

# ROAD CONSTRUCTION, STORM DRAINAGE AND GRADING PLANS FOR COLUMBIA VILLAGE OF RIVER HILL PHASE I SECTION 2 AREA 2 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Charles J. Crovo* 6/30/93  
 CHIEF, LAND DEVELOPMENT DIVISION DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Ole M. Tamm* 6/28/93  
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Paul D. Jenson* 6/30/93  
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Thomas J. Honan* 7/7/93  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

ROAD	NAMES
① BRIGHT MEMORY DRIVE	⑨ JEWEL HAND CIRCLE
② GLORIOUS LIGHT PLACE	⑩ BEST TIMES PATH
③ GARDEN WALK	⑪ MELLOW WINE WAY
④ GARDEN WALK	⑫ LIQUID LAUGHTER LANE
⑤ GOLDEN SEEDS ROW	⑬ TENDER MIST MEWS
⑥ EMPTY SONG ROAD	⑭ RIPE APPLE LANE
⑦ MORNING LIGHT TRAIL	⑮ GRATEFULL HEART GATE
⑧ WAKING DREAMS KNOLL	⑯ EVENING COMPANY CIRCLE

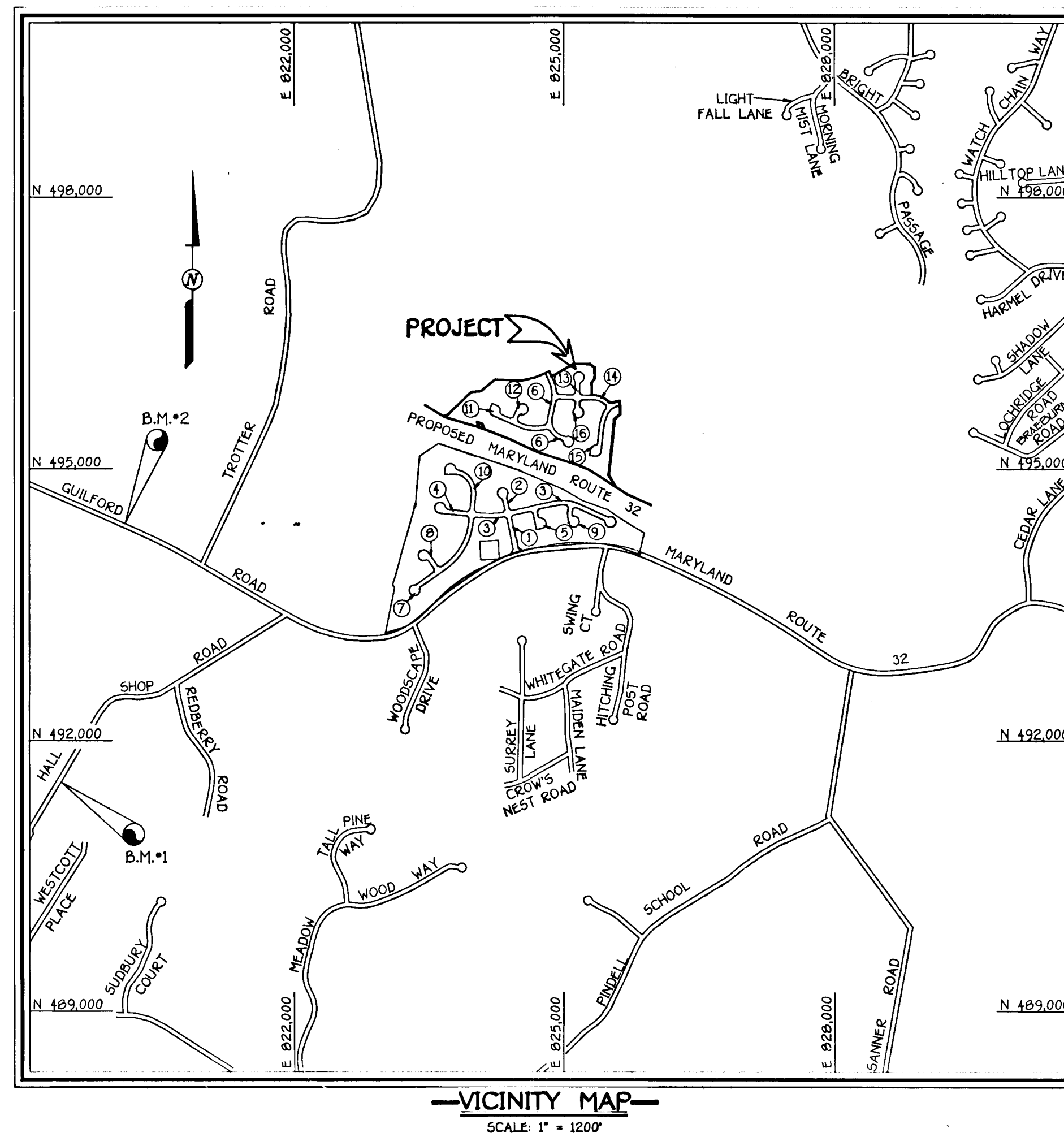
### BENCH MARKS

**B.M.#1** ELEV.=496.095  
 REINFORCING ROD, 3/4" 0.6' BELOW SURFACE KNOWN AS HOWARD COUNTY CONTROL STATION 2337001-R WHICH IS SHOWN ON THE VICINITY MAP AND HAS THE FOLLOWING NORTHING AND EASTING:  
 NORTH: 491612.385 EAST: 819527.789

**B.M.#2** ELEV.=472.122  
 CONCRETE MONUMENT 0.25' BELOW SURFACE KNOWN AS HOWARD COUNTY CONTROL STATION 2437003 WHICH IS SHOWN ON THE VICINITY MAP AND HAS THE FOLLOWING NORTHING AND EASTING:  
 NORTH: 494285.231 EAST: 820385.343

### SHEET INDEX

- (1) TITLE SHEET
- (2) EMPTY SONG ROAD-PLAN & PROFILE, RIPE APPLE LANE-PLAN, MELLOW WINE WAY-PLAN
- (3) MELLOW WINE WAY-PLAN & PROFILE, LIQUID LAUGHTER LANE-PLAN & PROFILE
- (4) RIPE APPLE LANE-PLAN & PROFILE, TENDER MIST MEWS-PLAN & PROFILE, EVENING COMPANY CIRCLE-PLAN & PROFILE
- (5) GRATEFULL HEART GATE-PLAN & PROFILE, RIPE APPLE LANE-PLAN & PROFILE
- (6) TYPICAL ROAD SECTION, NOTES & DETAILS
- (7) STORM DRAIN PROFILES
- (8) WATER QUALITY POND DETAILS AND STORM DRAIN PROFILES
- (9) SEDIMENT CONTROL NOTES AND DETAILS, WATER QUALITY POND NOTES, DETAILS AND TEMPORARY ACCESS ROAD PROFILE
- (10) DRAINAGE AREA MAP
- (11) STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
- (12) STREET TREE, GRADING AND SEDIMENT CONTROL PLAN

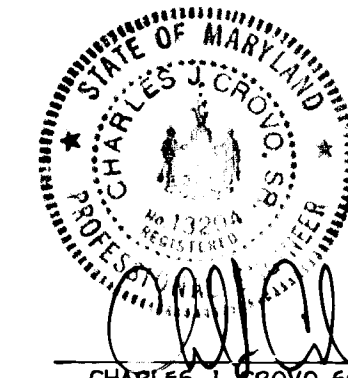


### GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF CONSTRUCTION INSPECTION AT (410) 792-7272 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
4. LOCATION: MIDWAY BETWEEN SWING COURT AND WOODSCAPE DRIVE ALONG ROUTE 32. TAX MAP: \*35 P/O PARCEL: 70
5. ZONING: NEW TOWN
6. TOTAL AREA OF LOTS: 17,200 AC.\*
7. TOTAL AREA OF ROADS: 5,021 AC.\*
8. TOTAL NUMBER OF CREDITED OPEN SPACE LOTS: 1
9. TOTAL NUMBER OF NON-CREDITED OPEN SPACE LOTS: 1
10. OPEN SPACE - CREDITED: 8,401 AC.\*
11. OPEN SPACE -NON-CREDITED: 0,050 AC.\*
12. TOTAL AREA OF SUBMISSION: 30,762 AC.\*
13. TOTAL NUMBER OF LOTS: 109 BUILDBLE  
 2 OPEN SPACE
14. PRELIMINARY PLAN FILE NUMBER 92-15 APPROVED ON FEBRUARY 10, 1993.
15. THIS PLAN IS SUBJECT TO WAIVER WP 92-13 DATED SEPTEMBER 4, 1991 WHICH APPROVED THE FOLLOWING:  
 a) WAIVE SECTION 16.113(c)(10) ALLOWING THE CREATION OF CUL-DE-SAC STREETS WITH LENGTHS IN EXCESS OF 1,200 FEET AND ANTICIPATED ADT'S IN EXCESS OF 1,000. THIS REQUEST WAS GRANTED FOR ROADS 00,MM,X,AA,BB,JJ,FF,LLL AND TT AS LABELLED ON SKETCH PLAN 5-91-03. (SEE NOTE No. 20 BELOW)
16. TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
17. TOPOGRAPHY SHOWN HEREON IS FROM AERIAL MAPS FLOWN IN 1989 BY MAPPING ASSOCIATES, INC.
18. LIGHT POLES AND FIXTURES FOR STREET LIGHTS SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY DESIGN MANUAL, VOLUME III, ROADS AND BRIDGES.
19. PUBLIC WATER AND PUBLIC SEWER SYSTEMS ARE TO BE UTILIZED FOR THIS SITE WHICH IS IN THE MIDDLE PATUXENT DRAINAGE AREA.
20. STORMWATER MANAGEMENT FOR THIS DEVELOPMENT ARE DETENTION FACILITIES, CREATED BY ROAD FILLS, WHICH WAS DESIGNED BY WHITMAN, REQUARDT & ASSOCIATES. WATER QUALITY IS PROVIDED BY EXTENDED DETENTION BASINS DESIGNED BY FISHER, COLLINS, & CARTER, INC.
21. THE PRELIMINARY 100-YEAR FLOODPLAIN STUDY HAS BEEN PREPARED BY WHITMAN, REQUARDT & ASSOCIATES APPROVED ON FEBRUARY 10, 1993.
22. WETLANDS DELINEATION IS PROVIDED BY GEO-TECHNOLOGY ASSOCIATES, INC. APPROVED ON FEBRUARY 10, 1993.
23. TRAFFIC STUDY WAS PREPARED BY GOROVE/SLADE ASSOCIATES APPROVED ON FEBRUARY 10, 1993.
24. NOISE STUDY WAS PREPARED BY POLYSONICS, INC. & STAIANO ENGINEERING INC. APPROVED ON FEBRUARY 10, 1993.
25. GEOTECHNICAL STUDY FOR STORMWATER MANAGEMENT IS PROVIDED BY THE ROBERT BALTER COMPANY APPROVED ON FEBRUARY 10, 1993.
26. BOUNDARY SURVEY WAS PREPARED BY KCI, INC.
27. FOR RUP-RAP SPECIFICATIONS AND DESIGN DATA, SEE DETAIL SHEET G.
28. AMENDMENT TO WAIVER WP-92-13 WERE APPROVED BY DPZ ON MAY 28 + JUNE 17, 1993 AND INCLUDED:  
 a) SECTION 16.134 REQUIREMENT TO EXTEND SIDEWALKS TO HALF WAY AROUND CUL-DE-SAC BULBS SO THAT SUCH SIDEWALKS EXTEND ONLY TO OPEN SPACE OPENINGS IF PROVIDED, OR TERMINATE AT NECK OF CUL-DE-SAC BULB.  
 b) SECTION 16.116 (a)(2)(3) REQUIREMENTS FOR WETLAND AND STREAM BUFFERS, SO THAT GRADING FOR PROPOSED WATER QUALITY FACILITIES AND DAM RECONSTRUCTION MAY OCCUR WITHIN THESE BUFFERS.
29. ALL RAMP TO BE IN ACCORDANCE WITH A.D.A. REQUIREMENTS.
30. WETLANDS ACTIVITY LETTER OF AUTHORIZATION ISSUED 7-6-93 BY MD DNR, 92-NF-0621/199267032

AS-BUILT

G. SCOTT SHANABERGER DATE  
 PROF. LS. # 10849  
 SHANABERGER & LANE  
 8725 14th Avenue Blvd.  
 Suite 104  
 ELlicott City, Maryland 21043



**OWNER AND DEVELOPER**  
 HOWARD RESEARCH AND DEVELOPMENT, CORP.  
 THE ROUSE BUILDING  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044



1487

EMPTY SONG ROAD  
Q CURVE DATA

STA. 4+08.08 TO STA. 6+77.91  
R=400.00'  
L=189.03'  
DELTA=27°04'37"  
TANGENT=96.31'  
CHD. BRG. & DIST.=5 11°01'05"E, 187.28'

EMPTY SONG ROAD  
Q CURVE DATA

STA. 9+08.33 TO STA. 10+05.46  
R=197.00'  
L=97.13'  
DELTA=28°15'00"  
TANGENT=49.57'  
CHD. BRG. & DIST.=5 01°22'30" E, 96.15'

EMPTY SONG ROAD  
Q CURVE DATA

STA. 10+05.46 TO STA. 12+20.07  
R=197.00'  
L=214.61'  
DELTA=62°25'00"  
TANGENT=119.35'  
CHD. BRG. & DIST.=5 46°42'30" E, 204.15'

RIPE APPLE LANE  
Q CURVE DATA

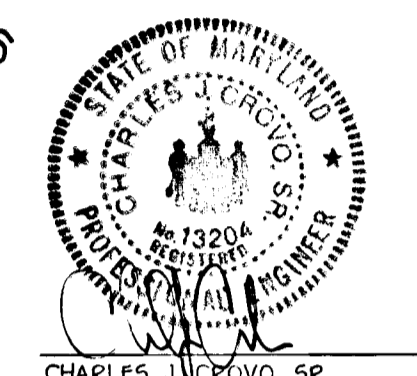
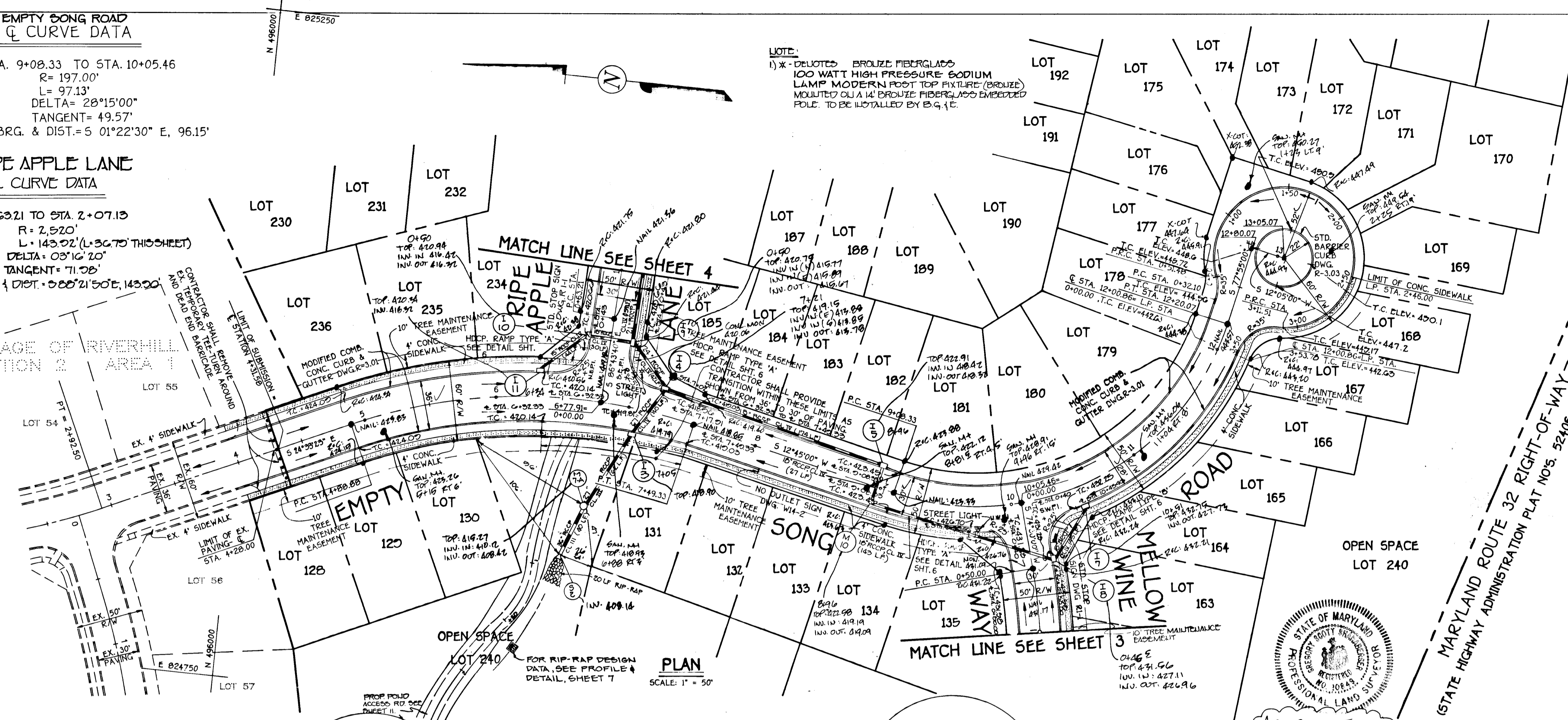
STA. 0+03.21 TO STA. 2+07.13  
R=2,520'  
L=143.02' (L. 36.75' THIS SHEET)  
DELTA=03°16'20"  
TANGENT=71.08'  
CHD. BRG. & DIST.=5 08°27'21" S, 143.90'

MELLOW WINE WAY  
Q CURVE DATA

STA. 0+50.00 TO STA. 3+46.44  
R=430.00'  
L=296.44' (L. 80.00' THIS SHEET)  
DELTA=39°30'00"  
TANGENT=154.39'  
CHD. BRG. & DIST.=N 85°45'00" W, 290.61'

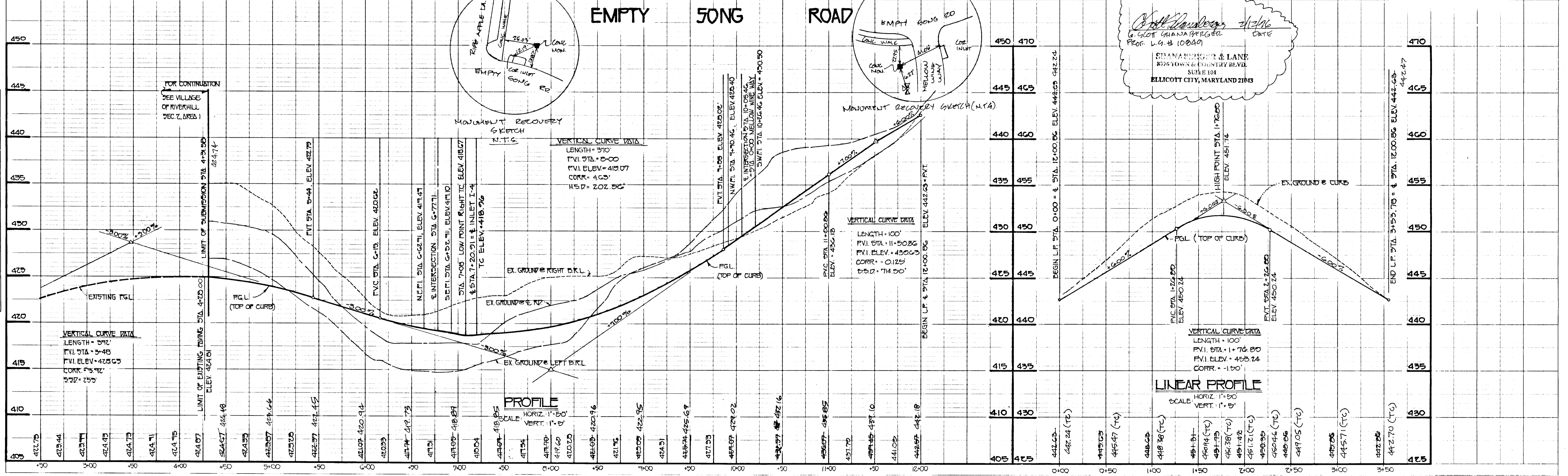
PLAN  
DATE: \_\_\_\_\_ BY: \_\_\_\_\_  
SURVEYED: \_\_\_\_\_  
ALIGNED: \_\_\_\_\_  
CHECKED: \_\_\_\_\_  
RT. OF WAY: \_\_\_\_\_

APPROVED  
DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 6/30/93  
CHIEF, DIVISION OF PUBLIC WORKS  
*[Signature]* 6/2/93  
CHIEF, BUREAU OF PUBLIC WORKS  
APPROVED  
DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 6/30/93  
CHIEF, DIVISION OF PUBLIC WORKS  
APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 7/7/93  
CHIEF, DIVISION OF PLANNING AND ZONING



VILLAGE OF RIVERHILL  
SECTION 2 AREA 2  
PHASE I  
LOTS 120-240 & 240-241  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
EMPTY SONG ROAD PLAN & PROFILE  
MELLOW WINE WAY PLAN  
RIPE APPLE LANE PLAN  
OWNER AND DEVELOPER  
HOWARD RESEARCH AND DEVELOPMENT, CORP.  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MARYLAND 21044  
SCALE: AS SHOWN DATE: 9/27/93 DWG. NO. 2 OF 12  
DES. R. ISAACS DRN. R. ISAACS CHK. C. KROVO, SR.  
FISHER, COLLINS, AND CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS AND LAND SURVEYORS  
9171 BALTIMORE NATIONAL PIKE, SUITE 100  
ELLICOTT CITY, MARYLAND 21043  
TEL: (410) 486-2855 FAX: (410) 550-3784

PROFILE  
DATE: \_\_\_\_\_ BY: \_\_\_\_\_  
SURVEYED: \_\_\_\_\_  
GRADES CHECKED: \_\_\_\_\_  
NOTE BOOK: \_\_\_\_\_  
NO. \_\_\_\_\_



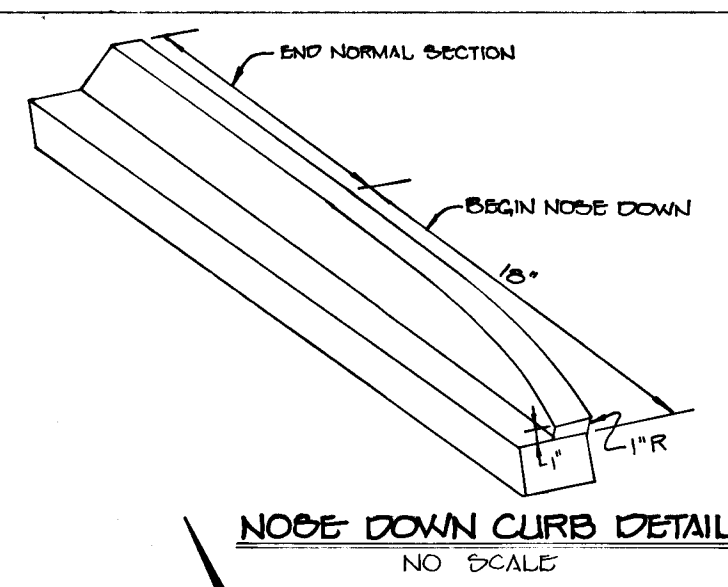
AS-BUILT  
*[Signature]* 2/2/96  
G. GLOTT (MANA) REGISTERED  
PROF. L.G. # 100000  
323 ANNE ARUNDEL LANE  
8026 TOWN & COUNTRY BLVD.  
SUITE 104  
ELLICOTT CITY, MARYLAND 21043



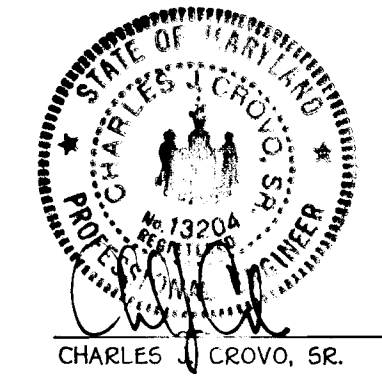
VILLAGE OF RIVERHILL  
SECTION 2 AREA 1

MELLOW WINE WAY  
Q CURVE DATA

STA. 0+50.00 TO STA. 3+46.44  
R = 430.00'  
L = 296.44' (L\* 24C. 44 THRU SHEET)  
DELTA = 39°30'00"  
TANGENT = 154.39'  
CHD. BRG. & DIST. = N 85°45'00" W, 290.61'



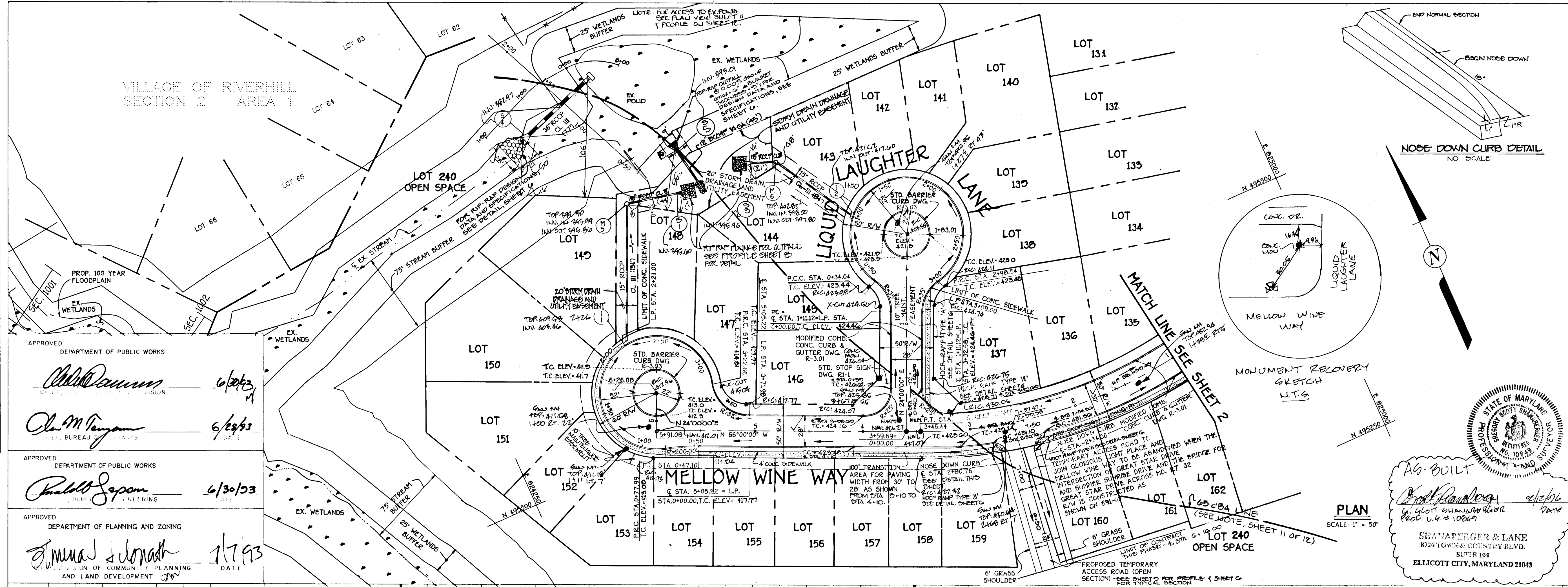
NOTE:  
1) \* - DELICIOUS BROUZE FIBERGLASS  
100 WATT HIGH PRESSURE  
SODIUM LAMP MODERN FOOT TOP  
FITTURE (BROUZE) MOUNTED ON A 14"  
BROUZE FIBERGLASS EMBEDDED POLE  
TO BE INSTALLED BY B.G. 1C.



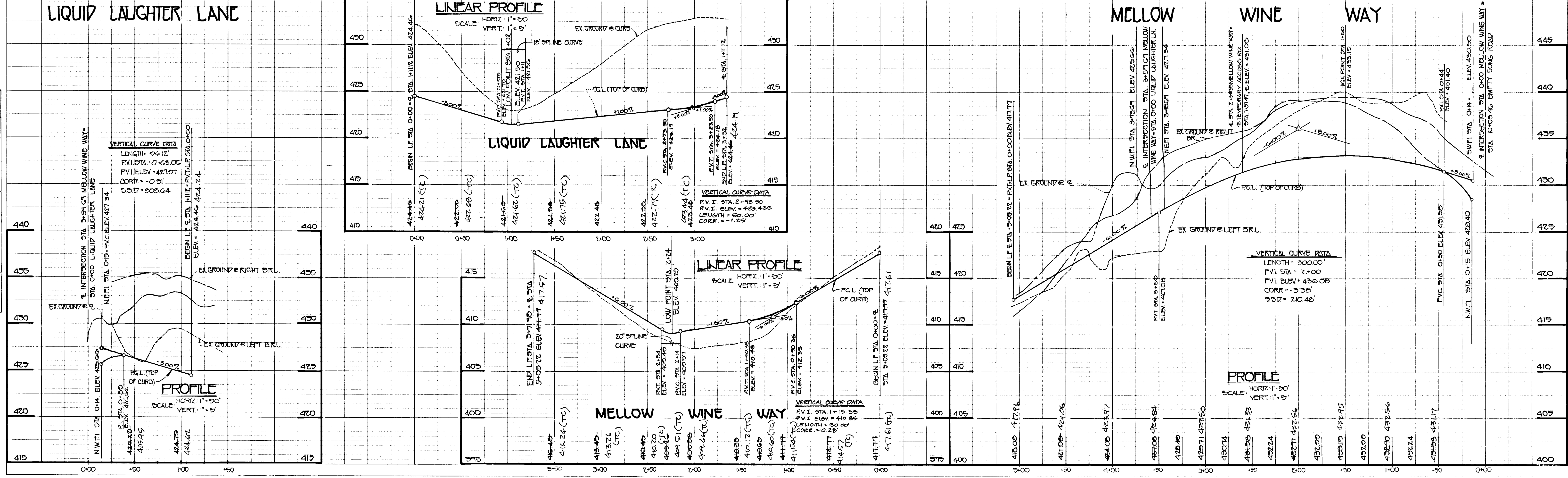
VILLAGE OF RIVER HILL  
SECTION 2 AREA 2  
PHASE 1  
LOTS 125-236 & 240-241  
3TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

**MELLOW WINE WAY  
AND  
LIQUID LAUGHTER LANE  
PLAN & PROFILE**  
OWNER AND DEVELOPER  
HOWARD RESEARCH AND DEVELOPMENT, CORP.  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MARYLAND 21044  
SCALE: AS SHOWN DATE: SEPT. 25, 1992 DWG. NO. 3 OF 12  
DES. R. ISAACS DRN. R. ISAACS CHK. C. CROVO, SR.  
**FISHER, COLLINS, AND CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS AND LAND SURVEYORS  
9171 BALTIMORE NATIONAL PIKE, SUITE 100  
ELICOTT CITY, MARYLAND 21042  
TEL: (410) 661-2855 FAX: (410) 750-3784

PLAN	DATE	BY
APPROVED	6/20/93	Charles Crovo, Sr.
APPROVED	6/23/93	Clayton M. Pennington
APPROVED	6/30/93	Charles Crovo, Sr.
APPROVED	1/7/93	Charles Crovo, Sr.



PROFILE	DATE	BY
APPROVED		
APPROVED		
APPROVED		



1487

AS-BUILT

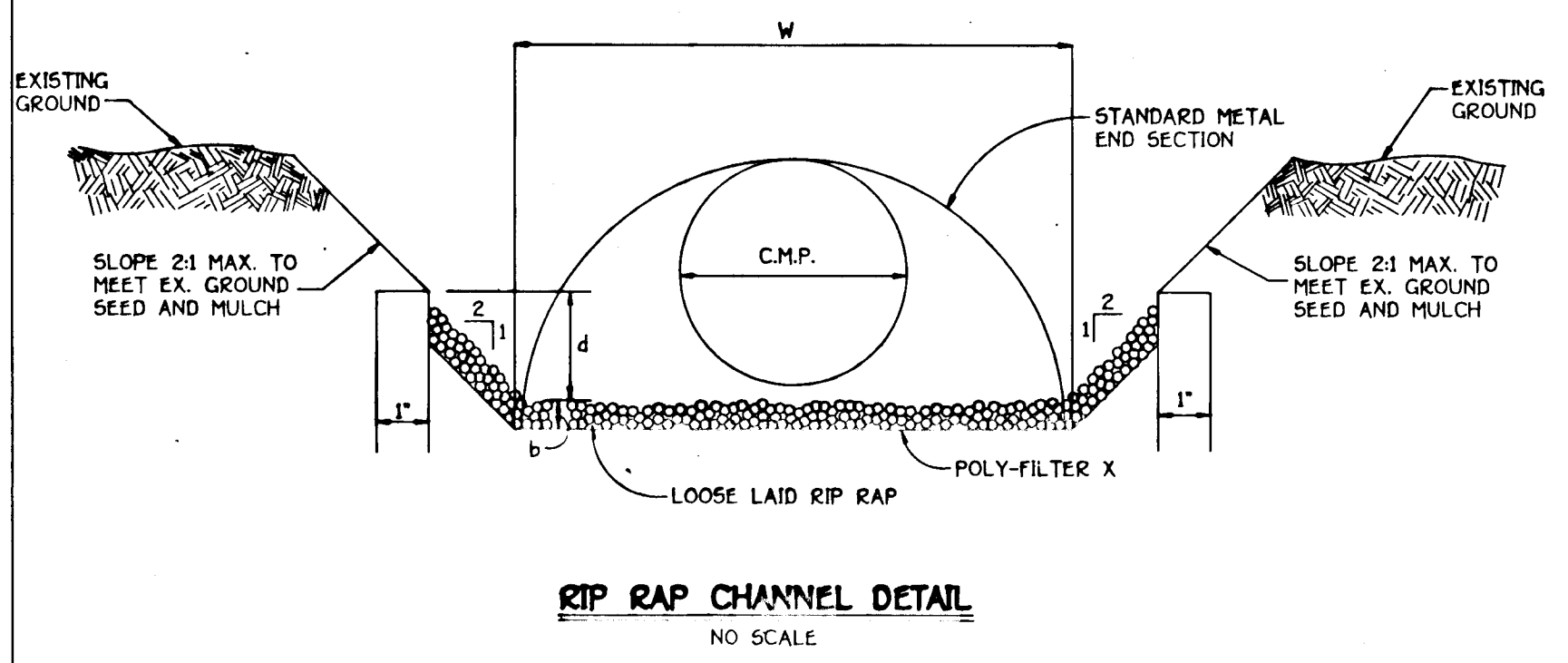
F 73-80











**RIP RAP CHANNEL DETAIL**  
NO SCALE

**CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS**

1. The subgrade for the filter, riprap or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
2. The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
3. Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
4. Stone for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

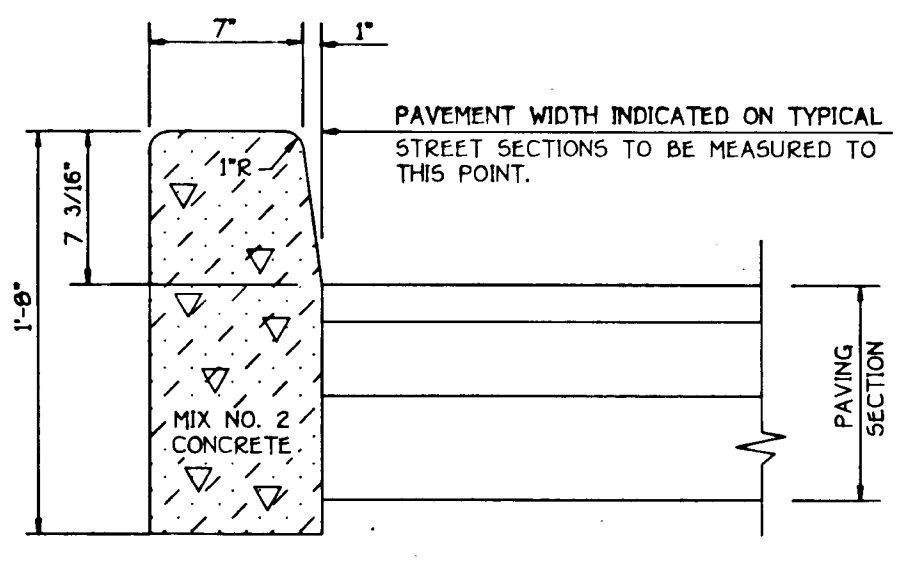
**RIP-RAP CHANNEL DESIGN DATA**

STRUCTURE	AREA sq.ft.	WETTED PERIMETER	R	R 2/3	S	S 1/2	W	d	N	V	Q	RIP-RAP SIZE	BLANKET THICKNESS	LENGTH
5-5	3.52	5.79	0.60B	0.71B	0.005	0.071	4'	0.8'	0.035	2.16	7.60	4" 6"	9"	6'
5-4	16.72	14.41	1.16B		0.005	0.071	7.25'	1.6'	0.035	3.35	54.25	9" 14"	20"	21'

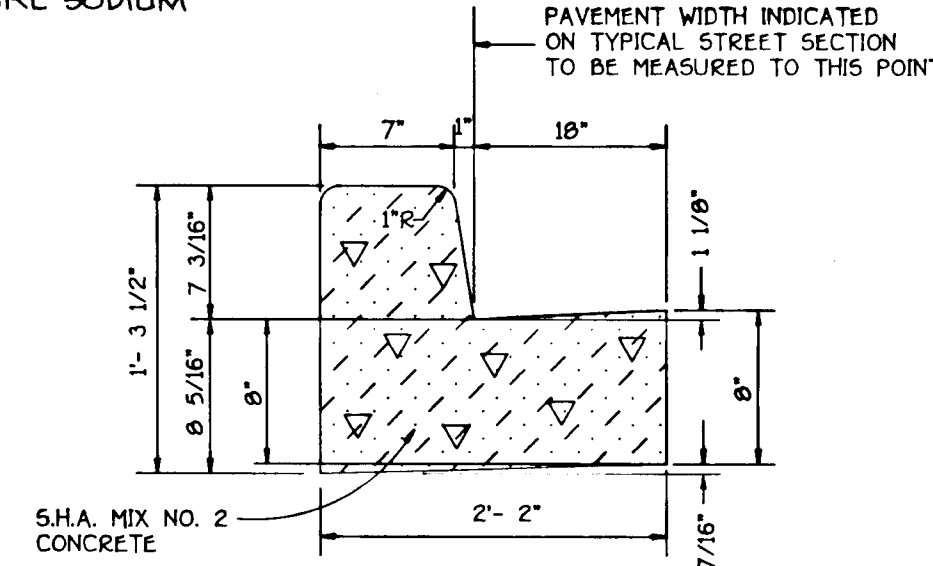
**STREET LIGHT LOCATION CHART**

ROAD NAME	% STATION	OFFSET	STREET LIGHT TYPE
EMPTY SONG ROAD	7+05	20 FT.	EXHIBIT 112-1-1000 WATT H.P.S. LAMP MODERN FOOT TOP FIXTURE (EXHIBIT) MOUNTED ON A 14" BRONZE FIBERGLASS CEMENTED POLE, TO BE INSTALLED BY D.G. (E.)
EMPTY SONG ROAD	7+75	15 FT.	
RIPE APPLE LANE	1+75.00	20 FT.	
MELLOW WINE WAY	5+18.50	15 FT.	
GRATEFUL HEART GATE	0+20.00	21 FT.	

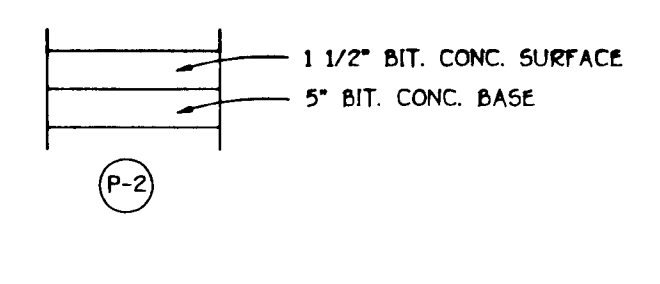
NOTE: H.P.S.-DENOTES HIGH PRESSURE SODIUM



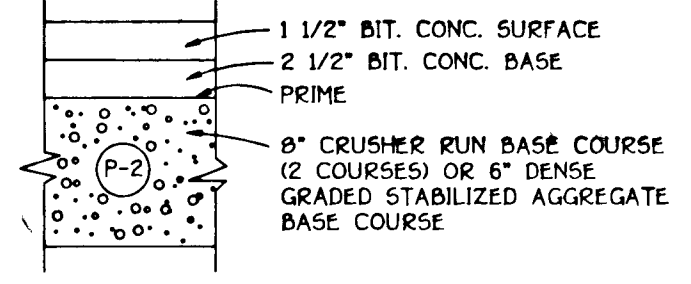
**STANDARD BARRIER CURB**  
NO SCALE  
HO CO DWG. R-303



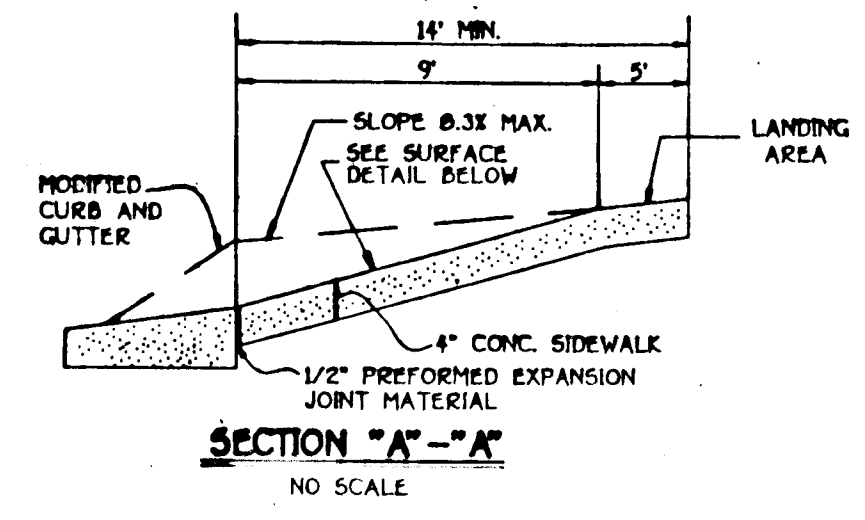
**STANDARD 7' COMB. CONC. CURB AND GUTTER**  
NO SCALE  
HO CO DWG. R-301



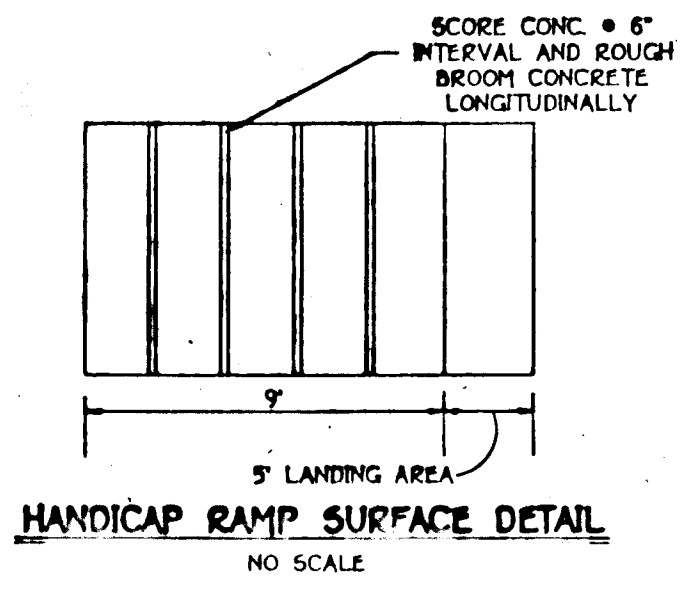
**PAVING SECTION P-2**  
NO SCALE  
HO CO DWG. R-201



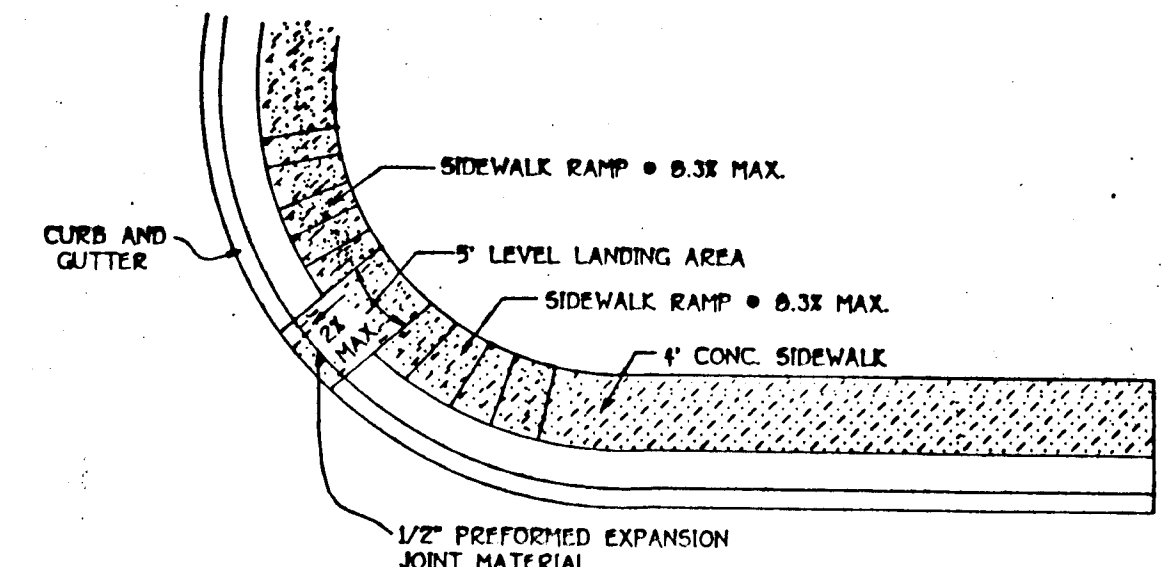
**PAVING SECTION P-3**  
NO SCALE  
HO CO DWG. R-201



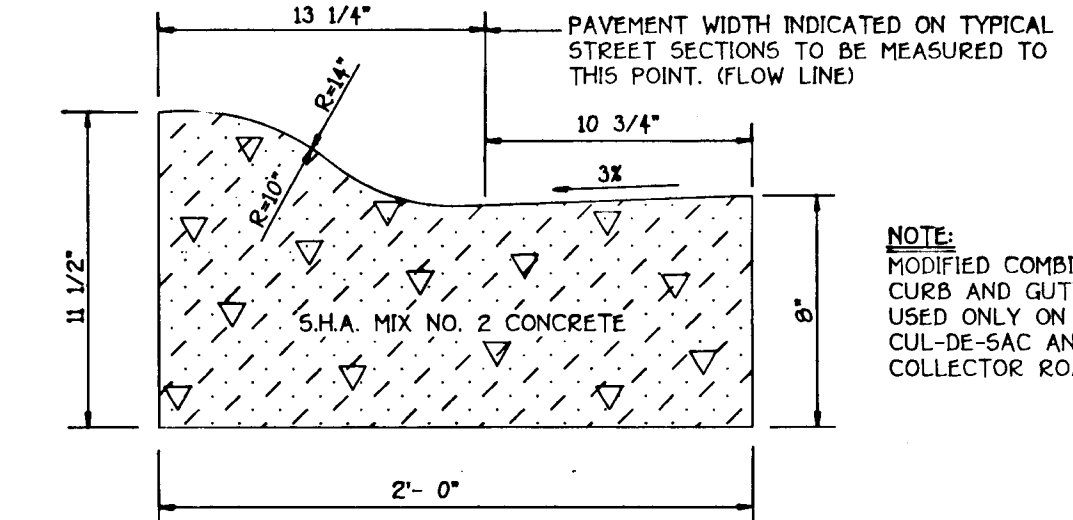
**SECTION "A"-A'**  
NO SCALE



**HANDICAP RAMP SURFACE DETAIL**  
NO SCALE

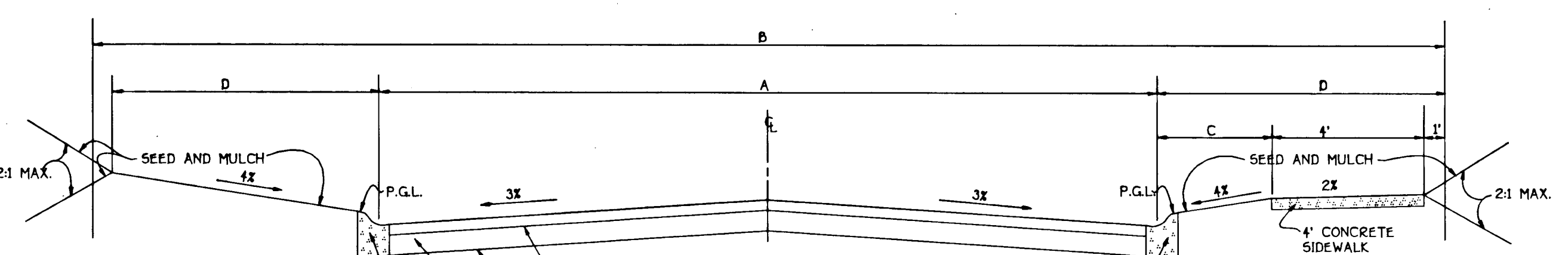


**TYPE "B" SIDEWALK RAMP**  
NO SCALE



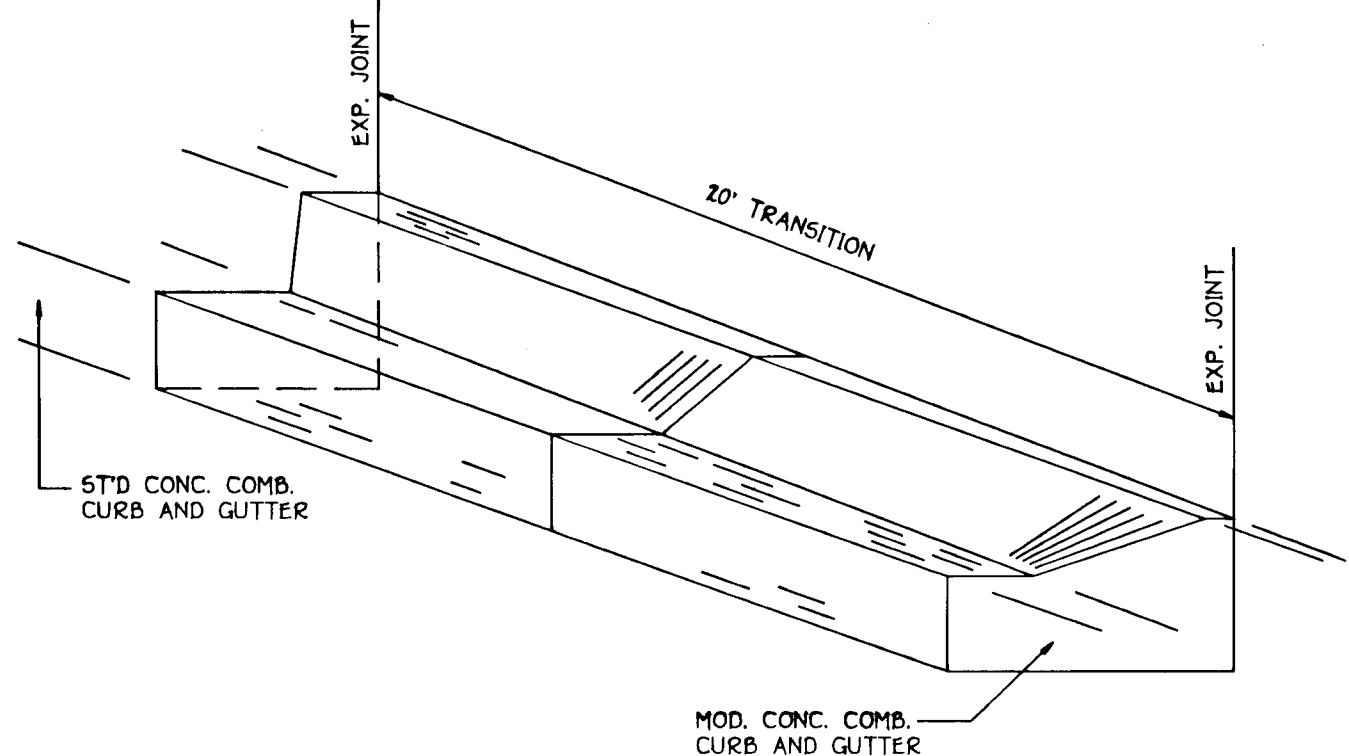
**MODIFIED COMBINATION CURB AND GUTTER**  
NO SCALE  
HO CO DWG. R-301

NOTE: MODIFIED COMBINATION CURB AND GUTTER TO BE USED ONLY ON LOCAL, CUL-DE-SAC AND MINOR COLLECTOR ROADS.

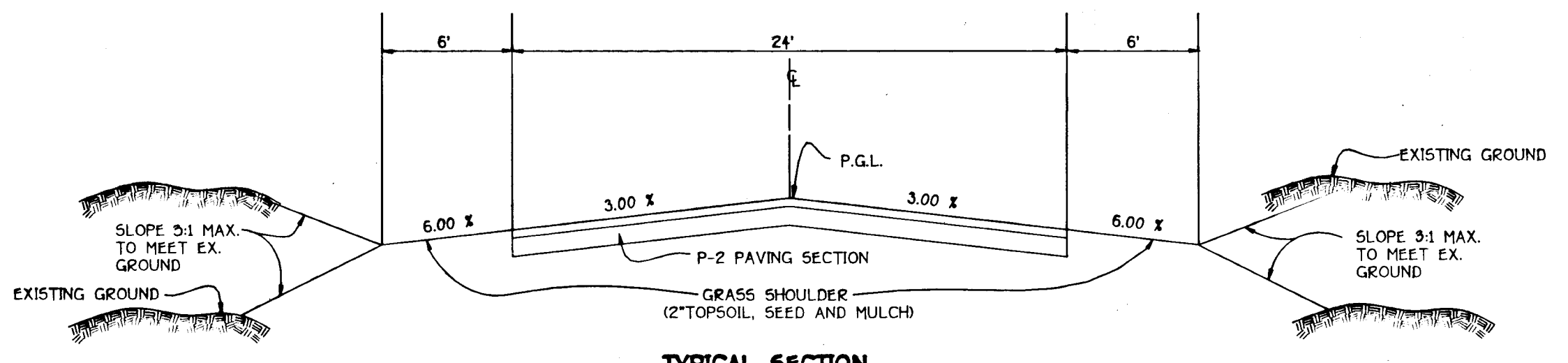


TACK COAT IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV.  
BASE WILL BE PRIMED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV.  
PAVING SECTION SHALL BE IN ACCORDANCE WITH SECTION NUMBER P-2 DWG. R-201  
NOTE:  
ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.

**TYPICAL ROADWAY SECTION**  
NO SCALE  
HO CO DWG. R-101 THRU R-105



**CURB TRANSITION DETAIL**  
NO SCALE  
HO CO DWG. R-302

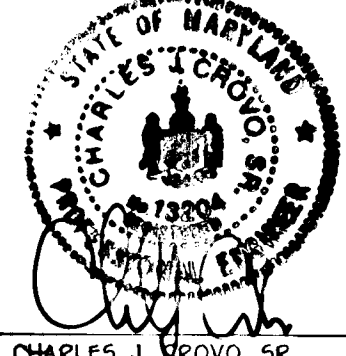


**TYPICAL SECTION TEMPORARY ACCESS ROAD**  
NO SCALE

**ROADWAY INFORMATION CHART**

ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	A	B	C	D	% STATION LIMITS	PAVING SECTION
EMPTY SONG ROAD	MINOR COLLECTOR	35 MPH	N.T.	36'	60'	7'	12'	4+31.58 TO 6+37.91	P-3
EMPTY SONG ROAD	LOCAL ROAD	30 MPH	N.T.	VARIABLES	VARIABLES	VARIABLES	VARIABLES	6+37.91 TO 7+49.33	P-2
EMPTY SONG ROAD	LOCAL ROAD	30 MPH	N.T.	30'	50'	5'	10'	7+49.33 TO 10+05.46	P-2
EMPTY SONG ROAD	CUL-DE-SAC	25 MPH	N.T.	20'	50'	6'	11'	10+05.46 TO 12+00.86	P-2
MELLOW WINE WAY	LOCAL ROAD	30 MPH	N.T.	30'	50'	5'	10'	0+00 TO 3+59.69	P-2
MELLOW WINE WAY	CUL-DE-SAC	25 MPH	N.T.	20'	50'	6'	11'	3+59.69 TO 5+05.22	P-2
LIQUID LAUGHTER LANE	CUL-DE-SAC	25 MPH	N.T.	20'	50'	6'	11'	0+00 TO 1+11.12	P-2
RIPE APPLE LANE	LOCAL ROAD	30 MPH	N.T.	30'	50'	5'	10'	0+00 TO 6+63.93	P-2
EVENING COMPANY CIRCLE	CUL-DE-SAC	25 MPH	N.T.	20'	50'	6'	11'	0+00 TO 0+88.23	P-2
TENDER MIST MEWS	CUL-DE-SAC	25 MPH	N.T.	20'	50'	6'	11'	0+00 TO 1+39.71	P-2
GRATEFUL HEART GATE	LOCAL ROAD	30 MPH	N.T.	30'	50'	5'	10'	0+00 TO 1+09.71	P-2
GRATEFUL HEART GATE	CUL-DE-SAC	25 MPH	N.T.	20'	50'	6'	11'	0+00 TO 4+34.87	P-2

TYPICAL ROAD SECTION,  
NOTES AND DETAILS  
**VILLAGE OF RIVER HILL**  
SECTION 2 AREA 2  
PHASE I  
LOTS 128-236 & 240-241  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
SEPTEMBER 25, 1992  
SHEET 6 OF 12

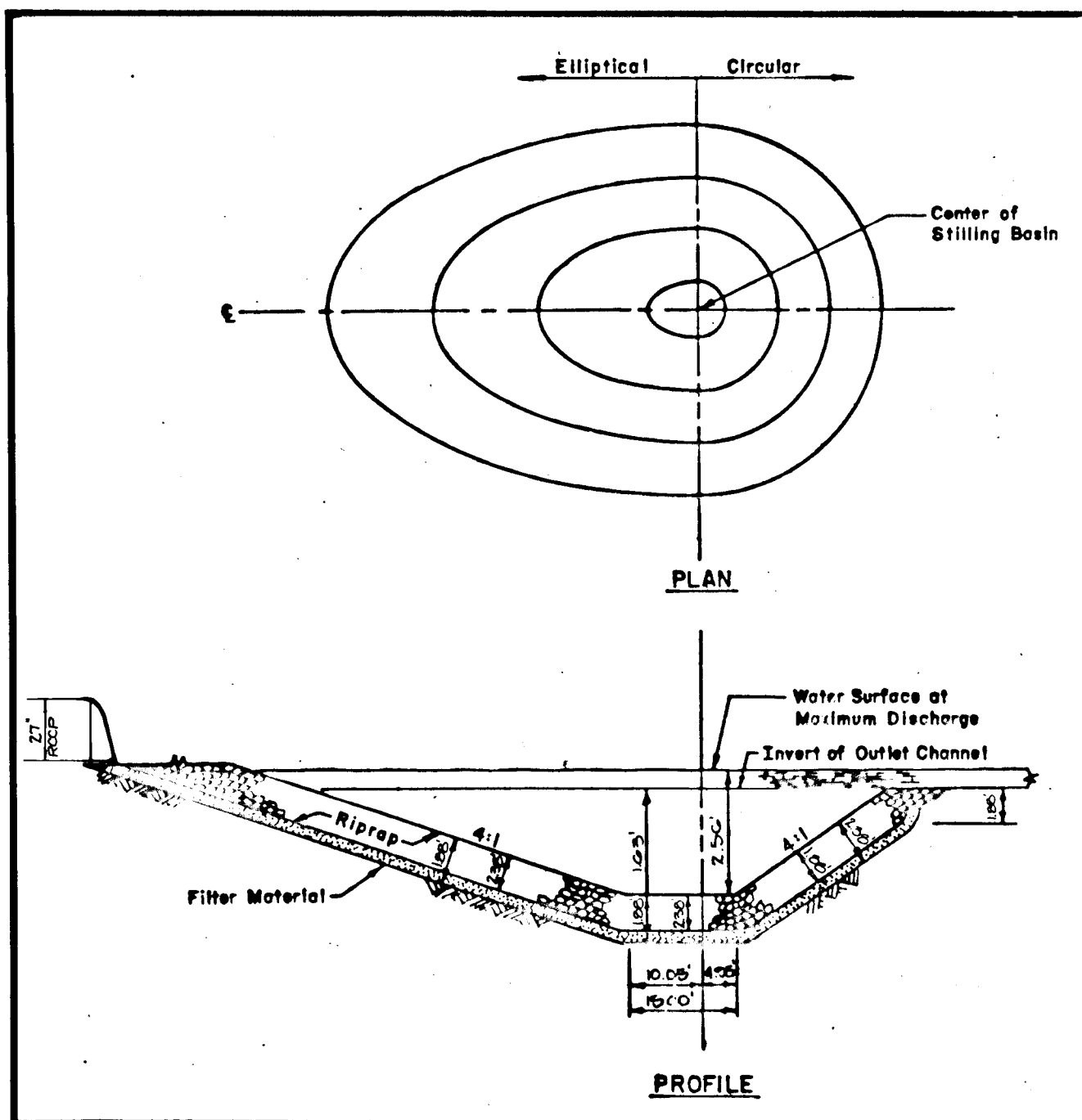


CHARLES J. GROVO, SR. DATE 11/19/92

OWNER AND DEVELOPER  
HOWARD RESEARCH AND DEVELOPMENT, CORP.  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MARYLAND 21044

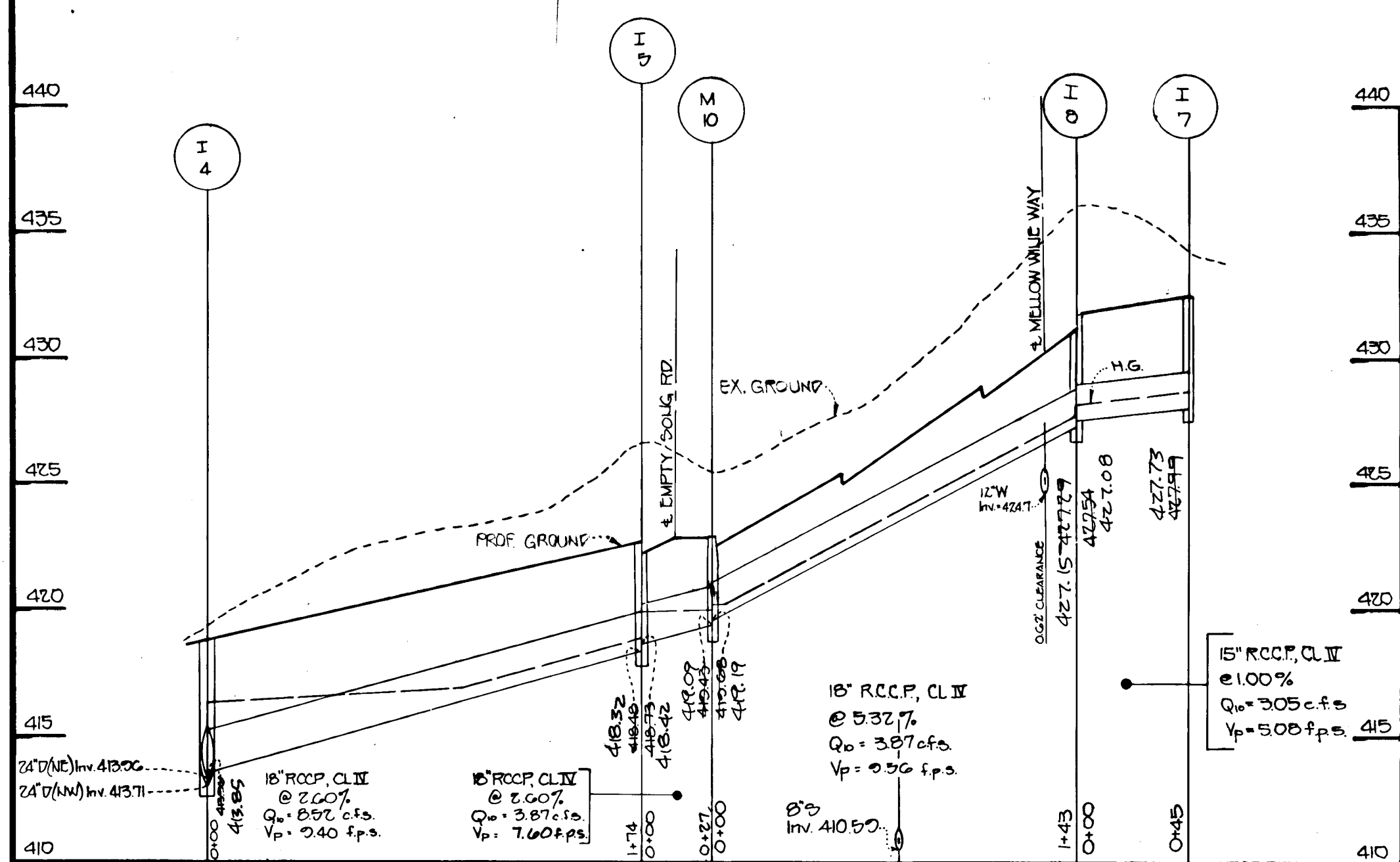
**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
9171 BALTIMORE NATIONAL PIKE, SUITE 100  
ELLICOTT CITY, MARYLAND 21042  
(410) 461-2855



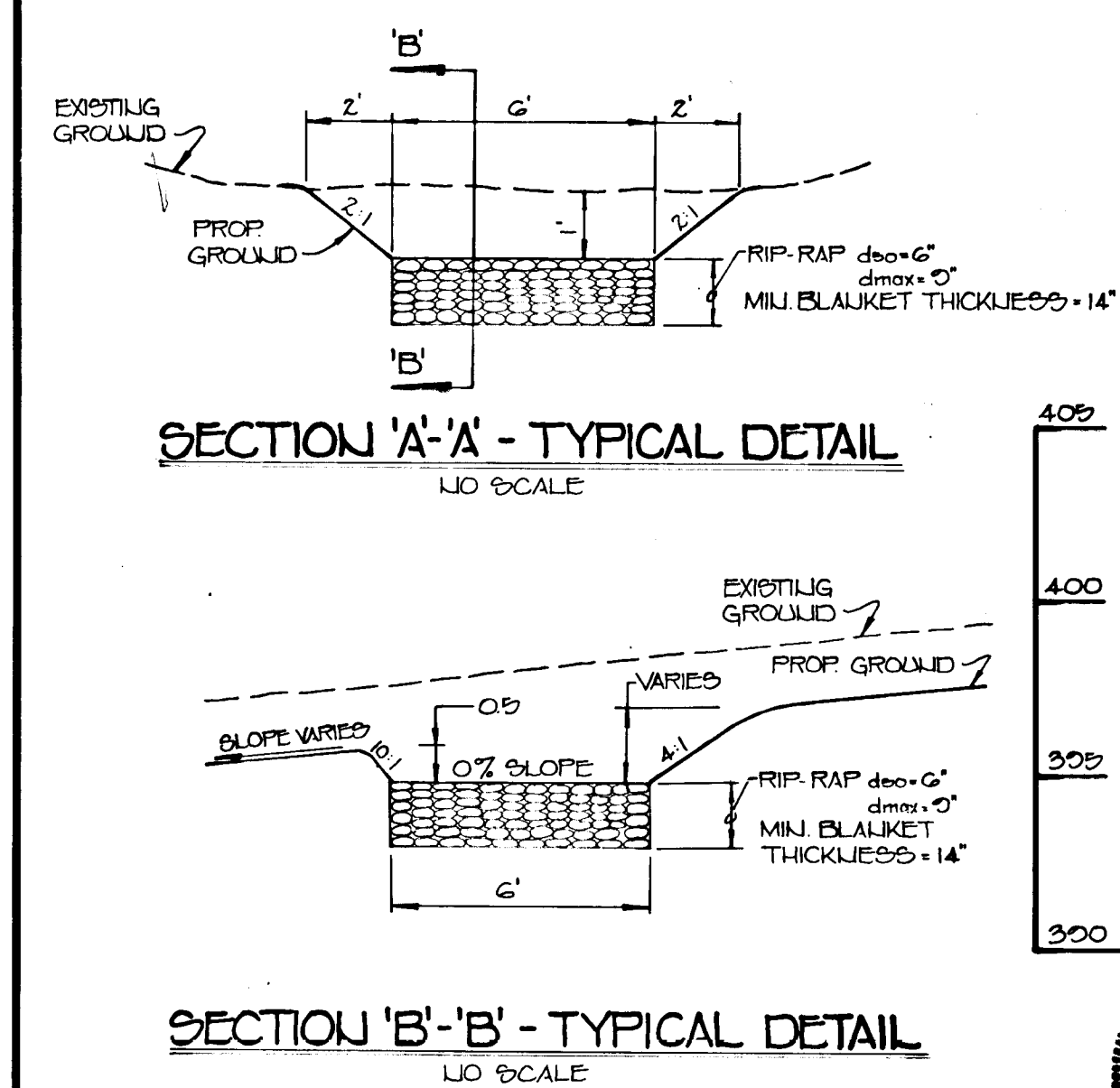


**STILLING BASIN FOR OUTLET**  
NO SCALE

NOTE: FOR STILLING BASIN NOTES & CONSTRUCTION SPECIFICATIONS, SEE HOWARD COUNTY DESIGN MANUAL VOLUME I, CHAPTER 7.



**PROFILES**  
HORIZ. 1" = 50'  
SCALE VERT. 1" = 5'



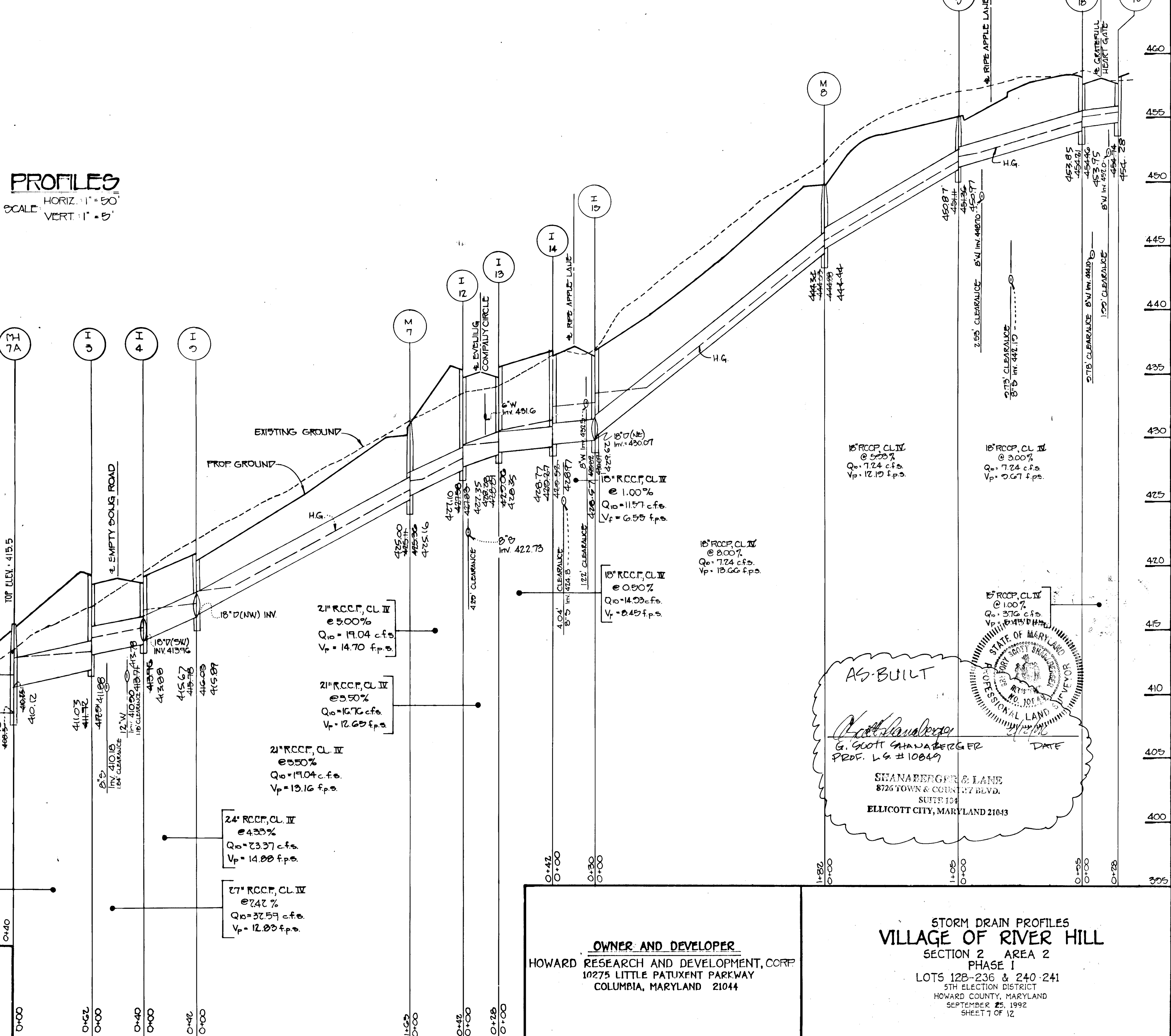
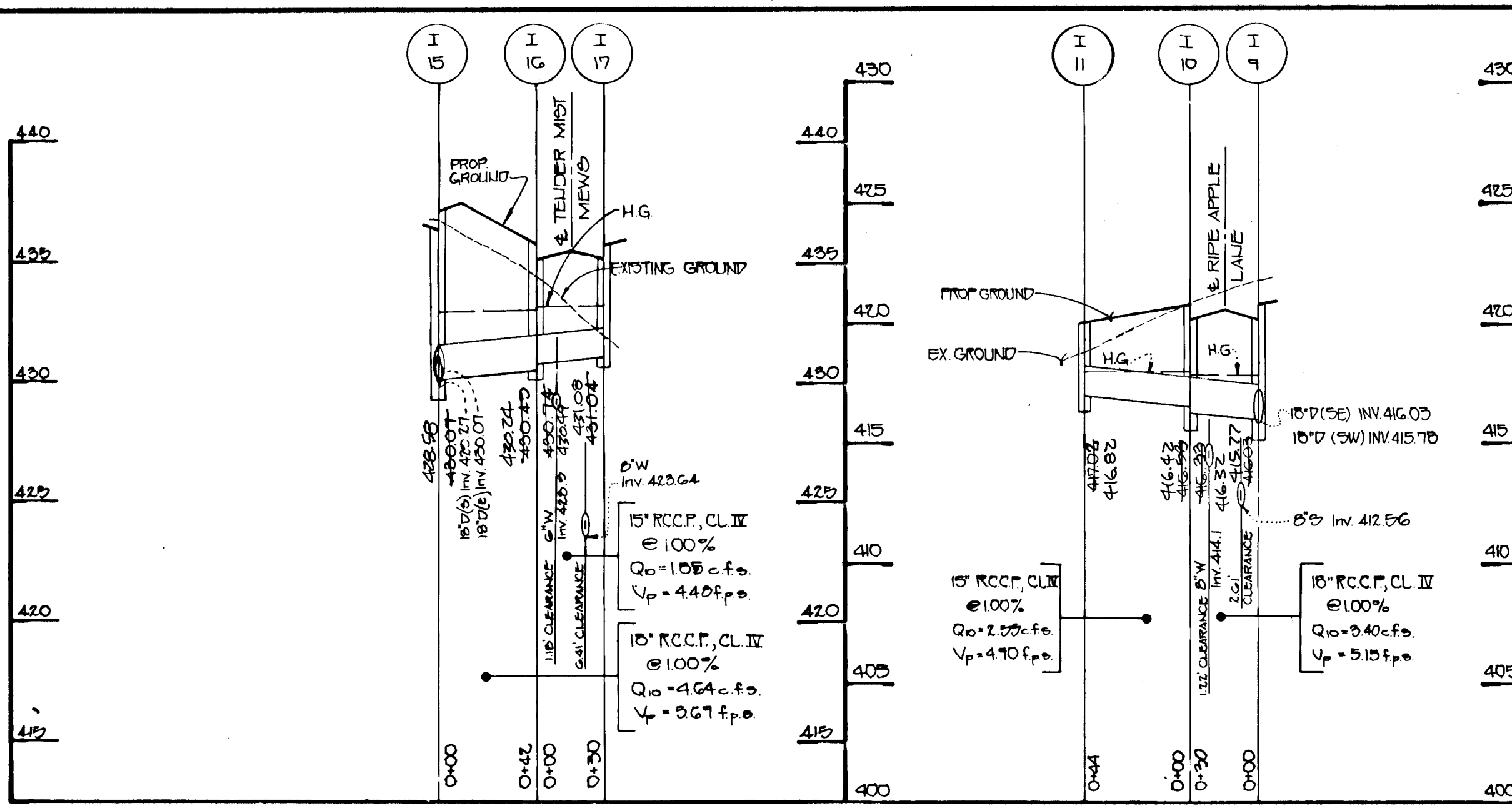
**WATER QUALITY ATTENUATION FACILITY**



FLICKER, COLLINS & CARTER, INC.

CIVIL ENGINEERING CONSULTANTS AND PROFESSIONALS  
WITH LICENSE NATIONAL FLOOD INSURANCE  
CLAIMS SERVICE CORPORATION  
1100 EAST WASHINGTON STREET  
ELICOTT CITY, MARYLAND 21043  
TELEPHONE (410) 786-3300  
FAX (410) 786-3724

NO.	DATE	REVISION
1	7-27-95	REMOVED STILLING BASIN @ 2-2



APPROVED: DEPARTMENT OF PUBLIC WORKS  
*John M. Longenecker* 6/25/93  
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Charles Williams* 6/22/93  
CHIEF, LAND DEVELOPMENT DIVISION DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*Paul D. Spon* 6/30/93  
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Elmira Halonath* 7/7/93  
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

AS-BUILT

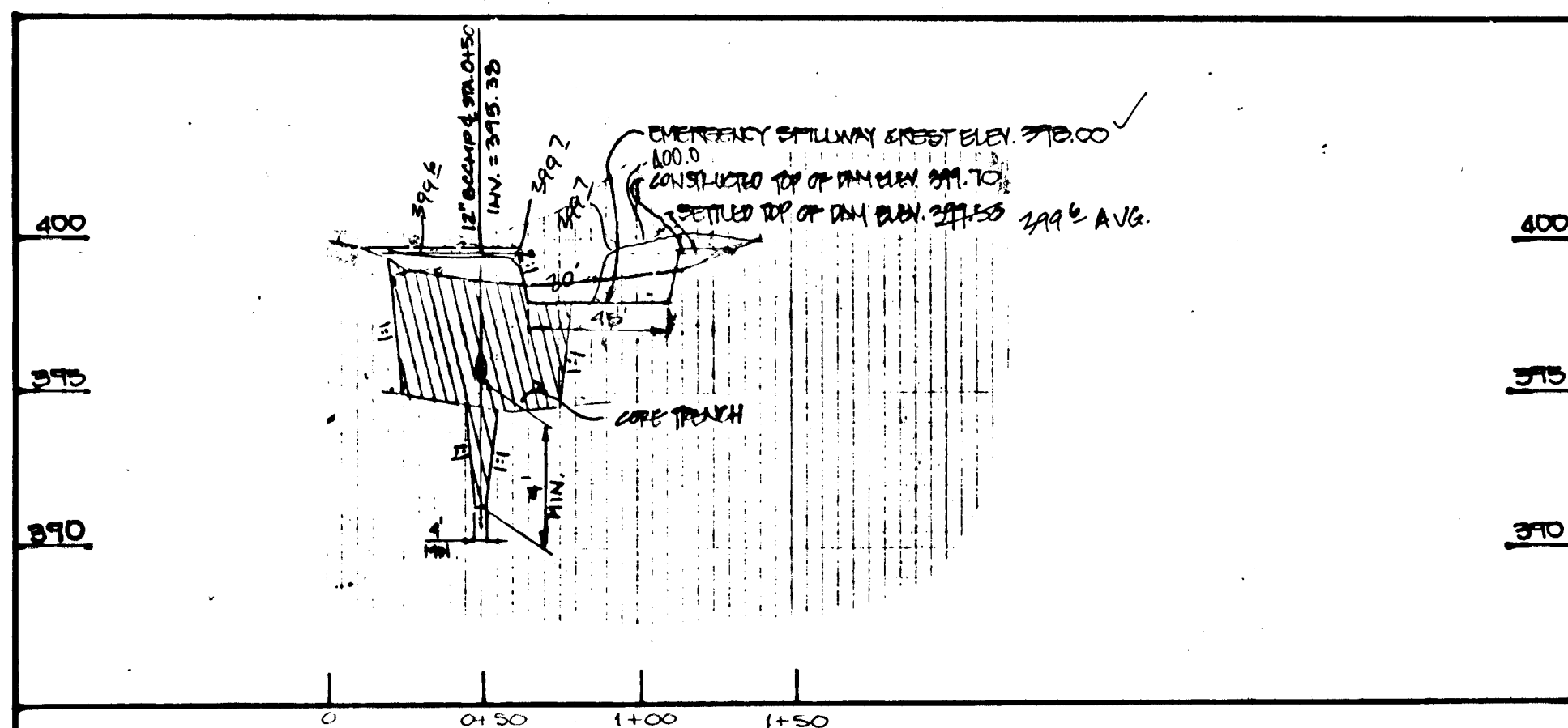
*Scott Anderson*  
G. SCOTT ANDERSON REGISTERED PROFESSIONAL ENGINEER  
PROF. L.S. # 10849

SEAN ANDERSON & LANE  
8726 TOWN & COUNTRY BLVD.  
SUITE 104  
ELICOTT CITY, MARYLAND 21043

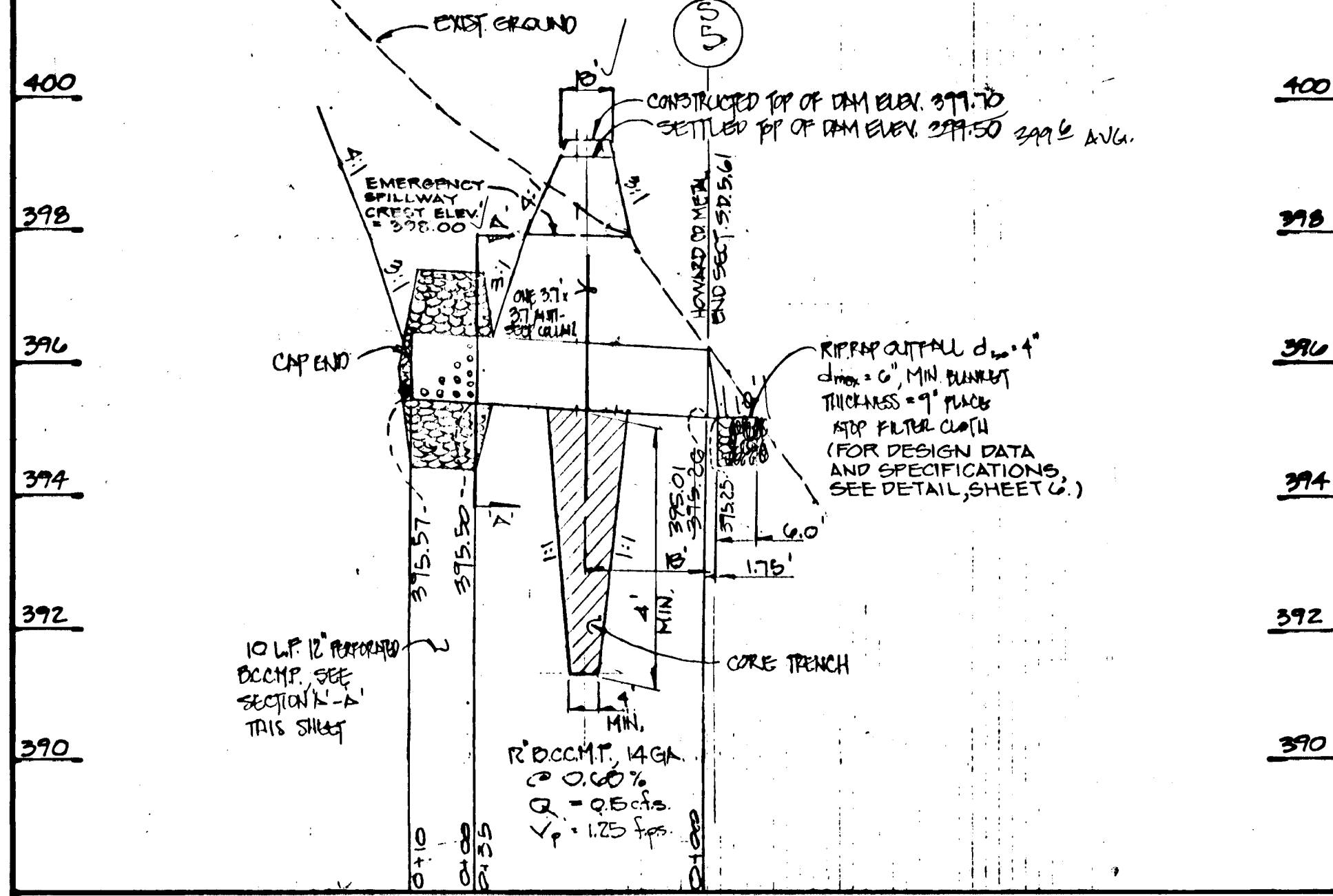
**OWNER AND DEVELOPER**  
HOWARD RESEARCH AND DEVELOPMENT, CORP.  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MARYLAND 21044

**STORM DRAIN PROFILES**  
**VILLAGE OF RIVER HILL**  
SECTION 2 AREA 2  
PHASE 1  
LOTS 128-236 & 240-241  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
SEPTEMBER 25, 1992  
SHEET 7 OF 12

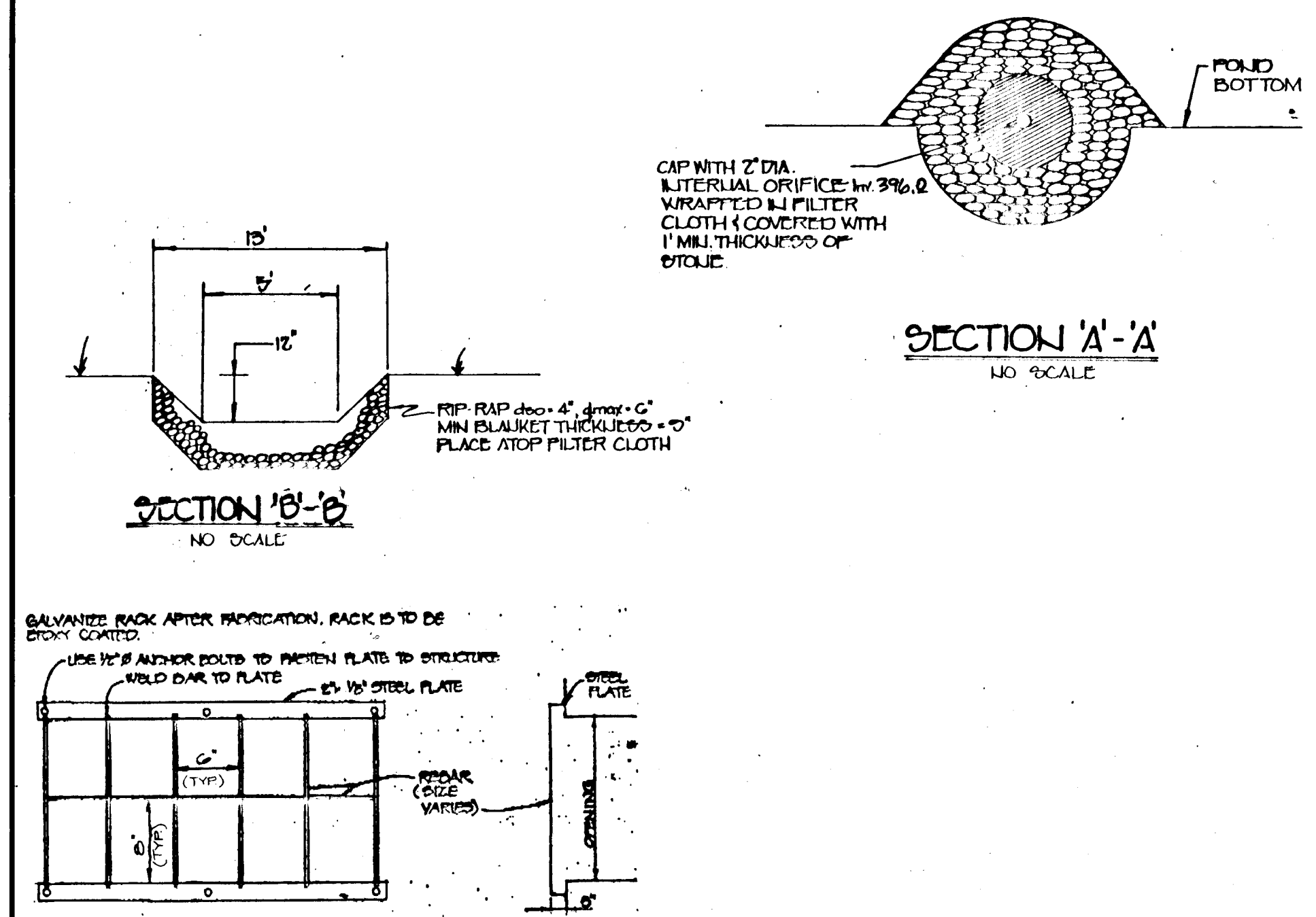
1487



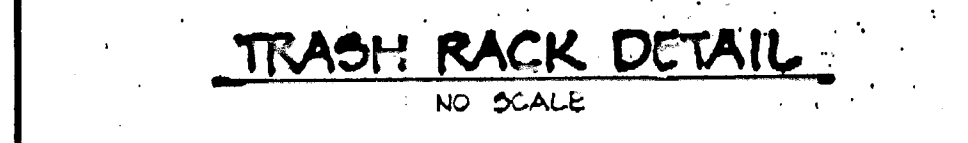
**TOP OF DAM PROFILE WATER QUALITY POND # 2**  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'



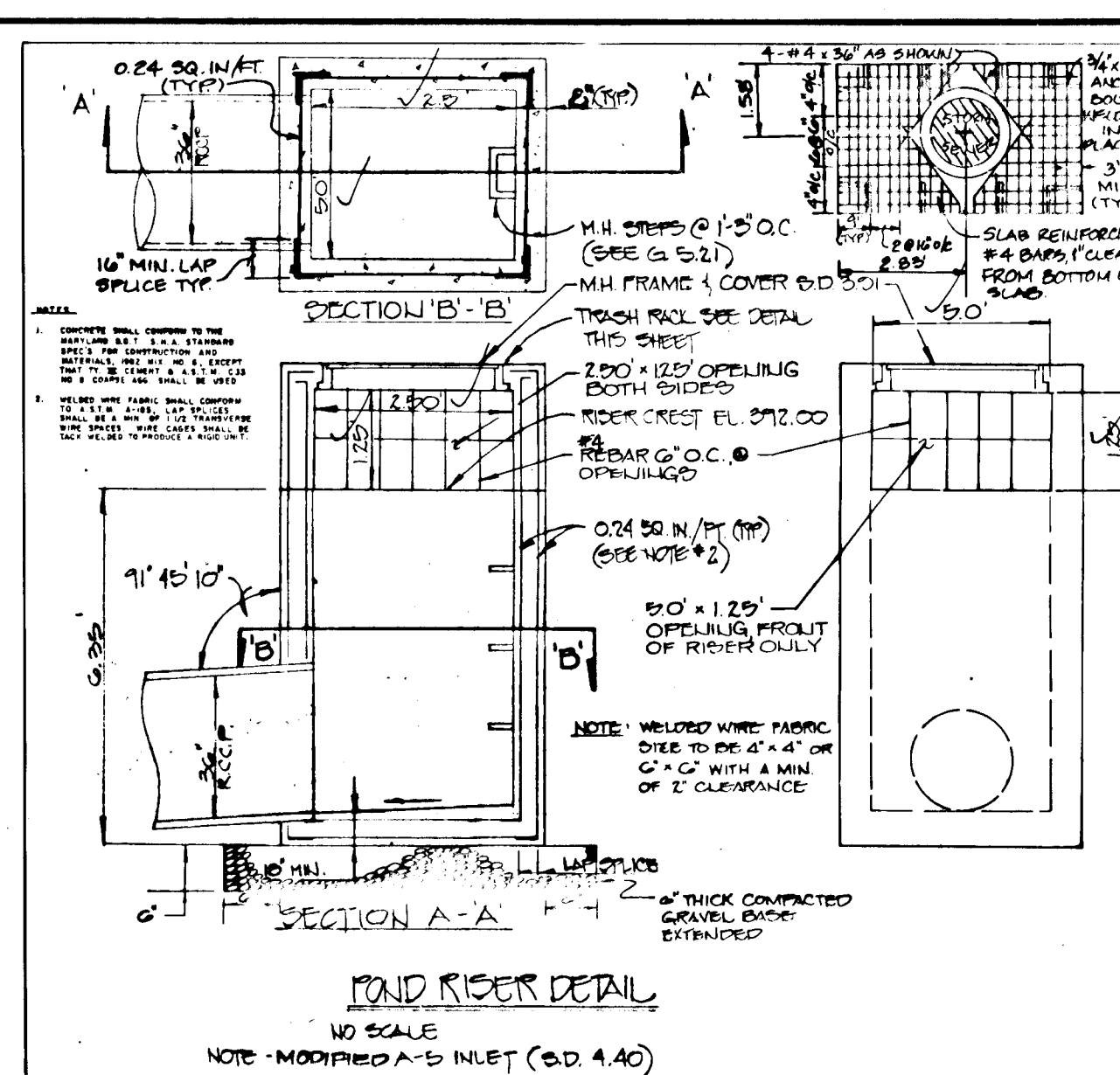
**PRINCIPAL SPILLWAY PROFILE WATER QUALITY POND # 2**  
SCALE: HORIZ. 1" = 20'  
VERT. 1" = 2'



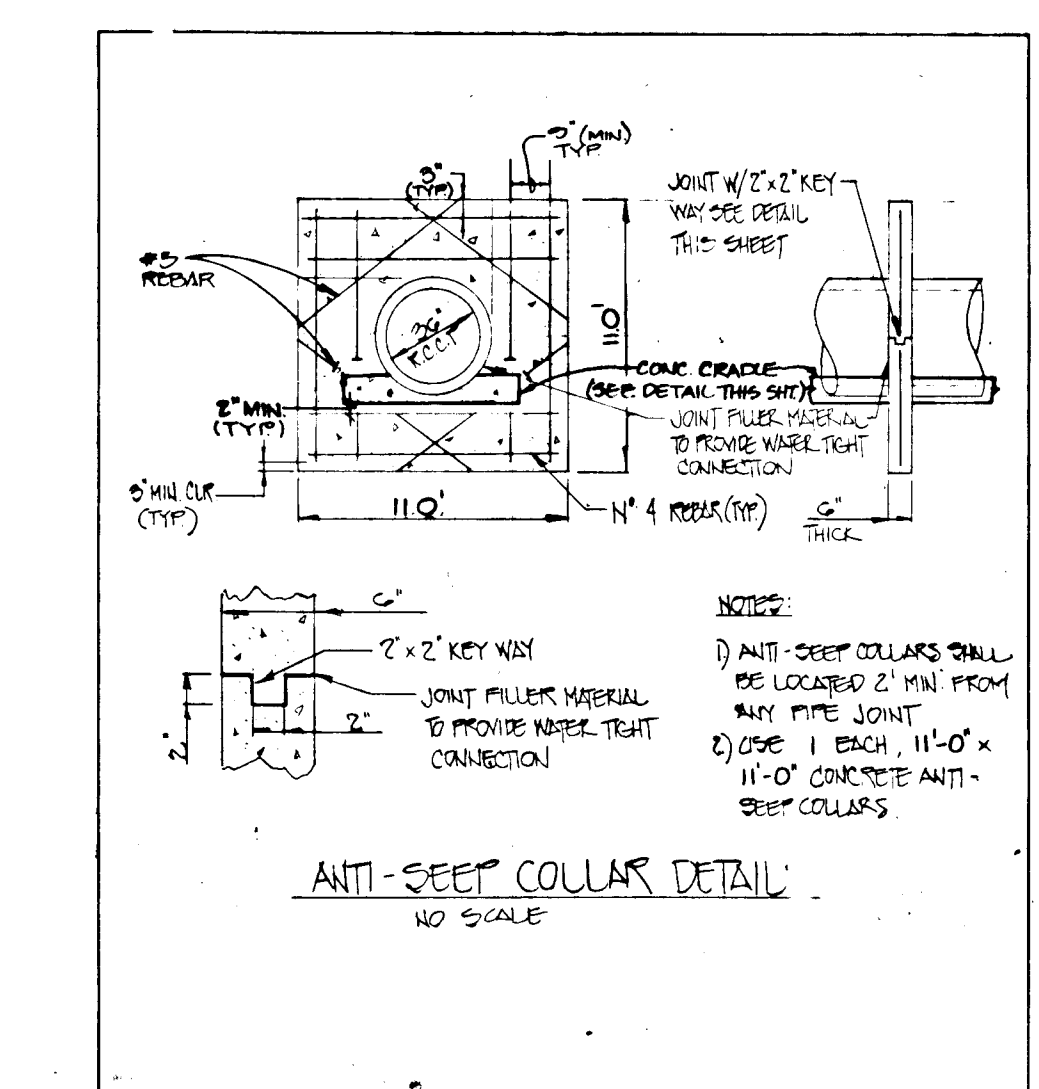
**SECTION 'A-A'**  
NO SCALE



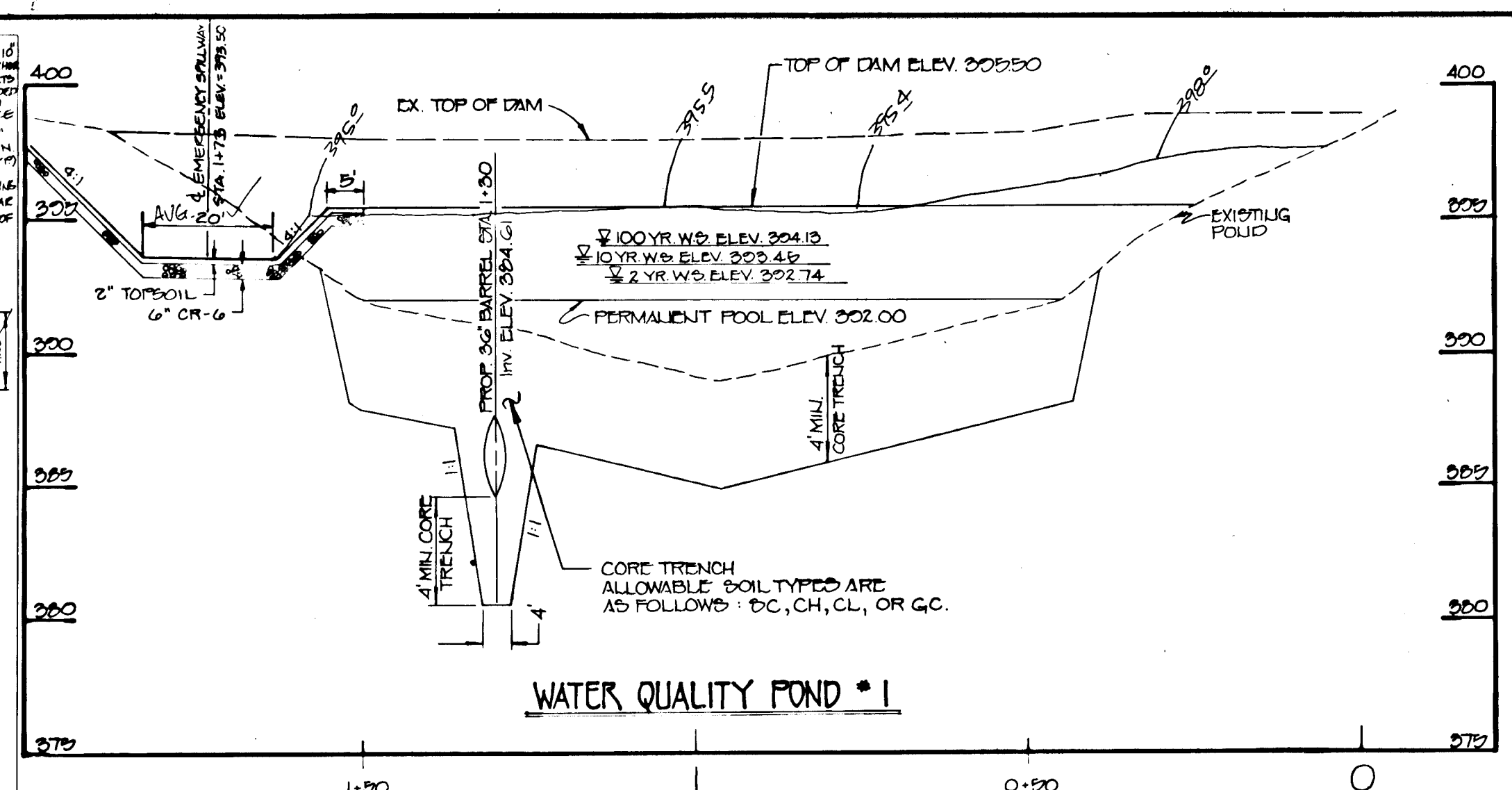
**TRASH RACK DETAIL**  
NO SCALE



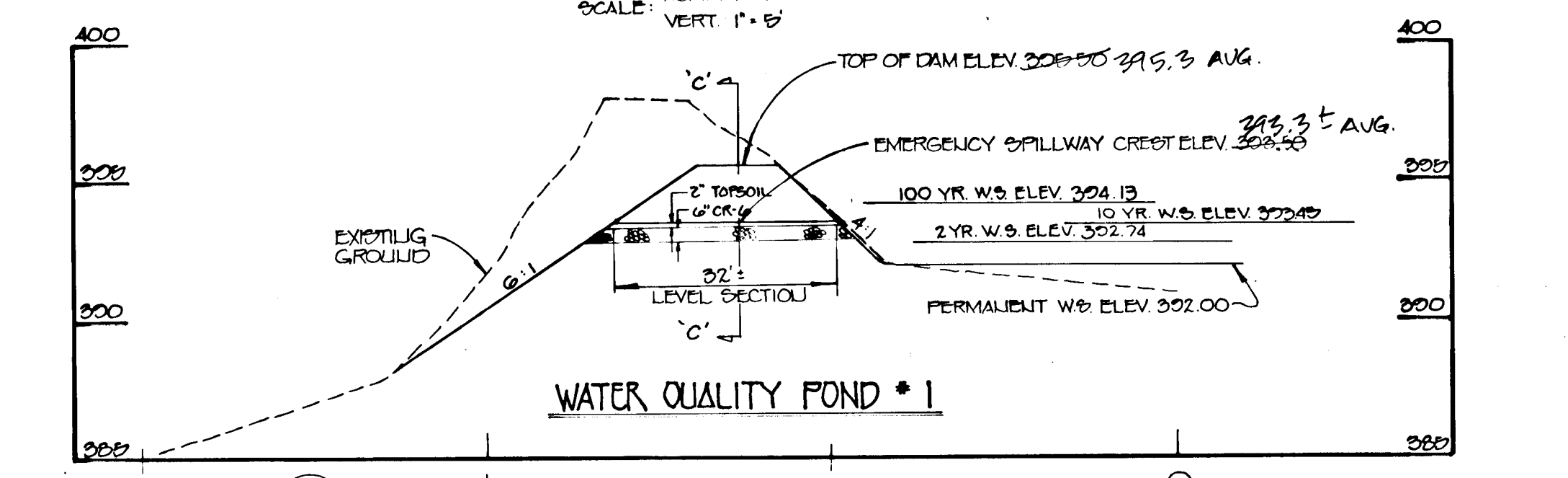
**POND RISER DETAIL**  
NO SCALE



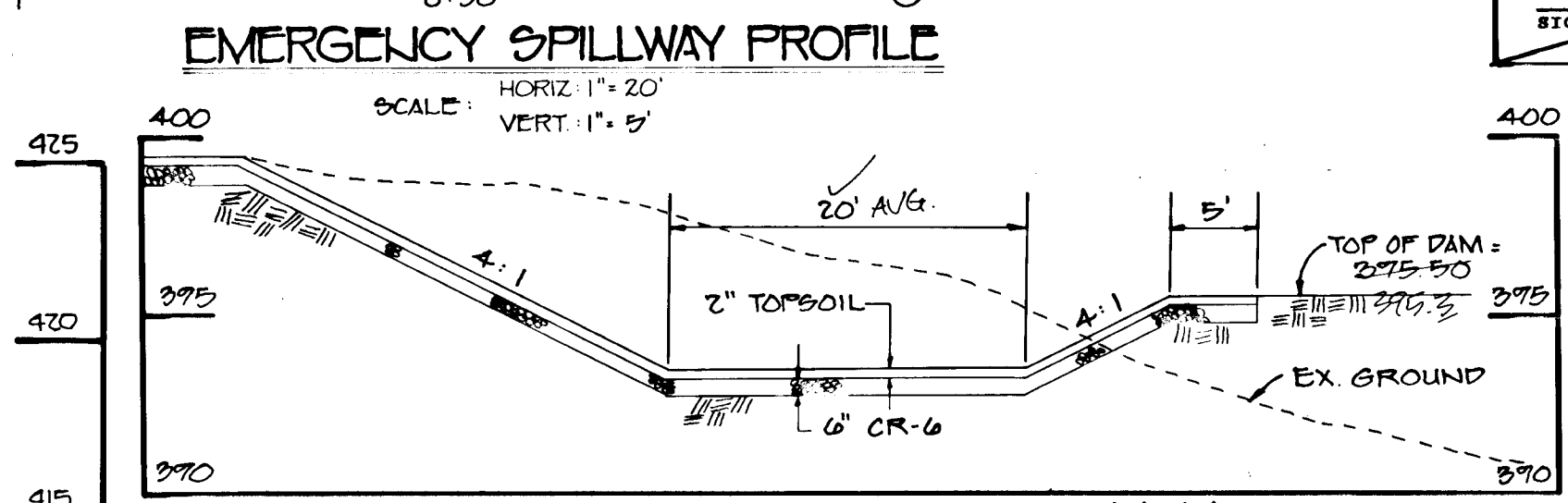
**ANTI-SEEP COLLAR DETAIL**  
NO SCALE



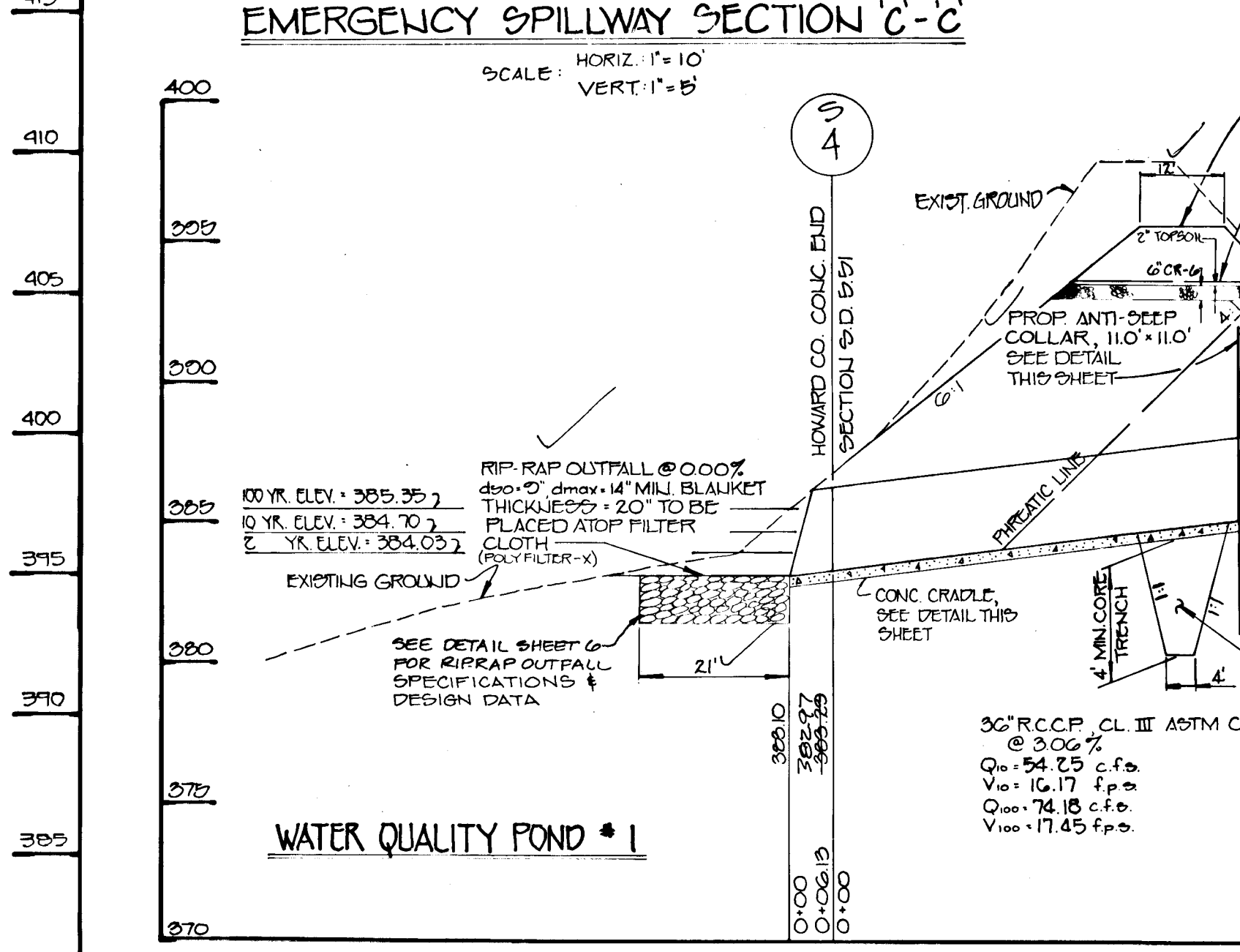
**PROFILE ALONG TOP OF DAM**  
SCALE: HORIZ. 1" = 20'  
VERT. 1" = 5'



**WATER QUALITY POND # 1**



**EMERGENCY SPILLWAY PROFILE**  
SCALE: HORIZ. 1" = 20'  
VERT. 1" = 5'



**EMERGENCY SPILLWAY SECTION 'C-C'**  
SCALE: HORIZ. 1" = 10'  
VERT. 1" = 5'



**PRINCIPAL SPILLWAY PROFILE**  
SCALE: HORIZ. 1" = 20'  
VERT. 1" = 5'

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE: 6/28/93

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 CHIEF, LAND DEVELOPMENT DIVISION  
 DATE: 6/30/93

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 CHIEF, LAND DEVELOPMENT DIVISION  
 DATE: 6/30/93

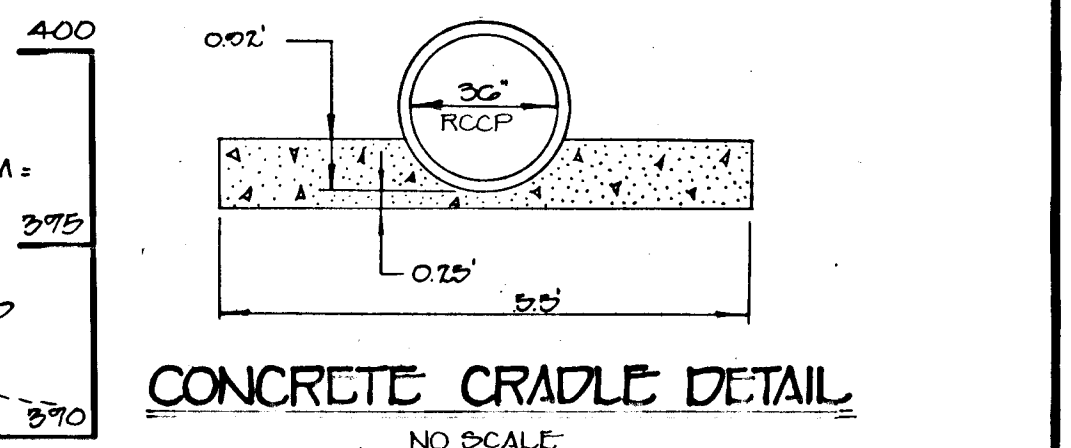
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT  
 DATE: 7/7/93

**STORM WATER MANAGEMENT FOND CERTIFICATION AND APPROVAL**  
**DEVELOPER'S CERTIFICATE**  
 "I HEREBY 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 NATURAL RESOURCES 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 FOND WITHIN 30 DAYS OF COMPLETION."  
 DATE: 6-21-93

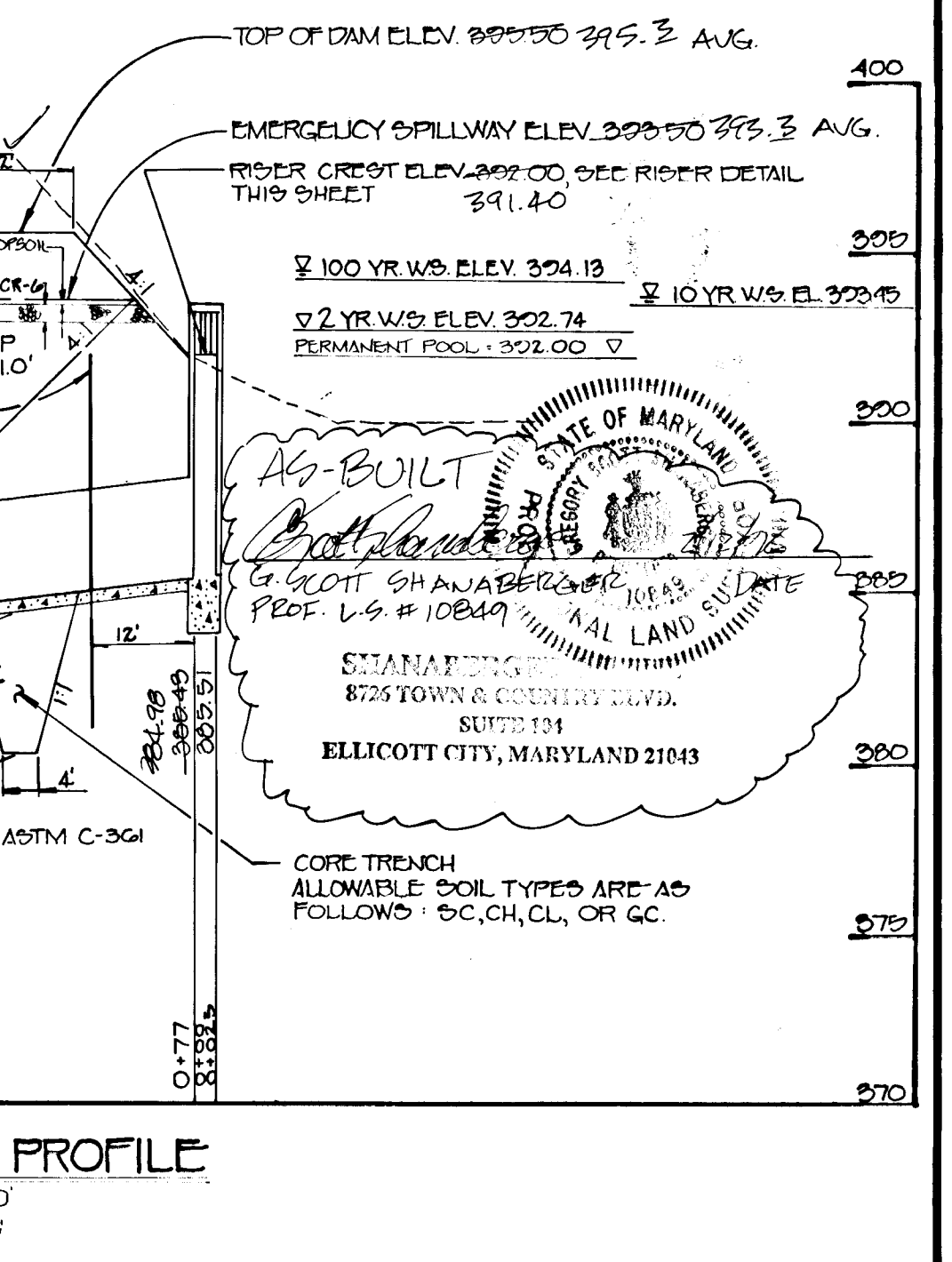
**ENGINEER'S CERTIFICATE**  
 "I CERTIFY THAT THIS PLAN FOR FOND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN WITHIN 30 DAYS OF COMPLETION."  
 DATE: 11/19/92

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL FOND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

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



**CONCRETE CRADLE DETAIL**  
NO SCALE



**WATER QUALITY POND DETAILS**  
**STORM DRAIN PROFILES**  
**VILLAGE OF RIVER HILL**  
 SECTION 2 AREA 2  
 PHASE 2  
 LOTS 128-236 & 240-241  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 SEPTEMBER 25, 1992  
 SHEET 8 OF 12

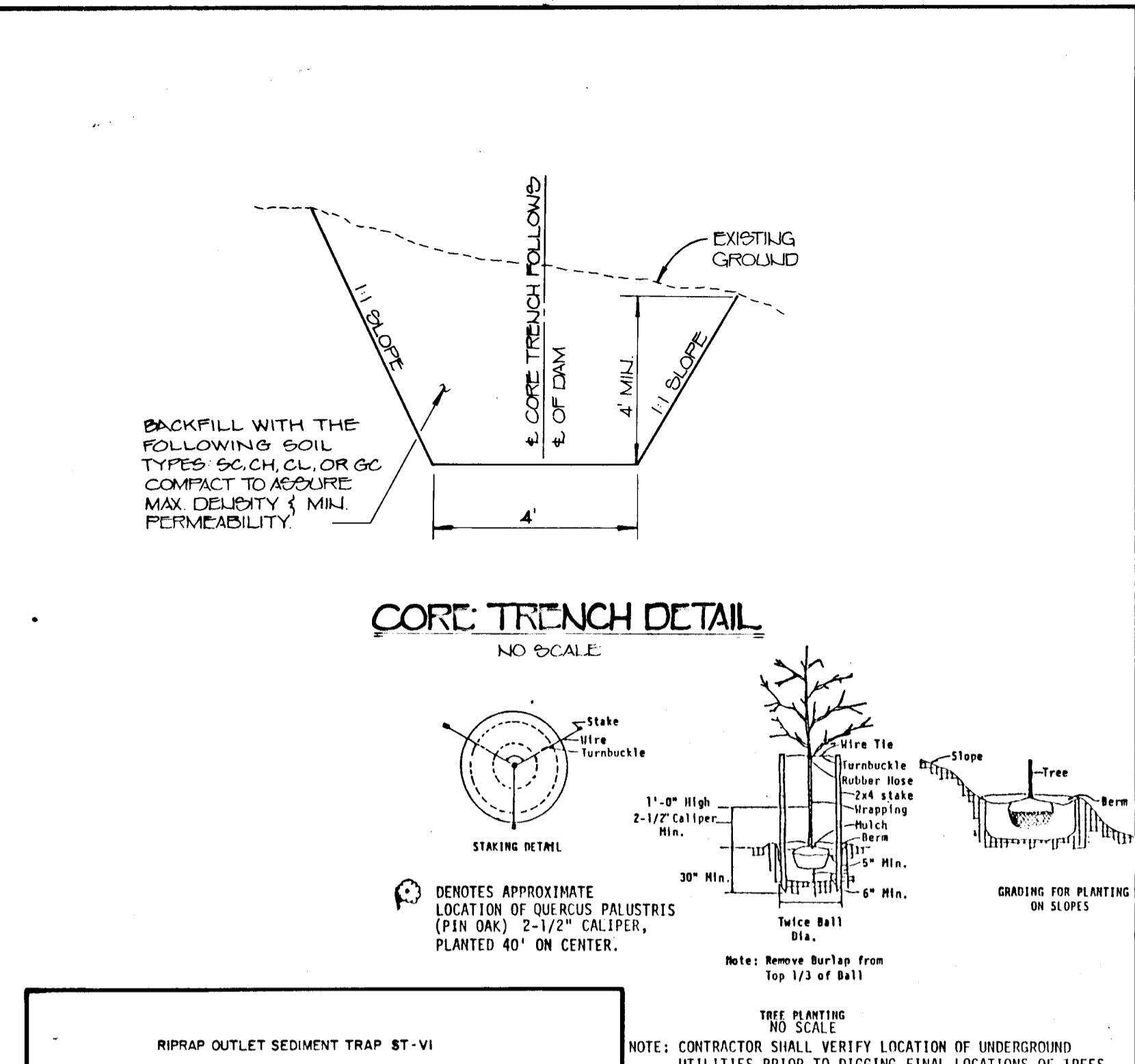
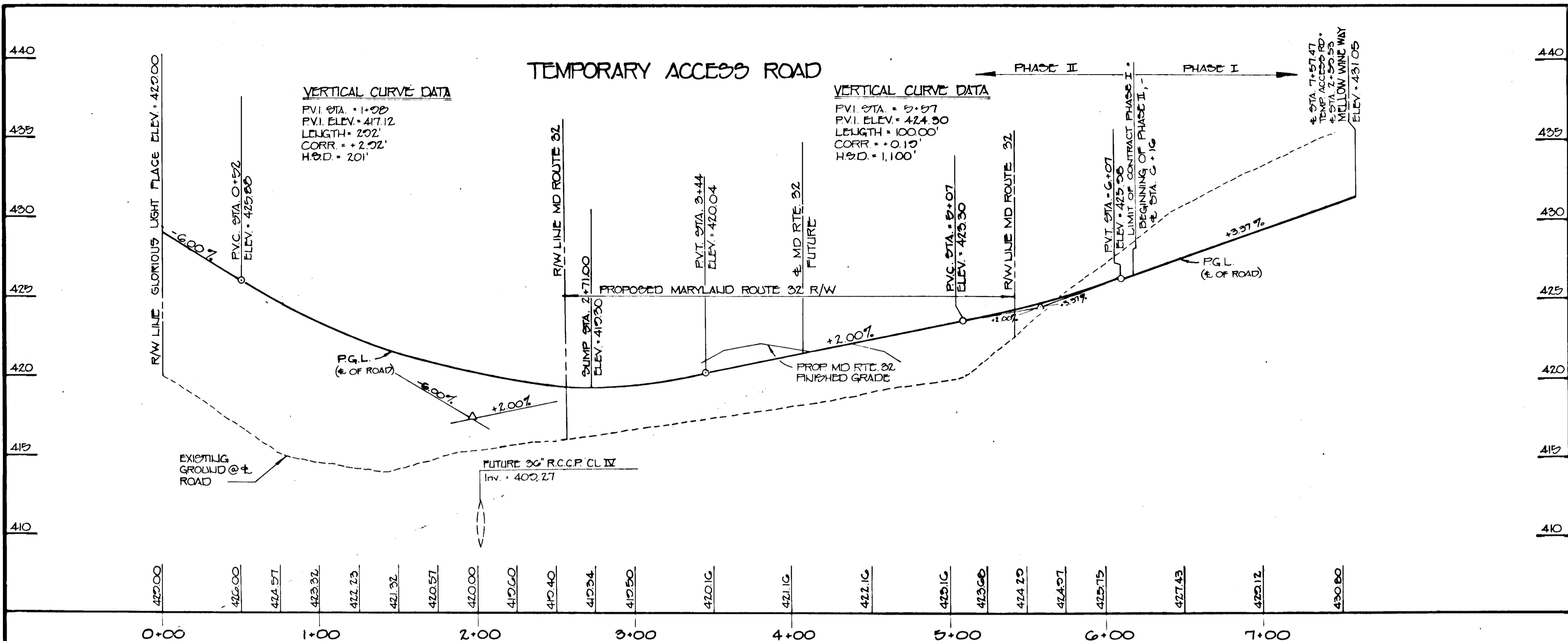
**OWNER AND DEVELOPER**  
 HOWARD RESEARCH AND DEVELOPMENT, CORP.  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044



**FIPPHEN, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 7171 BALTIMORE NATIONAL PIKE, SUITE 100  
 ELLICOTT CITY, MARYLAND 21046  
 TELEPHONE: (410) 451-0255  
 FAX: (410) 750-3704

1487

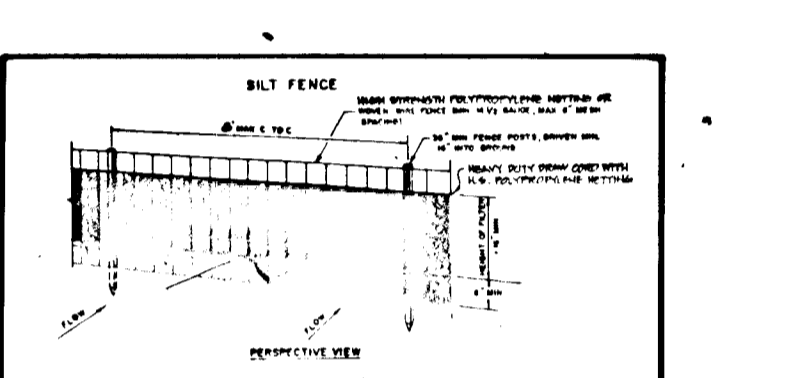
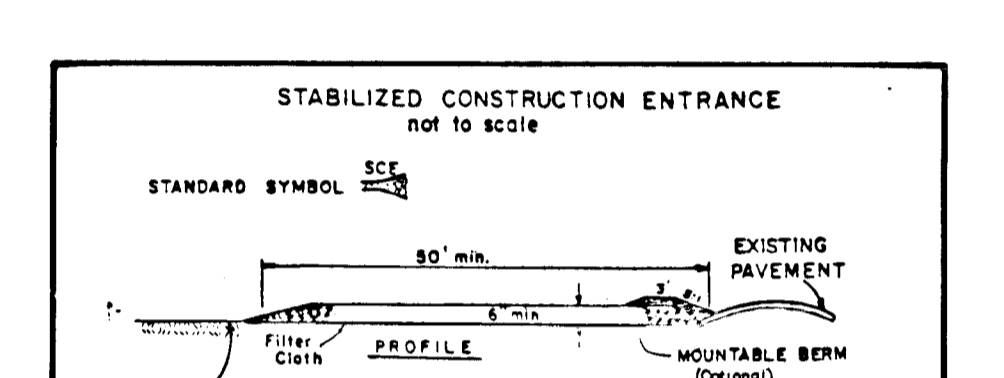




**OPERATION AND MAINTENANCE SPECIFICATIONS**

HEREBY CERTIFY THAT I WILL OPERATE AND MAINTAIN THE COMPLETE WORK IN ACCORDANCE WITH THE FOLLOWING:

- PERIODIC INSPECTIONS OF THE FACILITY WILL BE MADE TO IDENTIFY POTENTIAL PROBLEMS THAT MAY AFFECT ITS SAFETY. THESE INSPECTIONS WILL BE MADE AT REGULAR INTERVALS. INSPECTIONS SHALL BE MADE AT LEAST ANNUALLY. INSPECTION REPORTS SHALL BE SUBMITTED TO THE DISTRICT ENGINEER.
- PROBLEMS IDENTIFIED DURING INSPECTIONS WILL BE PROMPTLY CORRECTED. MAJOR PROBLEMS WILL BE BROUGHT TO THE ATTENTION OF THE DISTRICT ENGINEER IMMEDIATELY. THE DISTRICT ENGINEER WILL BE KEPT ADVISED OF THE PROGRESS OF CORRECTIVE ACTION. AS A VERY MINIMUM, MAJOR VEGETATION WILL BE MAINTAINED IN A DENSE AND HEALTHY STATE, AND WOOD RETENTION WILL BE MAINTAINED TO SHOW ON THE ENHANCEMENT.



**NOISE SPECIFICATIONS**

These specifications are appropriate to all ponds within the scope of the Standard Specifications for Road and Bridge Construction. All references to ASTM and AASHTO specifications apply to the most recent revision.

**See Appendix**

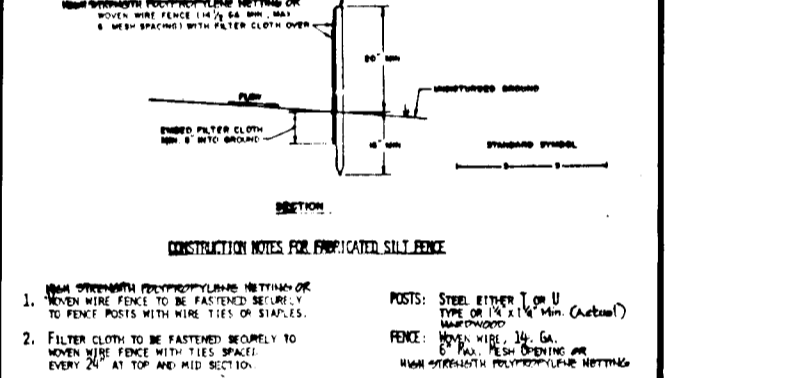
Areas designated for borrow areas, embankment and structural areas shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other obstructions shall be removed. Obstructions shall be removed to a minimum depth of 36 inches below the ground surface. For any obstructions remaining, a minimum of 10% of the root system shall be removed. Areas to be covered by the reservoir will be cleared of all trees, brush, logs, stumps and other obstructions. All trees, brush, logs, stumps and other obstructions shall be removed to a minimum depth of 36 inches below the ground surface. For any obstructions remaining, a minimum of 10% of the root system shall be removed. Areas to be covered by the reservoir will be cleared of all trees, brush, logs, stumps and other obstructions. All trees, brush, logs, stumps and other obstructions shall be removed to a minimum depth of 36 inches below the ground surface. For any obstructions remaining, a minimum of 10% of the root system shall be removed.

**SEDIMENT CONTROL NOTES**

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (912-2437).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RESTORATION, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL GREATER THAN 3:1; b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BAASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52).
- TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAVE BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS

**CONSTRUCTION SPECIFICATIONS**

- Stone Size - 2" max stone, or reclaimed or recycled concrete equivalent.
- Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length will suffice).
- Thickness - Not less than six (6) inches.
- Width - Not less than 18 inches, but not less than the full width at points where ingress or egress occurs.
- Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter cloth will be replaced on a single family residence.
- Surface Water - All surface water flowing or diverted toward construction entrance shall be piped across the entrance. If piping is impractical, a portable berm with 5:1 slopes will be permitted.
- Maintenance - The entrance shall be maintained in a condition which will prevent trapping or flowing of sediment into public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleaning of any measures used to trap sediment. All sediment, droppings, washed or tracked onto public rights-of-way may be removed immediately.
- Warning - Signs shall be placed to warn sediment prior to entrance onto public rights-of-way. When warning is required, it shall be done on an approved stabilized with stone and which drains into an approved trapping device.
- Periodic inspection and needed maintenance shall be provided for each basin.



**NOISE SPECIFICATIONS**

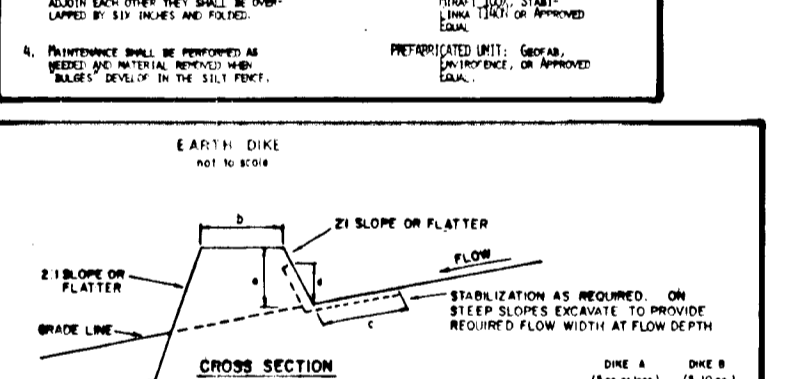
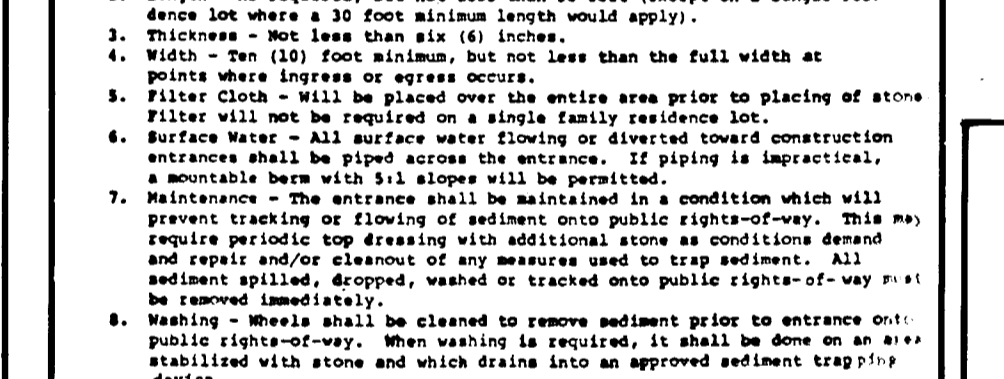
These specifications are appropriate to all ponds within the scope of the Standard Specifications for Road and Bridge Construction. All references to ASTM and AASHTO specifications apply to the most recent revision.

**See Appendix**

Areas designated for borrow areas, embankment and structural areas shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other obstructions shall be removed. Obstructions shall be removed to a minimum depth of 36 inches below the ground surface. For any obstructions remaining, a minimum of 10% of the root system shall be removed. Areas to be covered by the reservoir will be cleared of all trees, brush, logs, stumps and other obstructions. All trees, brush, logs, stumps and other obstructions shall be removed to a minimum depth of 36 inches below the ground surface. For any obstructions remaining, a minimum of 10% of the root system shall be removed.

**SEDIMENT CONTROL NOTES**

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (912-2437).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RESTORATION, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL GREATER THAN 3:1; b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BAASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52).
- TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAVE BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS



**NOISE SPECIFICATIONS**

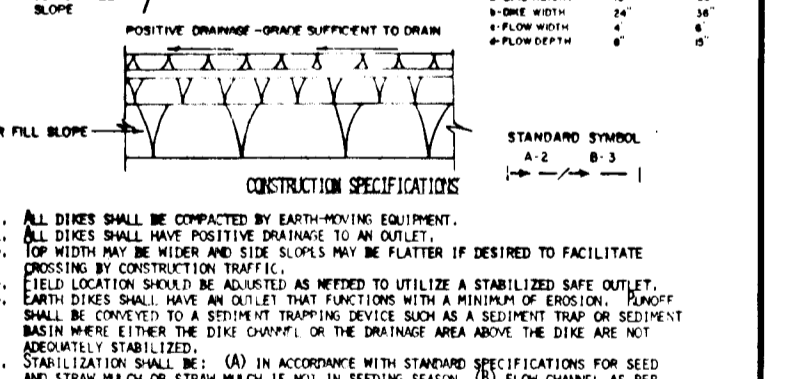
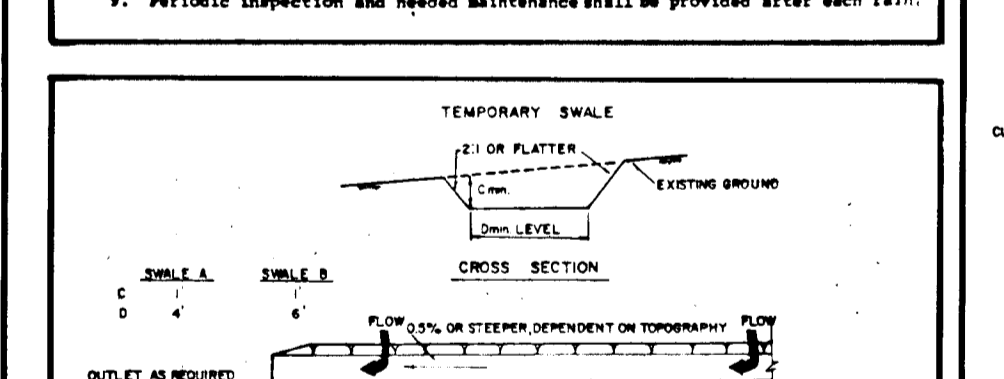
These specifications are appropriate to all ponds within the scope of the Standard Specifications for Road and Bridge Construction. All references to ASTM and AASHTO specifications apply to the most recent revision.

**See Appendix**

Areas designated for borrow areas, embankment and structural areas shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other obstructions shall be removed. Obstructions shall be removed to a minimum depth of 36 inches below the ground surface. For any obstructions remaining, a minimum of 10% of the root system shall be removed. Areas to be covered by the reservoir will be cleared of all trees, brush, logs, stumps and other obstructions. All trees, brush, logs, stumps and other obstructions shall be removed to a minimum depth of 36 inches below the ground surface. For any obstructions remaining, a minimum of 10% of the root system shall be removed.

**SEDIMENT CONTROL NOTES**

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (912-2437).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RESTORATION, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL GREATER THAN 3:1; b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BAASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52).
- TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAVE BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS



**NOISE SPECIFICATIONS**

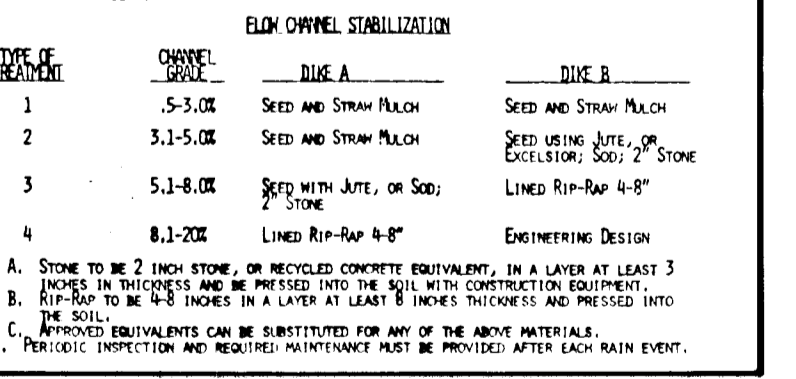
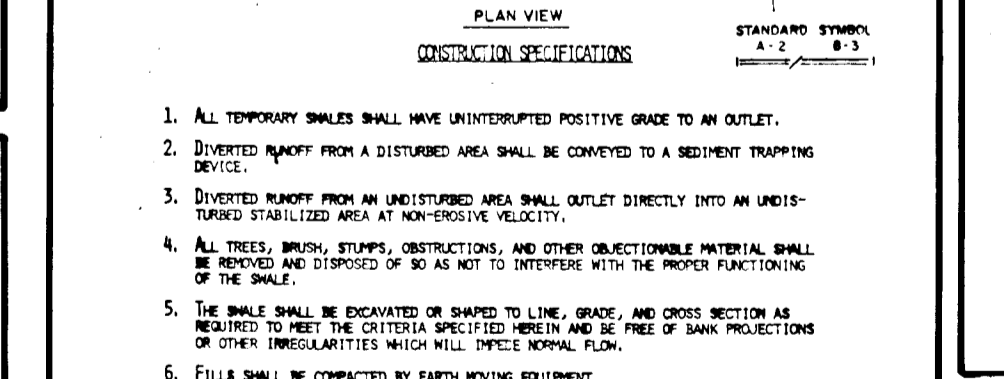
These specifications are appropriate to all ponds within the scope of the Standard Specifications for Road and Bridge Construction. All references to ASTM and AASHTO specifications apply to the most recent revision.

**See Appendix**

Areas designated for borrow areas, embankment and structural areas shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other obstructions shall be removed. Obstructions shall be removed to a minimum depth of 36 inches below the ground surface. For any obstructions remaining, a minimum of 10% of the root system shall be removed. Areas to be covered by the reservoir will be cleared of all trees, brush, logs, stumps and other obstructions. All trees, brush, logs, stumps and other obstructions shall be removed to a minimum depth of 36 inches below the ground surface. For any obstructions remaining, a minimum of 10% of the root system shall be removed.

**SEDIMENT CONTROL NOTES**

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (912-2437).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RESTORATION, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL GREATER THAN 3:1; b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BAASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52).
- TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAVE BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS



**NOISE SPECIFICATIONS**

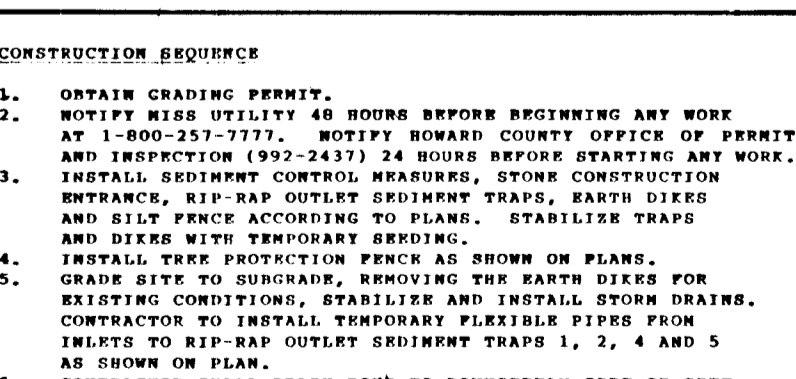
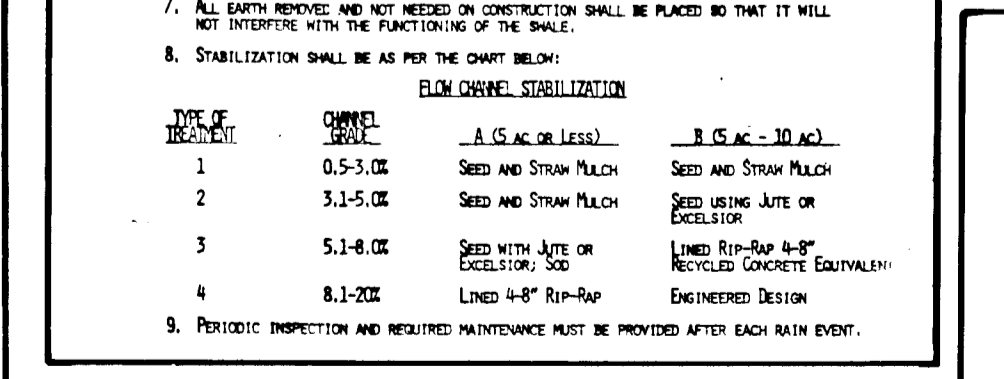
These specifications are appropriate to all ponds within the scope of the Standard Specifications for Road and Bridge Construction. All references to ASTM and AASHTO specifications apply to the most recent revision.

**See Appendix**

Areas designated for borrow areas, embankment and structural areas shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other obstructions shall be removed. Obstructions shall be removed to a minimum depth of 36 inches below the ground surface. For any obstructions remaining, a minimum of 10% of the root system shall be removed. Areas to be covered by the reservoir will be cleared of all trees, brush, logs, stumps and other obstructions. All trees, brush, logs, stumps and other obstructions shall be removed to a minimum depth of 36 inches below the ground surface. For any obstructions remaining, a minimum of 10% of the root system shall be removed.

**SEDIMENT CONTROL NOTES**

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (912-2437).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RESTORATION, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL GREATER THAN 3:1; b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BAASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52).
- TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAVE BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS



**NOISE SPECIFICATIONS**

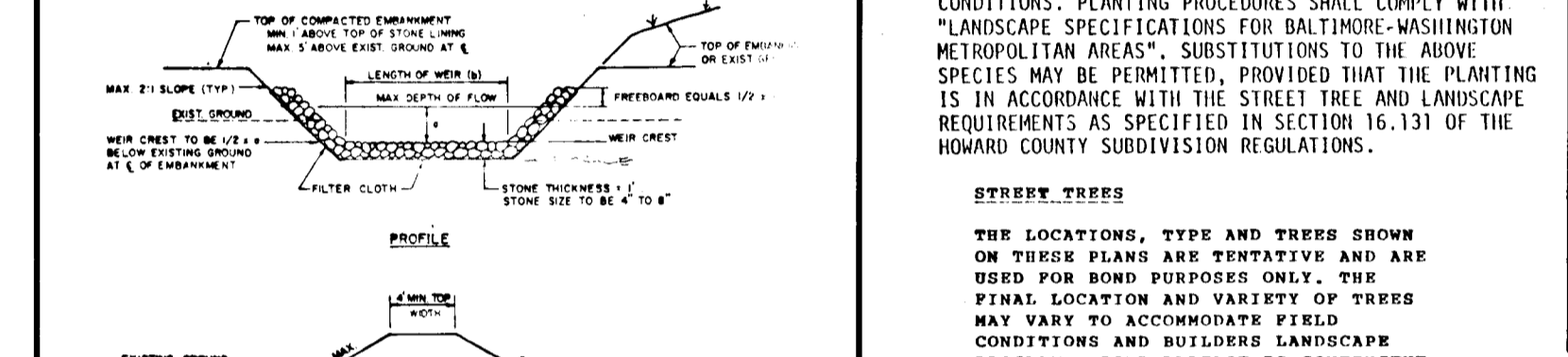
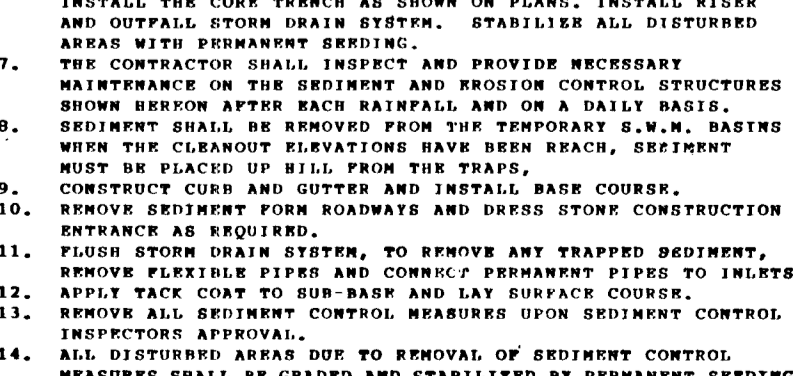
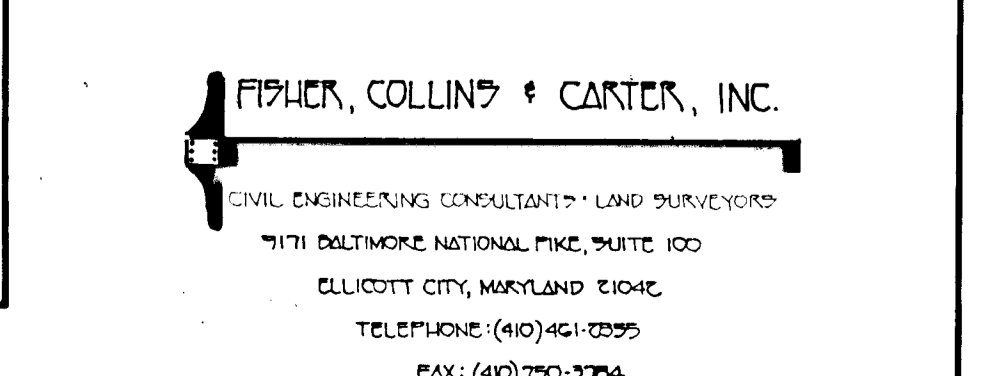
These specifications are appropriate to all ponds within the scope of the Standard Specifications for Road and Bridge Construction. All references to ASTM and AASHTO specifications apply to the most recent revision.

**See Appendix**

Areas designated for borrow areas, embankment and structural areas shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other obstructions shall be removed. Obstructions shall be removed to a minimum depth of 36 inches below the ground surface. For any obstructions remaining, a minimum of 10% of the root system shall be removed. Areas to be covered by the reservoir will be cleared of all trees, brush, logs, stumps and other obstructions. All trees, brush, logs, stumps and other obstructions shall be removed to a minimum depth of 36 inches below the ground surface. For any obstructions remaining, a minimum of 10% of the root system shall be removed.

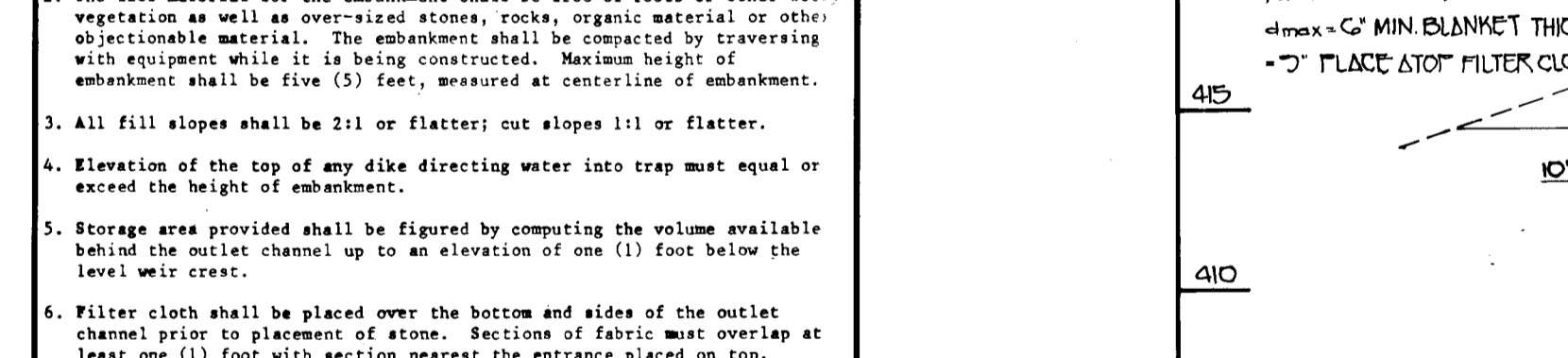
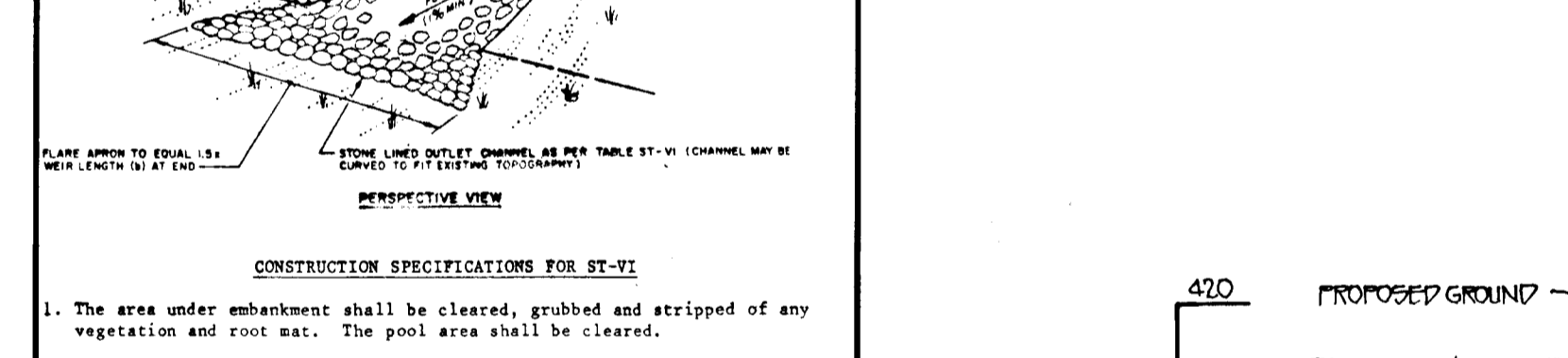
**SEDIMENT CONTROL NOTES**

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (912-2437).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RESTORATION, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL GREATER THAN 3:1; b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BAASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52).
- TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAVE BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS



**CONSTRUCTION SPECIFICATIONS FOR ST-VI**

- The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
- The fill material for the embankment shall be free of roots or other woody vegetation as well as oversized stones, rocks, organic material or other objectionable material. The embankment shall be constructed by overlying with equipment while it is being constructed. Maximum height of embankment shall be five (5) feet, measured at centerline of embankment.
- All fill slopes shall be 2:1 or flatter; out slopes 1:1 or flatter.
- Elevation of the top of any dike directing water into trap must equal or exceed the height of embankment.
- Storage area provided shall be figured by computing the volume available behind the outlet channel up to an elevation of one (1) foot below the level weir crest.
- Filter cloth shall be placed over the bottom and sides of the outlet channel prior to placement of stone. Sections of fabric must overlap at least one (1) foot with section nearest the entrance placed on top. Fabric shall be embedded at least six (6) inches into existing ground at entrance of outlet channel.
- Stone used in the outlet channel shall be four (4) to eight (8) inches (diameters). To provide a filtering effect, a layer of filter cloth shall be embedded one (1) foot back into the upstream face of the outlet stone or a one (1) foot thick layer of two (2) inch or finer aggregate shall be placed on the upstream face of the outlet.
- Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the embankment. Sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- The structure shall be inspected after each rain and repaired as needed.
- Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
- The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.



**PROFILE OF TEMPORARY PIPE NO. 1 FOR DIVERSION OF CLEAN WATER**

SCALE: 1" = 10' HORIZ.

2" FLEXIBLE PIPE TO BE REMOVED DURING THE REMOVAL OF SEDIMENT CONTROL MEASURES

2" ROST. CL. @ 0.50% Q<sub>10</sub> = 7.00 cfs V = 4.5 @ 1.5 ps. PIPE MAY REMAIN IN PLACE AFTER SEDIMENT CONTROL MEASURES ARE REMOVED

**SEDIMENT CONTROL NOTES AND DETAILS**

WATER QUALITY POND NOTES, DETAILS AND TEMPORARY ACCESS ROAD PROFILE

VILLAGE OF RIVER HILL

SECTION 2 AREA 2

PHASE I

OWNER AND DEVELOPER

HOWARD RESEARCH AND DEVELOPMENT, CORP.  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MARYLAND 21044

**SEDIMENT CONTROL NOTES AND DETAILS**

WATER QUALITY POND NOTES, DETAILS AND TEMPORARY ACCESS ROAD PROFILE

VILLAGE OF RIVER HILL

SECTION 2 AREA 2

PHASE I

OWNER AND DEVELOPER

HOWARD RESEARCH AND DEVELOPMENT, CORP.  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MARYLAND 21044

**STORM WATER MANAGEMENT POND CERTIFICATION AND APPROVAL**

**DEVELOPER'S CERTIFICATE**

I HEREBY 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 NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH THE NECESSARY INFORMATION WITHIN 30 DAYS OF COMPLETION.

*James M. Hahn*  
DATE: 6-21-93

**ENGINEER'S CERTIFICATE**

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. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" DRAWING WITHIN 30 DAYS OF COMPLETION.

*James M. Hahn*  
DATE: 6/21/93

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 M. Hahn*  
DATE: 6/21/93

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

*John R. Roberts*  
DATE: 6/21/93

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*James M. Hahn*  
DATE: 6/21/93

APPROVED: DEPARTMENT OF PUBLIC WORKS

*James M. Hahn*  
DATE: 6/21/93

**ZONING CERTIFICATION**

I HEREBY CERTIFY UPON COMPLETION OF CONSTRUCTION I WILL BE RESPONSIBLE FOR THE PROTECTION AND MAINTENANCE (OSM) OF THE SMALL POND. OSM WILL BE PERFORMED BY ME IN ACCORDANCE WITH THE SPECIFICATIONS OF THIS PLAN. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS OF THE POND BY THE DISTRICT AND LOCAL AGENCIES.

*James M. Hahn*  
DATE: 6/21/93

APPROVED: DEPARTMENT OF PUBLIC WORKS

*James M. Hahn*  
DATE: 6/21/93

**SEDIMENT CONTROL NOTES AND DETAILS**

WATER QUALITY POND NOTES, DETAILS AND TEMPORARY ACCESS ROAD PROFILE

VILLAGE OF RIVER HILL

SECTION 2 AREA 2

PHASE I

OWNER AND DEVELOPER

HOWARD RESEARCH AND DEVELOPMENT, CORP.  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MARYLAND 21044

**SEDIMENT CONTROL NOTES AND DETAILS**

WATER QUALITY POND NOTES, DETAILS AND TEMPORARY ACCESS ROAD PROFILE

VILLAGE OF RIVER HILL

SECTION 2 AREA 2

PHASE I

OWNER AND DEVELOPER

HOWARD RESEARCH AND DEVELOPMENT, CORP.  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MARYLAND 21044

**SEDIMENT CONTROL NOTES AND DETAILS**

WATER QUALITY POND NOTES, DETAILS AND TEMPORARY ACCESS ROAD PROFILE

VILLAGE OF RIVER HILL

SECTION 2 AREA 2

PHASE I

OWNER AND DEVELOPER

HOWARD RESEARCH AND DEVELOPMENT, CORP.  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MARYLAND 21044

**SEDIMENT CONTROL NOTES AND DETAILS**

WATER QUALITY POND NOTES, DETAILS AND TEMPORARY ACCESS ROAD PROFILE

VILLAGE OF RIVER HILL

SECTION 2 AREA 2

PHASE I

OWNER AND DEVELOPER

HOWARD RESEARCH AND DEVELOPMENT, CORP.  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MARYLAND 21044

**SEDIMENT CONTROL NOTES AND DETAILS**

WATER QUALITY POND NOTES, DETAILS AND TEMPORARY ACCESS ROAD PROFILE

VILLAGE OF RIVER HILL

SECTION 2 AREA 2

PHASE I

OWNER AND DEVELOPER

HOWARD RESEARCH AND DEVELOPMENT, CORP.  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MARYLAND 21044



**STRUCTURE SCHEDULE**

STRUCTURE NO.	TOP ELEVATION	INV. IN	INV. OUT	ROAD NAME	ROAD STA.	OFFSET	TYPE	REMARKS
I-1	410.76*	---	404.04	MELLOW WINE WAY	L.P. STA. 2+24	N/A	A-5	S.D. 4.01
I-2	422.08*	---	418.17	LIQUID LAUGHTER LANE	L.P. STA. 1+02	N/A	A-5	S.D. 4.01
I-3	416.67*	412.91	411.92	EMPTY SONG ROAD	C.L. STA. 7+08	18' RT.	A-5	S.D. 4.01
I-4	416.82*	413.96	413.71	EMPTY SONG ROAD	C.L. STA. 7+23	18' LT.	A-5	S.D. 4.01
I-5	422.88*	418.73	418.48	EMPTY SONG ROAD	C.L. STA. 8+50.50	15' LT.	A-5 W/DEFLECTORS	S.D. 4.01 & S.D. 4.83
I-7	432.67*	---	427.99	EMPTY SONG ROAD	C.L. STA. 10+51.46	14' RT.	A-5 W/DEFLECTORS	S.D. 4.01 & S.D. 4.83
I-8	431.78*	427.54	427.24	MELLOW WINE WAY	C.L. STA. 0+46	15' LT.	A-5 W/DEFLECTORS	S.D. 4.01 & S.D. 4.83
I-9	420.85*	416.03	415.78	RIPE APPLE LANE	C.L. STA. 0+49	15' RT.	A-5 W/DEFLECTORS	S.D. 4.01 & S.D. 4.83
I-10	416.85*	416.58	416.33	RIPE APPLE LANE	C.L. STA. 0+49	15' LT.	A-5 W/DEFLECTORS	S.D. 4.01 & S.D. 4.83
I-11	420.15*	---	417.02	EMPTY SONG ROAD	C.L. STA. 6+31.91	18' LT.	A-5 W/DEFLECTORS	S.D. 4.01 & S.D. 4.83
I-12	435.53*	427.88	427.58	EVENING COMPANY CIRCLE	C.L. STA. 0+46	14' RT.	A-5 W/DEFLECTORS	S.D. 4.01 & S.D. 4.83
I-13	435.53*	420.06	428.81	EVENING COMPANY CIRCLE	C.L. STA. 0+46	14' LT.	A-5 W/DEFLECTORS	S.D. 4.01 & S.D. 4.83
I-14	437.04*	430.88	429.27	RIPE APPLE LANE	C.L. STA. 3+05.13	15' RT.	A-5 W/DEFLECTORS	S.D. 4.01 & S.D. 4.83
I-15	437.04*	430.07	429.82	RIPE APPLE LANE	C.L. STA. 3+05.13	15' LT.	A-5 W/DEFLECTORS	S.D. 4.01 & S.D. 4.83
I-16	435.69*	430.74	430.47	TENDER MIST MEWS	C.L. STA. 0+46	14' RT.	A-5 W/DEFLECTORS	S.D. 4.01 & S.D. 4.83
I-17	435.69*	---	431.04	TENDER MIST MEWS	C.L. STA. 0+46	14' RT.	A-5 W/DEFLECTORS	S.D. 4.01 & S.D. 4.83
I-18	458.35*	454.46	454.21	GRATEFULL HEART GATE	C.L. STA. 0+46	14' RT.	A-5	S.D. 4.01
I-19	458.35*	---	454.74	GRATEFULL HEART GATE	C.L. STA. 0+46	14' RT.	A-5	S.D. 4.01
M-5	400.00	396.50	396.25	SEE PLAN	SEE PLAN	N 425318 87 E 824482 89	STD. M.H.	G-9.01
M-6	409.50	399.40	398.25	SEE PLAN	SEE PLAN	N 425318 87 E 824482 89	STD. M.H.	G-9.01
M-7	430.00	425.96	425.11	RIPE APPLE LANE	C.L. STA. 2+14	12' RT.	STD. M.H.	G-9.01
M-8	440.00	444.88	444.63	RIPE APPLE LANE	C.L. STA. 4+82.50	12' RT.	STD. M.H.	G-9.01
M-9	479.41	471.56	471.11	RIPE APPLE LANE	C.L. STA. 5+87	20' LT.	STD. M.H.	G-9.01
M-10	472.00	465.68	465.43	EMPTY SONG ROAD	C.L. STA. 8+06.50	11' LT.	STD. M.H.	G-9.01
S-1	391.53	396.03	396.00	SEE PLAN	SEE PLAN	N 425318 87 E 824482 89	CONC. END SECTION	5' 0" 5.91
S-2	412.53	410.25	410.08	SEE PLAN	SEE PLAN	N 425318 87 E 824482 89	CONC. END SECTION	5' 0" 5.91
S-3	398.01	396.51	396.00	SEE PLAN	SEE PLAN	N 425318 87 E 824482 89	CONC. END SECTION	5' 0" 5.91
S-4	386.29	383.29	383.00	SEE PLAN	SEE PLAN	N 425318 87 E 824482 89	CONC. END SECTION	5' 0" 5.91
S-5	396.26	395.26	395.25	SEE PLAN	SEE PLAN	N 425318 87 E 824482 89	METAL END SECTION	5' 0" 5.91

\*FOR AS-BUILT\*  
INFORMATION  
SEE  
PLAN SHEETS

**DRAINAGE AREAS**

INLET	D.A.	AREA AC.	C	ZONED	IMP
I-1	K	1.41	0.50	NT	45
I-2	Q	1.16	0.50	NT	45
I-3	P	1.22	0.51	NT	45
I-4	O	0.81	0.42	NT	31
I-5	N	2.32	0.36	NT	23
I-7	M	1.10	0.45	NT	37
I-8	L	0.61	0.33	NT	20
I-9	K	0.40	0.50	NT	43
I-10	J	0.29	0.48	NT	45
I-11	I	1.23	0.34	NT	20
I-12	H	0.87	0.46	NT	37
I-13	G	0.85	0.38	NT	26
I-14	F	0.69	0.48	NT	41
I-15	E	0.77	0.34	NT	19
I-16	D	1.23	0.37	NT	24
I-17	C	0.60	0.50	NT	43
I-18	B	1.08	0.56	NT	54
I-19	A	1.15	0.57	NT	55

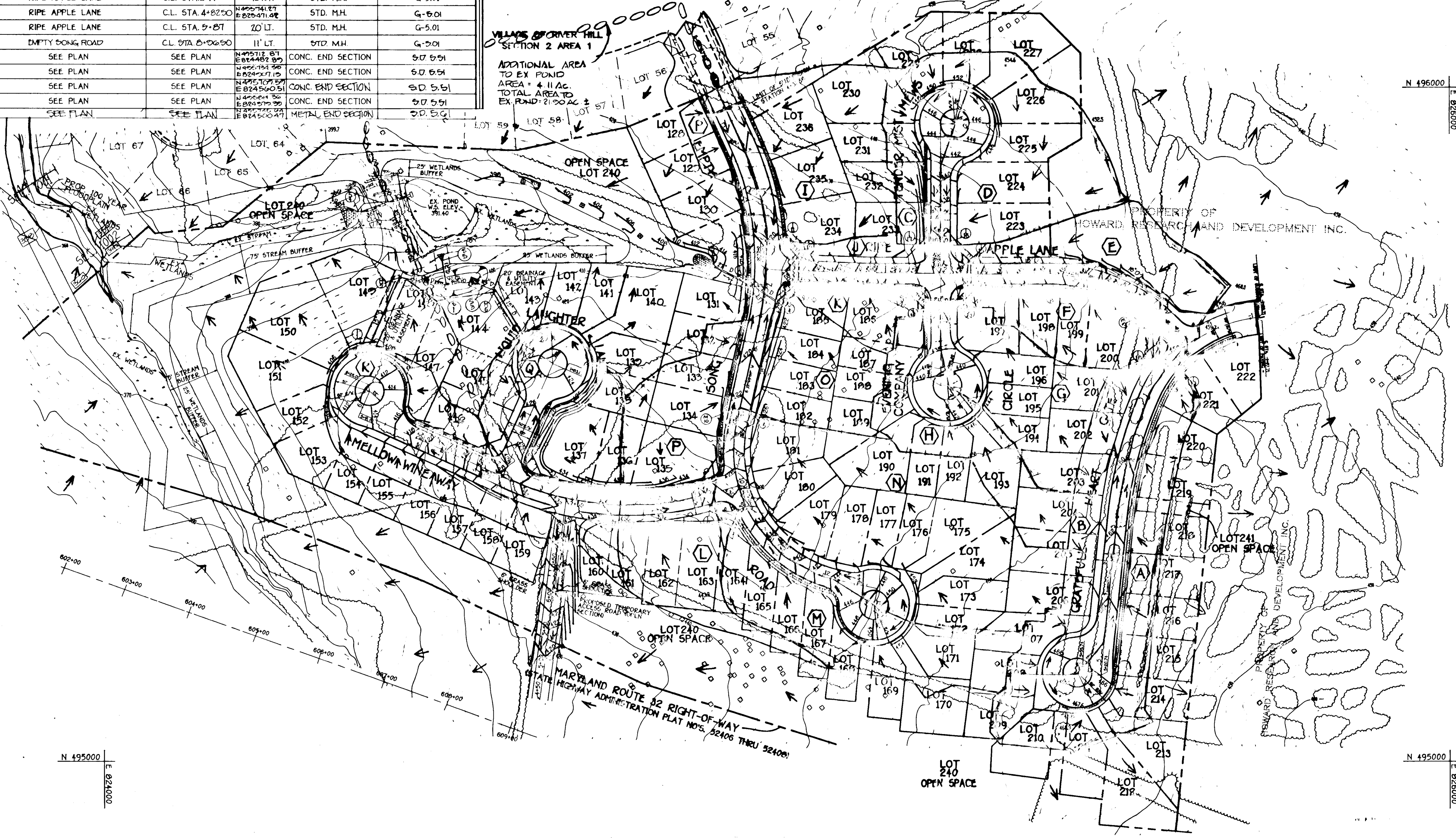
APPROVED: *Anna M. Johnson* 7/7/93  
DATE: 6/30/93  
APPROVED: *Charles J. Crova* 6/30/93  
DATE: 6/30/93  
APPROVED: *Charles J. Crova* 6/30/93  
DATE: 6/30/93

**BORING REPORT** BORING NO. B-1  
DATE: March 8, 1993

Depth From To	Soil Description	Comp. No.	From To	Penetration	Blows/ft	Remarks
0.0	Fan silt. silt. of sand, little of quartz fragments (P111) [M]	1	0.0	2.0	5	7 18/24
2.0	Yellowish brown silt. clay & silt, little of sand, tr. of quartz fragments (P111) [M]	2	2.0	4.0	6	10 12/24
4.0	Multicolored very moist silt & clay, little of sand, tr. of quartz fragments (P111) [M]	3	4.0	6.0	5	6 12/24
6.0	Gray very moist silt & clay, little of sand, tr. of quartz fragments (P111) [M]	4	6.0	8.0	9	8 18/24
8.0	Multicolored very moist silt & clay, little of sand, tr. of quartz fragments (P111) [M]	5	8.0	10.5	2	6 11 18/18
12.5	Multicolored very moist silt & clay, little of sand, tr. of quartz fragments (P111) [M]	6	12.5	15.5	4	5 18/18
20.5	Multicolored very moist silt & clay, little of sand, tr. of quartz fragments (P111) [M]	7	20.5	20.5	4	6 12/18

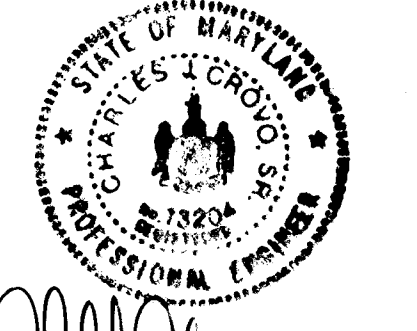
**BORING REPORT** BORING NO. B-2  
DATE: March 8, 1993

Depth From To	Soil Description	Comp. No.	From To	Penetration	Blows/ft	Remarks
0.0	Multicolored moist silt, little of sand, tr. of quartz fragments (P111) [M]	1	0.0	2.0	4	11 5 18/24
2.0	Multicolored moist clay & silt, little of sand, tr. of quartz fragments (P111) [M]	2	2.0	4.0	7	8 6 12/24
4.0	Gray very moist silt, little of sand, tr. of quartz fragments (P111) [M]	3	4.0	8.0	18	7 7 18/24
6.0	Gray very moist silt, little of sand, tr. of quartz fragments (P111) [M]	4	6.0	8.0	9	8 4 12/24
8.5	Multicolored very moist silt & clay, little of sand, tr. of quartz fragments (P111) [M]	5	8.0	10.5	2	6 11 18/18
12.5	Multicolored very moist silt, little of sand, tr. of quartz fragments (P111) [M]	6	12.5	15.5	4	5 18/18
20.5	Multicolored very moist silt & clay, little of sand, tr. of quartz fragments (P111) [M]	7	20.5	20.5	4	6 12/18



- WATER RESOURCES ADMINISTRATION NOTES:**
- THE FOLLOWING CONDITIONS LISTED BELOW MUST BE INCLUDED ON THE CONSTRUCTION PLANS UNDER THE HEADING OF CONDITIONS AND MANAGEMENT PRACTICES FOR WORKING IN NON-TIDAL WETLANDS OR BUFFERS. PLEASE NOTE IN SEQUENCE OF CONSTRUCTION WHEN THESE CONDITIONS ARE TO BE FOLLOWED:
    - FOR UTILITY LINE INSTALLATION, STEEL, STEELPIPE AND MAINTAIN SEPARATELY THE TOP 6-INCHES OF SOIL MATERIAL, TO BE REPLACED AS THE TOP LAYER OF THE BACKFILLED MATERIAL.
    - REMOVE EXCESS FILL OR CONSTRUCTION MATERIAL OR DEBRIS TO AN UPLAND DISPOSAL AREA, OUTSIDE OF ANY WETLAND, BUFFER, OR FLOODPLAIN.
    - PLACE MATERIAL IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF THE NON-TIDAL WETLAND.
    - USE PREVIOUSLY EXCAVATED MATERIAL AS UTILITY LINE BACKFILL, UNLESS IT CONTAINS WASTE MATERIAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL OR ANY OTHER DELETERIOUS SUBSTANCE. USE CLEAN BORROW MATERIAL WHEN EXCAVATED MATERIAL IS NOT SUITABLE FOR USE AS BACKFILL.
    - REPAIR ANY NON-TIDAL WETLANDS AND BUFFERS RESPONSIBLY IMPACTED BY ANY PROPOSED REPAIR AND MAINTENANCE ACTIVITY OR INSTALLATION OF THE UTILITY LINE. ALL STABILIZATION IN THE WETLAND AND BUFFER SHALL BE OF THE FOLLOWING RECOMMENDED SPECIES: ANNUAL HYDRIC (SOLIM MULTIFLORUM), BILLET (SERRA LITALE), COTT (COTYLA SP.), AND/OR (SERRA LITALE). OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NON-TIDAL WETLANDS DIVISION. RESTRICT 31 PERMITS SHALL NOT BE UTILIZED IN THE WETLAND OR BUFFER. ALL TEMPORARY FILLS SHALL BE REMOVED IN THEIR ENTIRETY ON OR BEFORE THE COMPLETION OF CONSTRUCTION.
    - AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST CONSTRUCTION GRADES AND ELEVATIONS OF NON-TIDAL WETLANDS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS.
    - TO PROTECT IMPORTANT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM AS FOLLOWS:
      - CLASS I WATER, IN-STREAM WORK MAY NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.

NOTE: ALL STORM DRAINAGE AREAS ARE LOCATED IN HYDROLOGIC SOILS CLASS 'B'.



*Charles J. Crova*  
CHARLES J. CROVA, PE  
DATE: 11/9/92

DRAINAGE AREA MAP  
VILLAGE OF RIVER HILL  
SECTION 2 AREA 2  
PHASE I  
LOTS 128-236 & 240-241  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
OCTOBER 30, 1990  
SHEET 10 OF 12

OWNER AND DEVELOPER  
HOWARD RESEARCH AND DEVELOPMENT, CORP  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MARYLAND 21044

FISHER, COLLINS & CARTER, INC.  
9771 BALTIMORE NATIONAL PIKE, SUITE 100  
ELLICOTT CITY, MARYLAND 21042  
4101 481 - 2855

1487



**RIP-RAP OUTLET SEDIMENT TRAP LP 4**  
 DRAINAGE AREA (TRAP) = 2.41 AC.  
 STORAGE PROVIDED = 4750 C.F.  
 WEIR CREST ELEV. = 392.00  
 BOTTOM ELEV. = 392.00  
 CLEAN OUT ELEV. = 394.50  
 DEPTH = 5'0"  
 SIDE SLOPES = 1:1  
 TOP EMBANKMENT = 400.00  
 WEIR LENGTH = 6'0"

**RIP-RAP OUTLET SEDIMENT TRAP LP 5**  
 DRAINAGE AREA (TRAP) = 2.41 AC.  
 STORAGE PROVIDED = 4750 C.F.  
 WEIR CREST ELEV. = 392.00  
 BOTTOM ELEV. = 392.00  
 CLEAN OUT ELEV. = 394.50  
 DEPTH = 5'0"  
 SIDE SLOPES = 1:1  
 TOP EMBANKMENT = 397.30  
 WEIR LENGTH = 2'0"  
 (SEE PROFILE SHEET 12)

**RIP-RAP OUTLET SEDIMENT TRAP LP 2**  
 DRAINAGE AREA (TRAP) = 5.17 AC.  
 STORAGE PROVIDED = 7804 C.F.  
 WEIR CREST ELEV. = 414.00  
 BOTTOM ELEV. = 408.00  
 CLEAN OUT ELEV. = 410.00  
 DEPTH = 5'0"  
 SIDE SLOPES = 1:1  
 TOP EMBANKMENT = 416.00  
 WEIR LENGTH = 12'0"

**RIP-RAP OUTLET SEDIMENT TRAP LP 4**  
 DRAINAGE AREA (TRAP) = 2.41 AC.  
 STORAGE PROVIDED = 4750 C.F.  
 WEIR CREST ELEV. = 392.00  
 BOTTOM ELEV. = 392.00  
 CLEAN OUT ELEV. = 394.50  
 DEPTH = 5'0"  
 SIDE SLOPES = 1:1  
 TOP EMBANKMENT = 400.00  
 WEIR LENGTH = 6'0"



THE 65-dBA NOISE CONTOUR LINE REPRESENTS THE APPROX. LOCATION OF THE (65-dBA (ocibel)) NOISE EXPOSURE LEVEL GENERATED BY MD. 32 TRAFFIC IN THE YEAR 2015 BASED UPON ASSUMPTIONS ABOUT ACTUAL CONDITIONS AT THAT TIME. THIS VALUE REPRESENTS THE AVG. SOUND LEVEL DURING THE SINGLE NOISIEST ONE-HOUR PERIOD OF VEHICULAR TRAFFIC DURING A TYPICAL DAY. THIS CALCULATION IS BASED ON THE STATE HIGHWAY ADMINISTRATION'S ESTIMATE OF YEAR 2015 HIGHWAY TRAFFIC VOLUME. THE CONTOUR LINE DRAWN ON THIS PLAN IS ADVISORY, AS REQUIRED BY HOWARD COUNTY DESIGN MANUAL, VOLUME III, CHAPTER 5, REVISED FEBRUARY 1992, AND CAN NOT BE CONSIDERED TO LOCATE EXACTLY THE 65-dBA EXPOSURE.

**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, CONDITIONS, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF ENGINEER: *[Signature]* DATE: 11/19/92

**DEVELOPER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERSONS ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEFINED NECESSARY.  
 SIGNATURE OF DEVELOPER: *[Signature]* DATE: 6-21-93

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND METS TECHNICAL REQUIREMENTS:  
*[Signature]* 6/24/93  
 THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
*[Signature]* 6/24/93  
 APPROVED DEPARTMENT OF PLANNING AND ZONING:  
*[Signature]* 7/7/93  
 APPROVED DEPARTMENT OF PUBLIC WORKS:  
*[Signature]* 6/30/93  
 APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS:  
*[Signature]* 6/30/93  
 SHEET: PART OF 17 PHASE I

- CONSTRUCTION REQUIREMENTS**
- THE USER OF THIS PLAN IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
  - THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
  - THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
  - THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
  - THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
  - THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
  - THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
  - THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
  - THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
  - THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

**LEGEND**

- DENOTES EX. STREET TREE LOCATION
- DENOTES PROPOSED STREET TREE LOCATION PLANTED 40' O.C., SEE PLANTING DETAIL SHEET 9.

**LEGEND**

- S — SILT FENCE
- E — EARTH DIKES
- L — LIMIT OF DISTURBANCE
- T — TEMPORARY SWALE
- X — TREE PROTECTION FENCE (SEE DETAIL, THIS SHEET)

**LEGEND**

- S — SILT FENCE
- E — EARTH DIKES
- L — LIMIT OF DISTURBANCE
- T — TEMPORARY SWALE
- X — TREE PROTECTION FENCE (SEE DETAIL, THIS SHEET)

STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 AS-BUILT  
 11/19/92

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING, CONSULTING & LAND SURVEYORS  
 971 BALTIMORE NATIONAL PIKE, SUITE 100  
 ELLICOTT CITY, MARYLAND 21042  
 (410) 461-2955

**OWNER AND DEVELOPER**  
 HOWARD RESEARCH AND DEVELOPMENT, CORP  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044

**PLAN**  
 SCALE: 1" = 50'

MATCH LINE SEE SHEET 15 OF 17 PHASE II  
 MARYLAND ROUTE 32 RIGHT-OF-WAY  
 (STATE-HIGHWAY ADMINISTRATION PLAT NOS. 52406 THRU 52408)

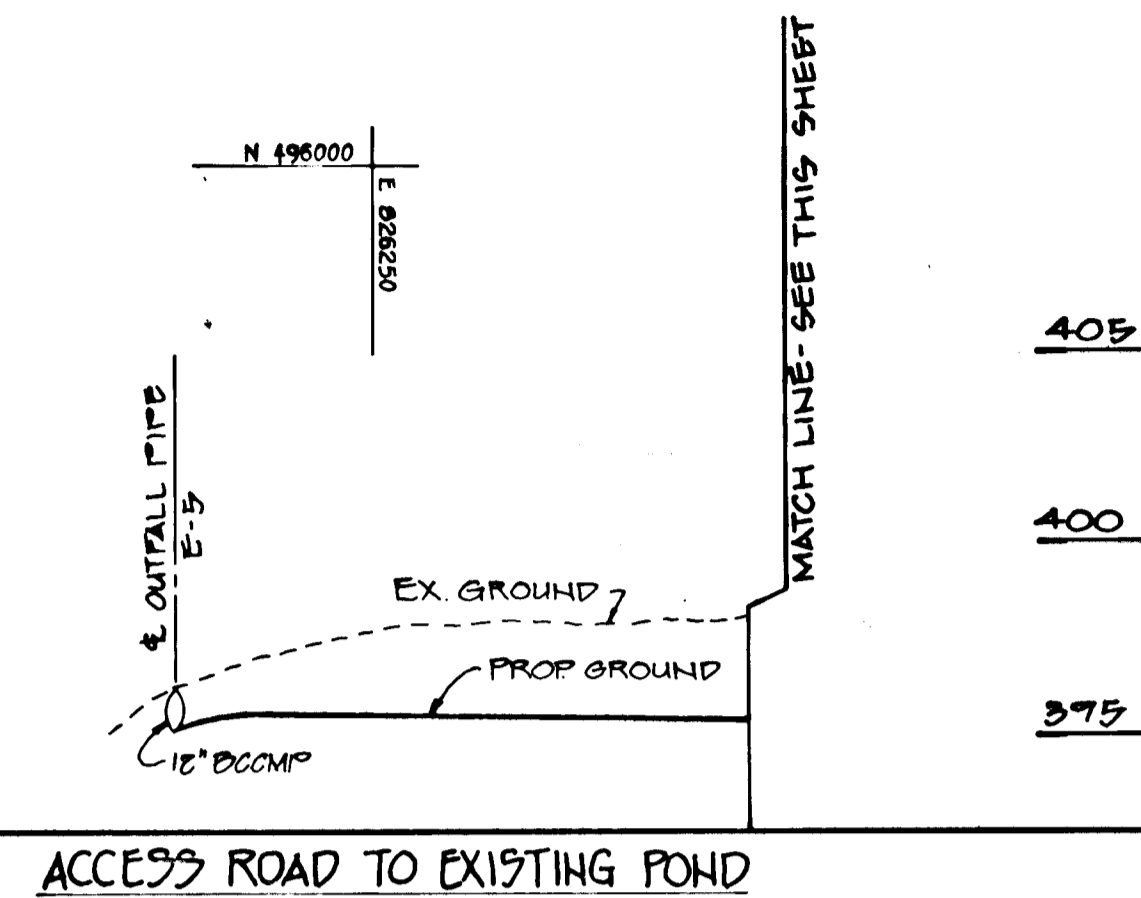
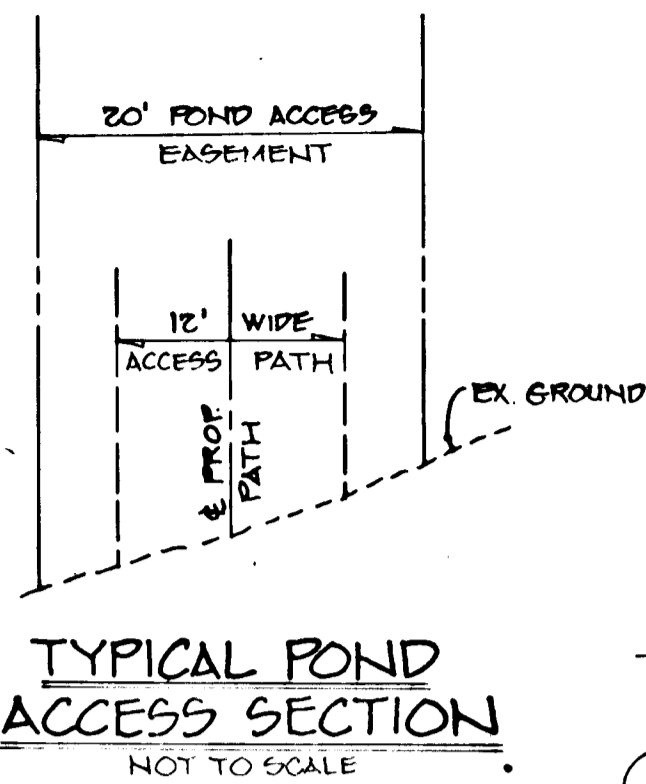
STREET TREE, GRADING AND SEDIMENT CONTROL PLAN  
**VILLAGE OF RIVER HILL**  
 SECTION 2 AREA 2  
 PHASE I  
 LOTS 128-236 & 240-241  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 OCTOBER 30, 1992  
 SHEET 11 OF 12

1487

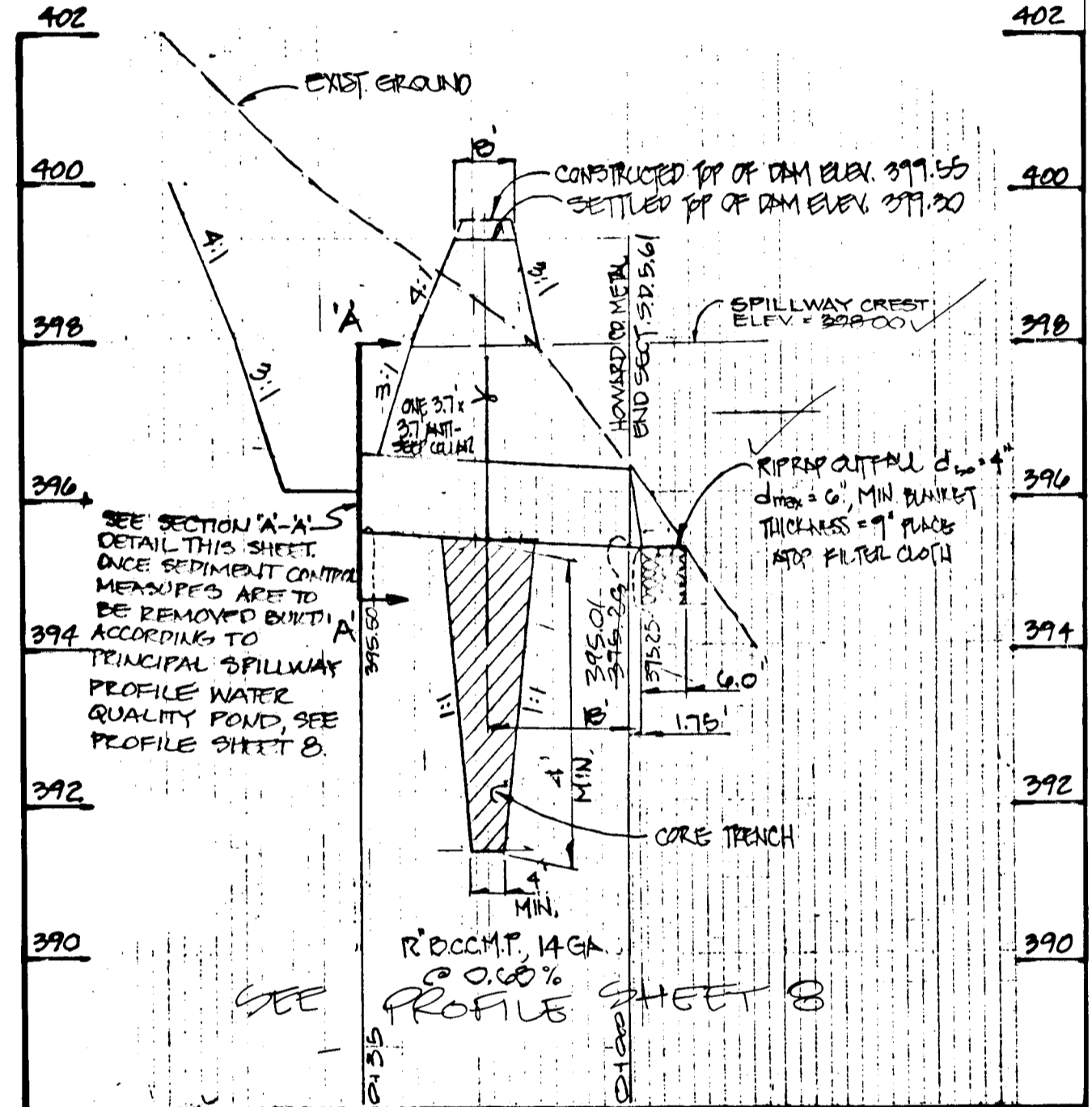
AS-BUILT F 73-80



RIP-RAP OUTLET SEDIMENT TRAP (L-1)  
 DRAINAGE AREA (PROP) = 4.00 AC ±  
 STORAGE REQ'D = 6220 C.F.  
 STORAGE PROV'D = 6120 C.F.  
 WEIR CREST ELEV. = 428.00  
 BOTTOM ELEV. = 422.00  
 CLEAR OUT ELEV. = 414.50  
 DEPTH = 5.0'  
 SIDE SLOPES = 1:1  
 TOP EMBANKMENT = 450.00  
 WEIR LENGTH = 12'



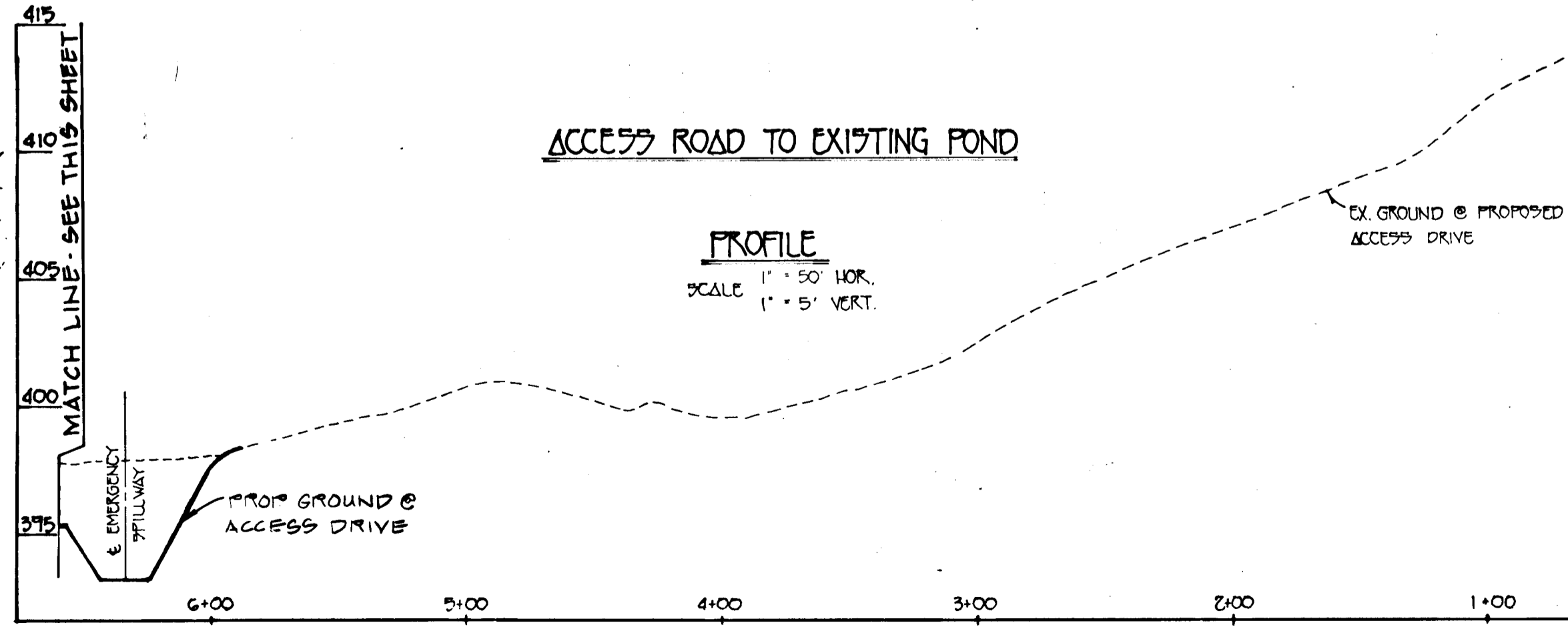
PROFILE  
 SCALE: 1" = 50' HOR.  
 1" = 5' VERT.



LEGEND

- DENOTES PROPOSED STREET TREE LOCATION PLANTED 40' O.C., SEE PLANTING DETAIL SHEET 9.
- S— SILT FENCE
- D— EARTH DIKES
- LIMIT OF DISTURBANCE

RIP-RAP OUTLET SEDIMENT TRAP (L-6)  
 PRINCIPAL SPILLWAY PROFILE  
 SCALE: HORZ. 1" = 20'  
 VERT. 1" = 2'



PLAN  
 SCALE: 1" = 50'

OWNER AND DEVELOPER  
 HOWARD RESEARCH AND DEVELOPMENT, CORP.  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044

**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE: [Signature] DATE: 11/19/92

**DEVELOPER'S CERTIFICATE**  
 I HAVE CERTIFIED THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES 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 OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.  
 SIGNATURE: [Signature] DATE: 6-21-93

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS:  
 SIGNATURE: James M. Helms/PAK DATE: 6/24/93  
 SIGNATURE: [Signature] DATE: 6/24/93  
 APPROVED DEPARTMENT OF PLANNING AND LAND DEVELOPMENT:  
 SIGNATURE: [Signature] DATE: 7/1/93  
 APPROVED DEPARTMENT OF PUBLIC WORKS:  
 SIGNATURE: [Signature] DATE: 6/30/93  
 APPROVED DEPARTMENT OF PUBLIC WORKS:  
 SIGNATURE: [Signature] DATE: 6/30/93  
 SIGNATURE: [Signature] DATE: 6/26/93

AS BUILT  
 G. SCOTT SHANBERGER  
 PROFESSIONAL ENGINEER  
 8755 GREENBRIER BLVD.  
 SUITE 134  
 ELLICOTT CITY, MARYLAND 21043

STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 [Signature]  
 CHARLES J. OTTO, SR.  
 DATE: 11/19/92

STREET TREE, GRADING AND SEDIMENT CONTROL PLAN  
 VILLAGE OF RIVER HILL  
 SECTION 2 AREA 2  
 PHASE 1  
 LOTS 125-236 & 240-241  
 5TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 OCTOBER 30, 1992  
 SHEET 12 OF 12

FISHER, COLLINS & CARTER, INC.  
 ENGINEERS, ARCHITECTS, PLANNERS & LANDSCAPE ARCHITECTS  
 9171 BALTIMORE NATIONAL PARK, SUITE 100  
 ELLICOTT CITY, MARYLAND 21042  
 (410) 461-2855

1487