COLUMBIA

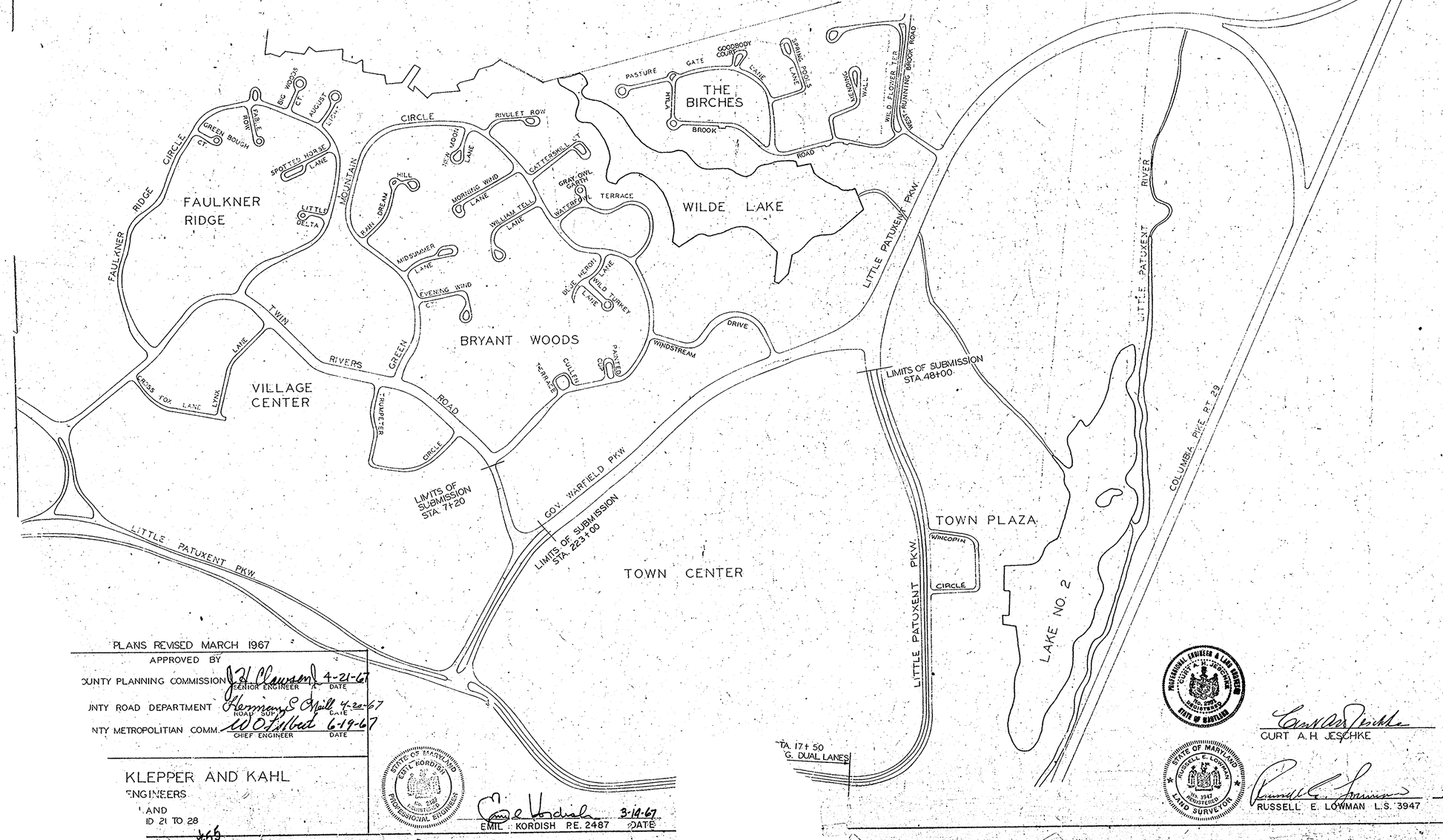
ELECTION DISTRICT 5

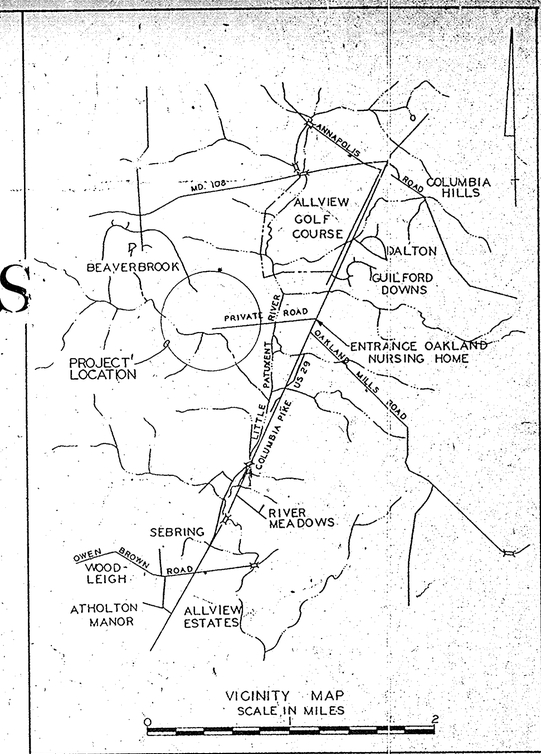
LITTLE PATUXENT & GOVERNOR WARFIELD PARKWAYS
ROADWAYS - DRAINAGE

TOWN CENTER - SECTION 1

HOWARD COUNTY, MARYLAND

SEPTEMBER 1966





VICINITY MAP
SCALE IN MILES
0 1 2

INDEX*

DESCRIPTION	STREET NAME	SHEET NO.S
TITLE SHEET		1
TYPICAL SECTION	LITTLE PATUXENT PARKWAY	2,3,4,5
TYPICAL SECTION	GOV. WARFIELD PARKWAY	6
DETAIL SHEET		7, 8
PLAN & PROFILE	LITTLE PATUXENT PARKWAY	9,10,11,12 13,14,15,16
	GOV. WARFIELD PARKWAY	17
	WINCOPIN CIRCLE	18
	TWIN RIVERS ROAD	19,20
DRAINAGE		21 TO 29

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 21 1967

HOWARD RESEARCH AND DEVELOPMENT CORP.
VILLAGE OF CROSS KEYS BALTIMORE, MARYLAND 21210

PLANS REVISED MARCH 1967
APPROVED BY
COUNTY PLANNING COMMISSION J. H. Clawson 4-21-67
SENIOR ENGINEER DATE
COUNTY ROAD DEPARTMENT Herman S. Neill 4-20-67
ROAD SUPT. DATE
COUNTY METROPOLITAN COMM. W. O. Lilbert 6-19-67
CHIEF ENGINEER DATE

KLEPPER AND KAHL
ENGINEERS
LAND
ID 21 TO 28

STATE OF MARYLAND EMIL KORDISH No. 2487 REGISTERED PROFESSIONAL ENGINEER
Emil Kordish 3-14-67
EMIL KORDISH P.E. 2487 DATE

PROFESSIONAL ENGINEER & LAND SURVEYOR CURT A. H. JESCHKE No. 2993 REGISTERED STATE OF MARYLAND
Curt A. H. Jeschke 3-14-67
CURT A. H. JESCHKE DATE

STATE OF MARYLAND RUSSELL E. LOWMAN No. 3947 REGISTERED LAND SURVEYOR
Russell E. Lowman 3-13-67
RUSSELL E. LOWMAN L.S. 3947 DATE

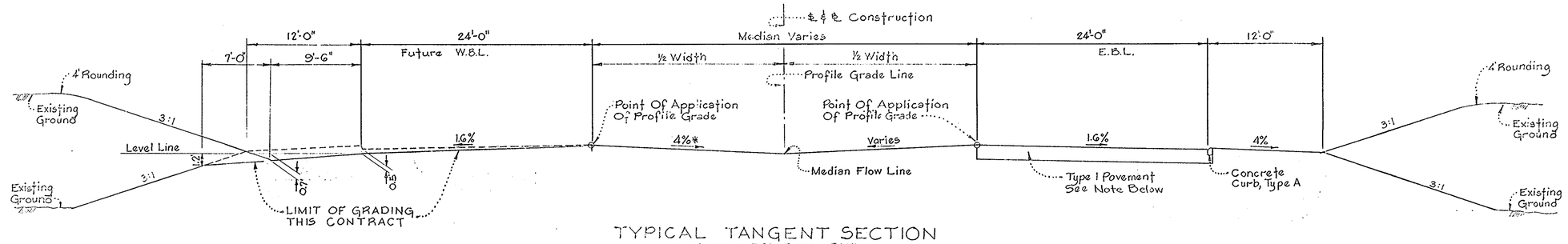
PURDUM & JESCHKE
ENGINEERS AND LAND SURVEYORS
24 PARK AVENUE - ELLICOTT CITY, MD.
SHEETS 18 & 29

C. D. MESSICK JR. & ASSOCIATES INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
21 WEST STREET ANNAPOLIS, MD.
SHEETS 19 & 20

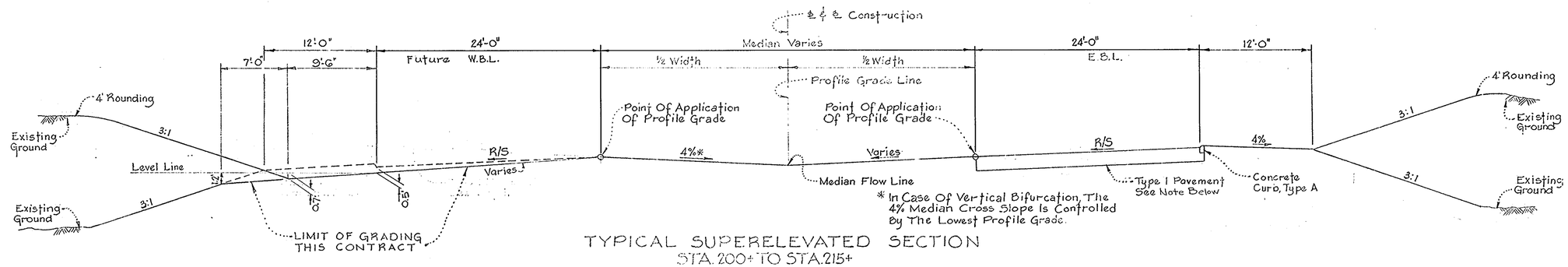
F-66-44

SHEET NO. 1 OF 29

Note: 2" Topsoil, Seed (Art. 36.04) & Mulch (Art. 36.05) To Be Placed On All Median Areas, Construction Slopes & Ditches, Unless Otherwise Noted On The Plans.



TYPICAL TANGENT SECTION
STA. 200+ TO STA. 215+



* In Case Of Vertical Bifurcation, The 4% Median Cross Slope Is Controlled By The Lowest Profile Grade.

TYPICAL SUPERELEVATED SECTION
STA. 200+ TO STA. 215+

Note: Type I Pavement
7" Crusher Run Subbase
4" Bituminous Concrete Base Course
2½" Bituminous Concrete Binder Course
2-1½" Bituminous Concrete Surface Courses
This Surface type to be constructed in accordance with the Howard County Road Construction Code and specification Dwg. D-112, Page 165 b

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 21 1966

Added Pav't (EBL), Deleted Pav't (WBL)	10/19/66
Curb Type	9/22/66

LITTLE PATUXENT PARKWAY
TYPICAL SECTION

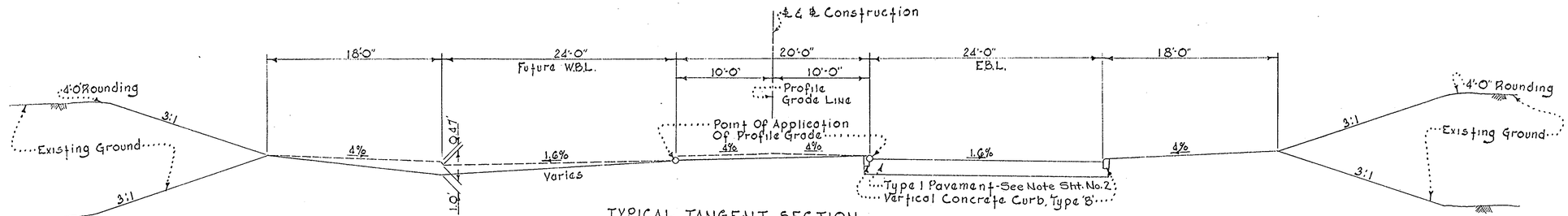
1"=6' | 3-30-66

2 of 29

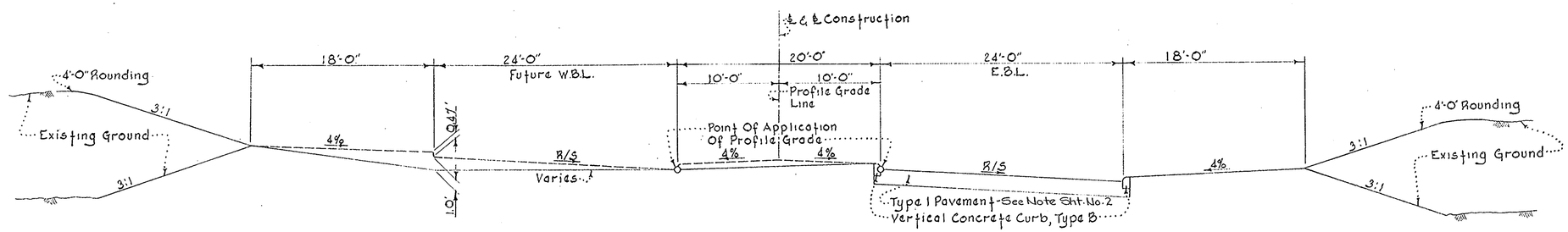
LITTLE PATUXENT PARKWAY

F-66-44

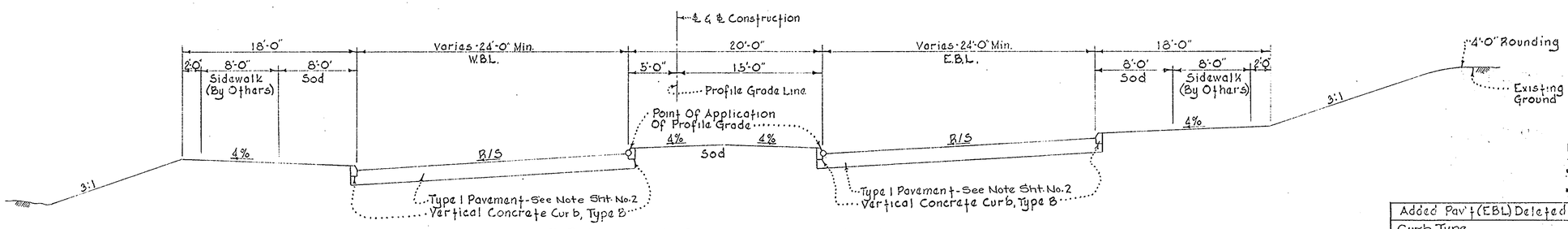
Note 2" Topsoil Seed (Art 36.04) & Mulch (Art 36.05) To Be Placed On All Median Areas, Construction Slopes & Ditches, Unless Otherwise Noted On The Plans



TYPICAL TANGENT SECTION
STA 215+ TO STA 232+



TYPICAL SUPERELEVATED SECTION
STA 215+ TO STA. 232+ =
STA 13+



TYPICAL SUPERELEVATED SECTION
STA. 13+ TO STA. 22+

LITTLE PATUXENT PARKWAY

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 2 1967

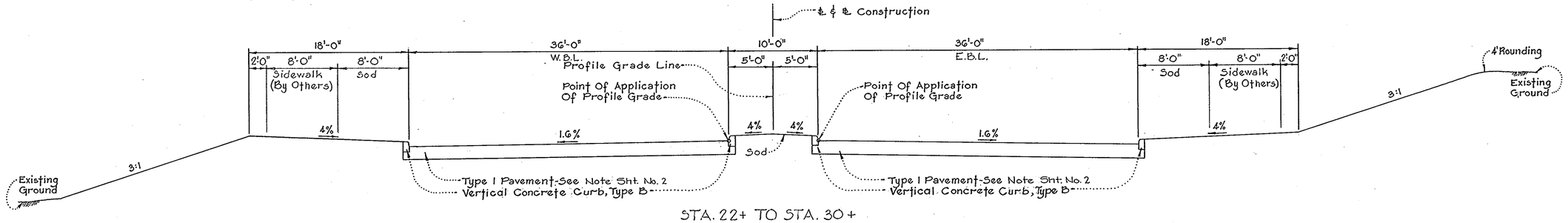
Added Pav't (EBL) Deleted Pav't (WBL)	10/19/66
Curb Type	9/22/66

LITTLE PATUXENT PARKWAY
TYPICAL SECTION
1"=6'
3-30-66
3 of 29

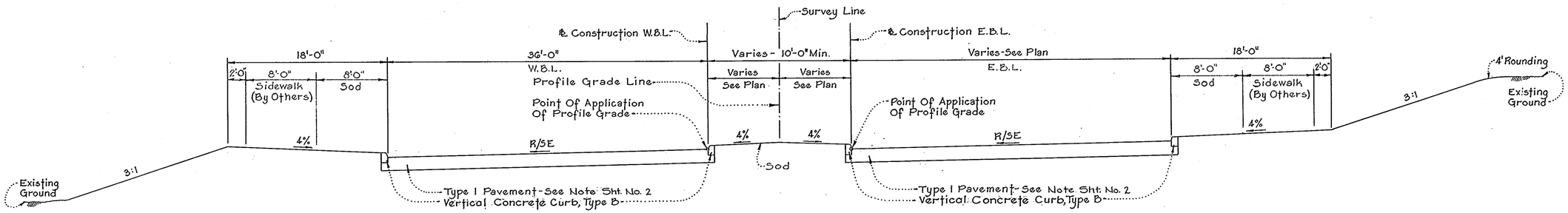
F-66-44

#55

Note: 2" Topsoil, Seed (Art 36.04) & Mulch (Art. 36.05) To Be Placed On All Median Areas, Construction Slopes & Ditches, Unless Otherwise Noted On The Plans.



STA. 22+ TO STA. 30+
TYPICAL TANGENT SECTION



STA. 30+ TO STA. 41+
TYPICAL SUPERELEVATED SECTION

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 21 1967

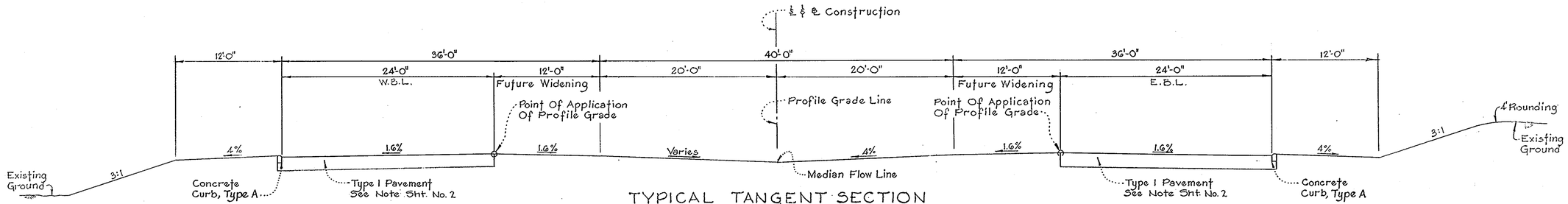
Curb Type	9/22/66
LITTLE PATUXENT PARKWAY	
TYPICAL SECTION	
1"=10'	3-30-66
	4 of 29

LITTLE PATUXENT PARKWAY

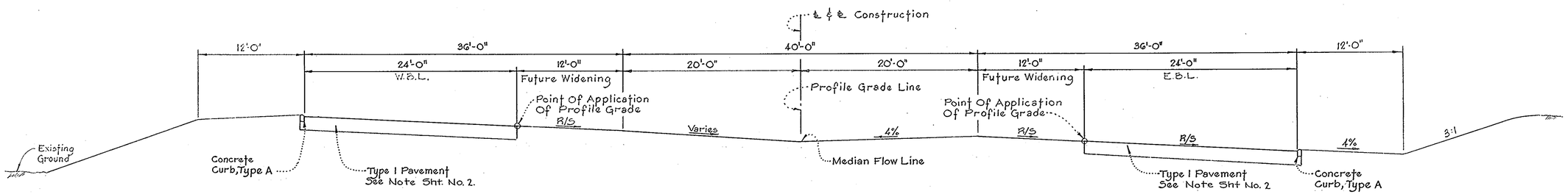
F-66-44

#55

Note: 2" Topsoil, Seed (Art. 3G.04) & Mulch (Art. 3G.05) To Be Placed On All Median Areas, Construction Slopes & Ditches, Unless Otherwise Noted On The Plans.



TYPICAL TANGENT SECTION
STA. 41+ TO STA. 48+



TYPICAL SUPERELEVATED SECTION
STA. 41 + TO STA. 48 +

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 21 1967

Curb Type 9/22/66

LITTLE PATUXENT PARKWAY
TYPICAL SECTION

1"=5' 8-30-66

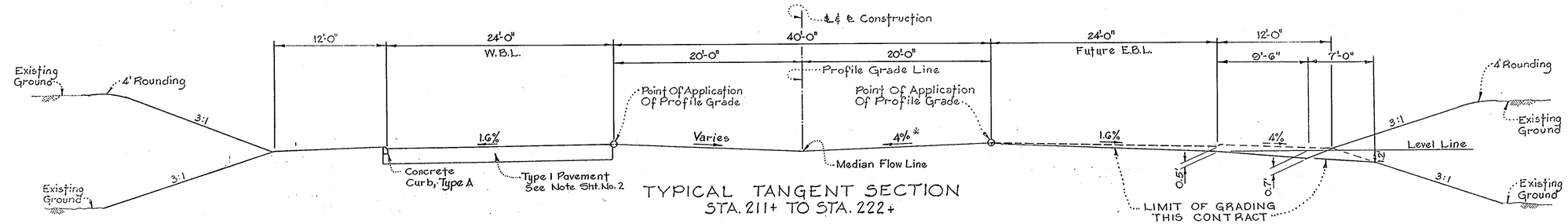
5 of 29

LITTLE PATUXENT PARKWAY

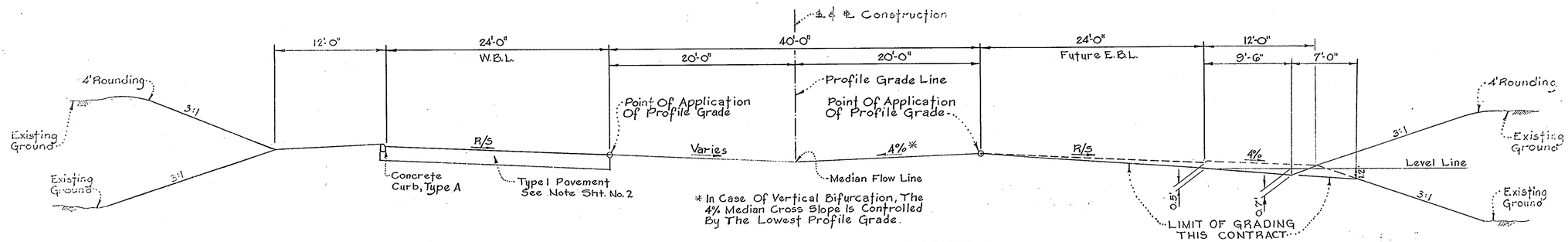
#55

F-66-14

Note: 2" Topsoil, Seed (Art. 36.04) & Mulch (Art. 36.05) To Be Placed On All Median Areas, Construction Slopes & Ditches, Unless Otherwise Noted On The Plans.

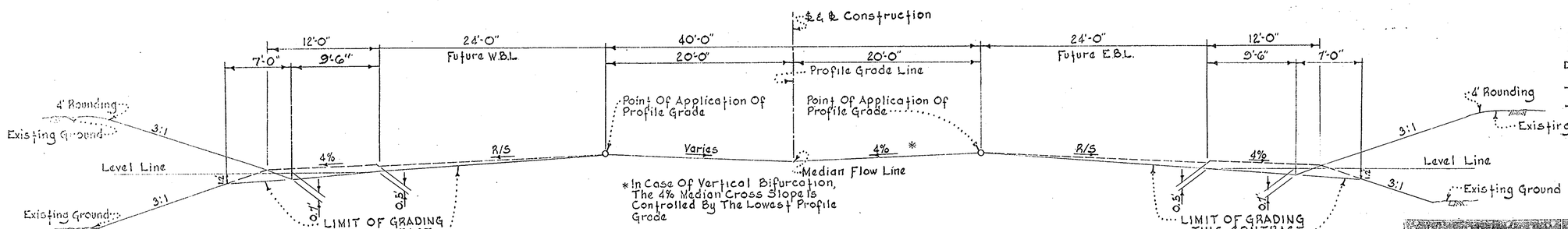


TYPICAL TANGENT SECTION
STA. 211+ TO STA. 222+



* In Case Of Vertical Bifurcation, The 4% Median Cross Slope Is Controlled By The Lowest Profile Grade.

TYPICAL SUPERELEVATED SECTION
STA. 211+ TO STA. 222+



* In Case Of Vertical Bifurcation, The 4% Median Cross Slope Is Controlled By The Lowest Profile Grade

TYPICAL GRADED SECTION
STA 222+ TO STA 246+

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 21 1967

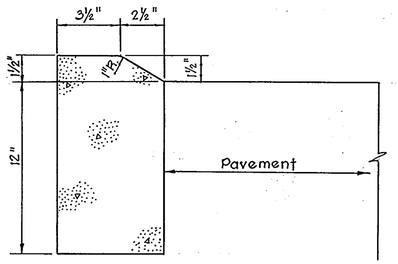
GOV. WARFIELD PARKWAY

Added Typical Section Sta. 222+ to 246+			10/28/66
Curb Type			9/22/66
Description	By	Mark	Date
REVISIONS			

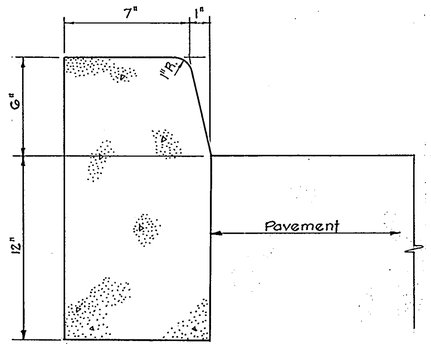
GOV. WARFIELD PARKWAY
TYPICAL SECTION
3-30-66
6 of 29

F-66-44

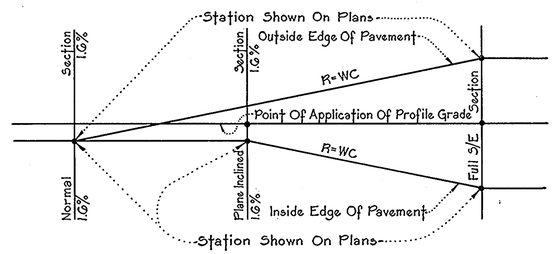
#55



DETAIL
CONCRETE CURB ~ TYPE A
Scale: 3"= 1'-0"



DETAIL
VERTICAL CONCRETE CURB
TYPE B
Scale: 3"= 1'-0"

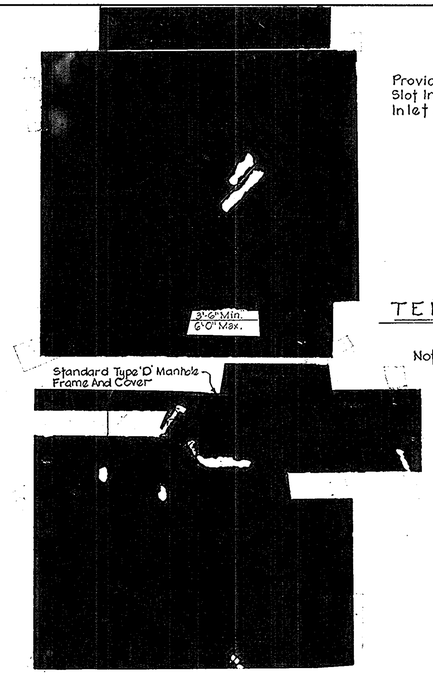


W: Width Of Pavement.

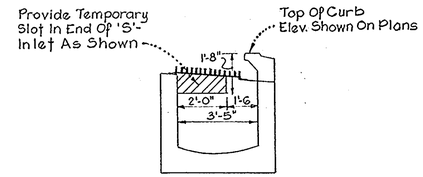
R: Rate Of Change Of A Given Point On The Pavement With Respect To The Point Of Application Of Profile Grade.

C: 0.0002 ft. per ft. Except For The Transitions Between Station 28+95 And Station 43+21.67, Which Are 0.00015 ft. per ft.

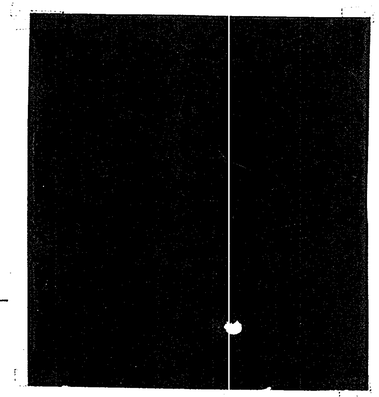
DETAIL
SUPERELEVATION TRANSITION



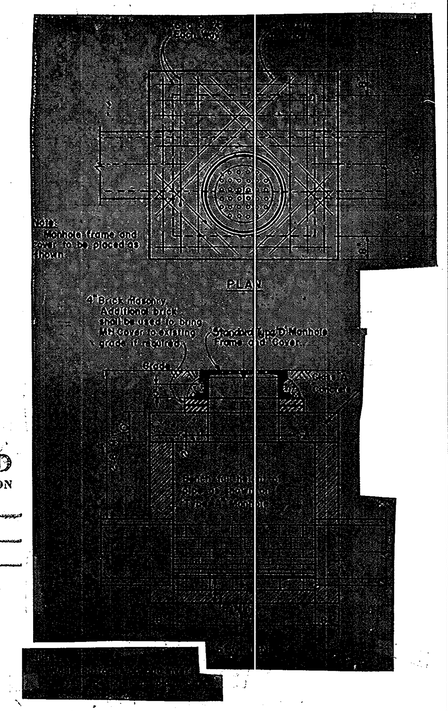
DETAIL
TYPE 'C' MANHOLE



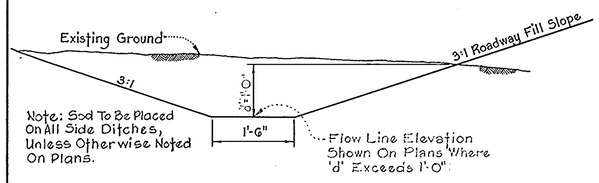
TEMPORARY DRAINAGE SLOT
'S'-INLETS
Note: To Be Constructed Where Noted On Plans



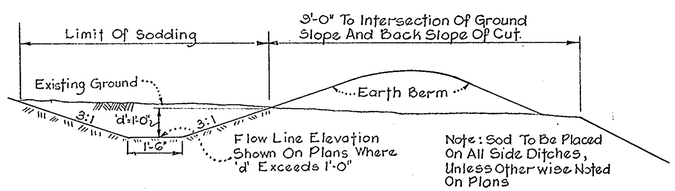
NOTE: FOR M.H. COVER & FRAME.
HOWARD COUNTY STANDARDS.
DRAWING D-106



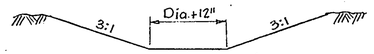
DETAIL
TYPE 'B' MANHOLE



DETAIL
SIDE DITCH
Scale: 3/4"=1'-0"

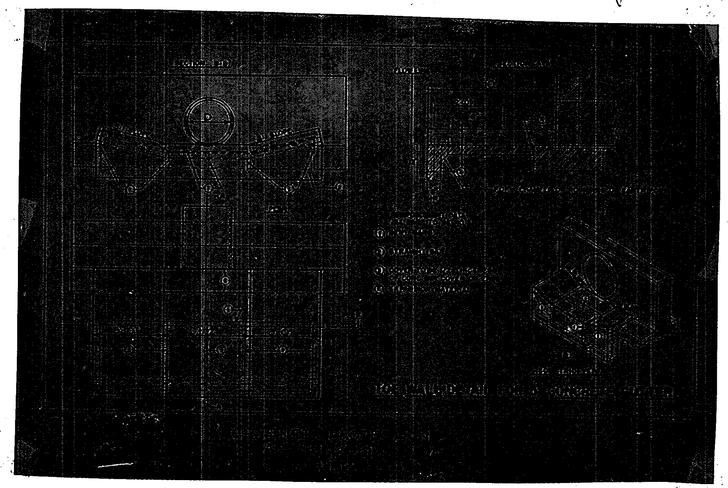


DETAIL
BERM DITCH



Note: Seed & Mulch To Be Placed On All Inlet & Outlet Ditches Unless Otherwise Noted On Plans

TYPICAL CHANNEL
CONSTRUCTION
(INLET AND OUTLET DITCHES)

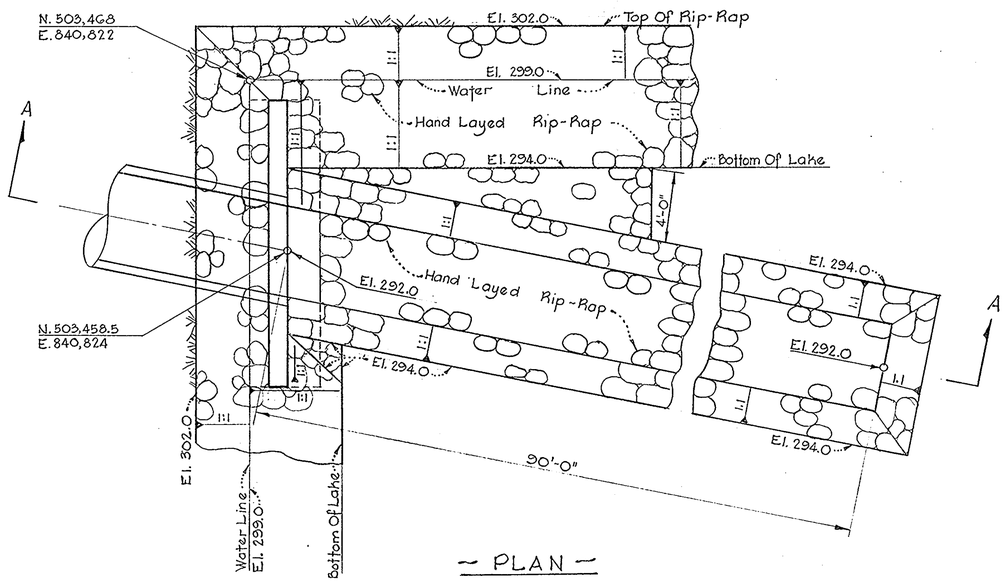


APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 2 1966

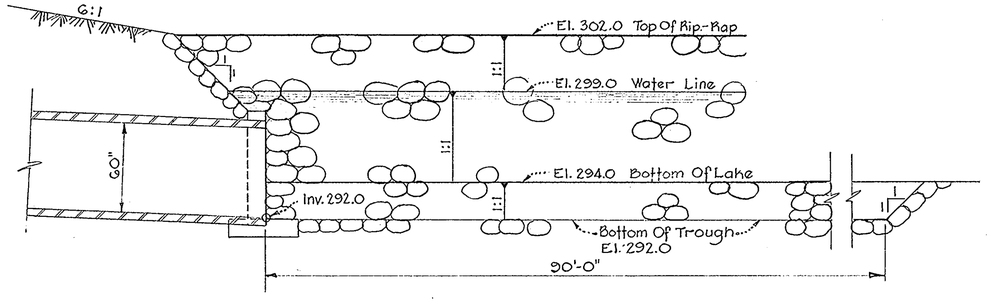
Manhole & Curb Type	9/22/66
DETAIL SHEET	
As Noted	April 18, 1966 R.L.J. 7 of 29

F-66-97

#55



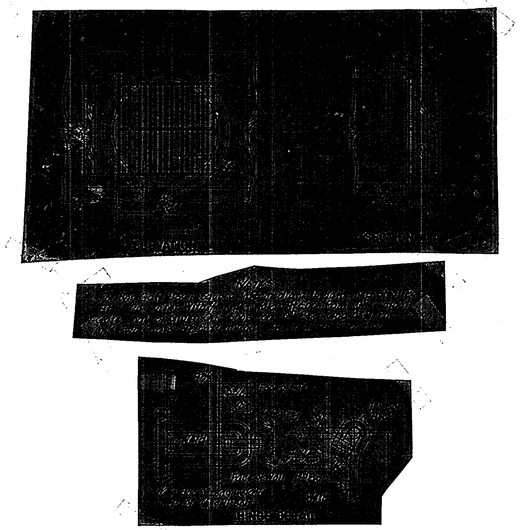
~ PLAN ~



~ SECTION 'A-A' ~

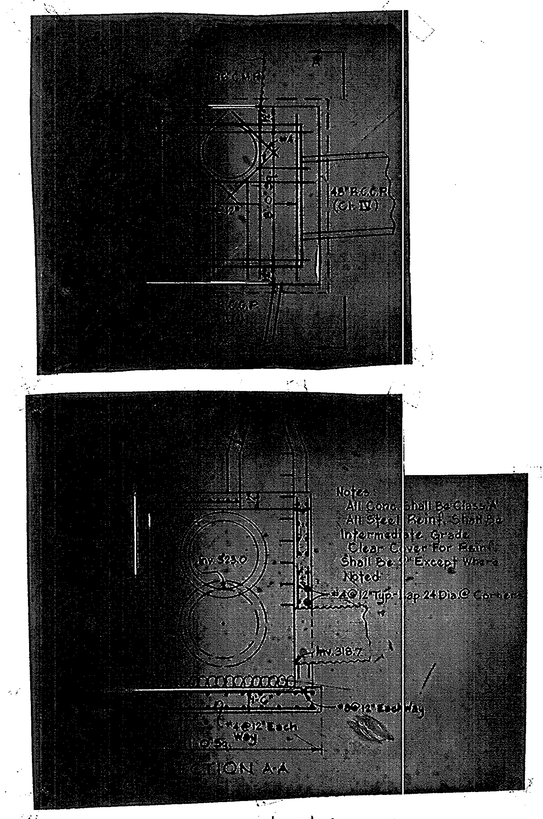
~ DETAIL - OUTLET PROTECTION ~

Scale: 1"=4'-0"



~ BAR GATE DETAIL FOR 60" CIRCULAR PIPE ~

~ MODIFIED TYPE 'C' ENDWALL ~



~ SPECIAL 8'x 8' REINF. CONC. DROP MANHOLE ~

L.T. STA. 33+

NOTE: FOR M.H. COVER & FRAME.
HOWARD COUNTY STANDARDS:
DRAWING D-106

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 2 1968

W.R.&A. Comments 10/28/66

DETAIL SHEET

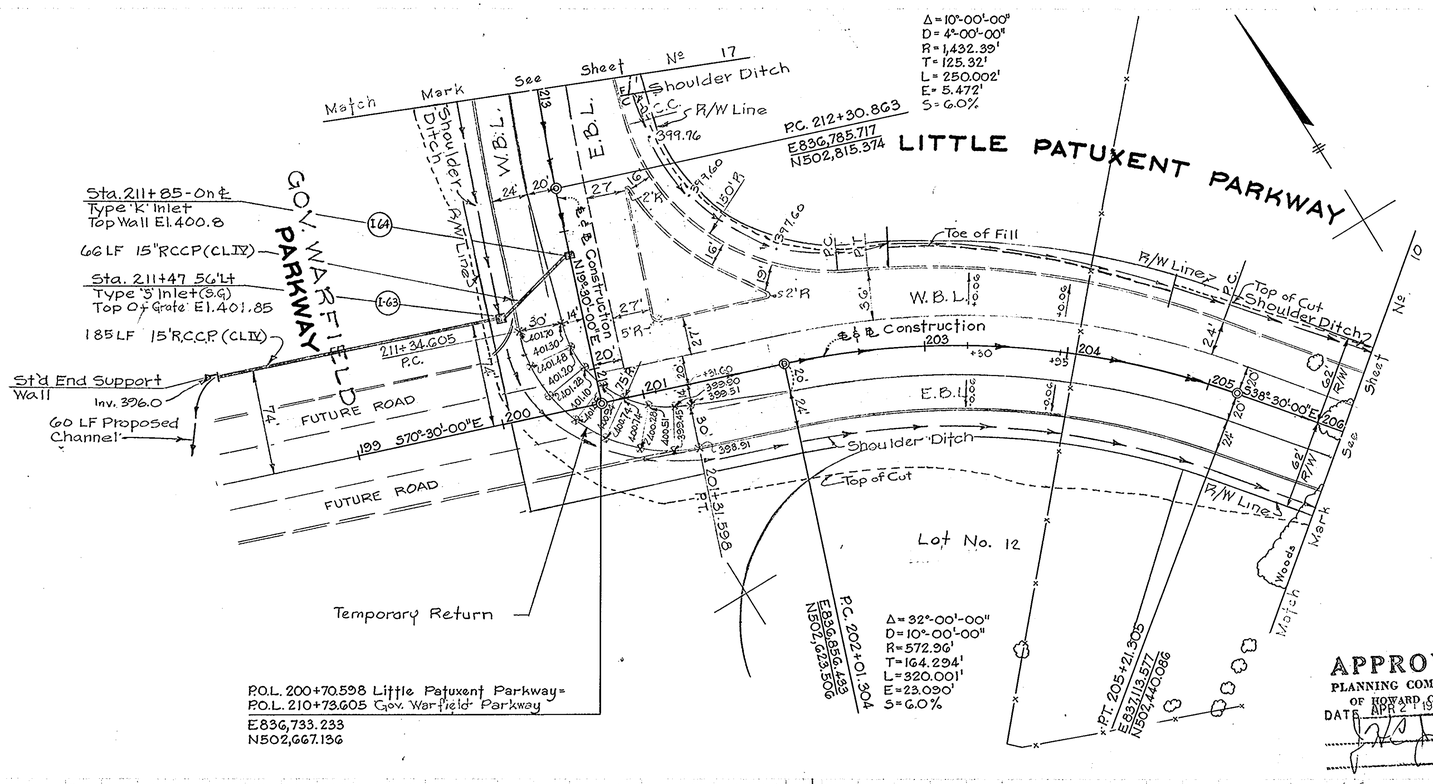
As Noted

Nov. 28, 1966
J.F.L.
8 of 29

F-66-44

#55

STORM DRAIN PROFILES
Sta. 211+ To 213+00 See Sheet No. 28



⊗ Indicates Pavement Elevations

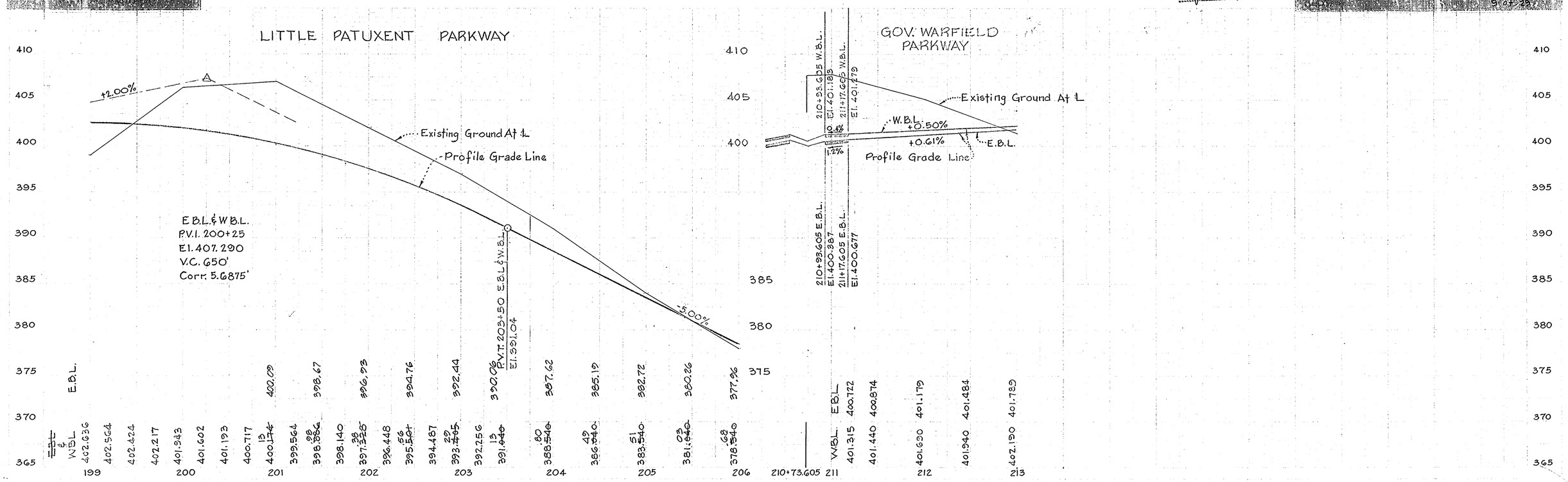
Added Pav't (EBL) Deleted Pav't (WBL) And Spot El.	10/19/66
Added Drainage	9/22/66
Drainage	6/28/66
Grade	6/24/66
Grade & Drainage	5/18/66

GOV. WARFIELD PARKWAY
Sta. 210+ to Sta. 213+
LITTLE PATUXENT PARKWAY
Sta. 200+ to Sta. 206+

April 13, 1966

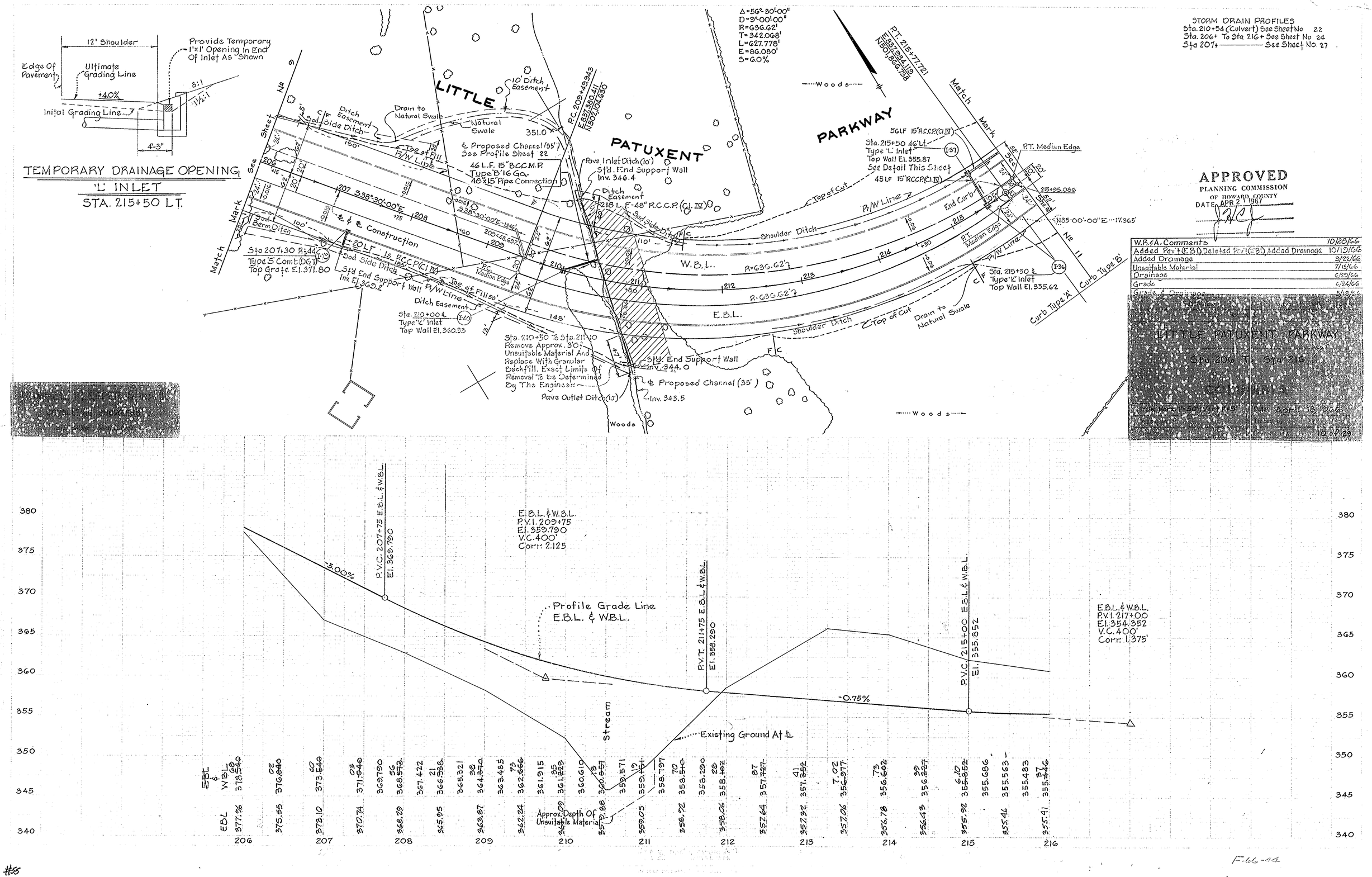
9 of 29

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 2 1967



F-66-44

#55



STORM DRAIN PROFILES
Sta. 210+54 (Culvert) See Sheet No 22
Sta. 206+ To Sta 216+ See Sheet No 24
Sta 207+ ——— See Sheet No 27

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 21 1967

W.R.&A. Comments	10/28/66
Added Pav't (E.B.L.) Deleted Pav't (W.B.L.) Added Drainage	10/19/66
Added Drainage	9/22/66
Unsuitable Material	7/15/66
Drainage	6/29/66
Grade	6/24/66
Grade & Drainage	5/18/66

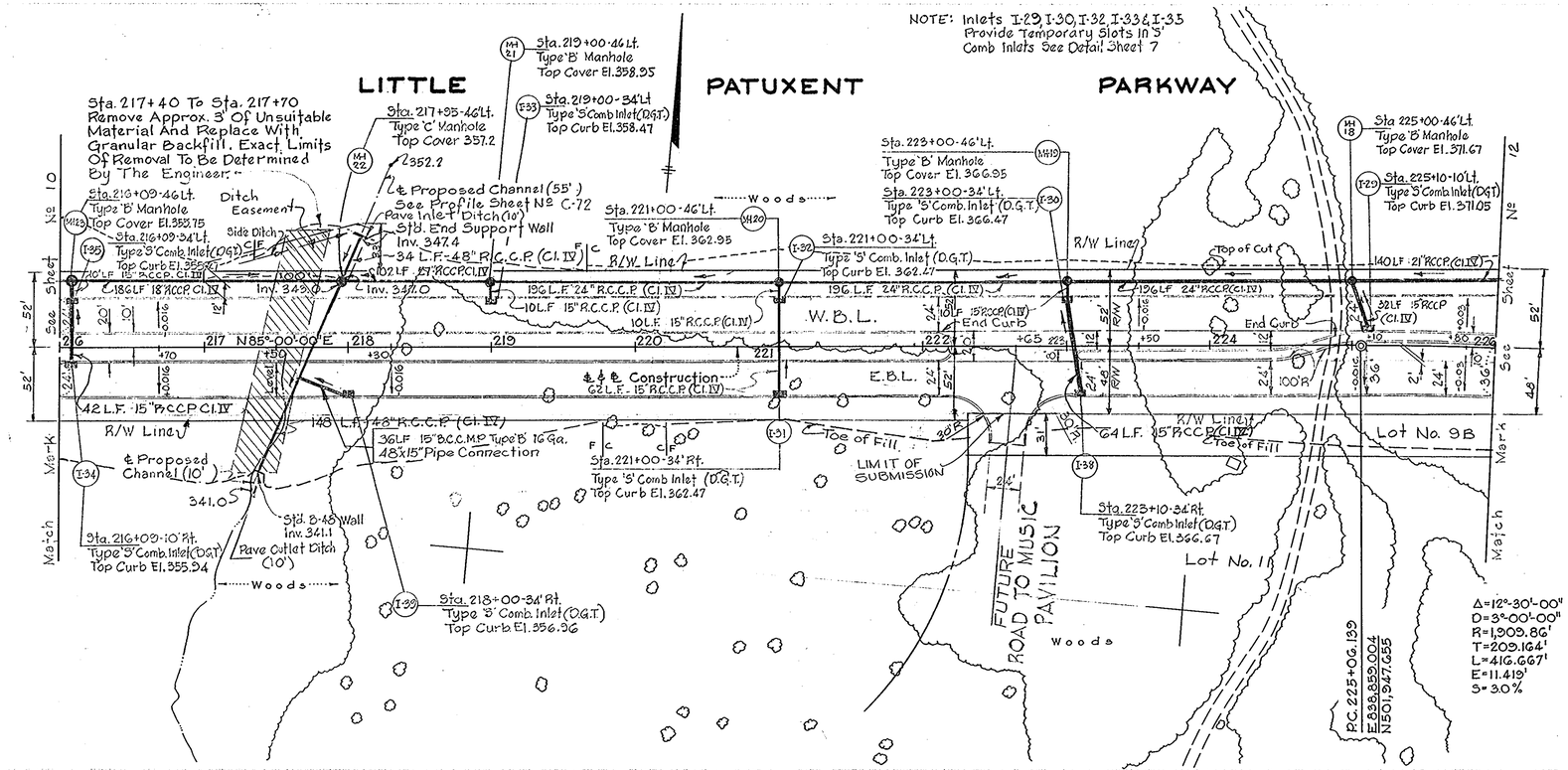
LITTLE PATUXENT PARKWAY
Sta. 206 To Sta. 216
Date April 18, 1966
10 of 29

#55

F-66-44

STORM DRAIN PROFILES
Sta 217+75 (Culvert) See Sheet No. 22
Sta 216+ To Sta 226+ See Sheet No. 24

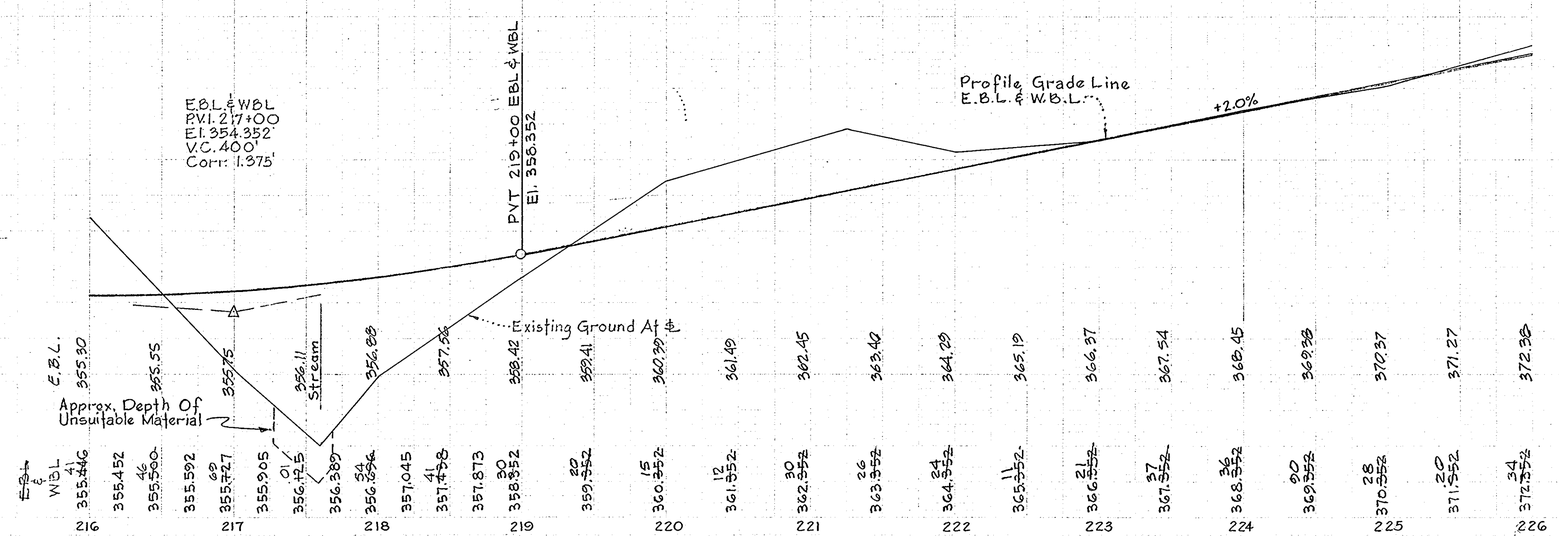
NOTE: Inlets I-29, I-30, I-32, I-33 & I-35 Provide Temporary Slots In 5' Comb Inlets See Detail Sheet 7



APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 21 1967

W.R.E.A. Comments	10/23/66
Added Pav't (E.B.L.) Deleted Pav't (W.B.L.) & Spot Elev.	10/13/66
Added Drainage	9/22/66
Unsuitable Material	7/15/66
Drainage	6/29/66
Grade	6/21/66
Grade & Drainage	5/18/66

LITTLE PATUXENT PARKWAY
Sta 216 To Sta 226
Culvert To Vert Pt. B



F-66-11

#55

MALL

STORM DRAIN PROFILES
Sta. 226+ To Sta. 227+ See Sheet No. 24
Sta. 229+ To Sta. 232+ See Sheet No. 25
Sta. 232+ To Sta. 16+ See Sheet No. 25
Sta. 232+26 (Culvert) See Sheet No. 22

Note: Provide Temporary Slot In 'S' Comb. Inlets, I-1 & I-5, See Detail Sheet No. 7

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 12 1971

× Indicates Elevation At Top Of Curb
⊘ Indicates Pavement Elevations

Added Rt. Turn Lane for Rd. to Town Center	6-9-71
As Built. information added	10/26/66
W.R.&A. Comments	10/28/66
Added Pav't (EBL) Deleted Pav't (WBL) & Spot Elev.	10/13/66
Added Top Curb Elev. @ Intersecting Roads	9/26/66
Added Drainage	9/23/66
Drainage	6/29/66
Grade	6/23/66
Rd. to Enter Rd. Rt. Sta. 14+ Median Sta. 15+	5/16/66

Description	By	Mark	Date
[illegible]			

LITTLE PATUXENT PARKWAY
Sta. 226+ To Sta. 232+87.633
Sta. 13+12.80 Ah. To Sta. 16

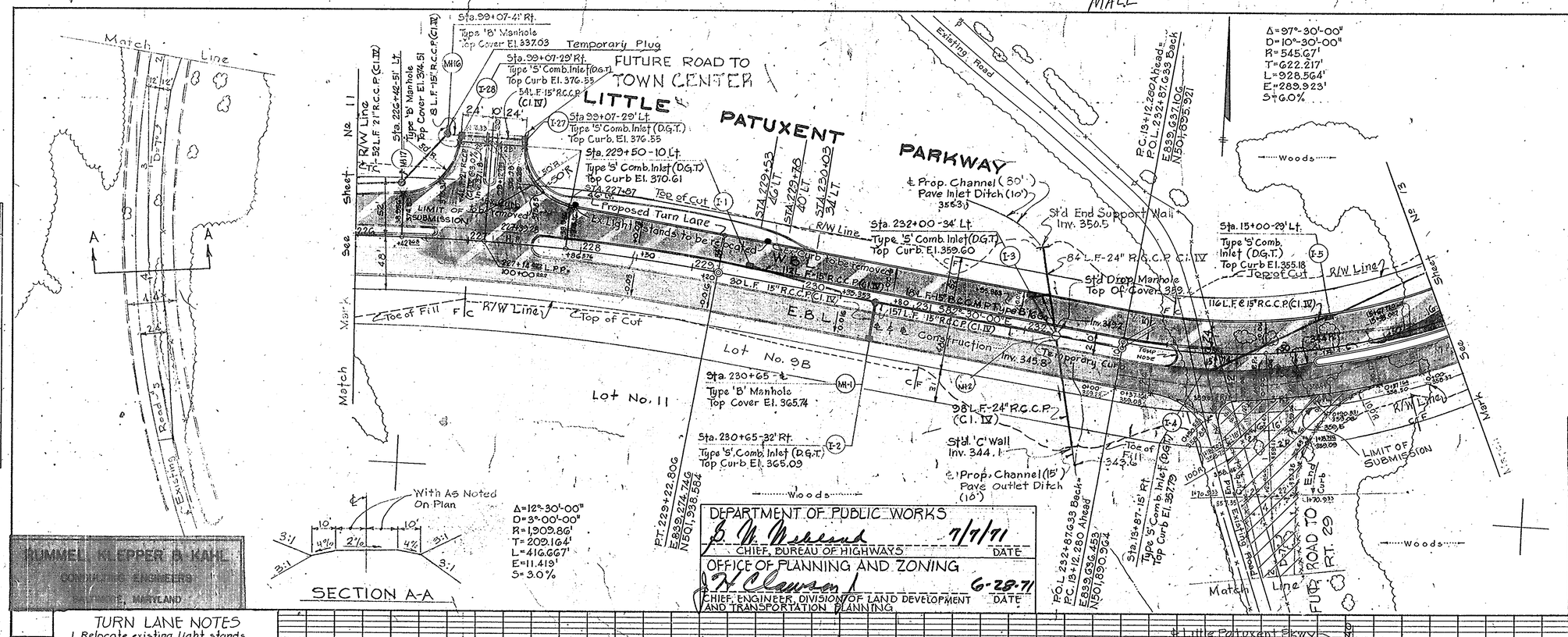
COLUMBIA

Date: Apr. 11, 1971
Drawn by:
Checked by:
Drawing No. 12 of 28

PLAN

NOTE BOOK	SURVEYED. PLOTTED. ALIGNMENT CHECKED. RT. OF WAY CHECKED.
NO.	

BY	DATE



DEPARTMENT OF PUBLIC WORKS
S. W. Mehrens 7/7/71
CHIEF, BUREAU OF HIGHWAYS DATE

OFFICE OF PLANNING AND ZONING
N. Clawson 6-28-71
CHIEF, ENGINEER, DIVISION OF LAND DEVELOPMENT AND TRANSPORTATION PLANNING DATE

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

SECTION A-A

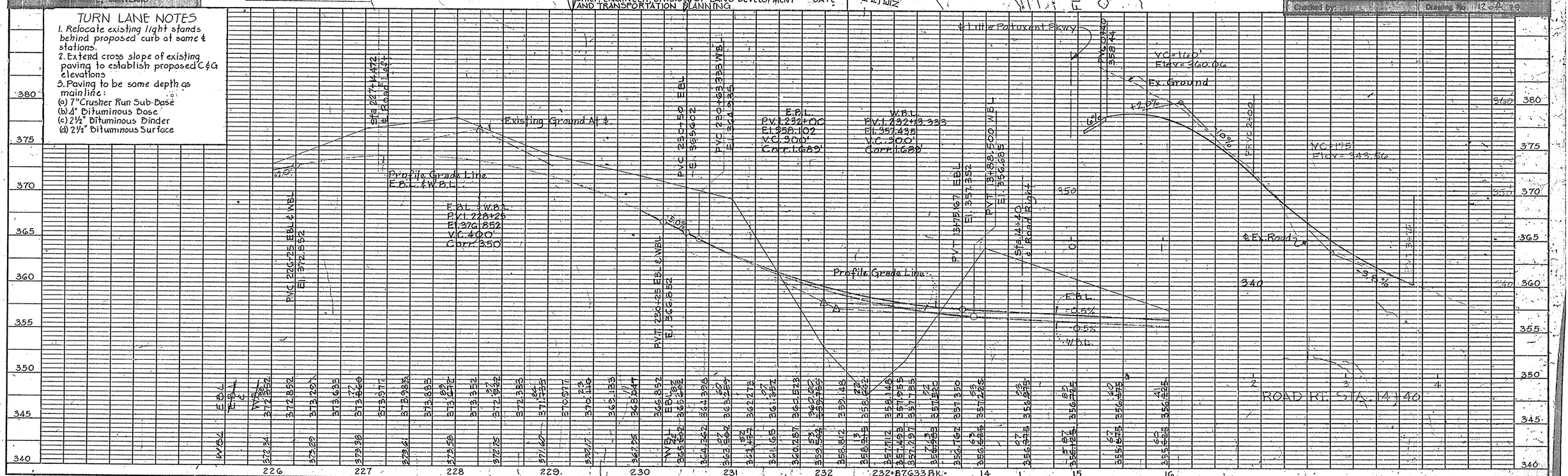
Δ = 12°-30'-00"
D = 3°-00'-00"
R = 1,909.86'
T = 209.164'
L = 416.667'
E = 11.419'
S = 3.0%

TURN LANE NOTES
1. Relocate existing light stands behind proposed curb at same ℄ stations.
2. Extend cross slope of existing paving to establish proposed C&G elevations
3. Paving to be same depth as mainline:
(a) 7" Crusher Run Sub-Base
(b) 4" Bituminous Base
(c) 2½" Bituminous Binder
(d) 2½" Bituminous Surface

BY	DATE

PROFILE

NOTE BOOK	SURVEYED. PLOTTED. GRADES CHECKED. B. M.'S NOTED. STRUCTURE NOTATIONS CHKD.
NO.	



K&E PLATE 1, PLAN-PROFILE KEUFFEL & ESSER CO.
13+12.80 Ah.
48 7012 IMPERIAL™ TRACING CLOTH 27×23

CRP 19 #55
CRP 19
B.H. 32-12
F-66-44
C.F. A-1-067161

DATE	REVISION	BY	APPR.
2016-01-04	△1 REVISED CURB LINE AND INDICATED ADJUSTMENTS TO EXISTING FEATURES.	LAG	DEV

STORM DRAIN PROFILES
Sta. 16+ To Sta. 24+ See Sheet № 24
Sta. 19+75 (Culvert) See Sheet № 23

△1

NOTES:
1. LANE CLOSURE DURING THE CONSTRUCTION OF THE LANE MODIFICATIONS WILL BE PROVIDED PER SHA DETAIL MD 104.12-02.
2. FINAL LOCATION OF HAND BOXES WILL BE DETERMINED IN THE FIELD BY DPW-TRAFFIC DIVISION BASED UPON BOTH THE EXISTING CONDITIONS AND THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS.

△1

CURB FLOW LINE ELEV.				
#	STA	O/S	ELEV	DESC
1	20+24	5' L	MEET EX.	START/PC
2	14+87	5' L	352.53	POC
3	14+58	1' R	352.83	POC
4	14+33	7' R	MEET EX.	END/PT
5	14+34	15' R	MEET EX.	START/PC
6	14+61	8' R	353.75	POC
7	14+88	3' R	353.64	POC
8	20+24	3' R	MEET EX.	END/PT

X Indicates Elevation At Top Of Curb
(X) Indicates Pavement Elevations

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 21 1967

W.R.&A. Comments	10/28/66
Added Top Curb Elev. @ Intersecting Roads	10/20/66
Added Drainage	9/22/66
Drainage	6/23/66
Entr. Rd. Rt. Sta. 18+, Median Sta. 16+	5/18/66

REVISIONS	BY	MARK	DATE
REVISIONS			

LITTLE PATUXENT PARKWAY

Sta. 16+ to Sta. 24+

COLUMBIA

Scale: Horiz. 1"=50' Vert. 1"=5'	Date: Date: April 18, 1966
Design:	Drawn By:
Checked:	Drawing No.: 13 of 29

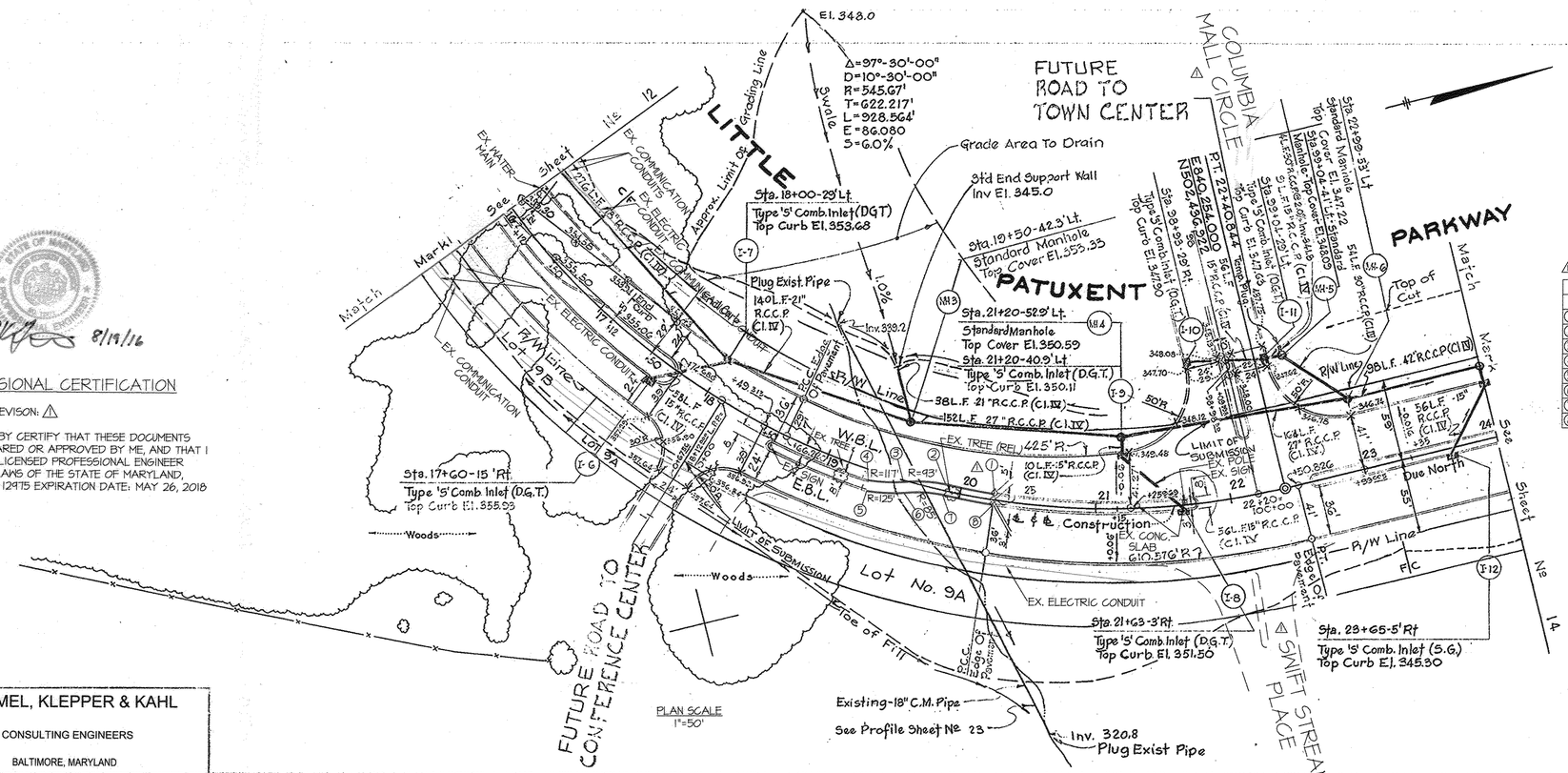
STATE OF MARYLAND
CLIFFORD L. GRONINGER
No. 12415
8/19/16

PROFESSIONAL CERTIFICATION

FOR REVISON: △1

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE No: 12415 EXPIRATION DATE: MAY 26, 2018

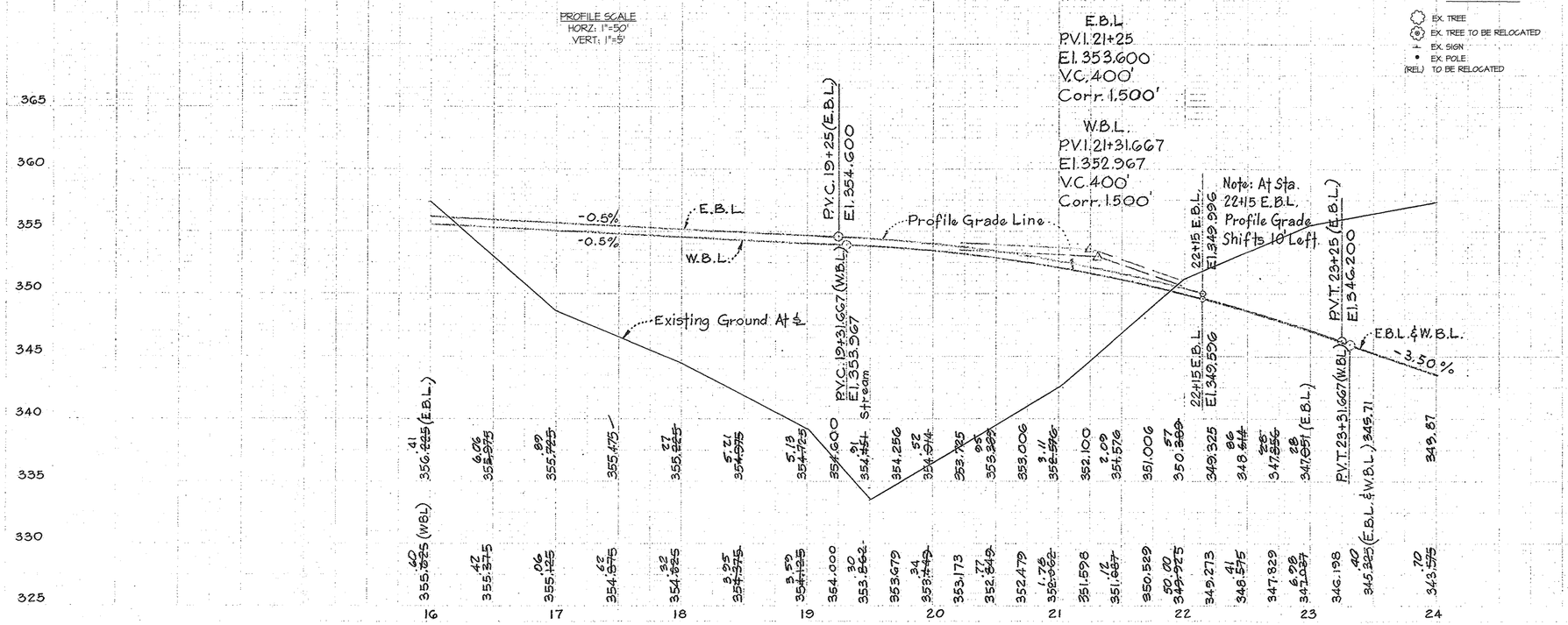
RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
BALTIMORE, MARYLAND



PLAN SCALE
1"=50'

△1 LEGEND
- EX. TREE
- EX. TREE TO BE RELOCATED
- EX. SIGN
- EX. POLE
- (REL) TO BE RELOCATED

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

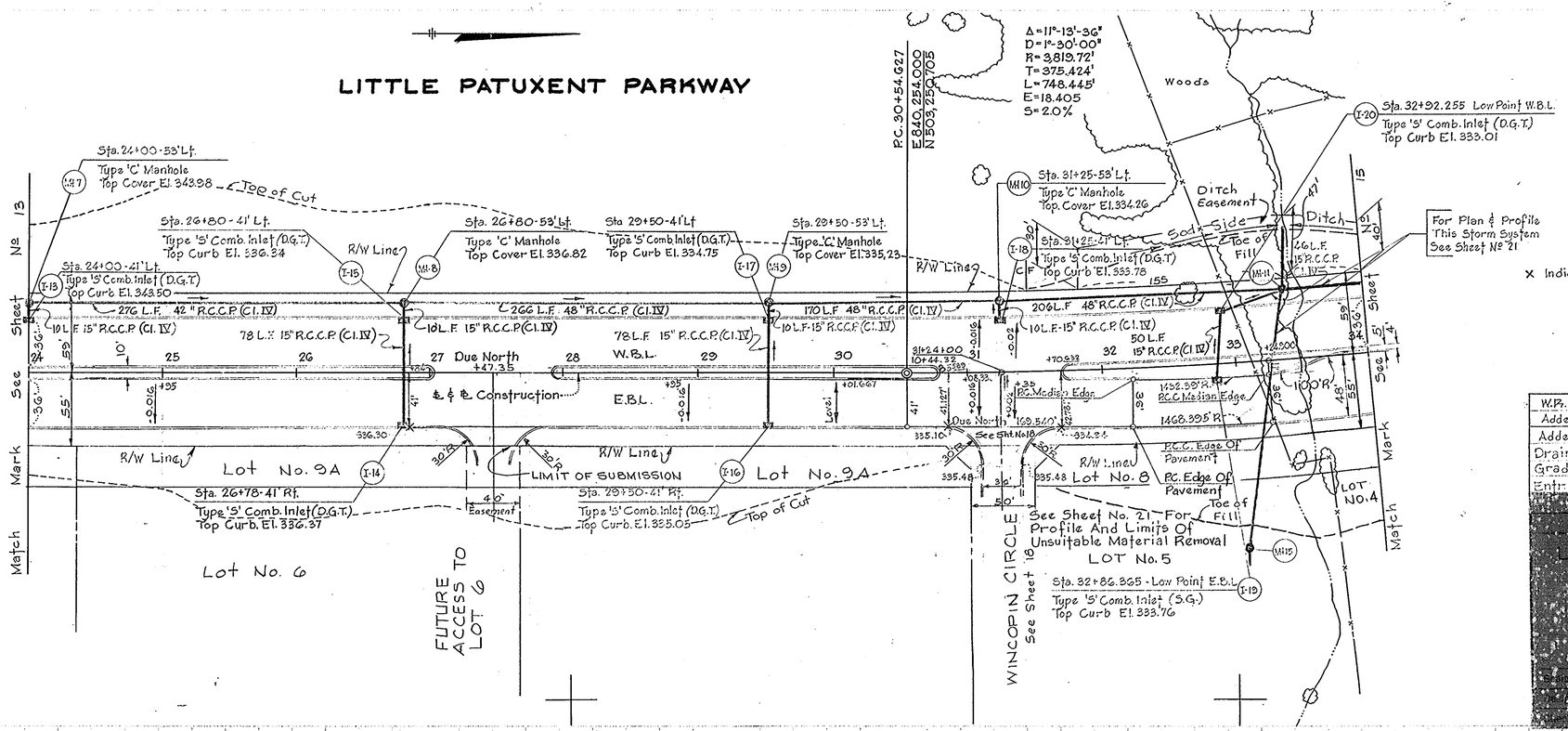


F-66-44

#65

LITTLE PATUXENT PARKWAY

STORM DRAIN PROFILES
Sta. 24+ To Sta. 33+ See Sheet № 24
Sta. 33+ To Sta. 34+ See Sheet № 21



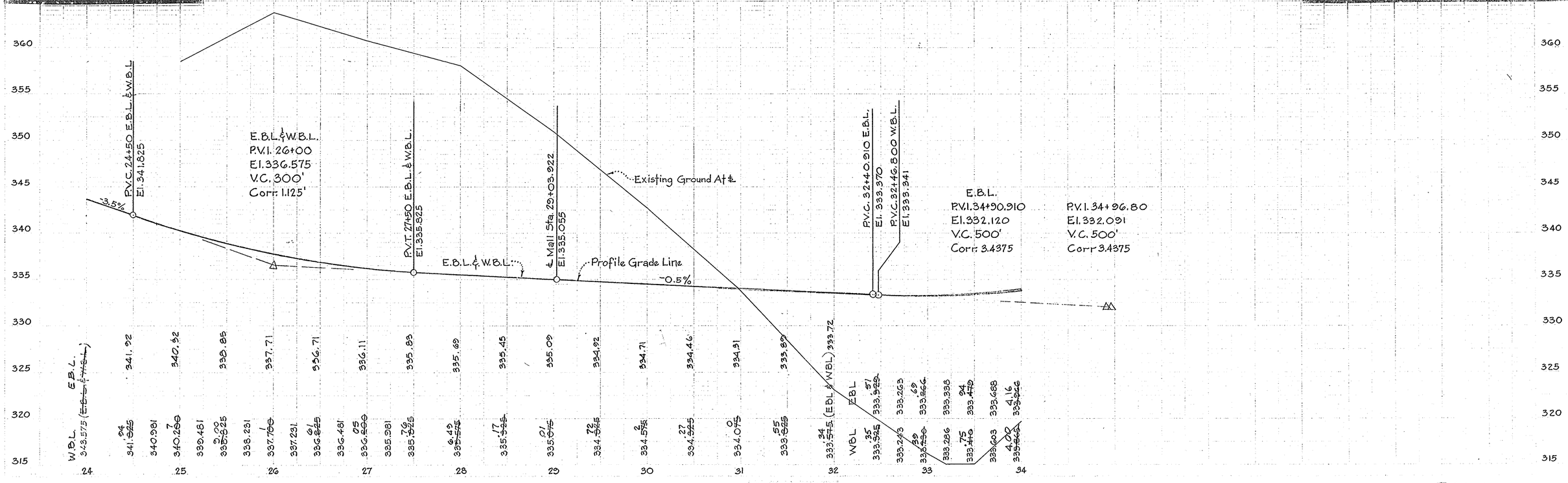
× Indicates Elevation At Top Of Curb

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 21 1967

W.R.&A. Comments	10/28/66
Added Top Curb Elev. @ Intersecting Roads	10/19/66
Added Drainage	9/22/66
Drainage	6/29/66
Grade	6/24/66
Entr. Rd. Rt. Sta. 25+ & 27+	5/18/66

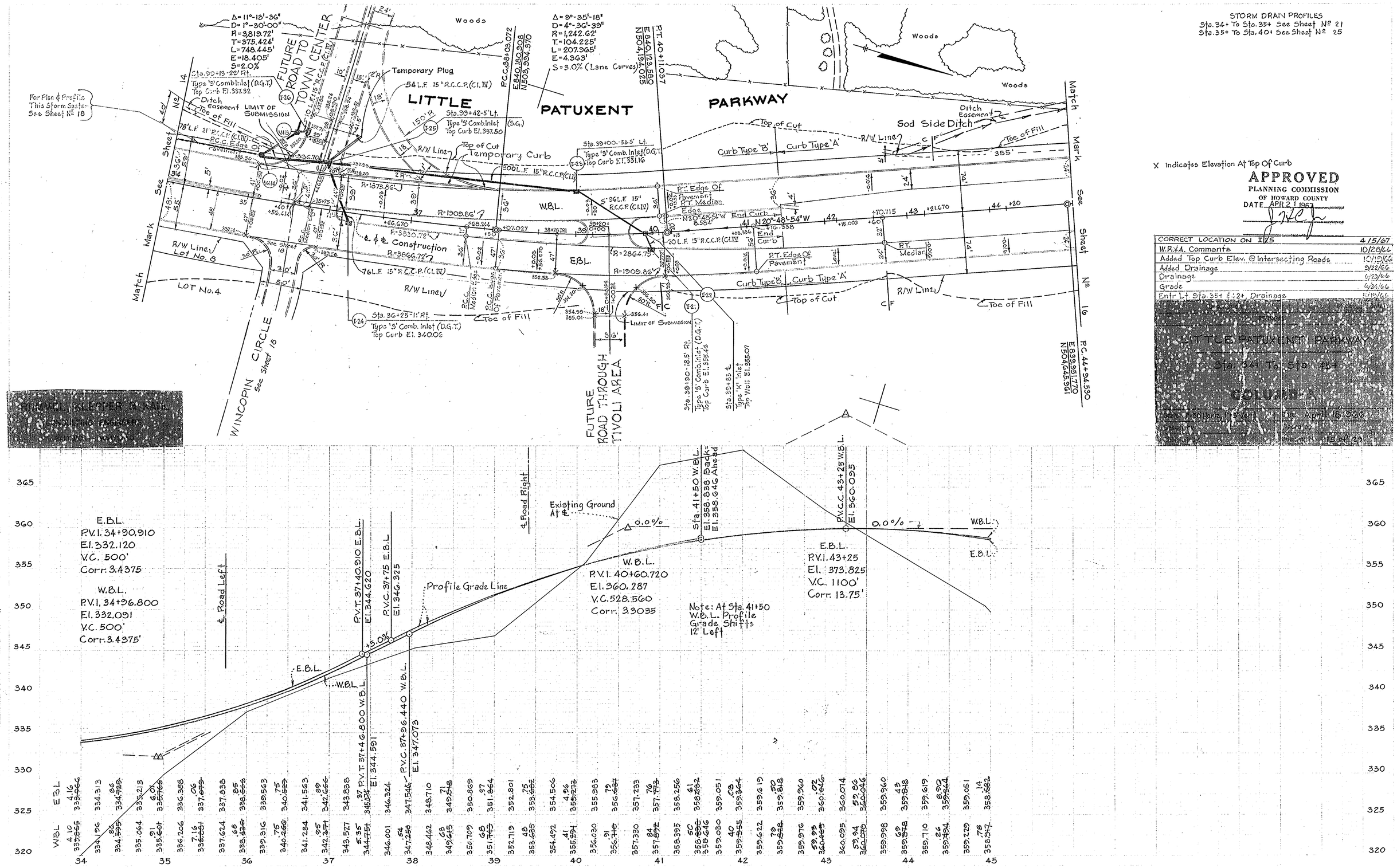
LITTLE PATUXENT PARKWAY
STA. 24+ TO STA. 34+
COLUMBIA
Scale 1"=50' Horiz., 1"=5' Vert. | Date April 18, 1966
Drawn by | Drawn by
Checked by | Drawn by | Drawn by 14 of 29

PUMMELL KLEPPER & KAHL
CONSULTING ENGINEERS
BALTIMORE, MARYLAND



#55

F-66-44



STORM DRAIN PROFILES
Sta. 34+ To Sta. 35+ See Sheet No 21
Sta. 35+ To Sta. 40+ See Sheet No 25
X Indicates Elevation At Top Of Curb
APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 2 1967
CORRECT LOCATION ON I-25 4/5/67
W.R.&A. Comments 10/28/66
Added Top Curb Elev. @ Intersecting Roads 10/12/66
Added Drainage 9/22/66
Drainage 6/23/66
Grade 6/24/66
Entr Lt. Sta. 35+ & 42+ Drainage 1/19/66
LITTLE PATUXENT PARKWAY
Sta. 34+ To Sta. 45+
COLUMBIA
April 18, 1966
LITTLE PATUXENT PARKWAY
Woods
Δ = 11°-13'-36"
D = 1°-30'-00"
R = 3,819.72'
T = 375.424'
L = 748.445'
E = 18.405'
S = 2.0%
Δ = 9°-35'-18"
D = 4°-36'-39"
R = 1,242.62'
T = 104.225'
L = 207.965'
E = 4.363'
S = 3.0% (Lane Curves)
FUTURE ROAD TO TOWN CENTER
For Plan & Profile This Storm System See Sheet No 18
Temporary Plug
54 L.F. 15" R.C.C.P. (Cl. IV)
Sta. 99+13-29' Rt.
Type 'S' Comb. Inlet (D.G.T.)
Top Curb El. 337.32
Ditch Easement
Toe of Fill
LIMIT OF SUBMISSION
Sta. 99+42-5' Lt.
Type 'S' Comb. Inlet (S.G.)
Top Curb El. 337.50
Top of Cut
Temporary Curb
300 L.F. 15" R.C.C.P. (Cl. IV)
Sta. 39+00-53.5' Lt.
Type 'S' Comb. Inlet (D.G.T.)
Top Curb El. 351.16
Curb Type 'B'
Curb Type 'A'
Sod Side Ditch
Ditch Easement
Toe of Fill
R/W Line
W.B.L.
E.B.L.
℄ & ℄ Construction
R = 1909.86'
R = 3866.72'
R = 2864.79'
R = 1909.86'
76 L.F. 15" R.C.C.P. (Cl. IV)
20 L.F. 15" R.C.C.P. (Cl. IV)
P.T. Edge Of Pavement
P.T. Median Edge
End Curb
N20°-48'-54"W
Sta. 36+25-11' Rt.
Type 'S' Comb. Inlet (D.G.T.)
Top Curb El. 340.06
LIMIT OF SUBMISSION
Sta. 39+90-18.5' Rt.
Type 'S' Comb. Inlet (D.G.T.)
Top Curb El. 355.46
Sta. 39+83 ℄
Type 'K' Inlet
Top Wall El. 355.07
Match Mark See Sheet No 14
Match Mark See Sheet No 16
LOT No. 4
R/W Line Lot No. 8
WINCOPIN CIRCLE See Sheet 18
FUTURE ROAD THROUGH TIVOLI AREA
P.C.C. 38+03.072
E 840,180.908
N 503,994.370
P.T. 40+11.037
E 840,123.580
N 504,194.025
P.C. 44+94.530
E 839,951.770
N 504,645.961
E.B.L.
P.V.I. 34+90.910
El. 332.120
V.C. 500'
Corr. 3.4375
W.B.L.
P.V.I. 34+96.800
El. 332.091
V.C. 500'
Corr. 3.4375'
℄ Road Left
℄ Road Right
P.V.T. 37+40.910 E.B.L.
El. 344.620
P.V.C. 37+75 E.B.L.
El. 346.325
P.V.T. 37+46.800 W.B.L.
El. 344.591
P.V.C. 37+96.440 W.B.L.
El. 347.073
Profile Grade Line
Existing Ground At ℄
0.0%
+5.0%
W.B.L.
P.V.I. 40+60.720
El. 360.287
V.C. 528.560
Corr. 3.3035
Sta. 41+50 W.B.L.
El. 358.838 Back=
El. 358.646 Ahead
Note: At Sta. 41+50 W.B.L. Profile Grade Shifts 12' Left
P.V.C.C. 43+25 W.B.L.
El. 360.095
E.B.L.
P.V.I. 43+25
El. 373.825
V.C. 1100'
Corr. 13.75'
365
360
355
350
345
340
335
330
325
320
34
35
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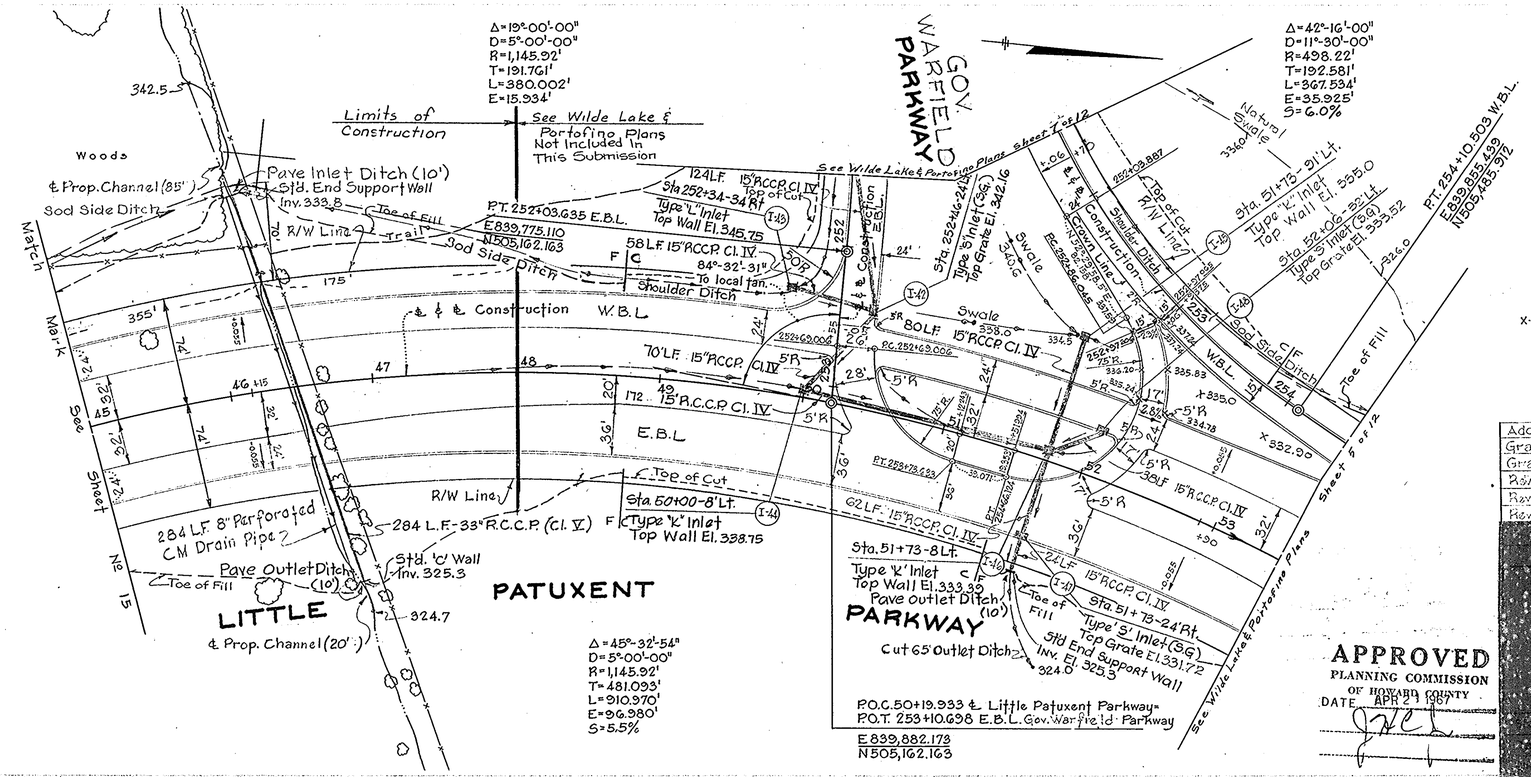
45

#55



STORM DRAIN PROFILES
Sta 46+46 See Sheet No. 23

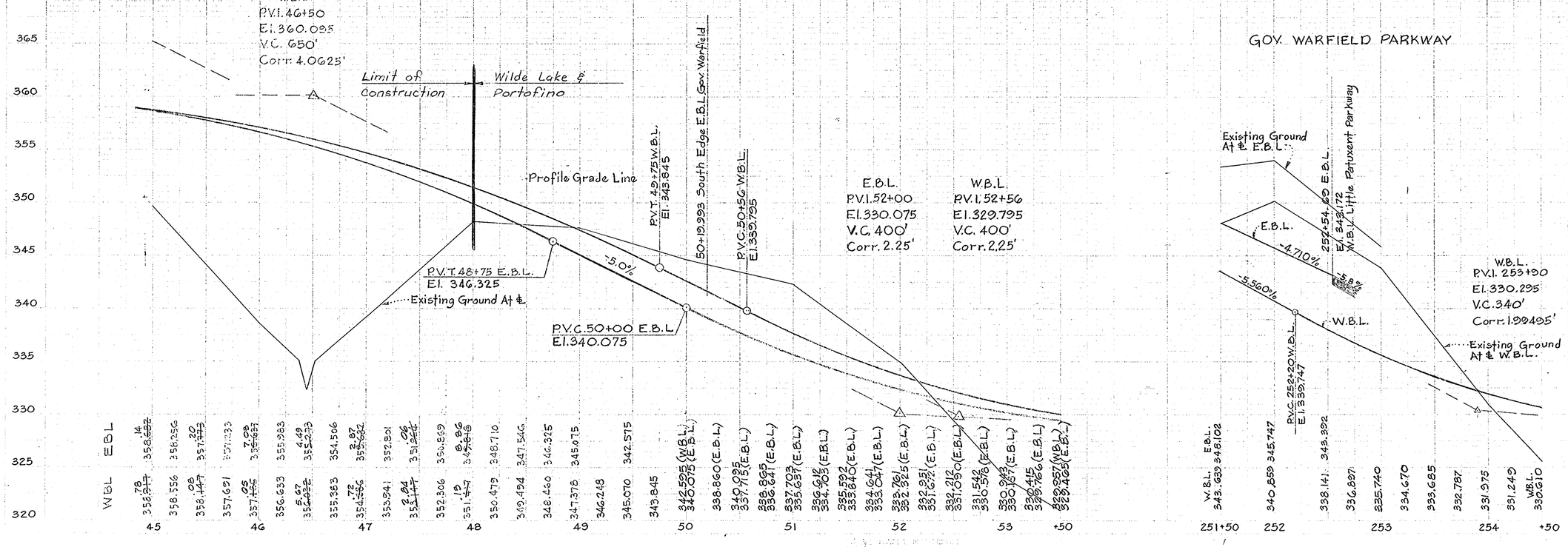
x- Indicates Elevations Of Top Of Curb

Added Drainage	9/22/66
Grade Change Gov. Warfield Parkway	8/12/66
Grade Change Gov. Warfield Parkway	7/22/66
Revised Drainage	6/29/66
Revised Grade	6/24/66
Revised Grade	5/18/66

LITTLE PATUXENT PARKWAY
Sta. 45+ To Sta. 53+
PROFILE
Scale Horiz. 1" = 50' Vert. 1" = 5'
Apr. 15, 1966

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 21 1967

FLANNERY, BLE, POS & KAHL
CONSULTING ENGINEERS
BALTIMORE, MARYLAND



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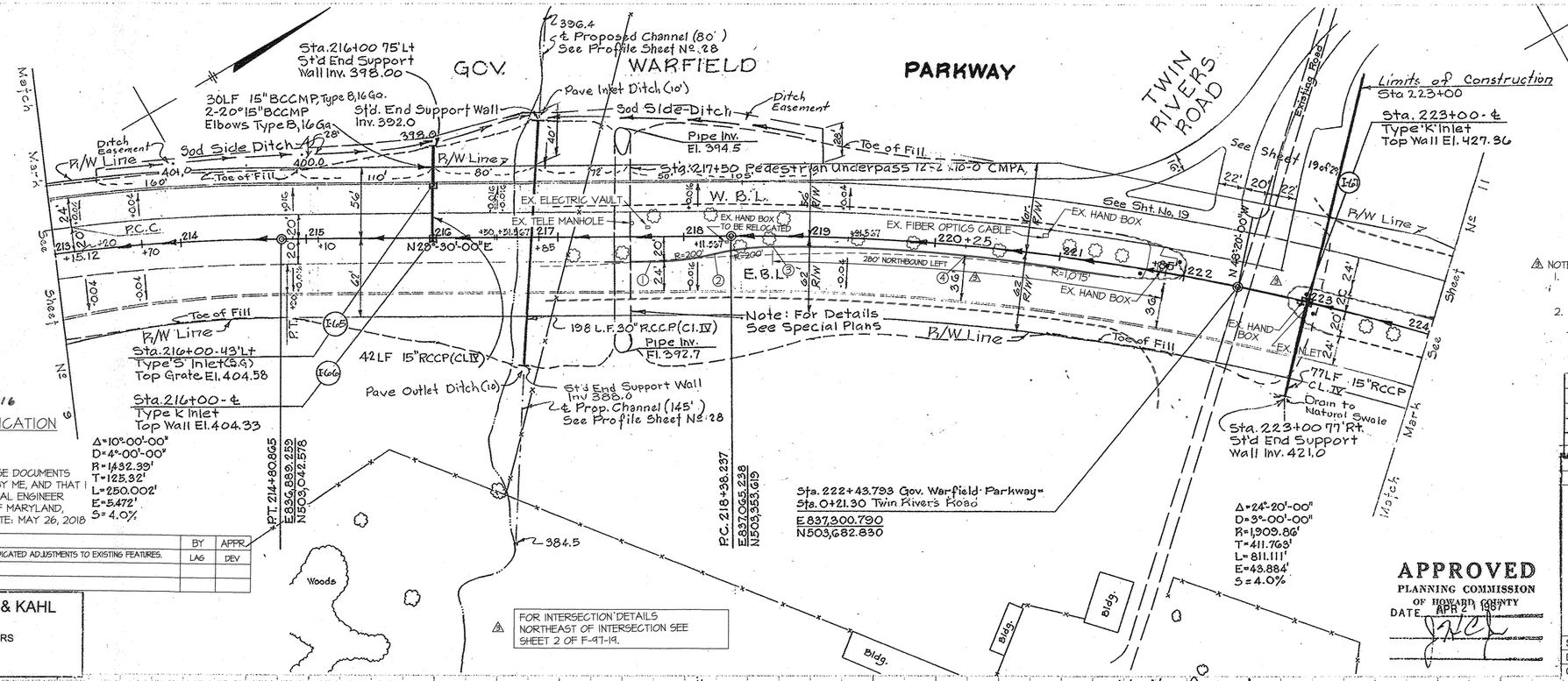
F-66-44



Storm Drain Profiles
Sta. 216+79 See Sheet No. 28
Sta. 213+00 To 224+00 See Sheet No. 28

⚠ CURB FLOW LINE ELEV.				
PT. #	STA	O/S	ELEV	DESC
1	217+16.30	18.04' R	MEET EX.	START/PC
2	218+21.82	12.90' R	411.95	FL/PRC
3	218+68.04	7.80' R	414.64	FL/PCC
4	220+25.00	7.80' R	MEET EX.	FL/POC

⚠ LEGEND
- EX. TREE
- EX. TREE TO BE RELOCATED
- EX. SIGN
- EX. POLE

⚠ NOTES:
1. LANE CLOSURE DURING THE CONSTRUCTION OF THE LANE MODIFICATIONS WILL BE PROVIDED PER SHA DETAIL MD 104.12-02.
2. FINAL LOCATION OF HAND BOXES WILL BE DETERMINED IN THE FIELD BY DPW-TRAFFIC DIVISION BASED UPON BOTH THE EXISTING CONDITIONS AND THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS.

STATE OF MARYLAND — CLAYTON L. KAHL — No. 12415

9/22/16

PROFESSIONAL CERTIFICATION

FOR REVISON: ⚠

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE No: 12415 EXPIRATION DATE: MAY 26, 2018

DATE	REVISION	BY	APPR.
09/20/16	⚠ REVISED CURB LINE AND INDICATED ADJUSTMENTS TO EXISTING FEATURES.	LAG	DEV

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

⚠ FOR INTERSECTION DETAILS NORTHEAST OF INTERSECTION SEE SHEET 2 OF F-47-19.

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 21 1967

REVISIONS	BY	MARK	DATE
Added Drainage			9/22/66
Grade Revised			8/12/66
Grade Revised			7/22/66
Drainage			6/20/66
Grade			6/24/66
Grade & Drainage			5/18/66

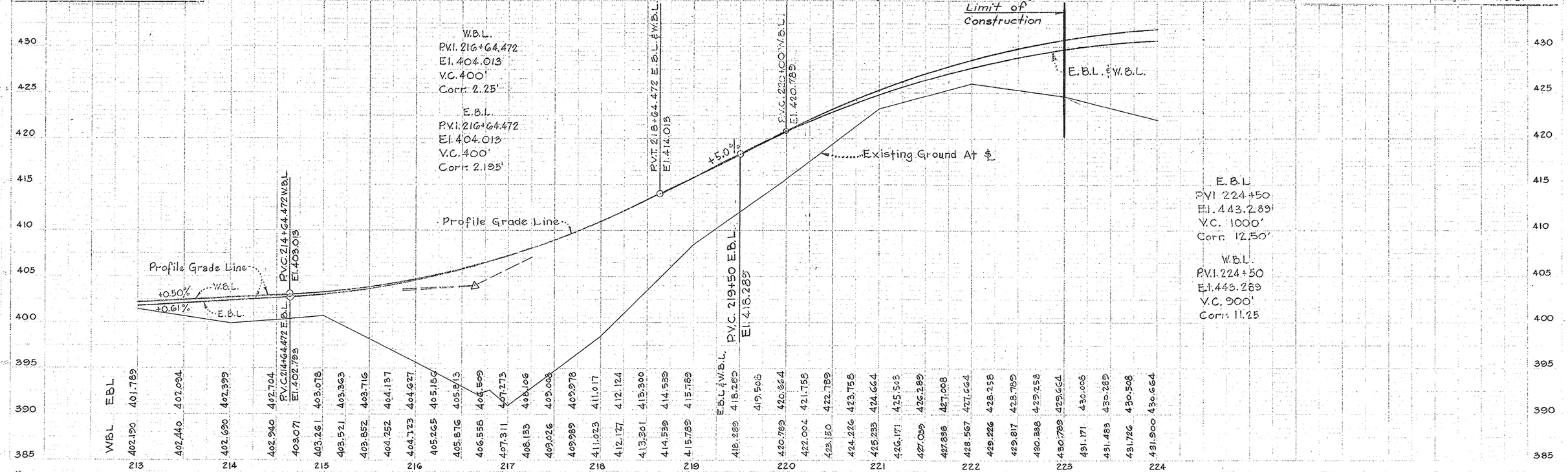
REVISIONS

GOV. WARFIELD PARKWAY

Sta. 213 to Sta. 223

COLUMBIA

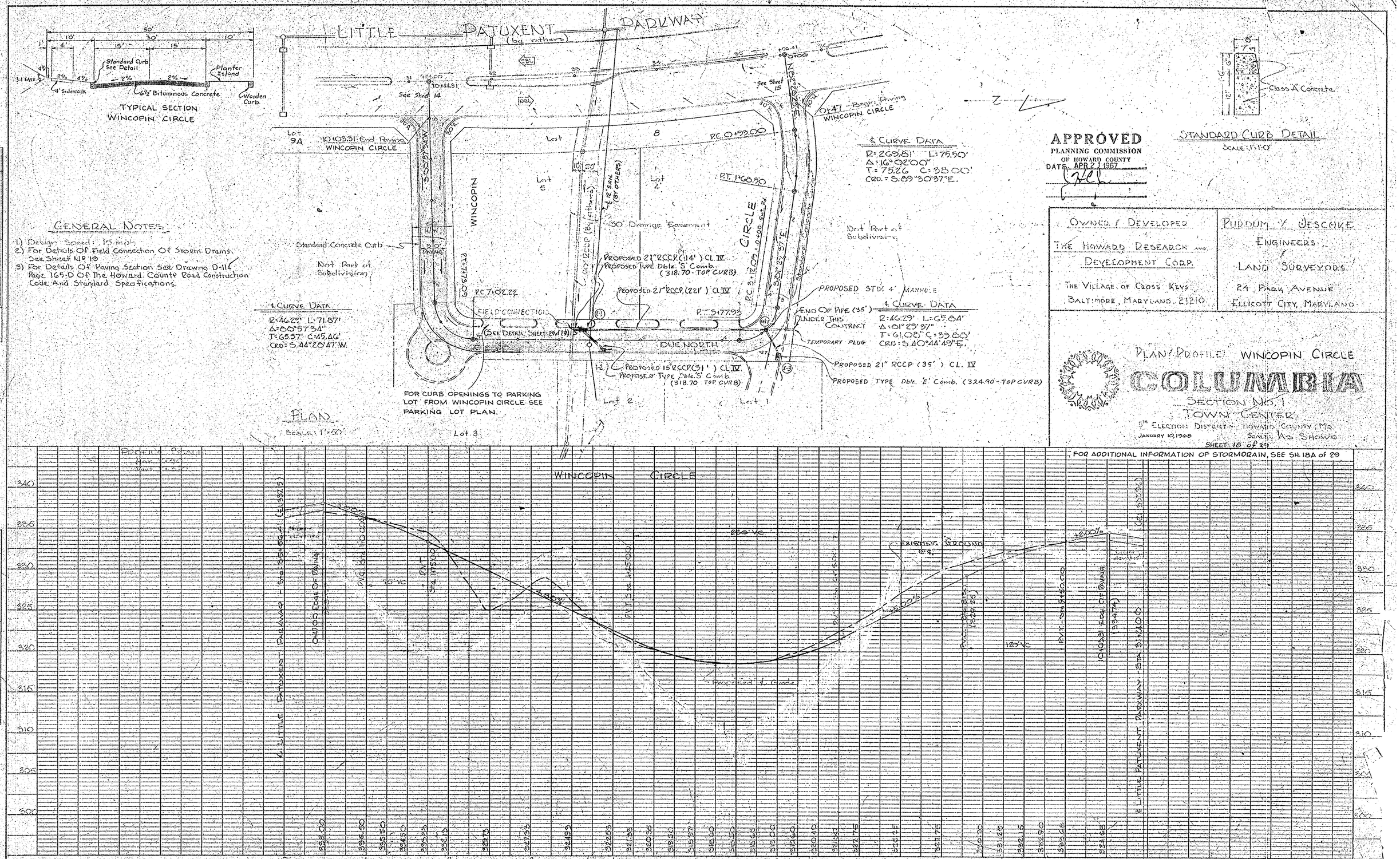
Scale: Horiz. 1"=50' Vert. 1"=5'	Date: Date: April 18, 1966
Design:	Drawn By:
Checked:	Drawing No.: 17 of 29



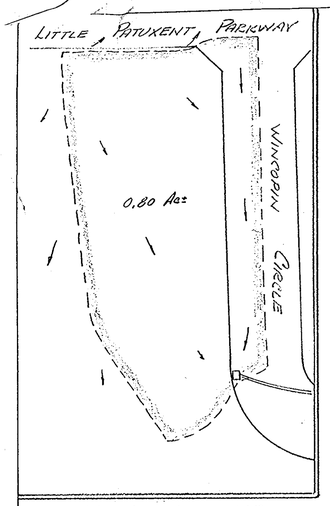
L:\CADD\DRAWINGS\1101\PLANS BY GLW\Redlines for Adjacent Intersections\Warfield at Twin Rivers\F 66-044_sheet 17 (replacement mylar).dwg, PLOTTED: 9/20/2016 3:19 PM, LAST SAVED: 8/19/2016 8:29 AM, PLOTTED BY: Doug Vande Ryt

RP 19A #55

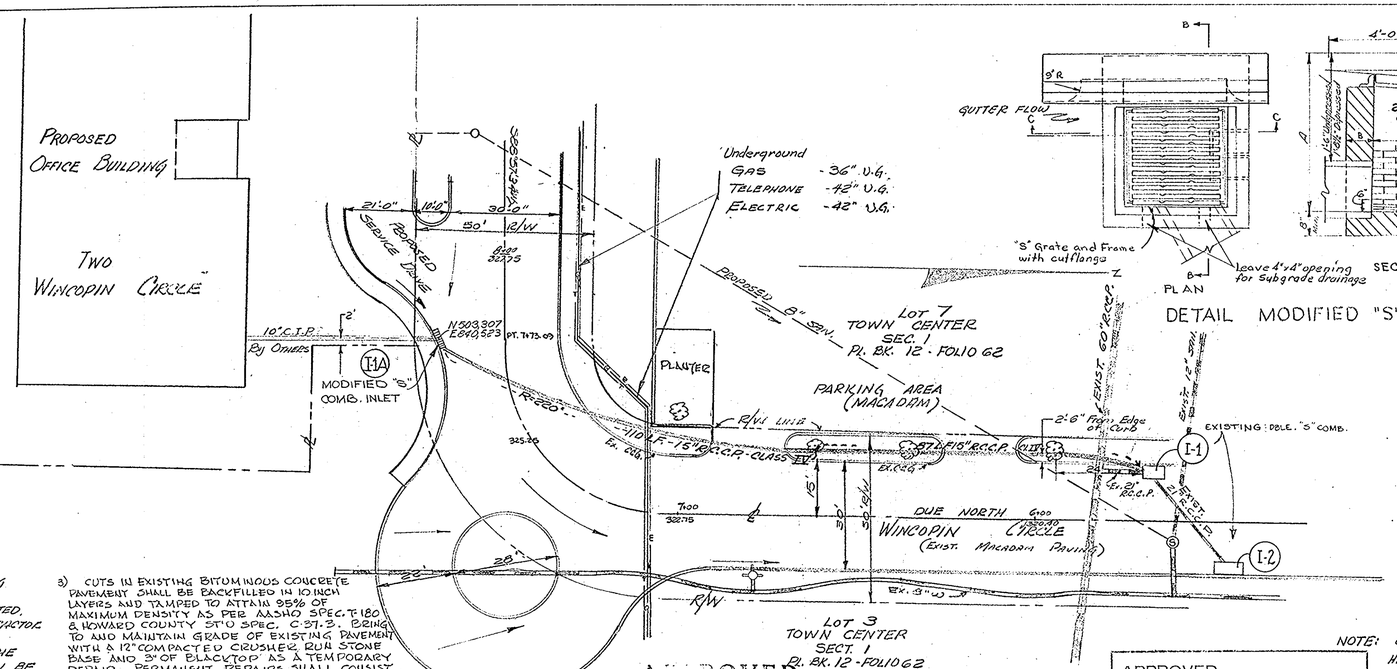
F-66-44



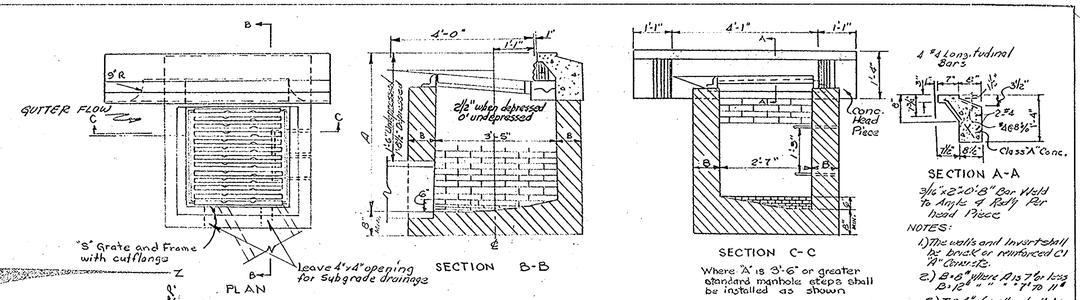
LITTLE PATUXENT PARKWAY (by others)
TYPICAL SECTION WINCOPIN CIRCLE
Standard Curb See Detail
Planter Island
4' Sidewalk
6½" Bituminous Concrete
Wooden Curb
See Sheet 14
See Sheet 15
10+03.31 End Paving WINCOPIN CIRCLE
0+47 Begin Paving WINCOPIN CIRCLE
WINCOPIN CIRCLE
Lot 9A
Lot 8
Lot 5
Lot 4
Lot 3
Lot 2
Lot 1
P.C. 0+93.00
P.T. 1+68.50
30' Drainage Easement
Standard Concrete Curb
Not Part of Subdivision
PROPOSED 21" RCCP (114') CL. IV
PROPOSED TYPE Dble. 'S' Comb. (318.70 - TOP CURB)
PROPOSED 21" RCCP (221') CL. IV
PROPOSED STD. 4' MANHOLE
END OF PIPE (35') UNDER THIS CONTRACT
TEMPORARY PLUG
PROPOSED 21" RCCP (35') CL. IV
PROPOSED TYPE Dble. 'E' Comb. (324.90 - TOP CURB)
PROPOSED 15" RCCP (31') CL. IV
PROPOSED TYPE Dble. 'S' Comb. (318.70 TOP CURB)
FIELD CONNECTION
(SEE DETAIL SHEET 29 of 29)
DUE NORTH
FOR CURB OPENINGS TO PARKING LOT FROM WINCOPIN CIRCLE SEE PARKING LOT PLAN.
PLAN
Scale: 1"=50'
℄ CURVE DATA
R=269.81' L=75.50'
Δ=16°02'00"
T=75.26 C=38.00'
CRD.=S.89°30'37"E.
℄ CURVE DATA
R=46.29' L=71.87'
Δ=88°57'34"
T=65.57' C=45.46'
CRD=S.44°28'47"W.
℄ CURVE DATA
R=46.29' L=65.84'
Δ=81°29'37"
T=61.08' C=39.88'
CRD=S.40°44'49"E.
STANDARD CURB DETAIL
Scale: 1"=1'-0"
Class "A" Concrete
APPROVED
PLANNING COMMISSION OF HOWARD COUNTY
DATE APR 2 1967
GENERAL NOTES
1) Design Speed: 15 mph
2) For Details Of Field Connection Of Storm Drains See Sheet No 19
3) For Details Of Paving Section See Drawing D-114 Page 165-D Of The Howard County Road Construction Code And Standard Specifications.
OWNER / DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORP.
THE VILLAGE OF CROSS KEYS
BALTIMORE, MARYLAND 21210
PURDUM & JESCAKE
ENGINEERS
LAND SURVEYORS
24 PARK AVENUE
ELLICOTT CITY, MARYLAND
PLAN/PROFILE WINCOPIN CIRCLE
COLUMBIA
SECTION No. 1
TOWN CENTER
5th ELECTION DISTRICT - HOWARD COUNTY, MD.
JANUARY 10, 1968
SCALE: AS SHOWN
SHEET 18 of 29
FOR ADDITIONAL INFORMATION OF STORMDRAIN, SEE SH. 18A of 29
WINCOPIN CIRCLE
250' VC
120' VC
EXISTING GROUND
Proposed ℄ Grade
℄ LITTLE PATUXENT PARKWAY - STA. 35+56.4 (El. 337.5)
℄ LITTLE PATUXENT PARKWAY - STA. 31+24.00
PLATE 1 - PLAN-PROFILE
C.C.F. B932-18
F-66-44



DRAINAGE AREA MAP
SCALE 1"=50'



APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY



DETAIL MODIFIED "S" COMBINATION INLET (SINGLE GRATE)
NO SCALE

NOTES:
1.) The walls and invert shall be brick or reinforced Cl "A" Conc.
2.) 8"x8" where D is 7' or less
12"x12" " " " 7' to 11'
3.) Top 4' of walls shall be brick masonry. Additional brick shall be used to bring the grate to exist. grade if required.
4.) Where brick is used, invert shall be brick laid on edge.

GENERAL NOTES

1.) CONTRACTOR TO REMOVE NECESSARY EXISTING TREES. TREES TO BE STORED AND REPLACED AFTER CONSTRUCTION IS COMPLETED AND ACCEPTED. IF ANY TREES REQUIRE REPLACEMENT THE CONTRACTOR SHALL DO SO AT NO EXPENSE TO THE OWNER. MINIMUM SIZE SHALL BE 2 1/2" CAL. AND OF THE SAME TYPE AS REMOVED. ALL TREES SHALL BE GURANTEED FOR 6 MONTHS.

2.) TRENCH BACKFILL IN GRASS AREAS SHALL BE PLACED IN 8" LAYERS AND COMPACTED TO 95% DENSITY. BACKFILL SHALL BE BROUGHT TO 3" BELOW EXISTING GRADE. AFTER SAME HAS BEEN INSPECTED CONTRACTOR SHALL PLACE 1" OF TOPSOIL; THEN SOD.

3.) CUTS IN EXISTING BITUMINOUS CONCRETE PAVEMENT SHALL BE BACKFILLED IN 10 INCH LAYERS AND TAMPED TO ATTAIN 95% OF MAXIMUM DENSITY AS PER AASHO SPEC. T180 & HOWARD COUNTY ST'D SPEC. C-37.2. BRING TO AND MAINTAIN GRADE OF EXISTING PAVEMENT WITH A 12" COMPACTED CRUSHER RUN STONE BASE AND 3" OF BLACKTOP AS A TEMPORARY REPAIR. PERMANENT REPAIRS SHALL CONSIST OF REMOVING EXISTING PAVING AT LEAST 1 FT. EACH SIDE OF EXISTING CUT AND ENTIRE AREA REPLACED WITH A 5" THICK CLASS "A" CONCRETE SLAB AND A 1 1/2" LAYER OF SPEC. B BITUMIN. CONC. SURFACE COURSE (PB.1 BAND) ALL CURB CUTS SHALL BE REPLACED; FORMED AND PLACED TO MEET EXISTING CURBS AND GUTTERS.

NOTE: CONTRACTOR SHALL, AT HIS OWN EXPENSE, DIG TEST PITS TO LOCATE EXISTING UTILITIES BEFORE PROCEEDING.

APPROVED
Howard Research & Development Corp.
by K. Robert Ord date 12-20-1967
Engineering & Land Development

John A. Todd
MD. REG. # 5672

Rev Date	Rev No	Revision Description	
2-27-68		ADDED EX. 8" WATER	E.J.P.
2-1-68		General Revisions	HAA
12/6/67		Revise S.D. and Profile	E.J.P.

COLUMBIA
MARYLAND
OWNER AND DEVELOPER
HOWARD RESEARCH AND DEVELOPMENT CORP.
THE VILLAGE OF CROSS KEYS · BALTIMORE, MARYLAND 21210

PROJECT AREA: TOWN CENTER

PROJECT TITLE: STORMDRAIN FOR 2 WINCOPIN BLDG.

Des By U.A.T.	Scale As Shown	Dwg. No 18A of 29	
Drn By E.J.P.	Date 1-10-68	C.C.F. No	
Ckd By H.M.A. 12-20-67	Approved	B 436-1	

APPROVED ON _____ BY _____
ACTION OF THE HOWARD COUNTY PLANNING COMM.

PLANNING DIRECTOR

APPROVED: HOWARD CO. PLANNING COMMISSION
J. W. Clawson, Jr. 3-7-68
SENIOR ENGINEER DATE

APPROVED: HOWARD COUNTY ROADS DEPT.
Francis H. Wahland 3-6-68
ROADS ENGINEER DATE

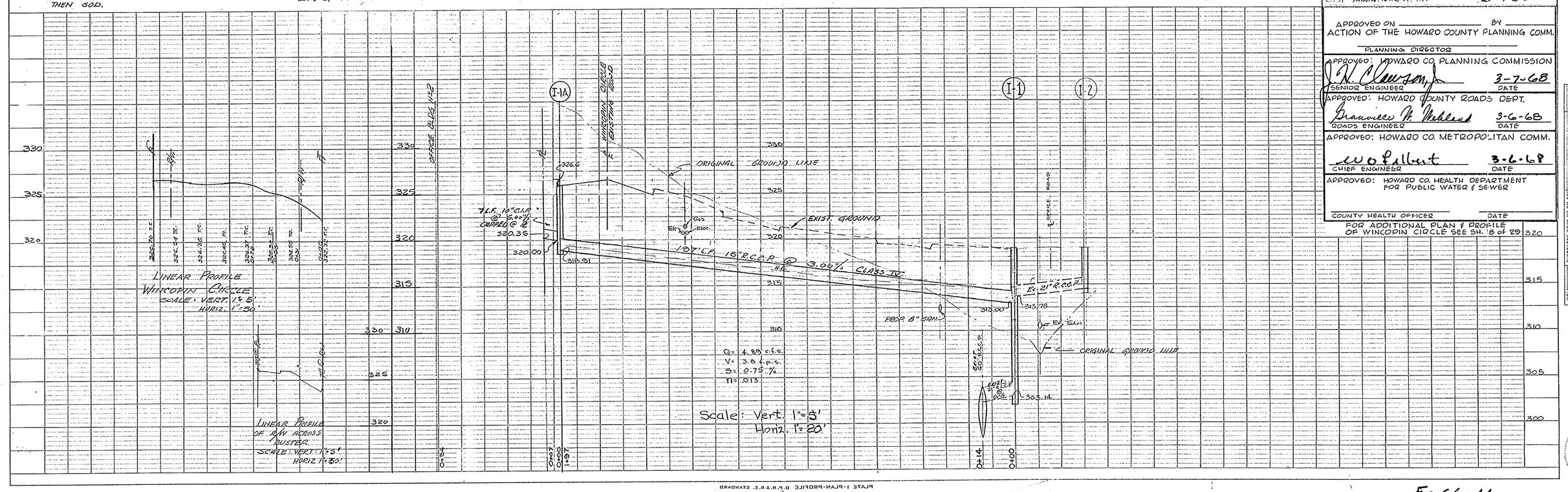
APPROVED: HOWARD CO. METROPOLITAN COMM.
W. O. Fallert 3-6-68
CHIEF ENGINEER DATE

APPROVED: HOWARD CO. HEALTH DEPARTMENT FOR PUBLIC WATER & SEWER

COUNTY HEALTH OFFICER DATE

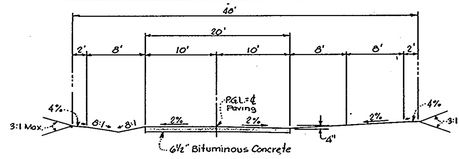
FOR ADDITIONAL PLAN & PROFILE OF WINCOPIN CIRCLE SEE SH. 8 of 29

NO	HOLE BOOK	SUBDIVISION, VILLAGE OR CH. LOT & BKT. HOLE	SURVEYED CHECKED	DRAWN CHECKED	DESIGNED	DATE
		PROFILE				



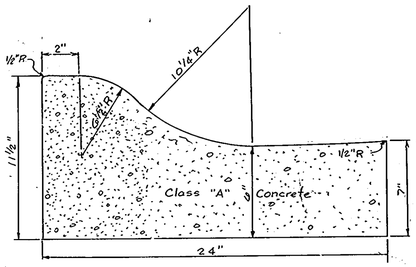
F-66-44

#55



20' BUS ROUTE WITHOUT DITCH
DETAIL "K"

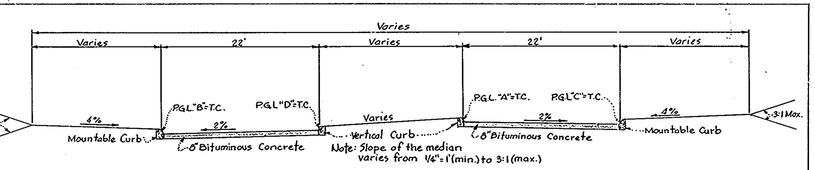
Note:
5" Bituminous Concrete Base Course
1½" Bituminous Concrete Surface Course
This surface type to be constructed in accordance with the Howard County Road Construction Code and specifications. Dwg. D114 Page 165d



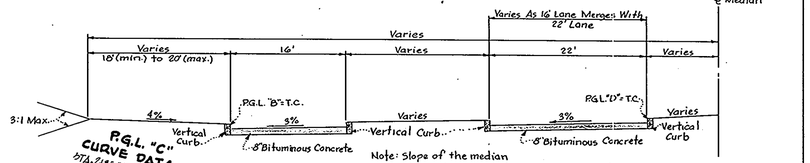
MOUNTABLE CURB
(See Sheet 7 for Vertical Curb)
No SCALE

VARIES
ALL SIDEWALKS 4' WIDE UNLESS OTHERWISE NOTED ON THE PLANS
2%
4" CLASS A CONCRETE
HOWARD RESEARCH & DEVELOPMENT WILL CONSTRUCT STANDARD HOWARD CO. PORTLAND CEMENT CONCRETE SIDEWALK OR AN ALTERNATE DESIGN APPROVED BY HOWARD COUNTY ROADS DEPARTMENT.

SIDEWALK
No SCALE

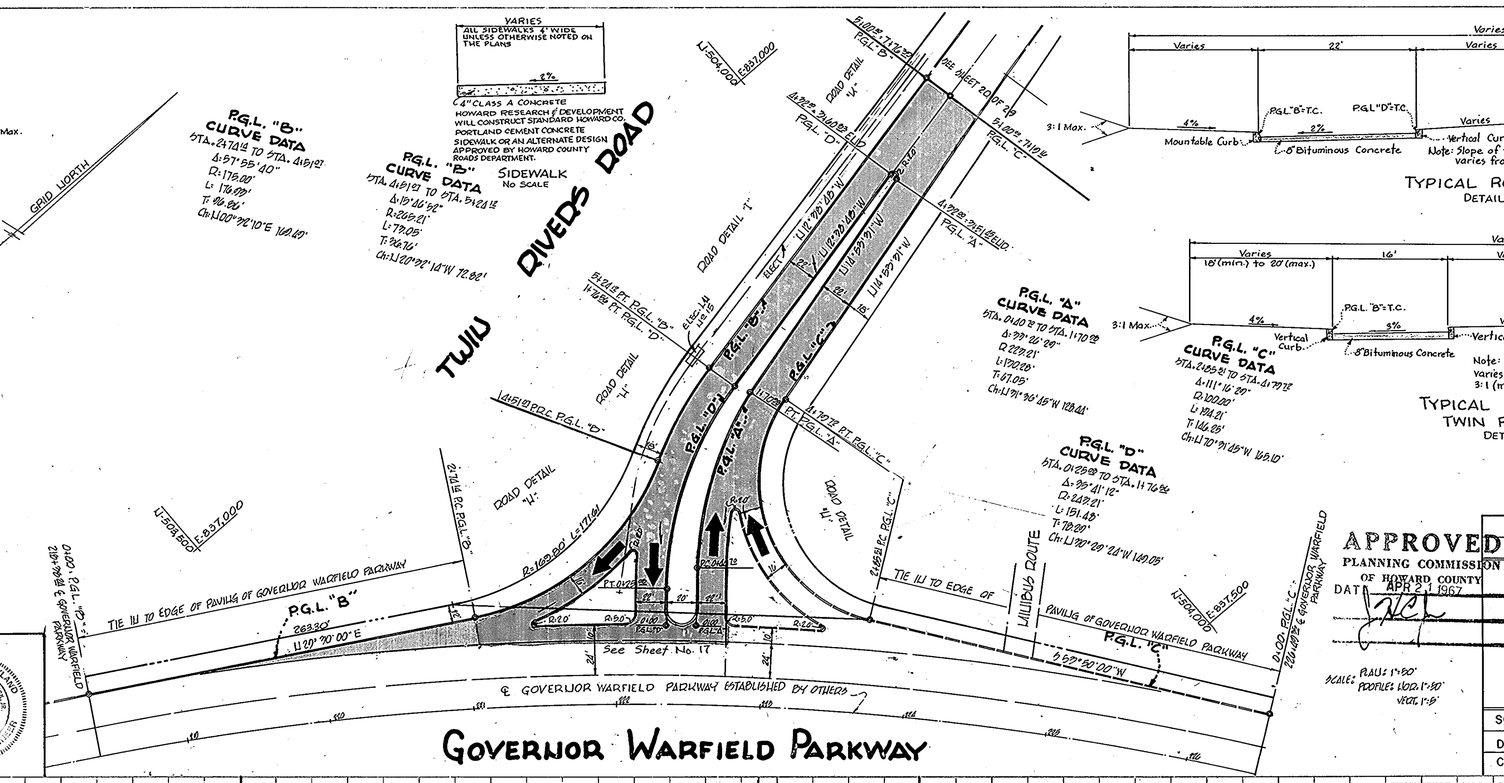


TYPICAL ROAD SECTION
DETAIL "I"



TYPICAL HALF SECTION
TWIN RIVERS ROAD
DETAIL "H"

Note:
5" Bituminous Concrete Base Course
1½" Bituminous Concrete Binder Course
1½" Bituminous Concrete Surface Course
This surface type to be constructed in accordance with the Howard County Road Construction Code and Specifications.
Dwg. D113 Page 165C



APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 21 1967

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

DESCRIPTION	BY	MARK	DATE
REVISIONS			

SECTION I
TWIN RIVERS ROAD
STA. 0+00 TO STA. 5+00

COLUMBIA

ROAD PLAN

SCALE : AS SHOWN	DATE : 9-28-66
DESIGN BY: J.C.S.	TRACED BY: J.B.G.
CHECKED BY: R.E.L.	DRAWING NO. : 19 of 29

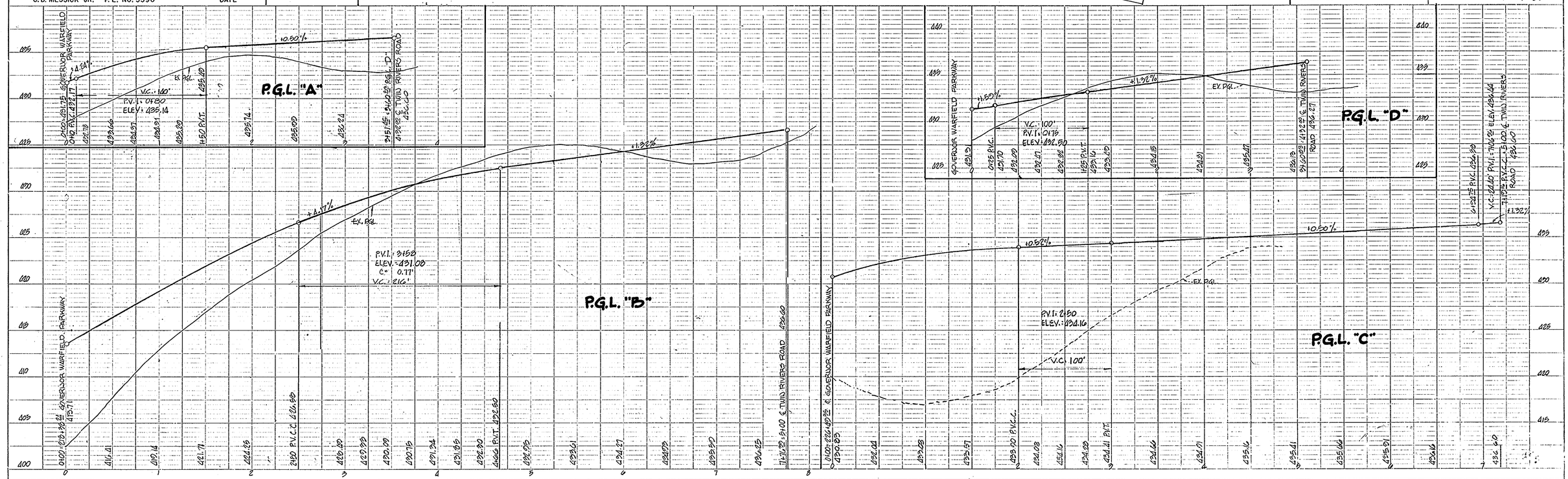
C.D. MESSICK JR. & ASSOCIATES, INC.
CONSULTING ENGINEERS & LAND SURVEYORS
21. WEST STREET ANNAPOLIS, MARYLAND

C.D. MESSICK JR. P.E. NO. 3390 — DATE 5/23/66

STATE OF MARYLAND — CARL D. MESSICK JR. — No. 3390 — REGISTERED PROFESSIONAL ENGINEER

PLAN — SURVEYED / PLOTTED / ALIGNMENT CHECKED / ALIGNMENT CHECKED / NOTE BOOK / NO. / DATE / BY

PROFILE — SURVEYED / PLOTTED / GRADES CHECKED / GRADES CHECKED / NOTE BOOK / NO. / DATE / BY



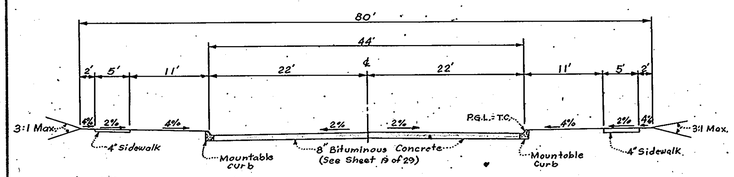
RP19A #55

K+E PLATE 1, PLAN-PROFILE KEUFFEL & ESSER CO.
48 7024 HERCULENE DRAWING FILM

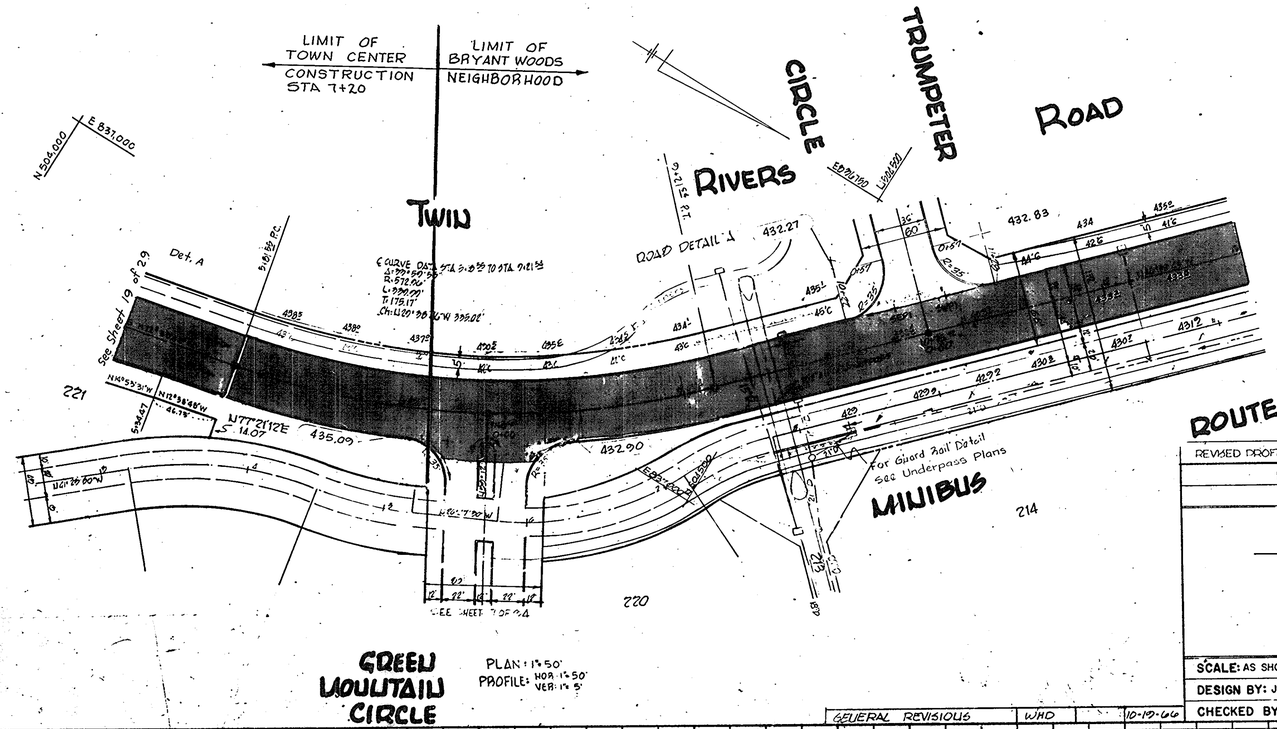
F-66-44
F-66-44

Design Speed - TWIN RIVERS ROAD 30 M.P.H.

Stopping Sight Distance - 200 ft.



44' ROAD SECTION
Det. A



APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 21 1967

REVISED PROFILE GRADE	ARS		6-1-66
DESCRIPTION	BY	MARK	DATE

REVISIONS

SECTION I

TWIN RIVERS ROAD
STA. 5+00 TO STA. 13+00

COLUMBIA

ROAD PLAN

SCALE: AS SHOWN	DATE: 5-24-66
DESIGN BY: J.A.S. J.C.S.	TRACED BY: JBG
CHECKED BY: R.E.L.	DRAWING NO. 20 of 29

GENERAL REVISIONS	WHD	10-19-66

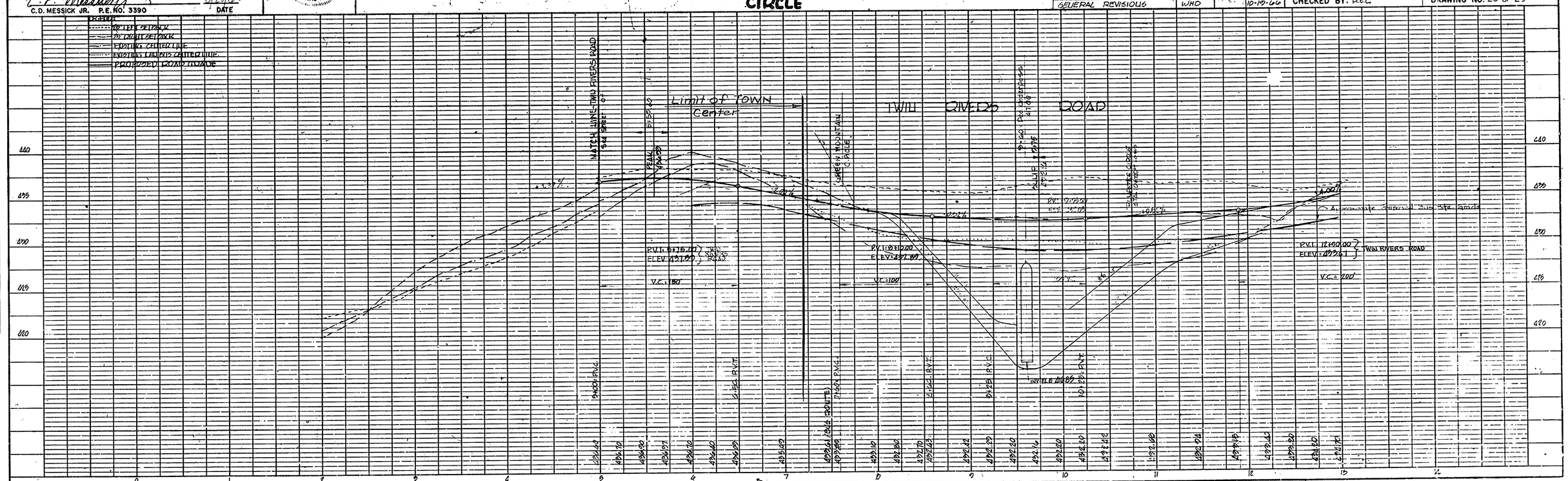
C.D. MESSICK JR. & ASSOCIATES, INC.
CONSULTING ENGINEERS & LAND SURVEYORS
21 WEST STREET ANNAPOLIS, MARYLAND

C.D. MESSICK JR. P.E. NO. 3390 5/23/66 DATE

STATE OF MARYLAND CARTER BERGER MESSICK No. 3390 REGISTERED PROFESSIONAL ENGINEER

PLAN: NOTE BOOK NO. SURVEYED PLOTTED ALIGNMENT CHECKED RT. OF WAY CHECKED BY DATE 11-18-66

PROFILE: NOTE BOOK NO. SURVEYED PLOTTED GRADES CHECKED B. M.'s NOTED STRUCTURE NOTATIONS CH'KD BY R.E.L. DATE 11-18-66



#55

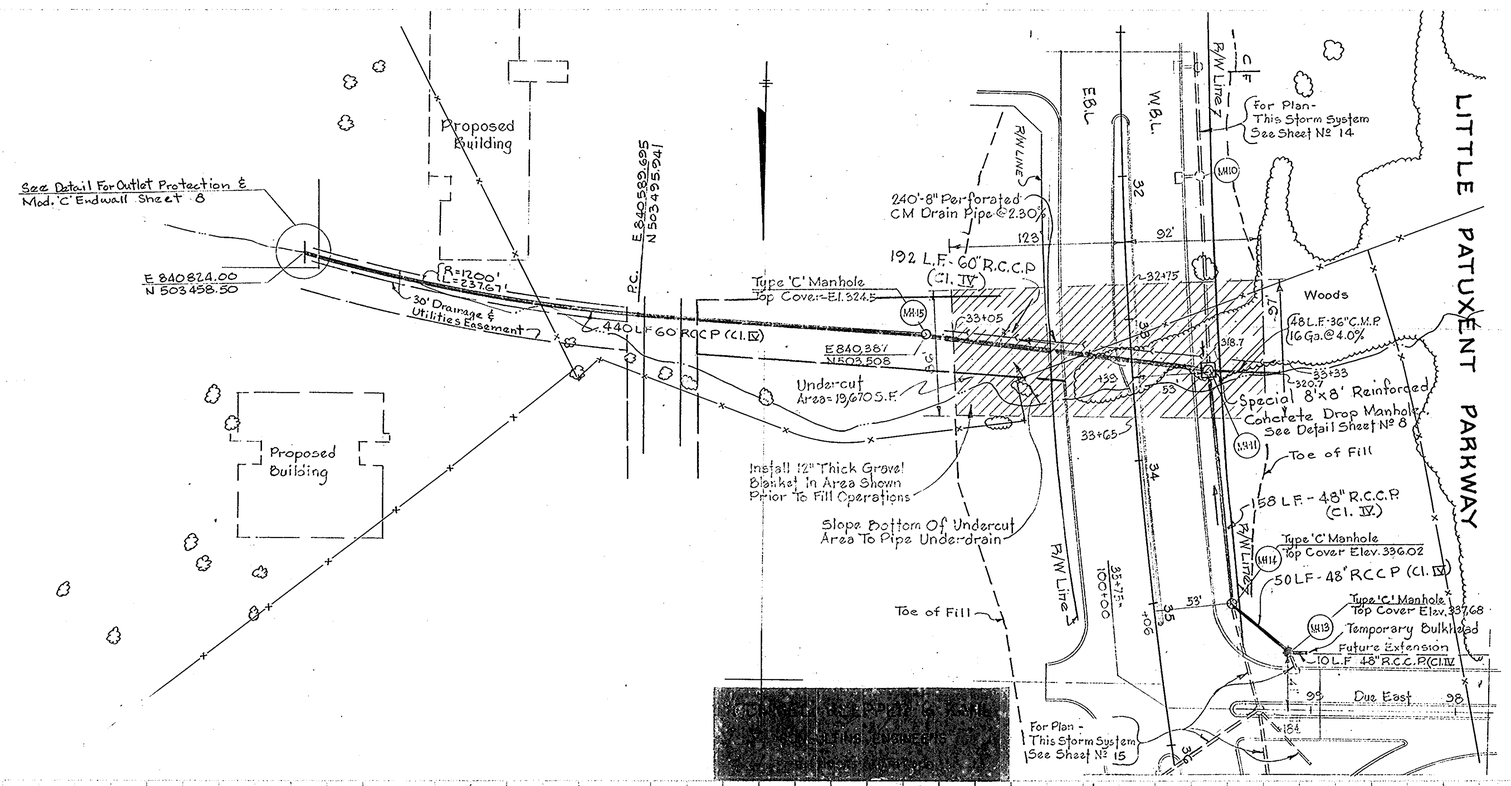
K+E PLATE 1, PLAN-PROFILE KEUFFEL & ESSER CO.
48 7024 HERCULES DRAFTING FILM

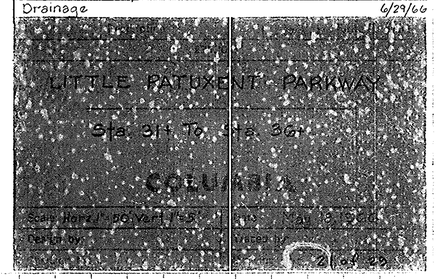
F-66-44

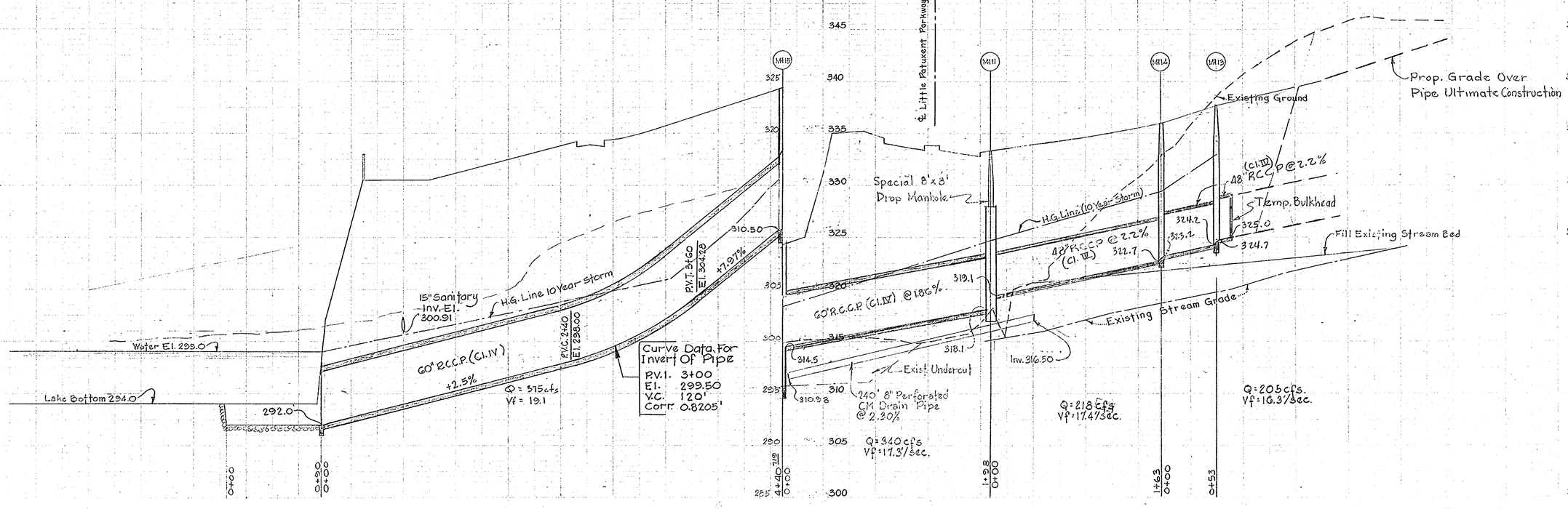
STORM DRAIN PROFILES
Sta 31+ To Sta. 33+ See Sheet Nº 24
Sta. 35+ To Sta. 36+ See Sheet Nº 25

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 21 1967

Revised Pipe Profile Between MH-15 & Outlet	11/15/66
W.B.&A. Comments	10/28/66
Added H.G. Line	10/12/66
Added Drainage	9/22/66
Subdrain Location	7/15/66
Drainage	6/29/66







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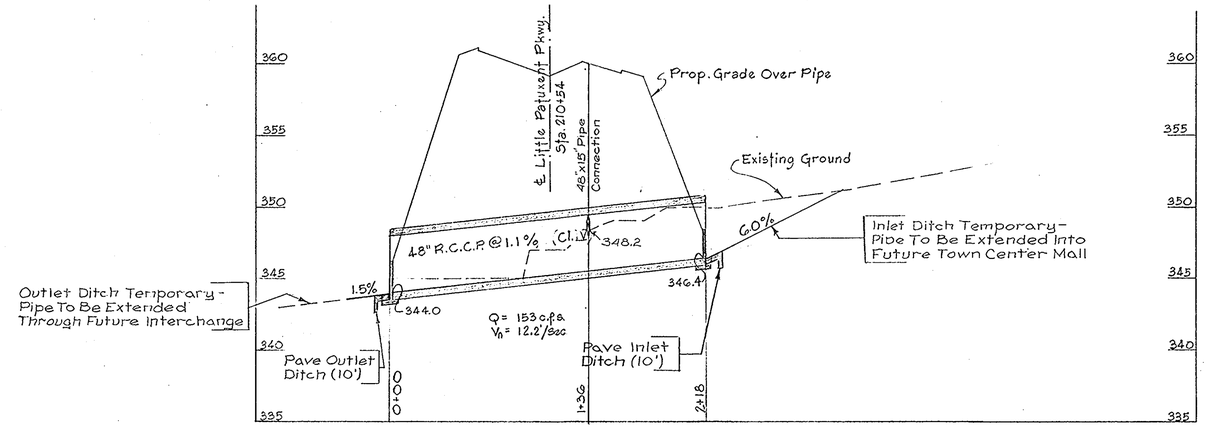
F-66-44



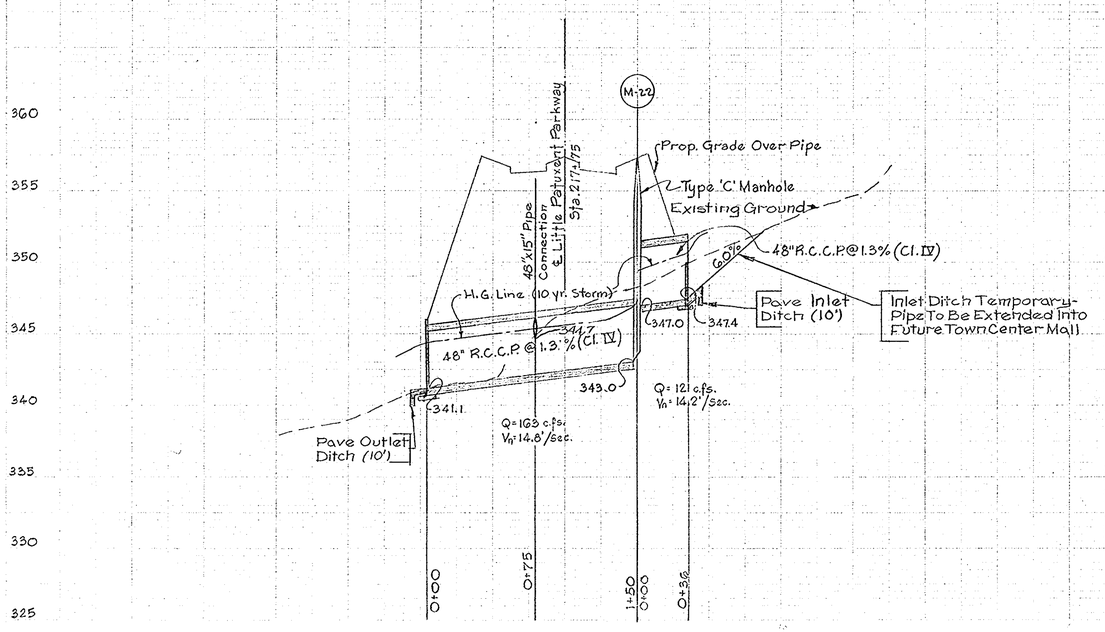
APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 21 1967

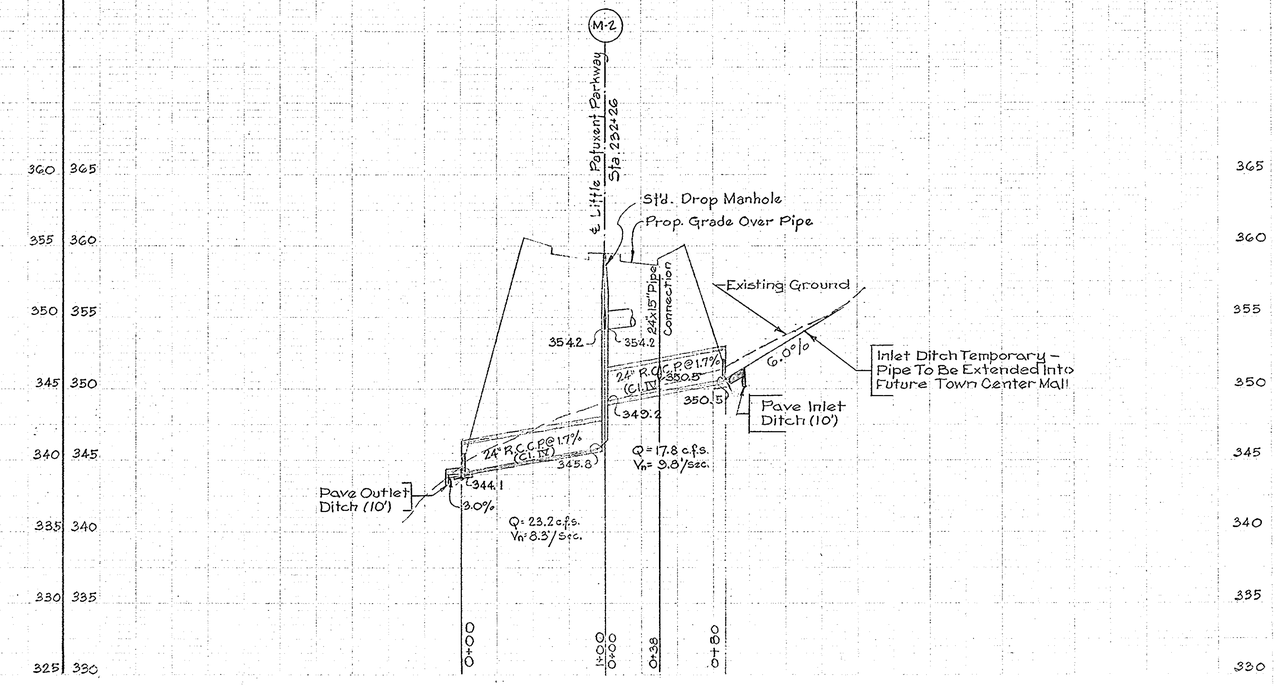
W.R.&A. Comments	10-28-66
Added H.G. Line	10-19-66

LITTLE PATUXENT PARKWAY
STORM DRAIN PROFILES
COLUMBIA
Sept 22, 1966
Scale Horz. 1"=50' Vert. 1"=5'
Date June 29, 1966
Design by
Checked by
Drawn by
Sheet No. 22 of 28

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

See Detail Sheet 7 For:
1. Typical Section Of Inlet & Outlet Ditch
2. Paving Details For Ditches





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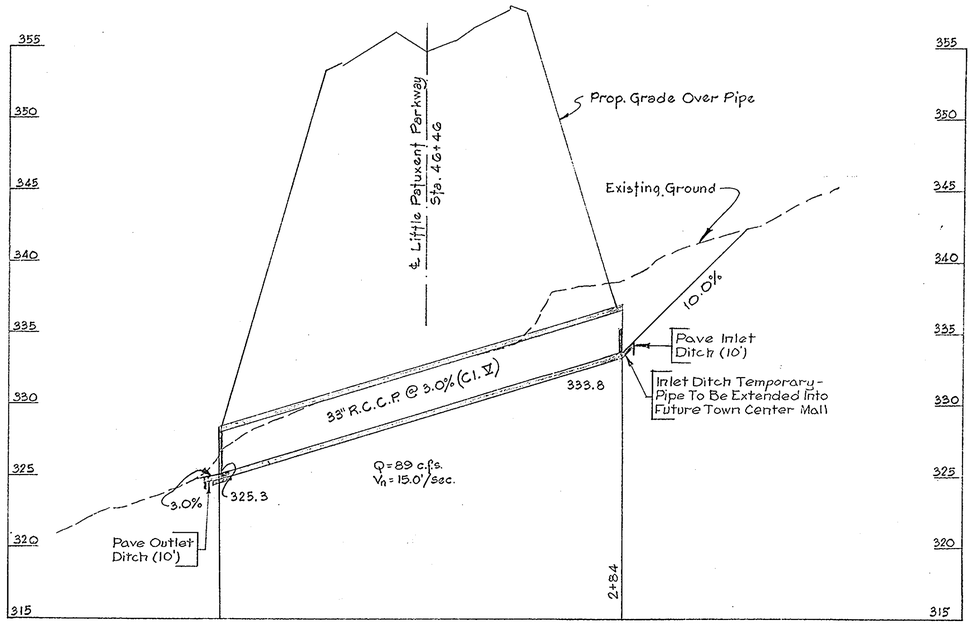
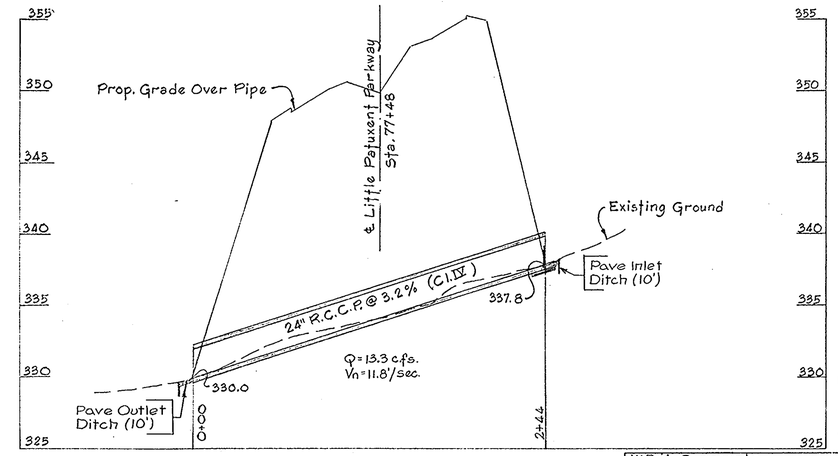
F-66-44





APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 21 1967

W.R.&A. Comments 10-28-66

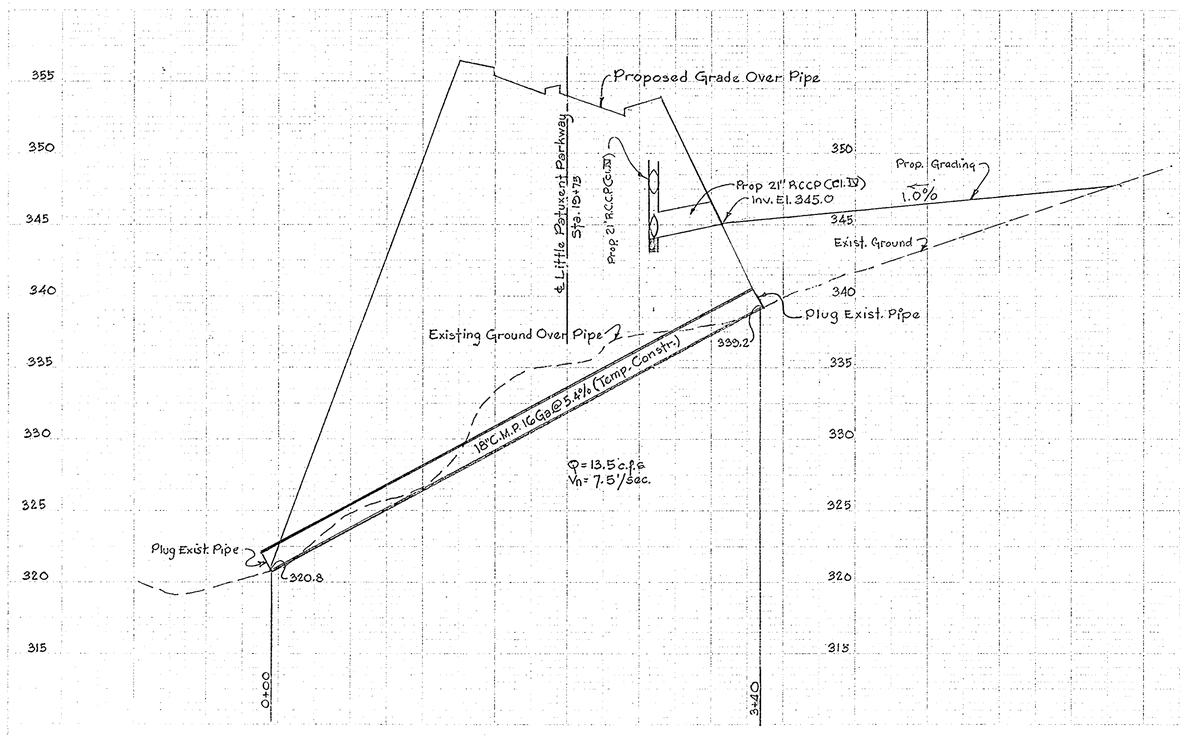
Description	By	Date
REVISIONS		

LITTLE PATUXENT PARKWAY
STORM DRAIN PROFILES
COLUMBIA
Sept 22, 1964

Scale: Horiz. 1"=50', Vert. 1"=5'	Date: June 28, 1966
Design by:	Traced by:
Checked by:	Drawing No. 28 of 29

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

See Detail Sheet 7 For:
1. Typical Section Of Inlet & Outlet Ditch
2. Paving Details For Ditches



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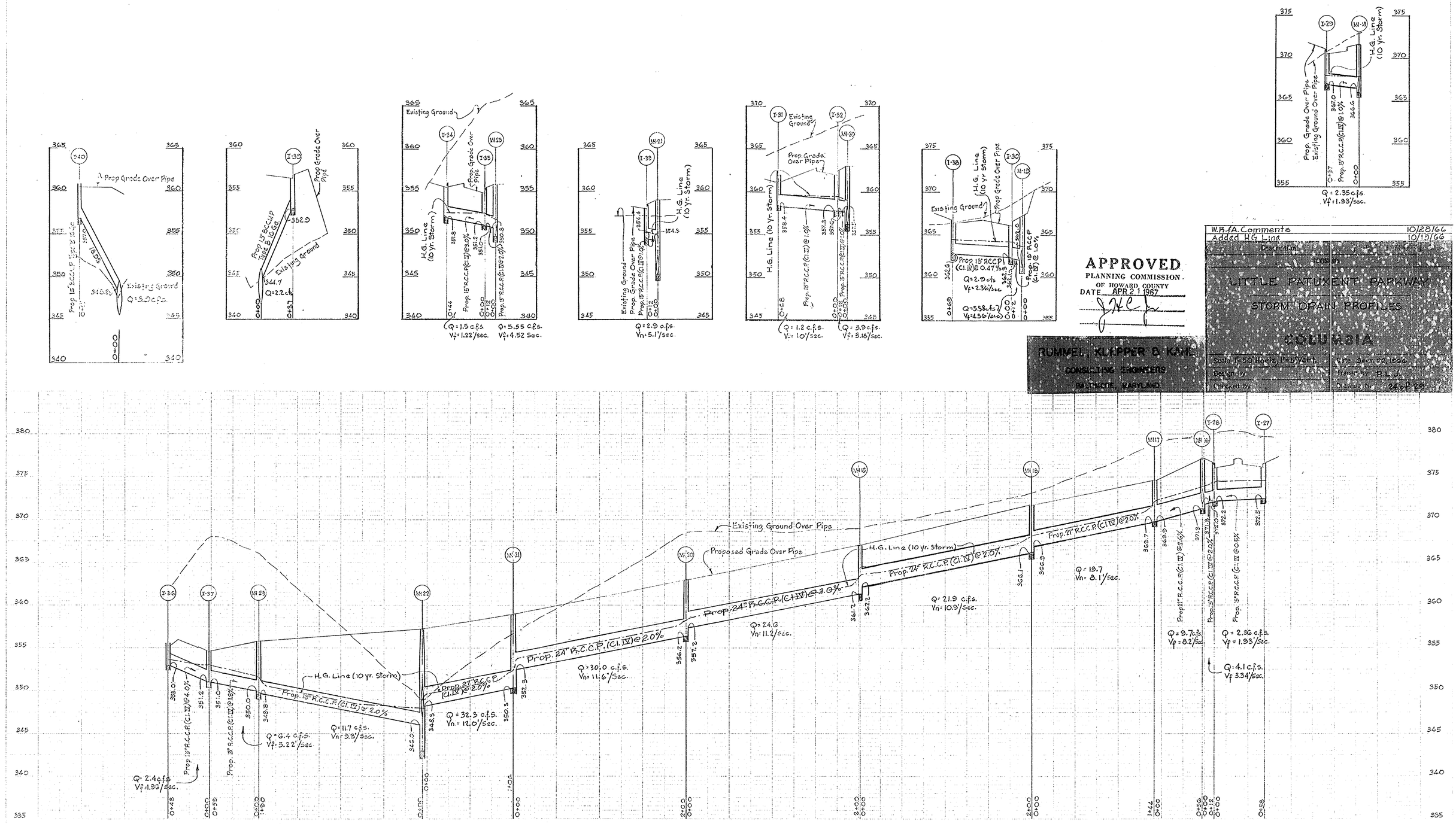
F-66-44



APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 21 1967

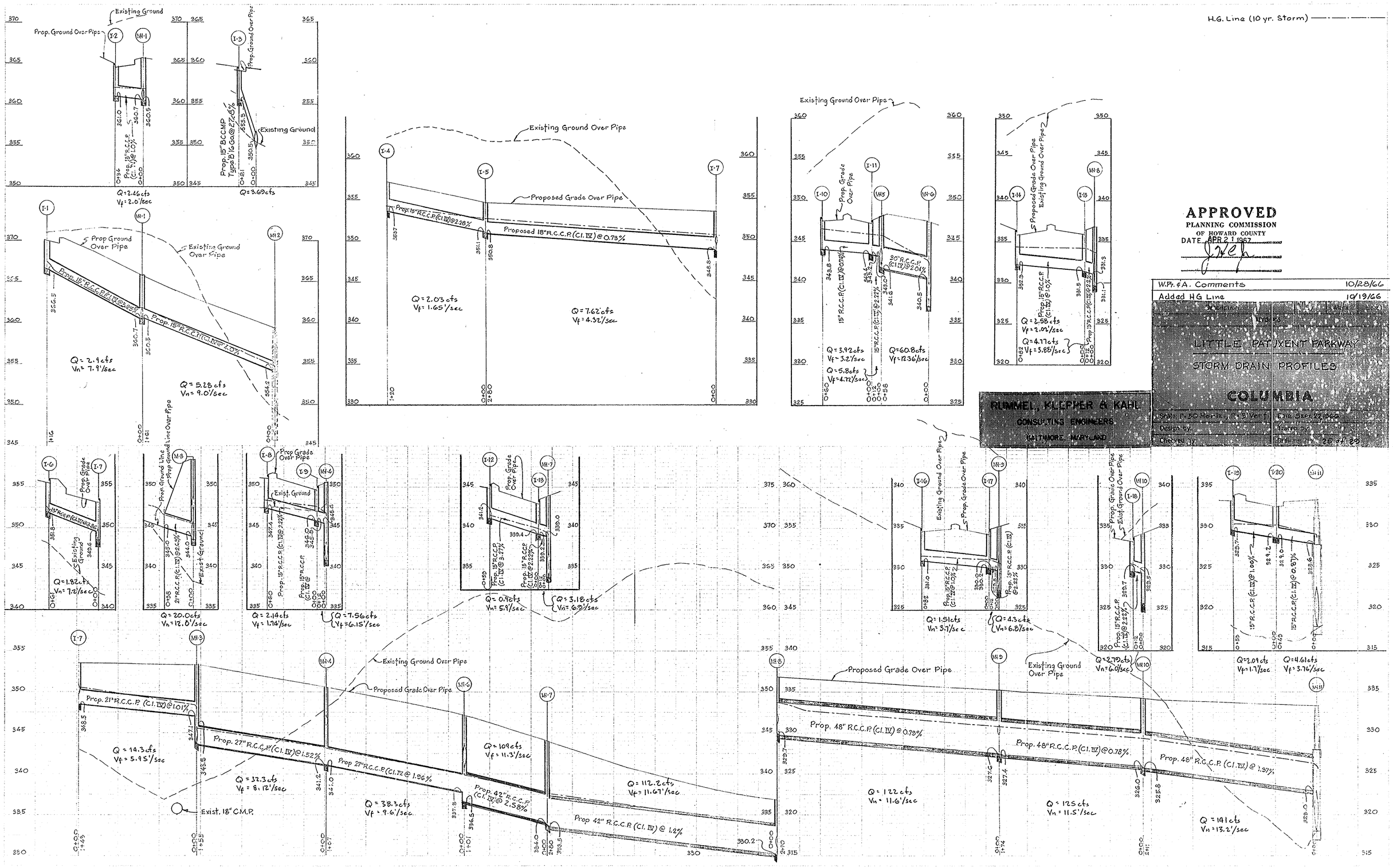
RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

W.B.&A. Comments	10/28/66
Added H.G. Line	10/19/66
Description	
LITTLE PATUXENT PARKWAY	
STORM DRAIN PROFILES	
COLUMBIA	
Scale: 1"=50' Horiz., 1"=5' Vert.	Date: Sept. 22, 1966
Design by	Traced by: R.L.J.
Checked by	Drawing No. 24 of 29

#55

F-66-44

H.G. Line (10 yr. Storm)



APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 21 1967

W.P.T. & A. Comments	10/28/66
Added HG Line	10/19/66

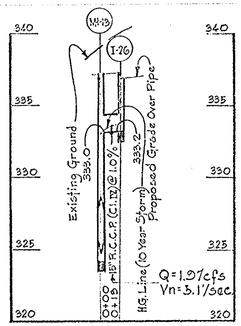
RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

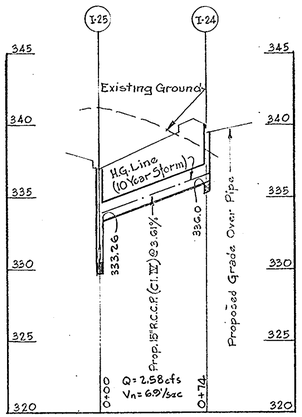
LITTLE PATUXENT PARKWAY
STORM DRAIN PROFILES
COLUMBIA

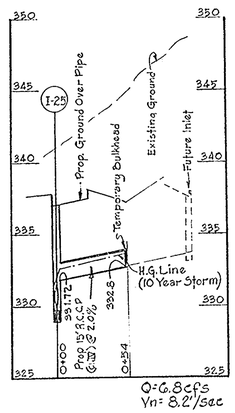
Scale: 1" = 50' Hor. 1" = 5' Ver.
Date: Sept. 22, 1966
Design by:
Drawn by:
Checked by:
Drawing No. 25 of 29

#55

F-66-44







APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 21 1967

W.R.&A. Comments	10/28/66
Added H.G. Line	10/19/66

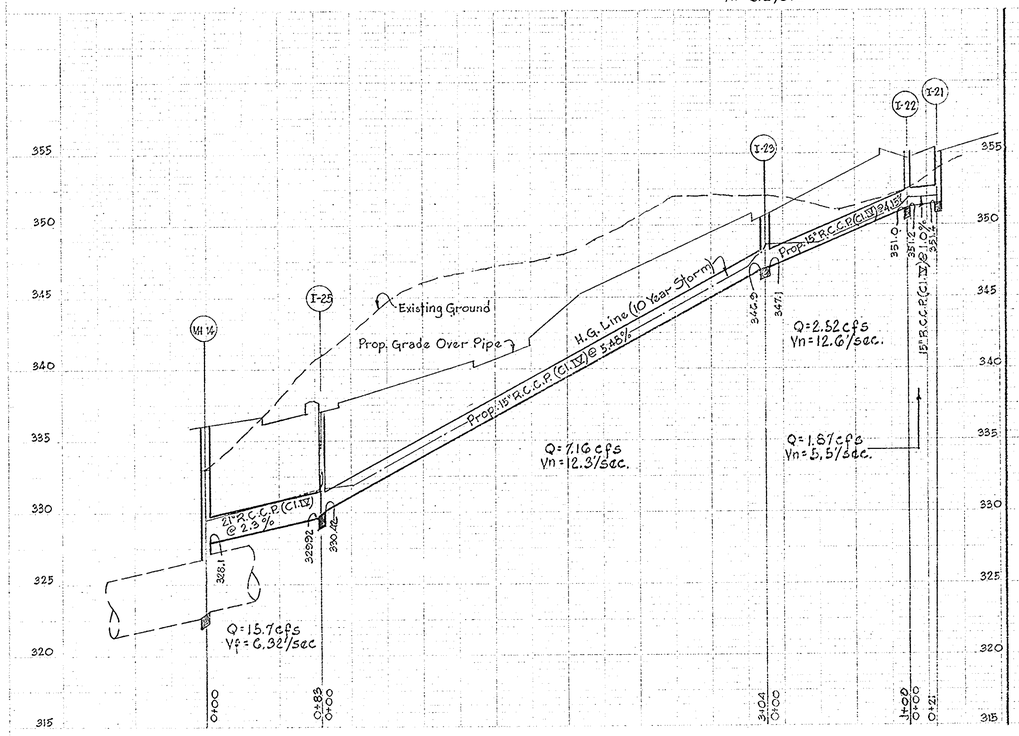
Description	By	Mark	Date
REVISIONS			

LITTLE PATUXENT PARKWAY
STORM DRAIN PROFILES

COLUMBIA

Scale 1"=50' Horiz. 1"=5' Vert.	Date Sept. 22, 1966
Design by	Traced by
Checked by	Drawing No. 26 of 29

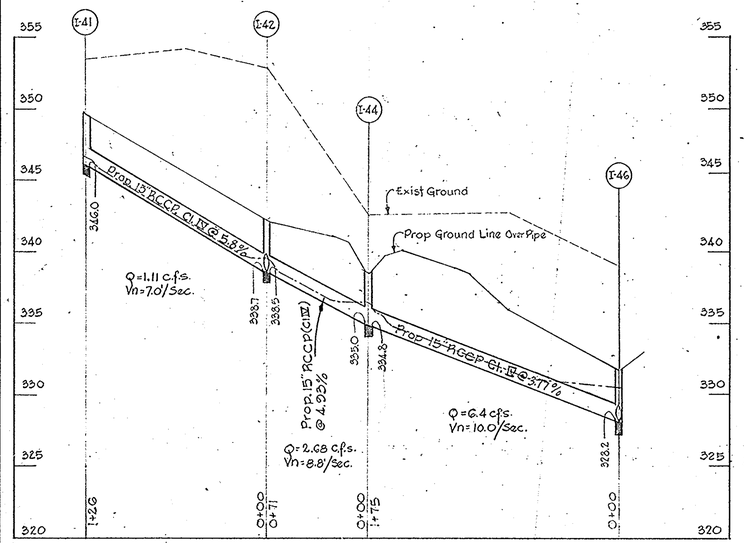
RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

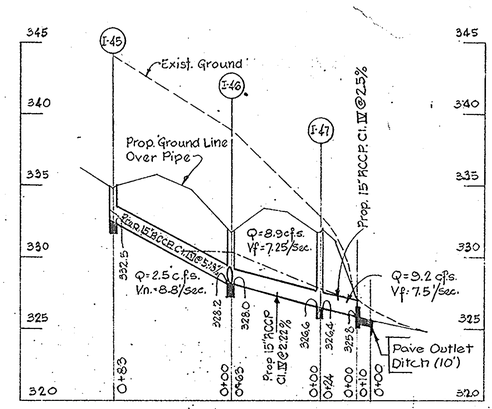


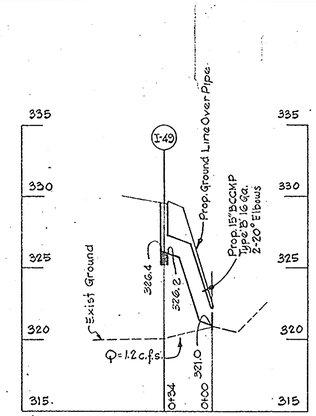
#55

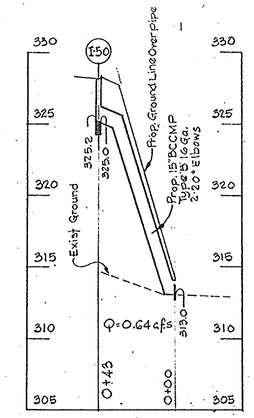
Fig. 44

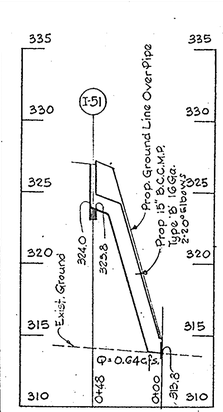
H.G. Line (10 Yr. Storm) —·—·—·—

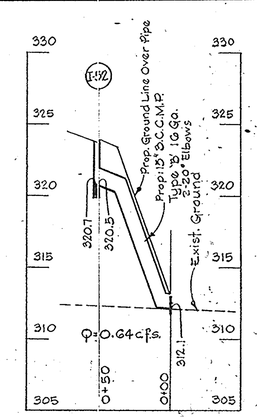


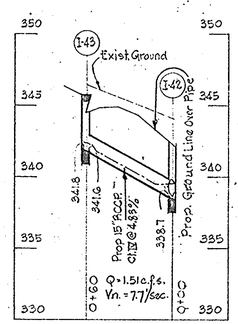


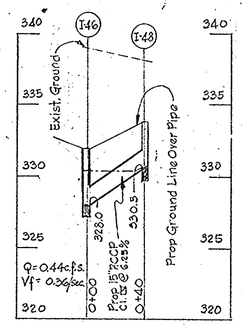


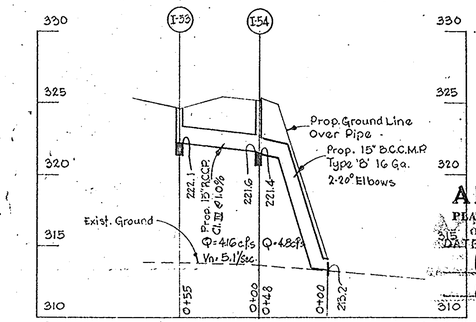












NOTE: All Pipe Elbows Shown On This Sheet Are - 20° 15" B.C.C.M.P. Type 'B' 16 Ga.

See Detail Sheet No. 9 For:
1. Typical Section Of Inlet & Outlet Ditch
2. Paving Details For Ditches

RUMMEL, KLEPPER & KAHL
CONSULTING ENGINEERS
BALTIMORE, MARYLAND

APPROVED
PLANNING COMMISSION
HOWARD COUNTY
DATE: APRIL 1967

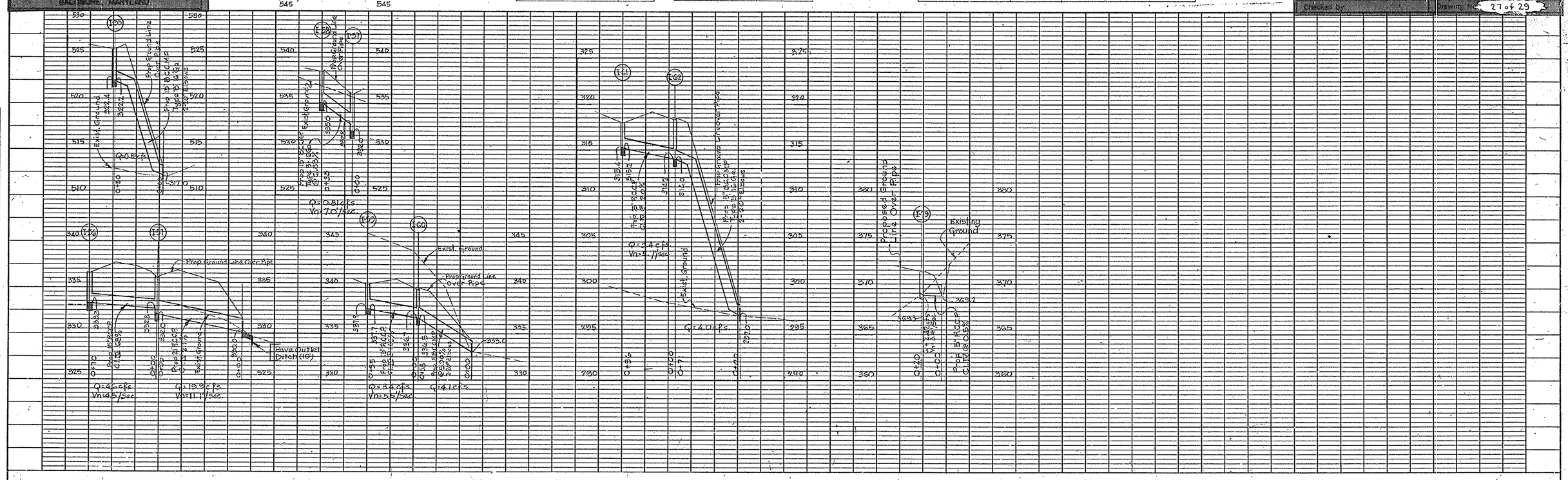
Revised Sheet Number	1-10-67
W.P.&A. Comments	10-28-66
Added H.G. Line & Profile I-79	10-19-66

Description	By	Appr.	Date
REVISIONS			

TITLE: PATUXENT PARKWAY
STORM DRAIN SYSTEM
COLUMBIA

Scale: Horiz. 1" = 50' Vert. 1" = 5'
Date: April 25, 1966
Design by:
Traced by
Checked by:
Drawing No. 27 of 29

PLAN
SURVEYED
PLOTTED
ALIGNMENT CHECKED
GRADES CHECKED
BK. OF INT. CHECKED
NOTE BOOK
NO.
BY | DATE

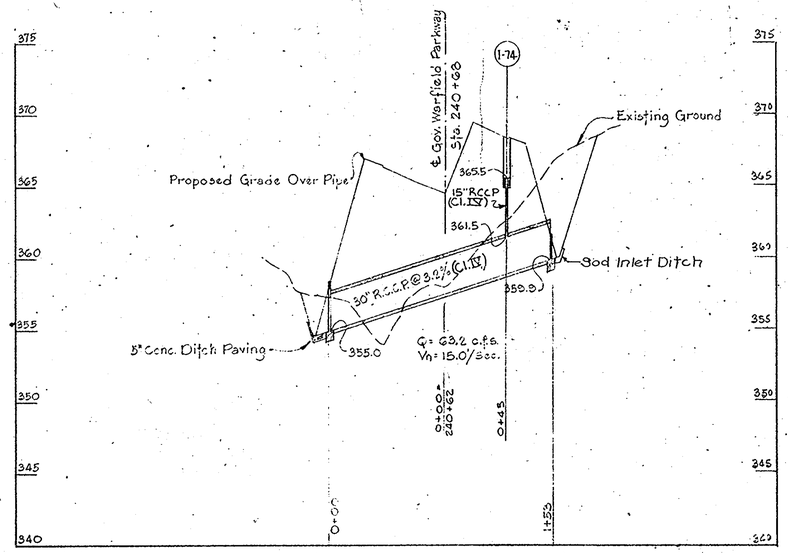


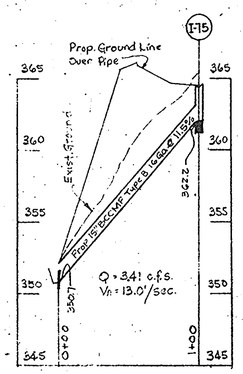
PROFILE
SURVEYED
PLOTTED
GRADES CHECKED
BK. OF INT. CHECKED
NOTE BOOK
NO.
STRUCTURE NOTATNS CH'KD
BY | DATE

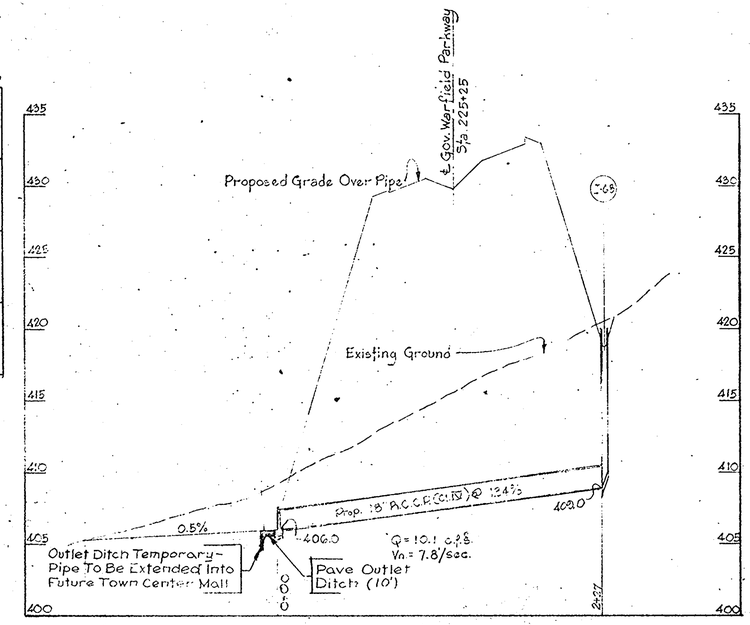
K+E PLATE 1, PLAN-PROFILE
KEUFFEL & ESSER CO.
48 7012 IMPERIAL™ TRACING CLOTH 27790

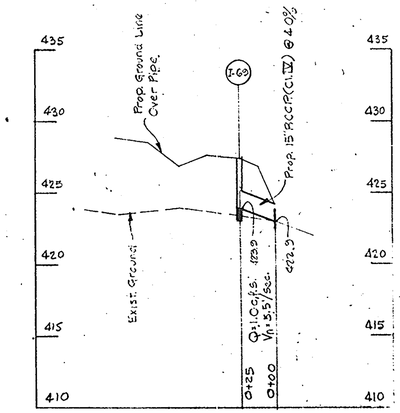
#55

F-66-44









W.R. & A. Comments 10-28-66

	By	Date

COLUMBIA

Date: 10-28-66

Drawn by:

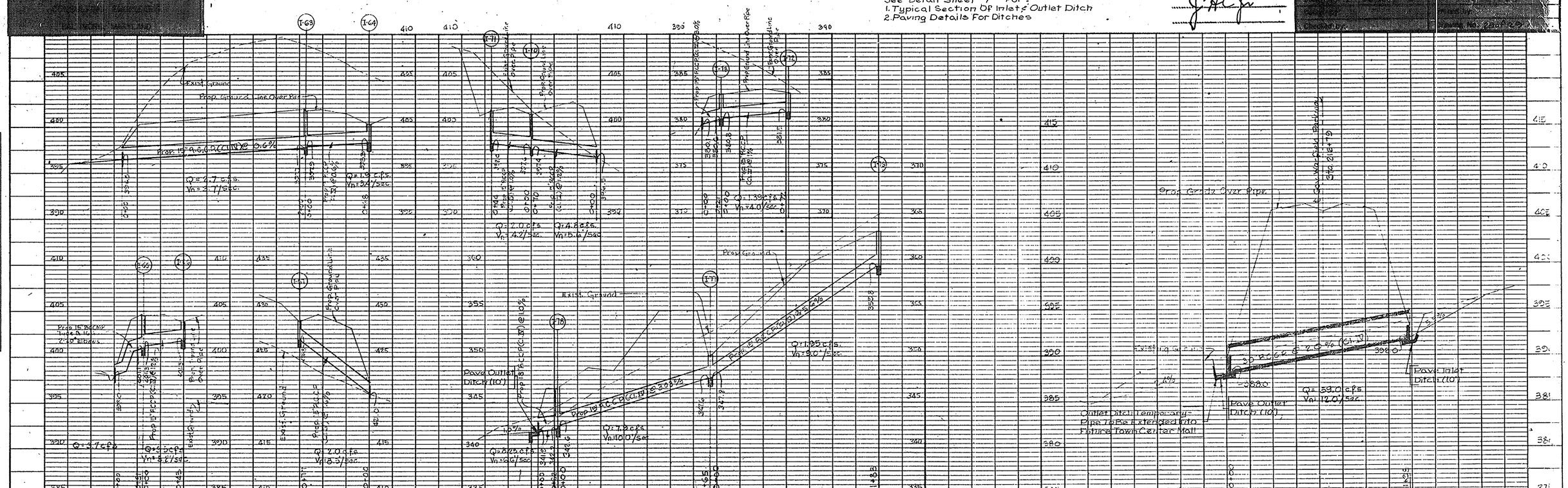
Scale: 1" = 20'

Drawn No. 2-28-68

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 21 1967

See Detail Sheet 7 For:
1. Typical Section Of Inlet & Outlet Ditch
2. Paving Details For Ditches

SUMMEL, KEPPER & KAHL
ENGINEERS - SURVEYORS



PROFILE

	By	Date
SURVEYED		
PLOTTED		
GRADES CHECKED		
AS BUILT		
STRUCTURE NOTATNS CH'KD		

NOTE BOOK NO.

PLAN

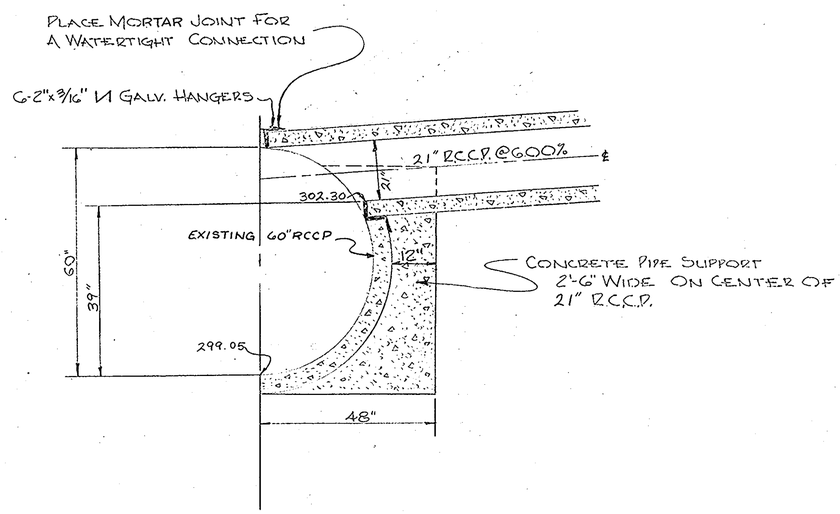
	By	Date
SURVEYED		
PLOTTED		
ALIGNMENT CHECKED		
RT. OF WAY CHECKED		

NOTE BOOK NO.

#55

K+E PLATE 1, PLAN-PROFILE
KEUFFEL & ESSER CO.
48 7012 IMPERIAL™ TRACING CLOTH 27790

F-66-99



DETAIL OF FIELD CONNECTION OF 21" RCCP & 60" RCCP.
NO SCALE

APPROVED
PLANNING COMMISSION
OF HOWARD COUNTY
DATE APR 2 1987

OWNER & DEVELOPER
THE HOWARD RESEARCH
AND DEVELOPMENT CORP.
THE VILLAGE OF CROSS KEYS
BALTIMORE, MARYLAND, 21210

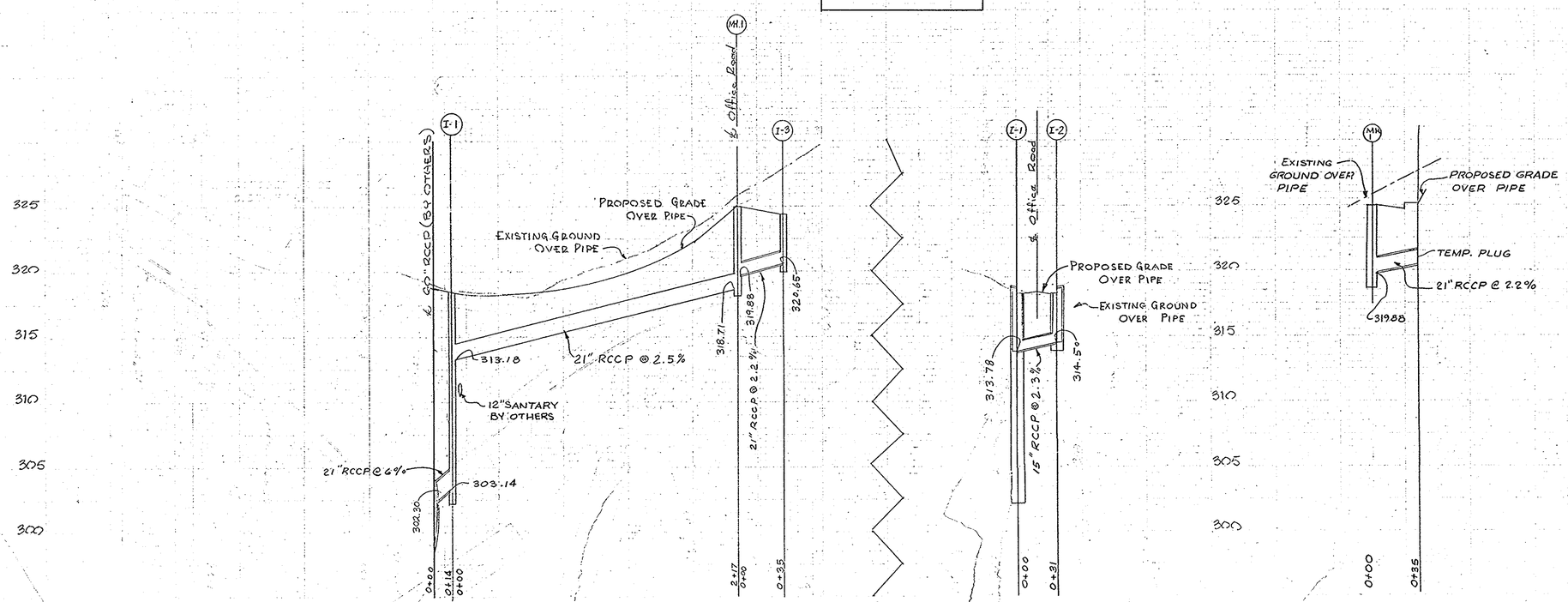
ENGINEER
PURDUY & JENSON
ENGINEERS
&
LAND SURVEYORS
24 PARK AVENUE
ELLICOTT CITY, MARYL

DRAINAGE PROFILES & DETAILS
SECTION 1 ~ WINCOPIN CIRC

COLUMBIA
TOWN CENTER

5TH ELECTION DISTRICT ~ HOWARD COUNTY, MD
20 SEPT. 1966 SCALE: AS SHOWN
SHEET 29 of 29

PROFILE SCALE:
HOR.: 1" = 50'
VERT.: 1" = 5'-0"



4/4/67 REV. GRA

#55