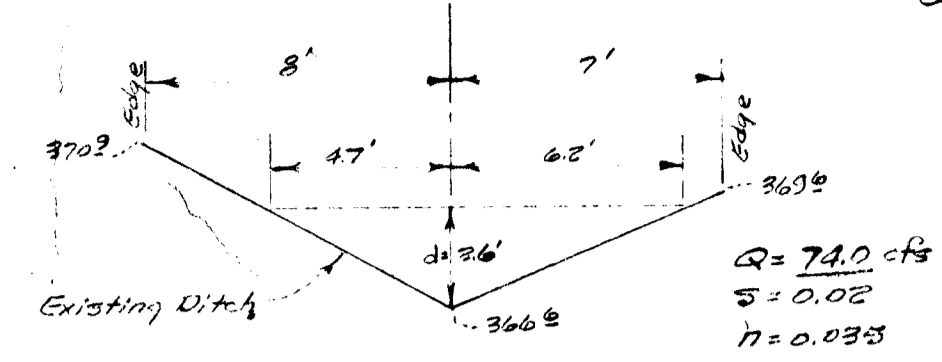




DITCH COMPUTATION

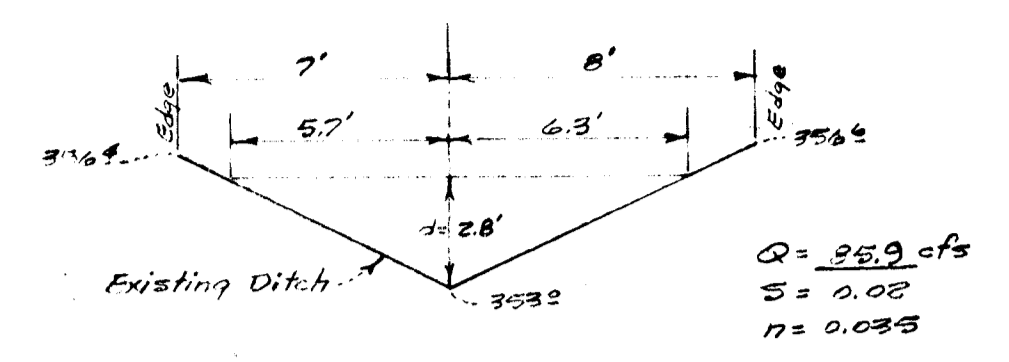
$V = 1.486 \cdot R^{2.48} \cdot S^{.78}$
 $Q = AV$



SECTION A

$A = \frac{1}{2} [(8 \times 4) + (4 \times 2)] = 14.17 \text{ ft}^2$
 $WP = \frac{1}{2} [(8 \times 4)^2 + (4 \times 2)^2] = 128.83 + 16.00 = 144.83$
 $R = \frac{WP}{WP} = \frac{144.83}{144.83} = 1.00$
 $R^{2.48} = 1.00$
 $V = \frac{1.486}{0.035} \times 1.00 \times 1.414 = 6.66 \text{ ft/s}$
 $Q = AV = 14.17 \text{ ft}^2 \times 6.66 \text{ ft/s} = 94.37 \text{ cfs}$

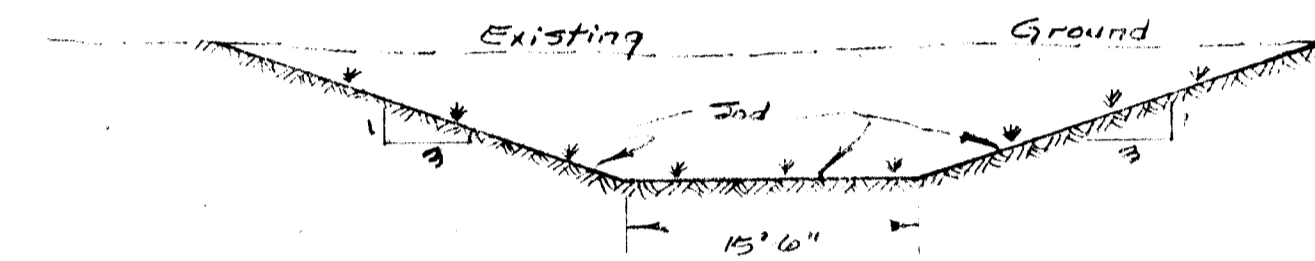
∴ Ditch is adequate



SECTION B

$A = \frac{1}{2} [(7 \times 4) + (4 \times 2)] = 16.0 \text{ ft}^2$
 $WP = \frac{1}{2} [(7 \times 4)^2 + (4 \times 2)^2] = 128.83 + 16.00 = 144.83$
 $R = \frac{WP}{WP} = \frac{144.83}{144.83} = 1.00$
 $R^{2.48} = 1.00$
 $V = \frac{1.486}{0.035} \times 1.00 \times 1.414 = 6.66 \text{ ft/s}$
 $Q = AV = 16.0 \text{ ft}^2 \times 6.66 \text{ ft/s} = 106.56 \text{ cfs}$

∴ Ditch is adequate

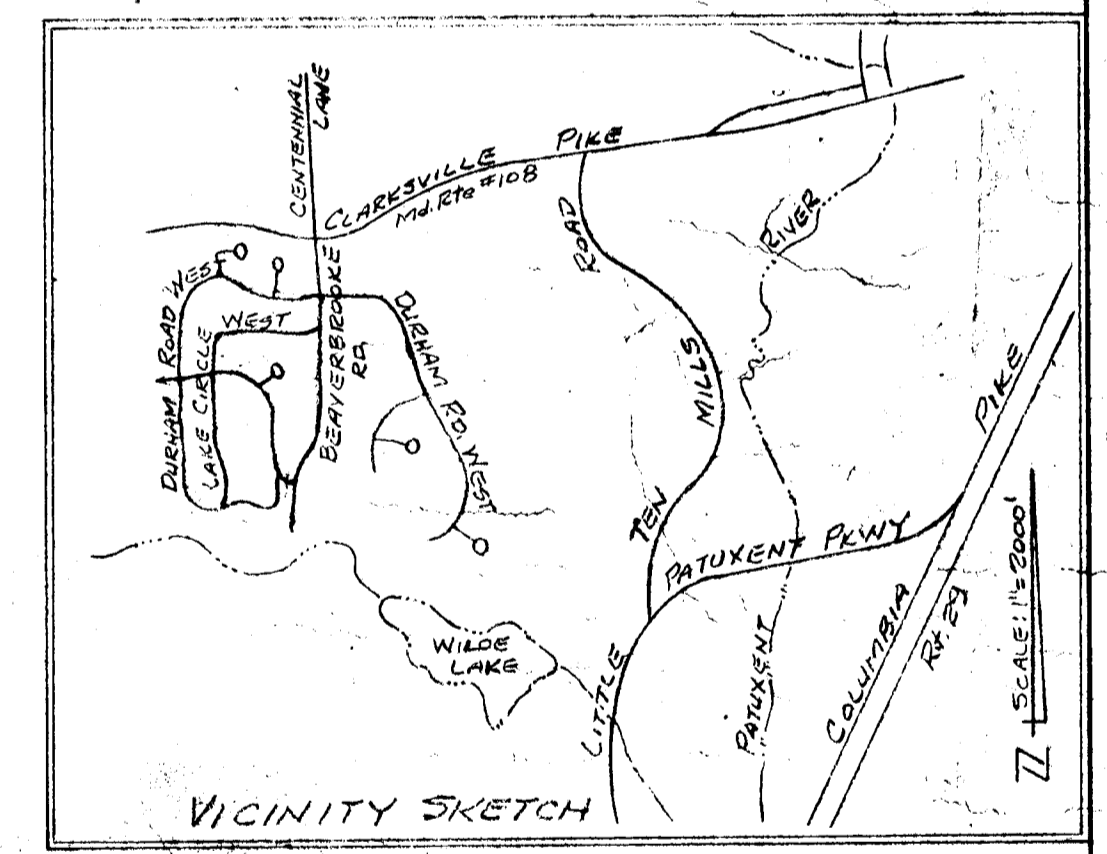


TYPICAL SOD DITCH AT OUTFALL
 No Scale

APPROVED
 DIVISION OF LAND DEVELOPMENT

HOWARD COUNTY, MARYLAND
 DATE JUNE 11, 1976

J. W. C.



DEPARTMENT OF PUBLIC WORKS
Franklin H. Ireland 1/8/76
 CHIEF BUREAU OF HIGHWAYS DATE
 OFFICE OF PLANNING & ZONING
J. W. C. 7/8/76
 ACTING CHIEF DIVISION OF LAND DEVELOPMENT DATE
 APPROPRIATION PLANNING

Res: R-72.35

STORM DRAINAGE STUDY
 PART OF
 BEAVERBROOK
 ELECTION DISTRICT #5
 HOWARD COUNTY, MARYLAND

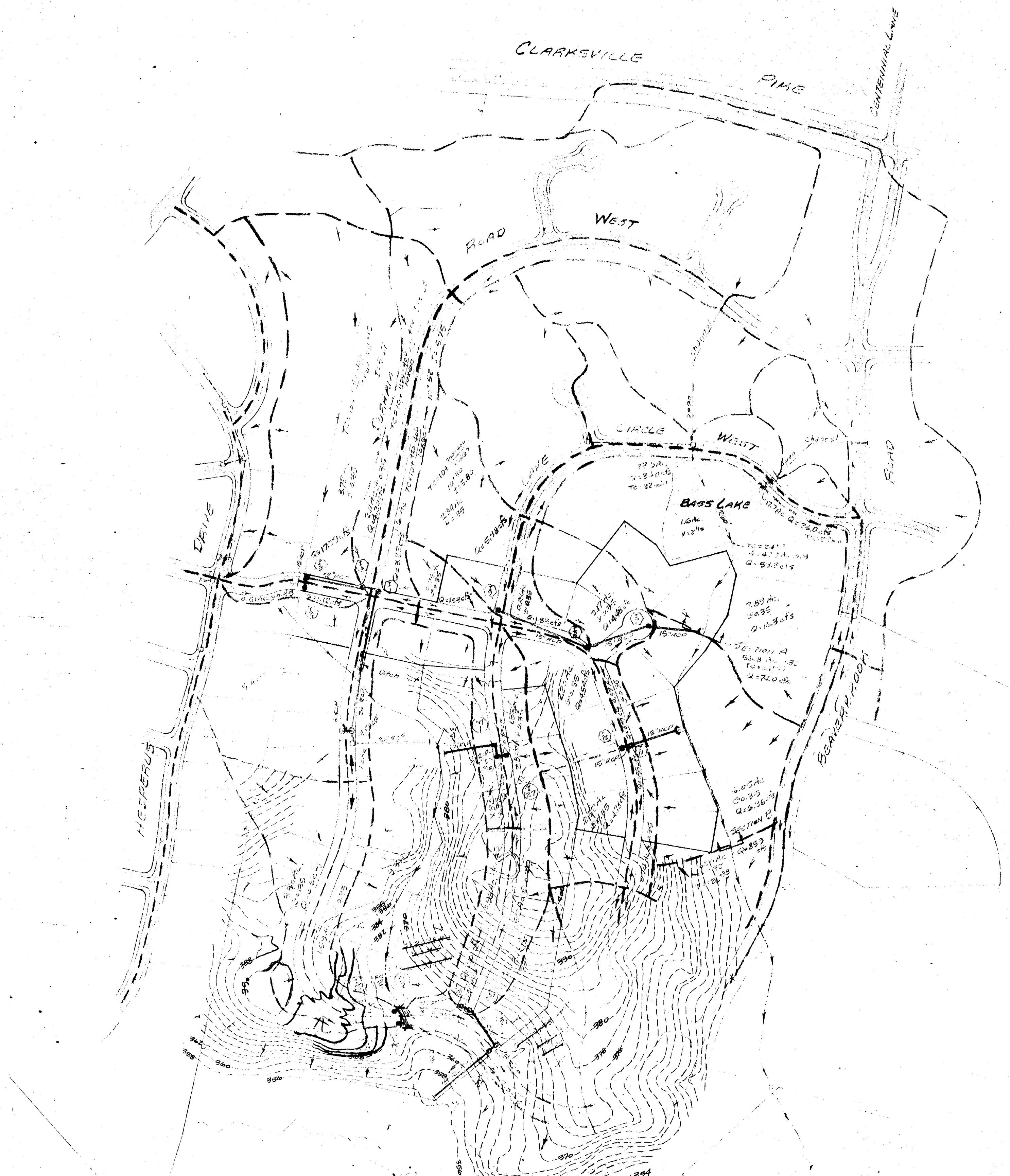
OWNER:
 FRANK G. MARABO CO.
 5000 FRANCES CHILDREN PARKWAY LANHAM MD. 20801
 TELEPHONE: 433-8880

SCALE: 1" = 200' APPROVED BY
 DATE: JAN. 19, 1972

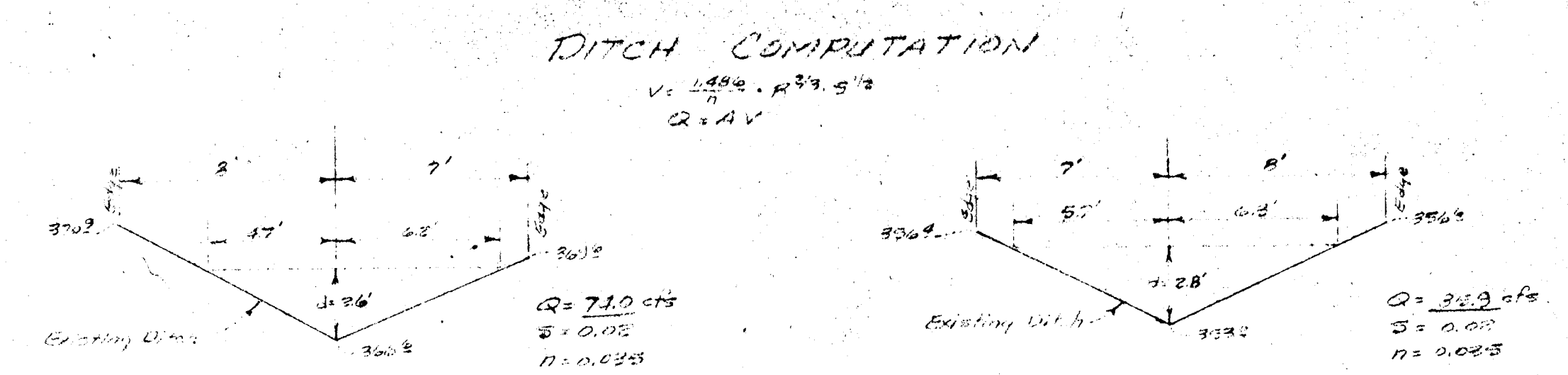
OFFICE OF
 W. STANLEY MACHEN
 LAND PLANNER - LAND SURVEYOR
 3225 FARRAGUT STREET
 HYATTSVILLE, MD. 20784
 927-8700

DRAWN BY: E.C.
 DESIGN: E.M.
 CHK: J.M.
 REV: 2-21-76
 DRAWING NUMBER: 1 OF 3

#10



This sheet for existing topography only, see drawing 1 of 9 for storm drain system.



SECTION A

$A = \frac{1}{2}(17+2) \times 1.96 = 14.17 \text{ ft}^2$
 $WP = 17 \times 1.96 = 33.32 \text{ ft}^2$
 $R = \frac{14.17}{33.32} = 0.425$
 $V = \frac{1.486}{4.73} (0.425)^{2/3} (0.005)^{1/2} = 0.67 \text{ ft/s}$
 $Q = AV = 14.17 \times 0.67 = 9.5 \text{ cfs}$

Ditch is adequate.

SECTION B

$A = \frac{1}{2}(5+7) \times 1.28 = 6.08 \text{ ft}^2$
 $WP = 5 \times 1.28 = 6.4 \text{ ft}^2$
 $R = \frac{6.08}{6.4} = 0.95$
 $V = \frac{1.486}{4.73} (0.95)^{2/3} (0.005)^{1/2} = 1.08 \text{ ft/s}$
 $Q = AV = 6.08 \times 1.08 = 6.58 \text{ cfs}$

Ditch is adequate.

DEPARTMENT OF PUBLIC WORKS
Franklin R. Neeland 7/8/76
 CHIEF BUREAU OF HIGHWAYS DATE
J. J. Courson 7/6/76
 ACTING CHIEF DIVISION OF LAND DEVELOPMENT DATE
 TRANSPORTATION PLANNING

APPROVED
 DIVISION OF LAND DEVELOPMENT

HOWARD COUNTY, MARYLAND
 DATE JUNE 11, 1976
JRC

EXISTING TOPOGRAPHY
 NO: P-73-35

STORM DRAINAGE STUDY
 PART OF
BEAVERBROOK
 SELECTION DISTRICT #5
 HOWARD COUNTY, MARYLAND

OWNER:
 FRED G. MARKER CO.
 7880 ANNAPOLIS ROAD SUITE L-2 LANNAM MD. 20801
 TELEPHONE: 303-8586

SCALE: 1" = 200' APPROVED BY
 DATE: JAN 19 1976

DESIGNED BY: *Bill*
 DRAWN BY: *Bill*
 CHECKED BY: *JRC*
 REV. 3/24/76
 DRAWING NUMBER: 2 of 9

W. STANLEY MACHEN
 LAND SURVEYOR, LAND SURVEYOR
 3025 PARAGUET STREET
 HYATTSVILLE, MD. 20854
 301-4300

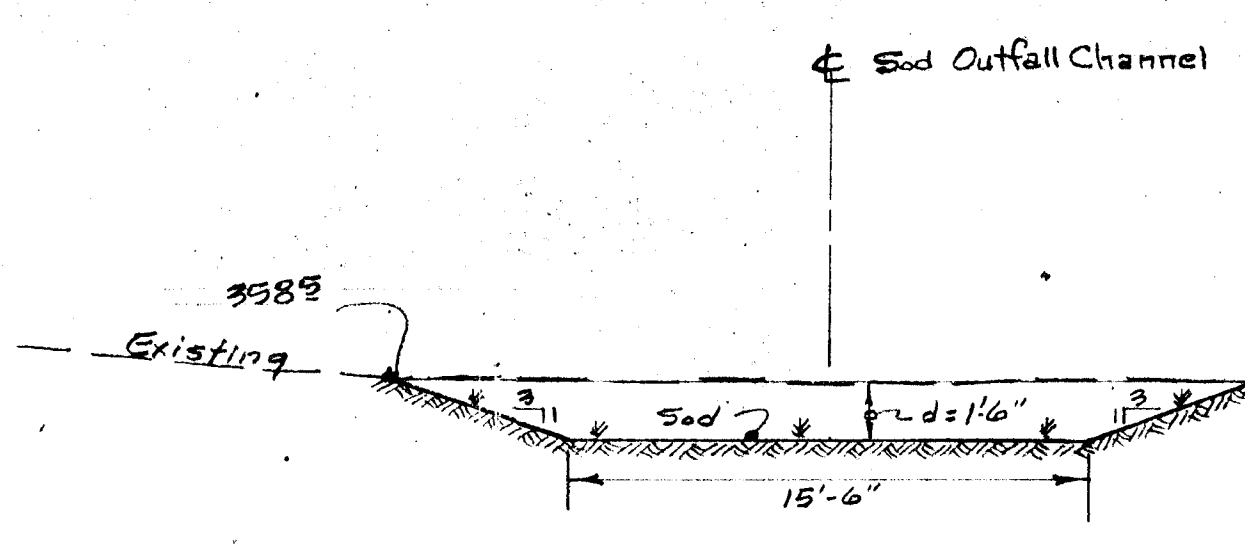
SEDIMENT AND EROSION CONTROL NOTES: (APPLICABLE TO SHEETS 1 & 2)

- EXCEPT FOR THE EXISTING SEDIMENT BASIN AND REQUIRED MODIFICATIONS THEREOF ALL SEDIMENT AND EROSION CONTROLS SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE JULY 1975 USDA 450" STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AND IT SHALL BE THE DEVELOPER'S/CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND MAINTAIN A COPY OF THE APPROVED STANDARDS FOR USE ON THIS PROJECT. COPIES OF SAID STANDARDS MAY BE OBTAINED FREE OF CHARGE FROM THE HOWARD COUNTY CONSERVATION DISTRICT OFFICE.
- THE H.S.C.D. AND BUREAU OF LICENSES, INSPECTIONS AND PERMITS SHALL BE NOTIFIED 24 HOURS NOTICE PRIOR TO ANY GRADING OR CONSTRUCTION.
- ALL SEDIMENT OUTFALLS SHOWN BY THIS PLAN SHALL BE INSTALLED AND STABILIZED PRIOR TO ANY TOUBARY GRADING OR EARTH DISTURBANCE.
- DEVELOPER SHALL MAINTAIN ALL POSSIBLE EXISTING NATURAL VEGETATION COVER DURING ALL PHASES OF CONSTRUCTION AND STABILIZE ALL SOILS EXPOSED AS SOON AS PRACTICAL.
- CONTRACTOR SHALL PROTECT ALL AROUND PROPERTIES DURING ALL PHASES OF WORK.
- SEDIMENT CONTROLS SHALL NOT BE REMOVED UNTIL THE PAVED ROAD TRIBUTARY IS FULLY STABILIZED AND APPROVED BY THE H.S.C.D. OR AUTHORIZED AGENT.
- TEMPORARY STABILIZATION:
 - REQUIREMENTS FOR ANY EXPOSED AREA WHICH MUST REMAIN OPEN IN EXCESS OF 60 DAYS:
 - APPLY: 400 LBS./AC. OR 10 LBS./1000 SQ. FT. USING 10-20-20 OR EQUIVALENT FERTILIZER
 - SEED WITH ITALIAN BLYESSUS 340 LBS./AC. MAR. 15 - JUNE 1/AUG. 1 - AUG. 15 OR ANY OTHER APPROVED APPLICATION FOR OTHER SPECIES, PER SPEC. 5001452.01.
- PERMANENT STABILIZATION: IN ACCORDANCE WITH SPECIFICATION 51.01 FOR SEED, ON SOIL - CRITICAL AREAS SPECIFICATION 54.01 FOR SOIL ON CRITICAL AREAS.
 - A) SEED: MIXTURE NO. 1, KENTUCKY-31 TALL FESCUE ON PROPERLY PREPARED SURFACES.
 - B) SOIL: MURKIN COMBINED ON PROPERLY PREPARED SURFACES.
 (ALL SEED/SOIL APPLICATIONS SHALL BE TAKEN FROM NTS STANDARDS) & APPROVED BY H.S.C.D. PRIOR TO STARTING PRACTICE.
- CONSTRUCTION SEQUENCE:
 - STABILIZE, MODIFY AND STABILIZE THE EXISTING SEDIMENT BASIN PRIOR TO ANY CONTINUED SITE DISTURBANCE AND NOTIFY H.S.C.D. WHEN COMPLETE FOR CONTINUED USE OF TRIBUTARY AREAS.
 - INSTALL STABILIZATION CONSTRUCTION ENTRANCE PAD AT END OF LANE C. ROAD WEST.
 - INSTALL DRAINAGE AT END OF DURHAM ROAD WEST, ONCE TRIBUTARY AREA IS STABILIZED.
 - INSTALLATION OF WAD'S AND SLOPES IN STREETS (NOW GRADED) DIVERTING ANY DISTURBED AREA RUN OFF INTO THE MODIFIED SEDIMENT BASIN.
 - PHASE "A" (SHEET #1) HOUSING, STORM DRAIN, STREET, FINAL GRADING AND STABILIZATION COMPLETE AND SEDIMENT CONTROLS REMOVED.
 - PHASE "B" (SHEET #2) SAME AS PHASE "A", AFTER COMPLETION OF PHASE "A".
 - PHASE "C" (SHEET #3) SAME AS PHASE "A", AFTER COMPLETION OF PHASE "B".
 - REMOVAL OF THE SEDIMENT BASIN SHALL NOT BE MADE UNTIL DURHAM ROAD WEST HAS BEEN PAVED WITH BASE, INCLUDING ALL STORM DRAINAGE CONSTRUCTION AT CROOKING AND LOW POINTS.
 - CONSTRUCT CHANNEL OUTFALL COMPLETE WITH SOIL JUST AFTER CAREFUL REMOVAL OF SEDIMENT BASIN, WHICH MUST BE COMPLETED WITHIN 7 WORKING DAYS.
 - COMPLETE PHASE "C" AS INDICATED IN ITEM # 7, AND ONLY AFTER ALL TRIBUTARY AREAS ARE FULLY STABILIZED.
 - MODIFICATIONS CAN ONLY BE MADE WITH PRIOR APPROVAL OF H.S.C.D.

CONTRACTOR SHALL REFER TO HIS COPY OF THE G.O.C. APPROVED FOR ALL CONSTRUCTION DETAILS FOR:

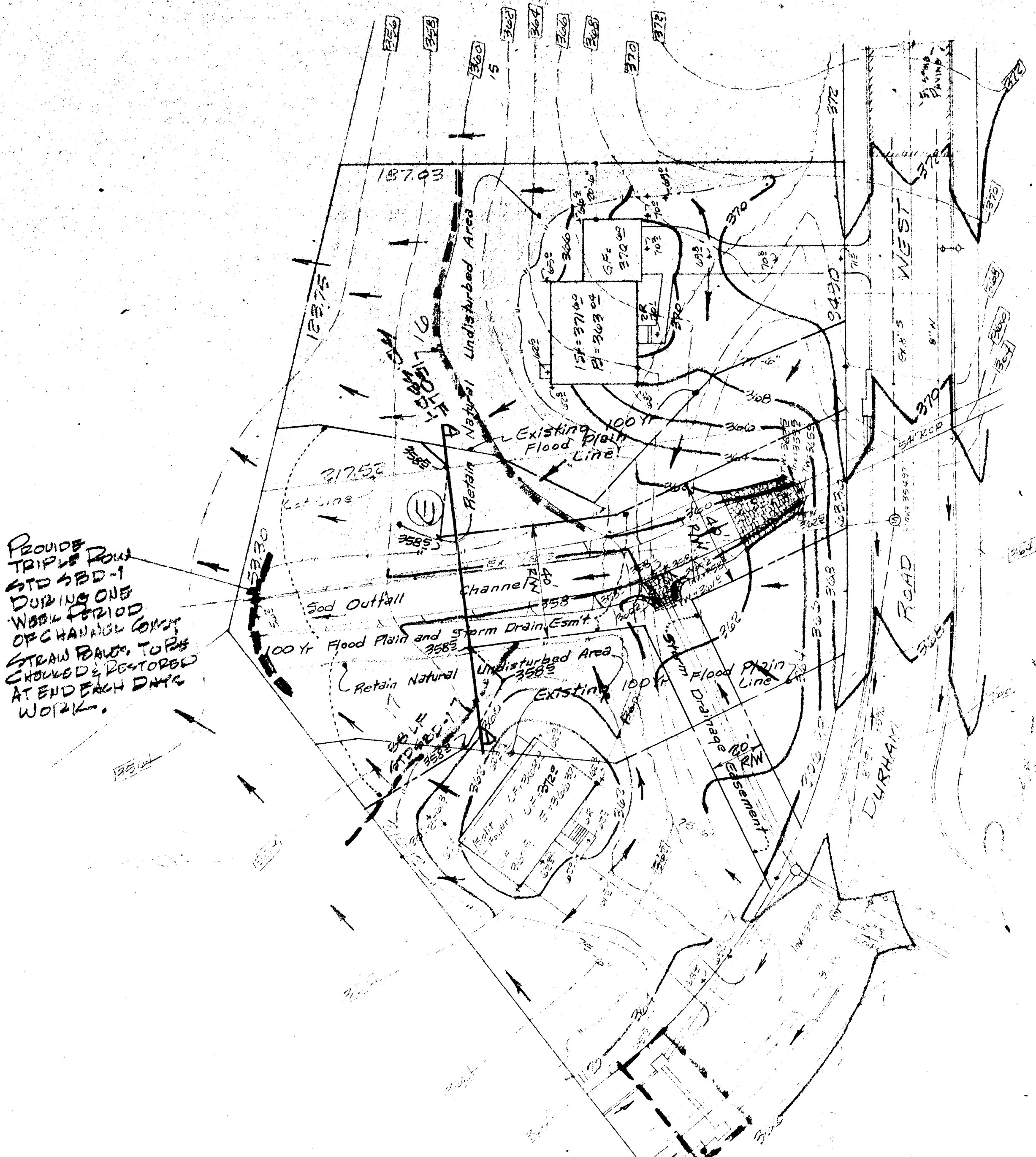
ITEM	STANDARD	DATE
A) INTERMEDIATE DRAIN	(STANDARD 11.01 - 11.03)	12-1
B) STORM DRAIN DIPS	(STANDARD 12.01 - 12.02)	12-1
C) STABILIZED CONSTRUCTION ENTRANCES	(STANDARD 10.01 - 10.02)	12-1
D) SOILS OUTLET SEDIMENT TRAP	(STANDARD 11.01 & 11.02)	12-1

& OTHER PREVIOUSLY NOTED ITEMS.



SECTION A-A

100%: $Q = AV$ $A = 42.9 \text{ ac.} \cdot I = 8.5$ $R = 0.4$
 $Q = 47.9(8.5)(0.4) = 145.9 \text{ cfs}$
 $Q_{(100\%)} = 145.9 \text{ cfs}$
 $V = 1.48 \text{ ft/s}$ $R^{2/3} = 5/2$
 $Q = AV$
 $S = 0.017$ $n = 0.04$
 $A = 15.9 \times 1.5 + 1.5 \times 4.5 = 29.0 \text{ ft}^2$
 $WP = 15.5 + 2(4.5)(1.5) = 25.0 \text{ ft}$
 $R = W/P = 29.0/25.0 = 1.16$
 $R^{2/3} = 1.104$ $S^{1/2} = 0.1304$
 $V = 1.48 \text{ ft/s}$ $R^{2/3} = 1.104$ $(1.104)(1.304) = 53 \text{ fps}$
 $Q = AV = 29.0(53) = 1537 \text{ cfs}$



PROVIDE TRIPLES ROW STD SRD-1 DURING ONE WORK PERIOD OF CHANNEL CONSTRUCTION. STRAW BALEM TO BE CHANGED & REFORCED AT END EACH DAYS WORK.

PROVIDE TRIPLES ROW STD SRD-1 DURING ONE WORK PERIOD OF CHANNEL CONSTRUCTION.

UPGRADE INLETS WITH STD. SRD-1 DURING EXPOSURE & PROTECT STONE FILTERS AT OPENINGS TO LIMIT SEDIMENT ENTERING PIPE.

DESIGNER'S CERTIFICATION: I, THE DESIGNER, HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL. ALSO, I HAVE APPROVED THE CONSTRUCTION OF THIS PROJECT AND I HAVE ADVISED THE HOWARD COUNTY CONSERVATION DISTRICT OFFICE OF THIS PROJECT AND I HAVE ADVISED NEIGHBORS AS NECESSARY.

W. Stanley Machen 1/28/76 DATE
 W. STANLEY MACHEN, N.D. 34, #2047

ENGINEER'S CERTIFICATION: I, THE ENGINEER, HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE AND THE DATA THAT I HAVE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY CONSERVATION DISTRICT.

W. Stanley Machen 1/28/76 DATE
 W. STANLEY MACHEN, N.D. 34, #2047

DEPARTMENT OF PUBLIC WORKS
Granville W. Wehland 7/8/76 DATE
 CHIEF BUREAU OF HIGHWAYS
 OFFICE OF PLANNING & ZONING
W. Stanley Machen 7/10/76 DATE
 ACTING CHIEF DIVISION OF LAND DEVELOPMENT & TRANSPORTATION PLANNING

AREA NOTATIONS (SHEET 2)

1. Total Area contained in lots on this plan	38,360 sq ft
2. Approximate area to be disturbed and restored	35,400 sq ft
3. Approximate area to remain undisturbed and having erosion resistant surfaces	22,960 sq ft

APPROVED:
 DIVISION OF LAND DEVELOPMENT

HOWARD COUNTY, MARYLAND
 DATE: JUNE 11, 1976
J. J. ...

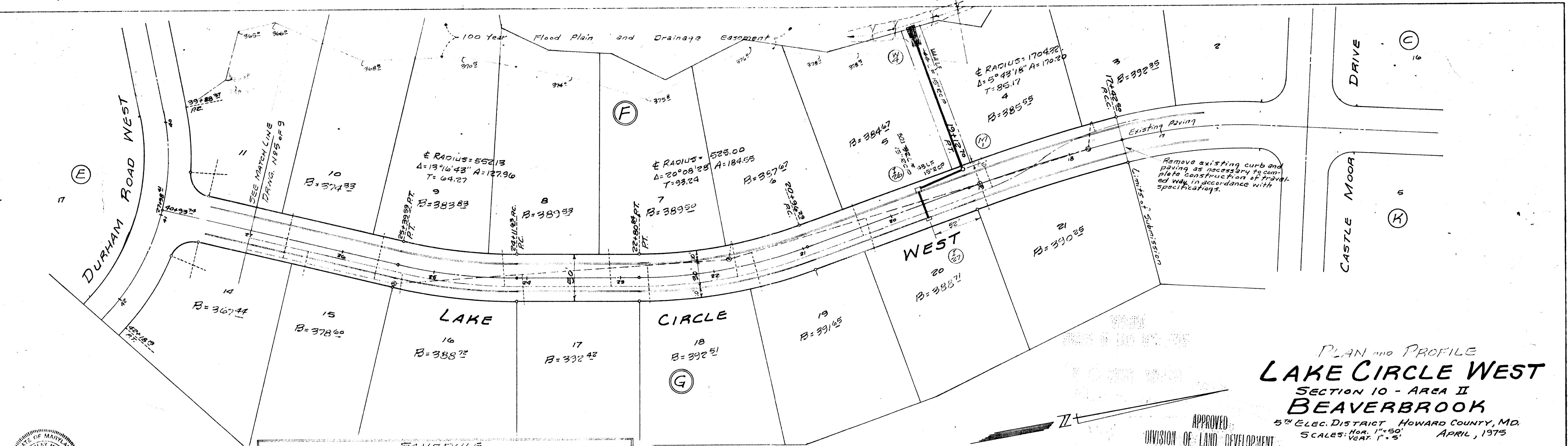
100 YEAR FLOOD PLAIN STUDY
 LOTS 16 AND 17 BLOCK "E"
 SECTION 10 - "BEAVERBROOK"
 5th ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

OWNER: ST. MARKER CO. INC. (301) 453-5540 1300 FARRAGUT PARKWAY (LANSING) MD 20801	DATE: JAN 1970	APPROVED BY:	DRAWN BY: J. J. ...
SCALE: 1" = 50'	DATE: JAN 1970	REVISIONS:	DRAWING NUMBER: 3 OF 3
W. STANLEY MACHEN LAND SURVEYOR 4328 FARRAGUT ST. HYATTSVILLE, MD 20881 864.516 (301) 927.8500		DATE: JAN 1970	

DATE: 4/75
 BY: MAM
 PLAN
 SURVEYED
 ALIGNED
 ADJUSTED
 PLANNED
 DATE: 4/75
 BY: MAM

DATE: 4/76
 BY: MAM
 PROFILE
 SURVEYED
 ALIGNED
 ADJUSTED
 PLANNED
 DATE: 4/76
 BY: MAM

#10



PLAN AND PROFILE
LAKE CIRCLE WEST
 SECTION 10 - AREA II
 BEAVERBROOK
 5th Elec. District HOWARD COUNTY, MD.
 SCALES: VERT. 1"=5'
 APRIL, 1975

APPROVED
 DIVISION OF LAND DEVELOPMENT

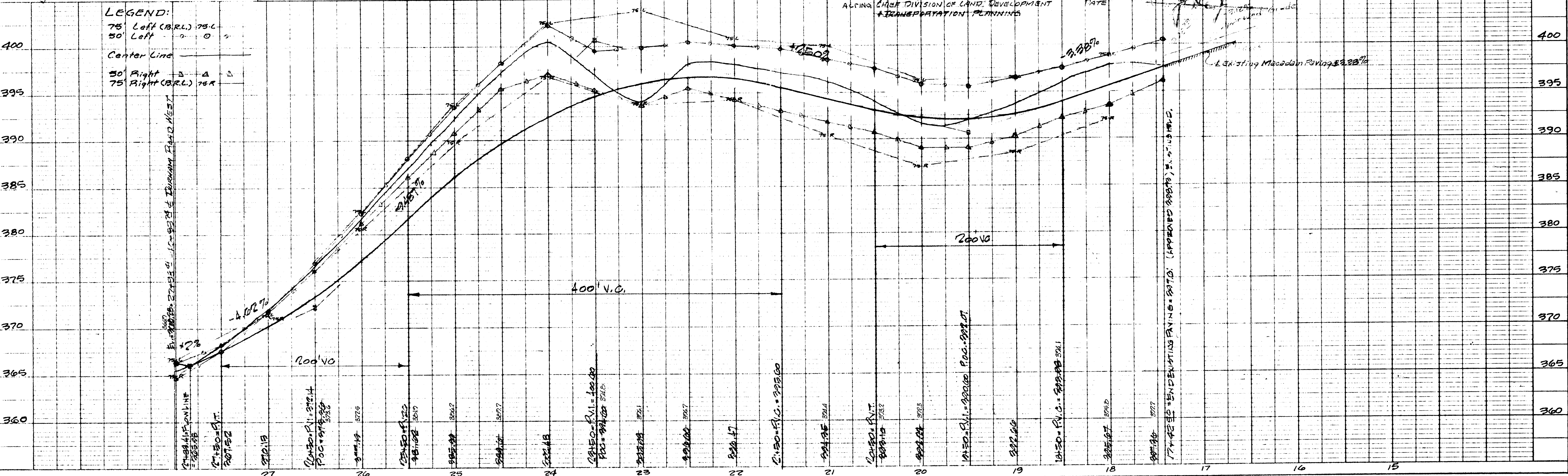
DEPARTMENT OF PUBLIC WORKS
 Howville W. Weiland 7/8/76
 CHIEF BUREAU OF HIGHWAYS
 OFFICE OF PLANNING & ZONING
 DATE: 7/8/76

HOWARD COUNTY, MARYLAND
 DATE: JUNE 16, 1976

OFFICE OF
 W. STANLEY MACHEN
 REGISTERED LAND SURVEYOR
 4328 FARRAGUT ST.
 BETHESDA, MD.
 LICENSE 5-5119
 DRAWING NO. 4 OF 9

SCHEDULE

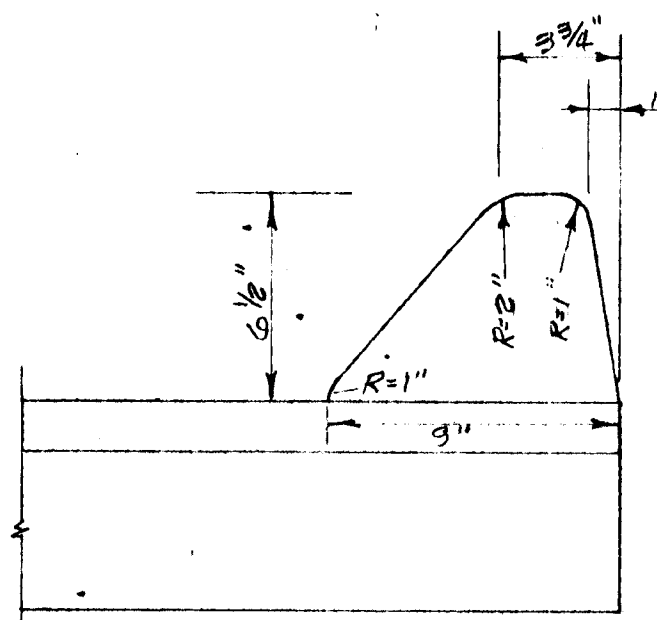
NO.	SIZE	STRUCTURE TYPE	TOP ELEV.	REMARKS	PIPE		TYPE			
					From	To				
M-4	15"	Endwall		Ho. Co. 5th "C"	W-4	M-1	15'	140'	RCP (C) V	
M-1	48"	Manhole	392.05	392.02	Drwg D-103	M-1	I-26	15"	48'	RCP (C) V
I-26	A-5	Inlet	392.04	391.92	Drwg D-64A	I-26	I-27	15"	32'	RCP (C) V
I-27	A-5	Inlet	392.04	391.86	Drwg D-64A					



Bituminous Concrete Surface	1 1/2" Sand C-3
Bituminous Concrete Base	5" Gravel Mix

Clearing & Grading
Subgrade
Base Course
Surface Course

Art. C-1
Art. C-2
Art. C-33
Art. C-31

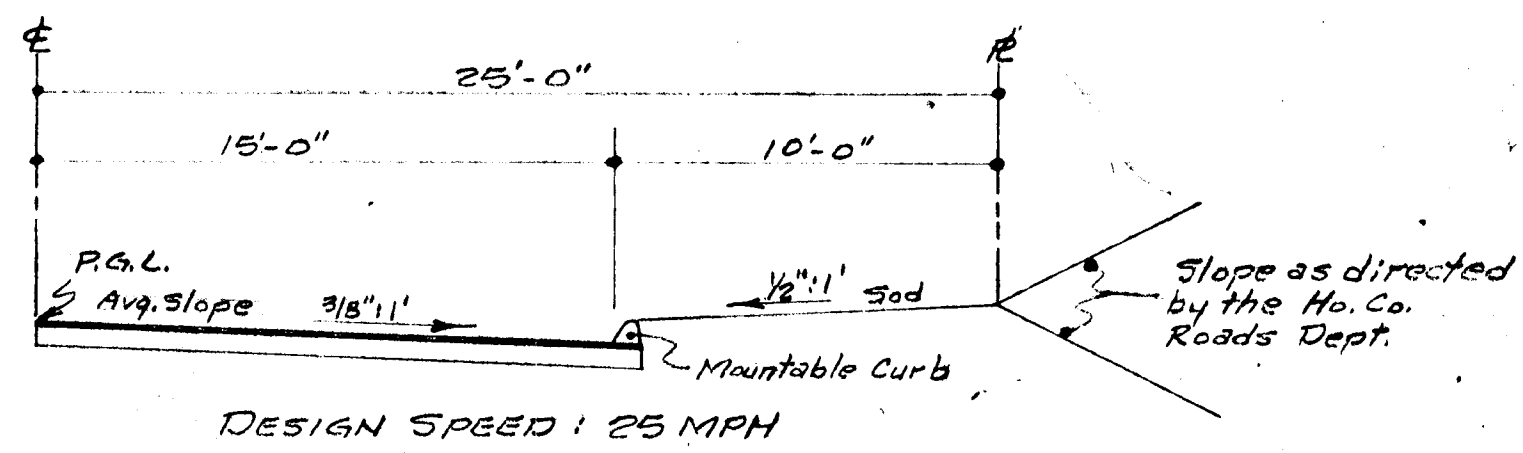
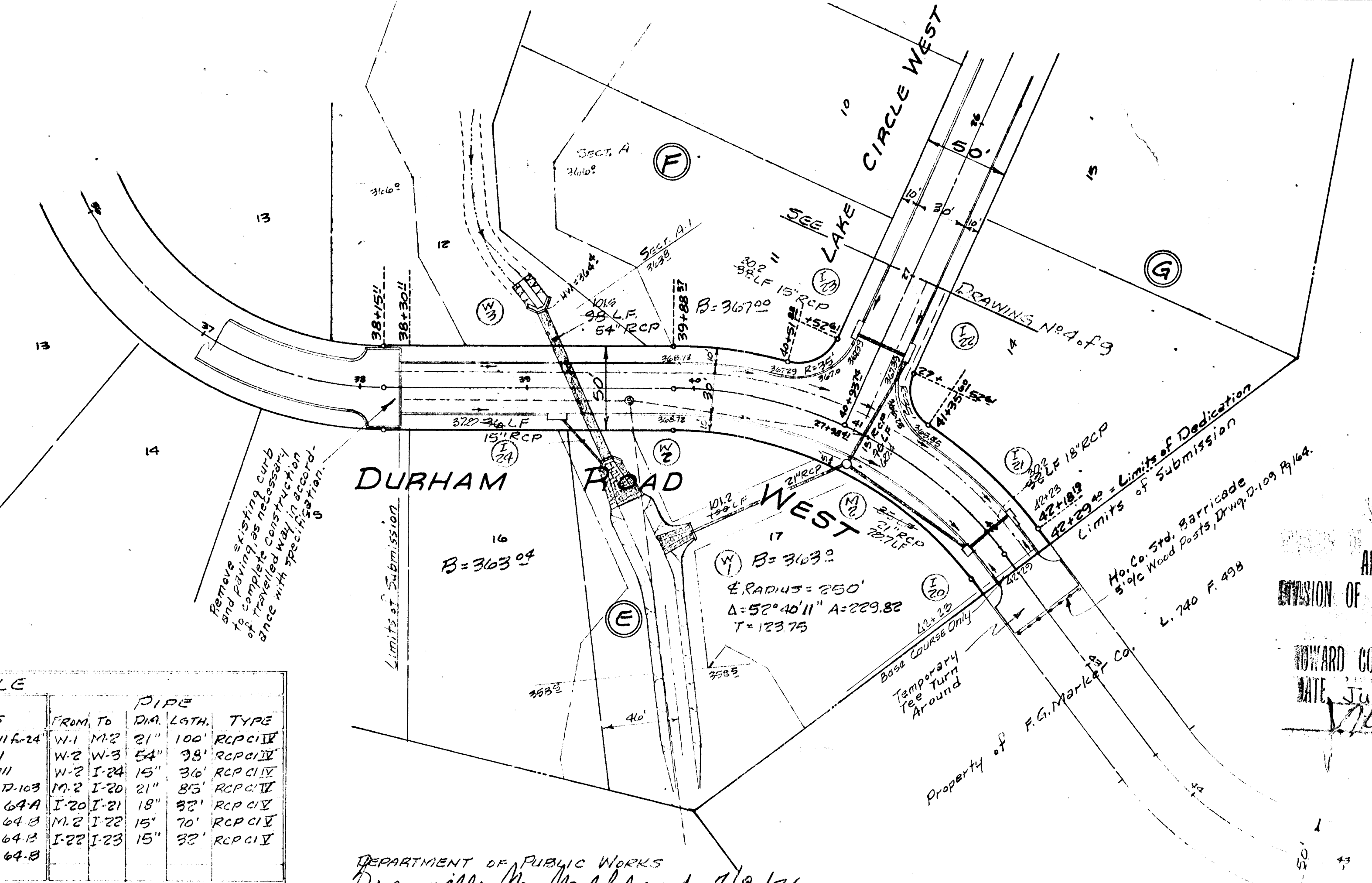


MOUNTABLE CURB
(No Scale)
Ho. Co. Std. Drwg. O-39 page 94

STRUCTURE		SCHEDULE		PIPE				
NR	SIZE	TYPE	TOP ELEV.	REMARKS	FROM TO	DIAM.	LENGTH	TYPE
W-1	21"	Endwall		Ho. Co. Std. Endwall 4-24	W-1	M-2	21'	100' RCP C12
W-2	54"	Headwall		Ho. Co. Std. Headwall	W-2	W-3	54'	38' RCP C12
W-3	54"	Headwall		Ho. Co. Std. Headwall	W-3	I-24	15'	38' RCP C12
M-2	48"	Manhole	364.64	Ho. Co. Std. Drwg. D-103	M-2	I-20	21'	36' RCP C12
I-20	A-5	Inlet	364.95	Drwg. 64A	I-20	I-21	18'	32' RCP C12
I-21	B-10	Inlet	364.95	Drwg. 64 B	M-2	I-22	15'	70' RCP C12
I-22	B-10	Inlet	367.93	w/deflector Drwg. 64 B	I-22	I-23	15'	32' RCP C12
I-23	B-10	Inlet	367.93	Drwg. 64 B				
I-24	B-10	Comb. Inlet	370.17	50032				



DEPARTMENT OF PUBLIC WORKS
DRAVEILLE M. WELSHAID 7/8/76
CHIEF BUREAU OF HIGHWAYS
OFFICE OF PLANNING & ZONING
ACTING
STATE DIVISION OF LAND DEVELOPMENT
TRANSPORTATION PLANNING



TYPICAL HALF PAVING SECTION
FOR: LAKE CIRCLE WEST AND DURHAM ROAD WEST

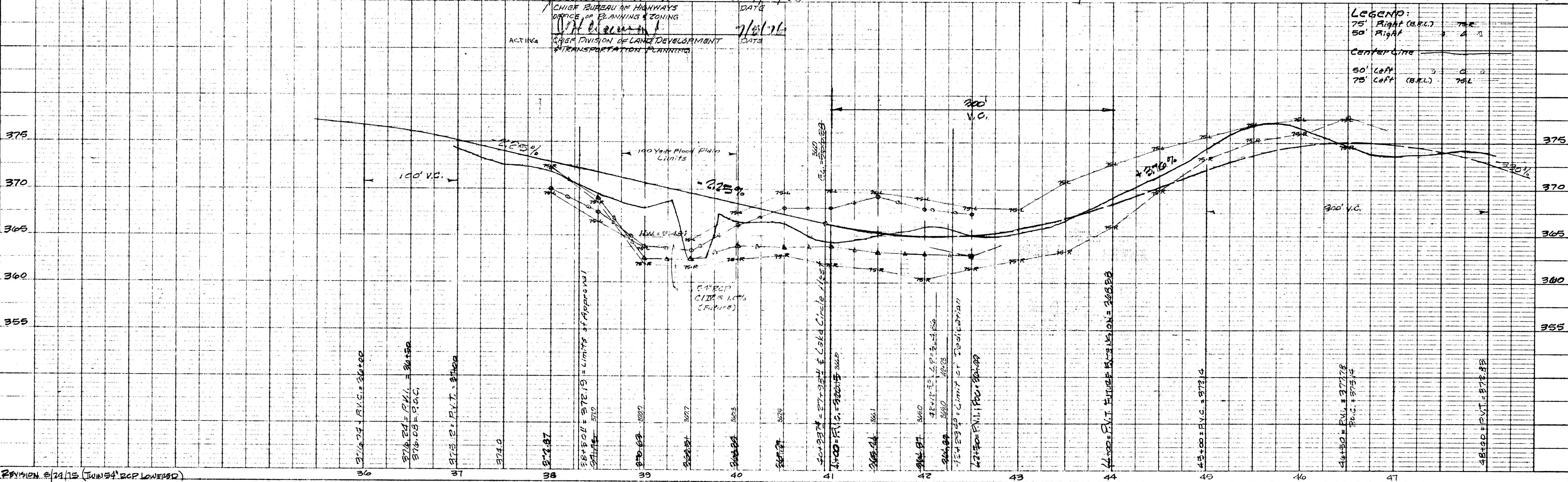
NOTE:
1. Back coat is required in accordance with Sec. C-31-4.
2. Base will be primed in accordance with Sec. C-30-3.
3. Typical Ho. Co. Section Drwg. D-16 page 71.
4. All construction and materials shall be in accordance with Howard County Road Construction Code, Howard County Storm Drain Design Standards and Approved Contract Specifications.

APPROVED
EMISION OF LAND DEVELOPMENT
HOWARD COUNTY, MARYLAND
DATE: JUNE 11, 1976
V.M.C.

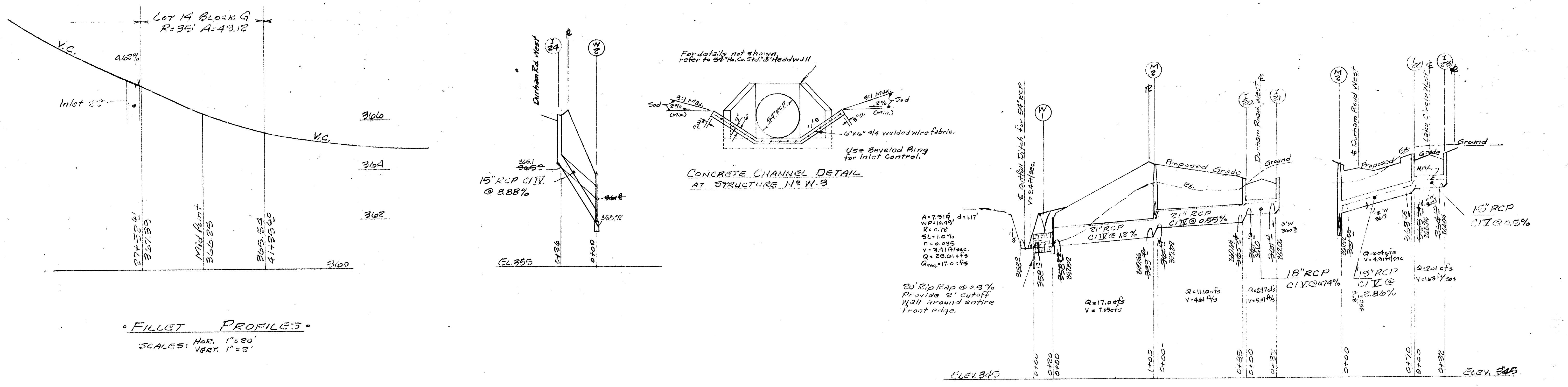
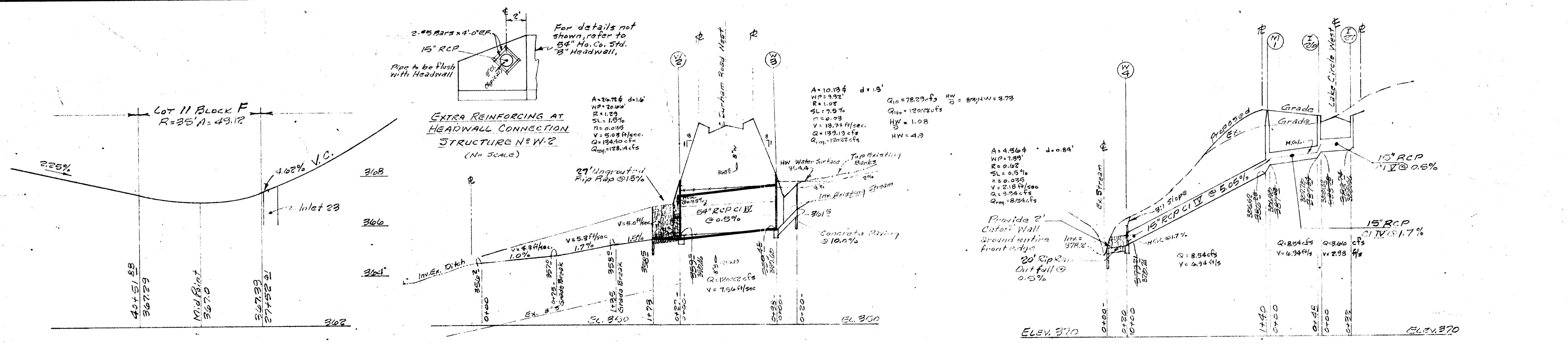
PLAN AND PROFILE
DURHAM ROAD WEST
SECTION 10 - AREA II
BEAVERBROOK
5TH ELEC. DISTRICT - HOWARD COUNTY, MD.
SCALE: Hor. 1"=50' VERT. 1"=5'
MAY, 1975

OFFICE OF
W. STANLEY MACHEN
REGISTERED LAND SURVEYOR
4328 FARRAGUT ST.
HYATTSVILLE, MD.
PHONE 4-5115

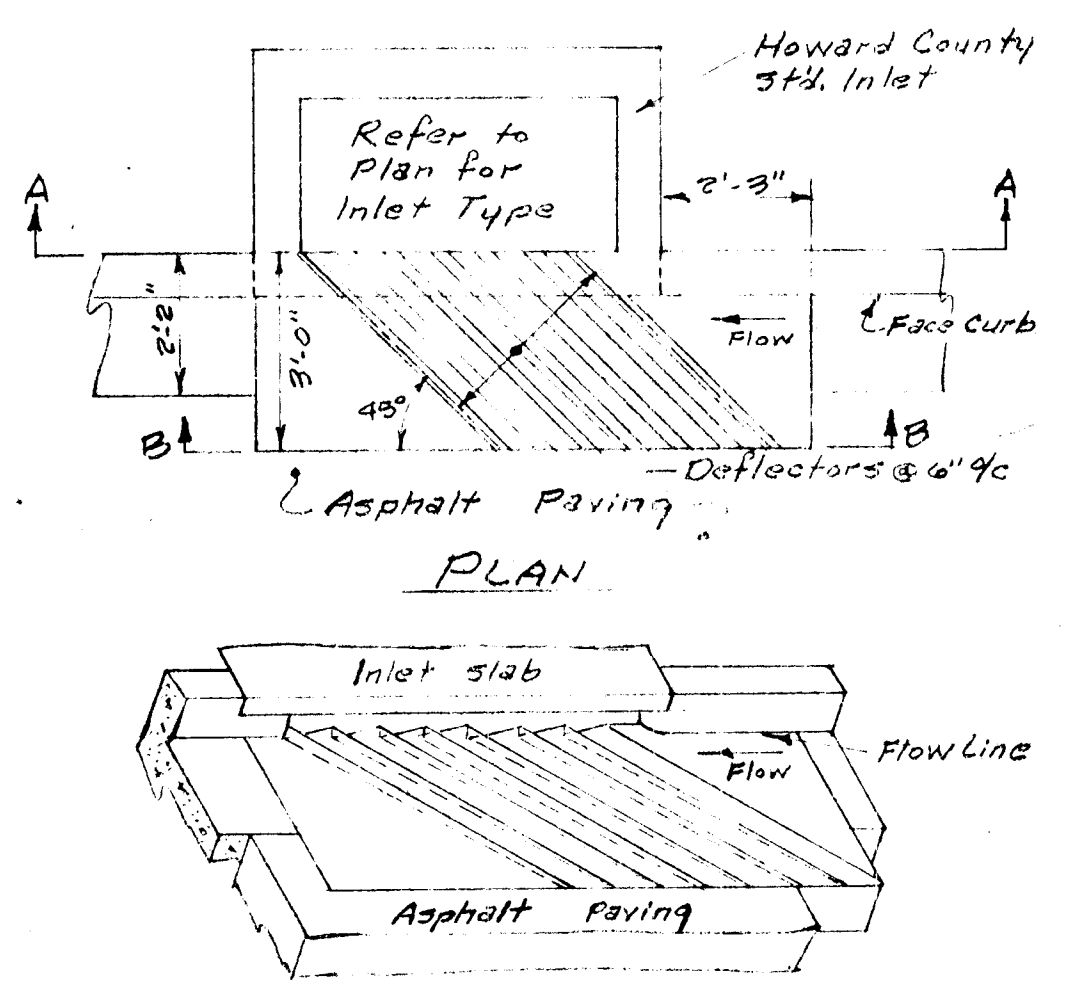
DRAWING NO. 5 OF 9



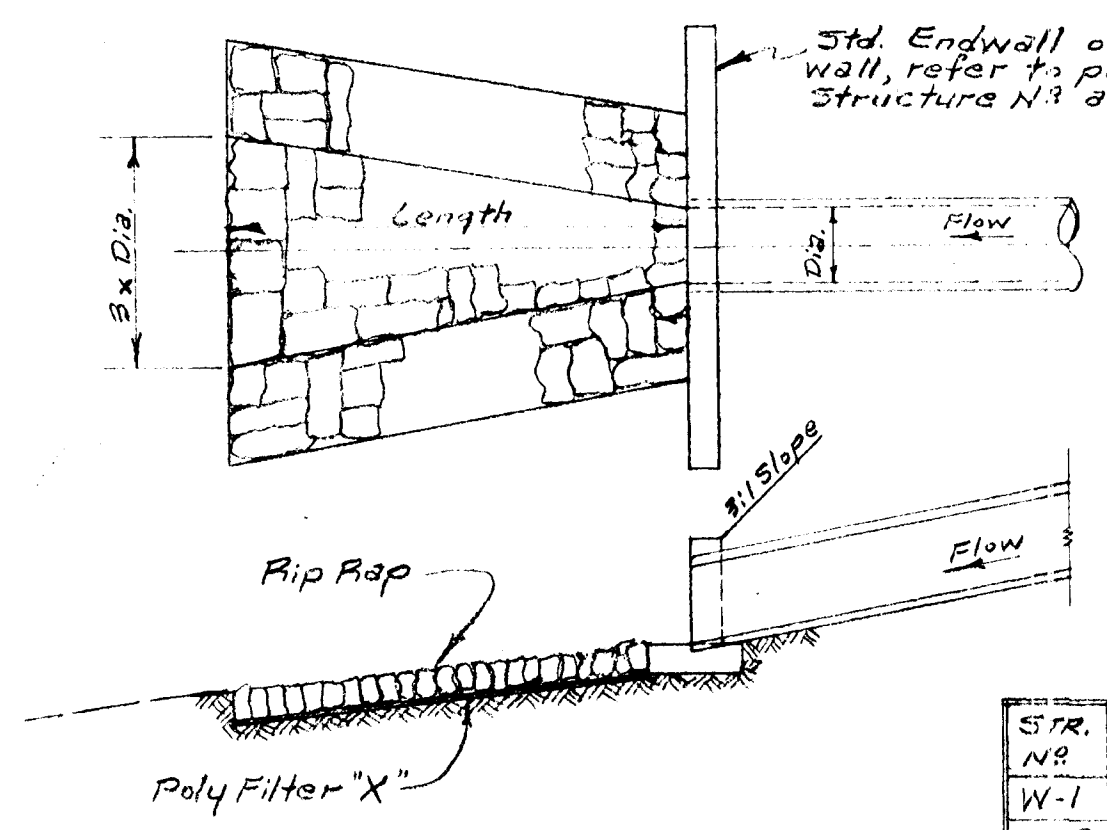
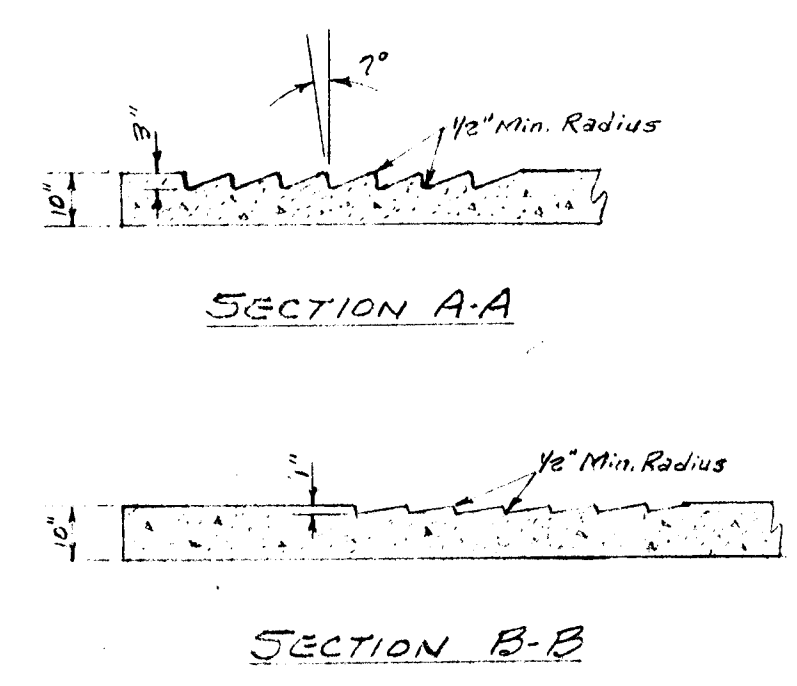
REVISION 2/24/75 (JUN 54' RCP LOWERED)



• FILLET PROFILES •
SCALES: HOR. 1"=20'
VERT. 1"=2'



DETAIL OF CURB INLET WITH DEFLECTORS
(No Scale)

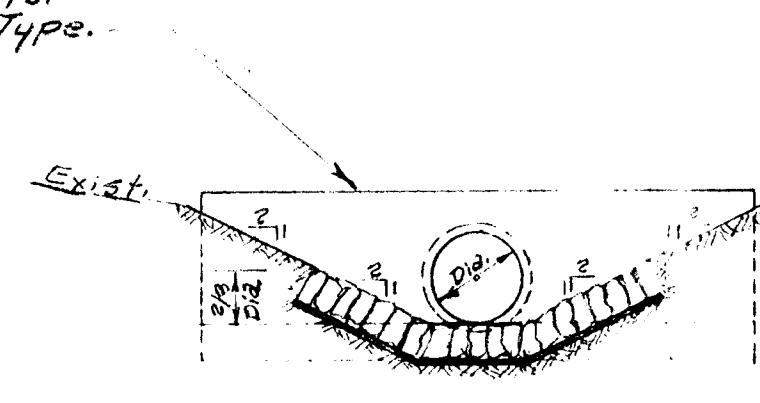


RIP RAP DETAIL AT OUTFALL
(No Scale)

STR. NO.	PIPE DIA.	LENGTH OF RIP RAP	WIDTH AT END RIP RAP
W-1	21"	20'-0"	5'-3"
W-2	24"	27'-0"	13'-6"
W-4	15"	20'-0"	3'-9"

Minimum Stone Size: 12"

• PROFILES •
SCALES: HOR. 1"=20'
VERT. 1"=2'



APPROVED
DIVISION OF LAND DEVELOPMENT

HOWARD COUNTY, MARYLAND
DATE: JUNE 11, 1976

DEPARTMENT OF PUBLIC WORKS
Drewville M. McKeel 7/8/76
CHIEF BUREAU OF HIGHWAYS
OFFICE OF PLANNING & ZONING
J. H. Newman 7/16/76
ACTING CHIEF DIVISION OF LAND DEVELOPMENT
& TRANSPORTATION PLANNING

STORM DRAIN DETAILS AND PROFILES
DURHAM ROAD WEST AND LAKE CIRCLE WEST
BEAVERBROOK
SECTION 10 - AREA II
5TH ELEC. DISTRICT - HOWARD COUNTY, MD.

OWNER: R.E. Marker Co., Inc. (301) 453-2584
5300 Princess Parkway Lanham, Md. 20801

SCALE: AS SHOWN

APPROVED BY: W. STANLEY MACHEN
LAND PLANNER - LAND SURVEYOR
4328 FARRAGUT ST. HYATTSVILLE, MD. 20878
564-5115 (301) 327-8500

DATE: 12/26/75

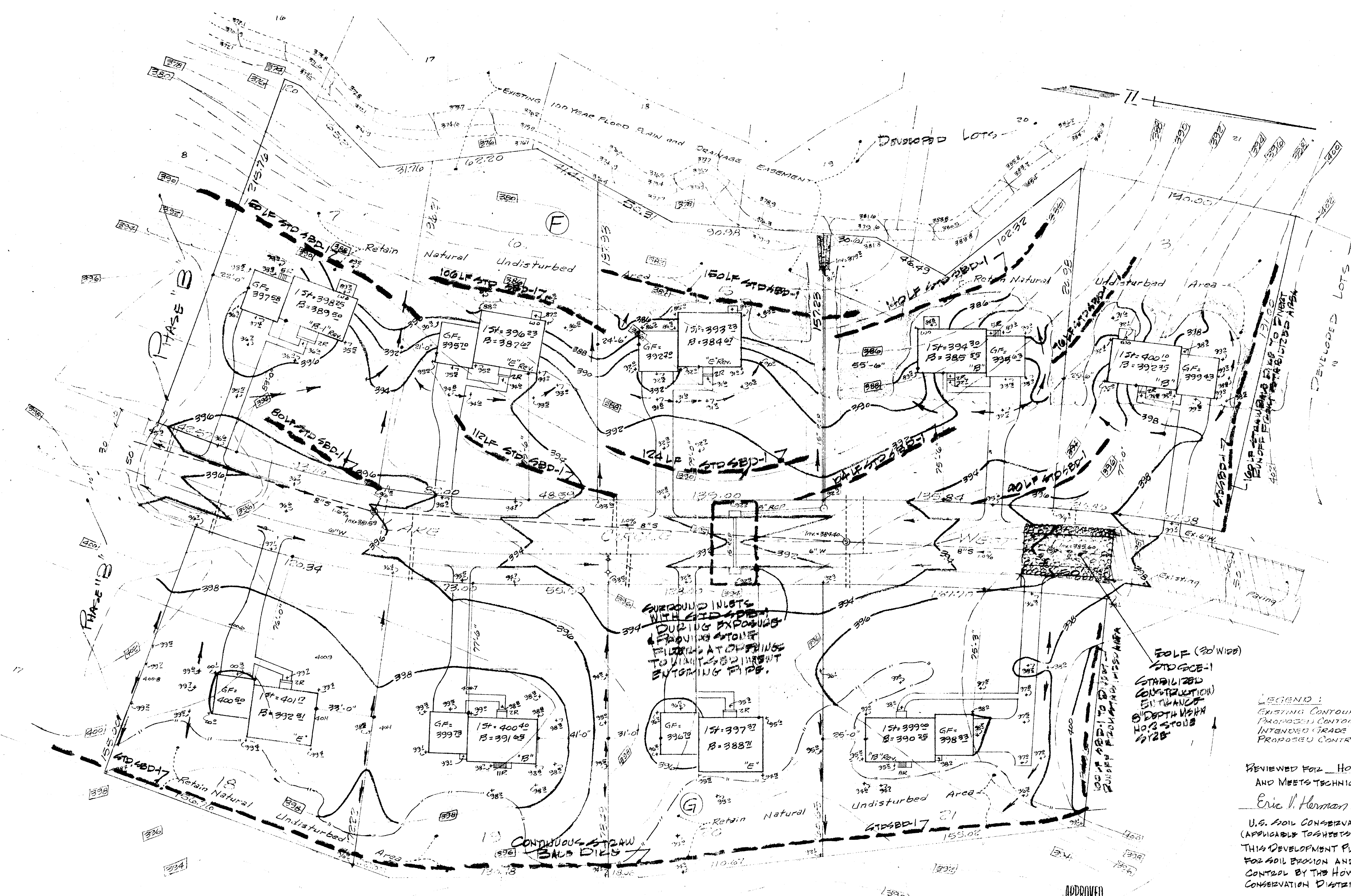
REVISIONS: 12/26/75

DRAWING NUMBER: 50 OF 3

DATE: 12/26/75

REVISIONS: 12/26/75

OFFICE OF
W. STANLEY MACHEN
REGISTERED LAND SURVEYOR
4328 FARRAGUT ST.
HYATTSVILLE, MD.
UNION 4-5115



LEGEND:
 EXISTING CONTOUR: ——— 390
 PROPOSED CONTOUR: - - - - - 390
 INTENDED GRADE DIRECTION: →
 PROPOSED CONTROL GRADE: ——— 390

REVIEWED FOR HOWARD S.O.D.
 AND MEETS TECHNICAL REQUIREMENTS
 Eric V. Herman 7/2/76
 DATE
 U.S. SOIL CONSERVATION SERVICE
 (APPLICABLE TO SHEETS 7, 8, 9 AND SUPPORTING DATA)
 THIS DEVELOPMENT PLAN IS APPROVED
 FOR SOIL EROSION AND SEDIMENT
 CONTROL BY THE HOWARD SOIL
 CONSERVATION DISTRICT.
 APPROVED Robert W. Jellison 7/1/76
 HOWARD S.O.D.

APPROVED
 DIVISION OF LAND DEVELOPMENT
 HOWARD COUNTY, MARYLAND
 DATE: JUNE 15, 1976

DEPARTMENT OF PUBLIC WORKS
 Brewster N. McLeod 7/8/76
 CHIEF BUREAU OF HIGHWAYS
 OFFICE OF PLANNING & ZONING
 Acting CHIEF DIVISION OF LAND DEVELOPMENT & TRANSPORTATION PLANNING DATE 7/8/76

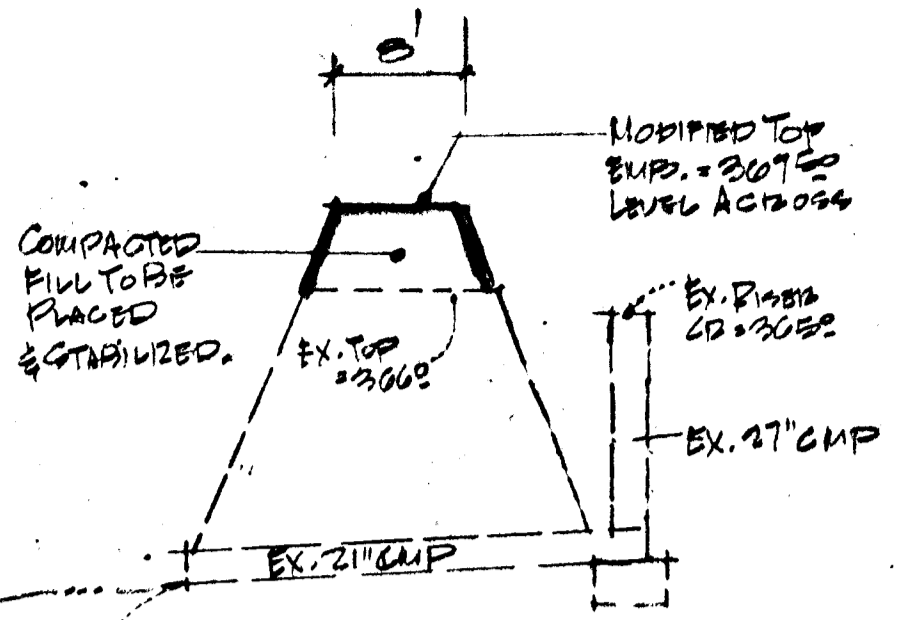
REFER TO SHEET #3 FOR CONSTRUCTION SCHEDULE, DETAILS, CERTIFICATIONS, ETC.

AREA NOTATION: (SHEET 1)
 1. Total Area contained in lots on this plan 205,838 sq ft
 2. Approximate area to be disturbed and restored 138,728 sq ft
 3. Approximate area to remain undisturbed and having Erosive Resistant Surfaces 67,110 sq ft

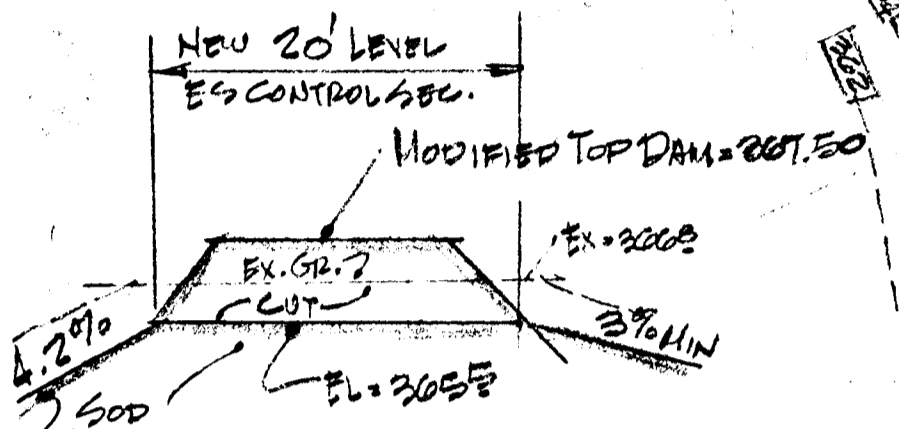
PHASE "A" = 9 LOTS
 (5 & 4)

SEDIMENT CONTROL AND SITE DEVELOPMENT PLAN
 LOTS 3 THROUGH 7 BLOCK "I" AND LOTS 18 THROUGH 21 BLOCK "G"
 SECTION 10 - "BEAVERPOOD"
 5th ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

OWNER: P.G. WILKES CO. INC. 8300 PHINCKSS GARDENS PARKWAY LANHAM, MD 20801	DATE: JAN 2, 1976	APPROVED BY: VI. STANLEY MACHEN LAND SURVEYOR	DRAWN BY: VLD/1
SCALE: 1" = 40'	DATE: JAN 2, 1976	DESIGNED BY: VLD/1	REVISIONS:
LAND PLANNER: VLD/1	DATE: 7/8/76	DRAWING NUMBER: 7 OF 9	



SECTION THRU DAM AT PIPESPLINWAY
(NO SCALE)



SECTION 'A-A' @ EUG. SPLINWAY
(NO SCALE)

NOTE: ACCESS WILL BE LIMITED FROM LAKE CIRCLE WEST UNTIL FINAL ST. CONSTR. IS

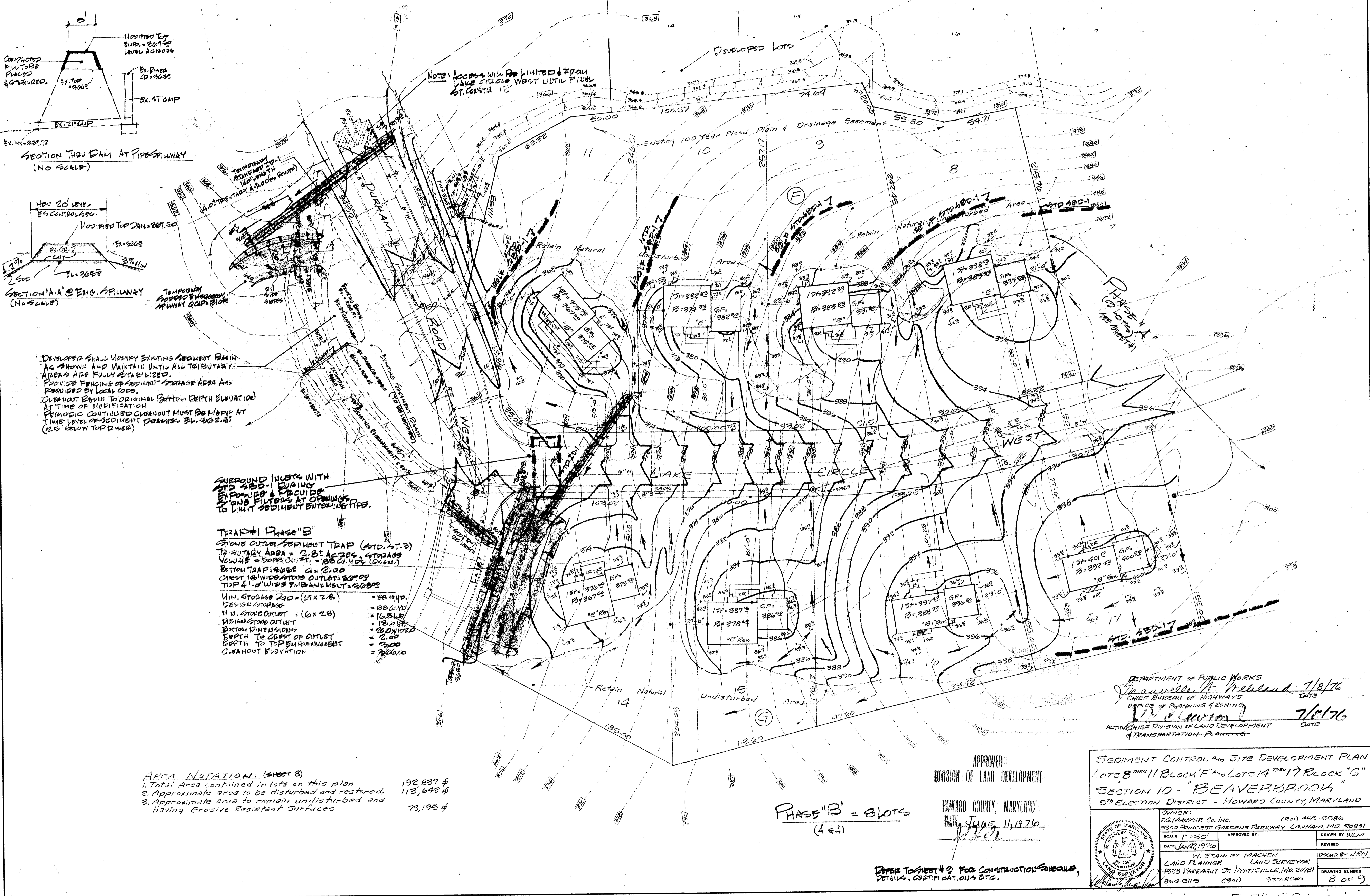
DEVELOPER SHALL MAINTAIN EXISTING SEDIMENT BASIN AS SHOWN AND MAINTAIN UNTIL ALL TRIBUTARY AREAS ARE FULLY STABILIZED. PROVIDE FENCING OF SEDIMENT STORAGE AREA AS PROVIDED BY LOCAL CODE. CLEAROUT BASIN TO ORIGINAL BOTTOM DEPTH ELEVATION AT TIME OF MODIFICATION. PERIODIC CONTINUED CLEAROUT MUST BE MADE AT TIME LEVEL OF SEDIMENT DEPOSITS EL. 203.35 (2.5' BELOW TOP DIME)

SUBROUND INLETS WITH 2" SED. DRAINING EXPANSION & PROVIDE STONE FILTERS AT OPENINGS TO LIMIT SEDIMENT ENTERING PIPE.

TRAP #1 PHASE "B"
 STONE OUTLET SEDIMENT TRAP (STD. ST. 3)
 TRIBUTARY AREA = 2.8 ACRES, STORAGE VOLUME = 5000 CU. FT. = 100 CU. YDS (6400)
 BOTTOM TRAP = 4' x 2.00
 CHEST 18" WIDE STONE OUTLET, 20' LONG
 TOP 4" WIDE FUR BANKMENT = 20000

MIN. STORAGE PPD = (6' x 2.8)	= 168 CU. YD.
DESIGN STORAGE	= 180 CU. YD.
MIN. STONE OUTLET = (6' x 2.8)	= 16.8 CU. YD.
DESIGN STONE OUTLET	= 18.0 CU. YD.
BOTTOM DIMENSIONS	= 10.0' x 10.0'
DEPTH TO CREST OF OUTLET	= 2.00
DEPTH TO TOP BULKHEADMENT	= 3.00
CLEAROUT ELEVATION	= 200.00

AREA NOTATION: (SHEET 3)
 1. Total Area contained in lots on this plan 192,837 #
 2. Approximate area to be disturbed and restored, 113,642 #
 3. Approximate area to remain undisturbed and having Erosive Resistant Surfaces 79,195 #



DEPARTMENT OF PUBLIC WORKS
Manville H. Neeland 7/8/76
 CHIEF BUREAU OF HIGHWAYS
 OFFICE OF PLANNING & ZONING
J. H. Neeland 7/6/76
 ACTING CHIEF DIVISION OF LAND DEVELOPMENT
 TRANSPORTATION PLANNING

APPROVED
 DIVISION OF LAND DEVELOPMENT

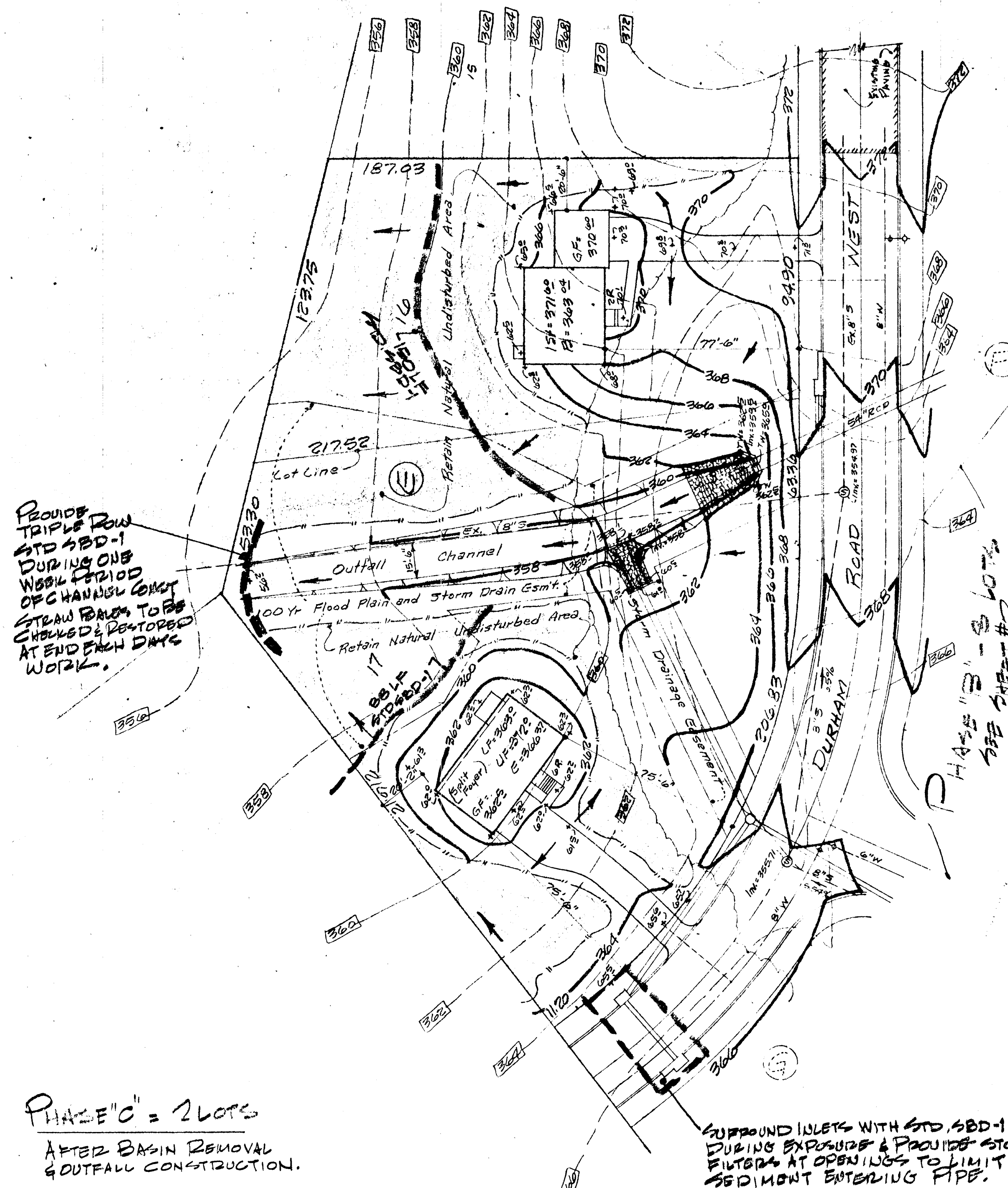
HOWARD COUNTY, MARYLAND
 DATE: JUNE 11, 1976

PHASE "B" = 8 LOTS
 (4 & 1)

REFER TO SHEET # 0 FOR CONSTRUCTION SCHEDULE, DETAILS, CERTIFICATIONS ETC.

SEDIMENT CONTROL AND SITE DEVELOPMENT PLAN
 LOTS 8 THRU 11 BLOCK "F" AND LOTS 14 THRU 17 BLOCK "G"
 SECTION 10 - "BEAVERBROOK"
 5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

OWNER: FG MARKER Co. Inc. 5000 PRINCESS GARDENS PARKWAY LANHAM, MD 20801 (301) 459-3586	APPROVED BY: W. STANLEY MACHEN LAND PLANNER 4328 PARKSUT ST. HYATTSVILLE, MD 20781 804 5113 (301) 927-8500	DRAWN BY: WLM	REVISION: DSCND BY JRN
SCALE: 1" = 30'	DATE: JAN 17, 1976	DRAWING NUMBER: 8 OF 9	



PROVIDE TRIPLE ROW STD SBD-1 DURING ONE WORK PERIOD OF CHANNEL CONSTRUCTION STRAW BALS TO BE CHECKED & RESTORED AT END EACH DAYS WORK.

PHASE "C" = 2 LOTS
AFTER BASIN REMOVAL & OUTFALL CONSTRUCTION.

GROUND INLETS WITH STD SBD-1 DURING EXPOSURE & PROVIDE STONE FILTERS AT OPENINGS TO LIMIT SEDIMENT ENTERING PIPE.

AREA NOTATION: (Sheet 9)

1. Total Area contained in lots on this plan	58,360 sq ft
2. Approximate area to be disturbed and restored	33,830 sq ft
3. Approximate area to remain undisturbed and having Erosive Resistant Surfaces	22,530 sq ft

DEVELOPER'S CERTIFICATION: (SHEETS 1, 2, 3 AND SURVEYING DATA)
"I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL, AND I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DESCRIBED NECESSARY."
Fred G. Marker 1/28/76
FRED G. MARKER - DEVELOPER DATE

ENGINEER'S CERTIFICATION: (SHEETS 1, 2, 3 AND SURVEYING DATA)
"I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
W. Stanley Machen 1/28/76
W. STANLEY MACHEN MD. REG. #2047 DATE

- SEDIMENT AND EROSION CONTROL NOTES:** (APPLICABLE TO SHEETS 1, 2 & 3)
- EXCEPT FOR THE EXISTING SEDIMENT BASIN AND REQUIRED MODIFICATIONS THEREOF ALL SEDIMENT AND EROSION CONTROL SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE JULY 1975 USDA 606 "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS" AND IT SHALL BE THE DEVELOPER/CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND MAINTAIN A COPY OF THE APPLICABLE STANDARDS FOR USE ON THIS PROJECT. COPIES OF SAID STANDARDS MAY BE OBTAINED FROM THE HOWARD SOIL CONSERVATION DISTRICT OFFICE.
 - THE H.S.C.D. AND BUREAU OF LICENSES, INSPECTIONS AND FEES SHALL BE SERVED 24 HOURS NOTICE PRIOR TO ANY GRADING OR CONSTRUCTION.
 - ALL SEDIMENT CONTROLS SHOWN BY THIS PLAN SHALL BE INSTALLED AND STABILIZED PRIOR TO ANY TRIBUTARY GRADING OR BATHY DRAINAGE.
 - DEVELOPER SHALL RETAIN ALL POSSIBLE EXISTING NATURAL VEGETATION COVER DURING ALL PHASES OF CONSTRUCTION AND STABILIZE ALL GRADED SURFACES AS SOON AS PRACTICAL.
 - CONTRACTOR SHALL PROTECT ALL ADJACENT PROPERTIES DURING ALL PHASES OF WORK.
 - SEDIMENT CONTROLS SHALL NOT BE REMOVED UNTIL THE PHASED AREA TRIBUTARY IS FULLY STABILIZED AND APPROVED BY THE H.S.C.D. OR AUTHORIZED AGENT.
 - TEMPORARY STABILIZATION:**
REQUIRED FOR ANY EXPOSED AREA WHICH MUST REMAIN UNCOVERED IN EXCESS OF 60 DAYS.
APPLY: 400 LBS./AC. OR 10 LBS./1000 SQ. FT. USING 10-30-20 OR EQUIVALENT FERTILIZER
& 400 LBS./AC. OF ITALIAN RYE GRASS @ 40 LBS./AC. MAR. 15 - JUNE 1 / AUG. 1 - AUG. 15
OR ANY OTHER APPROVED APPLICATION FOR OTHER SPECIES. PER SPEC. E001 & E201.
 - PERMANENT STABILIZATION:** IN ACCORDANCE WITH SPECIFICATION E 1.01 FOR SOE, ON SOIL-CRITICAL AREAS: SPECIFICATION E 4.01 FOR SOE ON CRITICAL AREAS.
A) SOE: MIXTURE NO. 14, KENTUCKY-31 "TALL FESCUE ON FERTILE PREPARED SURFACES."
E) SOE: MAINTAINED CONTINUED ON PROPOSED PREPARED SURFACES.
(ALL SOE APPLICATIONS SHALL BE TAKEN FROM THE STANDARDS & SPECIFICATIONS OF H.S.C.D. PRIOR TO APPLYING PRACTICE.)
- CONSTRUCTION SEQUENCE**
- CLEARING, MODIFY AND STABILIZE THE EXISTING SEDIMENT BASIN PRIOR TO ANY CONTINUED SITE DISTURBANCE AND NOTIFY H.S.C.D. WHEN COMPLETE FOR CONTINUED USE OF TRIBUTARY AREAS.
 - INSTALL STONE STABILIZED CONSTRUCTION ENTRANCE PAD AT END OF LAKE CIRCLE WEST.
 - INSTALL DIVERSION AT END OF DURHAM ROAD WEST, ONCE TRIBUTARY AREA IS STABILIZED.
 - INSTALLATION OF WATER AND SEWER IN STREETS (NOW GRADED) DIVERTING ANY DISTURBED AREA RUNOFF INTO THE MODIFIED SEDIMENT BASIN.
 - PHASE "A" (SHEET #1) HOUSING, STORM DRAIN, STREET, FINAL GRADING AND STABILIZATION COMPLETE AND SEDIMENT CONTROL REMOVED.
 - PHASE "B" (SHEET #2) SAME AS PHASE A, AFTER COMPLETION OF PHASE "A".
 - PHASE "C" (SHEET #3) SAME AS PHASE A & B, AFTER COMPLETION OF PHASE "B".
 - REMOVAL OF THE SEDIMENT BASIN SHALL NOT BE MADE UNTIL DURHAM ROAD WEST HAS BEEN PAVED WITH BASE INCLUDING ALL STORM DRAINAGE CONSTRUCTION AT CROSSING AND LOW POINTS.
 - CONSTRUCT CHANNEL OUTFALL COMPLETE WITH SOE JUST AFTER CAREFUL REMOVAL OF SEDIMENT BASIN, WHICH MUST BE COMPLETED WITHIN 7 WORKING DAYS.
 - COMPLETE PHASE "C" AS INDICATED IN ITEM # 7, AND ONLY AFTER ALL TRIBUTARY AREAS ARE FULLY STABILIZED.
 - MODIFICATIONS CAN ONLY BE MADE WITH PRIOR APPROVAL OF H.S.C.D.
- NOTES:**
- REFER TO STORM DRAINAGE STUDY/COMP. FOR TRIBUTARY AREAS & RUNOFF QUANTITIES.
 - REFER TO STORM DRAINAGE CONSTRUCTION PLANS FOR OUTLET STRUCTURES AND OTHERS.

CONTRACTOR SHALL REFER TO HIS COPY OF THE G.C.S. STANDARDS FOR ALL CONSTRUCTION DETAILS FOR:

	(PLAN LEGEND)
A) INTERCEPTOR DIKE (STANDARD 11.01-11.02)	ID-1
B) STRAW BALS DIKE (STANDARD 13.01-13.02)	SBD-1
C) STABILIZED CONSTRUCTION ENTRANCE (STD. 10.01-10.02)	SCB-1
D) STONE OUTLET SEDIMENT TRAP (STD. 20.01-20.04 & 20.07)	ST-2

& OTHER PREVIOUSLY NOTED ITEMS.

APPROVED
DIVISION OF LAND DEVELOPMENT
HOWARD COUNTY, MARYLAND
DATE JUNE 11, 1976

DEPARTMENT OF PUBLIC WORKS
Shawville M. Heblaud 7/18/76
CHIEF BUREAU OF HIGHWAYS
OFFICE OF PLANNING & ZONING
W. Machen 7/16/76
ACTING CHIEF DIVISION OF LAND DEVELOPMENT
& TRANSPORTATION PLANNING

SEDIMENT CONTROL AND SITE DEVELOPMENT PLAN
LOTS 16 AND 17 BLOCK "E"
SECTION 10 - "BEAVERBROOK"
5th ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

OWNER: F.G. MARKER CO. INC. (301) 453-5380 5900 PRINCESS GARDENS PARKWAY LANHAM, MD. 20801	DATE: JAN 1976	APPROVED BY:	DRAWN BY: WLM
SCALE: 1" = 30'	DATE: JAN 1976	REVISION:	REVISION:
W. STANLEY MACHEN LAND PLANNER 1302 PIERAGUT ST. HATTYSVILLE, MARYLAND 867-5115 (301) 927-8500	DATE: JAN 1976	DESIGN BY: JRN	DRAWING NUMBER 9 07 73