SHEET INDEX	
SHEET No.	DESCRIPTION
1	TITLE SHEET
2	ROAD PLAN AND PROFILE
3	ROAD PLAN AND PROFILE
4	STREET TREE, GRADING, AND SEDIMENT CONTROL PLAN
5	DRAINAGE AREA MAP AND LANDSCAPE PLAN
6	STORM DRAIN PROFILES
7	STORM DRAIN PROFILES
8	STORMWATER MANAGEMENT DETAILS
9	SEDIMENT CONTROL NOTES AND DETAILS
10	DETAIL SHEET
11	FOREST CONSERVATION NOTES AND DETAILS
12	FOREST CONSERVATION EASEMENT TABULATION

FINAL ROAD CONSTRUCTION, GRADING AND STORMWATER MANAGEMENT PLANS

GERMAN PROPERTY

LOTS 7 THRU 26 AND PARCEL 'A'

(A RESUBDIVISION OF LOTS 5 AND 6, GERMAN PROPERTY, PLAT NO. 12074)

ZONED R-20

TAX MAP NO. 17 PARCEL NO. 132 GRID NO. 20

SECOND ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE 3-7-00

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/13/00

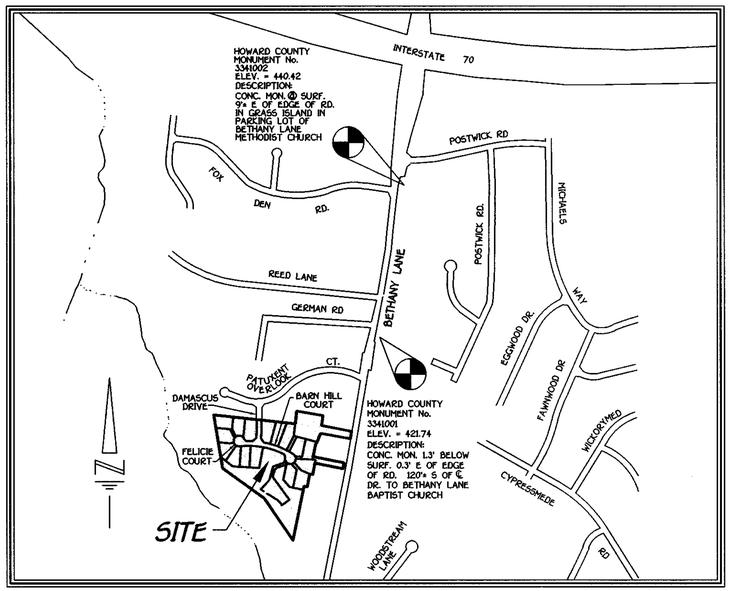
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/9/00

STREET LIGHT CHART				
DWG. No.	STREET NAME	STATION	OFF-SET	FIXTURE/POLE TYPE
2	DAMASCUS DRIVE	C.L. STA. 3+40	20'L	100-WATT "TRADITIONAIRE" H.P.S. VAPOR FIXTURE POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE.
2	BARN HILL COURT	L.P. STA. 2+80	3' BEHIND CURB	100-WATT "TRADITIONAIRE" H.P.S. VAPOR FIXTURE POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE.

TRAFFIC CONTROL SIGNS				
STREET NAME	STATION	OFFSET	POSTED SIGN	SIGN CODE
DAMASCUS DRIVE	C.L. STA. 3+14	14'R	STOP	R1-1
BARN HILL COURT	C.L. STA. 1+50	12'R	ROAD NARROWS	W5-1
BARN HILL COURT	C.L. STA. 2+00	12'L	ROAD NARROWS	W5-1

ROAD CLASSIFICATION CHART		
ROAD NAME	CLASSIFICATION	R/W WIDTH
DAMASCUS DRIVE	ACCESS STREET	40'
FELICIE COURT	ACCESS PLACE	40'
BARN HILL COURT	ACCESS PLACE	40'

MINIMUM LOT SIZE CHART			
LOT NO	GROSS AREA	PIPESTEM AREA	MINIMUM LOT SIZE
9	17,515 Sq.Ft.±	1,176 Sq.Ft.±	16,339 Sq.Ft.±
18	15,993 Sq.Ft.±	1,310 Sq.Ft.±	14,683 Sq.Ft.±
20	15,536 Sq.Ft.±	981 Sq.Ft.±	14,555 Sq.Ft.±
22	2.589 AC.±	0.078 AC.±	2.511 AC.±



VICINITY MAP

SCALE 1":600'

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST (5) WORKING DAYS PRIOR TO THE START OF WORK.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
4. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
5. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)".

   NOTE: MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
6. 2 FOOT CONTOUR TOPOGRAPHY AND EXISTING CONDITIONS BASED ON AERIAL TOPOGRAPHIC SURVEY PREPARED BY AERIAL MAPPING CO., INC. , FLOWN ON 4-3-96.
7. THE COORDINATES SHOWN HEREON ARE BASED UPON HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT Nos. 3341001 AND 3441002 WERE USED FOR THIS PROJECT.

   3341001 N 590,226.900 E 1,352,616.662
   3441002 N 592,133.631 E 1,352,934.470
8. WATER IS PUBLIC, CONTRACT No. 24-3749-D AND THE DRAINAGE AREA IS THE PATAPSCO.
9. SEWER IS PUBLIC, CONTRACT No. 24-3749-D AND THE DRAINAGE AREA IS THE PATAPSCO.
10. S.W.M. WILL BE PROVIDED BY A 2 YR. STORM DETENTION FACILITY. (TO BE PRIVATELY OWNED AND MAINTAINED BY H.O.A.) FACILITY IS HAZARD CLASS "A".
11. EXISTING UTILITIES ARE BASED ON CONT. No. 24-1803-D AND 20-1067.
12. FLOODPLAIN ON THIS SITE IS BASED ON RECORDED PLAT NO. 5479.
13. WETLANDS ON THIS SITE WAS DELINEATED BY M.A. DIRCKS CO. AND WAS APPROVED UNDER S 96-07 DATED 5/10/96.
14. THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY STREET TRAFFIC STUDIES AND WAS APPROVED ON 5/10/96 UNDER S96-07.
15. BACKGROUND INFORMATION:
    A. SUBDIVISION NAME: GERMAN PROPERTY
    B. TAX MAP NO.: 17
    C. PARCEL NO.: 132
    D. ZONING: R-20
    E. ELECTION DISTRICT: SECOND
    F. TOTAL TRACT AREA: 14.103 AC. ±
    G. NO. OF BUILDABLE LOTS: 18
    H. NO. OF OPEN SPACE LOTS: 2
    ✱I. OPEN SPACE REQUIRED: (MIN. LOT SIZE 14,000 SQ. FT.) = 11.594 x 30% = 3.478 AC.±
    J. OPEN SPACE PROVIDED: 4.162 AC.±
       (OPEN SPACE LOT 16 OWNED AND MAINTAINED BY HOWARD COUNTY RECREATION & PARKS, OPEN SPACE LOT 26 OWNED AND MAINTAINED BY HOMEOWNER'S ASSOCIATION)
    K. PRELIMINARY PLAN APPROVAL DATE: 5/18/98 (P 98-17)
    L. PREVIOUS FILE Nos. : F 96-112, S 96-07, P 98-17, F 83-37, VP 83-82 AND WP 96-77.
16. REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE TO BE PROVIDED AT THE JUNCTION OF THE PIPE / FLAG STEM AND THE ROAD R/W AND NOT ONTO THE PIPE / FLAG STEM DRIVEWAY.
17. NO CEMETERIES EXIST ON THE PROPERTY.
18. FOREST STAND DELINEATION PROVIDED BY M.A. DIRCKS CO. UNDER S 96-07 DATED 5/10/96.
19. FOREST CONSERVATION PLAN APPROVED UNDER P 98-17 DATED 5/18/98. 1.1 ACRES OF THE FOREST CONSERVATION OBLIGATIONS WILL BE MET BY PAYMENT OF A FEE-IN-LIEU IN THE AMOUNT OF $14,374.80.
✱20. THE AREA OF PROPOSED LOT NO. 22 (PREVIOUS LOT NO. 5, PLAT 12074) IS NOT COUNTED TOWARDS OPEN SPACE OBLIGATIONS.
21. ALL FILL AREAS WITHIN ROADWAYS AND UNDER STRUCTURES SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF ASTM T-180.
22. EARTHWORK QUANTITIES THAT ARE SHOWN ON THIS PLAN ARE REVIEW PURPOSES. CONTRACTOR SHALL CONFIRM EARTHWORK QUANTITIES.

NOTE:
THE DRY WELLS SHOWN ON THIS PLAN ARE TO BE INSTALLED WHEN THE HOUSES ARE BUILT AND A PROFESSIONAL ENGINEER SHALL CERTIFY THAT THEY HAVE BEEN INSTALLED CORRECTLY PRIOR TO THE RELEASE OF THE STORMWATER MANAGEMENT SURETY FOR THE PROJECT.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

30534titleSheet.dwg

OWNERS
CHARLES P. GERMAN
3062 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042
AND
GERMAN PROPERTY, L.L.C.
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

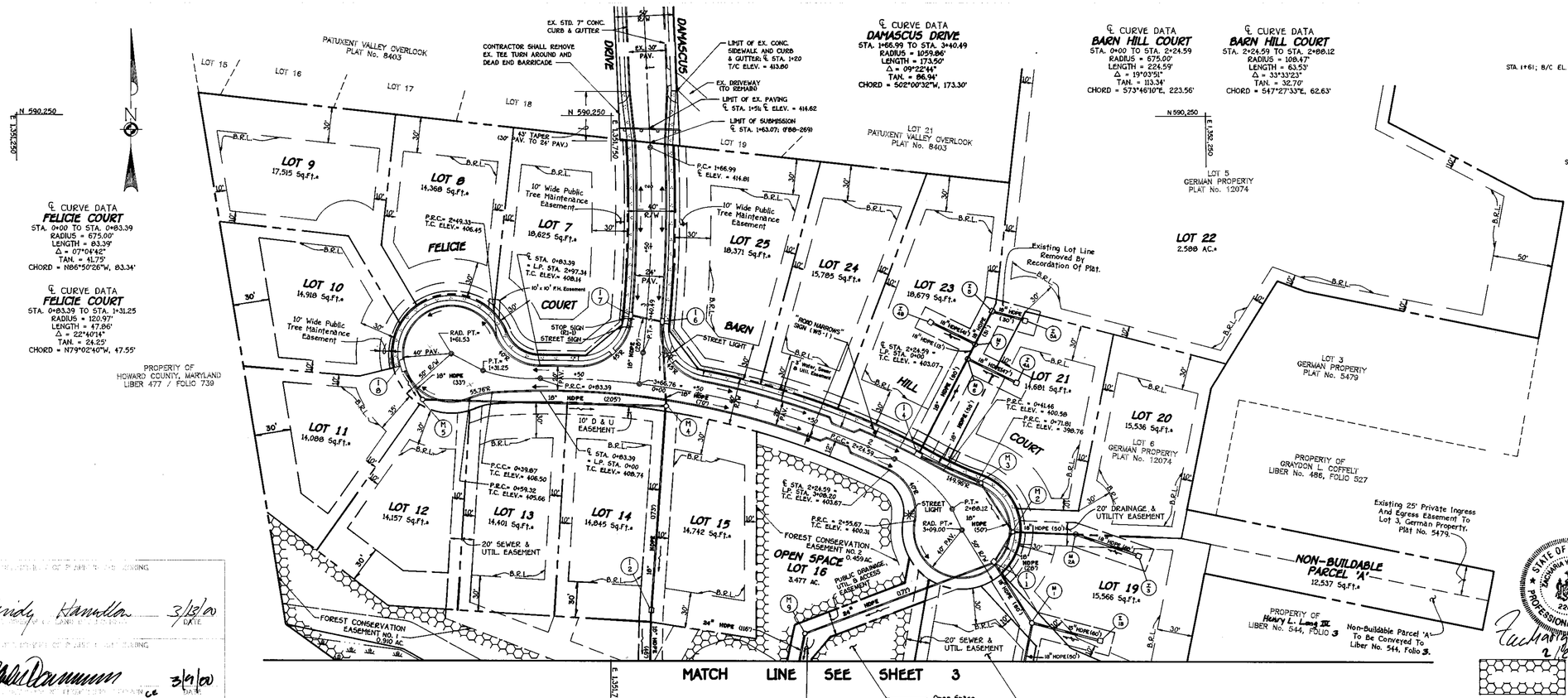
DEVELOPER
GERMAN PROPERTY, L.L.C.
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

STATE OF MARYLAND — ZACHARIA YOSEF FISCH — 22418 — PROFESSIONAL ENGINEER

Zacharia Y. Fisch — 2/25/2000 DATE

GERMAN PROPERTY
LOTS 7 THRU 26 AND PARCEL 'A'
(A RESUBDIVISION OF LOTS 5 AND 6, GERMAN PROPERTY, PLAT NO. 12074)
ZONED: R-20
TAX MAP No. 17 PARCEL NO. 132 GRID NO. 20
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEBRUARY 15, 2000
SHEET 1 OF 12

F 99-44



APPROVED: DEPARTMENT OF PLANNING AND ZONING

Cindy Hundley 3/13/00
DIRECTOR DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

3/9/00
DIRECTOR DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

3-7-00
DIRECTOR DATE

STATE OF MARYLAND
THOMAS YORK FISCH
22419
PROFESSIONAL ENGINEER

2/25/2000

GERMAN PROPERTY
LOTS 7 THRU 26 AND PARCEL 'A'
(A RESUBDIVISION OF LOTS 5 AND 6, GERMAN PROPERTY, PLAT NO. 12074)
ZONED R-20

SECOND ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

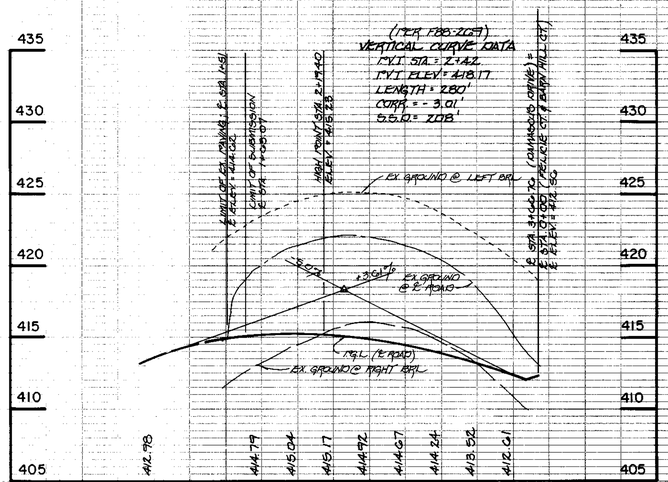
DAMASCUS DRIVE PLAN AND PROFILE
FELICIE COURT PLAN AND PROFILE
BARN HILL COURT PLAN

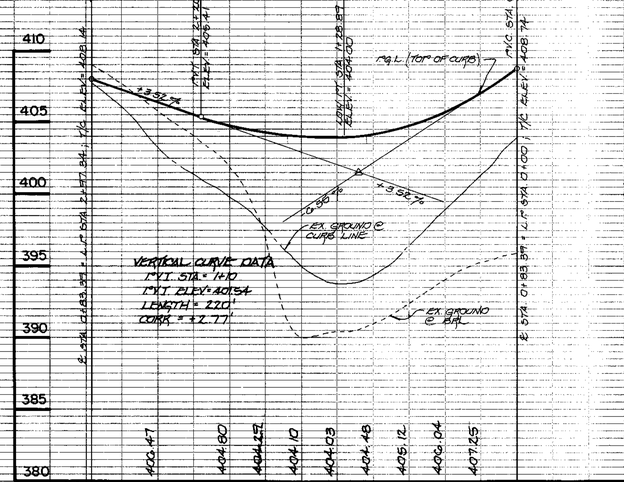
OWNER/DEVELOPER
GERMAN PROPERTY I, LLC
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

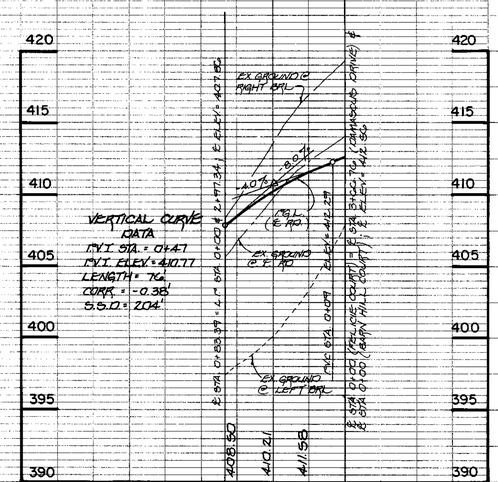
OWNER
CHARLES P. GERMAN
3062 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042

SCALE: AS SHOWN	DATE: FEB 15, 2000	DWG. NO. 2 OF 12
DES. J.V.P.	DRN. J.C.L.	CHK. Z.Y.F.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

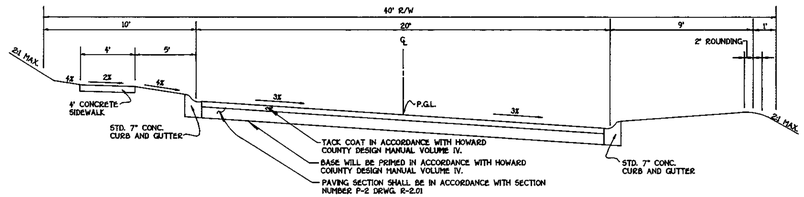






PROFILES
SCALE: HOR. 1" = 50'
VER. 1" = 5'

F99-44

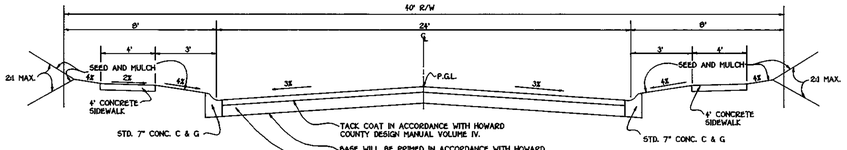


TYPICAL ROADWAY SECTION (FELICIE CT. & BARN HILL CT.)

NO SCALE

ROADWAY INFORMATION CHART

ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	℄ STATION LIMITS	R/W	PAVING SECTION
FELICIE COURT	ACCESS PLACE	25 M.P.H.	R-20	0+00 TO 1+61.53	40'	P-2
BARN HILL COURT	ACCESS PLACE	25 M.P.H.	R-20	0+00 TO 3+09.00	40'	P-2



TYPICAL ROADWAY SECTION (DAMASCUS DRIVE)

NO SCALE

ROADWAY INFORMATION CHART

ROAD NAME	CLASSIFICATION	DESIGN SPEED	ZONING	℄ STATION LIMITS	R/W	PAVING SECTION
DAMASCUS DRIVE	ACCESS STREET	25 M.P.H.	R-20	1+63.07 TO 3+66.76	40'	P-2

APPROVED: DEPARTMENT OF PLANNING AND ZONING

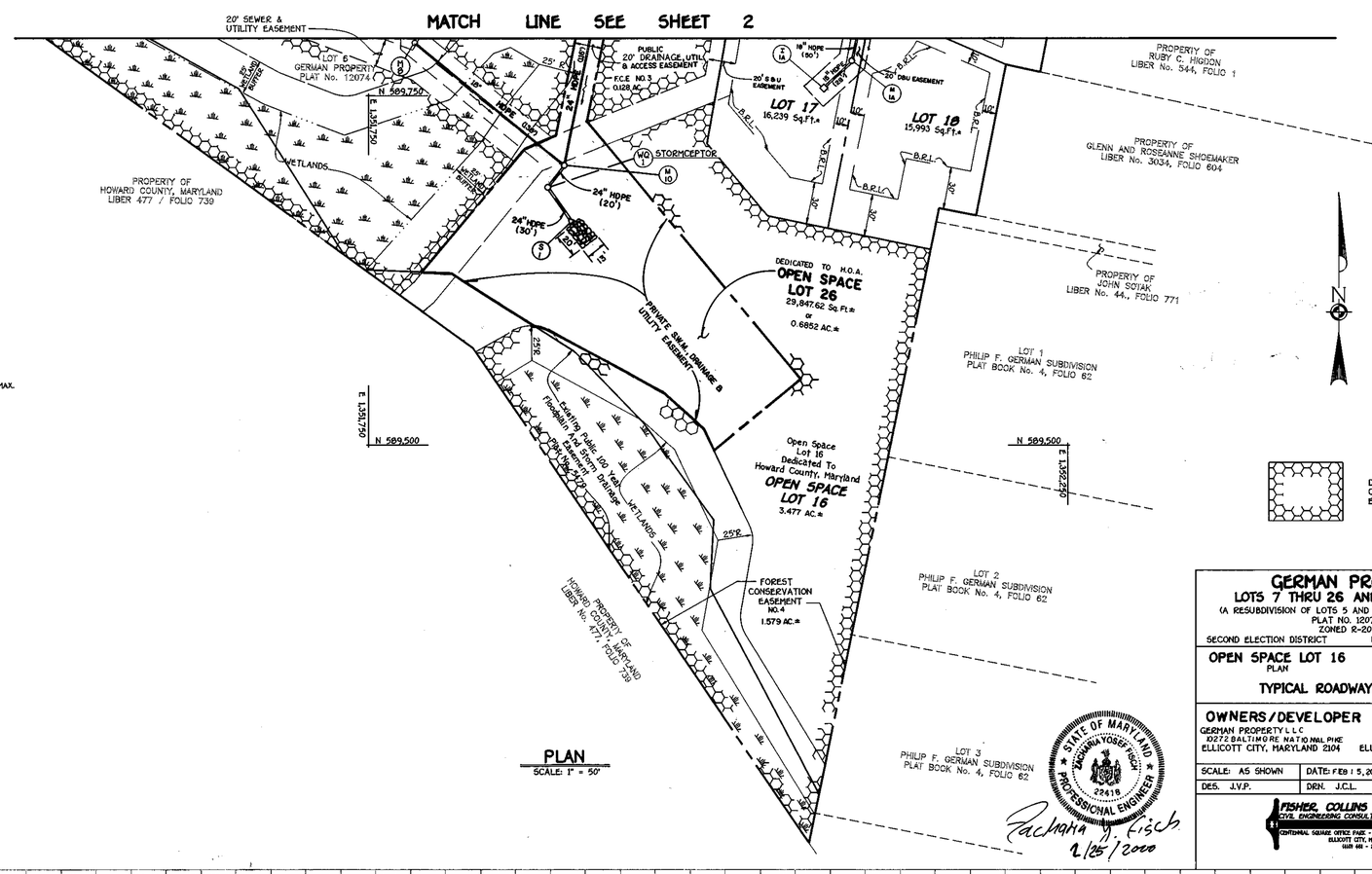
Cindy Hamilton — CHIEF, DIVISION OF LAND DEVELOPMENT — 3/13/00 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 3/14/00 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Andrew M. Daniels — CHIEF, BUREAU OF HIGHWAYS — 3-7-00 DATE



PLAN

SCALE: 1" = 50'

GERMAN PROPERTY

LOTS 7 THRU 26 AND PARCEL 'A'

(A RESUBDIVISION OF LOTS 5 AND 6, GERMAN PROPERTY, PLAT NO. 12074)
ZONED R-20
SECOND ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

OPEN SPACE LOT 16 PLAN — BARN HILL COURT PROFILE

TYPICAL ROADWAY SECTIONS

OWNERS/DEVELOPER
GERMAN PROPERTY L L C
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 2104

OWNER
CHARLES P. GERMAN
3062 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042

SCALE: AS SHOWN	DATE: FEB 15, 2000	DWG. NO. 3 OF 12
DES. J.V.P.	DRN. J.C.L.	CHK. Z.Y.F.

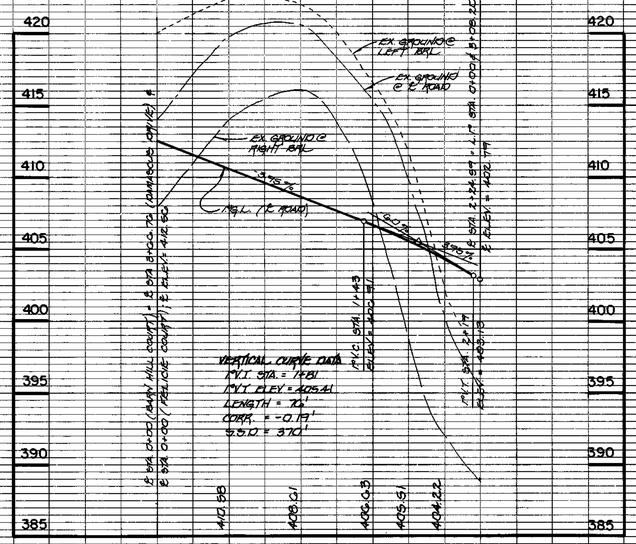
STATE OF MARYLAND — ZACHARIA YOSEF FISCH — 22418 — PROFESSIONAL ENGINEER

Zacharia Y. Fisch 2/25/2000

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

BARN HILL COURT

DESIGN SPEED = 25 M.P.H.

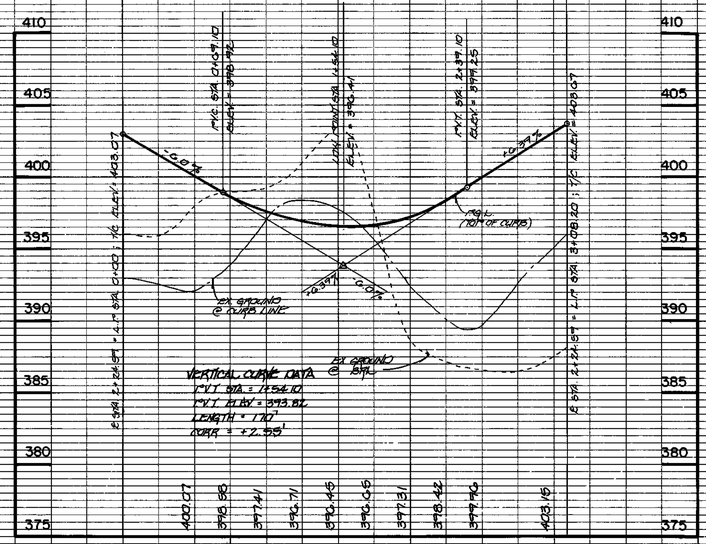


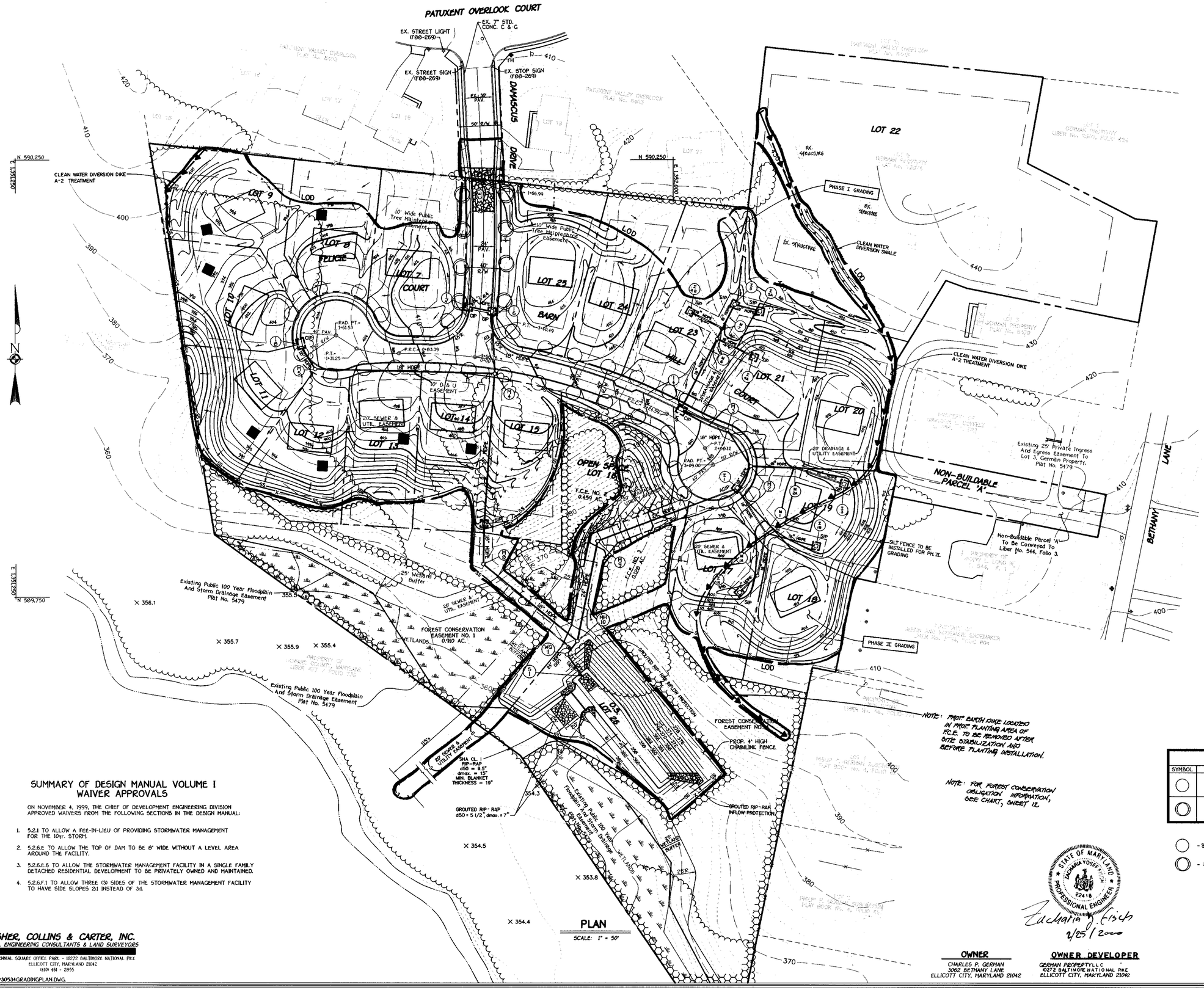
PROFILES

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

BARN HILL COURT

LINEAR PROFILE





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 Condition And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

Zacharia Y. Fisch — Signature Of Engineer — 2/25/2000 — Date

DEVELOPER'S CERTIFICATE

"I/We Certify That All Development And Construction Will Be Done According To This Plan Of Development And Plan For Erosion And Sediment Control And That All Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Attendance At A Department Of Natural Resources Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Also Authorize Periodic On-Site Inspection By The Howard Soil Conservation District Or Their Authorized Agents, As Are Deemed Necessary."

Signature Of Developer — 2-25-00 — Date

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements

Cheryl Simmons — U.S.D.A. - Natural Resources Conservation Service — 3/2/00 — Date

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.

John R Robertson — District Howard Soil Conservation Dist. — 3/2/00 — Date

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — 3/12/00 — Date

Chief, Development Engineering Division CE — 3/1/00 — Date

Approved: Howard County Department Of Public Works

Chief, Bureau Of Highways MS — 3-7-00 — Date

AS-BUILT CERTIFICATION

I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The " As-Built" Plans And Meets The Approved Plans And Specifications.

Signature — P.E. No.

Date:

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

SUMMARY OF DESIGN MANUAL VOLUME I WAIVER APPROVALS

ON NOVEMBER 4, 1999, THE CHIEF OF DEVELOPMENT ENGINEERING DIVISION APPROVED WAIVERS FROM THE FOLLOWING SECTIONS IN THE DESIGN MANUAL:

1. 5.2.1 TO ALLOW A FEE-IN-LIEU OF PROVIDING STORMWATER MANAGEMENT FOR THE 10yr. STORM.
2. 5.2.6.E TO ALLOW THE TOP OF DAM TO BE 8' WIDE WITHOUT A LEVEL AREA AROUND THE FACILITY.
3. 5.2.6.E.6 TO ALLOW THE STORMWATER MANAGEMENT FACILITY IN A SINGLE FAMILY DETACHED RESIDENTIAL DEVELOPMENT TO BE PRIVATELY OWNED AND MAINTAINED.
4. 5.2.6.F.1 TO ALLOW THREE (3) SIDES OF THE STORMWATER MANAGEMENT FACILITY TO HAVE SIDE SLOPES 2:1 INSTEAD OF 3:1.

PLAN
SCALE: 1" = 50'

STREET TREE SCHEDULE

SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
◯	ACER RUBRUM 'OCTOBER GLORY' RED MAPLE	2 1/2-3" CAL.	40' APART ON PUBLIC R/W
◯	PLATANUS OCCIDENTALIS 'BLOODGOOD' LONDON PLANETREE	2 1/2-3" CAL.	40' APART ON PUBLIC R/W

NOTE: STREET TREE TYPE CAN BE SUBSTITUTED WITH EQUIVALENTS FROM AN APPROVED LIST IN THE HOWARD COUNTY LANDSCAPE MANUAL AND DESIGN MANUAL VOLUME III.

◯ - 31 TREES

◯ - 8 TREES

STATE OF MARYLAND ZACHARIA YOSEF FISCH 22418 PROFESSIONAL ENGINEER

Zacharia Y. Fisch 2/25/2000

OWNER
CHARLES P. GERMAN
3062 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042

OWNER DEVELOPER
GERMAN PROPERTY LLC
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

F.C.C.*30534GRADINGPLAN.DWG.

STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
GERMAN PROPERTY
LOTS 7 THRU 26 AND PARCEL 'A'

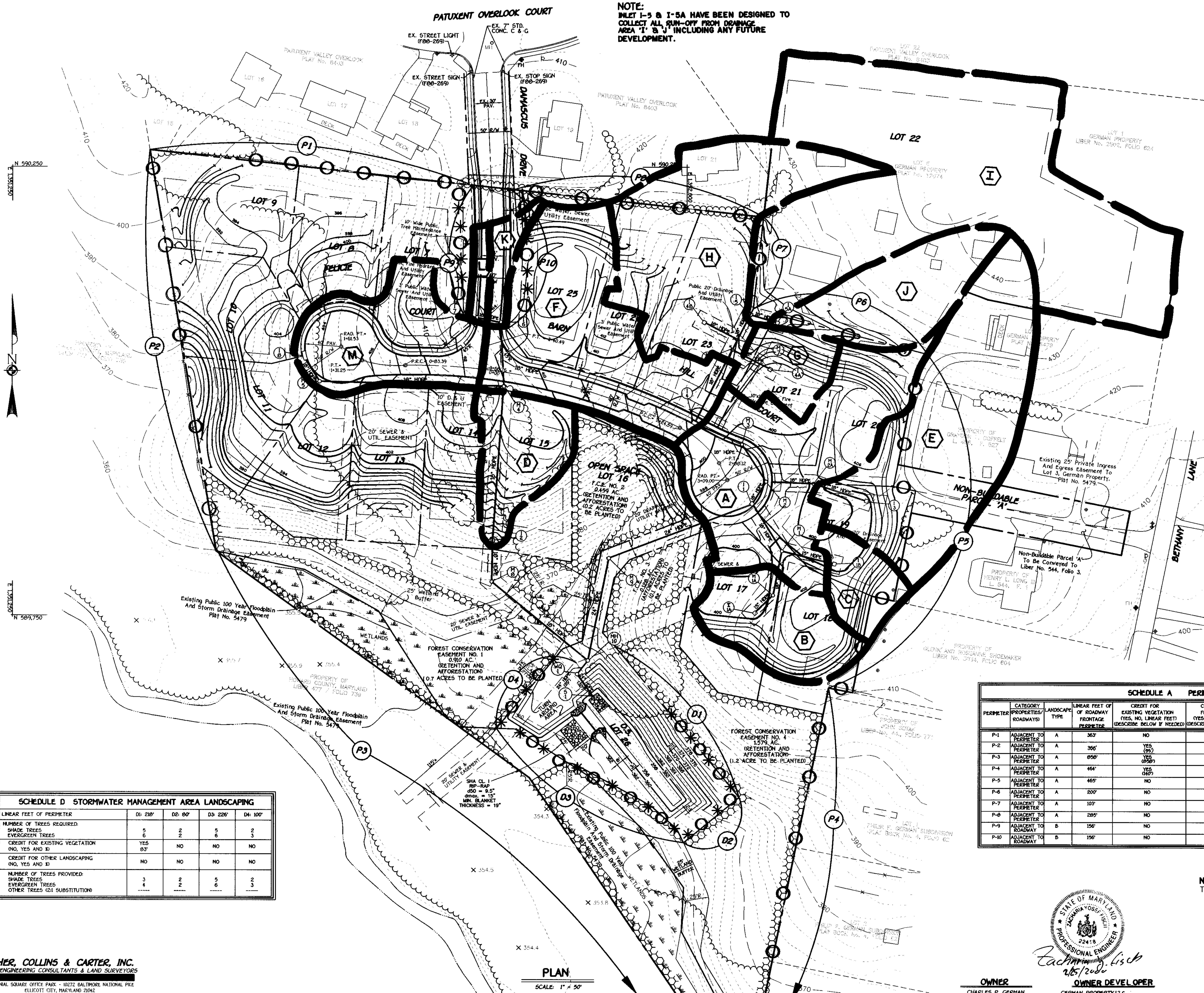
(A RESUBDIVISION OF LOTS 5 AND 6, GERMAN PROPERTY, PLAT NO. 12074)
ZONED R-20
TAX MAP NO. 17 PARCEL NO. 132 GRID NO. 20
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEB15, 2000
SHEET 4 OF 12

F 99-44

Approved: Department Of Public Works
Chief Bureau Of Highways — Date: 3-7-00

Approved: Department Of Planning And Zoning
Chief, Division Of Land Development — Date: 3/13/00
Chief, Development Engineering Division — Date: 3/9/00

NOTE:
INLET I-5 & I-5A HAVE BEEN DESIGNED TO COLLECT ALL RUN-OFF FROM DRAINAGE AREA 'I' & 'J' INCLUDING ANY FUTURE DEVELOPMENT.



SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING

LINEAR FEET OF PERIMETER	D1: 218'	D2: 80'	D3: 226'	D4: 100'
NUMBER OF TREES REQUIRED: SHADE TREES EVERGREEN TREES	5 6	2 2	5 6	2 3
CREDIT FOR EXISTING VEGETATION (NO, YES AND %)	YES 83'	NO	NO	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND %)	NO	NO	NO	NO
NUMBER OF TREES PROVIDED: SHADE TREES EVERGREEN TREES OTHER TREES (2:1 SUBSTITUTION)	3 4 -----	2 2 -----	5 6 -----	2 3 -----

DRAINAGE AREA DATA

STRUCTURE NO.	DRAINAGE AREA	AREA	'C'	ZONED	% IMP.
I-1	A	0.89 AC.	0.38	R-20	40%
I-1A	B	0.35 AC.	0.30	R-20	30%
I-1B	C	0.17 AC.	0.30	R-20	30%
I-2	D	0.26 AC.	0.30	R-20	30%
I-3	E	1.04 AC.	0.30	R-20	30%
I-4	F	0.88 AC.	0.40	R-20	40%
I-4A	G	0.19 AC.	0.30	R-20	20%
I-4B	H	0.89 AC.	0.30	R-20	30%
I-5	I	1.92 AC.	0.30	R-20	30%
I-5A	J	0.40 AC.	0.30	R-20	30%
I-6	K	0.08 AC.	0.54	R-20	51%
I-7	L	0.05 AC.	0.74	R-20	80%
I-8	M	0.47 AC.	0.55	R-20	61%

PLANT LIST

QTY.	KEY	NAME	SIZE
52	O	ACER RUBRUM 'OCTOBER GLORY' RED MAPLE	2 1/2-3" CAL.
23	*	CEDRUS DEODORA/ DEODAR CEDAR	6'-8' HEIGHT

1. "THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD CODE AND THE LANDSCAPE MANUAL." FINANCIAL SURETY FOR THE 72 REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $19,050.00
2. PLANT MATERIAL CAN BE SUBSTITUTED WITH EQUIVALENTS FROM AN APPROVED LIST IN THE HOWARD COUNTY LANDSCAPE MANUAL.

DEVELOPER'S / BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANTING MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

NAME — DATE: 2-25-00

SCHEDULE A PERIMETER LANDSCAPE EDGE

PERIMETER	CATEGORY (PROPERTIES/ ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF OF ROADWAY FRONTAGE PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NUMBER OF PLANTS REQUIRED: SHADE TREES	NUMBER OF PLANTS REQUIRED: EVERGREEN TREES	NUMBER OF PLANTS REQUIRED: SHRUBS	NUMBER OF PLANTS PROVIDED: SHADE TREES	NUMBER OF PLANTS PROVIDED: EVERGREEN TREES	NUMBER OF PLANTS PROVIDED: OTHER TREES (2:1 SUBSTITUTION)	NUMBER OF PLANTS PROVIDED: SHRUBS (10:1 SUBSTITUTION)
									(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)			
P-1	ADJACENT TO PERIMETER	A	363'	NO	NO	6	-	-	6	-	-	-
P-2	ADJACENT TO PERIMETER	A	356'	YES (95')	NO	6	-	-	6	-	-	-
P-3	ADJACENT TO PERIMETER	A	858'	YES (858')	NO	-	-	-	-	-	-	-
P-4	ADJACENT TO PERIMETER	A	464'	YES (140')	NO	5	-	-	5	-	-	-
P-5	ADJACENT TO PERIMETER	A	465'	NO	NO	8	-	-	8	-	-	-
P-6	ADJACENT TO PERIMETER	A	200'	NO	NO	3	-	-	3	-	-	-
P-7	ADJACENT TO PERIMETER	A	103'	NO	NO	1	-	-	1	-	-	-
P-8	ADJACENT TO PERIMETER	A	285'	NO	NO	5	-	-	5	-	-	-
P-9	ADJACENT TO ROADWAY	B	156'	NO	NO	3	4	-	3	4	-	-
P-10	ADJACENT TO ROADWAY	B	156'	NO	NO	3	4	-	3	4	-	-

NOTE:
THIS PLAN IS FOR DRAINAGE AREA AND LANDSCAPING INFORMATION ONLY.

STATE OF MARYLAND — ZACHARIA YOSEF FISCH — 22418 — PROFESSIONAL ENGINEER
2/25/2000

OWNER
CHARLES P. GERMAN
3062 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042

OWNER DEVELOPER
GERMAN PROPERTY LLC
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, ~~MARYLAND~~ 21042

DRAINAGE AREA MAP & LANDSCAPE PLAN
GERMAN PROPERTY
LOTS 7 THRU 26 AND PARCEL 'A'
(A RESUBDIVISION OF LOTS 5 AND 6, GERMAN PROPERTY, PLAT NO. 12074)
ZONED R-20
TAX MAP NO. 17 PARCEL NO. 132 GRID NO. 20
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEB 15,2000
SHEET 5 OF 12

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

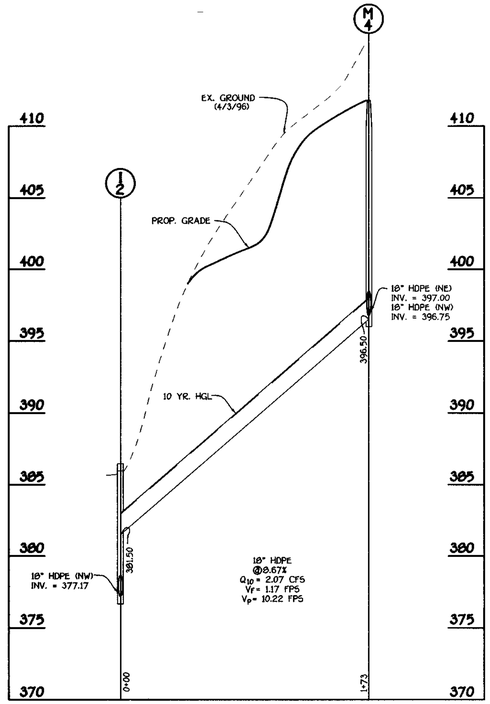
F.C.C.#30534GRADINGPLAN.DWG.

F99-44

STRUCTURE SCHEDULE

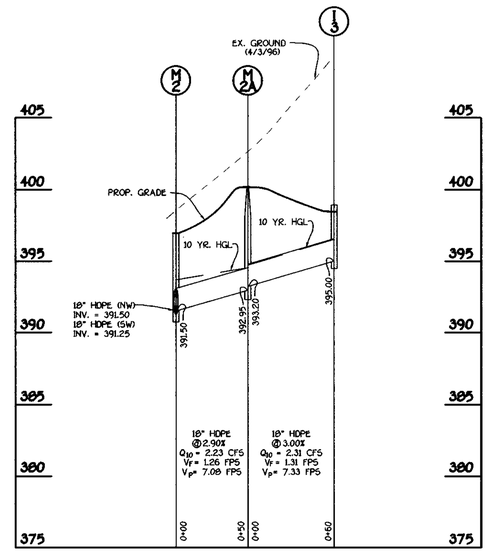
STRUCTURE NO.	TOP ELEVATION	INV.IN	INV.OUT	ROAD NAME	ROAD STA.	OFFSET	TYPE	REMARKS
I-1	** 395.83	390.97, 390.97	390.72	BARN HILL COURT	L.P. STA. 1+54.10	---	'S' INLET	S.D. 4.22 w/ S.D. 4.93
I-1A	* 397.55	-----	394.50	----------	N 589,753.16 E 1,352,275.53	---	'D' INLET	S.D. 4.39
I-1B	* 398.24	-----	395.00	----------	N 589,807.51 E 1,352,164.19	---	'D' INLET	S.D. 4.39
I-2	* 385.80	381.50	377.17	----------	N 589,833.377 E 1,351,784.301	---	'D' INLET	S.D. 4.39
I-3	* 398.42	-----	395.00	----------	N 589,878.11 E 1,352,198.89	---	'D' INLET	S.D. 4.39
I-4	402.08	394.38	394.13	BARN HILL COURT	L.P. STA. 0+16.5	---	A-10	S.D. 4.41
I-4A	* 399.31	-----	396.00	----------	N 590,025.31 E 1,352,292.61	---	'D' INLET	S.D. 4.39
I-4B	* 403.54	-----	400.50	----------	N 590,077.02 E 1,352,269.34	---	'D' INLET	S.D. 4.39
I-5	* 413.00	409.40	407.00	----------	N 590,095.94 E 1,352,070.85	---	'D' INLET	S.D. 4.39
I-5A	* 413.00	-----	410.00	----------	N 590,076.57 E 1,352,100.73	---	'D' INLET	S.D. 4.39
I-6	414.14	398.25	398.00	DAMASCUS DRIVE	C.L. STA. 3+12	12'L	A-5	S.D. 4.40
I-7	414.22	-----	399.00	DAMASCUS DRIVE	C.L. STA. 3+09	12'R	A-5	S.D. 4.40
I-8	404.00	-----	399.50	FELICIE COURT	L.P. STA. 1+28.89	---	A-10	S.D. 4.41
M-1	401.00	392.72, 392.72	392.47	----------	N 589,822.08 E 1,352,105.83	---	STD. MANHOLE	G. 5.01
M-1A	400.50	394.22	393.97	----------	N 589,773.04 E 1,352,096.07	---	STD. MANHOLE	G. 5.01
M-2	396.80	391.50, 391.50	391.25	BARN HILL COURT	L.P. STA. 1+24	3' BEHIND CURB	STD. MANHOLE	G. 5.01
M-2A	400.23	393.20	392.95	----------	N 589,897.45 E 1,352,140.99	---	STD. MANHOLE	G. 5.01
M-3	398.70	393.50	393.25	BARN HILL COURT	L.P. STA. 0+75	3' BEHIND CURB	STD. MANHOLE	G. 5.01
M-4	412.00	397.00, 396.75	396.50	BARN HILL COURT	C.L. STA. 0+25.3	15.5'R	STD. MANHOLE	G. 5.01
M-5	404.70	399.05	398.80	FELICIE COURT	L.P. STA. 0+98	5' BEHIND CURB	STD. MANHOLE	G. 5.01
M-6	406.00	395.53, 395.53	395.28	----------	N 590,046.55 E 1,352,050.53	---	STD. MANHOLE	G. 5.01
M-7	408.25	403.50, 400.09	396.50	----------	N 590,058.06 E 1,352,056.44	---	STD. MANHOLE	G. 5.01
M-8	376.00	370.50	363.00	----------	N 589,789.229 E 1,351,783.125	---	STD. MANHOLE	G. 5.01
M-9	381.00	373.75	373.50	----------	N 589,814.024 E 1,351,914.125	---	STD. MANHOLE	G. 5.01
M-10	372.50	367.75, 361.62	361.37	----------	N 589,699.535 E 1,351,890.015	---	STD. MANHOLE	G. 5.01
WQ-1	368.50	361.17	361.09	----------	N 589,584.677 E 1,351,878.047	---	STORMCEPTOR	MODEL 3600
S-1	360.00	358.00	358.00	----------	N 589,662.149 E 1,351,983.836	---	CONC. END SECTION	S.D. 5.52

* DENOTES THROAT ELEVATION
** DENOTES TOP OF GRATE



PROFILE

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



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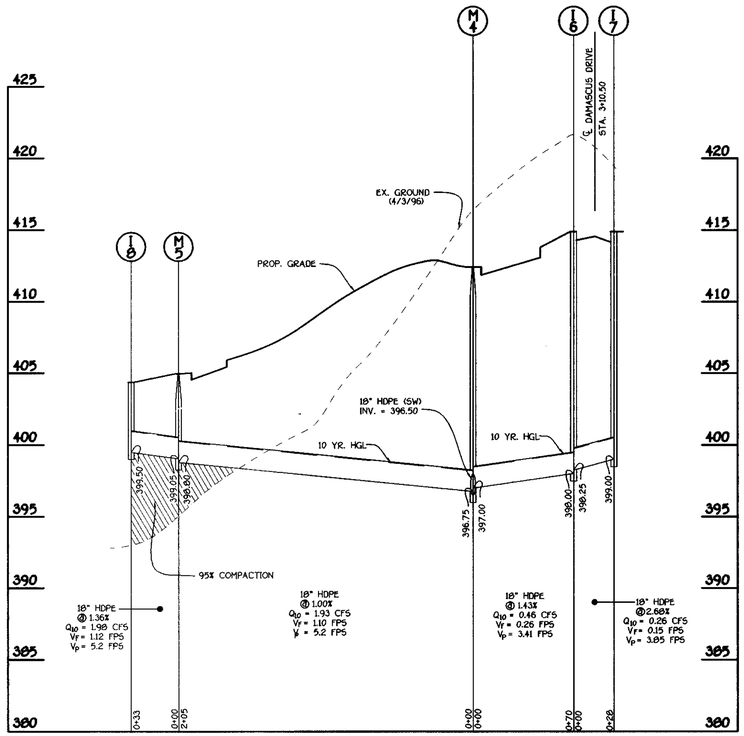

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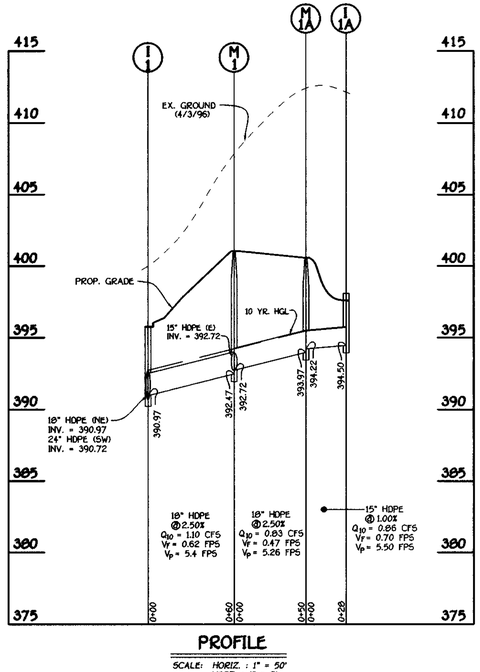

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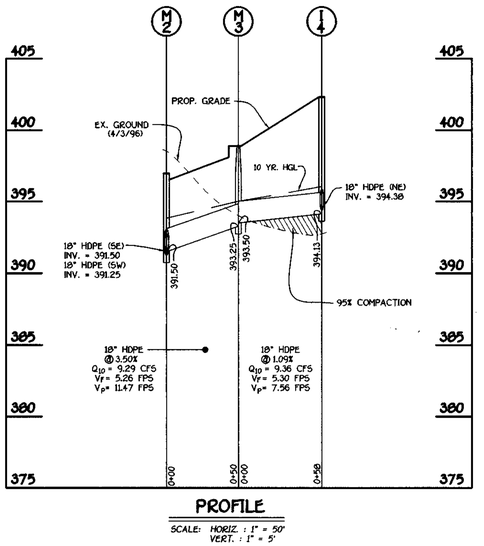

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Approved: Department Of Public Works

Chief Bureau Of Highways — Date 3-7-00

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — Date 3/13/00

Chief, Development Engineering Division — Date 3/9/00

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F.C.C.*30534STORMDRAINSIDWG.

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STATE OF MARYLAND
ZACHARIA JOSEF FISCH
22418
PROFESSIONAL ENGINEER

Zacharia J. Fisch
2/25/2000

STORM DRAIN PROFILES

GERMAN PROPERTY

LOTS 7 THRU 26 AND PARCEL 'A'

(A RESUBDIVISION OF LOTS 5 AND 6, GERMAN PROPERTY, PLAT NO. 12074)
ZONED R-20
TAX MAP NO. 17 PARCEL NO. 132 GRID NO. 20
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEBRUARY 15, 2000
SHEET 6 OF 12

F99-44

Approved: Department Of Public Works

Chief, Bureau Of Highways — Date: 3-7-00

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — Date: 3/13/00

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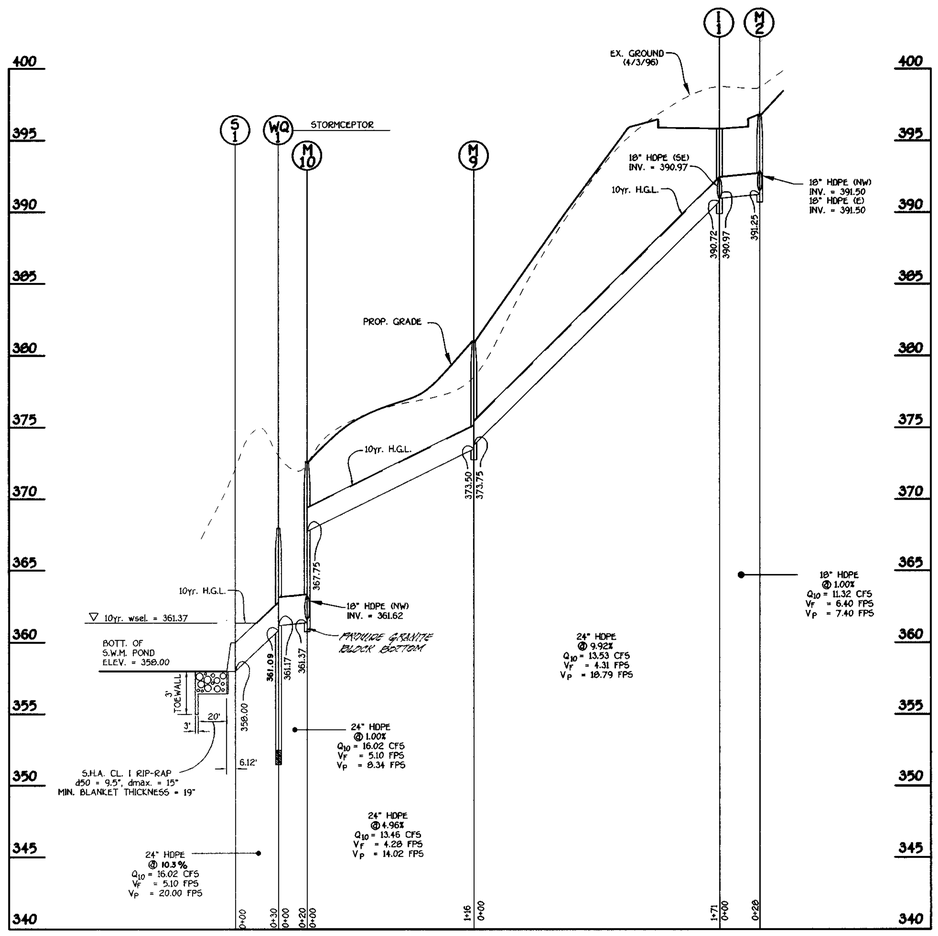

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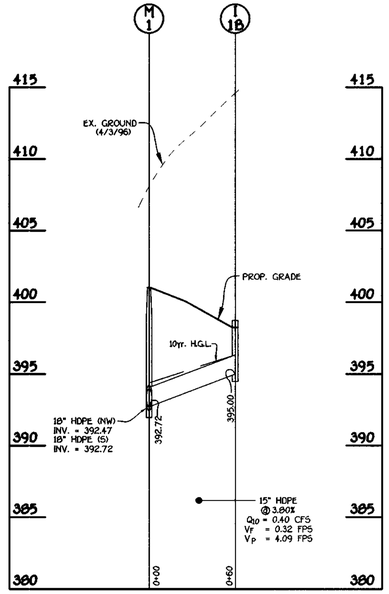

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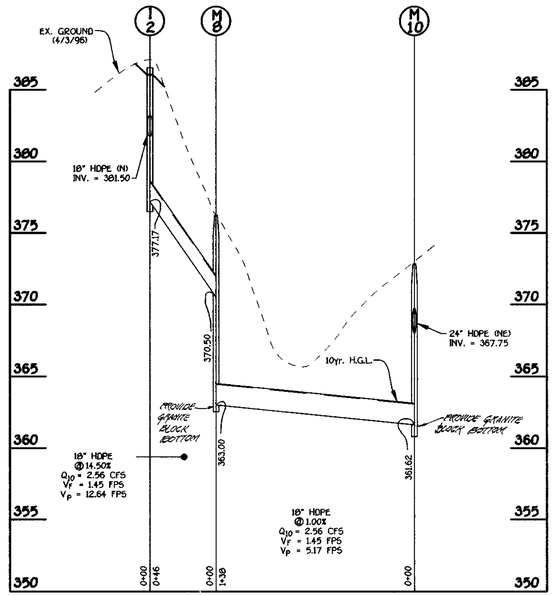

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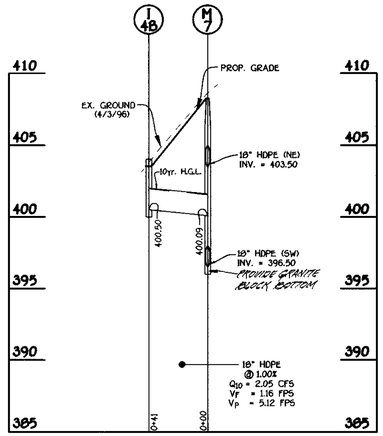

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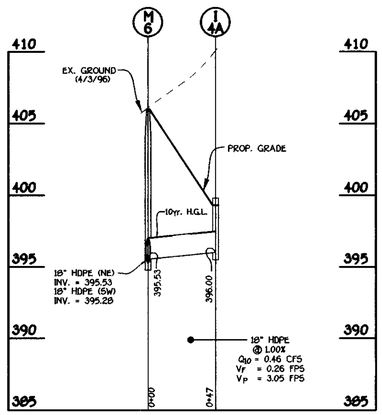

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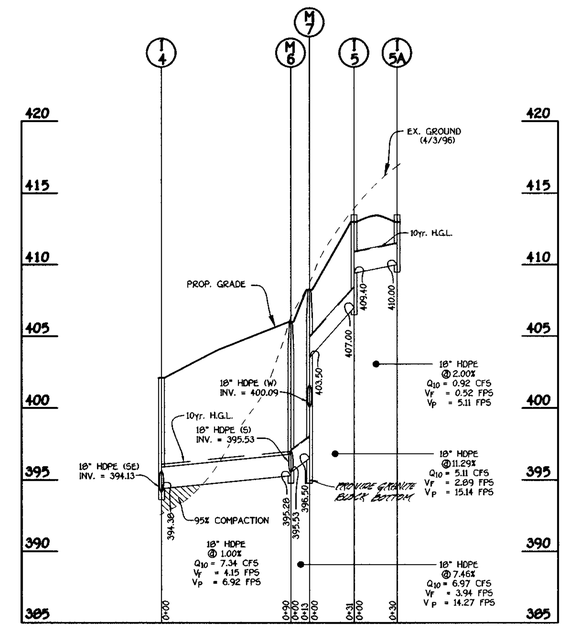

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STATE OF MARYLAND — ZACHARIA VOSEF FISCH — 22418 — PROFESSIONAL ENGINEER

Zacharia V. Fisch 2/25/2000

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STORM DRAIN PROFILES

GERMAN PROPERTY

LOTS 7 THRU 26 AND PARCEL 'A'

(A RESUBDIVISION OF LOTS 5 AND 6, GERMAN PROPERTY, PLAT NO. 12074)

ZONED R-20

TAX MAP NO. 17 PARCEL NO. 132 GRID NO. 20

SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DATE: FEBRUARY 15, 2000

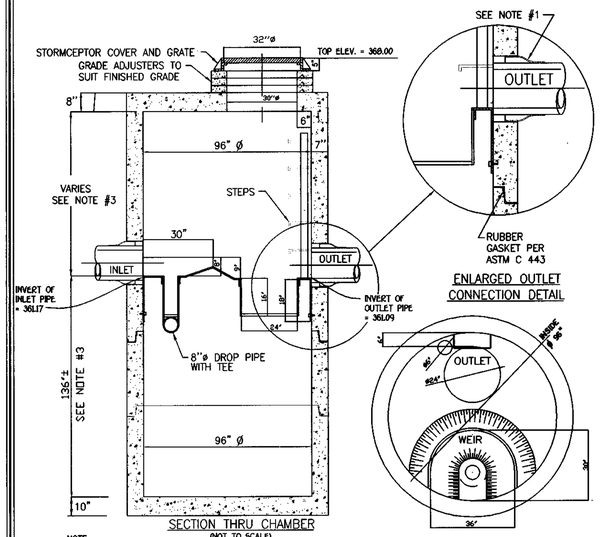
SHEET 7 OF 12

F 99-44

STC 3600 Precast Concrete Stormceptor®

(3600 US Gallon Capacity)

(Disc Design)



SECTION THRU CHAMBER

(NOT TO SCALE)

PLAN

NOTE :

1. FLEXIBLE CONNECTIONS ARE RECOMMENDED AT THE INLET AND OUTLET WHERE APPLICABLE.
2. COVER TO BE POSITIONED OVER OUTLET AND VENT PIPE
3. THIS IS A GENERAL ARRANGEMENT DRAWING. CONSULT LOCAL REPRESENTATIVE FOR SPECIAL CONDITIONS.
4. INLET DROP PIPE WILL BE EITHER 8"ø OR 12"ø WITH A 8"ø ORIFICE PLATE
5. ALL CONCRETE JOINTS HAVE RUBBER GASKETS THAT CONFORM TO ASTM C 443
6. U.S. PATENT NO. 4,985,148

DESIGN SPECIFICATIONS

1. ASTM C 478
2. BASE WEIGHT = 11.28 TONS

STC-3600
REVISED 10/96

CONTRACTOR INSTALLATION INSTRUCTIONS: PRECAST CONCRETE STORMCEPTOR "DISC" DESIGN

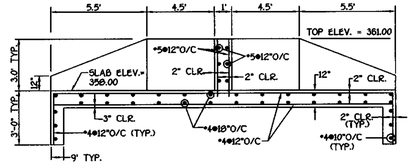
1. STAKE-OUT THE LOCATION OF THE STORMCEPTOR AND EXCAVATE HOLE. EXCAVATE ADEQUATE SPACE TO CONNECT INLET AND OUTLET PIPES TO UNIT. INSTALL A 12 INCH DEEP (OR AS REQUIRED) LAYER OF COMPACTED AGGREGATE SUBBASE AT THE BOTTOM OF THE EXCAVATION. INSTALL TRENCH BOX OR SHORING AS NEEDED.
2. CHECK ELEVATION OF UNIT BY MEASURING ITS SECTIONS FROM BASE OF THE STORAGE CHAMBER OUTSIDE BOTTOM OF UNITS SLAB TO THE INVERT OF STORMCEPTOR BYPASS CHAMBER INLET ELEVATION (FIBERGLASS INSERT). SUBTRACT THIS DISTANCE FROM DESIGN INVERT ELEVATION TO DETERMINE TOP OF SUBBASE ELEVATION. CHECK ELEVATION OF INSTALLED SUBBASE AND ADJUST AS NEEDED.
3. SECURE INSPECTOR APPROVAL OF SUBGRADE AND SUBBASE. ALL LIFTING APPARATUS IS TO BE PROVIDED BY THE INSTALLATION CONTRACTOR.
4. INSTALL STORAGE CHAMBER: INSTALL SCREW LIFTING PINS OR HOOKS INTO BASE OF STORAGE CHAMBER . ATTACH CABLES OR CHAINS TO LIFT LUGS ON THE BASE SLAB. USING LARGE EQUIPMENT OR CRANE, LIFT AND PLACE THE BASE SECTION OF THE STORAGE CHAMBER IN THE EXCAVATED HOLE ONTHE SUBBASE. MAKE SURE THAT THE BASE IS LEVEL. SPECIFIC ALIGNMENT OF THIS PART IS NOT REQUIRED. INSTALL RUBBER GASKET ON BASE UNIT AND COAT WITH LUBRICATING GREASE (PROVIDED IN SHIPMENT), IF NOT PRELUBRICATED. INSTALL ADDITIONAL STORAGE CHAMBER SECTIONS, AS REQUIRED. PROCEDURE IS SAME AS STEP 10.
5. INSTALL BYPASS SECTION OF STORMCEPTOR WITH FACTORY INSTALLED STORMCEPTOR INSERT. LIFT BYPASS SECTION AND INSTALL WHILE CHECKING ALIGNMENT AND GRADE OF INLET AND OUTLET DRAINAGE PIPES. CHECK TO MAKE SURE THE BYPASS CHAMBER IS SET FLUSH, LEVEL AND IS AT THE PROPER ELEVATION. THE BYPASS SECTION MUST BE ORIENTED SUCH THAT INLET PIPE DISCHARGES INTO THE V-SHAPED FIBERGLASS WEIRS (INSIDE INSERT). INSTALL RUBBER GASKET ON TOP OF BYPASS SECTION AND COAT WITH LUBRICATING GREASE, IF NOT PRELUBRICATED.
6. INSTALL INLET AND OUTLET STORMDRAIN PIPES. CONNECT INLET AND OUTLET STORM DRAIN PIPES WITH FLEXIBLE BOOTS (WHEN PROVIDED) AND WITH NON-SHRINK GROUT WHEN NO FLEXIBLE BOOTS ARE PROVIDED. THE INVERT OF THE INLET AND OUTLET PIPE IS TO MATCH WITH THE INVERT OF THE STORMCEPTOR INSERT. FLEXIBLE BOOT INSTALLATION PROCEDURES: CENTER THE PIPE IN THE BOOT OPENING. LUBRICATE THE OUTSIDE OF THE PIPE AND/OR THE INSIDE OF THE BOOT, IF THE PIPE OUTSIDE DIAMETER IS THE SAME AS THE INSIDE DIAMETER OF THE BOOT. POSITION THE PIPE CLAMP IN THE GROVE OF THE BOOT WITH THE SCREW AT THE TOP. TIGHTEN THE PIPE CLAMP SCREW TO 60 INCH POUNDS. IF THE PIPE IS MUCH SMALLER THAN THE BOOT LET THE BOOT SUCH THAT IT CONTACTS THE BOTTOM OF THE PIPE WHILE TIGHTENING THE CLAMP TO ENSURE EVEN CONTRACTION OF THE RUBBER. MOVE THE PIPE HORIZONTALLY AND/OR VERTICALLY TO BRING IT TO GRADE.
7. INSTALL STORMCEPTOR DROP PIPES ACCORDING TO STC PIPE INSTALLATION PROCEDURE.
8. INSTALL RISER SECTION. LIFT RISER SECTION AND INSTALL, WHILE CHECKING THAT SECTION IS SET FLUSH AND IS AT PROPER ELEVATION AND THAT UNIT IS LEVEL. SPECIFIC ALIGNMENT OF THIS PART IS REQUIRED, IF STEPSS ARE INCLUDED. ALIGN STEPS PROPERLY FOR ACCESS FROM MANHOLE OPENING AND ADJACENT TO VENT PIPE. NOTE, FOR SHALLOW INSTALLATIONS THIS SECTION MAY NOT BE REQUIRED.
9. INSTALL TOP SLAB (CAP) WITH MANHOLE OPENING FOR STORMCEPTOR FRAME AND COVER. MANHOLE OPENING OFFSET (NOT CENTERED), SHOULD BE ORIENTED SO OPENING IS ABOVE STEPS AND ADJACENT TO VENT PIPE, SUCH THAT 6" VENT PIPE CAN BE CUT 1 INCH BELOW TOP OF SLAB AND SECURELY ATTACHED TO INSIDE EDGE OF MANHOLE ACCESS OPENING. TOP SLAB OPENING SHOULD BE ORIENTED ABOVE THE STORMCEPTOR OUTLET (24 INCH) DROP PIPE AND ABOVE THE 6 INCH VENT PIPE.
10. BACKFILL STORMCEPTOR WITH APPROVED BACKFILL MATERIAL (NO ORGANIC OR TOPSOIL IS TO BE USED FOR BACKFILL). BACKFILL AND COMPACT IN 8 INCH LIFTS. BACKFILL SHOULD BE COMPACTED TO LOCAL/STATE REQUIREMENTS.
11. INSTALL AND SET GRADE ADJUSTING RINGS OR USE APPROVED GRADE ADJUSTING METHOD AND LEVELING MATERIALS, AS NEEDED. PLUG ALL LIFT HOLES WITH TAPERED FLEXIBLE PLUG (PROVIDED) AND KNOCK IN TO PLACE. PLUGS IN STORAGE CHAMBER MUST ALSO BE GROUTED INSIDE AND OUTSIDE WITH GROUT. GROUT ALL OTHER LIFT HOLES.
12. INSTALL AND SET STORMCEPTOR FRAME AND COVER.
13. THE STORMCEPTOR SHOULD BE FLUSHED OUT AND SEDIMENT AND DEBRIS MATERIAL DISPOSED OF PROPERLY, WHEN THE PROJECTS SEDIMENT CONTROL MEASURES ARE REMOVED (SITE PERMANENTLY STABILIZED).
14. FILL UNIT WITH CLEAN WATER AFTER UNIT IS CLEARED OUT, IF REQUIRED BY LOCAL INSPECTION PERSONNEL.
15. FINAL INSPECTION

MAINTENANCE NOTES
WATER QUALITY STRUCTURE WASTE

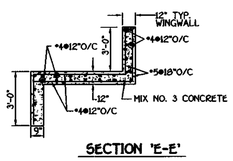
1. Water quality structures will require periodic cleaning. Owners of these facilities will have to clean them as needed.
2. Maintenance of these facilities will consist of cleaning out the stormceptor and disposal of the waste and repair of the facility as needed. Periodic inspections of these facilities will be made by the owner.
3. The disposal of the liquid and solid matter shall be as follows:
   A. All liquid material in the stormceptor shall be pumped into a suitable tank truck and disposed of at an approved sanitary district discharge manhole or be taken to an approved sewage treatment plant for discharge.
   B. The solid material shall be landfilled in an approved sanitary landfill.
4. The inlet pipes and structural parts shall be repaired as needed.
5. Stormceptor inlet and outlet assembly shall be periodically inspected. Blockages shall be removed and disposed of as required in 3B above.

OPERATION AND MAINTENANCE SCHEDULE FOR STORMCEPTOR WATER QUALITY DEVICE

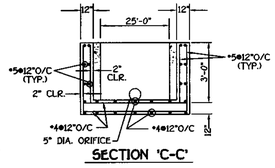
1. Stormceptor water quality structures will require periodic inspection and cleaning to maintain operation and function. Owners will have the Stormceptor unit inspected yearly or as required by Howard County, utilizing the Stormceptor Inspection/Monitoring Form. Inspections can be done by using a clear Plexiglas tube ("sludge judge") to extract a water column sample. When sediment depths exceed the specified level (Table 9 of Technical Manual) then cleaning of the unit is required.
2. Stormceptor water quality structures must be checked and cleaned immediately after petroleum spills, contact appropriate regulatory agencies.
3. Maintenance of Stormceptor units should be done by a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons and other materials in unit. The proper cleaning and disposal of the removed materials and liquid must be followed.
4. Inlet and outlet pipes must be checked for any obstructions and if any obstructions are found they must be removed. Structural parts of the Stormceptor will be repaired as needed.
5. Owner shall retain and make Stormceptor Inspection/Monitoring Forms available to Howard County officials upon their request.



SECTION 'D-D'



SECTION 'E-E'



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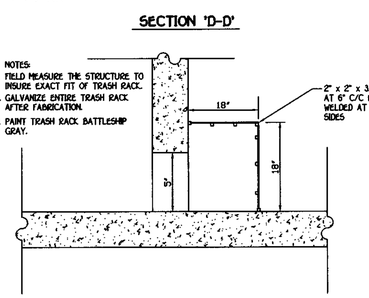
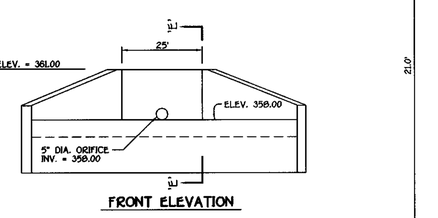


NOTES:

1. FIELD MEASURE THE STRUCTURE TO INSURE EXACT FIT OF TRASH RACK.
2. GALVANIZE ENTIRE TRASH RACK AFTER FABRICATION.
3. PAINT TRASH RACK BATTLESHIP GRAY.

TRASH RACK DETAIL

NOT TO SCALE

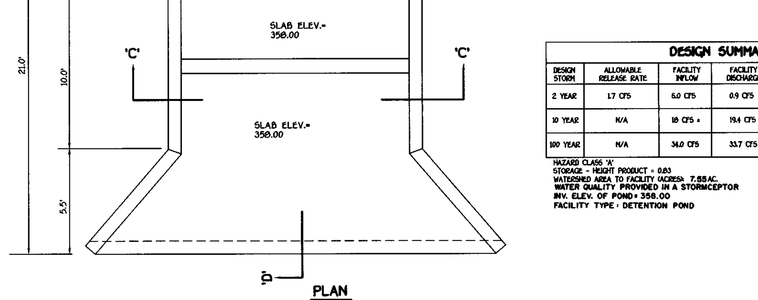


FRONT ELEVATION

(MODIFIED HOWARD COUNTY STD. DTL. S.D.-7.00)

CONCRETE WEIR STRUCTURE DETAIL

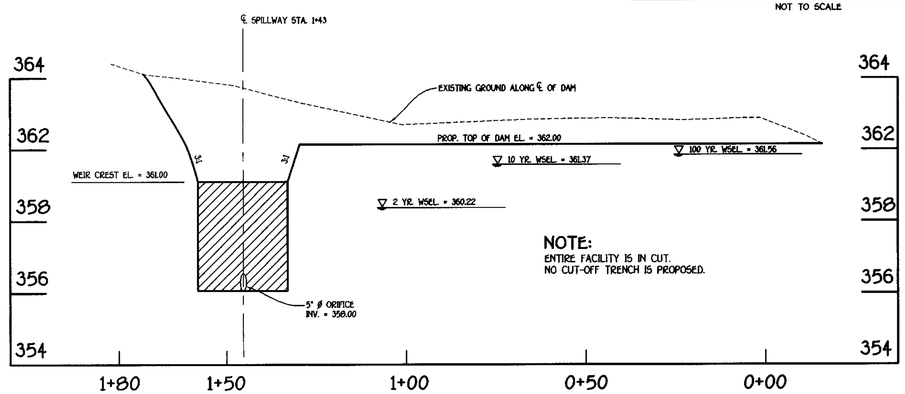
NOT TO SCALE



PLAN

DESIGN STORM	ALLOWABLE RELEASE RATE	FACILITY INFLOW	FACILITY DISCHARGE	WATER SURFACE ELEVATION	STORAGE VOLUME (AC.FT.)
2 YEAR	1.7 CFS	6.0 CFS	0.9 CFS	360.22	0.135
10 YEAR	N/A	18 CFS ±	19.4 CFS ±	361.37	0.238
100 YEAR	N/A	34.0 CFS	33.7 CFS	361.56	0.234

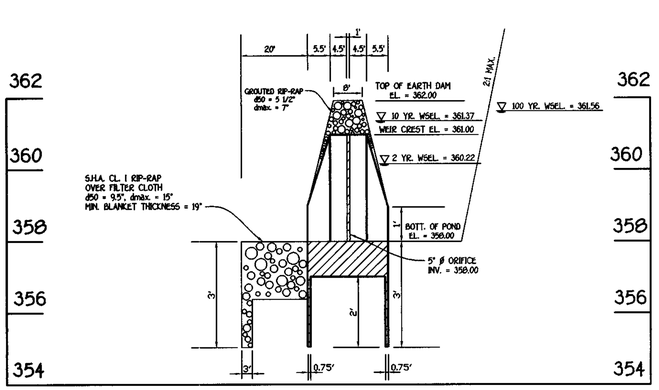
HAZARD CLASS 'A'
STORAGE - HEIGHT PRODUCT = 0.83
WATERSHED AREA TO FACILITY (ACRES) 7.55 AC.
WATER QUALITY PROVIDED IN A STORMCEPTOR
INV. ELEV. OF POND = 358.00
FACILITY TYPE : DETENTION POND



NOTE:
ENTIRE FACILITY IS IN CUT.
NO CUT-OFF TRENCH IS PROPOSED.

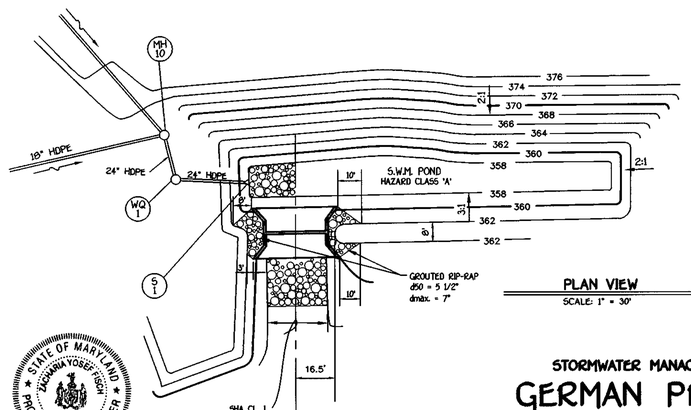
PROFILE ALONG DAM

SCALE: HORIZ. : 1" = 20'
VERT. : 1" = 2'



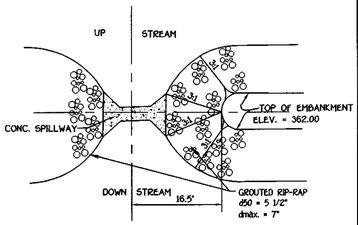
SECTION THRU CONCRETE WEIR

SCALE: HORIZ. : 1" = 20'
VERT. : 1" = 2'



PLAN VIEW

SCALE: 1" = 30'



EARTH TRANSITION DETAIL

NOT TO SCALE

OPERATION AND MAINTENANCE SCHEDULE OF HOME OWNERS ASSOCIATION OWNED AND MAINTAINED STORMWATER MANAGEMENT FACILITY

HOME OWNERS ASSOCIATION'S MAINTENANCE RESPONSIBILITIES:

1. Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September. Other side slopes and maintenance access should be mowed as needed.
2. Debris and litter next to the outlet structure shall be removed during regular mowing operations and as needed.
3. When deemed necessary for aesthetic reasons, sediment should be removed from the pond. Approval of the Department of Public Works is required.

OPERATION AND MAINTENANCE SPECIFICATIONS

I hereby certify that I will operate and maintain the completed pond in accordance with the following:

1) Periodic inspections of the facility will be made to identify potential problems that may affect its safety. These inspections will be made after periods of heavy rainfall and at least twice annually. Inspection reports shall be kept until the next subsequent inspection. Inspection items to be looked at include:

A. Spillway and outlet works
B. Rip-rap
C. Vegetative cover
D. Cracks in the fill
E. Slope failures; and
F Seepage and other signs of distress.

2) Problems identified during inspections will be promptly corrected. Major problems will be brought to the attention of the soil conservation district and the dam safety division of the Maryland Water Resources Administration. As a very minimum, grassy vegetation will be maintained in a dense and healthy state, and woody vegetation will not be permitted to grow on the embankment.

NOTES

1. Concrete shall conform to the Maryland D.O.T.S.H.A. Standard Spec's for construction and materials, 1982 Mix No. 6, except that TY. III Cement and A.S.T.M. C 33 No. 8 coarse AGG. Shall be used.

PRECAST CONCRETE STORMCEPTOR

ORDER REQUEST FORM

DEVELOPER INFORMATION

NAME: GERMAN PROPERTY PARTNERSHIP
PHONE: (410) 442-1045
FAX: (410) 442-1045

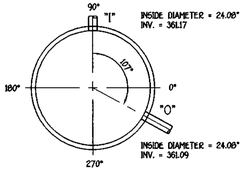
IMPERVIOUS DRAINAGE AREA FOR THIS UNIT 2.29 AC.

STORMCEPTOR MODEL

STC			
450i	☐		
900	☐	3600	☒
1200	☐	4800	☐
1800	☐	6000	☐
2400	☐	7200	☐

INSERT SIZE

SINGLE INLET DISC ☒
MULTIPLE INLET DISC ☐
CUSTOM ____



MANHOLE NUMBER	WQ-1
TOP ELEVATION (FT.)	368.00
INLET PIPE INVERT (FT.)	361.17
OUTLET PIPE INVERT (FT.)	361.09
PIPE TYPE	24" Ø HDPE
INLET PIPE INSIDE DIA. (ID)	24.00"
INLET PIPE OUTSIDE DIA. (OD)	27.80"
OUTLET PIPE INSIDE DIA. (ID)	24.00"
OUTLET PIPE OUTSIDE DIA. (OD)	27.80"

Approved: Department Of Public Works

Chief Bureau Of Highways — Date 3-7-00

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — Date 2/18/00

Chief, Development Engineering Division — Date 2/9/00

AS-BUILT CERTIFICATION

I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The " As-Built" Plans And Meets The Approved Plans And Specifications.

Signature — P.E. No. — Date:

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

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CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

30534swmdetail.dwg

OWNERS

CHARLES P. GERMAN
3062 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042
AND
GERMAN PROPERTY, L.L.C.
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

DEVELOPER

GERMAN PROPERTY, L.L.C.
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

STATE OF MARYLAND — DONNA YOSER FISCH — 22419 — PROFESSIONAL ENGINEER

Donna Y. Fisch 2/25/2000

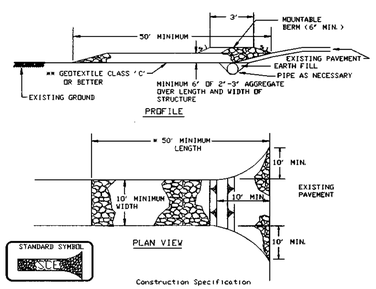
STORMWATER MANAGEMENT DETAILS

GERMAN PROPERTY

LOTS 7 THRU 26 AND PARCEL 'A'

(A RESUBDIVISION OF LOTS 5 AND 6, GERMAN PROPERTY, PLAT NO. 12074)
ZONED R-20
TAX MAP NO. 17 PARCEL NO. 132 GRID NO. 20
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEBRUARY 15, 2000
SHEET 8 OF 12

F99-44



Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).

2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.

3. Geotextile Fabric (Filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.

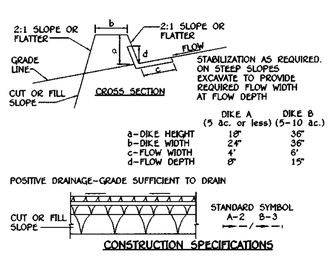
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

STABILIZED CONSTRUCTION ENTRANCE - 2

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 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

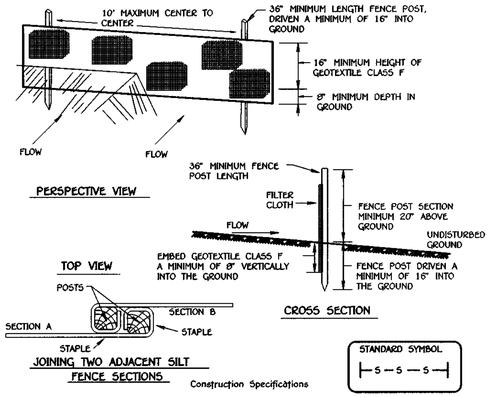
TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE, OR EXCELSIOR; SOD; 2" STONE
3	5.1-8.0%	SEED WITH JUTE, OR SOD; 2" STONE	LINED RIP-RAP 4"-8"
4	8.1-20%	LINED RIP-RAP 4"-8"	ENGINEERING DESIGN

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.

EARTH DIKE

NOT TO SCALE



JOINING TWO ADJACENT SILT FENCE SECTIONS

Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft / minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

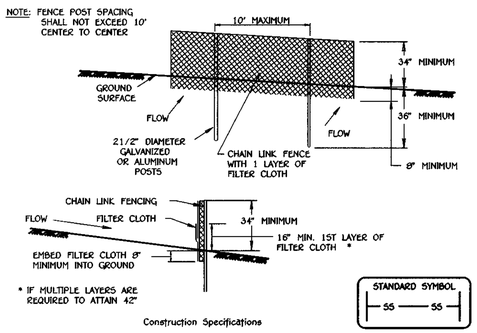
3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

DETAIL 22 - SILT FENCE

NOT TO SCALE

NOTE: FENCE POST SPACING SHALL NOT EXCEED 10' CENTER TO CENTER



Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.

2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.

3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.

4. Filter cloth shall be embedded a minimum of 8" into the ground.

5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.

6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height

7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft²/minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

DETAIL 33 - SUPER SILT FENCE

NOT TO SCALE

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND THAT ANY RESPONSIBLE PERSONNEL IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY".

SIGNATURE OF DEVELOPER — DATE: 2.25.00

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 CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Zacharia Y. Fisch — SIGNATURE OF ENGINEER — DATE: 2/25/2000

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS

USDA, NATURAL RESOURCES CONSERVATION SERVICE — DATE: 3/2/00

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

APPROVED:

HOWARD SOIL CONSERVATION DISTRICT — DATE: 3/2/00

APPROVED: DEPARTMENT OF PLANNING AND ZONING

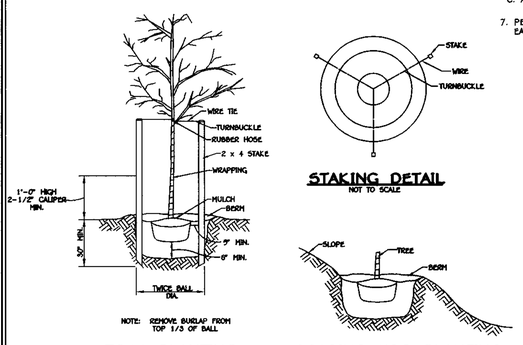
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE: 3/15/00

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE: 3/6/00

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS — DATE: 3-7-00



TREE PLANTING

NOT TO SCALE

STAKING DETAIL

NOT TO SCALE

GRADING FOR PLANTING ON SLOPES

NOT TO SCALE

SEDIMENT CONTROL NOTES

1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LISCENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
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 MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3) FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1 b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. GRADING NECESSARY TO INSTALL STORM DRAINS, SEDIMENT TRAP AND EARTH DIKES TO BE PERFORMED FIRST. REMAINDER OF THE GRADING TO BE PERFORMED AFTER STORM DRAINS, SEDIMENT TRAP AND EARTH DIKES ARE INSTALLED.
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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7) SITE ANALYSIS:

TOTAL AREA OF SITE	14.10	ACRES
AREA DISTURBED	9.10	ACRES
AREA TO BE ROOFED OR PAVED	1.20	ACRES
AREA TO BE VEGETATIVELY STABILIZED	6.90	ACRES
TOTAL CUT	10,000	CU.YDS.
TOTAL FILL	10,000	CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION	N/A	CU.YDS.

8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGHTS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

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(410) 461 - 2855

F.C.C.* 30534SEDCONDETAILS.DWG

20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

PURPOSE

Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary Soil Stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

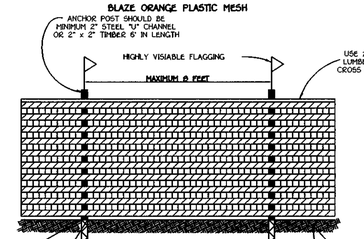
SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. Site Preparation
   i. Install erosion and sediment control structures (either temporary of permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
   ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
   iii. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.
B. Soil Amendments (Fertilizer and Lime Specifications)
   i. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
   ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.
   iii. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98-100% will pass through a #20 mesh sieve.
   iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
C. Seedbed Preparation
   i. Temporary Seeding
      a. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
      b. Apply fertilizer and lime as prescribed on the plans.
      c. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
   ii. Permanent Seeding
      a. Minimum soil conditions required for permanent vegetative establishment:
         1. Soil pH shall be between 6.0 and 7.0.
         2. Soluble salts shall be less than 500 parts per million (ppm).
         3. The soil shall contain less than 40% clay, but enough fine grained material (30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if bahiagrass or serecia lespedeza is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
         4. The soil shall contain 1.5% minimum organic matter by weight.
         5. Soil must contain sufficient pore space to permit adequate root penetration.
         6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
      b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
      c. Apply soil amendments as per soil test or as included on the plans.
      d. Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.
D. Seed Specifications
   i. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.
   Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
   ii. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75°-80° F. can weaken bacteria and make the inoculant less effective.
E. Methods of Seeding
   i. Hydroseeding. Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.
      a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: Nitrogen maximum of 100 lbs. per acre total of soluble nitrogen. 1000 lbs/ac Superphosphate; 200 lbs/ac K20 (potassium); 200 lbs/ac.
      b. Lime - use only ground agricultural limestone. (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
      c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
   ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
      a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 26D or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
      b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
   iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
      a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
      b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
F. Mulch Specifications (In order of preference)
   i. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
   ii. Wood Cellulose Fiber Mulch (WCFM)
      a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
      b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformity spread slurry.
      c. WCFM, including dye, shall contain no germination or growth inhibiting factors.
      d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber much will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
      e. WCFM material shall contain no elements or compounds at concentration levels that will be phyto-toxic.
      f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6± maximum and water holding capacity of 90% minimum.
   Note: Only sterile straw mulch should be used in areas where one species of grass is desired.
G. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.
   i. If grading is completed outside of the seeding season, mulch along shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
   ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution of depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
   iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.
H. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:
   i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
   ii. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
   iii. Application of liquid binders should be heavier at the edges where wind catches much, such as in valleys and crest of banks. The remainder of area should be appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petrosel, Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
   iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.
I. Incremental Stabilization - Cut Slopes
   i. All cute slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
   ii. Construction sequence (Refer to Figure 3 below):
      a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
      b. Perform Phase 1 excavation, dress, and stabilize.
      c. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as necessary.
      d. Perform final phase excavation, dress and stabilize. Overseed previously seeded areas as needed.

Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions int he operation of completing the operation out of the seeding season will necessitate the application of temporary stabilization.

J. Incremental Stabilization of Embankments - Fill Slopes
   i. Embankments shall be constructed in lifts as prescribed on the plans.
   ii. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15', or when the grading operation ceases as prescribed in the plans.
   iii. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device.
   iv. Construction sequence (Refer to Figure 4 (below):
      a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slope silt fence on low side of fill as shown in Figure 5, unless other methods shown on the plans address this area.
      b. Place Phase 1 embankment, dress and stabilize.
      c. Place Phase 2 embankment, dress and stabilize.
      d. Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.

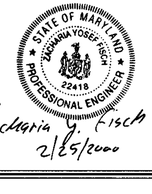
Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.



NOTES:
1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL

NOT TO SCALE



Zacharia Y. Fisch
2/25/2000

SEDIMENT CONTROL NOTES AND DETAILS

GERMAN PROPERTY

LOTS 7 THRU 26 & PARCEL 'A'

(A RESUBDIVISION OF LOTS 5 AND 6, GERMAN PROPERTY, PLAT NO. 12074)

ZONED R-20

TAX MAP NO. 17 PARCEL NO. 132 GRID NO. 20

SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DATE: FEBRUARY 15, 2000

SHEET 9 OF 12

OWNERS

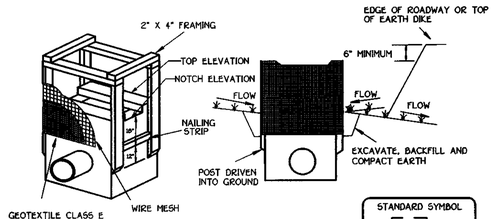
CHARLES P. GERMAN
3062 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042
AND
GERMAN PROPERTY, L.L.C.
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

DEVELOPER

GERMAN PROPERTY, L.L.C.
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

F99-44

DETAIL 23A - STANDARD INLET PROTECTION



MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

1. Excavate completely around the inlet to a depth of 18" below the notch elevation.

2. Drive the 2" x 4" construction grade lumber posts 1' into the ground at each corner of the inlet. Place nail strips between the posts on the ends of the inlet. Assemble the top portion of the 2" x 4" frame using the overlap joint shown on Detail 23A. The top of the frame (weir) must be 6" below adjacent roadways where flooding and safety issues may arise.

3. Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.

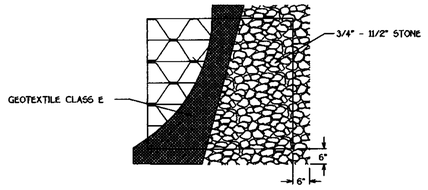
4. Stretch the Geotextile Class E tightly over the wire mesh with the geotixtile extending from the top of the frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.

5. Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides.

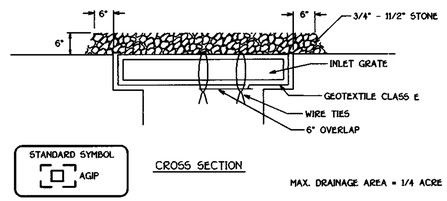
6. If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.

7. The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.

DETAIL 23B - AT GRADE INLET PROTECTION



PLAN/CUT AWAY VIEW



CROSS SECTION

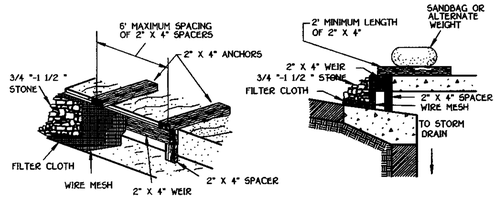
MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.

2. Place 3/4" to 1 1/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

DETAIL 23C - CURB INLET PROTECTION (COG OR COS INLETS)



MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

1. Attach a continuous piece of wire mesh (30" minimum 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 continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.

3. Securely nail the 2" X 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).

4. Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.

5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.

6. Form the 1/2 " x 1/2 " wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4 " x 1 1/2 " stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.

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 the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

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 Condition And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

Zachania Y. Fisch — 2/25/2000
Signature Of Engineer — Date

DEVELOPER'S CERTIFICATE

"I/We Certify That All Development And Construction Will Be Done According To This Plan Of Development And Plan For Erosion And Sediment Control And That All Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Attendance At A Department Of Natural Resources Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Also Authorize Periodic On-Site Inspection By The Howard Soil Conservation District Or Their Authorized Agents, As Are Deemed Necessary."

2-25-00
Signature Of Developer — Date

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements

3/2/00
U.S.D.A. - Natural Resources Conservation Service — Date

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.

3/2/00
District Howard Soil Conservation Dist. — Date

Approved: Department Of Planning And Zoning

3/13/00
Chief, Division Of Land Development — Date

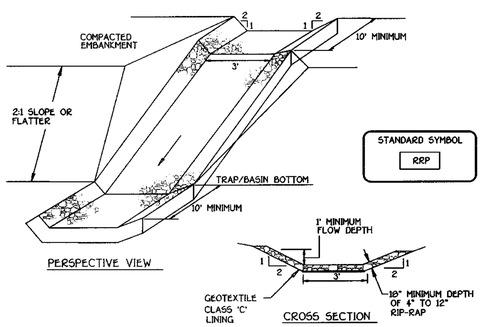
3/7/00
Chief, Development Engineering Division — Date

Approved: Howard County Department Of Public Works

3-7-00
Chief, Bureau Of Highways — Date

RIP-RAP INFLOW PROTECTION

NOT TO SCALE



Construction Specifications

1. Rip-rap lined inflow channels shall be 1' in depth, have a trapezoidal cross section with 2:1 or flatter side slopes and 3' (min.) bottom width. The channel shall be lined with 4" to 12" rip- rap to a depth of 18".

2. Filter cloth shall be installed under all rip-rap. Filter cloth shall be Geotextile Class C.

3. Entrance and exit sections shall be installed as shown on the detail section.

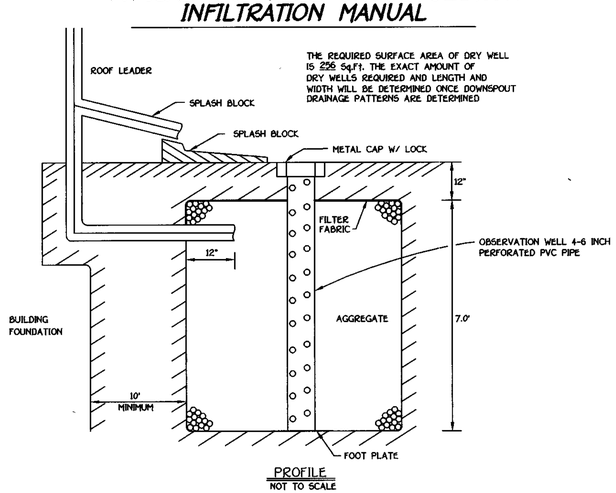
4. Rip-rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a stormwater management facility.

5. Gabion Inflow Protection may be used in lieu of Rip-rap Inflow Protection.

6. Rip-rap should blend into existing ground.

7. Rip-rap Inflow Protection shall be used where the slope is between 4:1 and 10:1, for slopes flatter than 10:1 use Earth Dike or Temporary Swale lining criteria.

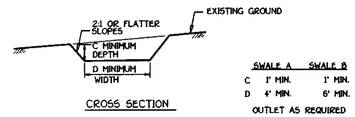
TYPICAL DRY WELL CROSS SECTION INFILTRATION MANUAL



PROFILE
NOT TO SCALE

TEMPORARY SWALE

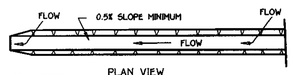
NOT TO SCALE



CROSS SECTION

	SWALE A	SWALE B
C	1' MIN.	1' MIN.
D	4' MIN.	6' MIN.

OUTLET AS REQUIRED



PLAN VIEW

DRAINAGE AREA = 10 ac (MAX)
SLOPE = 10% (MAX)

FLOW CHANNEL STABILIZATION
GRADE 0.5% MIN. 10% MAX.

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4"-7" stone or recycled concrete equivalent pressed into soil in a minimum 7" layer.

STANDARD SYMBOL
A - 2 / B - 3

Construction Specifications

1. All temporary swales shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.

2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.

3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed stabilized area at a non-erosive velocity.

4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the swale.

5. The swale shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.

6. Fill, if necessary, shall be compacted by earth moving equipment.

7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the swale.

8. Inspection and maintenance must be provided periodically and after each rain event.

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.
2. NOTIFY "MISS UTILITY" 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY HOWARD COUNTY OFFICE OF CONSTRUCTION /INSPECTION DIVISION AT (410) 313-1880, 24 HOURS BEFORE STARTING WORK.
3. INSTALL SEDIMENT CONTROL MEASURES; STONE CONSTRUCTION ENTRANCE, SUPER-SILT FENCE, EARTH DIKES, SILT FENCE AND TREE PROTECTION FENCE, STABILIZE DIKES WITH TEMP. SEEDING. FOR PH. I LIMITS (1 WEEK)
4. GRADE SITE TO SUBGRADE, STABILIZE AND INSTALL STORM DRAINS INCLUDING WQ-1, NOT INCLUDING I-1A AND I-1B. INSTALL INLET PROTECTION WHERE SHOWN ON PLAN. BLOCK THE OUTFALL OF MH-10. (3 WEEKS)
5. CONSTRUCT S.W.M. FACILITY AND PIPE FROM WQ-1 TO S-1. STABILIZE WITH PERMANENT SEEDING. (3 WEEKS)
6. INSTALL ROAD BASE COURSE. (1 WEEK)
7. REMOVE INLET PROTECTIONS AND UNBLOCK MH-10.
8. REMOVE CLEAN WATER DIVERSION DIKE ALONG LOTS 17 THRU 23. INSTALL SILT FENCE FOR PHASE II GRADING AND GRADE PHASE II. INSTALL STORM DRAINS FROM M-1 TO I-1A AND I-1B. (1 WEEK)
9. REMOVE SEDIMENT FROM ROADWAYS AND DRESS STONE CONSTRUCTION ENTRANCE AS REQUIRED AND STABILIZE ALL DISTURBED AREAS. (2 DAYS)
10. FLUSH STORM DRAIN SYSTEM TO REMOVE ANY TRAPPED SEDIMENT. (2 DAYS)
11. APPLY TACK COAT TO SUBBASE AND LAY SURFACE COURSE. (4 DAYS)
* 12. REMOVE ALL SEDIMENT CONTROL MEASURES UPON SEDIMENT CONTROL INSPECTORS APPROVAL. (2 DAYS)
13. ALL DISTURBED AREAS DUE TO REMOVAL OF SEDIMENT CONTROL MEASURES SHALL BE GRADED AND STABILIZED BY PERMANENT SEEDING. (3 DAYS)

* NOTE: THE SUPER-SILT FENCE ALONG LOTS 9 THRU 15 MAY REMAIN FOR FUTURE USE AT HOUSE CONSTRUCTION STAGE.

STATE OF MARYLAND * ZACHARIA YOSEF FISCH * 22418 * PROFESSIONAL ENGINEER

Zachania Y. Fisch
2/25/2000

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

F.C.C.#30534 DETAIL SHEET DWG.

OWNERS
CHARLES P. GERMAN
3062 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042
AND
GERMAN PROPERTY, L.L.C.
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

DEVELOPER
GERMAN PROPERTY, L.L.C.
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

DETAIL SHEET

GERMAN PROPERTY

LOTS 7 THRU 26 AND PARCEL 'A'

(A RESUBDIVISION OF LOTS 5 AND 6, GERMAN PROPERTY, PLAT NO. 12074)
ZONED R-20
TAX MAP NO. 17 PARCEL NO. 132 GRID NO. 20
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEBRUARY 15, 2000
SHEET 10 OF 12

F99-44

Planting Schedule

FCE 1 - 0.7 acres to be planted

Qty.	Species	Size	Spacing
2	Acer rubrum - Red maple	1" cal.	*
2	Quercus palustris - Pin oak	1" cal.	*
40	Acer rubrum - Red maple	2-3' cont.	**
46	Cornus amomum - Silky dogwood	18-24" cont.	**
35	Fraxinus pennsylvanica - Green ash	2-3' cont.	**
20	Nyssa sylvatica - Black gum	2-3' cont.	**
51	Quercus palustris - Pin oak	2-3' cont.	**
40	Viburnum dentatum - Arrowwood	18-24"cont.	**

FCE 2 - 0.2 acres to be planted

Qty.	Species	Size	Spacing
4	Liriodendron tulipifera - Poplar	1" cal.	*
10	Acer rubrum - Red maple	2-3' cont.	**
12	Cornus florida - Flowering dogwood	2-3' cont.	**
10	Liriodendron tulipifera - Poplar	2-3' cont.	**
12	Quercus alba - White oak	2-3' cont.	**
11	Quercus rubra - Red Oak	2-3' cont.	**
8	Viburnum prunifolium - Blackhaw	18-24"cont.	**

FCE 3 - 0.1 acres to be planted

Qty.	Species	Size	Spacing
5	Liriodendron tulipifera - Poplar	1" cal.	*
8	Cornus florida - Flowering dogwood	2-3' cont.	**
4	Liriodendron tulipifera - Poplar	2-3' cont.	**
3	Quercus alba - White oak	2-3' cont.	**
2	Quercus rubra - Red Oak	2-3' cont.	**
4	Viburnum prunifolium - Blackhaw	18-24"cont.	**

FCE 4 - 1.2 acres to be planted

Qty.	Species	Size	Spacing
4	Acer rubrum - Red maple	1" cal.	*
4	Liriodendron tulipifera - Poplar	1" cal.	*
41	Acer rubrum - Red maple	2-3' cont.	**
29	Cornus florida - Flowering dogwood	2-3' cont.	**
47	Liriodendron tulipifera - Poplar	2-3' cont.	**
50	Nyssa sylvatica - Black gum	2-3' cont.	**
72	Quercus alba - White oak	2-3' cont.	**
67	Quercus rubra - Red Oak	2-3' cont.	**
52	Viburnum dentatum - Arrowwood	18-24" cont.	**
34	Viburnum prunifolium - Blackhaw	18-24"cont.	**

Schedule Key:

* - Planting sites for 1" caliper stock is shown on FCE as Species selection for each individual planting site should be made randomly.

** - plants shall be spaced randomly eleven feet on center, not in a grid pattern

cal. - caliper; cont. - container grown

Planting/Soil Specifications

1. Planting of nursery stock shall take place between March 15th and April 30th.
2. A twelve (12) inch layer of topsoil shall be spread over all afforestation areas impacted by site grading to assure a suitable planting area. Disturbed areas shall be seeded and stabilized as per general construction plan for project. Planting areas not impacted by site grading shall have no additional topsoil installed.
3. All bareroot planting stock shall have their root systems dipped into an anti-desicant gel prior to planting.
4. Plants shall be installed so that the top of root mass is level with the top of existing grade. Backfill in the planting pits shall consist of 3 parts existing soil to 1 part pine fines or equivalent.
5. Fertilizer shall consist of Agriform 22-8-2, or equivalent, applied as per manufacturer's specifications.
6. A two (2) inch layer of hardwood mulch shall be placed over the root area of all plantings.
7. Plant material shall be transported to the site in a tarped or covered truck. Plants shall be kept moist prior to planting.
8. All non-organic debris associated with the planting operation shall be removed from the site by the contractor.

Sequence of Construction

1. Plants shall be installed as per Plant Schedule and the Planting/Soil Specifications for the project.
2. Upon completion of the planting, signage shall be installed as per the Forest Retention Area Protection Devices shown on Sheet 2 of the Forest Conservation Plan.
3. Plantings shall be maintained and guaranteed in accordance with the Maintenance and Guarantee requirements for project.

Maintenance of Plantings

1. Maintenance of plantings shall last for a period of 24 months.
2. All plant material shall be watered twice a month during the 1st growing season. Watering may be more or less frequent depending on weather conditions. During second growing season, once a month during May-September, if needed.
3. Invasive exotics and noxious weeds will be removed from reforestation areas. Old field successional species will be retained.
4. Plants will be examined a minimum two times during the growing season for serious plant pests and diseases. Serious problems will be treated with the appropriate agent.
5. Dead branches will be pruned from plantings.

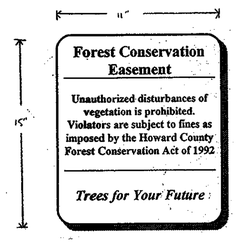
Guarantee Requirements

1. A 75 percent survival rate of reforestation plantings will be required at the end of the 24 month maintenance period. All plant material below the 75 percent threshold will be replaced at the beginning of the next growing season. After one growing season, plant material shall be maintained at 90% survival threshold.
2. The contractor will not be liable for plant loss due to theft or vandalism.

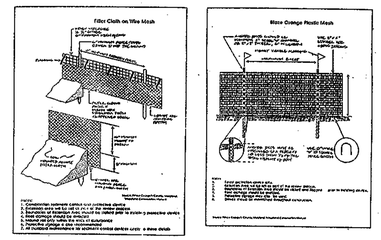
Surety for Reforestation

1. The developer shall post a surety (bond, letter of credit) to ensure that reforestation plantings are completed. Upon acceptance of the plantings by the County, the bond shall be released.

Permanent Protective Signage

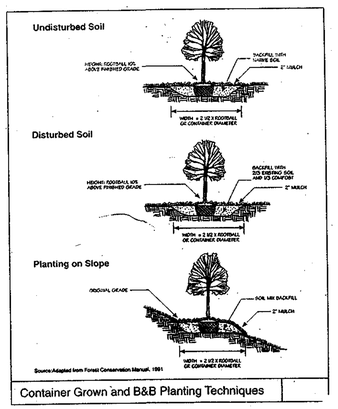


Temporary Protective Fencing



FCP NOTES

1. **Any Forest Conservation Easement (FCE) area shown hereon is subject to protective covenants which may be found in the Land Records of Howard County which restrict the disturbance and use of these areas.**
2. **Forested areas occurring outside of the FCE shall not be considered part of the FCE and shall not be subject to protective land covenants.**
3. **Limits of disturbance shall be restricted to areas outside the limit of temporary fencing or the FCE boundary, whichever is greater.**
4. **There shall be no clearing, grading, construction or disturbance of vegetation in the Forest Conservation Easement, except as permitted by Howard County DPZ.**
5. **No stockpiles, parking areas, equipment cleaning areas, etc. shall occur within areas designated as Forest Conservation Easements.**
6. **Temporary fencing shall be used to protect forest resources during construction. The fencing shall be placed along all FCE boundaries which occur within 10 feet of the proposed limits of disturbance.**
7. **Permanent signage shall be placed 50-100' apart along the boundaries of all areas included in Forest Conservation Easements.**
8. **The project has a total reforestation obligation of 3.3 acres. Onsite reforestation of 2.2acres is proposed, the outstanding obligation shall be met through payment of the fee-in-lieu (1.1 acres).**



Container Grown and B&B Planting Techniques

FOREST DATA	Acres
Gross Area:	11.6
Net Tract Area (NTA):	10.8
Existing NTA Forest:	2.4
Afforestation Threshold:	1.6
Reforestation Threshold:	2.2
Forest to be Cleared:	1.8
Forest to be Retained:	0.6
Reforestation Required:	3.3
On site Reforestation Proposed:	2.2
Outstanding Reforestation Obligation:	1.1
Fee-in-lieu Cost:	$44,374.80

Approved: Department Of Public Works

Chief Bureau Of Highways — Date 2-7-00

Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — Date 3/13/00

Chief, Development Engineering Division — Date 3/9/00

STATE OF MARYLAND · VICTORIA JOSEPH FISCH · 22416 · PROFESSIONAL ENGINEER

Victoria J. Fisch 2/25/2000

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS
P.O. Box 5006 Glen Arm, MD 21057 (410) 592-6752

MD DNR Qualified Professional
USACOE Wetland Delineator
Certification # WDCP93MD0610044B2
John F. Canales

OWNERS
CHARLES P. GERMAN
3062 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042
AND
GERMAN PROPERTY, L.L.C.
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

DEVELOPER
GERMAN PROPERTY, L.L.C.
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

FOREST CONSERVATION NOTES AND DETAILS

GERMAN PROPERTY

LOTS 7 THRU 26 AND PARCEL 'A'

(A RESUBDIVISION OF LOTS 5 AND 6, GERMAN PROPERTY, PLAT NO. 12074)
ZONED R-20
TAX MAP NO. 17 PARCEL NO. 132 GRID NO. 20
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEB 15, 2000
SHEET 11 OF 12

F99-44

FOREST CONSERVATION OBLIGATION ON - SITE

F.C.E. NO.	F.C.E. AREA	AREA OF FLOODPLAIN	NET FOREST AREA WITHIN FOREST EASEMENT EXCLUDING FLOODPLAIN	PLANTING OUTSIDE OF FLOODPLAIN	RETENTION OUTSIDE OF FLOODPLAIN	PLANTING IN FLOODPLAIN (CREDITED)	RETENTION IN FLOODPLAIN (NON-CREDITED)
F.C.E. NO. 1	0.910 Ac.±	0.140 Ac.±	0.770 Ac.±	(AFFORESTATION) 0.568 Ac.±	(RETENTION) 0.202 Ac.±	(AFFORESTATION) 0.140 Ac.±	0.000 Ac.±
F.C.E. NO. 2	0.459 Ac.±	0.000 Ac.±	0.459 Ac.±	(AFFORESTATION) 0.223 Ac.±	(RETENTION) 0.236 Ac.±	(AFFORESTATION) 0.000 Ac.±	0.000 Ac.±
F.C.E. NO. 3	0.128 Ac.±	0.000 Ac.±	0.128 Ac.±	(AFFORESTATION) 0.128 Ac.±	0.000 Ac.±	(AFFORESTATION) 0.000 Ac.±	0.000 Ac.±
F.C.E. NO. 4	1.579 Ac.±	0.590 Ac.±	0.989 Ac.±	(AFFORESTATION) 0.831 Ac.±	(RETENTION) 0.158 Ac.±	(AFFORESTATION) 0.364 Ac.±	0.226 Ac.±
TOTALS	3.076 Ac.±	0.730 Ac.±	2.346 Ac.±	(AFFORESTATION) 1.750 Ac.±	(RETENTION) 0.596 Ac.±	(AFFORESTATION) 0.504 Ac.±	0.226 Ac.±

FOREST CONSERVATION OBLIGATION

A. Total Forestation Required = 3.346 Ac.±
B. Total Planting Provided = 1.750 Ac.± + 0.504 Ac.± = 2.254 Ac.±
C. Total Fee-in-Lieu Obligation = (3.346 Ac.± - 2.254 Ac.±) = 1.092 Ac.±
D. Total Fee-in-Lieu Amount = $14,374.80
(1.1 Ac.± x 43,560 Sq.Ft/Ac. x $0.30)

LEGEND
▲ DENOTES FOREST CONSERVATION SIGNAGE
TP DENOTES TREE PROTECTION FENCE

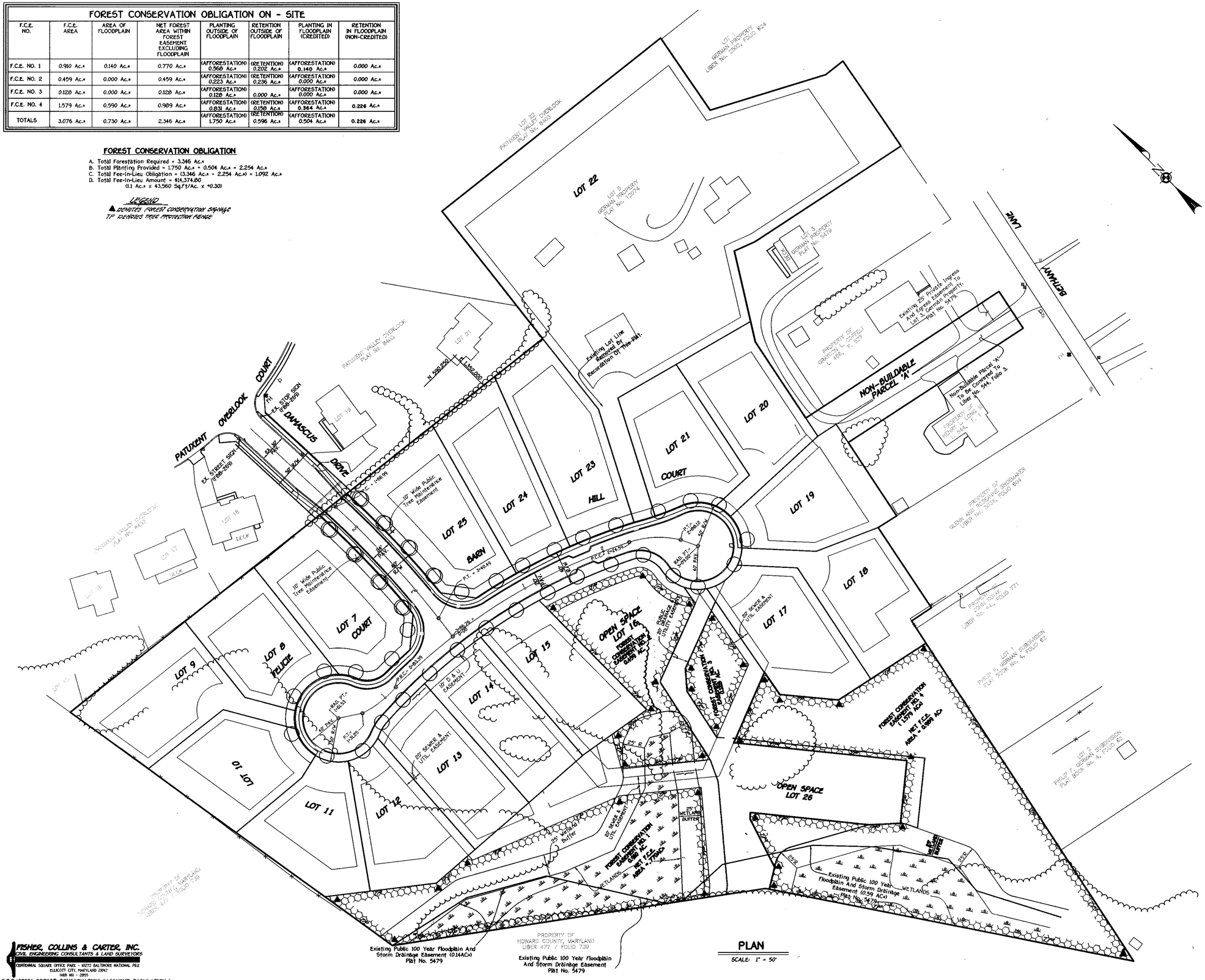
Approved: Department Of Planning And Zoning

Chief, Division Of Land Development — Date 3/13/00

Chief, Development Engineering Division — Date 3/9/00

Approved: Howard County Department Of Public Works

Chief, Bureau Of Highways — Date 3-7-00



PLAN
SCALE: 1" = 50'

STATE OF MARYLAND
ZACHARIA YOSEF FISICH
22418
PROFESSIONAL ENGINEER

Zacharia Y. Fisich
2/25/2000

OWNERS
CHARLES P. GERMAN
3062 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042
AND
GERMAN PROPERTY, L.L.C.
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

DEVELOPER
GERMAN PROPERTY, L.L.C.
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

FOREST CONSERVATION EASEMENT TABULATION

GERMAN PROPERTY

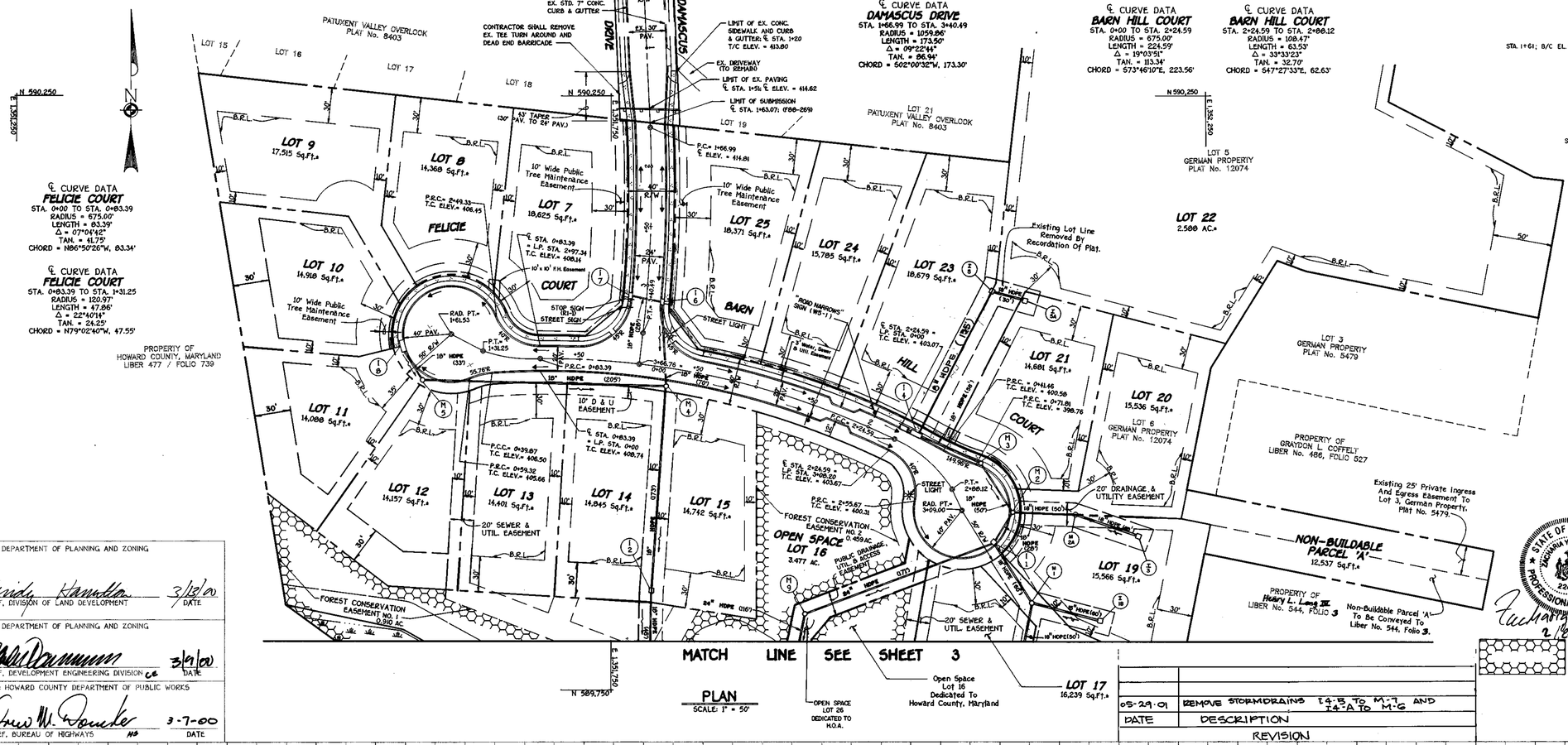
LOTS 7 THRU 26 AND PARCEL 'A'

(A RESUBDIVISION OF LOTS 5 AND 6, GERMAN PROPERTY, PLAT NO. 12074)
ZONED R-20
TAX MAP NO. 17 PARCEL NO. 132 GRID NO. 20
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEBRUARY 11, 2000
SHEET 12 OF 12

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

F.C.C.-30534 FOREST CONSERVATION EASEMENT TABULATION.dwg

F99-44



PLAN
SCALE: 1" = 50'

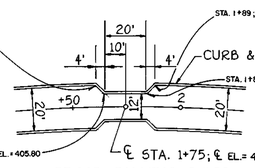
℄ CURVE DATA
FELICIE COURT
STA. 0+00 TO STA. 0+83.39
RADIUS = 675.00'
LENGTH = 83.39'
Δ = 07°04'42"
TAN. = 41.75'
CHORD = N86°50'26"W, 83.34'

℄ CURVE DATA
FELICIE COURT
STA. 0+83.39 TO STA. 1+31.25
RADIUS = 120.97'
LENGTH = 47.86'
Δ = 22°40'16"
TAN. = 24.25'
CHORD = N79°02'40"W, 47.55'

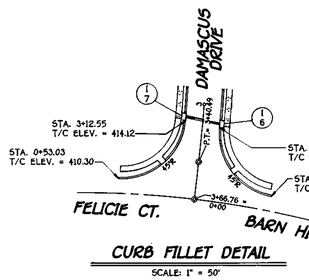
℄ CURVE DATA
DAMASCUS DRIVE
STA. 1+66.99 TO STA. 3+40.49
RADIUS = 1059.86'
LENGTH = 173.50'
Δ = 09°22'44"
TAN. = 86.94'
CHORD = S02°00'32"W, 173.30'

℄ CURVE DATA
BARN HILL COURT
STA. 0+00 TO STA. 2+24.59
RADIUS = 675.00'
LENGTH = 224.59'
Δ = 19°03'51"
TAN. = 113.34'
CHORD = S73°46'10"E, 223.56'

℄ CURVE DATA
BARN HILL COURT
STA. 2+24.59 TO STA. 2+88.12
RADIUS = 108.47'
LENGTH = 63.53'
Δ = 33°33'23"
TAN. = 32.70'
CHORD = S47°27'33"E, 62.63'



SPEED CALMING DEVICE
NO SCALE



CURB FILLET DETAIL
SCALE: 1" = 50'

APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 3/13/00

APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 3/9/00

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS — DATE 3-7-00

05-29-01	REMOVE STORMDRAINS I-4-B TO M-7 AND I-4-A TO M-6
DATE	DESCRIPTION

REVISION

DENOTES FOREST CONSERVATION EASEMENT

STATE OF MARYLAND — THOMAS JOSEPH FISCHER — 22418 — PROFESSIONAL ENGINEER
2/25/2000

GERMAN PROPERTY
LOTS 7 THRU 26 AND PARCEL 'A'
(A RESUBDIVISION OF LOTS 5 AND 6, GERMAN PROPERTY, PLAT NO. 12074)
ZONED R-20
SECOND ELECTION DISTRICT — HOWARD COUNTY, MARYLAND

DAMASCUS DRIVE PLAN AND PROFILE
FELICIE COURT PLAN AND PROFILE
BARN HILL COURT PLAN

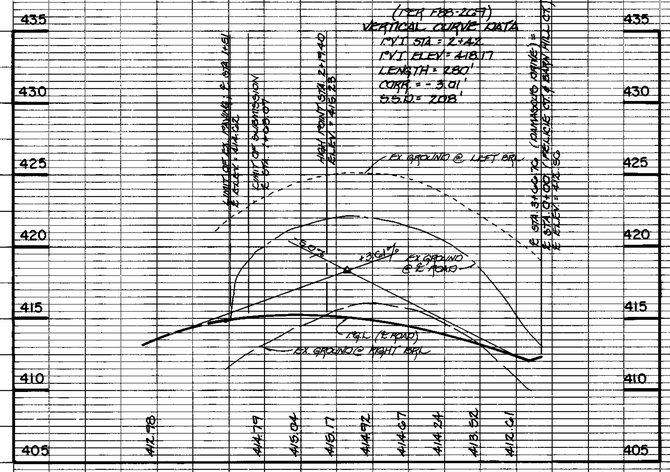
OWNER / DEVELOPER
GERMAN PROPERTY L.LC
10272 BALTIMORE NATIONL PIKE
ELLICOTT CITY, MARYLAND 21042

OWNER
CHARLES P. GERMAN
3062 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042

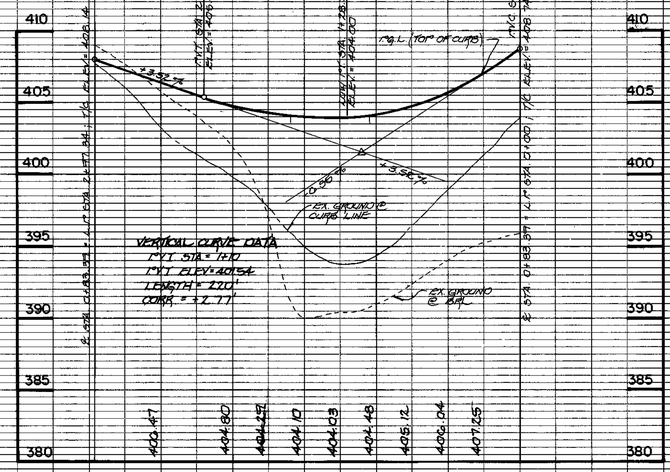
SCALE: AS SHOWN	DATE: FEB 15, 2000	DWG. NO. 2 OF 12
DES. J.V.P.	DRN. J.C.L.	CHK. Z.Y.F.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

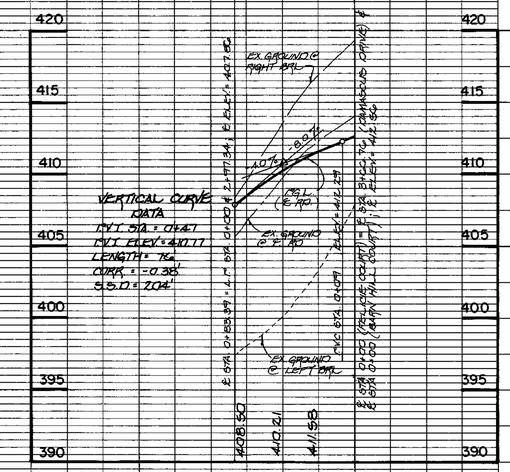
DAMASCUS DRIVE
DESIGN SPEED = 25 M.P.H.



FELICIE COURT
LINEAR PROFILE

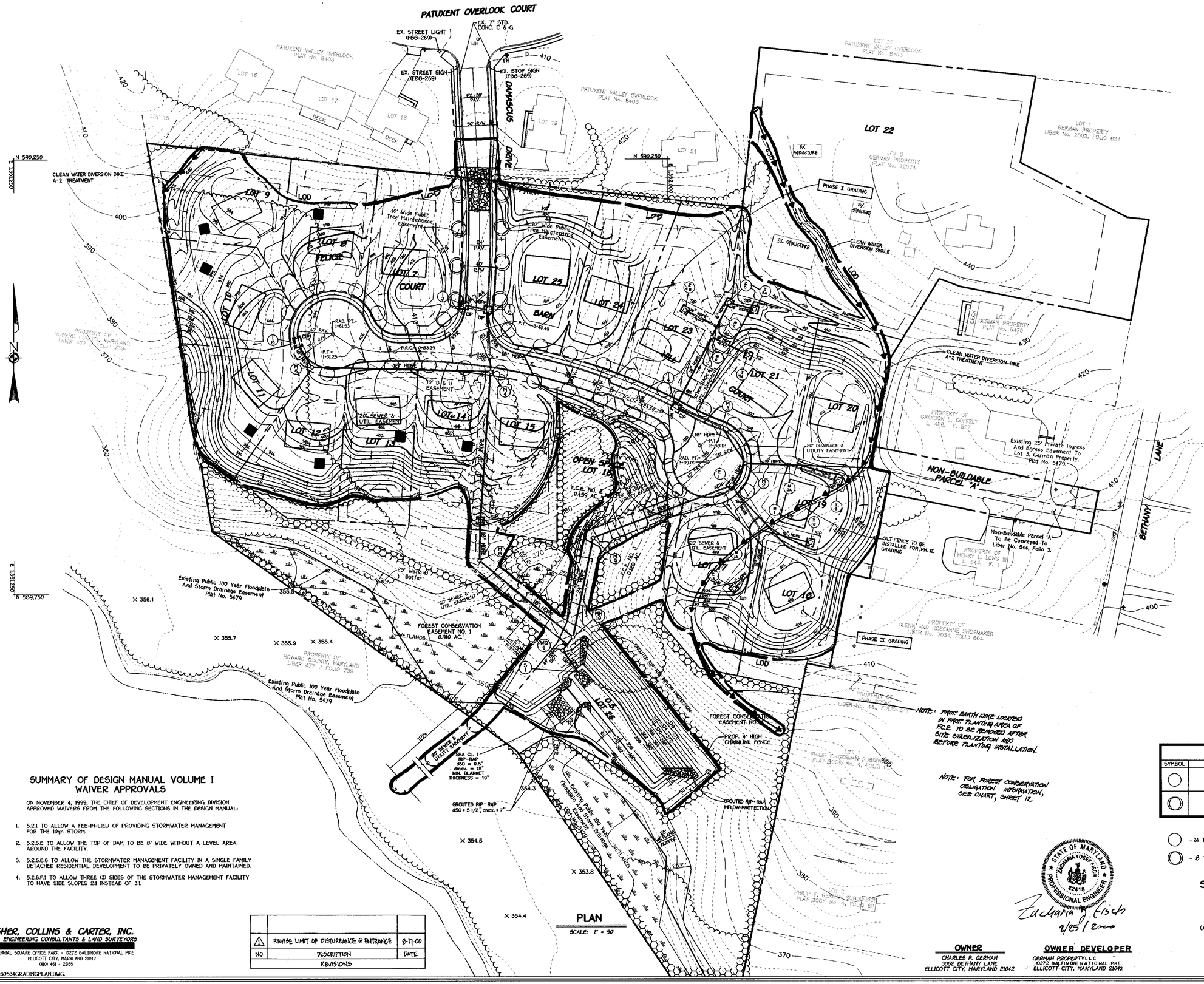


FELICIE COURT
DESIGN SPEED = 25 M.P.H.



PROFILES
SCALES: HOR. 1" = 50'
VER. 1" = 5'

F99-44



NOTE: PROP. EARTH DIKE LOCATED IN PROP. PLANTING AREA OF F.C.E. TO BE REMOVED AFTER SITE STABILIZATION AND BEFORE PLANTING INSTALLATION.

NOTE: FOR FOREST CONSERVATION OBLIGATION INFORMATION, SEE CHART, SHEET 12

PLAN

SCALE: 1" = 50'

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 Condition And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

Zacharia Y. Fisch — 2/25/2000
Signature Of Engineer — Date

DEVELOPER'S CERTIFICATE

"I/We Certify That All Development And Construction Will Be Done According To This Plan Of Development And Plan For Erosion And Sediment Control And That All Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Attendance At A Department Of Natural Resources Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Also Authorize Periodic On-Site Inspection By The Howard Soil Conservation District Or Their Authorized Agents, As Are Deemed Necessary."

Earl M. Coll — 2.25.00
Signature Of Developer — Date

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.

Cheryl Simmons — 3/2/00
U.S.D.A. - Natural Resources Conservation Service — Date

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.

John R. Robertson — 3/2/00
District Howard Soil Conservation Dist. — Date

Approved: Department Of Planning And Zoning

Cindy Hamilton — 3/13/00
Chief, Division Of Land Development — Date

3/7/00
Chief, Development Engineering Division CE — Date

Approved: Howard County Department Of Public Works

3-7-00
Chief, Bureau Of Highways MJ — Date

AS-BUILT CERTIFICATION

I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The " As-Built" Plans And Meets The Approved Plans And Specifications.

Signature — P.E. No.

Date:

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

LEGEND

—SS—SS—SS—	SUPER-SILT FENCE
—S—S—S—	SILT FENCE
—X—X—X—	TREE PROTECTION FENCE
S.C.E.	STABILIZED CONSTRUCTION ENTRANCE
A-2 → A-2 →	EARTH DIKE
▬ ▬	LIMIT OF DISTURBANCE
■	PROP. DRY WELL SEE DETAIL, SHT. 10

STREET TREE SCHEDULE

SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
○	ACER RUBRUM 'OCTOBER GLORY' RED MAPLE	2 1/2-3" CAL.	40' APART ON PUBLIC R/W
◎	PLATANUS OCCIDENTALIS 'BLOODGOOD' LONDON PLANETREE	2 1/2-3" CAL.	40' APART ON PUBLIC R/W

NOTE: STREET TREE TYPE CAN BE SUBSTITUTED WITH EQUIVALENTS FROM AN APPROVED LIST IN THE HOWARD COUNTY LANDSCAPE MANUAL AND DESIGN MANUAL VOLUME III.

○ - 31 TREES

◎ - 8 TREES

SUMMARY OF DESIGN MANUAL VOLUME I WAIVER APPROVALS

ON NOVEMBER 4, 1999, THE CHIEF OF DEVELOPMENT ENGINEERING DIVISION APPROVED WAIVERS FROM THE FOLLOWING SECTIONS IN THE DESIGN MANUAL:

1. 5.2.1 TO ALLOW A FEE-IN-LIEU OF PROVIDING STORMWATER MANAGEMENT FOR THE 10yr. STORM.
2. 5.2.6.E TO ALLOW THE TOP OF DAM TO BE 8' WIDE WITHOUT A LEVEL AREA AROUND THE FACILITY.
3. 5.2.6.E.6 TO ALLOW THE STORMWATER MANAGEMENT FACILITY IN A SINGLE FAMILY DETACHED RESIDENTIAL DEVELOPMENT TO BE PRIVATELY OWNED AND MAINTAINED.
4. 5.2.6.F.1 TO ALLOW THREE (3) SIDES OF THE STORMWATER MANAGEMENT FACILITY TO HAVE SIDE SLOPES 2:1 INSTEAD OF 3:1.

NO.	DESCRIPTION	DATE
⚠1	REVISE LIMIT OF DISTURBANCE @ ENTRANCE	8-17-00

REVISIONS

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

F.C.C.*30534GRADINGPLAN.DWG.

OWNER
CHARLES P. GERMAN
3062 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042

OWNER DEVELOPER
GERMAN PROPERTY L.L.C.
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

ZACHARIA YOSEF FISCH
22418
Zacharia Y. Fisch
2/25/2000

STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
GERMAN PROPERTY
LOTS 7 THRU 26 AND PARCEL 'A'
(A RESUBDIVISION OF LOTS 5 AND 6, GERMAN PROPERTY, PLAT NO. 12074)
ZONED R-20
TAX MAP NO. 17 PARCEL NO. 132 GRID NO. 20
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEB 15, 2000
SHEET 4 OF 12

F 99-44

NOTE:
INLET I-5 & I-5A HAVE BEEN DESIGNED TO COLLECT ALL RUN-OFF FROM DRAINAGE AREA "I" TO "J" INCLUDING ANY FUTURE DEVELOPMENT.

PATUXENT OVERLOOK COURT

Approved: Department Of Public Works
Chief Bureau Of Highways — Date 3-7-00

Approved: Department Of Planning And Zoning
Chief, Division Of Land Development — Date 3/8/00
Chief, Development Engineering Division — Date 3/9/00

DRAINAGE AREA DATA

STRUCTURE NO.	DRAINAGE AREA	AREA	'C'	ZONED	% IMP.
I-1	AE	1.08 AC.	0.38	R-20	40%
I-1A	B	0.35 AC.	0.30	R-20	30%
I-1B	C	0.17 AC.	0.30	R-20	30%
I-2	D	0.26 AC.	0.30	R-20	30%
I-3	E	1.04 AC.	0.30	R-20	30%
I-4	FH	1.77 AC.	0.40	R-20	40%
					20
					30
I-5	I	1.92 AC.	0.30	R-20	30%
I-5A	J	0.40 AC.	0.30	R-20	30%
I-6	K	0.08 AC.	0.54	R-20	51%
I-7	L	0.05 AC.	0.74	R-20	80%
I-8	M	0.47 AC.	0.55	R-20	61%

PLANT LIST

QTY.	KEY	NAME	SIZE
52	O	ACER RUBRUM 'OCTOBER GLORY' RED MAPLE	2 1/2-3" CAL.
23	✳	CEDRUS DEODORA/ DEODAR CEDAR	6'-8' HEIGHT

1. "THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD CODE AND THE LANDSCAPE MANUAL." FINANCIAL SURETY FOR THE 72 REQUIRED LANDSCAPE TREES HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $19,050.00
2. PLANT MATERIAL CAN BE SUBSTITUTED WITH EQUIVALENTS FROM AN APPROVED LIST IN THE HOWARD COUNTY LANDSCAPE MANUAL.

DEVELOPER'S / BUILDER'S CERTIFICATE

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANTING MATERIALS WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

NAME — DATE 2-25-00

SCHEDULE A PERIMETER LANDSCAPE EDGE

PERIMETER	CATEGORY (PROPERTIES/ ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NUMBER OF PLANTS REQUIRED: SHADE TREES	NUMBER OF PLANTS REQUIRED: EVERGREEN TREES	NUMBER OF PLANTS REQUIRED: SHRUBS	NUMBER OF PLANTS PROVIDED: SHADE TREES	NUMBER OF PLANTS PROVIDED: EVERGREEN TREES	NUMBER OF PLANTS PROVIDED: OTHER TREES (2:1 SUBSTITUTION)	NUMBER OF PLANTS PROVIDED: SHRUBS (10:1 SUBSTITUTION) (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)
P-1	ADJACENT TO PERIMETER	A	363'	NO	NO	6	-	-	6	-	-	-
P-2	ADJACENT TO PERIMETER	A	356'	YES (95')	NO	6	-	-	6	-	-	-
P-3	ADJACENT TO PERIMETER	A	856'	YES (856')	NO	-	-	-	-	-	-	-
P-4	ADJACENT TO PERIMETER	A	464'	YES (140')	NO	5	-	-	5	-	-	-
P-5	ADJACENT TO PERIMETER	A	465'	NO	NO	8	-	-	8	-	-	-
P-6	ADJACENT TO PERIMETER	A	200'	NO	NO	3	-	-	3	-	-	-
P-7	ADJACENT TO PERIMETER	A	103'	NO	NO	1	-	-	1	-	-	-
P-8	ADJACENT TO PERIMETER	A	295'	NO	NO	5	-	-	5	-	-	-
P-9	ADJACENT TO ROADWAY	B	156'	NO	NO	3	4	-	3	4	-	-
P-10	ADJACENT TO ROADWAY	B	156'	NO	NO	3	4	-	3	4	-	-

05.29.01	COMBINE DRAINAGE AREA F&H, ADD. REMOVE STORMDRAINS I-4 TO M-7 AND I-4-N TO M-6
DATE	DESCRIPTION

REVISION

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING

LINEAR FEET OF PERIMETER	D1: 218'	D2: 80'	D3: 226'	D4: 100'
NUMBER OF TREES REQUIRED: SHADE TREES	5	2	5	2
EVERGREEN TREES	6	2	6	3
CREDIT FOR EXISTING VEGETATION (NO, YES AND ID	YES 83'	NO	NO	NO
CREDIT FOR OTHER LANDSCAPING (NO, YES AND ID	NO	NO	NO	NO
NUMBER OF TREES PROVIDED: SHADE TREES	3	2	5	2
EVERGREEN TREES	4	2	6	3
OTHER TREES (2:1 SUBSTITUTION)	----	----	----	----

NOTE:
THIS PLAN IS FOR DRAINAGE AREA AND LANDSCAPING INFORMATION ONLY.

PLAN
SCALE: 1" = 50'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

F.C.C.*3053#GRADINGPLAN.DWG.

STATE OF MARYLAND — JOSEPH YOSEF FISCH — 22418 — PROFESSIONAL ENGINEER
2/25/2000

OWNER
CHARLES P. GERMAN
3062 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042

OWNER DEVELOPER
GERMAN PROPERTY LLC
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

DRAINAGE AREA MAP & LANDSCAPE PLAN
GERMAN PROPERTY
LOTS 7 THRU 26 AND PARCEL 'A'
(A RESUBDIVISION OF LOTS 5 AND 6, GERMAN PROPERTY, PLAT NO. 12074)
ZONED R-20
TAX MAP NO. 17 PARCEL NO. 132 GRID NO. 20
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEB 15, 2000
SHEET 5 OF 12

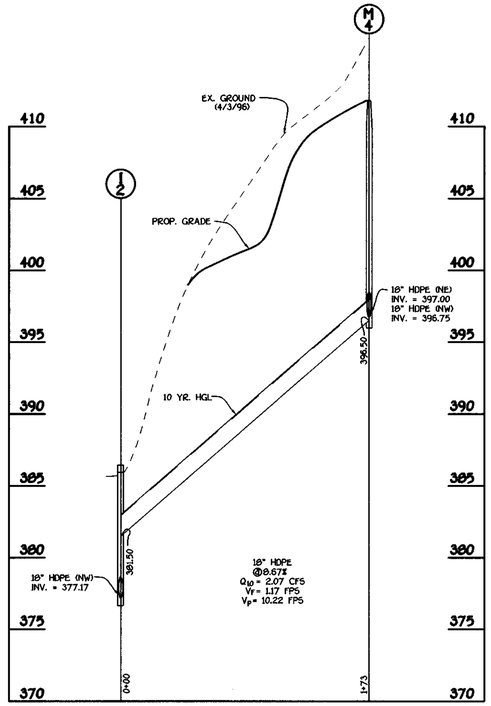
F99-44

STRUCTURE SCHEDULE

STRUCTURE NO.	TOP ELEVATION	INV.IN	INV.OUT	ROAD NAME	ROAD STA.	OFFSET	TYPE	REMARKS
I-1	** 395.83	390.97, 390.97	390.72	BARN HILL COURT	L.P. STA. 1+54.10	---	'S' INLET	S.D. 4.22 w/ S.D. 4.93
I-1A	* 397.55	------	394.50	----------	N 589,753.36 E 1,352,078.83	---	'D' INLET	S.D. 4.39
I-1B	* 398.24	------	395.00	----------	N 589,807.81 E 1,352,184.14	---	'D' INLET	S.D. 4.39
I-2	* 385.80	381.50	377.17	----------	N 589,833.377 E 1,351,784.301	---	'D' INLET	S.D. 4.39
I-3	* 398.42	------	395.00	----------	N 589,878.11 E 1,352,193.89	---	'D' INLET	S.D. 4.39
I-4	402.08	394.38	394.13	BARN HILL COURT	L.P. STA. 0+16.5	---	2'; A-10	S.D. 4.41
I-5	* 413.00	409.40	407.00	----------	N 590,085.94 E 1,352,070.85	---	'D' INLET	S.D. 4.39
I-5A	* 413.00	------	410.00	----------	N 590,076.57 E 1,352,100.73	---	'D' INLET	S.D. 4.39
I-6	414.14	398.25	398.00	DAMASCUS DRIVE	C.L. STA. 3+12	12'L	A-5	S.D. 4.40
I-7	414.22	------	399.00	DAMASCUS DRIVE	C.L. STA. 3+09	12'R	A-5	S.D. 4.40
I-8	404.00	------	399.50	FELICIE COURT	L.P. STA. 1+28.89	---	A-10	S.D. 4.41
M-1	401.00	392.72, 392.72	392.47	----------	N 589,822.08 E 1,352,105.83	---	STD. MANHOLE	G. 5.01
M-1A	400.50	394.22	393.97	----------	N 589,773.04 E 1,352,096.07	---	STD. MANHOLE	G. 5.01
M-2	396.80	391.50, 391.50	391.25	BARN HILL COURT	L.P. STA. 1+24	3' BEHIND CURB	STD. MANHOLE	G. 5.01
M-2A	400.23	393.20	392.95	----------	N 589,697.46 E 1,352,140.99	---	STD. MANHOLE	G. 5.01
M-3	398.70	393.50	393.25	BARN HILL COURT	L.P. STA. 0+75	3' BEHIND CURB	STD. MANHOLE	G. 5.01
M-4	412.00	397.00, 396.75	396.50	BARN HILL COURT	C.L. STA. 0+25.3	15.5'R	STD. MANHOLE	G. 5.01
M-5	404.70	399.05	398.80	FELICIE COURT	L.P. STA. 0+98	5' BEHIND CURB	STD. MANHOLE	G. 5.01

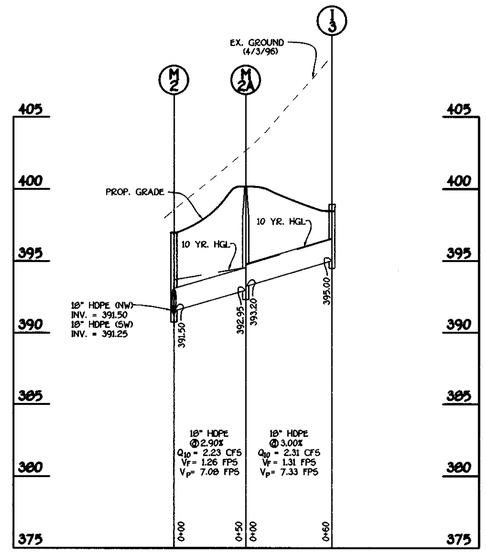
M-8	376.00	370.50	363.00	----------	N 589,785.229 E 1,351,783.122	---	STD. MANHOLE	G. 5.01
M-9	381.00	373.75	373.50	----------	N 589,814.024 E 1,351,914.125	---	STD. MANHOLE	G. 5.01
M-10	372.50	367.75, 361.62	361.37	----------	N 589,693.535 E 1,351,890.015	---	STD. MANHOLE	G. 5.01
WQ-1	368.50	361.17	361.09	----------	N 589,684.677 E 1,351,878.047	---	STORMCEPTOR	MODEL 3600
S-1	360.00	356.00	356.00	----------	N 589,662.149 E 1,351,893.836	---	CONC. END SECTION	S.D. 5.52

* DENOTES THROAT ELEVATION
** DENOTES TOP OF GRATE



PROFILE

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



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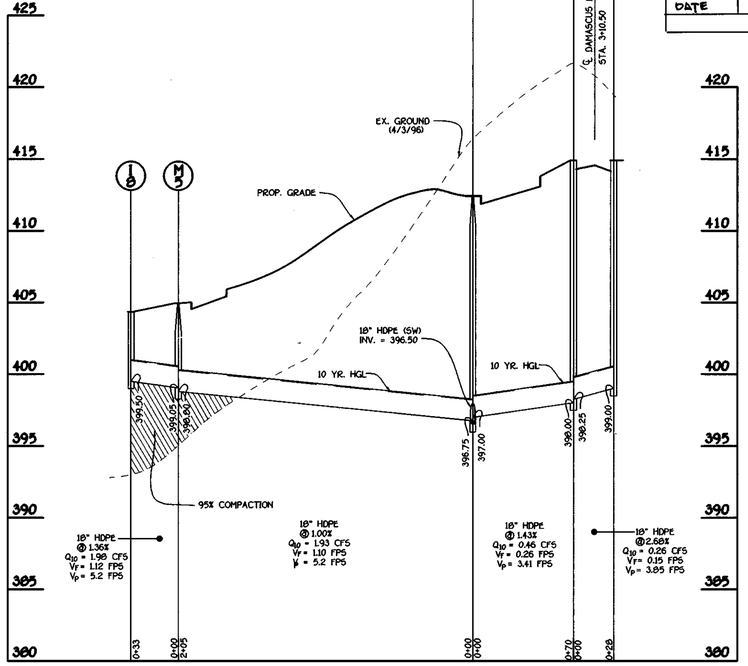
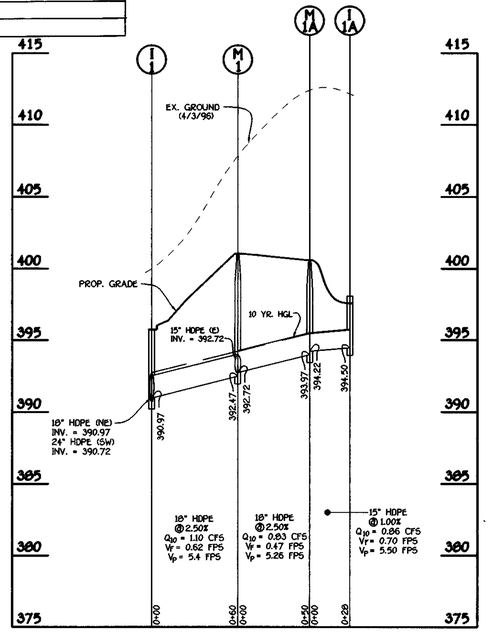


PROFILE

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

5-29-01	REMOVE I-4A, I4-B, M-6 AND M-7
DATE	DESCRIPTION
REVISION	



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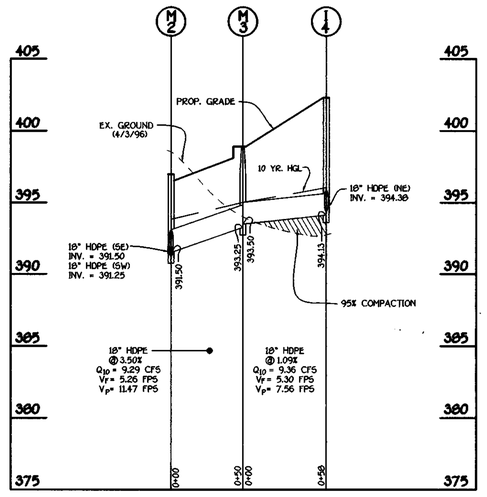

PROFILE

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

Approved: Department Of Public Works
Chief Bureau Of Highways — Date 3-7-00

Approved: Department Of Planning And Zoning
Chief, Division Of Land Development — Date 3/3/00
Chief, Development Engineering Division — Date 3/9/00

OWNERS
CHARLES P. GERMAN
3062 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042
AND
GERMAN PROPERTY, L.L.C.
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

DEVELOPER
GERMAN PROPERTY, L.L.C.
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

STATE OF MARYLAND — ZACHARIA JOSEF FISCH — 22418 — PROFESSIONAL ENGINEER
Zacharia J. Fisch 2/25/2000

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
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(410) 461 - 2855

F.C.C.-30534STORMDRAINSIDWG.

STORM DRAIN PROFILES

GERMAN PROPERTY

LOTS 7 THRU 26 AND PARCEL 'A'

(A RESUBDIVISION OF LOTS 5 AND 6, GERMAN PROPERTY, PLAT NO. 12074)
ZONED R-20
TAX MAP NO. 17 PARCEL NO. 132 GRID NO. 20
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEBRUARY 15, 2000
SHEET 6 OF 12

F99-44

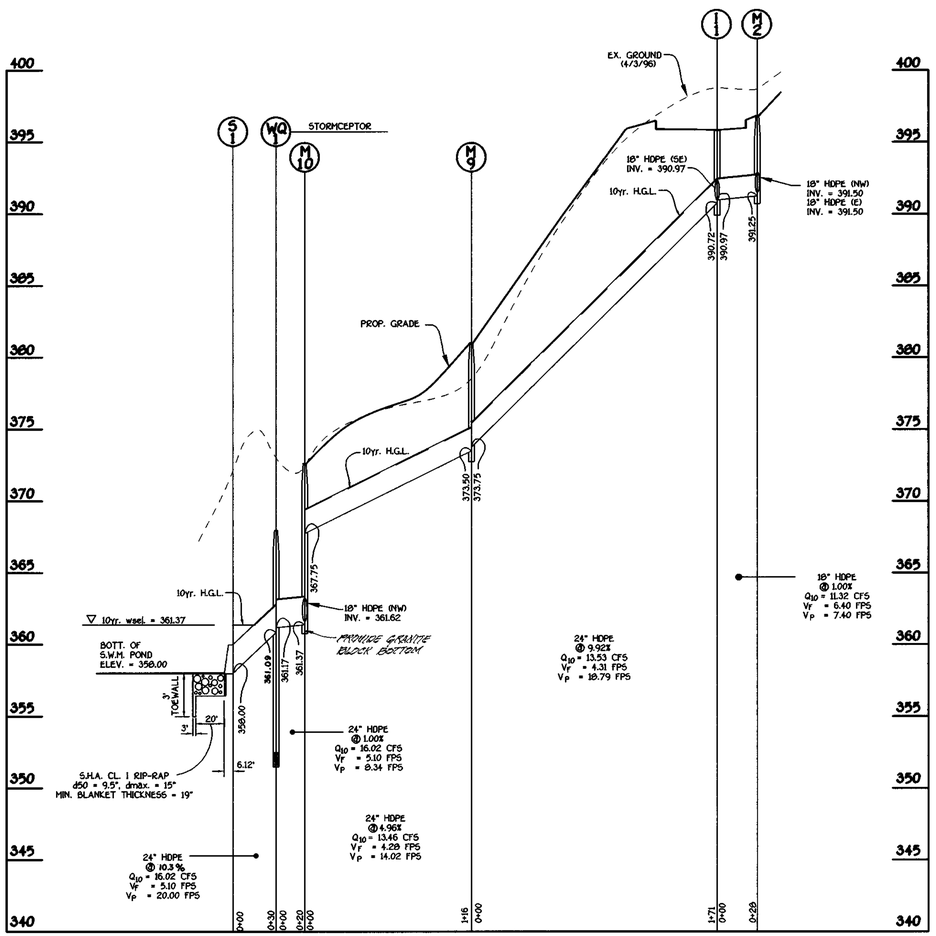
Approved Department Of Public Works

Chief Bureau Of Highways — Date 3-7-00

Approved Department Of Planning And Zoning

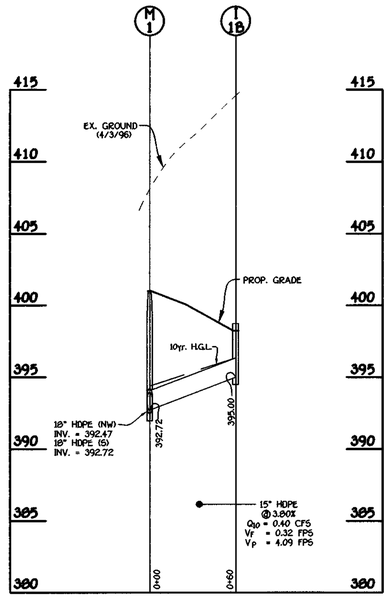
Chief, Division Of Land Development — Date 3/3/00

Chief, Development Engineering Division — Date 3/9/00



PROFILE

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



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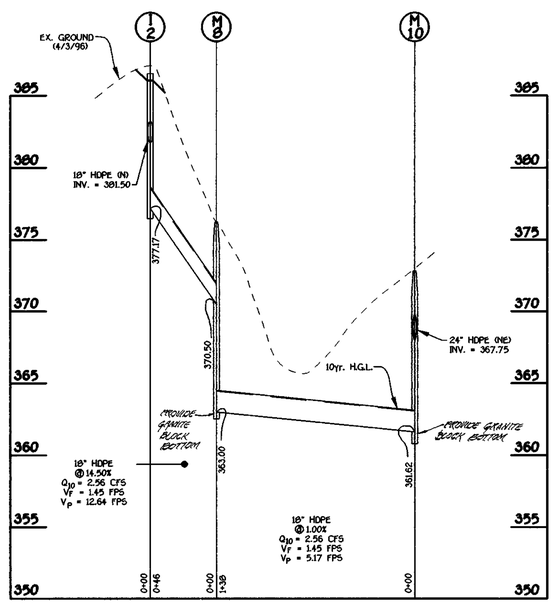

PROFILE

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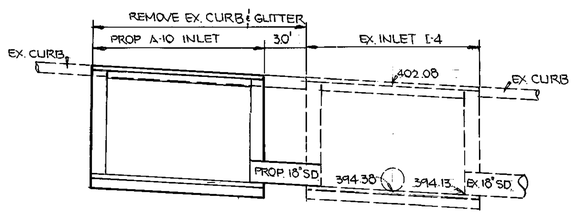
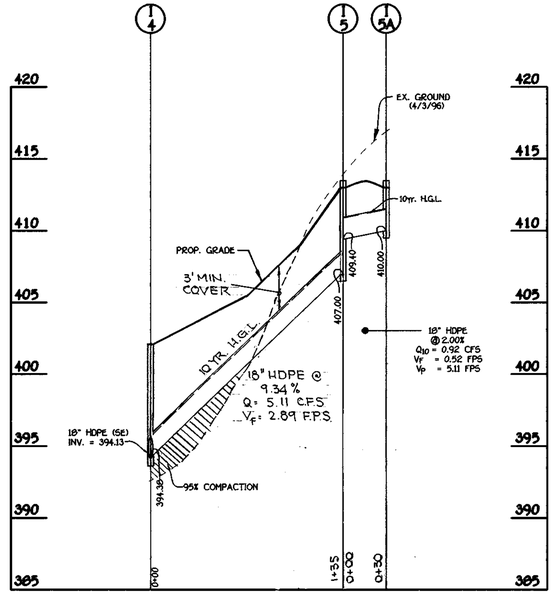
VERT. : 1" = 5'



INLET DETAIL @ I-4

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



PROFILE

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

00-01-01	ADD INLET DETAIL, ADJUST STORM DRAIN
	PROFILE I-5 TO I-4, REMOV PROFILES
	I-4-B TO M-7 AND I4-A TO M-6
DATE	DESCRIPTION
	REVISION

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

F.C.C.*30534STORMDRAINS2DWG.

OWNERS

CHARLES P. GERMAN
3062 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042
AND
GERMAN PROPERTY, L.L.C.
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

DEVELOPER

GERMAN PROPERTY, L.L.C.
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

STATE OF MARYLAND · DEMARIA JOSEPH FISCH · 22418 · PROFESSIONAL ENGINEER

2/25/2000

STORM DRAIN PROFILES

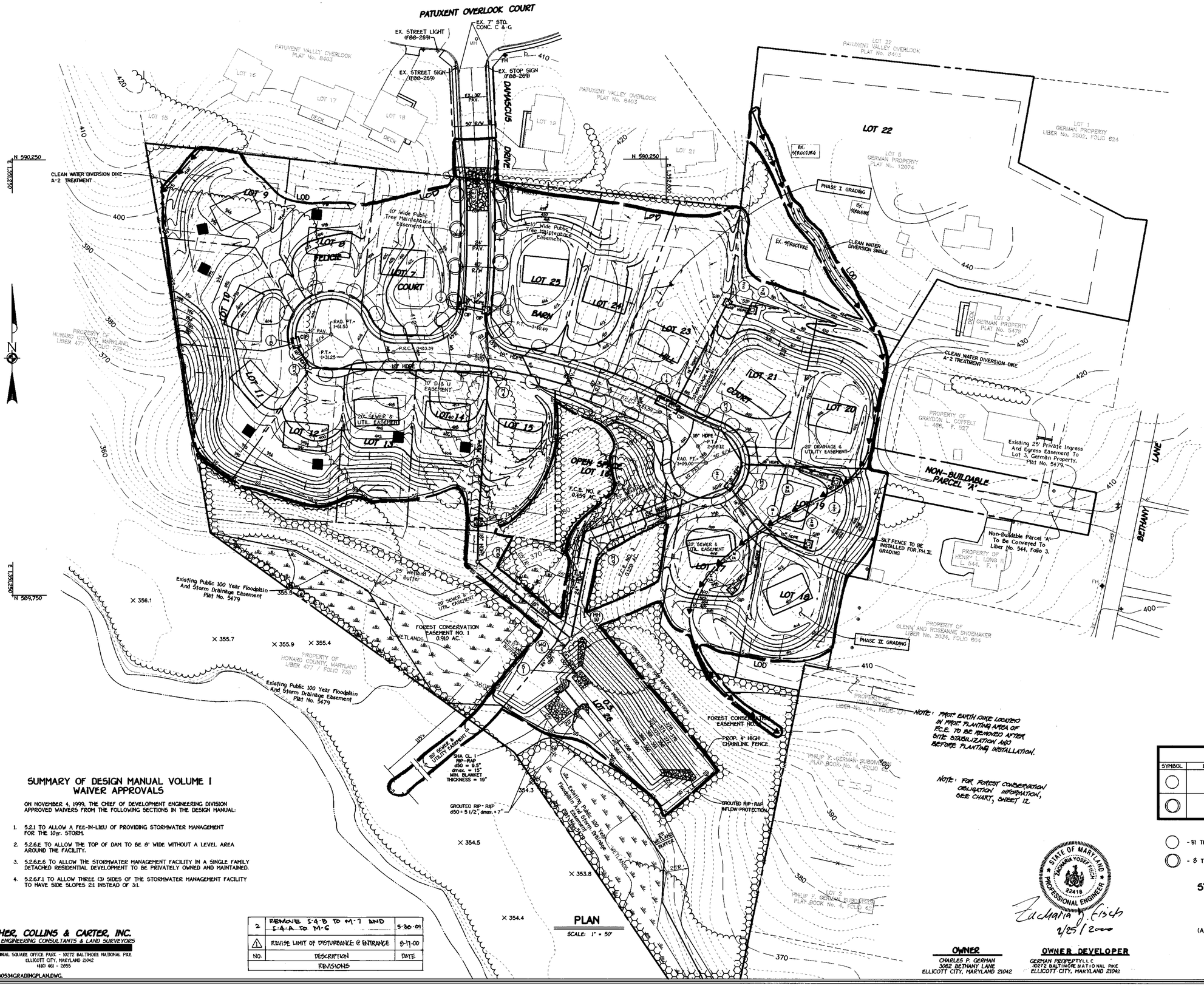
GERMAN PROPERTY

LOTS 7 THRU 26 AND PARCEL 'A'

(A RESUBDIVISION OF LOTS 5 AND 6, GERMAN PROPERTY, PLAT NO. 12074)

ZONED R-20
TAX MAP NO. 17 PARCEL NO. 132 GRID NO. 20
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEBRUARY 15, 2000
SHEET 7 OF 12

F 99-44



SUMMARY OF DESIGN MANUAL VOLUME I WAIVER APPROVALS

ON NOVEMBER 4, 1999, THE CHIEF OF DEVELOPMENT ENGINEERING DIVISION APPROVED WAIVERS FROM THE FOLLOWING SECTIONS IN THE DESIGN MANUAL:

1. 5.2.1 TO ALLOW A FEE-IN-LIEU OF PROVIDING STORMWATER MANAGEMENT FOR THE 10yr. STORM.
2. 5.2.6.E TO ALLOW THE TOP OF DAM TO BE 8' WIDE WITHOUT A LEVEL AREA AROUND THE FACILITY.
3. 5.2.6.E.6 TO ALLOW THE STORMWATER MANAGEMENT FACILITY IN A SINGLE FAMILY DETACHED RESIDENTIAL DEVELOPMENT TO BE PRIVATELY OWNED AND MAINTAINED.
4. 5.2.6.F.1 TO ALLOW THREE (3) SIDES OF THE STORMWATER MANAGEMENT FACILITY TO HAVE SIDE SLOPES 2:1 INSTEAD OF 3:1.

NO.	DESCRIPTION	DATE
2	REMOVE I-A-D TO M-1 AND I-A-A TO M-C	5-30-01
1	REVISE LIMIT OF DISTURBANCE @ ENTRANCE	8-17-00
NO.	DESCRIPTION	DATE
	REVISIONS	

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

F.C.C.-30534GRADINGPLAN.DWG.

PLAN
SCALE: 1" = 50'

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 Condition And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

Eucharia Y. Eisch — 2/25/2000
Signature Of Engineer — Date

DEVELOPER'S CERTIFICATE

"I/We Certify That All Development And Construction Will Be Done According To This Plan Of Development And Plan For Erosion And Sediment Control And That All Responsible Personnel Involved In The Construction Project Will Have A Certificate Of Attendance At A Department Of Natural Resources Approved Training Program For The Control Of Sediment And Erosion Before Beginning The Project. I Also Authorize Periodic On-Site Inspection By The Howard Soil Conservation District Or Their Authorized Agents, As Are Deemed Necessary."

Signature Of Developer — 2.25.00 Date

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements

Cheryl Simmons — 3/2/00
U.S.D.A. - Natural Resources Conservation Service — Date

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.

John R. Robertson — 3/2/00
District Howard Soil Conservation Dist. — Date

Approved: Department Of Planning And Zoning

Cindy Hamilton — 3/13/00
Chief, Division Of Land Development — Date

Chief, Development Engineering Division CE — 3/2/00 Date

Approved: Howard County Department Of Public Works

Chief, Bureau Of Highways MS — 3-7-00 Date

AS-BUILT CERTIFICATION

I Hereby Certify That The Facility Shown On This Plan Was Constructed As Shown On The " As-Built" Plans And Meets The Approved Plans And Specifications.

Signature — P.E. No.

Date:

Certify Means To State Or Declare A Professional Opinion Based Upon Onsite Inspections And Material Tests Which Are Conducted During Construction. The Onsite Inspections And Material Tests Are Those Inspections And Tests Deemed Sufficient And Appropriate Commonly Accepted Engineering Standards. Certify Does Not mean Or Imply A Guarantee By The Engineer Nor Does An Engineer's Certification Relieve Any Other Party From Meeting Requirements Imposed By Contract, Employment, Or Other Means, Including Meeting Commonly Accepted Industry Practices.

LEGEND

- SUPER-SILT FENCE
- SILT FENCE
- TREE PROTECTION FENCE
- S.C.E. — STABILIZED CONSTRUCTION ENTRANCE
- A-2 A-2 — EARTH DIKE
- LIMIT OF DISTURBANCE
- PROP DRY WELL SEE DETAIL, SHT. 10

STREET TREE SCHEDULE

SYMBOL	BOTANICAL AND COMMON NAME	SIZE	COMMENTS
○	ACER RUBRUM 'OCTOBER GLORY' RED MAPLE	2 1/2-3" CAL.	40' APART ON PUBLIC R/W
◎	PLATANUS OCCIDENTALIS 'BLOODGOOD' LONDON PLANETREE	2 1/2-3" CAL.	40' APART ON PUBLIC R/W

NOTE: STREET TREE TYPE CAN BE SUBSTITUTED WITH EQUIVALENTS FROM AN APPROVED LIST IN THE HOWARD COUNTY LANDSCAPE MANUAL AND DESIGN MANUAL VOLUME III.

○ - 31 TREES
◎ - 8 TREES

STATE OF MARYLAND — EUCHARIA YOSEFICH — 22418 — PROFESSIONAL ENGINEER

Eucharia Y. Eisch
2/25/2000

OWNER
CHARLES P. GERMAN
3062 BETHANY LANE
ELLICOTT CITY, MARYLAND 21042

OWNER DEVELOPER
GERMAN PROPERTY L.L.C.
10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042

STREET TREE, GRADING AND SEDIMENT CONTROL PLAN
GERMAN PROPERTY
LOTS 7 THRU 26 AND PARCEL 'A'

(A RESUBDIVISION OF LOTS 5 AND 6, GERMAN PROPERTY, PLAT NO. 12074)

ZONED R-20
TAX MAP NO. 17 PARCEL NO. 132 GRID NO. 20
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEB15, 2000
SHEET 4 OF 12

F 99-44