GENERAL NOTES

1. Property zoned R-20 as per 8/2/85 Comprehensive Zoning Plan.
2. Total area of lots = 12.39 ± = BUILDABLE
3. Total area of road right-of-way = 1.668 Ac±
4. Total area of open space = [illegible] A
5. Total area of the site = 15.695 Ac±
6. Total numbers of building lots = 26
7. Public water and sewer will be used for this subdivision.
8. B.R.L. denoted building restriction line.
9. For flag or pipestem lots, refuse collection, snow removal and road maintenance to be provided at the junction or flag or pipestem and the right-of-way and not onto the flag or pipestem driveway.
10. Deed Reference: 459/664
11. All coordinates shown are based upon the Maryland State Grid System and Howard County Grid Point.

TA 2843001	2713001
N 11572.862	N 10727.[illegible]
W [illegible] 059	W 255766.498

12. All traffic control devices shall be installed in compliance with the manual on Uniform Traffic Control Devices for Streets and Highways, Current Edition.

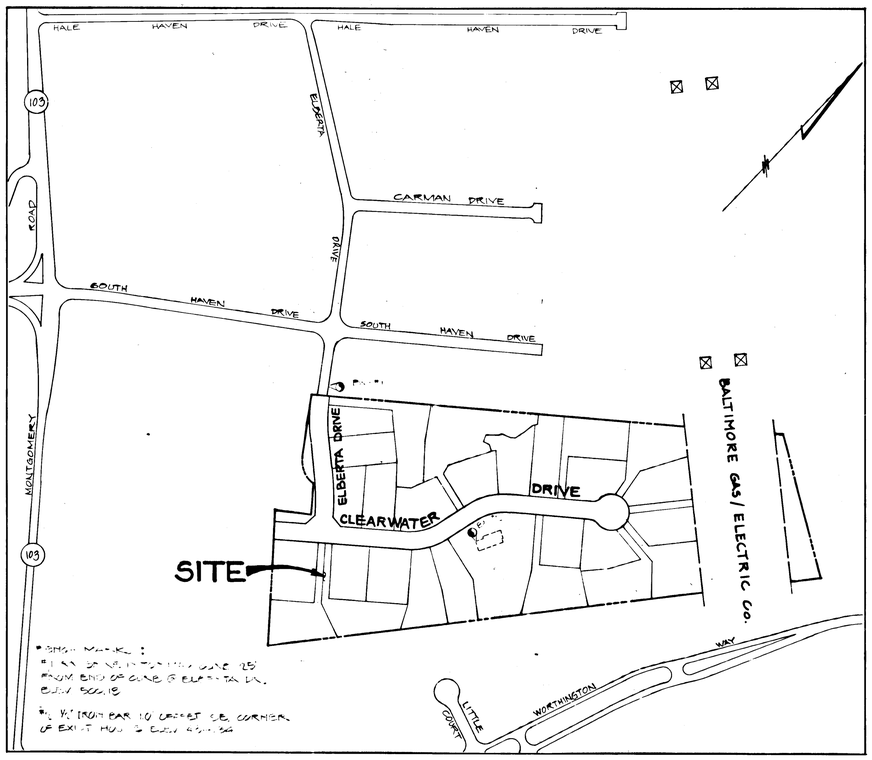
BROOKFIELD

LOTS 1 THRU 31

ROAD AND STORM DRAIN CONSTRUCTION DRAWINGS

TAX MAP : 31 ; BLOCK : 8 ; PARCEL : 351
2nd ELECTION DISTRICT ; HOWARD CO., MD.

OP & Z FILE NO's : S-[illegible]
P-89-23
GP-88-67
F-[illegible]



VICINITY MAP

1" = 200'

PLAN SHEET INDEX

1. TITLE SHEET
2. ROAD CONSTRUCTION PLAN - ELBERTA DRIVE
3. ROAD CONSTRUCTION PLAN - CLEARWATER DRIVE.
4. TEMPORARY S.W.M. / GRADING, D.A.M., SED. CONTROL & STORM DRAIN CONSTRUCTION PLAN.
5. S.W.M. / FINAL GRADING PLAN
6. STORM DRAIN PROFILE.
7. S.W.M. DETAILS.
8. DETAILS.
9. LANDSCAPE & SOILS PLAN

GENERAL NOTES FOR CONSTRUCTION

1. All work shall be performed in accordance with the Howard County Design Manual, Vol. IV, i.e., standard specifications and details for construction.
2. Approximate location of existing utilities are shown. The contracter shall take all necessary precautions to protect the existing utilities and maintain uninterupted service. Any damage incurred due to contractor's operation shall be repaired immediately at the contractor's expense.
3. The contractor shall test pit for existing utilities at least five (5) days prior to starting work shown on these drawings.
4. Contractor shall notify the following utilities at least five (5) days prior to beginning work shown on these drawings.
   Miss utility 559-0100
   Bell telephone system 393-3649
   Long distance cable division.....393-3553/3554
   Baltimore Gas & Electric Company....539-8000
   Howard County Bureau of Utilities...992-2366
   Howard County Construction/Inspection Survey Division (24 hours notice prior of commencement of work) 792-7272
5. All inlets shall be constructed in accordance with Howard County standards.
6. All street curb returns shall have 30' radii unless otherwise noted.
7. Storm drain trenches within road rights-of-way shall be backfilled and conpacted in accordance with Howard County Design Manual, Vol.IV, i.e., standard specifications and details for construction.
8. Installation of traffic control devices, marking, and signing shall be in accordance with the manual of uniform traffic control devices, 1984 edition (revised)
9. Pipe shall be installed by contractor until the length called for at each station has been approved by the engineer in the field.
10. Designed traffic speed in accordances with the American Association of State Highway official standards.
    Elberta Drive - 30' R/W (Local road)
    Clearwater Drive - 50' R/W (Cul-de-sac)
11. All elevations shown are based on U.S.C. and G.S. mean sea level datum, 1929.
12. All fill areas within roadways and/or under structures to be compacted to a minumum 95% compaction.
13. All pipe elevations shown are invert elevations.
14. Profile stations shall be adjusted as necessary to confirm to plan dimensions.
15. Subject property zoned R-20 per 08-02-85 comprehensive zoning plan.
16. No pipe shall be laid in place until lines of excavation have been brought to within six (6) inches of finished grade elevations.
17. All storm drain pipe bedding shall be class "B" as shown in fig. 11.4 of the Howard County design manual, Vol.I, unless otherwise noted.
18. All street lights to be high pressure sodium vapor fixtures, 175 Hg. with 14' Pole Height.

APPROVED: OFFICE OF PLANNING AND ZONING.

Chief, Division of Community Planning and Land Development — Date 2/1/89

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Chief, Land Development Div. — Date 7/12/89

Chief, Bureau of Highways — Date

Chief, Bureau of Engineering — Date 7-26-89

NO.	DESCRIPTION	BY	DATE

REVISION

STATE OF MARYLAND — HENRY F. SADLER — No. 12065 — REGISTERED PROFESSIONAL ENGINEER

HENRY F. SADLER DATE

1450

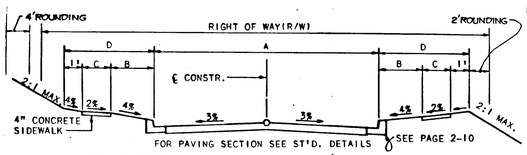
OWNER / DEVELOPER

RALPH E. NUPP
6190 ELBERTA DR.
ELLICOTT CITY, MD. 21043

CHATEAU HOMES INC.
8100 WOODED GLEN CT.
ELLICOTT CITY, MD. 21043
(301) 799-5001

D.S. THALER & ASSOC. INC.
CIVIL ENGINEERS · LANDSCAPE ARCHITECTS · SURVEYORS & LAND PLANNERS
7115 AMBASSADOR ROAD
BALTIMORE, MARYLAND 21207
(301) 944-3647
(301) 944-ENGR

F89-97

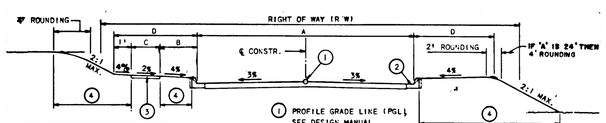


FOR PAVING SECTION SEE ST'D. DETAILS

ZONING DISTRICTS		A	B	C[**2]	D	R/W
COMMERCIAL AND INDUSTRIAL	ADT ≤ 1000 OR LESS	38'	5'	4'[*]	10'	60'[*]
	ADT > 1001 TO 3000	44'	3'	4'[*]	8'	60'[*]
R-SC, R-SA, R-A1, R-MH, NT-APARTMENT AREA		30'	4'	4'	9'	50'
R-12, R-20, NT-SINGLE FAMILY AREA						
R		24'			10'	50'

TYPICAL CROSS-SECTION

1. EX. ZONING = R-20
2. LOCAL STREET
3. ELBERTA DRIVE (STA 0+00 TO STA 5+62.57)
4. DESIGN SPEED 30 MPH
5. NOT TO SCALE



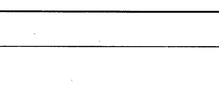
ZONING DISTRICTS	A	B	C	D	R/W	PAVING SECTION
R-SC, R-SA, R-A1, R-MH, NT-APARTMENT AREA	28'	4'	4'	9'	50'	P-2
R-12, R-20, NT-SINGLE FAMILY AREA						
R	24'	—	10'	10'	50'	P-2

*24' MAY BE USED FOR CUL-DE-SAC WITH AN ADT OF 72 OR LESS OR WITH 3 OR LESS FRONTING LOTS.

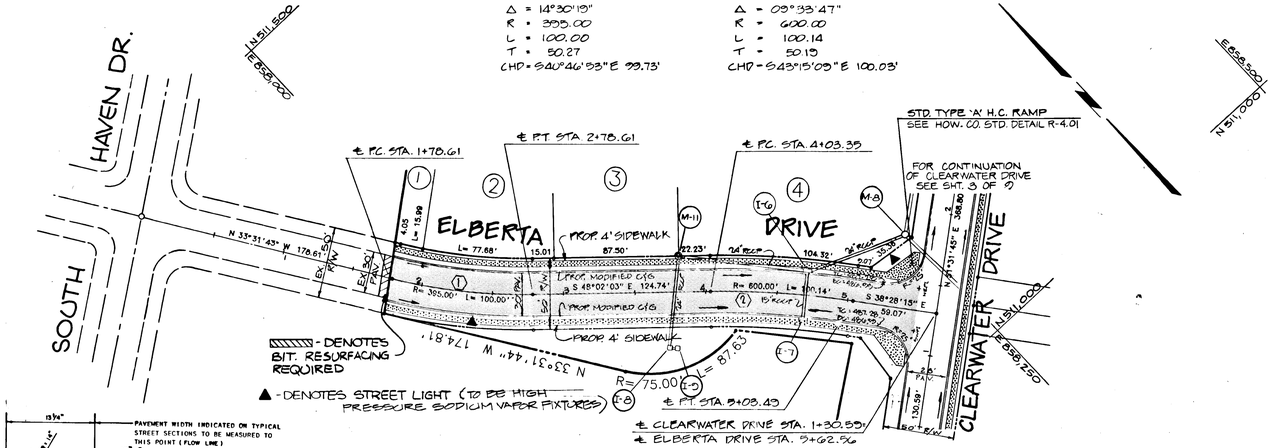
1. PROFILE GRADE LINE (PGL) SEE DESIGN MANUAL.
2. **MODIFIED CONCRETE CURB AND GUTTER.**
3. 4" CONCRETE SIDEWALK AS REQUIRED BY SUB-DIVISION REGULATIONS.
4. INDICATES 2" TOPSOIL, SEED AND MULCH.
5. GUARDRAIL WERE REQUIRED BY THE DESIGN MANUAL.
6. DITCH CROSS SECTION SLOPE MAY BE FLATTENED TO PROVIDE A SWALE AT OR NEAR THE CREST OF VERTICAL CURVES WHERE QUANTITY OF SWALE FLOW IS SMALL, AS APPROVED BY DPW.

TYPICAL CROSS-SECTION

1. EX. ZONING = R-20
2. CUL-DE-SAC
3. CLEARWATER DRIVE (STA 0+00 TO STA 3+60.13)
4. DESIGN SPEED 30 MPH
5. NOT TO SCALE

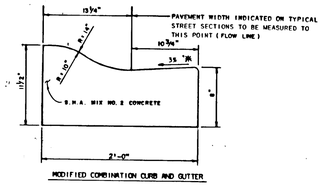


FULL DEPTH BIT. CONC. ALTERNATE



PLAN

SCALE: 1" = 50'



MODIFIED COMBINATION CURB AND GUTTER

* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 3% FOR MODIFIED CURB AND GUTTER.

MODIFIED COMBINATION CURB & GUTTER TO BE USED THROUGHOUT THIS SUBDIVISION

NO.	DESCRIPTION	BY	DATE

REVISION

DEVELOPER'S CERTIFICATION

I 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 THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

DEVELOPER — DATE 6/7/89

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

ENGINEER — DATE 6/7/89

APPROVED: OFFICE OF PLANNING AND ZONING.

Chief, Division of Community Planning and Land Development — Date 8/1/89

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Chief, Land Development Div. — Date 7/10/89

Chief, Bureau of Highways — Date 7/10/89

Chief, Bureau of Engineering — Date 7-26-89

OWNER / DEVELOPER

RALPH E. NUPP
8150 ELBERTA DR.
ELLICOTT CITY, MD.
21043

CHATEAU HOMES INC.
8100 WOODED GLEN CT.
ELLICOTT CITY, MD 21043
(301) 799-5001

STATE OF MARYLAND — HENRY F. SADLER — No. 12065 — REGISTERED PROFESSIONAL ENGINEER

HENRY F. SADLER DATE

TITLE: ELBERTA DRIVE- PLAN & PROFILE

PROJECT: BROOKFIELD LOTS 1 THRU 51

O.P.&Z. FILE NOS.: SP-88-07 / P-88-23 / 85-07-86

TAX MAP: 51, BLOCK: 8, PARCEL: 351

2nd ELECTION DISTRICT: HOWARD COUNTY, MD.

DES. BY:	DRAWN BY:	CHKD. BY:	DATE:	SCALE:	SHEET
BLC/JTN	CDH/JLC	JTN	MARCH, 1989	AS SHOWN	2 OF 9

CIVIL ENGINEERS • SITE PLANNERS • SURVEYORS

DJT&A Associates Inc.

7115 AMBASSADOR ROAD
BALTIMORE, MARYLAND
21207

(301) 944-3647
(301) 944-ENGR

PLAN — SURVEYED, PLOTTED, GRADES CHECKED, ALIGNMENT CHECKED, AS-BUILTED, NO. OF MH'S CHECKED — NOTE BOOK — No. — BY — DATE

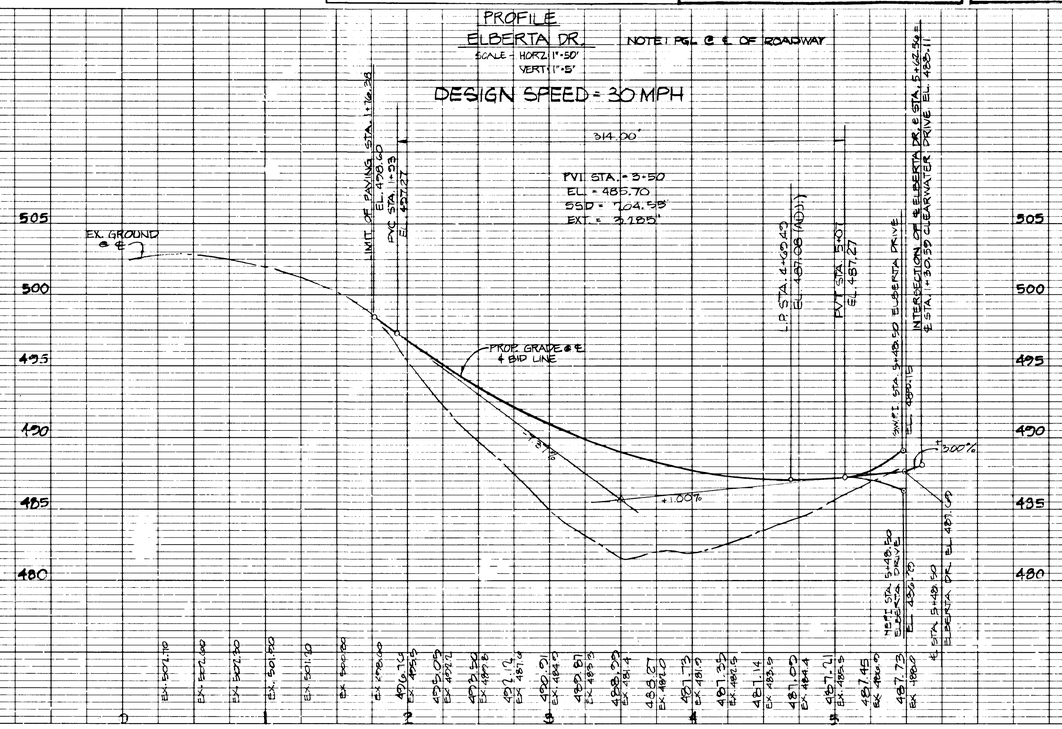
PROFILE

ELBERTA DR.

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

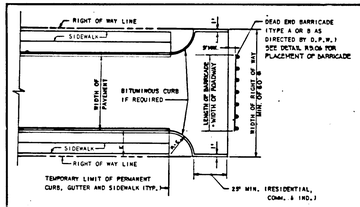
NOTE: PGL @ ℄ OF ROADWAY

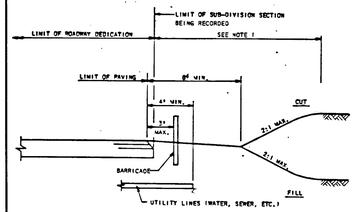
DESIGN SPEED = 30 MPH



PROFILE	SURVEYED	PLOTTED	GRADES CHECKED	ALIGNMENT CHECKED	AS-BUILTED	NO. OF MH'S CHECKED	STRUCTURE NO'S/TYPES CHECKED	BY	DATE
NOTE BOOK									
No.									

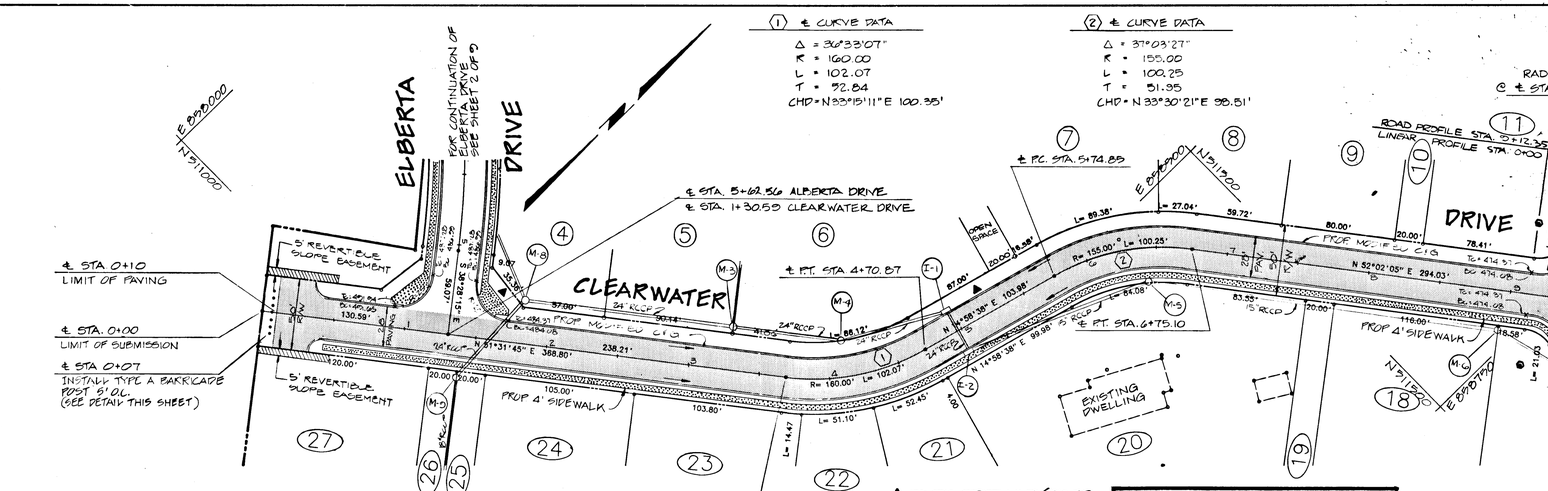
1457





PLAN
DATE
BY
SURVEYED
PLOTTED
NOTE BOOK
PLOTTED CHECKED
No.
R/W CHECKED

PROFILE
DATE
BY
SURVEYED
PLOTTED
NOTE BOOK
PLOTTED CHECKED
No.
R/W NOTED
STRUCTURE NOTATIONS CHECKED



① ℄ CURVE DATA
Δ = 36°33'07"
R = 160.00
L = 102.07
T = 52.84
CHD = N33°15'11"E 100.35'

② ℄ CURVE DATA
Δ = 37°03'27"
R = 155.00
L = 100.25
T = 51.95
CHD = N 33°30'21"E 98.51'

DEVELOPER'S CERTIFICATION

I 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 THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE POND WITHIN 90 DAYS OF COMPLETION.

DEVELOPER — DATE 6/7/89

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST NOTIFY THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE POND WITHIN 90 DAYS OF COMPLETION.

ENGINEER — DATE 6/7/89

OWNER / DEVELOPER

RALPH E. NUPP
8130 ELBERTA DR.
ELLICOTT CITY, MD
21043

CHATEAU HOMES
8100 WOODED GLEN CT.
ELLICOTT CITY, MD 21043
(301) 199-5001

APPROVED: OFFICE OF PLANNING AND ZONING.
Chief, Division of Community Planning and Land Development — Date 6/1/89

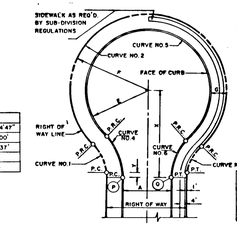
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Chief, Land Development Div. — Date 7/12/89
Chief, Bureau of Highways — Date 7/06/89
Chief, Bureau of Engineering — Date 7-26-89

STATE OF MARYLAND — HENRY F. SADLER — REGISTERED PROFESSIONAL ENGINEER
HENRY F. SADLER DATE 6/7/89

NO.	DESCRIPTION	BY	DATE

REVISION

RESIDENTIAL (28' APPROACH) R=56.78', Y=0.85 L.P.=254.49'				
CURVE I.D.'S	1	2	4 & 6	5
Δ	48°11'23"	276°32'46"	49°12'24"	278°24'47"
R	25.00'	50.00'	35.00'	40.00'
L	21.03'	241.19'	30.06'	194.37'
T	11.18'	-	16.03'	-
LC	20.41'	-	29.14'	-



CUL-DE-SAC DETAIL
NO SCALE

NOTES:
1. STANDARD CONC. COMB. CURB & GUTTER SHALL BE USED ON DOWNGRADE CUL-DE-SACS.
2. THE MAXIMUM GRADE OF THE CIRCULAR AREA IN ANY DIRECTION SHALL NOT EXCEED 6%.
3. A PROFILE SHALL BE PROVIDED ALONG THE TOP OF CURB FROM POINT P TO POINT Q.

ZONING DISTRICTS	E	F	S	R/W	A
COMMERCIAL & INDUSTRIAL	44'	44'	44'	44'	24' OR 28' **
RESIDENTIAL	40	50	10	50	24' OR 28' **

PLAN
SCALE: 1" = 50'

TITLE: CLEARWATER DRIVE PLAN & PROFILE					
PROJECT: BROOKFIELD LOTS 1 THRU 31					
O.P.&Z. FILE NOS.: SP-88-07/P-88-23/S-87-86					
TAX MAP: 31, BLOCK: 8, PARCEL: 351					
2nd ELECTION DISTRICT: HOWARD COUNTY, MD.					
DES. BY: BLG/JTN	DRAWN BY: CRH	CHKD. BY: JTN	DATE: MARCH, 1989	SCALE: AS SHOWN	SHEET 3 OF 5

CIVIL ENGINEERS • SITE PLANNERS SURVEYORS
DJT&A Thaler Assoc. Inc.
7118 AMBASSADOR ROAD
BALTIMORE, MARYLAND 21207
(301) 944-3647
(301) 944-ENGR

14.57

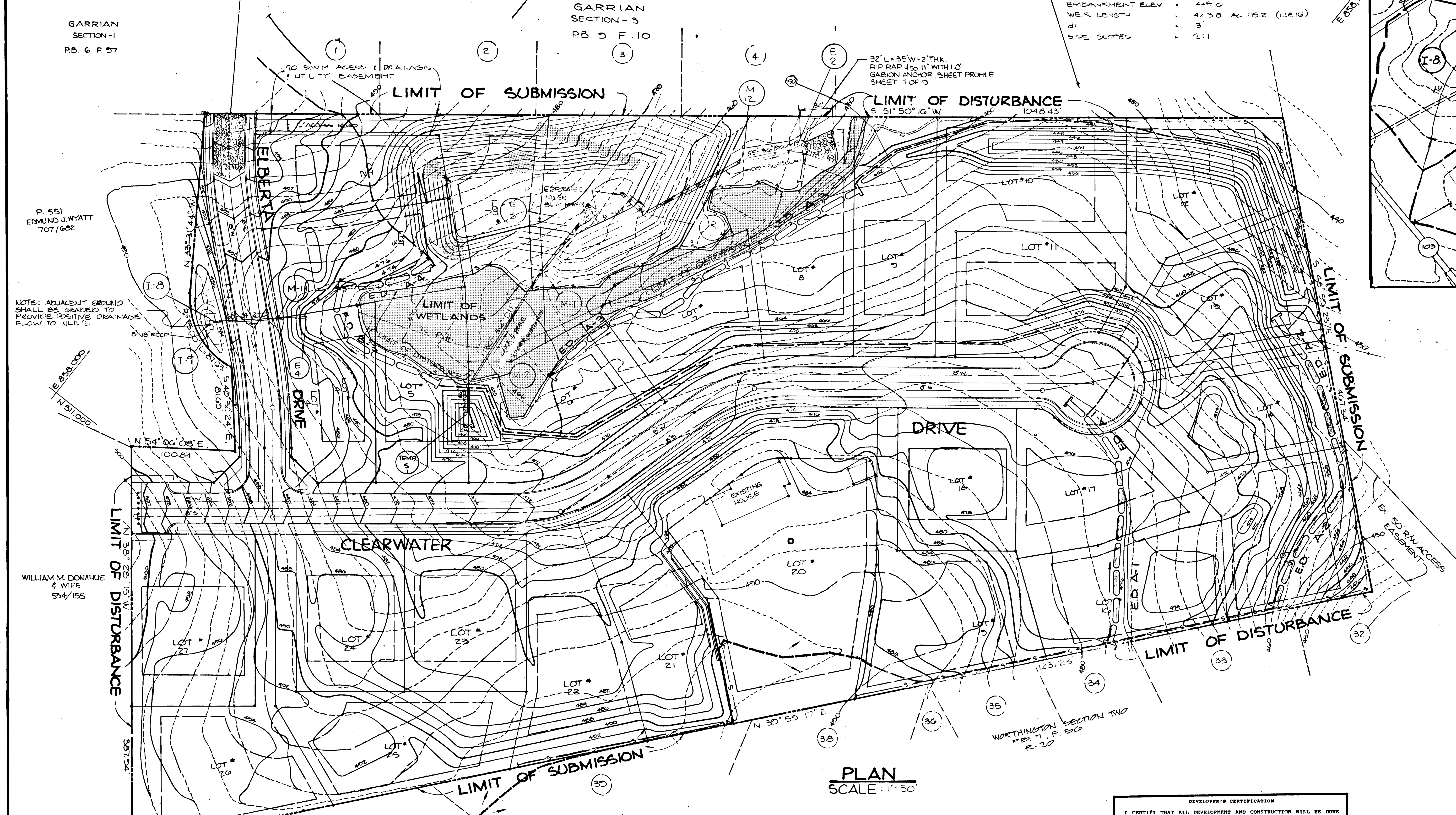
Keuffel & Esser Company
48 7024 Made in U.S.A.

F-89-97

INLET #	'C' FACTOR	INTENSITY	AREA	Q cfs
1	0.86	7.85	0.830	5.34
2	0.38	5.95	5.055	11.43
3	0.35	5.75	0.803	1.62
4	0.35	5.75	1.256	2.53
5	0.35	5.75	5.062	10.45
6	0.90	7.90	0.397	2.82
7	0.81	7.70	0.753	4.70
8/9	0.35	5.75	6.747	13.58

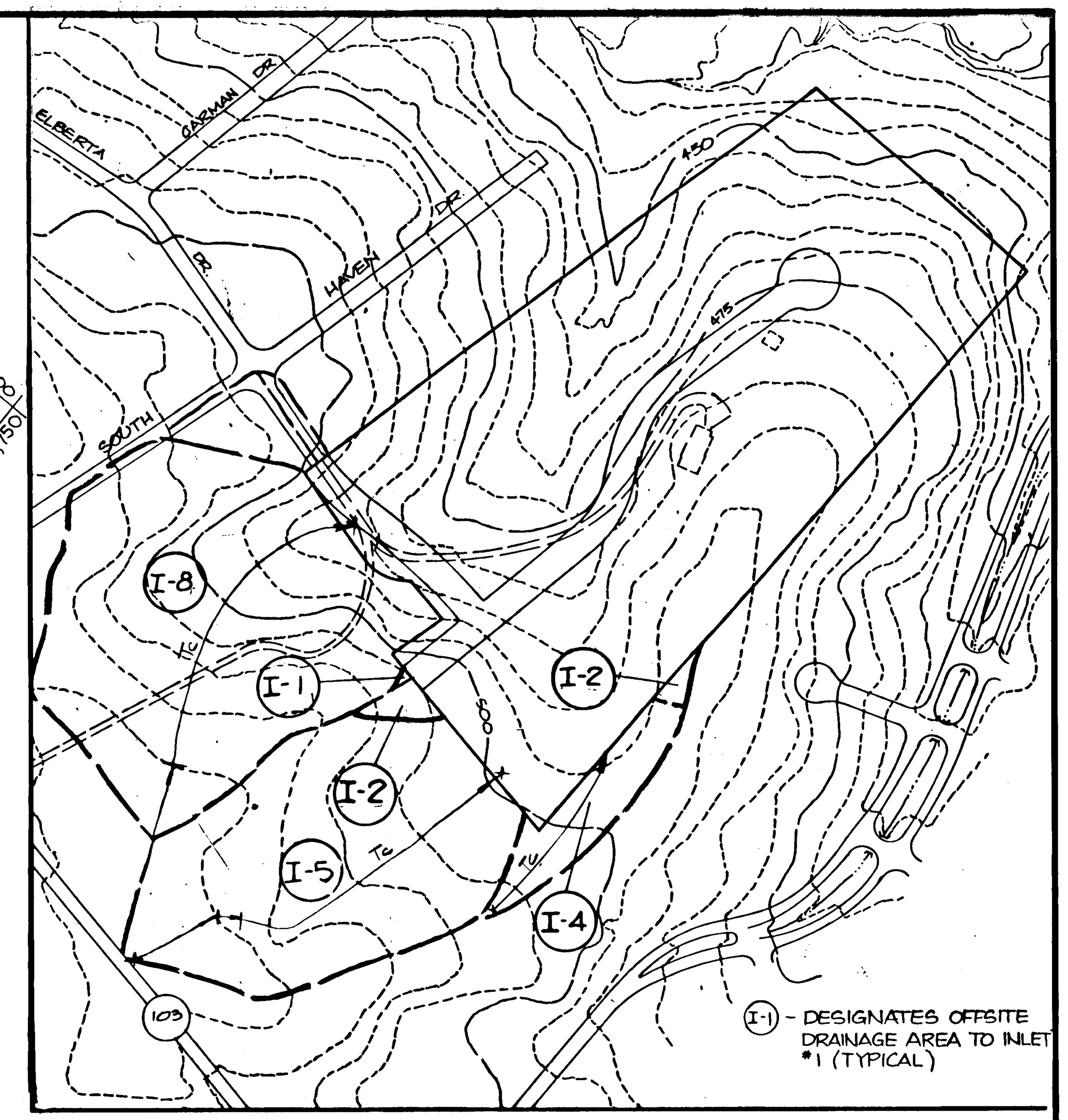
STONE OUTLET SEDIMENT TRAP #1

PROP DRAINAGE AREA	=	3.8 Ac±
STORAGE PROVIDED	=	11,538 CF.
STORAGE REQUIRED	=	1800 CF AC. × 3.8 = 6,840 CF
BOTTOM DIMENSIONS	=	4' × 375'
BOTTOM ELEV.	=	444.0
CLEANOUT ELEV	=	445.5
CREST ELEV.	=	447.0
EMBANKMENT ELEV	=	448.0
WEIR LENGTH	=	4 × 3.8 Ac = 15.2 (USE 16')
d:	=	3'
SIDE SLOPES	=	2:1



PLAN

SCALE : 1" = 50'



I-1 - DESIGNATES OFFSITE DRAINAGE AREA TO INLET #1 (TYPICAL)

DRAINAGE AREA MAP

SCALE : 1" = 200'

LEGEND

- DENOTES DRAINAGE AREA
- CROSS - SECTION I.D.
- DENOTES PEGGED SOD (EXCEPT FOR WETLANDS)
- Tc ; TIME OF CONCENTRATION

STRUCTURE SCHEDULE		
STRUCT. NO.	COORDINATES	
	NORTH	EAST
M-1	511384.187	858124.58
M-2	511254.535	858306.454
M-3	511184.071	858362.445
M-4	511232.261	858423.090
M-5	511412.038	858546.270
M-6	511564.049	858741.077
M-7	511601.770	858569.796
M-8	511093.820	858245.865
M-9	511020.302	858252.788
M-10	510893.468	858353.571
M-11	511190.493	858121.666
M-12	511591.412	858375.161
I-1	511306.367	858461.884
I-2	511293.071	858488.933
I-3	511568.135	858915.747
I-4	510860.562	858437.340
I-5	510831.256	858275.278
I-6	511120.176	858179.312
I-7	511100.212	858156.919
I-8	511143.048	858070.621
I-9	511144.781	858073.791
E-2	511633.057	858415.556
E-3	511438.906	858292.435
R-1	511491.361	858337.663

NOTES:

- FOR STORM DRAIN PROFILE SEE SHEET 6 OF 9.
- ALL RCCP IS TO BE CLASS IV CONCRETE CONCRETE PIPE.
- ALL BCCMP IS TO BE FULLY PAVED.
- 36" D.I.P. IS TO BE INSTALLED BY BORING & JACKING TO AVOID WETLANDS.

OWNER / DEVELOPER

RALPH E. NUPP
8150 ELBERTA DR.
ELLICOTT CITY, MD 21043

CHATEAU HOMES INC.
8100 WOODED GLEN CT.
ELLICOTT CITY, MD. 21043
(301) 799-5001

DEVELOPER'S CERTIFICATION

I 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 THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

DEVELOPER 6/7/89 DATE

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

ENGINEER 6/7/89 DATE

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

U.S. Soil Conservation Service 6/29/89 Date

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

Soil Conservation District 6/29/89 Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Chief, Land Development Div. 7/12/89 Date

Chief, Bureau of Highways Date

Chief, Bureau of Engineering 7-26-89 Date

APPROVED: OFFICE OF PLANNING AND ZONING.

Chief, Division of Community Planning and Land Development 8/1/89 Date

NO.	DESCRIPTION	BY	DATE
3	CHANGED 36" RCCP TO 36" DIP FROM M-1 TO M-2	RLR	6/10/91
2	CHANGE OF COMPANY ADRESS	LRC	3/13/90
1	REV. EX & PROP. CONTOURS, SEDIMENT CONTROL, STORM DRAIN PHASING & SHEET NO'S	LRC	3/13/90

REVISION

STATE OF MARYLAND HENRY F. SADLER NO. 12083 REGISTERED PROFESSIONAL ENGINEER

HENRY F. SADLER 6/7/89 DATE

TITLE: PHASE I - GRADING SEDIMENT CONTROL & TEMPORARY S.W.M. PLAN.

PROJECT: **BROOKFIELD** LOTS 1 THRU 31

O.P.&Z. FILE NOS.: GP-88-67; P-88-23; S-87-86

TAX MAP: 31, BLOCK: 8, PARCEL: 351

2nd ELECTION DISTRICT; HOWARD COUNTY, MD.

DES. BY:	DRAWN BY:	CHKD. BY:	DATE:
BLC/JTN	K.T.	JTN	MARCH 1989

SCALE: 1" = 50' | SHEET 4 OF 9

CIVIL ENGINEERS • SITE PLANNERS SURVEYORS

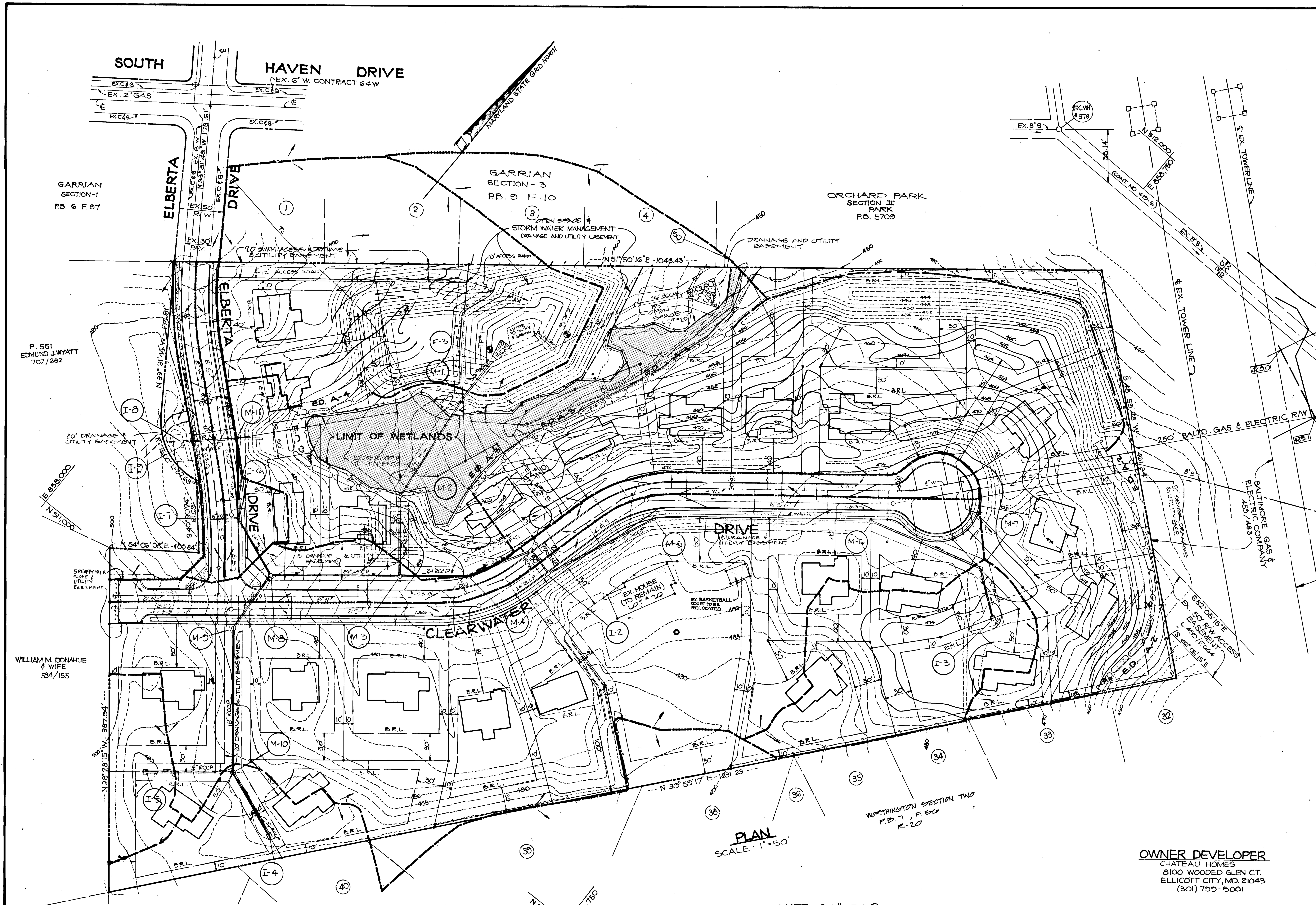
DST&A D.S. Thaler & Assoc. Inc.

7115 AMBASSADOR ROAD BALIMORE, MARYLAND 21207

(301) 944-3647
(301) 944-ENGR

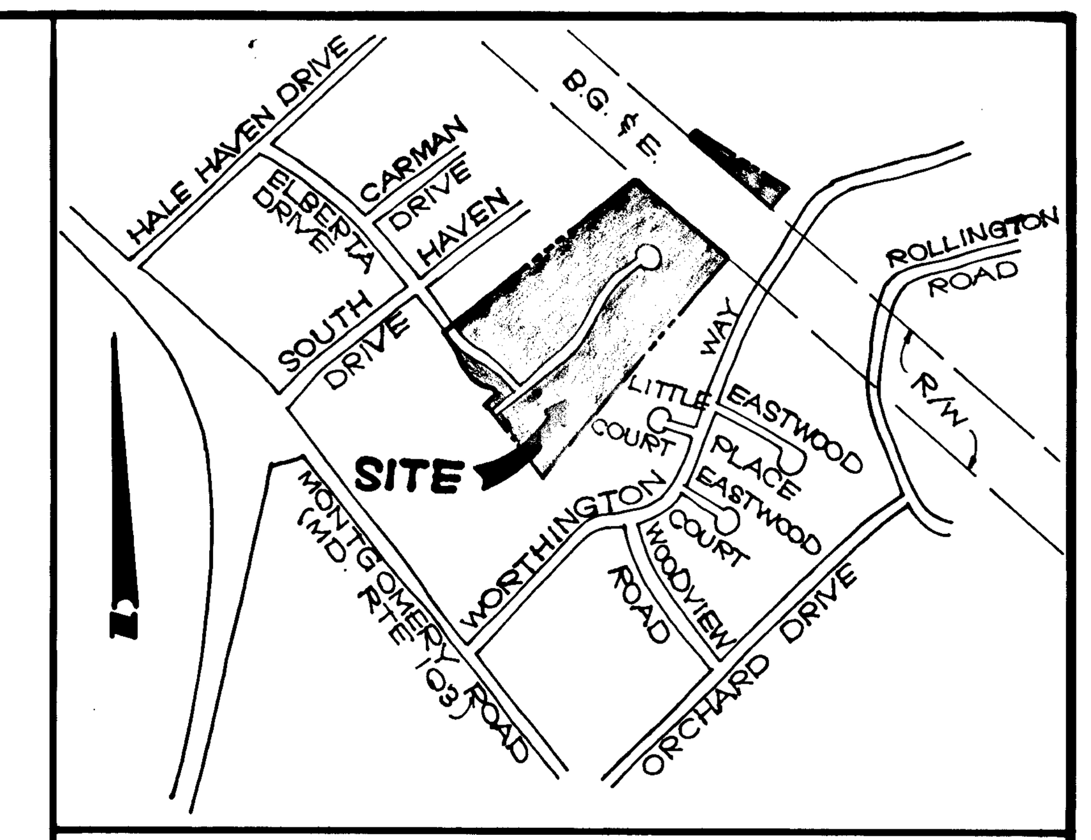
F-89-97

1457


SOUTH HAVEN DRIVE
ELBERTA DRIVE
MARYLAND STATE GRID NORTH
GARRIAN SECTION-1 P.B. 6 F. 87
GARRIAN SECTION-3 P.B. 9 F. 10
ORCHARD PARK SECTION II PARK P.B. 5709
OPEN SPACE & STORM WATER MANAGEMENT DRAINAGE AND UTILITY EASEMENT
DRAINAGE AND UTILITY EASEMENT
N 51°50'16" E - 1048.43'
LIMIT OF WETLANDS
P. 551 EDMUND J. WYATT 707/682
WILLIAM M. DONAHUE & WIFE 534/155
CLEARWATER DRIVE
EX. HOUSE (TO REMAIN)
EX. BASKETBALL COURT TO BE RELOCATED
250' BALTO GAS & ELECTRIC R/W
BALTIMORE GAS & ELECTRIC COMPANY 450/488
BALTIMORE GAS & ELECTRIC COMPANY 342/262
EX. TOWER LINE
100 YEAR FLOOD PLAIN
EX 16.5' DRAINAGE & UTILITY EASEMENT
OPEN SPACE 0.424 AC.
S 39°59'17" W - 76.82'
N 39°59'17" E - 1231.23'
WORTHINGTON SECTION TWO P.B. 7 F. 56 R-20
N 511,000
E 858,750

PLAN

SCALE: 1" = 50'



VICINITY MAP SCALE: 1" = 800'

LEGEND

- DENOTES DRAINAGE AREA
- CROSS-SECTION I.D.
- DENOTES PEGGED SOD (EXCEPT FOR WETLANDS)
- Tc ; TIME OF CONCENTRATION

OWNER DEVELOPER
CHATEAU HOMES
8100 WOODED GLEN CT.
ELLICOTT CITY, MD. 21043
(301) 799-5001

NOTE: 36" D.I.P. IS TO BE INSTALLED BY BORING & JACKING TO AVOID WETLANDS.

NO.	DESCRIPTION	BY	DATE
4	REMOVAL OF THE S.W.M. POND'S FENCE	C.J.C.	10/14/93
3	CHANGED 36" RCCP TO 36" DIP FROM M-1 TO M-2	RLR	6/10/91
2	CHANGE OF COMPANY ADRESS	LRC	3/15/90
1	REVISION TO EX. & PROP. CONTOURS, SEDIMENT CONTROL, STORM DRAIN PHASING & SHEET NO'S	LRC	3/15/90

REVISION

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

James M. Helm — 6/29/89
U.S. Soil Conservation Service — Date

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

Robert W. Ziehm — 6/29/89
Soil Conservation District — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

[signature] — 7/12/89
Chief, Land Development Div. — Date

[signature] — 7/26/89
Chief, Bureau of Highways — Date

[signature] — 7/26/89
Chief, Bureau of Engineering — Date

APPROVED: OFFICE OF PLANNING AND ZONING.

[signature] — 8/1/89
Chief, Division of Community Planning and Land Development — Date

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Henry F. Sadler — 6/7/89
ENGINEER — DATE

DEVELOPER'S CERTIFICATION

I 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 THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Michael [signature] — 6/7/89
DEVELOPER — DATE

STATE OF MARYLAND — HENRY F. SADLER — NO. 12083 — REGISTERED PROFESSIONAL ENGINEER

HENRY F. SADLER — DATE 6/7/89

TITLE: PHASE II: GRADING & SEDIMENT CONTROL

PROJECT: BROOKFIELD LOT 1 THRU 31

O.P.&Z. FILE NOS.: GP-88-67 / P-88-23 / S-87-86
TAX MAP: 31, BLOCK: 8, PARCEL: 351
SECOND ELECTION DISTRICT; HOWARD COUNTY, MD.

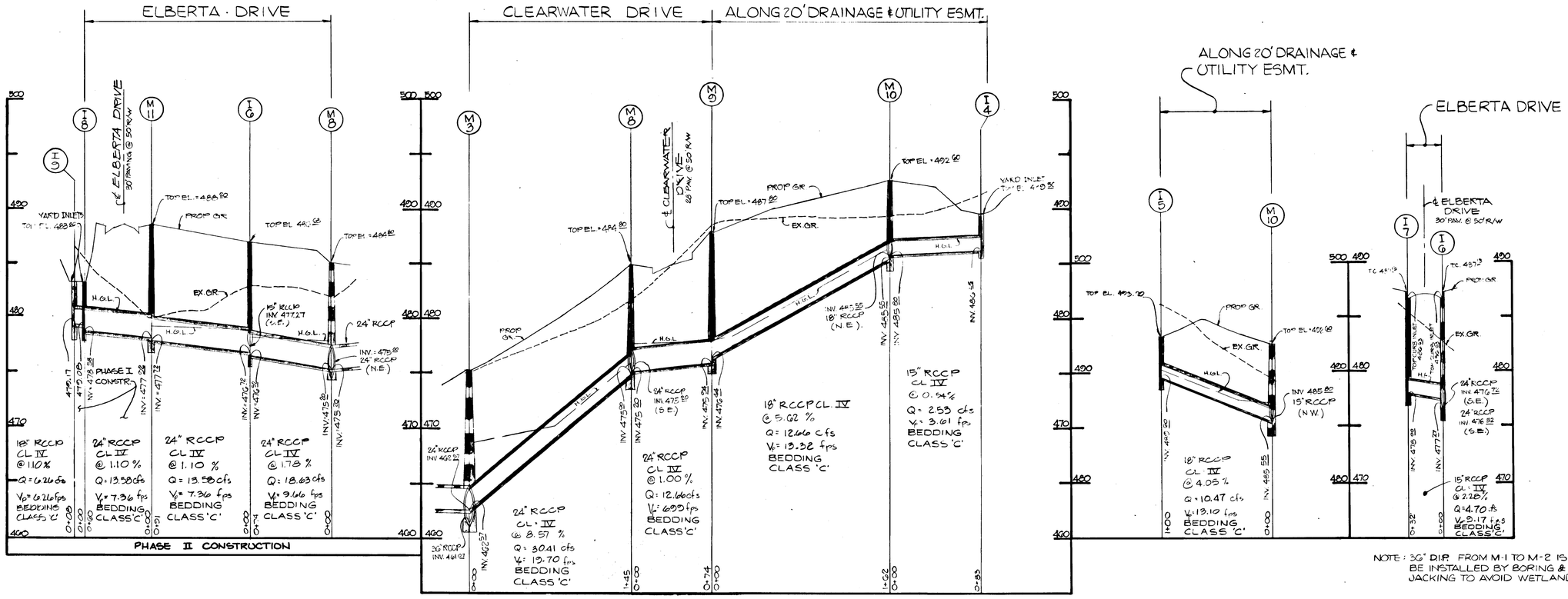
DES. BY:	DRAWN BY:	CHKD. BY:	DATE:
BLC/JTN	K.T./L.R.C.	JTN	MARCH, 1989

CIVIL ENGINEERS • SITE PLANNERS • SURVEYORS
DST&A — D.S. Thaler & Assoc. Inc.
7115 AMBASSADOR ROAD
BALTIMORE, MARYLAND 21207
(301) 944-3647
(301) 944-ENGR

SCALE: 1" = 50' — SHEET 5 OF 9

F-89-97

1457



NOTE: 36" D.I.P. FROM M-1 TO M-2 IS TO BE INSTALLED BY BORING & JACKING TO AVOID WETLANDS.

NO.	DESCRIPTION	BY	DATE
3	CHANGED 36" RCP TO 36" D.I.P. FROM M-1 TO M-2, ELIMIN. 54" LINER	RLR.	6/10/91
2	CHANGE OF COMPANY ADRESS	LRC	3/23/90
1	DELINEATE PHASED CONSTRUCTION OF DRAIN AND ADD TEMP 24" C.M.P. FROM M-11 TO E-4.	LRC	3/23/90

REVISION

MANHOLE SCHEDULE

NO.	TYPE	SIZE	INV. IN	INV. OUT	TOP ELEV.	DESCRIPTION
M-1	STANDARD-PRECAST	36	457.42	457.42	468.35	HOWARD CO. STANDARD DETAIL G5.13
M-2	" "	36	459.18	458.98	470.40	" " " " G5.13
M-3	" "	36	461.07	461.07	475.20	" " " " G5.13
M-4	" "	24	463.04	462.84	472.80	" " " " G5.12
M-5	" "	15	465.96	465.76	472.10	" " " " G5.12
M-6	" "	15	467.39	467.19	474.30	" " " " G5.12
M-7	" "	15	468.26	468.06	475.00	" " " " G5.12
M-8	" "	24	475.20	475.00	484.80	" " " " G5.12
M-9	" "	18	476.44	475.94	487.80	" " " " G5.12
M-10	" "	15	485.80	485.55	492.60	" " " " G5.12
M-11	" "	24	477.92	477.72	488.20	" " " " G5.12
M-12	" "	36	451.84	451.64	456.60	" " " " G5.13

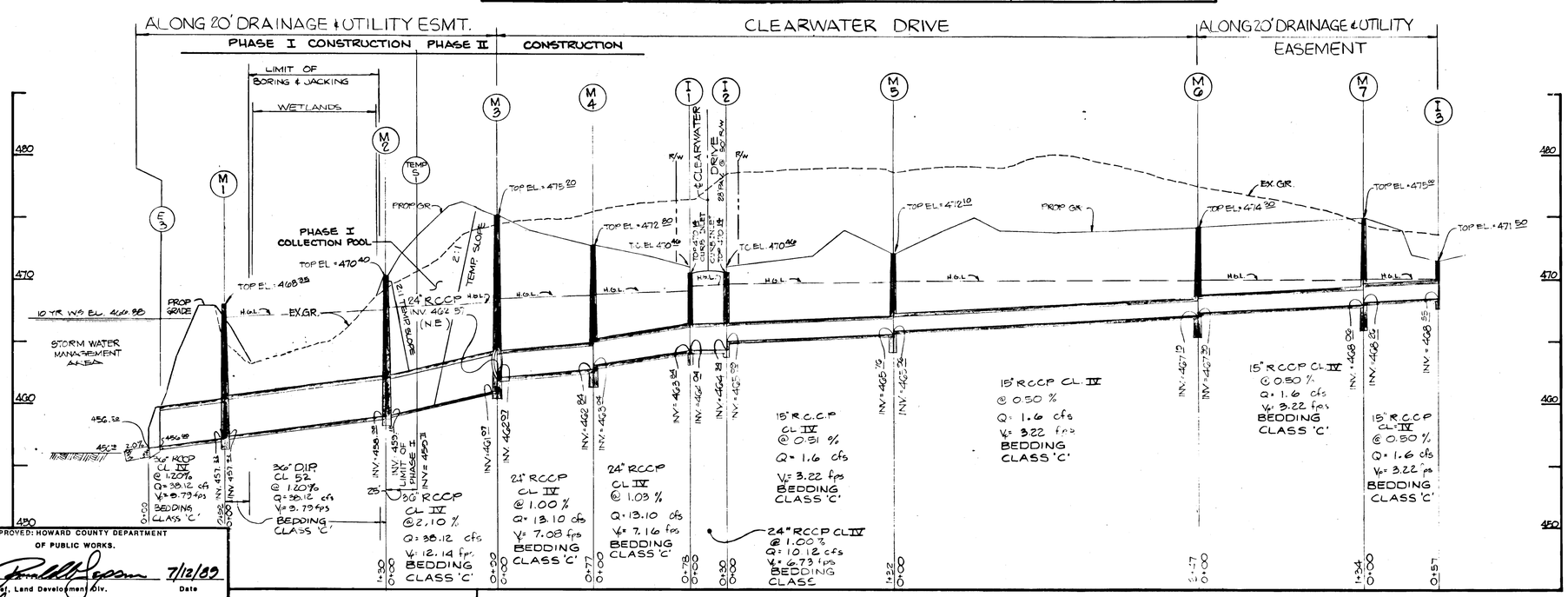
NOTE: ALL INLET TOP ELEVATIONS = THROAT ELEVATIONS

INLET SCHEDULE

NO.	TYPE	Q(cfs)	INV. IN	INV. OUT	TOP ELEV.	DESCRIPTION
I-1	A-10 (DEPR.)	20.78	464.56	463.84	470.56	HOWARD CO. STANDARD DETAIL SD 4.02
I-2	A-10 (DEPR.)	16.08	465.09	464.34	470.50	" " " " SD 4.02
I-3	"D" INLET (2SIDES)	2.40	———	468.55	471.50	" " " " SD 4.11
I-4	"D" INLET (2SIDES)	3.02	———	480.25	483.50	" " " " SD 4.11
I-5	"D" INLET (4SIDES)	16.20	———	481.00	483.20	" " " " SD 4.11
I-6	A-5 (DEPR.)	28.45	476.72	476.52	480.63	" " " " SD 4.01
I-7	A-5 (DEPR.)	7.05	———	478.00	486.63	" " " " SD 4.01
I-8	"D" INLET (2SIDES)	13.58	478.08	477.88	483.00	" " " " SD 4.11
I-9	"D" INLET (4SIDES)	6.79	———	479.17	483.00	" " " " SD 4.11
R-1	20.81' COATED CMP RISER	N/A	455.00	454.80	466.90	SEE DETAIL SHEET 7 OF 9

END WALL STRUCTURE SCHEDULE

NO.	TYPE	SIZE	INV. OUT	TOP ELEV.	DESCRIPTION
E-3	CONCRETE END SEC.	36	456.50	N/A	HOWARD CO. STANDARD DETAIL SD 5.52
E-2	BITUM. COATED METAL END SECTION	36	450.00	N/A	HOWARD CO. STANDARD DETAIL SD 5.61
E-4	24" RCCP STUB	24"	477.41	N/A	N/A



APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Chief, Land Development Div. — Date 7/12/89

Chief, Bureau of Highways — Date

Chief, Bureau of Engineering — Date 7-26-89

APPROVED: OFFICE OF PLANNING AND ZONING.

Chief, Division of Community Planning and Land Development — Date 8/1/89

1457

OWNER
RALPH E. NUPP
8100 ELBERTA DRIVE
ELLICOTT CITY, MD. 21043

DEVELOPER
CHATEAU HOMES
8100 WOODED GLEN COURT
ELLICOTT CITY, MD. 21043
(301)-799-5001

STATE OF MARYLAND — HENRY F. SADLER — No. 12708 — REGISTERED PROFESSIONAL ENGINEER

HENRY F. SADLER — DATE

TITLE: STORM DRAIN PROFILES

PROJECT: BROOKFIELD
LOTS 1 THRU 31

O.P.&Z. FILE NOS.: SP-88-07 / P-88-23 / S-87-86

TAX MAP: 31, BLOCK: 8, PARCEL: 351

2ND ELECTION DISTRICT; HOWARD COUNTY, MD.

DES. BY:	DRAWN BY:	CHKD. BY:	DATE:
JTN.	K.T./LRC	JTN	MARCH, 1989

SCALE: HORIZ. 1"=50' VERT. 1"=5' — SHEET 6 OF 9

Thaler Associates Inc.
CIVIL ENGINEERS • SITE PLANNERS SURVEYORS
7115 AMBASSADOR ROAD
BALTIMORE, MARYLAND 21207
(301) 944-3647
(301) 944-ENGR

F-87-87.

SOIL CONSERVATION SERVICE OF MARYLAND

STANDARDS AND SPECIFICATIONS

FOR STORM WATER MANAGEMENT PONDS

I. **SITE PREPARATION**

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas to be covered by the pond or reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surfaces.

All cleared and grubbed material shall be disposed of outside and below the 1 mile of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

II. **EARTH FILL**

Material

The fill material shall be taken from approved designed borrow area or areas. It shall be free of roots, stumps, wood, rubbish, oversize stone, 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 above the design elevation (including freeboard) as shown on the plans.

Placement

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

Compaction

The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction can be obtained with the equipment used.

Where a minimum required density is specified, each layer of fill shall be compacted as necessary to obtain that density and is to be certified by the Engineer.

Cutoff Trench

Where specified, a cutoff trench shall be excavated along or paralle to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be as shown on the drawings, with the minimum width being four feet. The depth shall be at least four feet or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill material for the cutoff trench shall be the most impervious material avaslable and shall be compacted with equipment or rollers to assure maximum density and minimum permeability.

III. **STRUCTURAL BACKFILL**

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

IV. **PIPE CONDUITS**

All pipes shall be circular in cross section.

A. Corrugated Metal Pipe

1. Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any bituminous coating compound.

   Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings are commercially available: Nexon, Plasti-Cote, Blac-Klad, and Seth-Co-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.

   Materials - (Aluminized Steel Pipe) - This pipe and its appurtenances shall conform to the requirement of AASHTO Specification M-274-791 with watertight coupling bands or flanges.

   Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Coupling bands, anti-seep collars, end sections, etc. must be composed of the same material as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be less than 9 and greater than 4.

2. Connections - All connections withpipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Watertight coupling bands or flanges shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to the completely watertight. Dimple bands are not considered to be watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Laying pipe - The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the sides.

5. Backfilling shall conform to structural backfill as shown above.

6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings

B. Reinforced Concrete Pipe

1. Materials - Reinforced concrete pipe shall have a rubber gasket joint and shall equal or exceed ASTM Specification C-361. An approved equivalent is AWWA Specification C-301.
2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its outside diameter with a minimum thickness of 3" or as shown on the drawings.
3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe.
4. Backfilling shall conform to the structural backfill as shown above.
5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

C. For pipes of other materials, specific specifications shall be shown on the drawings.

V. **CONCRETE**

1. Materials

   a. Cement - Normal Portland cement shall conform to the latest ASTM Specification C-150.

   b. Water - The water used in concrete shall be clean, free from oil, acid, alkali, scales, organic matter or other objectionable substances.

   c. Sand - The sand used in concrete shall be clean, hard, strong and durable, and shall be well graded with 100 percent passing a one-quarter inch sieve. Limestone sand shall not be used.

   d. Coarse Aggregate - The coarse aggregate shall be clean, hard, strong and durable, and free from clay or dirt. It shall be well graded with a maximum size of one and one-half (1-1/2) inches.

   e. Reinforcing Steel - The reinforcing steel shall be deformed bars of intermediate grade billet steel or rail steel conforming to ASTM Specification A-615.

2. Design Mix - The concrete shall be mixed in the following proportions, measured by weight. The water-cement ratio shall be 5-1/2 to 6 U.S. Gallons of water per 94 pound bag of cement. The proportion of materials for the trial mix shall be 1:2:3-1/2. The combination of aggregates may be adjusted to produce a plastic and workable mix that will not produce harshness in placing or honeycombing in the structure.

3. Mixing - The concrete ingredients shall be mixed in batch mixers until the mixture is homogeneous and of uniform consistency. The mixing of each batch shall continue for not less than one and one-half minutes after all the ingredients, except the full amount of water, are in the mixer. The minimum mixing time is predicted on proper control of the speed of rotation of the mixer and of the introduction of the materials, including water, into the mixer. Water shall be added prior to, during, and following the mixer-charging operations. Excessive overmixing requiring the addition of water to preserve the required concrete consistency shall not be permitted. Truck mixing will be allowed provided that the use of this method shall cause no violation of any applicable provisions of the specifications given here.

4. Forms - The forms shall have sufficient strength and rigidity to hold the concrete and to withstand the necessary pressure, tamping, and vibration without deflection from the prescribed lines. They shall be mortar-tight and constructed so that they can be removed without hammering or prying against the concrete.

5. Reinforcing Steel - All reinforcing material shall be free of dirt, rust, scale, oil, paint or any other coatings. The steel shall be accurately placed and securely tied and blocked into position so that no movement of the steel will occur during placement of concrete.

6. Consolidating - Concrete shall be consolidated with internal type mechanical vibrators. Vibration shall be supplemented by spading and hand tamping as necessary to insure smooth and dense concrete along form surfaces, in corners, and around embedded items.

7. Finishing - Defective concrete, honeycombed areas, voids left by the removal of tie rods, ridges on all concrete surfaces permanently exposed to view or exposed to water on the finished structure, shall be repaired immediately after the removal of forms. All voids shall be reamed and completely filled with dry-patching mortar.

8. Protection and Curing - Exposed surfaces of concrete shall be protected from the direct rays of the sun for at least the first three (3) days. All concrete shall be kept continuously moist for at least ten (10) days after being placed. Moisture may be applied by spraying or sprinkling as necessary to prevent the concrete from drying. Concrete shall not be exposed to freezing during the curing period. Curing compounds may also be used.

9. Placing Temperature - Concrete may not be placed at temperatures below 37 degrees F with the temperature falling, nr 34 degrees with the temperature rising.

VI. **STABLIZATION**

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, berms shall be stabilized by seeding, liming, fertilizing and mulching (if required) in accordance with the vegetative treatment specifications or as shown on the accompanying drawings.

VII. **EROSION AND SEDIMENT CONTROL**

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

John M. Helm 6/29/89
U.S. Soil Conservation Service Date

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

Robert W. Zielke 6/29/89
Soil Conservation District Date

APPROVED: OFFICE OF PLANNING AND ZONING.

[signature] 8/1/89
Chief, Division of Community Planning and Land Development Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

[signature] 7/12/89
Chief, Land Development Div. Date

[signature] 7/12/89
Chief, Bureau of Highways Date

[signature] 7-26-89
Chief, Bureau of Engineering Date

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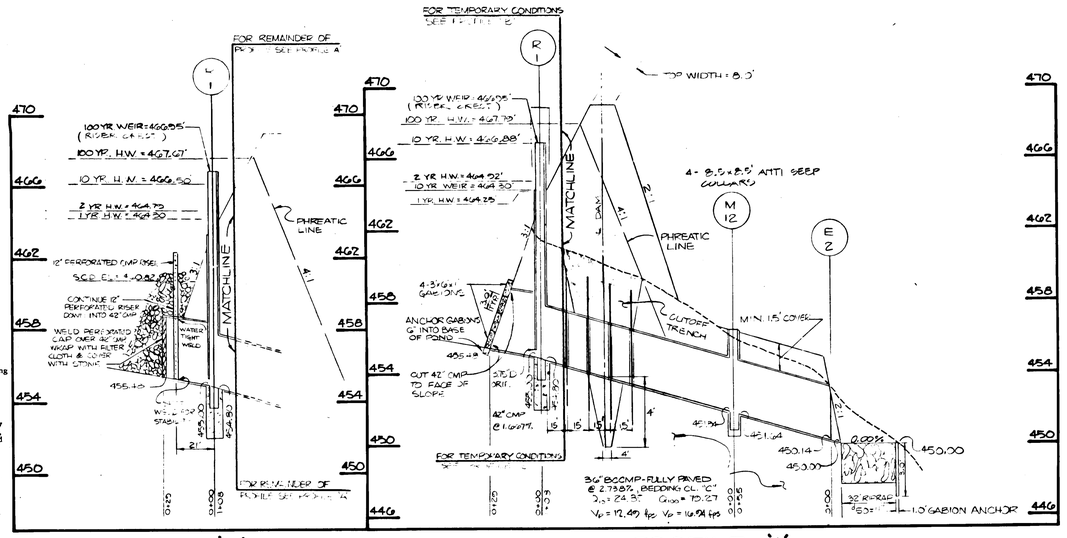
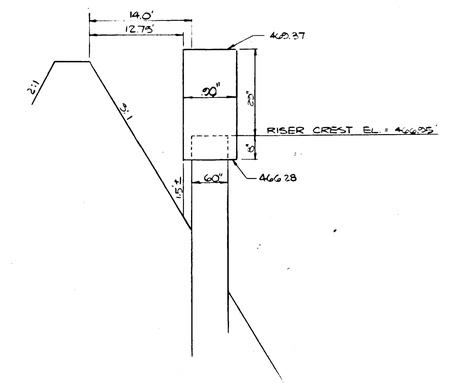


PROFILE - 'B'

PROFILE ALONG PRINCIPLE SPILLWAY
(TEMPORARY CONDITIONS)
SCALE: HORZ.: 1"=40'
VERT.: 1"=4'

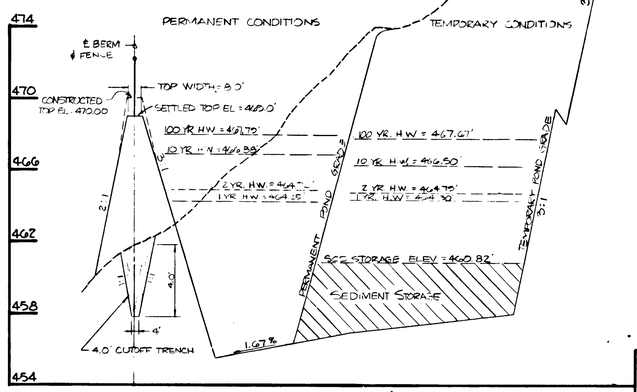
PROFILE - 'A'

PROFILE ALONG PRINCIPLE SPILLWAY
(PERMANENT CONDITIONS)
SCALE: HORZ.: 1"=40'
VERT.: 1"=4'



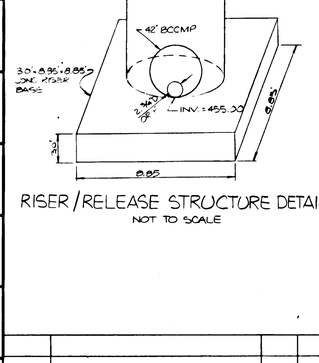
RISER PLACEMENT DETAIL

NO SCALE



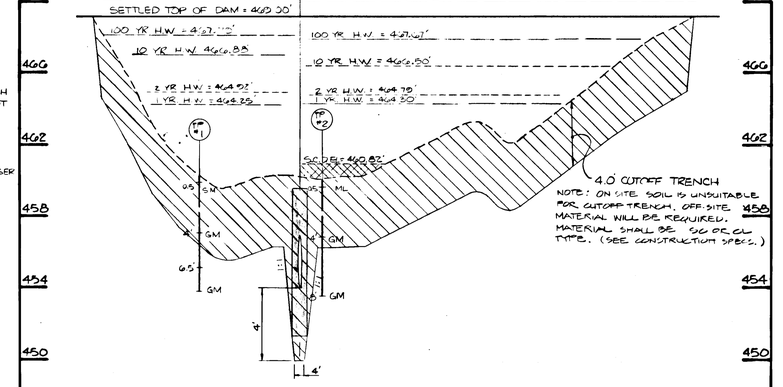
PROFILE - 'D'

TYPICAL X-SECTION OF POND
(TEMPORARY AND PERMANENT CONDITIONS)
SCALE: HORZ.: 1"=40'
VERT.: 1"=4'



RISER / RELEASE STRUCTURE DETAIL

NOT TO SCALE



PROFILE - 'C'

PROFILE OF DAM
(TEMPORARY AND PERMANENT CONDITIONS)
SCALE: HORZ.: 1"=40'
VERT.: 1"=4'

NO.	DESCRIPTION	BY	DATE
⚠	CHANGE OF COMPANY ADDRESS	LRC	3/23/00

REVISION

OWNER / DEVELOPER

RALPH E. NUPP
8150 ELBERTA DR.
ELLICOTT CITY, MD. 21043

CHATEAU HOMES
8100 WOODED GLEN CT.
ELLICOTT CITY, MD. 21043
(301) 779-5001

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

[signature] 6/7/89
ENGINEER DATE

DEVELOPER'S CERTIFICATION

I 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 THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

[signature] 6/7/89
DEVELOPER DATE

STATE OF MARYLAND HENRY I. SADLER NO. 12083 REGISTERED PROFESSIONAL ENGINEER

HENRY F. SADLER DATE 6/7/89

TITLE: S.W.M. DETAILS

PROJECT: BROOKFIELD
LOTS 1 THRU 31

O.P.&Z. FILE NOS.: SP-88-07 / P-88-23 / S-87-86

TAX MAP: 31, BLOCK: 8, PARCEL: 351

2ND ELECTION DISTRICT: HOWARD COUNTY, MD.

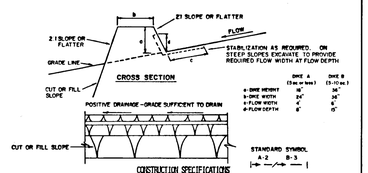
DES. BY:	DRAWN BY:	CHKD. BY:	DATE:
JTN	LRC	JTN	MARCH, 1989

SCALE: AS NOTED SHEET 17 OF 17

CIVIL ENGINEERS • SITE PLANNERS
SURVEYORS
DST&A Thaler Assoc. Inc.
7115 AMBASSADOR ROAD
BALTIMORE, MARYLAND
21207
(301) 944-3447
(301) 944-ENGR

F-89-97

EARTH DIKE
not to scale



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.

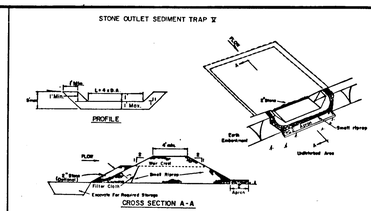
FLOW CHANNEL STABILIZATION

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.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	EARTH DIKE	STANDARD DRAWING ED-I

STONE OUTLET SEDIMENT TRAP 'X'



OPTION: A one foot layer of 3" stone may be placed on the upstream side of the riprap in place of the embedded filter cloth.

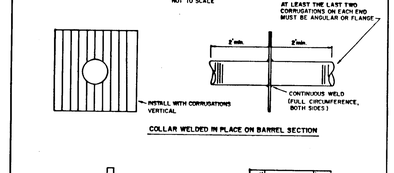
CONSTRUCTION SPECIFICATIONS FOR ST-X

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 up-grade side on the small riprap as 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.

Maximum Drainage Area: 5 Acres

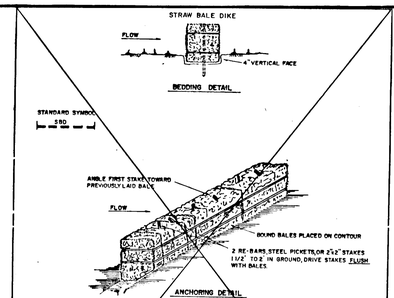
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	STONE OUTLET SEDIMENT TRAP	STANDARD DRAWING ST-X

TYPICAL ANTI-SEEP COLLARS
NOT TO SCALE



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	ANTI-SEEP COLLAR	STANDARD DRAWING SB

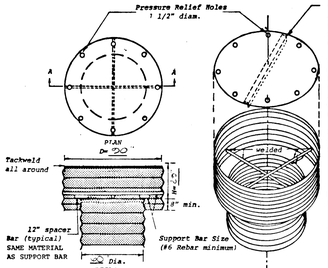
STRAW BALE DIKE



CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS 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.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	STRAW BALE DIKE	STANDARD DRAWING SBD-I



CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE
(not to scale)

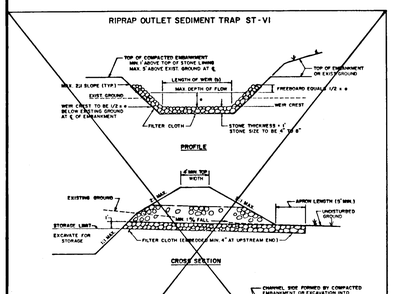
SEDIMENT CONTROL NOTES

1. A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (992-2497).
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 MANAGEMENT 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 used 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	15.643	Acres
Area Disturbed	14.7	Acres
Area to be roofed or paved	0.75	Acres
Area to be vegetatively stabilized	13.7	Acres
Total Cut	7,000	Cu. Yds.
Total Fill	7,000	Cu. Yds.
Offsite waste/borrow location:		

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 inspection approvals may not be authorized until this initial approval by the inspection agency is made.

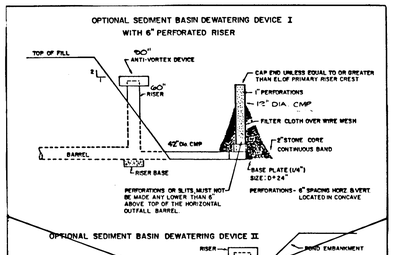
RIPRAP OUTLET SEDIMENT TRAP ST-VI



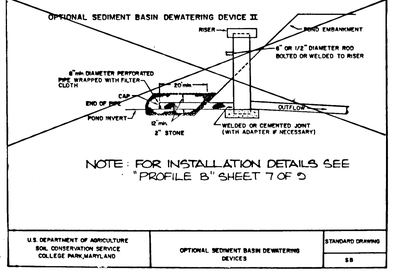
CONSTRUCTION SPECIFICATIONS FOR ST-VI

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.

OPTIONAL SEDIMENT BASIN DEWATERING DEVICE I
WITH 6" PERFORATED RISER

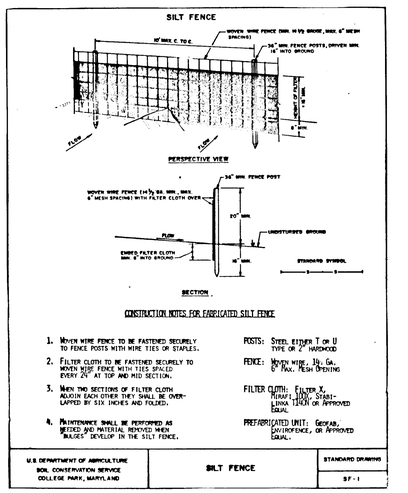


OPTIONAL SEDIMENT BASIN DEWATERING DEVICE II



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	OPTIONAL SEDIMENT BASIN DEWATERING DEVICES	STANDARD DRAWING SB

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, 14½ GA. 6" MESH SPACING
FILTER CLOTH: FILTER X, MIRAFI 100, STABILINKA T140N OR APPROVED EQUAL
PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	SILT FENCE	STANDARD DRAWING SF-I

CONSTRUCTION SEQUENCE

1. OBTAIN GRADING PERMIT.
2. NOTIFY THE HOWARD COUNTY BUREAU OF LICENSES, INSPECTIONS, AND PERMITS AND THE CONSTRUCTION INSPECTIONS/SURVEYS DIVISION AT LEAST 24 HOURS PRIOR TO BEGINNING WORK.
3. NOTIFY D.S. THALER & ASSOCIATES, INC. OR A CIVIL ENGINEER APPROVED BY THE DEVELOPER AT LEAST THREE (3) WORKING DAYS PRIOR TO BEGINNING WORK.
4. THERE ARE NON-TIDAL WETLANDS LOCATED WITHIN THIS PROJECT. THE WETLANDS ARE SHOWN AND LABELED AS SUCH ON THESE PLANS. UNDER NO CIRCUMSTANCES ARE THOSE WETLANDS TO BE DISTURBED. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DISTURBANCE TO THE WETLAND AREAS.

PHASE I CONSTRUCTION (SEE SHEET 4 OF 9)

5. CLEAR AND GRUB AS NECESSARY TO INSTALL TEMPORARY STORMWATER MANAGEMENT FACILITY, STONE OUTLET SEDIMENT TRAP NO. 1, EARTH DIKES, SILT FENCE, AND STABILIZED CONSTRUCTION ENTRANCE AS SHOWN ON SHEET 4 OF 9. CONSTRUCT DIKES/SWALE ALONG THE NORTHWEST SIDE OF CLEARWATER DRIVE, THE STORM DRAIN SYSTEM FROM E-3 TO S-1, AND THE COLLECTION POOL AREA AT S-1 AS SHOWN ON SHEET 4 OF 9 ..... 4 WEEKS
6. INSTALL STORM DRAIN SYSTEM FROM I-5 TO E-4 AS SHOWN ON SHEET 4 OF 9 ..... 1 WEEK
7. CLEAR AND GRUB REMAINDER OF DISTURBED AREA ..... 1 WEEK
8. ROUGH GRADE ROAD AREAS AND LOT AREAS AS SHOWN ON SHEET 4 OF 9. MAINTAIN POSITIVE DRAINAGE TO COLLECTION POOL AT ALL TIMES. RETAINING WALL MAY BE CONSTRUCTED AT THIS TIME ..... 3 WEEKS

PHASE II CONSTRUCTION (SEE SHEET 5 OF 9)

9. INSTALL SANITARY SEWER SYSTEM ..... 6 WEEKS
10. INSTALL THE STORM DRAIN SYSTEM AS SHOWN ON SHEET 5 OF 9 WITH THE FOLLOWING EXCEPTIONS:
    A. ALL INLETS EXCEPT FOR I-8 AND I-9 ARE TO BE BLOCKED.
    B. THE 36" R.C.C.P. FROM M-3 TO S-1 SHALL BE CONSTRUCTED ONLY TO OUTLET INTO THE COLLECTION POOL AND SHALL NOT BE CONNECTED WITH S-1.
    C. 24" R.C.C.P. FROM M-11 TO I-4 IS NOT TO BE BUILT AT THIS TIME ..... 3 WEEKS
11. THE FOLLOWING ITEMS MUST BE COMPLETED IN THIS SEQUENCE. NO ITEM MAY BE BEGUN UNTIL THE PREVIOUS ITEM IS COMPLETED:
    A. CONSTRUCT THE 24" R.C.C.P. FROM I-4 TO M-11.
    B. RE-CHANNEL M-11, REMOVE TEMPORARY PIPE FROM M-11 TO E-4 AND BRICK TEMPORARY OPENING.
    C. FINE GRADE AND STABILIZE INLETS AS SLOPES ARE CREATED. ALL NECESSARY GRADING FOR INLET AREAS AS SHOWN ON SHEET 5 OF 9.
    D. COMPLETE THE CONSTRUCTION OF THE 36" R.C.C.P. FROM M-3 TO M-2 AND GRADE OUT THE COLLECTION POOL AREA AS SHOWN ON SHEET 5 OF 9 ..... 1 WEEK
12. WATER MAIN SYSTEM ..... 6 WEEKS
13. BRING ROAD AREAS TO SUBGRADE ..... 2 DAYS
14. INSTALL CONCRETE CURB AND GUTTER ..... 2 WEEKS
15. PAVE ROADS ..... 1 WEEK
16. INSTALL BITUMINOUS CURB AND GUTTER AROUND TEMPORARY TEE TURNAROUND ..... 1 DAY
17. OBTAIN BUILDING PERMITS AND BEGIN HOUSE CONSTRUCTION (SEE S.D.P.-80-175 FOR SEDIMENT AND EROSION CONTROL MEASURES REQUIRED FOR EACH LOT'S CONSTRUCTION) ..... ONGOING
18. ROUGH GRADE REMAINDER OF PROJECT AREA AS SHOWN ON SHEET 5 OF 9 ..... 2 WEEKS
19. FINE GRADE AND APPLY PERMANENT STABILIZATION TO ALL COMPLETED AREAS ..... ONGOING

PHASE III CONSTRUCTION (SEE SHEET 5 OF 9)

20. AFTER HOUSE CONSTRUCTION IS COMPLETE ON ALL LOTS EXCEPT FOR LOTS 1, 10, 12, AFTER ALL COMPLETED AREAS HAVE BEEN PERMANENTLY STABILIZED, AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE STONE OUTLET SEDIMENT TRAP NO. 1 AND MODIFY THE STORMWATER MANAGEMENT FACILITY TO PERMANENT CONDITIONS BY:
    A. FLUSH ALL STORM DRAINS CLEAN AND CHECK ALL STRUCTURES FOR SEDIMENT BUILD-UP AND CLEAN AS NECESSARY.
    B. PUMP ANY STANDING WATER ONTO A STABILIZED OUTFALL.
    C. REMOVE ANY SILT AND DEPOSIT ONTO A SITE WITH APPROVED SEDIMENT CONTROL MEASURES.
    D. GRADE AREAS AS SHOWN ON SHEET 5 OF 9.
    E. MODIFY R-1 AS SHOWN ON SHEET 7 OF 9.
    F. FINE GRADE AND APPLY PERMANENT STABILIZATION TO ALL COMPLETED AREAS ..... 2 WEEKS
21. CONSTRUCT HOUSE ON LOTS 1, 10, AND 12 ..... 5 MONTHS
22. APPLY PERMANENT STABILIZATION TO ALL REMAINING DISTURBED AREAS. 1 WEEK
23. WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR REMOVE ANY REMAINING SEDIMENT CONTROL MEASURES ..... AS STABILIZED
24. APPLY PERMANENT STABILIZATION TO ANY REMAINING DISTURBED AREAS ..... 1 WEEK

PERMANENT SEEDING NOTES

Apply to graded or cleared areas 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 if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

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 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 acres 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 through April 30, and August 1 through October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 through 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 through 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.) 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 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 through April 30 and from August 15 through November 15, seed with 2 1/2 bushels per acre of annual rye (3.2 lbs/1000 sq. ft.) For the period May 1 through August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq. ft.) For the period November 16 through 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 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 348 gallons 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

RALPH E. NUPP
8130 ELBERTA DR
ELLICOTT CITY, MD
21043

CHATEAU HOMES
8100 WOODED GLEN CT.
ELLICOTT CITY, MD. 21043
(301) 779-5001

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

U.S. Soil Conservation Service — Date 6/29/89

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

Soil Conservation District — Date 6/29/89

APPROVED: OFFICE OF PLANNING AND ZONING.

Chief, Division of Community Planning and Land Development — Date 8/11/89

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

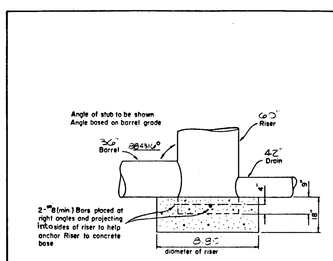
Chief, Land Development Div. — Date 7/12/89

Chief, Bureau of Highways — Date 7/10/89

Chief, Bureau of Engineering — Date 7-20-89

14577

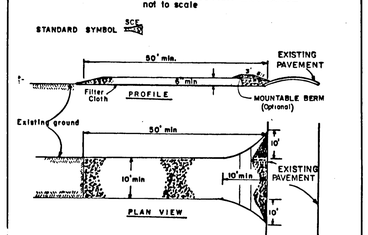
RISER BASE DETAIL



NOTES:
1. The concrete base shall be poured in such a manner to insure that the concrete fills the bottom of the riser to the invert of the outlet pipe to prevent the riser from breaking away from the base.
2. With aluminum or aluminized pipe, the embedded section must be painted with zinc chromate or equivalent.
3. Riser base may be sized as computed using floatation with a factor of safety of 12.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	RISER BASE DETAIL SEDIMENT BASIN

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.
6. Filter will not be required on a single family residence lot.
7. 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.
8. 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.
9. 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.
10. Periodic inspection and needed maintenance shall be provided after each rain.

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE College Park, Md.	STABILIZED CONSTRUCTION ENTRANCE	Standard Drawing SCE-I

NO.	DESCRIPTION	BY	DATE
2	CHANGE OF COMPANY ADRESS	LRC	3/23/90
1	REVISION TO CONSTRUCTION SEQUENCE	LRC	3/23/90

REVISION

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

ENGINEER — DATE 6/7/89

DEVELOPER'S CERTIFICATION

I 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 THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

DEVELOPER — DATE 6/7/89

STATE OF MARYLAND HENRY F. SADLER No. 12283 REGISTERED PROFESSIONAL ENGINEER

HENRY F. SADLER — DATE 6/7/89

TITLE: **DETAILS**

PROJECT: **BROOKFIELD**
LOTS 1 THRU 31

O.P.&Z. FILE NOS.: SP-88-07 / P-88-23 & 81-80

TAX MAP 31, BLOCK 8, PARCEL: 351

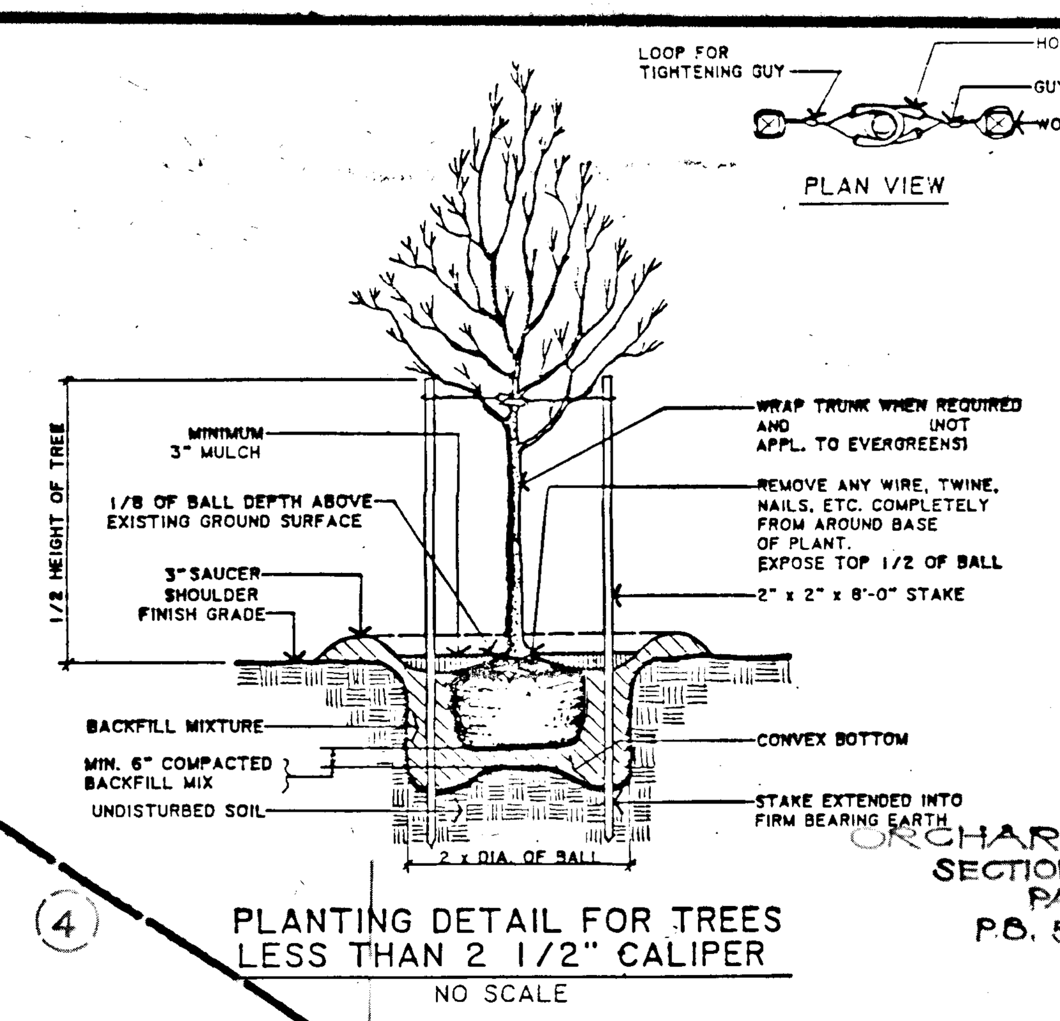
2nd ELECTION DISTRICT: HOWARD COUNTY, MD.

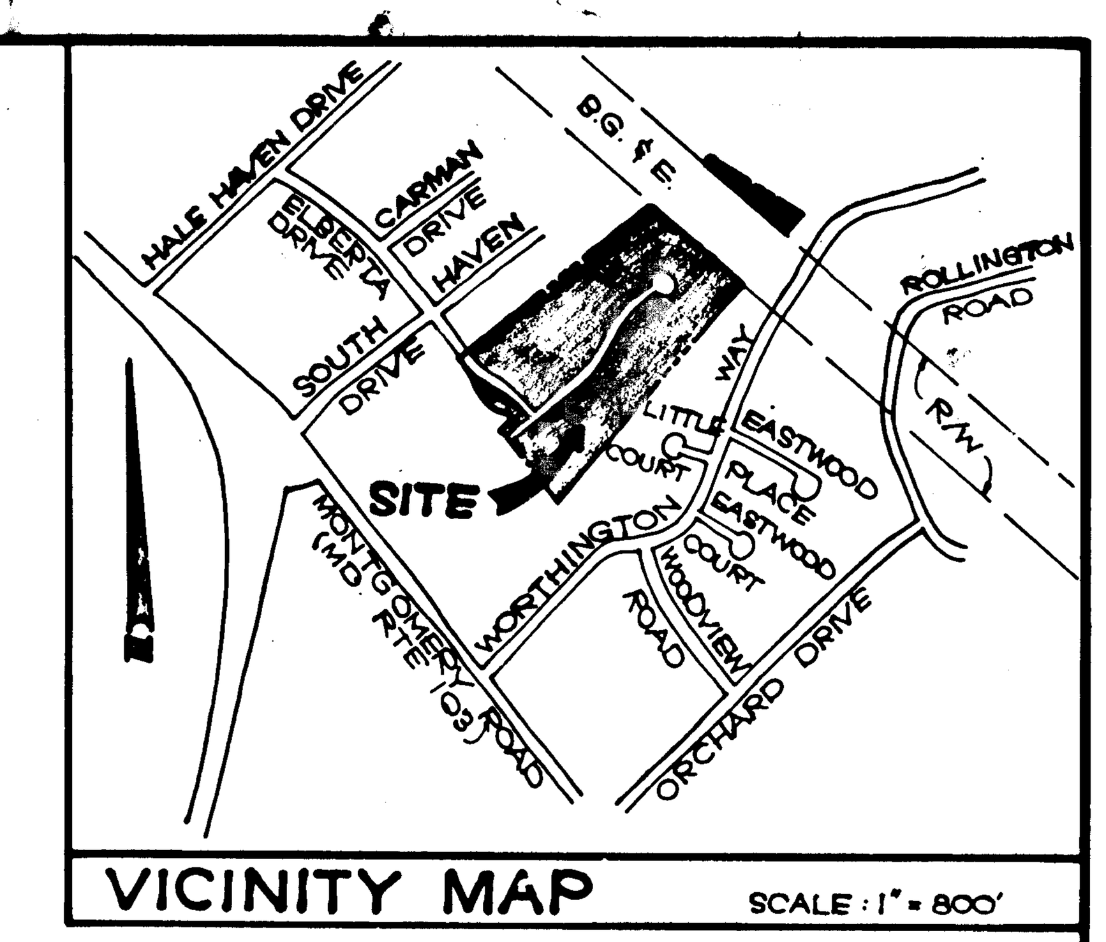
DES. BY	DRAWN BY:	CHKD. BY:	DATE:
JTN	LRC	JTN	MARCH, 1989

SCALE: AS NOTED | SHEET 4 OF 9

D.S. Thaler & Assoc. Inc.
7115 AMBASSADOR ROAD
BALTIMORE, MARYLAND 21207
(301) 944-3647
(301) 944-ENGR

F-88-97





PLANTING SCHEDULE

SYM.	BOTANICAL NAME	COMMON NAME	QTY	SIZE	TYPE	COMMENTS
QP	QUERCUS PALUSTRIS	PIN OAK	53	2½" CAL.	B&B	6' BRANCH HGT.
PS	PINUS STROBUS	EASTERN WHITE PINE	22	4-5' HGT.	B&B	SHEARED
PT	PINUS THUNBERGII	JAPANESE BLACK PINE	6	4-5' HGT.	B&B	EVEN & FULL
CK	CORNUS KOUSA	KOUSA DOGWOOD	15	1½-2" CAL.	B&B	MULTI-STEM

OWNER
RALPH E. NUPP
8130 ELBERTA DR.
ELLICOTT CITY, MD. 21043

DEVELOPER
CHATEAU HOMES
8100 WOODED GLEN CT.
ELLICOTT CITY, MD. 21043
(301) 799-5001

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

[signature] 6/29/89
U.S. Soil Conservation Service — Date

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

[signature] 6/29/89
Soil Conservation District — Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

[signature] 7/12/89
Chief, Land Development Div. — Date

[signature]
Chief, Bureau of Highways — Date

[signature]
Chief, Bureau of Engineering — Date

APPROVED: OFFICE OF PLANNING AND ZONING.

[signature] 8/1/89
Chief, Division of Community Planning and Land Development — Date

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

[signature] 6/7/89
ENGINEER — DATE

DEVELOPER'S CERTIFICATION

I 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 THE DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN AS-BUILT PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

[signature] 6/7/89
DEVELOPER — DATE

STATE OF MARYLAND — HENRY F. SADLER — NO. 12083 — REGISTERED PROFESSIONAL ENGINEER

[signature] 6/7/89
HENRY F. SADLER — DATE

REVISIONS

NO.	DESCRIPTION	BY	DATE
3	CHANGED 30" RCP TO 36" DIP FROM M-1 TO M-2	RLR	6/10/91
2	CHANGE OF COMPANY ADRESS	LRC	3/19/90
1	REV. EX. & PROP. CONTOURS, SED. CONTROL, STORM DRAIN PHASING, SHT #5 AND INCLUDE AS GRADING & SED. CONTROL PLAN	LRC	3/19/90

TITLE: PHASE III - GRADING, SEDIMENT CONTROL, LANDSCAPING & SOILS PLAN.

PROJECT: BROOKFIELD
LOT 1 THRU 31

O.P.&Z. FILE NOS.: GP-88-67/P-88-23/S-87-86

TAX MAP: 31, BLOCK: 8, PARCEL: 351

SECOND ELECTION DISTRICT; HOWARD COUNTY, MD.

DES. BY:	DRAWN BY:	CHKD. BY:	DATE:
BLC/JTN	MDF	JTN	MARCH, 1989

CIVIL ENGINEERS • SITE PLANNERS
SURVEYORS
DST&A — D.S. Thaler & Assoc. Inc.
7115 AMBASSADOR ROAD
BALIMORE, MARYLAND 21207
(301) 944-3647
(301) 944-ENGR.

SCALE: 1" = 50'   SHEET 9 OF 9

F-87-97

1457