REVISIONS

COLUMBIA

HOWARD COUNTY, MARYLAND

CONSTRUCTION PLANS

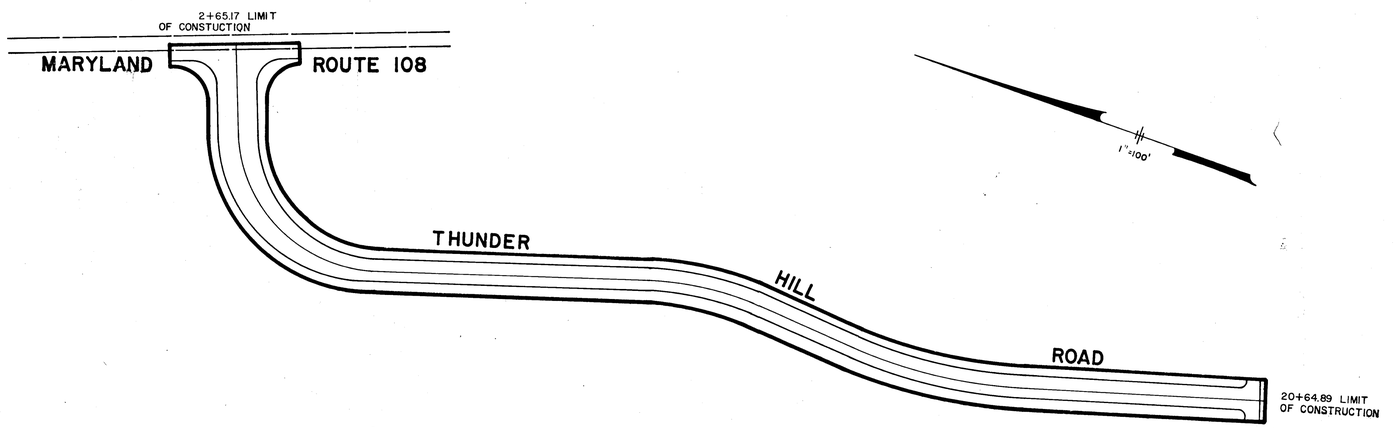
VILLAGE OF OAKLAND MILLS SEC. 1, AREA 3

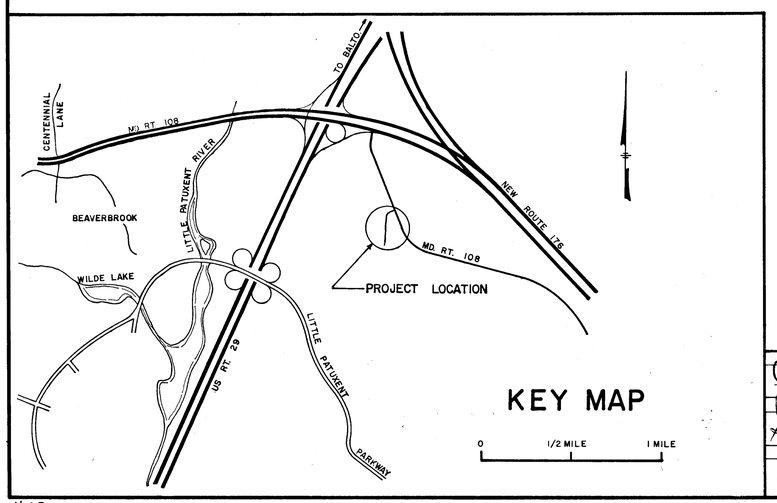
ELECTION DISTRICT 6

NOTES:

1. THUNDER HILL ROAD IS DESIGNED FOR 35 M.P.H. TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARDS.
2. ALL DETAILS ARE FROM "ROAD CONSTRUCTION CODE AND STANDARD SPECIFICATIONS" ISSUED OR APPROVED BY THE COUNTY COMMISSIONERS OR THE HOWARD COUNTY ROAD DEPARTMENT.
3. BEFORE CONSTRUCTING CURBS AND SIDEWALKS CONTRACTORS SHALL NOTIFY THE HOWARD RESEARCH DEVELOPMENT CORPORATION, ENGINEERING AND LAND DEPARTMENT, FOR CUT LOCATIONS OF FUTURE STREET INTERSECTIONS.

SHEET INDEX	
SHEET No	DESCRIPTION
1.	TITLE SHEET
	PLAN & PROFILE
2.	THUNDER HILL ROAD STA. 2+65.17 to 8+50
3.	THUNDER HILL ROAD STA. 8+50 to 17+24.89
4.	THUNDER HILL ROAD STA. 17+24.89 to 20+64.89
5	PLAN & PROFILE EASEMENT "G"
6.	ROADWAY DETAILS
7.	DRAINAGE AREA MAP
8.	ULTIMATE CLOSED DRAINAGE THRU EX. 20' E.S.M.'T.





APPROVED HOWARD COUNTY PLANNING COMM.	
CHIEF ENGINEER	DATE 9-25-68
APPROVED HOWARD COUNTY ROADS DEPT.	
ROADS SUPERINTENDENT	DATE 9-25-68
APPROVED HOWARD COUNTY METROPOLITAN COMM.	
CHIEF ENGINEER	DATE 9-23-68

BROWNE-PANUZZO & ASSOCIATES
ENGINEERS
COLUMBIA, MARYLAND

Richard P. Browne 5238

STATE OF MARYLAND — REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR

ESTIMATE OF QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY

#89

F-68-35 FILE NO. 1923 DRWG. 1 OF 8

STORM DRAINAGE STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	INV. IN	INV. OUT & PIPES		REMARKS
I	ST'D. 5' COMB. INLET (DOUBLE GRATE)	STA 3+57.13 - 25.67' Lt. ℄		402.83	407.73	HOWARD COUNTY DWG. D-99 PG. 154
II	STD. '5' COMB. INLET (DOUBLE GRATE)	STA 3+57.13 - 25.67' Rt. ℄	401.52	399.65	407.73	HOWARD COUNTY DWG. D-99 PG. 154
M.H.	STD. DROP MANHOLE	STA 5+00 - 25.67' Rt. ℄	400.50	400.00		HOWARD COUNTY DWG. D-104 PG. 150
E.W.C.	STD. TYPE 'C' ENDWALL	AS SHOWN ON PLAN		399.67		HOWARD COUNTY DWG. D-92 PG. 107
III	STD 5 COMB. INLET (DOUBLE GRATE)	STA. 42+58 ± THUNDER HILL - 14' LT. ℄		403.38	407.88	HO. CO. DWG D-98 PG. 154

PLAN
SCALE 1"=50'

APPROVED FOR DESIGN ONLY
LRG Kelly SRC. 9/25/68

EXIST DRAINAGE EASEMENT

N 43°-27'-32"E 120.93'

N 12°-32'-30"W

NOTE: OUTFALL DITCH IS TEMPORARY PENDING FUTURE DESIGN OF RTE. 108 (BY OTHERS)

LOT G5

LOT G6

LOT G7

MD ROUTE 108

N 15°-21'-00"W 276.64'

N 08°-15'-00"E 59.04

15'x6" CONC. APRON

405

VEHICULAR INGRESS AND EGRESS RESTRICTED EXCEPT AT POINTS OF ACCESS APPROVED BY HOWARD COUNTY PLANNING COMMISSION

N 502,744.64
E 845,057.52

℄ INT. 43+25 MD RTE. 108 & 2405.17 THUNDER HILL ROAD

116 L.F. 15" RCCP CL IV

EXISTING PAVING

ULTIMATE R/W

80' R/W

℄ DITCH CURVE DATA
Δ = 46°-00'-00"
R = 65.00'
L = 52.09'
T = 27.67'

20' WIDE DRAINAGE & UTILITY EASEMENT

C ENDWALL
110 L.F. 27" RCCP CL III

FLOW LINE

PAVEMENT SHALL CONSIST OF
(A) 6" Compacted Md. Spec. Bituminous Concrete Base
3" Surface
OR
(B) 12" Compacted Plant Mix Stabilized Stone Aggregate
Plus 8½" Compacted Md Spec. Bituminous Concrete
(7" Base 1½" Surface)

PAVING TRANSITION LINE FROM MD. S.R.C. PAVING TO 6" BITUMINOUS CONCRETE (SEE DETAIL SHEET)

℄ CURVE DATA
Δ = 86°-25'-30"
R = 200.00'
L = 301.56'
T = 187.79'

E 848,000.00

N 500,000.00

MD. SRC. TYPE 'A' CURB & GUTTER STA 3+80

END SIDEWALK STA 3+80

PC 401.75
S. CURB TRANSITION
SEE DETAIL SHEET

ET 3+94.17
(℄ 401.00)

58 L.F. 15" RCCP CL IV

END SIDEWALK STA 3+80

MD SRC TYPE 'A' CURB & GUTTER

S. CURB TRANSITION
(SEE DETAIL SHEET)

EX. 6" COLONIAL PIPE GAS LINE 2 CROSSING #1

EX. 12" COLONIAL PIPE GAS LINE 3 CROSSING #2

171 L.F. 18" RCCP CL III

S. CURB. CURVE DATA
Δ = 86°-25'-30"
R = 182.65'
L = 275.44'
T = 171.52'

PT STA 1+09.19

8" WATER LINE

6" GAS LINE

NEITHERSTONE COURT

MOUNTABLE CONC. CURB

4' WIDE CONC. SIDEWALK

MATCH LINE STA 8+50

THUNDER HILL ROAD

SEE SHEET 3 OF 7

8" BITUMINOUS CONC. PAVING

N. CURB. CURVE DATA
Δ = 86°-25'-30"
R = 217.53'
L = 327.70'
T = 204.06

E 847,750.00

N 500,250.00

E 847,750.00

N 500,750.00

NOTE:
CONTRACTOR SHALL NOTIFY THE COLONIAL PIPE COMPANY PRIOR TO ANY CONSTRUCTION. TEST PITS REQUIRED PRIOR TO CONSTRUCTION TO VERIFY PIPE ELEVATION AND LOCATION

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE SEP 25 1968

BROWNE-PANDULLO & ASSOCIATES
ENGINEERS
COLUMBIA, MARYLAND

7/23/68 STORM DRAIN. RT 108
Rev. No. Subject of Revision

COLUMBIA
MAYLAND
6TH ELECTION DISTRICT - HOWARD COUNTY
OF
HOWARD RESEARCH AND DEVELOPMENT CORP.
THE VILLAGE OF CROSS KEYS - BALTIMORE MARYLAND 21210

PROJECT TITLE
VILLAGE OF OAKLAND MILLS
SECTION 1 AREA 3

PROJECT TITLE
PLAN & PROFILE
THUNDER HILL ROAD

Des. By T.S. | Scale AS SHOWN | Dwg. No. 2 OF 8
Dwn. By J.B. & F.T. | Date MARCH 1, 1968 | C.E.I. No.
Chk. By J.D. | Approved

LEGEND
EXISTING GROUND at ℄
EXISTING GRADE 20' R/W
EXISTING GRADE 25' R/W

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

℄ THUNDER HILL RD

FIN. GR.

HYD. GR.

27" DNE
INV. 399.17

399.67

27"x15" Y PITT.

116 LF 15" RCCP CL III
@ 3.20%
Q = 2.94 CFS
V = 2.4'/s

403.38

℄ INT. 2+05.17 THUNDER HILL RD. & RTE. 108

FLOW LINE STA 2+90.17 EL. 405.59

P.I. STA 3+50
EL. 407.02
M.O. 0.284

50' V.C.

P.V.C. STA. 3+25 - EL. 406.02

P.V.T. STA. 3+75 - EL. 408.10

P.V.C. STA. 3+75 - EL. 411.10

P.I. STA 4+35
EL. 414.20
M.O. 0.50

80' V.C.

P.V.T. STA. 4+75 - EL. 416.50

+4.00%

EX. 6" GAS LINE TOP OF PIPE EL. 410.11

EX. 12" GAS LINE TOP OF PIPE EL. 405.52

℄ 27' Lt. ℄ EL. 405.52

+1.50%

P.I. STA. 6+65
EL. 420.04
M.O. 0.131

70' V.C.

P.V.C. STA. 6+30 - EL. 419.16

P.V.T. STA. 7+00 - EL. 421.44

SEE SHEET 3 OF 7

MATCH LINE STA. 8+50

440 L.F. - 15" R.C.C.P. - Cl. III @ 3.70%
Q = 7.87 c.f.s.
V = 4.4 '/s

HYD. GRAD.

15" Dr. '5'
INV. 401.77

STD. C ENDWALL

2:1 SLOPE

Ex. GROUND

15 L.F. CONC. APRON
SEE DETAIL SH 7 OF 7

210 L.F. SOD DITCH
@ 0.50%
SEE DETAIL SH. 7 OF 7

398.47

399.47
399.17

399.65

401.52

110 L.F.
27" RCCP CL IV

Q = 19.17 CFS
V = 4.8'/s

Q = 22.11
V = 5.4'/s

171 L.F. - 18" RCCP CL III @ 2.62%
Q = 7.87 c.f.s.
V = 4.4 '/s

GROSSING NO. 1
BOTTOM 6" GAS 400.6
TOP 24" R.C.C.P. 405.7
CLEAR 3.0

GROSSING NO. 2
BOTTOM 12" GAS 408.3
TOP 24" R.C.C.P. 406.0
CLEAR 2.3

0+00 0+50 1+00 1+15 1+66 2+00 3+00 4+00 5+00 6+00 7+00 8+00 9+00

DRAINAGE PROFILE I to II

EX. GRADE

FIN. GRADE

HYD. GRAD.

"27" Dr. N.W."
INV. 400.77

401.77

402.83

58 L.F. - 15" R.C.C.P. - Cl. III @ 2.00%
Q = 7.87 c.f.s. V = 5.4'/s

0+00 0+58

#89

F-68-35

PLAN
SCALE: 1"=50'

N 509,500
E 618,000

MATCH LINE STA 0+50

5' WIDE CONC. SIDEWALK 1' OFF P/L

THUNDER HILL ROAD

2.00 | 12' | 5% | 60' R/W | 10.00 | S 16°-54'-00" E 11.00 | 12.00 | 13.00 | S 03°-57'-50" W 14.00 | 15.00 | 16.00 | 17.00

12'

SEE SHEET 2 of 7

180 L.F.-15" RCCP-CL III

F-2

6' INT. OF G-8 THUNDER HILL ROAD & OAKLAND MILLS ROAD

MOUNTABLE CONC. CURB

G-8

P.C. 14+77.45

215 L.F.-15" RCCP-CL III

G-7

MH-1

P.T. 17+24.89

MATCH LINE STA 17+24.89

SEE SHEET 4 of 7

N 509,250
E 618,000

℄ CURVE DATA
Δ: 20°-04'-10"
R: 700.41'
L: 247.44'
T: 125.00'

℄ CURVE DATA
Δ: 20°-51'-50"
R: 414.15'
L: 148.30'
T: 75.00

F-2 ⊙ 1.00 CFS

4' WIDE CONC. SIDEWALK 1' OFF P/L

6' INT. OF G-8 THUNDER HILL ROAD & OAKLAND MILLS ROAD

P.C. 11+76.02

P.T. 13+24.41

MOUNTABLE CONC. CURB

G-7 ⊙ 1.75 CFS

20 L.F.-15" RCCP-CL III

6" BITUMINOUS CONC. PAVING

6' INT. OF G-6 & G-5 THUNDER HILL ROAD & OAKLAND MILLS CHAIN ROAD

STORM DRAINAGE STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	INV. IN	INV. OUT	T.C. ELEV.	REMARKS
F-2	STD. S COMB. INLET (DIb. GRATE)	STA 2+14.00 - 18' Rt ℄		425.75	430.33	SEE Ho. Co. STD. DRWG. 99 PAGE #154
G-7	STD. S COMB. INLET (DIb. GRATE)	STA 14+61.20 - 18' Rt ℄	418.40	418.30	417.91	SEE Ho Co. STD. DRWG. 99 PAGE #154
G-8	STD. S COMB. INLET (DIb. GRATE)	STA. 14+61.20 - 18' Lt ℄	412.91	412.16	417.91	" " " "
MH-1	STD. MANHOLE	STA. 16+77.87 - 11' Lt. ℄	404.32	403.32		Ho. Co. DRWG. DRWG 103 PAGE #158

BROWNE-PANDULLO & ASSOCIATES
ENGINEERS
COLUMBIA, MARYLAND

Rev. Date	Rev. No.	Revision Description

COLUMBIA
MARYLAND
6TH ELECTION DISTRICT - HOWARD COUNTY
OWNER OF DEVELOPMENT
HOWARD RESEARCH AND DEVELOPMENT CORP.
THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210

PROJECT NAME
VILLAGE OF OAKLAND MILLS
SECTION 1 AREA 3

PROJECT TITLE
PLAN & PROFILE
THUNDER HILL ROAD

Des. By	W.J.K.	Scale	AS SHOWN
Dwn. By	J.B. & F.T.	Date	MARCH 1, 1968
Ckd. By	J.D.	Approved	

Dwg. No. 30 of 8
C.E.P. No.

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE SEP 2 5 1968

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

LEGEND
EXISTING GROUND at ℄
EXISTING GROUND 25' Rt R/W
EXISTING GROUND 25' Lt R/W

SEE SHEET 2 of 7

4.00% HYD. GRAD.

440 L.F.-18" RCCP-CL III @ 3.70%
Q=7.87 c.f.s.
V=4.4 f/s

425.74

MATCH LINE STA. 0+50

P.V.C. 0+25
EL. 430.44

P.V.I
STA 11+00
EL. 437.44
M.O. 4.156

P.V.T. 12+75
EL. 427.82

350' V.C.

-5.50%

200' V.C.

P.V.C. 14+50
EL. 416.10

P.V.I.
STA 15+50
EL. 412.60
M.O. 0.88
K = 0.875

P.V.C. 16+50
EL. 410.00

200' V.C.

SEE SHEET 4 of 7

G-8

15" Dr. 'W'
INV. 412.86

412.16

HYD. GRAD.

-2.00%

MH-1

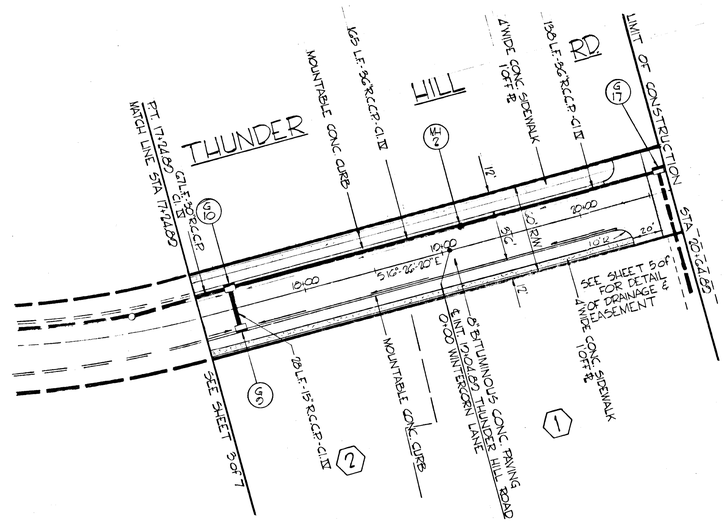
213 L.F.-15" RCCP-CL III @ 3.68%
Q= 14.74 c.f.s.
V= 8.33 f/s

404.32

MATCH LINE STA. 17+24.89

| | | | | | |

PLAN
SCALE 1"=50'



STORM DRAINAGE STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	INV. IN	INV. OUT	RIM ELE.	REMARKS
G-9	MOD. S COMB. INLET (SINGLE GRATE)	STA. 17+50 - 18' RT ℄		410.50	410.02	SEE DETAIL SH. 12 & 14
G-10	MOD. S. COMB. INLET (SINGLE GRATE)	STA. 17+50 - 18' LT ℄	402.99	402.49	410.02	" " " "
MH-2	STD. MANHOLE	STA. 19+10.44 - 18' LT ℄	402.03	401.53		HOWARD COUNTY DWG. D-103 PG. 150
G-17	STD "S" COMB. INLET (DOUBLE GRATE)	STA. 20+62.03 - 18' LT ℄	401.20	400.70	415.26	HO. COUNTY DWG. D-99 PG. 154.

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE SEP 25 1968

BROWNE-PANDULLO & ASSOCIATES
ENGINEERS
COLUMBIA, MARYLAND

Rev. Date	Rev. No.	Revision Description

COLUMBIA
MARYLAND
6TH ELECTION DISTRICT - HOWARD COUNTY
OWNER
HOWARD RESEARCH AND DEVELOPMENT CORP.
THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210

PROJECT TITLE
VILLAGE OF OAKLAND MILLS
SECTION 1 AREA 3

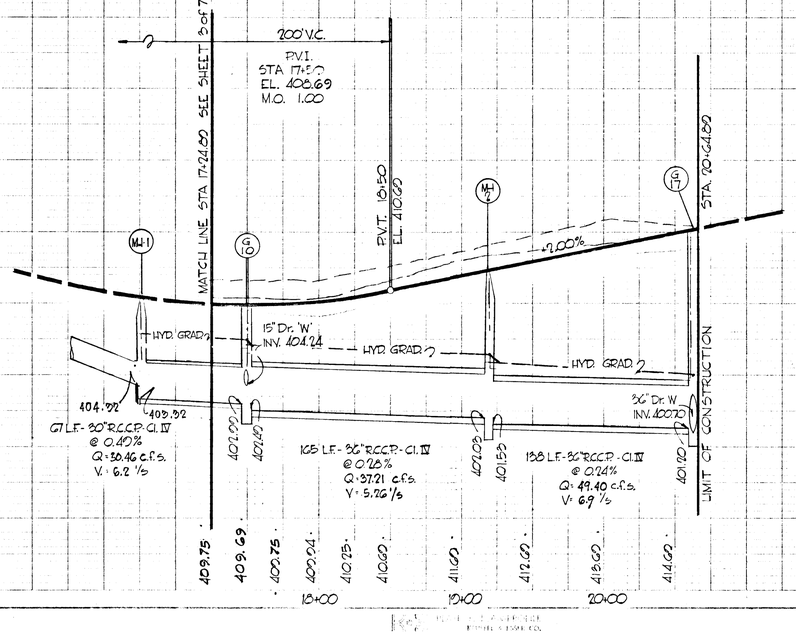
DRAWING TITLE
PLAN & PROFILE
THUNDER HILL ROAD

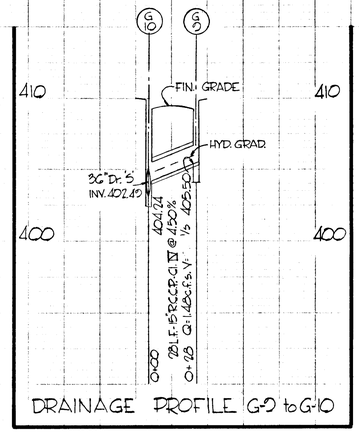
Des. By	T.S.	Scale	AS SHOWN
Dr. By	J.B. & F.T.	Date	MARCH 1, 1968
Ch. By	T.S.	Approved	

Dwg. No. 4 of 8
C.C.F. No.

LEGEND
EXISTING GROUND at ℄
EXISTING GROUND 18' Rt. R/W
EXISTING GROUND 20' Lt. R/W

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





DRAINAGE PROFILE G-9 to G-10

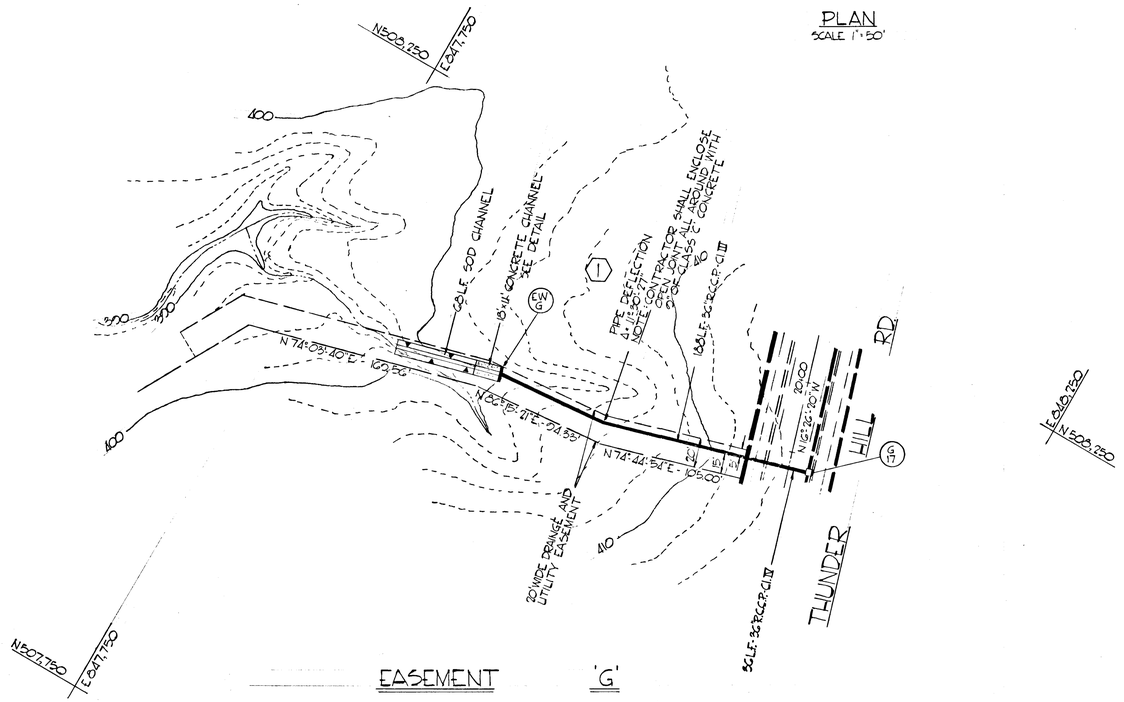
#89

F-68-35

STORM DRAINAGE STRUCTURE SCHEDULE

NO.	TYPE	LOCATION	INV. IN	INV. OUT	C.P.E.L.E.V.	REMARKS
EW-G	STD 'C' ENDWALL	AS SHOW ON PLAN		400.00		HOWARD COUNTY DWG. D-52 PG. 107

PLAN
SCALE 1"=50'



EASEMENT 'G'

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE SEP 25 1968

BROWNE-PANDULLO & ASSOCIATES
ENGINEERS
COLUMBIA, MARYLAND

Rev Date	Rev No	Revision Description

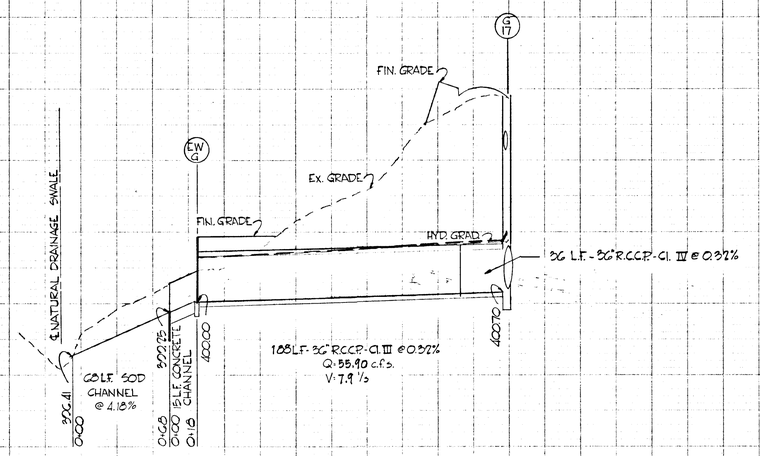
COLUMBIA
MARYLAND
6TH ELECTION DISTRICT - HOWARD COUNTY
OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORP.
THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210

PROJECT TITLE
VILLAGE OF OAKLAND MILLS
SECTION 1 AREA 3

DRAWING TITLE
PLAN & PROFILE
EASEMENT "G"

Des By W.J.K	Scale AS SHOWN	Dwg No 5 of 8
Drn By J.B. & F.T.	Date MARCH 1, 1968	C.C.F. No
Ckd By TS	Approved	

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



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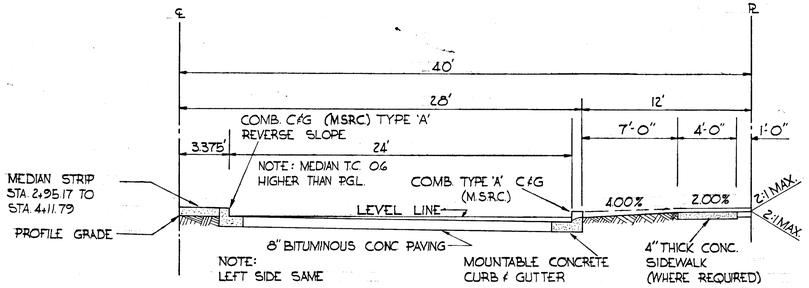
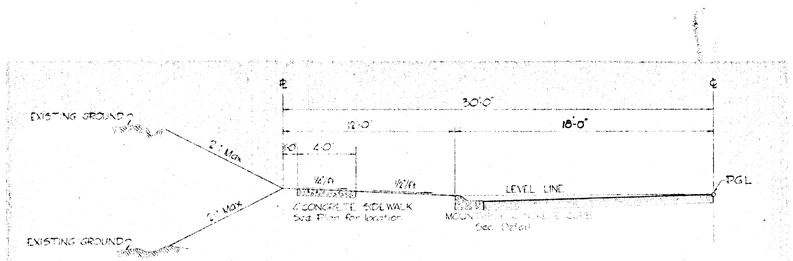
F-68-35



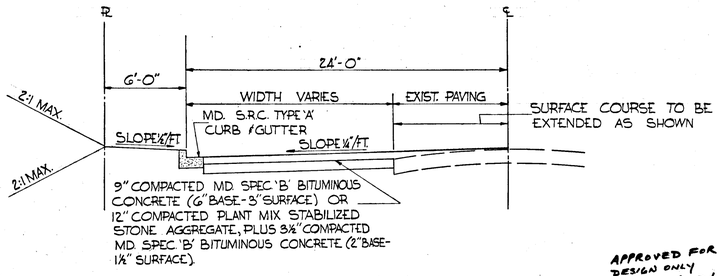
80' R.O.W. TYPICAL HALF SECTION

NO SCALE



60' R.O.W. TYPICAL HALF-SECTION

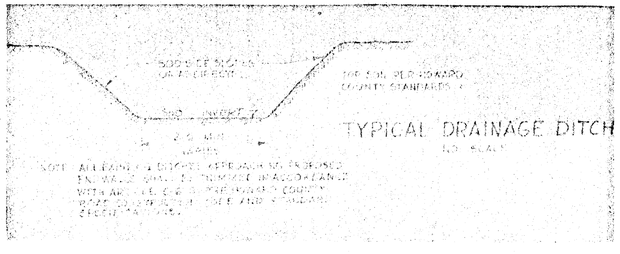
SCALE 1"=5

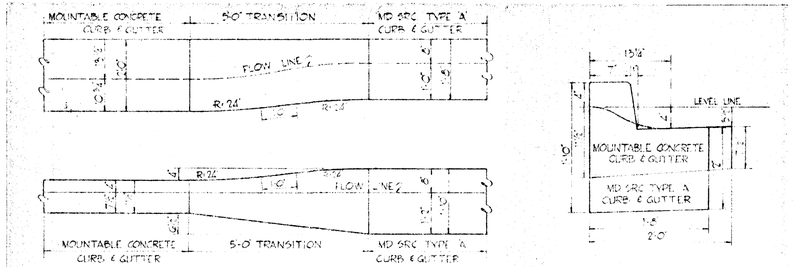


APPROVED FOR DESIGN ONLY
Wm. Hadley SRC.
9/25/68

TYPICAL WIDENING OF RTE. 108

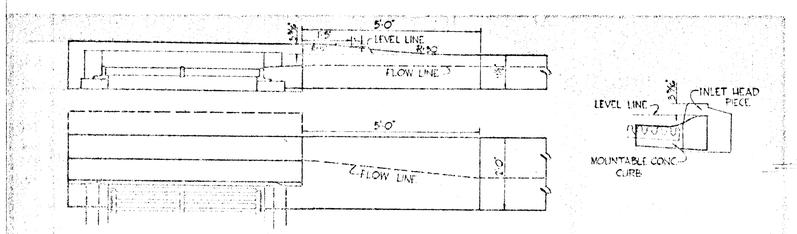
NO SCALE





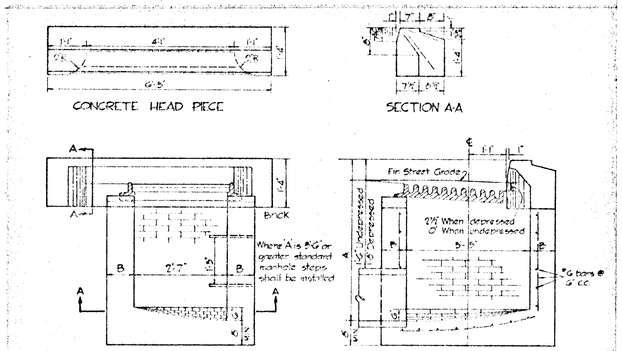
CURB TRANSITION

MOUNTABLE CURB to TYPE A



CURB TRANSITION

MOUNTABLE CURB to INLET HEAD PIECE



1. INLETS MAY BE CONSTRUCTED OF BRICK OR REINFORCED CONCRETE. SIZE, TYPE & DIRECTION OF INLET CONNECTION WILL VARY TO SUIT CONDITIONS.
2. THE INVERT SHALL BE BRICK OR CLASS "A" CONCRETE.
3. B'-6" WHERE A IS 7'-0" OR LESS
4. B'-10" WHERE A IS 7'-10½"
5. FOR 4'-0" WALLS SHALL BE MASONRY. ADDITIONAL BRICK SHALL BE USED TO BRING THE GRATE TO GRADE IF REQUIRED.
6. REINFORCEMENT REQUIRED ON OUTSIDE AS WELL AS INSIDE OF WALLS WHEN A IS GREATER THAN 7'-0" SPACING SAME AS INSIDE WALL.
7. PLACE ½" EXPANSION MATERIAL OF SAME TYPE APPROVED FOR PAVEMENT, BETWEEN THE FRAME AND ABUTTING RIGID PAVEMENT AND BETWEEN ENDS OF INLET CURB AND NORMAL CONCRETE CURB.

MODIFIED 'S' COMBINATION INLET

NO SCALE

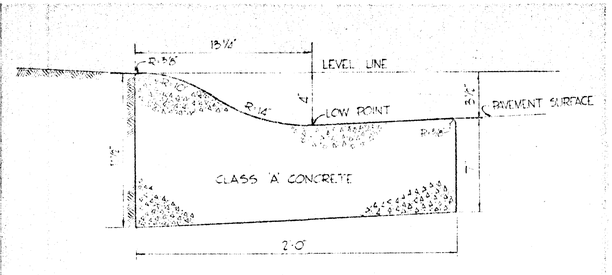
BITUMINOUS CONCRETE SURFACE	2"	BAND C-9 FINAL PHASE
BITUMINOUS CONCRETE BINDER	3"	BAND A-3
BITUMINOUS CONCRETE BASE PLACED IN ONE COURSE	10"	BAND C-2 OR C-3 FIRST PHASE

CLEARING AND GRADING	ARTICLE C-1
SUBGRADE	ARTICLE C-2
BASE COURSE	ARTICLE C-3A or C-3B
BINDER COURSE	ARTICLE C-5A
SURFACE COURSE	ARTICLE C-5A

NOTE:
PAVEMENT TO BE CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND SPECIFICATIONS DWG. D-10, R6-10.5

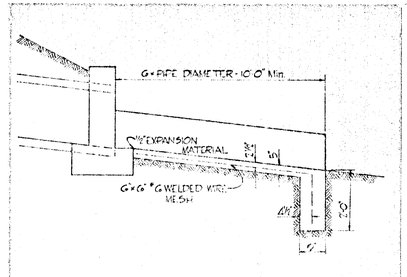
8" PAVEMENT DETAIL

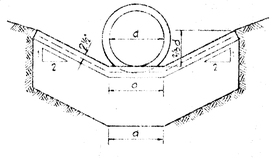
NO SCALE



MOUNTABLE CONCRETE CURB

NO SCALE





TYPICAL CONCRETE CHANNEL AND CUTOFF WALL

NO SCALE

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE SEP 23 1968

BROWNE-PANDULLO & ASSOCIATES
ENGINEERS
COLUMBIA, MARYLAND

Rev Date	Rev No	Revision Description

COLUMBIA
MARYLAND
6TH ELECTION DISTRICT HOWARD COUNTY
OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORP.
THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210

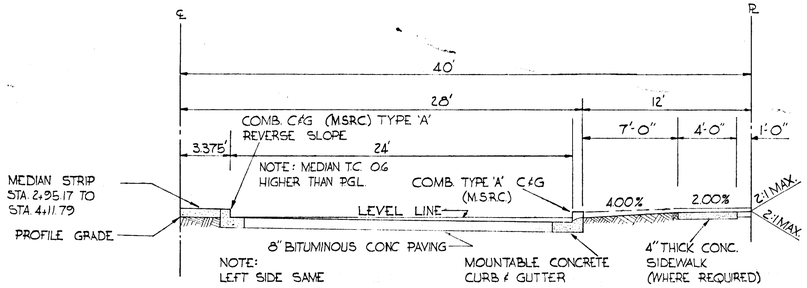
PROJECT AREA
VILLAGE OF OAKLAND MILLS
SECTION 1 - AREA 3

PROJECT TITLE
ROADWAY DETAILS

Des By FT	Scale AS SHOWN	Dwg No 6 OF 8
Drn By J.B. & F.T.	Date JUNE 26, 1968	C.C.F. No
Chk By TS	Approved	

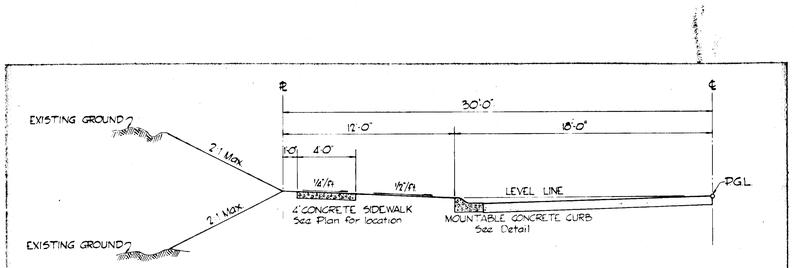
#89

F-68-35



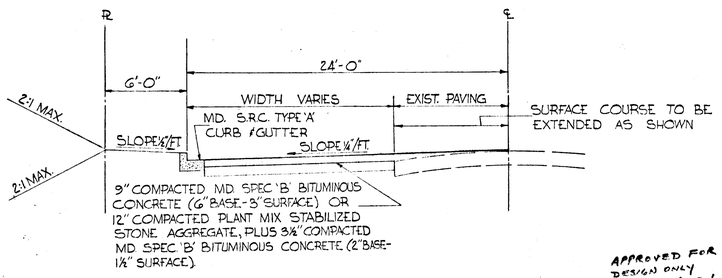
80' R.O.W. TYPICAL HALF SECTION

NO SCALE



60' R.O.W. TYPICAL HALF-SECTION

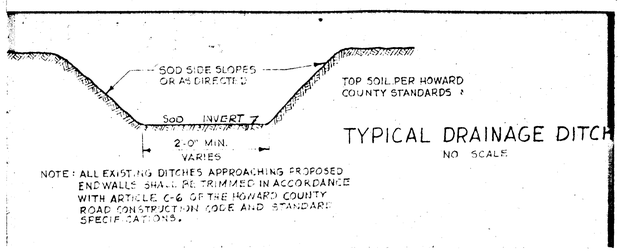
SCALE 1"=5



APPROVED FOR DESIGN ONLY
Howard County Bureau of Engineering
3/25/68

TYPICAL WIDENING OF RTE. 108

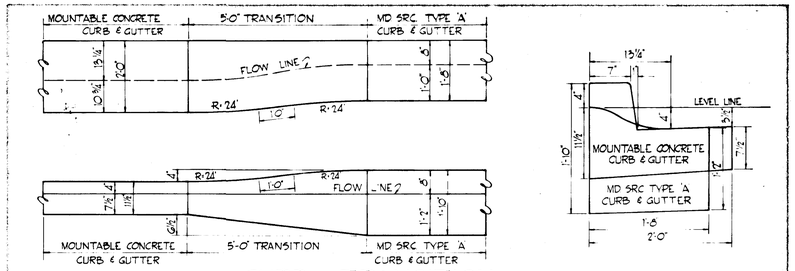
NO SCALE



NOTE: ALL EXISTING DITCHES APPROACHING PROPOSED END WALLS SHALL BE TRIMMED IN ACCORDANCE WITH ARTICLE C-6 OF THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND STANDARD SPECIFICATIONS.

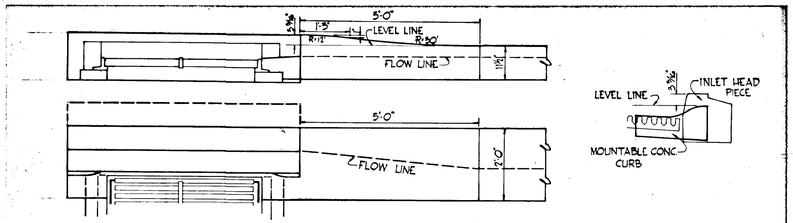
TYPICAL DRAINAGE DITCH

NO SCALE



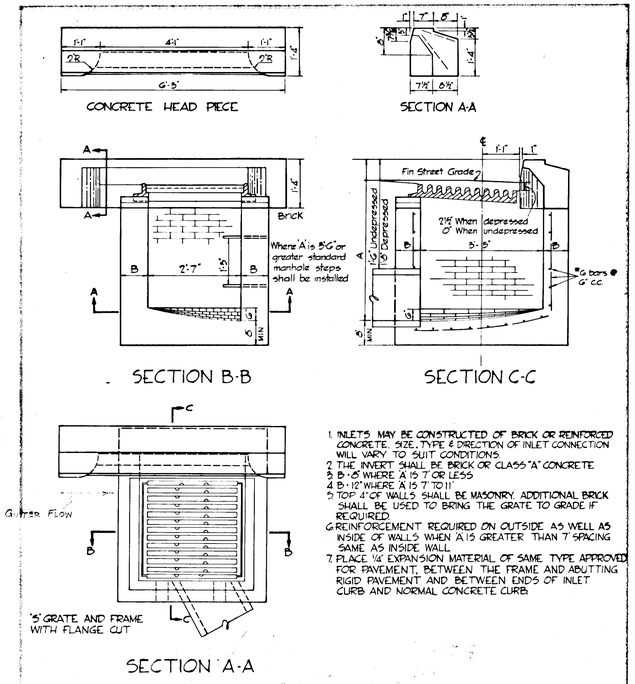
CURB TRANSITION

MOUNTABLE CURB to TYPE 'A'



CURB TRANSITION

MOUNTABLE CURB to INLET HEAD PIECE



1. INLETS MAY BE CONSTRUCTED OF BRICK OR REINFORCED CONCRETE. SIZE, TYPE & DIRECTION OF INLET CONNECTION WILL VARY TO SUIT CONDITIONS.
2. THE INVERT SHALL BE BRICK OR CLASS "A" CONCRETE.
3. B=1'-8" WHERE A IS 7' OR LESS
4. B=1'-12" WHERE A IS 7' TO 11'
5. TOP 4' OF WALLS SHALL BE MASONRY. ADDITIONAL BRICK SHALL BE USED TO BRING THE GRATE TO GRADE IF REQUIRED.
6. REINFORCEMENT REQUIRED ON OUTSIDE AS WELL AS INSIDE OF WALLS WHEN A IS GREATER THAN 7' SPACING SAME AS INSIDE WALL.
7. PLACE ½" EXPANSION MATERIAL OF SAME TYPE APPROVED FOR PAVEMENT, BETWEEN THE FRAME AND ABUTTING RIGID PAVEMENT AND BETWEEN ENDS OF INLET CURB AND NORMAL CONCRETE CURB.

MODIFIED 'S' COMBINATION INLET

NO SCALE

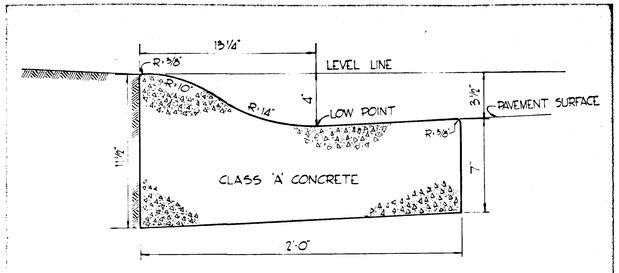
BITUMINOUS CONCRETE SURFACE	1½"	BAND C-3 FINAL PHASE
BITUMINOUS CONCRETE BINDER	1½"	BAND A-3
BITUMINOUS CONCRETE BASE PLACED IN ONE COURSE	5"	BAND C-2 OR C-3 FIRST PHASE

CLEARING AND GRADING	ARTICLE C-1
SUBGRADE	ARTICLE C-2
BASE COURSE	ARTICLE C-31 or C-33
BINDER COURSE	ARTICLE C-31
SURFACE COURSE	ARTICLE C-31

NOTE:
PAVEMENT TO BE CONSTRUCTED IN ACCORDANCE WITH THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND SPECIFICATIONS DWG. D-113 PG 165

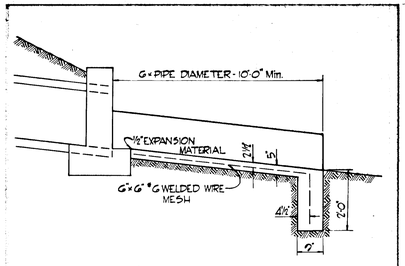
8" PAVEMENT DETAIL

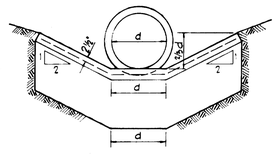
NO SCALE



MOUNTABLE CONCRETE CURB

NO SCALE





TYPICAL CONCRETE CHANNEL AND CUTOFF WALL

NO SCALE

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE SEP 3 1968

BROWNE-PANDULLO & ASSOCIATES
ENGINEERS
COLUMBIA, MARYLAND

Rev Date	Rev No	Revision Description

COLUMBIA
MARYLAND
6TH ELECTION DISTRICT HOWARD COUNTY
OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORP.
THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210

PROJECT AREA
VILLAGE OF OAKLAND MILLS
SECTION 1 - AREA 5

PROJECT TITLE
ROADWAY DETAILS

Des By ...	Scale AS SHOWN	Dwg No 6 OF 8
Drn By J.B. & F.T.	Date JUNE 26, 1968	C.C.F. No
Chk By T.S.	Approved	

#89

F-68-35

Richard P. Browne 5258

BROWNE-PANDULLO & ASSOCIATES
ENGINEERS
COLUMBIA, MARYLAND

Rev. Date	Rev. No.	Revision Description

COLUMBIA
MARYLAND

OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORP.
THE VILLAGE OF OAKLAND MILLS - SECTION 1 - AREA 3

PROJECT AREA
VILLAGE OF OAKLAND MILLS
SECTION 1 AREA 3

PROJECT TITLE
DRAINAGE MAP

Des. By	Scale 1" = 100'	Dwg. No. 7 of 8
Dra. By	Date 1 MAR. 68	C.E.I. No.
Ckd. By	Approved	

LEGEND

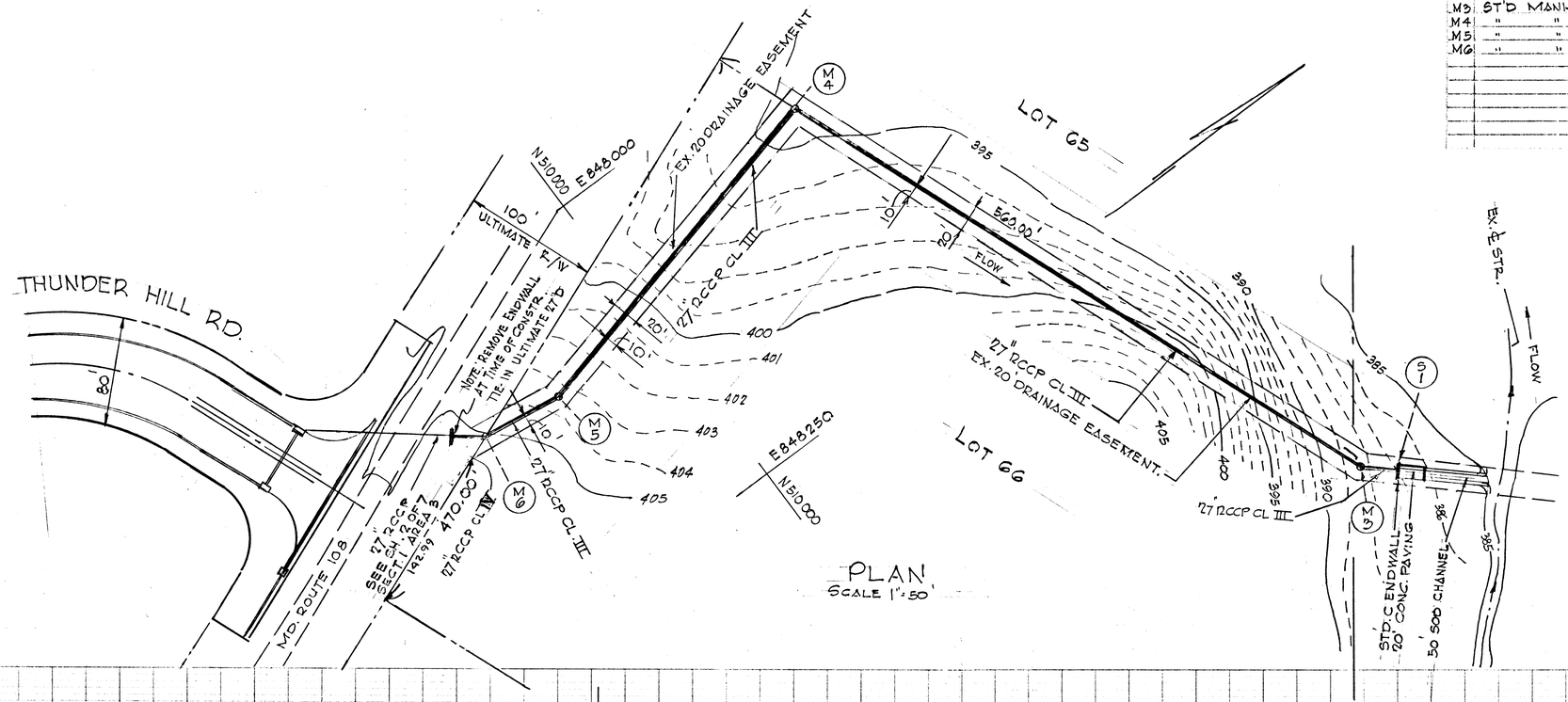
- LIMIT OF MAJOR WATERSHED AREA
- " " INTERMEDIATE " "
- WATERSHED DESIGNATION
- VALLEY OR SWALE LINE

JNC
9/25/68

F-68-35

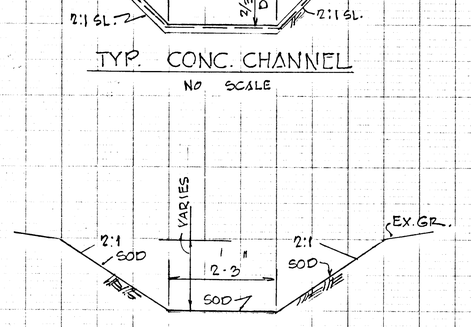
STORM DRAINAGE STRUCTURE SCHEDULE

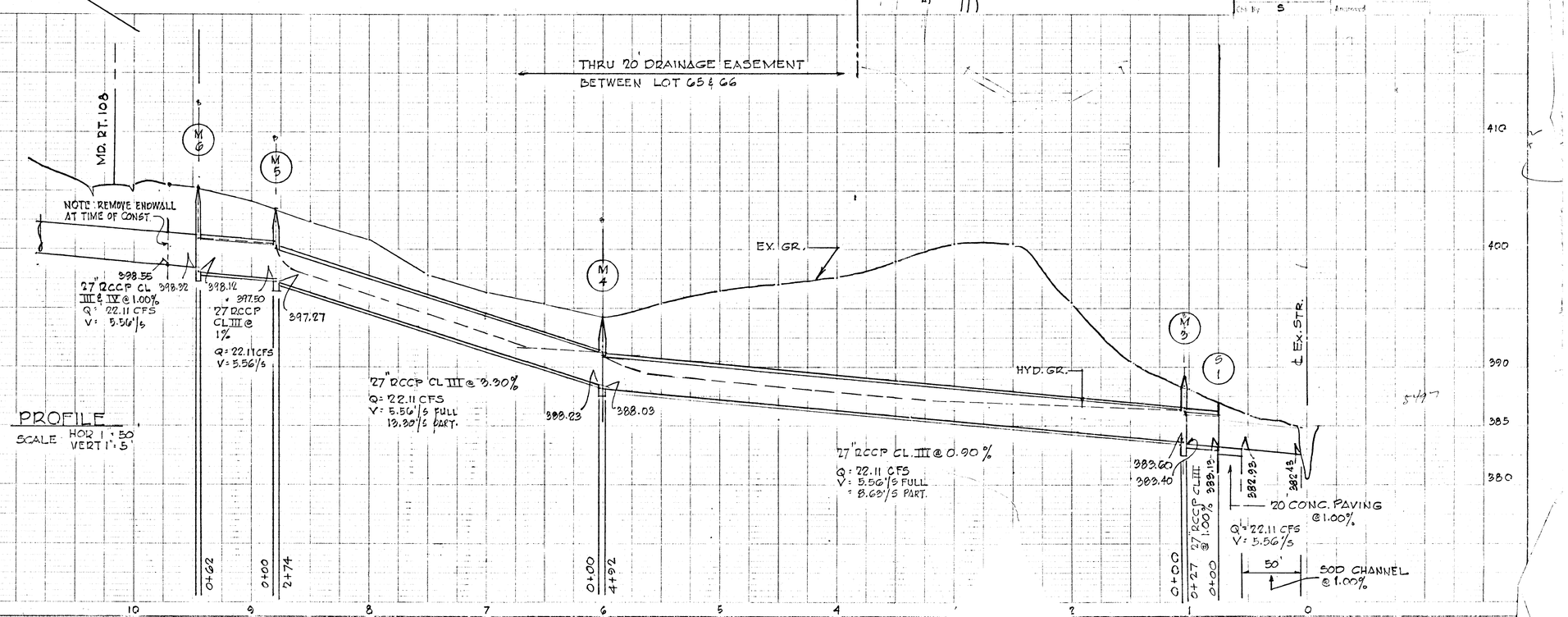
NO.	TYPE	LOCATION	INV. IN	INV. OUT	CAPACITY	REMARKS
S-1	STD. C ENDWALL	AS SHOWN	—	383.13	—	HO.CO. STD. D-82 & 107
M3	STD MANHOLE	" "	—	383.40	—	HO.CO. STD D-103 & 158
M4	" "	" "	—	388.03	—	"
M5	" "	" "	—	397.27	—	"
M6	" "	" "	—	398.12	—	"



PLAN
SCALE 1" = 50'

THRU 20' DRAINAGE EASEMENT BETWEEN LOT 65 & 66





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

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE SEP 2 5 1968

Rev. Date	Rev. No.	Revision Description

COLUMBIA
MARYLAND
OWNED AND DEVELOPED BY
HOWARD RESEARCH AND DEVELOPMENT CORP
THE VILLAGE OF CROSS KEYS - BALTIMORE, MARYLAND 21210

PROJECT TITLE
VILLAGE OF OAKLAND MILLS
SEC. 1 AREA 3

SHEET TITLE
ULTIMATE CLOSED DRAINAGE THRU EX. 20 FT. DRAINAGE ESM'T.

Des. By	TKS	Scale	AS SHOWN
Drn. By	"	Date	6 SEPT '68
Chk. By	S	Approved	

Sheet No. 6 OF 8
C.E.S. No.

#89

F-68-35