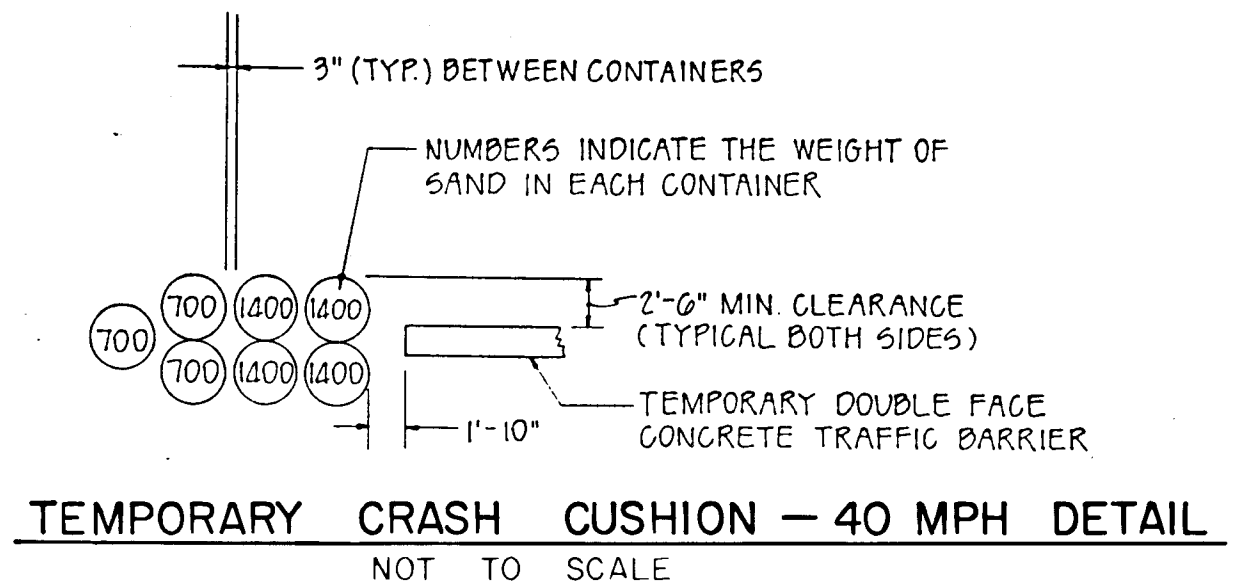
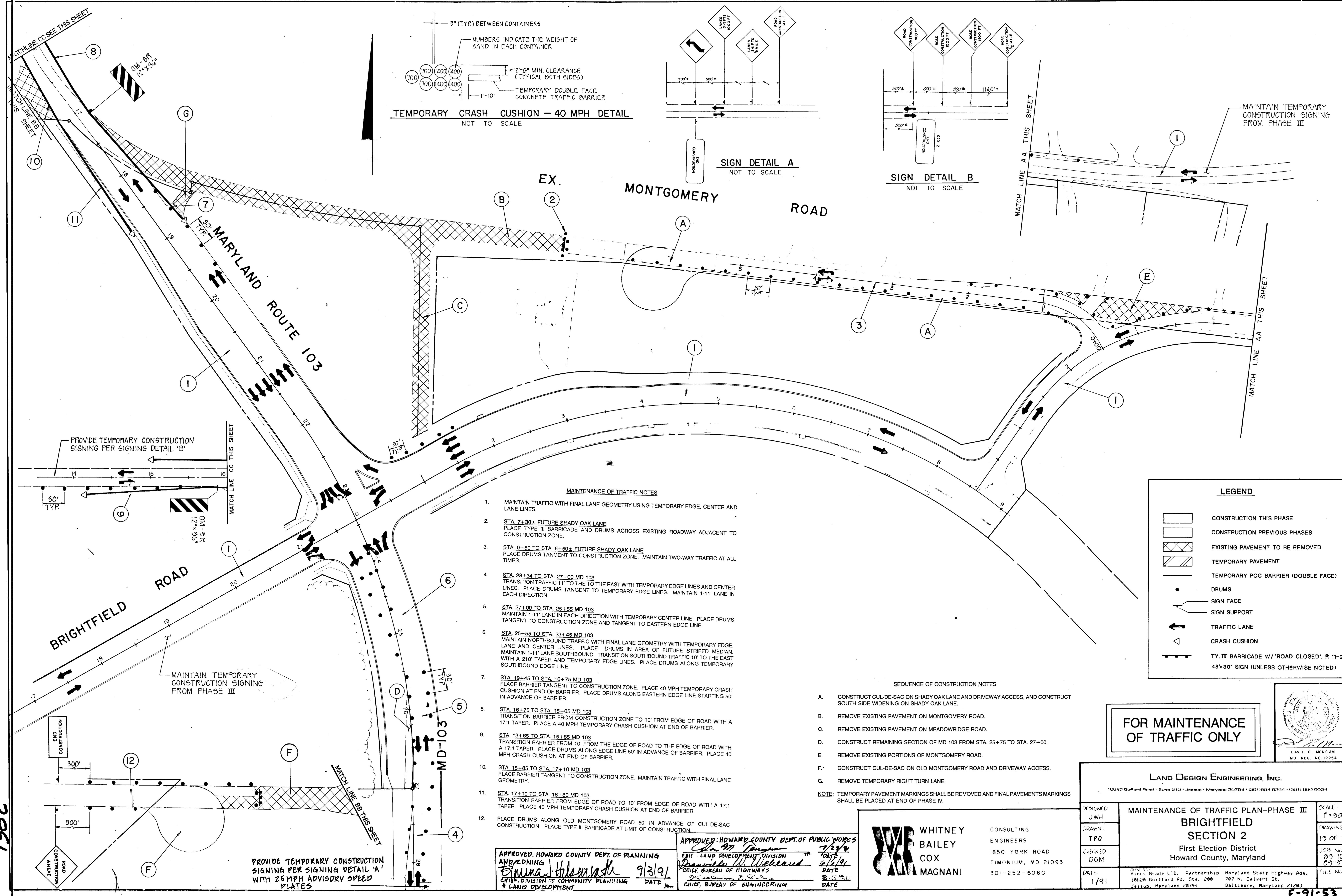


APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 [Signature] 9/23/91
 CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
 [Signature] 7/29/91
 CHIEF, BUREAU OF HIGHWAYS
 [Signature] 6/16/91
 CHIEF, BUREAU OF ENGINEERING

WHITNEY BAILEY COX MAGNANI
 CONSULTING ENGINEERS
 1850 YORK ROAD
 TIMONIUM, MD. 21093
 301-252-6060

DESIGNED: JWH		MAINTENANCE OF TRAFFIC PLAN-PHASE III BRIGHTFIELD SECTION 2 First Election District Howard County, Maryland	SCALE: 1"=50'
DRAWN: TPO			DRAWING: 18 OF 19
CHECKED: DGM			JOB NO: 89-101
DATE: 1/91			FILE NO: 89-270



EX. MONTGOMERY ROAD

MAINTENANCE OF TRAFFIC NOTES

1. MAINTAIN TRAFFIC WITH FINAL LANE GEOMETRY USING TEMPORARY EDGE, CENTER AND LANE LINES.
2. STA. 7+30± FUTURE SHADY OAK LANE
PLACE TYPE III BARRICADE AND DRUMS ACROSS EXISTING ROADWAY ADJACENT TO CONSTRUCTION ZONE.
3. STA. 0+50 TO STA. 6+50± FUTURE SHADY OAK LANE
PLACE DRUMS TANGENT TO CONSTRUCTION ZONE. MAINTAIN TWO-WAY TRAFFIC AT ALL TIMES.
4. STA. 28+34 TO STA. 27+00 MD 103
TRANSITION TRAFFIC 1:1 TO THE TO THE EAST WITH TEMPORARY EDGE LINES AND CENTER LINES. PLACE DRUMS TANGENT TO TEMPORARY EDGE LINES. MAINTAIN 1-11' LANE IN EACH DIRECTION.
5. STA. 27+00 TO STA. 25+55 MD 103
MAINTAIN 1-11' LANE IN EACH DIRECTION WITH TEMPORARY CENTER LINE. PLACE DRUMS TANGENT TO CONSTRUCTION ZONE AND TANGENT TO EASTERN EDGE LINE.
6. STA. 25+55 TO STA. 23+45 MD 103
MAINTAIN NORTHBOUND TRAFFIC WITH FINAL LANE GEOMETRY WITH TEMPORARY EDGE, LANE AND CENTER LINES. PLACE DRUMS IN AREA OF FUTURE STRIPED MEDIAN. MAINTAIN 1-11' LANE SOUTHBOUND. TRANSITION SOUTHBOUND TRAFFIC 10' TO THE EAST WITH A 2:1 TAPER AND TEMPORARY EDGE LINES. PLACE DRUMS ALONG TEMPORARY SOUTHBOUND EDGE LINE.
7. STA. 19+45 TO STA. 16+75 MD 103
PLACE BARRIER TANGENT TO CONSTRUCTION ZONE. PLACE 40 MPH TEMPORARY CRASH CUSHION AT END OF BARRIER. PLACE DRUMS ALONG EASTERN EDGE LINE STARTING 50' IN ADVANCE OF BARRIER.
8. STA. 16+75 TO STA. 15+05 MD 103
TRANSITION BARRIER FROM CONSTRUCTION ZONE TO 10' FROM EDGE OF ROAD WITH A 17:1 TAPER. PLACE A 40 MPH TEMPORARY CRASH CUSHION AT END OF BARRIER.
9. STA. 13+65 TO STA. 15+85 MD 103
TRANSITION BARRIER FROM 10' FROM THE EDGE OF ROAD TO THE EDGE OF ROAD WITH A 17:1 TAPER. PLACE DRUMS ALONG EDGE LINE 50' IN ADVANCE OF BARRIER. PLACE 40 MPH CRASH CUSHION AT END OF BARRIER.
10. STA. 15+85 TO STA. 17+10 MD 103
PLACE BARRIER TANGENT TO CONSTRUCTION ZONE. MAINTAIN TRAFFIC WITH FINAL LANE GEOMETRY.
11. STA. 17+10 TO STA. 18+80 MD 103
TRANSITION BARRIER FROM EDGE OF ROAD TO 10' FROM EDGE OF ROAD WITH A 17:1 TAPER. PLACE 40 MPH TEMPORARY CRASH CUSHION AT END OF BARRIER.
12. PLACE DRUMS ALONG OLD MONTGOMERY ROAD 50' IN ADVANCE OF CUL-DE-SAC CONSTRUCTION. PLACE TYPE III BARRICADE AT LIMIT OF CONSTRUCTION.

SEQUENCE OF CONSTRUCTION NOTES

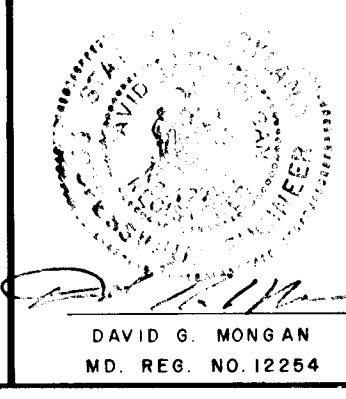
- A. CONSTRUCT CUL-DE-SAC ON SHADY OAK LANE AND DRIVEWAY ACCESS, AND CONSTRUCT SOUTH SIDE WIDENING ON SHADY OAK LANE.
- B. REMOVE EXISTING PAVEMENT ON MONTGOMERY ROAD.
- C. REMOVE EXISTING PAVEMENT ON MEADOWRIDGE ROAD.
- D. CONSTRUCT REMAINING SECTION OF MD 103 FROM STA. 25+75 TO STA. 27+00.
- E. REMOVE EXISTING PORTIONS OF MONTGOMERY ROAD.
- F. CONSTRUCT CUL-DE-SAC ON OLD MONTGOMERY ROAD AND DRIVEWAY ACCESS.
- G. REMOVE TEMPORARY RIGHT TURN LANE.

NOTE: TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED AND FINAL PAVEMENTS MARKINGS SHALL BE PLACED AT END OF PHASE IV.

LEGEND

- CONSTRUCTION THIS PHASE
- CONSTRUCTION PREVIOUS PHASES
- EXISTING PAVEMENT TO BE REMOVED
- TEMPORARY PAVEMENT
- TEMPORARY PCC BARRIER (DOUBLE FACE)
- DRUMS
- SIGN FACE
- SIGN SUPPORT
- TRAFFIC LANE
- CRASH CUSHION
- TY. III BARRICADE W/ "ROAD CLOSED", R 11-2, 48"X30" SIGN (UNLESS OTHERWISE NOTED)

FOR MAINTENANCE OF TRAFFIC ONLY



APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Emilia Hilson 9/3/91
 CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
John M. Dorman 7/29/91
 CHIEF, LAND DEVELOPMENT DIVISION
Thomas W. Wehland 6/6/91
 CHIEF, BUREAU OF HIGHWAYS
John S. ... 8/2/91
 CHIEF, BUREAU OF ENGINEERING

WHITNEY BAILEY COX MAGNANI

CONSULTING ENGINEERS
 1850 YORK ROAD
 TIMONIUM, MD 21093
 301-252-6060

LAND DESIGN ENGINEERING, INC. 10120 Guilford Road • Suite 210 • Jessup • Maryland 20794 • (301)804-6204 • (301)800-0034		
DESIGNED JWH	MAINTENANCE OF TRAFFIC PLAN-PHASE III BRIGHTFIELD SECTION 2 First Election District Howard County, Maryland	SCALE: 1"=50'
DRAWN TPO		DRAWING 19 OF 19
CHECKED DGM		JOB NO. 89-101 89-270
DATE 1/91		FILE NO. Kings Road LID. Partnership Maryland State Highway Ad. 10620 Guilford Rd. Ste. 200 787 N. Calvert St. Jessup, Maryland 20794 Baltimore, Maryland 21284

1382