STRUCTURE SCHEDULE

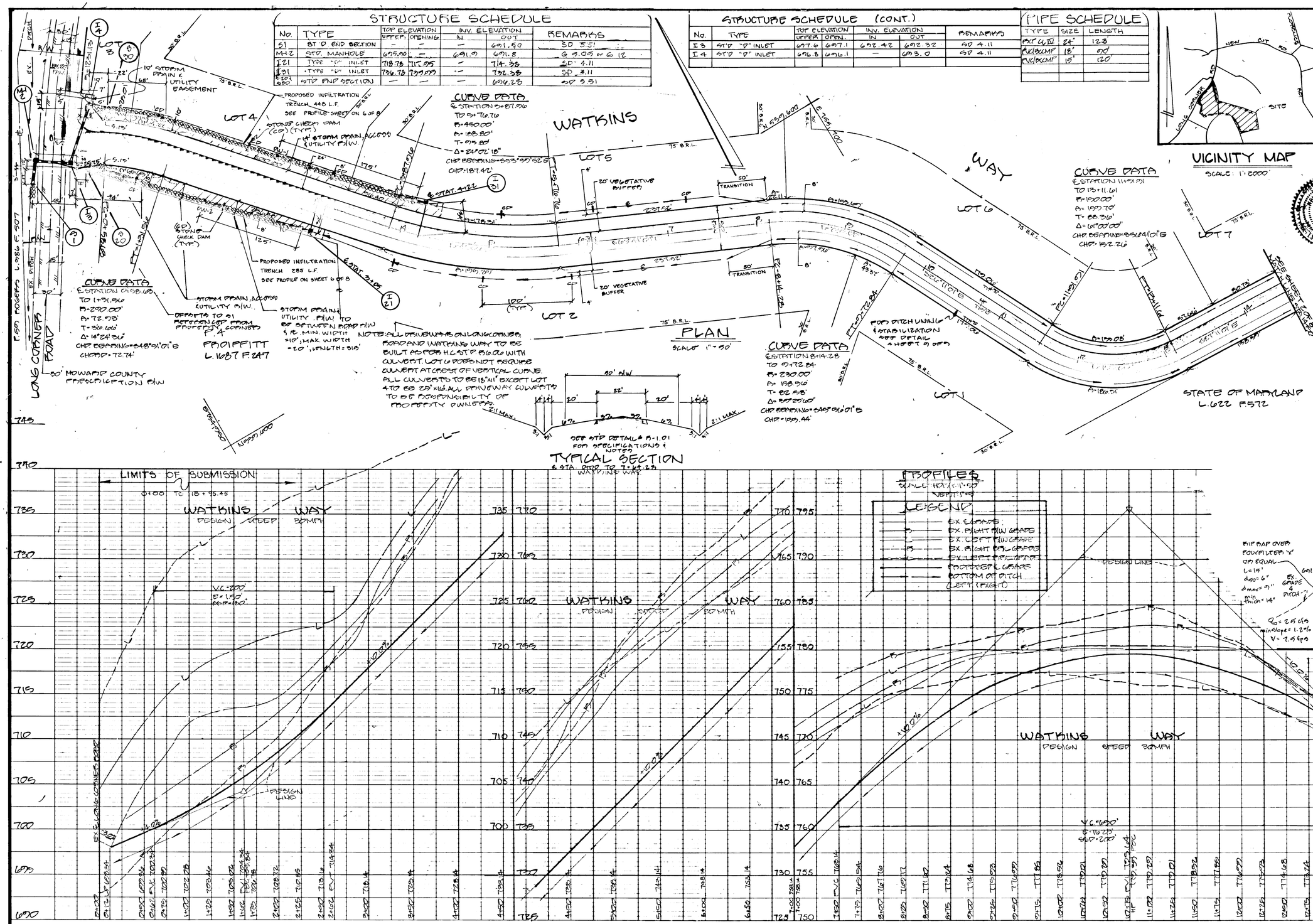
No.	TYPE	TOP ELEVATION UPPER	TOP ELEVATION OPENING	INV. ELEVATION IN	INV. ELEVATION OUT	REMARKS
S1	ST'D END SECTION	—	—	—	691.50	SD 5.51
MH2	STD. MANHOLE	695.90	—	691.0	691.8	G 5.09 or G 12
I21	TYPE "D" INLET	718.78	715.05	—	714.38	SD 4.11
I31	TYPE "D" INLET	736.78	733.03	—	732.38	SD 4.11
S201 & S202	STD END SECTION	—	—	—	606.28	SD 5.51

STRUCTURE SCHEDULE (CONT.)

No.	TYPE	TOP ELEVATION UPPER	TOP ELEVATION OPEN.	INV. ELEVATION IN	INV. ELEVATION OUT	REMARKS
I3	STD "D" INLET	697.6	694.1	692.42	692.32	SD 4.11
I4	STD "D" INLET	696.8	693.1	—	693.0	SD 4.11

PIPE SCHEDULE

TYPE	SIZE	LENGTH
RCP CL III	24"	123
RCP/BCMP	18"	90'
RCP/BCMP	15"	120'



CURVE DATA
ESTATION 0+58.03
TO 1+51.96
R=290.00'
Δ=72°03'
T=210.66'
Δ=14°24'36"
CHD BEARING=S48°51'01"E
CHD=72.74'

CURVE DATA
ESTATION 1+93.00
TO 5+76.76
R=450.00'
Δ=188.80'
T=97.80'
Δ=24°01'18"
CHD BEARING=S53°00'52"E
CHD=187.42'

CURVE DATA
ESTATION 5+87.96
TO 6+11.61
R=150.00'
Δ=169.70'
T=88.316'
Δ=61°00'00"
CHD BEARING=S34°41'01"E
CHD=152.26'

CURVE DATA
ESTATION 8+14.28
TO 9+72.84
R=230.00'
Δ=158.56'
T=82.58'
Δ=39°30'00"
CHD BEARING=S65°26'01"E
CHD=155.44'

Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: 1) seven (7) calendar days for all perimeter sediment control structures, dike, swales, ditches, perimeter slopes and all slopes greater than 3:1 2) fourteen (14) days for all other disturbed or graded areas on project site.
NOTE: The contractor or developer shall contact the construction inspection (survey division) 24 hours in advance of commencement of work at 792-7272.

DEVELOPER'S CERTIFICATE:
"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

Fred L. Lazar 7/18/90
Date

ENGINEER'S CERTIFICATE:
"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

Helu Schwartz #11449 06/21/90
Date

Approved: Howard County Department of Public Works
Chief, Land Development Division — Date 7/25/90
Chief, Bureau of Highway — Date 7/24/90
Chief, Bureau of Engineering — Date 11-2-90

Approved: Howard County Department of Planning and Zoning
Chief, Division of Comprehensive Planning and Land Development — Date 9/12/90

Owner / Developer:
PLEASANT HILLS LTD PARTNERSHIP
10324 B BALTIMORE NAT'L PIKE
CENTENNIAL SQUARE
ELLICOTT CITY MD 21043
(301) 461-6777

NO.	REVISIONS	DATE

DEVELOPMENT CONSULTANTS GROUP, INC.
17904 GEORGIA AVENUE # 102
OLNEY, MARYLAND 20832
301-924-4570

STREET GRADE, STORM DRAIN, AND PAVING PLAN
PLEASANT HILLS
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP 6 #12 PARCEL 5

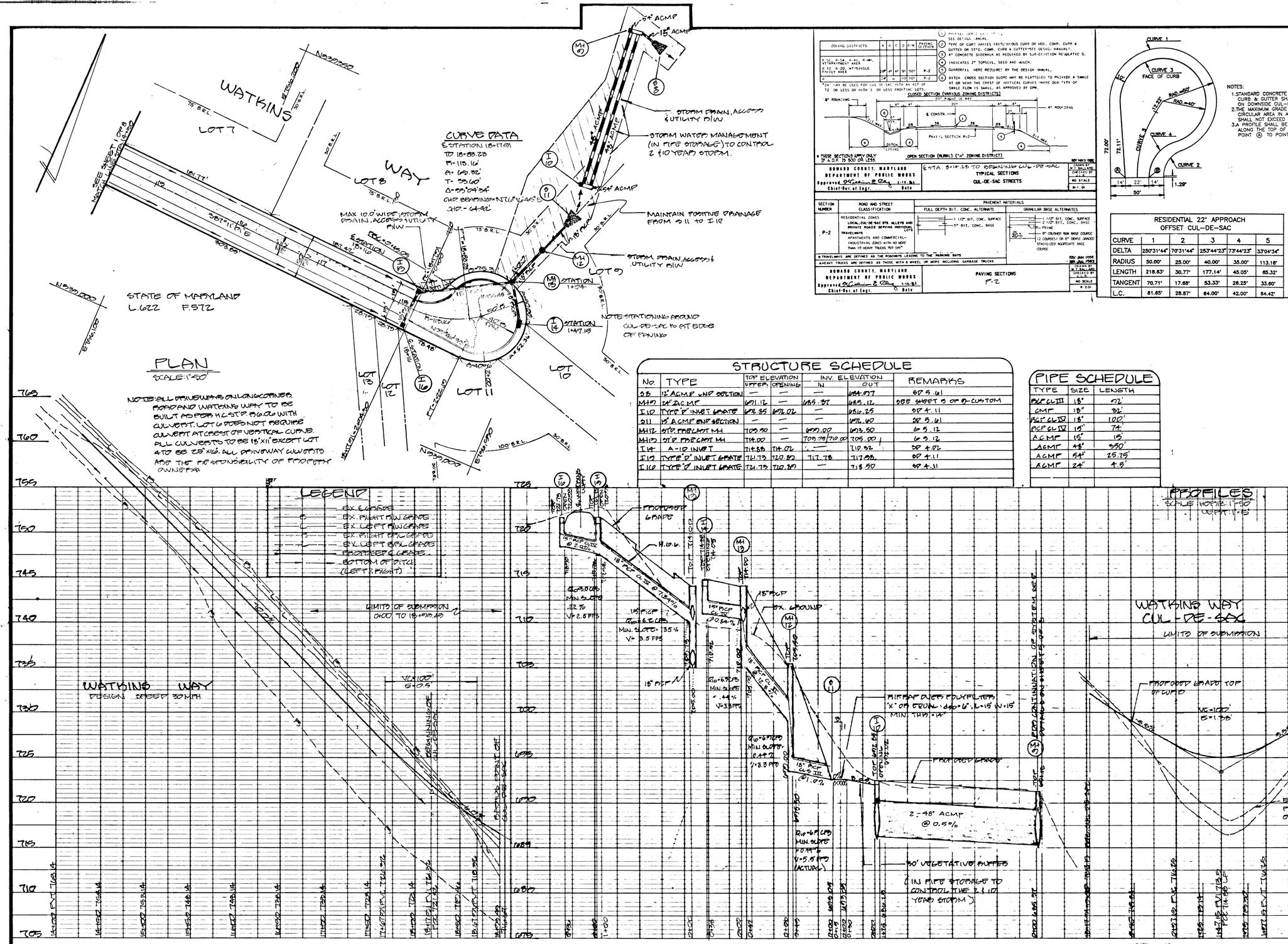
WP 89-165
F 90-65

DATE	JUNE 90
DRAWN	BCH
CHECKED	NS
SCALE	AS SHOWN
PROJECT NO.	154-05

Sheet 1 of 7

1602

F-90-65



ZONING DISTRICTS	A	B	C	D	R-M	PAVING SECTION
R-SC, R-SA, R-A, R-MH, NT-APARTMENT AREA						
R-12, R-20, NT-SINGLE FAMILY AREA	20'*	40'	40'	50'		P-2
	24'	—	—	100'	50'	P-2

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

1. PAVING: SEE DETAIL MANUAL.
2. TYPE OF CURB VARIES FROM CONTINUOUS CURB OR MOD. CONC. CURB & GUTTER OR STD. CONC. CURB & CUTTER-SEE DESIGN MANUAL.
3. 4" CONCRETE SIDEWALK AS REQUIRED BY SUBDIVISION REGULATIONS.
4. INDICATES 2" TOPSOIL, SEED AND MULCH.
5. GUARDRAIL HERE REQUIRED BY THE DESIGN MANUAL.
6. DITCH CROSS SECTION SLOPE MAY BE FLATTENED TO PROVIDE A SWALE AT OR NEAR THE CREST OF VERTICAL CURVES WHERE DUA "1ST OF SWALE FLOW IS SMALL AS APPROVED BY DPW.

CLOSED SECTION (VARIOUS ZONING DISTRICTS)

OPEN SECTION (RURAL) ("A" ZONING DISTRICT)

* THESE SECTIONS APPLY ONLY IF A.D.P. IS 500 OR LESS.

HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS
Approved: 9/6/90 Director of Public Works Date
Chief, Bur. of Engr. Date

6 DTA: 8-14-18 TO BEGINNING CUL-DE-SAC
TYPICAL SECTIONS
CUL-DE-SAC STREETS
REV MARCH 1988 — DRAWN BY: W.T. BALLARD; CHECKED BY: R-1, OR; NO SCALE

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	PAVEMENT MATERIALS: FULL DEPTH BIT. CONC. ALTERNATE	PAVEMENT MATERIALS: GRANULAR BASE ALTERNATES
P-2	RESIDENTIAL ZONES: LOCAL, CUL-DE-SAC RTS, ALLEYS AND PRIVATE ROADS SERVING INDIVIDUAL LOTS; TRAVELWAYS: APARTMENTS AND COMMERCIAL; INDUSTRIAL ZONES WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY*	1 1/2" BIT. CONC. SURFACE; 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE; 2 1/2" BIT. CONC. BASE; PRIME; 8" CRUSHER RUN BASE COURSE (2 COURSES) OR 6" DENSE GRADED STABILIZED AGGREGATE BASE COURSE

* TRAVELWAYS ARE DEFINED AS THE ROADWAYS LEADING TO THE "FRONTING" LOTS
** HEAVY TRUCKS ARE DEFINED AS THOSE WITH 6 WHEEL OR MORE INCLUDING GARBAGE TRUCKS

REV MARCH 1988 — DRAWN BY: W.T. BALLARD; CHECKED BY: R-1, OR; NO SCALE; F 2.01

HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS
Approved: 9/6/90 Director of Public Works Date
Chief, Bur. of Engr. Date

PAVING SECTIONS
P-2

NOTES:
1. STANDARD CONCRETE COMBINATION CURB & GUTTER SHALL BE USED ON DOWNSIDE CUL-DE-SAC.
2. THE MAXIMUM GRADE OF THE CIRCULAR AREA IN ANY DIRECTION SHALL NOT EXCEED 6%.
3. A PROFILE SHALL BE PROVIDED ALONG THE TOP OF CURB FROM POINT Ⓐ TO POINT Ⓑ.

RESIDENTIAL 22' APPROACH
OFFSET CUL-DE-SAC

CURVE	1	2	3	4	5
DELTA	250°31'44"	70°31'44"	253°44'23"	73°44'23"	33°04'34"
RADIUS	50.00'	25.00'	40.00'	35.00'	113.16'
LENGTH	218.63'	30.77'	177.14'	45.05'	65.32'
TANGENT	70.71'	17.68'	53.33'	28.25'	33.60'
L.C.	81.65'	28.87'	64.00'	42.00'	64.42'

STRUCTURE SCHEDULE

No.	TYPE	TOP ELEVATION: UPPER	TOP ELEVATION: OPENING	INV. ELEVATION: IN	INV. ELEVATION: OUT	REMARKS
S5	12" ACMP END SECTION	—	—	—	684.07	SEE S.C.D.
MH10	24" ACMP	691.12	—	685.37	685.12	SEE SHEET 5 OF 9 - CUSTOM
I10	TYPE 'D' INLET 6 GRATE	698.55	697.02	—	686.25	SEE A.11
S11	15" ACMP END SECTION	—	—	—	691.40	SEE S.C.D.
MH12	STD. FOOTCAST MH	705.50	—	699.00	698.50	SEE S.C.D.
MH13	STD. FOOTCAST MH	714.00	—	709.78 / 710.00	709.00	SEE S.C.D.
I14	A-10 INLET	714.58	714.02	—	710.52	SEE A.02
I15	TYPE 'D' INLET 6 GRATE	714.73	712.80	712.78	712.88	SEE A.11
I16	TYPE 'D' INLET 6 GRATE	714.73	712.80	—	712.90	SEE A.11

PIPE SCHEDULE

TYPE	SIZE	LENGTH
RCP CL III	18"	72'
CMP	18"	32'
RCP CL IV	18"	100'
RCP CL IV	15"	74'
ACMP	15"	15'
ACMP	48"	350'
ACMP	54"	25.75'
ACMP	24"	4.5'

Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: 1) seven (7) calendar days for all perimeter sediment control structures, dike, swales, ditches, perimeter slopes and all slopes greater than 3:1 2) fourteen (14) days for all other disturbed or graded areas on project site.
NOTE: The contractor or developer shall contact the construction inspection (survey division) 24 hours in advance of commencement of work at 792-7272.

DEVELOPER'S CERTIFICATE:
"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspections by the Howard Soil Conservation District."
Date

ENGINEER'S CERTIFICATE:
"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that is was prepared in accordance with the requirements of the Howard Soil Conservation District."
Nelu Schwartz #11449 — Date 9/19/90

Approved: Howard County Department of Public Works
Chief, Land Development Division — Date 9/25/90
Chief, Bureau of Highway — Date 9/24/90
Chief, Bureau of Engineering — Date 11.2.90

Approved: Howard County Department of Planning and Zoning
Chief, Division of Community Planning and Land Development — Date 9/26/90

Owner / Developer:	NO.	REVISIONS	DATE
PLEASANT HILLS LTD PARTNERSHIP 10224 B BALTIMORE NATL PIKE CENTENNIAL SQUARE ELLICOTT CITY MD 21043 (301) 461-6777			

DEVELOPMENT CONSULTANTS GROUP, INC.
17904 GEORGIA AVENUE # 102
OLNEY, MARYLAND 20832
301-924-4570

STREET GRADE, STORM DRAIN, AND PAVING PLAN
PLEASANT HILLS
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP 6 & 12 PARCEL 5

W.T. 87-26, F 89-65, F 90-65

DATE	JUNE 90
DRAWN	ACH
CHECKED	NS
SCALE	AS SHOWN

Sheet 2 of 9
PROJECT NO. 154-05

1600

F-90-65

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	PAVEMENT MATERIALS: FULL DEPTH BIT. CONC. ALTERNATE	PAVEMENT MATERIALS: GRANULAR BASE ALTERNATES
P-3	RESIDENTIAL ZONES: MINOR AND MAJOR COLLECTORS; COMMERCIAL-INDUSTRIAL ZONES: LOCAL AND CUL-DE-SAC STREETS, ALLEYS; TRAVELWAYS*: APARTMENTS AND COMMERCIAL-INDUSTRIAL ZONES WITH MORE THAN 10 HEAVY TRUCKS PER DAY°	1 1/2" BIT. CONC. SURFACE; 1 1/2" BIT. CONC. BASE; 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE; 4 1/2" BIT. CONC. BASE; PRIME; 6" CRUSHER RUN BASE COURSE OR 4 1/2" DENSE GRADED STABILIZED AGGREGATE BASE COURSE
P-7	STABILIZED SHOULDER FOR ALL ZONES AND ROAD CLASSIFICATIONS		DOUBLE BIT. SURFACE TREATMENT; 6" CRUSHER RUN BASE COURSE OR 4 1/2" DENSE GRADED STABILIZED AGGREGATE BASE COURSE

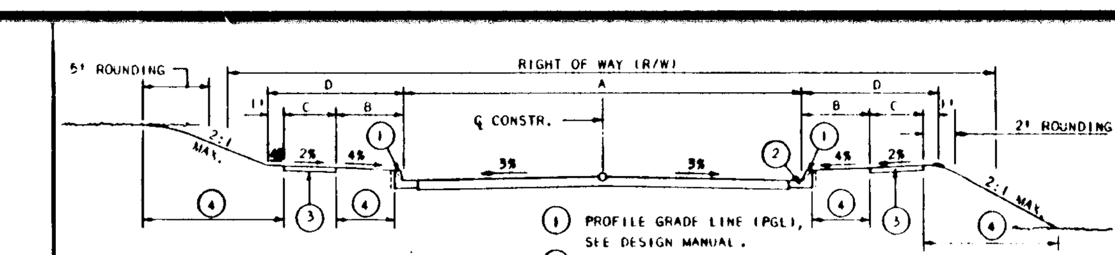
* TRAVELWAYS ARE DEFINED AS THE ROADWAYS LEADING TO THE PARKING BAYS
° HEAVY TRUCKS ARE DEFINED AS THOSE WITH 6 WHEEL OR MORE INCLUDING GARBAGE TRUCKS

REV. JAN 1989 / REV. JAN. 1982

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved [signature] 1-12-81
Chief-Bur. of Engr. Date

PAVING SECTIONS
LONG CORNER ROAD

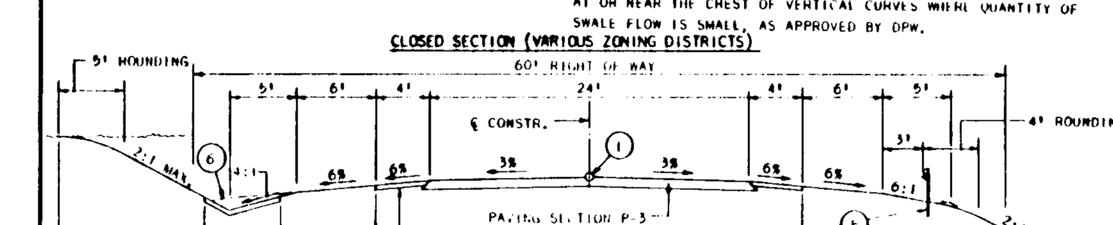
DRAWN BY W.T. BALLARD / CHECKED BY J.L.R. / NO SCALE / R-2.01



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

ZONING DISTRICTS	A	B	C	D	R/W	PAVING SECTION
COMMERCIAL & INDUSTRIAL	44'	5'	4'	8'	60'	P-4
R-SC, R-SA, R-A1, R-MH, NT-APARTMENT AREA	38'	6'	4'	11'	60'	P-3
R-12, R-20, NT-SINGLE FAMILY AREA	36'	7'	4'	12'	60'	P-3
R	26'	–		11'	60'	P-3

CLOSED SECTION (VARIOUS ZONING DISTRICTS)



NOTE: NORMAL CROWN SECTIONS ARE SHOWN. SEE DESIGN MANUAL FOR SUPERELEVATION REQUIREMENTS.

OPEN SECTION (RURAL) ('R' ZONING DISTRICT)

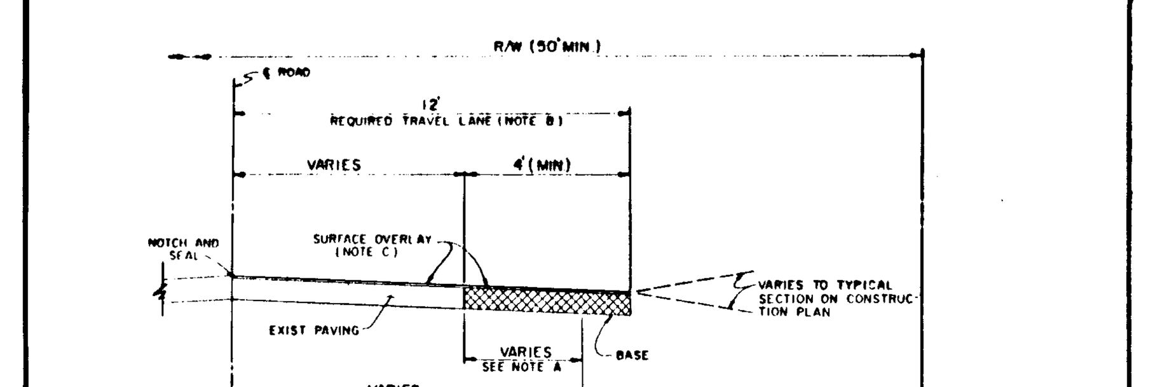
REV. JAN 1982

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved [signature] 1-12-81
Chief-Bur. of Engr. Date

TYPICAL SECTIONS
MINOR COLLECTOR STREETS

DRAWN BY W.T. BALLARD / CHECKED BY J.L.R. / NO SCALE / R-1.03

LONG CORNER ROAD



NOTE A - WHEN EXISTING TRAVEL LANE IS LESS THAN THE REQUIRED 12' LANE, CONTRACTOR SHALL REMOVE ENOUGH OF THE EXISTING ROAD BED TO PROVIDE A MINIMUM BASE WIDENING OF 4'

NOTE B - THE SURFACE OVERLAY SHALL BE CARRIED TO THE ℄ OF THE ROAD AND NOTCHED AND SEALED

NOTE C - SURFACE OVERLAY COURSE TO BE EQUAL TO SURFACE COURSE OF TYPICAL PAVING SECTION OF SUBDIVISION

NOTE D - ℄ OF ROAD TO BE MILLED AT DEPTH OF 1 1/2" x 1' WIDE USING A MILLING MACHINE

REV. JAN 1989

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS
Approved [signature]
Chief-Bur. of Engr. Date

WIDENING STRIPS ALONG EXISTING ROADWAYS
NO SCALE

DRAWN BY R.K.H. / CHK. BY W.M.H. / NO SCALE

LONG CORNER ROAD

Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: 1) seven (7) calendar days for all perimeter sediment control structures, dike, swales, ditches, perimeter slopes and all slopes greater than 3:1 2) fourteen (14) days for all other disturbed or graded areas on project site.

NOTE: The contractor or developer shall contact the construction inspection (survey division) 24 hours in advance of commencement of work at 792-7272.

DEVELOPER'S CERTIFICATE:

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

[signature] 4-18-90
Date

ENGINEER'S CERTIFICATE:

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that is was prepared in accordance with the requirements of the Howard Soil Conservation District.

[signature] 06/21/90
Nelu Schwartz #11449 Date

STATE OF MARYLAND — NELU SCHWARTZ — No. 11449 — REGISTERED PROFESSIONAL ENGINEER

Reviewed for HOWARD S.C.D. and meets technical requirements.

[signature] (CS) 11/7/90
U.S. Soil Conservation Service Date

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

[signature] 11/7/90
Howard S.C.D. Date

Approved: Howard County Department of Public Works

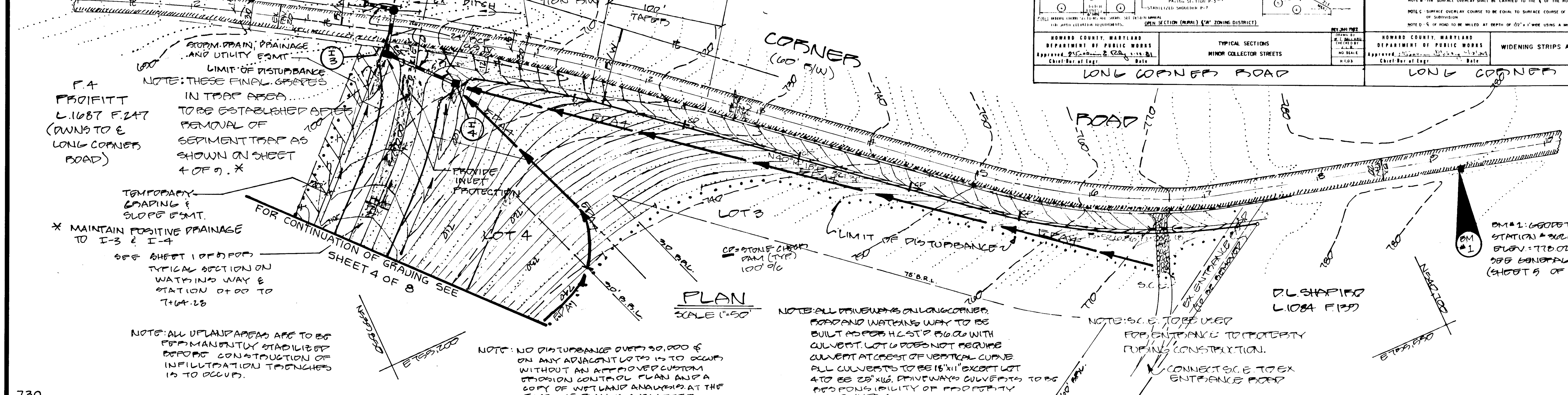
[signature] 7/23/90
Chief, Land Development Division Date

[signature] 7/24/90
Chief, Bureau of Highway Date

[signature] 11-2-90
Chief, Bureau of Engineering Date

Approved: Howard County Department of Planning and Zoning

[signature] 11/14/90
Chief, Division of Community Planning and Land Development Date



PLAN
SCALE 1"=50'

NOTE: ALL UPLAND AREAS ARE TO BE PERMANENTLY STABILIZED BEFORE CONSTRUCTION OF INFILTRATION TRENCHES IS TO OCCUR.

NOTE: NO DISTURBANCE OVER 30,000 SF ON ANY ADJACENT LOTS IS TO OCCUR WITHOUT AN APPROVED CUSTOM EROSION CONTROL PLAN AND A COPY OF WETLAND ANALYSIS AT THE TIME THE PLAN IS SUBMITTED.

NOTE: ALL DRIVEWAYS ON LONG CORNER ROAD AND WATKINS WAY TO BE BUILT AS PER H.C. STD. R6.06 WITH CULVERT. LOT 6 DOES NOT REQUIRE CULVERT AT CREST OF VERTICAL CURVE. ALL CULVERTS TO BE 18"x11" EXCEPT LOT 4 TO BE 25"x16". DRIVEWAYS CULVERTS TO BE RESPONSIBILITY OF PROPERTY OWNERS.

NOTE: S.C.E. TO BE USED FOR ENTRANCE TO PROPERTY DURING CONSTRUCTION.

CONNECT S.C.E. TO EX ENTRANCE ROAD

LEGEND
EX ℄ GRADE
BOTTOM OF DITCH

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

LOTS 1-13

Owner/Developer:
PLEASANT HILLS LTD. PARTNERSHIP
10324 B BALTIMORE NAT'L PIKE
CENTENNIAL SQUARE
ELLICOTT CITY MD 21043
(301) 461-6777

NO.	REVISIONS	DATE

DEVELOPMENT CONSULTANTS GROUP, INC.
17904 GEORGIA AVENUE # 102
OLNEY, MARYLAND 20832
301-924-4570

ROAD IMPROVEMENT PLAN AND SEDIMENT CONTROL PLAN
PLEASANT HILLS
4th ELECTION DISTRICT
HOWARD COUNTY MARYLAND
TAX MAP 6 & 12 PARCEL 5

S89-49
WP 89-96
F 89-65
F 90-65

DATE JUNE 90
DRAWN ACH
CHECKED NS
SCALE AS SHOWN

Sheet 3 of 9
PROJECT NO. 154-05

F-90-65

1609

131191

Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: 1) seven (7) calendar days for all perimeter sediment control structures, dike, swales, ditches, perimeter slopes and all slopes greater than 3:1 2) fourteen (14) days for all other disturbed or graded areas on project site.

NOTE: The contractor or developer shall contact the construction inspection (survey division) 24 hours in advance of commencement of work at 792-7272.

DEVELOPER'S CERTIFICATE:

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

Fred F. Karoly 6/11/90
Date

ENGINEER'S CERTIFICATE:

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that is was prepared in accordance with the requirements of the Howard Soil Conservation District.

Melu Schwartz #11449 06/18/90
Melu Schwartz #11449 Date

Reviewed for HOWARD S.C.D. and meets technical requirements.

James M. Helm 7/5/90
Soil Conservation Service Date

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

Fred F. Karoly 7/5/90
Fred Date

Approved: Howard County Department of Public Works

Chief, Land Development Division 7/23/90 Date

Granville W. Wellwood 7/24/90
Chief, Bureau of Highway Date

Chief, Bureau of Engineering 11-2-90 Date

Approved: Howard County Department of Planning and Zoning

Chief, Division of Community Planning and Land Development Date

LIMIT OF DISTURBANCE

CURVE DATA
STATION 5+87.96
TO 5+116.76
R=450.00'
A=158.80'
T=79.80'
Δ=20°12'10"
CHD BEARING=S85°52'05"E
CHD=158.00'

WATKINS LOT 5

CURVE DATA
STATION 0+58.68
TO 1+31.86
R=290.00'
A=72.78'
T=36.66'
Δ=14°24'30"
CHD BEARING=S48°51'01"E
CHD=72.74'

LONG CORNER RD.

HOWARD COUNTY JURISDICTION

SEE SHEET 10 OF 10 FOR TYPICAL SECTION ON WATKINS WAY & STATION 0+00 TO 7+64.28

STORM DRAIN, ACCESS & UTILITY R/W

TEMPORARY GRADING & SLOPE EASMT.

F. A
PROFFITT
L. 1687 F. 247

NOTE: ALL DRIVEWAYS ON LONG CORNER RD. AND WATKINS WAY TO BE BUILT AS PER H.C.S.T.P. 86.06 WITH CULVERT. LOT 10 DOES NOT REQUIRE CULVERT AT CREST OF VERTICAL CURVE. ALL CULVERTS TO BE 16"x11" EXCEPT LOT 4 TO BE 23"x16". DRIVEWAY CULVERTS TO BE RESPONSIBILITY OF PROPERTY OWNERS.

NO DISTURBANCE OVER 30,000 SF ON ANY ADJACENT LOTS WILL BE DONE WITHOUT AN APPROVED CUSTOM GRADING CONTROL PLAN AND A COPY OF WETLAND ANALYSIS AT THE TIME THE PLAN IS SUBMITTED

PLAN
SCALE 1"=50'

CURVE DATA
STATION 8+14.28
TO 9+72.84
R=230.00'
A=158.56'
T=82.58'
Δ=39°29'60"
CHD BEARING=S46°04'01"E
CHD=155.44'

CURVE DATA
STATION 11+29.01
TO 13+11.61
R=150.00'
A=182.70'
T=88.36'
Δ=61°00'00"
CHD BEARING=S59°41'01"E
CHD=152.26'

WAY

LOT 6

LOT 7

LIMIT OF DISTURBANCE

TEMPORARY GRADING & SLOPE EASMT.

STATE OF MARYLAND
L. 622 F. 572

FOR CONTINUATION OF FINAL GRADING SEE SHEET 5 OF 10

LOT 10

ROAD

F. 650 ROOFTOP 986.50

CURVE DATA
STATION 16+11.61
TO 18+88.28
R=115.16'
A=165.32'
T=99.60'
Δ=82°04'34"
CHD BEARING=N76°16'45"E
CHD=151.46'

10' ACCESS GRADE

STORM DRAIN, ACCESS & UTILITY R/W

SILT FENCE

LIMIT OF DISTURBANCE

54" ACMP @ 0%

18" ACMP @ 1.0%

MAX. 10.0' WIDE STORM DRAIN, ACCESS & UTILITY R/W

TEMP. 18" CMP @ 1.6%

STORM DRAIN, ACCESS & UTILITY R/W

TEMPORARY SEDIMENT TRAP #2 STV

DA TO TRAP: 2.61 AC.
VOLUME REQD: 4000 CF
VOLUME PROVD: 5100 CF
* EMBANKMENT ELEV: 694.00
BOTT. ELEV: 690.00
MAX STORAGE: 697.00
CLEAN OUT ELEV: 691.00
WEIR ELEV: 693.00
WEIR LENGTH: 12'

SLOPE PROTECTION

SILT FENCE

PLAN
SCALE 1"=50'

FOR CONTINUATION OF FINAL GRADING SEE SHEET 5 OF 10

TEMPORARY SEDIMENT TRAP #1 STV

DA TO TRAP = 4.10 AC.
VOLUME REQD = 7080 CF
VOLUME PROVD = 7800 CF
* EMBANKMENT ELEV. = 704.00
BOTT. ELEV. = 700.00
MAX STORAGE = 702.00
CLEAN OUT ELEV. = 701.00
WEIR ELEV. = 703.00
WEIR LENGTH = 15'

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

TOP TOS. 710.50

FOOTROOF GRADE

18" RCP TO 811 @ 2.0% TO BE BLOCKED UNTIL REMOVAL OF TEMP. TRAP AND 15" CMP. (SEE PLAN VIEW) (THIS SHEET)

15" RCP CL III @ 2.0% TO 811

TOP DAM 704.00

WEIR ELEV. 703.00

SLOPE PROTECTION

BOTTOM 690.00

EX. GRADE

710
705
700
695
690
685
680

FOR CONTINUATION OF FINAL GRADING SEE SHEET 5 OF 10

ROAD

F. 650 ROOFTOP 986.50

CONNETT

LONG

TEMPORARY INLET PROTECTION

LIMIT OF DISTURBANCE

STORM DRAIN, UTILITY & ACCESS R/W

R/W TO BE BETWEEN ROAD R/W & R/W MIN WIDTH = 10', MAX. WIDTH = 20'

TEMP. GRADING & SLOPE EASMT.

PLAN VIEW DETAIL
SCALE: 1" = 30'

TEMPORARILY BLOCK 18" RCP TO 811 UNTIL REMOVAL OF TRAP & 15" CMP

MH 12
TOP TOS. 710.50

18" RCP CL III @ 2.0%

INV. 693.50

15" CMP @ 1.6%

TO TRAP

INV. 690.0

18" RCP CL III @ 12.8%

TO MH 13

LOTS 1-13

Owner/Developer:
PLEASANT HILLS LTD PARTNERSHIP
10324-B BALTIMORE NAT'L PIKE
CENTENNIAL SQUARE
ELLICOTT CITY MD 21043
(301) 461-6777

NO.	REVISIONS	DATE

DEVELOPMENT CONSULTANTS GROUP, INC.
17904 GEORGIA AVENUE * 102
OLNEY, MARYLAND 20832
301-924-4570

STREET GRADES AND SEDIMENT CONTROL PLAN
PLEASANT HILLS
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP 6 & 12 PARCELS

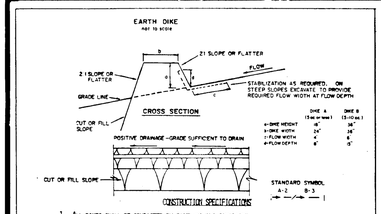
SDP-87-42
WP-89-96
F 89-65
F 90-65

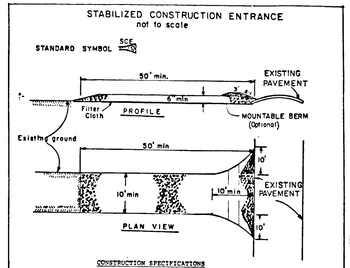
DATE	JUNE, 1990
DRAWN	BCH
CHECKED	NS
SCALE	1"=50'
PROJECT NO.	154-005

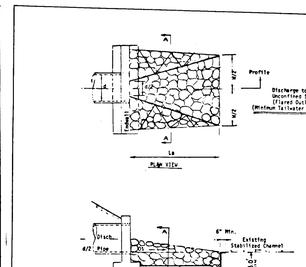
Sheet 4 of 9

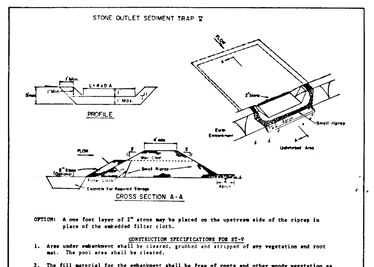
F-90-65

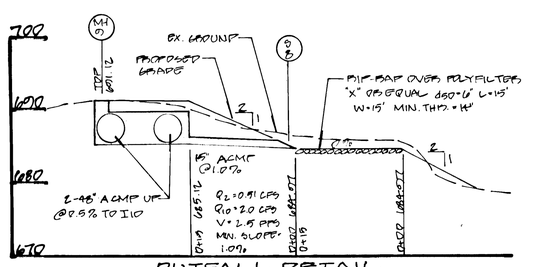
1601

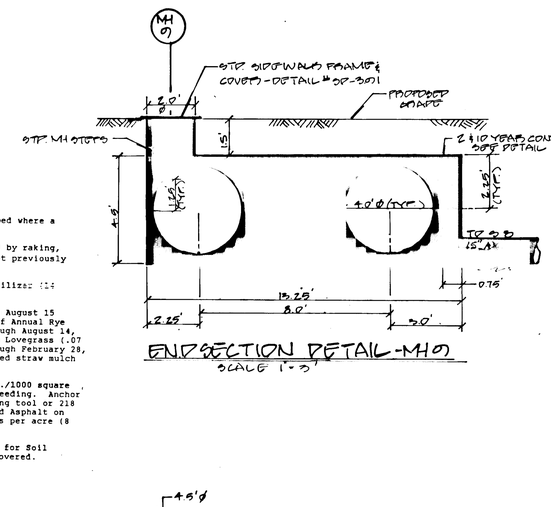


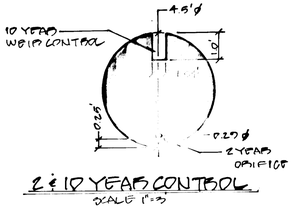


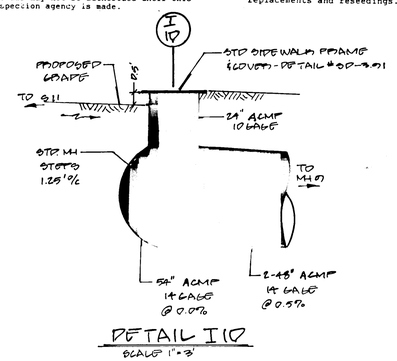


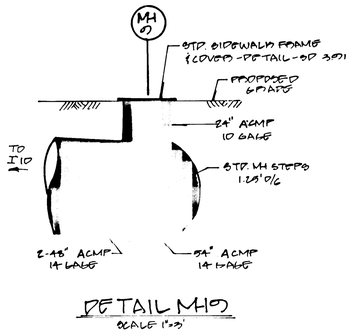


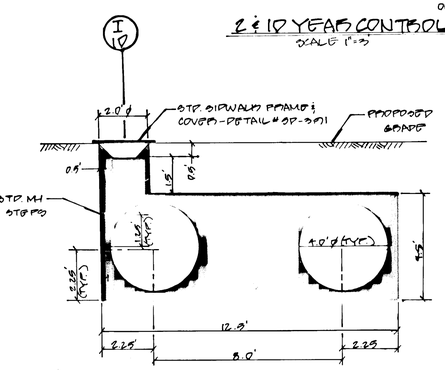












INFILTRATION TRENCH:

3.3.6. Construction Specifications

3.3.6.1. Timing

An infiltration trench shall not be constructed or placed in service until all of the contributing drainage area has been stabilized and approved by the responsible inspector.

3.3.6.2. Trench Preparation

Excavate the trench to the design dimensions. Excavated materials shall be placed away from the trench sides to enhance trench wall stability. Large tree roots must be trimmed flush with the trench sides in order to prevent fabric puncturing or tearing during subsequent installation procedures. The side walls of the trench shall be roughened where sheared and sealed by heavy equipment.

3.3.6.3. Fabric Laydown

The filter fabric roll must be cut to the proper width prior to installation. The cut width must include sufficient material to conform to trench perimeter irregularities and for a 6-inch minimum top overlap. Place the fabric roll over the trench and unroll a sufficient length to allow placement of the fabric down into the trench. Stones or other anchoring objects should be placed on the fabric at the edge of the trench to keep the lined trench open during windy periods. When overlaps are required between rolls, the upstream roll should lap a minimum of 2 feet over the downstream roll in order to provide a shingled effect. The overlap ensures fabric continuity or to ensure that the fabric conforms to the excavation surface during aggregate placement and coapaction.

3.3.6.4. Stone Aggregate Placement and Compaction

The stone aggregate should be placed in lifts and compacted using plate compactors. As a rule of thumb, a maximum loose lift thickness of 12 inches is recommended. The compaction process ensures fabric conformity to the excavation sides, thereby reducing the potential for soil pining, fabric clogging, and settlement problems.

3.3.6.5. Overlapping and Covering

Following the stone aggregate placement, the filter fabric shall be folded over the stone aggregate to form a 6" minimum longitudinal lap. The desired fill soil or stone aggregate shall be placed over the lap at sufficient intervals to maintain the lap during subsequent backfilling.

3.3.6.6. Contamination

Care shall be exercised to prevent natural or fill soils from intermixing with the stone aggregate. All contaminated stone aggregate shall be removed and replaced with uncontaminated stone aggregate.

3.3.6.7. Voids Behind Fabric

Voids can be created between the fabric and excavation sides and shall be avoided. Removing boulders or other obstacles from the trench walls is one source of such voids. Natural soils should be placed in these voids at the most convenient time during construction to ensure fabric conformity to the excavation sides. Soil piping, fabric clogging, and possible surface subsidence will be avoided by this remedial process.

3.3.6.8. Unstable Excavation Sides

Vertically excavated walls may be difficult to maintain in areas where the soil moisture is high or where soft cohesive or cohesionless soils predominate. These conditions may require laying back of the side slopes to maintain stability; trapezoidal rather than rectangular cross sections may result.

3.3.6.9. Vegetative Buffer

A vegetative buffer of at least 20 feet (wider, if possible) shall be used to intercept surface runoff from all impervious areas.

3.3.6.10. Traffic Control

Heavy equipment and traffic shall be restricted from travelling over the infiltration areas to minimize compaction of the soil.

3.3.6.11. Observation Well

An observation well, as described in subsection 3.3.4.8 and Figure 3-5 shall be provided. The depth of the well at the time of installation will be clearly marked on the well cap.

3.3.7. Maintenance

Infiltration trenches shall be designed to minimize maintenance. However, it is recognized that all infiltration facilities are subject to clogging by sediment, oil, grease, grit and other debris. In addition, the performance and longevity of these structures is not well documented. Consequently, a monitoring observation well is required for all infiltration structures.

The observation well shall be monitored periodically. For the first year after completion of construction, the well should be monitored on a quarterly basis and after every large storm. It is recommended that a log book be maintained indicating the rate at which the facility dewaters after large storms and the depth of the well for each observation. Once the performance characteristics of the structure have been verified, the monitoring schedule can be reduced to an annual basis, unless the performance data indicate that a more frequent schedule is required.

Sediment build-up in the top foot of stone aggregates or the surface inlet should be monitored on the same schedule as the observation well. A monitoring well in the top foot of stone aggregate will be required when the trench has a stone surface. Sediment deposited shall not be allowed to build up to the point where it will reduce the rate of infiltration into the trench.

SEDIMENT CONTROL NOTES

1. A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (992-2451)
2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
3. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with VOL. 1, CHAPTER 12, of the HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 52), 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 52.6405 ac.
Area Disturbed 9.00 Acres
Area to be paved 1.20 Acres
Area to be vegetatively stabilized 8.40 Acres
Total Cut 108,150 Cu. Yds.
Total Fill 8,150 Cu. Yds.
Offsite waste/borrow area location 100,000 Cu. Yds.
8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment controls must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.
10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

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

1) Preferred - apply 2 tons per acre Dolomitic Limestone (92 lbs./1000 square feet) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 square feet) before seeding. Harrov or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 Ureaform Fertilizer (9 lbs./1000 square feet).
2) Acceptable - apply 2 tons per acre Dolomitic Limestone (92 lbs./1000 square feet) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs./1000 square feet) before seeding. Harrov or disc into upper three inches of soil.

Seeding: For the periods March 1 through April 30, and August 1 through October 15, seed with 60 lbs. per acre (1.4 lbs./1000 square feet) of Kentucky 31 Tall Fescue. For the period May 1 through July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (.05 lbs./1000 square feet) of Weeping Lovegrass. During the period of October 16 through February 28, protect site by: option (1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) use sod. Option (3) seed with 60 lbs./acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs./1000 square feet) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal./1000 square feet) of Emulsified Asphalt on flat areas. On slopes, 8 ft. or higher, use 348 gallons per acre (8 gal./1000 square feet) for anchoring.

Maintenance: Inpsect all seeded area and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

Soil Amendments: Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 square feet).

Seeding: For periods March 1 through April 30 and from August 15 through November 15, seed with 2 1/2 bushels per acre of Annual Rye (3.2 lbs./1000 square feet). For the period May 1 through August 14, seed with 3 lbs. per acre of Weeping, Boer, or Lehmanns Lovegrass (.07 lbs./1000 square feet) For the period November 16 through February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: Apply 1 1/2 to 2 tons per acre (70 to 90 lbs./1000 square feet) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal./1000 square feet) of Emulsified Asphalt on flat areas. On slopes, 8 ft. or higher, use 348 gallons per acre (8 gal./1000 square feet) for anchoring.

Refer to the 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control for rate and methods not covered.

Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: 1) seven (7) calendar days for all perimeter sediment control structures, dike, swales, ditches, perimeter slopes and all slopes greater than 3:1 2) fourteen (14) days for all other disturbed or graded areas on project site.

NOTE: The contractor or developer shall contact the construction inspection (survey division) 24 hours in advance of commencement of work at 792-7272.

DEVELOPER'S CERTIFICATE:

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

Fred F. Kolkhorst 4/1890
Date

ENGINEER'S CERTIFICATE:

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

Helu Schwartz #11449 4/6/90
Name & No. Date

Reviewed for HOWARD S.C.D. and meets technical requirements.

James M. Helm 7/5/90
Soil Conservation Service Date

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

Chairman 7/5/90
Date

Approved: Howard County Department of Public Works

Chief, Land Development Division 7/23/90 Date

Granville W. Wellwood 7/24/90
Chief, Bureau of Highway Date

Meadow & Ray 11-2-90
Chief, Bureau of Engineering Date

Approved: Howard County Department of Planning and Zoning

Chief, Division of Community Planning and Land Development Date

GENERAL NOTES

1. Total area: 52.6405 acres
2. Property zoned: Rural
3. Private water supply and sewage disposal systems.
4. Area of dedication: 2.8367
5. WP 89-96 granted for the purpose of extending maximum cul de sac length to 2000 lf.
6. Soils maps #15 and #11.
7. Deed references; Liber 586, Follo 424
8. Number of lots: 13 residential.
9. Area of lots: 49.8038 acres.
10. Average lot size: 3.8311 acres.
11. Setbacks: From 75 feet
Side 60 feet street
30 feet lot
Rear 60 feet
12. All trees other than those in road right of ways, construction areas, and utility areas are to remain.
13. Boundary survey and topography by:
Development Consultants Group, Inc.
17904 Georgia Avenue, Suite 102
Olney, MD 20832
(301) 924-4570
14. Flag or pipe stem lots shall not be further subdivided into lots accomodating additional residences unless a public road can be constructed according to County standards on a minimum 50 foot right of way to be deeded to the County.
15. For flag or pipe stem lots, refuse collection, snow removal and road maintenance are provided to the junction of the flag or pipe stem and road right of way and not onto the flag or pipe stem.
16. Driveways which serve two or more lots must meet the requirements of the Howard County Fire Department.
17. Wetlands based on a study by:
William Bridgeland
Wildlife Biologist
417 Falling Spring Ct.
Reisterstown, MD 21136
(301) 833-7796
18. No clearing, grading or construction is permitted within wetland or stream buffers.
19. Bench Mark #1: Geodetic control number 3626001, concrete monument set 0.3' below macadam, elevation 778.02, state plane coordinates N540767.826, E775435.074 shown in plan view.
20. Bench Mark #2: Geodetic control number 3426001, concrete monument set flush, elevation 749.84, state plane coordinates N535372.439 E752532.189, 6126.871 feet from #3626001.
21. All upland areas are to be permently stabilized before construction of infiltration trenches occur.
22. No disturbance over 30,000 square feet on any adjacent lots is to occur without an approved custom erosion control plan and a copy of a wetland analysis at the time the plan is submitted.
23. All driveways on Long Corner Road and Watkins Way to be built as per Howard County Standard R6.06 with culvert. Lot 6 does not require culvert at crest of vertical curve. All culverts to be 18" X 11" except Lot 4 to be 25" X 16". Driveway culverts to be responsibility of property owners.
24. See sheet 1 of 9 for typical section of Watkins Way centerline station 0+00 to 7+64.28.

NOTE: Developer will pay fee for open space lots per Bill #25.

Owner/Developer:
PLEASANT HILLS LTD PARTNERSHIP
10324B BALTIMORE NAT'L PIKE
CENTENNIAL SQUARE
ELLICOTT CITY MD 21043
(301)461-6777

NO.	REVISIONS	DATE

DEVELOPMENT CONSULTANTS GROUP, INC.
17904 GEORGIA AVENUE # 102
OLNEY, MARYLAND 20832
301-924-4570

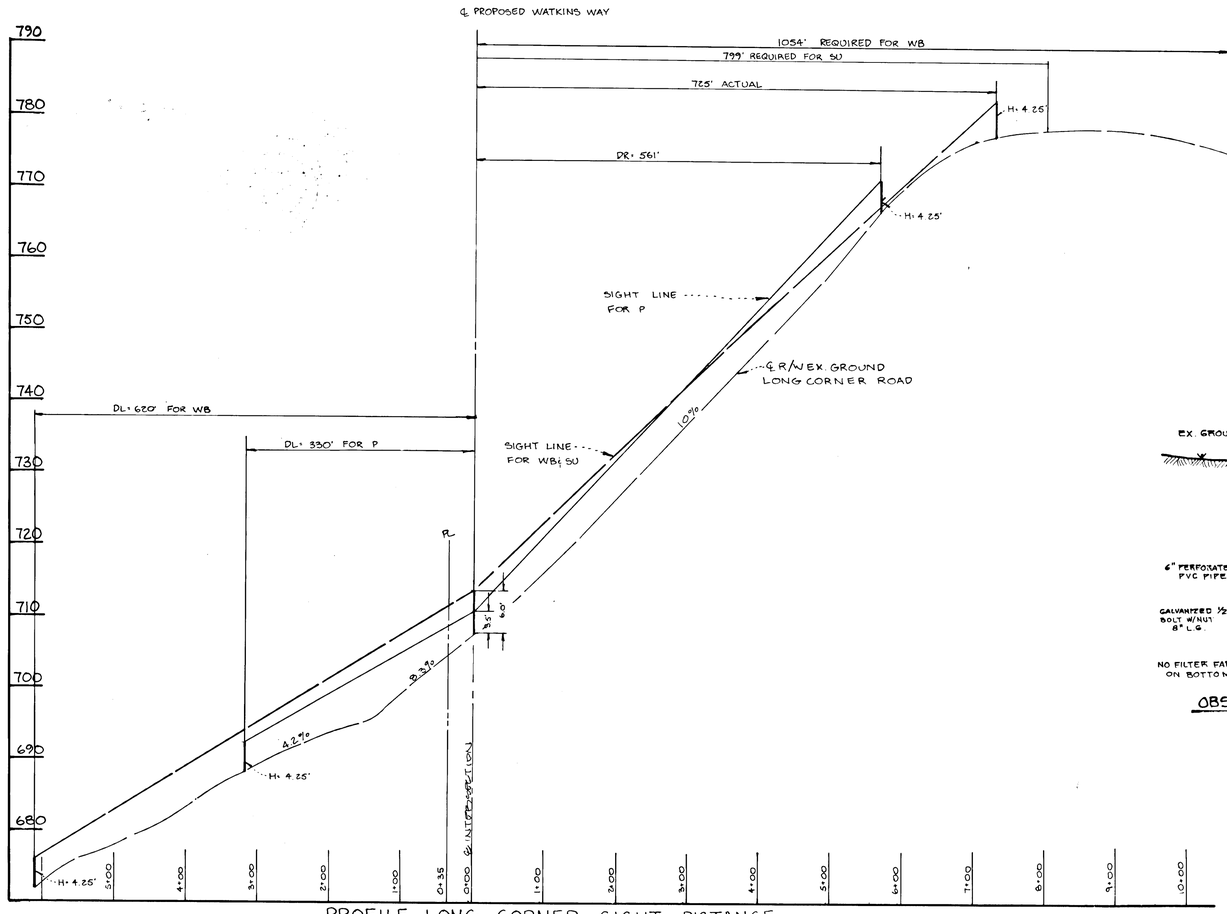
LOTS 1-13
DETAILS AND SPECIFICATIONS
PLEASANT HILLS
4th ELECTION DISTRICT
HOWARD COUNTY MARYLAND
TAX MAP 6 #12 PARCEL 6

S-89-49
WP-89-96
P-89-68
F-90-65

DATE	Sheet
JUNE 90	5
DRAWN ACH	of 9
CHECKED NG	
SCALE AS SHOWN	PROJECT NO. 154-03

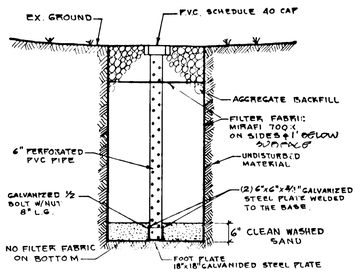
1601

F-90-65



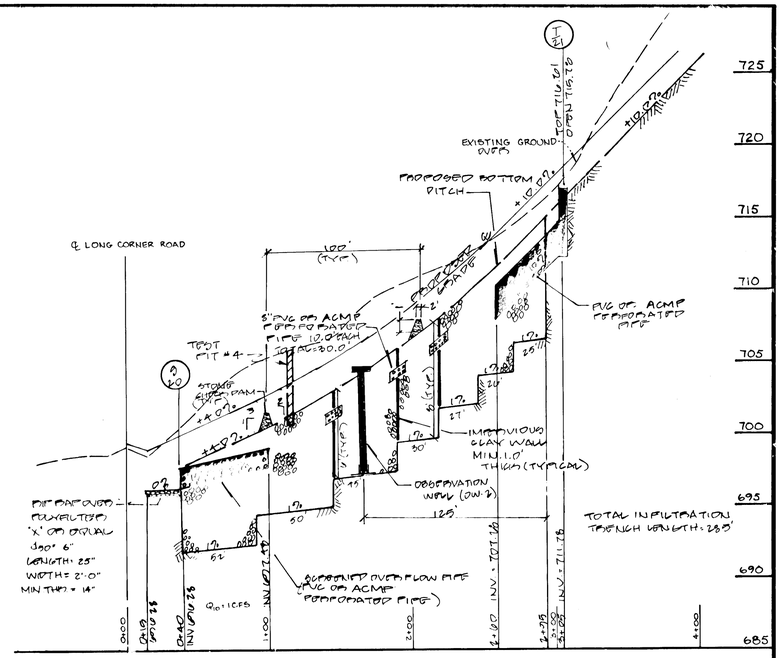
PROFILE LONG CORNER - SIGHT DISTANCE

SCALE: HORIZONTAL 1"=100'
VERTICAL 1"=10'
. POSTED SPEED 30 MPH



OBSERVATION WELL DETAIL

(N.T.S.)



AREA "A" RIGHT SIDE OF WATKINS WAY

SCALE: HORIZONTAL 1"=50'
VERTICAL 1"=5'

TYPICAL INFILTRATION TRENCH SECTION

SCALE: 1"=5'

* NOTE: ALL PERFORATED PIPE TO BE WRAPPED WITH FILTER CLOTH

AREA "B" - LEFT SIDE OF WATKINS WAY

SCALE: HORIZONTAL 1"=50'
VERTICAL 1"=5'

Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: 1) seven (7) calendar days for all perimeter sediment control structures, dike, swales, ditches, perimeter slopes and all slopes greater than 3:1 2) fourteen (14) days for all other disturbed or graded areas on project site.

NOTE: The contractor or developer shall contact the construction inspection (survey division) 24 hours in advance of commencement of work at 792-7272.

DEVELOPER'S CERTIFICATE:

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

Fred E. Kraegg #1890 — Date

ENGINEER'S CERTIFICATE:

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that is was prepared in accordance with the requirements of the Howard Soil Conservation District.

Melu Schwartz #11449 — Date 6/21/90

STATE OF MARYLAND — MELU SCHWARTZ — No. 11449 — REGISTERED PROFESSIONAL ENGINEER

Approved: Howard County Department of Public Works

Chief, Land Development Division — Date 7/23/90

Chief, Bureau of Highway — Date 7/24/90

Chief, Bureau of Engineering — Date 11-2-90

Approved: Howard County Department of Planning and Zoning

Chief, Division of Community Planning and Land Development — Date 10/29/90

Owner/Developer:
PLEASANT HILLS LTD PARTNERSHIP
10324-B BALTIMORE NAT'L PIKE
CENTENNIAL SQUARE
ELLICOTT CITY MD 21043
(301)461-6777

NO.	REVISIONS	DATE

DEVELOPMENT CONSULTANTS GROUP, INC.
17904 GEORGIA AVENUE # 102
OLNEY, MARYLAND 20832
301-924-4570

PROFILES & SECTIONS WITH 1-10

PLEASANT HILLS
4th ELECTION DISTRICT
HOWARD COUNTY MARYLAND
TAX MAP 12 PARCEL 5

SUBDIVISION PLAN F-90-65

DATE	JUNE, 1990
DRAWN	ACH
CHECKED	N.S.
SCALE	AS SHOWN

Sheet 6 of 10

PROJECT NO. 154-05

F-90-65

1609

Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: 1) seven (7) calendar days for all perimeter sediment control structures, dike, swales, ditches, perimeter slopes and all slopes greater than 3:1 2) fourteen (14) days for all other disturbed or graded areas on project site.

NOTE: The contractor or developer shall contact the construction inspection (survey division) 24 hours in advance of commencement of work at 792-7272.

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Fred F. Kalorff 4/18/90
Date

ENGINEER'S CERTIFICATE:

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that is was prepared in accordance with the requirements of the Howard Soil Conservation District.

Melu Schwartz 6/6/90
Melu Schwartz #11449 Date

Approved: Howard County Department of Public Works

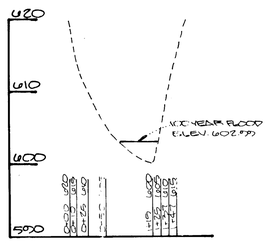
Chief, Land Development Division — Date 7/23/90

Chief, Bureau of Highway — Date 7/24/90

Chief, Bureau of Engineering — Date 11-2-90

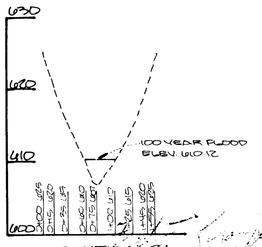
Approved: Howard County Department of Planning and Zoning

Chief, Division of Community Planning and Land Development — Date 10/5/90



SECTION 1

SCALE: HORIZONTAL 1"=100'
VERTICAL 1"=10'



SECTION 2

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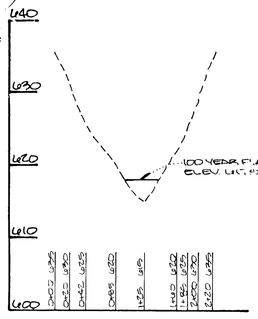
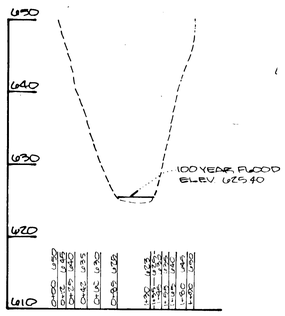
VERTICAL 1"=10'



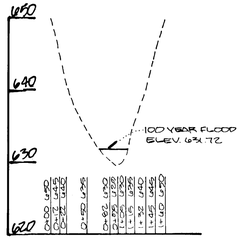
SECTION 3

SCALE: HORIZONTAL 1"=100'
VERTICAL 1"=10'



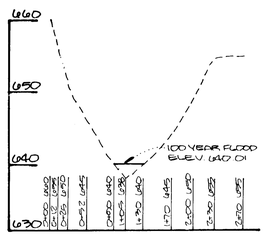
SECTION 4

SCALE: HORIZONTAL 1"=100'
VERTICAL 1"=10'



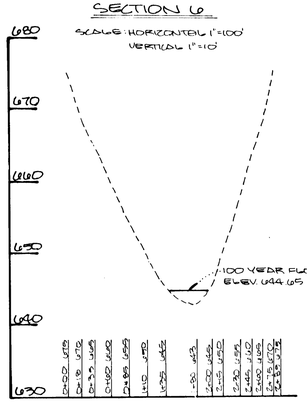
SECTION 5

SCALE: HORIZONTAL 1"=100'
VERTICAL 1"=10'



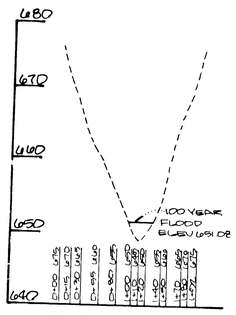
SECTION 6

SCALE: HORIZONTAL 1"=100'
VERTICAL 1"=10'



SECTION 7

SCALE: HORIZONTAL 1"=100'
VERTICAL 1"=10'



SECTION 8

SCALE: HORIZONTAL 1"=100'
VERTICAL 1"=10'

DRAINAGE AREA MAP

SCALE 1"=200'

LOTS 1-13

FLOOD PLAIN SECTIONS & FLOOD PLAIN STUDY

PLEASANT HILLS

4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP 12 PARCEL 5

S 80-49
WP 80-076
F 80-65
F 90-65

DATE JUNE 90
DRAWN AGH
CHECKED MS
SCALE AS SHOWN
Sheet 7 of 07
PROJECT NO. 154-03

Owner/Developer:
PLEASANT HILLS LTD PARTNERSHIP
10320 S BALTIMORE NAT'L PIKE
CENTENNIAL SQUARE
ELLICOTT CITY MD 21043
(301)461-0777

NO.	REVISIONS	DATE

DEVELOPMENT CONSULTANTS GROUP, INC.
17904 GEORGIA AVENUE # 102
OLNEY, MARYLAND 20832
301-924-4570

1600

F-90-65

Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: 1) seven (7) calendar days for all perimeter sediment control structures, dike, swales, ditches, perimeter slopes and all slopes greater than 3:1 2) fourteen (14) days for all other disturbed or graded areas on project site.

NOTE: The contractor or developer shall contact the construction inspection (survey division) 24 hours in advance of commencement of work at 792-7272.

DEVELOPER'S CERTIFICATE:

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

Fred F. Karrmann 4-18-90
Date

ENGINEER'S CERTIFICATE:

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that is was prepared in accordance with the requirements of the Howard Soil Conservation District.

Helu Schwartz 06/21/90
Helu Schwartz #11449 Date

Requirements.

James M. Hobbs 7/5/90
Soil Conservation Service Date

This development plan is approved for soil Erosion and Sediment Control by the Howard Soil Conservation District.

Clay B. Adkins 7/5/90
Date

Approved: Howard County Department of Public Works

Alan M. Younger 7/23/90
Chief, Land Development Division Date

Granville W. Wellman 7/24/90
Chief, Bureau of Highway Date

Approved: Howard County Department of Planning and Zoning

Frank J. D'Angelo 7/24/90
Chief, Division of Community Planning and Land Development Date

VICINITY MAP
SCALE: 1"=2000'

PLAN
SCALE: 1"=100'

GENERAL NOTES

1. AREA: 92.6268 AC.
2. ZONE: RURAL
3. TOPOGRAPHY FROM COUNTY RECORDS.
4. DEED REFERENCE: L. 486, F. 484
5. SOIL MAP: 5
6. TAX MAP: 6 & 12
7. PARCEL: 5
8. NO. OF LOTS: 13
9. AREA OF LOTS: 40.80 AC.
10. AREA OF DEDICATION: 2.83 AC.
11. PRIVATE WATER SUPPLY & SEWAGE DISPOSAL SYSTEM TO BE UTILIZED.
12. CUL-DE-SAC LENGTH WAIVER TO BE REQUESTED.

Owner
PLEASANT HILLS LTD. PARTNERSHIP
10324 B BALTIMORE NAT'L PK
CENTENNIAL SQUARE
ELLICOT CITY, MD 21043
(301) 461-6777

NO.	REVISIONS	DATE

DEVELOPMENT CONSULTANTS GROUP, INC.
17904 GEORGIA AVENUE # 102
OLNEY, MARYLAND 20832
301-924-4570

LOTS 1-13
STORM DRAIN DRAINAGE AREA MAP
PLEASANT HILLS
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP: 12, PARCEL 5

WP 89-076
F 89-65
F 90-65

DATE: JUNE 90
DRAWN
CHECKED
N.S.
SCALE 1"=100'

Sheet 8 of 9
PROJECT NO. 194-05

1609

F-90-65

Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: 1) seven (7) calendar days for all perimeter sediment control structures, dike, swales, ditches, perimeter slopes and all slopes greater than 3:1 2) fourteen (14) days for all other disturbed or graded areas on project site.

NOTE: The contractor or developer shall contact the construction inspection (survey division) 24 hours in advance of commencement of work at 792-7272.

DEVELOPER'S CERTIFICATE:
"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspections by the Howard Soil Conservation District."

[signature] #1896 — Date 7-8-90

ENGINEER'S CERTIFICATE:
"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that is was prepared in accordance with the requirements of the Howard Soil Conservation District.

[signature] Nelu Schwartz 13449 — Date 06/21/90

Reviewed for Howard S.C.D. and meets technical requirements.

[signature] U.S. Soil Conservation Service — Date 7/5/90

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

[signature] — Date 7/5/90

Approved: Howard County Department of Public Works

[signature] Chief, Land Development Division — Date 7/23/90

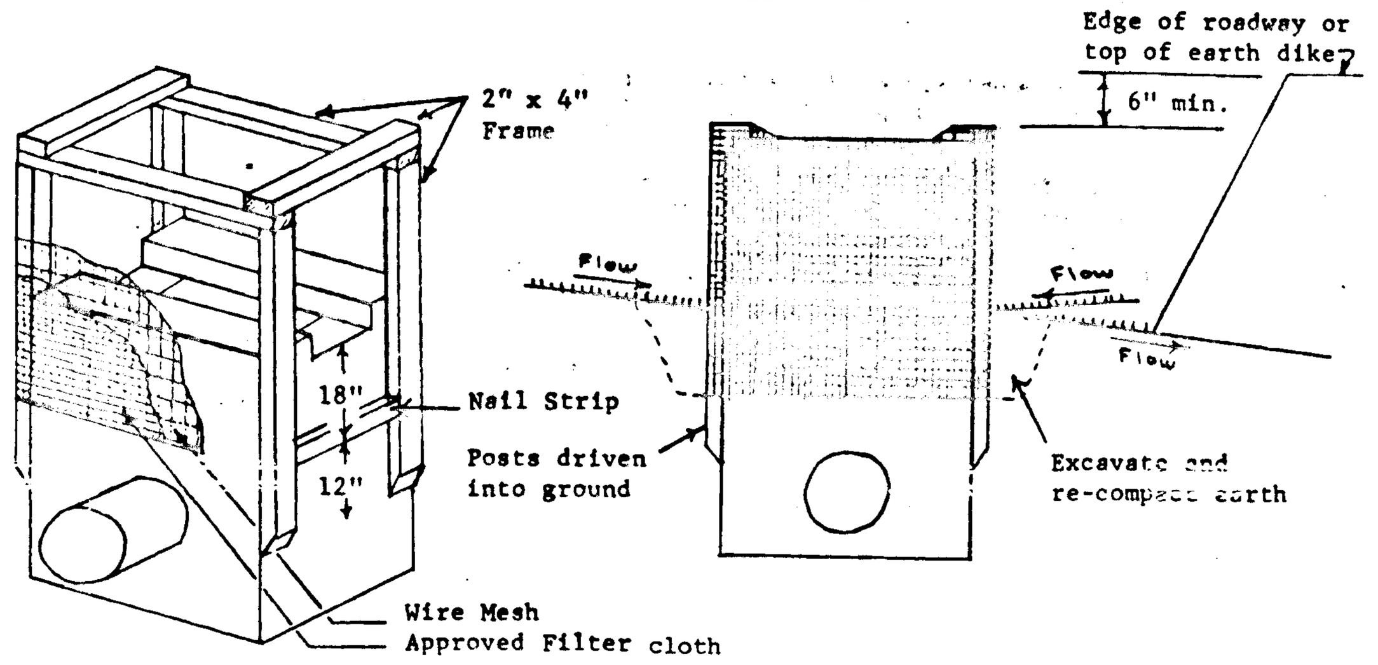
[signature] Chief, Bureau of Highways — Date 7/24/90

[signature] Chief, Bureau of Engineering — Date 11-2-90

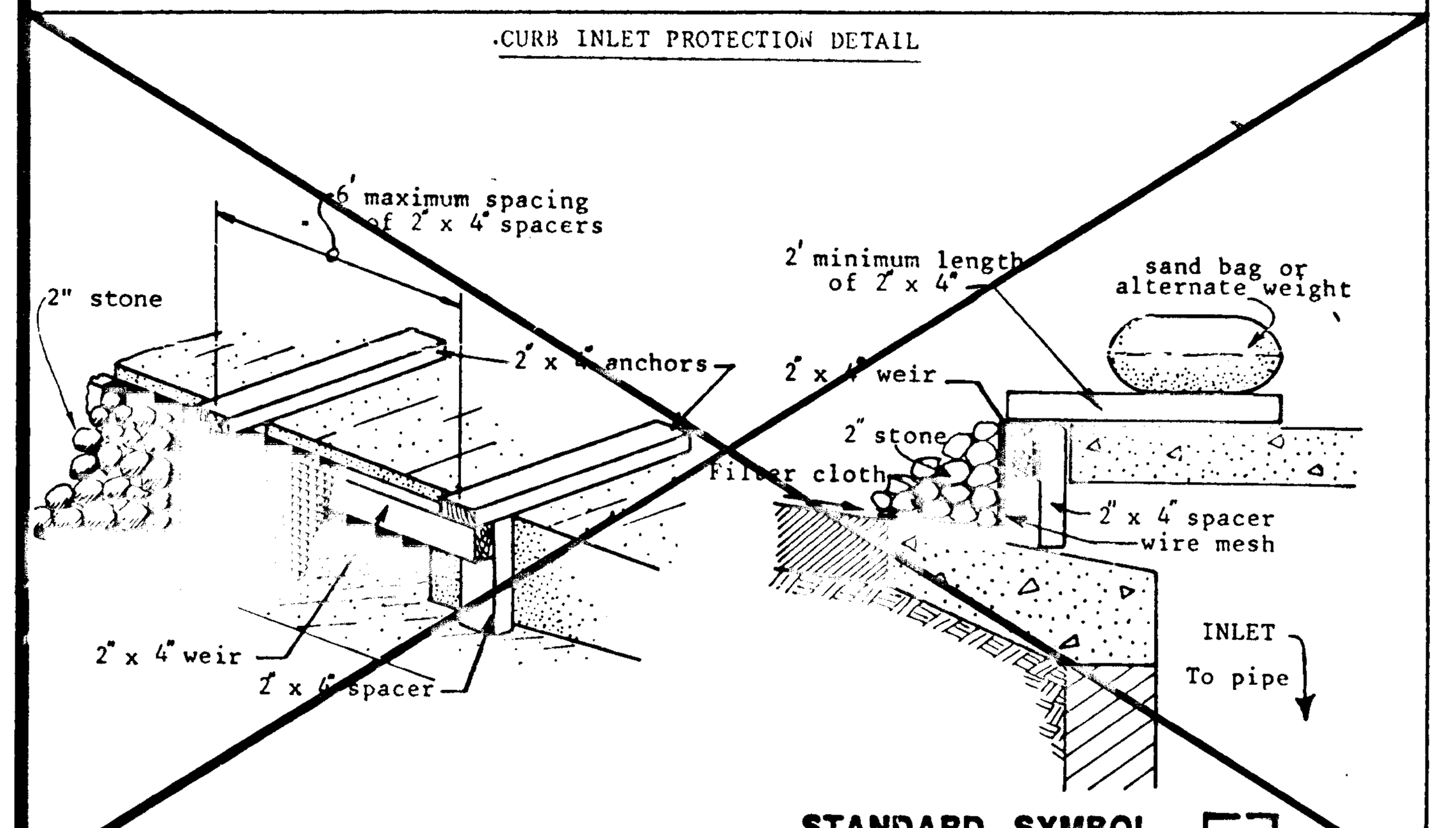
Approved: Howard County Department of Planning and Zoning

[signature] Chief, Division of Community Planning and Land Development — Date 11/14/9.

SWALE INLET PROTECTION DETAIL



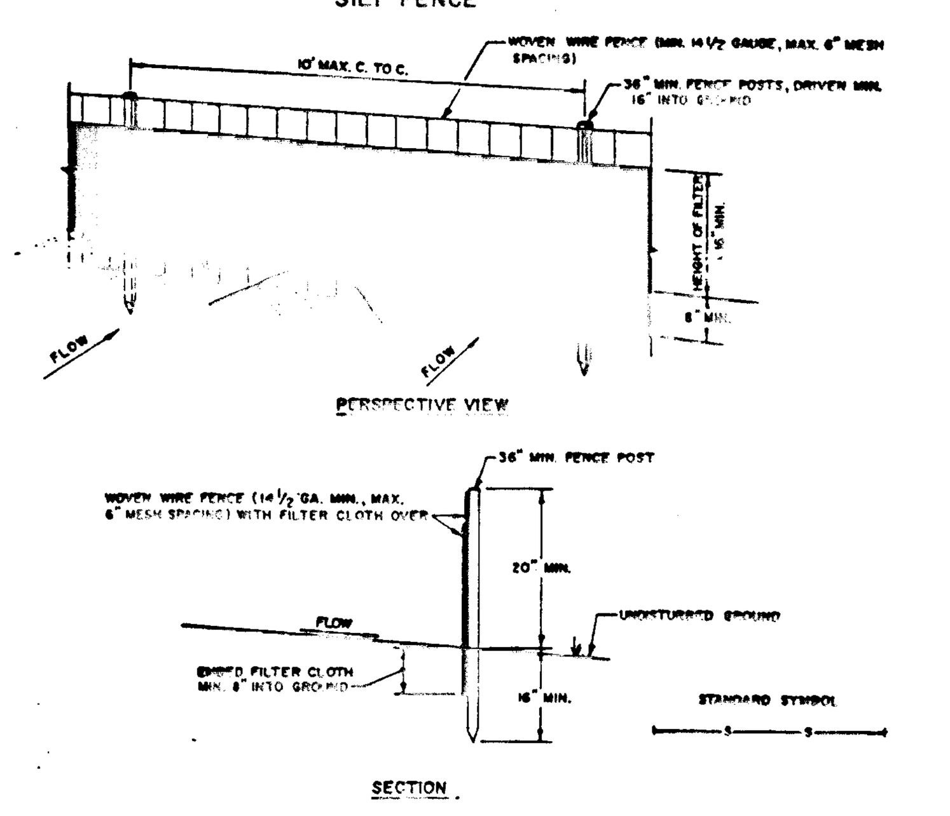
CURB INLET PROTECTION DETAIL



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	INLET PROTECTION DETAIL	STANDARD DRAWING IPD—1

21.04

SILT FENCE



CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. Woven wire fence to be fastened securely to fence posts with wire ties or staples.
2. Filter cloth to be fastened securely to woven wire fence with ties spaced every 24" at top and mid section.
3. When two sections of filter cloth adjoin each other they shall be overlapped by six inches and folded.
4. Maintenance shall be performed as needed and material removed when "bulges" develop in the silt fence.

POSTS: Steel either T or U type or 2" hardwood

FENCE: Woven wire, 14½ Ga. 6" Max. Mesh Opening

FILTER CLOTH: Filter X, Mirafi 100X, Stabilinka T140N or Approved Equal

PREFABRICATED UNIT: Geofab, Envirofence, or Approved Equal

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE COLLEGE PARK, MARYLAND	SILT FENCE	STANDARD DRAWING SI - 1

12.03

April 1983

STANDARD AND SPECIFICATIONS
FOR
VEGETATIVE STABILIZATION OF
CHANNELS AND STEEP SLOPES

Definition

Installing jute or excelsior matting on a prepared seed - or planting - bed of a channel or steep slope to be stabilized with vegetation.

Purpose

To aid in controlling erosion on critical sites during establishment period of protective vegetation.

Conditions Where Practice Applies

In channels where designed flow exceeds 3.5 feet per second; on short, steep slopes where erosion hazard is high and planting is likely to be slow to establish adequate protective cover; on tidal or stream banks where moving water is likely to wash out new vegetative plantings.

MATERIALS

A. Jute mat shall be cloth of a uniform plain weave of undyed and unbleached single jute yarn, 48 inches in width plus or minus 1 inch and weighing an average of 1.2 pounds per linear yard of cloth with a tolerance of plus or minus 5 percent, with approximately 78 warp ends per width of cloth and 41 weft ends per linear yard of cloth. The yarn shall be of a loosely twisted construction having an average twist or not less than 1.6 turns per inch and shall not vary in thickness by more than one-half its normal diameter.

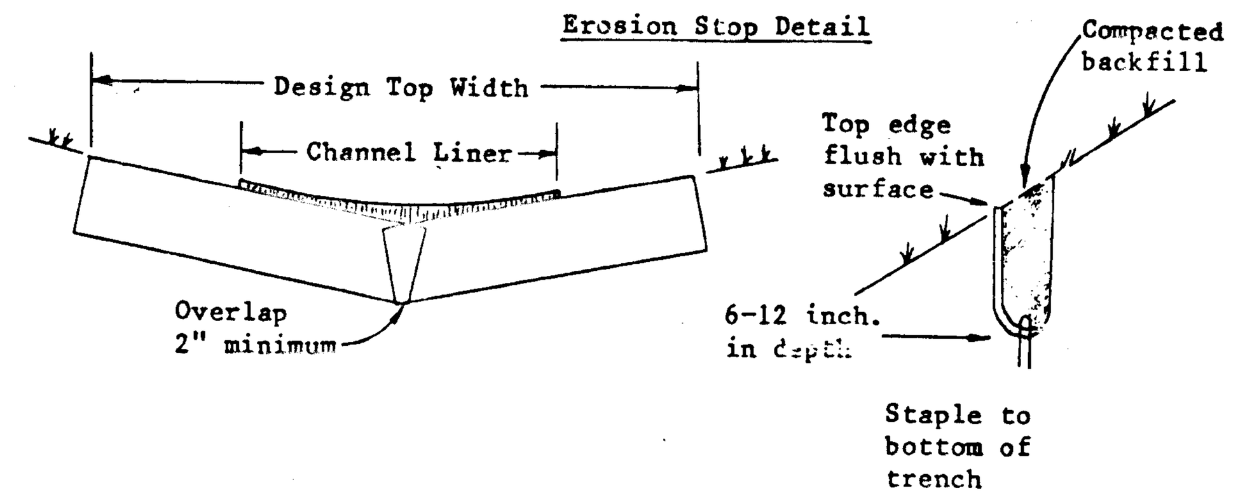
B. Excelsior mat shall be wood excelsior, 48 inches in width plus or minus 1 inch and weighing 0.8 pounds per square yard plus or minus 10 percent. The excelsior material shall be covered with a netting to facilitate handling and to increase strength.

C. Glass fiber matting of bonded textile glass fibers with an average fiber diameter of 8 to 12 microns, 2 to 4 inch strands of fiber bonded with phenol formaldehyde resin. Mat shall be roll type, water permeable, minimum thickness ¼ inch, maximum thickness ½ inch, density not less than 3 pounds per cubic foot.

D. Staples - staples for anchoring soil stabilizing materials shall be No. 11 gauge wire or heavier. Their length shall be 6 to 10 inches. Use the longer staples on loose, unstable soils.

Tamp back fill firmly and to a uniform gradient of channel.

Erosion Stop Detail



If seeding has been done prior to installation of erosion stops, reseed disturbed areas prior to placement of channel liner.

Laying Jute Matting: (If instructions have been followed, all needed erosion stops will have been installed, and the jute matting will be laid on a friable seedbed free from clods, rocks, roots, etc., that might cause bridging.)

Most channels will require multiple widths of jute matting, two widths being the most commonly used. Unroll matting starting at the upper end of the channel allowing a 4 inch overlap of mattings along center of channel.

Securing Jute Mattings: Bury the top ends of jute matting in a narrow trench, minimum of 6 inch depth, similar to that used for erosion stops. Backfill trench and tamp firmly to conform to channel cross-section. Secure with a row of staples about 4 inches down slope from the trench. Spacing between staples is 6 inches.

Next, staple the 4 inch overlap in channel center using an 18 inch spacing between staples. Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil. Staples shall be placed 2 feet apart along the outer edge of matting.

Where one roll of jute matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4 inches, shiplap fashion.

Where matting crosses erosion stops, reinforce with a double row of staples spaced six (6) inches apart in a staggered pattern on either side of erosion stop. Likewise, overlaps joining the length of matting together and the discharge end of the matting liner should be similarly secured with 2 double rows of staples.

INSTALLATION REQUIREMENTS

Site Preparation: After site has been shaped and graded to approved design, prepare a friable seedbed relatively free from clods and rocks more than 1½ inches in diameter, and any foreign material that will prevent contact of the protective mat with the soil surface.

Planting: Lime, fertilize, and seed in accordance with seeding or other type of planting plan, except when using jute matting on a seeded area, apply approximately one-half the seed after laying the mat. The protective matting can be laid over sprigged areas where small grass plants have been planted. Where ground covers are to be planted, lay the protective matting first and then plant through the matting according to design of planting.

Erosion Stops: (For use on steep, highly erodible watercourses) Erosion stops are made of glass fiber strips, excelsior matting strips or tightly folded jute matting blanket or strips. They are placed in narrow trenches 6 to 12 inches deep across the channel and left flush with the soil surface. They are to cover the full cross-section of designed flow.

How Used: Under jute or excelsior matting.

Location:

1. Approximately 3 feet down channel from point of entry of a concentrated flow such as from culverts, tributary channels or diversions.
2. At points where change in gradient or course of channel occurs.
3. Spacing of erosion stops on long slopes will vary from 20 to 100 feet depending upon the erodibility of the soil and velocity and volume of flow.

Installation:

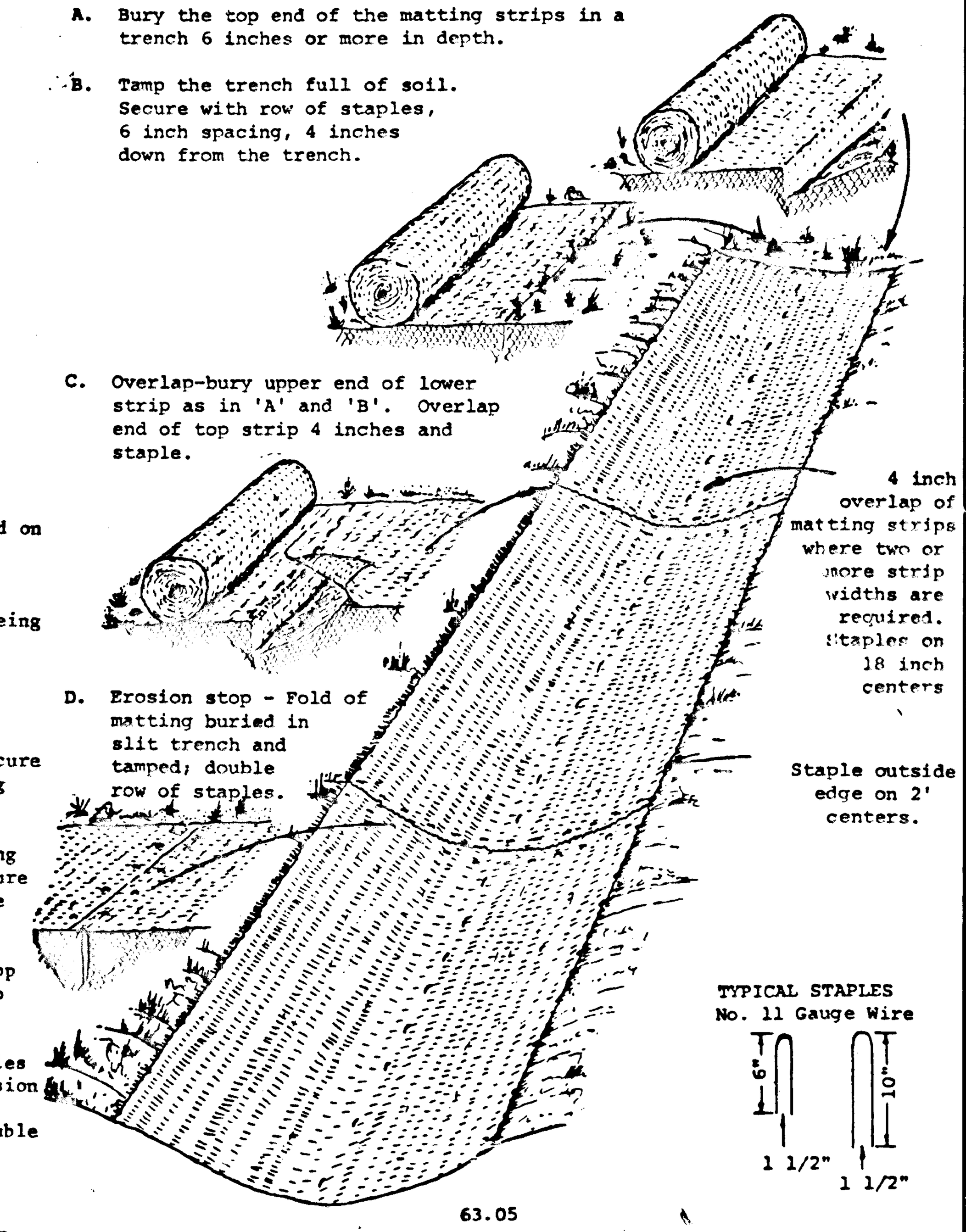
Erosion stops should extend beyond the channel liner to full design cross-section of the channel to check any rills that might form outside the channel lining.

The trench may be dug with a spade or a mechanical trencher making sure that the down slope face of the trench is flat; it should be uniform and perpendicular to line of flow to permit proper placement and stapling of the glass figer matting.

The erosion stop should be deep enough to penetrate solid material or below level of rilling in sandy soils. In general, erosion stops will vary from 6 to 12 inches in depth.

The erosion stop mats should be wide enough to allow a minimum of 2 inch turnover at bottom of trench for stapling while maintaining the top edge flush with channel surface.

DETAIL FOR STABILIZING WATERWAYS WITH JUTE OR EXCELSION MATTINGS



63.05

Laying and Securing Excelsior Matting: Same seedbed preparation as for jute matting with the exception that all seeding must be completed before laying excelsior matting.

Bury top ends of excelsior matting in a trench as described for jute matting. As the blankets are unrolled down slope, the matting must be on top with the wood fibers in contact with the soil. Butt snugly at the ends and sides before stapling.

Using two (2) foot spacing between staples, excelsior matting shall be secured with four rows for each strip, with one row along each edge and alternating parallel rows down the center. The stapling over erosion stops, entrance and discharge ends of matting and butted end joints shall be the same as described for jute matting.

Final Check

1. Make sure matting is uniformly in contact with the soil.
2. All lap joints are secure.
3. All staples are flush with the ground.
4. All disturbed areas seeded.

CONSTRUCTION SEQUENCE

1. Obtain necessary permits.
2. Notify County 24 hours prior to commencement of construction.
3. Clear and grub for SCE, earth dikes and trap.
4. Install SCE, inlet I-2 and pipe to S1 (provide inlet protection). Install earth dike along Long Corner Road as shown.
5. Clear and grub for grading and paving of Long Corner Road only.
6. Grade for Long Corner Road and install driveway culvert, bituminous paving; stabilize disturbed area.
7. Start building sediment traps, install dikes at the top of the slopes as shown, install inlets and storm drain pipes to Trap #2.
8. Clear and grub for Watkins Way. Grade for Watkins Way.
9. Install bituminous paving, curb and gutter and driveway culverts. Stabilize disturbed areas.
10. Remove sediment control devices when approved by Sediment Control Inspector, continue storm drain installation from trap to the infiltration area and outfall as shown on the storm drain plan. Stabilize all disturbed areas.

Owner/Developer:
PLEASANT HILLS LTD. PARTNERSHIP
10324 B BALTIMORE NAT'L PIKE
CENTENNIAL SQUARE
ELLICOTT CITY, MD 21043
(301) 461-6777

NO.	REVISIONS	DATE

DEVELOPMENT CONSULTANTS GROUP, INC.
17904 GEORGIA AVENUE # 102
OLNEY, MARYLAND 20832
301-924-4570

LOTS 1-13
DETAILS·SEDIMENT CONTROL
PLEASANT HILLS
4th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
TAX MAP 12 PARCEL 5

WP 89-96
P 89-65
F 90-65

DATE: JUNE 90
DRAWN: ACH
CHECKED: NS
SCALE: AS SHOWN

Sheet 9 of 9

PROJECT NO. 154-03

F-90-65

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