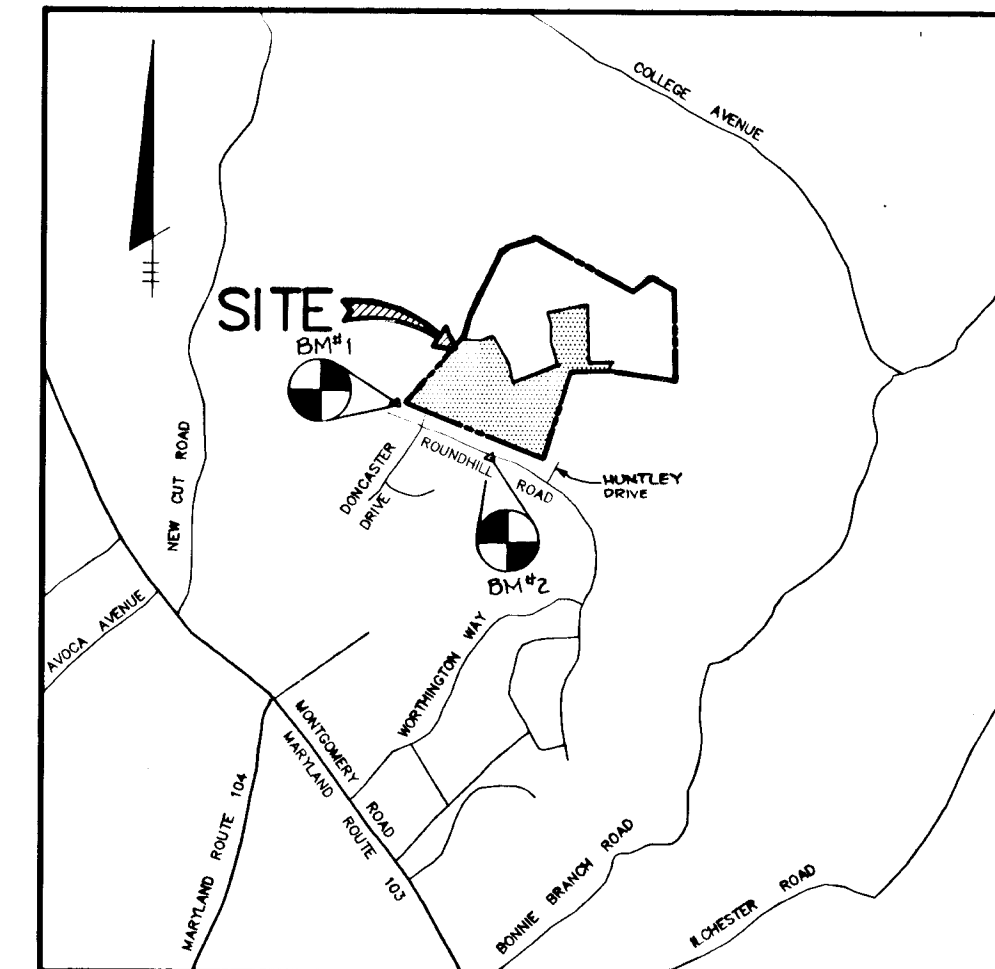


ROADWAYS, STORM DRAINS AND STORMWATER MANAGEMENT

WORTHINGTON RESERVES SECTION ONE

FORMERLY KESTING PROPERTY P-90-07
2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SHEET INDEX	
NO	DESCRIPTION
1	TITLE SHEET
2	PLAN AND PROFILE DONCASTER DRIVE FROM STA. 0+00 TO 10+00 AND KESTING COURT
3	PLAN AND PROFILE DONCASTER DRIVE FROM STA. 10+00 TO 19+00
4	PLAN AND PROFILE VINEYARD OVERLOOK AND CHEWS TERRACE
5	STORM DRAIN PROFILES
6	STORM DRAIN PROFILES AND CONSTRUCTION DETAILS
7	DRAINAGE AREA MAP
8	GRADING AND SEDIMENT CONTROL PLAN
9	GRADING AND SEDIMENT CONTROL PLAN
10	GRADING AND SEDIMENT CONTROL PLAN
11	SEDIMENT CONTROL/SWM NOTES AND DETAILS
12	S.W.M. PROFILES AND DETAILS
13	WETLANDS MITIGATION AND REFORESTATION PLAN

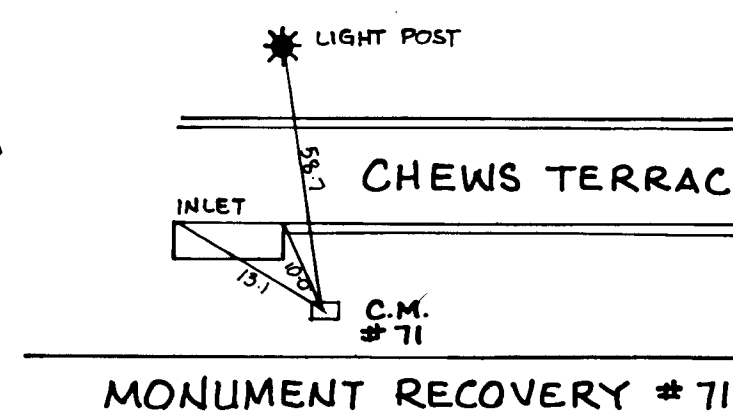
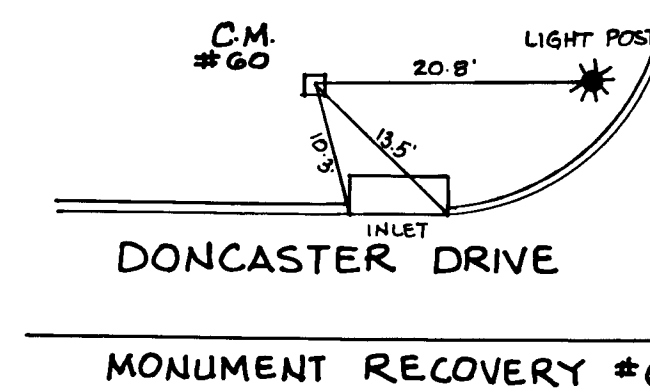
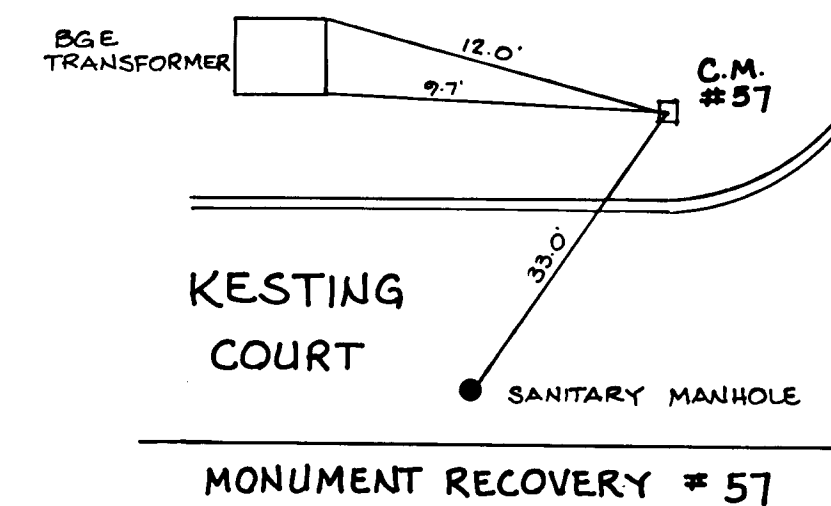


VICINITY MAP

SCALE: 1" = 200'

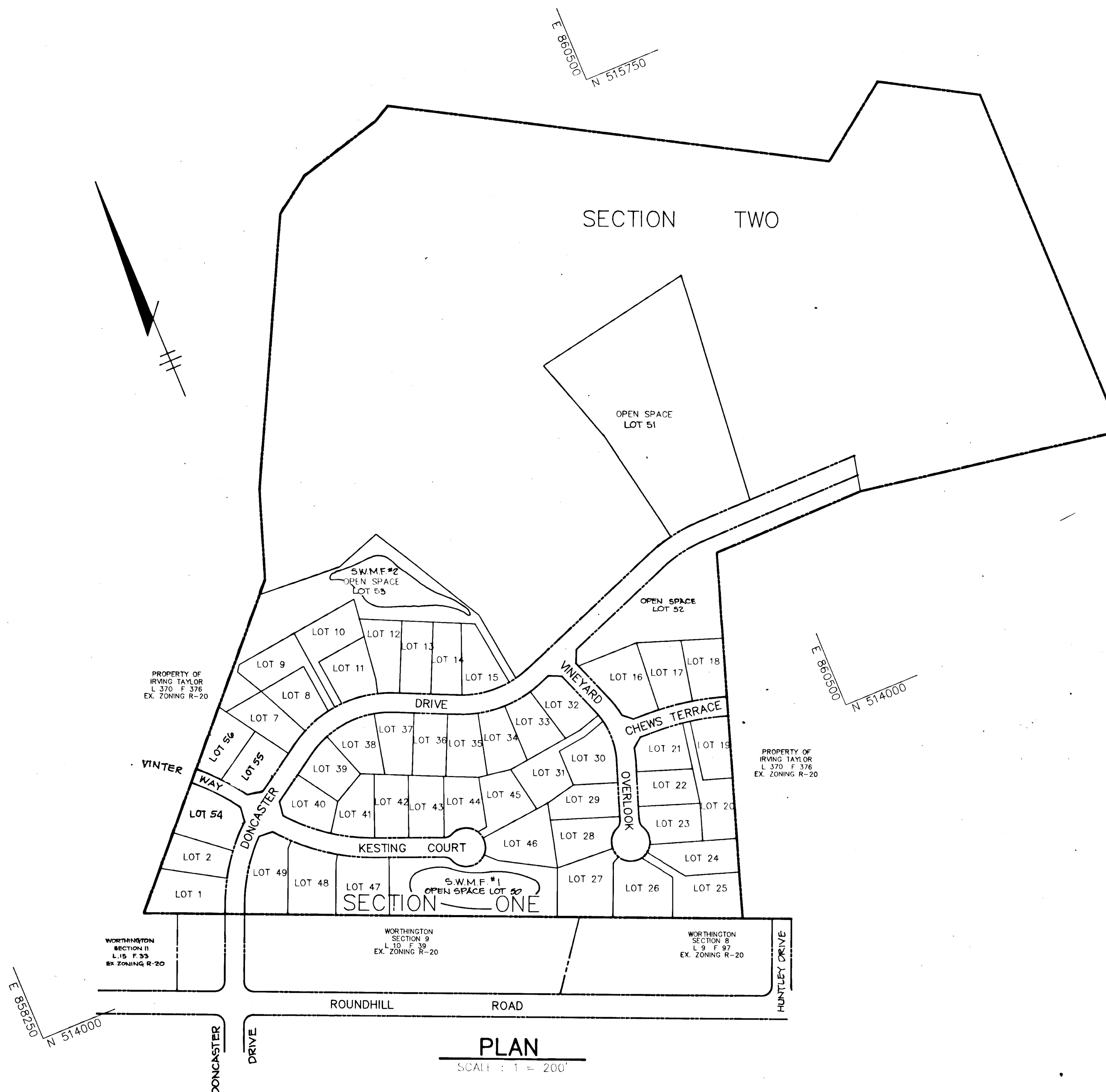
BENCHMARKS

- #1 HOWARD COUNTY CONTROL PT. 2944.002
ELEV. 535.27
N 514,196.36
E 858,596.39
- #2 SANITARY SEWER MANHOLE RIM IN ROUNDHILL ROAD
ELEV. 509.53
N 513,618.7
E 859,325.9



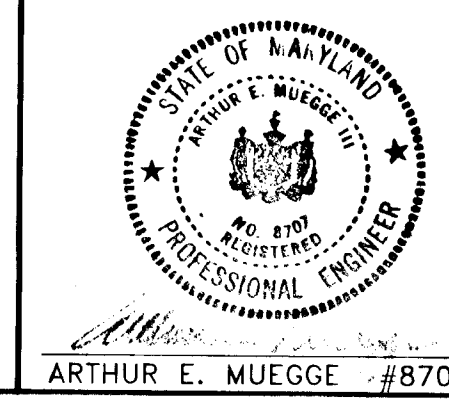
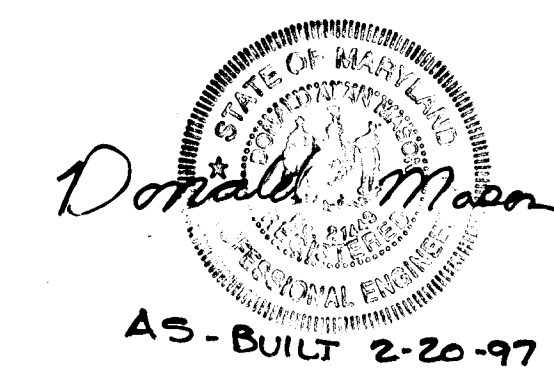
GENERAL NOTES

- ALL WORK SHALL BE PREPARED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOL. II, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, 1990 AMENDMENTS.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK ON THESE DRAWINGS:
 - MES UTILITY 1-800-327-7777
 - BELL TELEPHONE SYSTEM 393-3649
 - LONG DISTANCE CABLE DIVISION 393-3553 OR 3554
 - BALTIMORE GAS AND ELECTRIC CO. 539-8000
 - HOWARD COUNTY BUREAU OF UTILITIES 313-4900
 - HOWARD COUNTY CONSTRUCTION 792-7272
 - INSPECTION SURVEY DIVISION (24 HOURS NOTICE PRIOR TO COMMENCEMENT OF WORK) 795-1390
 - COLONIAL PIPELINE 795-1390
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL STREET CURB RETURNS SHALL HAVE 25' RADI UNLESS OTHERWISE NOTED.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, 1990 AMENDMENTS.
- INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING, AND SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 1988 EDITION.
- PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARDS:
 - ALL 50' RIGHT OF WAYS 25 AND 30 M.P.H.
- ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- PROFILES STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- SUBJECT PROPERTY ZONED R-20 PER R-20-85 COMPREHENSIVE ZONING PLAN.
- TOPO TAKEN FROM FIELD RUN SURVEY DATED DECEMBER 1988 BY DDBERRY & DAVIS.
- NO PIPE SHALL BE Laid UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS 'C' AS SHOWN IN FIG. 11.4, VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
- SEE DEPT. OF PLANNING AND ZONING FILE NO'S: S-89-50, P-90-07, WP-90-20, AND WP-91-178.
- LIGHT POLES AND FIXTURES FOR STREET LIGHTS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME II - ROAD AND BRIDGES, PAGE 4A-26.
- THE STORMWATER MANAGEMENT FACILITIES PROPOSED FOR THIS SITE ARE CLASS 'A' HAZARD FACILITIES. IN THE EVENT OF A FAILURE OF THE EMBANKMENT, DAMAGE WILL BE LIMITED TO FLOODPLAINS AND COUNTY ROADS.
- THE PAVEMENT DETAILS SHOWN ON THESE PLANS REFLECT THE HOWARD COUNTY MINIMUM STANDARD PAVEMENT SECTIONS AND ARE NOT BASED ON SITE SPECIFIC CONDITIONS. PRIOR TO PAVING, THE FINAL PAVEMENT SECTIONS SHALL BE DETERMINED BY A QUALIFIED GEOTECHNICAL ENGINEER BASED ON IN-SITU TESTING OF THE FINISHED SUBGRADE. ANY PAVEMENT SECTIONS DETERMINED BY THE GEOTECHNICAL ENGINEER THAT IS LESS THAN THE HOWARD COUNTY MINIMUM STANDARD, SHALL FIRST BE APPROVED BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. THE TESTING AND GEOTECHNICAL ENGINEER SHALL BE FURNISHED BY THE OWNER.
- WP-90-20 IS A WAIVER TO ALLOW GRADING WITHIN WETLANDS BUFFER.
- WP-91-178 IS A WAIVER REQUIRING FINAL PLAN SUBMISSION WITHIN 12 MONTHS OF PRELIMINARY PLAN APPROVAL.
- WAIVERS OF SECTIONS 10.2.G.4 AND 10.2.G.5 OF DESIGN MANUAL VOLUME I WERE APPROVED BY THE DIRECTOR OF PUBLIC WORKS ON FEBRUARY 10, 1992. THE WAIVER APPROVED ALLOW STORMWATER MANAGEMENT GROWING WITHIN 20' OF A ROAD RIGHT OF WAY AND WETLANDS MITIGATION IN THE STORMWATER MANAGEMENT POND.



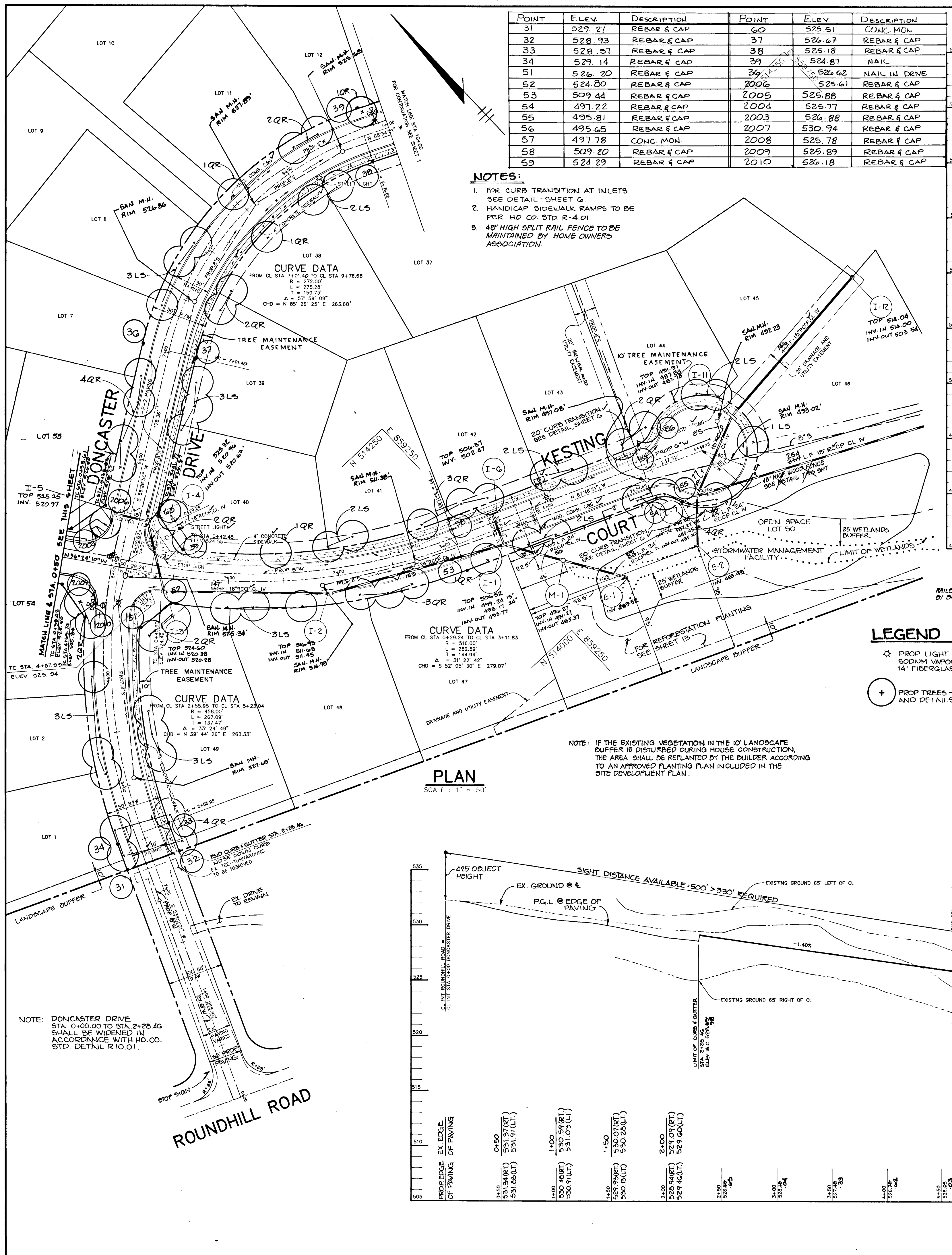
PLAN
SCALE: 1" = 200'

AS BUILT CERTIFICATE	
APPROVED: ARTHUR E. MUEGGE #8707	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	DATE
<i>Anna Klamath</i>	3/24/92
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	DATE
<i>John M. Longman</i>	3/16/92
CHIEF, BUREAU OF HIGHWAYS	DATE
<i>John M. Longman</i>	3-20-92
CHIEF, BUREAU OF ENGINEERING	DATE
5-27-93	ADD VINTER WAY TO PLAN
DATE	NO. REVISION
OWNER / DEVELOPER	
CHARLES F. KESTING % ROBERT J. RYNAZZELUSKI 1227 CARTLEY COURT WOODBINE, MARYLAND 21797 (301) 442-1577	
PROJECT FORMERLY KESTING PROPERTY P-90-07	
WORTHINGTON RESERVES SECTION ONE LOTS 1-55	
AREA	TAX MAP NO. 31 ZONED R-20 PARCEL 3
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE SHEET	
RIEMER MUEGGE & ASSOCIATES, INC. A Land Planning, Engineering and Consulting Firm 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045 410-921-6000 FAX: 410-921-9282	
DATE	S-89-50 WP-90-20
2-24-92	P-90-07 WP-91-178
DESIGNED BY: DAM	
DRAWN BY: DAM	
PROJECT NO: 79800	
DATE: OCTOBER 17, 1991	
SCALE: AS SHOWN	
DRAWING NO. 1 OF 13	



1638

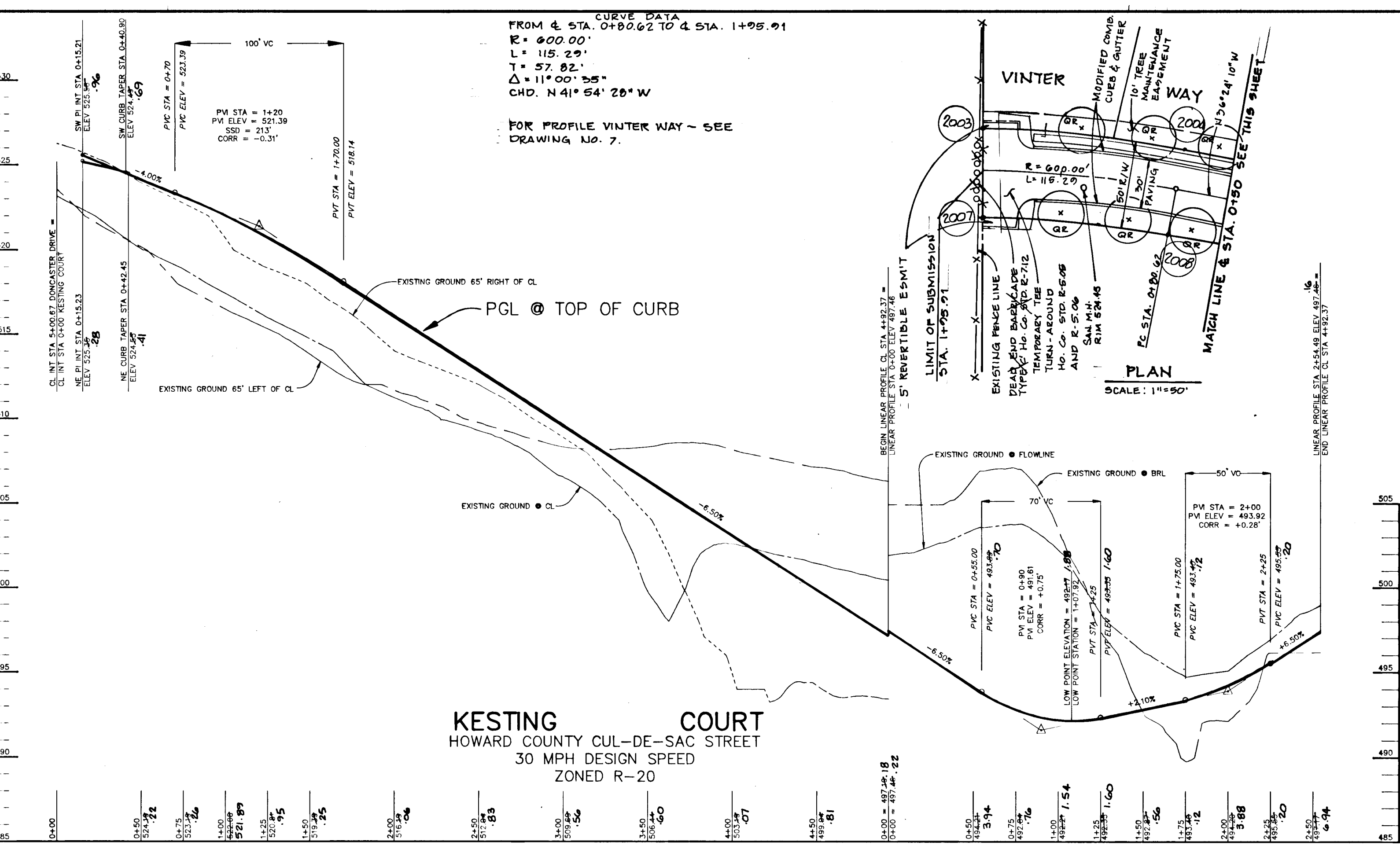
1637



POINT	ELEV.	DESCRIPTION	POINT	ELEV.	DESCRIPTION
31	529.27	REBAR & CAP	40	525.51	CONC. MON.
32	528.93	REBAR & CAP	37	525.67	REBAR & CAP
33	528.57	REBAR & CAP	38	525.18	REBAR & CAP
34	529.14	REBAR & CAP	39	524.87	NAIL
51	526.20	REBAR & CAP	36	526.62	NAIL IN DRIVE
52	524.80	REBAR & CAP	2006	525.61	REBAR & CAP
53	509.44	REBAR & CAP	2005	525.88	REBAR & CAP
54	497.22	REBAR & CAP	2004	525.77	REBAR & CAP
55	495.81	REBAR & CAP	2003	526.88	REBAR & CAP
56	495.65	REBAR & CAP	2007	530.94	REBAR & CAP
57	497.78	CONC. MON.	2008	525.78	REBAR & CAP
58	509.20	REBAR & CAP	2009	525.89	REBAR & CAP
59	524.29	REBAR & CAP	2010	526.18	REBAR & CAP

NOTES:
 1. FOR CURB TRANSITION AT INLETS SEE DETAIL - SHEET G.
 2. HANDICAP SIDEWALK RAMP TO BE PER HO CO STD R-4.01
 3. 8' HIGH SPLIT RAIL FENCE TO BE MAINTAINED BY HOME OWNERS ASSOCIATION.

PLAN
SCALE: 1" = 50'

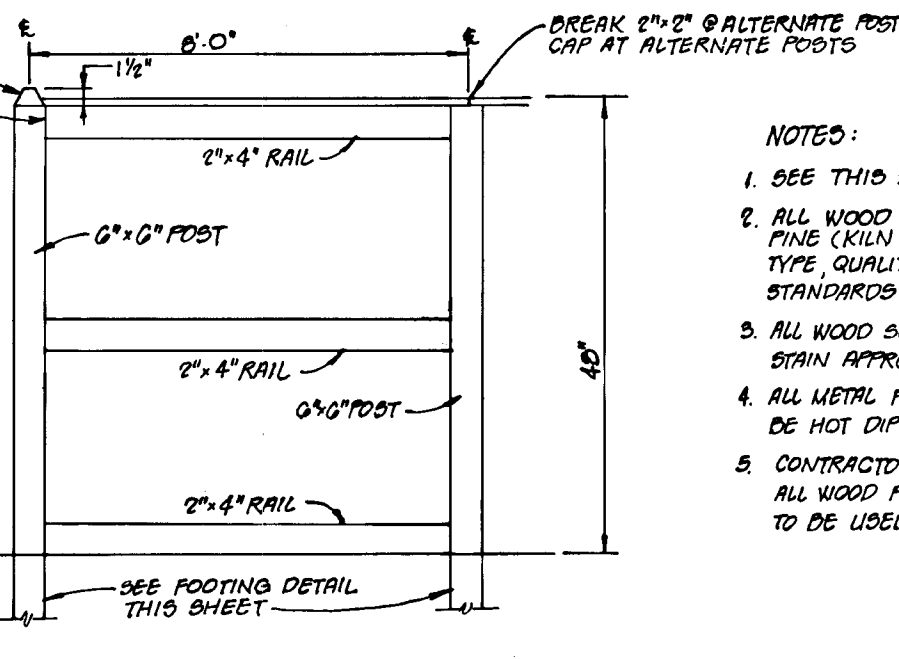


KESTING COURT
 HOWARD COUNTY CUL-DE-SAC STREET
 30 MPH DESIGN SPEED
 ZONED R-20

PROFILE
HOR: 1" = 50'
VERT: 1" = 5'

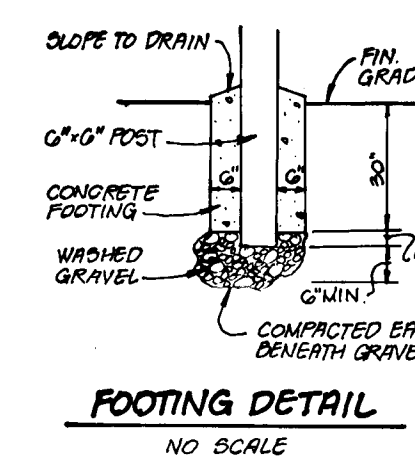
LEGEND

- ★ PROP LIGHT POLE - 150" SODIUM VAPOR LAMP, ATOP 14" FIBERGLASS BRONZE POLES.
- ⊕ PROP TREES - FOR PLANT LIST AND DETAILS SEE SHEET 3

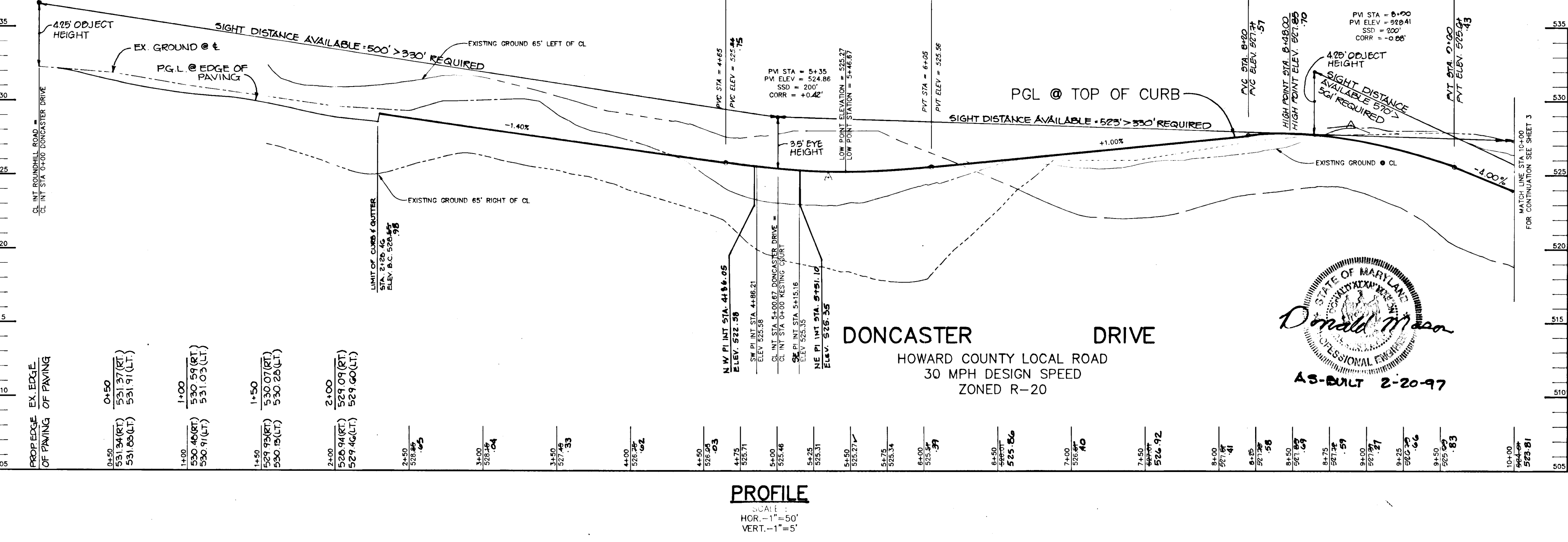


SPLIT RAIL FENCE DETAIL
NO SCALE

- NOTES:**
- SEE THIS SHEET FOR FENCE LOCATION.
 - ALL WOOD SELECT (GRADE 2 OR BETTER) IS YELLOW PINE (KILN DRIED) PROCURED TREATED W/ PRESERVATIVE - TYPE, QUALITY & QUANTITY TO CONFORM TO REG. MIN. STANDARDS OF AMERICAN WOOD PRESERVERY INST.
 - ALL WOOD SURFACES TO RECEIVE DARK BROWN WOOD STAIN APPROVED BY OWNER FROM CONTR. SUBMITTAL.
 - ALL METAL FASTENERS, CONNECTORS, NAILS, ETC., TO BE HOT DIPPED GALVANIZED ZINC COATING.
 - CONTRACTOR TO SUBMIT SAMPLES FOR APPROVAL - ALL WOOD PRESERVATIVES, STAINS & FASTENERS TO BE USED.



FOOTING DETAIL
NO SCALE



DONCASTER DRIVE
 HOWARD COUNTY LOCAL ROAD
 30 MPH DESIGN SPEED
 ZONED R-20

PROFILE
HOR: 1" = 50'
VERT: 1" = 5'

AS BUILT CERTIFICATE

ARTHUR E. MUEGGE #8707 DATE 2/24/92

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Anna Helomath 3/14/92
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John M. Ferguson 3/16/92
 CHIEF, BUREAU OF HIGHWAYS

Richard E. Ryan 3/20/92
 CHIEF, BUREAU OF ENGINEERING

5-27-92 ADD VINTER WAY TO PLAN.
 DATE NO. REVISION

OWNER / DEVELOPER
 CHARLES F. KESTING
 90 ROBERT J. RINAREWICKI
 1227 CARTLEY COURT
 WOODBINE, MARYLAND 21797
 (301) 442-1377

PROJECT: FORMERLY KESTING PROPERTY (P-30-02)
WORTHINGTON RESERVES
 SECTION ONE LOTS 1-53

AREA: TAX MAP NO. 31, ZONED R-20, PARCEL 3
 2nd ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

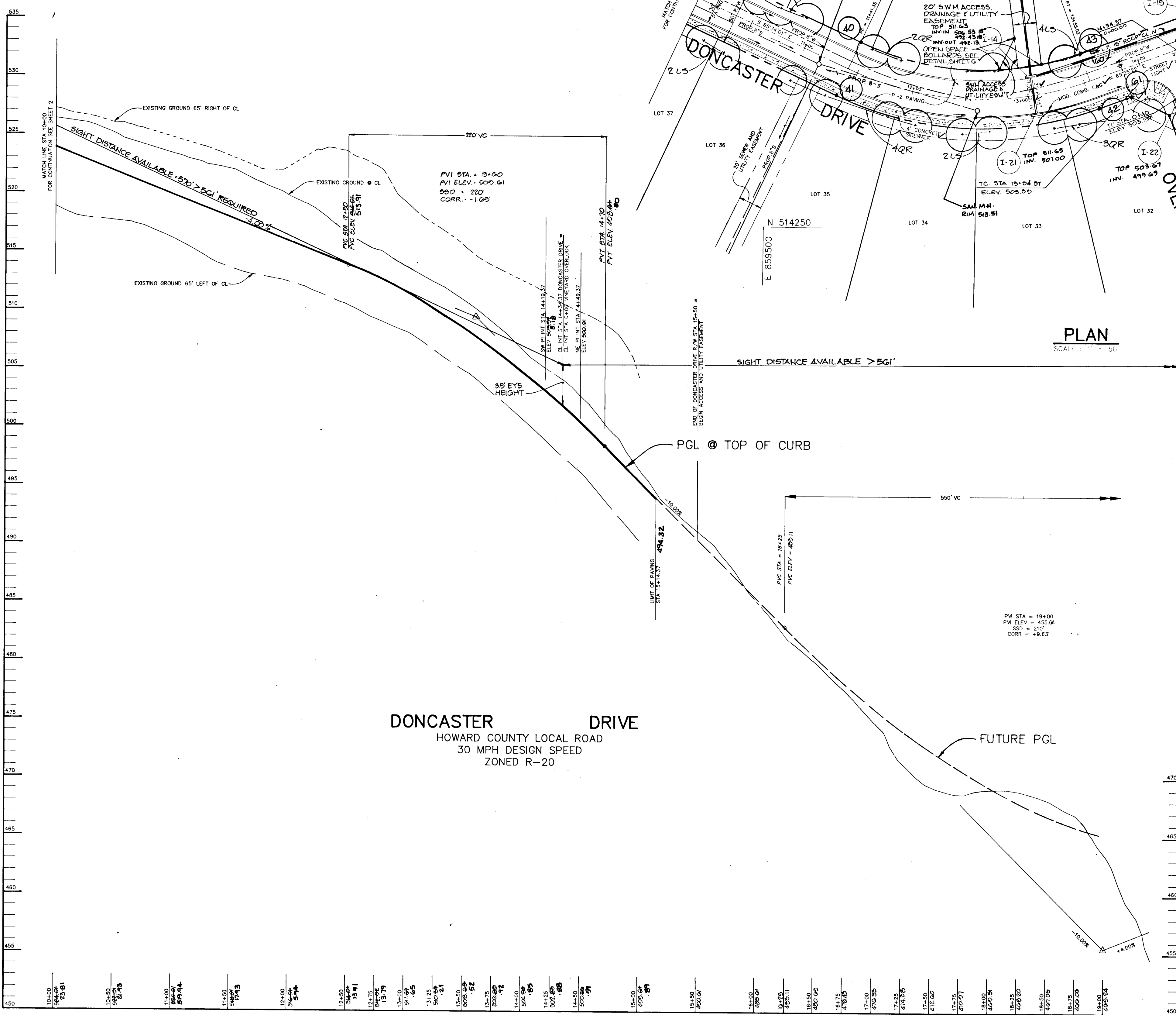
TITLE: PLAN AND PROFILE
 DONCASTER DRIVE FROM 0+00 TO 10+00
 AND KESTING COURT

RIEMER MUEGGE & ASSOCIATES, INC.
 A Land Planning, Engineering and Consulting Firm
 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
 301-997-8900 FAX: 301-997-9282

DATE: 2-24-92
 DESIGNED BY: DAM
 DRAWN BY: DAM
 PROJECT NO: 79800
 DATE: JANUARY 21, 1992
 SCALE: AS SHOWN
 DRAWING NO. 2 OF 15

POINT	ELEV.	DESCRIPTION
40	518.20	REBAR & CAP
41	518.66	NAIL
42	508.79	REBAR & CAP
43	508.41	REBAR & CAP
44	NOT SET	CONSTRUCTION
45	NOT SET	CONSTRUCTION
61	NOT SET	FIRE HYDRANT
62	505.10	REBAR & CAP
79	NOT SET	CONSTRUCTION
80	NOT SET	CONSTRUCTION

NOTES:
 1. FOR CURB TRANSITION AT INLETS SEE DETAIL SHEET 6.
 2. HANDICAP SIDEWALK RAMPS TO BE PER HO. CO. STD. R-401

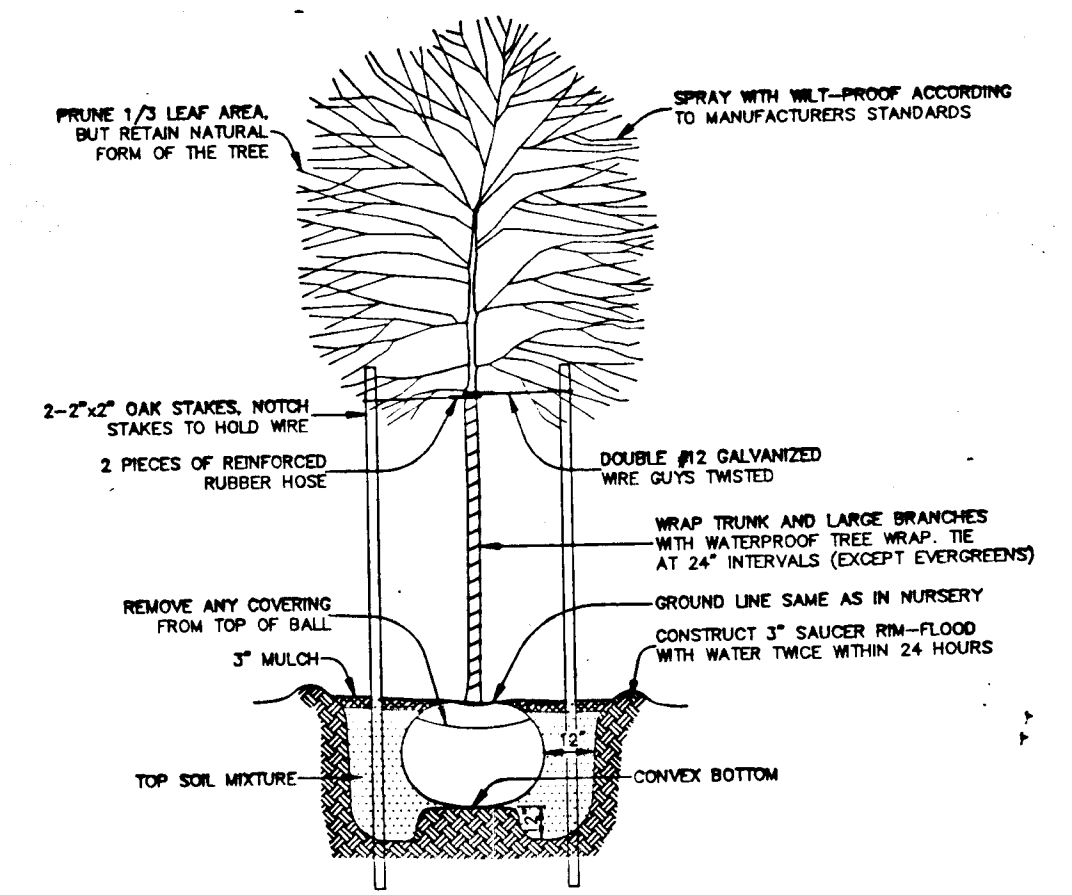


DONCASTER DRIVE
 HOWARD COUNTY LOCAL ROAD
 30 MPH DESIGN SPEED
 ZONED R-20

PLAN
 SCALE: 1" = 50'

PROFILE
 SCALE
 HOR. - 1" = 50'
 VERT. - 1" = 5'

LEGEND
 * PROP LIGHT POLE - 150w SODIUM VAPOR LAMP ATOP 14' FIBERGLASS BRONZE POLES.
 + PROP TREES - FOR PLANT LIST AND DETAILS THIS SHEET



PLANT LIST

QTY	KEY	NAME	SIZE	REMARKS
60	LS	LIQUIDAMBAR STYRACIFLUA Sweetgum	2 1/2-3" Cal. 12-14' Ht.	B&B Full Crown
75	QR	QUERCUS RUBRA Red Oak	2 1/2-3" Cal. 12-14' Ht.	B&B Full Crown

AS BUILT CERTIFICATE

APPROVED: ARTHUR E. MUEGGE #8707 DATE 3/24/92
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 REVISION: 5-27-93 REVISION: 1-20-92

OWNER: CHARLES F. KEATING, 90 ROBERT J. RYNARZEWSKI, 1227 CARTLEY COURT, WOODBINE, MARYLAND 21797 (301) 442-1577

PROJECT FORMERLY KEATING PROPERTY (P-90-07) **WORTHINGTON RESERVES SECTION ONE LOTS 1-53**

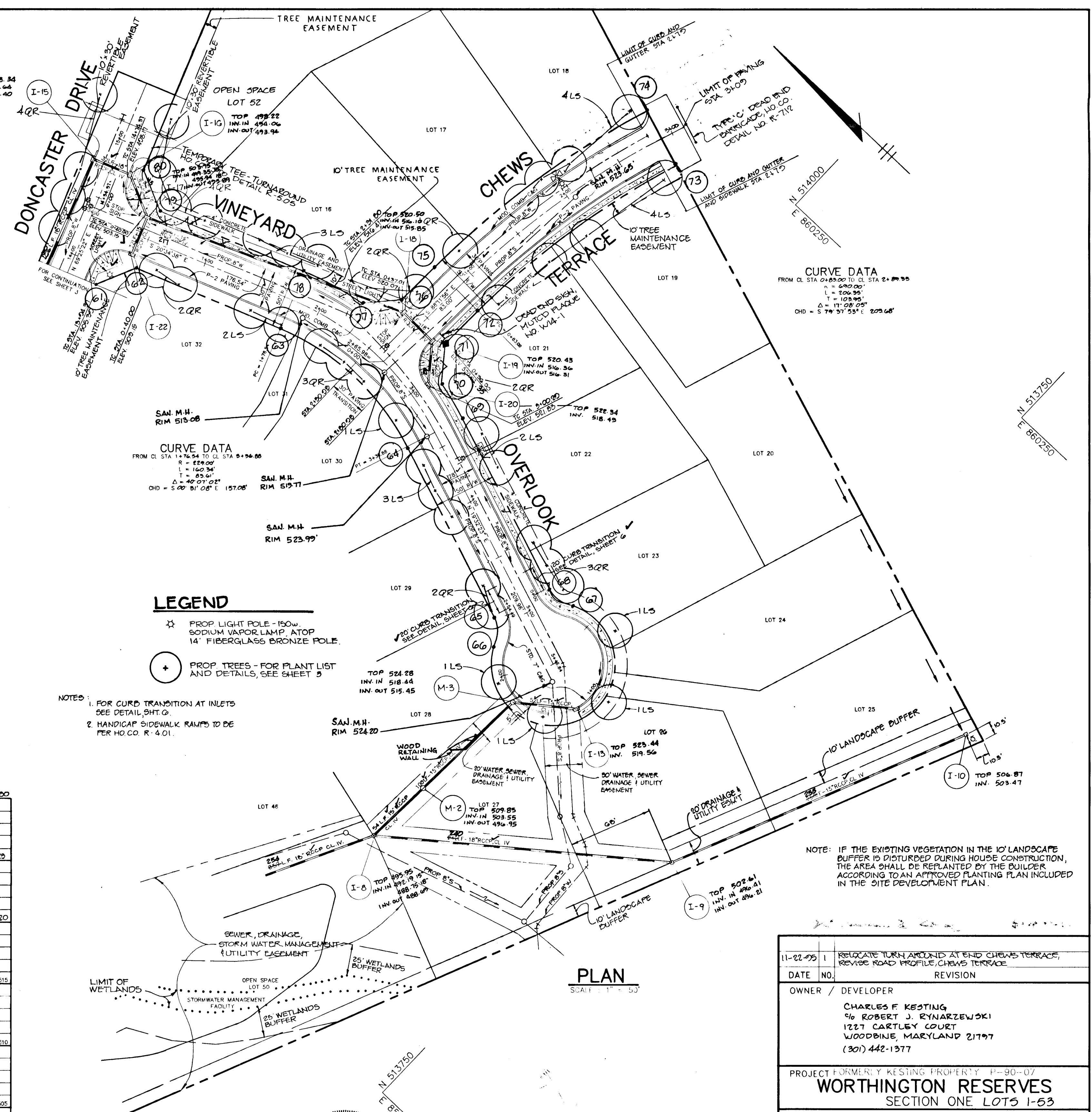
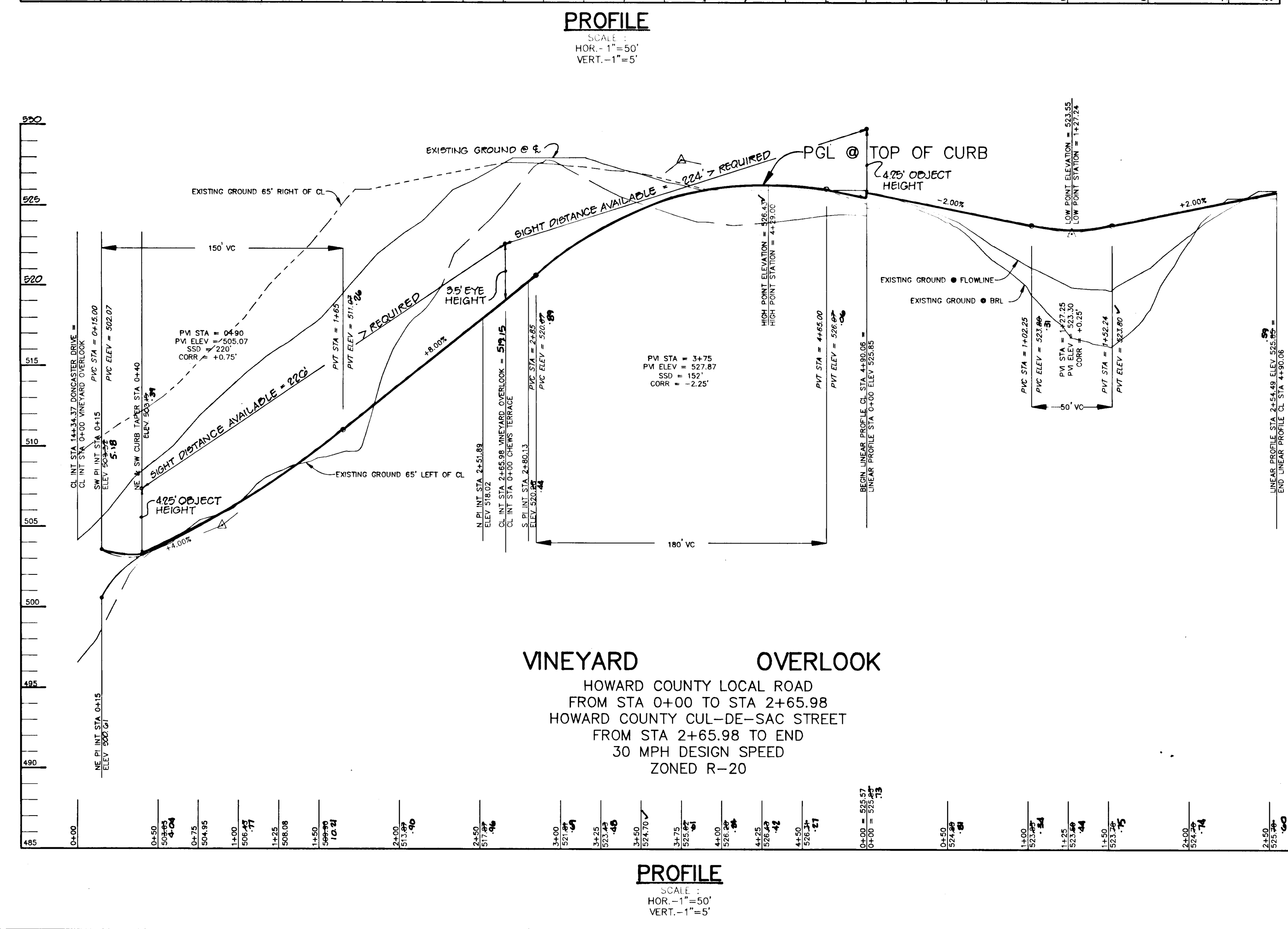
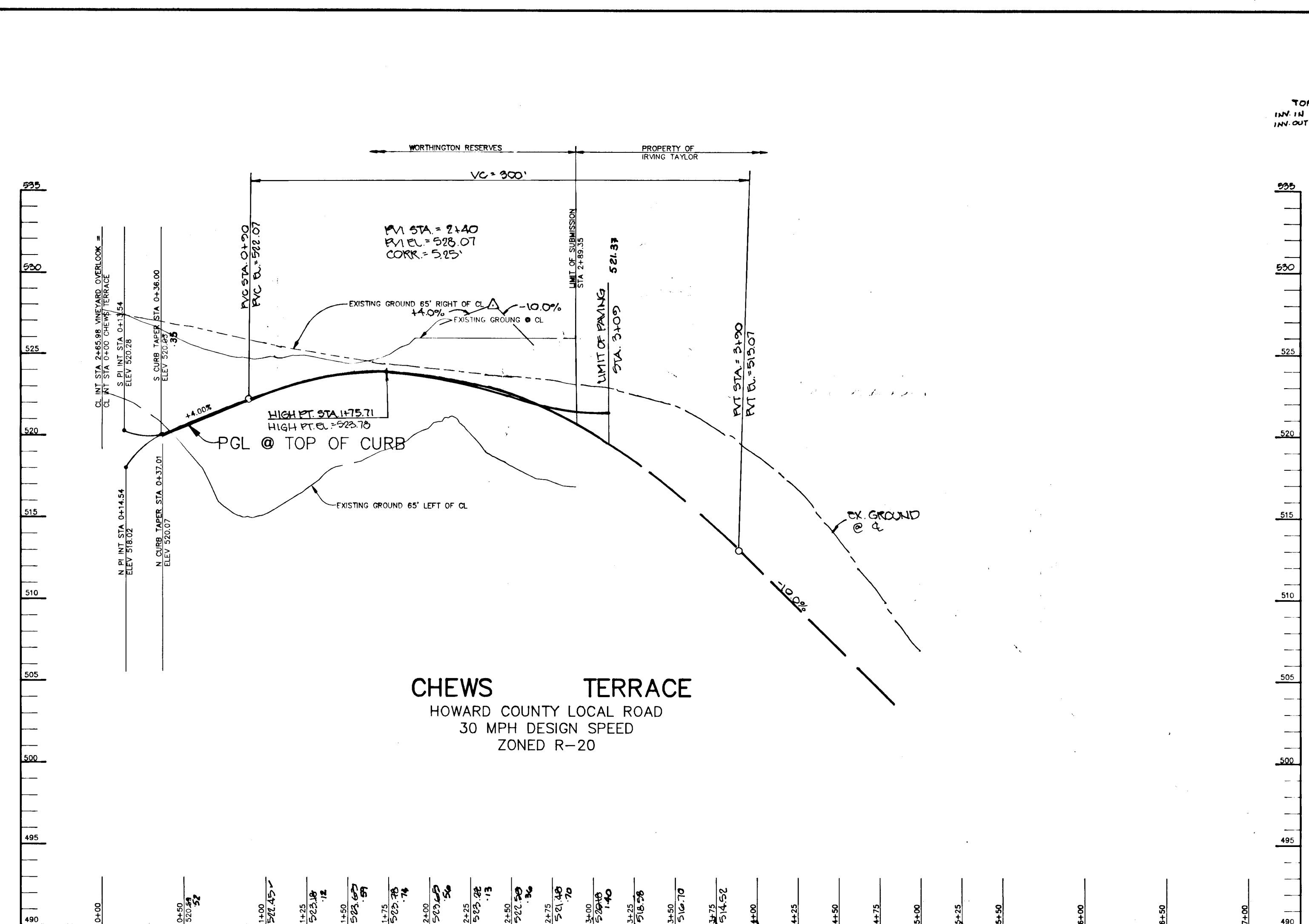
AREA: TAX MAP NO. 31 ZONED R-20 PARCEL 3 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: **PLAN AND PROFILE DONCASTER DRIVE FROM STA 10+00 TO 19+00**

RIEMER MUEGGE & ASSOCIATES, INC. A Land Planning, Engineering and Consulting Firm 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045 410-207-8000 FAX: 410-207-0802

DATE: 2-29-92
 DESIGNED BY: DAM
 DRAWN BY: DAM
 PROJECT NO: 79800
 DATE: JANUARY 21, 1992
 SCALE: AS SHOWN
 DRAWING NO. 3 OF 15

1638



POINT	ELEV	DESCRIPTION
63	512.90	REBAR & CAP
64	524.40	TACK IN DRIVE
65	525.91	REBAR & CAP
66	525.67	REBAR & CAP
67	525.17	TACK IN DRIVE
68	526.05	REBAR & CAP
69	524.40	TACK IN DRIVE
70	522.82	REBAR & CAP
71	502.99	CONC. MON.
72	523.57	REBAR & CAP
73	523.74	REBAR & CAP
74	521.29	REBAR & CAP
75	NOT SET	SET
76	520.83	REBAR & CAP
77	516.50	REBAR & CAP
78	NOT SET	CONSTRUCTION

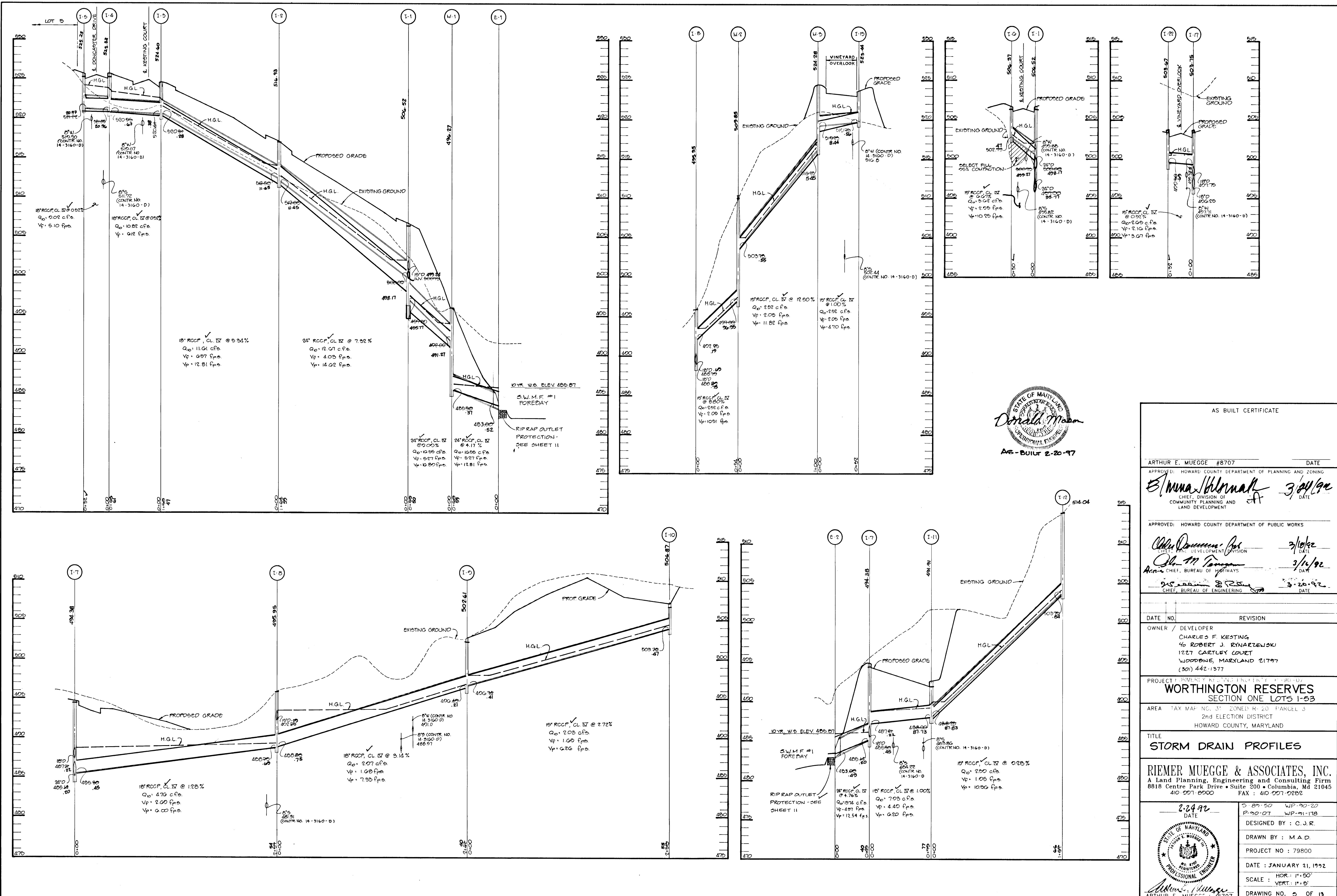
STATE OF MARYLAND
 DONALD MOON
 AS-BUILT 2-20-97
 DONALD MOON
 FOR REVISION NO. 1 DATED 11-22-95 ONLY.

AS BUILT CERTIFICATE
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 ARTHUR E. MUEGGE #8707 DATE 3/24/92
 AMANDA SHAWMUT 3/16/92
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
 CHIEF, LAND DEVELOPMENT DIVISION
 CHIEF, BUREAU OF HIGHWAYS
 CHIEF, BUREAU OF ENGINEERING

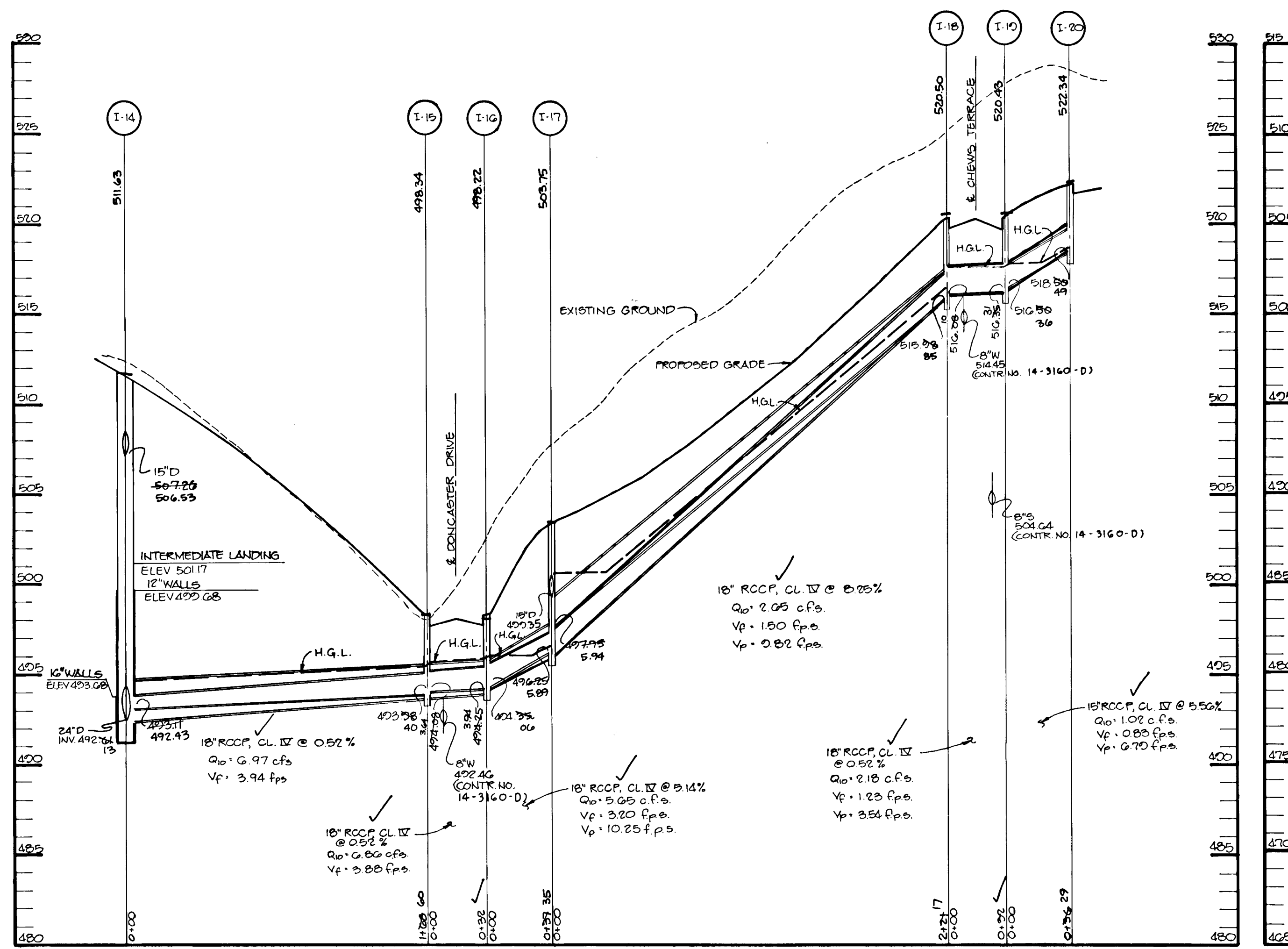
11-22-95	1	RELOCATE TURN AROUND AT END CHEWS TERRACE, REVERSE ROAD PROFILE, CHEWS TERRACE	REVISION
OWNER / DEVELOPER		CHARLES F. KEATING c/o ROBERT J. RYMARZEWSKI 1227 CARTLEY COURT WOODBINE, MARYLAND 21797 (301) 442-1377	
PROJECT FORMERLY KEATING PROPERTY 1-90-07 WORTHINGTON RESERVES SECTION ONE LOTS 1-63			
AREA	TAX MAP NO. 31	ZONED R-20	PARCEL 3
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND			
TITLE PLAN AND PROFILE VINEYARD OVERLOOK AND CHEWS TERRACE			
RIEMER MUEGGE & ASSOCIATES, INC. A Land Planning, Engineering and Consulting Firm 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045 410-997-8000 FAX: 410-997-9282			
DATE		2-24-92	
S-89-50		WP-90-20	
P-90-07		WP-91-178	
DESIGNED BY: DAM			
DRAWN BY: DAM			
PROJECT NO: 79800			
DATE: JANUARY 21, 1992			
SCALE: AS SHOWN			
DRAWING NO. 4 OF 12			

1638

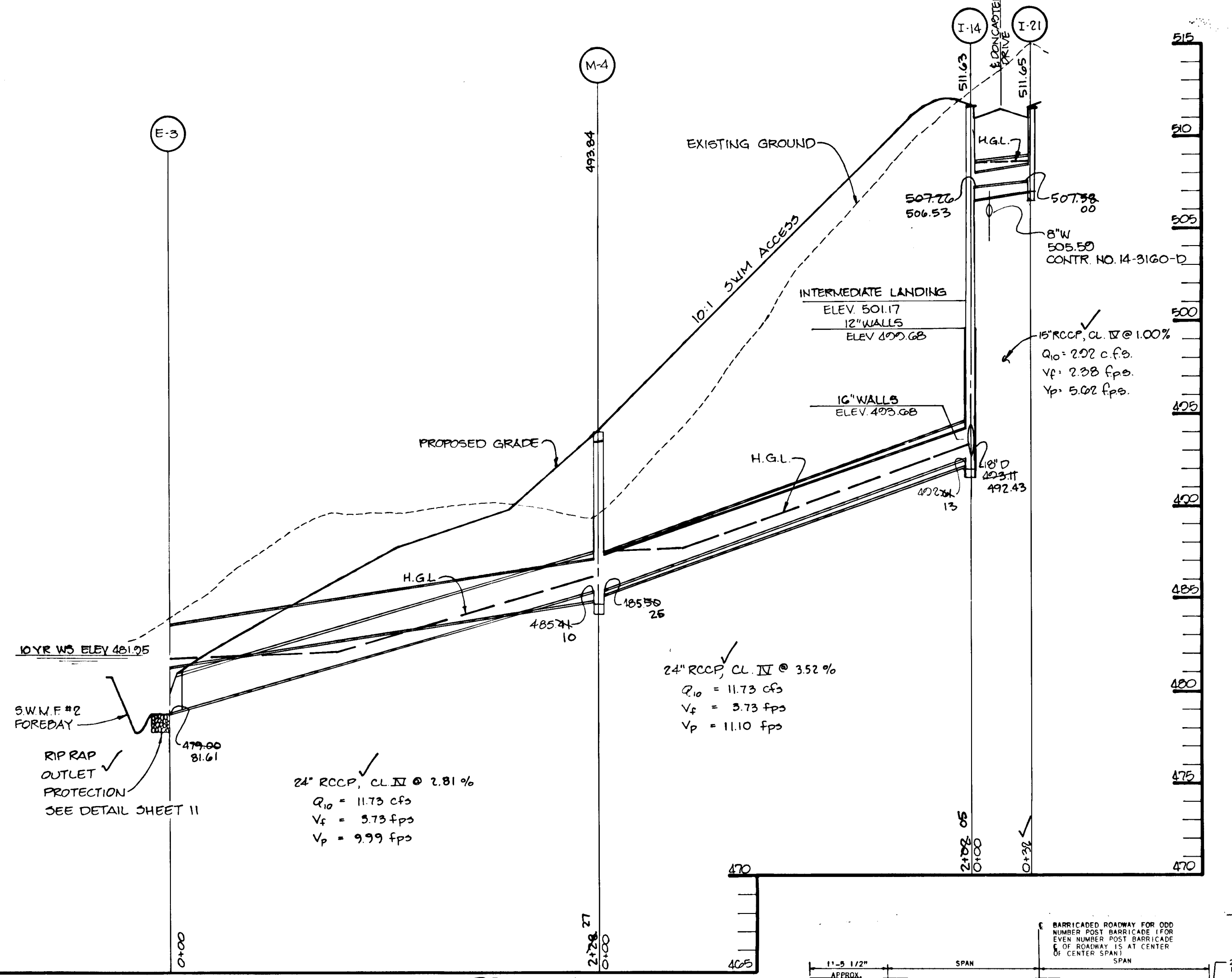
1638



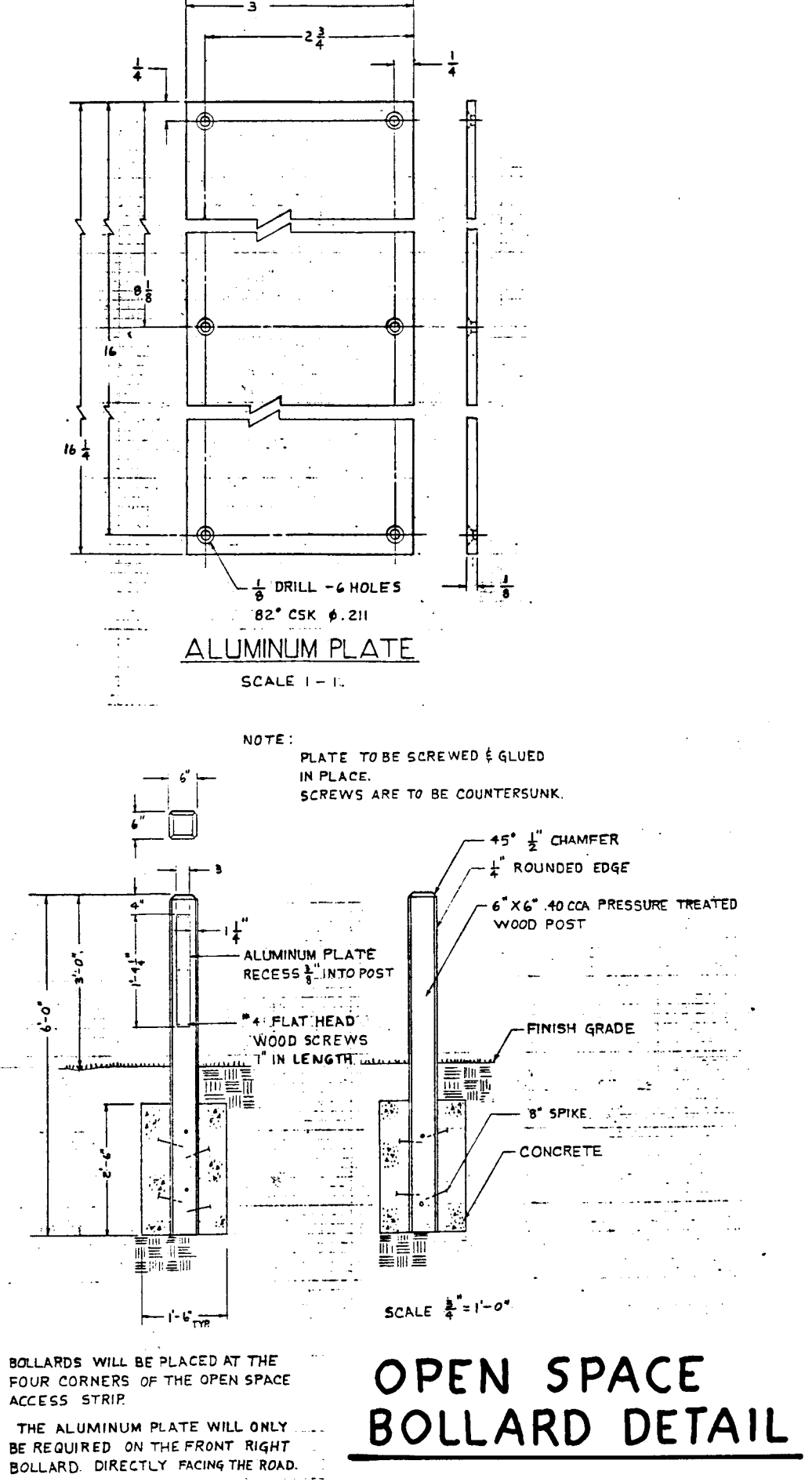
AS BUILT CERTIFICATE	
ARTHUR E. MUEGGE #8707	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
<i>Anna Holmalk</i>	3/24/92
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
<i>John P. ...</i>	3/10/92
<i>John M. ...</i>	3/11/92
<i>...</i>	3-28-92
DATE NO.	REVISION
OWNER / DEVELOPER	
CHARLES F. KESTING % ROBERT J. RYNATZEWSKI 1227 CARTLEY COURT WOODBINE, MARYLAND 21797 (301) 442-1377	
PROJECT: WORTHINGTON RESERVES SECTION ONE LOTS 1-53	
AREA: TAX MAP NO. 31 ZONED R-20 PARCEL 3 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE	
STORM DRAIN PROFILES	
RIEMER MUEGGE & ASSOCIATES, INC. A Land Planning, Engineering and Consulting Firm 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045 410 207-0000 FAX: 410 207-0282	
2-24-92	DATE
DESIGNED BY: C.J.R.	
DRAWN BY: M.A.D.	
PROJECT NO: 79800	
DATE: JANUARY 21, 1992	
SCALE: HOR: 1"=50' VERT: 1"=5'	
DRAWING NO. 5 OF 13	



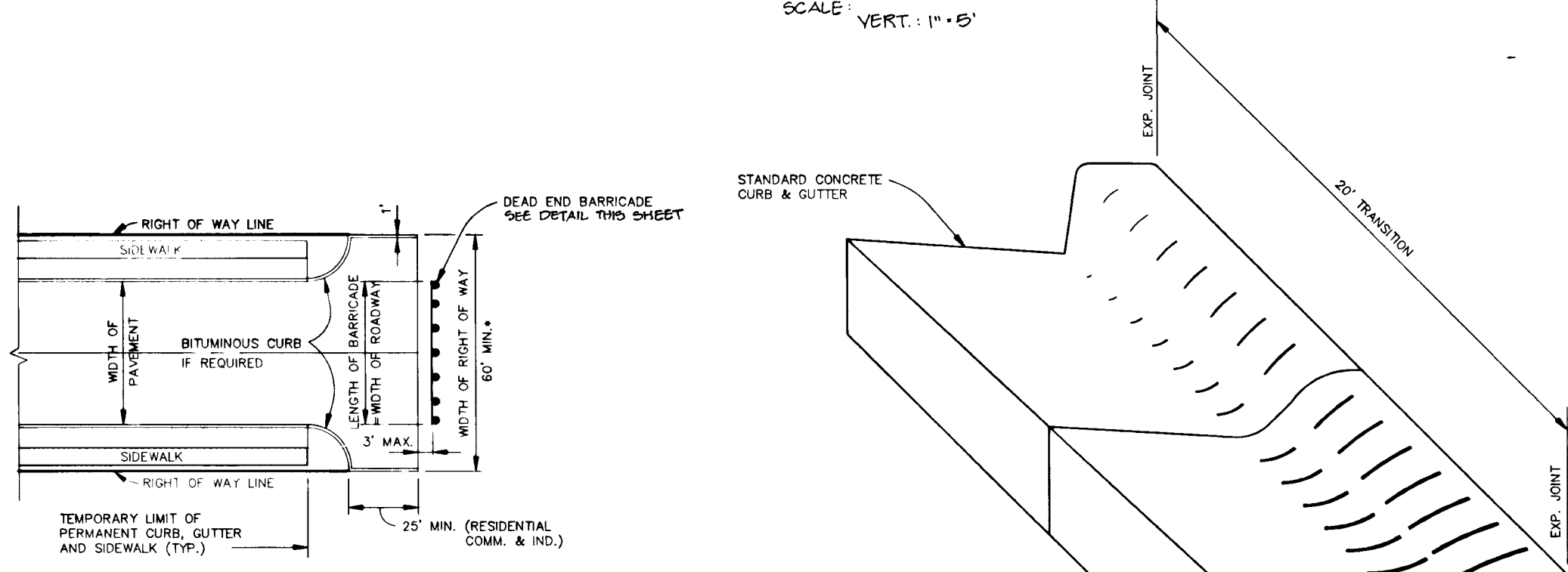
STORM DRAIN PROFILE
SCALE: HCR: 1"=50'
VERT: 1"=5'



STORM DRAIN PROFILE
SCALE: HCR: 1"=50'
VERT: 1"=5'

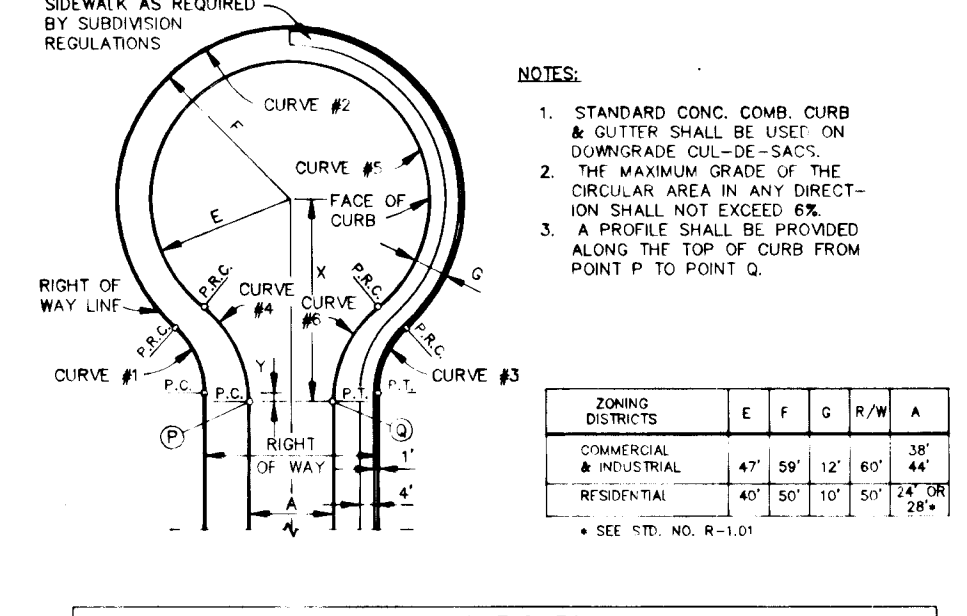


OPEN SPACE BOLLARD DETAIL



TEMPORARY TEE TURN-AROUND
NO SCALE

CONCRETE CURB AND GUTTER TRANSITION
NO SCALE

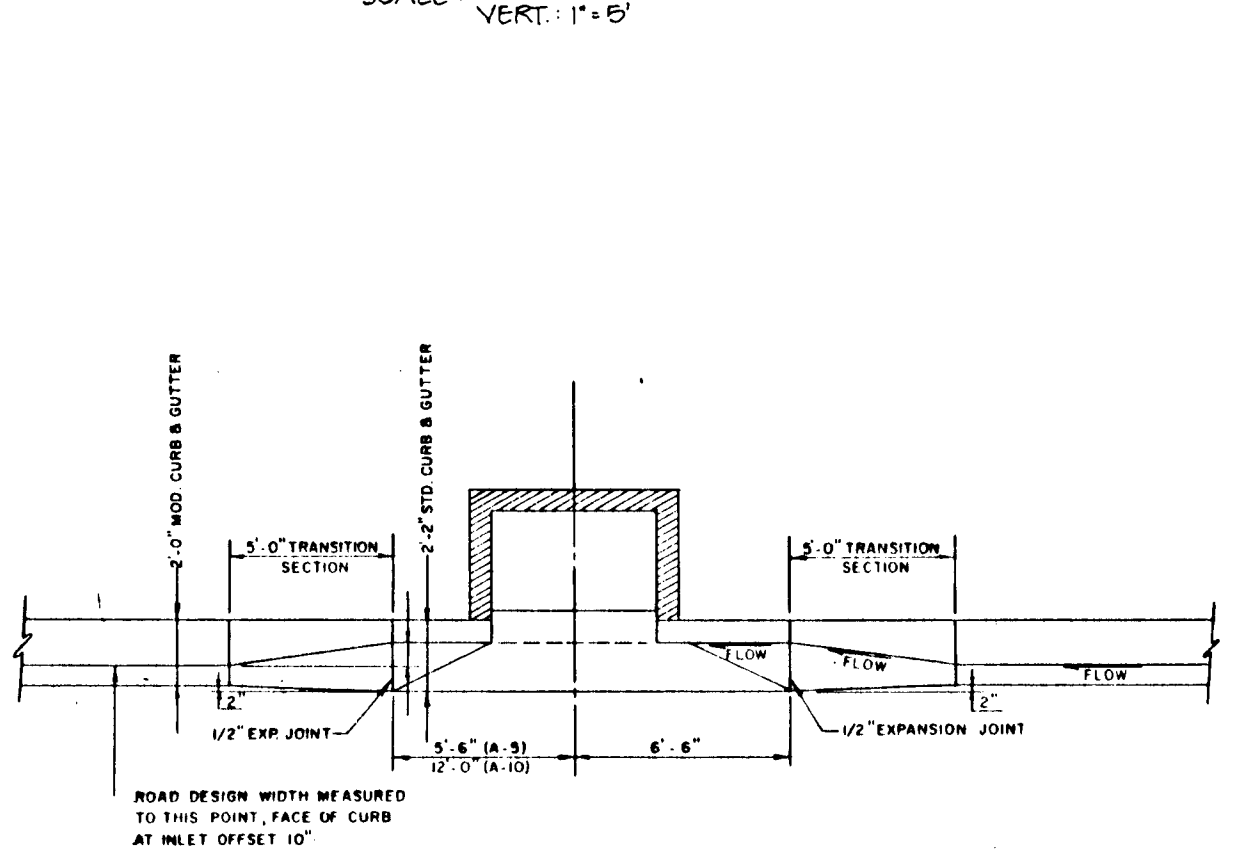


CUL-DE-SAC DETAIL
NO SCALE

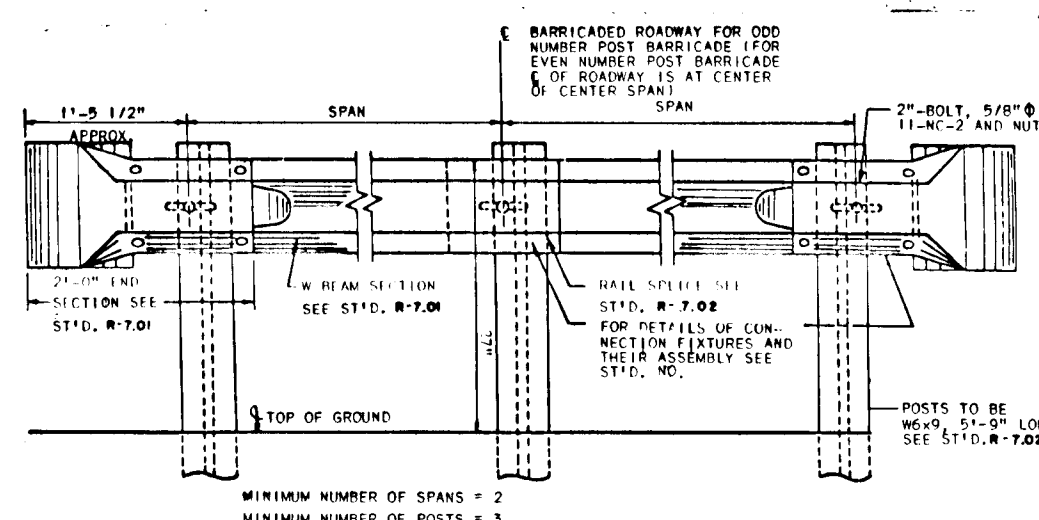
NOTES:
1. STANDARD CONC. COMB. CURB & GUTTER SHALL BE USED ON DOWNGRADE CUL-DE-SACS.
2. THE MAXIMUM GRADE OF THE CIRCULAR AREA IN ANY DIRECTION SHALL NOT EXCEED 0.5%.
3. A PROFILE SHALL BE PROVIDED ALONG THE TOP OF CURB FROM POINT P TO POINT Q.

ZONING DISTRICTS	E	F	G	R/W	A
COMMERCIAL	47	29	12	36	44
INDUSTRIAL	47	29	12	36	44
RESIDENTIAL	47	29	12	36	44

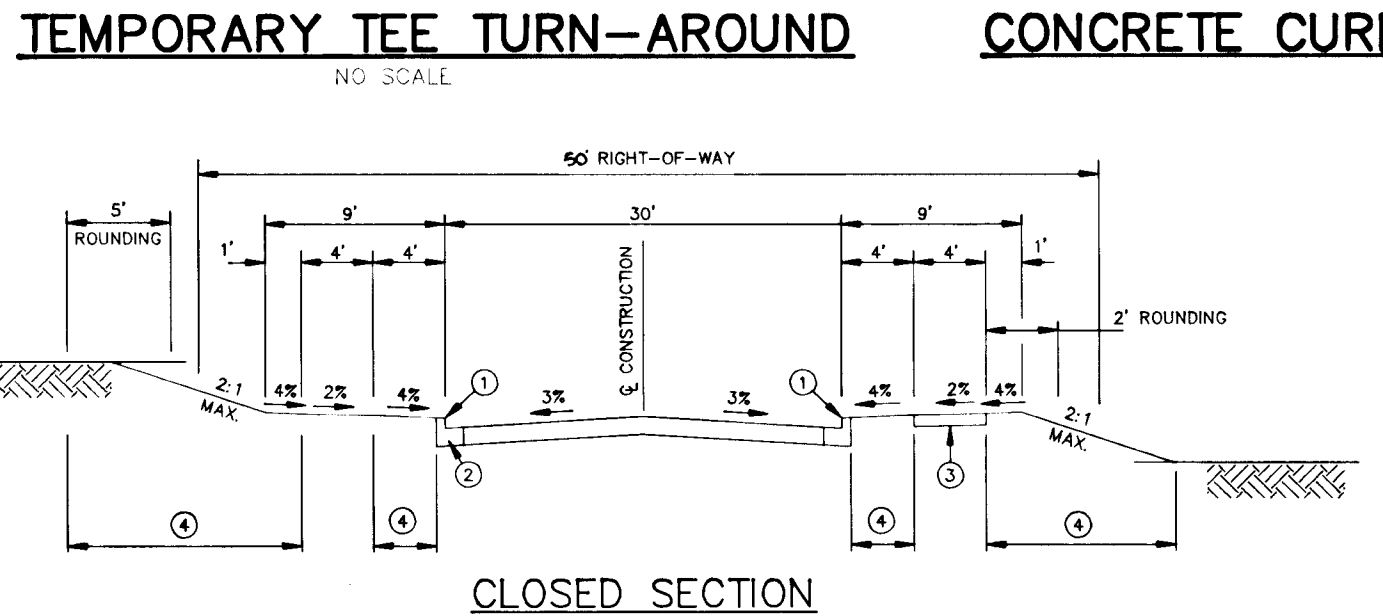
SEE DET. NO. R-1-01



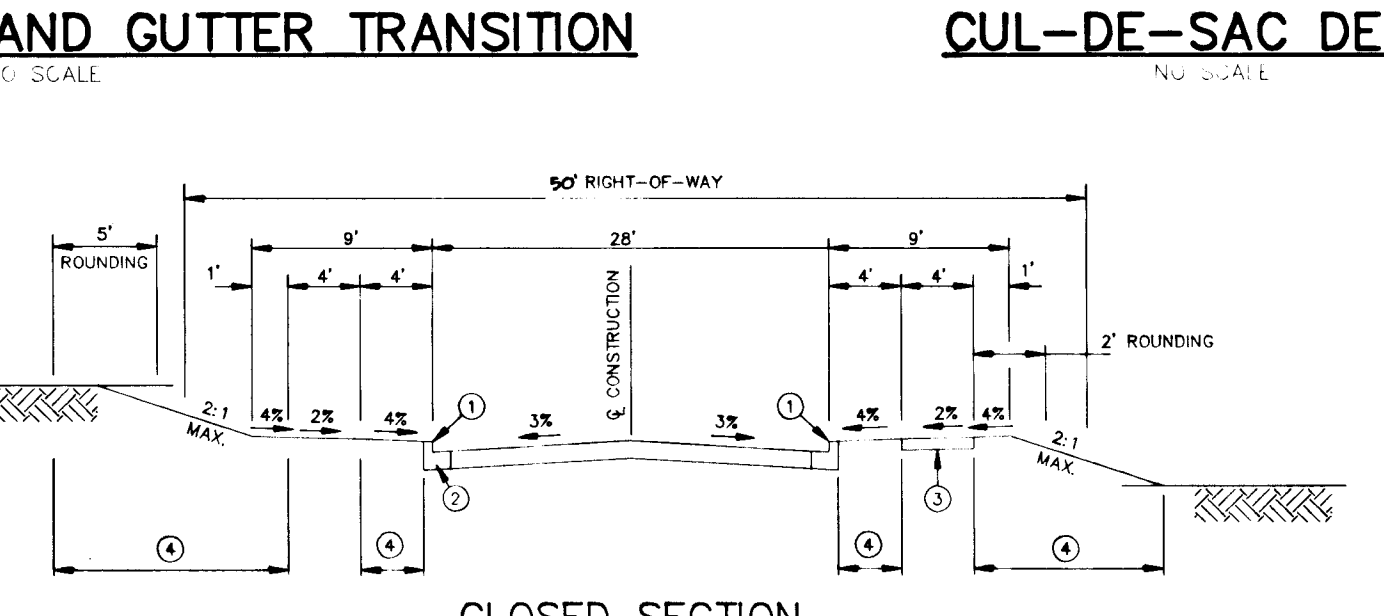
INLET CURB TRANSITION
NO SCALE



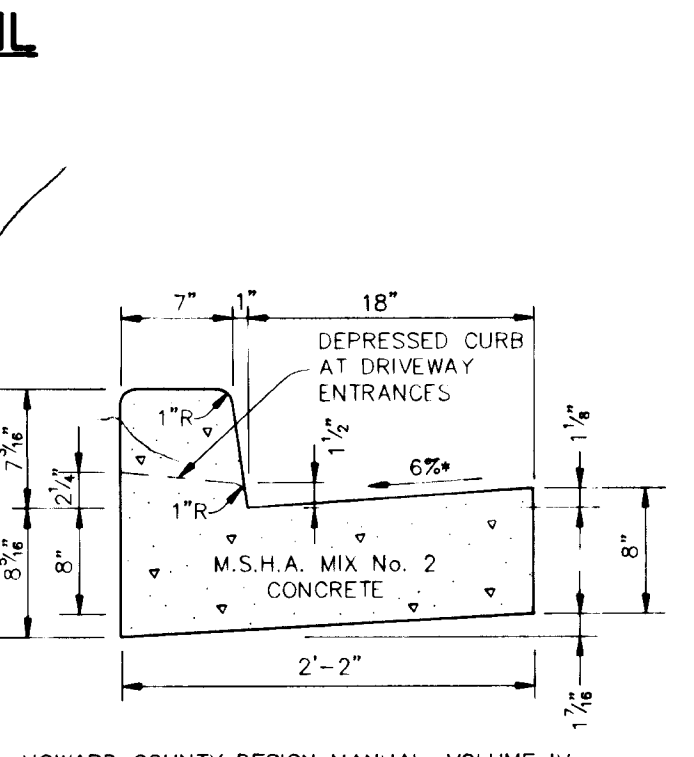
DEAD END BARRICADE
NO SCALE



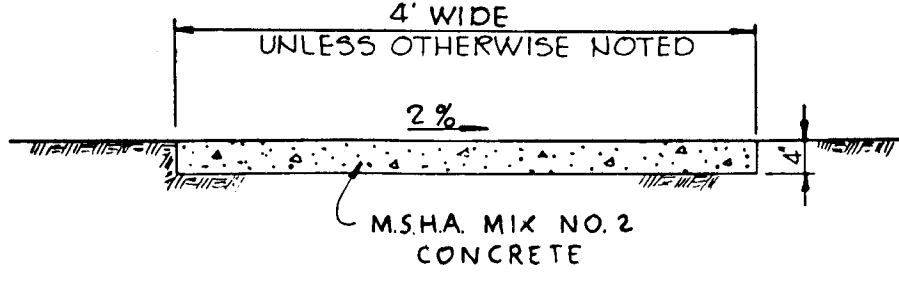
TYPICAL SECTION LOCAL ROAD
NO SCALE



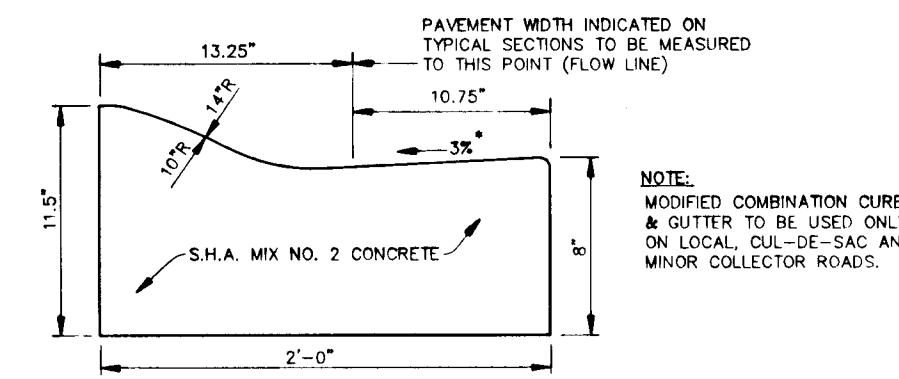
TYPICAL SECTION CUL-DE-SAC STREET
NO SCALE



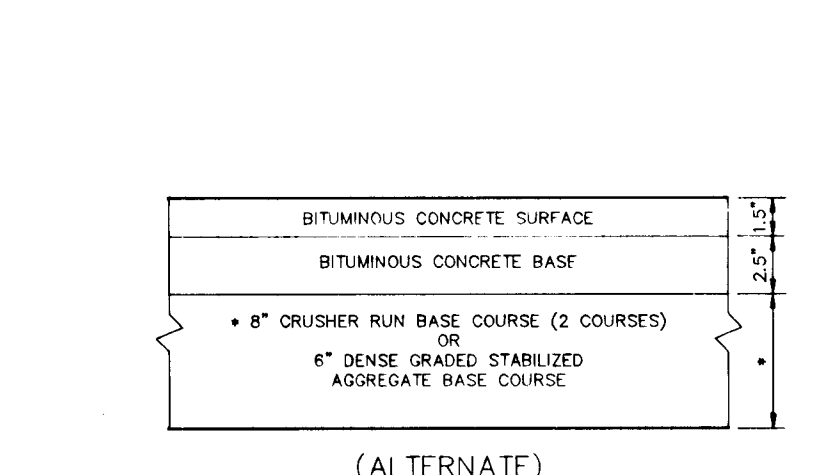
STANDARD 7" COMBINATION CURB AND GUTTER
NO SCALE



SIDEWALK DETAIL
NO SCALE



MODIFIED COMBINATION CURB AND GUTTER



P-2 PAVING
NO SCALE

AS BUILT CERTIFICATE

ARTHUR E. MUEGGE #8707 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Anna Belmont 3/24/92 DATE
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John Deane 3/16/92 DATE
CHIEF, LAND DEVELOPMENT DIVISION

Alan M. Langman 3/16/92 DATE
CHIEF, BUREAU OF HIGHWAYS

John Deane 3-20-92 DATE
CHIEF, BUREAU OF ENGINEERING

OWNER / DEVELOPER
CHARLES F. KESTING
% ROBERT J. RYANZEWSKI
1227 CARTLEY COURT
WOODBINE, MARYLAND 21797
(301) 442-1577

PROJECT: KESTING PROPERTY TRACT NO. 1
WORTHINGTON RESERVES
SECTION ONE LOTS 1-53

AREA TAX MAP NO. 31 ZONED R-20 PARCEL 3
2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
STORM DRAIN PROFILES AND CONSTRUCTION DETAILS

RIEMER MUEGGE & ASSOCIATES, INC.
A Land Planning, Engineering and Consulting Firm
8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
410-507-8000 FAX: 410-507-0282

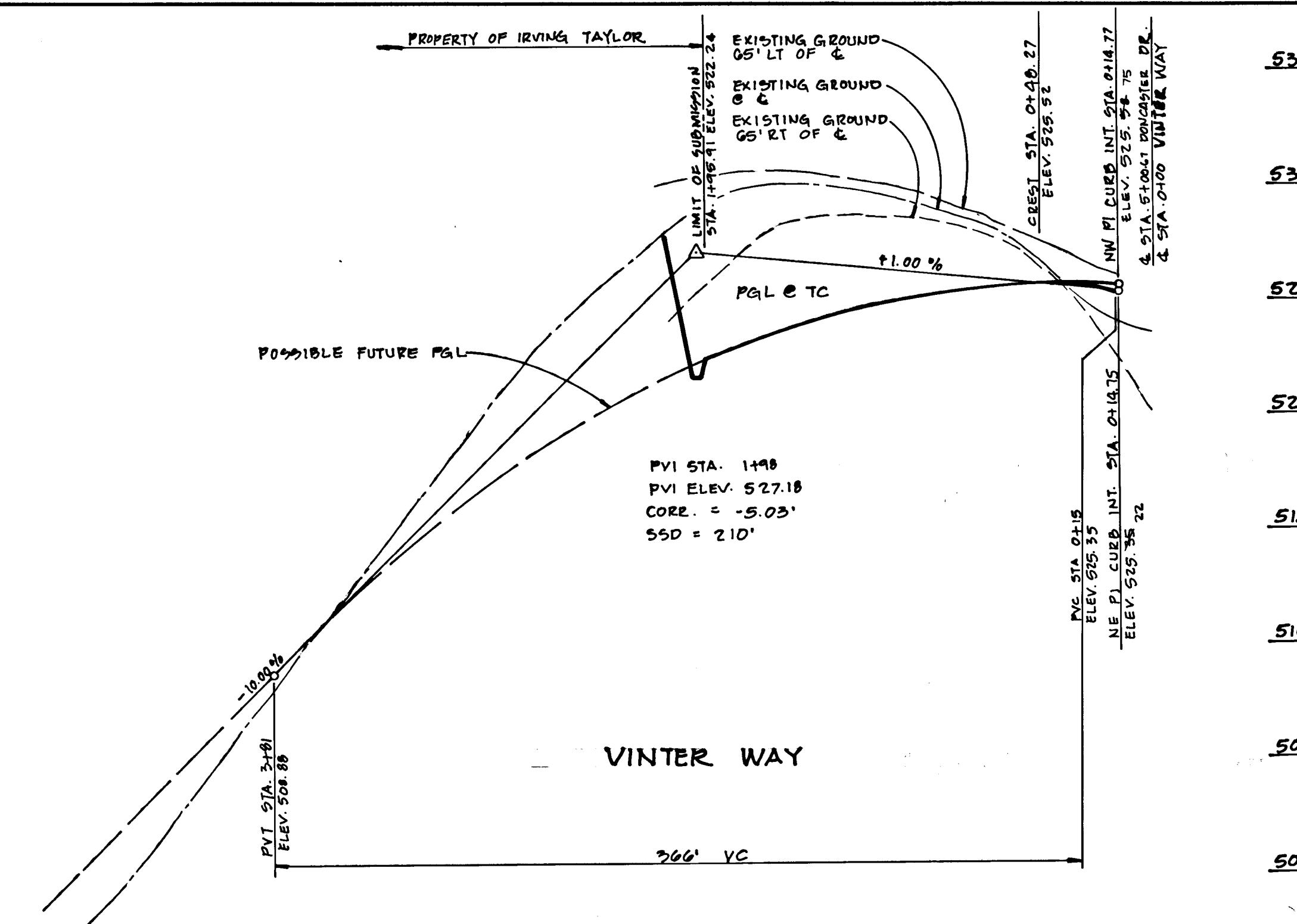
DATE: 2-29-92
S-89-50 W-90-20
P-90-07 WP-91-178
DESIGNED BY: DAM
DRAWN BY: DAM
PROJECT NO: 79800
DATE: JANUARY 21, 1992
SCALE: 1" = 50'
DRAWING NO. 6 OF 13

AS-BUILT 2-19-97

1638

DRAINAGE AREA DATA

NO.	AREA	AREA (ACRES)	'c'	% IMPERVIOUS	ZONING
I-1	A	0.347	0.48	40	R-20
I-2	B	0.428	0.46	38	R-20
I-3	C	0.218	0.68	71	R-20
I-4	D	0.577	0.52	47	R-20
I-5	E	3.268	0.46	38	R-20
I-6	F	1.253	0.47	40	R-20
I-7	G	0.092	0.57	49	R-20
I-8	H	---	---	---	R-20
I-9	I	0.50	0.41	30	R-20
I-10	J	0.793	0.41	30	R-20
I-11	K	1.938	0.47	38	R-20
I-12	L	0.884	0.41	30	R-20
I-13	M	0.729	0.53	48	R-20
I-14	N	0.804	0.51	43	R-20
I-15	O	0.046	0.60	57	R-20
I-16	P	0.367	0.59	56	R-20
I-17	Q	0.198	0.73	77	R-20
I-18	R	0.120	0.62	60	R-20
I-19	S	0.356	0.49	40	R-20
I-20	T	0.287	0.50	43	R-20
I-21	U	0.867	0.51	45	R-20
I-22	V	0.798	0.49	42	R-20
W	X	4.506	0.41	30	R-20



STATION	ELEVATION	REMARKS
4+00	506.78	
3+80	511.84	
3+60	516.90	
3+40	521.96	
3+20	527.02	
3+00	532.08	
2+80	537.14	
2+60	542.20	
2+40	547.26	
2+20	552.32	
2+00	557.38	
1+80	562.44	
1+60	567.50	
1+40	572.56	
1+20	577.62	
1+00	582.68	
0+80	587.74	
0+60	592.80	
0+40	597.86	
0+20	602.92	
0+00	607.98	

STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP ELEV.	REMARKS
1-1	A-5 W/DEFLECTORS	14' RIGHT C, STA 3+51	509.24	517	52	SEE HO CD STD DETAILS
1-2	A-5 W/DEFLECTORS	14' RIGHT C, STA 1+00	516.90	524	52	SEE HO CD STD DETAILS
1-3	A-5 W/DEFLECTORS	14' RIGHT C, STA 0+43	520.28	528	52	SEE HO CD STD DETAILS
1-4	A-5 DEPRESSED	15' LEFT C, STA 5+46.67	520.96	525.59	52	SEE HO CD STD DETAILS
1-5	A-10 DEPRESSED	15' LEFT C, STA 5+46.67	520.97	525.55	52	SEE HO CD STD DETAILS
1-6	A-10 W/DEFLECTORS	14' LEFT C, STA 3+51	520.75	528	52	SEE HO CD STD DETAILS
1-7	A-5	L.P. STA 2+10	487.24	494.39	52	SEE HO CD STD DETAIL
1-8	S-INLET	KESTING COURT	492.24	490.00	52	SEE SHEET 4
1-9	D-INLET	OPENINGS INV 502.00	496.21	496.21	52	SEE HO CD STD DETAIL
1-10	D-INLET	OPENINGS INV 501.00	503.75	503.75	52	SEE HO CD STD DETAIL
1-11	A-10 DEPRESSED	L.P. STA 1+07.92	487.83	492.77	52	SEE HO CD STD DETAILS
1-12	D-INLET	OPENINGS INV 500.00	503.75	503.75	52	SEE HO CD STD DETAIL
1-13	A-5 DEPRESSED	L.P. STA 1+27.24	504.59	510.75	52	SEE HO CD STD DETAILS
1-14	A-10 W/DEFLECTORS	15' LEFT C, STA 13+05	502.26	511.07	52	SEE HO CD STD DETAILS
1-15	A-5 W/DEFLECTORS	15' LEFT C, STA 14+77	496.28	503.44	52	SEE HO CD STD DETAILS
1-16	A-5 W/DEFLECTORS	15' RIGHT C, STA 14+77	494.35	501.51	52	SEE HO CD STD DETAILS
1-17	A-5 W/DEFLECTORS	15' LEFT C, STA 0+43	496.28	503.44	52	SEE HO CD STD DETAILS
1-18	A-5 W/DEFLECTORS	15' LEFT C, STA 0+39.5	516.36	520.36	52	SEE HO CD STD DETAILS
1-19	A-5 W/DEFLECTORS	15' RIGHT C, STA 0+39.5	516.36	520.36	52	SEE HO CD STD DETAILS
1-20	A-5 W/DEFLECTORS	14' LEFT C, STA 3+03	518.39	522.39	52	SEE HO CD STD DETAILS
1-21	A-10 W/DEFLECTORS	15' RIGHT C, STA 13+05	507.90	511.07	52	SEE HO CD STD DETAILS
1-22	A-10 W/DEFLECTORS	15' RIGHT C, STA 0+43	499.39	503.39	52	SEE HO CD STD DETAILS
M-1	41" DIAM STD PRECAST MANHOLE	SEE SHEET 2	491.27	492.06	52	SEE HO CD STD DETAIL
M-2	41" DIAM STD PRECAST MANHOLE	SEE SHEET 4	503.75	509.85	52	SEE HO CD STD DETAIL
M-3	41" DIAM STD PRECAST MANHOLE	SEE SHEET 4	516.36	519.45	52	SEE HO CD STD DETAIL
M-4	41" DIAM STD PRECAST MANHOLE	SEE SHEET 3	485.58	485.58	52	SEE HO CD STD DETAIL
E-1	24" CONCRETE END SECTION	SEE SHEET 2	483.06	483.06	52	SEE HO CD STD DETAIL
E-2	24" CONCRETE END SECTION	SEE SHEET 2	483.06	483.06	52	SEE HO CD STD DETAIL
E-3	24" CONCRETE END SECTION	SEE SHEET 10	81.61	81.61	52	SEE HO CD STD DETAIL
E-4	30" METAL END SECTION	SEE SHEET 8	480.75	480.75	52	SEE HO CD STD DETAIL
E-5	30" METAL END SECTION	SEE SHEET 10	405.00	405.00	52	SEE HO CD STD DETAIL
6-1	42" BCCMP 14 GA RISER	SEE SHEET 8	480.75	480.75	52	SEE DETAIL ON SHEETS 11 AND 12
6-2	42" BCCMP 14 GA RISER	SEE SHEET 10	477.69	477.69	52	SEE DETAIL ON SHEETS 11 AND 12

AS BUILT CERTIFICATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Emma Helms 3/24/99
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Charles F. Kesting 3/16/99
 CHIEF, BUREAU OF ENGINEERING

OWNER / DEVELOPER
 CHARLES F. KESTING
 1227 CARTLEY COURT
 WOODBINE, MARYLAND 21797
 (301) 442-1377

PROJECT: WORTHINGTON RESERVES SECTION ONE LOTS 1-53

AREA: TAX MAP NO. 12 ZONING R-20 PARCEL 53 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

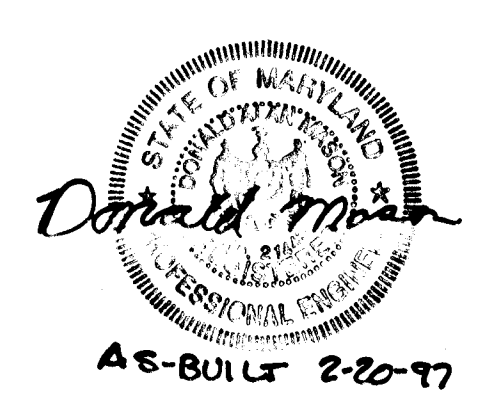
TITLE: DRAINAGE AREA MAP

RIEMER MUEGGE & ASSOCIATES, INC.
 A Land Planning, Engineering and Consulting Firm
 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
 410-207-0000 FAX: 410-207-0082

DATE: 2-24-92
 DESIGNED BY: DAM/CJR
 DRAWN BY: MAD
 PROJECT NO: 79800
 DATE: JANUARY 21, 1992
 SCALE: AS SHOWN
 DRAWING NO. 7 OF 15



PLAN SCALE: 1"=100'



1638

Conditions and Management Practices for Working in Nontidal Wetlands

- a) Remove excess fill or construction material or debris to an upland disposal area and properly maintain;
- b) Place materials in a location and manner which does not adversely impact surface or subsurface water flow into or out of the nontidal wetland;
- c) If backfill is obtained from other than the originally excavated material, use clean material free of waste metal products, unsightly debris, toxic material or any other deleterious substance;
- d) Place heavy equipment on mats or suitably operate the equipment to prevent damage to the nontidal wetlands;
- e) Rectify any nontidal wetlands temporarily impacted by any regulated activity. Revegetation of temporary impacts shall be accomplished using annual species such as rye or millet. All temporary fills shall be removed in their entirety on or before the completion of construction;
- f) Repair and maintain any serviceable structure or fill so there is no permanent loss of nontidal wetlands in excess of nontidal wetlands lost under the original structure or fill;
- g) After installation has been completed, make post construction grades and elevations of nontidal wetlands the same as the original grades and elevations.
- h) Effective pollutant removal methods shall be provided to treat a minimum of the first one-half inch of stormwater from all impervious surfaces prior to its release into State wetlands and waterways. This shall be accomplished via extended detention basins in accordance with the grading and sediment control plan dated January 21, 1992, to be implemented February 5, 1994.
- i) A wetlands planting area shall be created within the stormwater management basin No. 1 and reforest the sides of the pond in accordance with the wetlands mitigation reforestation plan dated January 21, 1992, to be implemented by February 5, 1994.

- EVIDENCE OF CONSTRUCTION**
1. Obtain a grading permit.
 2. Clear for and install stabilized construction entrance. (4 day)
 3. Perform clearing and grubbing for sediment control devices (1 week)
 4. Construct in wetland areas to be in accordance with the Conditions and Management Practices as shown on this sheet.
 5. Install earth dike, fill fence, temporary seals, stone outlet sediment trap #1 and sediment basins #1 and #2. Install core trench, riser/barrel structures and anti-seep collars for both basins. Install low flow stubs and block ends with metal plates. Do not install 3" orifices. Do not install forebays in basins. Set riser crest for Basin #2 on Elevation 482.5. (2 weeks)
 6. Perform clearing and grubbing for roadways and utility construction. (1 week)
 7. Perform road grading and lot grading as per the grading plans. (2 weeks)
 8. Install water, sewer and storm drains. Other utilities such as natural gas, electric and telephone shall be coordinated with the utility companies by the contractor. (4 weeks)
 9. Complete construction activities including curb and gutter, paving and sidewalks. (2 weeks)
 10. Upon approval of the Howard County Department of Licenses and Permits sediment control inspector remove all sediment control devices and convert the sediment basins to stormwater management facilities as per the following steps:
 - a. Flush storm drains. (4 day)
 - b. Pump out impounded water. (4 day)
 - c. Remove sediment and place as directed by the sediment control inspector
 - d. Remove sediment and place as directed by the sediment control inspector
 - e. Install 1" low flow orifices in metal plates, and install forebays as per grading shown on sheets 8 and 10 and details on sheet 12. (2 days)
 - f. Adjust riser crest to 481.15 for Basin #2.
 - g. Stabilize all remaining disturbed areas in accordance with the permanent seeding notes.

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 THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Charles F. Kesting 2/21/92
 DEVELOPER DATE

BY THE ENGINEER:
 I CERTIFY THAT THIS PLAN FOR PONDS 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. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION.

Arthur E. Muegge 2-24-92
 ENGINEER DATE

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.

Robert J. Zelman 3/4/92
 SOIL CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Robert J. Zelman 3/4/92
 HOWARD SOIL CONSERVATION DISTRICT DATE

AS BUILT CERTIFICATE

ARTHUR E. MUEGGE #8707 DATE
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Arthur E. Muegge 3/24/92
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Arthur E. Muegge 3/10/92
 CHIEF, LAND DEVELOPMENT DIVISION

Charles M. Pennington 3/14/92
 CHIEF, BUREAU OF HIGHWAYS

Arthur E. Muegge 3-20-92
 CHIEF, BUREAU OF ENGINEERING

9-30-90 REMOVE SHALE FROM WINTER WAY TO SWMP

5-28-95 ADD WINTER WAY TO PLAN.

DATE NO. REVISION

OWNER / DEVELOPER
 CHARLES F. KESTING
 96 ROBERT J. RINARZEWSKI
 1221 CARTLEY COURT
 WOODBINE, MARYLAND 21797
 (301) 442-1577

PROJECT: WORTHINGTON RESERVES SECTION ONE LOTS 1-53

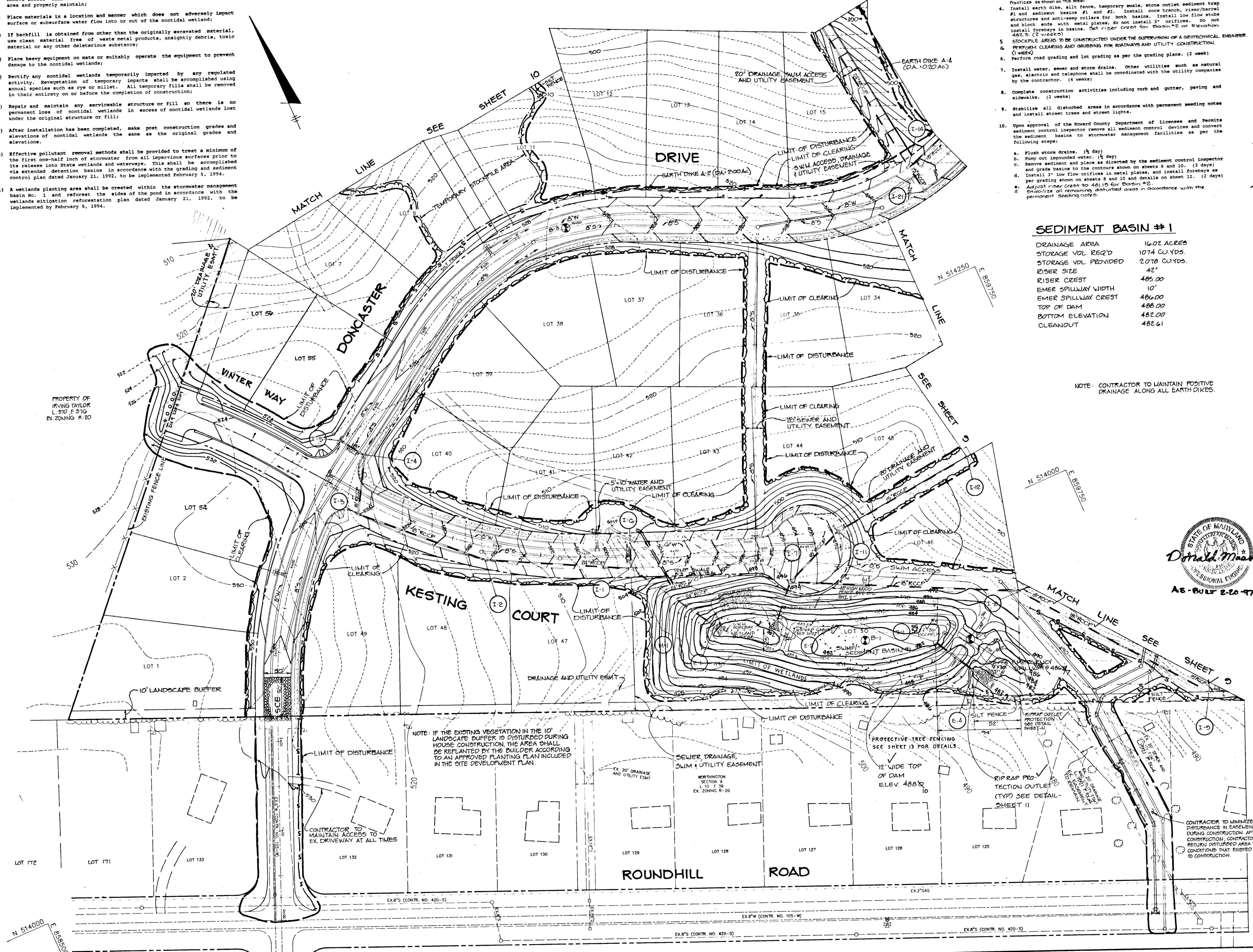
AREA TAX MAP NO. 31 ZONED R-20 PARCEL J
 2nd ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE
 GRADING AND SEDIMENT CONTROL PLAN

RIEMER MUEGGE & ASSOCIATES, INC.
 A Land Planning, Engineering and Consulting Firm
 8818 Centre Park Drive • Suite 200 • Columbia, Md 21040
 410-997-8900 FAX: 410-997-9282

2-24-92 DATE
 DESIGNED BY: DAM
 DRAWN BY: OAK
 PROJECT NO: 79800
 DATE: JANUARY 21, 1992
 SCALE: 1"=50'
 DRAWING NO. 8 OF 13

ARTHUR E. MUEGGE #8707



SEDIMENT BASIN #1

DRAINAGE AREA	16.01 ACRES
STORAGE VOL. REQ'D	1074 CU. YDS.
STORAGE VOL. PROVIDED	2078 CU. YDS.
RISER SIZE	42"
EMER SPILLWAY WIDTH	10'
EMER SPILLWAY CREST	486.00
TOP OF DAM	486.00
BOTTOM ELEVATION	482.00
CLEANOUT	482.61

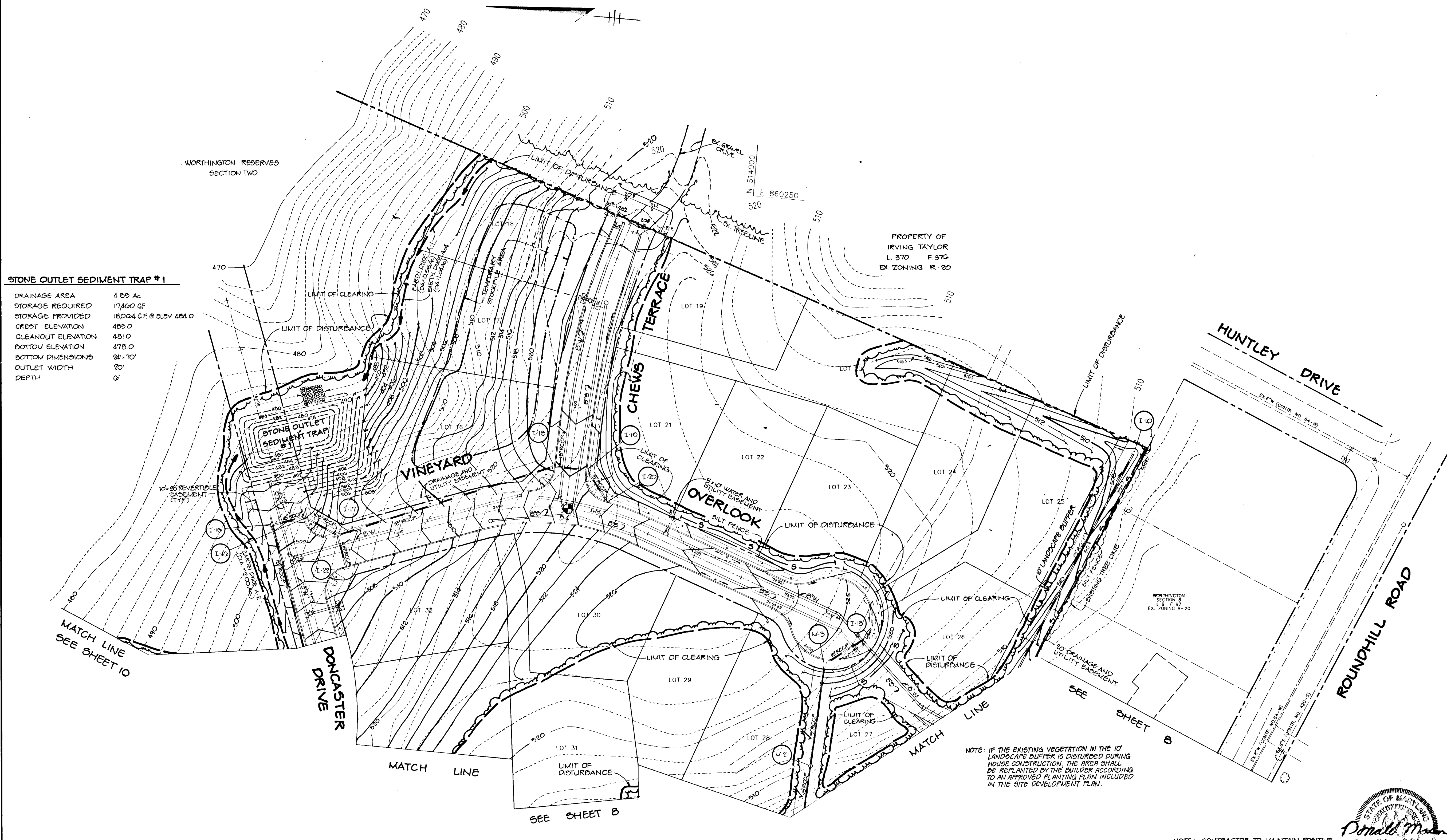
NOTE: CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE ALONG ALL EARTH DIKES.



1638

AS-BUILT 2-19-92

F-02-50



STONE OUTLET SEDIMENT TRAP #1

DRAINAGE AREA	4.89 Ac.
STORAGE REQUIRED	17,400 CF
STORAGE PROVIDED	18,004 CF @ ELEV 484.0
CREST ELEVATION	485.0
CLEANOUT ELEVATION	481.0
BOTTOM ELEVATION	478.0
BOTTOM DIMENSIONS	24' x 70'
OUTLET WIDTH	20'
DEPTH	6'

MATCH LINE
SEE SHEET 10

DONCASTER
DRIVE

MATCH LINE

SEE SHEET 8

NOTE: IF THE EXISTING VEGETATION IN THE 10' LANDSCAPE BUFFER IS DISTURBED DURING HOUSE CONSTRUCTION, THE AREA SHALL BE REPLANTED BY THE BUILDER ACCORDING TO AN APPROVED PLANTING PLAN INCLUDED IN THE SITE DEVELOPMENT PLAN.

NOTE: CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE ALONG ALL EARTH DIKES.

Donald Moon
PROFESSIONAL ENGINEER
AS-BUILT 2-20-97

Donald Moon
FOR REVISION NO. 1 DATED 11-22-95 ONLY.

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 THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Charles Kesting
DEVELOPER
DATE

BY THE ENGINEER:
I CERTIFY THAT THIS PLAN FOR PONDS 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. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION.

Arthur E. Muegge
ENGINEER
DATE

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.

James W. Blum
SOIL CONSERVATION SERVICE
DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Robert J. Ziehm
HOWARD SOIL CONSERVATION DISTRICT
DATE

AS BUILT CERTIFICATE

ARTHUR E. MUEGGE #8707
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Anna H. Homan
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William J. ...
CHIEF, LAND DEVELOPMENT DIVISION
DATE

Calvin M. ...
CHIEF, BUREAU OF HIGHWAYS
DATE

James ...
CHIEF, BUREAU OF ENGINEERING
DATE

11-22-95
DATE NO. REVISION

OWNER / DEVELOPER

CHARLES F. KESTING
46 ROBERT J. RYMARZEWSKI
1221 CARTLEY COURT
WOODBINE, MARYLAND 21797
(301) 842-1977

PROJECT: WORTHINGTON RESERVES SECTION ONE LOTS 1-53

AREA: TAX MAP NO. 31, 2041D R-20, PARCEL 3
2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
GRADING AND SEDIMENT CONTROL PLAN

RIEMER MUEGGE & ASSOCIATES, INC.
A Land Planning, Engineering and Consulting Firm
8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
410-207-8000 FAX: 410-207-0282

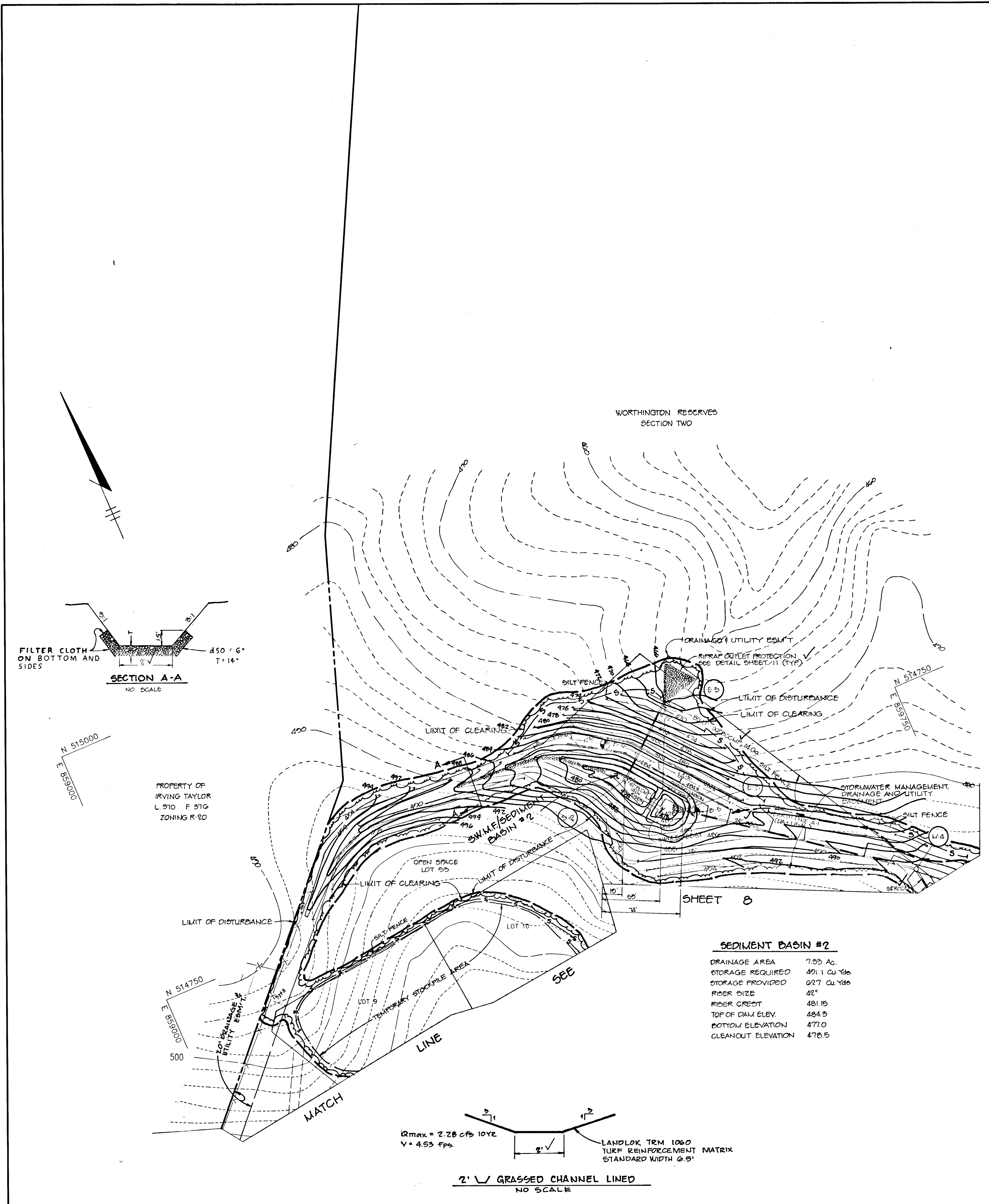
2-28-97
DATE

DESIGNED BY: DAM
DRAWN BY: DAM/MAO
PROJECT NO: 79800
DATE: JANUARY 21, 1997
SCALE: 1" = 50'
DRAWING NO. 2 OF 15

ARTHUR E. MUEGGE #8707

1637

1638



SEDIMENT BASIN #2

DRAINAGE AREA	7.25 Ac
STORAGE REQUIRED	401.1 Cu Yds
STORAGE PROVIDED	227 Cu Yds
RIDER SIZE	42"
RIDER CREST	481.15
TOP OF DAM ELEV.	484.5
BOTTOM ELEVATION	477.0
CLEANOUT ELEVATION	478.5

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 THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Charles F. Keating 2-21-92
 DEVELOPER DATE

BY THE ENGINEER :
 I CERTIFY THAT THIS PLAN FOR PONDS 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. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION.

Arthur E. Muegge 2-24-92
 ENGINEER DATE

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 Smith 2/4/92
 SOIL CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Charles F. Ziehm 3/4/92
 HOWARD SOIL CONSERVATION DISTRICT DATE

AS BUILT CERTIFICATE

ARTHUR E. MUEGGE #8707 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Anna Helomaki 3/4/92
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Charles E. Patten 3/10/92
 CHIEF, LAND DEVELOPMENT DIVISION DATE
John M. Pannone 3/11/92
 CHIEF, BUREAU OF HIGHWAYS DATE

Richard E. Patten 3-20-92
 CHIEF, BUREAU OF ENGINEERING DATE

9-30-90 REMOVE 2' GRASSED CHANNEL BEHIND LOT 9

5-28-93 ADDED 2' GRASSED CHANNEL

DATE NO. REVISION

OWNER / DEVELOPER
 CHARLES F. KEATING
 96 ROBERT J. RYNARZENSKI
 1227 CAETLEY COURT
 WOODBINE, MARYLAND 21797
 (301) 442-1377

PROJECT: WORTHINGTON RESERVES SECTION ONE LOTS 1-53

AREA: TAX MAP NO. 3 ZONED R-20 PARCEL 3
 2nd ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE
 GRADING AND SEDIMENT CONTROL PLAN

RIEMER MUEGGE & ASSOCIATES, INC.
 A Land Planning, Engineering and Consulting Firm
 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
 410-527-8000 FAX: 410-527-2822

2-24-92 DATE

5:00:50 WP:00:20
 P:00:07 WP:01:178

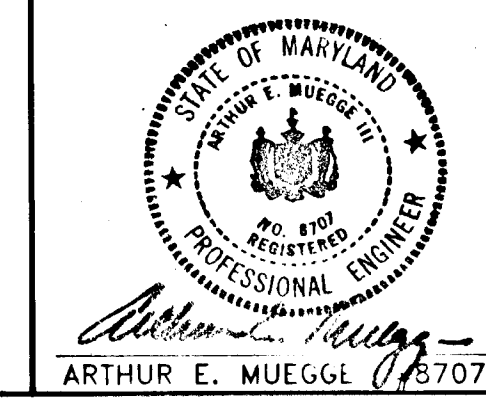
DESIGNED BY: DRF

DRAWN BY: MAD

PROJECT NO: 79800

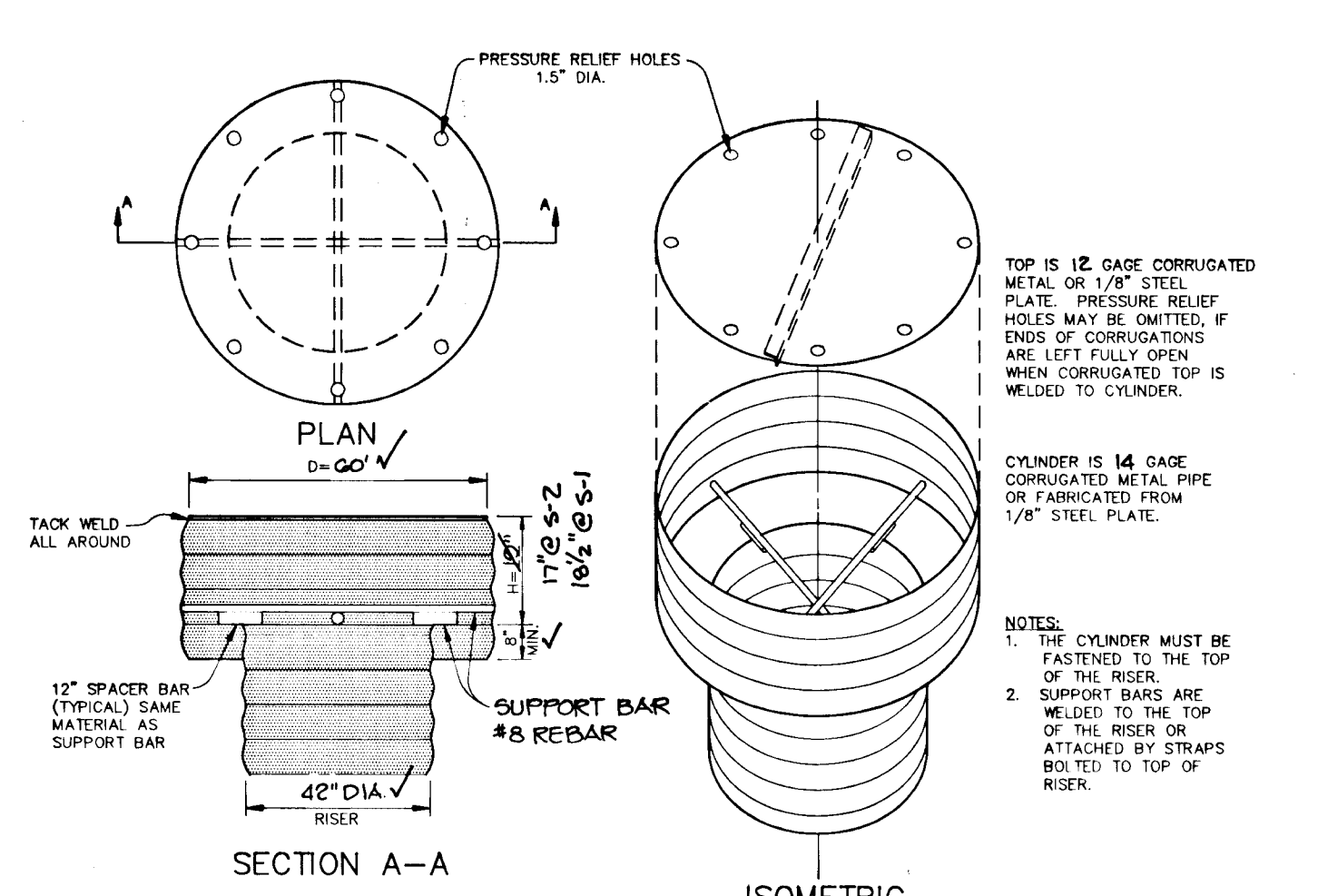
DATE: JANUARY 21, 1992

SCALE: AS SHOWN
 DRAWING NO. 10 OF 15

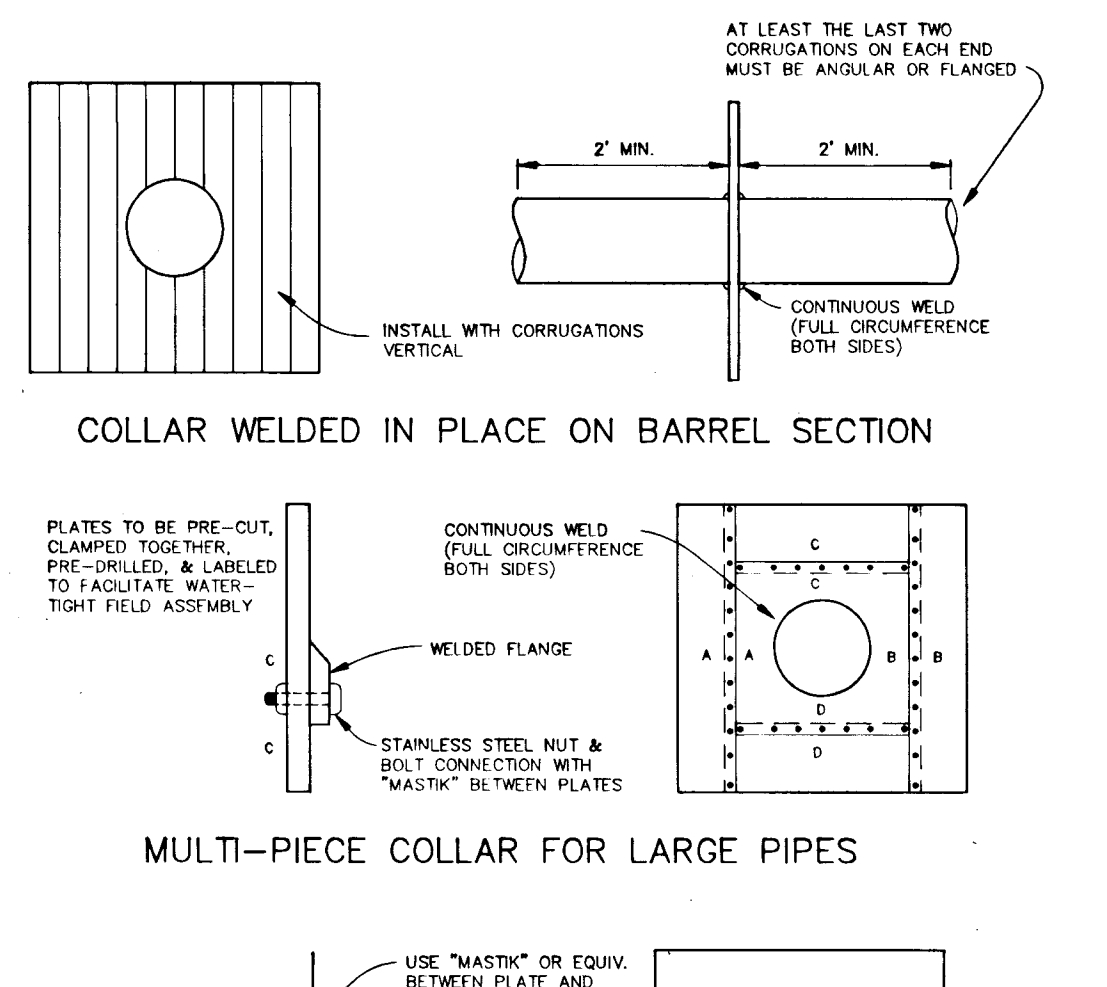


AS-BUILT 2-19-97

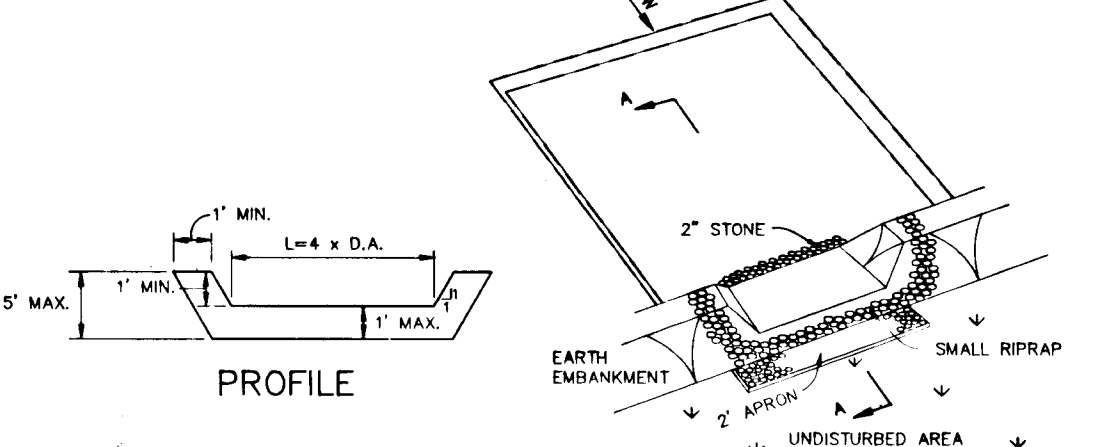
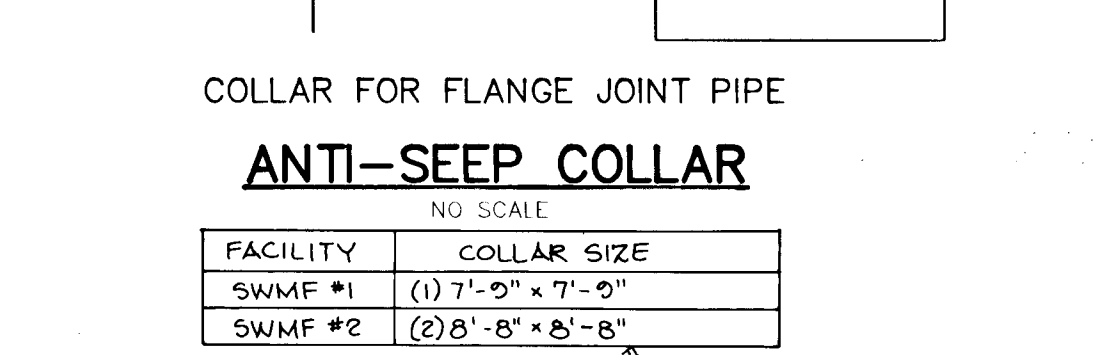
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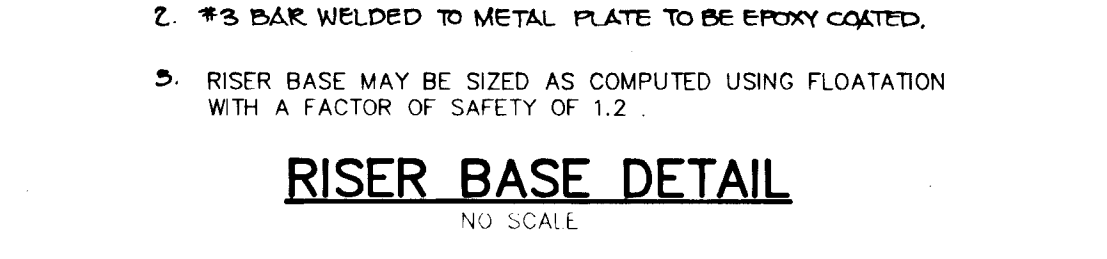
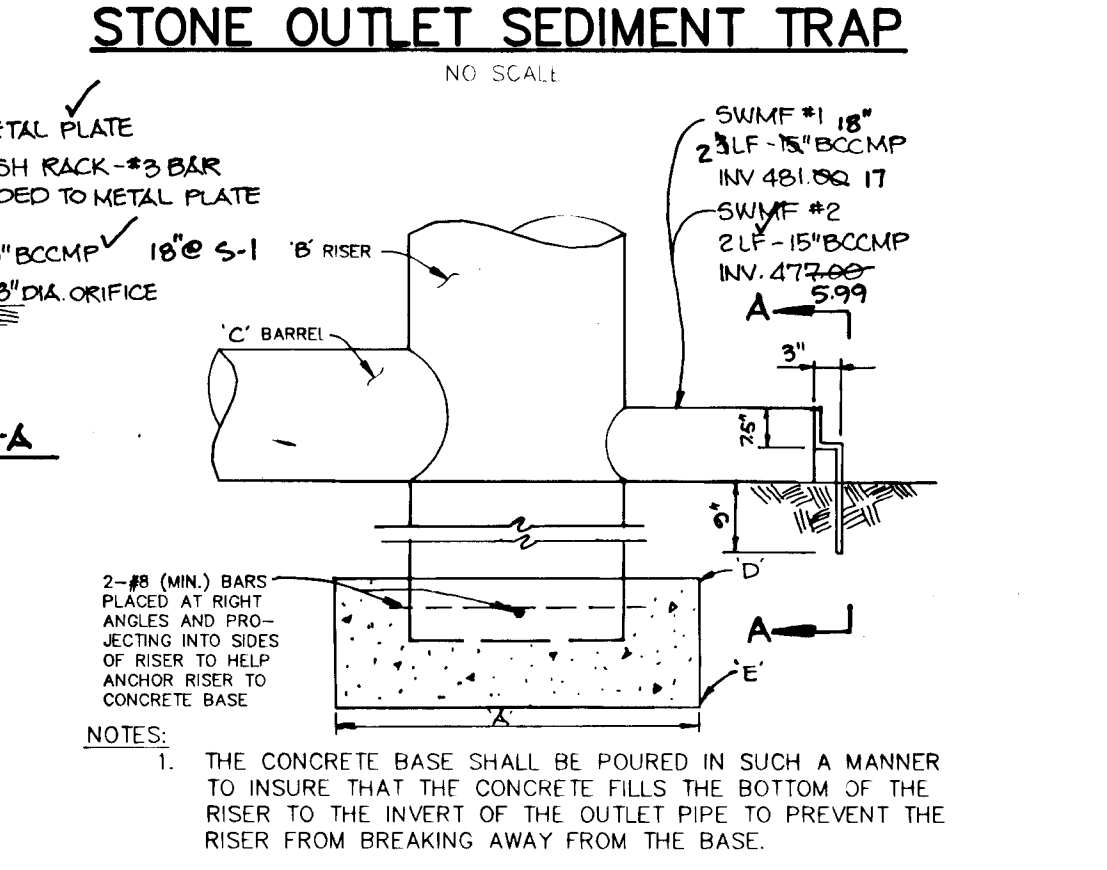
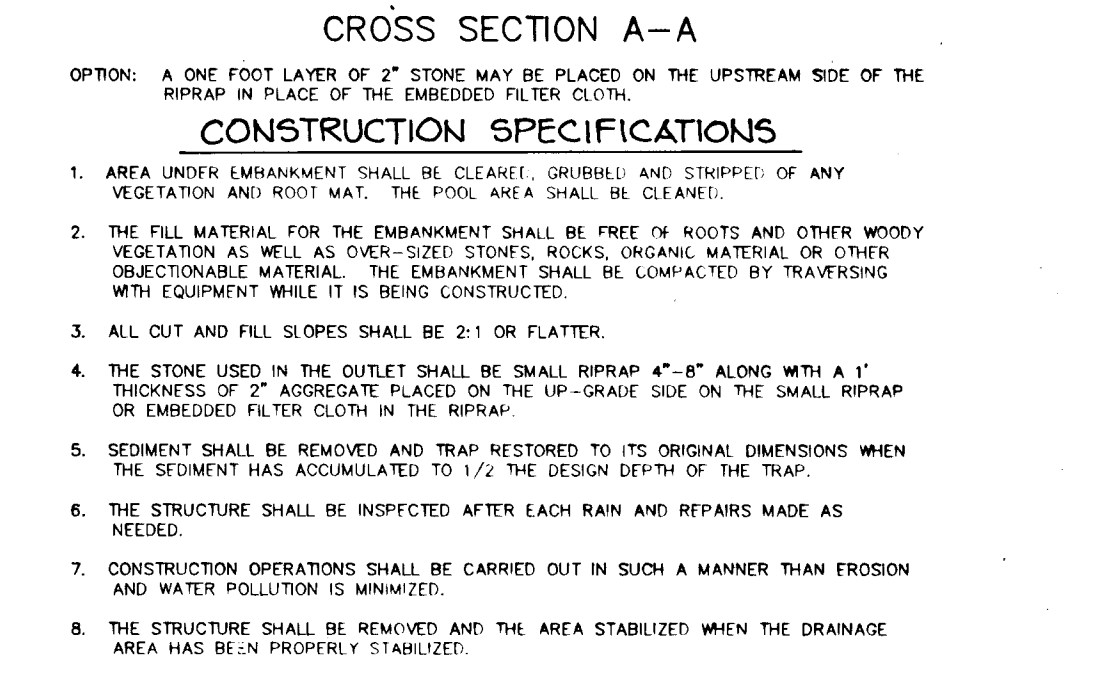
CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE FOR SWMF #1 AND #2
NO SCALE



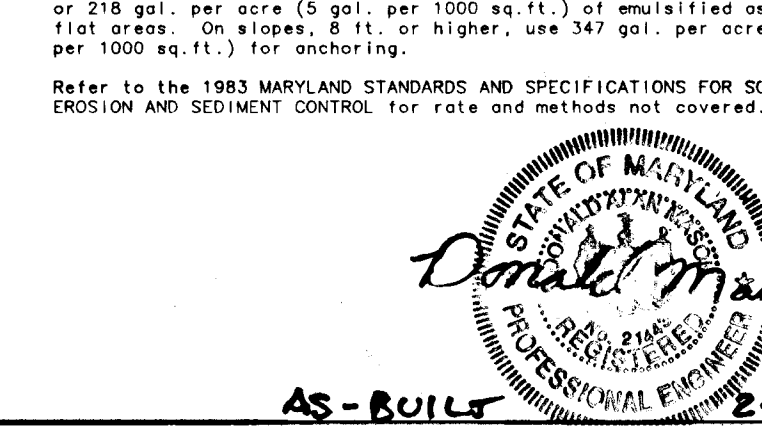
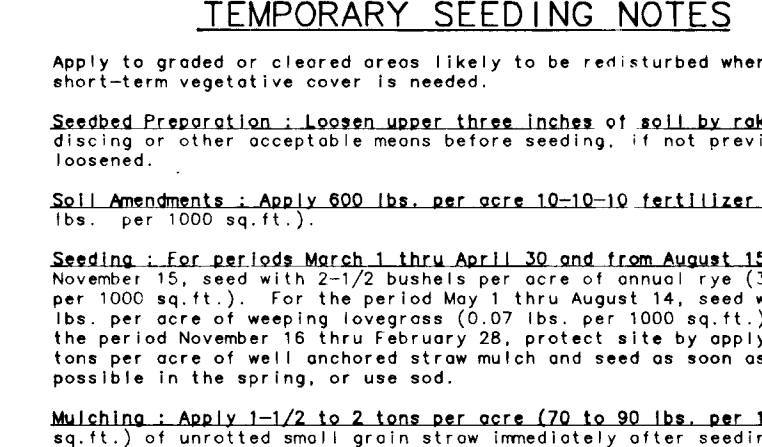
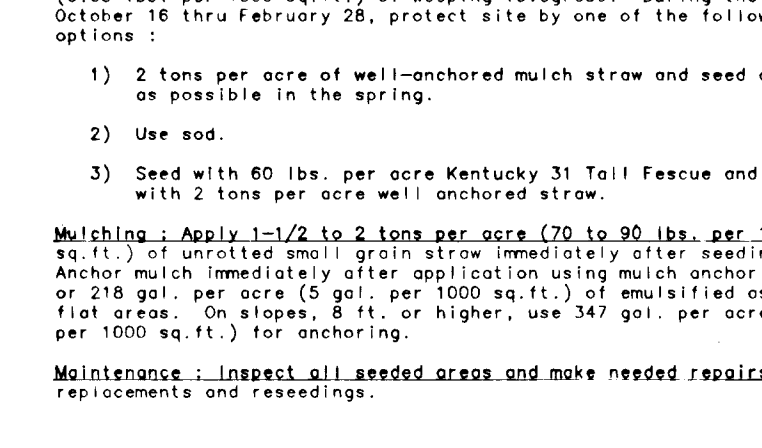
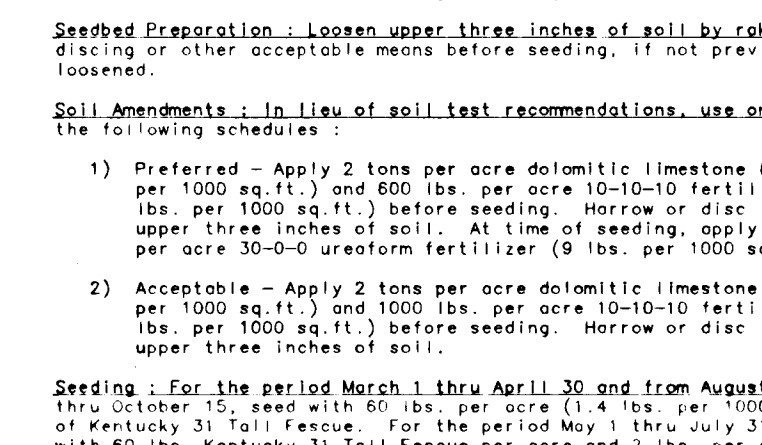
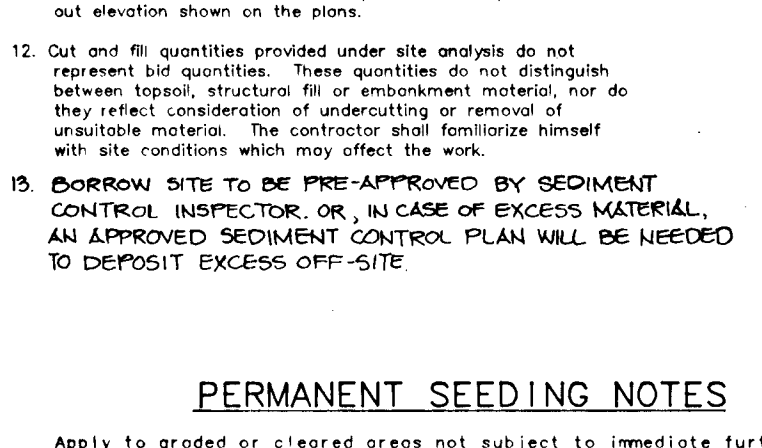
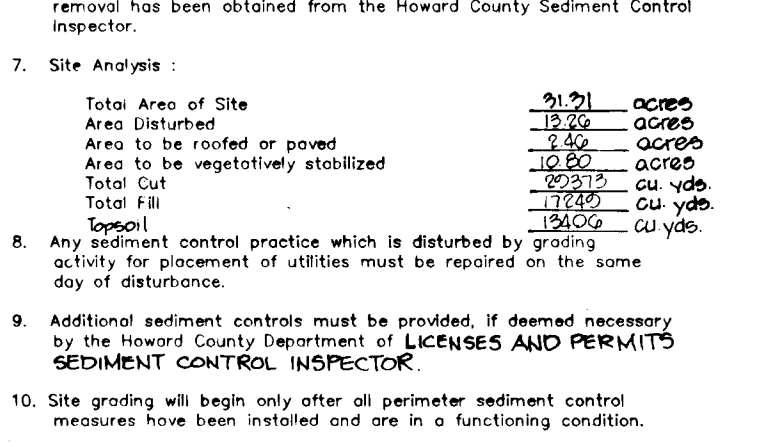
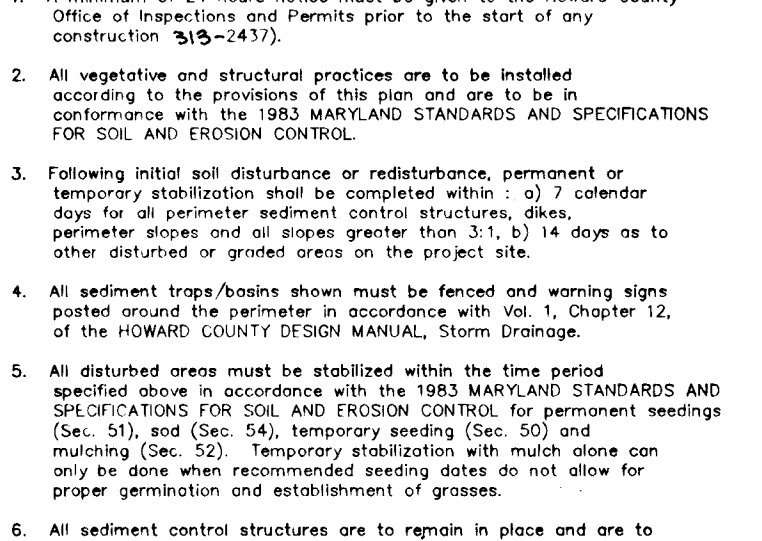
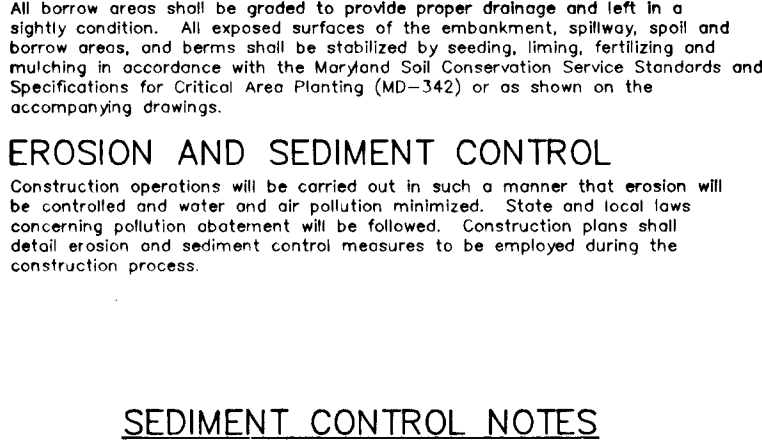
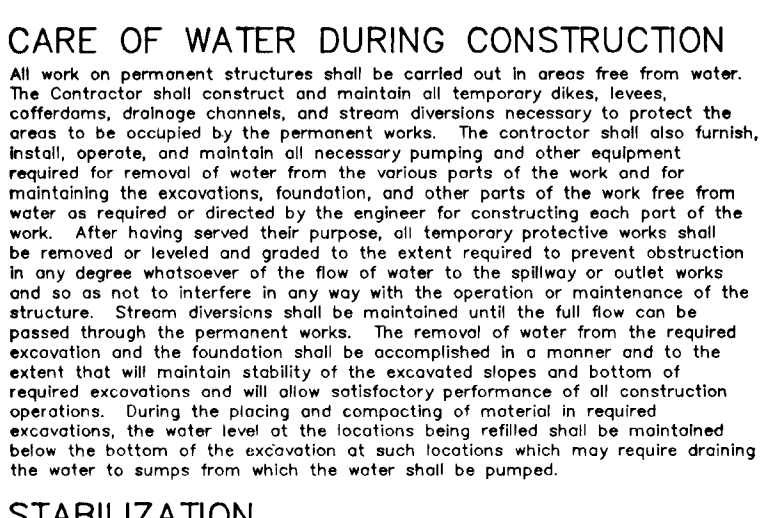
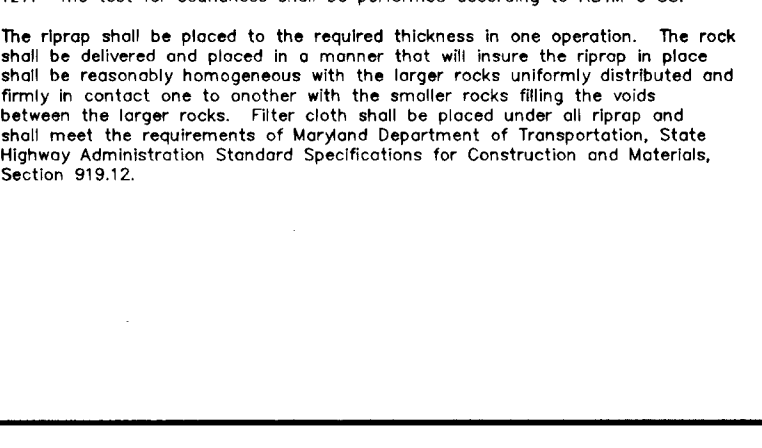
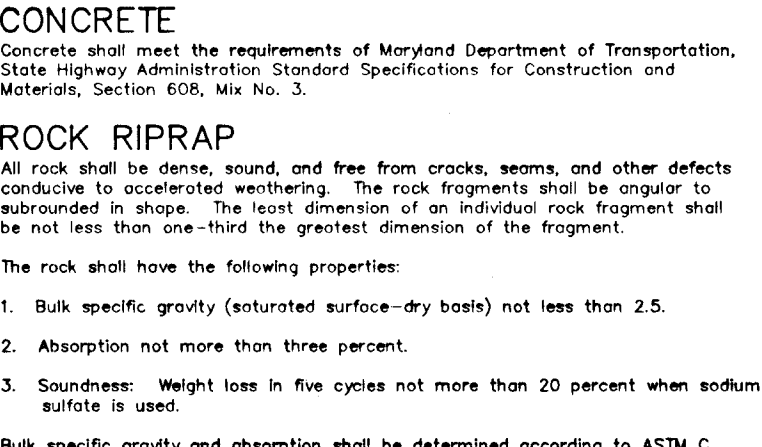
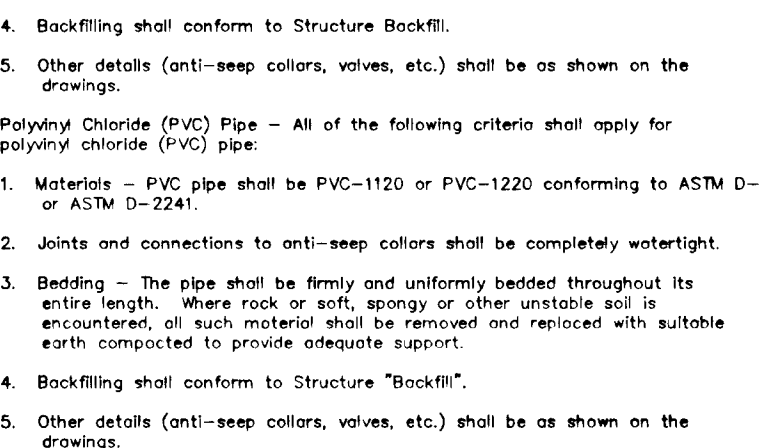
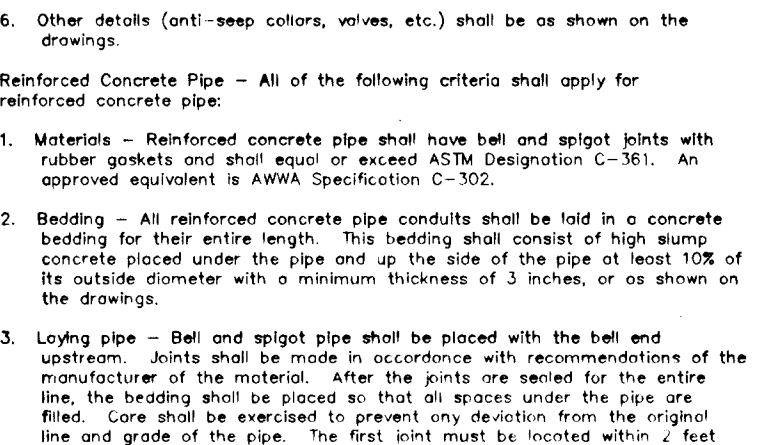
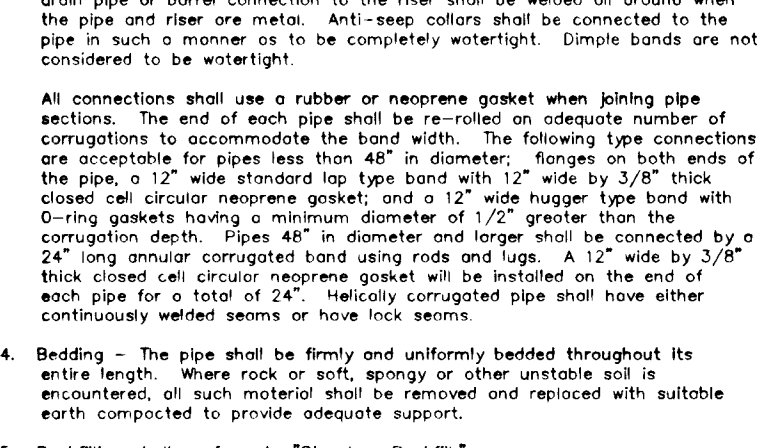
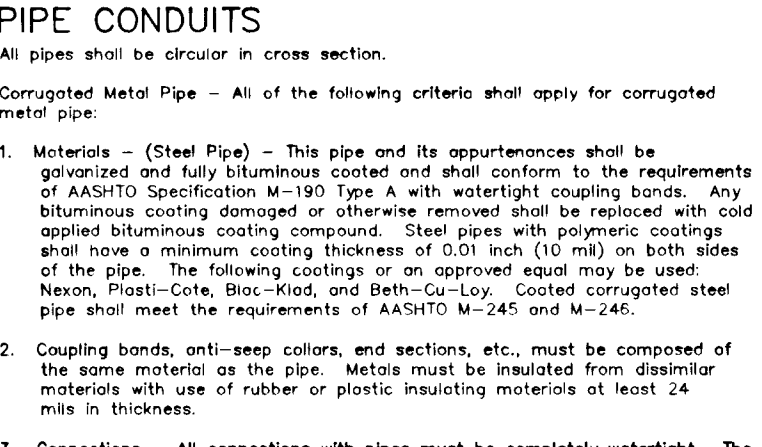
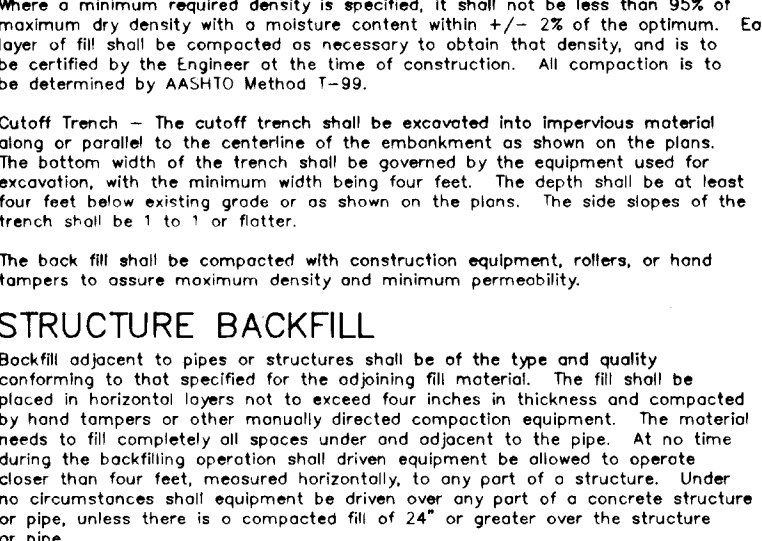
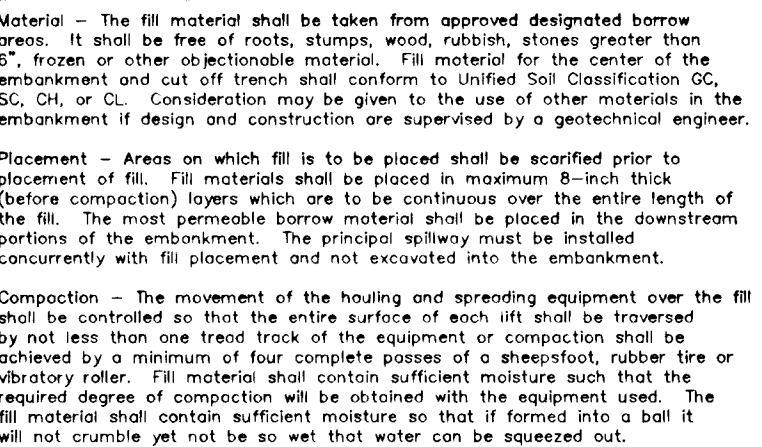
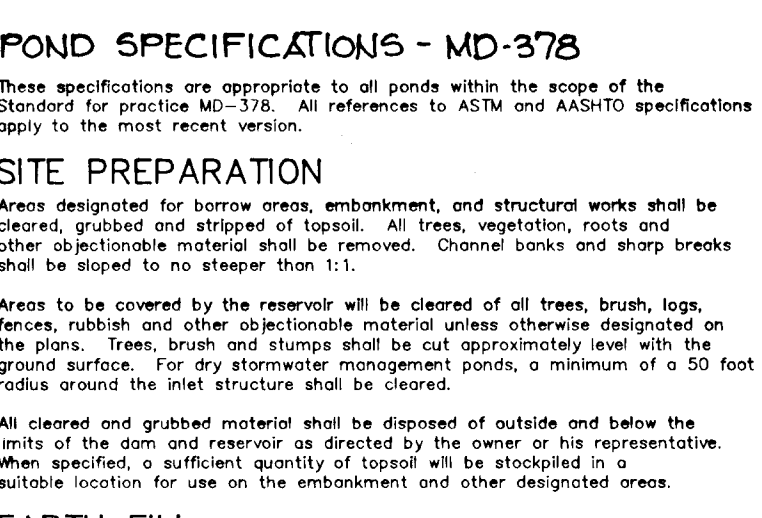
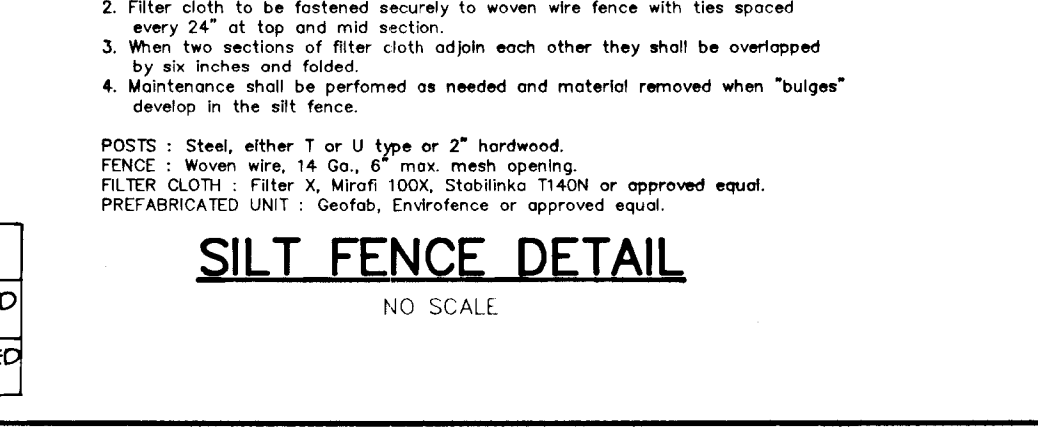
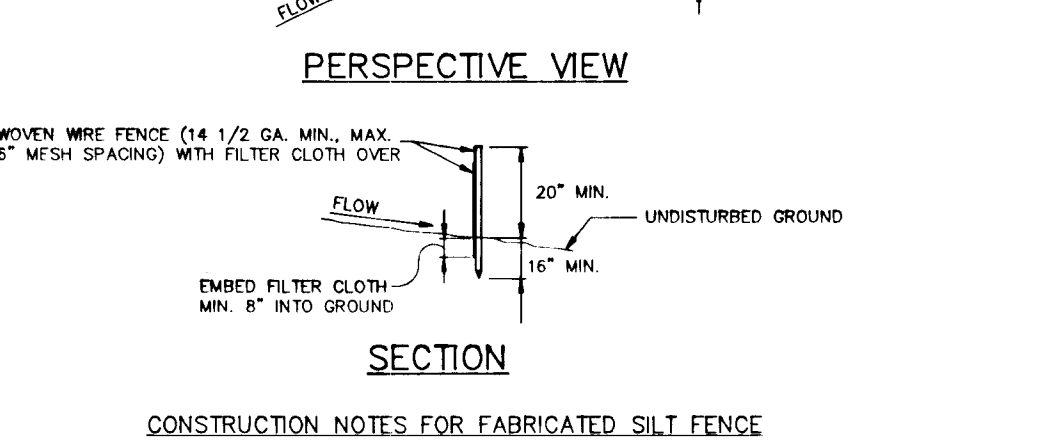
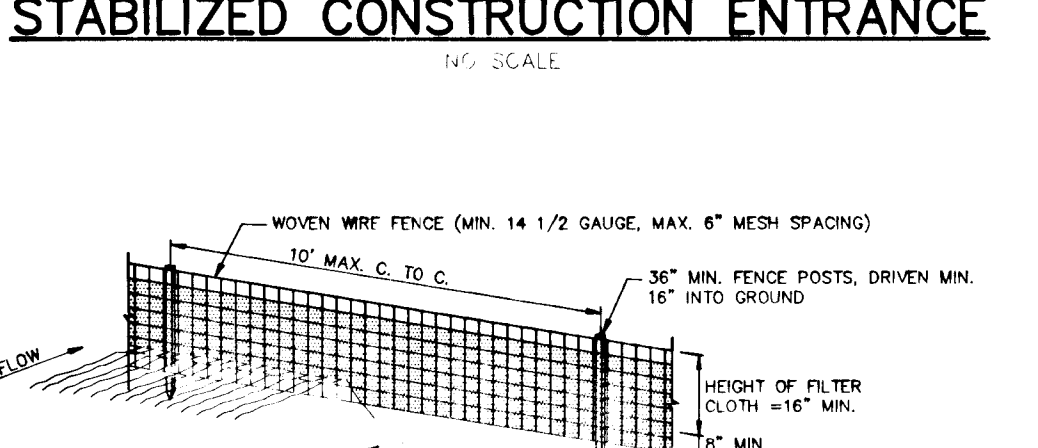
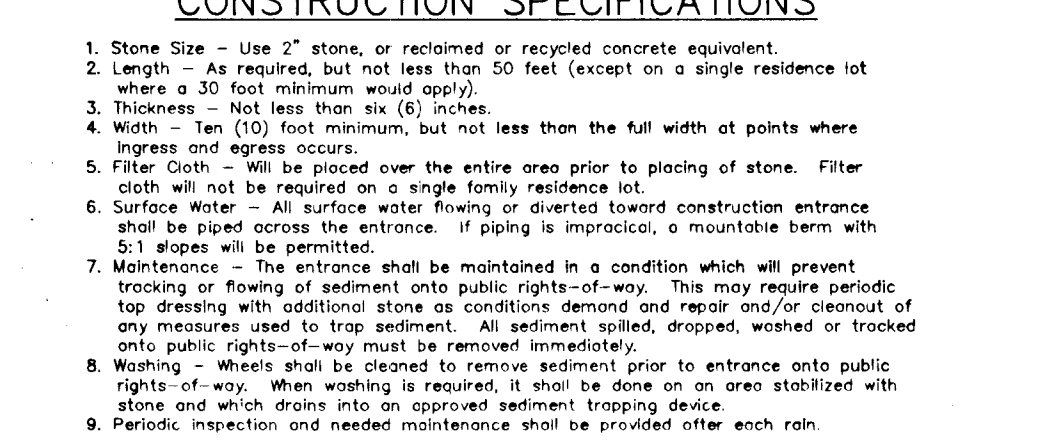
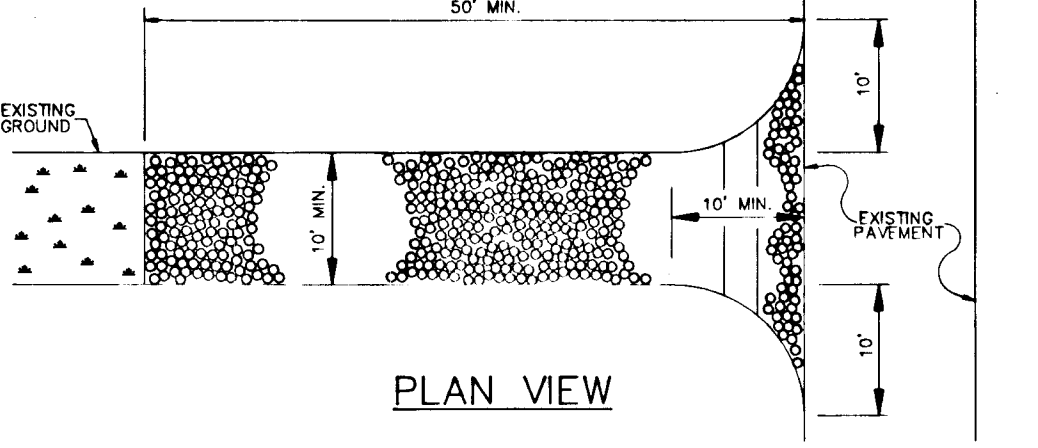
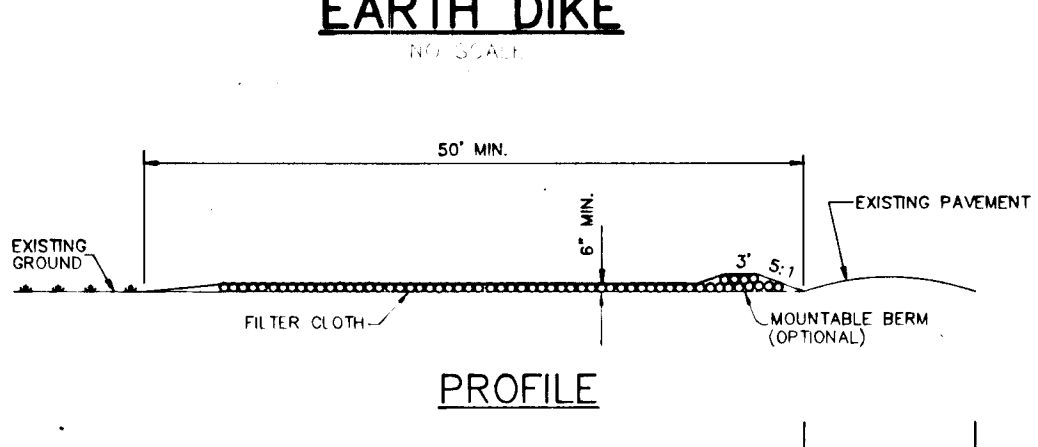
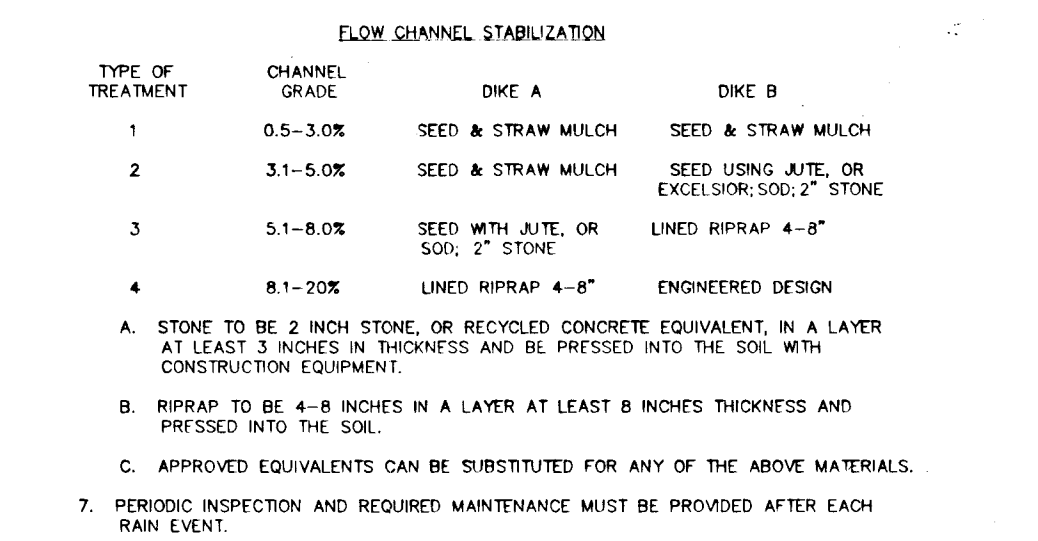
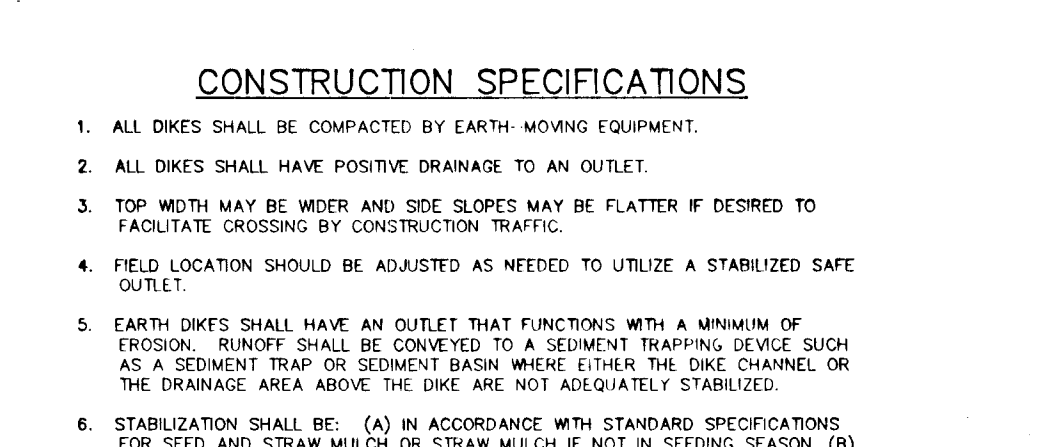
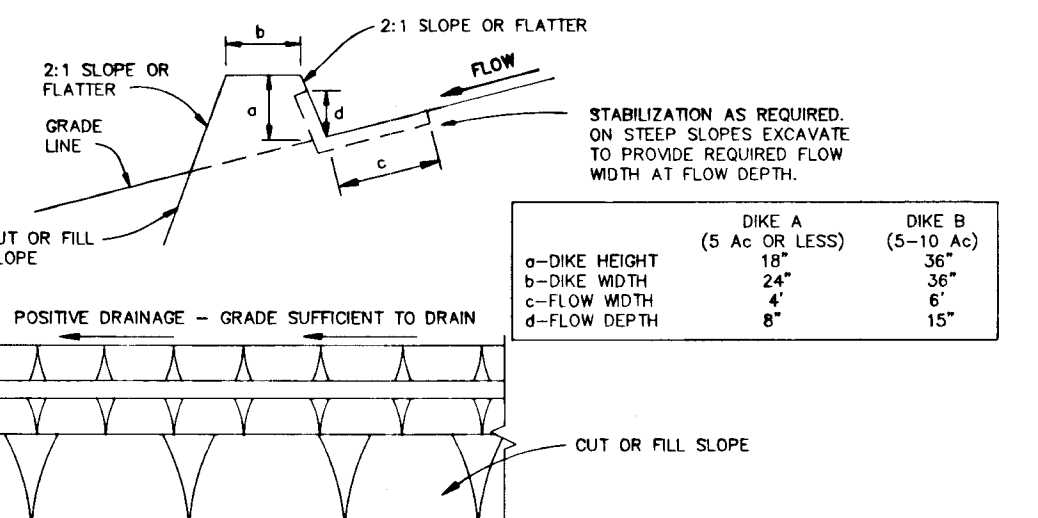
COLLAR WELDED IN PLACE ON BARREL SECTION
MULTI-PIECE COLLAR FOR LARGE PIPES



STRUCTURE	MEDIUM STONE DIA. (IN)	LENGTH (FT)	WIDTH (IN)	THICKNESS (IN)
E-1	0.50'	10' 12"	12' 15"	14"
E-2	0.50'	10' 15"	12' 11"	14"
E-3	0.50'	10' 11"	12' 18"	14"
E-4	0.75'	10' 27"	18' 18"	20"
E-5	0.75'	30' 00"	35' 35"	20"



FACILITY	A	B	C	D	E	REMARKS
SWMF #1	7'x7'	42'✓	36'✓	478.5	477.0	CONCRETE FILLED TO ELEV 481.0
SWMF #2	7'x7'	42'✓	36'✓	474.5	473.0	CONCRETE FILLED TO ELEV 477.0



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 THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Charles Heston 2-21-92
DEVELOPER DATE

BY THE ENGINEER :
I CERTIFY THAT THIS PLAN FOR PONDS 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. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION.

Arthur E. Muegge 2-24-92
ENGINEER DATE

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.

Robert J. Ziehm 3/4/92
HOWARD SOIL CONSERVATION DISTRICT DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Arthur E. Muegge 3/4/92
AS BUILT CERTIFICATE DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Thomas H. Hornath 3/24/92
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Arthur E. Muegge 3/10/92
CHIEF, LAND DEVELOPMENT DIVISION DATE

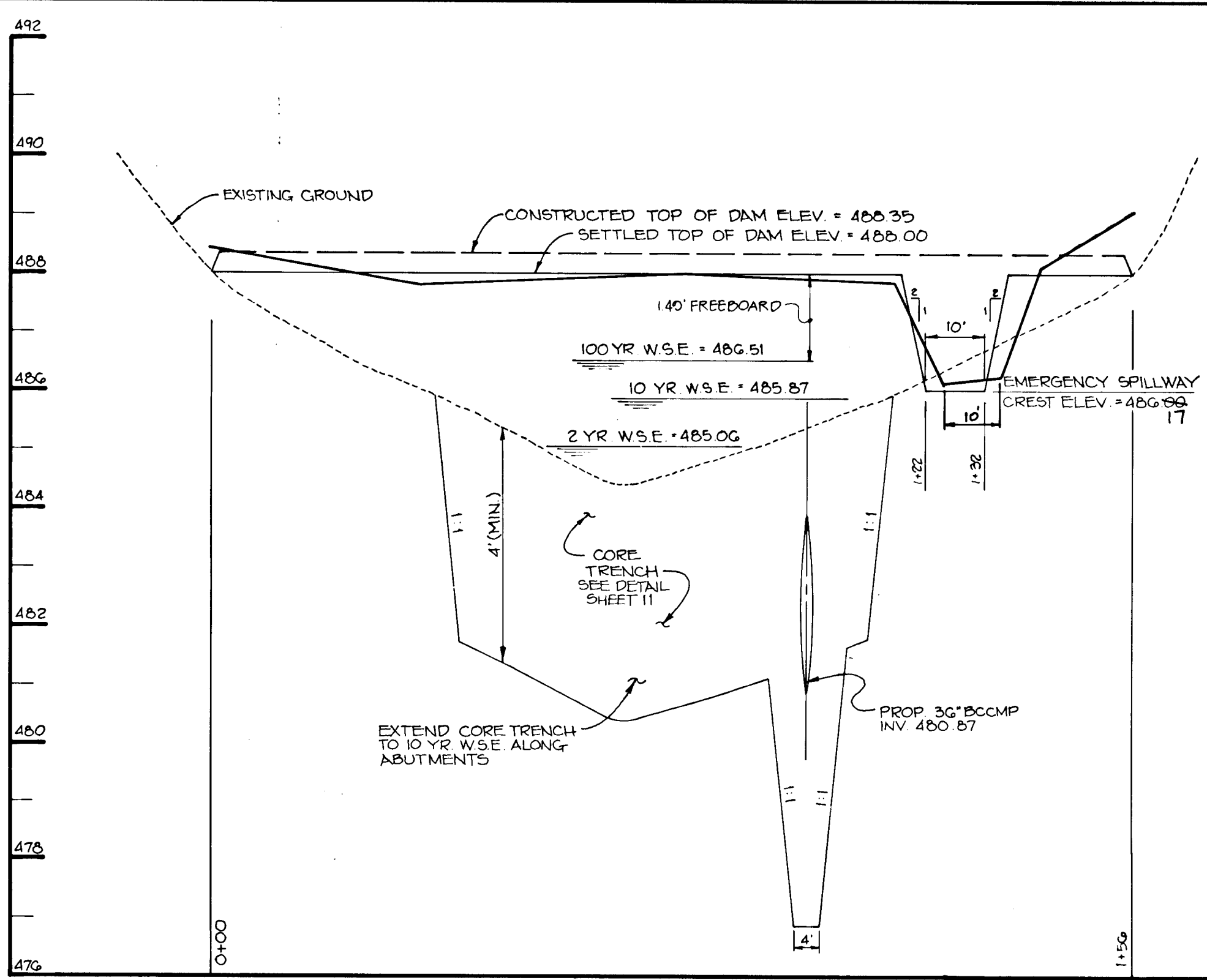
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Arthur E. Muegge 3/16/92
CHIEF, BUREAU OF HIGHWAYS DATE

DATE NO. REVISION
OWNER / DEVELOPER
CHARLES F. KESTING
% ROBERT J. RYANZEWSKI
1227 CARTLEY COURT
WOODBINE, MARYLAND 21797
(301) 442-1377

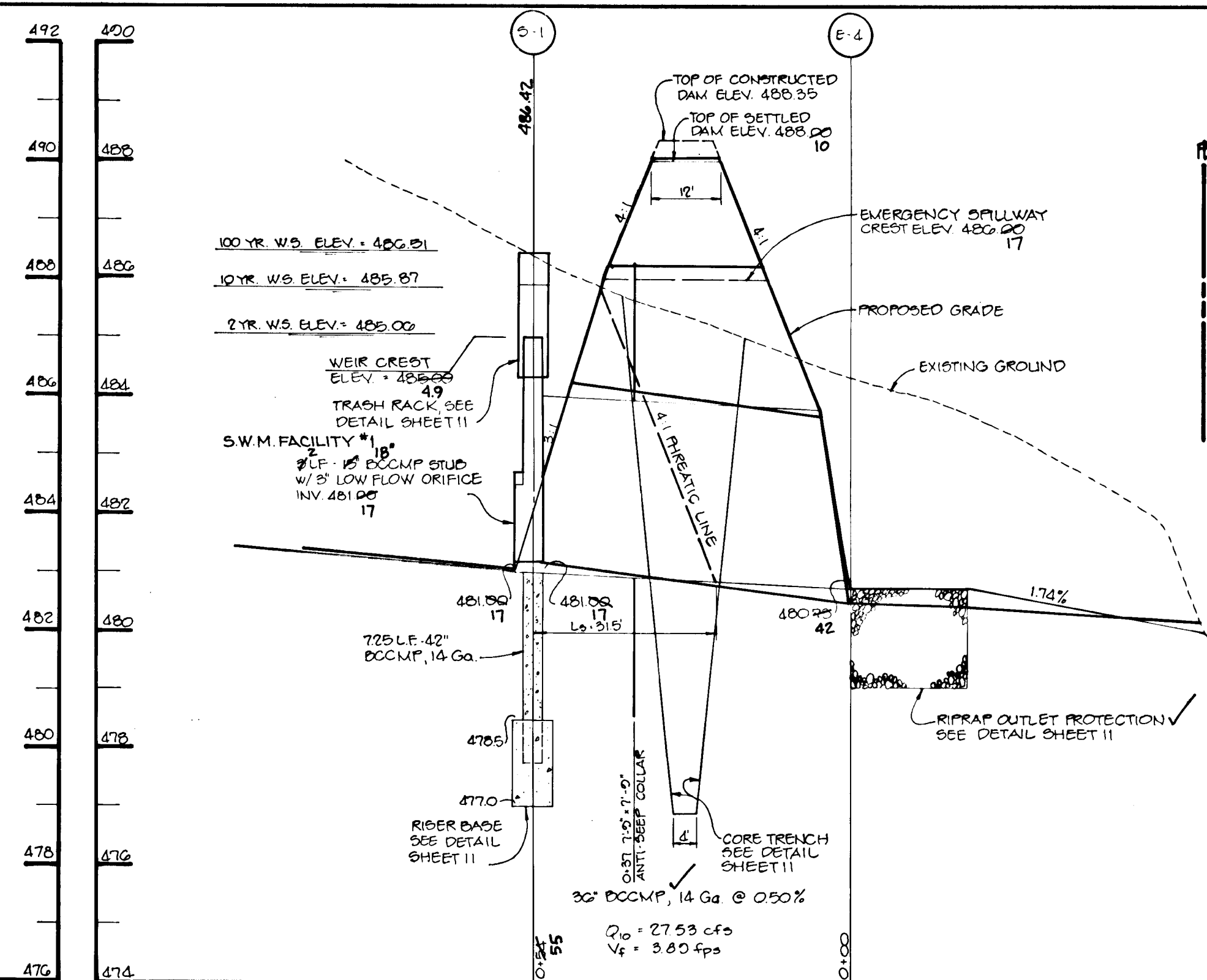
PROJECT FORMERLY KESTING PROPERTY P-90-07
WORTHINGTON RESERVES
SECTION ONE LOTS 1-53
AREA TAX MAP NO. 31 ZONED R-20 PARCEL 3
2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TITLE **SEDIMENT CONTROL / SWM**
NOTES AND DETAILS
RIEMER MUEGGE & ASSOCIATES, INC.
A Land Planning, Engineering and Consulting Firm
8818 Centre Park Drive • Suite 200 • Columbia, MD 21045
410-207-8000 FAX: 410-207-0262

DATE 2-24-92
DESIGNED BY: DAM
PROJECT NO: 79800
DATE: JANUARY 21, 1992
SCALE: AS SHOWN
DRAWING NO. 11 OF 19
AS-BUILT
AS-BUILT
2-19-97
F-92-50

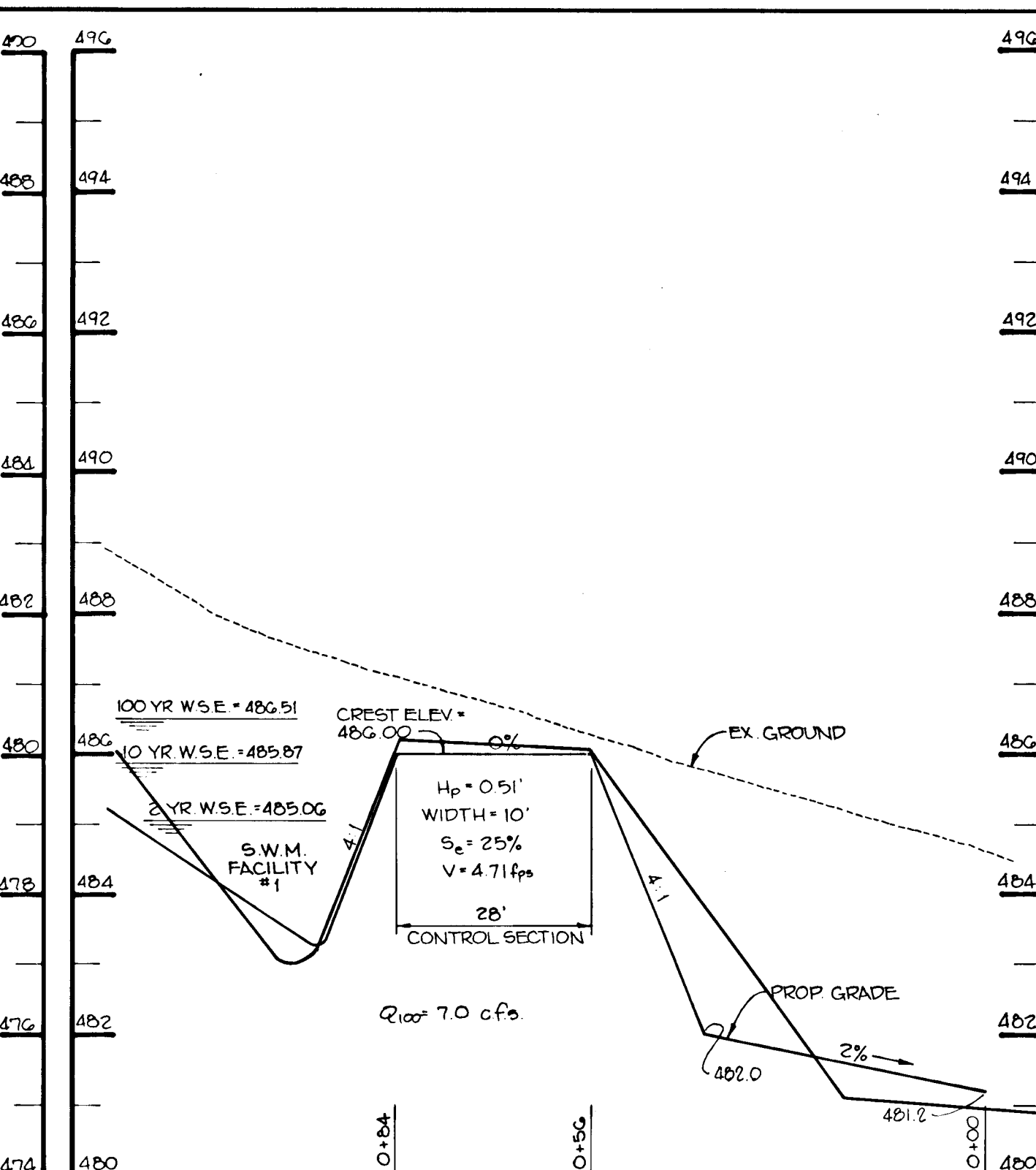
1638



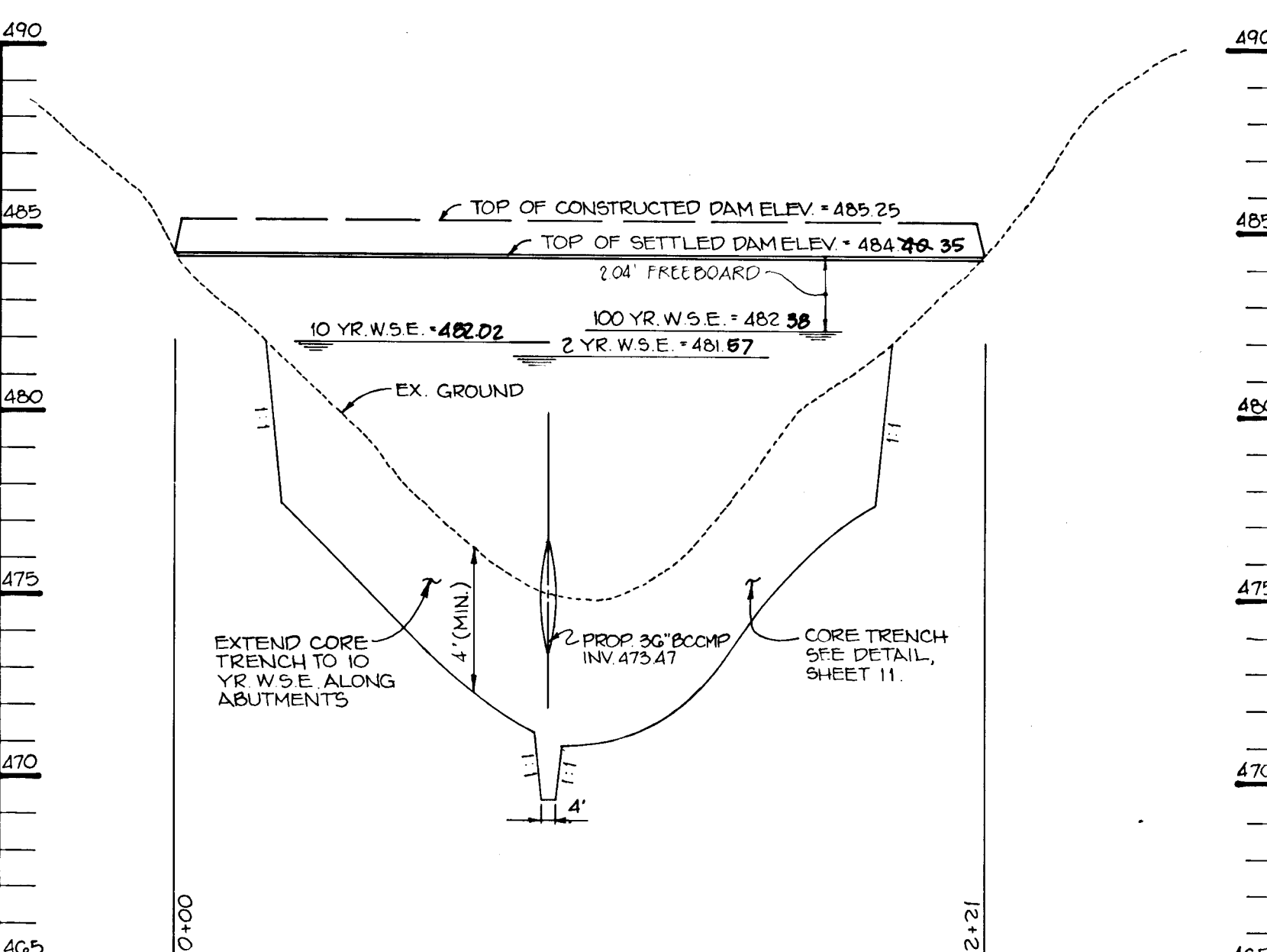
S.W.M. FACILITY #1 - PROFILE ALONG & DAM
SCALE: HOR: 1"=20'
VER: 1"=2'



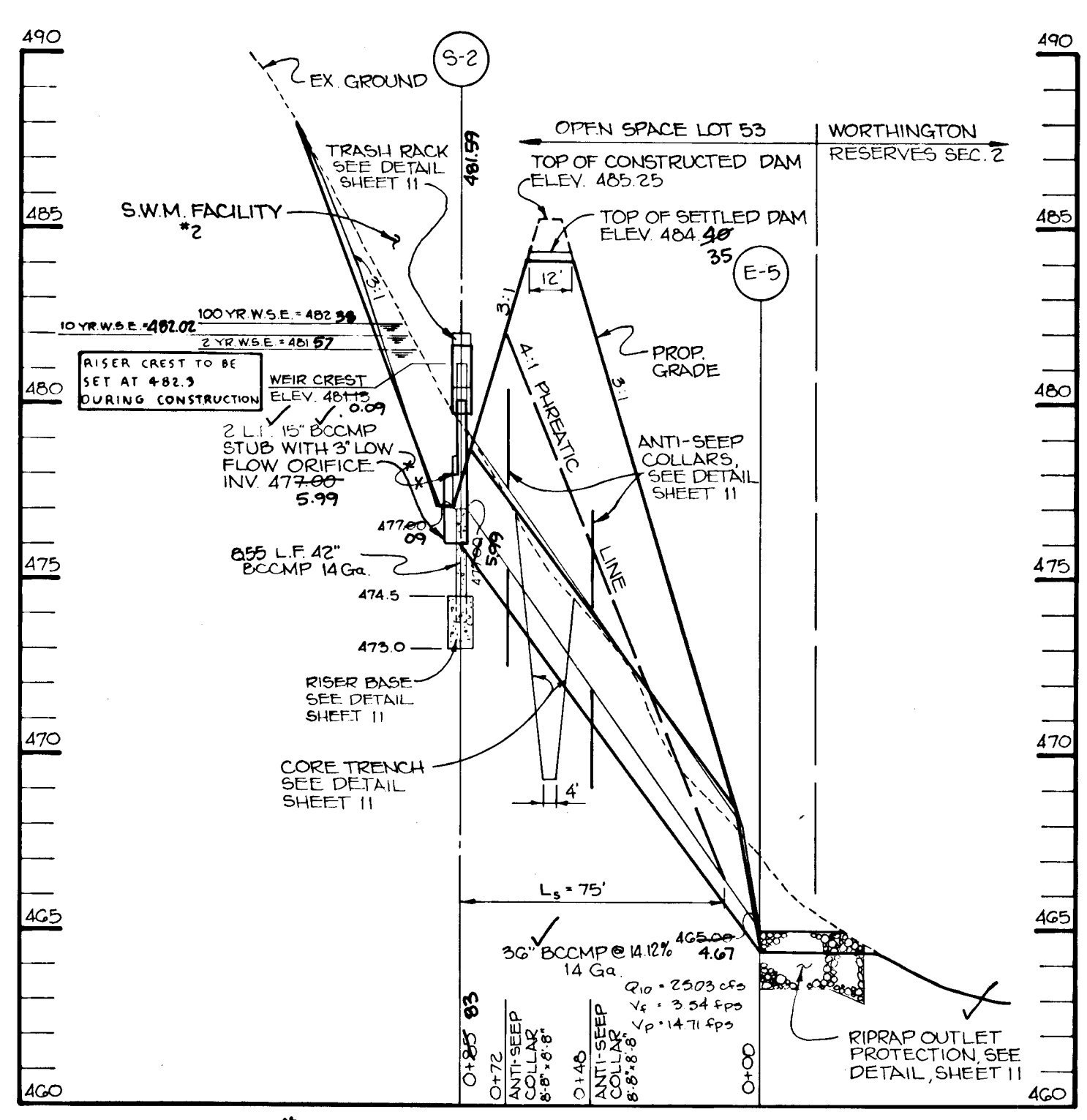
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SCALE: HOR: 1"=20'
VERT: 1"=2'



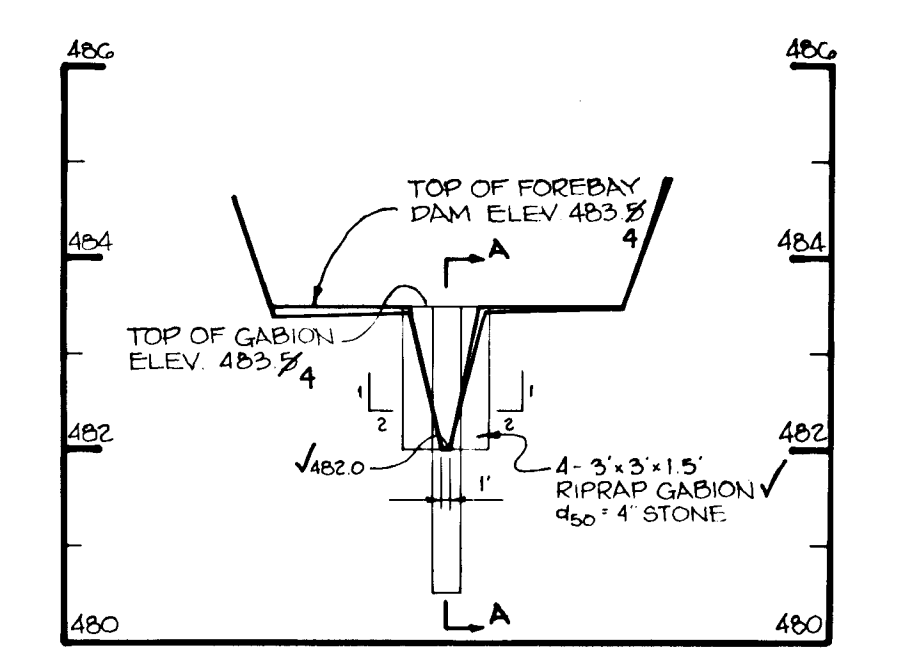
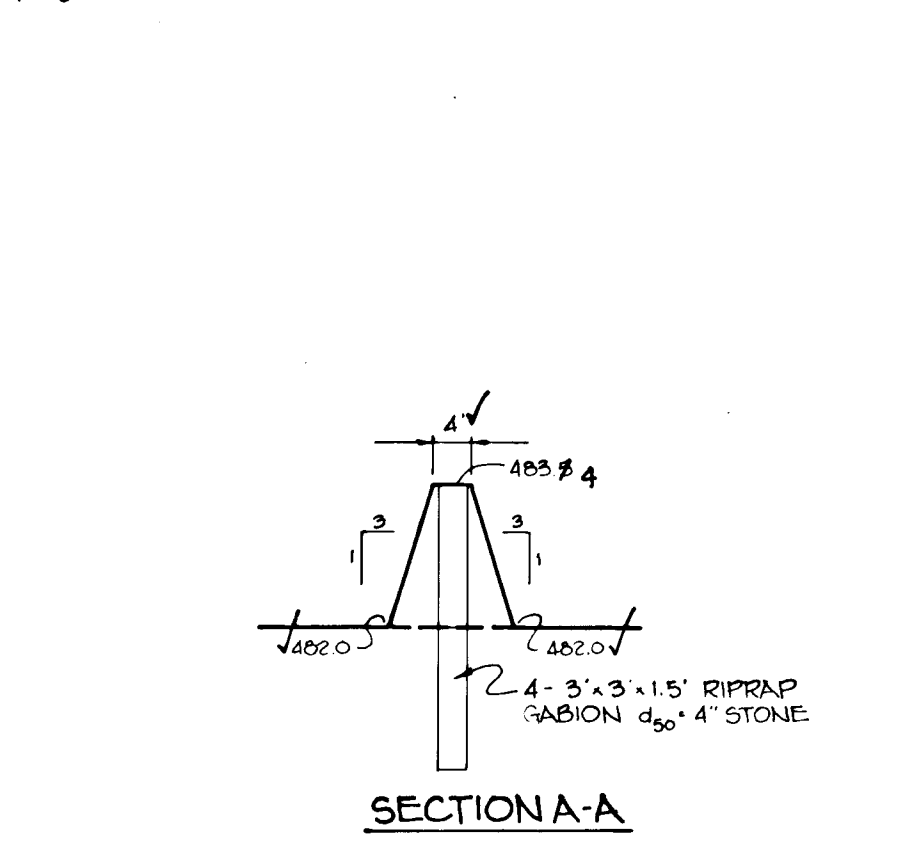
S.W.M.F.#1 - PROFILE THRU EMERGENCY SPILLWAY
SCALE: HOR: 1"=20'
VER: 1"=2'



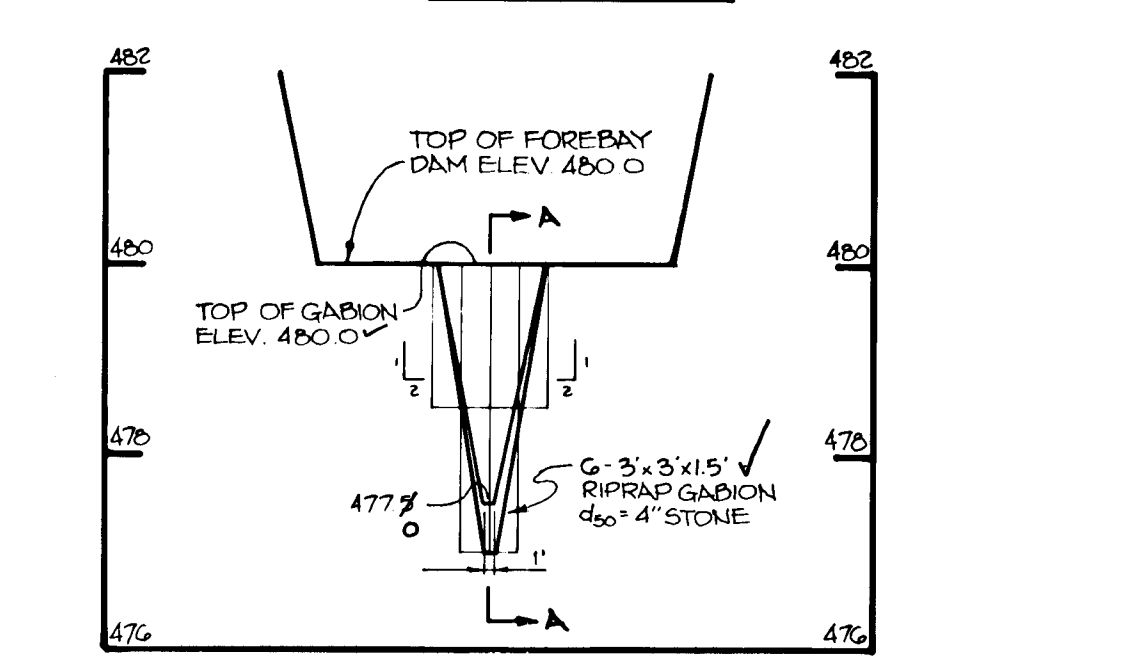
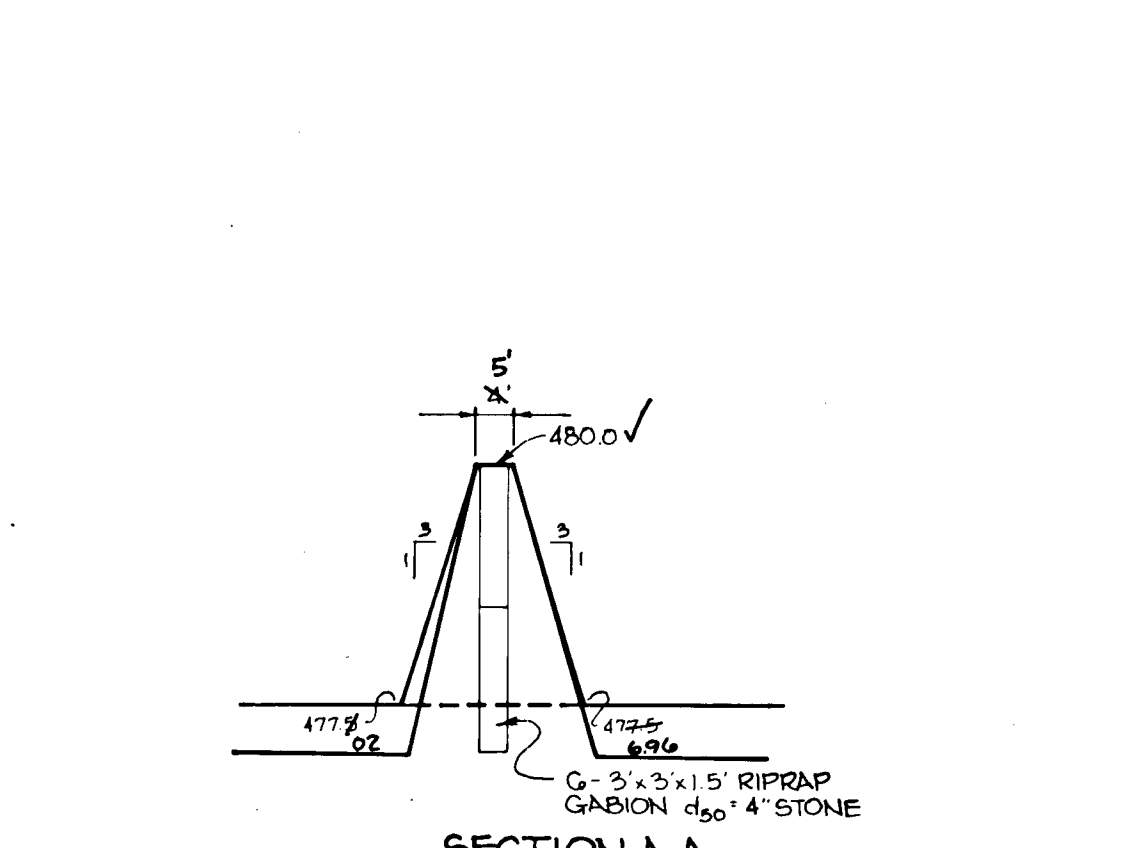
S.W.M. FACILITY #2 - PROFILE ALONG & DAM
SCALE: HOR: 1"=40'
VER: 1"=4'



S.W.M. FACILITY #2 - PROFILE THROUGH PRINCIPLE SPILLWAY
SCALE: HOR: 1"=40'
VER: 1"=4'



S.W.M. FACILITY #1 - PROFILE ALONG FOREBAY DAM
SCALE: HOR: 1"=20'
VER: 1"=2'



S.W.M. FACILITY #2 - PROFILE ALONG FOREBAY DAM
SCALE: HOR: 1"=20'
VER: 1"=2'

487.7	5" TOPSOIL
487.5	SILT WITH FINE TO MED SAND, TRACE GRAVEL & ROOTS, LIGHT BROWN, DRY, MED DENSE TO DENSE (ML)
480.0	MICACEOUS SILTY FINE TO MED SAND, GRAYISH BROWN, MOIST, MED DENSE (SM/ML)
470.6	FINE TO MED SAND, TRACE SILT, LIGHT TAN, MOIST, MED DENSE (SP)
465.8	EXTREMELY DENSE [AUGER REFUSAL]
BOTTOM OF BORING 18.6'	

BORING B-1
NO SCALE

486.5	5" TOPSOIL
480.4	SILT WITH FINE TO MED SAND, TRACE GRAVEL & ROOTS, BROWN, DRY, LOOSE TO MED DENSE (ML) [ORGANIC ODD]
475.0	SILTY FINE TO MED SAND, BROWN, DRY, DENSE (SM)
470.8	FINE TO MED, SAPRODITIC MICACEOUS SANDY SILT, DARK BROWN, MOIST, MED DENSE TO LOOSE (ML)
470.3	FINE TO MED MICACEOUS SANDY SILT, BROWN, MOIST TO WET, MED DENSE (ML)
BOTTOM OF BORING 15.0'	

BORING B-2
NO SCALE

528.5	5" TOPSOIL
525.3	SANDY FINE TO MED QUARTZ GRAVEL WITH SILT, REDDISH BROWN, WHITE, DRY, MED DENSE TO VERY DENSE (CL/ML)
510.8	CLAYEY SILT WITH FINE TO MED SAND, LIGHT BROWN, DRY, HARD (ML/CL)
510.2	MICACEOUS SILTY FINE TO MED SAND, LIGHT TO MED BROWN, DRY, MED DENSE (SM)
500.7	SANDY FINE TO MED QUARTZ GRAVEL WITH SILT, REDDISH BROWN & WHITE, DRY, VERY DENSE (GM)
BOTTOM OF BORING 25.0'	

BORING B-3
NO SCALE

528.0	5" TOPSOIL
520.7	SILTY CLAY WITH FINE TO MED SAND, TRACE ROOTS, TANNISH TO ORANGISH BROWN, MOIST, LOOSE TO DENSE (CL/ML)
520.2	FINE TO MED SANDY SILT WITH GRAVEL, REDDISH BROWN, DRY, DENSE (ML)
510.5	SILTY FINE TO MED SAND WITH GRAVEL, REDDISH TO ORANGISH BROWN, DRY, MED DENSE TO DENSE (SM)
500.0	SANDY FINE TO MED QUARTZ GRAVEL WITH SILT, REDDISH BROWN & WHITE, DRY, VERY DENSE (GM)
BOTTOM OF BORING 25.0'	

BORING B-4
NO SCALE

485.0	5" TOPSOIL
480.6	SILTY CLAY, LIGHT BROWN, DRY, HARD (CL) [POSSIBLE FILL]
480.1	SILTY FINE TO MED SAND, TRACE GRAVEL, TAN, DRY TO MOST, MED DENSE (SM)
BOTTOM OF BORING 20.0'	

BORING B-5
NO SCALE

476.0	5" TOPSOIL
470.8	SANDY CLAY WITH MED QUARTZ GRAVEL WITH SILT, BROWN, DRY, LOOSE (GM) [POSSIBLE FILL]
470.5	SILTY FINE TO MED SAND, LIGHT BROWN, DRY, MED DENSE (SM)
465.0	FINE TO MED SAND WITH SILT, TRACE GRAVEL, BROWNISH TAN, DRY, MED DENSE (SM)
460.2	SAPRODITIC MICACEOUS SILTY FINE TO MED SAND, TRACE GRAVEL, GRAYISH BROWN, DRY, MED DENSE (SM)
BOTTOM OF BORING 15.0'	

BORING B-6
NO SCALE

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 THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Charles F. Kesting 2-1-92
DEVELOPER DATE

BY THE ENGINEER:
I CERTIFY THAT THIS PLAN FOR PONDS 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. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE PONDS WITHIN 30 DAYS OF COMPLETION.

Arthur E. Muegge 2-24-92
ENGINEER DATE

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.
James J. ... 3/4/92
HOWARD SOIL CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Robert W. Ziehm 3/4/92
HOWARD SOIL CONSERVATION DISTRICT DATE

AS BUILT CERTIFICATE

ARTHUR E. MUEGGE #8707 DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Arnold Hornum 3/24/92
CHIEF, LAND DEVELOPMENT DIVISION DATE
COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John ... 3/16/92
CHIEF, LAND DEVELOPMENT DIVISION DATE
Bureau of Highways
3-20-92
CHIEF, BUREAU OF ENGINEERING DATE

5-28-95 Revised W.S.E. & Top of Settled Dam
DATE NO. REVISION

OWNER / DEVELOPER
CHARLES F. KESTING
% ROBERT J. RYNARZEWSKI
1227 CARTLEY COURT
WOODBINE, MARYLAND 21797
(301) 442-1377

PROJECT: WORTHINGTON RESERVES
SECTION ONE LOTS 1-53
AREA TAX MAP NO. 31, 2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

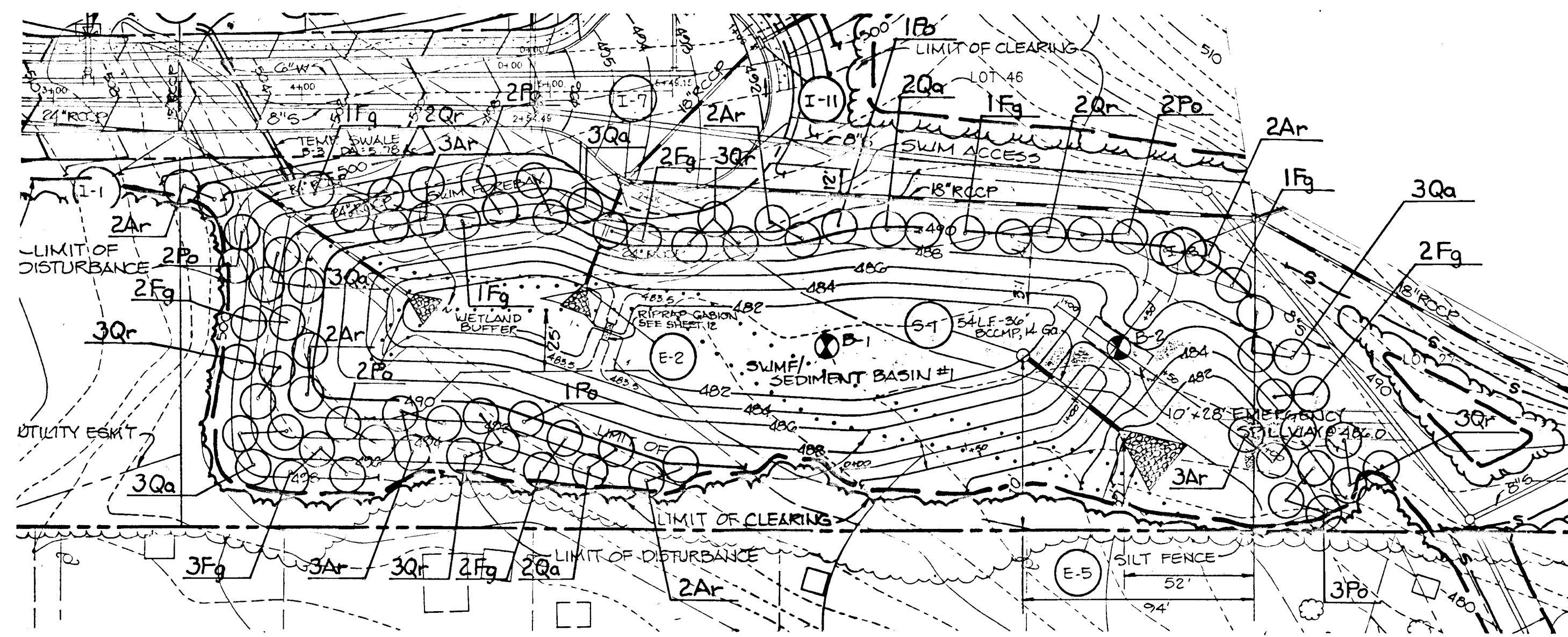
TITLE
S.W.M. PROFILES AND DETAILS

RIEMER MUEGGE & ASSOCIATES, INC.
A Land Planning, Engineering and Consulting Firm
8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
410-991-8900 FAX: 410-991-9282

2-24-92 DATE
5-89-50 WP-90-20
P-90-07 WP-91-178
DESIGNED BY: DRP/CBB
DRAWN BY: MAD/CBB
PROJECT NO: 79800
DATE: JANUARY 21, 1992
SCALE: AS SHOWN
DRAWING NO. 12 OF 13
ARTHUR E. MUEGGE #8707

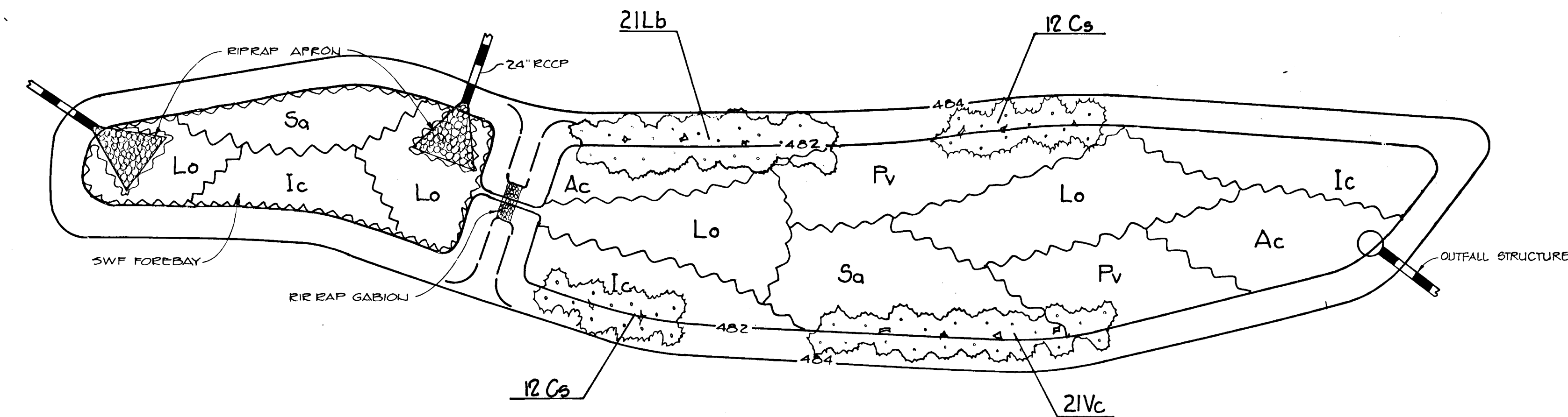


1638



REFORESTATION PLANTING PLAN
SCALE 1" = 40'

WETLAND MITIGATION PROVIDED: 19,000 sq. ft.



SWAMP NO. 1
WETLANDS PLANTING PLAN
SCALE 1" = 20'

EMERGENTS	QTY	SYMBOL	NAME	SIZE	REMARKS
	880	Lo	LERERSIA ORYZOIDES Rice Cutgrass	Field Clump	CONT. 2' O.C.
	410	Ac	ACORUS CALAMUS Sweet Flag	1 Qt.	CONT. 2' O.C.
	560	Ic	IMPATIENS CAPENSIS Jewelweed	1 Qt.	CONT. 2' O.C.
	470	Pv	PANICUM VIRGATUM Switchgrass	1 Qt.	CONT. 2' O.C.
	460	Sa	SCIRPUS AMERICANUS American Threesquare	1 Qt.	CONT. 2' O.C.
SHRUBS	QTY	SYMBOL	NAME	SIZE	REMARKS
	21	Vc	VACCINIUM CORYMBOSUM Highbush Blueberry	24"-36" Ht.	CONT. OR B&B
	24	Cs	CORNUS STOLONIFERA Red-Osier Dogwood	24"-36" HT.	CONT. OR B&B
	21	Lb	LINDERA BENZOIN Spicebush	24"-36" Ht.	B&B or Cont. 6' O.C.

PLANTING SPECIFICATION AND NOTES

WETLAND PLANT SOILS

- Topsoil shall be salvaged from within the project limit of work as indicated on the Plan. Salvaged topsoil shall be stockpiled for ultimate application to the mitigation area.
- Topsoil mixture for all plant material: 200 lb dehydrated raw manure and ten 5.5 cu. ft. bale of peat humus to 12 cu. yds. of on site furnished topsoil. Composed sludge in the amount of 4.0 cu. yds., may be substituted for the raw manure, peat moss or peat humus.
- All mixing shall be confined to the planting area and shall be accomplished to the satisfaction of the Engineer.

WETLAND PLANT ESTABLISHMENT

- Plant species required are normally unavailable from standard landscape nursery sources. The Contractor must make arrangements with competent wetlands restoration specialists to insure a supply of the required material.
- The Contractor and/or his subcontractor should be aware of the site design conditions and should take all prudent steps to insure that the plant material specified on the plans is acclimated to wetland conditions prior to delivery to the job site. If the plant material is available from sources where wetland conditions are duplicated at the nursery, the Contractor should favor these sources as the supplier.
- Fertilizer for wetland trees and shrubs shall be a 21 gr. tightly compressed, long lasting slow release (2 year) planting tablet with a minimum guaranteed analysis of 20-10-5.
- Fertilizer for container grown material shall apply the following rates:
1 gal. Container 1 ea. 21 gr. Tablets
3 gal. Container 2 ea. 21 gr. Tablets
5 gal. Container 3 ea. 21 gr. Tablets
7 gal. Container 5 ea. 21 gr. Tablets
- B&B or Container Stock shall be positioned in the planting hole. Backfill halfway up the root ball. Place tablet (s) beside the root ball approximately 1 inch from the root tips. Do not place tablets in the bottom of the hole. Complete backfill, tamp and water.

PLANTING SCHEDULE

It is recommended that planting be done early in the Spring.

PLANTING MATERIAL

- Rootstock of wetland plant material shall be kept moist during the transport from the source to the job site and until planted.
- Plant material shall be planted in the soil provided with each planting pit excavated to a size sufficient to contain the entire root stock or root mass without cramping.

LIMITS OF WORK

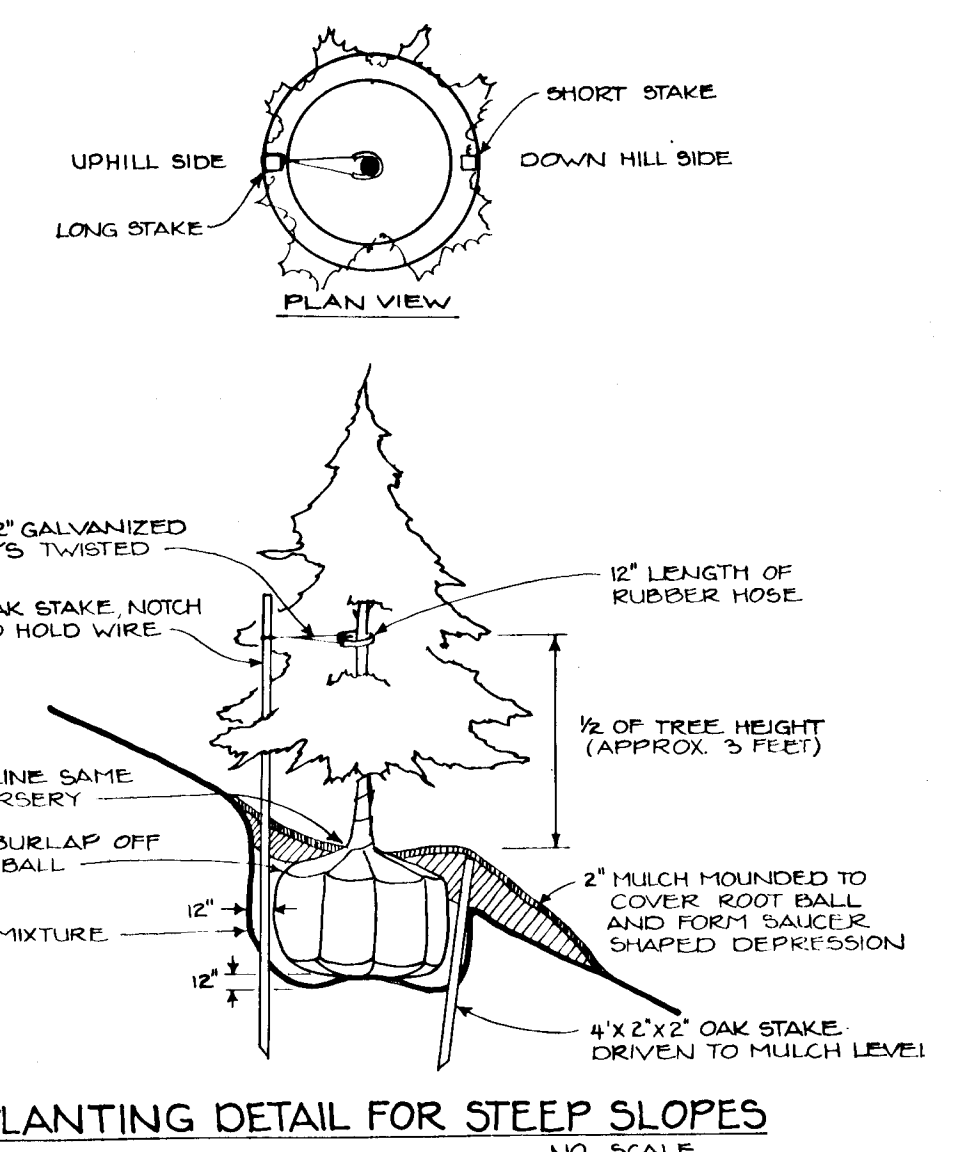
The construction procedure shall not damage wetlands outside of the grading limits or damage areas designated to be undisturbed on the plans that occur within the project limits. Any damage shall be restored by the Contractor at his expense and to the satisfaction of the Engineer.

PEST CONTROL

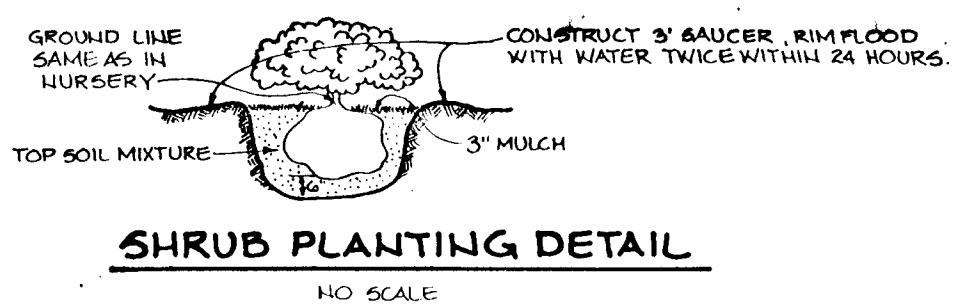
- All planted oak trees shall be protected from gypsy moth damage by using gypsy moth repellent tape or other suitable means after planting.

STABILIZATION PERMANENT SEEDING NOTES

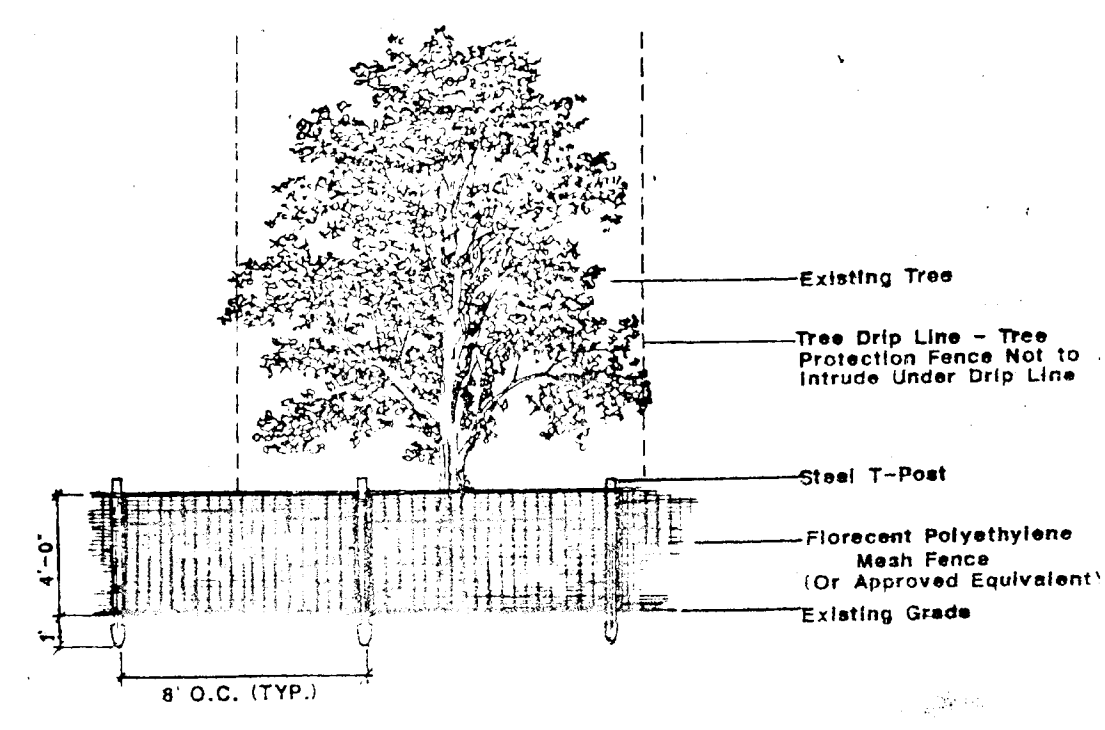
- Loosen upper three inches of soil by raking, discing, or other acceptable means if not previously loosened.
- Apply 2 tons/acre of dolomitic limestone (92 lbs./1000 sq. ft.) and 1000 lbs./acre of 10-10-10 fertilizer (23 lbs./1000 sq. ft.) before seeding. Harrow or disc into upper three inches of soil.
- Seeding: March 1 through April 30 and August 1 through October 15, seed with 60 lbs./acre of Kentucky 31 Tall Fescue and 2 lbs./acre of Weeping Lovegrass. During October 16 through February 28, use 2 tons/acre of well-anchored straw mulch and seed as soon as possible in the spring.
- Mulching: Apply 1-1/2 to 2 tons/acre of unrotted small grain straw immediately after seeding. Anchor mulch after application with an anchoring tool or 218 gallons/acre of emulsified asphalt on flat areas. On slopes 8 feet or higher use 348 gallons/acre.
- Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseedings.



PLANTING DETAIL FOR STEEP SLOPES
NO SCALE

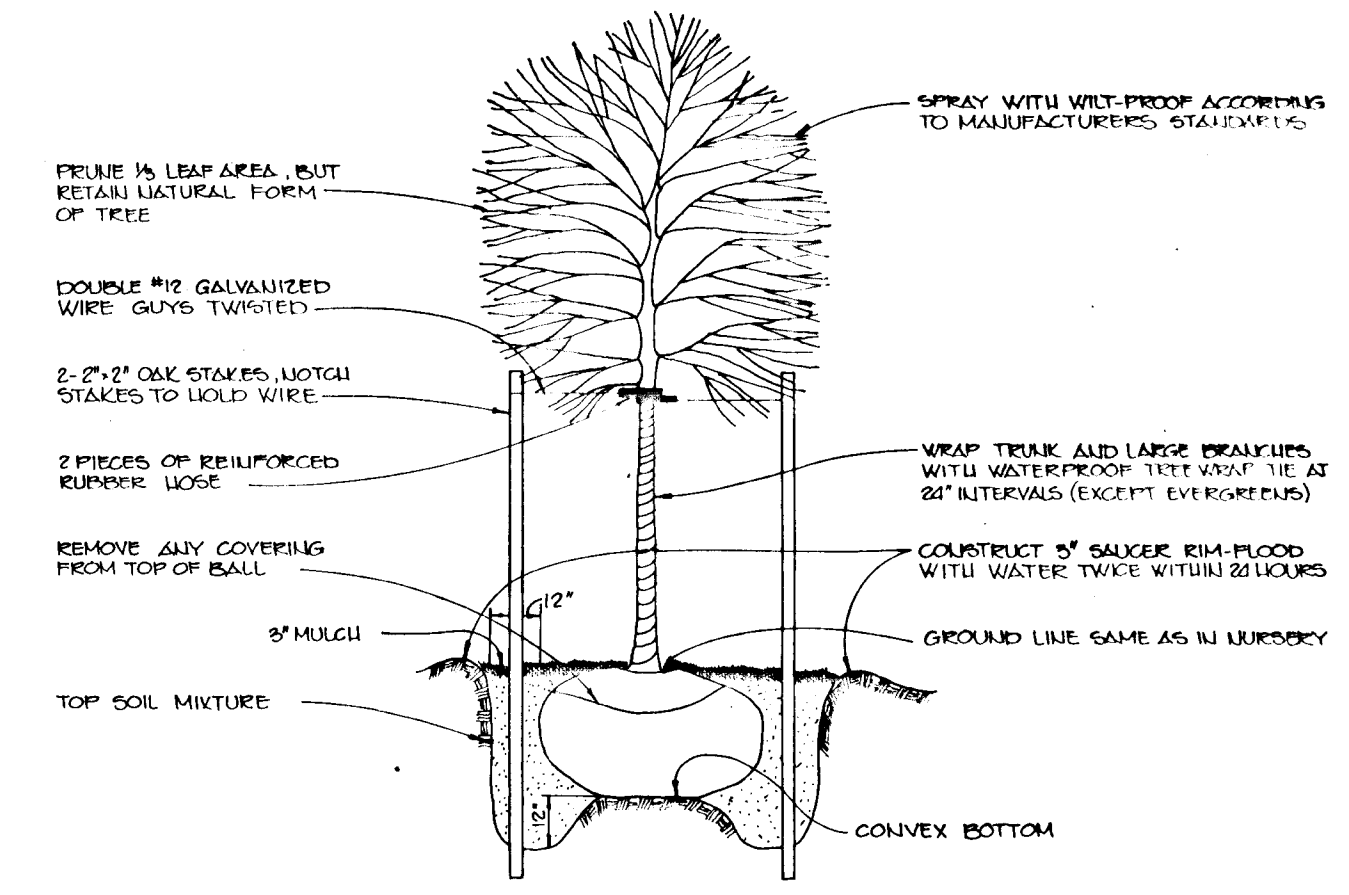


SHRUB PLANTING DETAIL
NO SCALE



Protective Tree Fencing

Elevation N.T.S.



TREE PLANTING DETAIL
NO SCALE

REFORESTATION PLANT LIST

QTY.	SYMBOL	NAME	SIZE	REMARKS
10	Po	PLATANUS OCCIDENTALIS American Sycamore	1 1/2" - 2" Cal. 8'-10' HT.	B&B Full Head
19	Ar	ACER RUBRUM Red Maple	1 1/2" - 2" Cal. 8'-10' HT.	B&B Full Head
16	Qa	QUERCUS ALBA White Oak	1 1/2" - 2" Cal. 8'-10' HT.	B&B Full Head
14	Fg	FAGUS GRANDIFOLIA American Beech	1 1/2" - 2" Cal. 8'-10' HT.	B&B Full Head
16	Qr	QUERCUS RUBRA Red Oak	1 1/2" - 2" Cal. 8'-10' HT.	B&B Full Head

AS BUILT CERTIFICATE

ARTHUR E. MUEGGE #8707 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Anna Holmuth 3/24/92
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

John D. ... 3/16/92
CHIEF, LAND DEVELOPMENT DIVISION

... 3/16/92
CHIEF, BUREAU OF HIGHWAYS

... 3-20-92
CHIEF, BUREAU OF ENGINEERING

DATE NO REVISION

OWNER, DEVELOPER
CHARLES F. KESTING
96 ROBERT J. RYANZEWSKI
1227 CARTLEY COURT
WOODMINE, MARYLAND 21707
(301) 442-1977

PROJECT: FORMERLY KESTING PROPERTY P-50-07
WORTHINGTON RESERVES
SECTION ONE LOTS 1-55

AREA TAX MAP NO. 21 ZONED R-20 PARCEL D
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: WETLANDS MITIGATION AND REFORESTATION PLAN

RIEMER MUEGGE & ASSOCIATES, INC.
A Land Planning, Engineering and Consulting Firm
8818 Centre Park Drive • Suite 200 • Columbia, Maryland 21045
410-997-8900 • FAX 410-997-9282

2-21-92 DATE
DESIGNED BY: RW, ZK
DRAWN BY: RW
PROJECT NO: 70800
DATE: JANUARY 21, 1992
SCALE: AS SHOWN
DRAWING NO. 13 OF 13

MELANIE MODER
LANDSCAPE ARCHITECT

1638