ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

CHARLES J. CROVO SR. — 1/7/86 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 ONSITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS ARE DEEMED NECESSARY."

CHATEAU BUILDERS — 1-6-86 DATE

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

U.S. SOIL CONSERVATION SERVICE — DATE

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

HOWARD SOIL CONSERVATION DISTRICT — 3/11/86 DATE

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

APPROVED
DEPARTMENT OF PUBLIC WORKS

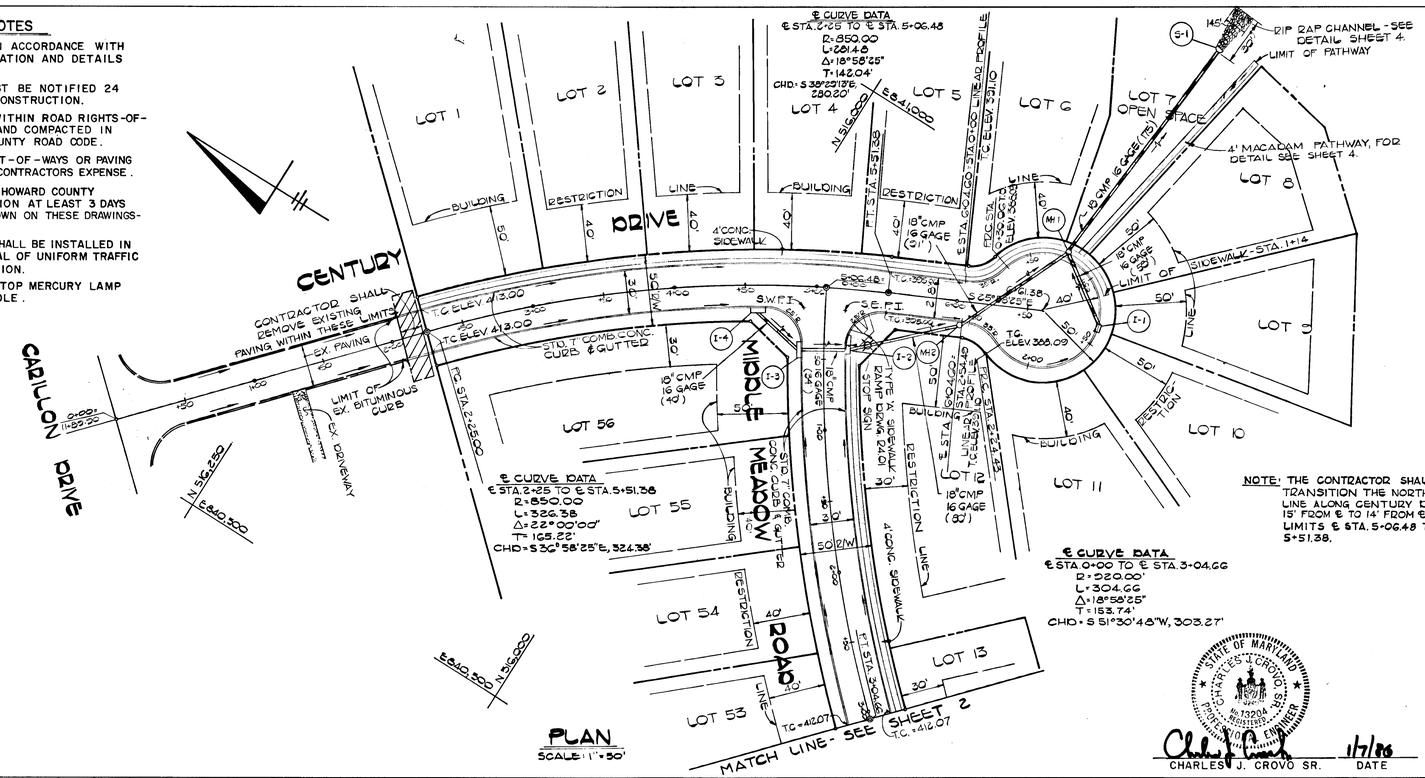
CHIEF, BUREAU OF ENGINEERING — DATE 3-12-86

APPROVED
OFFICE OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — 3-11-86 DATE

GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH COUNTY STANDARDS, SPECIFICATION AND DETAILS FOR CONSTRUCTION.
2. ALL UTILITY COMPANIES MUST BE NOTIFIED 24 HOURS IN ADVANCE OF ANY CONSTRUCTION.
3. STORM DRAINAGE TRENCHES WITHIN ROAD RIGHTS-OF-WAYS SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY ROAD CODE.
4. ALL DAMAGE TO PUBLIC RIGHT-OF-WAYS OR PAVING WILL 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. TRAFFIC CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 1978 EDITION.
7. ⊹ DENOTES 175 WATT POST TOP MERCURY LAMP ON A 14 FOOT FIBERGLASS POLE.



PLAN
SCALE: 1" = 50'

VICINITY MAP
SCALE: 1" = 1200'

BENCH MARKS

B.M. 1 — ELEV. 362.40
X-CUT IN EXISTING SANITARY MANHOLE #109 LOCATED AT THE REAR OF LOTS 4 AND 5.

B.M. 3 — ELEV. 400.87
LAGS BOLT IN 30" OAK TREE BEHIND LOT 46.

FOR LOCATION OF BENCH MARKS SEE SHEET 5.

NOTE: THE CONTRACTOR SHALL TRANSITION THE NORTH CURB LINE ALONG CENTURY DRIVE 15' FROM ℄ TO 14' FROM ℄ TRANSITION LIMITS ℄ STA. 5+06.48 TO ℄ STA. 5+51.38.

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

Charles J. Crovo — 1/7/86
CHARLES J. CROVO SR. — DATE

THE WILLOWS
SECTION ONE, AREA TWO
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

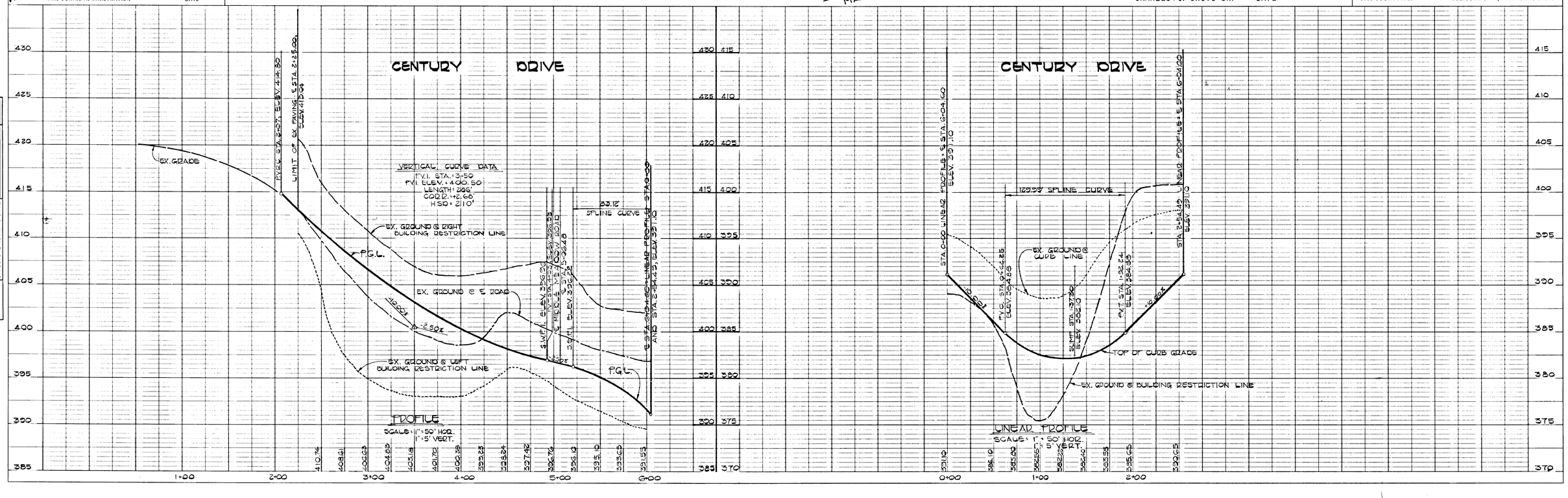
CENTURY DRIVE	MIDDLE MEADOW ROAD
PLAN AND PROFILE	PLAN

OWNER AND DEVELOPER
CHATEAU BUILDERS
8100 WOODED GLEN COURT
ELLICOTT CITY, MD. 21043

SCALE AS SHOWN	DATE NOV. 22, 1985	DWG. NO. 1 OF 6
DES. C. CROVO	DRN. R. ISAACS	CHK. R.B. CARTER

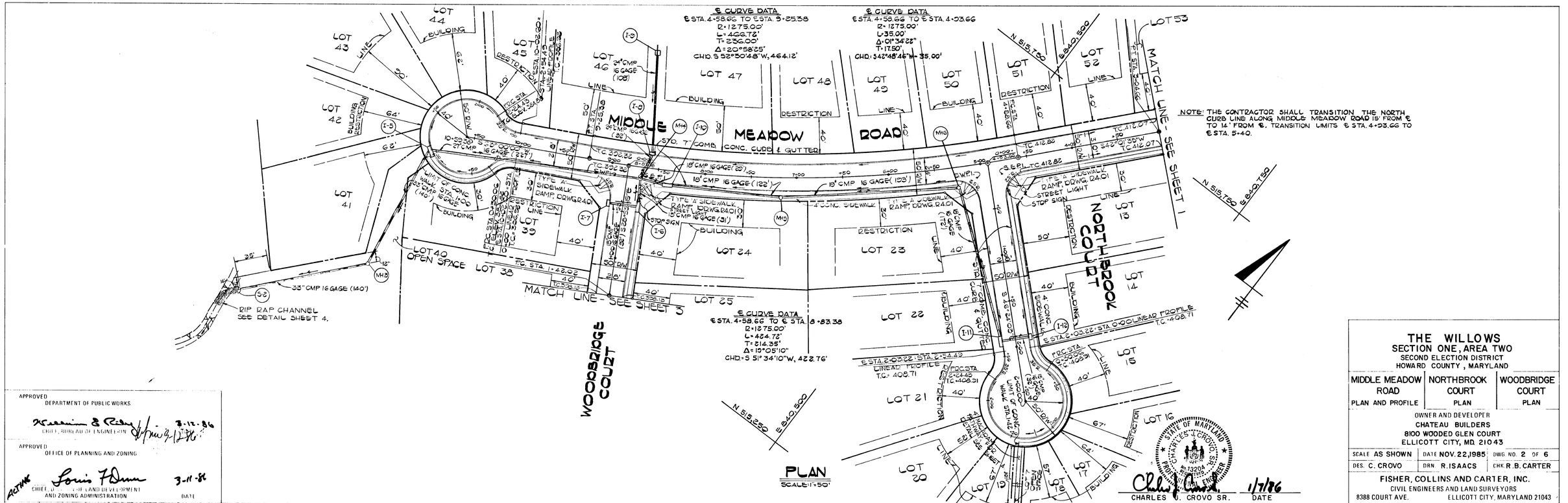
FISHER, COLLINS AND CARTER, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
8388 COURT AVE. ELLICOTT CITY, MARYLAND 21043

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



#1169

F86-106



APPROVED
DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING — DATE 3-12-86

APPROVED
OFFICE OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 3-11-86

THE WILLOWS
SECTION ONE, AREA TWO
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

MIDDLE MEADOW ROAD PLAN AND PROFILE	NORTHBROOK COURT PLAN	WOODBRIDGE COURT PLAN

OWNER AND DEVELOPER
CHATEAU BUILDERS
8100 WOODED GLEN COURT
ELLICOTT CITY, MD 21043

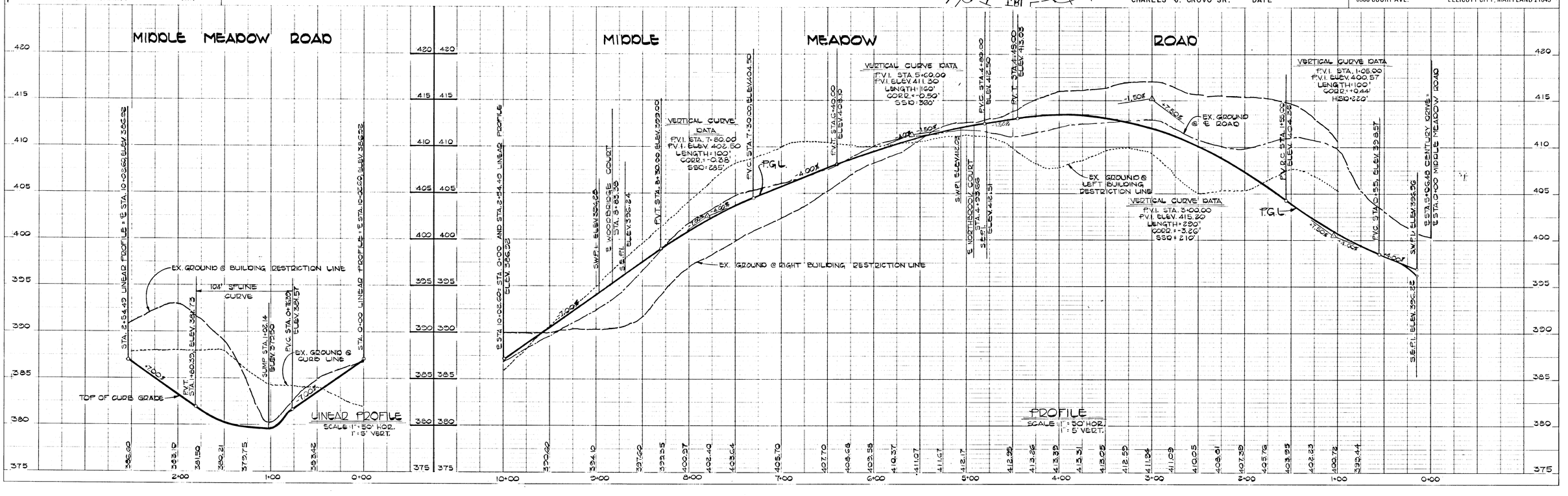
SCALE AS SHOWN	DATE NOV. 22, 1985	DWG. NO. 2 OF 6
DES. C. CROVO	DRN. R. ISAACS	CHK R. B. CARTER

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

STATE OF MARYLAND — CHARLES V. CROVO SR. — No. 13208 — REGISTERED ENGINEER

CHARLES V. CROVO SR. — 1/7/86 DATE

PLAN: SURVEYED | DESIGNED | GRADES CHECKED | ALIGNMENT CHECKED | ST. OF WAY CHECKED | BY | DATE | NOTE BOOK NO. | REVISIONS



PROFILE: SURVEYED | DESIGNED | GRADES CHECKED | BY | DATE | NOTE BOOK NO. | REVISIONS

#1169

F86-106

PLAN

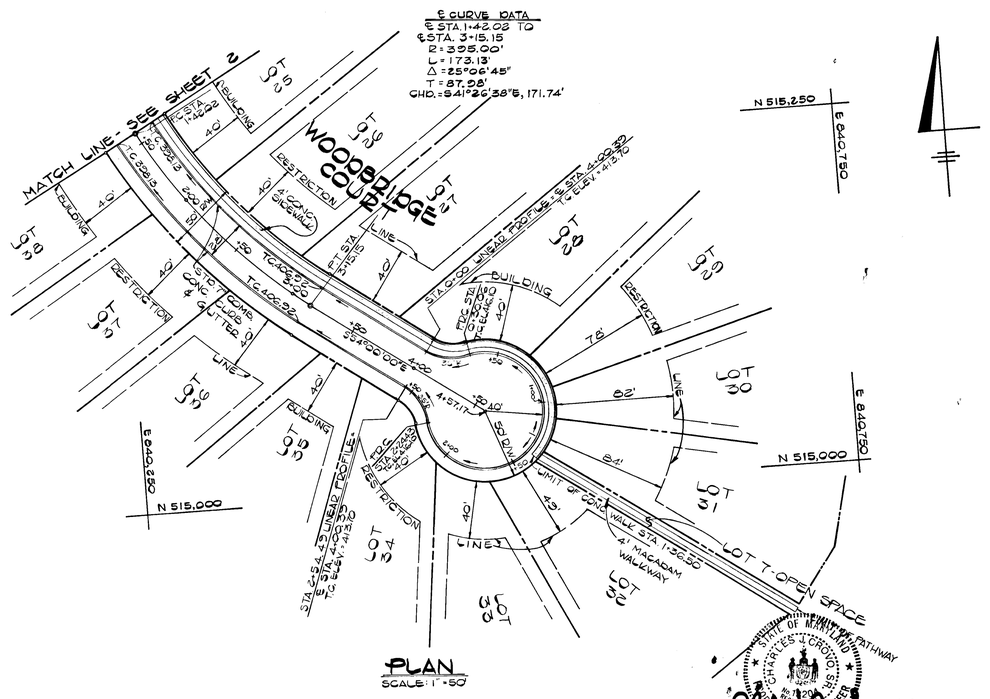
	BY	DATE
SURVEYED		
PLOTTED		
GRADES CHECKED		
ALIGNMENT CHECKED		
RT. OF WAY CHECKED		
NOTE BOOK NO.		

APPROVED
DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING — DATE 2/11/86

APPROVED
OFFICE OF PLANNING AND ZONING

ACTING CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 2/11/86



CHARLES J. CROVO SR. — DATE 1/7/86

THE WILLOWS
SECTION ONE, AREA TWO
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

WOODBRIDGE COURT	NORTHBROOK COURT
PLAN AND PROFILE	PROFILE

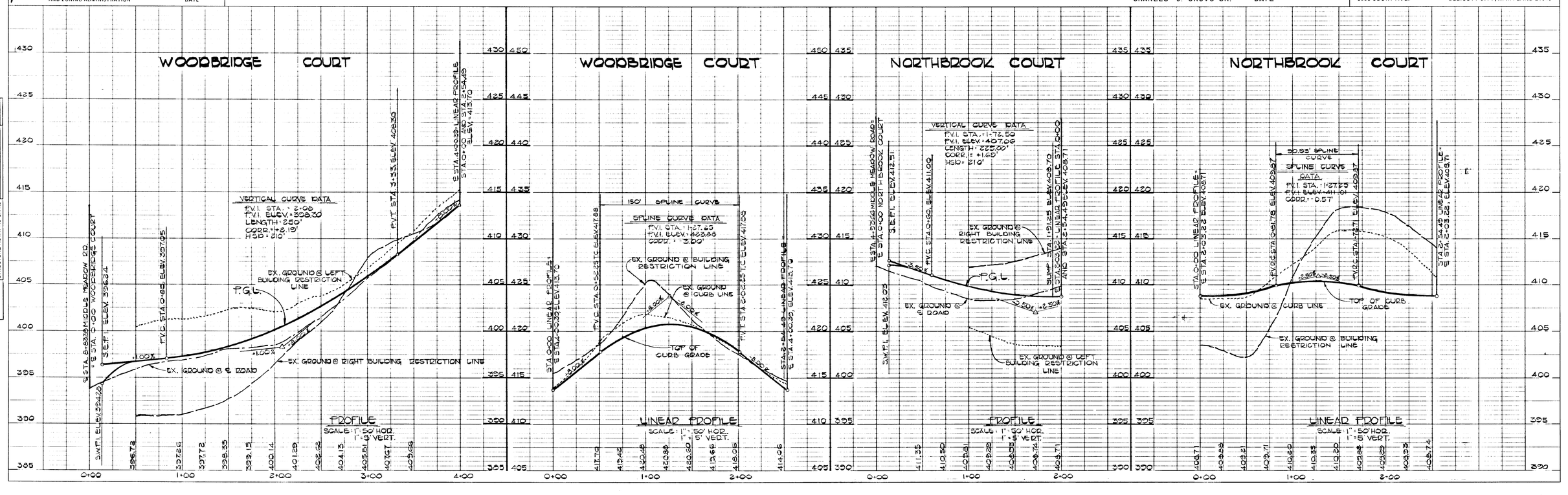
OWNER AND DEVELOPER
CHATEAU BUILDERS
8100 WOODED GLEN COURT
ELLICOTT CITY, MD. 21043

SCALE AS SHOWN	DATE NOV. 22, 1985	DWG. NO. 3 OF 6
DES. C. CROVO	DRN R. ISAACS	CHK. R.B. CARTER

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

PROFILE

	BY	DATE
SURVEYED		
PLOTTED		
GRADES CHECKED		
NOTE BOOK NO.		
STRUCTURE NOTATNS CHKD		

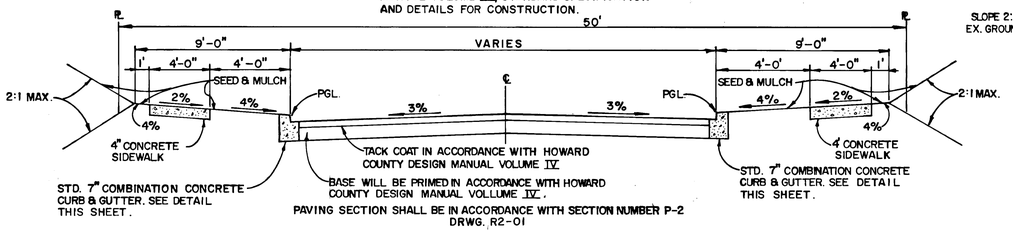


#1169

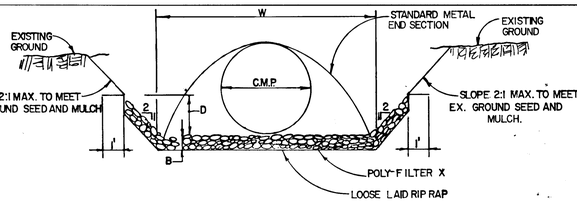
F86-106

TYPICAL ROADWAY SECTION

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

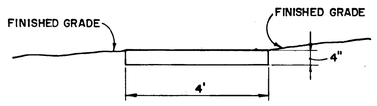


ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	℄ STA. LIMITS
CENTURY DRIVE	CULDESAC	30 MPH.	R-20	2+25 TO 6+04.60
NORTHBROOK COURT	CULDESAC	30 MPH.	R-20	0+00 TO 2+03.22
MIDDLE MEADOW ROAD	CULDESAC	30 MPH.	R-20	0+00 TO 10+02.60
WOODBRIDGE COURT	CULDESAC	30 MPH.	R-20	0+00 TO 4+00.39



RIP RAP CHANNEL DETAIL

NO SCALE

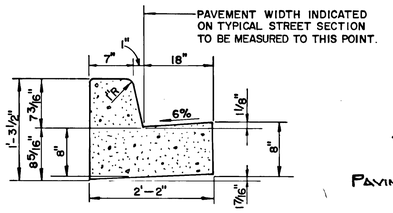


MACADAM PATHWAY DETAIL

NO SCALE

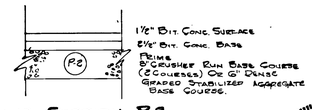
NO.	TYPE	INVERT IN	INVERT OUT	℄ TOP ELEV.	℄ ROAD STATIONS	REMARKS
I-1	A - 5	———	377.21	382.10	L.P STA. 1+37.30 CENTURY DR.	DWG. S.D. 4.01
I-2	A-5 W/ DEFLECTORS	392.26	392.01	398.19	℄ STA 0+45.50 MIDDLE MEADOW ROAD	DWG. S.D.4.01 & S.D. 4.83
I-3	A-10 W/ DEFLECTORS	393.15	392.90	398.19	℄ STA. 0+45.50 MIDDLE MEADOW ROAD	DWG. S.D. 4.02 & S.D. 4.83
I-4	A-10 W/ DEFLECTORS	———	393.38	397.86	℄ STA 4+60.98 CENTURY DR.	DWG. S.D. 4.02 & S.D. 4.83
I-5	A - 5	374.65	374.15	379.50	L.P. STA. 1+02.14 MIDDLE MEADOW ROAD	DWG. S.D. 4.01
I-6	A - 10	390.00	389.75	396.66	℄ STA. 0+44.50 WOODBRIDGE CT.	DWG. S.D. 4.02
I-7	A - 5	———	392.30	396.66	℄ STA. 0+44.50 WOODBRIDGE CT.	DWG. S.D. 4.01
I-8	A-5 W/ DEFLECTORS	386.53	386.28	397.16	℄ STA. 8+56.36 MIDDLE MEADOW ROAD	DWG. S.D. 4.01 & S.D. 4.83
I-9	D	———	387.61	393.33	———	DWG. S.D. 4.11
I-10	A-10 W/ DEFLECTORS	392.78	392.53	398.38	℄ STA. 8+38.88 MIDDLE MEADOW ROAD	DWG. S.D. 4.02 & S.D. 4.83
I-11	A - 5	404.60	404.35	408.70	℄ STA. 1+91.25 NORTHBROOK CT.	DWG. S.D. 4.01
I-12	A - 5	———	404.65	408.70	℄ STA. 1+91.25 NORTHBROOK CT.	DWG. S.D. 4.01
MH 1	STANDARD MANHOLE	376.84	376.59	383.99	L.P. STA. 0+75.65 CENTURY CT. ℄ MH ⊕ 6' FACE OF CURB	DWG. G. 5.01
MH 2	STANDARD MANHOLE	385.37	385.12	391 30	℄ STA. 6+04.60 CENTURY CT. ℄ MH ⊕ 5' FACE OF CURB.	DWG. G. 5.01
MH 3	STANDARD MANHOLE	372.36	372.11	381.02	———	DWG. G. 5.02
MH 4	STANDARD MANHOLE	388.65	385.65	395.64	℄ STA. 8+69.38 MIDDLE MEADOW ROAD ℄ MH ⊕ 14' ℄ ROAD	DWG. G. 5.01
MH 5	SHALLOW MANHOLE	400.90	400.65	405.21	℄ STA. 7+17.20 MIDDLE MEADOW ROAD ℄ MH ⊕ 6' FACE OF CURB	DWG. G. 5.05
MH 6	STANDARD MANHOLE	403.47	403.22	411.78	℄ STA. 5+28.76 MIDDLE MEADOW ROAD ℄ MH ⊕ 6' FACE OF CURB	DWG. G. 5.01
S-1	STANDARD METAL END SECTION	———	360.40	361.90	———	DWG. S.D. 5.61
S-2	STANDARD METAL END SECTION	———	370.32	373.07	———	DWG. S.D. 5.61

STRUCTURE	A^{01}	P^{1}	R	$R^{2/3}$	S	$S^{1/2}$	N	Q	V	D	W	RIP RAP SIZE D50	RIP RAP SIZE D MAX	B
S-1	4.50	7.85	.5729	.689	1.00%	0.10	0.04	11.51 C.F.S.	2.56 F.P.S.	.75'	4.5'	6"	9"	14"
S-2	12.99	13.53	.9594	.9726	.50%	0.071	0.04	32.86 C.F.S.	2.53 F.P.S	1 24'	8.0'	6"	9"	14"



STANDARD 7" COMB. CONC. CURB & GUTTER

NO SCALE



PAVING SECTION P-2

NO SCALE

PAVING SECTION P-2

NO SCALE

BY	REVISION	DATE
D.A.N.	℄ ADD P-2 CRUSHER RUN SECTION	12-8-86
D.A.N.	⚠ REVISE VELOCITIES FOR PIPE M4 TO I-6 & I-8 TO M4.	4-7-86

APPROVED
DEPARTMENT OF PUBLIC WORKS
DIRECTOR OF ENGINEERING — DATE 12-8-86

APPROVED
OFFICE OF PLANNING AND ZONING
CHIEF, DIV. OF DEV. AND ZONING ADMINISTRATION — DATE 3-11-87

ACTION

THE WILLOWS
SECTION ONE, AREA TWO
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

ROAD SECTIONS, DETAILS AND STORM DRAINAGE PROFILES

OWNER AND DEVELOPER
CHATEAU BUILDERS
8100 WOODED GLEN COURT
ELLICOTT CITY, MD. 21043

SCALE AS SHOWN	DATE NOV. 22, 1985	DWG. NO. 4 OF 6
DES. C. CROVO	DRN. A.S.	CHK R.B. CARTER

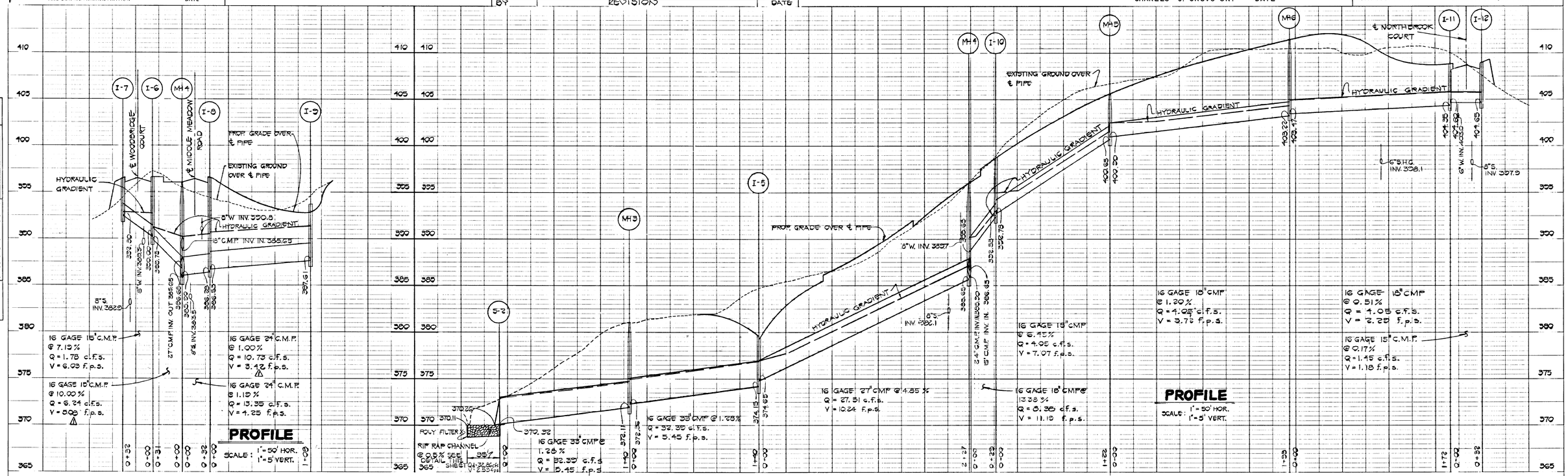
FISHER, COLLINS AND CARTER, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
8388 COURT AVE. ELLICOTT CITY, MARYLAND 21043

STATE OF MARYLAND — CHARLES J. CROVO — No. 12204 — REGISTERED PROFESSIONAL ENGINEER

CHARLES J. CROVO SR. — 1/7/86 DATE

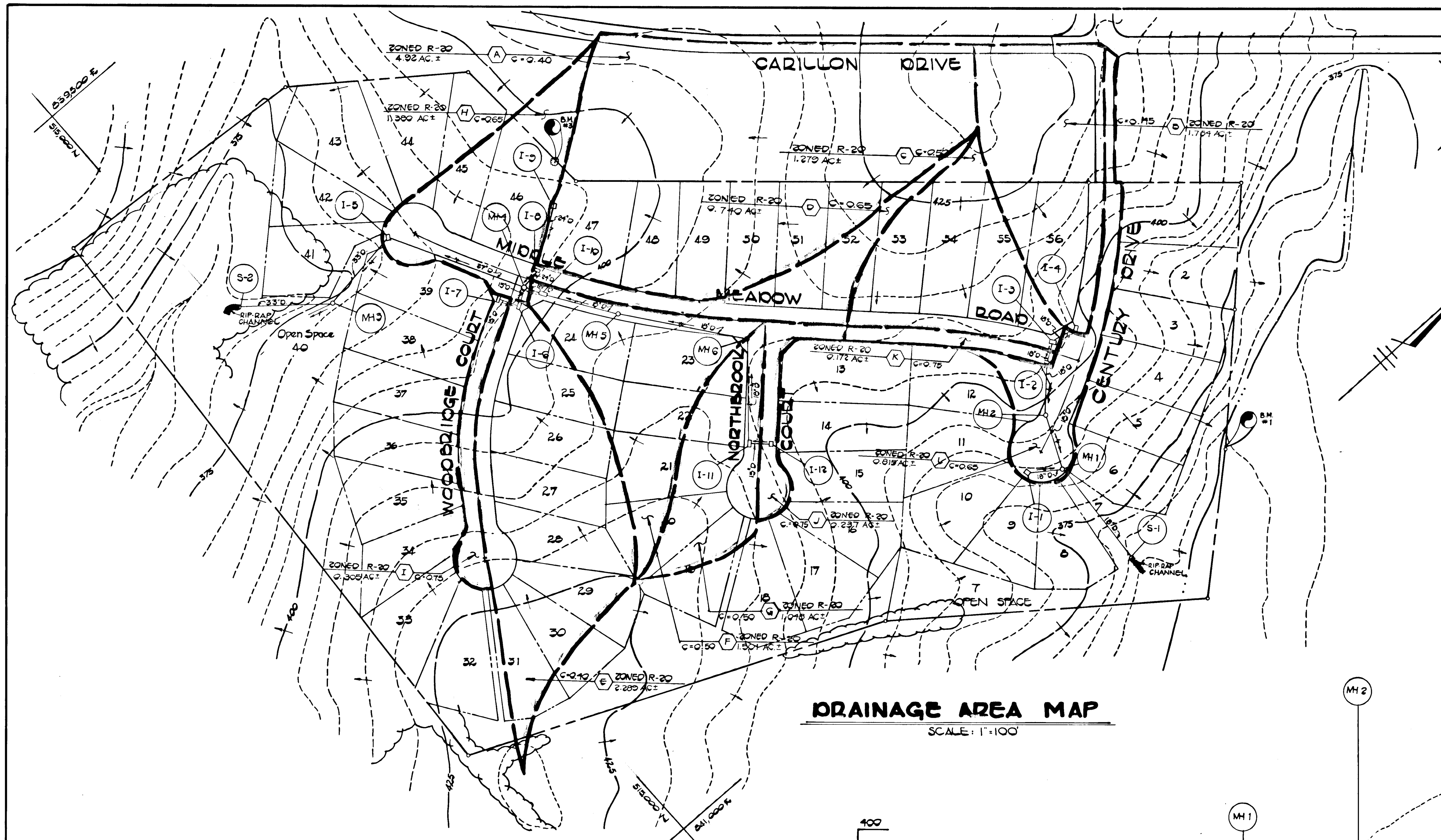
PLAN — NOTE BOOK NO. — SURVEYED, PLOTTED, ALIGNMENT CHECKED, RT. OF WAY CHECKED — BY — DATE

PROFILE — SURVEYED, PLOTTED, GRADES CHECKED, STRUCTURE NOTATIONS CHKD — BY — DATE



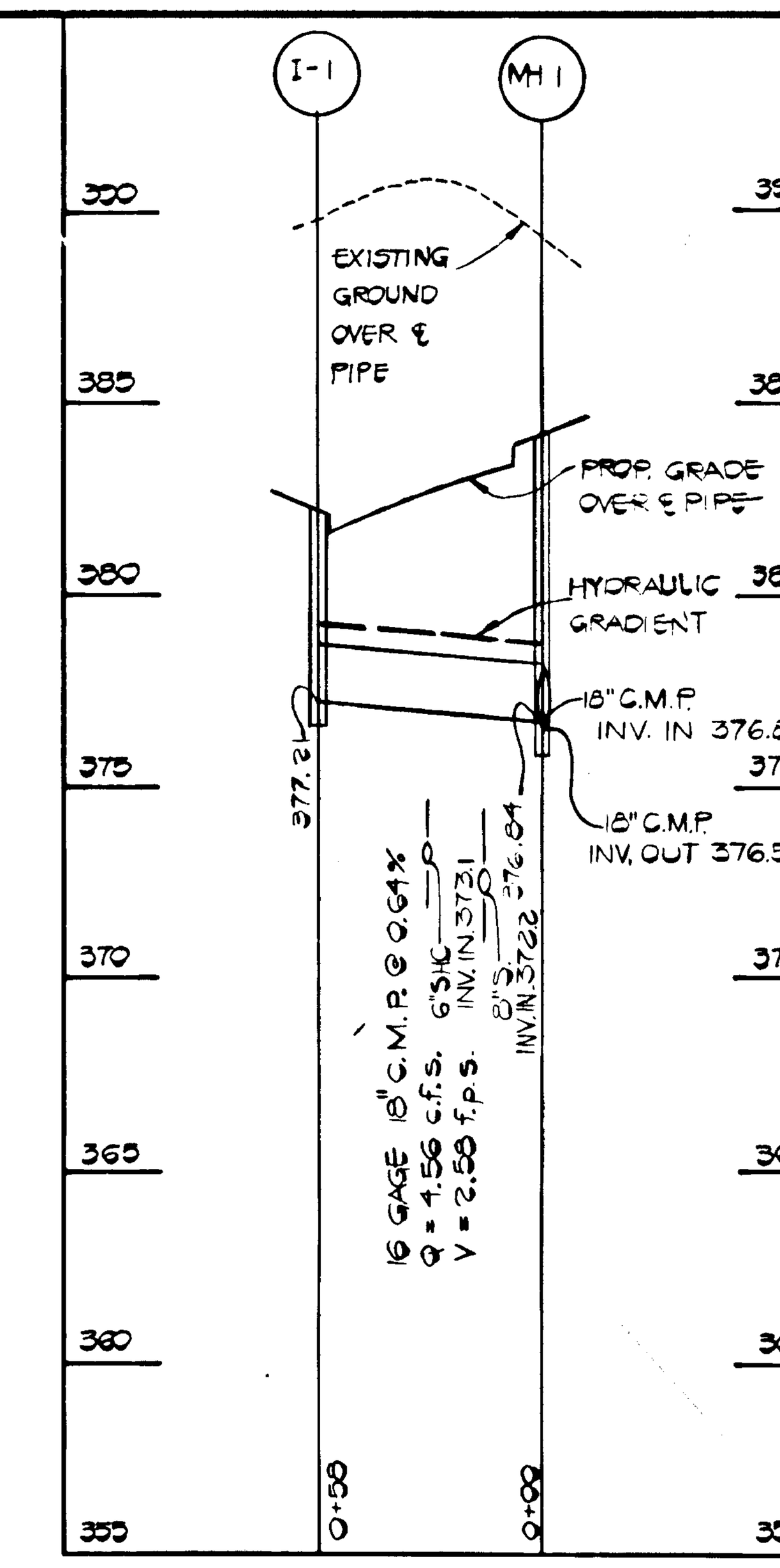
#1169

F86-106



DRAINAGE AREA MAP

SCALE: 1"=100'



PROFILE

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

APPROVED
DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF ENGINEERING — DATE 3-11-86

APPROVED
OFFICE OF PLANNING AND ZONING

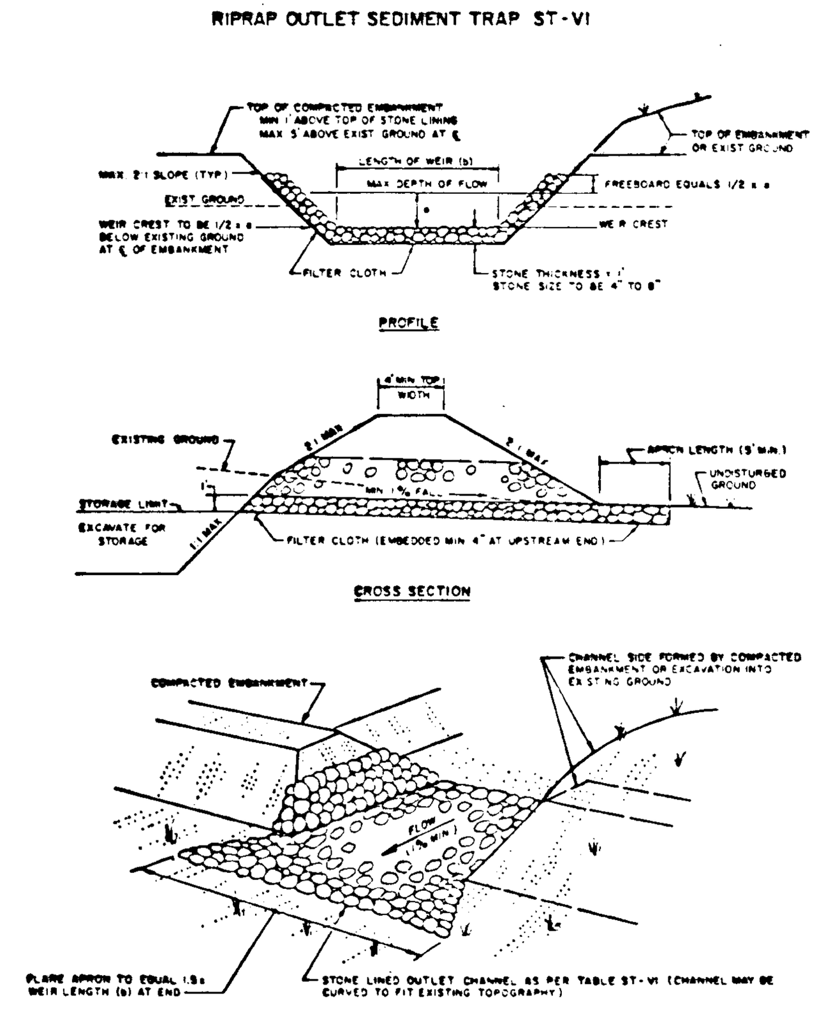
ACTING CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 3-11-86

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

U.S. SOIL CONSERVATION SERVICE — DATE 3-11-86

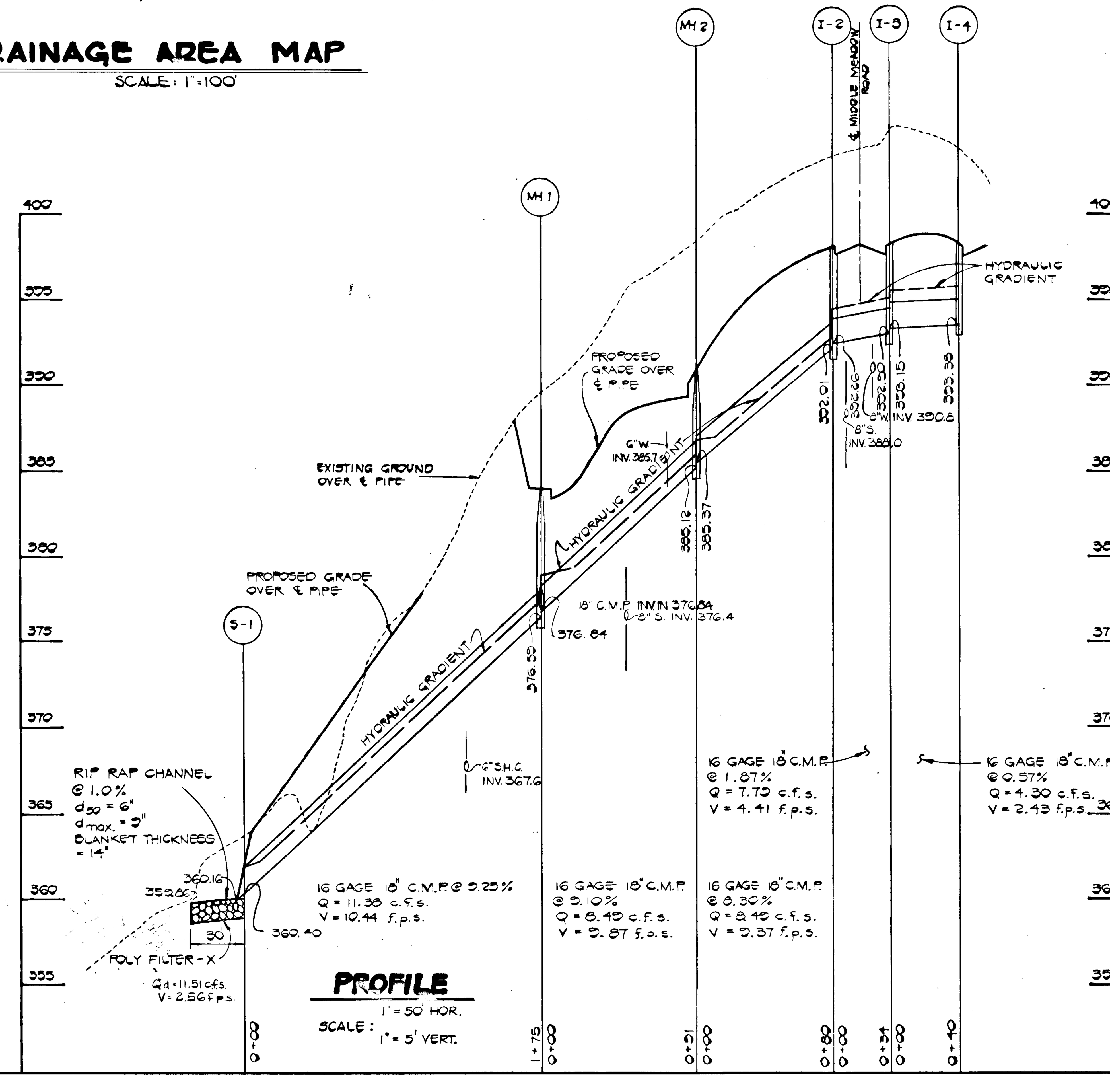
THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
APPROVED:
DISTRICT — DATE 3/11/86
HOWARD SOIL CONSERVATION DISTRICT

RIPRAP OUTLET SEDIMENT TRAP ST-VI



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.



PROFILE

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

PERMANENT SEEDING NOTES:

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

SEEDBED PREPARATION: LOOSEN UPPER THREE-INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

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 SQUARE 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 ACRE 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 1½ TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

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.

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 2½ 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 1½ 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.

OWNER & DEVELOPER

CHATEAU BUILDERS
8100 WOODED GLEN COURT
ELLICOTT CITY, MD. 21043

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

CHARLES J. CROVO SR. — DATE 1/7/86

#1169

FISHER, COLLINS & CARTER, INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
ELLICOTT CITY, MARYLAND 21043
TELFPHONE: (301) 461-2855

THE WILLOWS

SECTION ONE AREA TWO

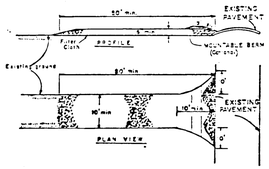
DRAINAGE AREA MAP, STORM DRAINAGE PROFILES, NOTES AND DETAILS

SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN SHEET 5 OF 6 NOVEMBER 22, 1985

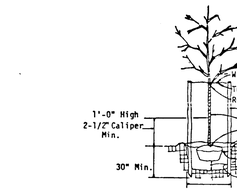
F86-106

STABILIZED CONSTRUCTION ENTRANCE
not to scale



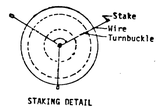
CONSTRUCTION SPECIFICATIONS

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) feet 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 or re-working entrance 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. When necessary, 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.

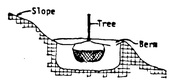


Note: Remove Burlap from Top 1/3 of Ball

TREE PLANTING
NO SCALE



STAKING DETAIL

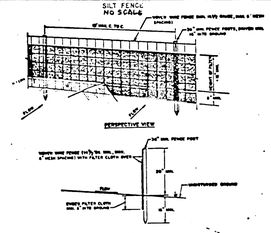


GRADING FOR PLANTING ON SLOPES

DENOTES APPROXIMATE LOCATION OF ACER SACCHARUM (SUGAR MAPLE) 2½" CALIPER, PLANTED 40' ON CENTER.

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.

SILT FENCE
NO SCALE

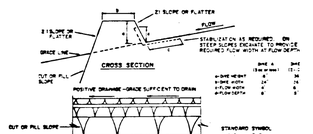


CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

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 WOOD
FENCE: WOVEN WIRE, 14½ GA. MIN. 6" MAX. MESH OPENING
FILTER CLOTH: FILTER X, MIRAFI 100, STARFI, STRATA TECH OR APPROVED EQUAL
PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL

EARTH DIKE
not to scale



CONSTRUCTION SPECIFICATIONS

1. ALL DIKES SHALL BE COMPACTED BY EARTHMOVING EQUIPMENT.
2. DIKES SHALL BE CONSTRUCTED TO DRAINAGE TO AN OUTLET.
3. DIKE SIDE SLOPES SHALL NOT EXCEED 2:1. 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 SITE ARE NOT ADEQUATELY STABILIZED.
6. DIKES SHALL BE STABILIZED: (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 GRADIENT	SIDE A	SIDE 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 MAT, OR STONE
3	5.1-8.0%	SEED WITH JUTE, OR SOD, OR STONE	LINED RIP-RAP 6-8"
4	8.1-20%	LINED RIP-RAP 6-8"	ENGINEERING DESIGN

A. STONE TO BE 2 INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 5 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
B. RIP-RAP TO BE 6-8 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.
PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH MAIN EVENT.

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 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.
5) 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.
6) SITE ANALYSIS:

TOTAL AREA OF SITE	29.268±	ACRES
AREA DISTURBED	5.00	ACRES
AREA TO BE ROOFED OR PAVED	2.05	ACRES
AREA TO BE VEGETATIVELY STABILIZED	2.95	ACRES
TOTAL CUT		CU.YDS.
TOTAL FILL		CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION		

7) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
8) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY DPW SEDIMENT CONTROL INSPECTOR.

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 — 1/7/86 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 ATTENDANC. 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 — 1-6-86 DATE

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

U.S. SOIL CONSERVATION SERVICE — 3/11/86 DATE

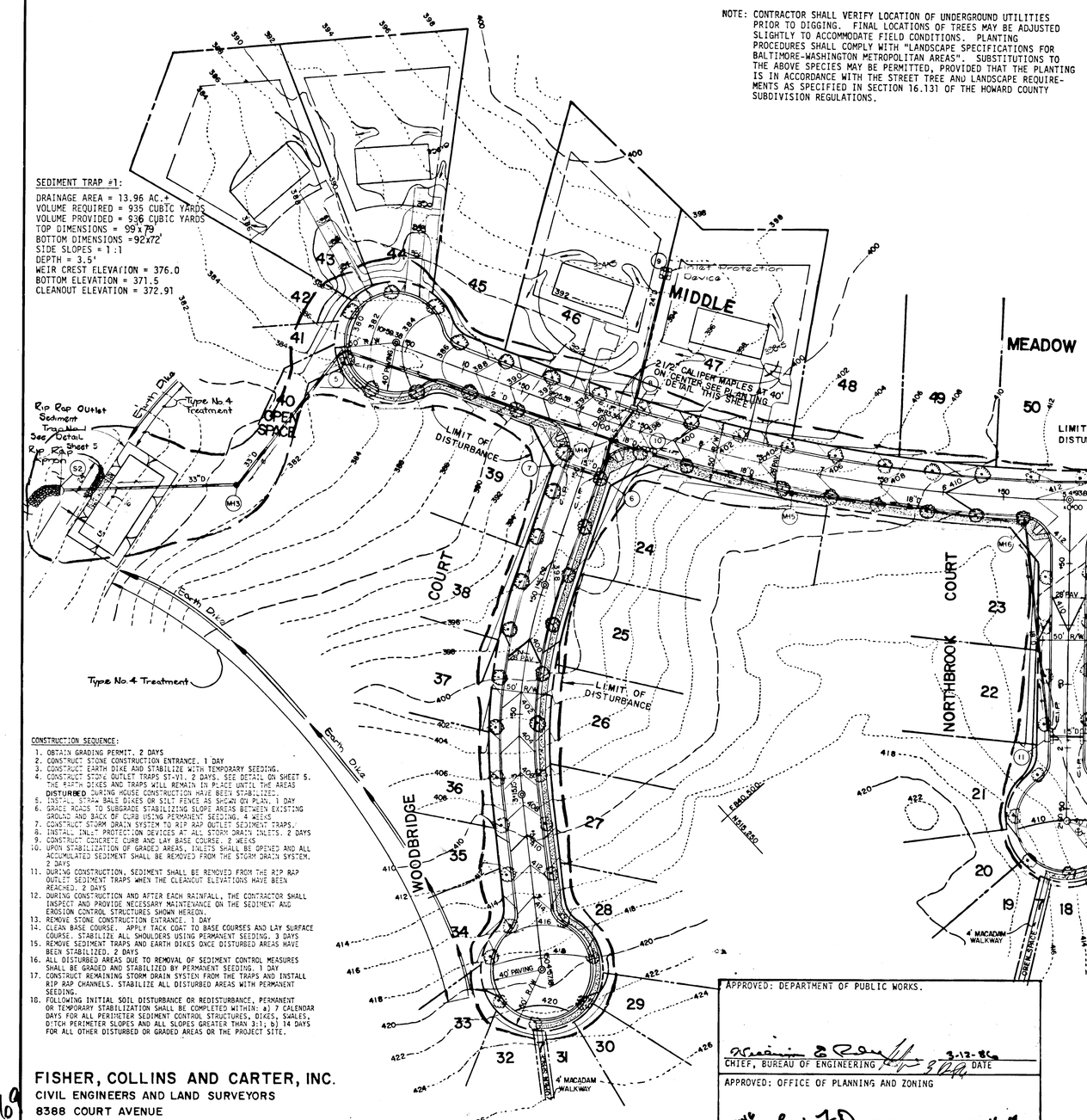
THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: DISTRICT — 3/11/86 DATE

HOWARD SOIL CONSERVATION DISTRICT

SEDIMENT TRAP #1:

DRAINAGE AREA = 13.96 AC.±
VOLUME REQUIRED = 935 CUBIC YARDS
VOLUME PROVIDED = 936 CUBIC YARDS
TOP DIMENSIONS = 99'x79'
BOTTOM DIMENSIONS =92'x72'
SIDE SLOPES = 1:1
DEPTH = 3.5'
WEIR CREST ELEVATION = 376.0
BOTTOM ELEVATION = 371.5
CLEANOUT ELEVATION = 372.91



CONSTRUCTION SEQUENCE:

1. OBTAIN GRADING PERMIT. 2 DAYS
2. CONSTRUCT STONE CONSTRUCTION ENTRANCE. 1 DAY
3. CONSTRUCT EARTH DIKE AND STABILIZE WITH TEMPORARY SEEDING.
4. CONSTRUCT STONE OUTLET TRAPS ST-V1. 2 DAYS. SEE DETAIL ON SHEET 5. THE EARTH DIKES AND TRAPS WILL REMAIN IN PLACE UNTIL THE AREAS DISTURBED DURING HOUSE CONSTRUCTION HAVE BEEN STABILIZED.
5. INSTALL STRAW BALE DIKES OR SILT FENCE AS SHOWN ON PLAN. 1 DAY
6. GRADE ROADS TO SUBGRADE STABILIZING SLOPE AREAS BETWEEN EXISTING GROUND AND BACK OF CURB USING PERMANENT SEEDING. 4 WEEKS
7. CONSTRUCT STORM DRAIN SYSTEM TO RIP RAP OUTLET SEDIMENT TRAPS.
8. INSTALL INLET PROTECTION DEVICES AT ALL STORM DRAIN INLETS. 2 DAYS
9. CONSTRUCT CONCRETE CURB AND LAY BASE COURSE. 2 WEEKS
10. UPON STABILIZATION OF GRADED AREAS, INLETS SHALL BE OPENED AND ALL ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE STORM DRAIN SYSTEM. 2 DAYS
11. DURING CONSTRUCTION, SEDIMENT SHALL BE REMOVED FROM THE RIP RAP OUTLET SEDIMENT TRAPS WHEN THE CLEANOUT ELEVATIONS HAVE BEEN REACHED. 2 DAYS
12. DURING CONSTRUCTION AND AFTER EACH RAINFALL, THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON THE SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON.
13. REMOVE STONE CONSTRUCTION ENTRANCE. 1 DAY
14. CLEAN BASE COURSE, APPLY TACK COAT TO BASE COURSES AND LAY SURFACE COURSE. STABILIZE ALL SHOULDERS USING PERMANENT SEEDING. 3 DAYS
15. REMOVE SEDIMENT TRAPS AND EARTH DIKES ONCE DISTURBED AREAS HAVE BEEN STABILIZED. 2 DAYS
16. ALL DISTURBED AREAS DUE TO REMOVAL OF SEDIMENT CONTROL MEASURES SHALL BE GRADED AND STABILIZED BY PERMANENT SEEDING. 1 DAY
17. CONSTRUCT REMAINING STORM DRAIN SYSTEM FROM THE TRAPS AND INSTALL RIP RAP CHANNELS. STABILIZE ALL DISTURBED AREAS WITH PERMANENT SEEDING.
18. 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, SWALES, DITCH PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1; b) 14 DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS OR THE PROJECT SITE.

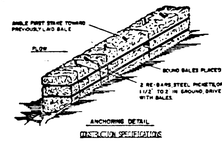
APPROVED: DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF ENGINEERING — 3-12-86 DATE

APPROVED: OFFICE OF PLANNING AND ZONING

ACTING CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — 3/12/86 DATE

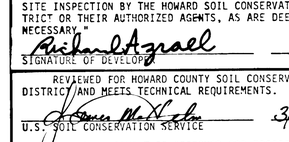
STRAW BALE DIKE



STRAW BALE SPECIFICATIONS

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR IN THE CENTER AND IN A ROW WITH ENDS TIGHTLY BUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF FOUR (4) INCHES, AND PLACED SO THE BINDING ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR REBARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

INLET PROTECTION DETAILS
NO SCALE



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 4' long vertical spacers to be located between the weir and inlet face (max. 4' apart).
4. Place the assembly against the inlet throat and nail (minimum 3' lengths of 2" x 4" to the top of the weir at spaced 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.

OWNER & DEVELOPER

CHATEAU BUILDERS
8100 WOODED GLEN COURT
ELLICOTT CITY, MD 21043

FISHER, COLLINS AND CARTER, INC.
CIVIL ENGINEERS AND LAND SURVEYORS
8388 COURT AVENUE
ELLICOTT CITY, MARYLAND 21043
TELEPHONE :(301) 461-2855

#1169

STREET TREE, GRADING AND SEDIMENT CONTROL PLAN

THE WILLOWS

SECTION 1 AREA 2

2ND ELECTION DISTRICT — HOWARD COUNTY, MARYLAND
SCALE : 1"=50' — NOV. 22, 1985

SHEET 6 OF 6

F86-106