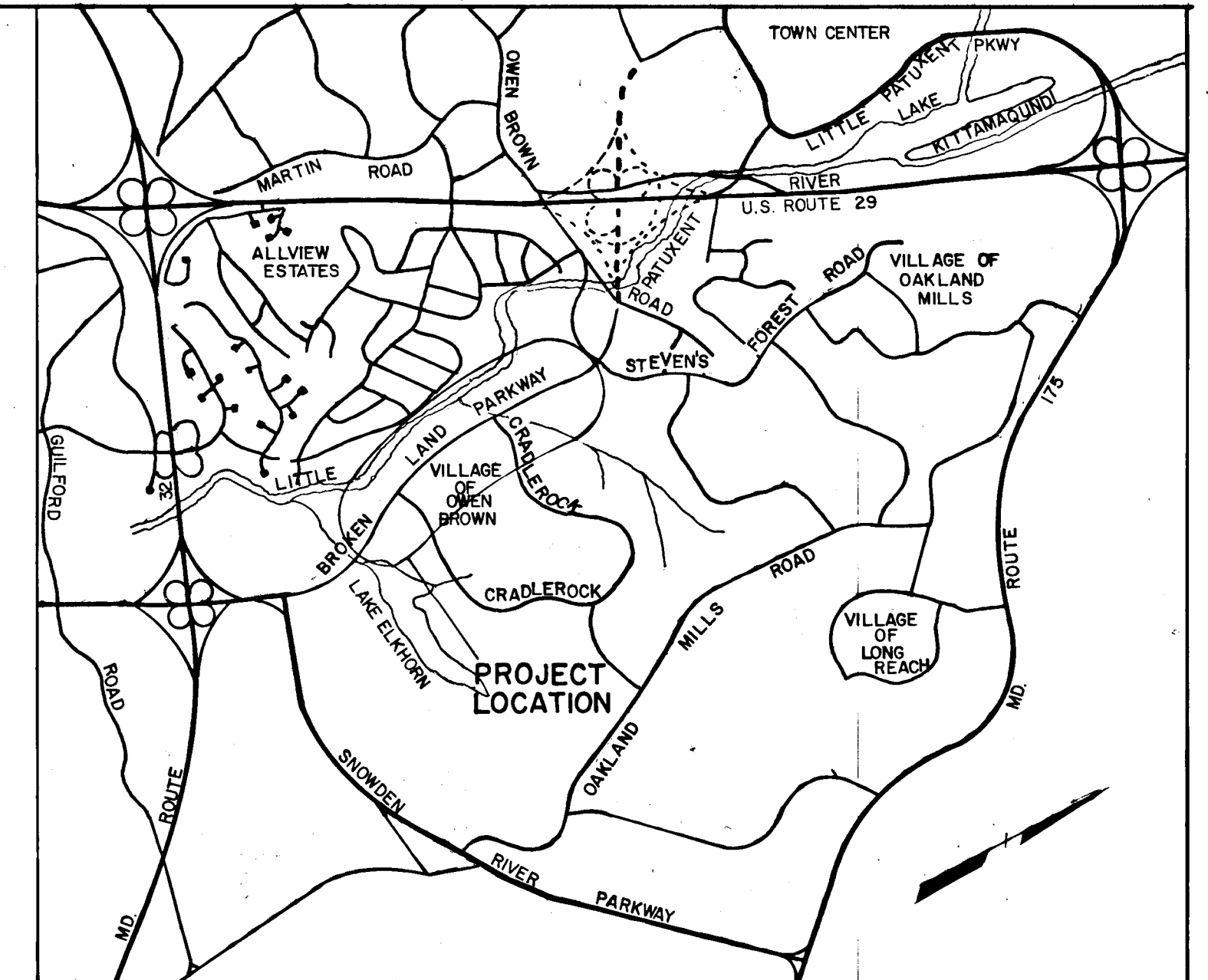


BROKEN LAND PARKWAY

5TH. ELECTION DISTRICT HOWARD COUNTY, MARYLAND

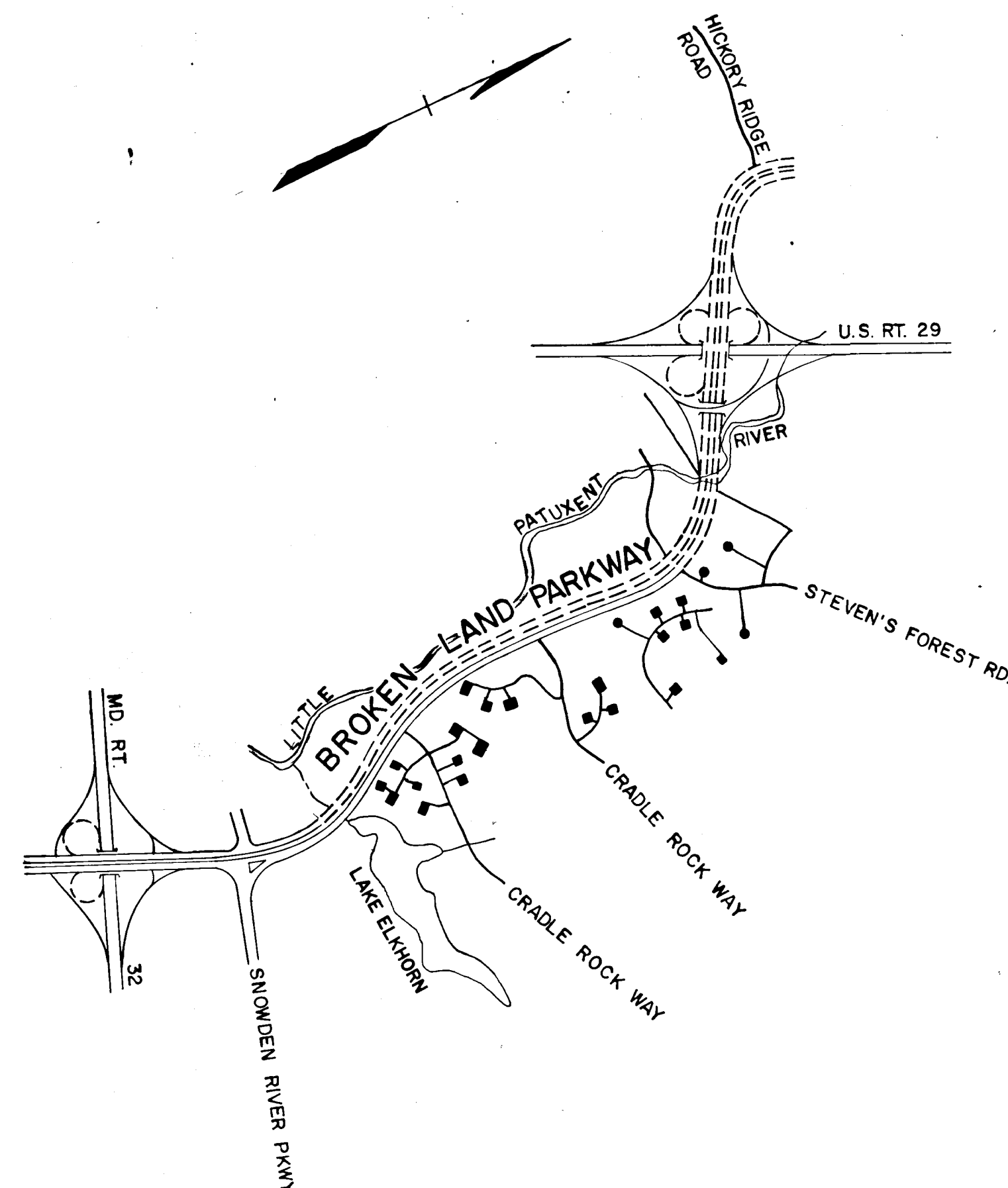


VICINITY MAP

GENERAL NOTES

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME IV, "STANDARD DETAILS AND SPECIFICATIONS FOR CONSTRUCTION".
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES, WHERE DIRECTED BY THE ENGINEER, A MINIMUM OF TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS.
- CONTRACTOR TO NOTIFY "MISS UTILITY" PHONE (1) 539-0100 AT LEAST THREE (3) DAYS BEFORE STARTING WORK SHOWN ON THIS/ THESE DRAWING(S).
- INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING AND SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES 1988 REVISED EDITION.
- DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME III STANDARDS. 50 MPH.
- ALL ELEVATIONS SHOWN ARE BASED ON U.S.C. AND G.S. MEAN SEA LEVEL DATUM 1929.
- ALL COORDINATES BASED ON MARYLAND STATE GRID SYSTEM.
- CONTRACTOR TO RESTORE ALL EXISTING PAVING, SIDEWALKS OR LAWNS AFFECTED BY THE CONSTRUCTION SHOWN HEREON TO A CONDITION COMPARABLE TO THAT EXISTING PRIOR TO CONSTRUCTION.
- THE LOCATION AND LENGTHS OF ALL PROPOSED STORM DRAINS SHALL BE VERIFIED BY THE CONTRACTOR BEFORE ORDERING PIPE.
- STORM DRAIN PIPE BEDDING SHALL BE AS SHOWN ON HOWARD COUNTY STD. G-2.01.
- EXISTING TRAFFIC SIGNS THAT ARE REMOVED UNDER THIS CONTRACT SHALL BE SALVAGED AND TURNED OVER TO HOWARD COUNTY.
- TRAFFIC WILL BE MAINTAINED AT ALL TIMES ON THE BROKEN LAND PARKWAY AND ALL INTERSECTIONS AND ENTRANCES. THE EXISTING TRAFFIC SIGNALS AT INTERSECTIONS WITHIN THE LIMITS OF THIS CONTRACT WILL REMAIN IN OPERATION UNTIL NEW SIGNALS ARE INSTALLED AND SOUTHBOUND LANE OPENED TO TRAFFIC.

SHEET INDEX	
NO.	DESCRIPTION
1	TITLE SHEET
2	TYPICAL SECTIONS
3	TYPICAL SECTIONS, PAVEMENT DETAILS
4	TYPICAL SECTION, S.E. TRANSITION SCHEDULE
5	ROADWAY PLAN AND PROFILE
6	ROADWAY PLAN AND PROFILE
7	ROADWAY PLAN AND PROFILE
8	ROADWAY PLAN AND PROFILE
9	ROADWAY PLAN AND PROFILE
10	ROADWAY PLAN AND PROFILE
11	STORM DRAIN PROFILES
12	SEDIMENT CONTROL DETAILS
13	SEDIMENT CONTROL DETAILS AND NOTES
14	SEDIMENT CONTROL PLAN
15	SEDIMENT CONTROL PLAN
16	SEDIMENT CONTROL PLAN
17	SEDIMENT CONTROL PLAN
18	SEDIMENT CONTROL PLAN
19	SEDIMENT CONTROL PLAN



LOCATION PLAN

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 7/12/90
CHIEF, LAND DEVELOPMENT DIVISION DATE

[Signature] 3/18/91
CHIEF, BUREAU OF HIGHWAYS DATE

[Signature] 3-15-91
CHIEF, BUREAU OF ENGINEERING DATE

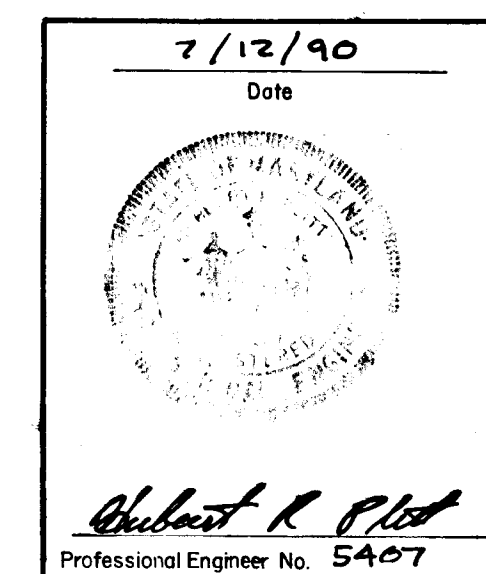
APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 3/21/91
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND 21228

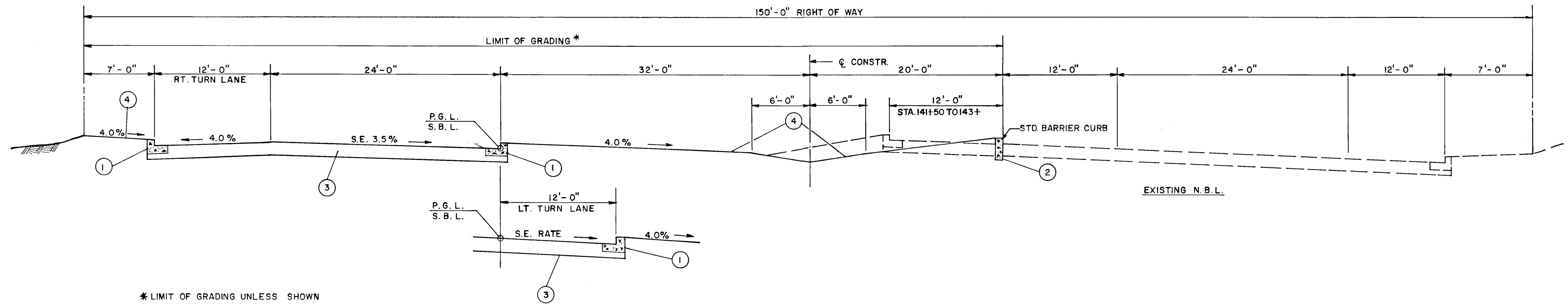
AREA BROKEN LAND PARKWAY

TITLE TITLE SHEET

Des By H.R.P.	Scale	Proj. No. 89-0040
Drn By J.W.B.	Date JULY 1990	Drawing No.
Chk By S.P.	Approved	1 OF 19



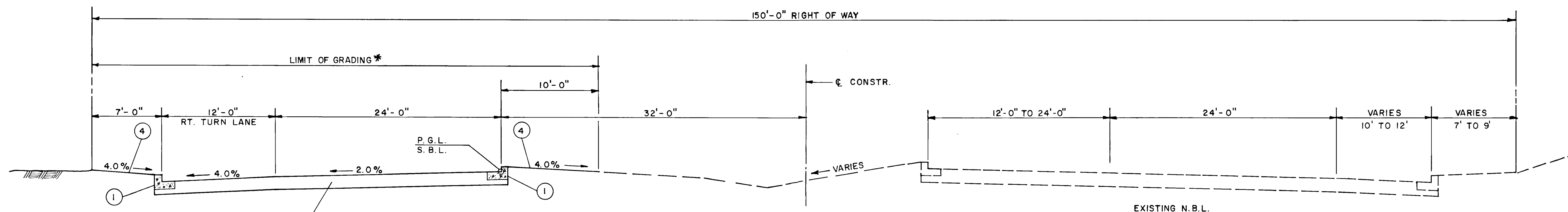
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* LIMIT OF GRADING UNLESS SHOWN OTHERWISE ON PLANS.

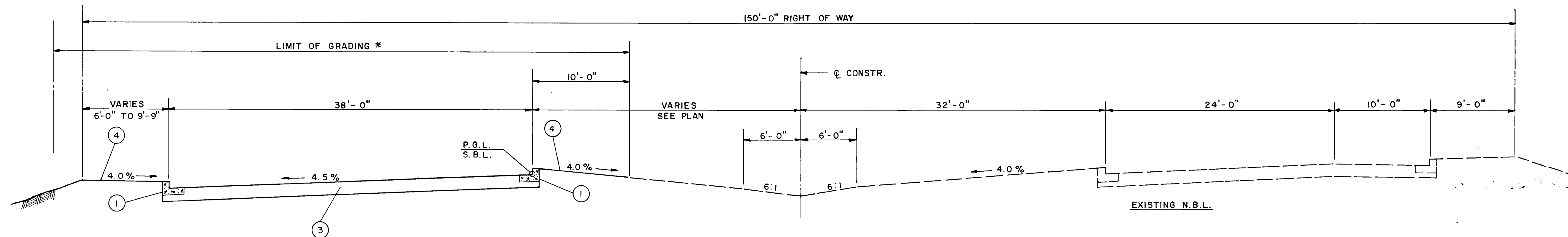
SUPERELEVATED SECTION WITH AUXILIARY LANES

STA. 138 + TO STA. 146 +
NOT TO SCALE



NORMAL SECTION WITH AUXILIARY LANE

STA. 130+ TO STA. 138 +
NOT TO SCALE



SUPERELEVATED SECTION

STA. 123 + TO STA. 128 +
NOT TO SCALE

LEGEND

- ① - STANDARD 7" COMBINATION CURB AND GUTTER-HO. CO. STD. R-3.01.
- ② - STANDARD BARRIER CURB - HO. CO. STD. R-3.03.
- ③ - ROADWAY PAVING - HO. CO. SECTION NO. P-6 STD. R-2.02, SEE DETAIL - SHEET NO. 3.
- ④ - 4" TOPSOIL, SEEDING AND MULCHING.

7/12/90
Date

Robert R. Pitt
Professional Engineer No. 5407

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Alan M. Dungan 3/24/91
CHIEF, LAND DEVELOPMENT DIVISION DATE

Lawrence W. Walsland 3/21/91
CHIEF, BUREAU OF HIGHWAYS DATE

William B. Kelly 3-15-91
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
James J. B. Boyd 3/22/91
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND 21228

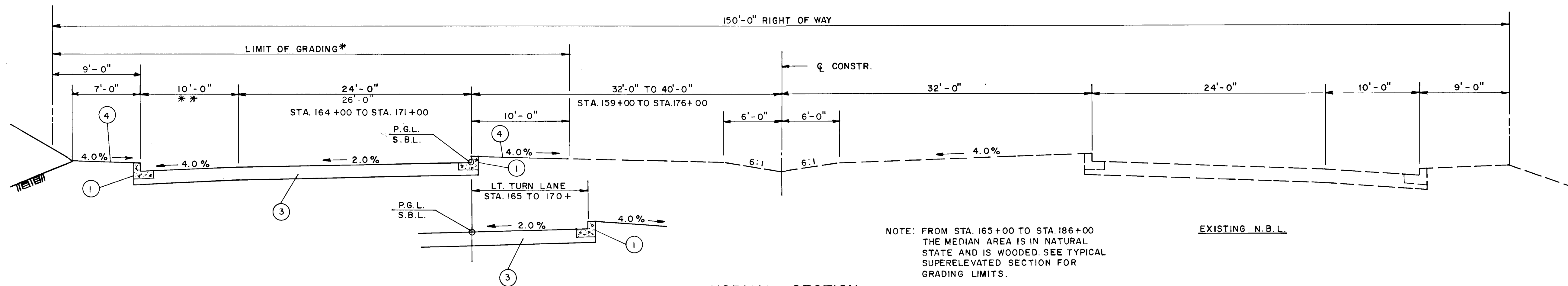
AREA
BROKEN LAND PARKWAY

TITLE
TYPICAL SECTIONS

Des By H.R.P.	Scale AS SHOWN	Proj. No. 89-0040
Drn By J.W.B.	Date JULY 1990	Drawing No.
Chk By S.P.	Approved	2 OF 19

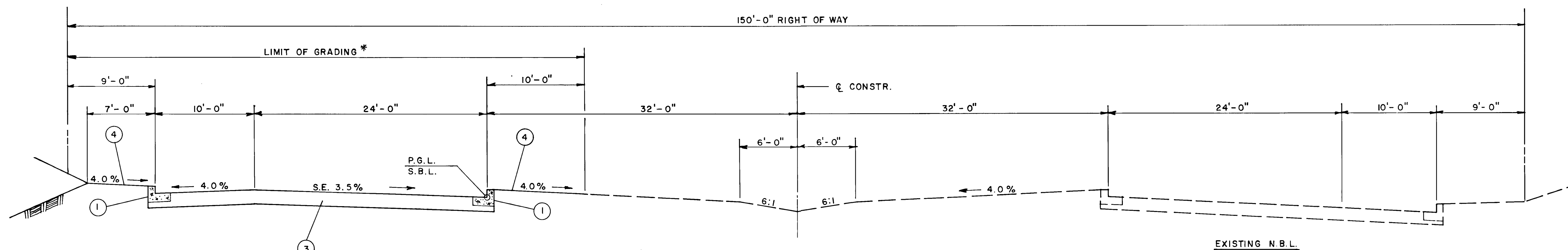
F-91.13

** SHOULDER WIDTH VARIES 10' TO 0'
 STA.-159+00 TO STA.164+00
 STA.-171+00 TO STA.176+00

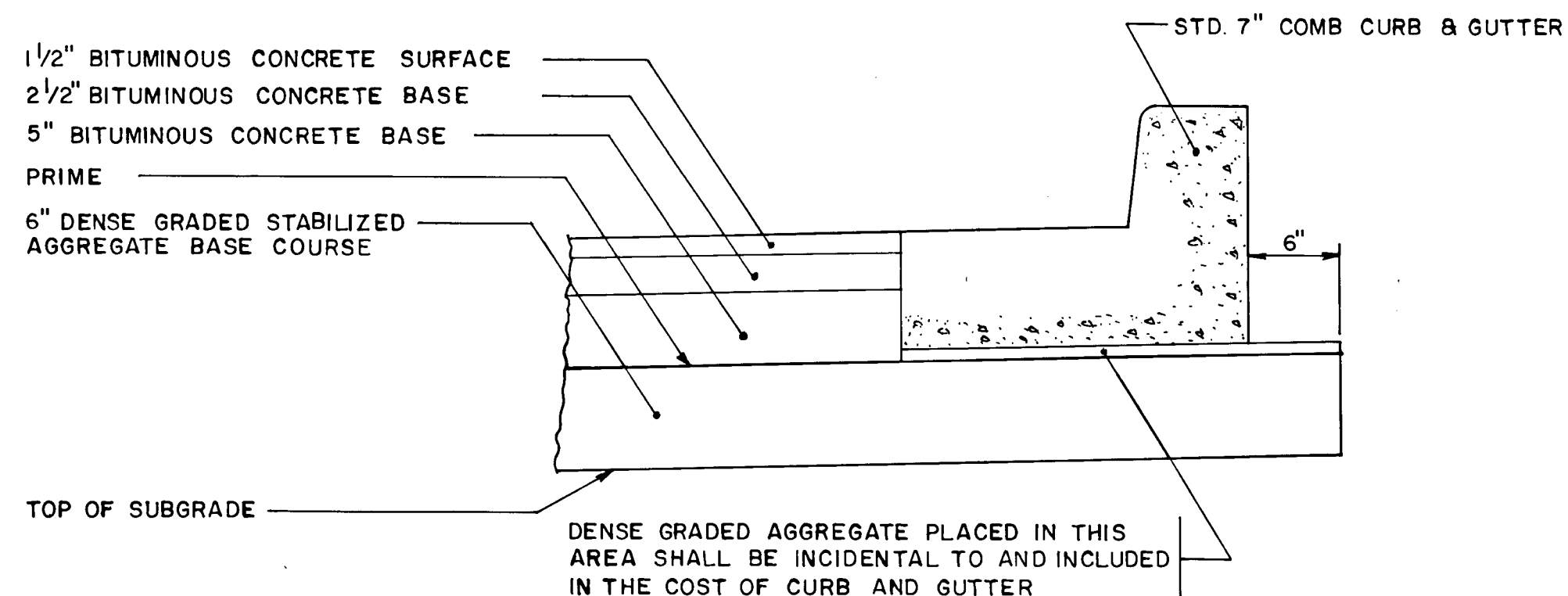


NORMAL SECTION
 STA. 151+ TO STA. 180+
 NOT TO SCALE

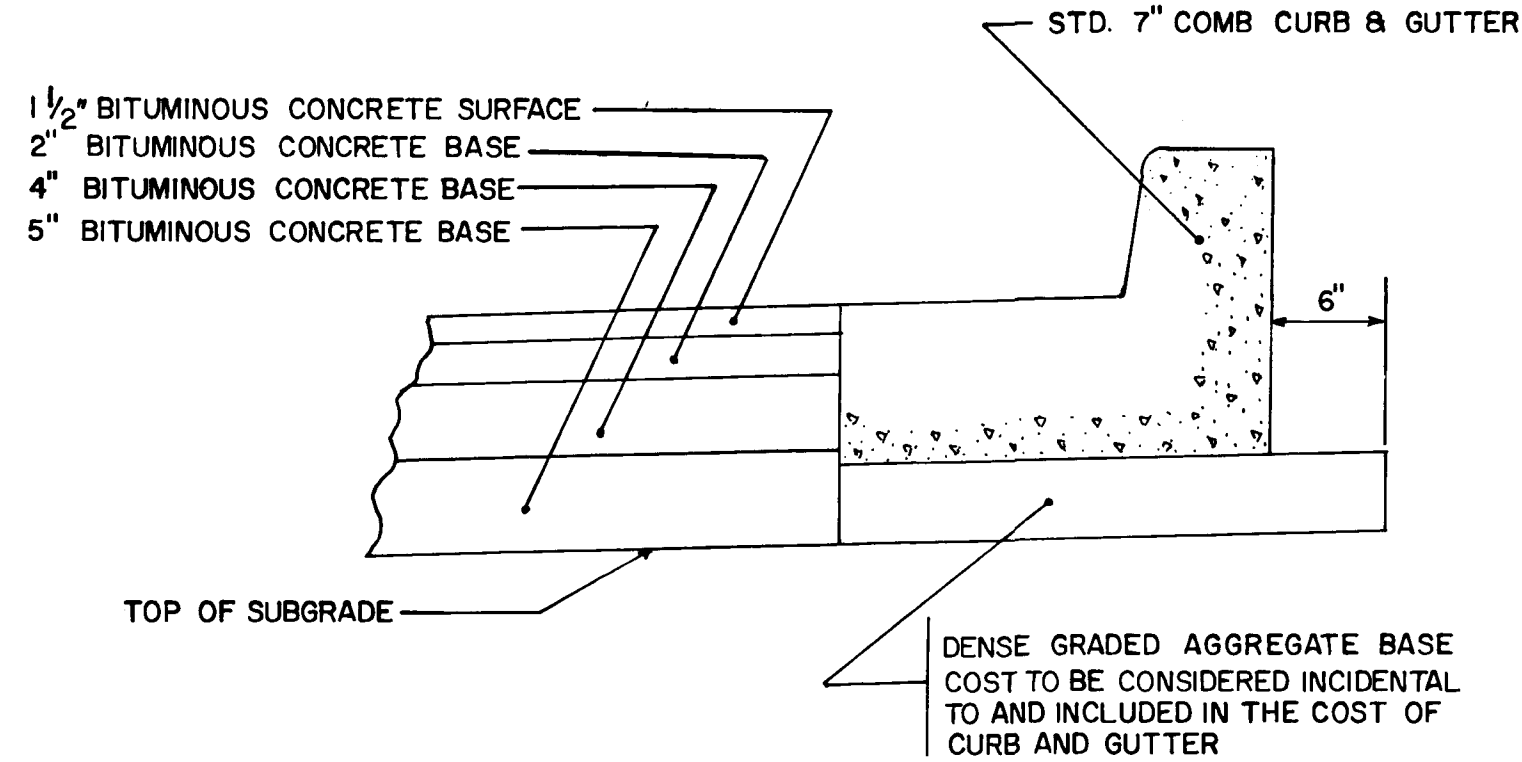
* LIMIT OF GRADING UNLESS SHOWN OTHERWISE ON PLANS.



SUPERELEVATED SECTION
 STA. 146+ TO STA. 151+
 NOT TO SCALE



ALTERNATE A



ALTERNATE B

ROADWAY PAVING DETAIL

HO. CO. STD. R-2.02
 NOT TO SCALE

APPROVED:	
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
<i>[Signature]</i>	7/14/90
CHIEF, LAND DEVELOPMENT DIVISION	DATE
<i>[Signature]</i>	3/8/91
CHIEF, BUREAU OF HIGHWAYS	DATE
<i>[Signature]</i>	2-15-91
CHIEF, BUREAU OF ENGINEERING	DATE
APPROVED:	
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
<i>[Signature]</i>	3/21/91
CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	DATE

PHOENIX ENGINEERING, INC.
 CONSULTING ENGINEERS
 BALTIMORE, MARYLAND 21228

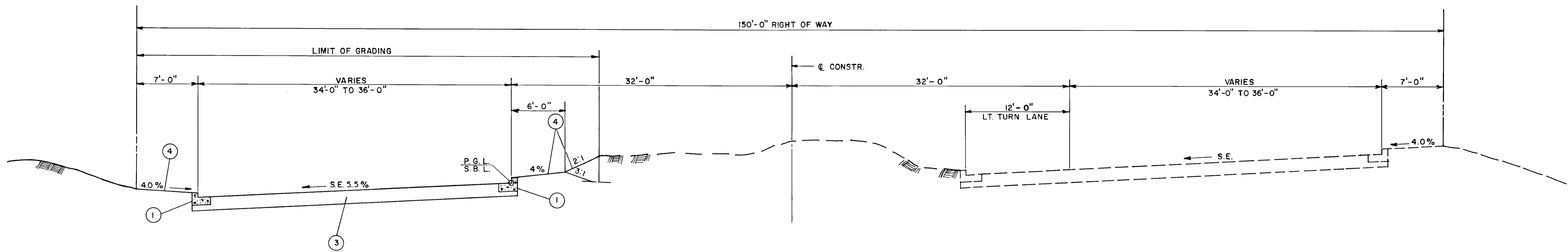
AREA BROKEN LAND PARKWAY

TITLE TYPICAL SECTIONS IN DETAILS

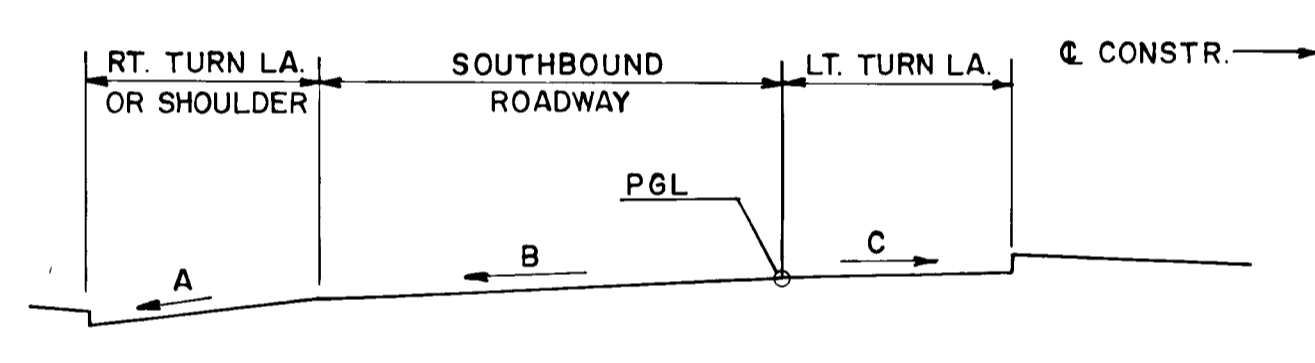
Des By H.R.P.	Scale AS SHOWN	Proj. No. 89-0040
Drn By J.W.B.	Date JULY 1990	Drawing No. 3 OF 19
Chk By S.P.	Approved	

7/12/90
 Date

[Signature]
 Professional Engineer No. 5407



SUPERELEVATED SECTION
 STA. 180+ TO STA. 187
 NOT TO SCALE



SUPERELEVATION TRANSITION TABLE

STATION	CROSS SLOPE			REMARKS
	A	B	C	
123+25	-0.045	-0.045	-	BEGIN PAVING FULL S.E.
128+75	-0.045	-0.045	-	END FULL S.E., BEGIN TRANS.
130+00	-0.020	-0.020	-	END TRANS., BEGIN N.C.
132+50	-0.020	-0.020	-	END .02 SLOPE ON RT. TURN LANE, BEGIN TRANS.
134+00	-0.040	-0.020	-	END TRANS. RT. TURN LANE, BEGIN .04 SLOPE
137+01.08	-0.040	-0.020	-	END N.C., BEGIN S.E. TRANS.
137+86.79	-0.040	0.00	-	LEVEL
139+36.79	-0.040	+0.035	-	END TRANS., BEGIN FULL S.E.
141+	-0.040	+0.035	-0.035	LT. TURN LANE BEGINS
147+	-0.040	+0.035	-0.035	LT. TURN LANE ENDS
151+10.79	-0.040	+0.035	-	END FULL S.E., BEGIN TRANS.
152+60.79	-0.040	0.00	-	LEVEL
153+46.79	-0.040	-0.020	-	END TRANS., BEGIN N.C.
164+00	-	-0.020	-	SHOULDER ENDS
165+	-	-0.020	+0.020	LT. TURN LANE BEGINS
171+	-0.040	-0.020	+0.020	BEGIN SHOULDER, LT. TURN LANE ENDS
179+60.62	-0.040	-0.020	-	END N.C., BEGIN S.E. TRANS.
180+34.67	-0.040	-0.040	-	BEGIN SHOULDER TRANS.
180+87.89	-0.055	-0.055	-	END TRANS., BEGIN FULL S.E.
185+	-0.055	-0.055	-	END PAVING FULL S.E.

ABBREVIATIONS

- BLP - BROKEN LAND PARKWAY
- NBL - NORTHBOUND LANE
- SBL - SOUTHBOUND LANE
- PGL - PROFILE GRADE LINE
- C.L. - CENTER LINE
- BM - BENCH MARK
- P.C. - POINT OF CURVE
- P.T. - POINT OF TANGENT
- P.I. - POINT OF INTERSECTION
- P.C.C. - POINT OF COMPOUND CURVE
- P.O.C. - POINT ON CURVE
- P.O.T. - POINT ON TANGENT
- BK. - BACK
- AHD. - AHEAD
- HSD - HEADLIGHT SIGHT DISTANCE
- SSD - STOPPING SIGHT DISTANCE
- SE - SUPERELEVATION
- NC - NORMAL CROWN

EXISTING UTILITIES SYMBOLS

- F.H. - FIRE HYDRANT
- W.V. - WATER VALVE
- T.S. - TRAFFIC SIGN
- T.C. - TRAFFIC SIGNAL POLE
- L.P. - LIGHT POLE
- CC. - CONDUIT COVER
- C. - TELEPHONE CONDUIT
- E.T. - ELECTRIC TRANSFORMER
- C.M. - TELEPHONE CONDUIT MANHOLE
- B.C. - BURIED CABLE

APPROVED:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 7/12/90
 CHIEF, LAND DEVELOPMENT DIVISION DATE
[Signature] 3/8/91
 CHIEF, BUREAU OF HIGHWAYS DATE
[Signature] 3-15-91
 CHIEF BUREAU OF ENGINEERING DATE

APPROVED:
 HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 7/22/90
 CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

7/12/90
 Date

[Signature]
 Professional Engineer No. 3407

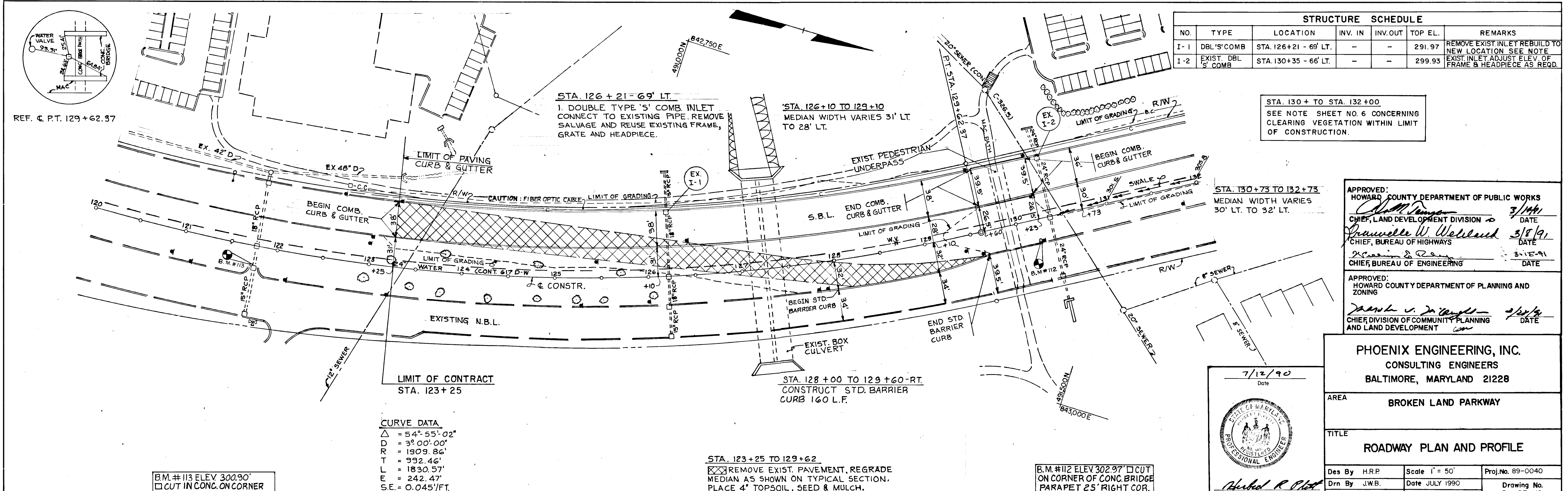
PHOENIX ENGINEERING, INC.
 CONSULTING ENGINEERS
 BALTIMORE, MARYLAND 21228

AREA: **BROKEN LAND PARKWAY**

TITLE: **TYPICAL SECTIONS IN DETAILS**

Des By	H.R.P.	Scale	AS SHOWN	Proj. No.	89-0040
Drn By	J.W.B.	Date	JULY 1990	Drawing No.	4 OF 19
Chk By	S.P.	Approved			

65



STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP EL.	REMARKS
I-1	DBL 'S' COMB	STA. 126+21 - 69' LT.	-	-	291.97	REMOVE EXIST INLET REBUILD TO NEW LOCATION SEE NOTE
I-2	EXIST. DBL 'S' COMB	STA. 130+35 - 66' LT.	-	-	299.93	EXIST. INLET ADJUST ELEV. OF FRAME & HEADPIECE AS REQD.

STA. 130+ TO STA. 132+00
SEE NOTE SHEET NO. 6 CONCERNING CLEARING VEGETATION WITHIN LIMIT OF CONSTRUCTION.

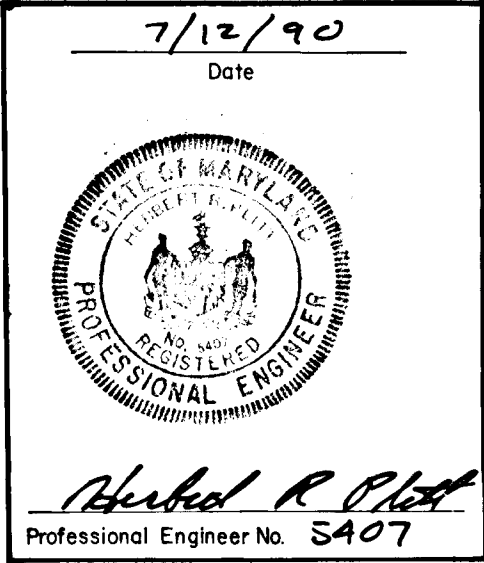
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 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 3/14/91
 CHIEF, LAND DEVELOPMENT DIVISION DATE
 [Signature] 3/18/91
 CHIEF, BUREAU OF HIGHWAYS DATE
 [Signature] 3-15-91
 CHIEF, BUREAU OF ENGINEERING DATE
 APPROVED:
 HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 3/24/91
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

PHOENIX ENGINEERING, INC.
 CONSULTING ENGINEERS
 BALTIMORE, MARYLAND 21228

AREA
 BROKEN LAND PARKWAY

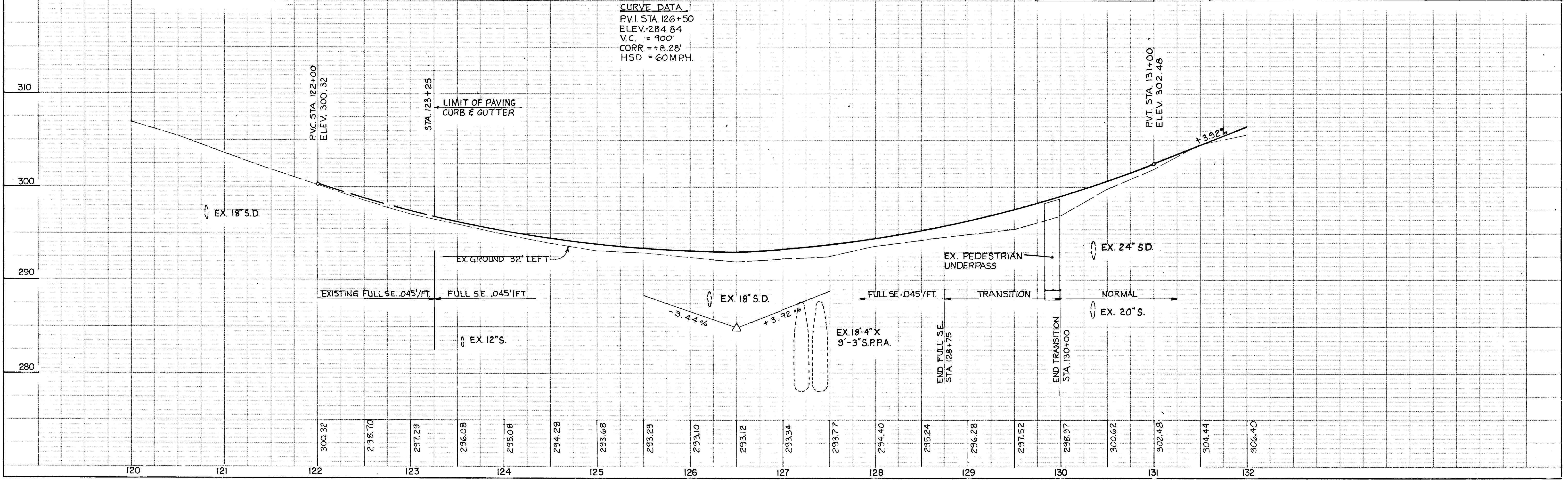
TITLE
 ROADWAY PLAN AND PROFILE

Des By H.R.P. Scale 1" = 50' Proj. No. 89-0040
 Drn By J.W.B. Date JULY 1990 Drawing No. 5 OF 19
 Chk By S.P. Approved



PLAN
 NOTE B OK ALIGNMENT CHECKED
 NO. RT OF WAY CHECKED

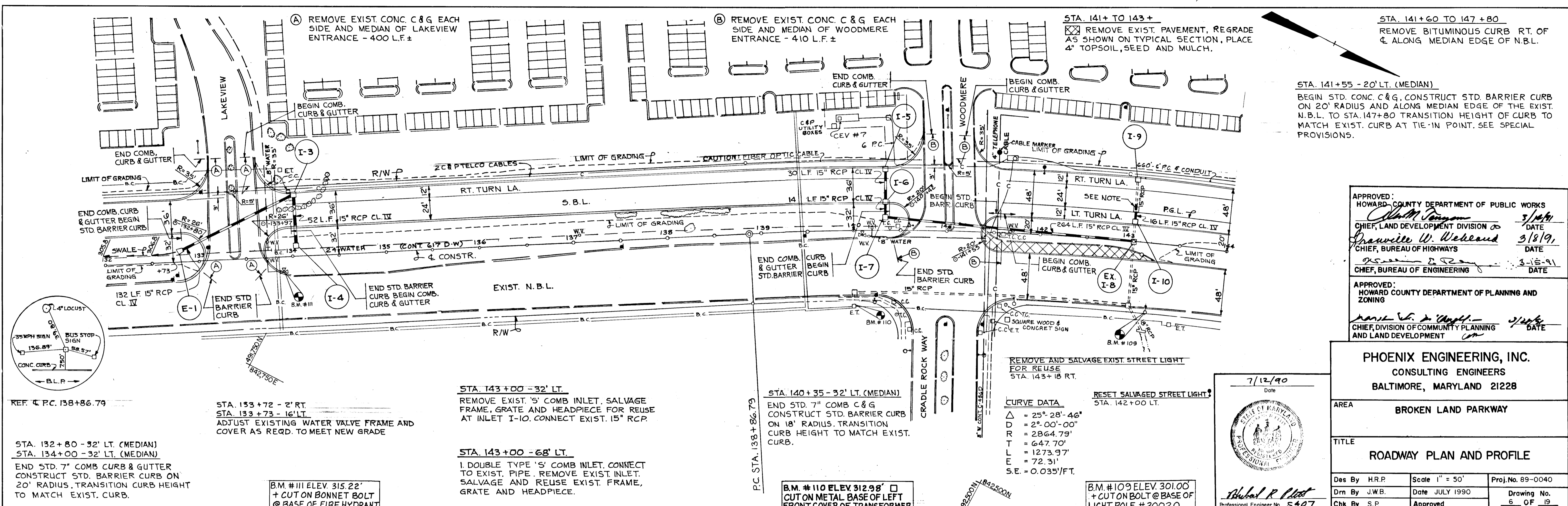
PROFILE
 NOTE B OK GRADES CHECKED
 NO. B.M. #113 ELEV. 300.90
 S.D. INLET 20' RT. ± @ STA. 121+75



65

PLAN
 CHECKED BY: []
 DATE: []
 NO. []

PROFILE
 CHECKED BY: []
 DATE: []
 NO. []



APPROVED:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 3/16/91 DATE
 CHIEF, LAND DEVELOPMENT DIVISION
 [Signature] 3/18/91 DATE
 CHIEF, BUREAU OF HIGHWAYS
 [Signature] 3/18/91 DATE
 CHIEF, BUREAU OF ENGINEERING

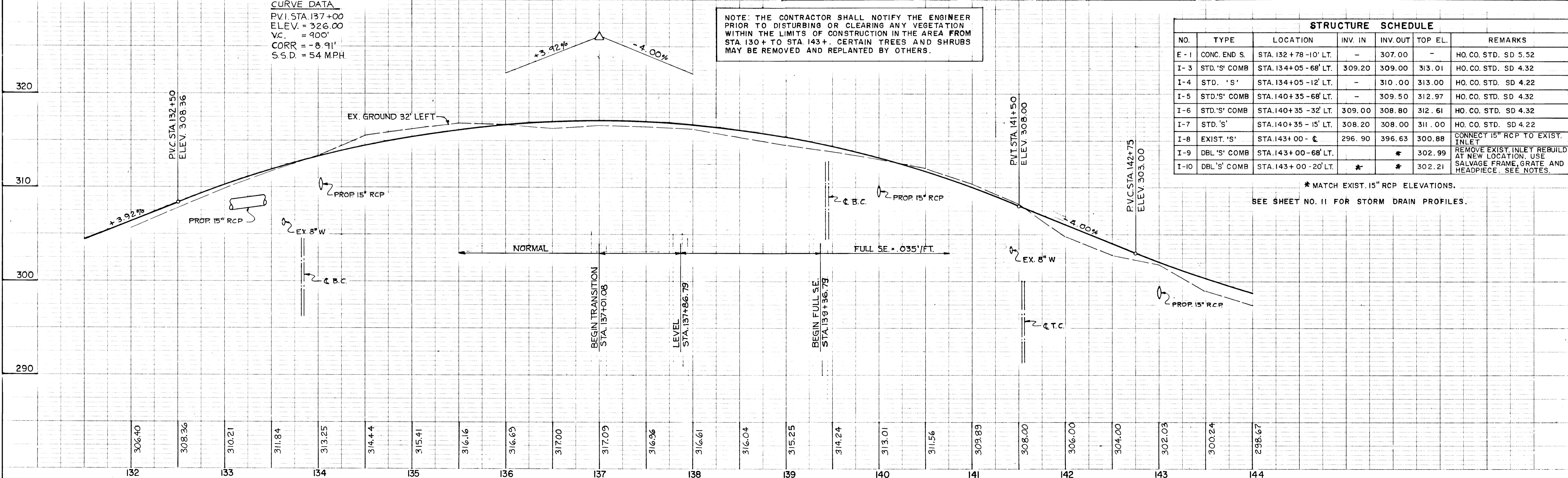
APPROVED:
 HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] 3/16/91 DATE
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

PHOENIX ENGINEERING, INC.
 CONSULTING ENGINEERS
 BALTIMORE, MARYLAND 21228

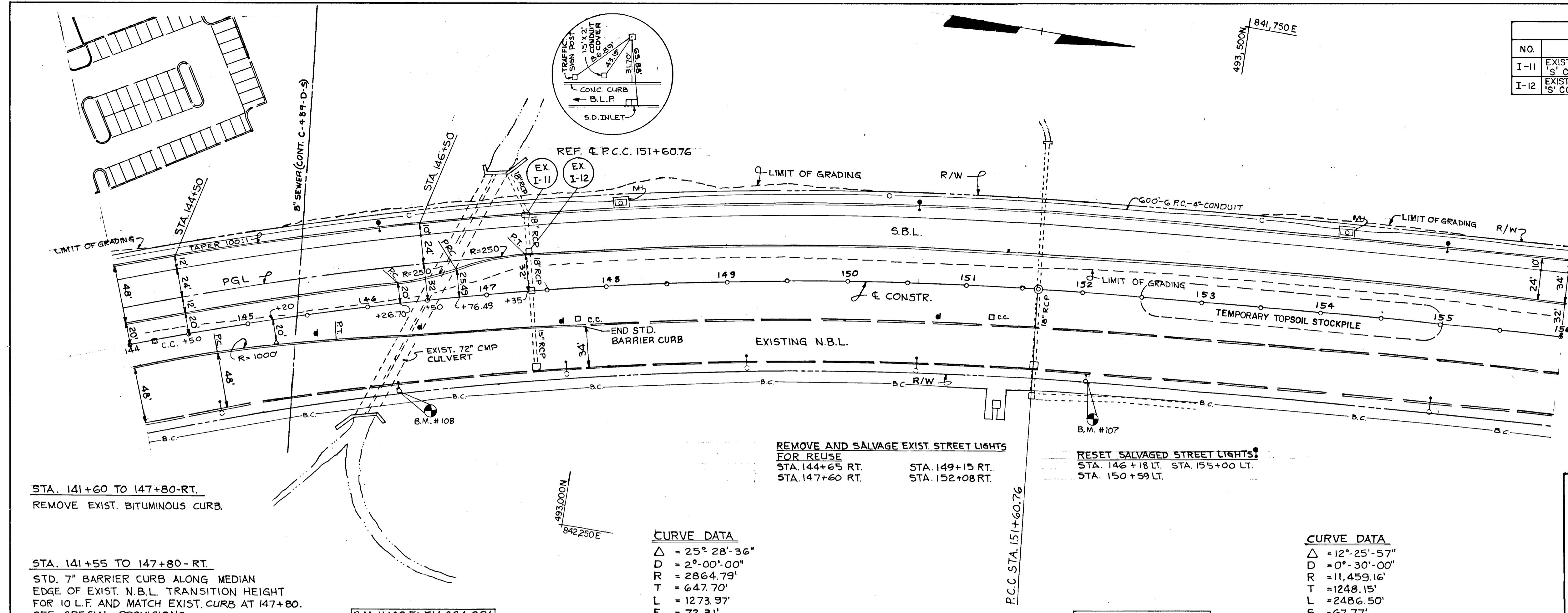
AREA: **BROKEN LAND PARKWAY**

TITLE: **ROADWAY PLAN AND PROFILE**

Des By: H.R.P. Scale: 1" = 50' Proj. No. 89-0040
 Dwn By: J.W.B. Date: JULY 1990 Drawing No. 6 OF 19
 Chk By: S.P. Approved



STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP EL.	REMARKS
I-11	EXIST. DBL S' COMB	STA. 147 + 38 - 66' LT.	-	-	294.78	EXIST. INLET. ADJUST ELEV. OF FRAME & HEADPIECE AS REQD.
I-12	EXIST. DBL S' COMB	STA. 147 + 38 - 32' LT.	-	-	294.34	EXIST. INLET. ADJUST ELEV. OF FRAME & HEADPIECE AS REQD.



STA. 141+60 TO 147+80-RT.
REMOVE EXIST. BITUMINOUS CURB.

STA. 141+55 TO 147+80-RT.
STD. 7" BARRIER CURB ALONG MEDIAN
EDGE OF EXIST. N.B.L. TRANSITION HEIGHT
FOR 10 L.F. AND MATCH EXIST. CURB AT 147+80.
SEE SPECIAL PROVISIONS.

B.M. #108 ELEV. 294.08'
+ CUT ON BOLT @ BASE OF
LIGHT POLE # 30020

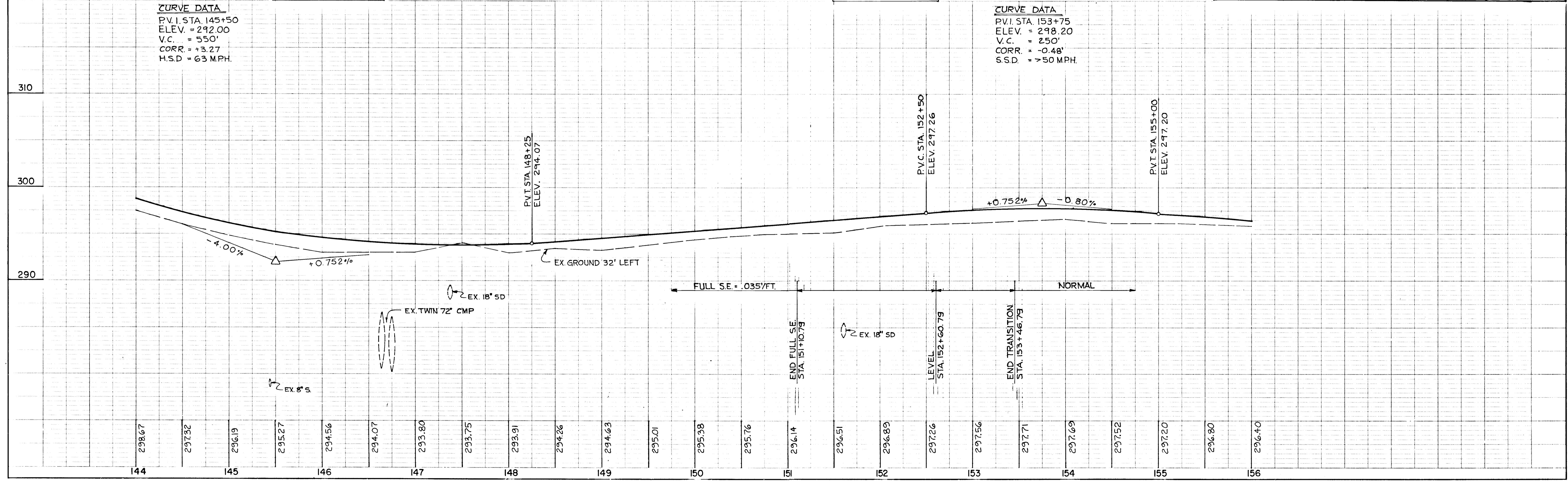
CURVE DATA
 $\Delta = 25^\circ 28' 36''$
 $D = 2^\circ 00' 00''$
 $R = 2864.79'$
 $T = 647.70'$
 $L = 1273.97'$
 $E = 72.31'$
 $SE = 0.035' / FT$

B.M. #107 ELEV. 297.01'
+ CUT ON BOLT @ BASE OF
LIGHT POLE # 300016

CURVE DATA
 $\Delta = 12^\circ 25' 57''$
 $D = 0^\circ 30' 00''$
 $R = 11,459.16'$
 $T = 1248.15'$
 $L = 2486.50'$
 $S = 67.77'$
 $SE = N.C.$

CURVE DATA
 P.V.I. STA. 145+50
 ELEV. = 292.00
 V.C. = 550'
 CORR. = +3.27
 H.S.D. = 63 MPH.

CURVE DATA
 P.V.I. STA. 153+75
 ELEV. = 298.20
 V.C. = 250'
 CORR. = -0.48'
 S.S.D. = 75 MPH.



APPROVED:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John M. [Signature] 3/14/91
 CHIEF, LAND DEVELOPMENT DIVISION DATE
Drawville W. Welland 3/8/91
 CHIEF, BUREAU OF HIGHWAYS DATE
[Signature] 3-15-91
 CHIEF, BUREAU OF ENGINEERING DATE
 APPROVED:
 HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 3/14/91
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

PHOENIX ENGINEERING, INC.
 CONSULTING ENGINEERS
 BALTIMORE, MARYLAND 21228
 AREA
 BROKEN LAND PARKWAY
 TITLE
 ROADWAY PLAN AND PROFILE
 Des By H.R.P. Scale 1" = 50' Proj. No. 89-0040
 Dwn By J.W.B. Date JULY 1990 Drawing No. _____
 Chk By S.P. Approved _____ OF 19

7/12/90
 Date

 Robert R. Platt
 Professional Engineer No. 5407

PLAN
 SURVEYED, REVISIONS, CHECKED, BY, DATE, NO.

PROFILE
 SURVEYED, REVISIONS, CHECKED, BY, DATE, NO.

65

STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP EL.	REMARKS
I-13	DBL S' COMB	STA. 160+75 - 66' LT.	-	288.86	292.46	HO. CO. STD. 3. 34
I-14	EXIST. DBL S' COMB	STA. 162+83 - 66' LT.	287.00	286.80	291.21	CONNECT 15" RCP ADJUST ELEV. OF FRAME & HEADPIECE AS REQD.
I-15	EXIST. DBL S' COMB	STA. 166+00 - 66' LT.	-	-	298.02	ADJUST ELEVATION OF FRAME AND HEADPIECE AS REQD.

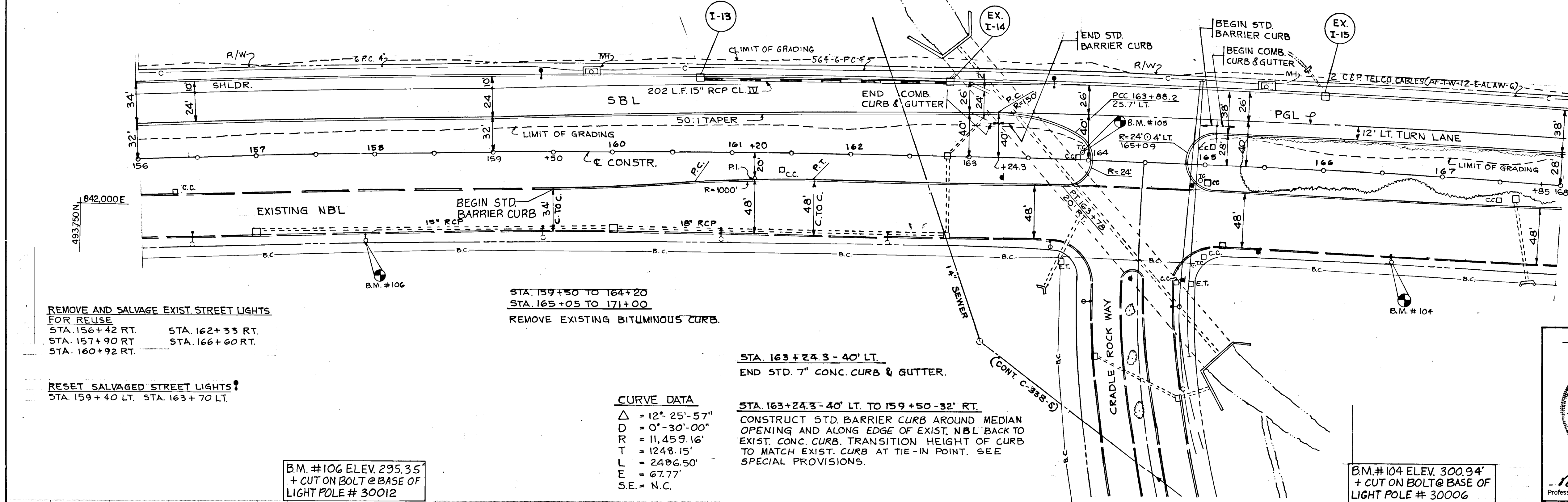
SEE SHEET NO. II FOR STORM DRAIN PROFILES

STA. 159+00 TO 163+00
 MEDIAN WIDTH TAPERS 32' LT. TO 40' LT.
 STA. 159+00 TO 164+00
 SHOULDR AT -4% X-SLOPE TAPERS FROM 10' WIDE TO 0' WIDE.

B.M.#105 ELEV. 292.98'
 + CUT ON BOLT @ BASE OF TRAFFIC LIGHT POLE.

STA. 165+09 - 28' LT.
 BEGIN STD. CONC. CURB & GUTTER.

STA. 165+09 - 28' LT. TO STA. 171+00 - 32' LT.
 CONSTRUCT STD. BARRIER CURB AROUND MEDIAN OPENING AND ALONG EDGE OF EXIST. N.B.L. TO EXIST. CONC. CURB. TRANSITION HEIGHT OF CURB TO MATCH EXIST. CURB AT TIE-IN POINT. SEE SPECIAL PROVISIONS.



REMOVE AND SALVAGE EXIST. STREET LIGHTS FOR REUSE
 STA. 156+42 RT. STA. 162+33 RT.
 STA. 157+90 RT. STA. 166+60 RT.
 STA. 160+92 RT.

RESET SALVAGED STREET LIGHTS
 STA. 159+40 LT. STA. 163+70 LT.

STA. 159+50 TO 164+20
 STA. 165+05 TO 171+00
 REMOVE EXISTING BITUMINOUS CURB.

STA. 163+24.3 - 40' LT.
 END STD. 7" CONC. CURB & GUTTER.

STA. 163+24.3 - 40' LT. TO 159+50 - 32' RT.
 CONSTRUCT STD. BARRIER CURB AROUND MEDIAN OPENING AND ALONG EDGE OF EXIST. NBL BACK TO EXIST. CONC. CURB. TRANSITION HEIGHT OF CURB TO MATCH EXIST. CURB AT TIE-IN POINT. SEE SPECIAL PROVISIONS.

CURVE DATA
 $\Delta = 12^\circ 25' 57''$
 $D = 0^\circ 30' 00''$
 $R = 11,459.16'$
 $T = 1248.15'$
 $L = 2486.50'$
 $E = 67.77'$
 $S.E. = N.C.$

CURVE DATA
 P.V.I. STA. 164+24
 ELEV. = 289.81
 V.C. = 400'
 CORR. = +2.70'
 H.S.D. = 50 MPH.

B.M.#106 ELEV. 295.35'
 + CUT ON BOLT @ BASE OF LIGHT POLE # 30012

B.M.#104 ELEV. 300.94'
 + CUT ON BOLT @ BASE OF LIGHT POLE # 30006

APPROVED:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CHIEF, LAND DEVELOPMENT DIVISION
 CHIEF, BUREAU OF HIGHWAYS
 CHIEF, BUREAU OF ENGINEERING
 DATE: 7/14/90
 DATE: 3/8/91
 DATE: 3-15-91

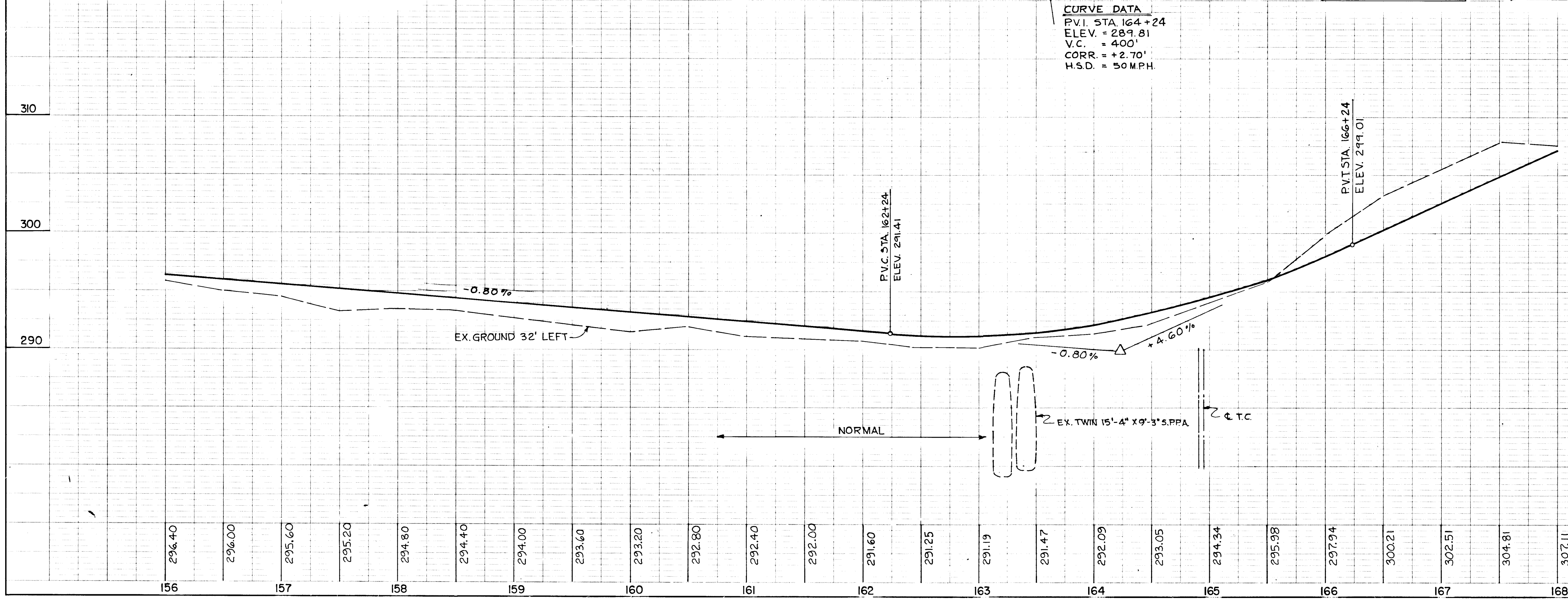
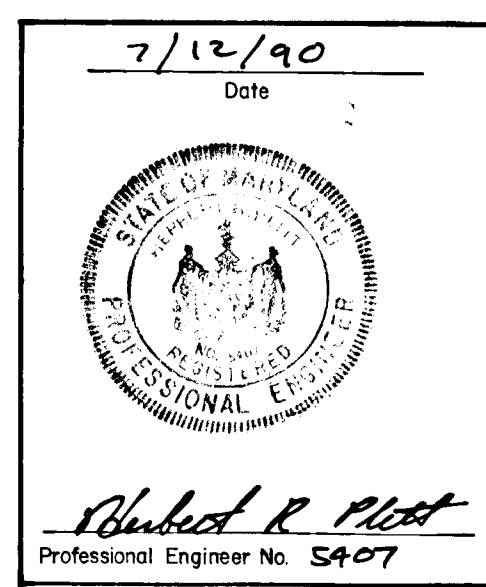
APPROVED:
 HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
 DATE: 7/12/90

PHOENIX ENGINEERING, INC.
 CONSULTING ENGINEERS
 BALTIMORE, MARYLAND 21228

AREA: BROKEN LAND PARKWAY

TITLE: ROADWAY PLAN AND PROFILE

Des By: H.R.P. Scale: 1" = 50' Proj. No.: 89-0040
 Drn By: J.W.B. Date: JULY 1990 Drawing No.:
 Chk By: S.P. Approved: 8 OF 19

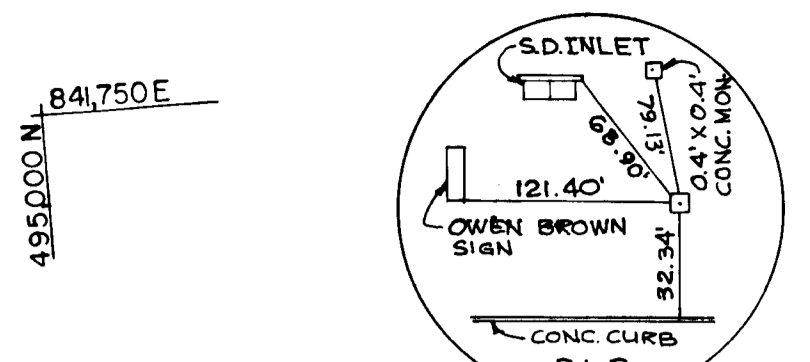


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PLAN
 NOTE BOOK
 ALIGNED CHECKED
 RT OF WAY CHECKED

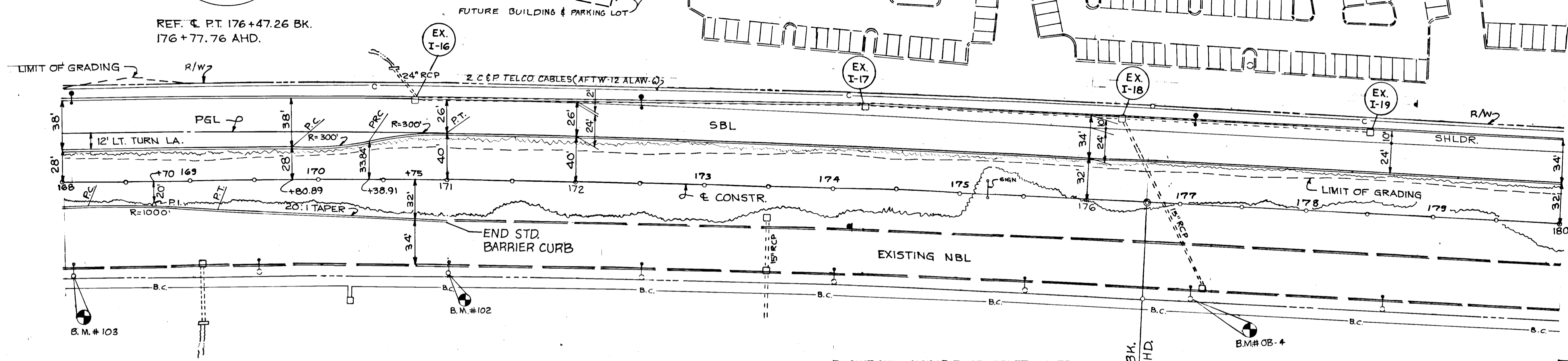
PROFILE
 NOTE BOOK
 GRADES CHECKED
 S.P. AND VED.
 CONSTRUCTION CHECKED

65



REF. C. P.T. 176+47.26 BK.
 176+77.76 AHD.

STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP EL.	REMARKS
I-16	EXIST. DBL 'S' COMB	STA. 170+75 - 66' LT.	-	-	319.84	ADJUST ELEVATION OF FRAME AND HEADPIECE AS REQD.
I-17	EXIST. DBL 'S' COMB	STA. 174+25 - 66' LT.	-	-	335.72	ADJUST ELEVATION OF FRAME AND HEADPIECE AS REQD.
I-18	EXIST. DBL 'S' COMB	STA. 176+25 - 66' LT.	-	-	344.77	ADJUST ELEVATION OF FRAME AND HEADPIECE AS REQD.
I-19	EXIST. DBL 'S' COMB	STA. 178+50 - 66' LT.	-	-	351.42	ADJUST ELEVATION OF FRAME AND HEADPIECE AS REQD.



APPROVED:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief, Land Development Division
Drayville W. Weiland 3/18/91
 Chief, Bureau of Highways
Robert R. Platt 3/15/91
 Chief, Bureau of Engineering

APPROVED:
 HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Community Planning and Land Development
Paul J. ... 4/2/91

PHOENIX ENGINEERING, INC.
 CONSULTING ENGINEERS
 BALTIMORE, MARYLAND 21228

AREA
 BROKEN LAND PARKWAY

TITLE
 ROADWAY PLAN AND PROFILE

Des By H.R.P. Scale 1" = 50' Proj. No. 89-0040
 Drn By J.W.B. Date JULY 1990 Drawing No. 9 OF 19
 Chk By S.P. Approved

7/12/90
 Date

 Robert R. Platt
 Professional Engineer No. 5407

STA. 165+05 TO 171+00
 REMOVE EXISTING BITUMINOUS CURB.

STA. 165+09-28' LT. TO STA. 171+00-32' RT.
 CONSTRUCT STD. BARRIER CURB AROUND MEDIAN OPENING AND ALONG EDGE OF EXIST. NBL TO EXIST. CONC. CURB. TRANSITION HEIGHT OF CURB TO MATCH EXIST. CURB AT TIE-IN POINT. SEE SPECIAL PROVISIONS.

CURVE DATA
 $\Delta = 12^\circ 25' 57''$
 $D = 0^\circ 30' 00''$
 $R = 11,459.16'$
 $T = 1248.15'$
 $L = 2486.50'$
 $E = 67.77'$
 $SE = N.C.$

REMOVE AND SALVAGE EXIST. STREET LIGHTS FOR REUSE
 STA. 169+53 RT. STA. 175+53 RT.
 STA. 171+00 RT. STA. 178+64 RT.
 STA. 174+00 RT.

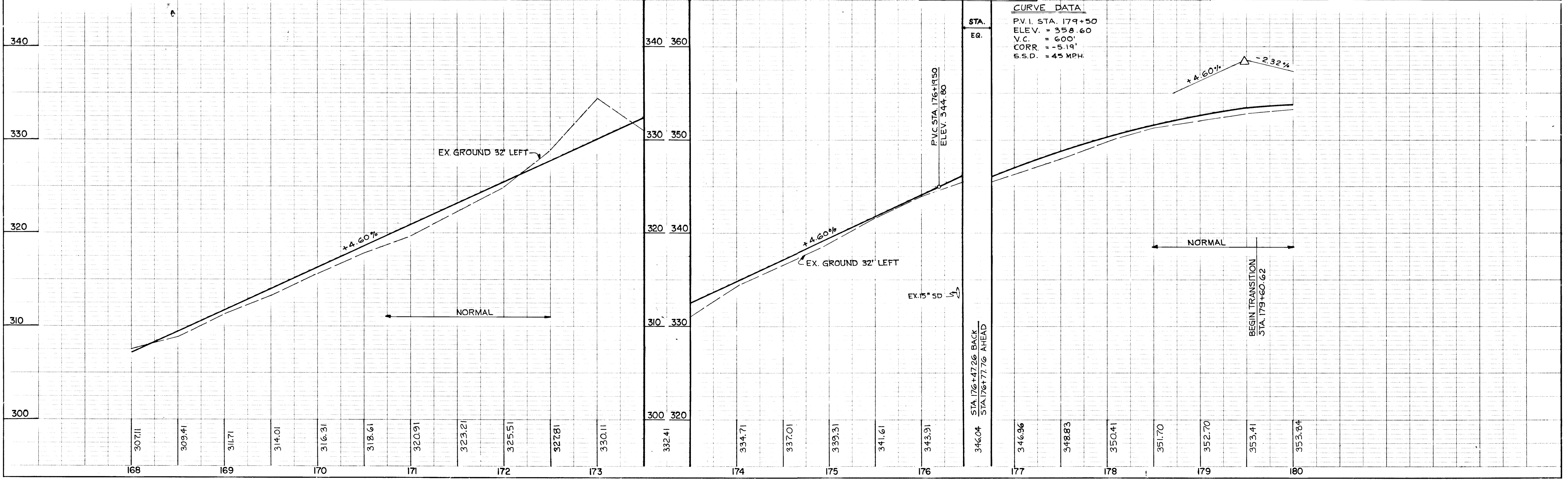
RESET SALVAGED STREET LIGHTS
 STA. 168+07 LT. STA. 177+10 LT.
 STA. 172+50 LT.

P.T. STA. 176+47.26 BK.
 P.O.T. 176+77.76 AHD.

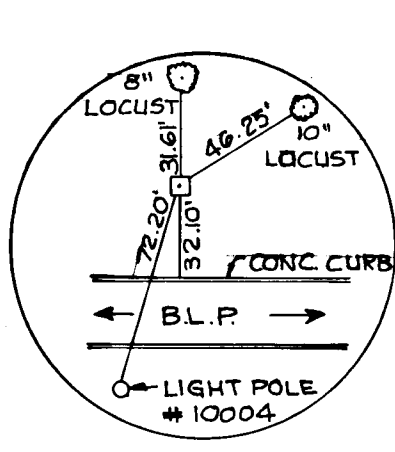
B.M. #103 ELEV. 307.675'
 + CUT ON BOLT @ BASE OF LIGHT POLE # 30005 O.T.P.

B.M. #102 ELEV. 321.41'
 + CUT ON BOLT @ BASE OF LIGHT POLE # 30003 O.T.P.

B.M. #08-4 ELEV. 348.485'
 + CUT ON BOLT @ BASE OF LIGHT POLE # 1006



CURVE DATA
 P.V.I. STA. 179+50
 ELEV. = 358.60
 V.C. = 600'
 CORR. = -5.19'
 S.S.D. = 45 MPH



REF. C.P.C. 180+21.22

STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP E.L.	REMARKS
I-20	EXIST. SIN 'S' COMB	STA. 185+55 - 68' LT.	-	-	343.18	ADJUST ELEVATION OF FRAME AND HEADPIECE AS REQD.

REMOVE AND SALVAGE EXIST. STREET LIGHTS FOR REUSE
 STA. 180+14 RT. STA. 184+21 RT.
 STA. 182+92 RT.

RESET SALVAGED STREET LIGHTS
 STA. 181+50 LT. STA. 185+73 LT.

APPROVED:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 7/18/90
 CHIEF, LAND DEVELOPMENT DIVISION DATE
[Signature] 3/8/91
 CHIEF, BUREAU OF HIGHWAYS DATE
[Signature] 3-15-91
 CHIEF, BUREAU OF ENGINEERING DATE
 APPROVED:
 HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 7/18/90
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

PHOENIX ENGINEERING, INC.
 CONSULTING ENGINEERS
 BALTIMORE, MARYLAND 21228

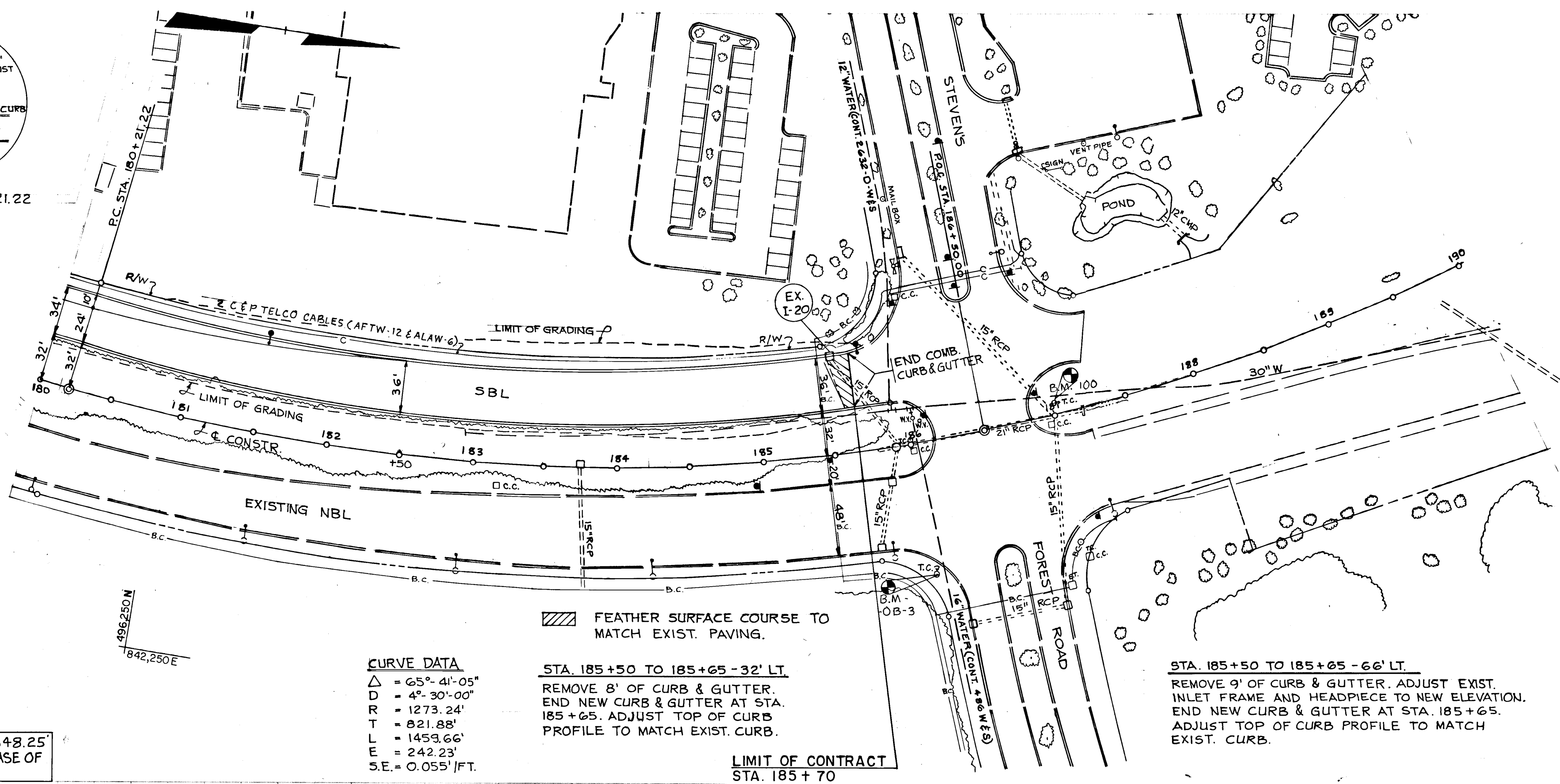
AREA
 BROKEN LAND PARKWAY

TITLE
 ROADWAY PLAN AND PROFILE

Des By	H.R.P.	Scale	1" = 50'	Proj. No.	89-0040
Drn By	J.W.B.	Date	JULY 1990	Drawing No.	10 OF 19
Chk By	S.P.	Approved			

7/12/90
 Date

Herbert R. Platt
 Professional Engineer No. 5407



CURVE DATA
 $\Delta = 65^\circ 41' 05''$
 $D = 4^\circ 30' 00''$
 $R = 1273.24'$
 $T = 821.88'$
 $L = 1453.66'$
 $E = 242.23'$
 $S.E. = 0.055'/FT.$

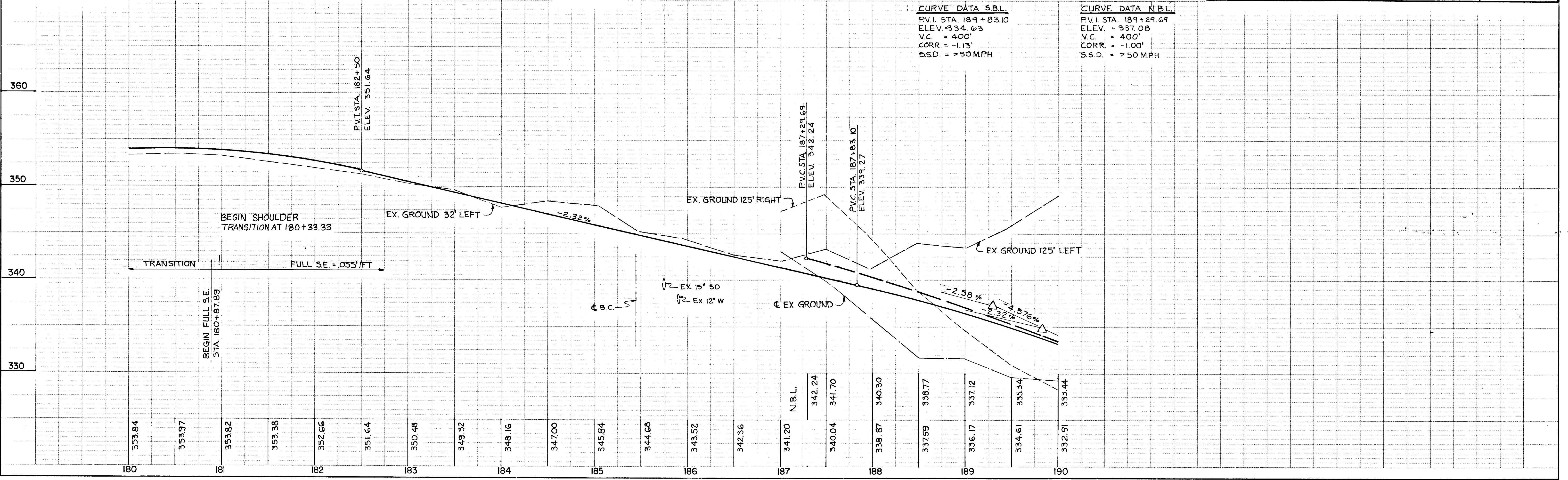
STA. 185+50 TO 185+65 - 32' LT.
 REMOVE 8' OF CURB & GUTTER.
 END NEW CURB & GUTTER AT STA. 185+65. ADJUST TOP OF CURB PROFILE TO MATCH EXIST. CURB.

STA. 185+50 TO 185+65 - 66' LT.
 REMOVE 9' OF CURB & GUTTER. ADJUST EXIST. INLET FRAME AND HEADPIECE TO NEW ELEVATION. END NEW CURB & GUTTER AT STA. 185+65. ADJUST TOP OF CURB PROFILE TO MATCH EXIST. CURB.

B.M. # 0B-3 ELEV. 348.25'
 X CUT ON BOLT @ BASE OF TRAFFIC SIGNAL

CURVE DATA S.B.L.
 P.V.I. STA. 189+83.10
 ELEV. 334.63
 V.C. = 400'
 CORR. = -1.13'
 S.S.D. = >50 MPH.

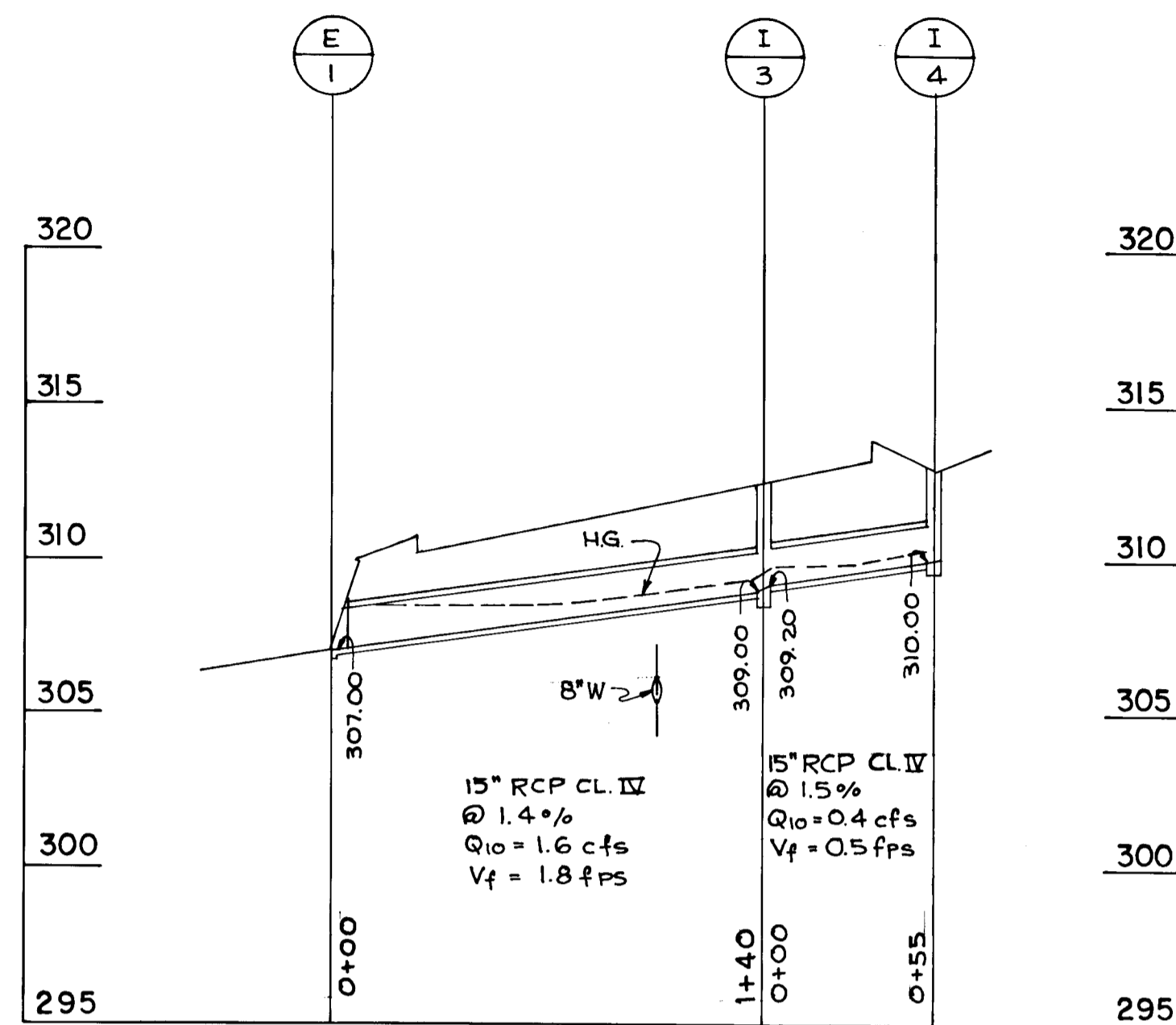
CURVE DATA N.B.L.
 P.V.I. STA. 189+29.69
 ELEV. = 337.08
 V.C. = 400'
 CORR. = -1.00'
 S.S.D. = >50 MPH.



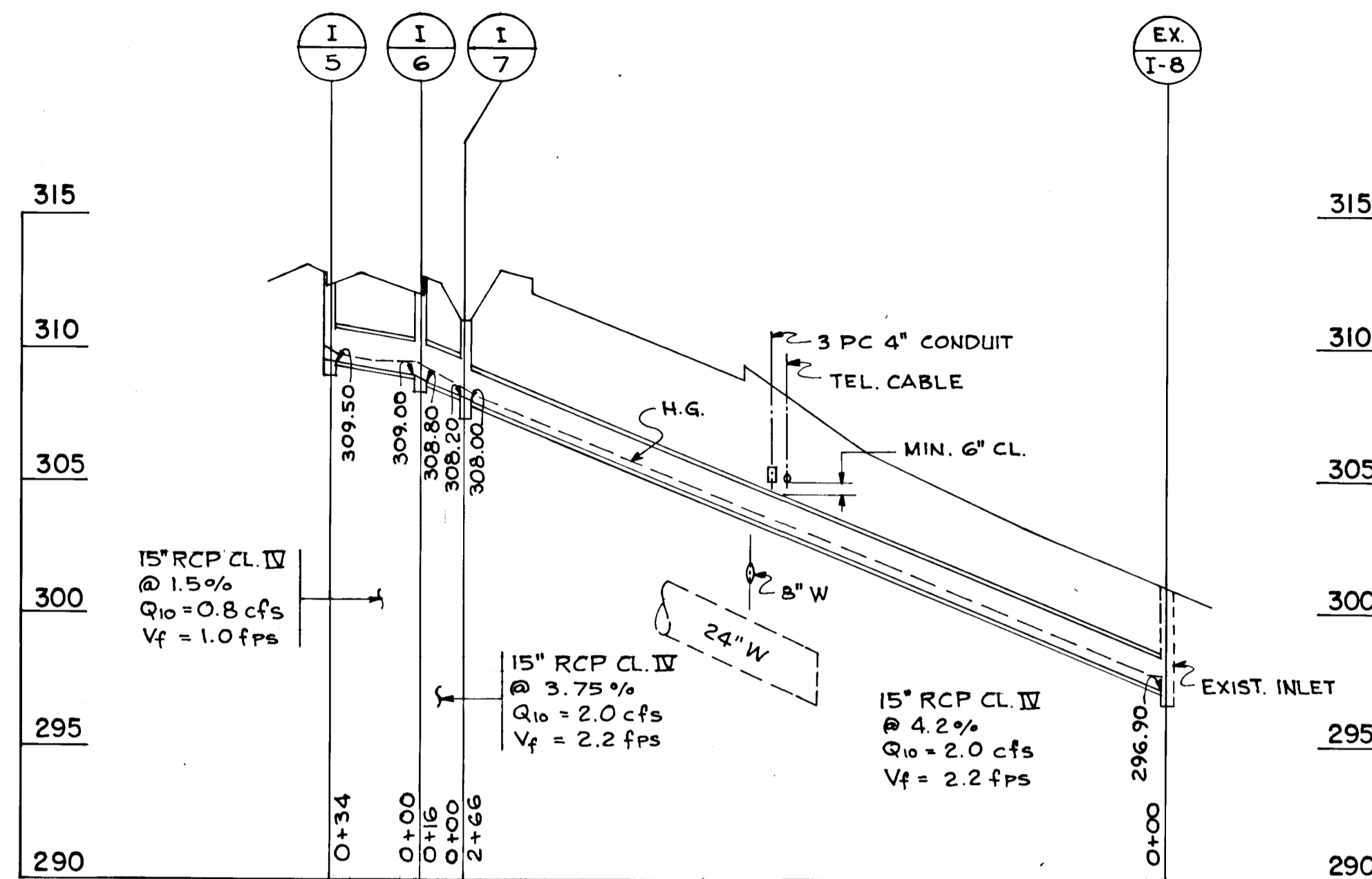
PLAN
 SUPERVISED BY
 NOTE BOOK PLOTTED
 GRADES CHECKED
 STRUCTURE NOTATIONS CHECKED
 NO.

PROFILE
 SUPERVISED BY
 NOTE BOOK PLOTTED
 GRADES CHECKED
 STRUCTURE NOTATIONS CHECKED
 NO.

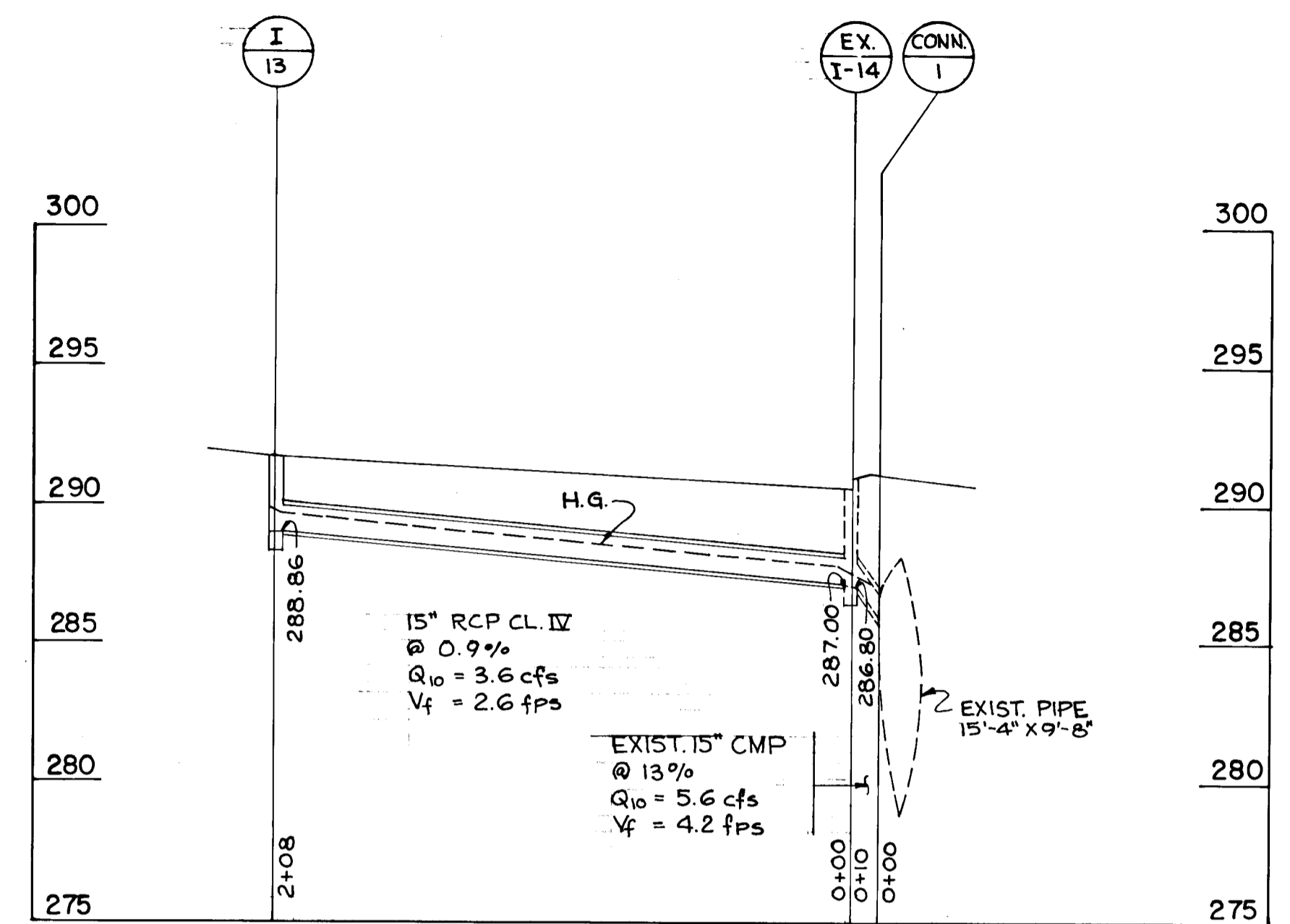
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STA. 132+
LAKEVIEW ENTRANCE
SCALE: HOR. 1" = 50'
VER. 1" = 5'



STA. 140+
WOODMERE ENTRANCE
SCALE: HOR. 1" = 50'
VER. 1" = 5'



STA. 160+
SCALE: HOR. 1" = 50'
VER. 1" = 5'

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 3/12/91
CHIEF, LAND DEVELOPMENT DIVISION DATE
[Signature] 3/9/91
CHIEF, BUREAU OF HIGHWAYS DATE
[Signature] 3/15/91
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 3/12/91
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

7/12/90
Date
[Signature]
Professional Engineer No. 5407

PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND 21228

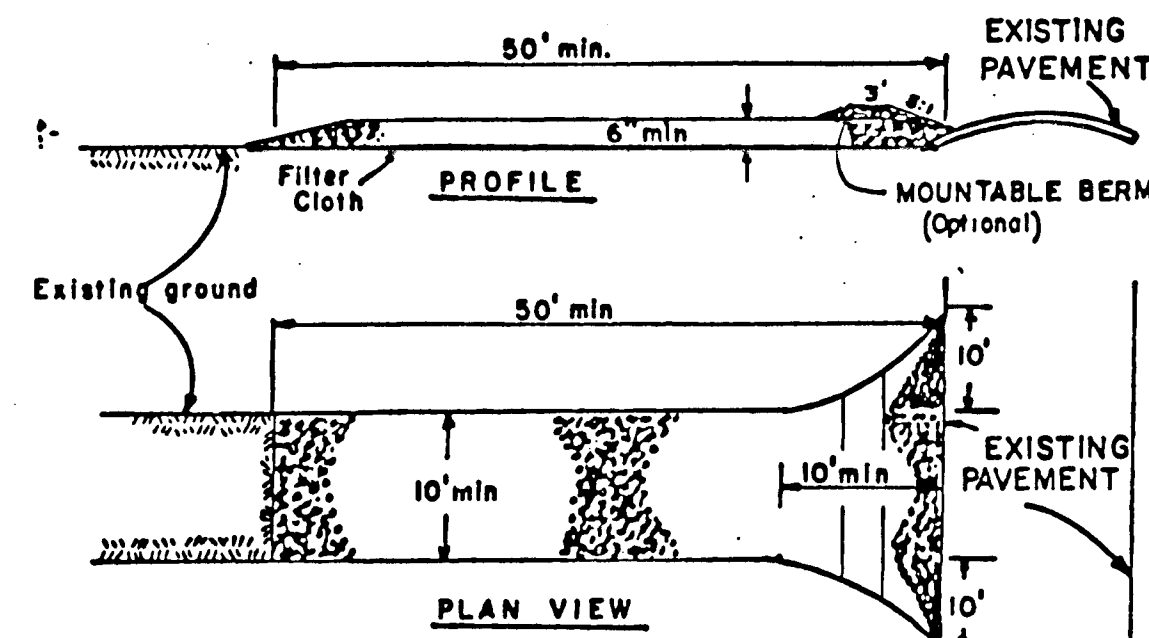
AREA
BROKEN LAND PARKWAY

TITLE
STORM DRAIN PROFILES

Des By H.R.P.	Scale AS SHOWN	Proj. No. 89-0040
Drn By J.W.B.	Date JULY 1990	Drawing No. II OF 19
Chk By S.P.	Approved	

F.91.13

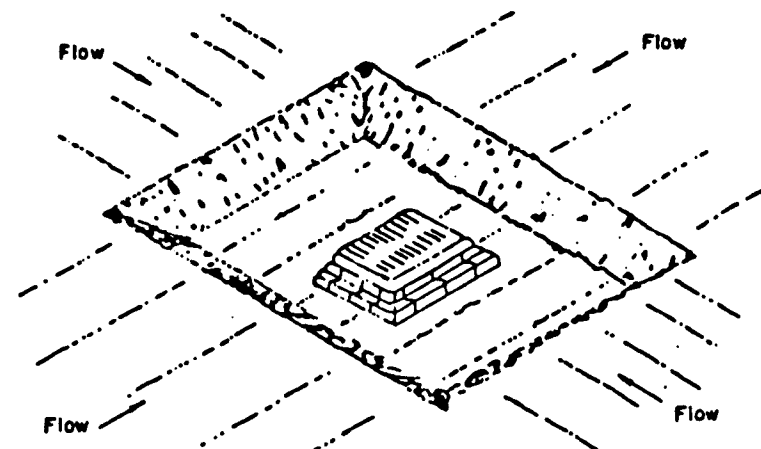
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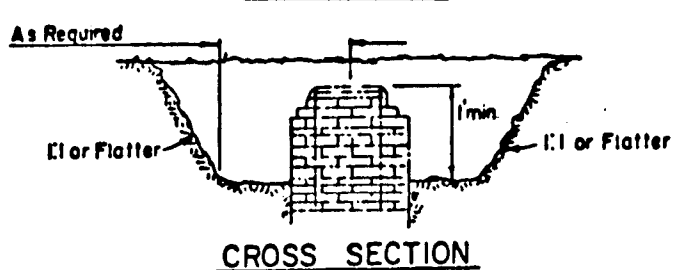
CONSTRUCTION SPECIFICATIONS

1. Stone size - Use 3" stone, or reclaimed or recycled concrete equivalent.
2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness - Not less than six (6) inches.
4. Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Periodic inspection and needed maintenance shall be provided after each rain.

STABILIZED CONSTRUCTION ENTRANCE
NO SCALE



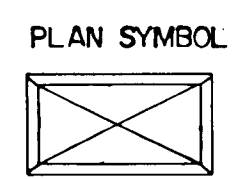
YARD DRAIN



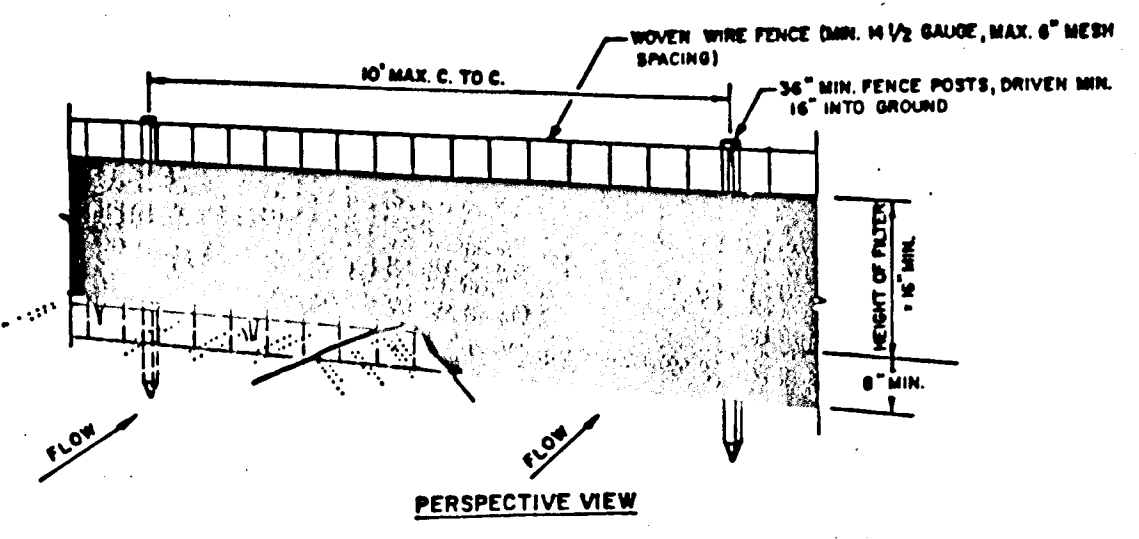
CROSS SECTION

CONSTRUCTION SPECIFICATION FOR ST-III

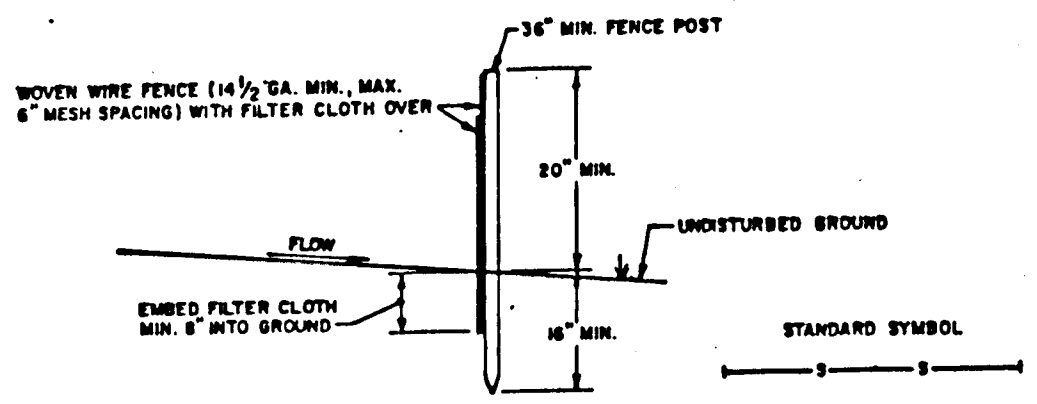
1. Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to 1/4 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
2. The volume of sediment storage shall be 1800 cubic feet per acre of contributory drainage.
3. The structure shall be inspected after each rain and repairs made as needed.
4. Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized.
5. The sediment trap shall be removed and the area stabilized when the constructed drainage area has been properly stabilized.
6. All cut slopes shall be 1:1 or flatter.



STORM INLET SEDIMENT TRAP
NO SCALE



PERSPECTIVE VIEW

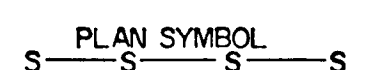


SECTION

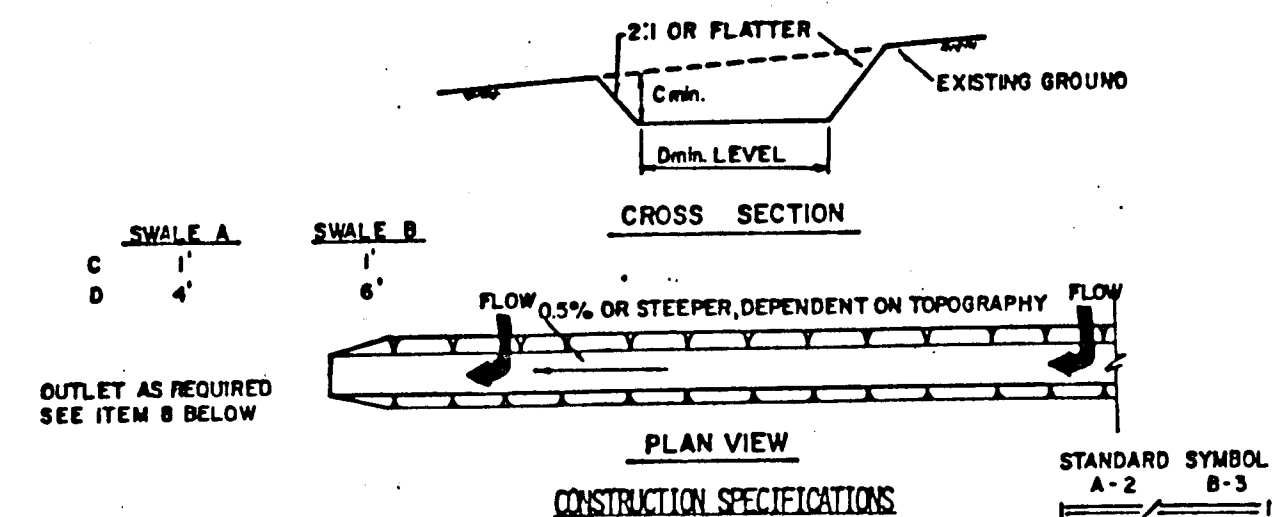
CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD
 FENCE: WOVEN WIRE, 1/4" GA. 6" MAX. PESH OPENING
 FILTER CLOTH: FILTER X, RIPTAP, LINO, STAB-LINKA, LINO OR APPROVED EQUAL
 PREFABRICATED UNIT: GEOPAB, ENVIROFENCE, OR APPROVED EQUAL.



SILT FENCE
NO SCALE



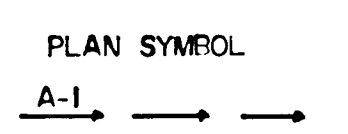
CONSTRUCTION SPECIFICATIONS

1. ALL TEMPORARY SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET.
2. DIVERTED RUNOFF FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON-EROSIVE VELOCITY.
4. ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE WITH THE PROPER FUNCTIONING OF THE SWALE.
5. THE SWALE SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE, AND CROSS SECTION AS REQUIRED TO MEET THE CRITERIA SPECIFIED HEREIN AND BE FREE OF BANK PROJECTIONS OR OTHER IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
6. FILLS SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED ON CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. STABILIZATION SHALL BE AS PER THE CHART BELOW:

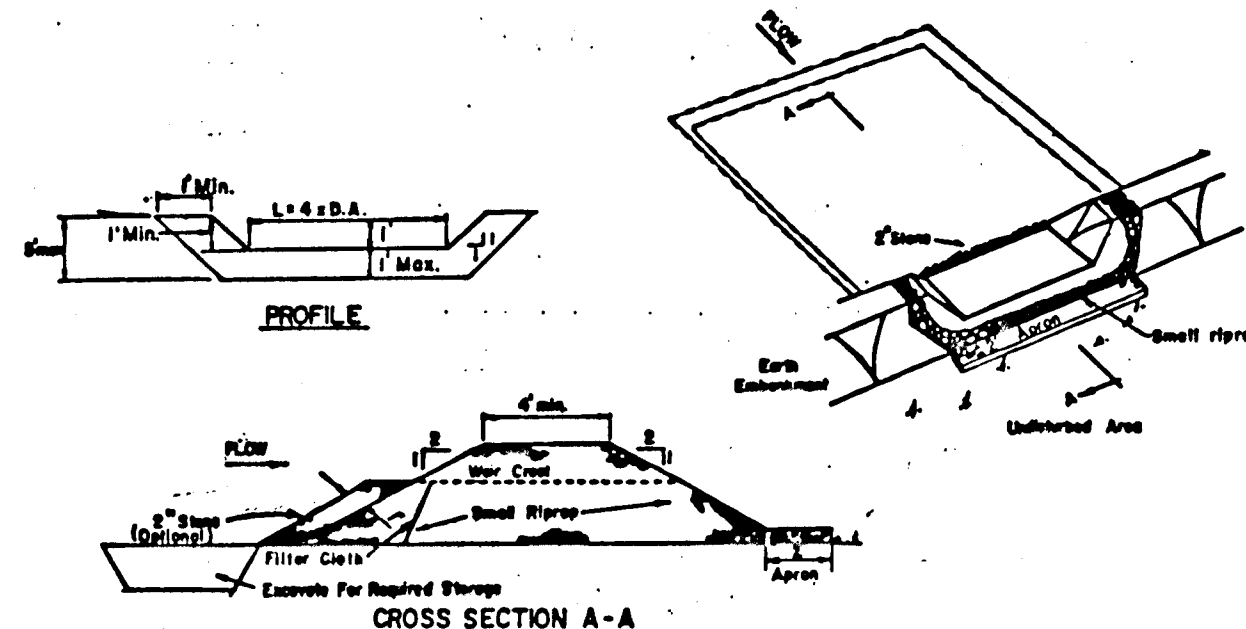
FLOW CHANNEL STABILIZATION

TYPE OF TREATMENT	CHANNEL GRADE	A (5 AC OR LESS)	B (5 AC - 10 AC)
1	0.5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE OR EXCELSTOR
3	5.1-8.0%	SEED WITH JUTE OR EXCELSTOR 500	LINED RIP-RAP 4-8" RECYCLED CONCRETE EQUIVALENT
4	8.1-20%	LINED 4-8" RIP-RAP	ENGINEERED DESIGN

9. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.



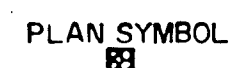
TEMPORARY SWALE
NO SCALE



CROSS SECTION A-A

OPTION: A one foot layer of 2" stone may be placed on the upstream side of the riprap in place of the embedded filter cloth.

- CONSTRUCTION SPECIFICATIONS FOR ST-V**
1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
 2. The fill material for the embankment shall be free of roots and other woody vegetation as well as oversized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
 3. All cut and fill slopes shall be 2:1 or flatter.
 4. The stone used in the outlet shall be small riprap 4"-8" along with a 1" thickness of 2" aggregate placed on the up-grade side on the small riprap on embedded filter cloth in the riprap.
 5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/4 the design depth of the trap.
 6. The structure shall be inspected after each rain and repairs made as needed.
 7. Construction operations shall be carried out in such a manner that erosion and water pollution is minimized.
 8. The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.



STONE OUTLET SEDIMENT TRAP
NO SCALE

CERTIFICATION BY THE DEVELOPER:

I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS OF DEVELOPMENT AND PLANS FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

John H. Nijf
Signature of Developer
7-12-90
Date

CERTIFICATION BY THE ENGINEER:

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

Richard R. Plett
Signature of Engineer
7/12/90
Date

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

James M. Hahn
S. Soil Conservation Service
3/26/91
Date

THESE PLANS FOR EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Sherry W. Helling
Howard Soil Conservation District
3/25/91
Date

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John M. Dwyer 3/26/91
CHIEF, LAND DEVELOPMENT DIVISION DATE
James W. Wallstead 3/28/91
CHIEF, BUREAU OF HIGHWAYS DATE
Richard R. Plett 3-15-91
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Frank U. Campbell 4/20/91
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND 21228

AREA: BROKEN LAND PARKWAY

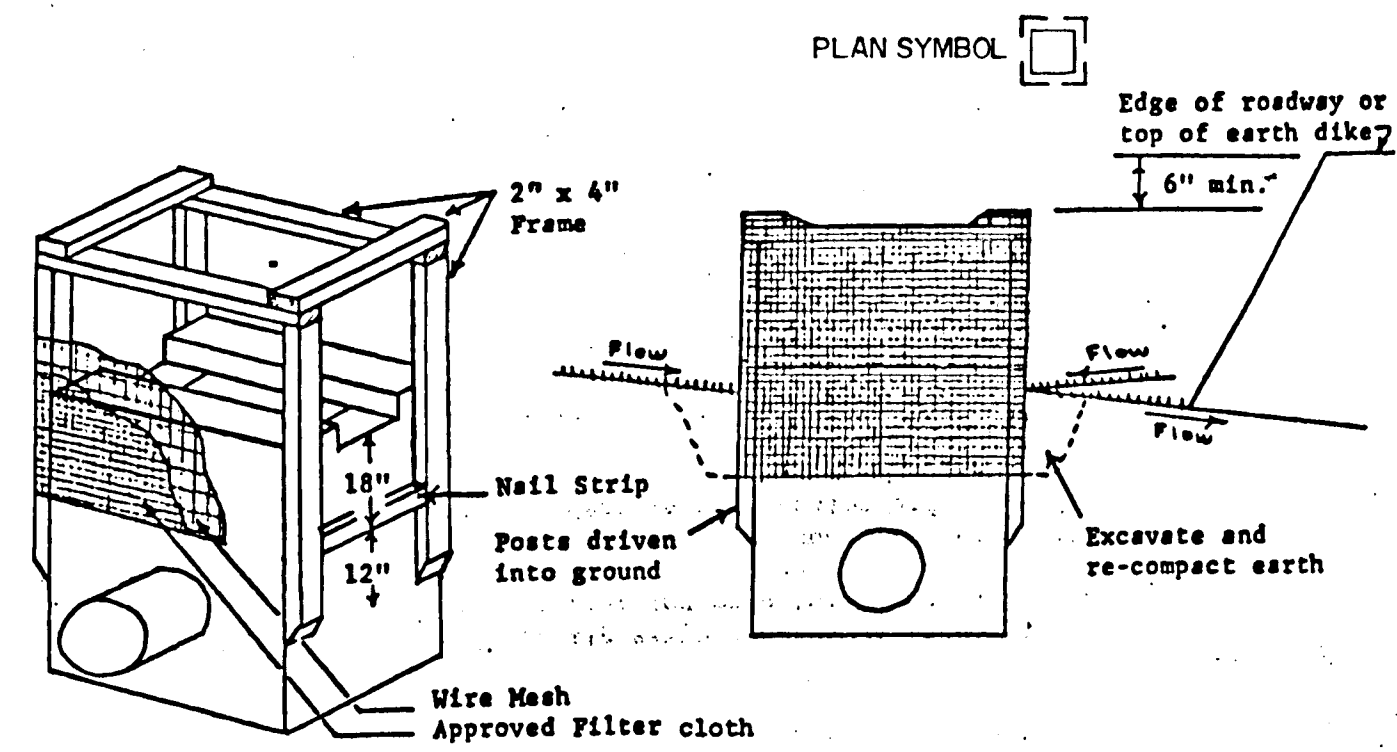
TITLE: SEDIMENT CONTROL DETAILS

Des By: H.R.P. Scale: 1" = 50' Proj. No: 89-0040
 Dwn By: J.W.B. Date: JULY 1990 Drawing No.
 Chk By: S.P. Approved 12 OF 19

7/12/90
Date

Richard R. Plett
Professional Engineer No. 5407

INLET PROTECTION
NO SCALE



Construction Specifications

I. Materials

- Wooden frame is to be constructed of 2" x 4" construction grade lumber.
- Wire mesh must be of sufficient strength to support filter fabric, and stone for curb inlets, with water fully impounded against it.
- Filter cloth must be of a type approved for this purpose; resistant to sunlight with sieve size, EOS, 40-85, to allow sufficient passage of water and removal of sediment.
- Stone is to be 2" in size and clean, since fines would clog the cloth.

II. Procedure

- A swale, ditchline or yard inlet protection.
 - Excavate completely around inlet to a depth of 18" below notch elevation.
 - Drive 2 x 4 post 1' into ground at four corners of inlet. Place nail strips between posts on ends of inlet. Assemble top portion of 2 x 4 frame using overlap joint shown. Top of frame (weir) must be 6" below edge of roadway adjacent to inlet.
 - Stretch wire mesh tightly around frame and fasten securely. Ends must meet at post.
 - Stretch filter cloth tightly over wire mesh, the cloth must extend from top of frame to 18" below inlet notch elev. Fasten securely to frame. Ends must meet at post, be overlapped and folded, then fastened down.
 - Backfill around inlet in compacted 6" layers until layer of earth is even with notch elevation on ends and top elevation on sides.
 - If the inlet is not in a low point, construct a compacted earth dike in the ditchline below it. The top of this dike is to be at least 6" higher than the top of frame (weir).
 - This structure must be inspected frequently and the filter fabric replaced when clogged.

PERMANENT SEEDING NOTE

SEEDBED PREPARATION: LOOSEN UPPER 3 INCHES OF SOIL BY RAKING DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

SOIL AMENDMENTS: USE ONE OF THE FOLLOWING SCHEDULES.

- PREFERRED** - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ.FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREA/FORM FERTILIZER (9 LBS. PER 1000 SQ. FT.).
- ACCEPTABLE** - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE (14 LBS./1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (05 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS. ACRES KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS ACRES OF WELL ANCHORED STRAW.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL./1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL./1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE - INSPECT ALL SEEDBED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

SEEDBED PREPARATION: LOOSEN UPPER 3 INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.

SOIL AMENDMENTS: APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.).

SEEDING: FOR PERIODS MACH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 2-1/2 BU. PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ.FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (07 LBS./1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLY 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING OR USE SOD.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. OR HIGHER, USE 348 GAL. PER ACRE (8 GAL./1000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

SEDIMENT CONTROL NOTES

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION. (992-2437)
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) SEVEN CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GRATER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH: THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:

TOTAL AREA OF SITE	21.6	ACRES
AREA DISTURBED	7.8	ACRES
AREA TO BE ROOFED OR PAVED	5.1	ACRES
AREA TO BE VEGETATIVELY STABILIZED	2.7	ACRES
TOTAL CUT	5600	CU. YDS.
TOTAL FILL	2025	CU. YDS. *
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY DPW SEDIMENT CONTROL INSPECTOR.
- ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

SEQUENCE OF CONSTRUCTION

THE FOLLOWING DESCRIBES A SEQUENCE OF CONSTRUCTION FOR EACH SECTION OF THE ROADWAY WHICH COMPRISES A DRAINAGE AREA WITHIN THE ROADBED, (FROM THE HIGH POINT IN THE GRADE TO THE LOW POINT TO THE NEXT HIGHPOINT). IT DOES NOT IMPLY A SEQUENCE WITH REGARD TO THE ROADWAY SECTION, THE CONTRACTOR MAY WORK IN ALL SECTIONS SIMULTANEOUSLY.

THE REQUIREMENTS FOR MAINTENANCE OF TRAFFIC SHOULD BE NOTED PARTICULARLY AS THEY RELATED TO THE EXISTING CROSS-OVER FROM STA. 123+ TO STA. 129+.

- STA. 180 + 50 TO STEVENS FOREST ROAD:
 - INSTALL STABILIZED CONSTRUCTION ENTRANCE AND SILT FENCE.
 - CONSTRUCT TEMPORARY STONE OUTLET SEDIMENT TRAP NO. 6.
 - CLEAR, GRUB, STRIP TOPSOIL ETC.
 - GRADE ROADBED TO SUBGRADE ELEVATION.

NOTE: TRAP NO. 6 STONE OUTLET STRUCTURE IS TO REMAIN IN PLACE UNTIL BASE COURSE AND CURB AND GUTTERS IN PLACE. REMOVE STONE OUTLET STRUCTURE, S.C.E. AND PAVE ROAD.
- STA. 153 + TO STA. 180 + 50:
 - INSTALL STABILIZED CONSTRUCTION ENTRANCE AND SILT FENCE.
 - CONSTRUCT STORM INLET SEDIMENT TRAP, SIST NO. 5 AND TEMPORARY SWALES.
 - CLEAR, GRUB, STRIP TOPSOIL.
 - CONSTRUCT NEW STORM DRAINS - INLET I-13 AND PIPE.
 - GRADE ROADBED TO SUBGRADE ELEVATION AND RECONSTRUCT TEMPORARY SWALES.
 - CONSTRUCT PAVEMENT BASE COURSE AND CURB AND GUTTERS.
 - REMOVE SIST NO. 5 AND REGRADE MEDIAN.
- STA. 137 + TO STA. 153 +:
 - INSTALL STABILIZED CONSTRUCTION ENTRANCE AND SILT FENCE.
 - CONSTRUCT TEMPORARY STONE OUTLET SEDIMENT TRAP NO. 3 AND STORM INLET SEDIMENT TRAP NO. 4.
 - CLEAR, GRUB, STRIP TOPSOIL.
 - CONSTRUCT NEW STORM DRAINS, INLETS I-5, I-6, I-7, I-10 AND PIPES.
 - GRADE ROADBED TO SUBGRADE ELEVATION.

NOTE: TRAP NO. 3 STONE OUTLET IS TO REMAIN IN PLACE UNTIL BASE COURSE AND CURB AND GUTTER IS IN PLACE.

 - REMOVE EXISTING PAVEMENT AT ST. 142, CONSTRUCT BASE COURSE AND CURB AND GUTTER.
 - REMOVE STONE OUTLET TRAP NO. 3 AND SIST NO. 4 AND PAVE ROAD.
- STA. 123 + TO STA. 137 +:

NOTE: ONE TRAFFIC LANE MUST BE MAINTAINED ON THE TEMPORARY CROSS-OVER (PAVING TO BE REMOVED UNDER THIS CONTRACT) UNTIL ONE TRAFFIC LANE CAN BE PROVIDED ON THE NEW S.B.LANE.

 - INSTALL STABILIZED CONSTRUCTION ENTRANCE AND SILT FENCE.
 - CONSTRUCT SEDIMENT TRAPS NO. 1, 2 AND IP-2.
 - CLEAR, GRUB, STRIP TOPSOIL.
 - CONSTRUCT NEW STORM DRAINS, INLETS I-3, I-4 AND PIPES.
 - GRADE ROADBED TO SUBGRADE ELEVATION.

NOTE: STONE OUTLET AT TRAP NO. 2 WILL REMAIN IN PLACE UNTIL BASE COURSE AND CURB AND GUTTER IS CONSTRUCTED.

 - REMOVE PORTION OF CROSS-OVER PAVEMENT LEFT OF TEMPORARY LANE BARRIER AND GRADE ROADBED TO SUBGRADE ELEVATION.
 - PAVE ROADWAY.
 - AFTER ONE TRAFFIC LANE IS OPEN OR NEW S.B.L., INSTALL IP-1, REMOVE REMAINING PORTION OF CROSS-OVER PAVEMENT.
 - CONSTRUCT REMAINING CURB AND GUTTER AND REPLACE MEDIAN.

NOTE: ALL SEDIMENT TRAPS SHALL REMAIN IN PLACE UNTIL ALL UPLAND AREAS ARE STABILIZED.
TEMPORARY OPENINGS MAY BE INSTALLED IN SIDES OF INLETS TO FACILITATE DRAINAGE AFTER BASE COURSE AND CURB AND GUTTER HAS BEEN CONSTRUCTED.

UPON COMPLETION OF ALL GRADING OPERATIONS AND WITH THE APPROVAL OF THE HOWARD COUNTY DPW SEDIMENT INSPECTOR ALL REMAINING SEDIMENT CONTROL DEVICES WILL BE REMOVED AND THE DISTURBED AREAS STABILIZED IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES.

* NOTE: ANY WASTE THAT MUST BE DISPOSED OF OFF-SITE WILL GO TO THE PREVIOUSLY APPROVED AREA WITH SDP - 90 - 213.

CERTIFICATION BY THE DEVELOPER:
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS OF DEVELOPMENT AND PLANS FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

John H. N. [Signature]
Signature of Developer
7-12-90
Date

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

Robert R. Platt
Signature of Engineer
7/12/90
Date

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

John M. [Signature] 3/26/91
U.S. Soil Conservation Service
Date

THESE PLANS FOR EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John H. [Signature] 3/25/91
Howard Soil Conservation District
Date

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 3/10/91
CHIEF, LAND DEVELOPMENT DIVISION
Lawrence W. [Signature] 3/8/91
CHIEF, BUREAU OF HIGHWAYS
[Signature] 3-15-91
CHIEF, BUREAU OF ENGINEERING
DATE

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 7/12/90
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
DATE

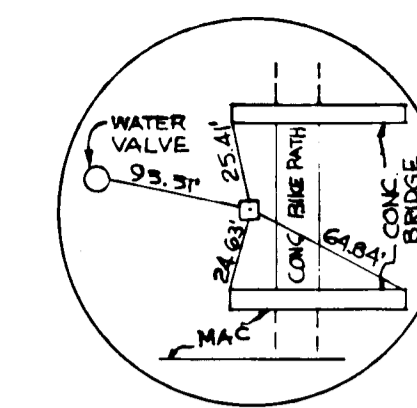
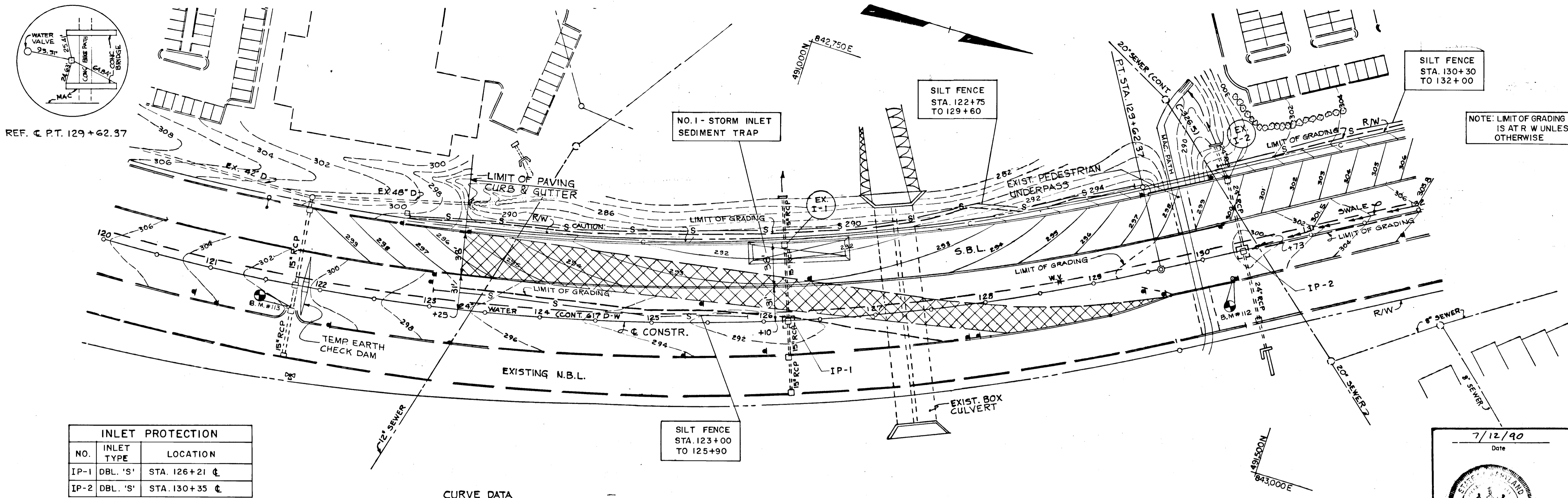
PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND 21228

AREA
BROKEN LAND PARKWAY

TITLE
SEDIMENT CONTROL DETAILS

Des By H.R.P.	Scale AS SHOWN	Proj. No. 89-0040
Drn By J.W.B.	Date JULY 1990	Drawing No.
Chk By S.P.	Approved	13 OF 19

7/12/90
Date
Robert R. Platt
Professional Engineer No. 5407



REF. C.P.T. 129+62.37

NOTE: LIMIT OF GRADING LT. OF S.B.L. IS AT R.W. UNLESS SHOWN OTHERWISE

INLET PROTECTION		
NO.	INLET TYPE	LOCATION
IP-1	DBL. 'S'	STA. 126+21 C
IP-2	DBL. 'S'	STA. 130+35 C

CURVE DATA
 $\Delta = 54^{\circ}55'02''$
 $D = 3^{\circ}00'00''$
 $R = 1909.86'$
 $T = 992.46'$
 $L = 1830.57'$
 $E = 242.47'$
 $S.E. = 0.045'/FT.$

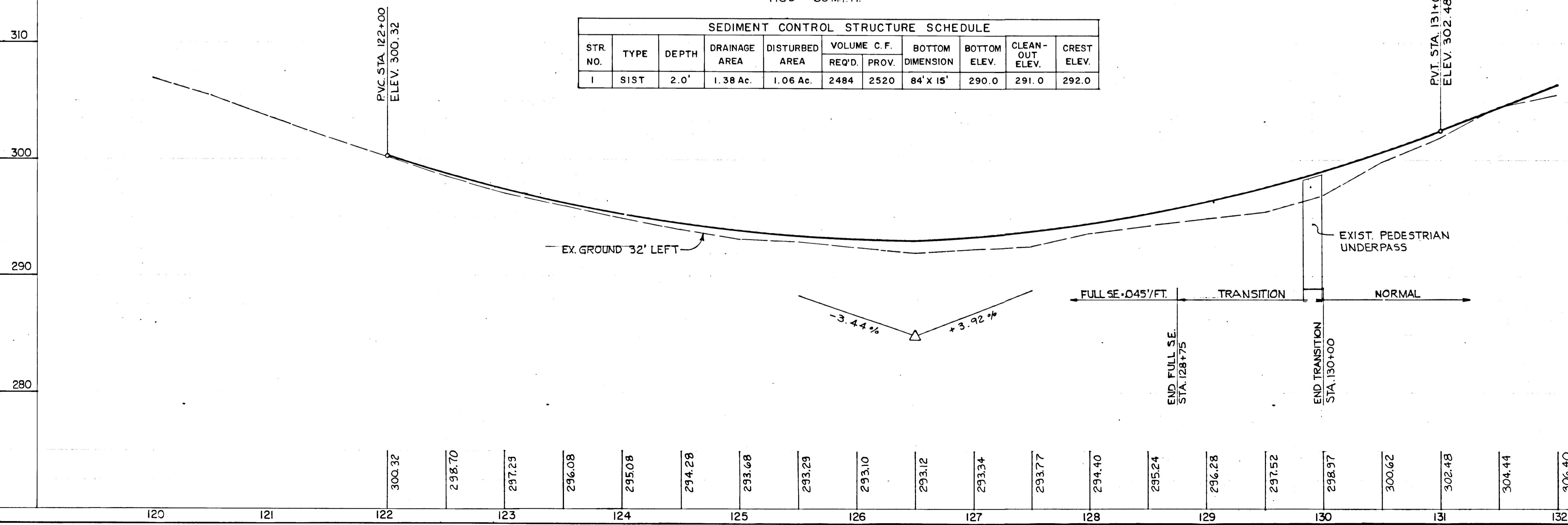
STA. 123+25 TO 129+62
 REMOVE EXIST. PAVEMENT, REGRADE MEDIAN AS SHOWN ON TYPICAL SECTION. PLACE 4" TOPSOIL, SEED & MULCH.

B.M. #112 ELEV. 302.97' CUT ON CORNER OF CONC. BRIDGE PARAPET 25' RIGHT COR. OF PARAPET

B.M. #113 ELEV. 300.90' CUT IN CONC. ON CORNER S.D. INLET 20' RT. ± @ STA. 121+75'

CURVE DATA
 P.V.I. STA. 126+50
 ELEV. 284.84
 V.C. = 900'
 CORR. = +8.28'
 HSD = 60 MPH.

SEDIMENT CONTROL STRUCTURE SCHEDULE										
STR. NO.	TYPE	DEPTH	DRAINAGE AREA	DISTURBED AREA	VOLUME REQ'D.	VOLUME PROV.	BOTTOM DIMENSION	BOTTOM ELEV.	CLEAN-OUT ELEV.	CREST ELEV.
1	SIST	2.0'	1.38 Ac.	1.06 Ac.	2484	2520	84' X 15'	290.0	291.0	292.0



APPROVED:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Clayton Johnson 3/19/91
 CHIEF, LAND DEVELOPMENT DIVISION DATE
Debra W. Weiland 3/18/91
 CHIEF, BUREAU OF HIGHWAYS DATE
Debra W. Weiland 3-15-91
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED:
 HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Debra W. Weiland 3/18/91
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

PHOENIX ENGINEERING, INC.
 CONSULTING ENGINEERS
 BALTIMORE, MARYLAND 21228

AREA: BROKEN LAND PARKWAY

TITLE: EROSION AND SEDIMENT CONTROL

Des By: H.R.P. Scale: 1" = 50' Proj. No.: 89-0040

Drn By: J.W.B. Date: JULY 1990 Drawing No.: 14 OF 19

Chk By: S.P. Approved

CERTIFICATION BY THE DEVELOPER:
 I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS OF DEVELOPMENT AND PLANS FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

Debra W. Weiland 7-12-90
 Signature of Developer Date

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

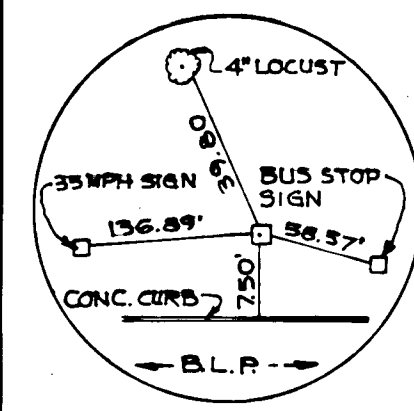
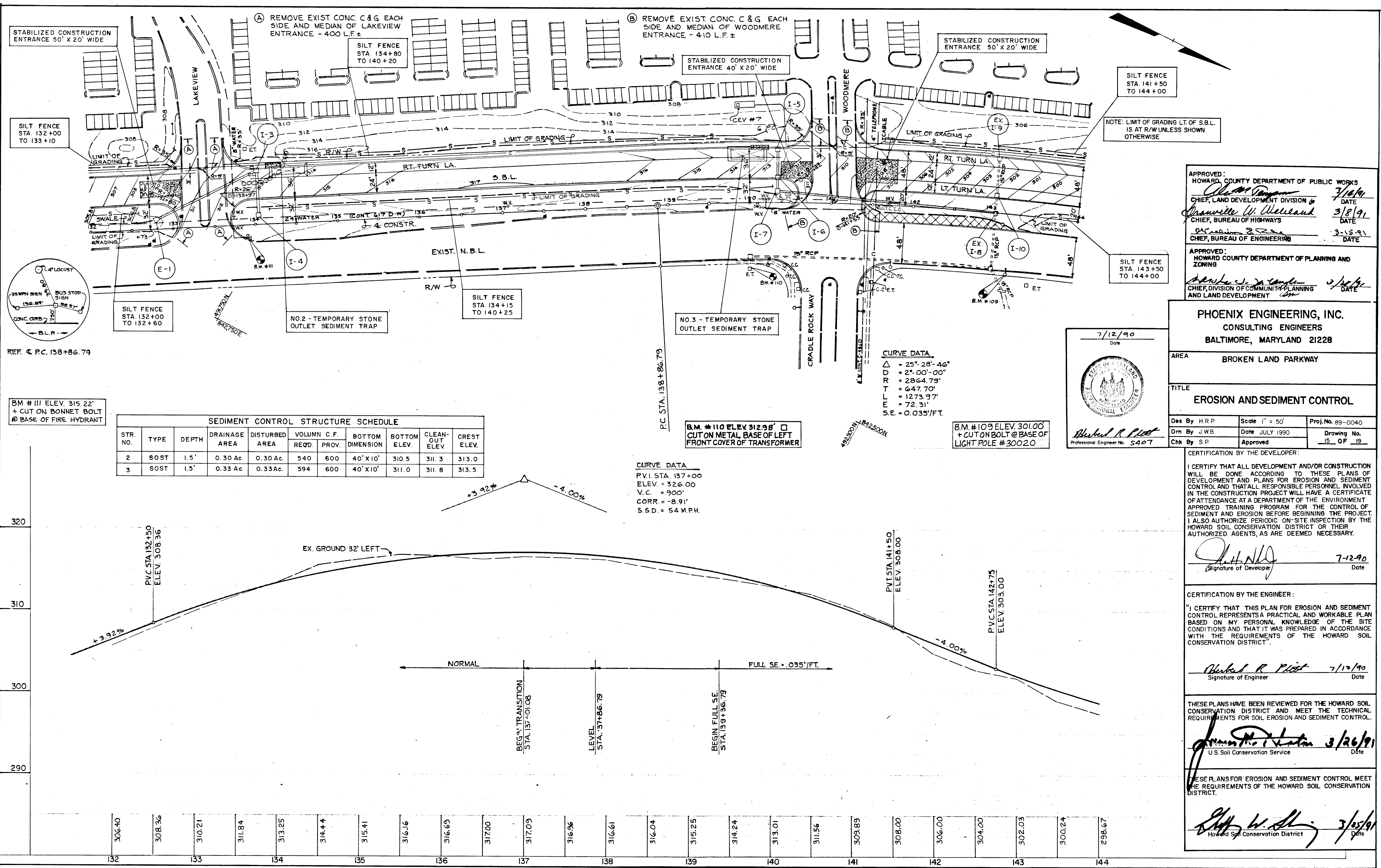
Richard R. Platt 7/12/90
 Signature of Engineer Date

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Debra W. Weiland 3/16/91
 S. Soil Conservation Service Date

THESE PLANS FOR EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Debra W. Weiland 3/21/91
 Howard Soil Conservation District Date



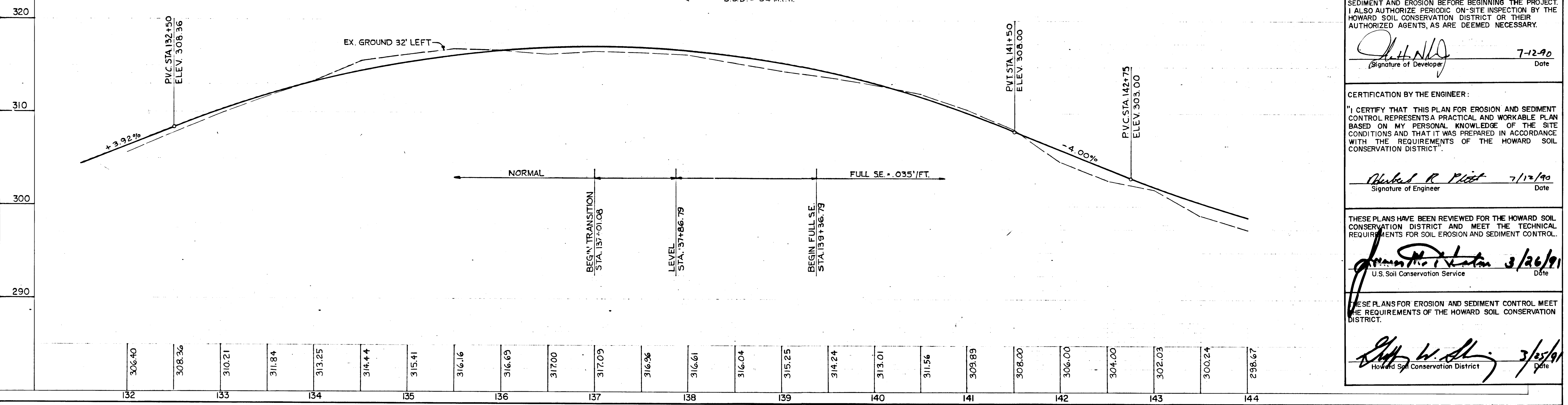
REF. C.P.C. 138+86.79

BM # III ELEV. 315.22' + CUT ON BONNET BOLT @ BASE OF FIRE HYDRANT

SEDIMENT CONTROL STRUCTURE SCHEDULE										
STR. NO.	TYPE	DEPTH	DRAINAGE AREA	DISTURBED AREA	VOLUME REQ'D.	C.F. PROV.	BOTTOM DIMENSION	BOTTOM ELEV.	CLEAN-OUT ELEV.	CREST ELEV.
2	SOST	1.5'	0.30 Ac.	0.30 Ac.	540	600	40' X 10'	310.5	311.3	313.0
3	SOST	1.5'	0.33 Ac.	0.33 Ac.	594	600	40' X 10'	311.0	311.8	313.5

CURVE DATA
 P.V.I. STA. 137+00
 ELEV. = 326.00
 V.C. = 900'
 CORR. = -8.91'
 S.S.D. = 54 M.P.H.

CURVE DATA
 Δ = 25° 28' 46"
 D = 2° 00' 00"
 R = 2864.79'
 T = 647.70'
 L = 1273.97'
 E = 72.31'
 S.E. = 0.035'/FT.



APPROVED:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 CHIEF, LAND DEVELOPMENT DIVISION
 DATE 7/12/90
 HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
 DATE 3/8/91

PHOENIX ENGINEERING, INC.
 CONSULTING ENGINEERS
 BALTIMORE, MARYLAND 21228

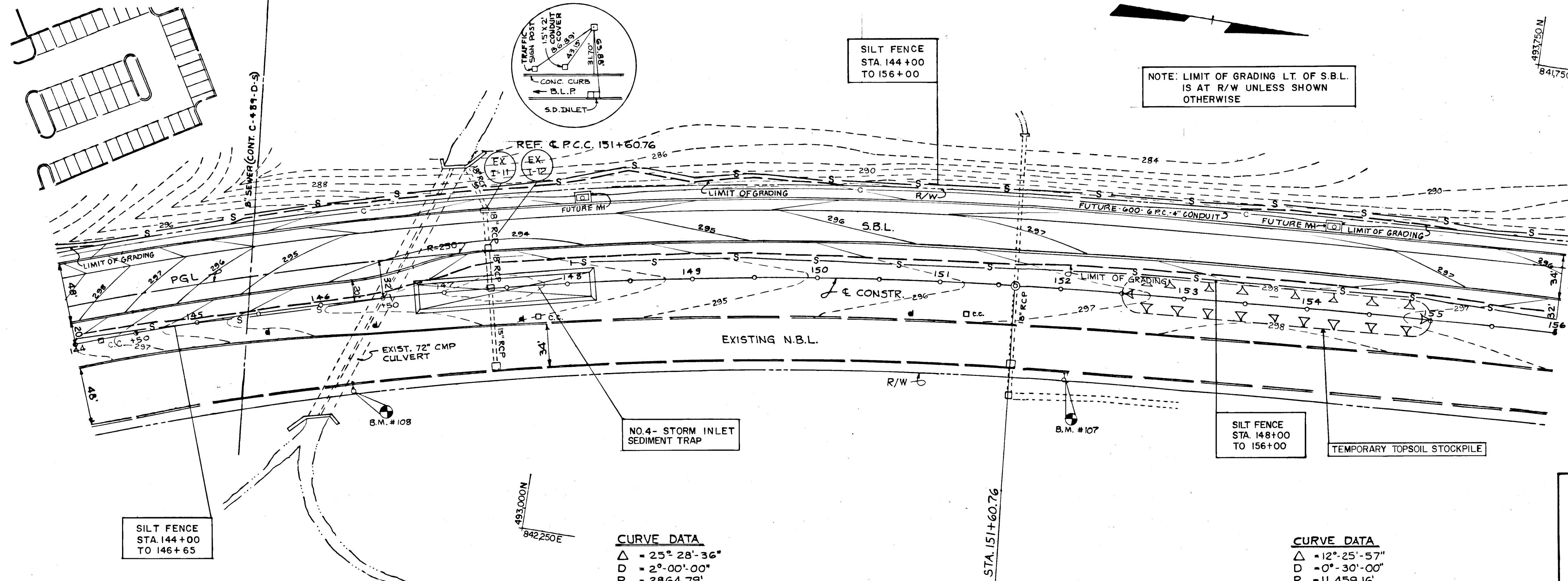
AREA: BROKEN LAND PARKWAY
 TITLE: EROSION AND SEDIMENT CONTROL
 Des By: H.R.P. Scale: 1" = 50' Proj. No.: 89-0040
 Dwn By: J.W.B. Date: JULY 1990 Drawing No.: 15 OF 19
 Chk By: S.P. Approved

CERTIFICATION BY THE DEVELOPER:
 I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS OF DEVELOPMENT AND PLANS FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.
 Signature of Developer: [Signature] Date: 7-12-90

CERTIFICATION BY THE ENGINEER:
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature of Engineer: [Signature] Date: 7/12/90

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.
 Signature: [Signature] Date: 3/26/91
 U.S. Soil Conservation Service

THESE PLANS FOR EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature: [Signature] Date: 3/25/91
 Howard Soil Conservation District



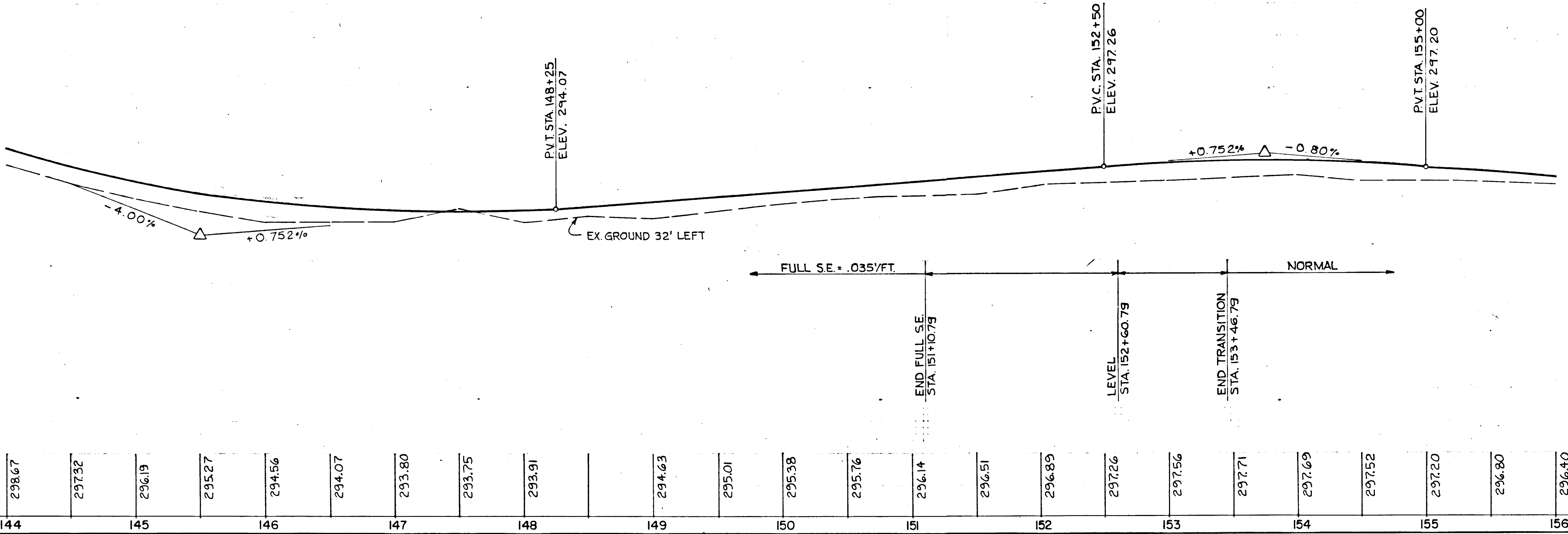
NOTE: LIMIT OF GRADING LT. OF S.B.L. IS AT R/W UNLESS SHOWN OTHERWISE

CURVE DATA
 $\Delta = 25^\circ 28' 36''$
 $D = 2^\circ 00' 00''$
 $R = 2864.79'$
 $T = 647.70'$
 $L = 1273.97'$
 $E = 72.31'$
 $S.E. = 0.035'/FT$

CURVE DATA
 $\Delta = 12^\circ 25' 57''$
 $D = 0^\circ 30' 00''$
 $R = 11,459.16'$
 $T = 1248.15'$
 $L = 2486.50'$
 $S = 67.77'$
 $S.E. = N.C.$

CURVE DATA
 P.V.I. STA. 145+50
 ELEV. = 292.00
 V.C. = 550'
 CORR. = +3.27
 H.S.D. = 63 MPH.

SEDIMENT CONTROL STRUCTURE SCHEDULE										
STR. NO.	TYPE	DEPTH	DRAINAGE AREA	DISTURBED AREA	VOLUME REQ'D.	C.F. PROV.	BOTTOM DIMENSION	BOTTOM ELEV.	CLEAN-OUT ELEV.	CREST ELEV.
4	SIST	2.0'	2.98 Ac.	1.62 Ac.	5364	5600	140' X 20'	391.7	392.5	393.7



APPROVED:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Don M. Danon 7/10/90
 CHIEF, LAND DEVELOPMENT DIVISION DATE
Shawville W. Welland 3/8/91
 CHIEF, BUREAU OF HIGHWAYS DATE
Richard S. Cason 3-15-91
 CHIEF, BUREAU OF ENGINEERING DATE

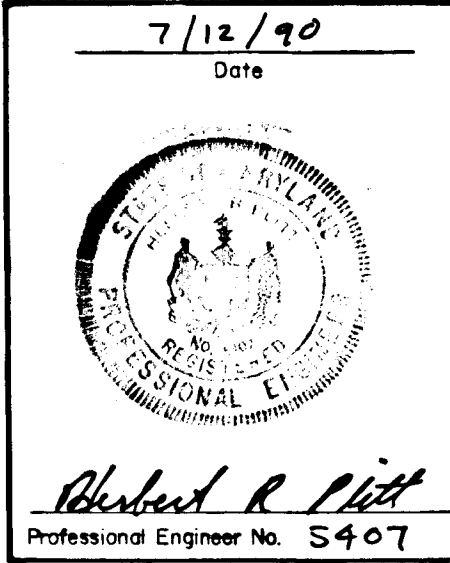
APPROVED:
 HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Richard S. Cason 3/15/91
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

PHOENIX ENGINEERING, INC.
 CONSULTING ENGINEERS
 BALTIMORE, MARYLAND 21228

AREA: BROKEN LAND PARKWAY

TITLE: EROSION AND SEDIMENT CONTROL

Des By: H.R.P. Scale: 1" = 50' Proj. No. 89-0040
 Dwn By: J.W.B. Date: JULY 1990 Drawing No. 16 OF 19
 Chk By: S.P. Approved



CERTIFICATION BY THE DEVELOPER:
 I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS OF DEVELOPMENT AND PLANS FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

John W. G. 7-12-90
 Signature of Developer Date

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

Richard R. Platt 7/12/90
 Signature of Engineer Date

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

James M. Stiles 3/26/91
 U.S. Soil Conservation Service Date

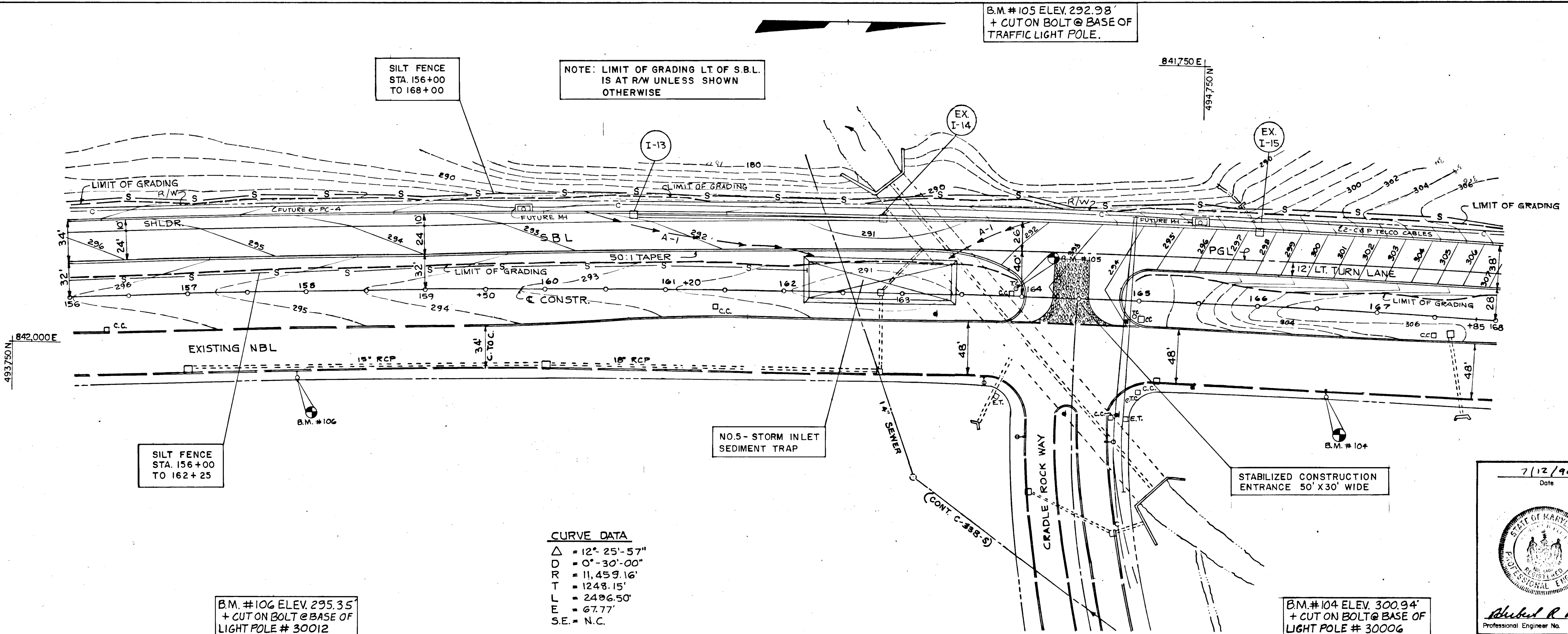
THESE PLANS FOR EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Shirley W. Allen 3/15/91
 Howard Soil Conservation District Date

B.M. #105 ELEV. 292.98'
+ CUT ON BOLT @ BASE OF
TRAFFIC LIGHT POLE.

SILT FENCE
STA. 156+00
TO 168+00

NOTE: LIMIT OF GRADING LT. OF S.B.L.
IS AT R/W UNLESS SHOWN
OTHERWISE



SILT FENCE
STA. 156+00
TO 162+25

B.M. #106 ELEV. 295.35'
+ CUT ON BOLT @ BASE OF
LIGHT POLE # 30012

CURVE DATA
Δ = 12°-25'-57"
D = 0°-30'-00"
R = 11,459.16'
T = 1248.15'
L = 2496.50'
E = 67.77'
S.E. = N.C.

CURVE DATA
P.V.I. STA. 164+24
ELEV. = 289.81
V.C. = 400'
CORR. = +2.70'
H.S.D. = 50 M.P.H.

B.M. #104 ELEV. 300.94'
+ CUT ON BOLT @ BASE OF
LIGHT POLE # 30006

SEDIMENT CONTROL STRUCTURE SCHEDULE										
STR. NO.	TYPE	DEPTH	DRAINAGE AREA	DISTURBED AREA	VOLUME C.F.		BOTTOM DIMENSION	BOTTOM ELEV.	CLEAN-OUT ELEV.	CREST ELEV.
					REQD.	PROV.				
5	SIST	2.0'	3.77 Ac.	2.84 Ac.	6786	7200	120' X 30'	287.8	288.8	289.8

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
James W. Weiland 7/12/90 DATE
CHIEF, LAND DEVELOPMENT DIVISION
James W. Weiland 3/8/91 DATE
CHIEF, BUREAU OF HIGHWAYS
James W. Weiland 3-15-91 DATE
CHIEF, BUREAU OF ENGINEERING

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Mark J. D'Amico 7/12/90 DATE
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND 21228

AR-A BROKEN LAND PARKWAY

TITLE
EROSION AND SEDIMENT CONTROL

Des By H.R.P. Scale 1" = 50' Proj. No. 89-0040
Drn By J.W.B. Date JULY 1990 Drawing No. 17 OF 19
Chk By S.P. Approved

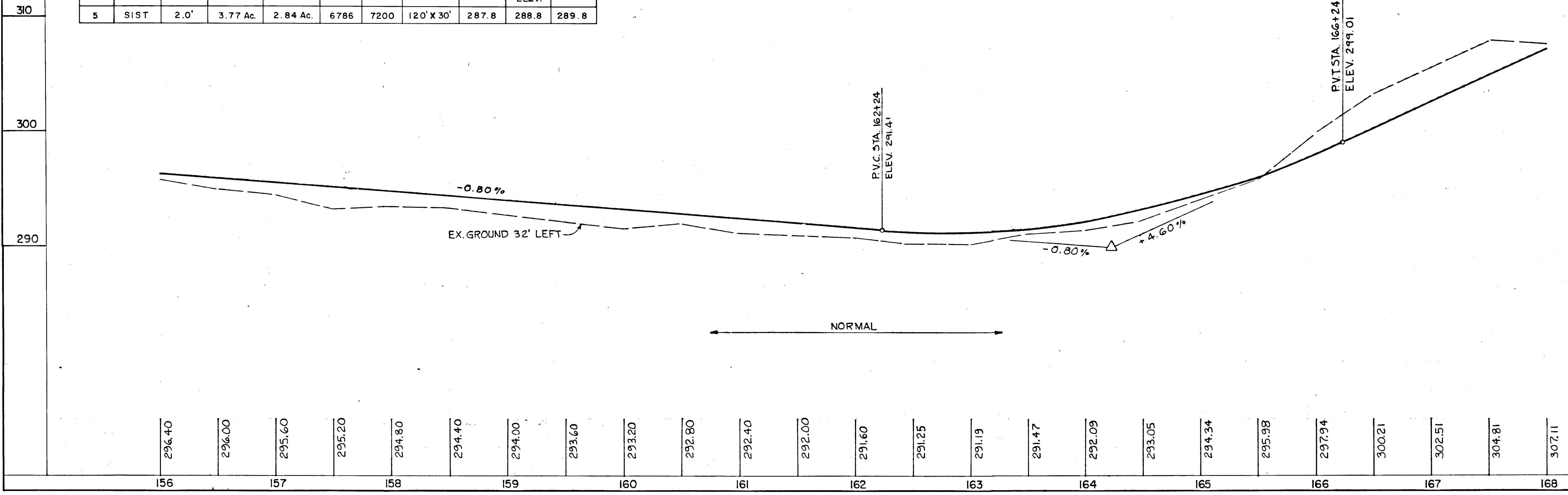
7/12/90
Date
Harold R. Platt
Professional Engineer No. 5407

CERTIFICATION BY THE DEVELOPER:
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS OF DEVELOPMENT AND PLANS FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.
James W. Weiland 7-12-90
Signature of Developer Date

CERTIFICATION BY THE ENGINEER:
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
Harold R. Platt 7/12/90
Signature of Engineer Date

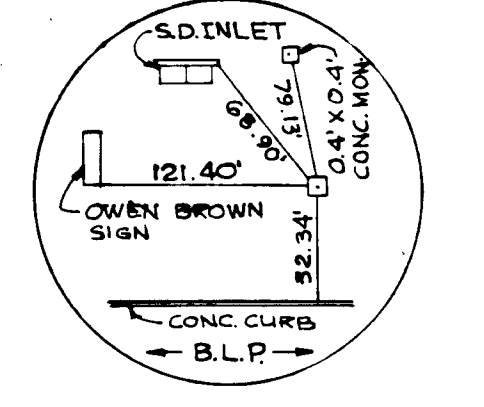
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.
James W. Weiland 3/26/91
U.S. Soil Conservation Service Date

THESE PLANS FOR EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
James W. Weiland 3/26/91
Howard Soil Conservation District Date



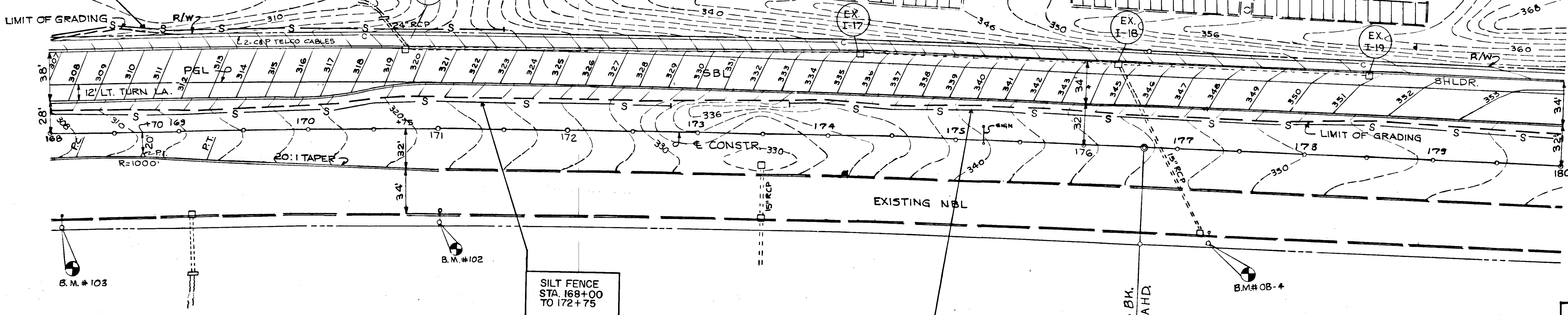
65

SILT FENCE
STA. 168+00
TO 171+50



REF. C. PT. 176+47.26 BK.
176+77.76 AHD.

NOTE: LIMIT OF GRADING LT. OF S.B.L.
IS AT R/W UNLESS SHOWN
OTHERWISE



SILT FENCE
STA. 168+00
TO 172+75

SILT FENCE
STA. 173+75
TO 180+00

P.T. STA. 176+47.26 BK.
P.O.T. 176+77.76 AHD.

CURVE DATA
Δ = 12°-25'-57"
D = 0°-30'-00"
R = 11,453.16'
T = 1248.15'
L = 2486.50'
E = 67.77'
SE = N.C.

B.M. #103 ELEV. 307.675'
+ CUT ON BOLT @ BASE
OF LIGHT POLE # 30005 Q.T.P.

B.M. #102 ELEV. 321.41'
+ CUT ON BOLT @ BASE OF
LIGHT POLE # 30003 Q.T.P.

B.M. #08-4 ELEV. 348.485'
+ CUT ON BOLT @ BASE OF
LIGHT POLE # 1006

CURVE DATA
P.V.I. STA. 179+50
ELEV. = 358.60
V.C. = 600'
CORR. = -5.19'
S.S.D. = 45 MPH.

7/12/90
Date

Professional Engineer No. 5407

APPROVED:
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William J. ... 3/12/91
CHIEF, LAND DEVELOPMENT DIVISION DATE
Lawrence W. ... 3/8/91
CHIEF, BUREAU OF HIGHWAYS DATE
... 3-15-91
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED:
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
... 3/12/91
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

PHOENIX ENGINEERING, INC.
CONSULTING ENGINEERS
BALTIMORE, MARYLAND 21228

AREA
BROKEN LAND PARKWAY

TITLE
EROSION AND SEDIMENT CONTROL

Des By H.R.P.	Scale 1" = 50'	Proj. No. 89-0040
Drn By J.W.B.	Date JULY 1990	Drawing No. 18 OF 19
Chk By S.P.	Approved	

CERTIFICATION BY THE DEVELOPER:
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS OF DEVELOPMENT AND PLANS FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.

... 7/12/90
Signature of Developer Date

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

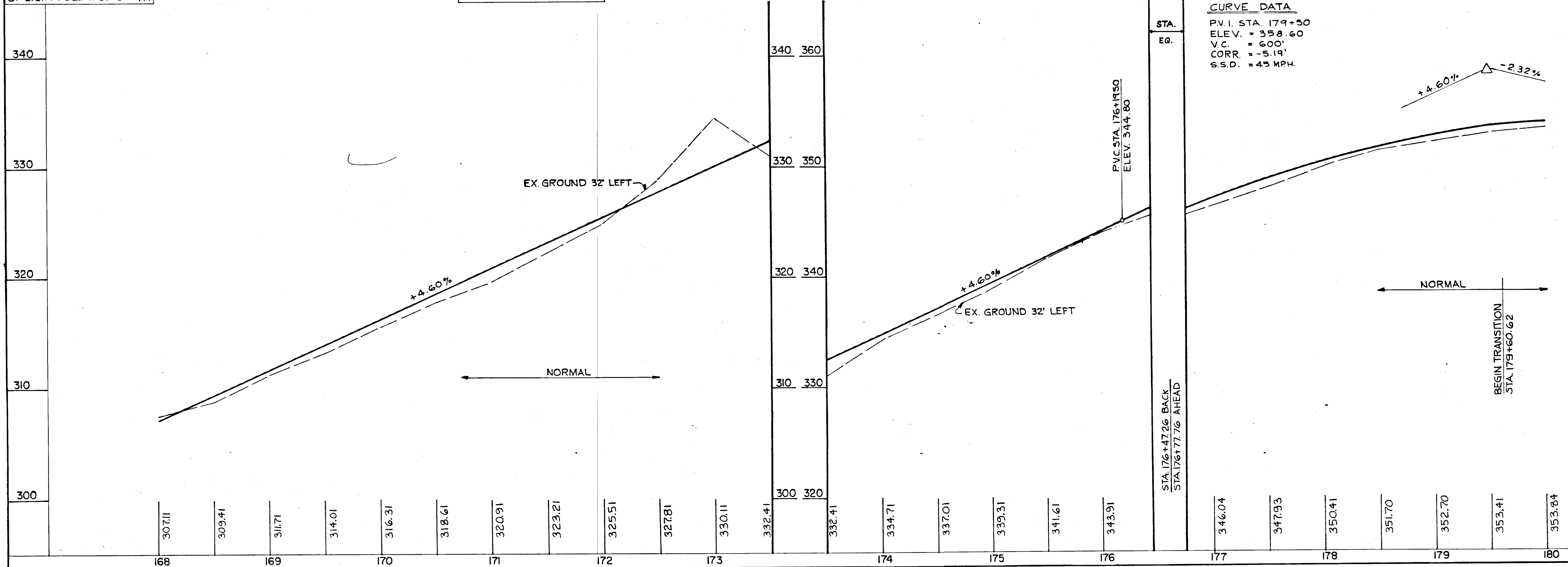
Michael R. ... 7/12/90
Signature of Engineer Date

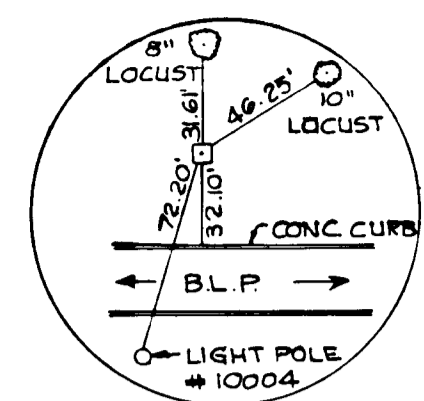
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

... 3/24/91
U.S. Soil Conservation Service Date

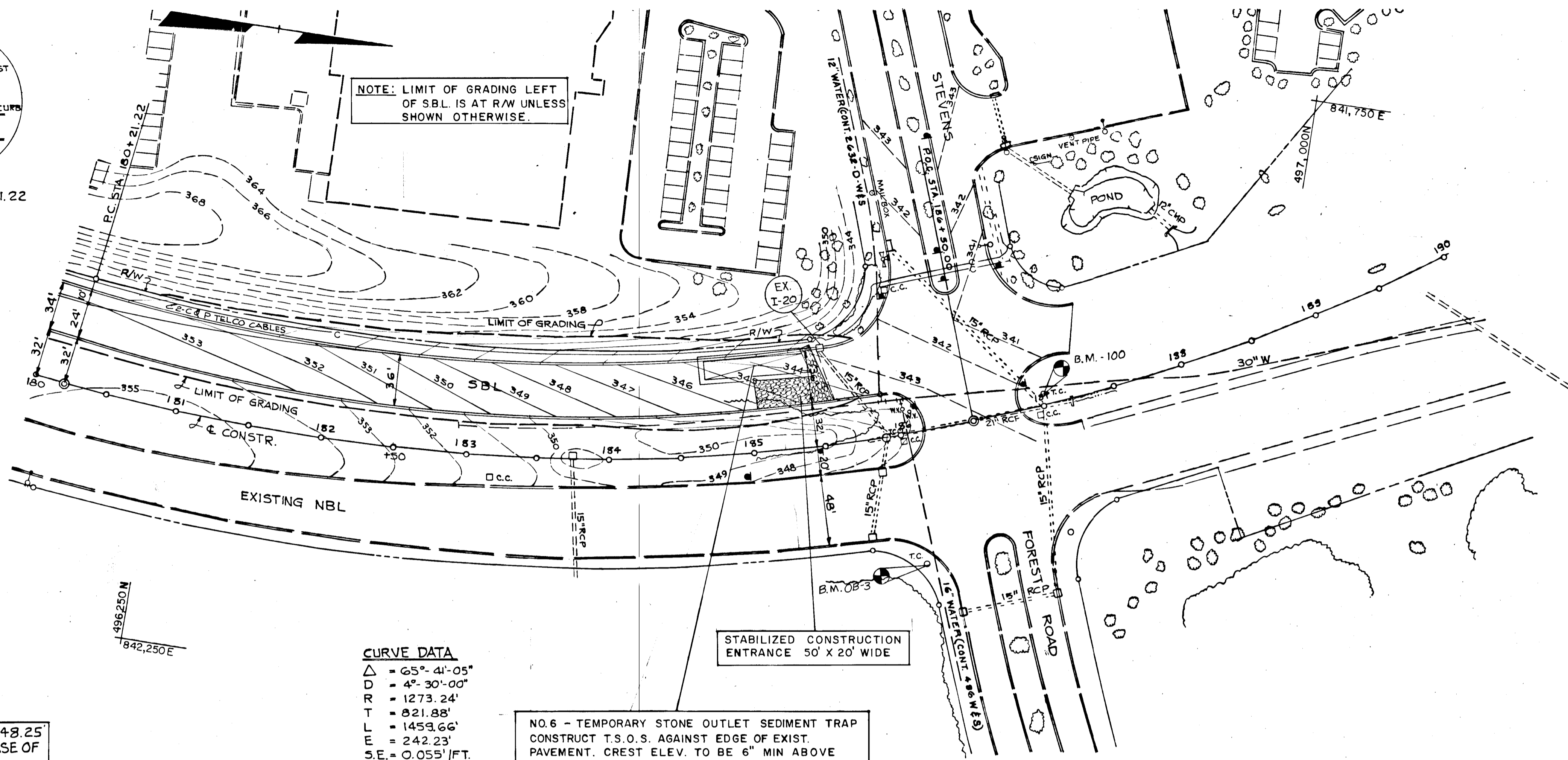
THESE PLANS FOR EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

... 3/24/91
Howard Soil Conservation District Date





REF. C.P.C. 180+21.22



CURVE DATA
 $\Delta = 65^\circ - 41' - 05''$
 $DD = 4^\circ - 30' - 00''$
 $RT = 1273.24'$
 $L = 821.88'$
 $E = 1459.66'$
 $E = 242.23'$
 $S.E. = 0.055'/FT.$

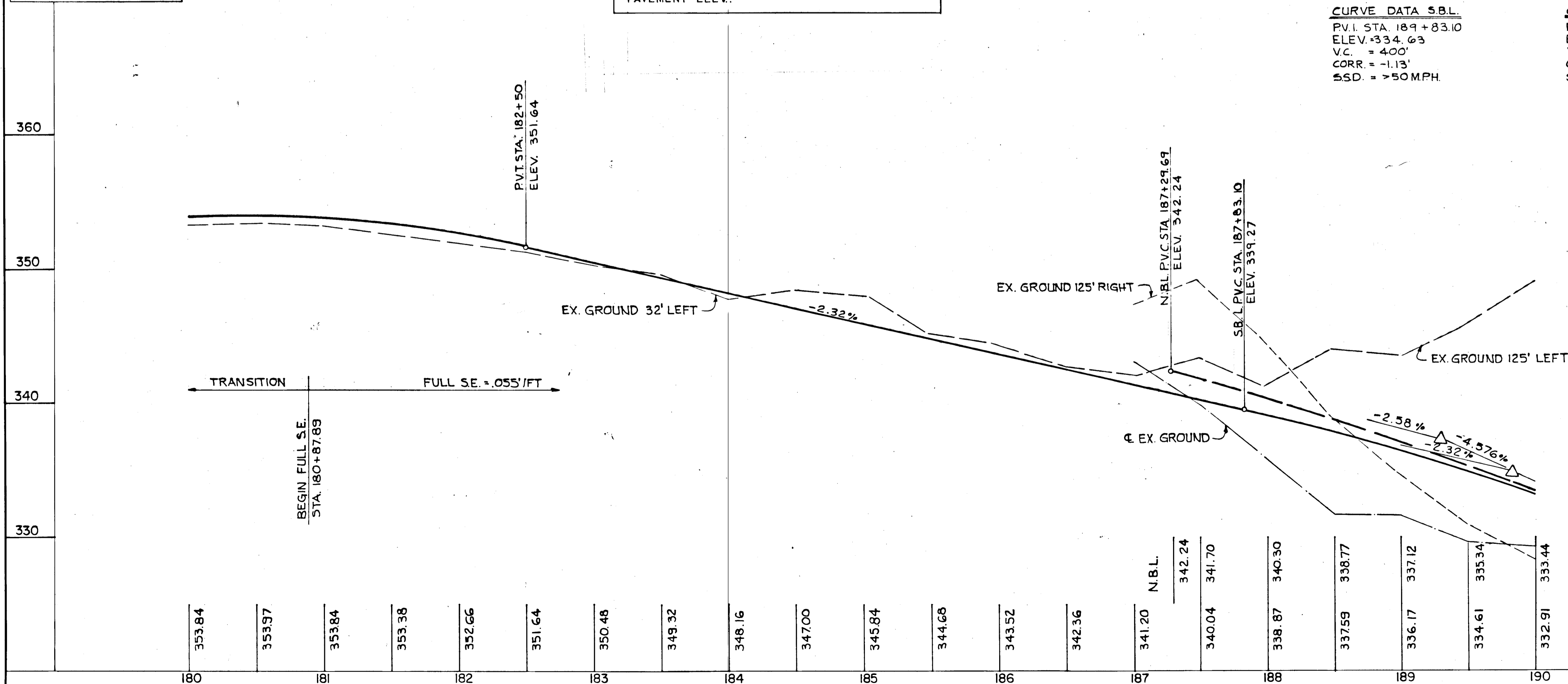
NO. 6 - TEMPORARY STONE OUTLET SEDIMENT TRAP
 CONSTRUCT T.S.O.S. AGAINST EDGE OF EXIST.
 PAVEMENT. CREST ELEV. TO BE 6" MIN ABOVE
 PAVEMENT ELEV.

STABILIZED CONSTRUCTION
 ENTRANCE 50' X 20' WIDE

CURVE DATA SBL
 P.V.I. STA. 189+83.10
 ELEV. 334.63
 $V.C. = 400'$
 $CORR. = -1.13'$
 $S.S.D. = > 50 MPH.$

CURVE DATA N.B.L.
 P.V.I. STA. 189+29.69
 ELEV. 337.08
 $V.C. = 400'$
 $CORR. = -1.00'$
 $S.S.D. = > 50 MPH.$

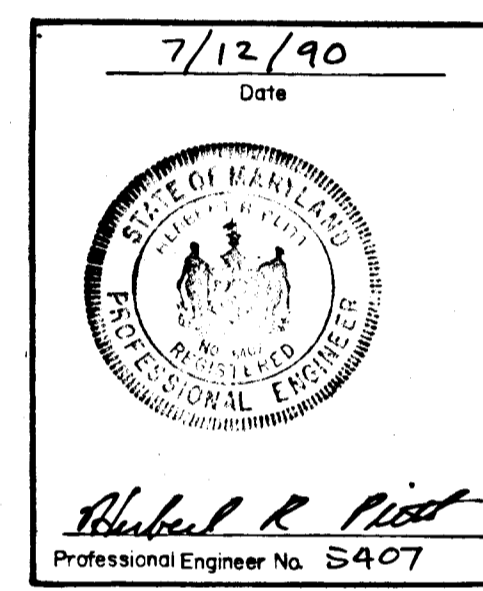
B.M. #08-3 ELEV. 348.25
 X CUT ON BOLT @ BASE OF
 LIGHT POLE



SEDIMENT CONTROL STRUCTURE SCHEDULE										
STR. NO.	TYPE	DEPTH	DRAINAGE AREA	DISTURBED AREA	VOLUME C.F.		BOTTOM DIMENSION	BOTTOM ELEV.	CLEAN-OUT ELEV.	CREST ELEV.
					REQD.	PROV.				
6	S.O.S.T.	2.5'	1.33 Ac.	0.63 Ac.	2394	2625	70' X 15'	340.5	341.8	344.0

APPROVED:
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[Signature] 7/12/90 DATE
 CHIEF, LAND DEVELOPMENT DIVISION
 Approved by *[Signature]* 3/18/91 DATE
 CHIEF, BUREAU OF HIGHWAYS
 Approved by *[Signature]* 3-15-91 DATE
 CHIEF, BUREAU OF ENGINEERING

APPROVED:
 HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
[Signature] 7/12/90 DATE
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT



PHOENIX ENGINEERING, INC.
 CONSULTING ENGINEERS
 BALTIMORE, MARYLAND 21228

AREA: BROKEN LAND PARKWAY

TITLE: EROSION AND SEDIMENT CONTROL

Des By H.R.P. Scale 1" = 50' Proj. No. 89-0040
 Drn By J.W.B. Date JULY 1990 Drawing No. 19 OF 19
 Chk By S.P. Approved

CERTIFICATION BY THE DEVELOPER:
 I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS OF DEVELOPMENT AND PLANS FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.
[Signature] 7/12/90 DATE
 Signature of Developer

CERTIFICATION BY THE ENGINEER:
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature] 7/12/90 DATE
 Signature of Engineer

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.
[Signature] 3/26/91 DATE
 U.S. Soil Conservation Service

THESE PLANS FOR EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature] 7/25/90 DATE
 Howard Soil Conservation District

65