

JOHNS HOPKINS ROAD HOWARD COUNTY, MARYLAND

PINDELL SCHOOL ROAD TO U.S. ROUTE 29

CAPITAL PROJECT NO. J-5-4014

NOTES

- DESIGN SPEED 40 M.P.H.
- HORIZONTAL AND VERTICAL CONTROL BASED ON MARYLAND STATE SYSTEM.
- ROCK/SOILS INFORMATION FURNISHED BY HARDIN ASSOCIATES, INC. OF PASADENA MD. DND ASSUMES NO RESPONSIBILITY FOR THE ACCURACY THEREOF. FOR FURTHER INFORMATION REGARDING THIS ITEM, PLEASE CONTACT THE FIRM OF HARDIN ASSOCIATES, INC., PASADENA, MARYLAND.
- ALL STRUCTURE STANDARDS REFER TO HOWARD COUNTY STANDARD SPECIFICATIONS FOR CONSTRUCTION UNLESS OTHERWISE NOTED.

ABBREVIATIONS

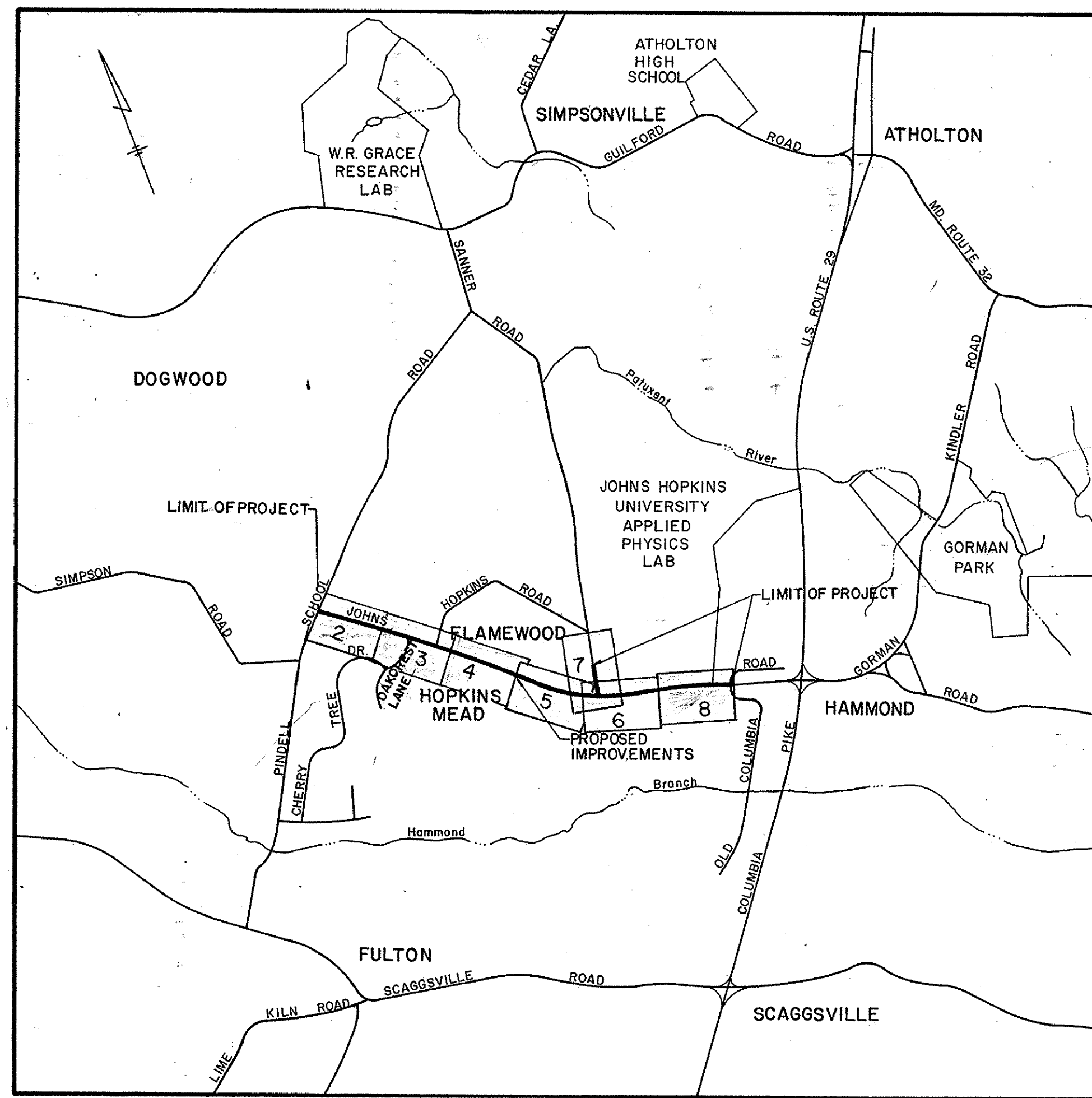
B.C.C.M.P.A.	BITUMINOUS COATED CORRUGATED METAL PIPE ARCH	P.G.L.	PROFILE GRADE LINE
B.C.C.M.P.	BITUMINOUS COATED CORRUGATED METAL PIPE	P.I.	POINT OF INTERSECTION
BL	BASELINE	R	PROPERTY LINE
B.W.	BOTTOM WIDTH	P.R.C.	POINT OF PEVERSE CURVE
CL	CENTERLINE	P.T.	POINT OF TANGENCY
C.M.P.	CORRUGATED METAL PIPE	P.V.C.	POINT OF VERTICAL CURVE
DIA.	DIAMETER	PVCC	POINT OF VERTICAL COMPOUND CURVE
DR.	DRIVEWAY	P.V.I.	POINT OF VERTICAL INTERSECTION
DWG.	DRAWING	PVRC	POINT OF VERTICAL REVERSE CURVE
EL.	ELEVATION	P.V.T.	POINT OF VERTICAL TANGENCY
ELEC.	ELECTRIC	P.R.C.	POINT OF REVERSE CURVE
E & T	ELECTRIC & TELEPHONE	R.C.P.	REINFORCED CONCRETE PIPE
EX.	EXISTING	R/W	RIGHT OF WAY
H.P.	HIGH POINT	S.E.	SUPER ELEVATION
INV.	INVERT	S.H.A.	STATE HIGHWAY ADMINISTRATION
I.P.	IRON PIPE	S.R.C.	STATE ROADS COMMISSION
L.P.	LOW POINT	STA.	STATION
MAX.	MAXIMUM	STD.	STANDARD
N.C.	NORMAL CROWN	TYP.	TYPICAL
P.C.	POINT OF CURVE	U.G.	UNDERGROUND
		V.C.	VERTICAL CURVE

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

William E. Riley 12-21-81
U.S. SOIL CONSERVATION SERVICE

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

William E. Riley
HOWARD COUNTY SOIL CONSERVATION DISTRICT



LOCATION MAP
Scale: 1" = 2,000'

SEQUENCE OF CONSTRUCTION

- Construction of the entire length of road including provision of the sediment and erosion control measures shall be divided into various segments. Each segment being defined by the limits of surface runoff draining into the specific road culvert.
- The culvert discharging clean surface runoff (including other storm drain systems connecting to the culvert pipe) shall be constructed first, prior to any road grading activity within that segment.
- Install all inlet sediment traps and stone outlet sediment traps for each segment as shown and detailed on the plan.
- Complete all remaining sediment control measures as shown.
- Grade all roads to subgrade along with all proposed ditches.
- Pave roadway.
- Stabilize drainage ditches by seeding or sodding as indicated on the plans.
- Vegetatively stabilize all other areas which are not paved.
- Remove all sediment control facilities ties (with inspector's approval) and stabilize the affected areas.

CONVENTIONAL SIGNS

SYMBOL	DESCRIPTION
---	EXISTING ROAD OR DRIVEWAY
— —	UTILITY POLE
---	EX. RIGHT-OF-WAY OR PROPERTY LINE
---	NEW RIGHT-OF-WAY OR PROPERTY LINE
○	TEST BORING LOCATION
---	RECONSTRUCTED ROAD
---	RECONSTRUCTED PAVED ROAD
---	PROPOSED PAVED ROAD WITH CURB
---	EXISTING PAVED ROAD WITH CURB
---	NEW CULVERT
---	EXISTING CULVERT
---	RECONSTRUCTED SHOULDER
---	DITCH CENTERLINE

- COVER SHEET
- PLAN & PROFILE
- PLAN & PROFILE
- PLAN & PROFILE
- PLAN & PROFILE
- PLAN & PROFILE
- PLAN & PROFILE
- PLAN & PROFILE
- SUPERELEVATION DIAGRAMS
- PAVING SECTIONS & DETAILS
- CULVERT PROFILES & OUTFALL DETAILS
- CULVERT PROFILES & OUTFALL DETAILS
- CULVERT PROFILES & OUTFALL DETAILS & SEDIMENT CONTROL DETAILS

DEVELOPER'S CERTIFICATE

I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

William E. Riley
WILLIAM E. RILEY,
CHIEF BUREAU OF ENGINEERING

6-14-83
DATE

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

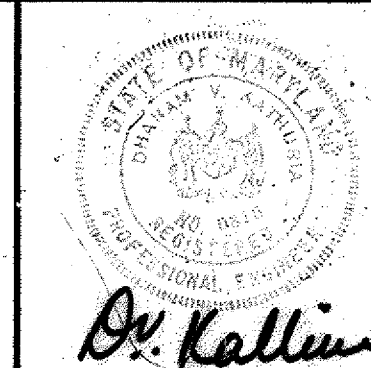
D. K. Kallura
DHARAM V. KATHURIA, P.E.

8/14/81
DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

George P. Jones 6-14-83
DIRECTOR OF PUBLIC WORKS DATE
William E. Riley 6-14-83
CHIEF BUREAU OF ENGINEERING DATE
Elizabeth Anderson 6/14/83
CHIEF, ROADS, BRIDGES, STORM DRAINS DIVISION DATE

DEWBERRY, NEALON & DAVIS
ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS
2594 Riva Road, Annapolis, Maryland 21401
8411 Arlington Boulevard, Fairfax, Virginia 22030
19201 Montgomery Village Ave., Gaithersburg, Md. 20760



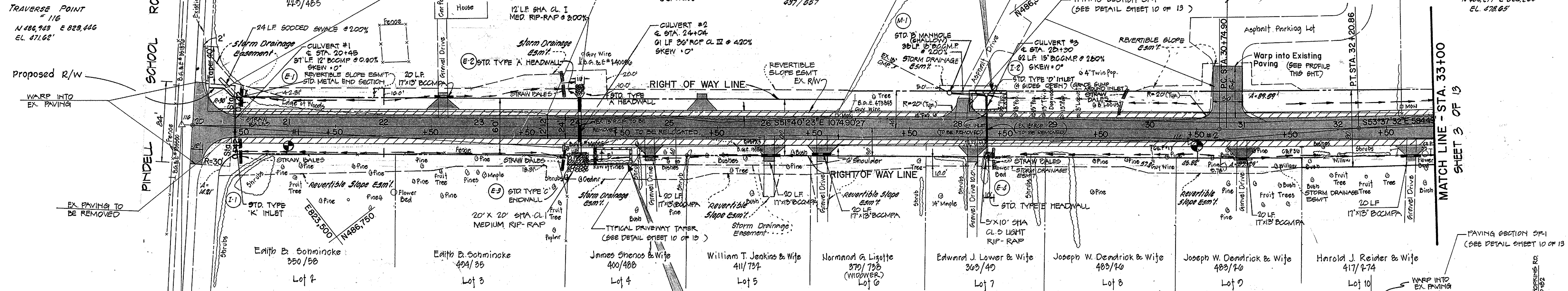
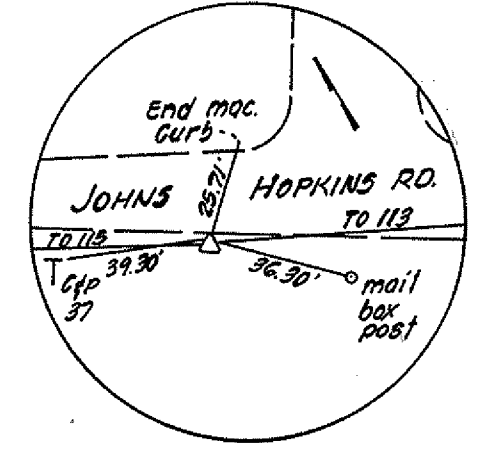
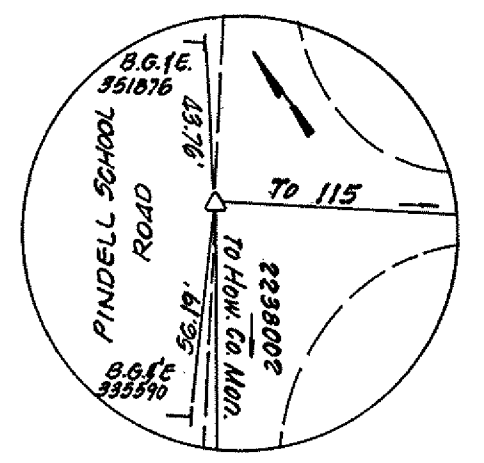
REVISIONS	
DATE	DESCRIPTION

COVER SHEET
JOHNS HOPKINS ROAD IMPROVEMENT
CAPITAL PROJECT NO. J-5-4014
FIFTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN

DESIGNED: PL.
DRAFTED: L.B.
CHECKED: V.K.
SHEET 1 OF 13

1065

12-30-82
C-63



DITCH SCHEDULE

DITCH NO.	FROM	DIRECTION	TO	LENGTH	SIDE OF E.	TYPE	REMARKS
1	20+45	---	22+00	155'	LEFT	STD. B	TAPER INTO OUTLET SWALE FROM 12' BOCMFP
2	20+45	---	22+00	155'	RIGHT	STD. B	DRAINS INTO 'K' INLET
3	22+00	---	24+04	204'	LEFT	STD. B	TAPER INTO OUTLET SWALE FROM 20' RCP
4	22+00	---	24+04	204'	RIGHT	STD. B	TAPER INTO 20' RCP
5	24+04	---	24+04	0'	RIGHT	STD. B	TAPER INTO 20' RCP
6	24+04	---	24+04	0'	RIGHT	STD. B	TAPER INTO 15' BOCMFP
7	24+04	---	24+04	0'	LEFT	STD. B	DRAINS INTO 'D' INLET
8	24+04	---	24+04	0'	RIGHT	STD. B	TAPER INTO 20' RCP
9	24+04	---	24+04	0'	LEFT	STD. B	TAPER INTO OUTLET SWALE FROM 20' RCP

STRUCTURE SCHEDULE

NO.	TYPE	TOP EL. IN/OUT	REMARKS
E-1	STD. METAL END SECTION	469.16'	FOR 12' BOCMFP
F-1	STD. TYPE 'K' INLET	471.78'	GRATE 'A' IN OPENING - 470.50'
E-2	STD. TYPE 'A' HEADWALL	464.44'	FOR 36" RCP
E-3	STD. TYPE 'C' ENDWALL	467.00'	FOR 36" RCP
M-1	STD. 'B' MANHOLE	471.50'	INV. IN - 467.25'
F-2	STD. TYPE 'D' INLET	471.33'	WIDESIDE OPEN IN OPENING 470.50'
E-4	STD. TYPE 'E' HEADWALL	470.00'	FOR 15' BOCMFP

* SEE STD DITCH SECTION, SHEET 13 OF 13
 ** STD DITCH 'B' SECTION TO BE LINED WITH SHA CL5 LIGHT RIP-RAP OVER FILTER CLOTH FROM STA. 22+00 THRU STA. 24+04.
 *** STD DITCH 'B' SECTION TO BE LINED WITH SHA CL5 LIGHT RIP-RAP OVER FILTER CLOTH FROM STA. 22+50 THRU STA. 24+04.

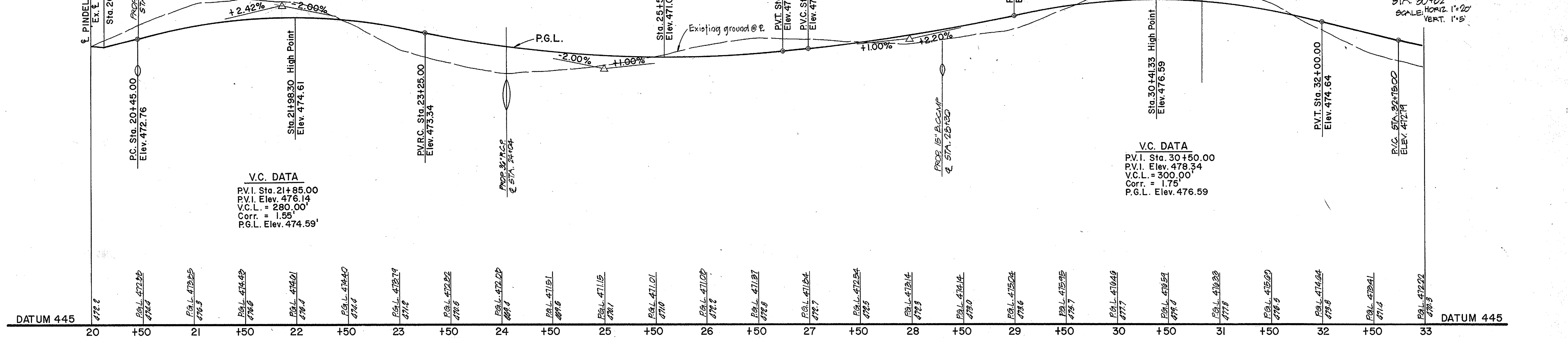
V.C. DATA
 P.V.I. Sta. 25+00.00
 P.V.I. Elev. 459.84
 V.C.L. = 350.00'
 Corr. = 1.31'
 P.G.L. Elev. 471.15

V.C. DATA
 P.V.I. Sta. 28+00.00
 P.V.I. Elev. 472.84
 V.C.L. = 200.00'
 Corr. = 0.30'
 P.G.L. Elev. 473.14

V.C. DATA
 P.V.I. Sta. 29+00.00
 P.V.I. Elev. 475.04

V.C. DATA
 P.V.I. Sta. 21+85.00
 P.V.I. Elev. 476.14
 V.C.L. = 280.00'
 Corr. = 1.55'
 P.G.L. Elev. 474.59'

V.C. DATA
 P.V.I. Sta. 30+50.00
 P.V.I. Elev. 478.34
 V.C.L. = 300.00'
 Corr. = 1.17'
 P.G.L. Elev. 476.59



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: *Shirley F. Nemy*
 Chief Bureau of Engineering: *William B. Ryan*
 Chief Roads, Bridges, Storm Drains Division: *Charles Anderson Collier*

DEWBERRY, NEALON & DAVIS
 ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS
 8411 Arlington Boulevard, Fairfax Virginia 22030
 2594 Riva Road, Annapolis, Maryland 21401

REVISIONS

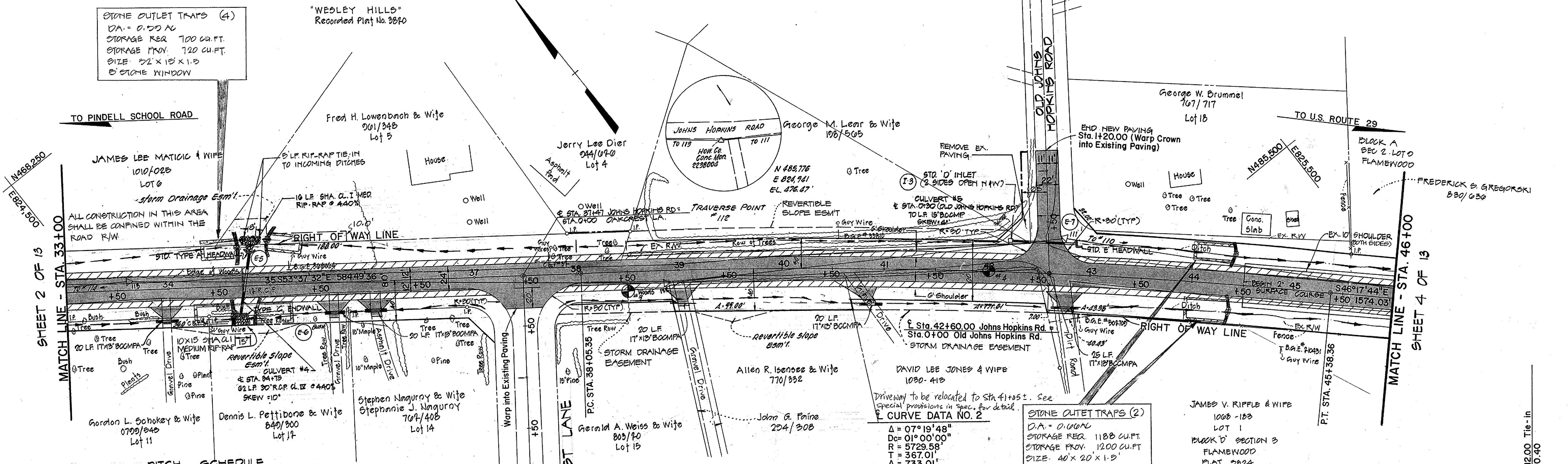
DATE	BY	DESCRIPTION

PLAN AND PROFILE
 JOHN HOPKINS ROAD
 STA. 20+00 TO STA. 33+00
 CAPITAL PROJECT NO. J-5-4014
 FIFTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN

DESIGNED: P.L.
 DRAFTED: L.B.
 CHECKED: V.K.

SHEET 2 OF 13

1065



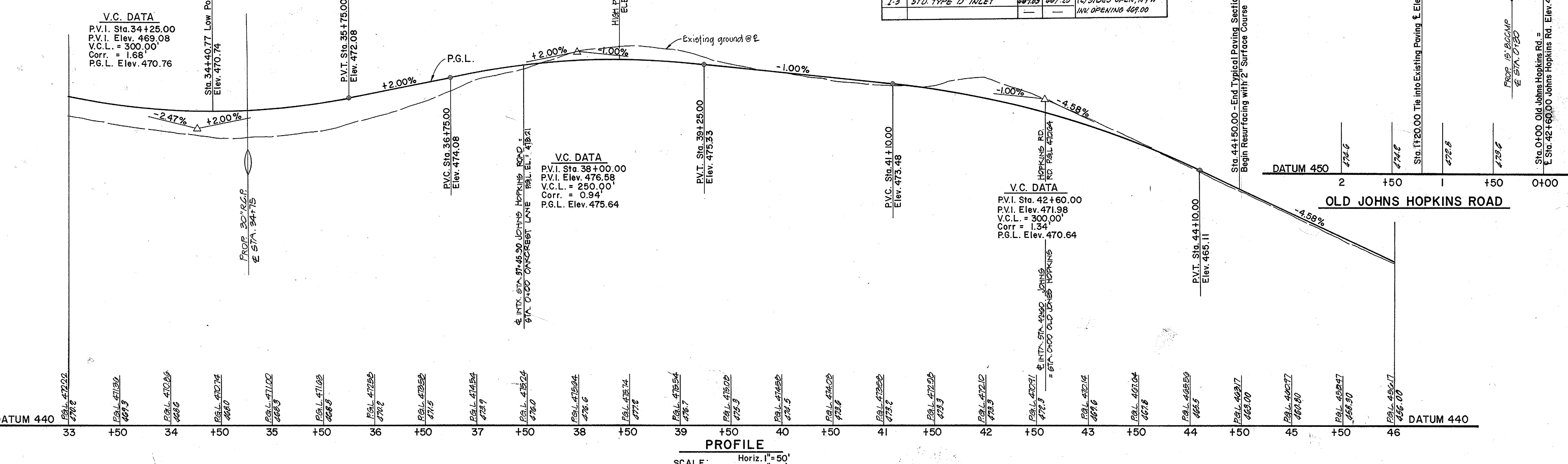
DITCH SCHEDULE

NO.	FROM	TO	LENGTH	SIDE OF E	TYPE	REMARKS
9	34+10	37+00	290'	RIGHT	STD 'B'	TAPER INTO 30" RCP
10	34+20	38+50	310'	LEFT	STD 'B'	TAPER INTO OUTLET SHALE FROM 30" RCP
11	37+20	43+50	570'	RIGHT	STD 'B'	UTILIZE EX. DITCH WHERE POSSIBLE FROM STA. 43+50 TO 47+10 TAPER INTO EX. INLET.
12	38+50	42+20	370'	LEFT	STD 'B'	TAPER INTO STD 'D' INLET.
13	42+20	43+20	100'	LEFT	STD 'B'	UTILIZE EX. DITCH WHERE POSSIBLE FROM STA. 43+50 TO STA. 47+10 TAPER INTO EX. INLET.

* SEE STD DITCH SECTION SHEET 13 OF 13

STRUCTURE SCHEDULE

NO.	TYPE	TOP EL.	INLET	REMARKS
E-5	STD. TYPE 'A' HEADWALL	463.87	463.87	FOR 30" RCP
E-6	STD. TYPE 'C' ENDWALL	466.00	466.00	FOR 30" RCP
E-7	STD. TYPE 'E' HEADWALL	466.69	466.69	FOR 15" BCCMP
I-3	STD. TYPE 'D' INLET	467.25	467.25	(2) SIDES OPEN, N/W INLET OPENING 469.00



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

1065
Director of Public Works
DATE 6-14-83

Chief Bureau of Engineering
DATE 6/14/83

Chief, Roads, Bridges, Storm Drains Division

DEWBERRY, NEALON & DAVIS
ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS

2594 Riva Road, Annapolis, Maryland 21401
8411 Arlington Boulevard, Fairfax, Virginia 22030
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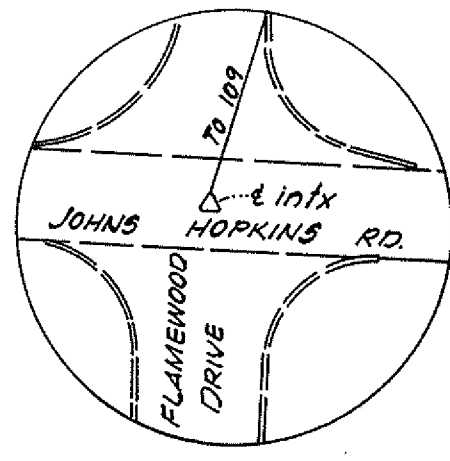
REVISIONS

DATE	BY	DESCRIPTION

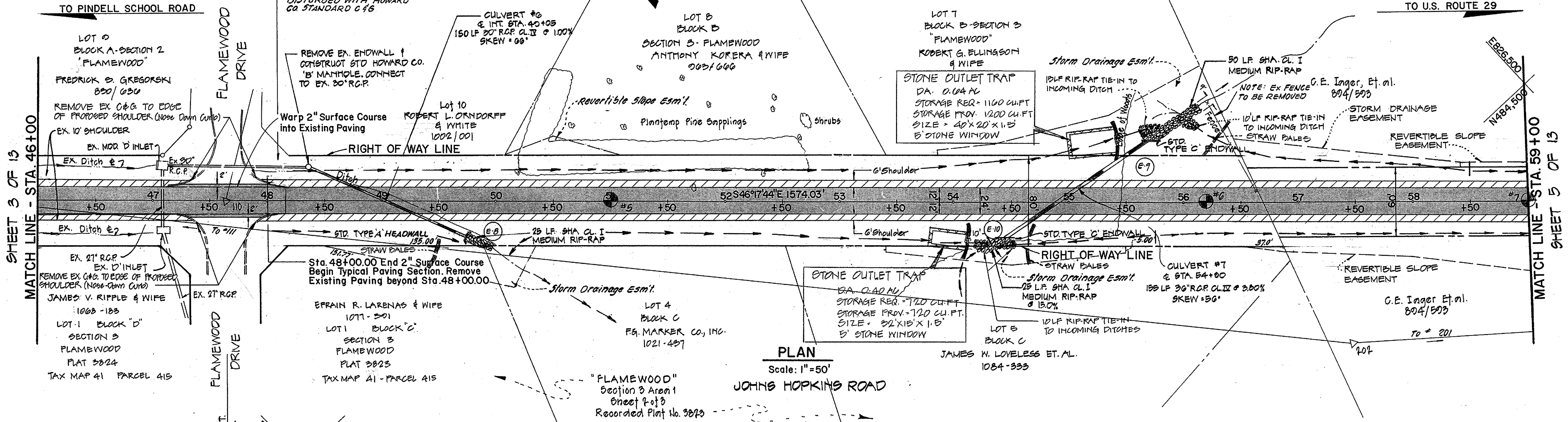
PLAN AND PROFILE
JOHNS HOPKINS ROAD
STA. 33+00 TO STA. 46+00
CAPITAL PROJECT NO. J-5-4014
FIFTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN

DESIGNED: PL.
DRAFTED: L.B.
CHECKED: V.K.

SHEET 3 OF 13



TRAVERSE POINT # 110
N 405,208 E 823,608
EL. 449.83'



PLAN
Scale: 1"=50'

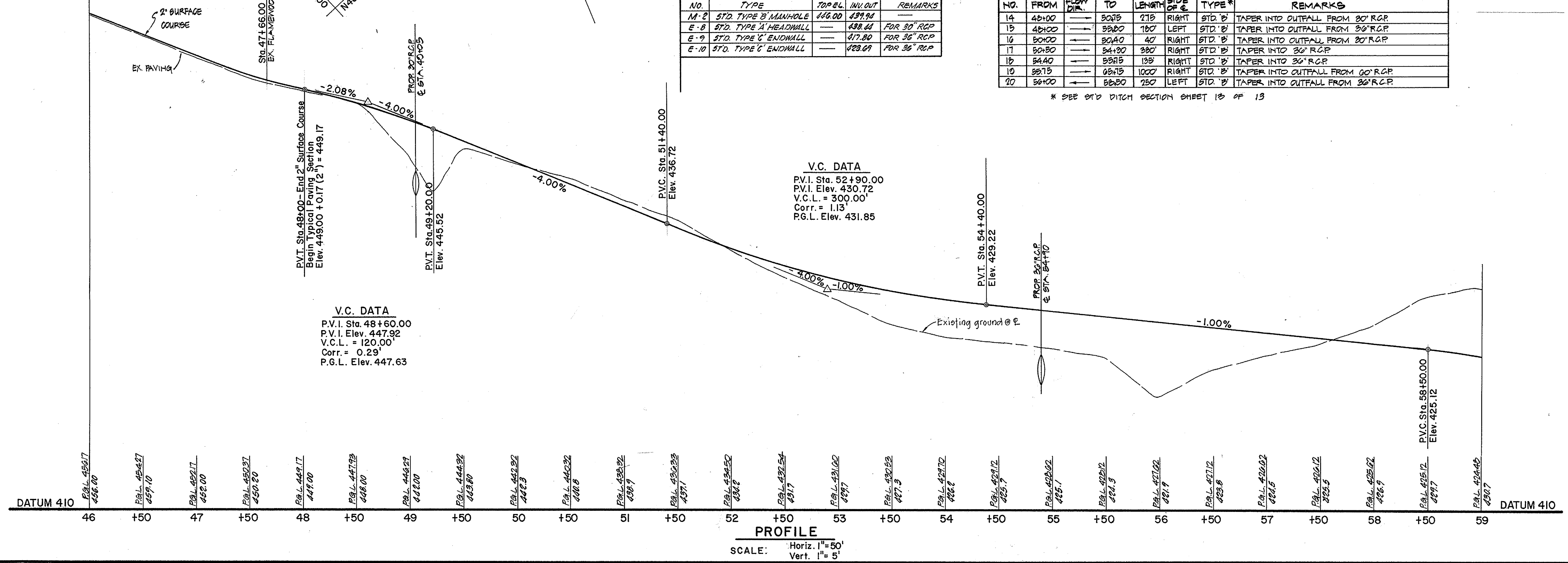
STRUCTURE SCHEDULE

NO.	TYPE	TOP EL.	IN/OUT	REMARKS
M-2	STD. TYPE B' MANHOLE	446.00	439.84	
E-8	STD. TYPE A' HEADWALL	438.41	FOR 30" R.C.P.	
E-9	STD. TYPE C' ENDWALL	417.80	FOR 36" R.C.P.	
E-10	STD. TYPE C' ENDWALL	423.67	FOR 36" R.C.P.	

DITCH SCHEDULE

NO.	FROM	TO	LENGTH	SIDE	TYPE*	REMARKS
14	46+00	50+75	275	RIGHT	STD. B'	TAPER INTO OUTFALL FROM 30" R.C.P.
15	46+00	55+00	180	LEFT	STD. B'	TAPER INTO OUTFALL FROM 30" R.C.P.
16	50+00	50+40	40	RIGHT	STD. B'	TAPER INTO OUTFALL FROM 30" R.C.P.
17	50+50	54+30	380	RIGHT	STD. B'	TAPER INTO 36" R.C.P.
18	54+00	55+15	135	RIGHT	STD. B'	TAPER INTO 36" R.C.P.
19	55+75	55+75	1000	RIGHT	STD. B'	TAPER INTO OUTFALL FROM 36" R.C.P.
20	56+00	55+50	250	LEFT	STD. B'	TAPER INTO OUTFALL FROM 36" R.C.P.

* SEE STD DITCH SECTION SHEET 13 OF 13



V.C. DATA
P.V.I. Sta. 52+90.00
P.V.I. Elev. 430.72
V.C.L. = 300.00'
Corr. = 1.13
P.G.L. Elev. 431.85

V.C. DATA
P.V.I. Sta. 48+60.00
P.V.I. Elev. 447.92
V.C.L. = 120.00'
Corr. = 0.29'
P.G.L. Elev. 447.63

PROFILE
SCALE: Horiz. 1"=50'
Vert. 1"=5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Dir. E. Normy 6-14-83
DIRECTOR OF PUBLIC WORKS DATE

R. Scaramia 6/14/83
CHIEF BUREAU OF ENGINEERING DATE

Elizabeth Anderson 6/15/83
CHIEF, ROADS, BRIDGES, STORM DRAINS DIVISION DATE

DEWBERRY, NEALON & DAVIS
ENGINEERS-ARCHITECTS-PLANNERS-SURVEYORS

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8411 Arlington Boulevard, Fairfax, Virginia 22030
19201 Montgomery Village Ave., Gaithersburg, Md. 20760

REVISIONS

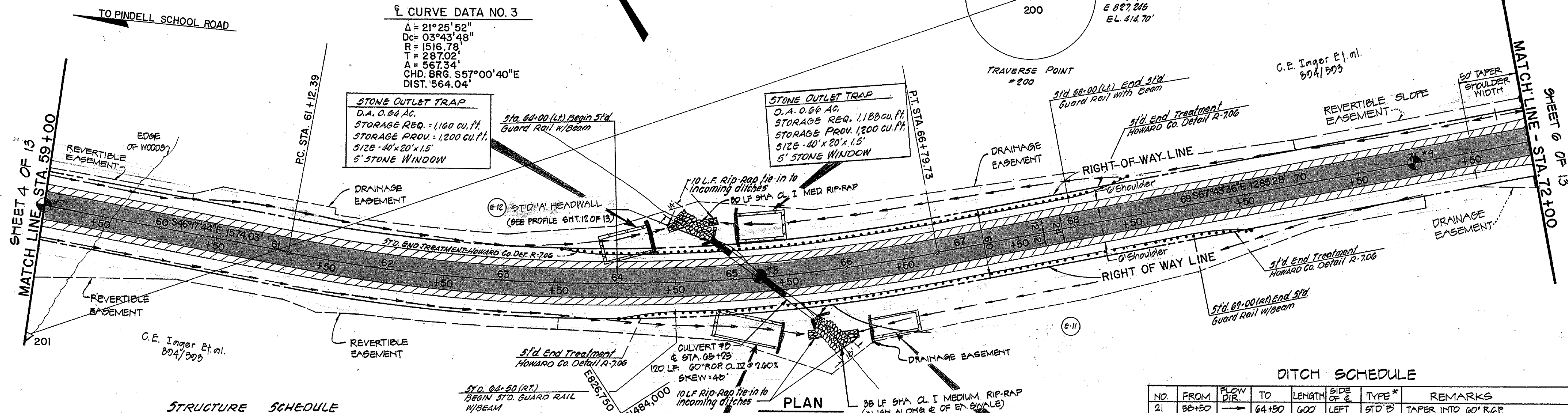
DATE	BY	DESCRIPTION

PLAN AND PROFILE
JOHNS HOPKINS ROAD
STA. 46+00 TO STA. 59+00
CAPITAL PROJECT NO. J-5-4014
FIFTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN

DESIGNED: P.L.
DRAFTED: L.B.
CHECKED: V.K.

SHEET 4 OF 13

1065



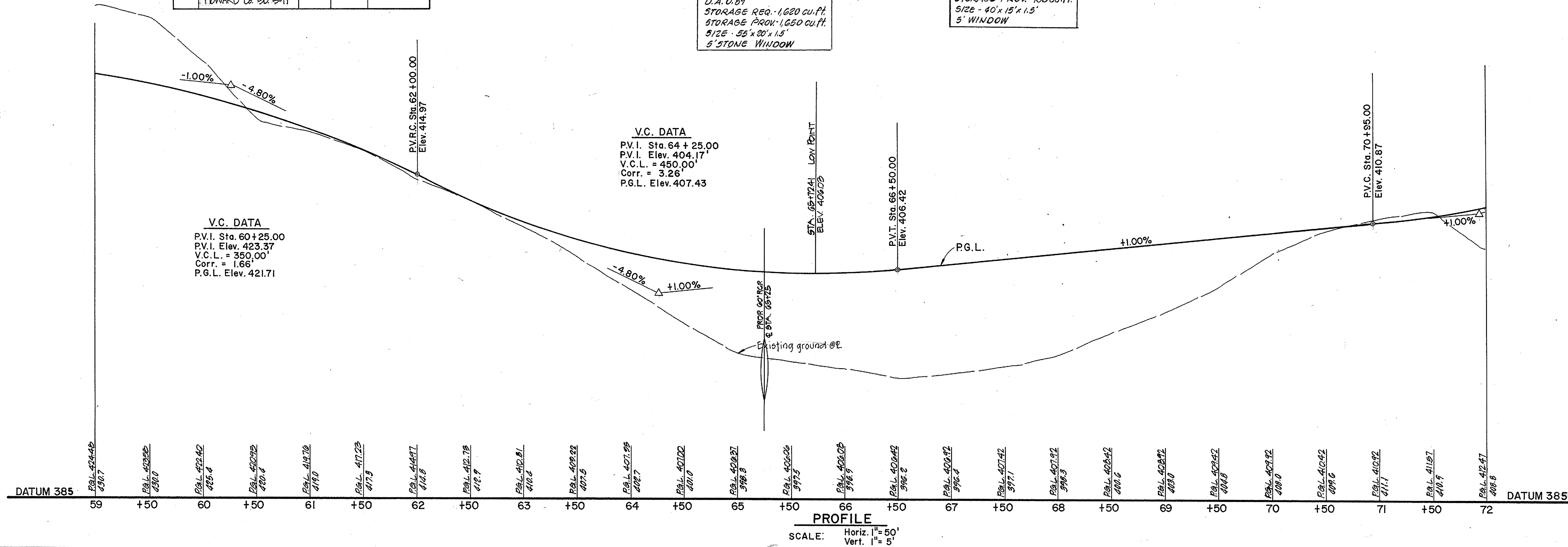
STRUCTURE SCHEDULE

NO.	TYPE	TOP EL.	IN. OUT.	REMARKS
E-11	STD. 'A' HEADWALL HOWARD Co. SD. 5-11	398.50	FOR 60' RCP	
E-12	STD. 'A' HEADWALL HOWARD Co. SD. 5-11	395.00	FOR 60' RCP	

DITCH SCHEDULE

NO.	FROM	TO	LENGTH	SIDE OF R.	TYPE	REMARKS
21	58+30	64+30	600'	LEFT	STD. 'B'	TAPER INTO 60' R.C.P.
22	64+15	71+15	700'	LEFT	STD. 'B'	TAPER INTO 60' R.C.P.
23	65+15	71+00	525'	RIGHT	STD. 'B'	TAPER INTO OUTFALL FROM 60' R.C.P.

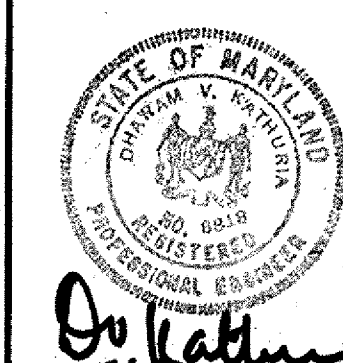
* See 3'd. Ditch Section sheet 13 of 13



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Director of Public Works: *Henry F. Neuma*
 DATE: 6-14-83
 Chief Bureau of Engineering: *Robert S. Davis*
 DATE: 6/14/83
 Chief, Roads, Bridges, Storm Drains Division: *Charles Anderson*
 DATE: 6/14/83

DEWBERRY, NEALON & DAVIS
 ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS
 2594 Riva Road, Annapolis, Maryland 21401
 8411 Arlington Boulevard, Fairfax, Virginia 22030
 19201 Montgomery Village Ave., Gaithersburg, Md. 20760



REVISIONS

DATE	BY	DESCRIPTION

PLAN AND PROFILE
 JOHNS HOPKINS ROAD
 STA. 59+00 TO STA. 72+00
 CAPITAL PROJECT NO. J-5-4014
 FIFTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN

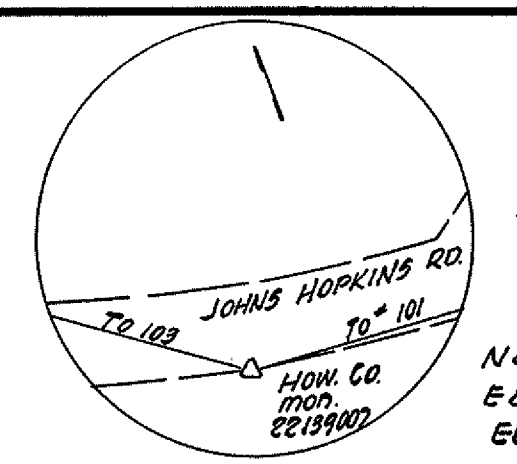
DESIGNED: P.L.
 DRAFTED: L.B.
 CHECKED: V.K.
SHEET 5 OF 13

1065

STONE OUTLET TRAPS (3)
DA. 0.40 AC
STORAGE REQ = 800 CU.FT
STORAGE PRV = 900 CU.FT
SIZE = 40" X 18" X 1.5'
D' STONE WINDOWS

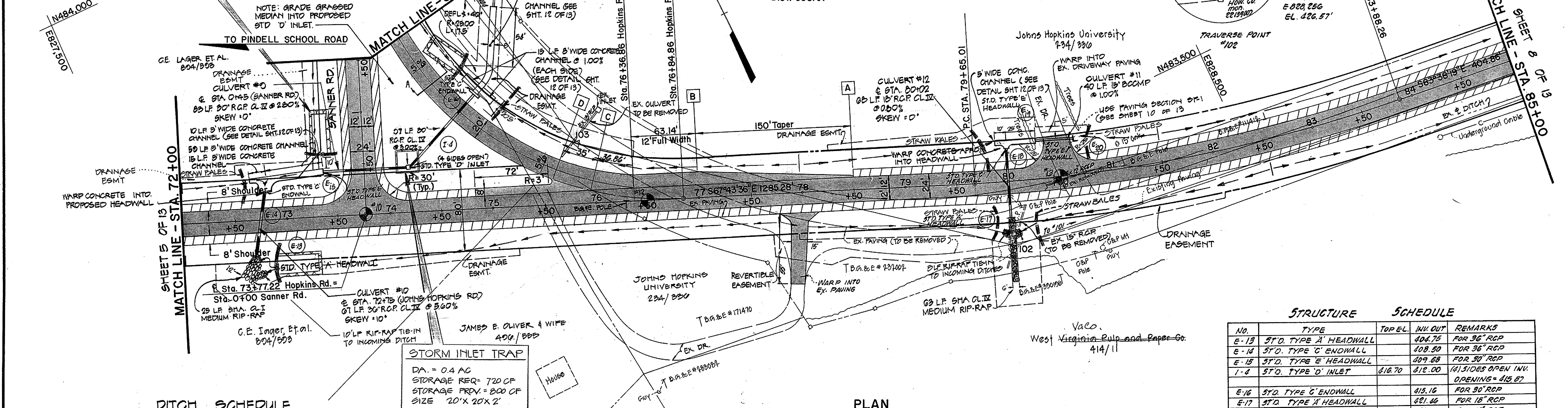
CURVE DATA NO. 7
 $\Delta = 68^{\circ}34'31.5''$
 $D_c = 300.00'$
 $R = 204.55'$
 $T = 359.06'$
 $A = 359.06'$
CHD. BRG. $N23^{\circ}54'44.6''E$
DIST. 338.01'

CURVE DATA NO. 4
 $\Delta = 15^{\circ}54'44''$
 $D_c = 07^{\circ}57'22''$
 $R = 1524.05'$
 $T = 213.00'$
 $A = 423.26'$
CHD. BRG. $S75^{\circ}40'58''E$
DIST. 421.90'



TO U.S. ROUTE 29
PT. STA. 83+88.26

MATCH LINE - STA. 85+00
SHEET 6 OF 13



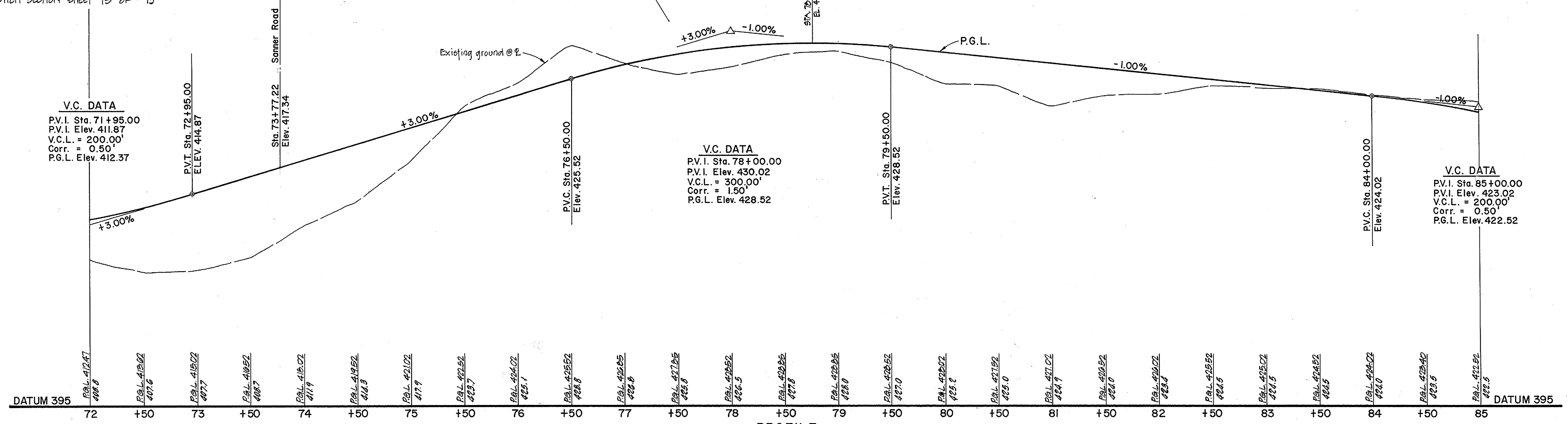
STRUCTURE SCHEDULE

NO.	TYPE	TOP EL.	INV. OUT.	REMARKS
E-19	STD. TYPE A' HEADWALL	404.75		FOR 36" RCP
E-18	STD. TYPE C' ENDWALL	408.80		FOR 36" RCP
E-15	STD. TYPE E' HEADWALL	409.65		FOR 30" RCP
I-2	STD. TYPE D' INLET	416.70	112.00	(1) SIDES OPEN INV. OPENING = 415.87
E-16	STD. TYPE C' ENDWALL	415.16		FOR 30" RCP
E-17	STD. TYPE A' HEADWALL	421.26		FOR 18" RCP
E-18	STD. TYPE C' ENDWALL	422.00		FOR 18" RCP
E-19	STD. TYPE E' HEADWALL	422.50		FOR 15" BCGMP
E-20	STD. TYPE E' HEADWALL	422.70		FOR 15" BCGMP

DITCH SCHEDULE

NO.	FROM	TO	LENGTH	SIDE	TYPE	REMARKS
24	71+75	72+05	30'	LEFT	STD. A	GRADE INTO CONCRETE CHANNEL AT 30" RCP
25	72+75	77+75	500'	RIGHT	STD. A	TAPER INTO OUTFALL FROM 30" RCP
26	77+75	80+02	227'	RIGHT	STD. A	TAPER INTO OUTFALL FROM 18" RCP
27	30" RCP	78+00	313'	LEFT	STD. A	DITCH ALONG TURNING ROADWAY TO 8' WIDE CONCRETE CHANNEL @ 30" RCP
28	78+00	80+02	202'	LEFT	STD. A	GRADE INTO CONCRETE CHANNEL @ 18" RCP
29	80+00	82+50	250'	RIGHT	STD. A	TAPER INTO OUTFALL FROM 18" RCP
30	82+50	81+50	80'	LEFT	STD. A	GRADE INTO 15" BCGMP
31	82+50	83+50	100'	RIGHT	STD. A	GRADE INTO EX. DITCH

PLAN
Scale: 1" = 50'
JOHNS HOPKINS ROAD & SANNER ROAD



PROFILE
SCALE: Horiz. 1" = 50'
Vert. 1" = 5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
1065
Director of Public Works
DATE 6-14-83
Chief Bureau of Engineering
DATE 4/18/83
Chief, Roads, Bridges, Storm Drains Division
DATE 4/18/83

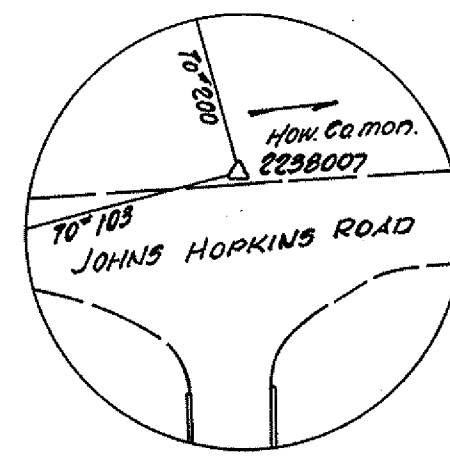
DEWBERRY, NEALON & DAVIS
ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS
2594 Riva Road, Annapolis, Maryland 21401
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REVISIONS

DATE	BY	DESCRIPTION

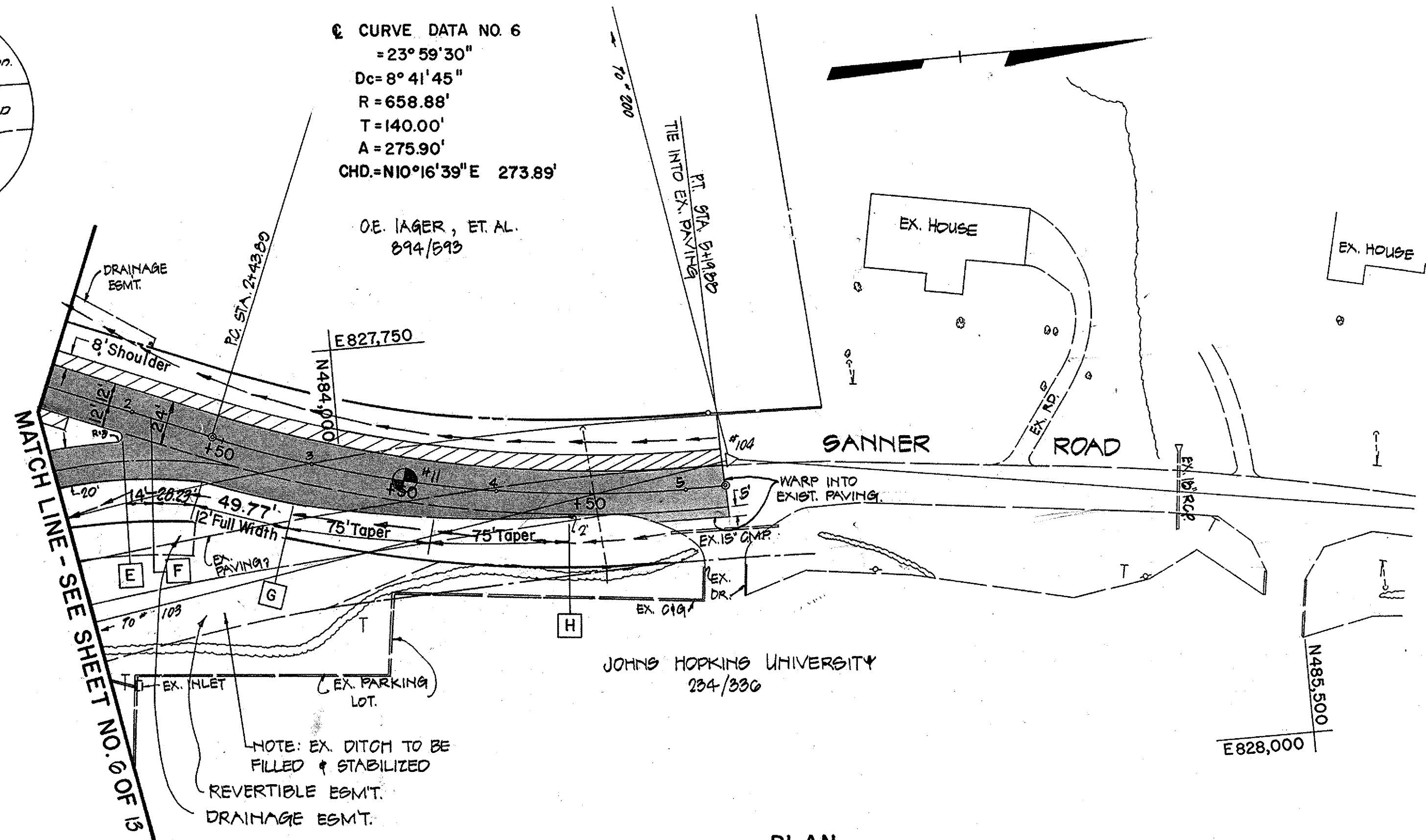
PLAN AND PROFILE
JOHNS HOPKINS ROAD
STA. 72+00 TO STA. 85+00
CAPITAL PROJECT NO. J-5-4014
FIFTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN

DESIGNED: P.L.
DRAFTED: L.B.
CHECKED: V.K.
SHEET 6 OF 13



CURVE DATA NO. 6
 = 23° 59' 30"
 Dc = 8° 41' 45"
 R = 658.88'
 T = 140.00'
 A = 275.90'
 CHD = N10° 16' 39" E 273.89'

O.E. IAGER, ET AL.
 894/893



NO.	FROM	FLOW DIR.	TO	LENGTH	SIDE OF	TYPE*	REMARKS
32	0+60	---	5+20	460'	LEFT	STD. A	SANNER RD. - FROM CONC. CHANNEL TO LIMIT OF PAVING.
33	50' R.C.P.	---	4+00	390'	RIGHT	STD. A	SANNER RD. - DITCH ALONG TURNING RDWAY. FROM EX. 15' COMP TO 8' WIDE CONCRETE CHANNEL AT 20' R.C.P.

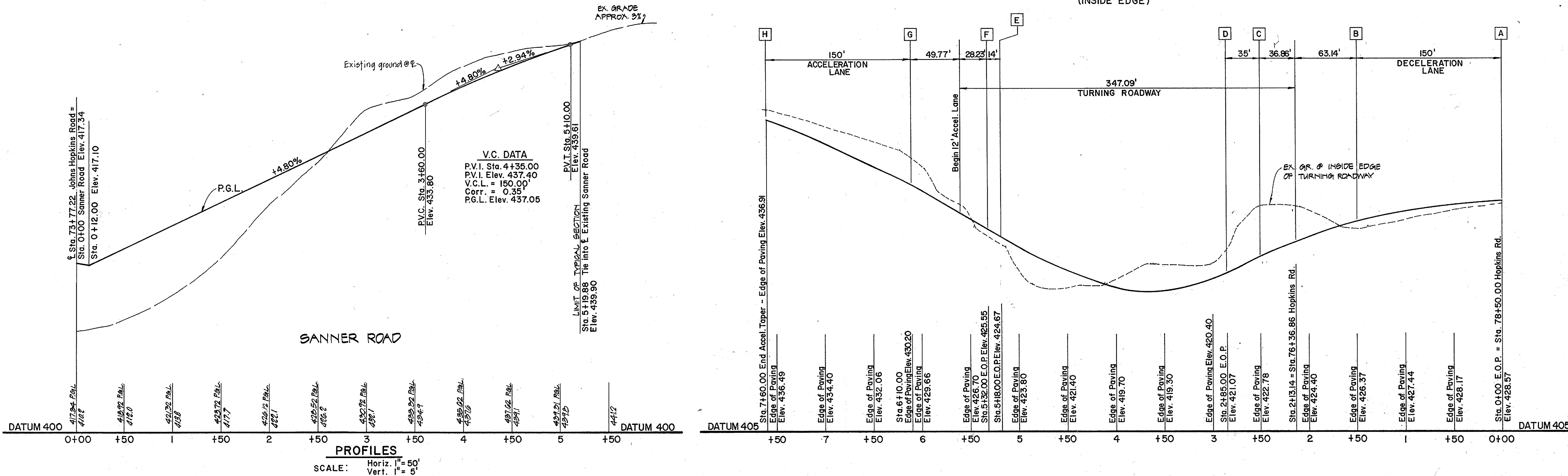
* SEE STD DITCH SECTION SHEET 13 OF 13

PLAN
 Scale: 1" = 50'
SANNER ROAD

POINT	OUTSIDE E.O.P. ELEV.	SUPERELEV. RATE (%)	REMARKS
A	428.57	2.00%	Beginning of Taper - Sta. 0+00 Edge of Paving = Sta. 78+50.00 Johns Hopkins Road
B	426.37	2.00%	Begin 12' Full Width Deceleration Lane. Sta. 1+50.00 E.O.P. = Sta. 77+00.00 Johns Hopkins Road
C	422.78	5.00%	Begin 20' Full Width Turning Roadway. Sta. 2+50.00 Edge of Paving
D	421.07	5.00%	Section at Nose. Sta. 2+85.00 Edge of Paving
E	424.67	5.00%	Section at Nose. Sta. 5+18.00 Edge of Paving
F	425.55	5.00%	End 20' Full Width Turning Roadway. Sta. 5+32.00
G	430.20	2.00%	End 12' Full Width Acceleration Lane. Sta. 6+10.00
H	436.91	2.00%	End of Taper Sta. 7+60.00 Edge of Paving = Sta. 4+38.00 Sanner Road

TURNING ROADWAY AT INTERSECTION OF JOHNS HOPKINS ROAD AND SANNER ROAD

LINEAR PROFILE (INSIDE EDGE)

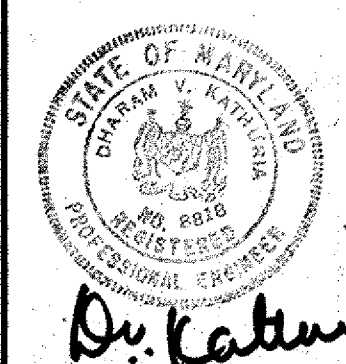


PROFILES
 SCALE: Horiz. 1" = 50'
 Vert. 1" = 5'

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

1065
 Director of Public Works: *George F. Nemy*
 Chief Bureau of Engineering: *Richard S. Davis*
 Chief, Roads, Bridges, Storm Drains Division: *Richard S. Davis*

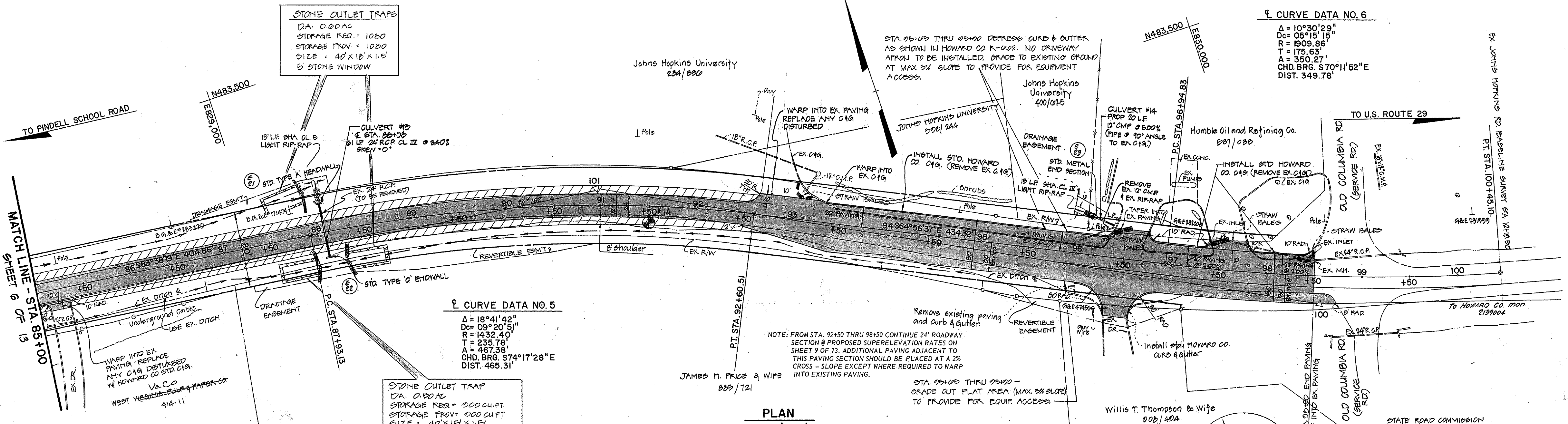
DEWBERRY, NEALON & DAVIS
 ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS
 2594 Riva Road, Annapolis, Maryland 21401
 8411 Arlington Boulevard, Fairfax, Virginia 22030
 19201 Montgomery Village Ave., Gaithersburg, Md. 20760



REVISIONS		
DATE	BY	DESCRIPTION

PLAN AND PROFILE
 JOHNS HOPKINS ROAD
 CAPITAL PROJECT NO. J-5-4014
 FIFTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN

DESIGNED: P.L.
 DRAFTED: L.B.
 CHECKED: V.K.
SHEET 7 OF 13



Curve Data No. 5
 $\Delta = 18^{\circ}41'42''$
 $D_c = 09^{\circ}20'51''$
 $R = 1432.40'$
 $T = 235.78'$
 $A = 467.38'$
 $CHD. BRG. S74^{\circ}17'28'' E$
 $DIST. 465.31'$

Curve Data No. 6
 $\Delta = 10^{\circ}30'29''$
 $D_c = 05^{\circ}15'15''$
 $R = 1909.86'$
 $T = 175.63'$
 $A = 350.27'$
 $CHD. BRG. S70^{\circ}11'52'' E$
 $DIST. 349.78'$

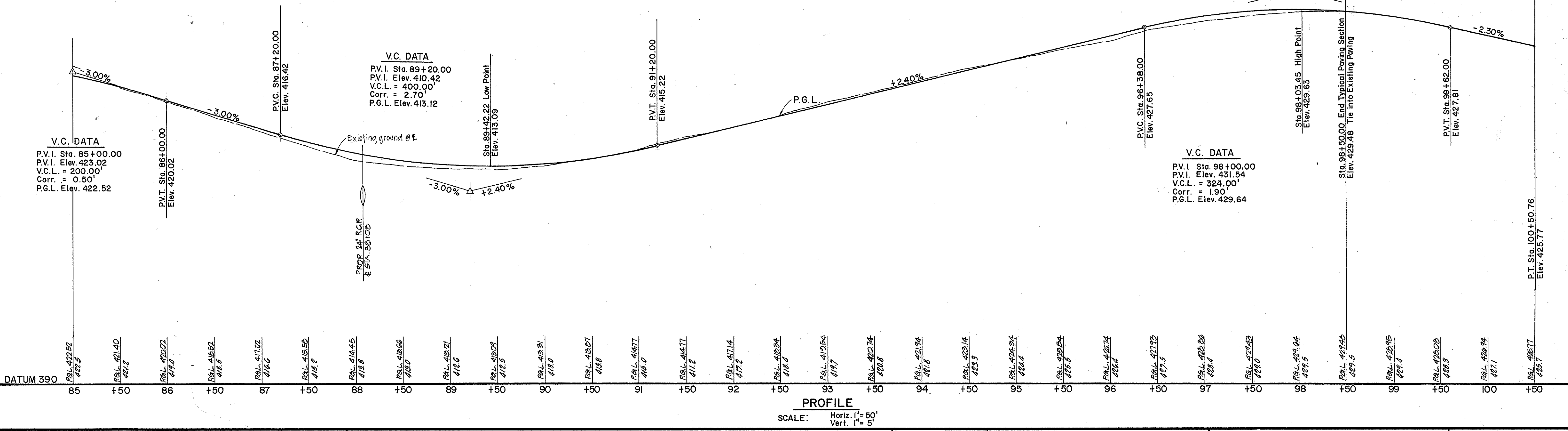
PLAN
 Scale: 1" = 50'
JOHNS HOPKINS ROAD

DITCH SCHEDULE

NO.	FROM	FLOW DIR.	TO	LENGTH	SIDE OF	TYPE	REMARKS
24	81+50	---	82+00	050'	LEFT	STD. A	WARD INTO OUTFALL FROM 24" R.C.P.
25	82+10	---	82+00	100'	RIGHT	STD. A	WARD INTO 24" R.C.P.
26	82+10	---	82+00	002'	RIGHT	STD. A	WARD INTO 24" R.C.P.

NO.	TYPE	TOP EL.	IN/OUT	REMARKS
E-21	STD. TYPE A HEADWALL	---	407.99	FOR 24" R.C.P.
E-22	STD. TYPE C ENDWALL	---	410.00	FOR 24" R.C.P.
E-23	STD. METAL END SECTION	---	425.50	FOR 12" C.M.P.

* SEE STD DITCH SECTION - SHEET 13 OF 13



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Director of Public Works: *W. F. Nealey*
 DATE: 6-14-83
 Chief Bureau of Engineering: *W. C. ...*
 DATE: 6/14/83
 Chief, Roads, Bridges, Storm Drains Division: *W. ...*
 DATE: 6/14/83

DEWBERRY, NEALON & DAVIS
 ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS
 2594 Riva Road, Annapolis, Maryland 21401
 8411 Arlington Boulevard, Fairfax, Virginia 22030
 19201 Montgomery Village Ave., Gaithersburg, Md. 20760

REVISIONS

DATE	BY	DESCRIPTION

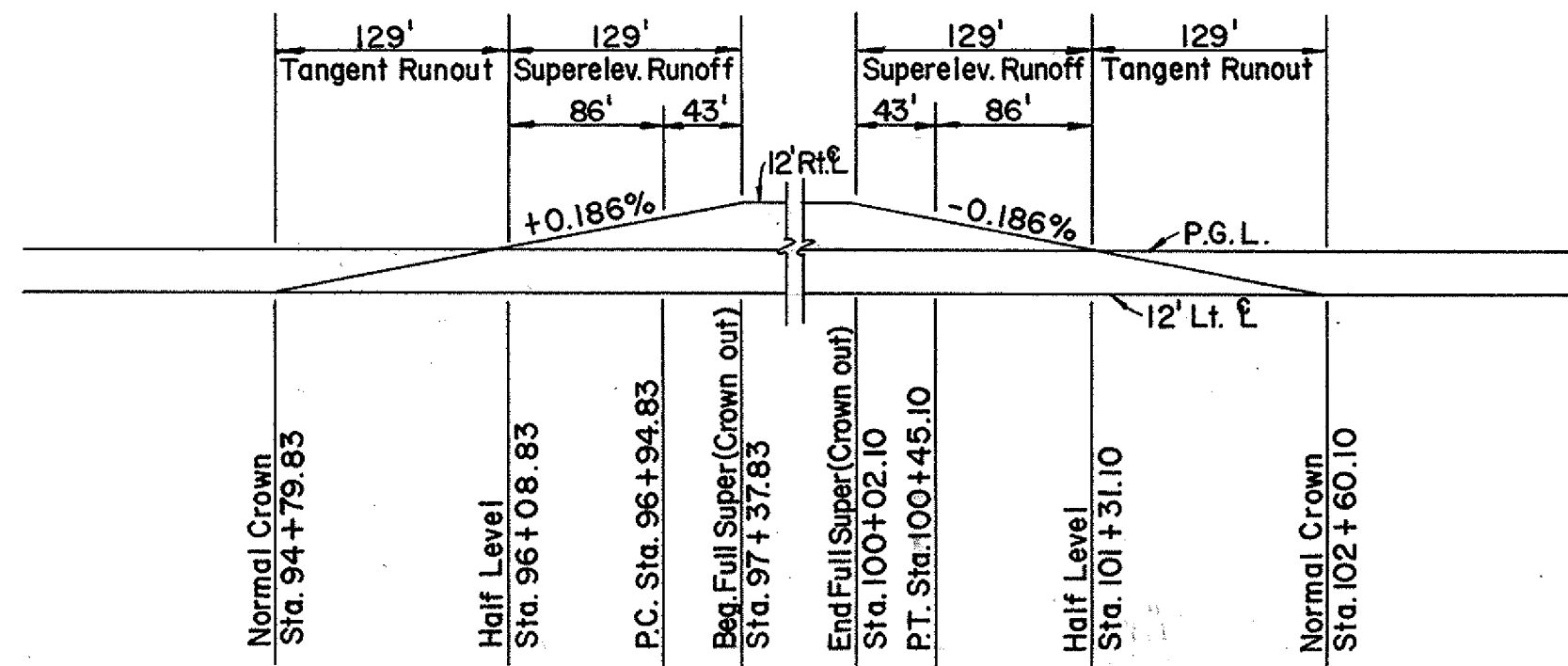
PLAN AND PROFILE
 JOHNS HOPKINS ROAD
 STA. 85+00 TO STA. 100+00
 CAPITAL PROJECT NO. J-5-4014
 FIFTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN

DESIGNED: P.L.
 DRAFTED: L.B.
 CHECKED: V.K.

SHEET 8 OF 13

1065

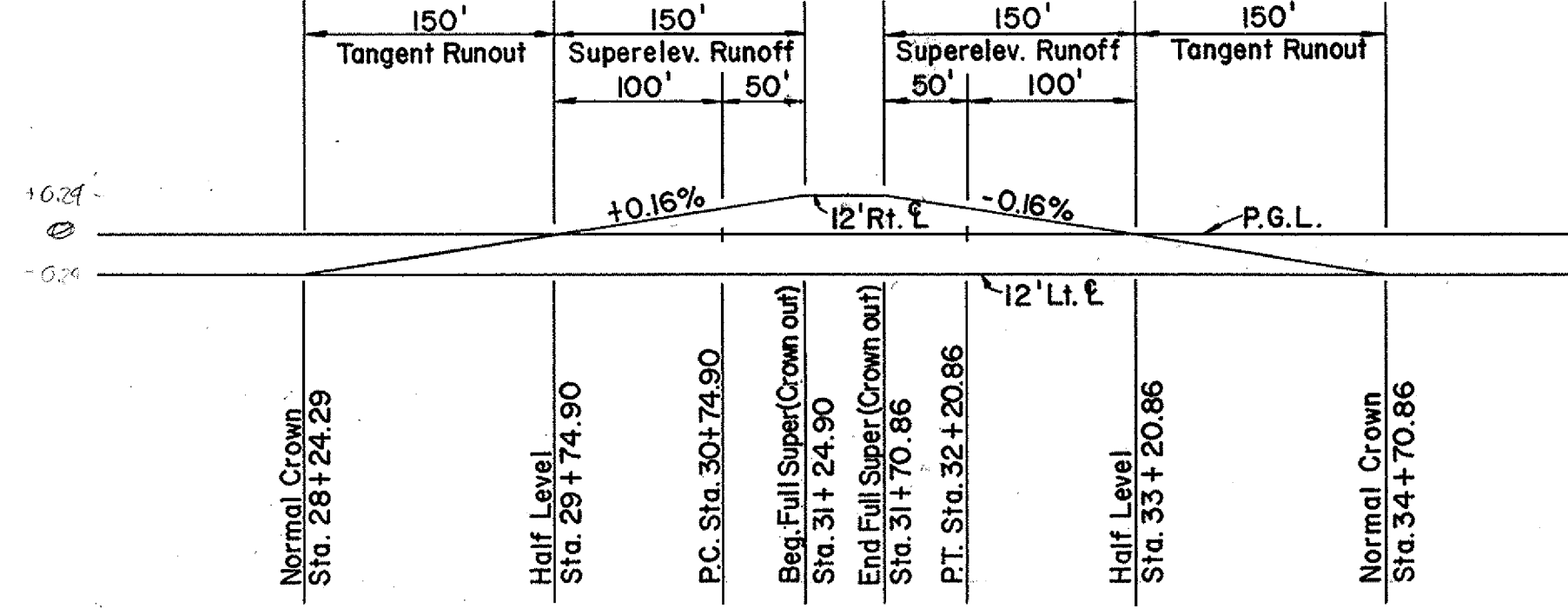
12-30-82
 C-63



CURVE NO. 6

STATION	ELEV. 12' LT.	CORR. 12' LT.	P.G.L. ELEV.	CORR. 12' RT.	ELEV. 12' RT.	REMARKS
94+79.83	423.62	-0.24'	423.86	-0.24'	423.62	Normal Crown
95+00	424.01	-0.24'	424.34	-0.20'	424.14	
95+50	425.30	-0.24'	425.54	-0.11'	425.43	
96+00	426.50	-0.24'	426.74	-0.02'	426.72	
96+08.83	426.71	-0.24'	426.95	0	426.95	Half Level
96+50	427.69	-0.24'	427.93	+0.08'	428.01	
96+94.83	428.54	-0.24'	428.78	+0.16'	428.94	P.C.
97+00	428.62	-0.24'	428.86	+0.17'	429.03	
97+37.83	429.08	-0.24'	429.32	+0.24'	429.56	Began Full Super (Crown out)
97+50	429.15	-0.24'	429.39	+0.24'	429.67	
98+00	429.40	-0.24'	429.64	+0.24'	429.88	
98+50	429.24	-0.24'	429.48	+0.24'	429.72	
99+00	428.72	-0.24'	428.96	+0.24'	429.20	

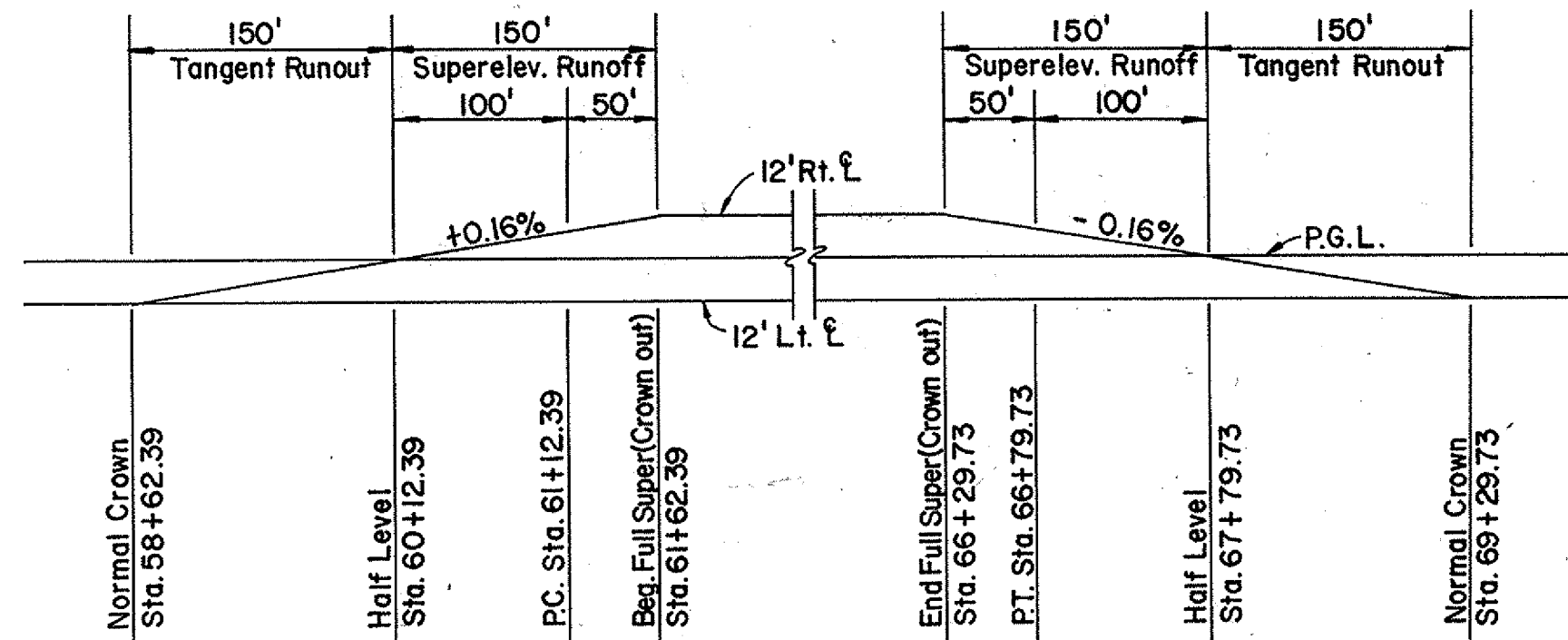
STATION	ELEV. 12' LT.	CORR. 12' LT.	P.G.L. ELEV.	CORR. 12' RT.	ELEV. 12' RT.	REMARKS
99+50	427.84	-0.24'	428.08	+0.24'	428.32	
100+00	426.70	-0.24'	426.94	+0.24'	427.18	
100+02.10	426.65	-0.24'	426.89	+0.24'	427.13	End Full Super (Crown out)
100+45.10	425.66	-0.24'	425.90	+0.16'	426.06	P.T.
100+50	425.55	-0.24'	425.79	+0.15'	425.94	
100+50.76	425.53	-0.24'	425.77	+0.15'	425.92	Limit of Contract
101+00	-	-0.24'	-	+0.06'	-	
101+31.10	-	-0.24'	-	0	-	Half Level
101+50	-	-0.24'	-	-0.04'	-	
102+00	-	-0.24'	-	-0.13'	-	
102+50	-	-0.24'	-	-0.22'	-	
102+60.1	-	-0.24'	-	-0.24'	-	Normal Crown



CURVE NO. 1

STATION	ELEV. 12' LT.	CORR. 12' LT.	P.G.L. ELEV.	CORR. 12' RT.	ELEV. 12' RT.	REMARKS
28+24.29	473.59	-0.24'	473.83	-0.24'	473.59	Normal Crown
28+50	473.90	-0.24'	474.14	-0.20'	473.94	
29+00	474.80	-0.24'	475.04	-0.12'	474.92	
29+50	475.71	-0.24'	475.95	-0.04'	475.91	
29+74.90	476.01	-0.24'	476.25	0	476.25	Half Level
30+00	476.22	-0.24'	476.46	+0.04'	476.50	
30+50	476.35	-0.24'	476.59	+0.12'	476.71	
30+74.90	476.27	-0.24'	476.51	+0.16'	476.67	P.C.
31+00	476.09	-0.24'	476.33	+0.20'	476.53	
31+24.90	475.01	-0.24'	476.05	+0.24'	476.29	Began Full Super (Crown out)

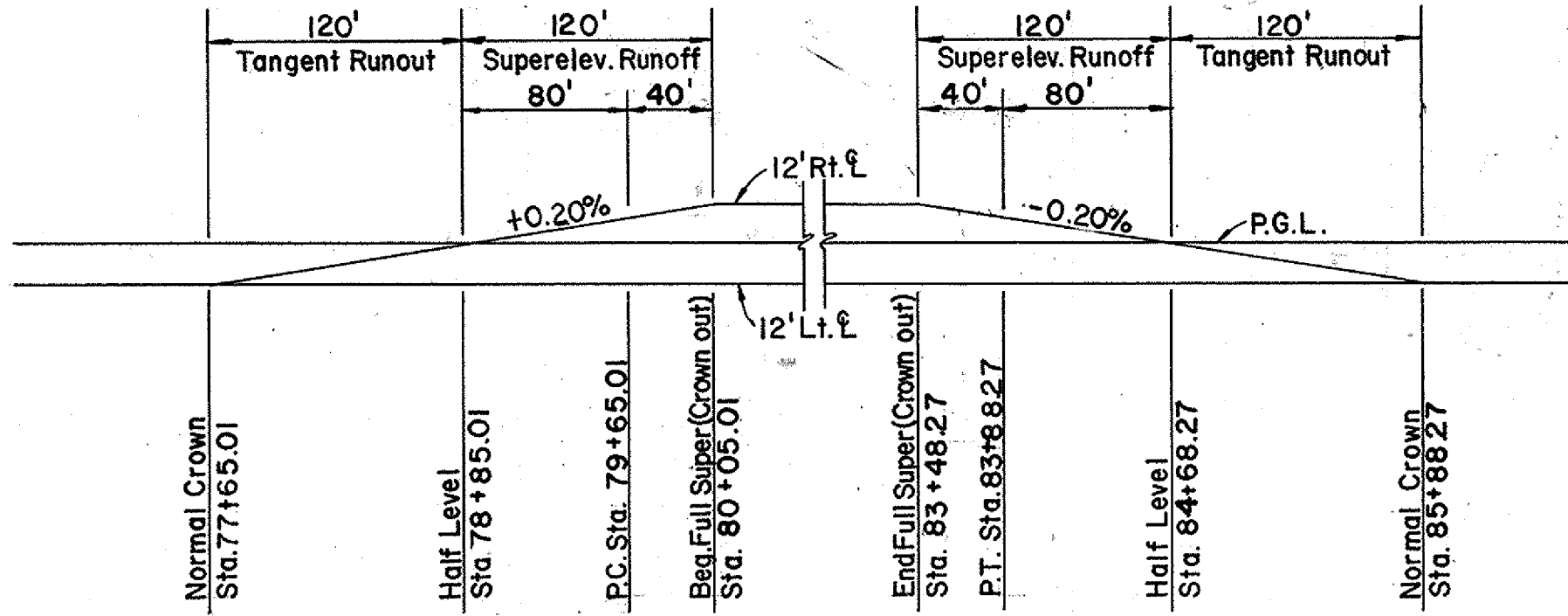
STATION	ELEV. 12' LT.	CORR. 12' LT.	P.G.L. ELEV.	CORR. 12' RT.	ELEV. 12' RT.	REMARKS
31+50	475.45	-0.24'	475.69	+0.24'	475.93	Full Super
31+70.86	475.05	-0.24'	475.29	+0.24'	475.05	End Full Super (Crown out)
32+00	474.40	-0.24'	474.64	+0.19'	474.83	
32+20.86	473.88	-0.24'	474.12	+0.16'	474.28	P.T.
32+50	473.17	-0.24'	473.41	+0.11'	473.52	
33+00	471.98	-0.24'	472.22	+0.03'	472.25	
33+20.86	471.58	-0.24'	471.82	0	471.82	Half Level
33+50	471.12	-0.24'	471.36	-0.05'	471.31	
34+00	470.62	-0.24'	470.86	-0.13'	470.73	
34+50	470.50	-0.24'	470.74	-0.21'	470.53	
34+70.86	470.57	-0.24'	470.81	-0.24'	470.57	Normal Crown



CURVE NO. 3

STATION	ELEV. 12' LT.	CORR. 12' LT.	P.G.L. ELEV.	CORR. 12' RT.	ELEV. 12' RT.	REMARKS
58+62.39	424.75	-0.24'	424.99	-0.24'	424.75	Normal Crown
59+00	424.34	-0.24'	424.48	-0.18'	424.30	
59+50	423.34	-0.24'	423.58	-0.10'	423.48	
60+00	422.16	-0.24'	422.40	-0.02'	422.38	
60+12.39	421.82	-0.24'	422.06	0	422.06	Half Level
60+50	420.71	-0.24'	420.95	+0.06'	421.01	
61+00	419.52	-0.24'	419.76	+0.14'	419.90	
61+12.39	418.92	-0.24'	418.76	+0.16'	418.92	P.C.
61+50	416.97	-0.24'	417.23	+0.22'	417.45	
61+62.39	416.46	-0.24'	416.70	+0.24'	416.94	Began Full Super (Crown out)
62+00	414.73	-0.24'	414.97	+0.24'	415.21	
62+50	412.43	-0.24'	412.67	+0.24'	412.91	
63+00	410.35	-0.24'	410.59	+0.24'	410.83	
63+50	408.48	-0.24'	408.72	+0.24'	408.96	
64+00	406.82	-0.24'	407.06	+0.24'	407.30	
64+50	406.76	-0.24'	407.00	+0.24'	407.24	

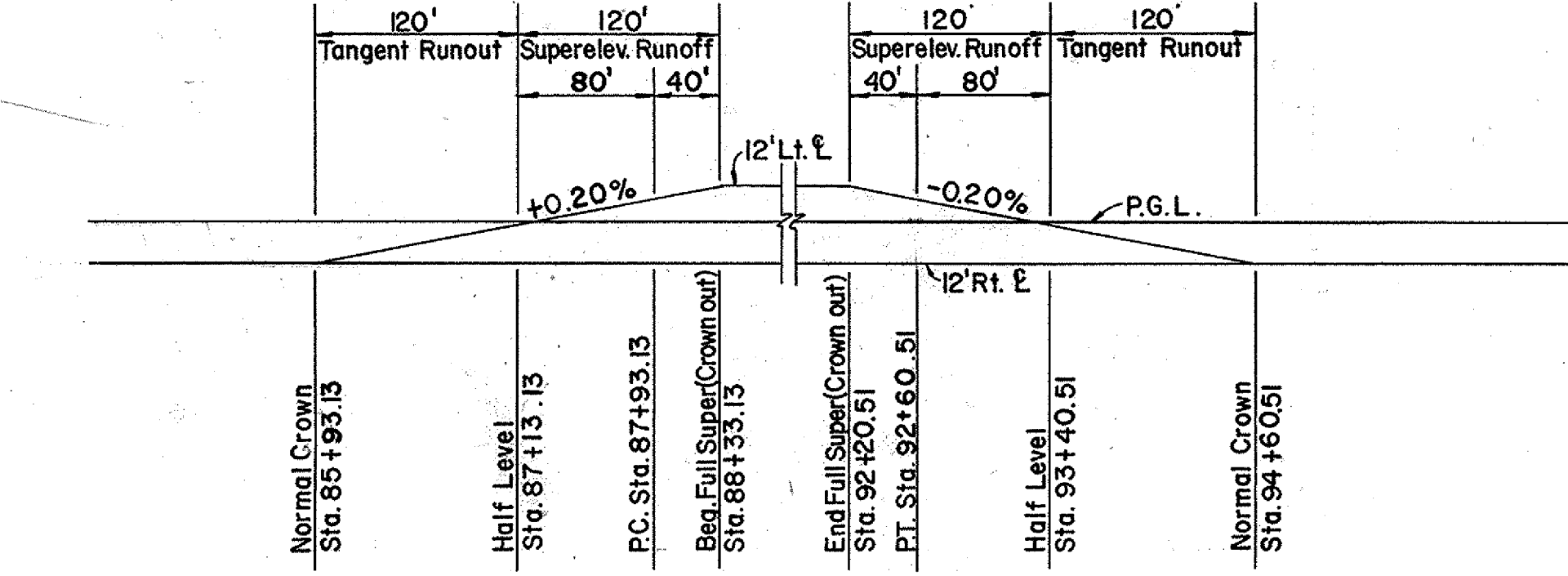
STATION	ELEV. 12' LT.	CORR. 12' LT.	P.G.L. ELEV.	CORR. 12' RT.	ELEV. 12' RT.	REMARKS
65+00	406.13	-0.24'	406.37	+0.24'	406.61	
65+50	405.82	-0.24'	406.06	+0.24'	406.30	
66+00	405.84	-0.24'	406.08	+0.24'	406.32	
66+23.73	406.01	-0.24'	406.25	+0.24'	406.49	End Full Super (Crown out)
66+50	406.18	-0.24'	406.42	+0.21'	406.63	
66+73.73	406.48	-0.24'	406.72	+0.16'	406.88	P.T.
67+00	406.68	-0.24'	406.92	+0.13'	407.05	
67+50	407.18	-0.24'	407.42	+0.05'	407.47	
67+73.73	407.48	-0.24'	407.72	0	407.72	Half Level
68+00	407.68	-0.24'	407.92	-0.03'	407.89	
68+50	408.18	-0.24'	408.42	-0.11'	408.31	
69+00	408.68	-0.24'	408.92	-0.19'	408.73	
69+23.73	408.76	-0.24'	409.00	-0.24'	408.76	Normal Crown



CURVE NO. 4

STATION	ELEV. 12' LT.	CORR. 12' LT.	P.G.L. ELEV.	CORR. 12' RT.	ELEV. 12' RT.	REMARKS
77+65.01	412.28	-0.24'	412.52	-0.24'	412.28	Normal Crown
78+00	412.22	-	412.52	-0.17	412.28	
78+50	412.61	-	412.88	-0.07	412.78	
78+85.01	412.65	-	412.85	0	412.85	Half Level
79+00	412.91	-	413.28	+0.02	413.28	
79+50	412.21	-	412.52	+0.13	412.85	
79+80	412.22	-	412.52	+0.19	412.85	
79+88.01	412.13	-	412.52	+0.23	412.85	
80+00	412.13	-	412.52	+0.23	412.85	
80+05.01	412.13	-	412.52	+0.24	412.81	Began Full Super (Crown out)
80+50	412.28	-	412.52	-0.03	412.76	
81+00	412.18	-	412.52	-0.16	412.24	
81+50	412.02	-	412.52	-0.24	412.06	

STATION	ELEV. 12' LT.	CORR. 12' LT.	P.G.L. ELEV.	CORR. 12' RT.	ELEV. 12' RT.	REMARKS
82+00	412.18	-0.24'	412.02	+0.24	412.22	
82+50	412.08	-	412.02	-	412.08	
83+00	412.72	-	412.02	-	412.20	
83+48.27	412.30	-	412.54	-	412.78	End Full Super (Crown out)
83+50	412.08	-	412.52	+0.24	412.76	
83+88.27	412.00	-	412.44	+0.16	412.80	P.T.
84+00	412.12	-	412.42	+0.14	412.40	
84+50	412.16	-	412.40	+0.24	412.44	
84+88.27	412.11	-	412.11	0	412.11	Half Level
85+00	412.28	-	412.52	-0.06	412.46	
85+50	412.16	-	412.40	-0.16	412.24	
86+00	412.12	-	412.36	-0.24	412.12	Normal Crown



CURVE NO. 5

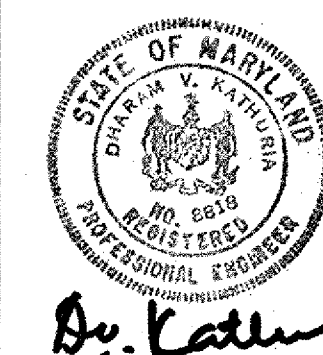
STATION	ELEV. 12' LT.	CORR. 12' LT.	P.G.L. ELEV.	CORR. 12' RT.	ELEV. 12' RT.	REMARKS
87+93.13	412.28	-0.24'	412.52	-0.24'	412.28	Normal Crown
88+00	412.10	-0.23	412.02	-	412.12	
88+50	412.39	-0.13	412.92	-	413.25	
89+00	412.09	-0.03	412.02	-	412.15	
89+13.13	412.02	0	412.02	-	412.02	Half Level
89+50	412.05	+0.07	412.58	-	413.34	
89+88.27	412.15	+0.16	412.59	-	413.39	P.T.
90+00	412.02	+0.17	412.48	-	413.21	
90+50	412.13	+0.24	412.48	-	413.21	
90+88.27	412.13	+0.24	412.48	-	413.21	Began Full Super
91+00	412.00	-	412.06	-	413.02	
91+50	412.43	-	412.21	-	412.07	
92+00	412.32	-0.12	412.04	-	412.10	
92+60.51	412.32	-0.24	412.08	-	412.00	
93+40.51	412.15	-0.24	412.00	-	412.15	Normal Crown

STATION	ELEV. 12' LT.	CORR. 12' LT.	P.G.L. ELEV.	CORR. 12' RT.	ELEV. 12' RT.	REMARKS
94+60.51	412.15	-0.24	412.00	-	412.15	Normal Crown

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *George F. Neuman* DATE: 6-11-83
 Chief Bureau of Engineering: *William R. Davis* DATE: 6/11/83
 Chief, Roads, Bridges, Storm Drains Division: *Donald R. Anderson* DATE: 6/12/83

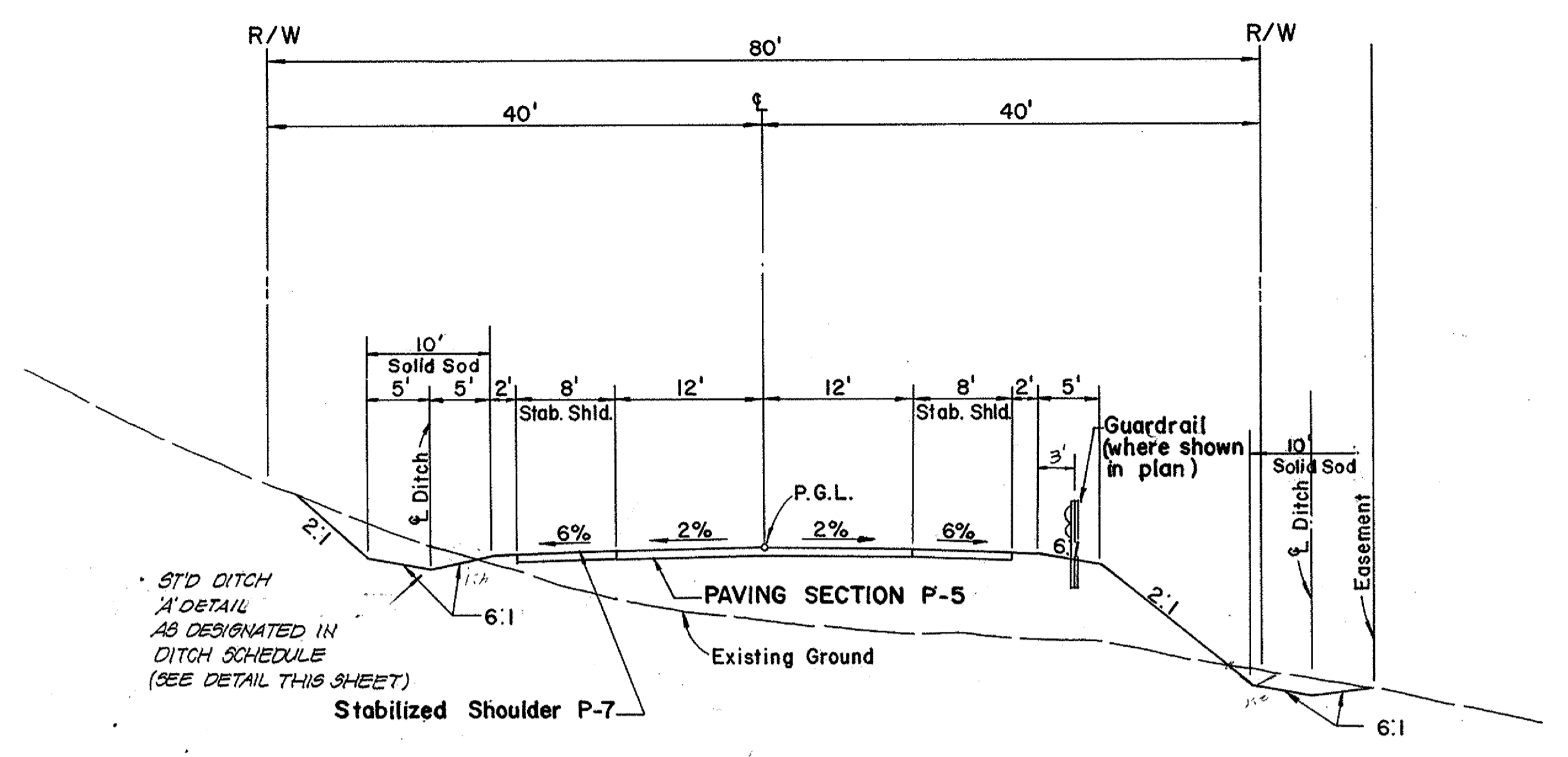
DEWBERRY, NEALON & DAVIS
 ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS
 2594 Riva Road, Annapolis, Maryland 21401
 8411 Arlington Boulevard, Fairfax, Virginia 22030
 19201 Montgomery Village Ave., Gaithersburg, Md. 20760



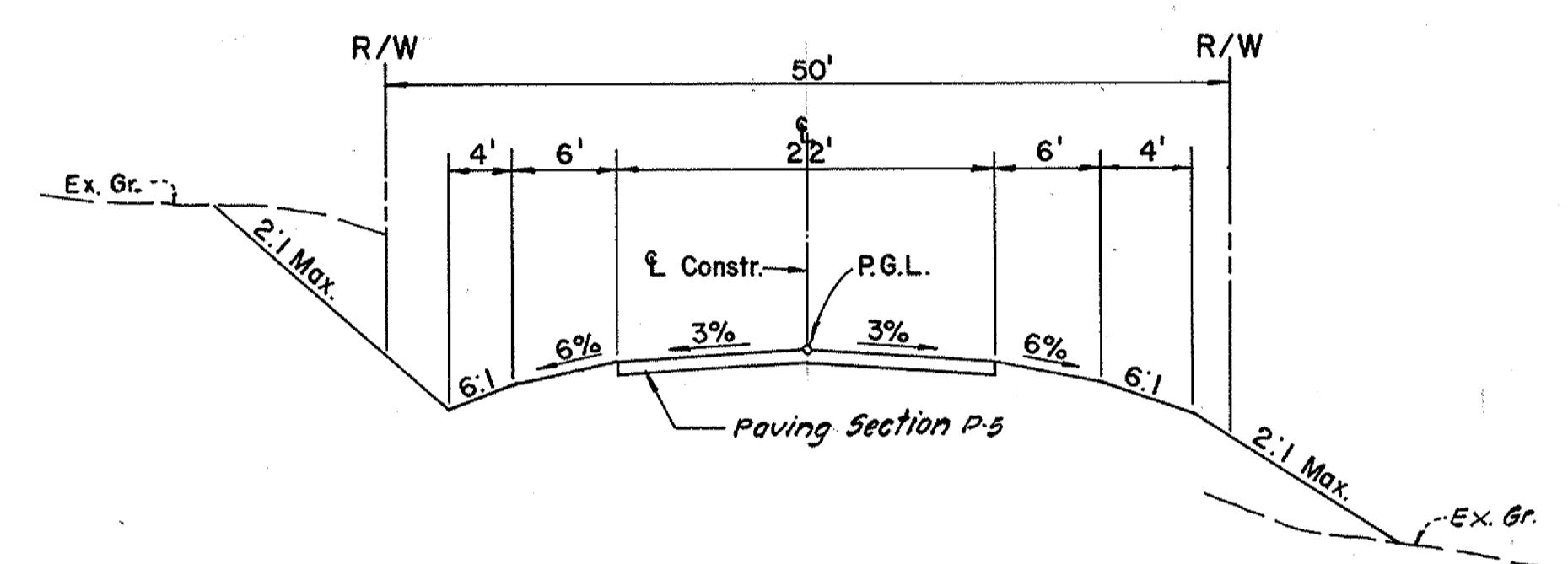
REVISIONS		
DATE	BY	DESCRIPTION

SUPERELEVATION DIAGRAMS
 JOHNS HOPKINS ROAD
 CAPITAL PROJECT NO. J-5-4014
 FIFTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 SCALE: NONE

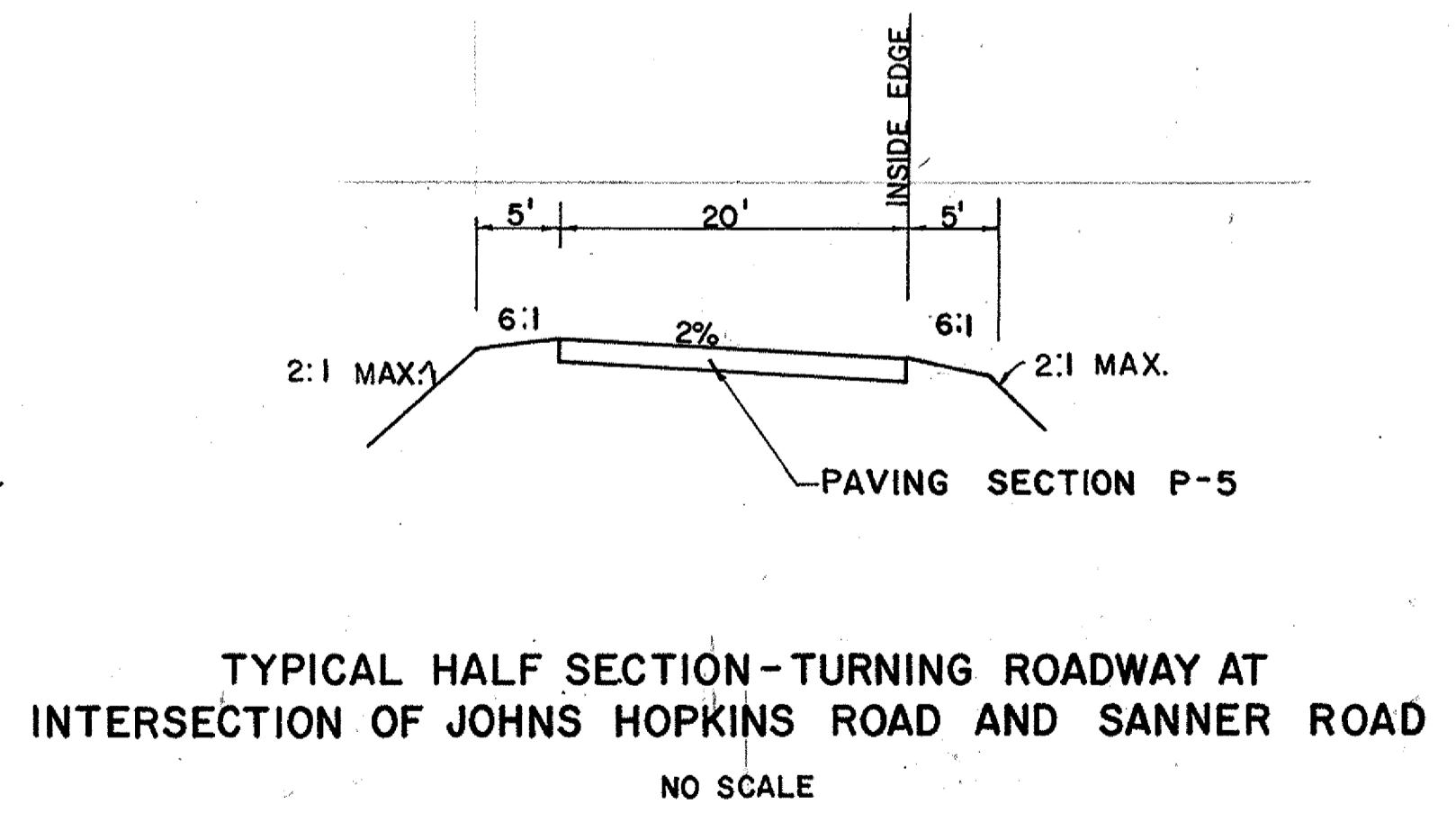
DESIGNED: PL
 DRAFTED: LB
 CHECKED: V.K.
SHEET 9 OF 13



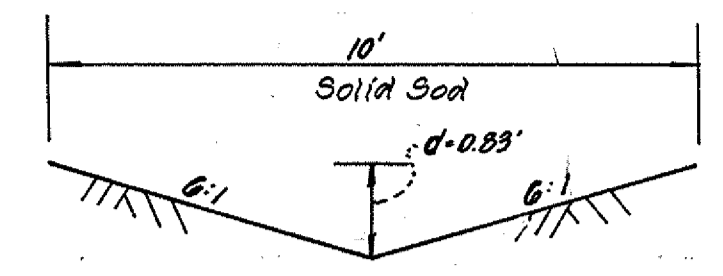
TYPICAL CROSS SECTION - JOHNS HOPKINS ROAD (STA. 72+00 THRU STA. 98+50) & SANNER ROAD
NO SCALE



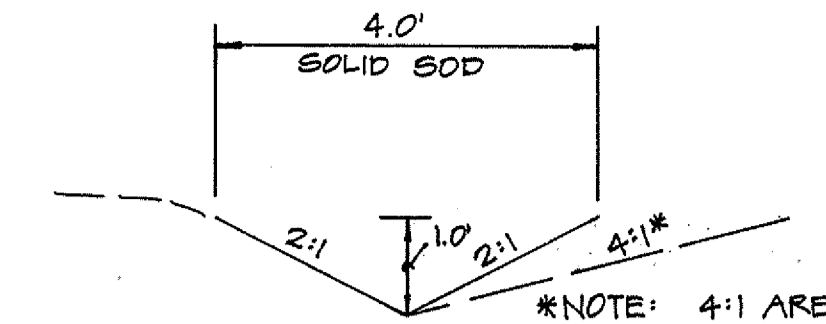
TYPICAL CROSS SECTION - OLD JOHNS HOPKINS ROAD
NO SCALE



TYPICAL HALF SECTION - TURNING ROADWAY AT INTERSECTION OF JOHNS HOPKINS ROAD AND SANNER ROAD
NO SCALE

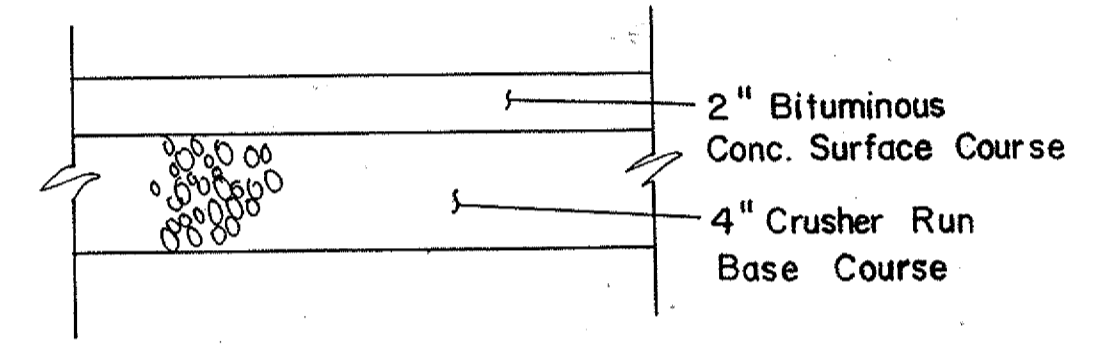


STANDARD DITCH 'A'
NO SCALE

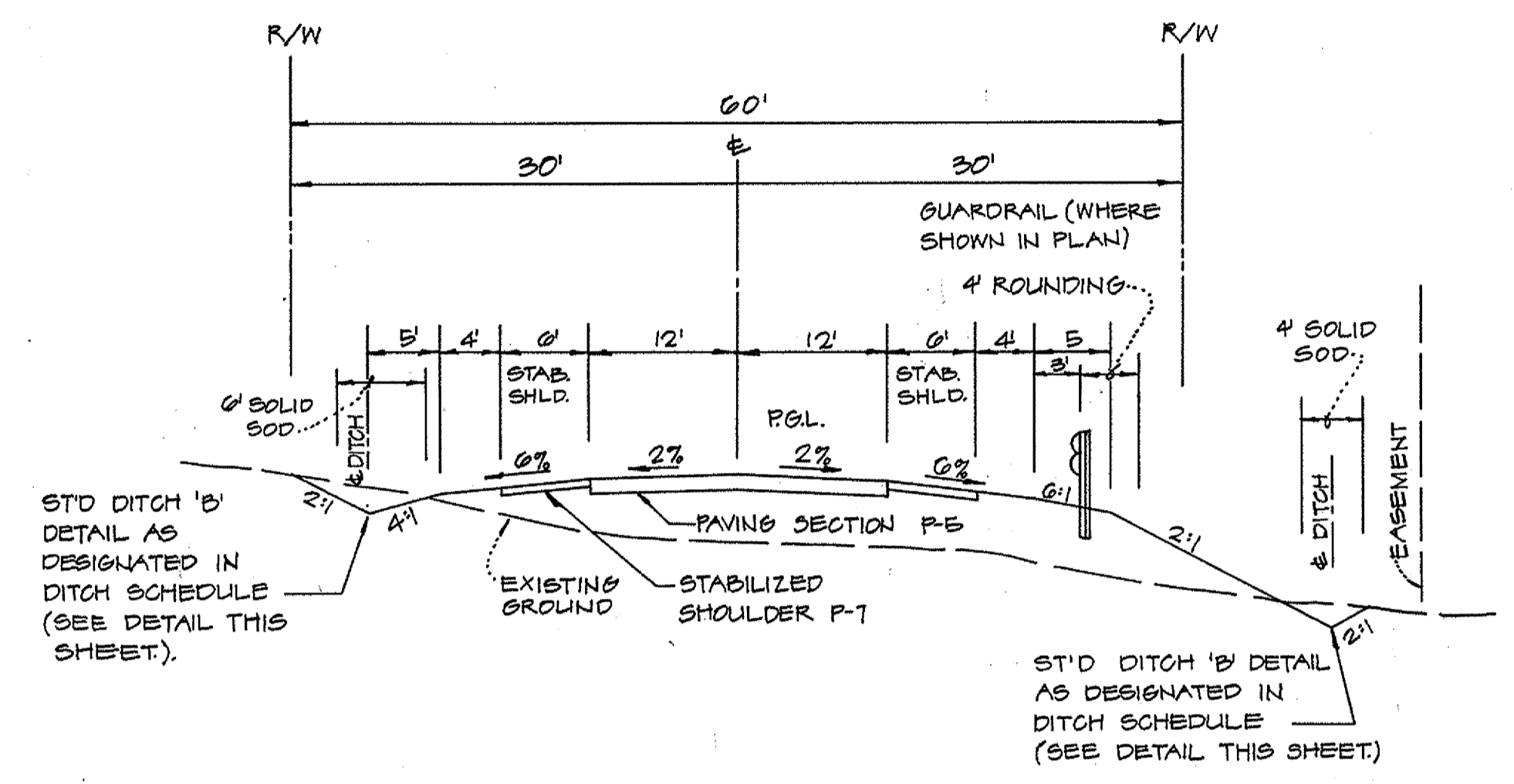


STANDARD DITCH 'B'
NO SCALE

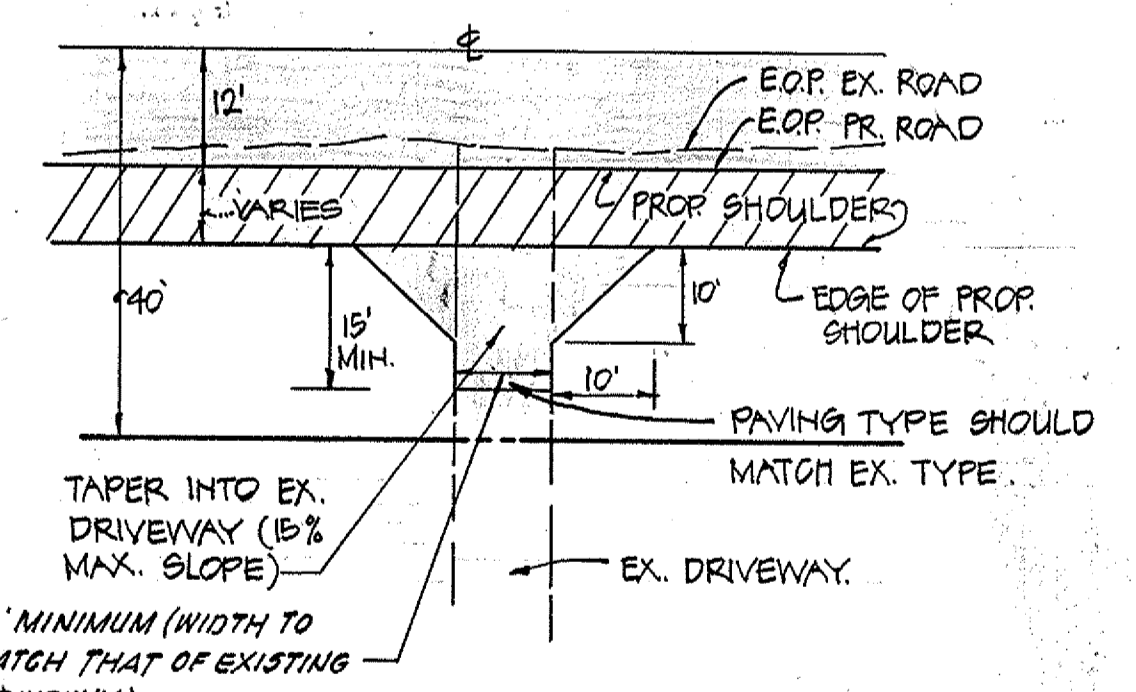
*NOTE: 4:1 AREA OF TYPICAL SECTION TO BE UTILIZED FOR DITCH SECTION WHEN POSSIBLE DITCH WIDTH TO BE SODDED WOULD BE 6.0'



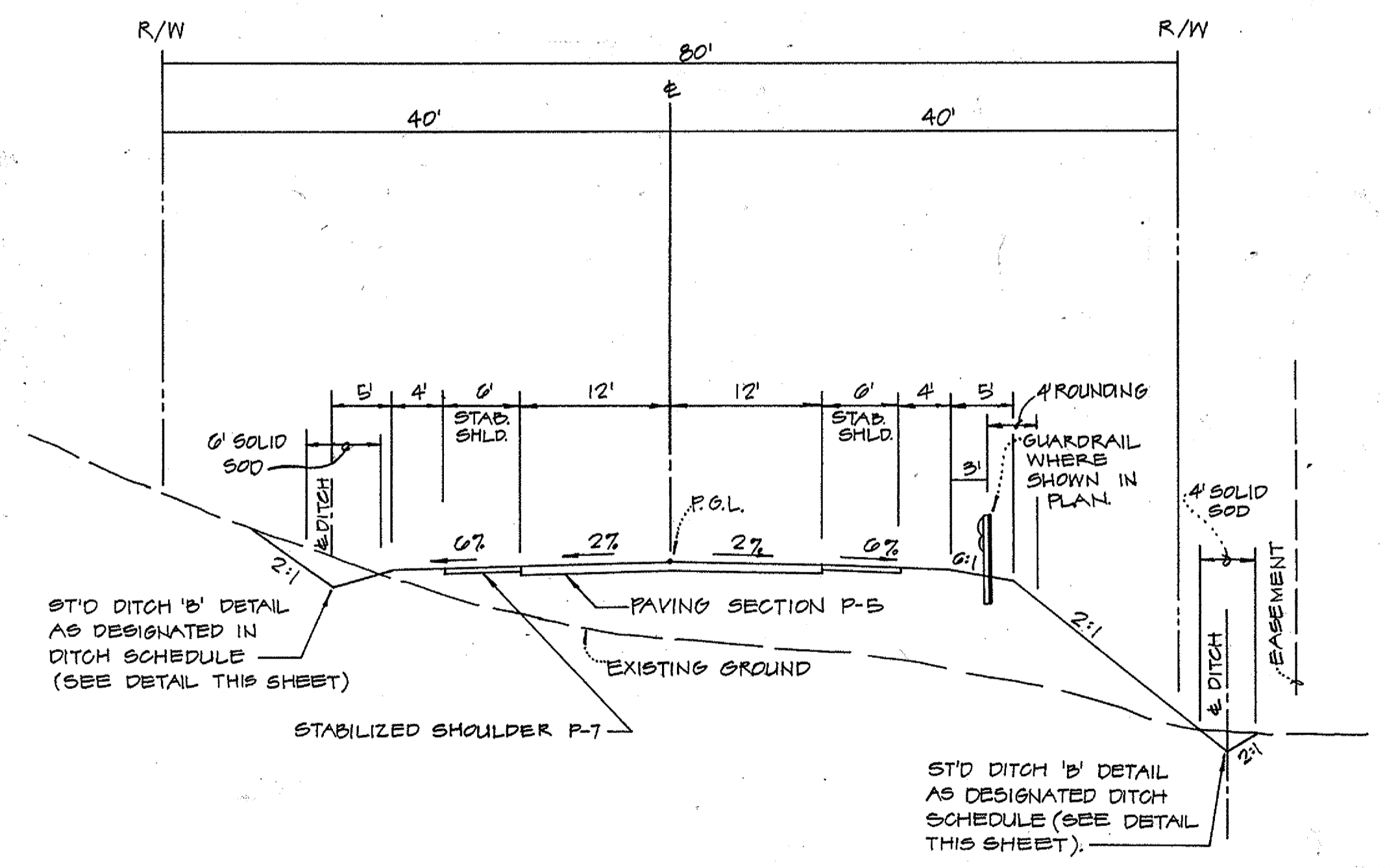
PAVING SECTION SP-1 - To be used for driveways designated SP-1 in plan
NO SCALE



TYPICAL CROSS SECTION - JOHNS HOPKINS ROAD (STA. 20+00 THRU STA. 42+50) (STA. 56+70 THRU STA. 72+00)
NO SCALE



DRIVEWAY DETAIL
NO SCALE



TYPICAL CROSS SECTION - JOHNS HOPKINS ROAD (STA. 42+50 THRU STA. 56+70)
NO SCALE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
James F. Neenan 6-14-83
DIRECTOR OF PUBLIC WORKS DATE
Richard E. Davis 4/1/83
CHIEF BUREAU OF ENGINEERING DATE
Elizabeth Anderson-Celia 4/1/83
CHIEF, ROADS, BRIDGES, STORM DRAINS DIVISION DATE

DEWBERRY, NEALON & DAVIS
ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS
2594 Riva Road, Annapolis, Maryland 21401
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19201 Montgomery Village Ave., Gaithersburg, Md. 20760



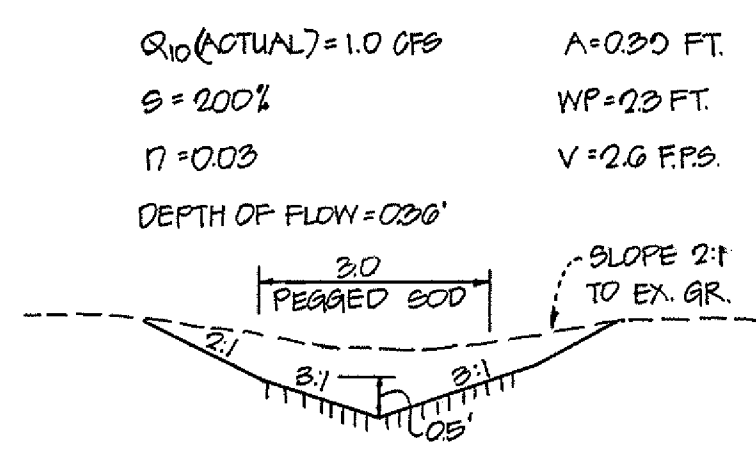
REVISIONS		
DATE	BY	DESCRIPTION

PAVING SECTIONS & DETAILS
JOHNS HOPKINS ROAD
CAPITAL PROJECT NO. J-5-4014
FIFTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN

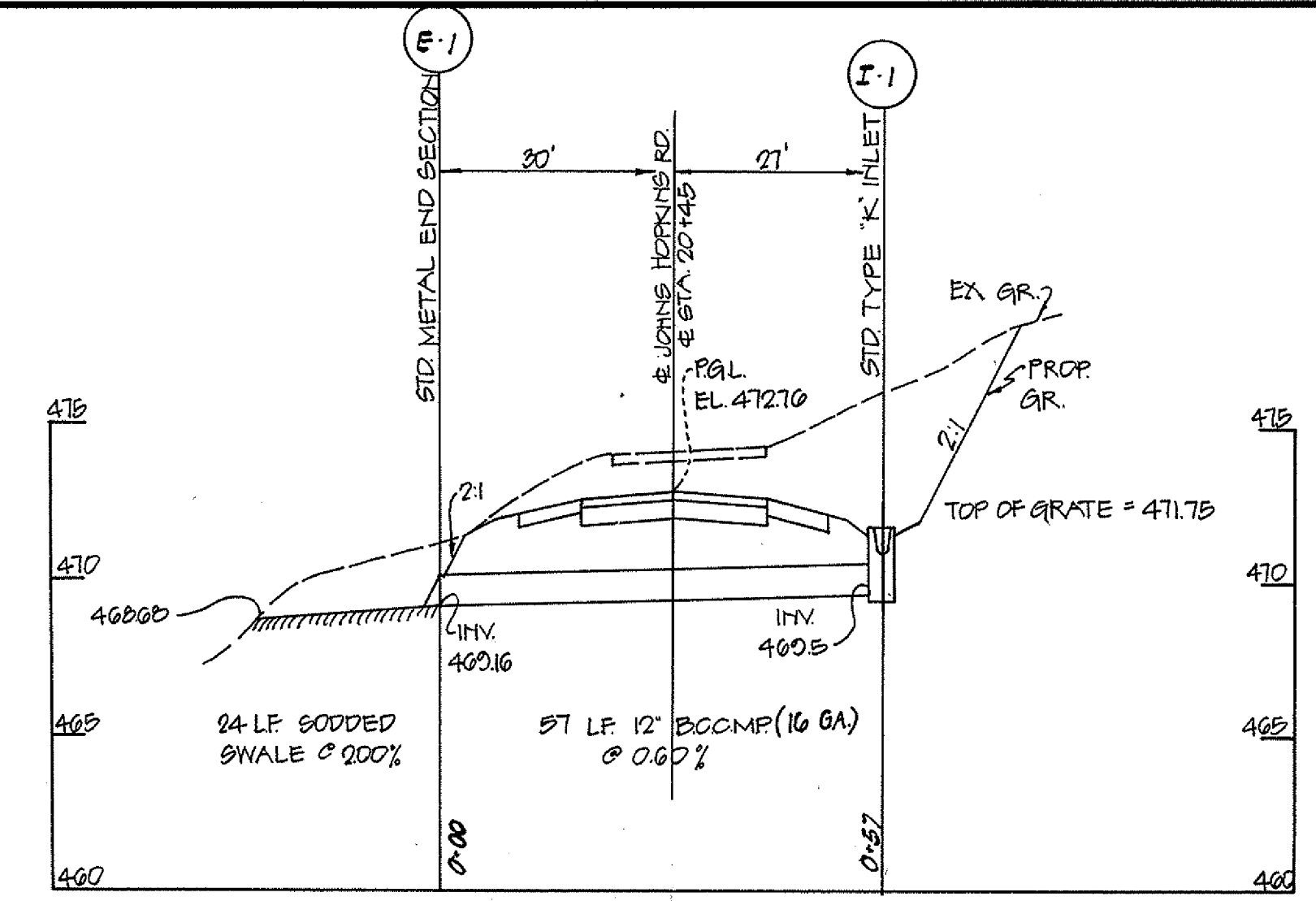
DESIGNED: PL.
DRAFTED: L.B.
CHECKED: V.K.
SHEET 10 OF 13

1065

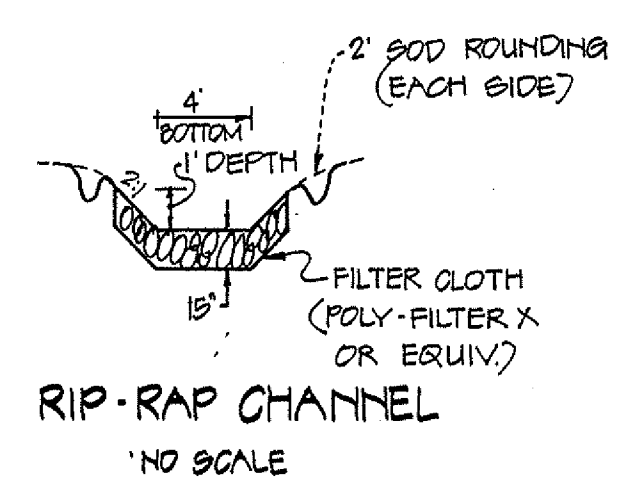
12-30-82
C-63



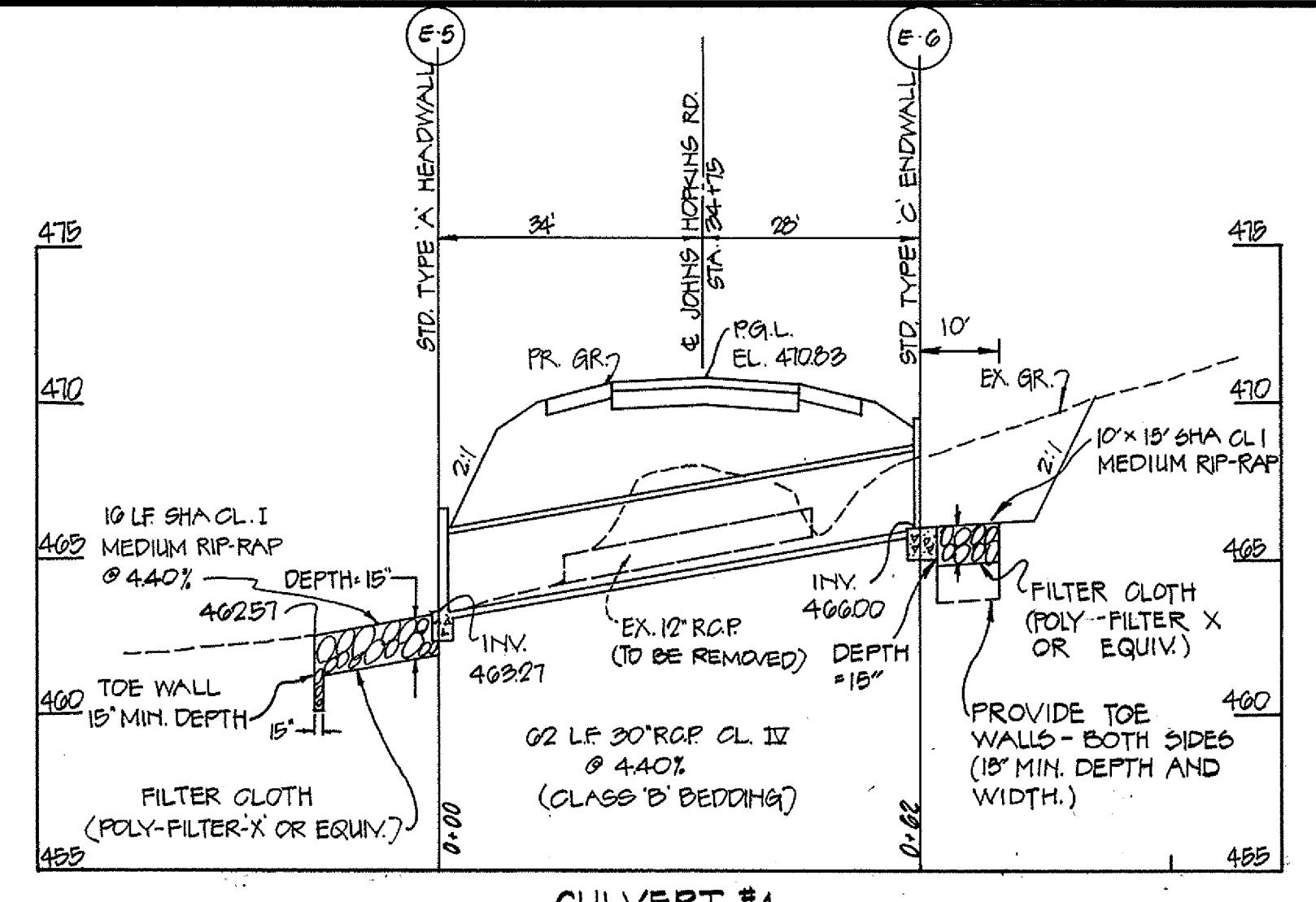
SODDED SWALE
(OUTFALL - 12" BCCMP - STA. 20+45)



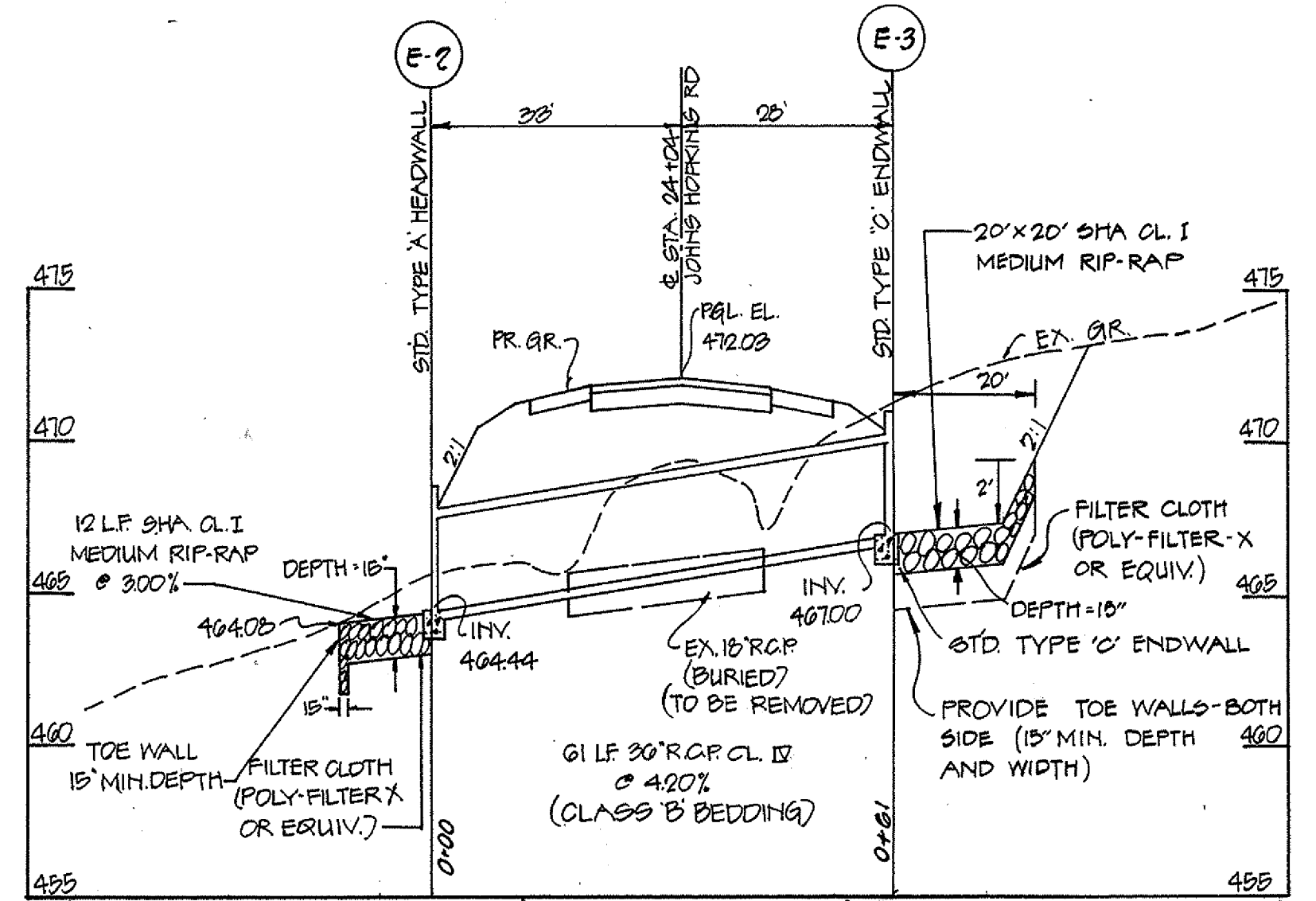
CULVERT #1
PROPOSED 12" BCCMP
& STA. 20+45
SKEW=0°



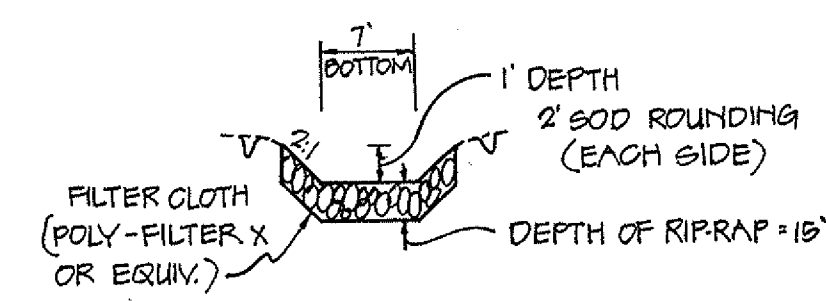
RIP-RAP CHANNEL
NO SCALE



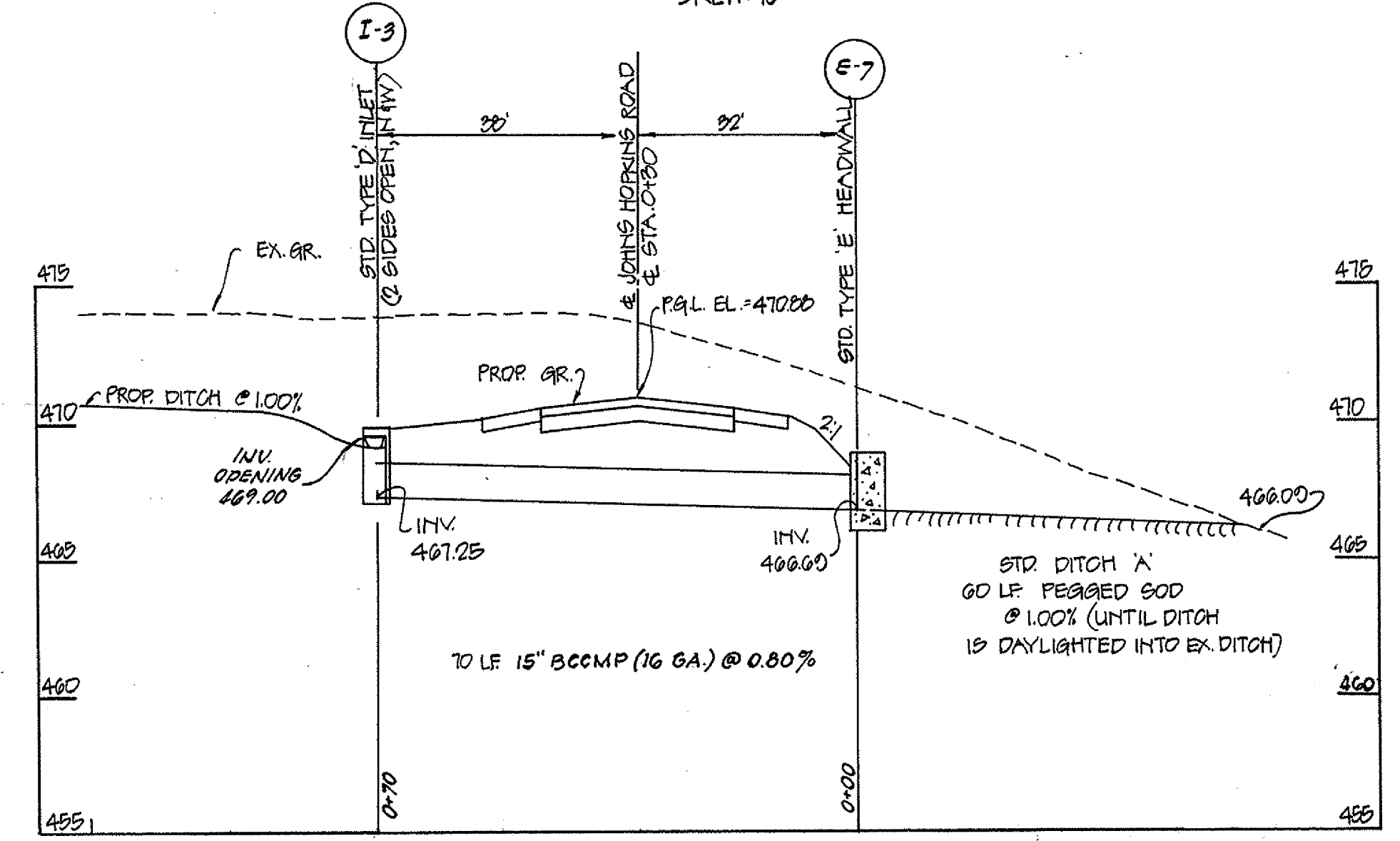
CULVERT #4
PROPOSED 30" RCP
& STA. 34+75
SKEW=10°



CULVERT #2
PROPOSED 30" RCP
& STA. 24+04
SKEW=0°

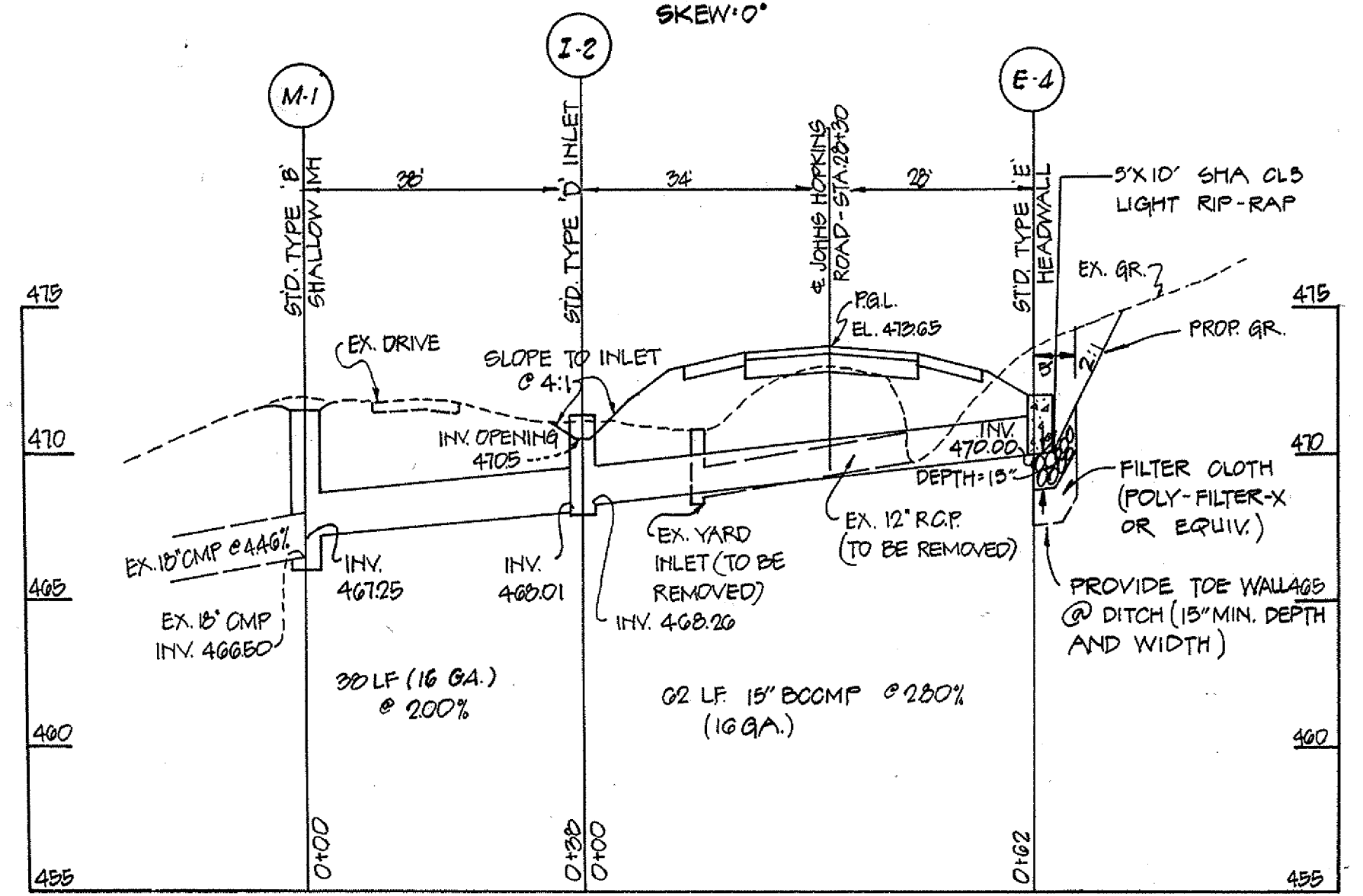


RIP-RAP CHANNEL
NO SCALE

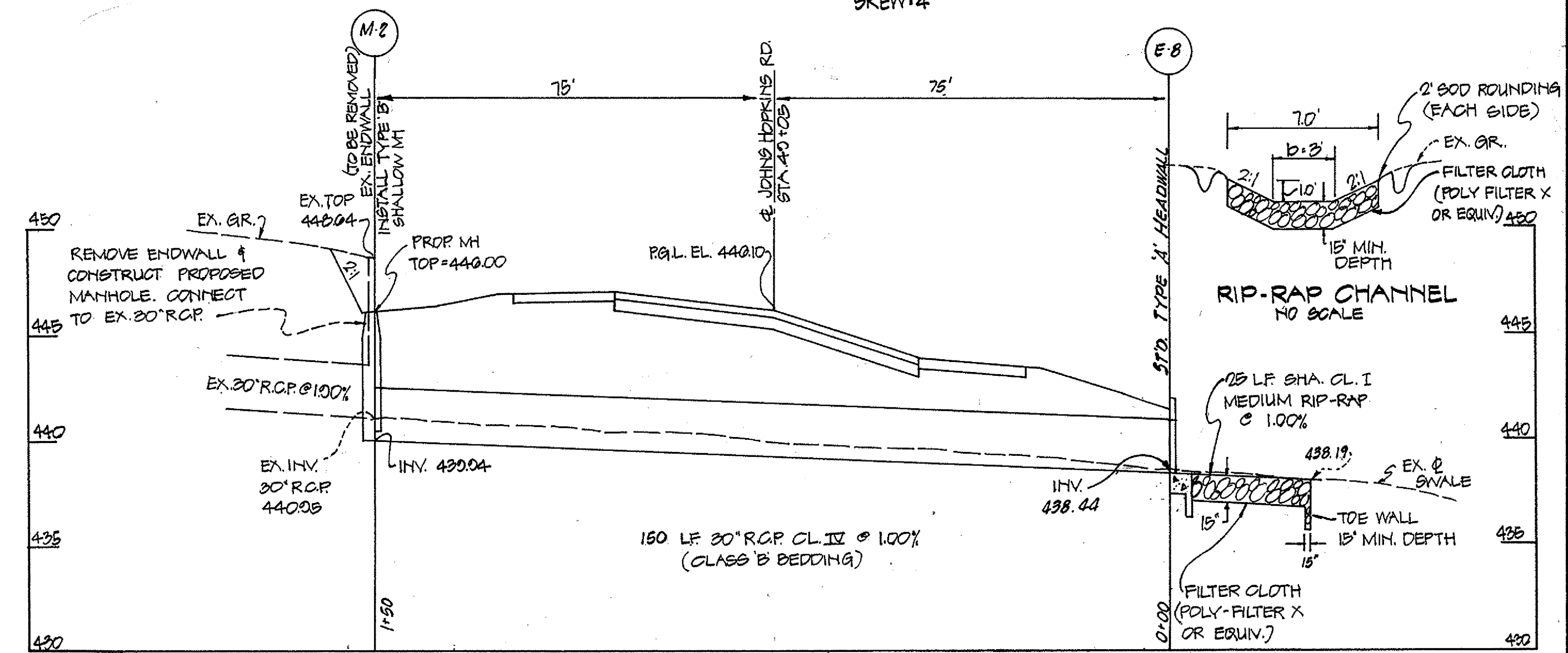


CULVERT #5
PROPOSED 15' BCCMP
& STA. 0+30 (OLD JOHNS HOPKINS RD)
SKEW=4°

SCALES: HORIZ: 1" = 20'
VERT: 1" = 5'



CULVERT #3
PROPOSED 15' AND 18' BCCMP
& STA. 28+30
SKEW=0°



CULVERT #6
PROPOSED 30" RCP
& STA. 40+03
SKEW=0°

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

1065
 Director of Public Works: *Henry F. Norman* 6-14-83
 Chief Bureau of Engineering: *Richard G. Kelly* 6-14-83
 Chief, Roads, Bridges, Storm Drains Division: *Charles J. Davis* 4/1/83

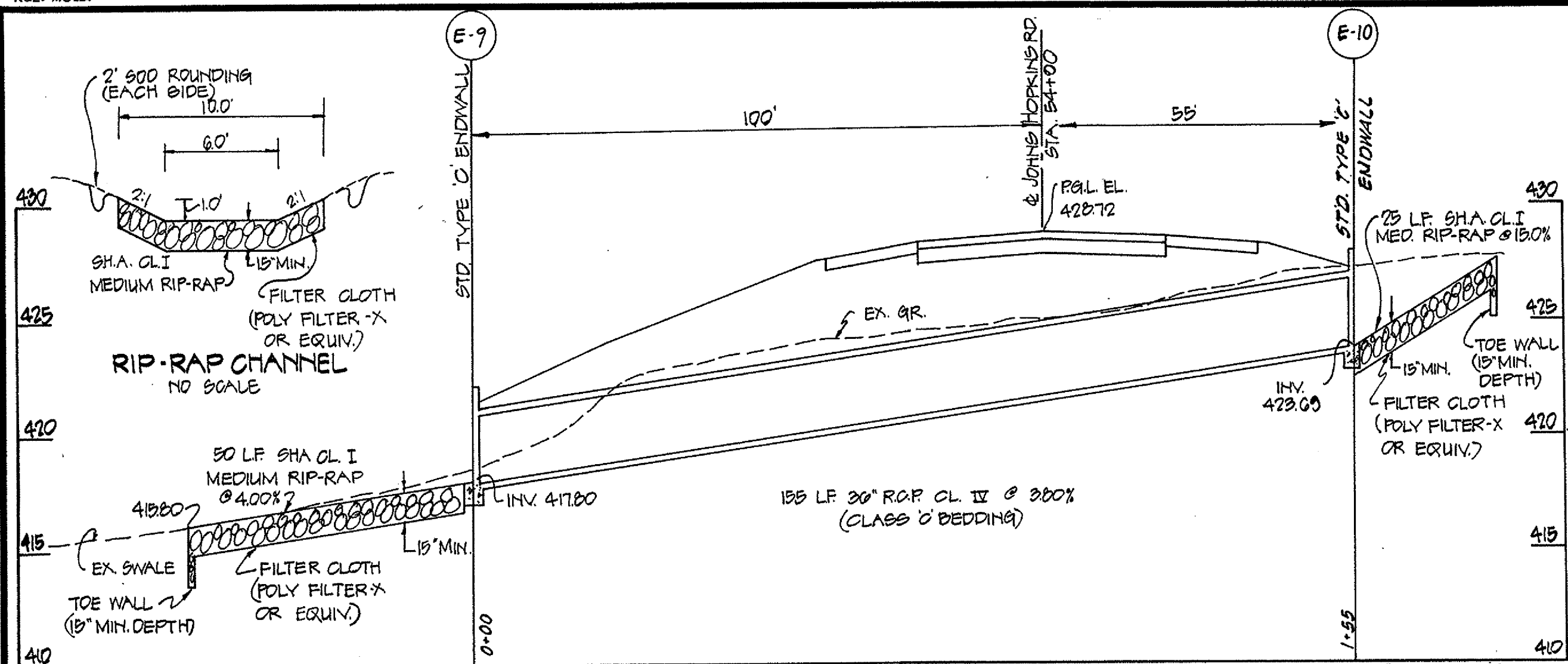
DEWBERRY, NEALON & DAVIS
 ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS
 2594 Riva Road, Annapolis, Maryland 21401
 8411 Arlington Boulevard, Fairfax, Virginia 22030
 19201 Montgomery Village Ave., Gaithersburg, Md. 20760



REVISIONS		
DATE	BY	DESCRIPTION

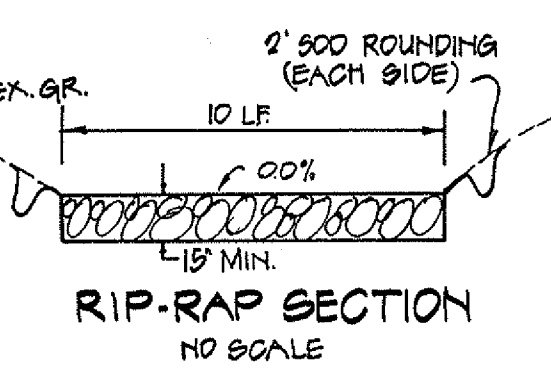
CULVERT PROFILES & OUTFALL DETAILS
 JOHNS HOPKINS ROAD
 CAPITAL PROJECT NO. J-5-4014
 FIFTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN

DESIGNED: P.L.
 DRAFTED: L.B.
 CHECKED: V.K.
SHEET 11 OF 13
 12-30-82
 C-63

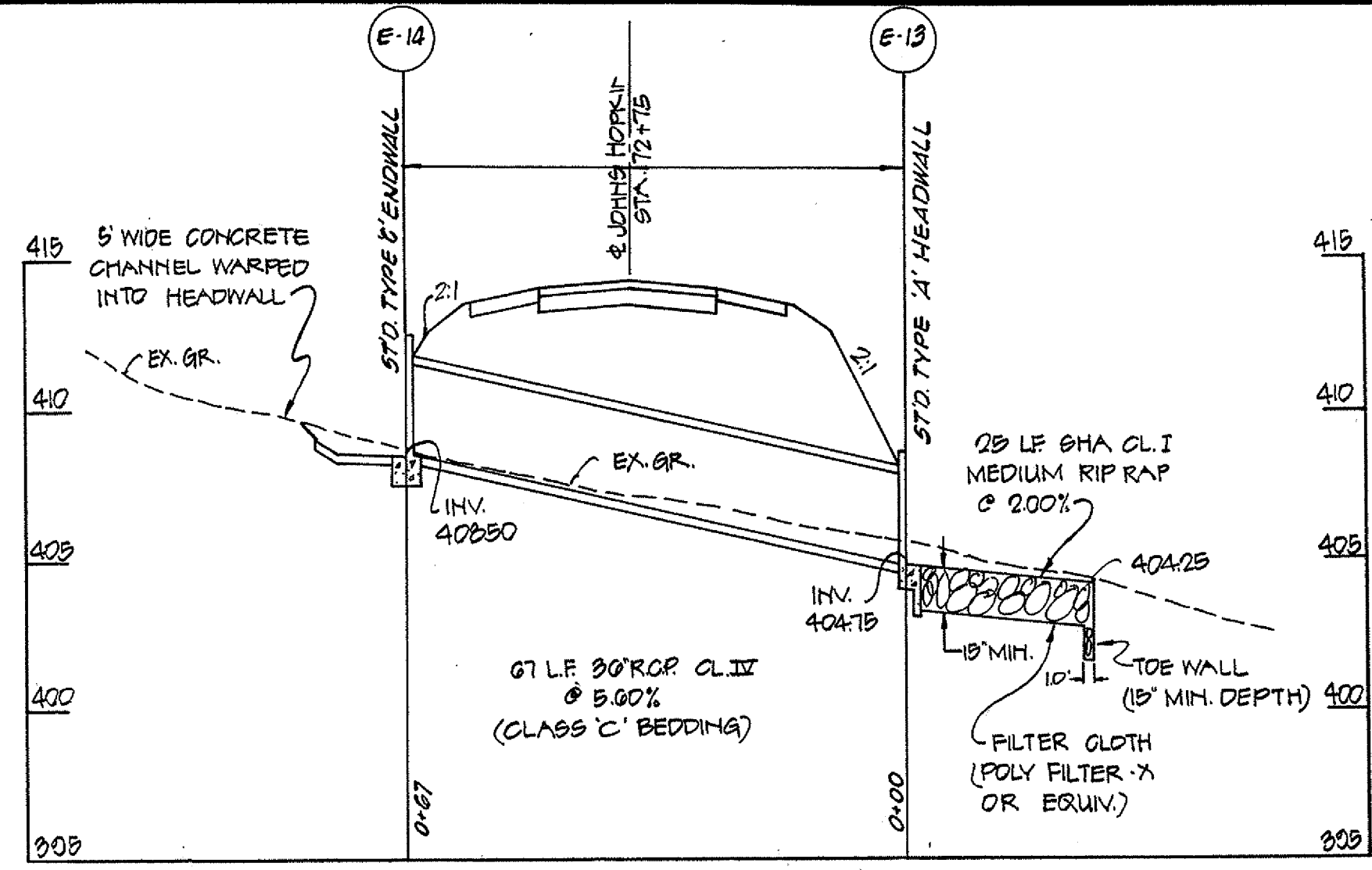


CULVERT #7
PROPOSED 30" RCP
& STA. 54+00
SKEW=96°

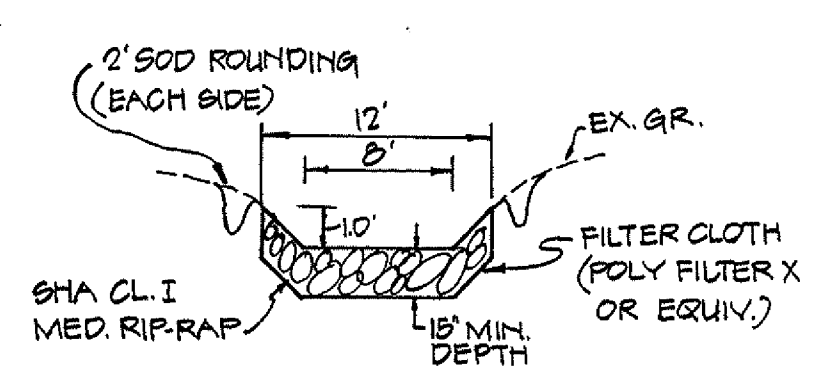
SCALES: HORZ: 1"=20'
VERT: 1"=5'



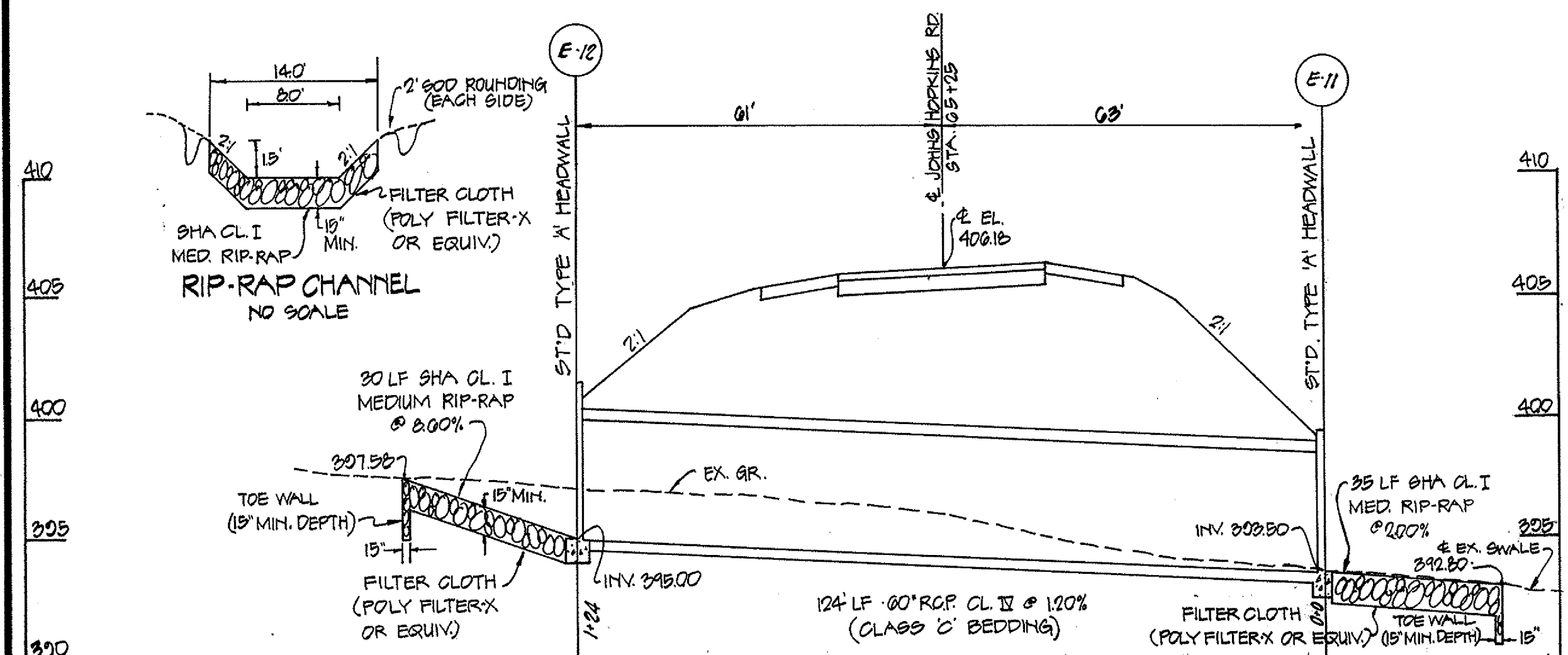
RIP-RAP SECTION
NO SCALE



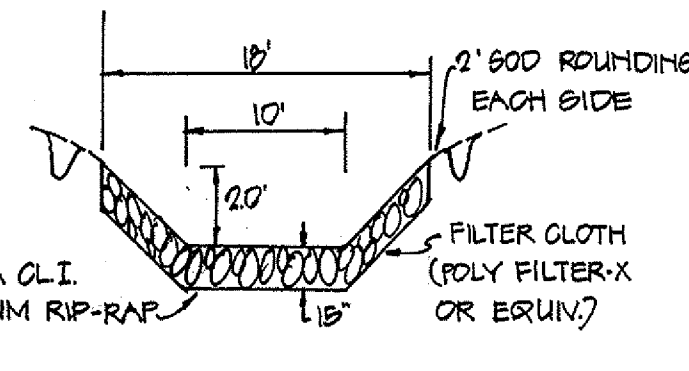
CULVERT #10
PROPOSED 30" RCP
& STA. 72+75
SKEW=10°



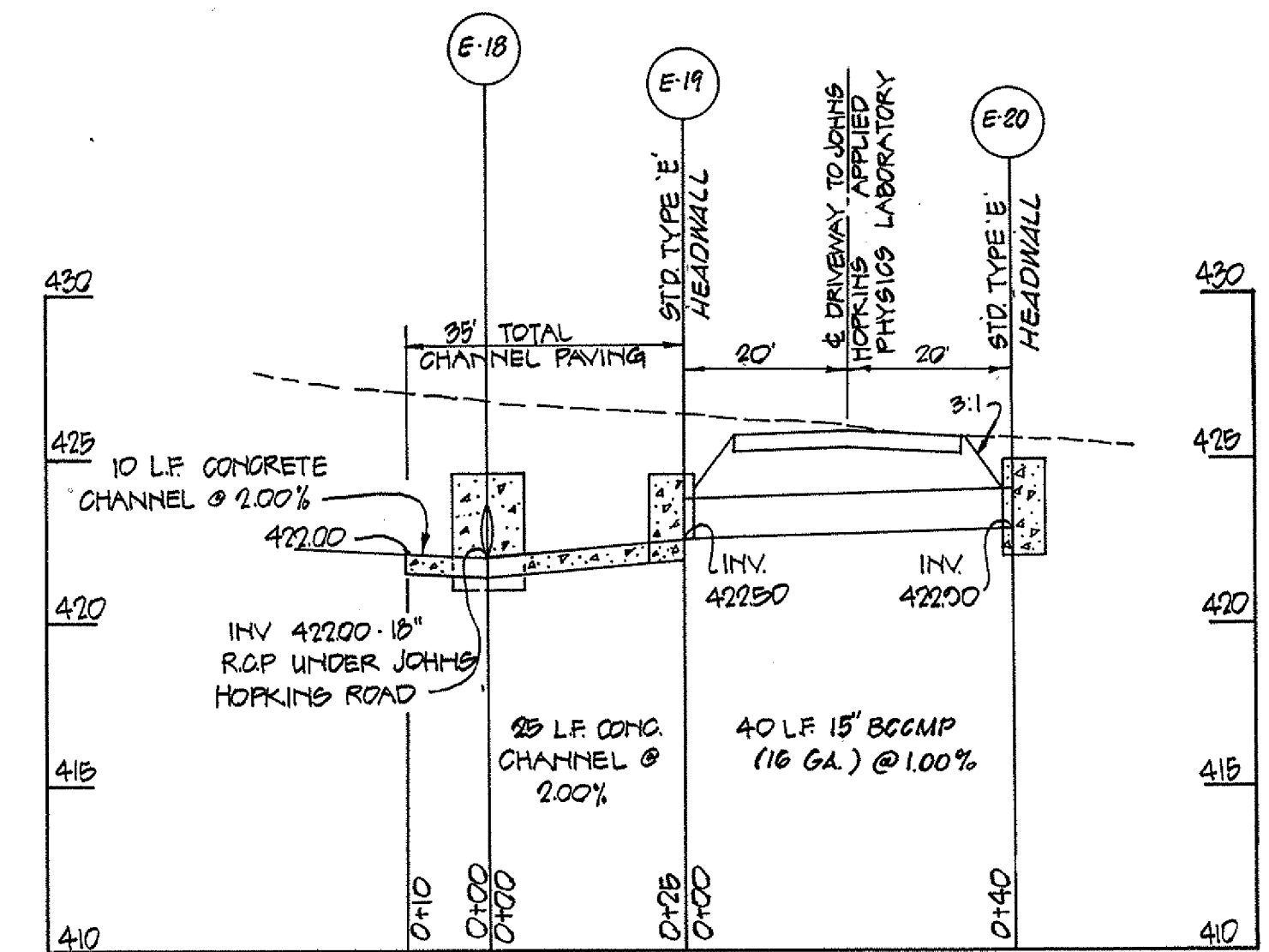
RIP-RAP CHANNEL
NO SCALE



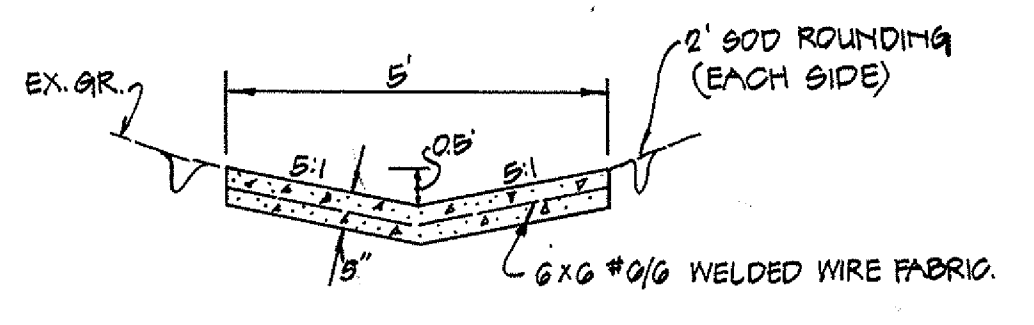
CULVERT #8
PROPOSED 30" RCP
& STA. 05+25
SKEW=45°



RIP-RAP CHANNEL
NO SCALE

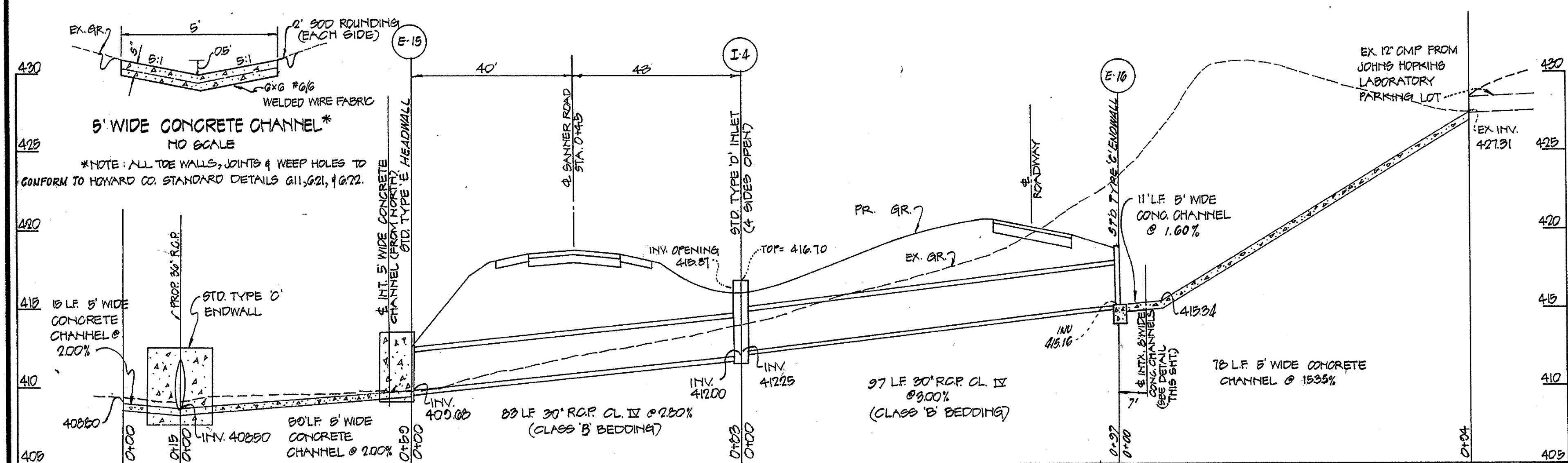


CULVERT #11
PROPOSED 15' BCCMP
UNDER DRIVEWAY TO JOHNS HOPKINS APPLIED PHYSICS LAB, (21' OFF & JOHNS HOPKINS ROAD)
SKEW=0°

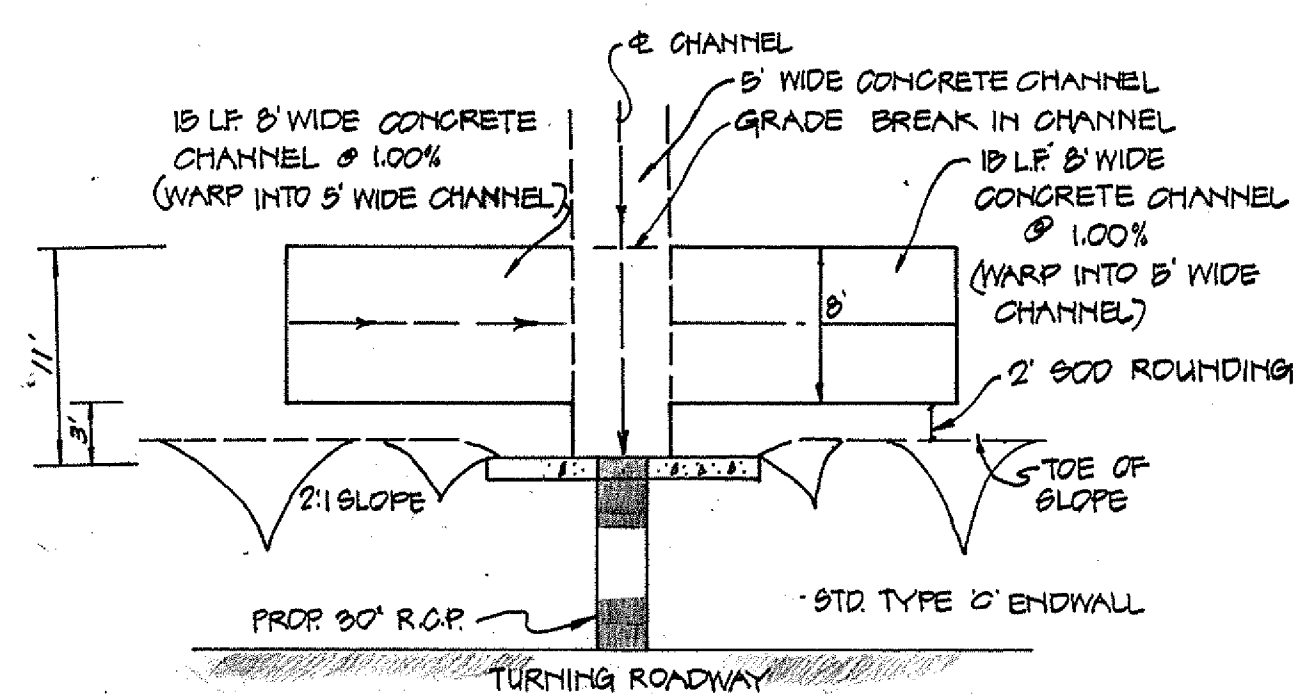


5' WIDE CONCRETE CHANNEL
NO SCALE

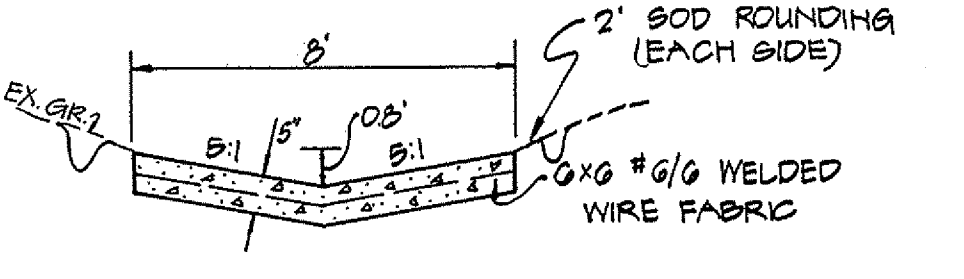
*NOTE: ALL TOE WALLS, JOINTS, AND WEEP HOLES TO CONFORM TO HOWARD CO. STANDARD DETAILS G.11, G.21, AND G.22.



CULVERT #9
PROPOSED 30" RCP
(2) UNDER SANNER RD. INTERSECTION



DETAIL OF CONCRETE CHANNELS
@ 30" RCP
PLAN VIEW
SCALE: 1"=10'



5' WIDE CONCRETE CHANNEL
NO SCALE

*NOTE: ALL TOE WALLS, JOINTS, & WEEP HOLES TO CONFORM TO HOWARD COUNTY STANDARD DETAILS G.11, G.21, AND G.22.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *John F. Neuman* 6/14/83
Chief Bureau of Engineering: *William E. Riley* 6/14/83
Chief Roads, Bridges, Storm Drains Division: *Charles Anderson* 6/14/83

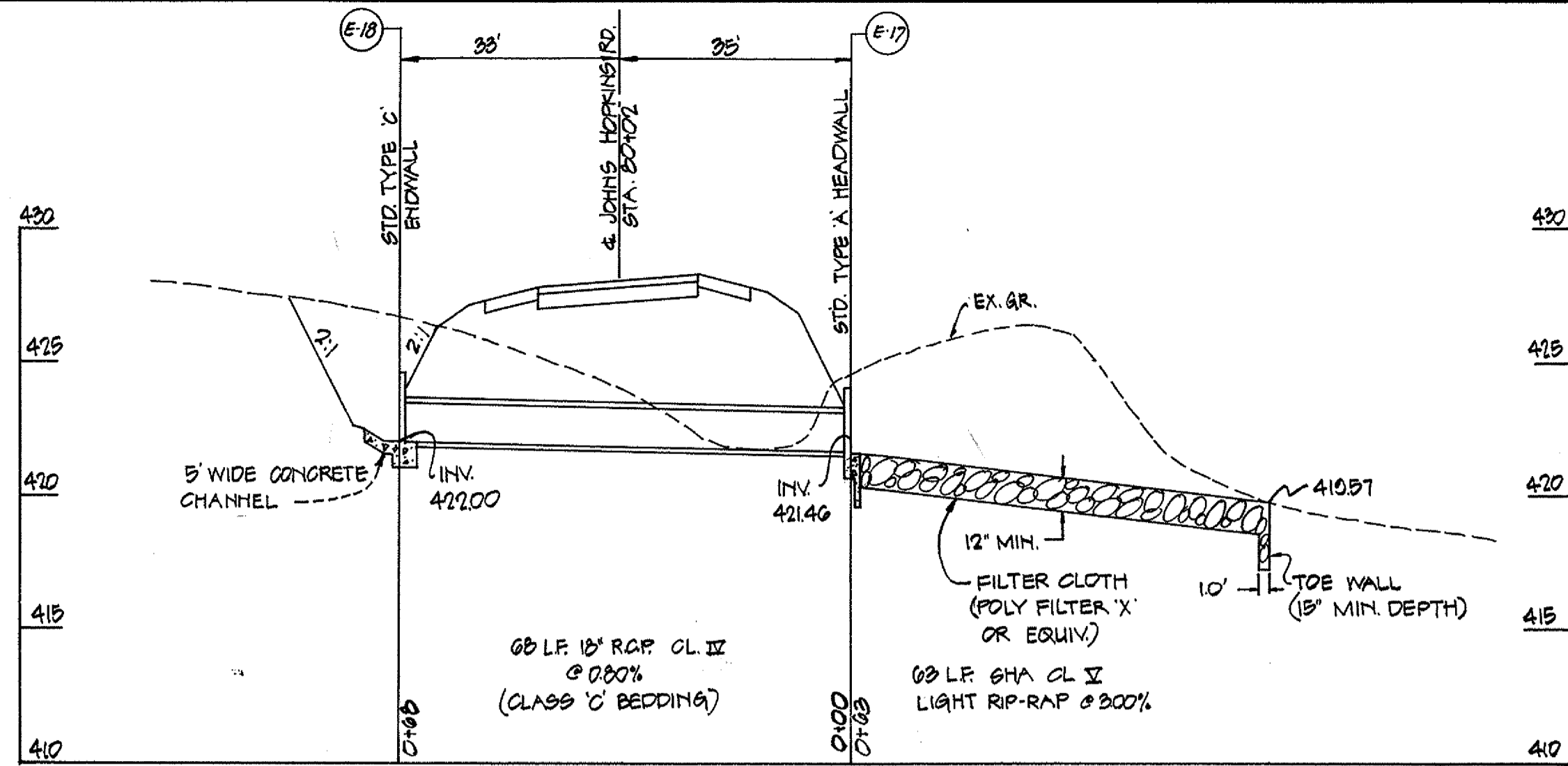
DEWBERRY, NEALON & DAVIS
ENGINEERS - ARCHITECTS - PLANNERS - SURVEYORS
8411 Arlington Boulevard, Fairfax Virginia 22030
2594 Riva Road, Annapolis, Maryland 21401



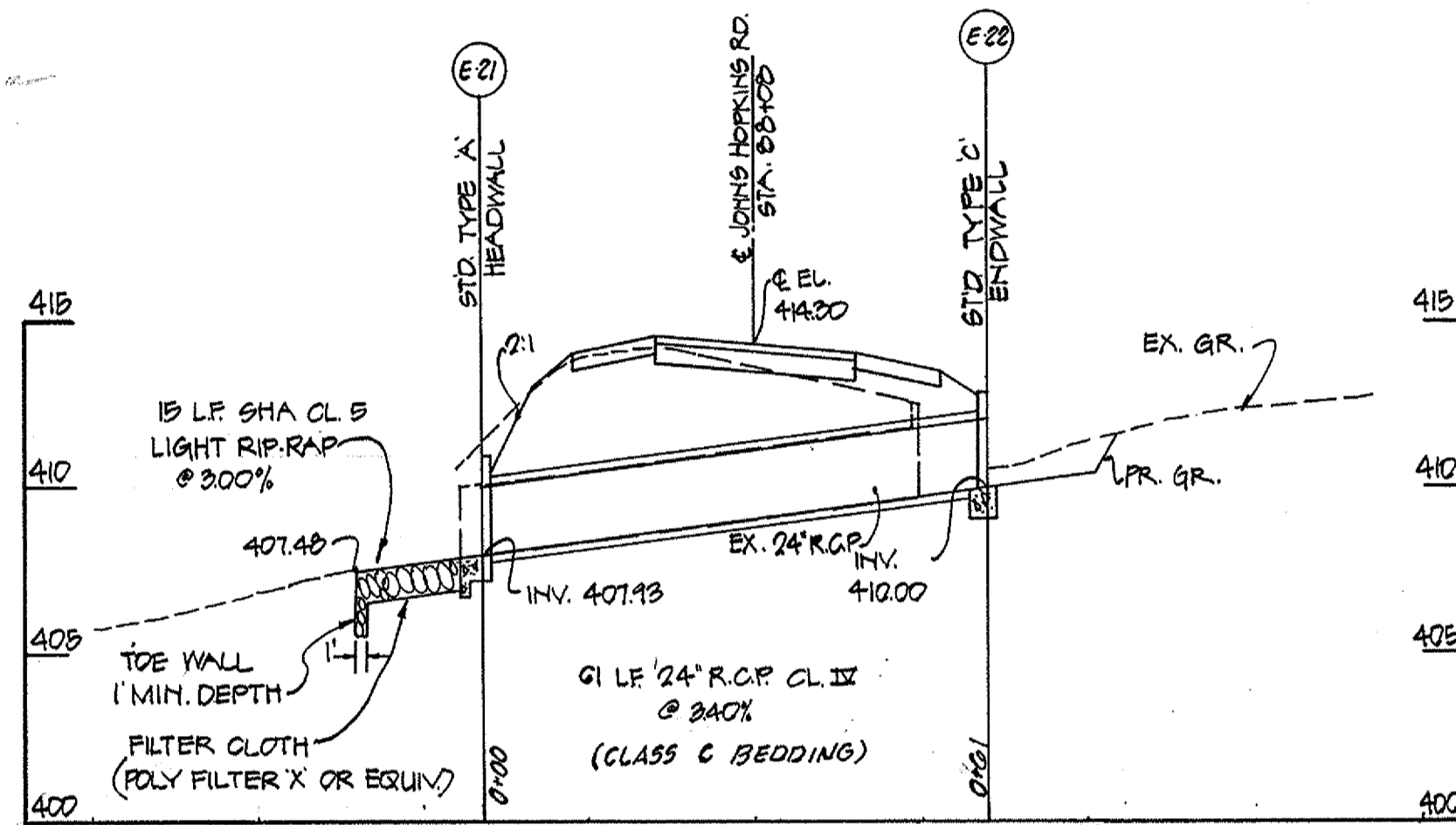
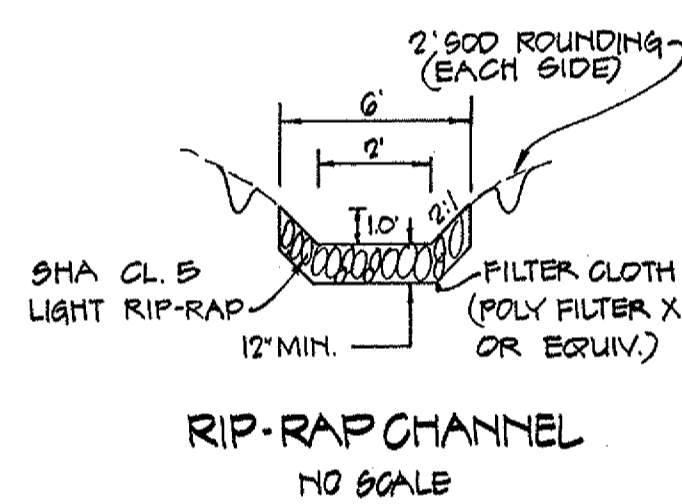
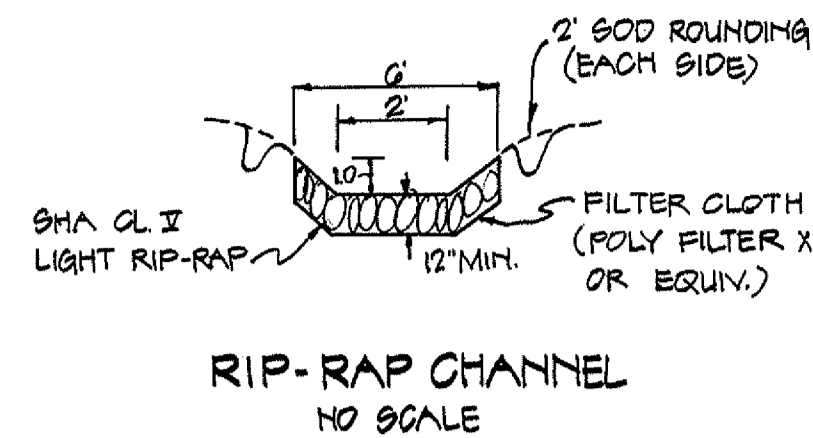
REVISIONS		
DATE	BY	DESCRIPTION

CULVERT PROFILES & OUTFALL DETAILS
JOHNS HOPKINS ROAD
CAPITAL PROJECT NO. J-5-4014
FIFTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN

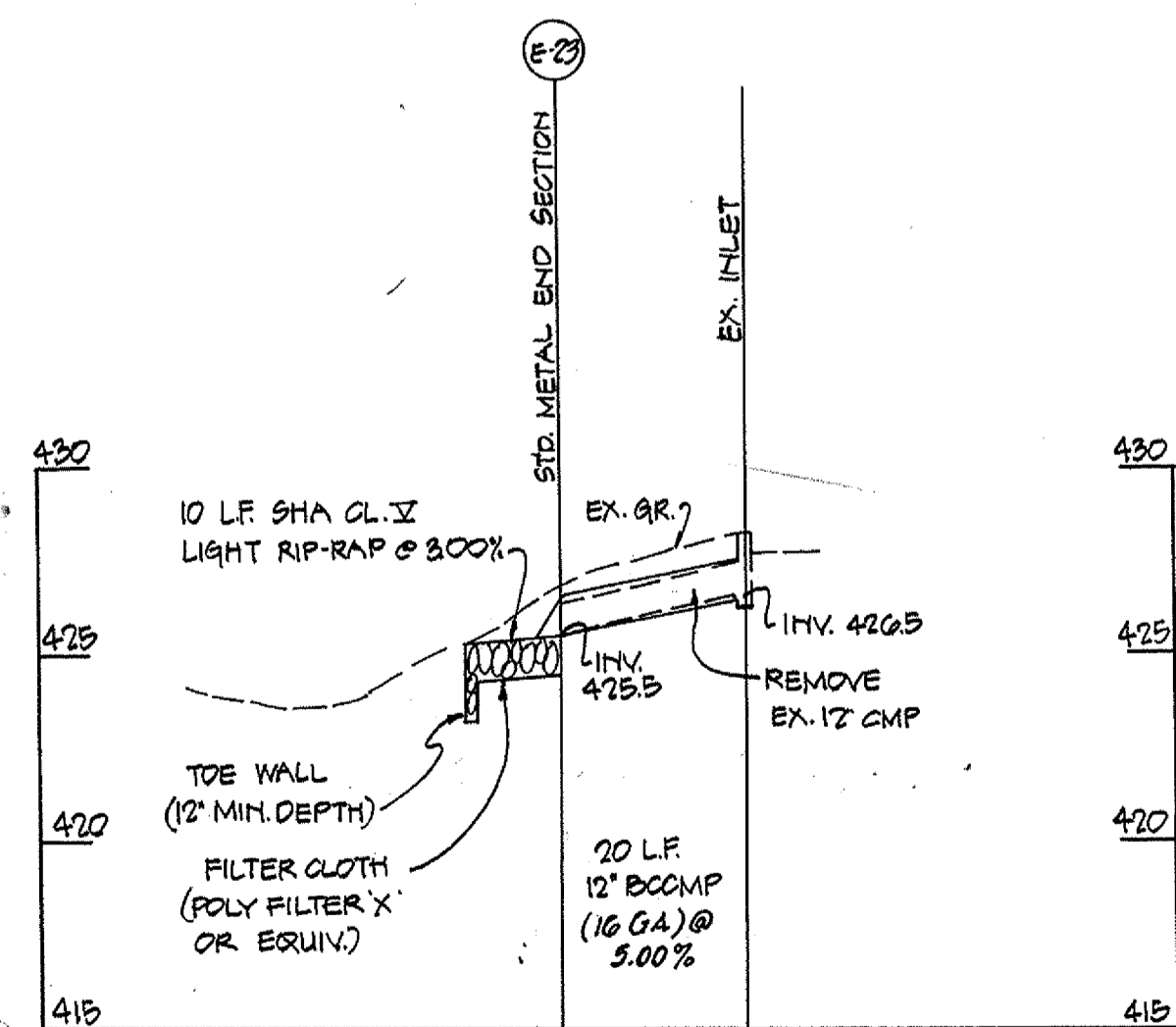
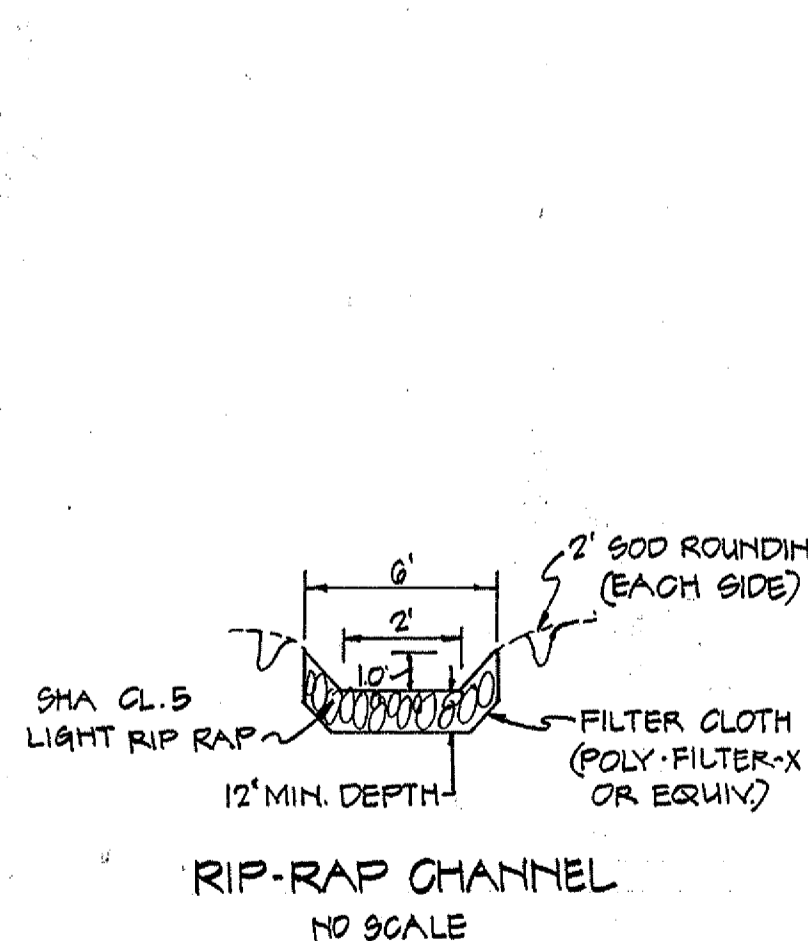
DESIGNED: PL
DRAFTED: L.H.
CHECKED: V.K.
SHEET 12 OF 13



CULVERT #12
PROPOSED 15' RCP
STA. 80+02
SKEW=0°

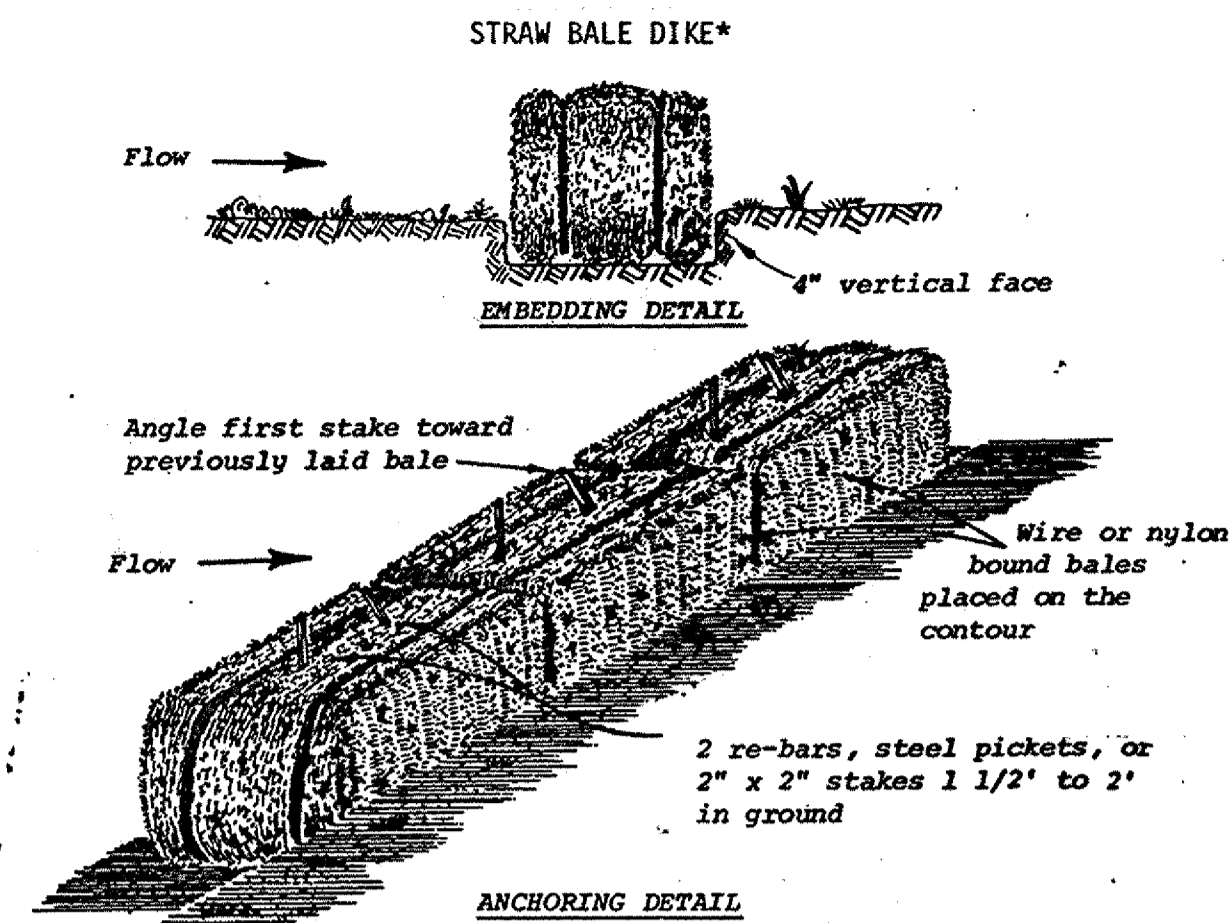


CULVERT #13
PROPOSED 24' RCP
STA. 88+08
SKEW=0°



CULVERT #14
PROPOSED 12' 800MP
LOCATED AT DRIVEWAY TO
EX. HUMBLE OIL & REFINING CO.

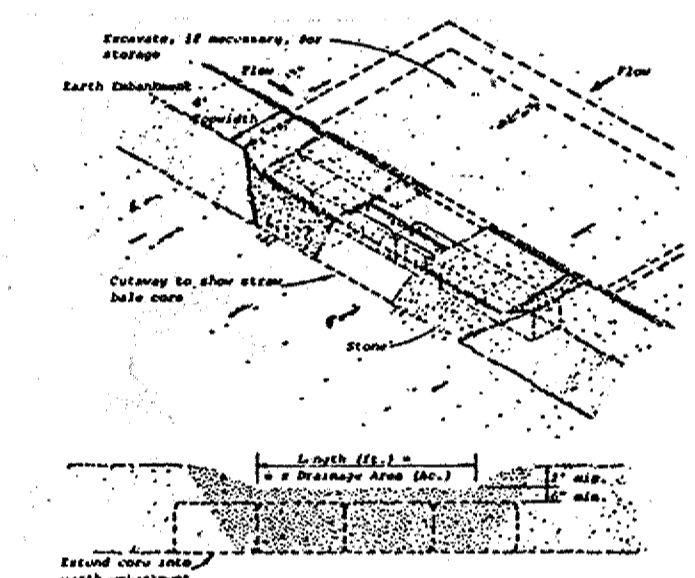
SCALES: HORIZ: 1"=20'
VERT: 1"=5'



- Construction Specifications**
- Bales shall be placed in a row with ends tightly abutting the adjacent bales.
 - Each bale shall be embedded in the soil a minimum of 4".
 - Bales shall be securely anchored in place by stakes or re-bars driven through the bales. The first stake in each bale shall be angled toward previously laid bale to force bales together.
 - Inspection shall be frequent and repair or replacement shall be made promptly as needed.
 - Bales shall be removed when they have served their usefulness so as not to block or impede storm flow or drainage.

Standard Symbol SBD

STONE OUTLET SEDIMENT TRAP

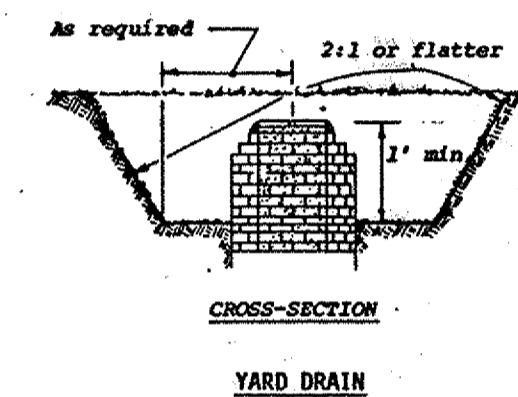
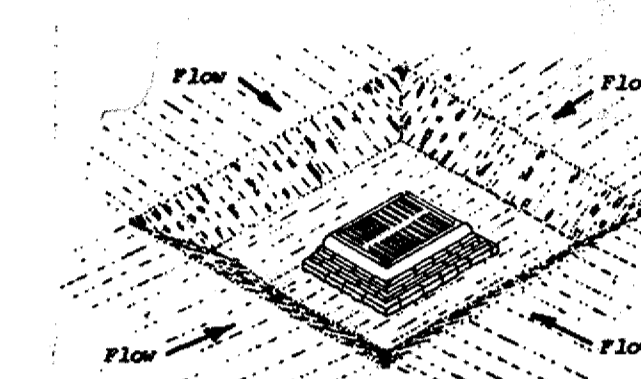


- CONSTRUCTION SPECIFICATIONS**
- Area under construction shall be cleared, grubbed and stripped of any vegetation and rock soil. The pool area shall be cleared.
 - The fill material for the embankment shall be free of clogs or other woody vegetation as well as over sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by vibrating with equipment while it is being constructed.
 - Embankment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
 - The structure shall be inspected after each rain and repairs made as needed.
 - Construction operations shall be carried out in such a manner that erosion and water pollution be minimized.
 - The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.
 - All cut and fill slopes shall be 2:1 or flatter.
 - The crushed stone used in the outlet shall meet ASTM designation M33, Size No. 3 or 20 or its equivalent such as M33 No. 3. Gravel, meeting the above gradation, may be used if crushed stone is not available. Gravel run is not acceptable.

SEDIMENT CONTROL NOTES

- THE DEVELOPER SHALL NOTIFY THE HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS AT LEAST 24 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION SHOWN HEREON. (1992-2435).
- BERMS, SEDIMENT TRAPS, ETC., TO BE CONSTRUCTED PRIOR TO ANY ON-SITE GRADING OR DISTURBANCE TO ANY EXISTING SURFACE MATERIAL, AND ARE TO BE STABILIZED AS SOON AS CONSTRUCTED.
- ALL SEDIMENT CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY BUREAU OF INSPECTIONS AND PERMITS. (1992-2435).
- ALL GRADED AREAS NOT TO BE SODDED SHALL BE STABILIZED BY SEEDING AND MULCHING IN ACCORDANCE WITH SECTION 15.10 AND 15.11 OF THE "STANDARD SPECIFICATIONS & DETAILS FOR CONSTRUCTION" FOR HOWARD COUNTY. USE SEED MIX SPECIFIED FOR "UNIMPROVED AREAS NOT TO BE MOVED" AS DESCRIBED IN SECTION 15.10-2(C). ALL AREAS REMAINING OR INTENDED TO REMAIN DISTURBED FOR LONGER THEN 45 DAYS SHALL BE STABILIZED BY TEMPORARY SEEDING.
- A GRADING PERMIT SHALL BE OBTAINED PRIOR TO ANY EARTH MOVING.

STORM INLET SEDIMENT TRAP



CONSTRUCTION SPECIFICATIONS

- Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- The structure shall be inspected after each rain and repairs made as needed.
- Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized.
- The sediment trap shall be removed and area stabilized when the remaining drainage area has been properly stabilized.
- All cut and fill slopes shall be 2:1 or flatter.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Steve F. Nemes 6-14-83
DIRECTOR OF PUBLIC WORKS DATE

William S. P. ... 4/14/83
CHIEF BUREAU OF ENGINEERING DATE

John ... 4/9/80
CHIEF, ROADS, BRIDGES, STORM DRAINS DIVISION

DEWBERRY, NEALON & DAVIS
ENGINEERS-ARCHITECTS-PLANNERS-SURVEYORS

2594 Riva Road, Annapolis, Maryland 21401
8411 Arlington Boulevard, Fairfax, Virginia 22030
19201 Montgomery Village Ave., Gaithersburg, Md. 20760



REVISIONS		
DATE	BY	DESCRIPTION

CULVERT PROFILES & OUTFALL DETAILS
& SEDIMENT CONTROL DETAILS

JOHNS HOPKINS ROAD

CAPITAL PROJECT NO. J-5-4014

FIFTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN

DESIGNED: P.L.
DRAFTED: L.B.
CHECKED: V.K.

SHEET 13 OF 13

1065

12-30-82
C-63