GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH HOWARD COUNTY STANDARDS, SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
2. ALL UTILITY COMPANIES MUST BE NOTIFIED 24 HRS IN ADVANCE OF ANY CONSTRUCTION.
3. STORM DRAINAGE TRENCHES WITHIN ROAD RIGHT-OF-WAYS SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY ROAD CODE.
4. ANY DAMAGE TO PUBLIC RIGHT-OF-WAYS, PAVING, OR EXISTING UTILITIESWILL BE CORRECTED AT THE CONTRACTORS EXPENSE.
5. CONTRACTOR TO NOTIFY THE HOWARD COUNTY INSPECTION AND SURVEY DIVISION AT LEAST 3 DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS TELEPHONE 792-7272.
6. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTOR'S INFORMATION, CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE,
7. ALL TRAFFIC CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL CURRENT REVISED EDITION

STREET LIGHTS

175-Watt "Modern" Mercury Vapor Lamp Post Top Fixtures On A 14-Foot Gray Fiberglass Pole Located 2-10' From Back Of Curb At The Following Locations:

1.) The Intersection Of Haven Oak Court And Thornbrook Road, On The Southwest Side.
2.) The Intersection Of Towwood Court And Thornbrook Road, On The Southwest Side.
3.) Sta. 0+50 Along Thornbrook Road, At The Intersection Of Thornbrook Road
4.) The Intersection Of Carrie Way And Thornbrook Road On The Southwest Side.
5.) Carrie Way At ℄ Road Sta. 5+00 On The South Side.

APPROVED
DEPARTMENT OF PUBLIC WORKS

[signature] 8/29/88
CHIEF, LAND DEVELOPMENT DIVISION DATE

Granville W. Wehland 8/29/88
CHIEF, BUREAU OF HIGHWAYS DATE

[signature] 8.29.88
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED
OFFICE OF PLANNING AND ZONING

[signature] 9-1-88
COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

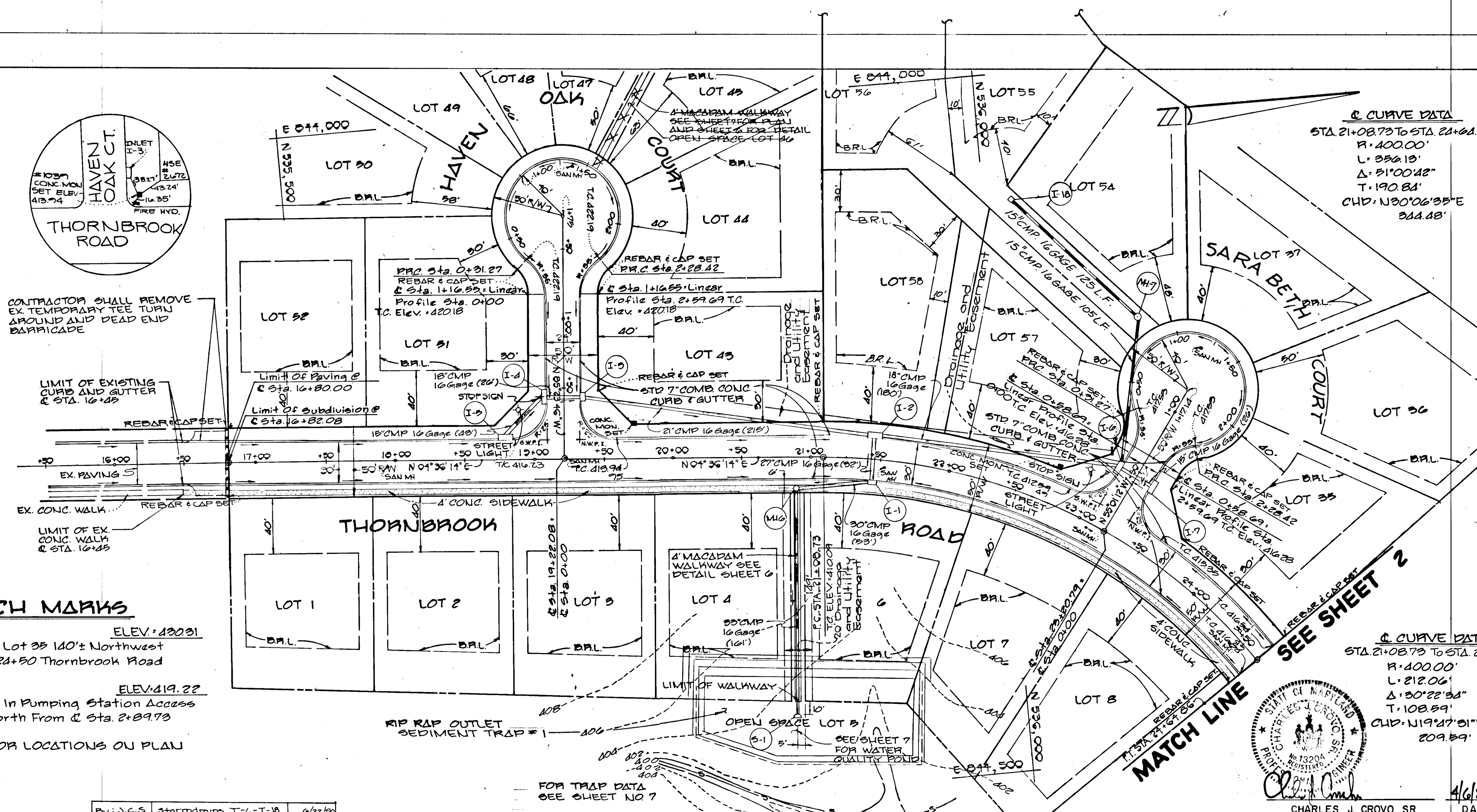
PLAN | BY | DATE
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
NOTE BOOK
NO.

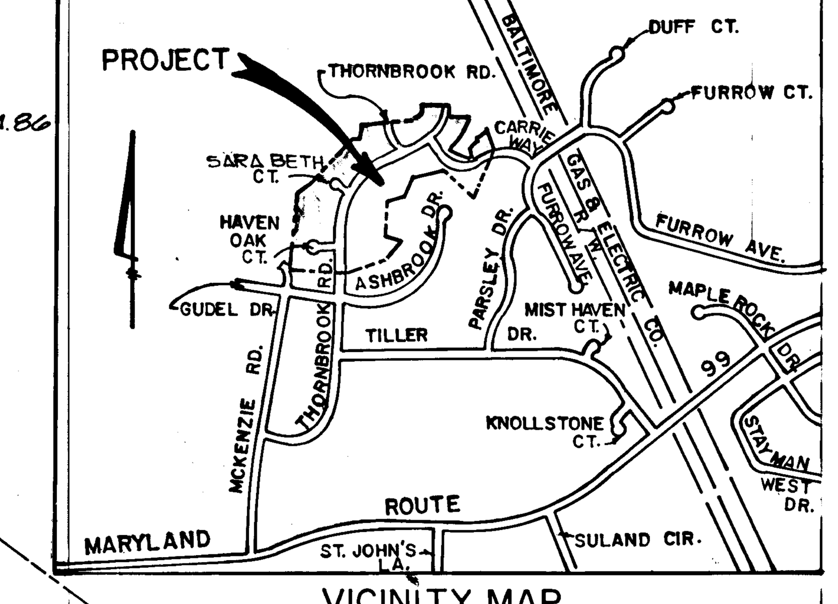
BENCH MARKS

B.M. MH-106 ELEV.: 430.31
Rebar Set On Lot 35 140'± Northwest From ℄ Sta. 24+50 Thornbrook Road

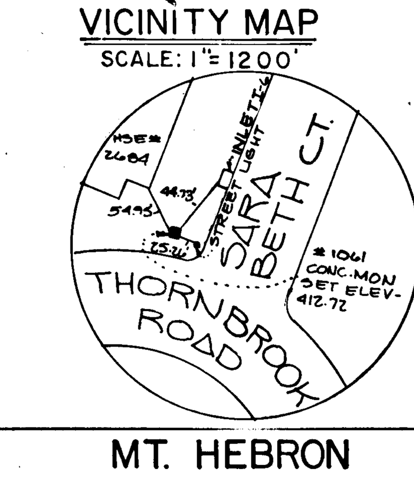
B.M. MH-108 ELEV: 419.22
P.K. Nail Set In Pumping Station Access Road 55'± North From ℄ Sta. 2+89.73

SEE SHEET 7 FOR LOCATIONS ON PLAN





VICINITY MAP
SCALE: 1" = 1200'



MT. HEBRON
SECTION 19
LOTS 1-53
2ND. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

THORNBROOK ROAD PLAN & PROFILE	HAVEN OAK CT. PLAN & PROFILE	SARA BETH COURT PLAN & PROFILE

OWNER AND DEVELOPER
FORTY WEST BUILDERS, INC.
1007 LESLIE AVENUE
CATONSVILLE, MARYLAND 21228

SCALE AS SHOWN	DATE MARCH 31, 1988	DWG. NO. 1 OF 9
DES. D. VANDERYT	DRN. C. BAUER	CHK. C. CROVO

FISHER, COLLINS AND CARTER, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
8388 COURT AVE. ELLICOTT CITY, MARYLAND 21043

STATE OF MARYLAND CHARLES J. CROVO SR. No. 13204 REGISTERED PROFESSIONAL ENGINEER

[signature] 4/6/88
CHARLES J. CROVO SR DATE

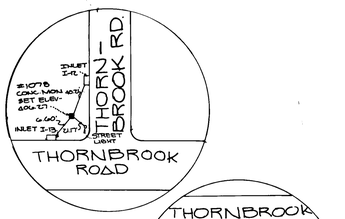
By: J.C.S | stormdrains I-6-I-18 | 6/22/90

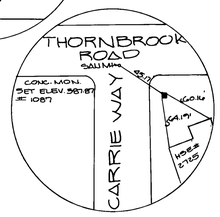
AS-BUILT SURVEY CERTIFIED BY CHARLES J. CROVO, MD.P.E. No. 13204 ON DEC. 12, 1990.

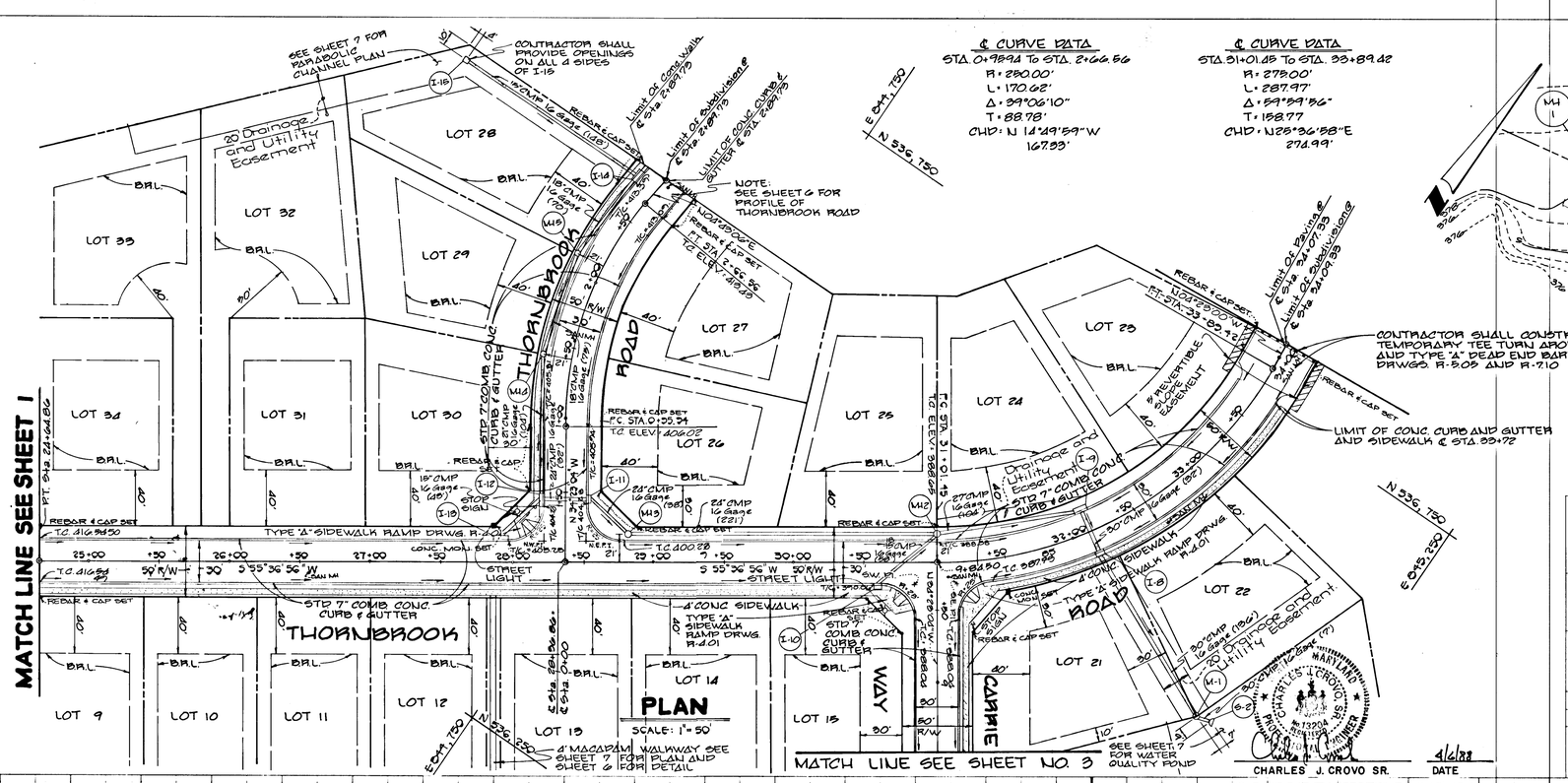
PROFILE | BY | DATE
SURVEYED
PLOTTED
GRADES CHECKED
B.M.s NOTED
STRUCTURE NOTATIONS CHKD
NOTE BOOK
NO.

16

AS-BUILT F 88-227







MT. HEBRON
SECTION 19
LOTS 1-53
2ND. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

THORNBROOK ROAD

PLAN & PROFILE

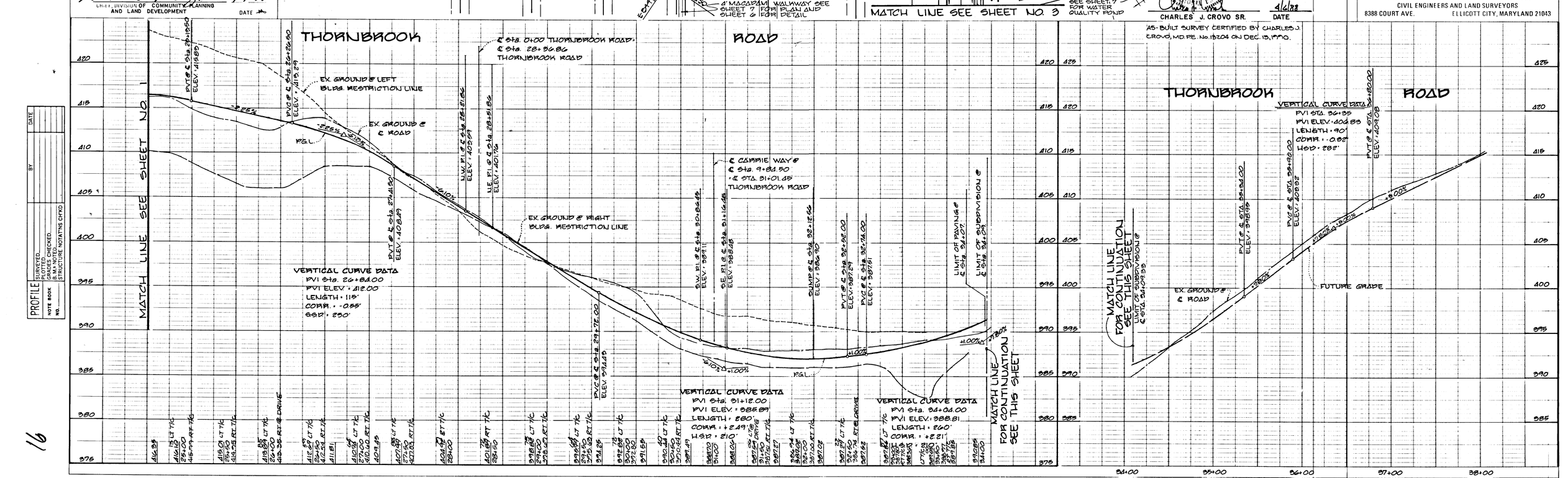
OWNER AND DEVELOPER
FORTY WEST BUILDERS, INC.
1007 LESLIE AVENUE
CATONSVILLE, MARYLAND 21228

SCALE AS SHOWN	DATE MARCH 31, 1988	DWG. NO. 2 OF 9
DES. D. VANDE RYT.	DRN. C. BAUER	CHK. C. CROVO

FISHER, COLLINS AND CARTER, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
8388 COURT AVE. ELLICOTT CITY, MARYLAND 21043

AS-BUILT SURVEY CERTIFIED BY CHARLES J. CROVO, MD. PE. No. 13204 ON DEC. 15, 1990.

CHARLES J. CROVO SR. — DATE 4/6/88



PROFILE
SURVEYED
DRAWN
TRACED
GRADES CHECKED
B.M.'s NOTED
STRUCTURE NOTATNS CHKD
NOTE BOOK NO.
BY
DATE

16

AS-BUILT

F 88-227

MATCH LINE SEE SHEET NO. 2

℄ CURVE DATA
STA. 3+18.09 To STA. 3+08.32
R = 218.00'
L = 286.83'
Δ = 76°26'18"
T = 169.30'
CHD: N72°36'11"W
266.08'

N 836,850
E 844,730

LOT 13
LOT 14
LOT 15
LOT 18
LOT 19
LOT 17
OPEN SPACE 16
OPEN SPACE 20'
OPEN SPACE 53

REBAR & CAP SET
REBAR & CAP SET PT STA. 3+08.32 TC 386.37
CONTRACTOR SHALL INSTALL 4 L.F. 21"x38 RCP-HE @ END OF EX. PIPE
EX. STREAM SEE DETAIL SHEET 6
33"CMP 16 GAGE (30')
Drainage and Utility Easement
6' CMP 16 GAGE (60')
18" CMP 16 GAGE (32')
CONTRACTOR SHALL INSTALL 5 L.F. 21"x38"RCP-HE @ END OF EX. PIPE
STUMP & COVER CURB & GUTTER
EX. STREAM
4' CONC. SIDEWALK
STREET LIGHT TC 386.51
S 64°10'42" W
+50 SWM
EX. PAVING
EX. 27" RCP
EX. BIT. CURB
EX. DRIVEWAY
LIMIT OF CONC. CURB AND GUTTER @ ℄ STA. 4+10.99
CONTRACTOR SHALL REMOVE EX. CONC. HEADWALL AND CONSTRUCT
LIMIT OF CONC. WALK @ STA. 4+10.99
CONTRACTOR SHALL REMOVE THE EX. TEE TURN AROUND AND INSTALL 20 L.F. BIT. CURB TO MEET CONC. CURB & GUTTER.
LOSE DOWN CURB @ DRIVEWAY
B.R.L.
EX. GATE SHALL BE REMOVED AND RELOCATED TO THORNBROOK ROAD @ ℄ STA. 2+89.73
E 845,500
N 836,500
N 836,250

CARRIE WAY

PLAN
Scale: 1"=50'

APPROVED
DEPARTMENT OF PUBLIC WORKS
CHIEF, LAND DEVELOPMENT DIVISION — DATE 6/29/88
CHIEF, BUREAU OF HIGHWAYS — DATE 8/29/88
CHIEF, BUREAU OF ENGINEERING — DATE 8-29-88

APPROVED
OFFICE OF PLANNING AND ZONING
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 9-1-88

PLAN | SURVEYED | PLOTTED | ALIGNMENT CHECKED | PLAN CHECKED | NOTE BOOK NO. | BY | DATE

MT. HEBRON
SECTION 19
LOTS 1 - 53
2ND. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

CARRIE WAY

PLAN & PROFILE

OWNER AND DEVELOPER
FORTY WEST BUILDERS, INC.
1007 LESLIE AVENUE
CATONSVILLE, MARYLAND 21228

SCALE AS SHOWN	DATE MAR 31, 1988	DWG. NO. 3 OF 9
DES. D VANDE RYT	DRN C. BAUER	CHK. C. CROVO

FISHER, COLLINS AND CARTER, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
8388 COURT AVE. ELLICOTT CITY, MARYLAND 21043

STATE OF MARYLAND · CHARLES J. CROVO SR. · No. 13204 · REGISTERED PROFESSIONAL ENGINEER

CHARLES J. CROVO SR. — DATE 4/6/88

AS-BUILT SURVEY CERTIFIED BY CHARLES J. CROVO, MD.P.E. NO. 13204 ON DEC. 13, 1990.

PROFILE | SURVEYED | PLOTTED | GRADES CHECKED | BY | NOTE BOOK NO. | DATE | STRUCTURE NOTATNS CHK'D

PVC STA 3+11.00
ELEV. = 399.40
MOUNT HEBRON SECTION 14
LIMIT OF SUBDIVISION ℄ STA. 4+10.99 ELEV. = 390.00
EX. TOP OF CURB GRADE
EX. ℄ GRADE
CARRIE WAY

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

VERTICAL CURVE DATA
P.V.I. STA. 4+98.50
P.V.I. ELEV. = 382.69
LENGTH = 378.00
CORR. = +8.55'
USED = 210'

SUMP ℄ STA. 4+97.50 ELEV. = 382.65
P.V.T. STA. 6+85.00 ELEV. = 382.94
EX. GROUND ℄ ROAD
EX. GROUND ℄ LEFT BLDG. RESTRICTION LINE
EX. GROUND ℄ RIGHT BLDG. RESTRICTION LINE
P.G.L.
+1.80%
-1.20%
S.W. PI ℄ THORNBROOK RD STA. 3+02.95 ELEV. = 389.11 +247.92' ℄ CARRIE WAY
S.E. PI ℄ THORNBROOK RD STA. 3+04.45 ELEV. = 388.98 +249.42' ℄ CARRIE WAY
℄ THORNBROOK ROAD

HEADWATER ELEV. = 382.04
PROP. GRADE ℄ PIPE
EX. ℄ STREAM
377.85
376.80 ℄ EX. STREAM
POLY FILTER X
9 L.F. RIP RAP CHANNEL @ 1.16% d50 = 6" dmax = 9" BLANKET THICKNESS 18"
ADD 9 L.F. 91"x58" RCP HE TO EX. PIPE
EX. INV. 377.39
EX. INV. 376.85
EX. 91"x58" RCP HE @ 1.16% Qcap = 190.38 c.f.s. V = 6.61 f.p.s.

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

AS-BUILT F 88-227

16

APPROVED
DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 8/25/00

APPROVED
DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE

APPROVED
DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING — DATE

APPROVED
OFFICE OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 7-1-00

STRUCTURE SCHEDULE

STRUCTURE	TYPE	INV. IN	INV. OUT	TOP ELEV.	ROAD STATION	REMARKS
I-1	A-5	403.94 ~~402.94~~	402.69 ~~402.92~~	409.81 ~~409.77~~	21+44.34 THORNBROOK ROAD	S.D. 4.01
I-2	A-10	404.75	403.76 ~~403.94~~	409.81 ~~409.77~~	21+44.34 THORNBROOK ROAD	S.D. 4.02
I-3	A-5 W/ DEFLECTORS	410.27	410.02 ~~409.99~~	416.71 ~~416.79~~	0+45.50 HAVEN OAK COURT	S.D. 4.01 & 4.83
I-4	A-10 W/ DEFLECTORS	410.89 ~~411.22~~	410.97 ~~410.75~~	416.71 ~~416.68~~	0+45.50 HAVEN OAK COURT	S.D. 4.02 & 4.83
I-5	A-10 W/ DEFLECTORS	-------	~~412.00~~ 411.47	416.45	----------	S.D. 4.02 & 4.83
I-6	A-10 W/ DEFLECTORS	410.42	~~410.17~~ 409.78	415.75 ~~415.74~~	0+45.50 [illegible] COURT	S.D. 4.02 & 4.83
I-7	A-10 W/ DEFLECTORS	-------	410.75 ~~410.55~~ 410.61	415.75 ~~415.80~~	0+45.50 SARA BETH COURT	S.D. 4.02 & 4.83
I-8	A-5	378.66 ~~380.68~~	~~380.43~~ 380.90	386.90 ~~387.09~~	32+12.56 THORNBROOK ROAD	S.D. 4.01
I-9	A-10	380.74 ~~381.57~~	~~381.32~~ 381.71	386.90 ~~386.87~~	32+12.56 THORNBROOK ROAD	S.D. 4.02
I-10	A-5 W/ DEFLECTORS	-------	385.60 ~~385.27~~	390.10 ~~390.21~~	30+58.45 THORNBROOK ROAD	S.D. 4.01 & 4.83
I-11	A-5 W/ DEFLECTORS	397.69 ~~398.20~~	396.35 ~~396.10~~	404.51 ~~404.49~~	0+48.50 THORNBROOK ROAD	S.D. 4.01 & 4.83
I-12	A-10 W/ DEFLECTORS	398.80 ~~399.65~~	398.90 ~~398.01~~	404.51 ~~404.52~~	0+48.50 THORNBROOK ROAD	S.D. 4.02 & 4.83
I-13	A-10 W/ DEFLECTORS	-------	401.50 ~~401.27~~ 408.88	405.45 ~~405.28~~	27+91.36 THORNBROOK ROAD	S.D. 4.02 & 4.83
I-14	A-10 W/ DEFLECTORS	409.25 ~~408.88~~	409.00	414.10 ~~414.18~~	2+77.56 THORNBROOK ROAD	S.D. 4.02 & 4.83
I-15	'D' INLET	-------	425.50 ~~425.38~~	429.83 ~~429.93~~	----------	S.D. 4.11
I-16	A-5	376.97 ~~379.14~~	376.50 ~~376.40~~	384.46 ~~384.55~~	6+37.50 CARRIE WAY	S.D. 4.01
I-17	A-10	~~377.77~~ 380.05	~~380.05~~ 380.46	384.46 ~~384.28~~	6+37.50 CARRIE WAY	S.D. 4.02
MH-1	SHALLOW MANHOLE	~~377.49~~	377.24 ~~377.36~~	381.45 ~~381.47~~	----------	G. 5.05
MH-2	SHALLOW MANHOLE	384.61 ~~384.36~~	383.61 ~~383.36~~	388.86	31+01.45 THORNBROOK ROAD	G. 5.05
MH-3	SHALLOW MANHOLE	394.45 ~~394.20~~	394.20 ~~394.15~~	400.12 ~~400.15~~	28+82.00 THORNBROOK ROAD	G. 5.05
MH-4	SHALLOW MANHOLE	402.50 ~~402.25~~	402.25 ~~402.15~~	407.83	1+43.85 THORNBROOK ROAD	G. 5.05
MH-5	SHALLOW MANHOLE	406.00 ~~406.25~~	405.75 ~~405.88~~	410.98 ~~411.33~~	2+12.94 THORNBROOK ROAD	G. 5.05
MH-6	ST'D. MANHOLE	401.66 ~~401.41~~	401.41 ~~400.98~~	410.53 ~~410.38~~	20+89.08 THORNBROOK ROAD	G. 5.02
S-1	ST'D. METAL END SECTION	398.51	398.43	~~401.26~~ 400.61	----------	S.D. 5.61
S-2	ST'D. METAL END SECTION	376.91 ~~377.09~~	377.00	379.59 ~~378.91~~	----------	S.D. 5.61
S-3	ST'D METAL END SECTION	~~376.77~~	376.12	378.92 ~~379.16~~	----------	S.D. 5.61
B.S.-1	BEND STRUCTURE CIRCULAR PIPE WITH MANHOLE	383.24	383.00	388.80	----------	S.D. 1.01
I-18	D	----	413.2510	416.8347.04	SEE PLAN	SD.4.39
M-7	STD. MANHOLE	412.00 ~~411.92~~	411.1554	419.0 ~~419.03~~	SEE PLAN	G5-11

OWNER AND DEVELOPER
FORTY WEST BUILDERS, INC.
1007 LESLIE AVENUE
CATONSVILLE, MARYLAND 21228

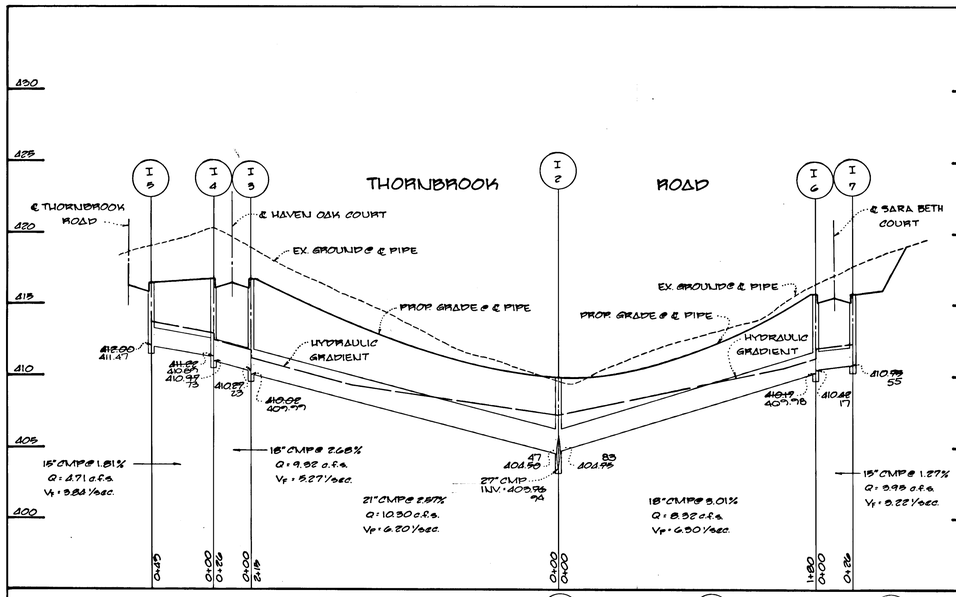
AS-BUILT SURVEY CERTIFIED BY CHARLES J. CROVO, MD. PE. No. 13204 ON DEC. 13, 1990.

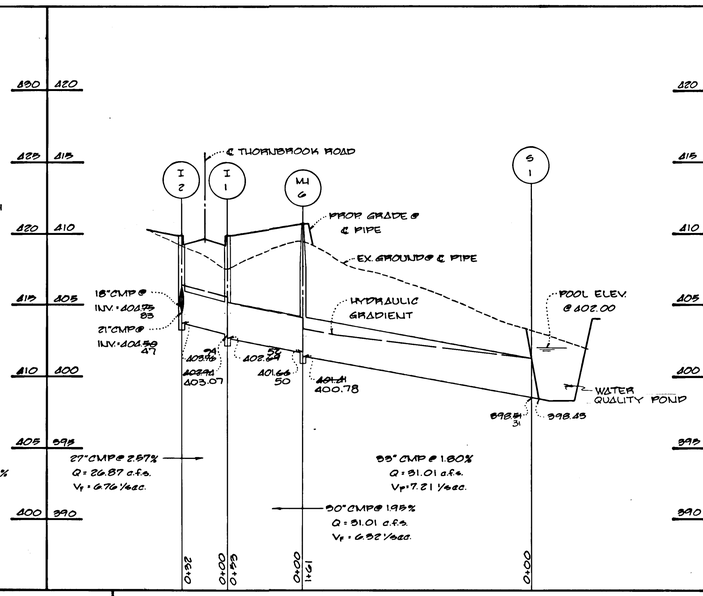
Drainage Area Map
Mount Hebron
Section 19
Lots 1-53
2nd Election District Scale: 1" = 100'
Howard County, Md. March 31, 1988
Sheet 4 of 9

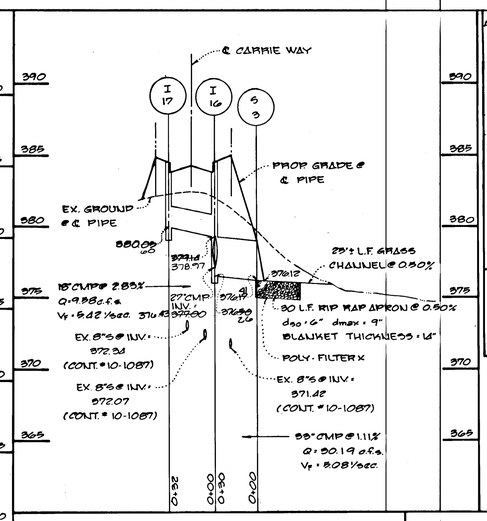
FISHER, COLLINS, AND CARTER, INC.
CONSULTING ENGINEERS AND LANDSURVEYORS
8388 COURT AVENUE
ELLICOTT CITY, MARYLAND 21043

By:	Description	Date
J.C.S.	Stormdrains Rev.	6/23/88

AS-BUILT F88-227





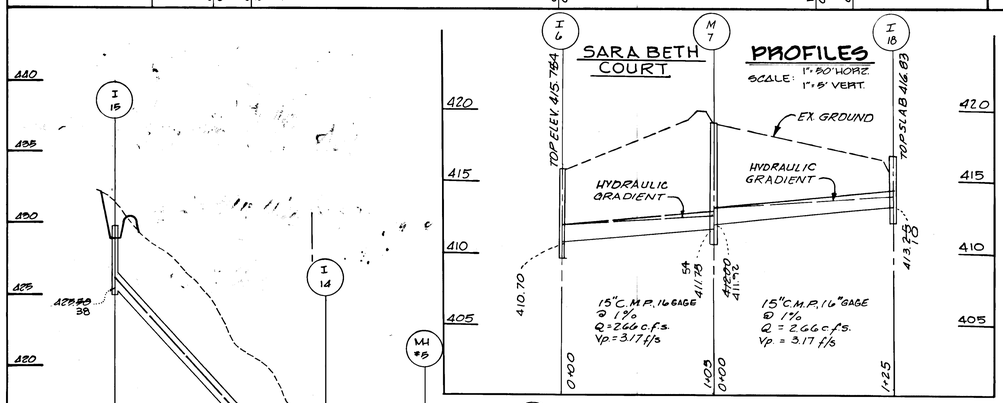


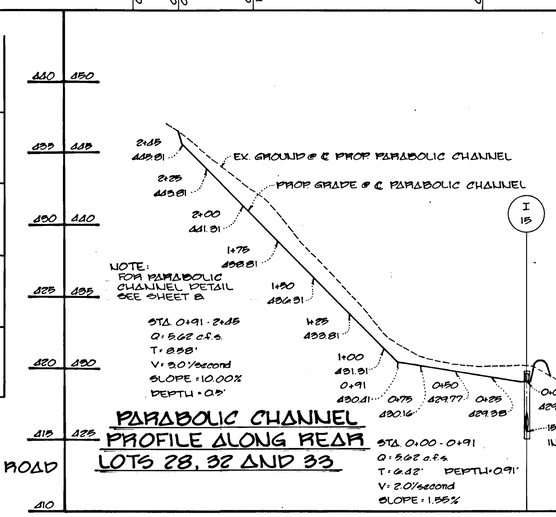
APPROVED
DEPARTMENT OF PUBLIC WORKS
CHIEF, LAND DEVELOPMENT DIVISION — DATE 8/29/88

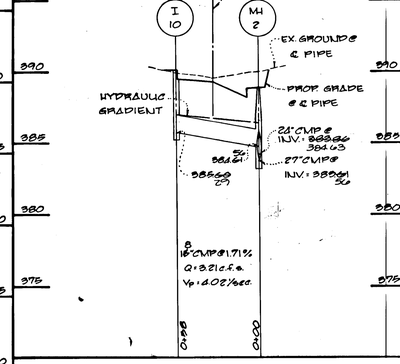
DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS — DATE 8/29/88

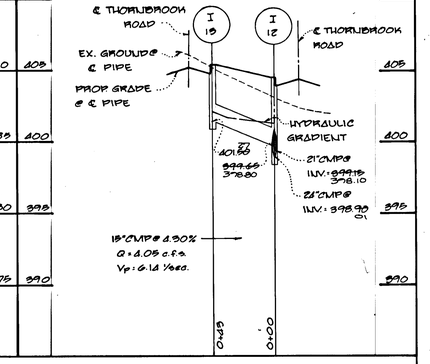
DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING — DATE 8-29-88

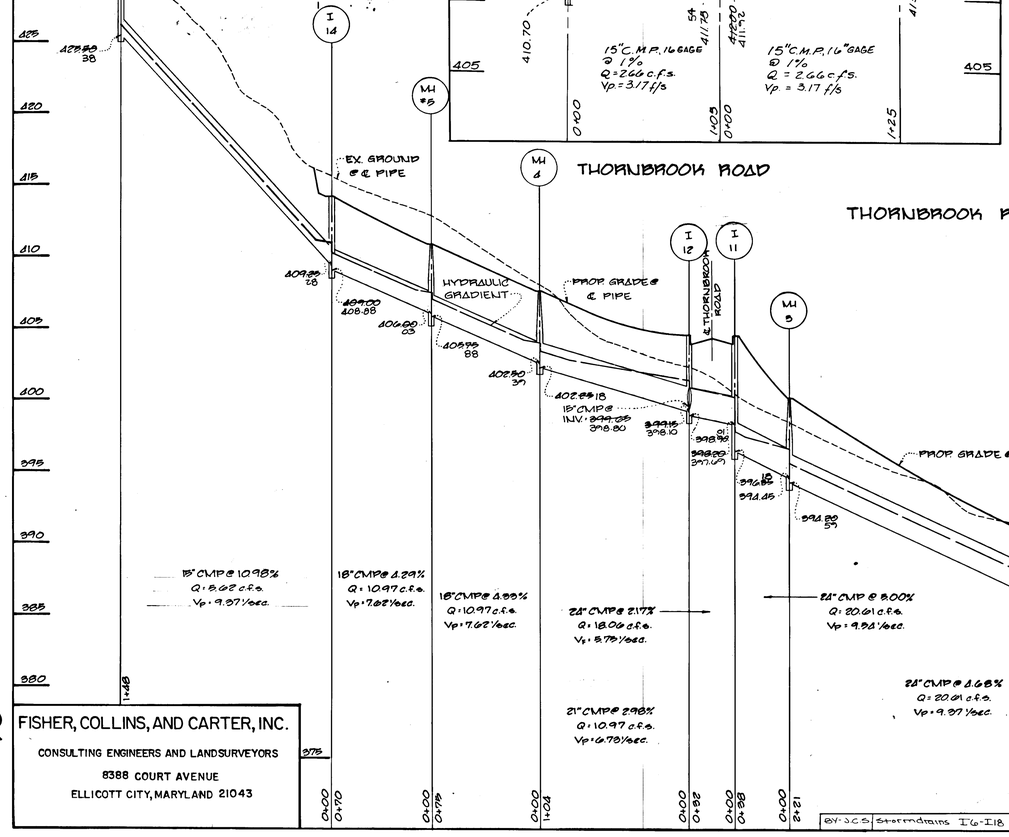
OFFICE OF PLANNING AND ZONING
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 9-1-88

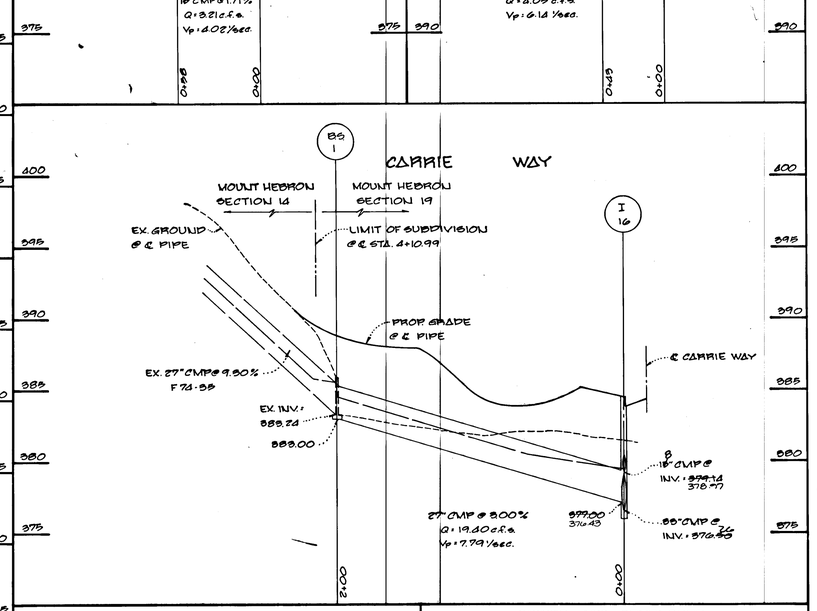












AS-BUILT SURVEY CERTIFIED BY CHARLES J. CROVO MD. P.E. No. 13204 ON DEC. 13, 1990.

STATE OF MARYLAND — CHARLES JOSEPH CROVO — No. 13204 — REGISTERED PROFESSIONAL ENGINEER

CHARLES J. CROVO SR. — 4/6/88 DATE

FISHER, COLLINS, AND CARTER, INC.
CONSULTING ENGINEERS AND LANDSURVEYORS
8388 COURT AVENUE
ELLICOTT CITY, MARYLAND 21043

BY: J.C.S. | Stormdrains I'6-I18 | 4/22/80

OWNER AND DEVELOPER
FORTY WEST BUILDERS, INC.
1007 LESLIE AVENUE
CATONSVILLE, MARYLAND 21228

STORM DRAIN PROFILES

MT. HEBRON
SECTION 19, LOTS 1-33
2 ND. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN SHEET 5 OF 9 MARCH 31, 1988

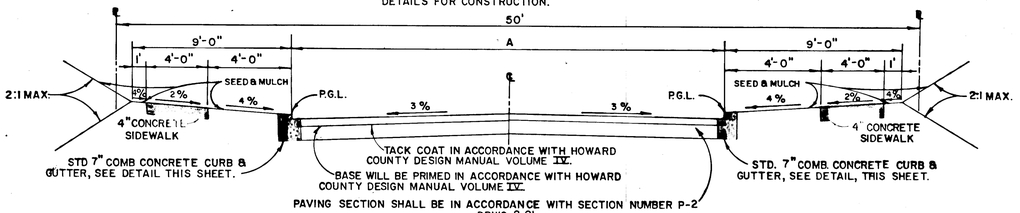
16

F 88-227

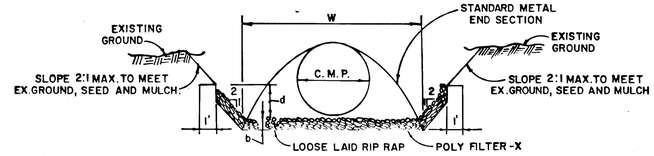
TYPICAL ROADWAY SECTION

NO SCALE

ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOLUME IV, STANDARD SPECIFICATION AND DETAILS FOR CONSTRUCTION.



ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	℄ STA. LIMITS	A
THORNBROOK ROAD	LOCAL ROAD	30 M.P.H.	R-20	16+45 TO 33+72	30'
THORNBROOK ROAD	LOCAL ROAD	30 M.P.H.	R-20	0+00 TO 2+89.73	30'
CARRIE WAY	LOCAL ROAD	30 M.P.H.	R-20	4+10.99 TO 9+84.50	30'
HAVEN OAK COURT	CUL-DE-SAC	25 M.P.H.	R-20	0+00 TO 1+16.55	24'
TOWWOOD COURT	CUL-DE-SAC	25 M.P.H.	R-20	0+00 TO 0+58.69	24'

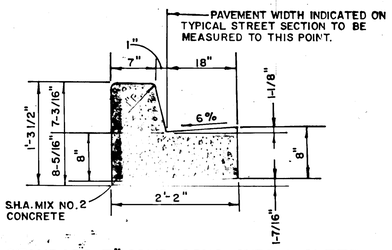


RIP-RAP CHANNEL DETAIL

NO SCALE

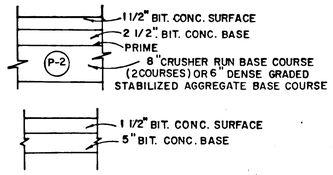
RIP RAP CHANNEL DESIGN DATA

Struct.	A sq.mi.	P'	R	R 2/3	S	S1/2	n	Q	V	d	w	Rip Rap Size d 50	d max	b
S-3	11.88	12.59	0.9436	0.9620	0.50%	0.0707	.04	30.1 c.f.s.	2.53 f.p.s.	1.25'	7'	6"	9"	14"



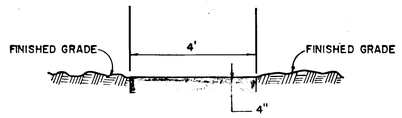
STANDARD 7" COMB. CONC. CURB & GUTTER

NO SCALE



PAVING SECTION P-2

NO SCALE



MACADAM WALKWAY DETAIL

NO SCALE

APPROVED
DEPARTMEN OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE 8/03/88.

Granville W. Wetzel — CHIEF, BUREAU OF HIGHWAYS — DATE 8/29/88

CHIEF, BUREAU OF ENGINEERING — DATE 8-29-88

APPROVED
OFFICE OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE 9-1-88

PLAN — SURVEYED, PLOTTED, ALIGNMENT CHECKED, E.S.A.F. MAY CHECKED, NOTE BOOK NO., DATE, BY

PROFILE — SURVEYED, PLOTTED, GRADES CHECKED, AS BUILTED, STRUCTURE NOTATING CHKD, NOTE BOOK NO., DATE, BY

16

CHARLES J. CROVO SR. — DATE 4/6/88

MT. HEBRON
SECTION 19
LOTS
2ND. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

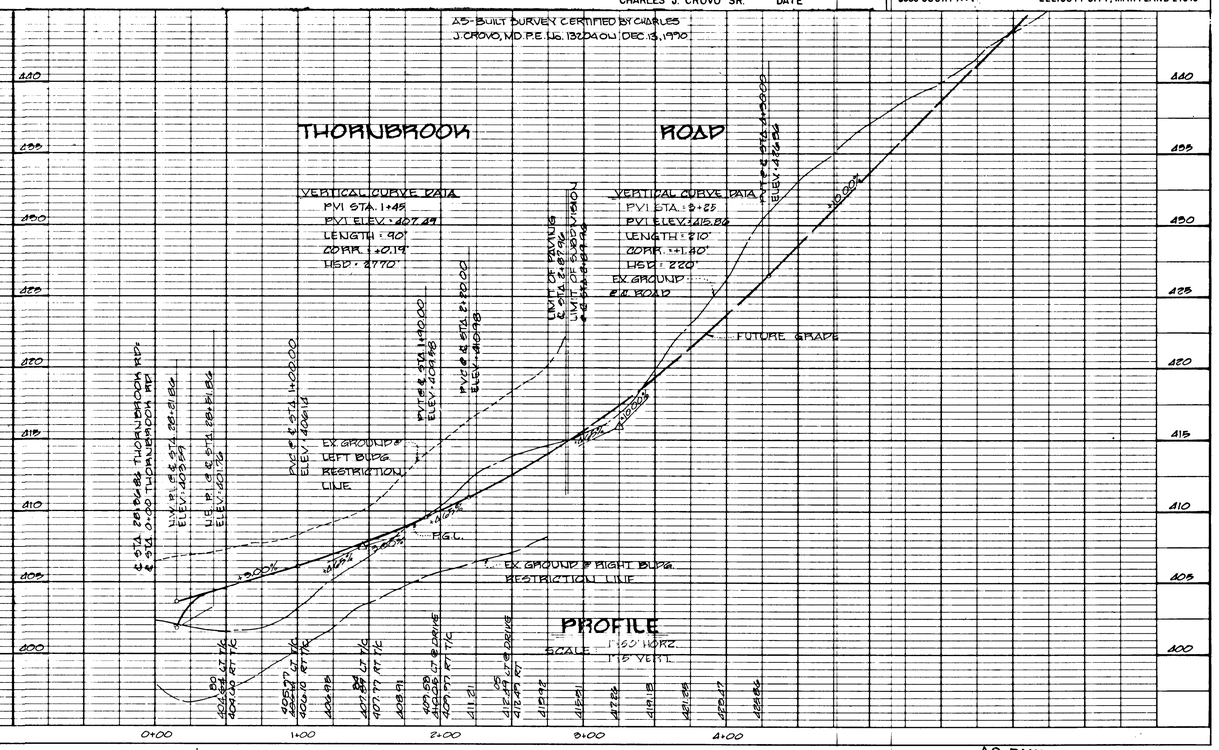
ROAD SECTIONS, DETAILS AND THORNBROOK ROAD-PROFILE

OWNER AND DEVELOPER
FORTY WEST BUILDERS, INC.
1007 LESLIE AVENUE
CATONSVILLE, MARYLAND 21228

SCALE AS SHOWN	DATE MAR. 31, 1988	DWG. NO. 6 OF 9
DES. D. VANDE RYT	DRN. C. BAUER	CHK. C. CROVO

FISHER, COLLINS AND CARTER, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
8388 COURT AVE. ELLICOTT CITY, MARYLAND 21043

AS-BUILT SURVEY CERTIFIED BY CHARLES J. CROVO, M.D. P.E. NO. 13204 ON DEC. 13, 1990



AS-BUILT F 88-227

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING — DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, LAND DEVELOPMENT DIVISION — DATE

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.

Charles Crovo — 4/6/88

SIGNATURE OF ENGINEER — DATE

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WORK 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 OF DEVELOPER — DATE

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND DATE OF FIELD INSPECTION

U.S. SOIL CONSERVATION DISTRICT — DATE

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

APPROVED:

DISTRICT — DATE

HOWARD SOIL CONSERVATION DISTRICT

APPROVED: OFFICE OF PLANNING AND ZONING

CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT — DATE

SARA BETH COURT

HAVEN OAK COURT

THORNBROOK ROAD

CARRIE ROAD

4' MACADAM WALKWAY

LIMITS OF DISTURBANCE

OPEN SPACE LOT 60

OPEN SPACE LOT 8

OPEN SPACE LOT 16

15"CMP 16 GAGE 125 L.F.

15"CMP 16GAGE 105 L.F.

N 536,000 E 644,000

N 535,000 E 644,750

N 536,150 E 644,750

B.M. #1108

B.M. #1106

SUGAR MAPLES @ 40' O.C. SEE DETAIL SHEET 8

STABILIZED CONSTRUCTION ENTRANCE

SILT FENCE

EARTH DIKE

RIP RAP OUTLET SEDIMENT TRAP #1
DRAINAGE AREA = 12.9 Ac
VOLUME REQUIRED = 23,220 cu.Ft.
VOLUME PROVIDED = 29,781 cu.Ft.
TOP DIMENSION VARIES
BOTTOM DIMENSION VARIES
DEPTH = 4.0'
WEIR CREST ELEVATION = 402.1
BOTTOM ELEVATION = 398.0
SIDE SLOPES = 2:1
CLEANOUT ELEVATION = 400.0

RIP RAP OUTLET SEDIMENT TRAP #2
DRAINAGE AREA = 13.6 Ac±
VOLUME REQUIRED = 24,000 cu.Ft.
VOLUME PROVIDED = 25,781 cu.Ft.
TOP DIMENSIONS = VARIES
BOTTOM DIMENSIONS = VARIES
DEPTH = 6'
WEIR CREST ELEVATION = 377.0
BOTTOM ELEVATION = 371.0
SIDE SLOPES = 2:1
CLEANOUT ELEVATION = 374.0

STONE OUTLET SEDIMENT TRAP #3
DRAINAGE AREA = 4.84 Ac±
VOLUME REQUIRED = 9812 cu.Ft.
VOLUME PROVIDED = 9840 cu.Ft.
TOP DIMENSION = Varies
BOTTOM DIMENSION = Varies
DEPTH = 7.5'
WEIR CREST ELEVATION = 880.5
BOTTOM ELEVATION = 873.00
SIDE SLOPES = 2:1
CLEANOUT ELEVATION = 881.00

NOTE: SEE SHEET 8 FOR SEDIMENT CONTROL DETAILS AND NOTES

NOTE: FOR PROFILES OF WATER QUALITY PONDS #1 & 2 SEE SHEET 9.

WATER QUALITY POND #1
SEE SHEET 9 FOR PROFILE
HAZARD CLASS : A
12"ECCMP 16GAGE (38LF) 2.63%

PARABOLIC CHANNEL SEE SHEET 8 FOR PROFILE AND SHEET 8 FOR DETAIL

CONTRACTOR SHALL GRADE THIS AREA TO PROVIDE POSITIVE DRAINAGE TO ALL 4 SIDES OF INLET I-16

2445 LIMIT OF CHANNEL

4' MACADAM WALKWAY

EARTH DIKE A-1

EARTH DIKE A-2

EARTH DIKE A-3

EARTH DIKE A-4

EARTH CHECK DAM @ 60 INTERVALS

STONE OUTLET SEDIMENT TRAP #3 @ OPEN SPACE LOT 60

STABILIZED CONSTRUCTION ENTRANCE

SUGAR MAPLES @ 40' O.C. SEE DETAIL SHEET 8

CONSTRUCTION SEQUENCE:

1. OBTAIN GRADING PERMIT.
2. PLACE STONE CONSTRUCTION ENTRANCE AS SHOWN ON PLAN.
3. CONSTRUCT SEDIMENT TRAPS, EARTH DIKES AND SILT FENCE, STABILIZE WITH TEMPORARY SEEDING.
4. GRADE ROADS TO SUBGRADE AND CONSTRUCT STORM DRAIN SYSTEM. PLACE TEMPORARY 33" C.M.P FROM I-16 TO PROVIDE OUTFALL INTO TRAP NO. 3.
5. CONSTRUCT CURB AND GUTTER AND INSTALL BASE COURSE.
6. SEDIMENT SHALL BE REMOVED FROM THE SEDIMENT TRAPS WHEN THE CLEANOUT ELEVATION HAS BEEN REACHED.
7. THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON, AFTER EACH RAINFALL AND ON A DAILY BASIS.
8. THE SEDIMENT TRAPS SHALL BE DEWATERED BY PUMPING. THE SEDIMENT FROM THE TRAPS SHALL BE PLACED UP-GRADE FROM THE SEDIMENT TRAPS IN SUCH A MANNER AS NOT TO INTERFERE WITH CONSTRUCTION OPERATIONS OR CAUSE EROSION DOWNGRADE FROM THE SEDIMENT TRAP.
9. REMOVE SEDIMENT FROM ROADWAYS AND DRESS STONE CONSTRUCTION ENTRANCE AS REQUIRED.
10. REMOVE INLET PROTECTION DEVICES AND FLUSH STORM DRAIN SYSTEM TO REMOVE ANY TRAPPED SEDIMENT. INSTALL RIP-RAP APRONS.
11. REMOVE STONE CONSTRUCTION ENTRANCE AND STRAW BALE DIKE/SILT FENCE. CLEAN BASE COURSE. APPLY TACK COAT TO BASE COURSE AND LAY SURFACE COURSE.
12. CONVERT SEDIMENT BASIN AT S-1 AND S-2 TO WATER QUALITY WET PONDS ACCORDING TO THE GRADING SHOWN ON THESE PLANS AND STABILIZE THE DISTURBED AREA WITH PERMANENT SEEDING MIXTURE.
13. ALL DISTURBED AREAS DUE TO REMOVAL OF REMAINING SEDIMENT CONTROL MEASURES SHALL BE GRADED AND STABILIZED WITH PERMANENT SEEDING MIXTURE.

PLAN
Scale: 1"=50'

NOTE: CHECK DAMS AND CHANNEL SHALL BE SEEDED AND STABILIZED

5' MINIMUM PERFORATED SECTION WRAPPED W/FILTER CLOTH AND COVERED WITH STONE.

DETAIL FOR DEWATERING DEVICE
NOT TO SCALE

EARTH CHECK DAM
NOT TO SCALE

20'L.F. 8" DIA. P.V.C. PIPE

STONE

RIP-RAP

10'L.F. 3" DIA. P.V.C. PIPE

RIP-RAP

GRASS CHANNEL
NOT TO SCALE

TOP OF DAM

AS-BUILT SURVEY CERTIFIED BY CHARLES J. CROVO, MD. P.E. No. 13204 ON DEC. 13, 1990

BY: J.S	REPLACE WATER QUALITY WITH CHECK DAMS / GRASS	6/6/91
BY: M.Y.	Storm drains SAVD	7/6/90
BY: J.C.S	Storm drains IBIS	6/22/90
BY: S.F.H.	REVISE CONTOURS ON TOWNHOUSES	5/17/89

OWNER AND DEVELOPER

FORTY WEST BUILDERS, INC.
1007 LESLIE AVENUE
CATONSVILLE, MARYLAND 21228

STREET TREE, GRADING AND SEDIMENT CONTROL PLAN

MT. HEBRON

SECTION 19, LOTS 1-53
2ND. ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN SHEET 7 OF 9

FISHER, COLLINS, AND CARTER, INC.
CONSULTING ENGINEERS AND LANDSURVEYORS
8388 COURT AVENUE
ELLICOTT CITY, MARYLAND 21043

AS-BUILT F 88-227

PERMANENT SEEDING NOTES:

APPLY TO GRADED OR CLEARED AREA NOT SUBJECT TO IMMEDIATE FURTHER DISTRURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE-INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.
SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULE.
1) PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ.FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE-INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ.FT.)
2) ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE-INCHES OF SOIL.

SEEDING: FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE (1.4 LBS/1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (.05 LBS/1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.
MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ.FT.) OR UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.
MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES:

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE-INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.
SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ.FT.)
SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2 1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ.FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.
MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. OR HIGHER, USE 348 GAL PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

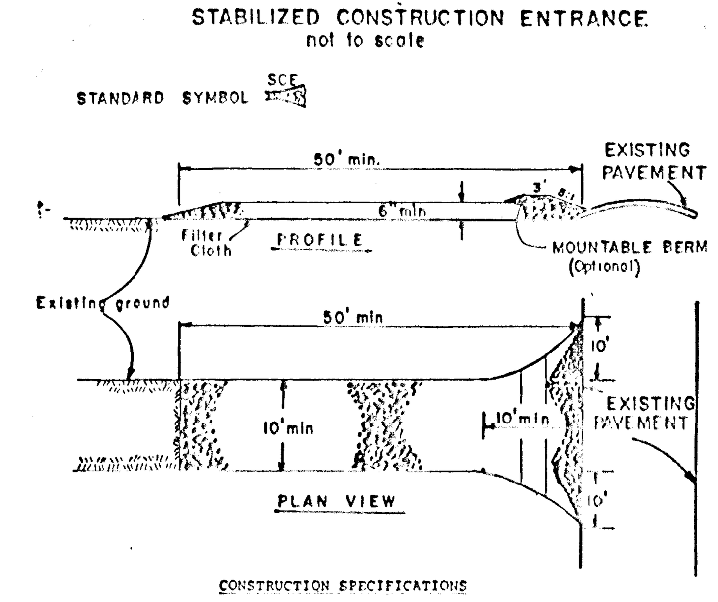
SEDIMENT CONTROL NOTES:

1) A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (992-2437).
2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
3) FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL 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.
6) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7) SITE ANALYSIS:

TOTAL AREA OF SITE	26.4	ACRES
AREA DISTURBED	7.1	ACRES
AREA TO BE ROOFED OR PAVED	2.4	ACRES
AREA TO BE VEGETATIVELY STABILIZED	4.7	ACRES
TOTAL CUT	12 000	CU.YDS.
TOTAL FILL	12 000	CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION		CU.YDS.

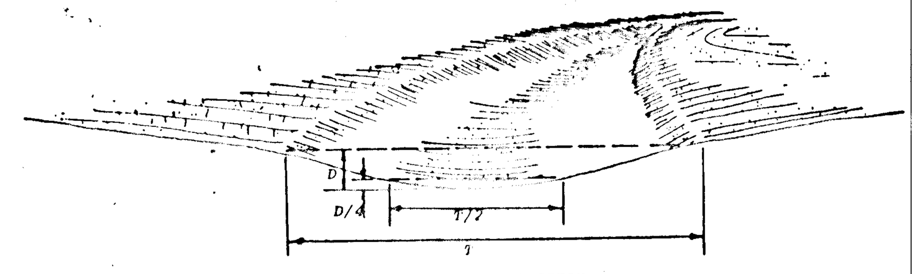
8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY DPW SEDIMENT CONTROL INSPECTOR.
10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

STABILIZED CONSTRUCTION ENTRANCE
not to scale



CONSTRUCTION SPECIFICATIONS

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



PARABOLIC CROSS-SECTION

Construction Specifications

1. All trees, brush, stumps, obstructions, and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the waterway.
2. The waterway shall be excavated or shaped to line, grade, and cross section as required to meet the criteria specified herein, and be free of bank projections or other irregularities which will impede normal flow.
3. Fills shall be compacted as needed to prevent unequal settlement that would cause damage in the complete waterway.
4. All earth removed and not needed in construction shall be spread or disposed of so that it will not interfere with the functioning of the waterway.
5. Stabilization shall be done according to the appropriate Standard and Specifications for Vegetative Practices.
   A. For design velocities of less than 3.5 ft. per sec., seeding and mulching may be used for the establishment of the vegetation. It is recommended that, when conditions permit, temporary diversions or other means should be used to prevent water from entering the waterway during the establishment of the vegetation.
   B. For design velocities of more than 3.5 ft. per sec., the waterway shall be stabilized with sod, with seeding protected by jute or excelsior matting or with seeding and mulching including temporary diversion of the water until the vegetation is established.
   C. Structural - Vegetative Protection
   (1) Subsurface drain for base flow shall be constructed as shown on the Standard Drawing and as specified in the Standard and Specifications for Subsurface Drain.

Standard Symbol GW

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] 4/6/88
SIGNATURE OF ENGINEER DATE

DEVELOPER'S CERTIFICATE

"I/WE 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 PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY".

[signature] 8/10/88
SIGNATURE OF DEVELOPER DATE

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

[signature] 8/10/88
U.S. SOIL CONSERVATION DISTRICT DATE

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

[signature] 8/10/88
DISTRICT DATE
HOWARD SOIL CONSERVATION DISTRICT

APPROVED: OFFICE OF PLANNING AND ZONING

[signature] 5-1-88
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

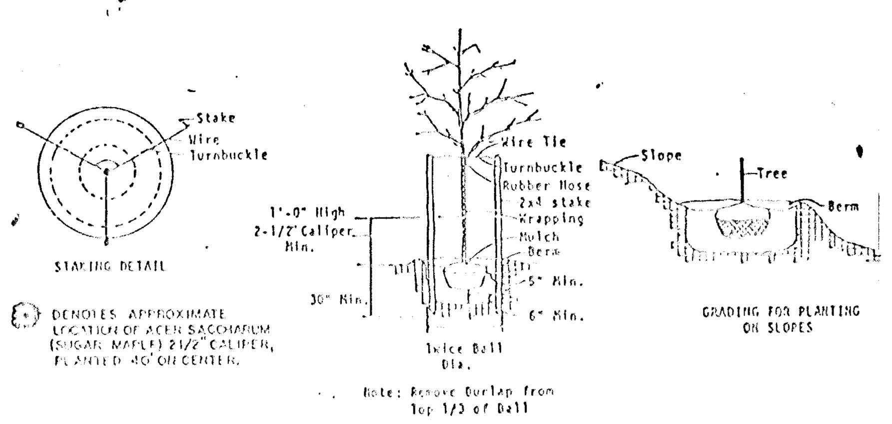
[signature] [date]
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

[signature] 8/29/88
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

[signature] 8/29/88
CHIEF, LAND DEVELOPMENT DIVISION DATE



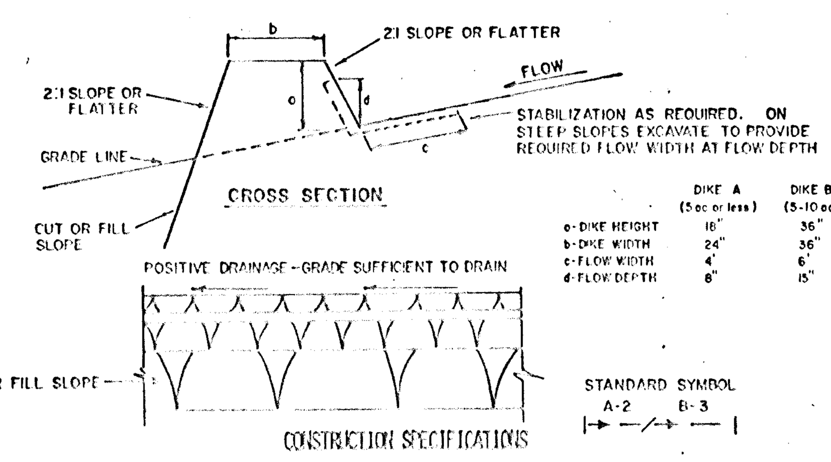
DENOTES APPROXIMATE LOCATION OF ACER SACCHARUM (SUGAR MAPLE) 2 1/2" CALIPER, PLANTED 40' ON CENTER.

TREE PLANTING DETAIL
NO SCALE

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

NOTE:
WHERE THE DISTANCE BETWEEN THE CURB AND SIDEWALK IS LESS THAN 8 FEET, THE PROPOSED STREET TREES SHOULD BE PLANTED 2 FEET FROM THE SIDEWALK. IF THE DISTANCE BETWEEN THE CURB AND THE SIDEWALK IS GREATER THAN 8 FEET THE STREET TREES SHALL BE PLANTED 6 FEET BEHIND THE CURB.

EARTH DIKE
not to scale



	DIKE A (5 ac or less)	DIKE B (5-10 ac.)
a-DIKE HEIGHT	18"	36"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	8"	15"

STANDARD SYMBOL
A-2 B-3

CONSTRUCTION SPECIFICATIONS

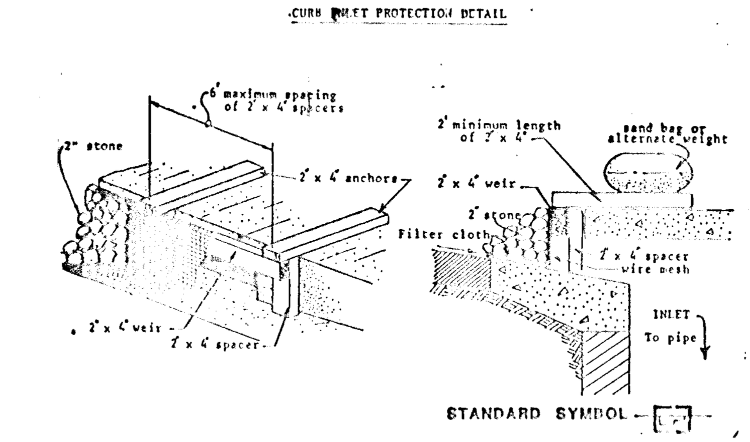
1. ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
3. TOP WIDTH MAY BE WIDER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED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

FLOW CHANNEL STABILIZATION

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

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

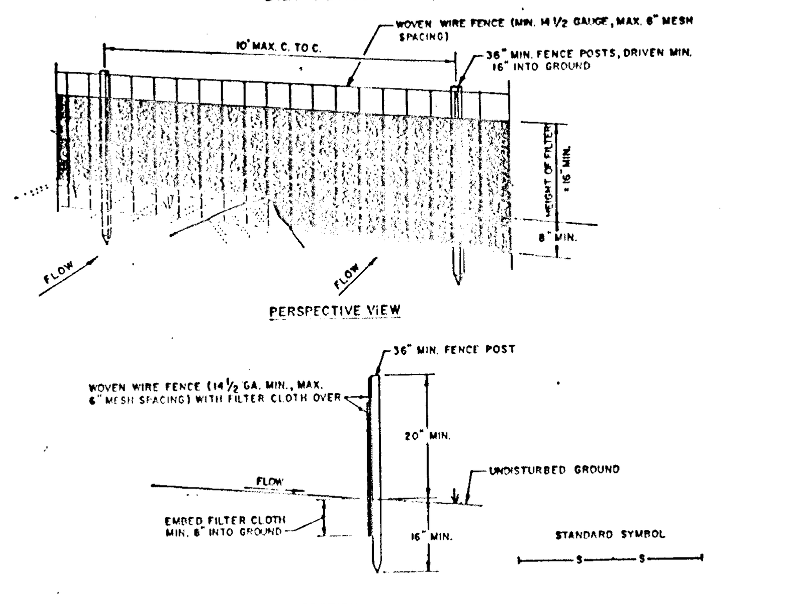
CURB INLET PROTECTION DETAIL



B. Curb Inlet Protection.

1. Attach a continuous piece of wire mesh (30" min. width by throat length plus 4') to the 2" x 4" weir (measuring throat length plus 2') as shown on the standard drawing.
2. Place a piece of approved filter cloth (40-85 sieve) of the same dimensions as the wire mesh over the wire mesh and securely attach to the 2" x 4" weir.
3. Securely nail the 2" x 4" weir to 9" long vertical spacers to be located between the weir and inlet face (max. 6' apart).
4. Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations. These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
6. Form the wire mesh and filter cloth to the concrete gutter and against the face of curb on both sides of the inlet. Place clean 2" stone over the wire mesh and filter fabric in such a manner as to prevent water from entering the inlet under or around the filter cloth.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assure that storm flow does not bypass inlet by installing temporary earth or asphalt dikes directing flow into inlet.

SILT FENCE

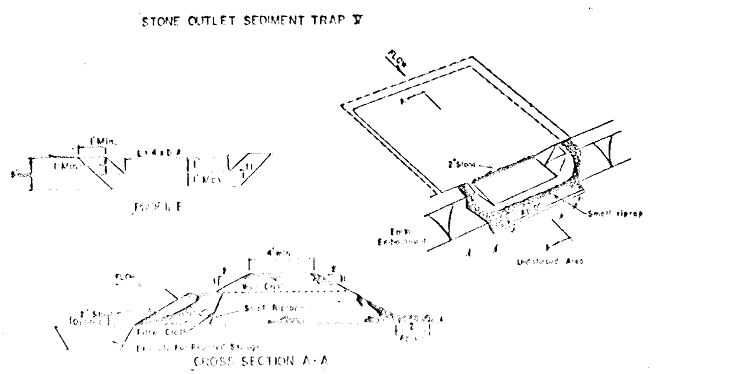


CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD
FENCE: WOVEN WIRE, 14 GA. 6" MAX. MESH OPENING
FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140N OR APPROVED EQUAL
PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

STONE OUTLET SEDIMENT TRAP V



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

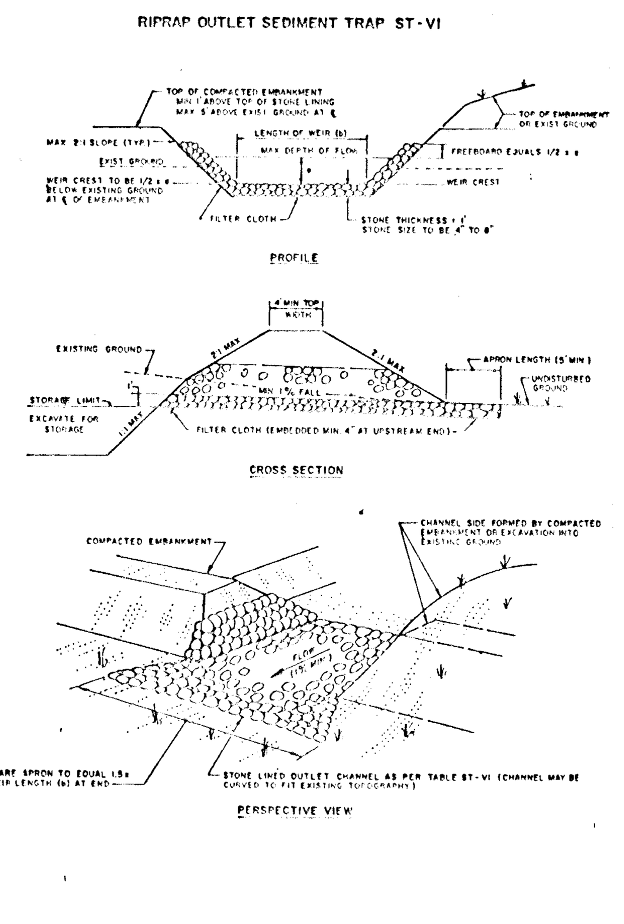
CONSTRUCTION SPECIFICATIONS FOR ST-V

1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
2. The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
3. All cut and fill slopes shall be 2:1 or flatter.
4. The stone used in the outlet shall be small riprap 4"-8" along with a 1' thickness of 2" aggregate placed on the upgrade side on the small riprap or embedded filter cloth in the riprap.
5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to ½ the design depth of the trap.
6. The structure shall be inspected after each rain and repairs made as needed.
7. Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
8. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.

CONSTRUCTION SPECIFICATIONS FOR ST-VI

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

RIPRAP OUTLET SEDIMENT TRAP ST-VI



FISHER, COLLINS AND CARTER, INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
8398 COURT AVENUE
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OWNER AND DEVELOPER
FORTY WEST BUILDERS, INC.
1007 LESLIE AVENUE
CATONSVILLE, MARYLAND 21228

[signature] 4/6/88
CHARLES J. CROVO SR. DATE

SEDIMENT CONTROL NOTES AND DETAILS

MT. HEBRON

SECTION 19
LOTS 1-53
2ND ELECTION DISTRICT
HOWARD COUNTY MARYLAND
SCALE AS SHOWN MARCH 31, 1988
SHEET 8 OF 9

F 88-227

AS-BUILT

POND SPECIFICATIONS

I. SITE PREPARATION

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

II. EARTH FILL

Material

The fill material shall be taken from approved designated borrow area or areas. It shall be free from roots, stumps, wood, rubbish, oversize stones, frozen or other objectionable materials. The embankment shall be constructed to an elevation which provides for anticipated settlement to the design elevation. The fill height all along the length of the embankment shall be increased at least 10 percent above the design elevation (including freeboard) unless otherwise shown on the plans. All fill material shall be CL or ML, as approved by Soils Engineer.

Placement

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

Core Trench

Where specified, a core trench shall be excavated along or parallel to the centerline of the embankment, as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being 4-feet. The depth shall be 2-feet as shown on the plans. The side slopes of the trench shall be 1:1 or flatter. The backfill material for the core trench shall be the most impervious material available and shall be compacted with equipment or rollers to assure maximum density and minimum permeability. Compact to 95% of AASHTO T-99 density. Materials shall be CL or ML as approved by Soils Engineer.

III. STRUCTURAL BACKFILL

Backfill material shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed 4-inches in thickness and compacted by hand tampers or other compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than 4-feet to any part of a structure. Under no circumstances shall the contractor drive equipment over any part of a structure or pipe unless there is a compacted fill of 2-feet or greater over the structure or pipe.

IV. STABILIZATION

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

Fertilizer:	10-10-10	@ 11.5 lbs./1000 sq.ft.
Seed:	Crownvetch inoculated	@ 0.5 lbs./1000 sq.ft.
	'KY-31' Tall Fescue	@ 1.0 lbs./1000 sq.ft.
Mulch:	Straw	@ 80 lbs./1000 sq.ft.
Asphalt Tie-down:	Slopes	@ 8 gal./1000 sq.ft.
	Flat areas	@ 5 gal./1000 sq.ft.

OPERATION AND MAINTENANCE SPECIFICATIONS

I HEREBY CERTIFY THAT I WILL OPERATE AND MAINTAIN THE COMPLETED POND IN ACCORDANCE WITH THE FOLLOWING:

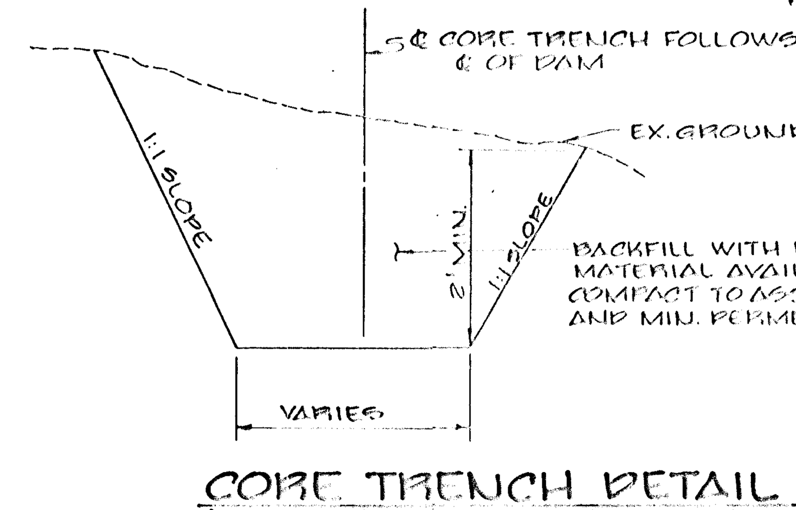
1. PERIODIC INSPECTIONS OF THE FACILITY WILL BE MADE TO IDENTIFY POTENTIAL PROBLEMS THAT MAY AFFECT ITS SAFETY. THESE INSPECTIONS WILL BE MADE AFTER PERIODS OF HEAVY RAINFALL AND AT LEAST TWICE ANNUALLY. INSPECTION REPORTS SHALL BE KEPT UNTIL THE NEXT SUBSEQUENT INSPECTION. INSPECTIONS ITEMS TO BE LOOKED AT INCLUDE
   - a) SPILLWAY AND OUTLET WORKS;
   - b) RIP-RAP;
   - c) VEGETATIVE COVER;
   - d) CRACKS IN THE FILL;
   - e) SLOPE FAILURES; AND
   - f) SEEPAGE AND OTHER SIGNS OF DISTRESS.
2. PROBLEMS IDENTIFIED DURING INSPECTIONS WILL BE PROMPTLY CORRECTED. MAJOR PROBLEMS WILL BE BROUGHT TO THE ATTENTION OF THE SOIL CONSERVATION DISTRICT AND THE DAM SAFETY DIVISION OF THE MARYLAND WATER RESOURCES ADMINISTRATION. AS A VERY MINIMUM, GRASSY VEGETATION WILL BE MAINTAINED IN A DENSE AND HEALTHY STATE, AND WOODY VEGETATION WILL NOT BE PERMITTED TO GROW ON THE EMBANKMENT.

POND CONSTRUCTION CERTIFICATION

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

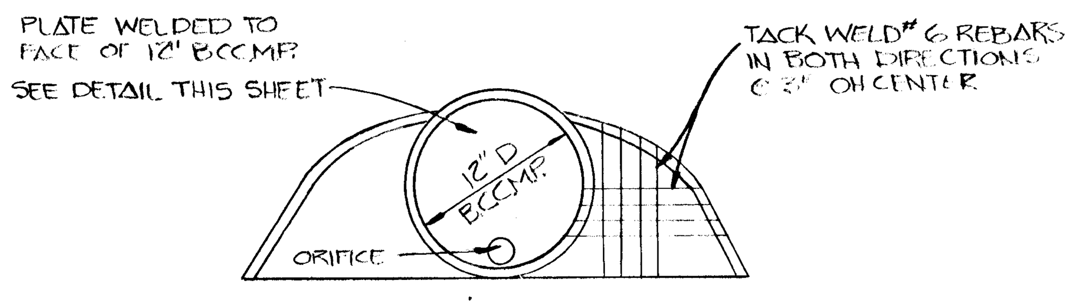
Stephen H. Carter (signature) 8/11/88

SIGNATURE OF DEVELOPER DATE



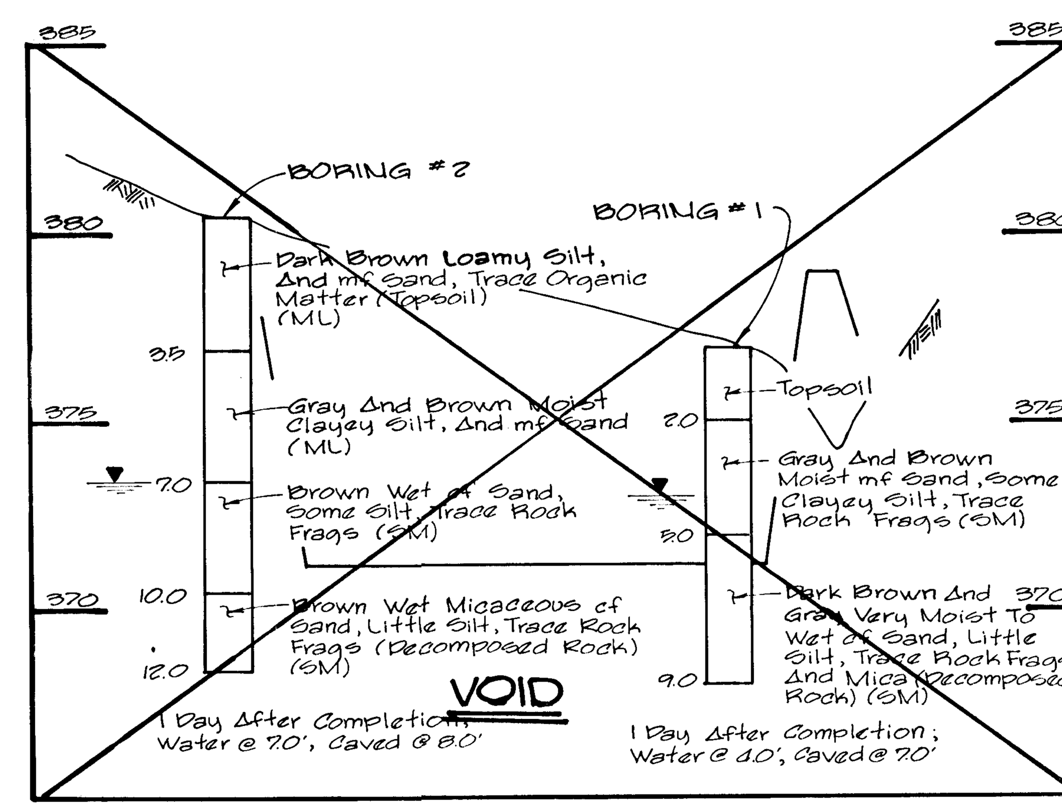
CORE TRENCH DETAIL

No Scale



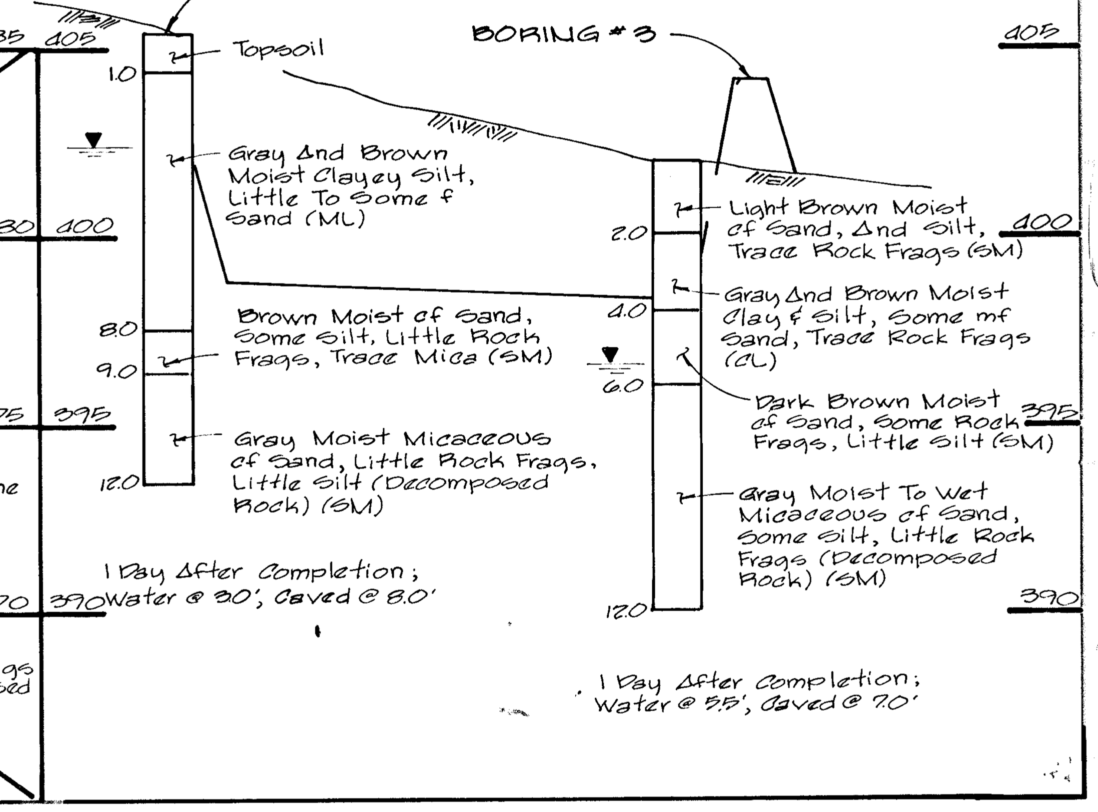
TRASH RACK AT S-A & S-C

NO SCALE



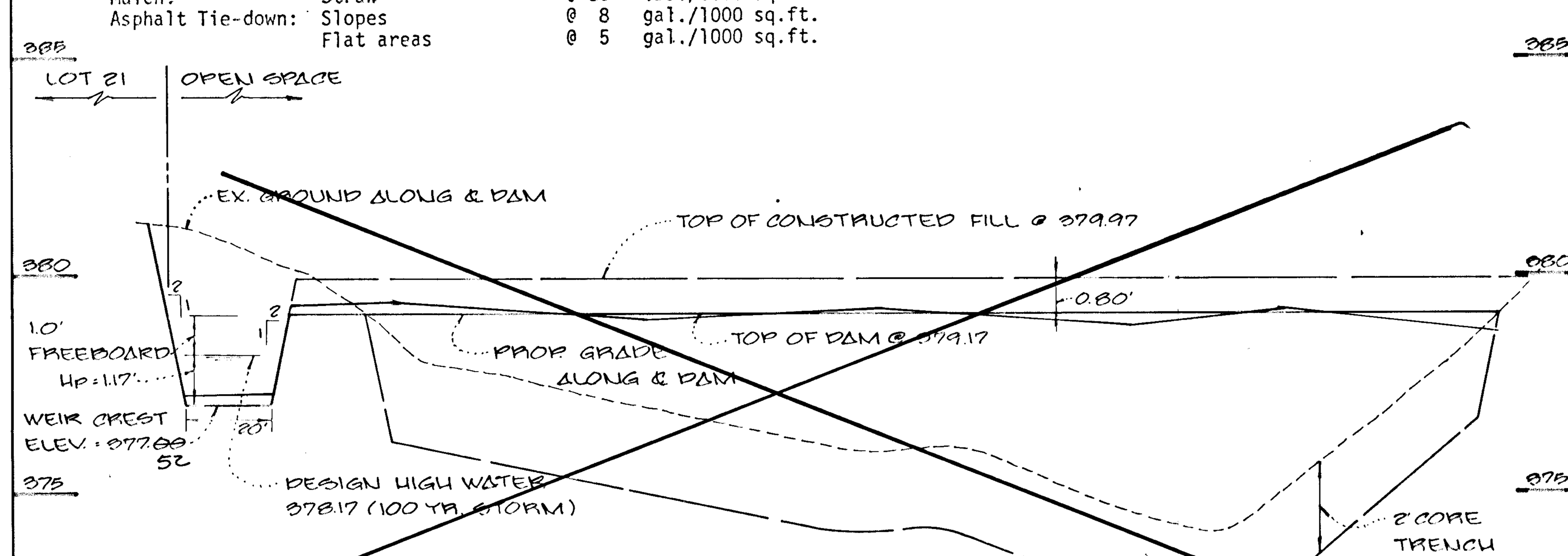
WATER QUALITY POND #2

Scale: 1"=50' Horz. 1"=4' Vert.



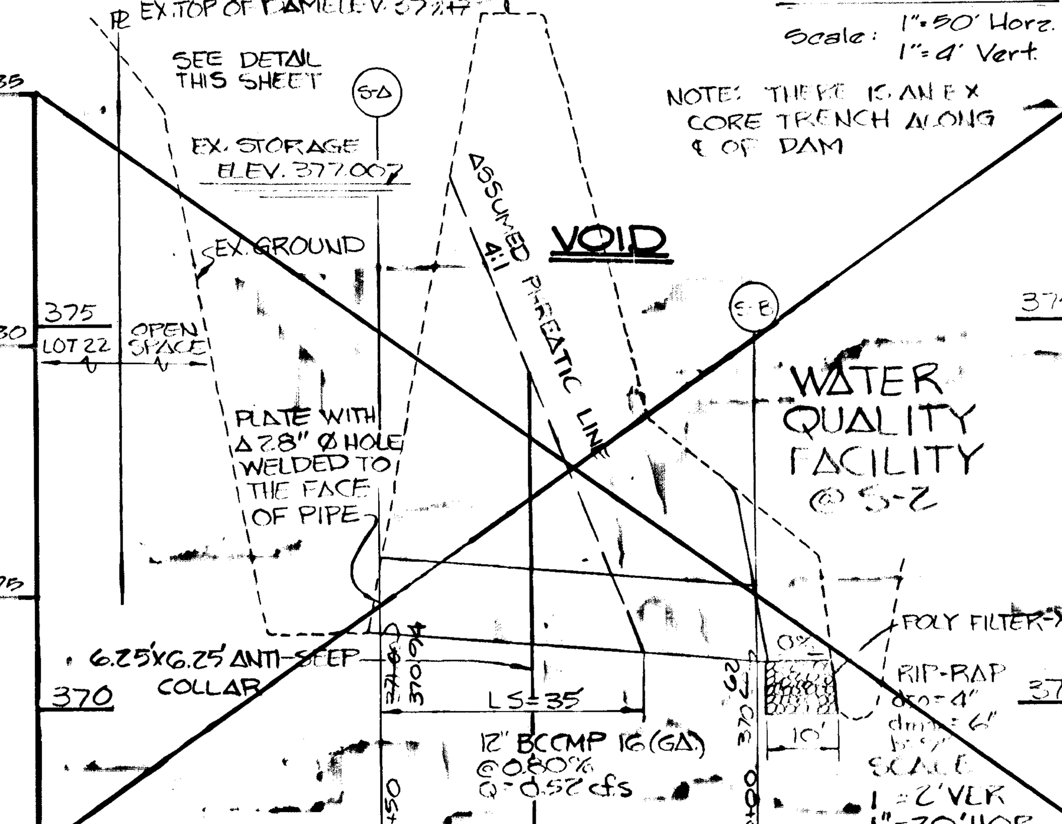
WATER QUALITY POND #1

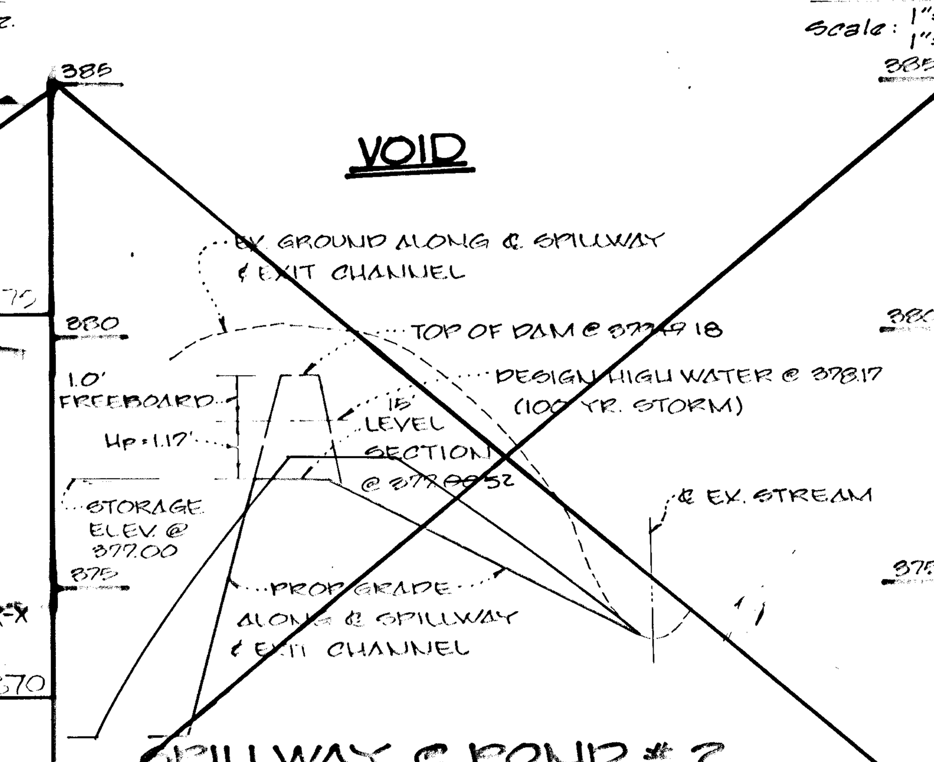
Scale: 1"=50' Horz. 1"=4' Vert.



WET POND #2 PROFILE SECTION ALONG ℄ DAM

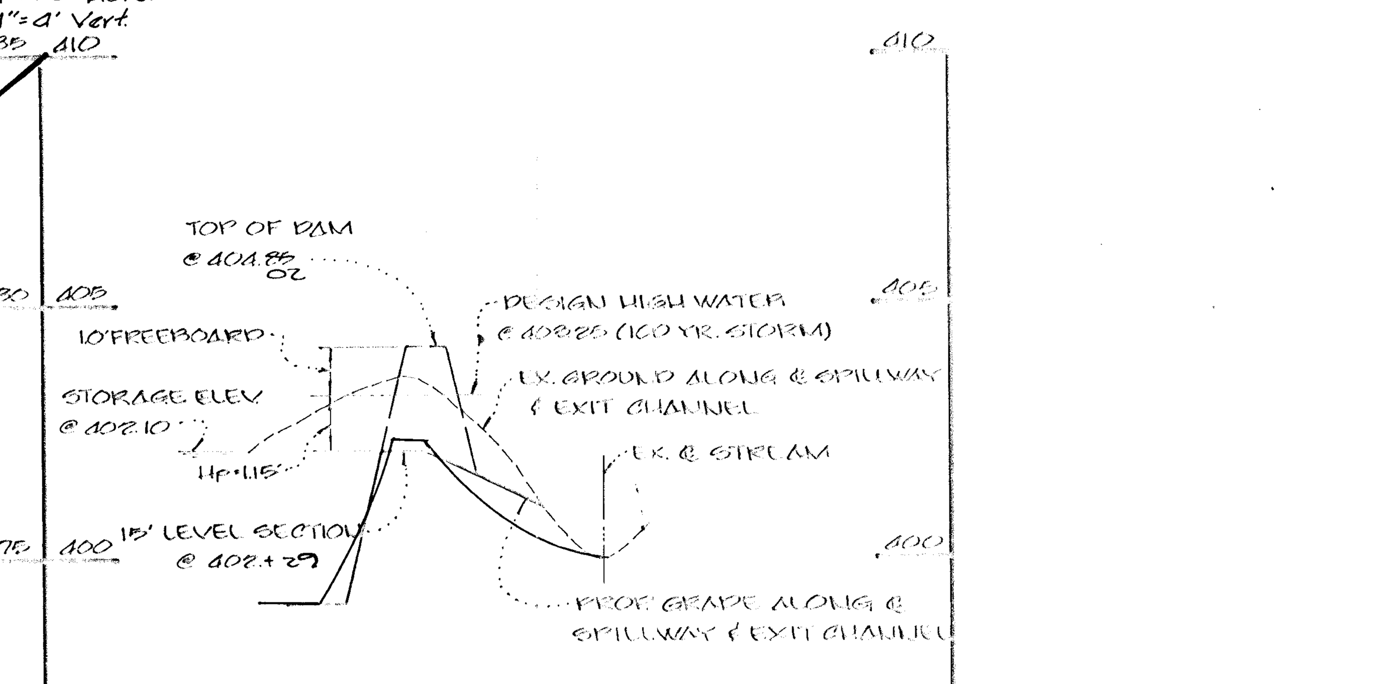
Scale: 1"=30' Horz. 1"=3' Vert.





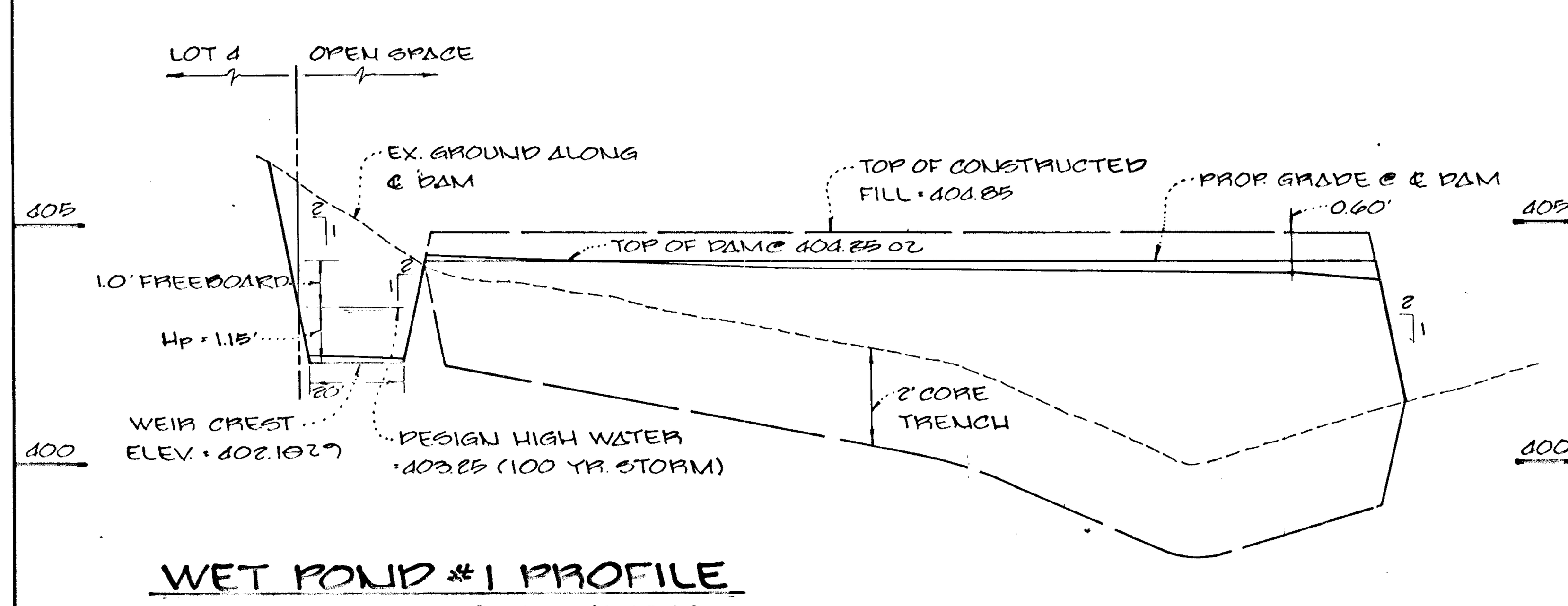
SPILLWAY @ POND #2

Scale: 1"=30' Horz. 1"=3' Vert.



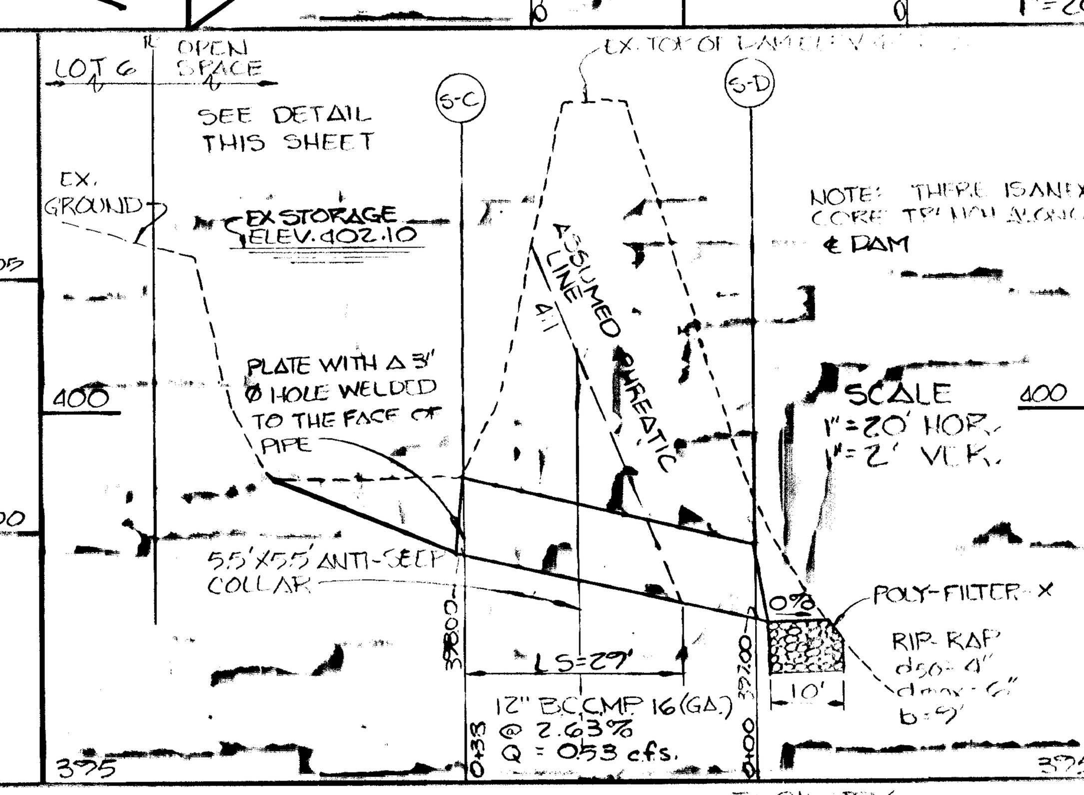
SPILLWAY @ POND #1

Scale: 1"=30' Horz. 1"=3' Vert.



WET POND #1 PROFILE SECTION ALONG ℄ DAM

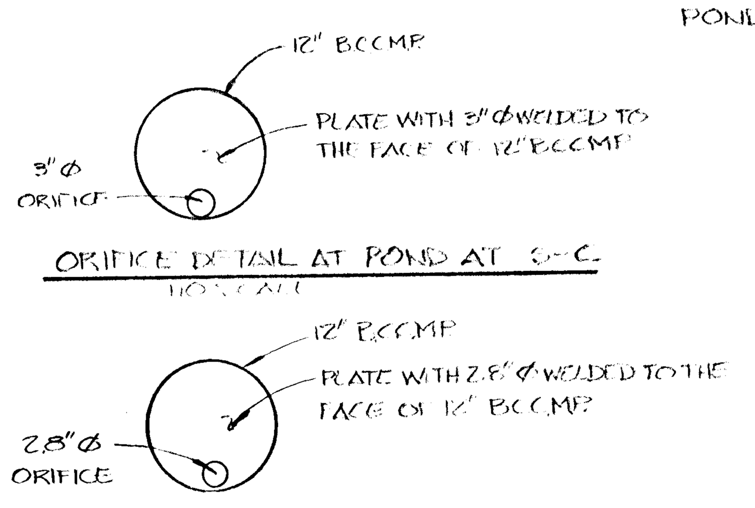
Scale: 1"=30' Horz. 1"=3' Vert.



WATER QUALITY FACILITY @ S-1

NOTE:

1. HAZARD CLASSIFICATION OF PONDS ARE TYPE "A"



ORIFICE DETAIL AT POND AT S-C

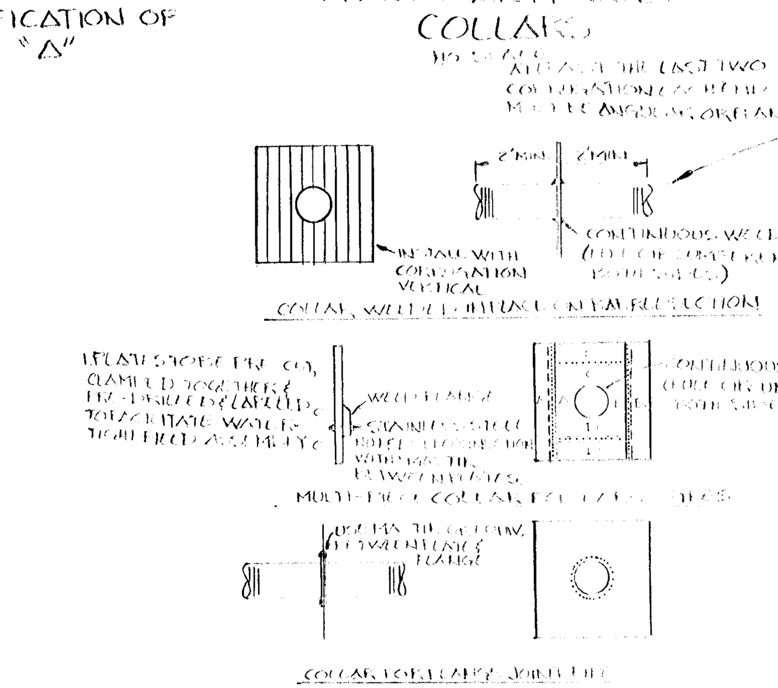
NO SCALE

ORIFICE DETAIL AT POND AT S-A

NO SCALE

TYPICAL ANTI SEEP COLLARS

NO SCALE



Charles J. Crovo (signature) 4/6/88

CHARLES J. CROVO SR. DATE

FISHER, COLLINS AND CARTER, INC.

CONSULTING ENGINEERS AND LAND SURVEYORS
8388 COURT AVENUE
ELLICOTT CITY, MARYLAND 21043
TELEPHONE: (301) 461-2855

Revision- Voided Details Dealing with Water Quality Pond #2. 6/6/91 BY: J.S.	REVISED BY MY ... WATER QUALITY FACILITY S-1, S-2, TRASH RACK DETAILS, ORIFICE DETAILS AND TYPICAL ANTI-SEEP COLLAR DETAIL 7/26/90

OWNER AND DEVELOPER
FORTY WEST BUILDERS, INC.
1007 LESLIE AVENUE
CATONSVILLE, MARYLAND 21228

AS-BUILT SURVEY CERTIFIED BY CHARLES J. CROVO, MD.P.E. No. 13204 ON DEC. 13, 1990.

WATER QUALITY POND PROFILES AND SPECIFICATIONS

MT. HEBRON

SECTION 19
LOTS 1 - 33
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN MARCH 31, 1988
SHEET 9 OF 9

AS BUILT