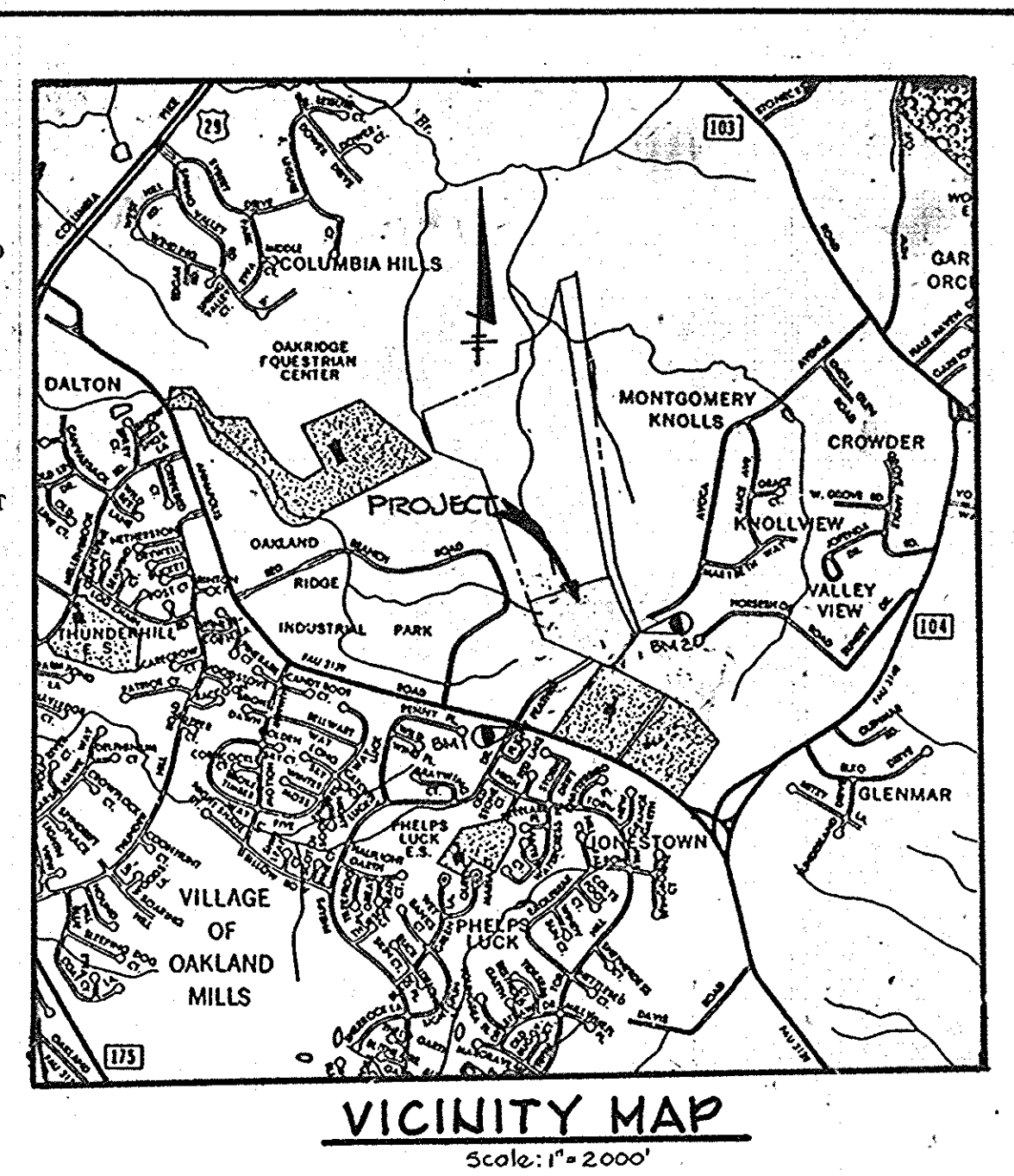


SHEET NO.	SHEET INDEX
1	CENTRE PARK DRIVE PLAN AND PROFILE
2	COLUMBIA 100 PARKWAY PLAN AND PROFILE
3	ROUTE 100 PLAN AND PROFILE
4	GRADING AND SEDIMENT CONTROL PLAN
5	STORMDRAIN PROFILES AND DETAILS
6	DRAINAGE AREA MAP & DETAILS
7	DETAIL SHEET

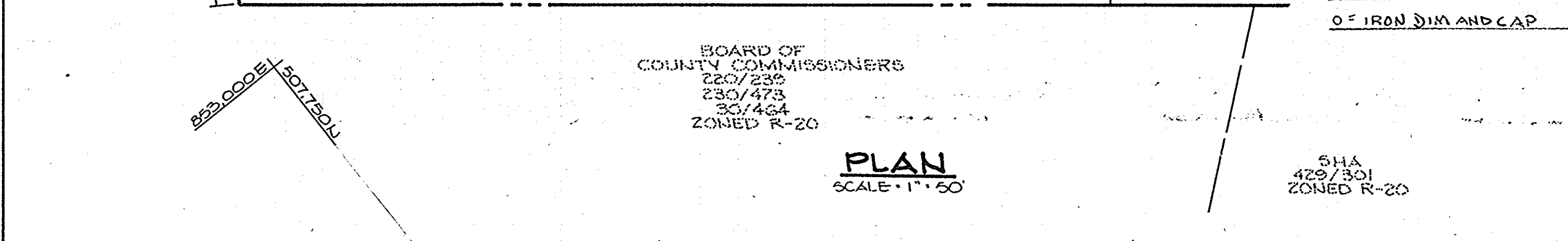
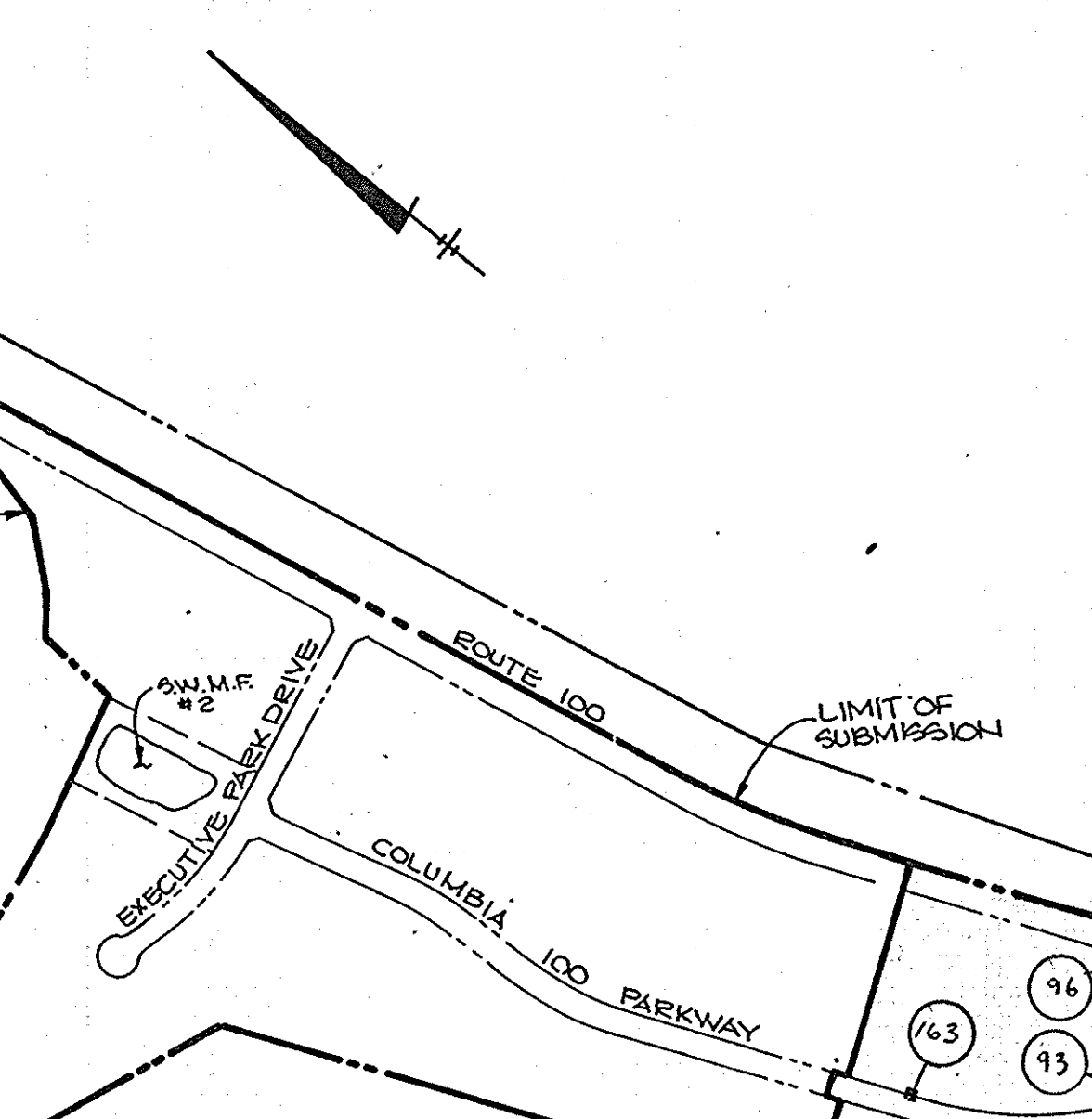
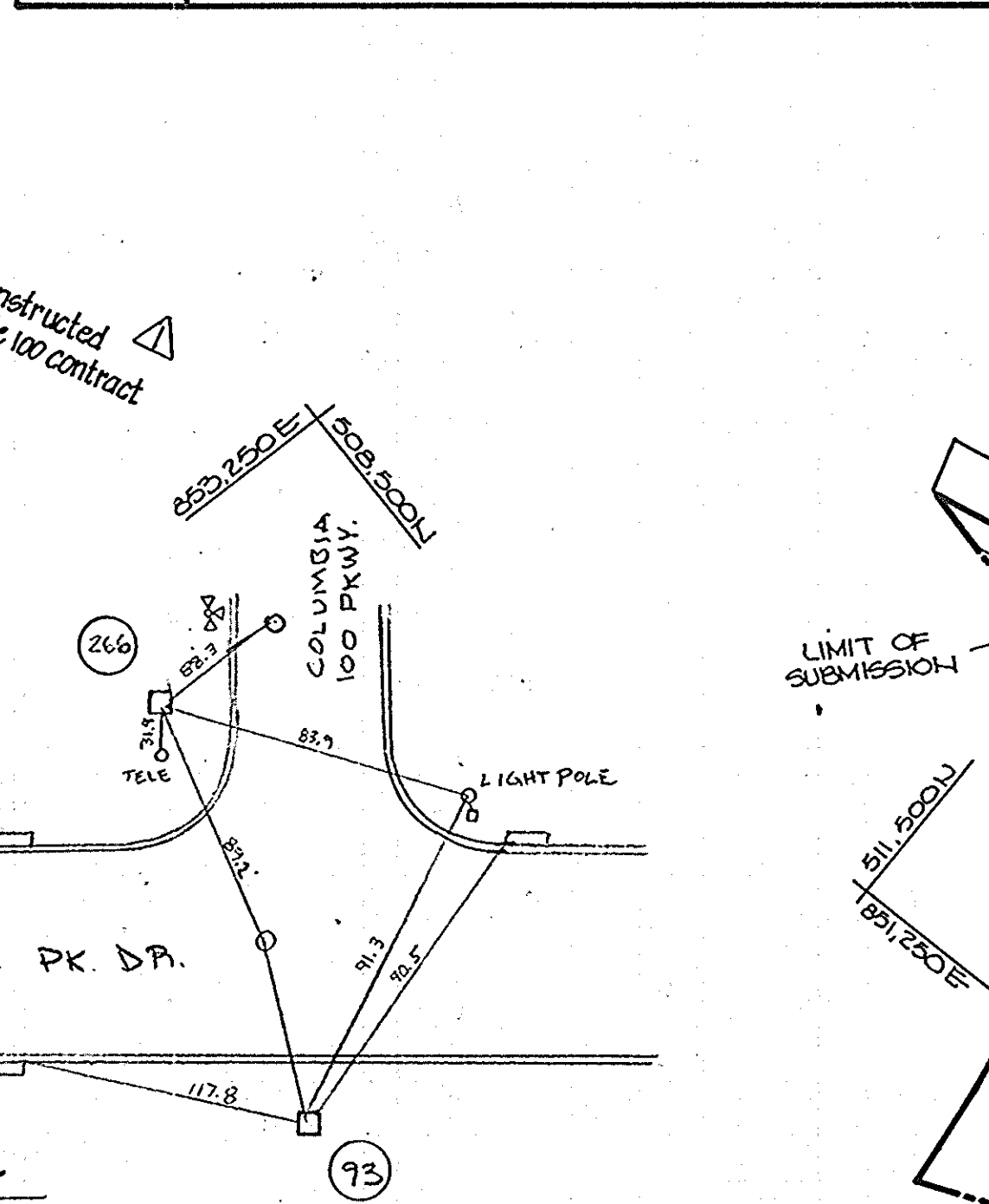
- SEQUENCE OF CONSTRUCTION**
- OBTAIN A GRADING PERMIT
 - PERFORM MAINTENANCE AND REPAIRS TO EXISTING SEDIMENT CONTROL PER MASS GRADING PLAN GP-86-57. (2 DAYS)
 - PERFORM REMAINING ROUGH GRADING EXCEPT FOR THE GRADING SHOWN AROUND BASIN NO. 1. (3 DAYS)
 - INSTALL STORM DRAINS, UTILITIES AND ROADWAY PAVEMENT. (6 WEEKS)
 - STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES. (3 DAYS)
 - UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTION, REMOVE ALL SEDIMENT CONTROLS AND CONVERT BASIN NO. 1 TO STORM WATER MANAGEMENT PER FINAL GRADING SHOWN. (1 WEEK)
 - STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES. (1 DAY)



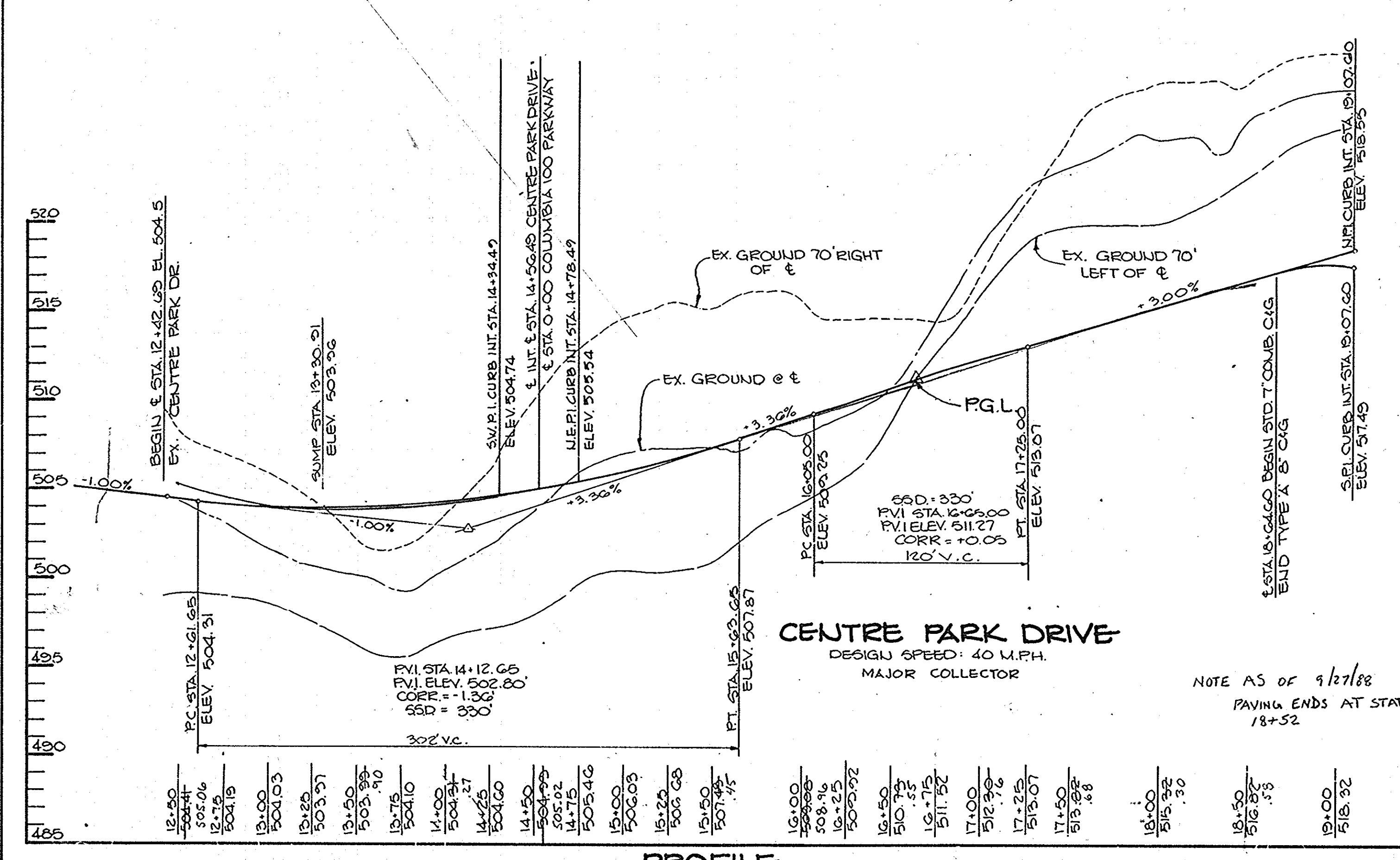
BENCH MARKS

BM 1
HO.CD. 2743010-E
3/4" REBAR 0.4" BELOW SURFACE 34.7'
SOUTH OF CURB ON MARYLAND RTE. 108
175' EAST OF & PHELPS LUCK DRIVE
ELEV. 482.29

BM 2
NAIL IN STONE @ PROPERTY CORNER
COLUMBIA 100 - OFFICE RESEARCH PARK
ELEV. 525.51



AS-BUILT SURVEY CERTIFIED BY
ARTHUR E. MUEGGE, III, M.D., P.E.
NO. 8707 ON SEPT. 14, 1988



□ = 9"x9" CONC. MONUMENT
○ = IRON DIM AND CAP

GENERAL NOTES

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOL. IV, I.E., STANDARD SPECIFICATIONS AND DETAILS 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 AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS TO VERIFY THEIR LOCATION AND ELEVATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF LOCATION OF UTILITIES IS OTHER THAN SHOWN.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK ON THESE DRAWINGS:
 C&P TELEPHONE COMPANY 725-5976
 MISS UTILITY 1-800-257-7777
 AT&T CABLE LOCATION DIVISION 393-3553
 BALTIMORE GAS AND ELECTRIC COMPANY 585-0123
 STATE HIGHWAY ADMINISTRATION 531-5533
 HOWARD COUNTY CONSTRUCTION INSPECTION SURVEY DIVISION (24 HOUR NOTICE PRIOR TO COMMENCEMENT OF WORK) 792-7272
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOL. IV, I.E., STANDARD SPECIFICATIONS AND DETAILS.
- STORM DRAIN BACKFILL WITHIN ROADWAYS, UNDER STRUCTURES AND FOR STORM DRAIN TRENCHES SHALL BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM 1557.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- ALL STORM DRAIN PIPE BEDDING SHALL BE AS SHOWN IN DETAIL G2.01 (TRENCH IN ROCK OR TRENCH IN EARTH AS DETERMINED BY FIELD CONDITIONS) IN VOL. IV OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR AS SHOWN ON THE DRAWINGS.
- ALL STREET CURB RETURNS SHALL HAVE 35.0' RADII UNLESS OTHERWISE NOTED.
- ALL ELEVATIONS SHOWN ARE BASED ON U.S.G.S.' MEAN SEA LEVEL DATUM, 1929.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- TOPO TAKEN FROM FIELD RUN SURVEY DATED DEC., 1985.
- SUBJECT PROPERTY ZONED PER 8.2.85 COMPREHENSIVE ZONING PLAN.
- INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING, AND SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES 1978 EDITION.
- DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARDS:
 ALL 60' RIGHT-OF-WAYS 30 M.P.H.
 ALL 100' RIGHT-OF-WAYS 40 M.P.H.
 ALL 80' RIGHT-OF-WAYS 60 M.P.H.

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
Arthur E. Muegge, III 11-7-86
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William R. ... 11-12-86
 CHIEF, BUREAU OF ENGINEERING DATE

6-23-99 ADD STORM DRAIN PER SDP-99-110
 11-22-88 Provided limits of construction for bonding of MD Route 100
 DATE NO. REVISION

OWNER M/JF ASSOCIATES LTD. PARTNERSHIP
 1000 EQUITABLE BANK BUILDING
 COLUMBIA, MARYLAND 21044

DEVELOPER McCUAN DEVELOPMENT GROUP
 1000 EQUITABLE BANK BUILDING
 COLUMBIA, MARYLAND 21044

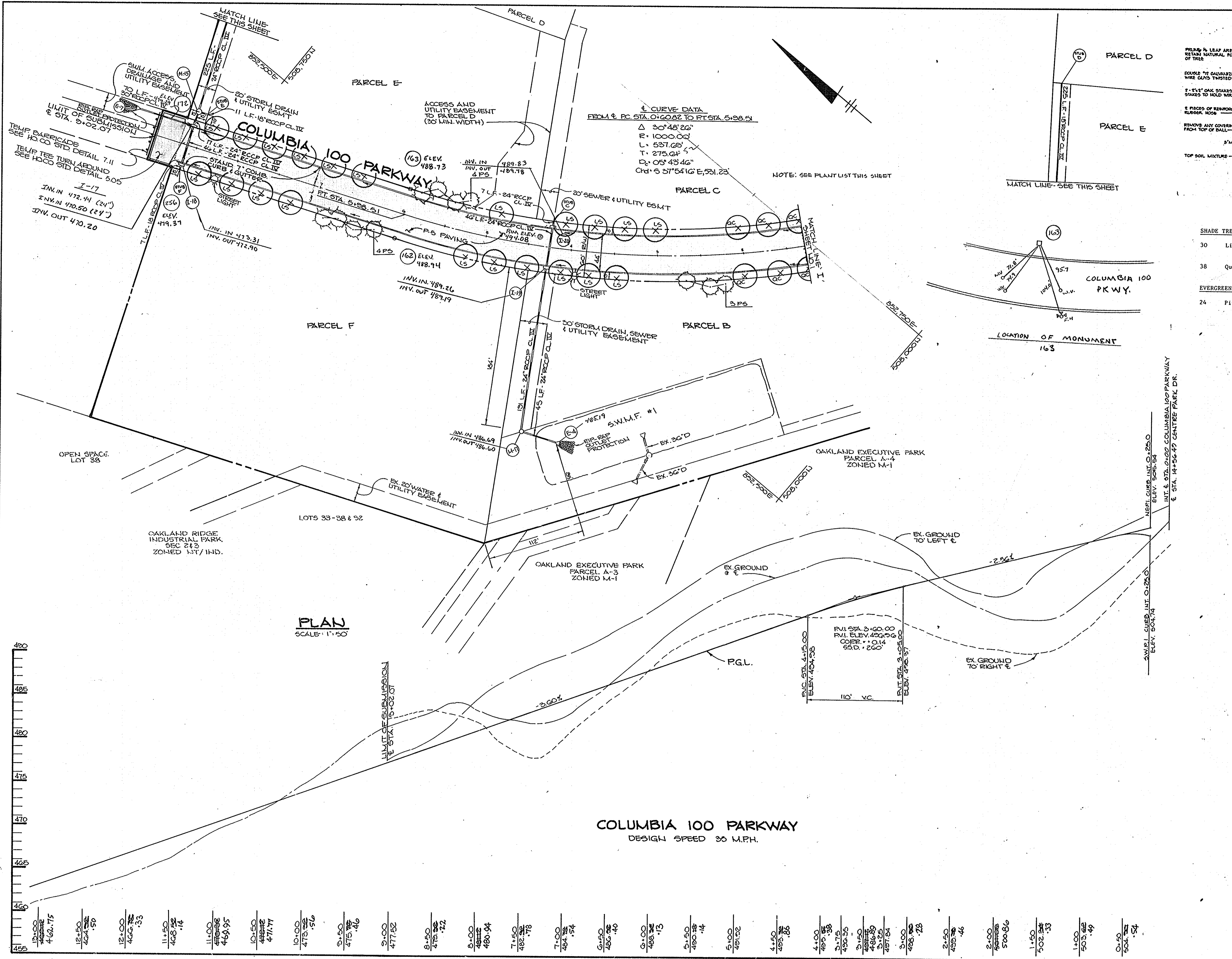
PROJECT: COLUMBIA 100
 OFFICE RESEARCH PARK
 SECTION 1, AREA 1

AREA TAX MAP NO. 30 PARCEL 2
 2ND ELECTION DISTRICT PLAT NO. 5246
 HOWARD COUNTY MARYLAND

TITLE: CENTRE PARK DRIVE
 PLAN AND PROFILE

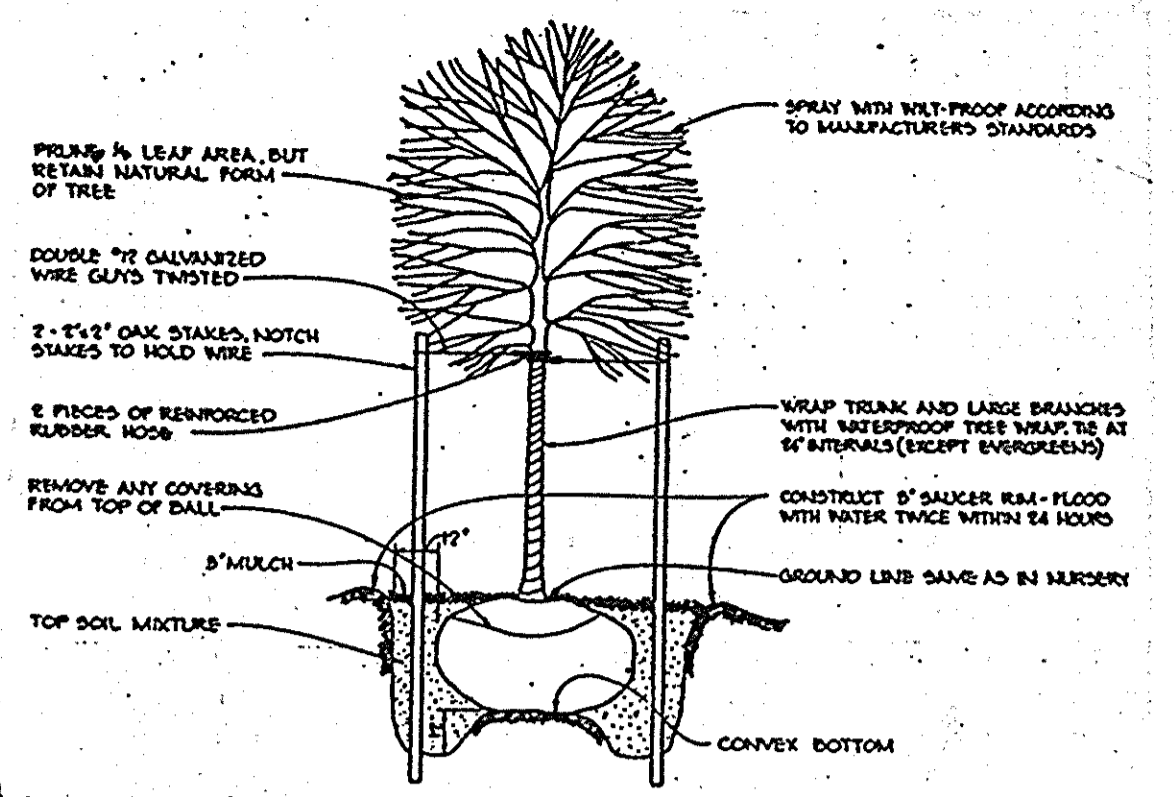
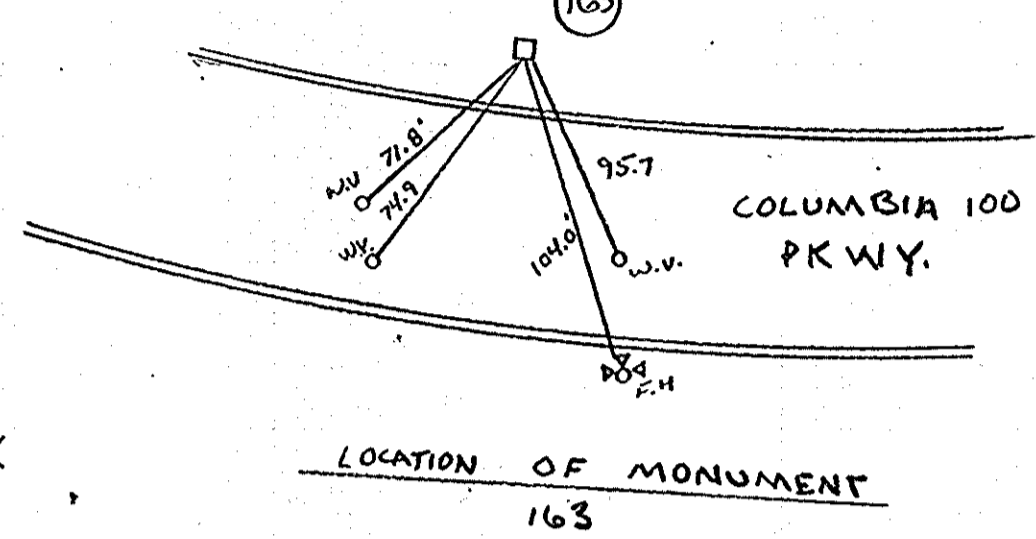
THE RIEMER GROUP, INC.
 The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
 3105 Health Park Drive, Ellicott City, Maryland 21043 (301) 481-2680

10-24-86
 DATE
 DESIGNED BY: W.C.W.
 DRAWN BY: W.C.W.
 PROJECT NO: 00810
 DATE: 10-24-86
 SCALE: AS SHOWN
 DRAWING NO. 1 OF 7



CURVE DATA
 FROM & PC STA. 0+20.82 TO PT. STA. 5+28.51
 Δ 30° 48' 26"
 R = 1000.00'
 L = 537.68'
 T = 275.64'
 D_2 = 05° 43' 46"
 Chd. S 27° 54' 16" E, 531.23'

NOTE: SEE PLANT LIST THIS SHEET



PLANTING DETAIL
NO SCALE

- SHADE TREES
- 30 Liquidambar Styraciflua Sweetgum 2 1/2-3" Cal., 12-13' Ht. B&B, Full Head
 - 38 Quercus Coccinea Scarlet Oak 2 1/2-3" Cal., 13-15' Ht. B&B, Full Head
- EVERGREENS
- 24 Pinus Strobus Eastern White Pine 2 1/2-3" Cal., 6-8' Ht. B&B, Well-branched, Unsheared

PLAN
SCALE: 1" = 50'

PROFILE
HORIZ. 1" = 50'
VERT. 1" = 5'

AS-BUILT SURVEY CERTIFIED BY
ARTHUR E. MUEGGE III, MD. P.E.
NO. 8707 ON SEPT. 14, 1988

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
John W. Muegge III 11-7-86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William E. Ryan 11-10-86
CHIEF, BUREAU OF ENGINEERING DATE

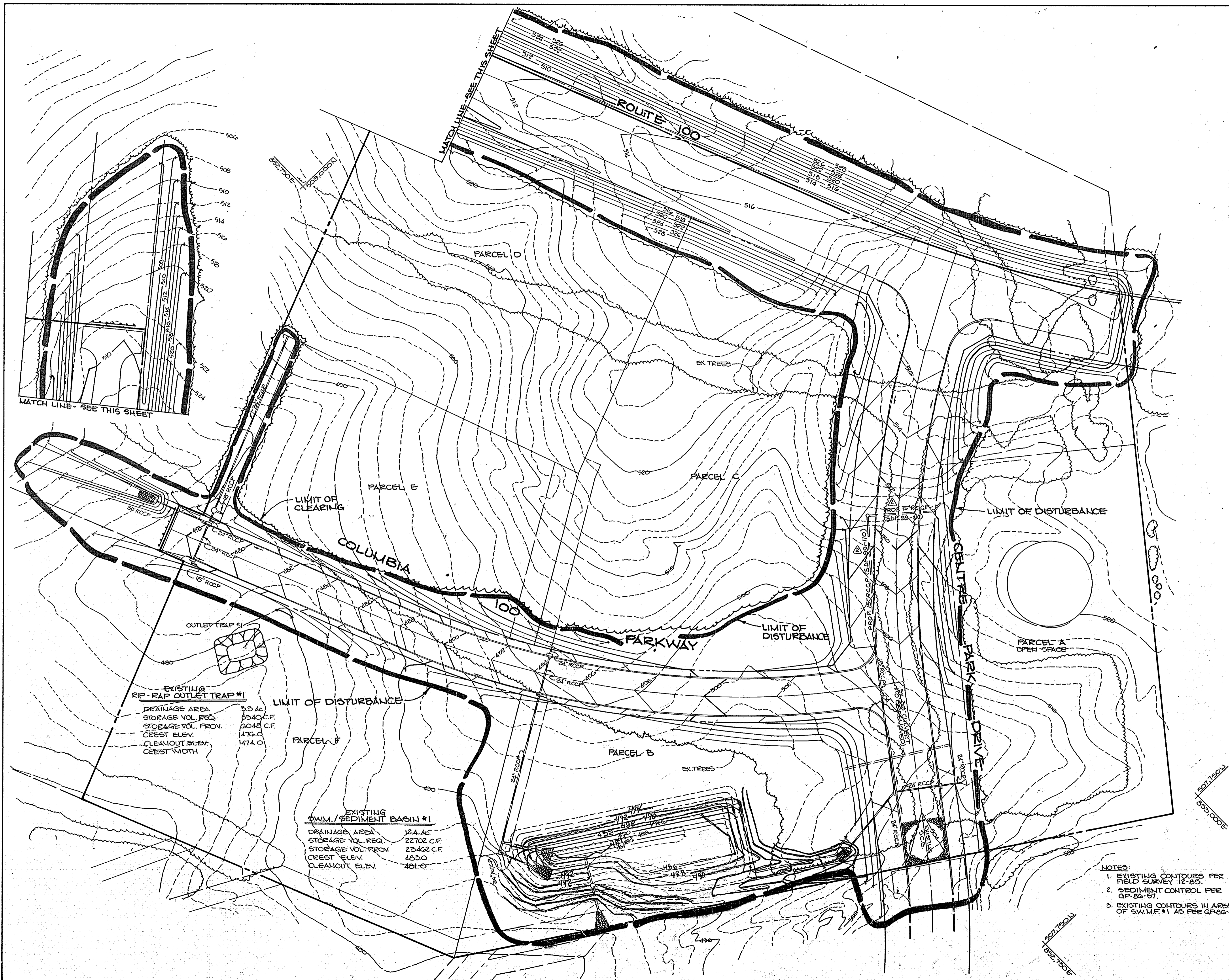
DATE	NO.	REVISION
OWNER: MJE ASSOCIATES LTD. PARTNERSHIP 1000 EQUITABLE BANK BUILDING COLUMBIA, MARYLAND 21044		
DEVELOPER: McCUAN DEVELOPMENT GROUP 1000 EQUITABLE BANK BUILDING COLUMBIA, MARYLAND 21044		
PROJECT: COLUMBIA 100 OFFICE RESEARCH PARK SECTION 1, AREA 1		
AREA: TAX MAP NR 30 PARCEL 2 2 ND ELECTION DISTRICT PLAT NR 5246 HOWARD COUNTY MARYLAND		
TITLE: COLUMBIA 100 PARKWAY PLAN AND PROFILE		

THE RIEMER GROUP, INC.
The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
3105 Health Park Drive, Ellicott City, Maryland 21043 (301) 481-2800

10-24-86
DATE

DESIGNED BY: W.C.W.
DRAWN BY: W.C.W.
PROJECT NO: 00810
DATE: 10-24-86
SCALE: AS SHOWN
DRAWING NO. 2 OF 7

ARTHUR E. MUEGGE III 8707



EXISTING RIP-RAP OUTLET TRAP #1

DRAINAGE AREA	5.3 AC
STORAGE VOL. REQ.	8540 C.F.
STORAGE VOL. PROV.	2048 C.F.
CREST ELEV.	476.0
CLEANOUT ELEV.	474.0
CREST WIDTH	

EXISTING SWM / SEDIMENT BASIN #1

DRAINAGE AREA	12.4 AC
STORAGE VOL. REQ.	22702 C.F.
STORAGE VOL. PROV.	23462 C.F.
CREST ELEV.	483.0
CLEANOUT ELEV.	481.0

- NOTES:**
1. EXISTING CONTOURS PER FIELD SURVEY 12-80.
 2. SEDIMENT CONTROL PER GP-86-57.
 3. EXISTING CONTOURS IN AREA OF SWM #1 AS PER GR&S.

BY THE DEVELOPER:

"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, 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. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

Robert W. Zehm 10-24-86
DEVELOPER DATE

BY THE ENGINEER:

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

Arthur E. Muegge _____
ENGINEER DATE

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

Joseph M. Stelton 11-6-86
U.S. SOIL CONSERVATION SERVICE DATE

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

APPROVED *Robert W. Zehm* 11-6-86
HOWARD S.C.D. DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

John M. Muegge 11-7-86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William B. Ray 11-12-86
CHIEF, BUREAU OF ENGINEERING DATE

6-23-99 ADDED STORM DRAIN PER SDP-99-110

4-18-88 REVISED CONTOURS AROUND SEDIMENT TRAP

DATE	NO.	REVISION
------	-----	----------

OWNER: MJF ASSOCIATES LTD. PARTNERSHIP
1000 EQUITABLE BANK BUILDING
COLUMBIA, MARYLAND 21044

DEVELOPER: M. CUAN DEVELOPMENT GROUP
1000 EQUITABLE BANK BUILDING
COLUMBIA, MARYLAND 21044

PROJECT: COLUMBIA 100
OFFICE RESEARCH PARK
SECTION 1, AREA 1

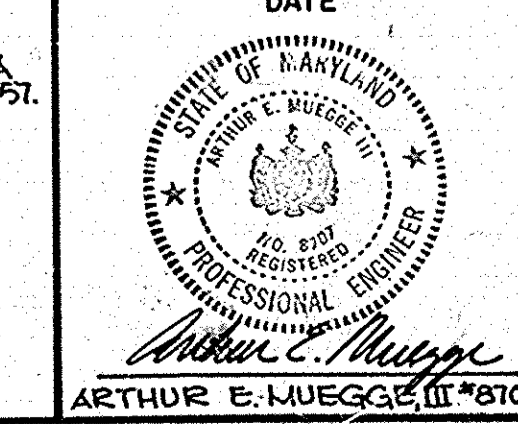
AREA: TAX MAP # 30 PARCEL 2
2ND ELECTION DISTRICT FLAT # 524G
HOWARD COUNTY, MARYLAND

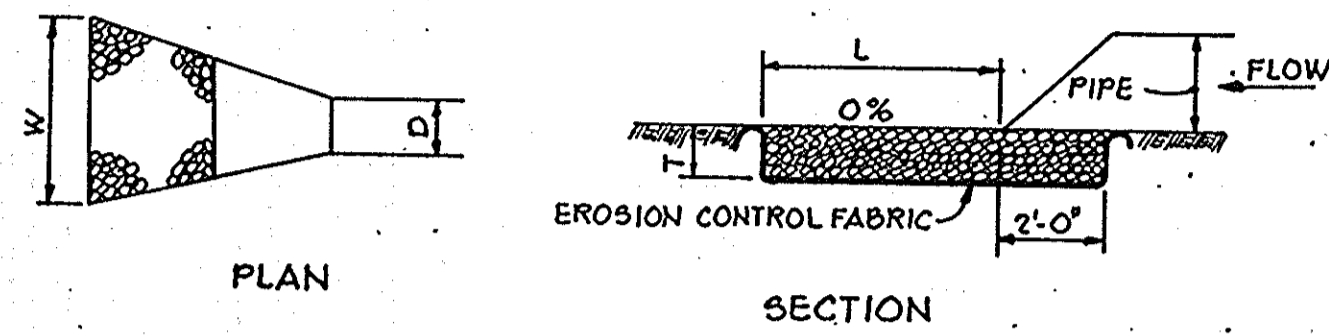
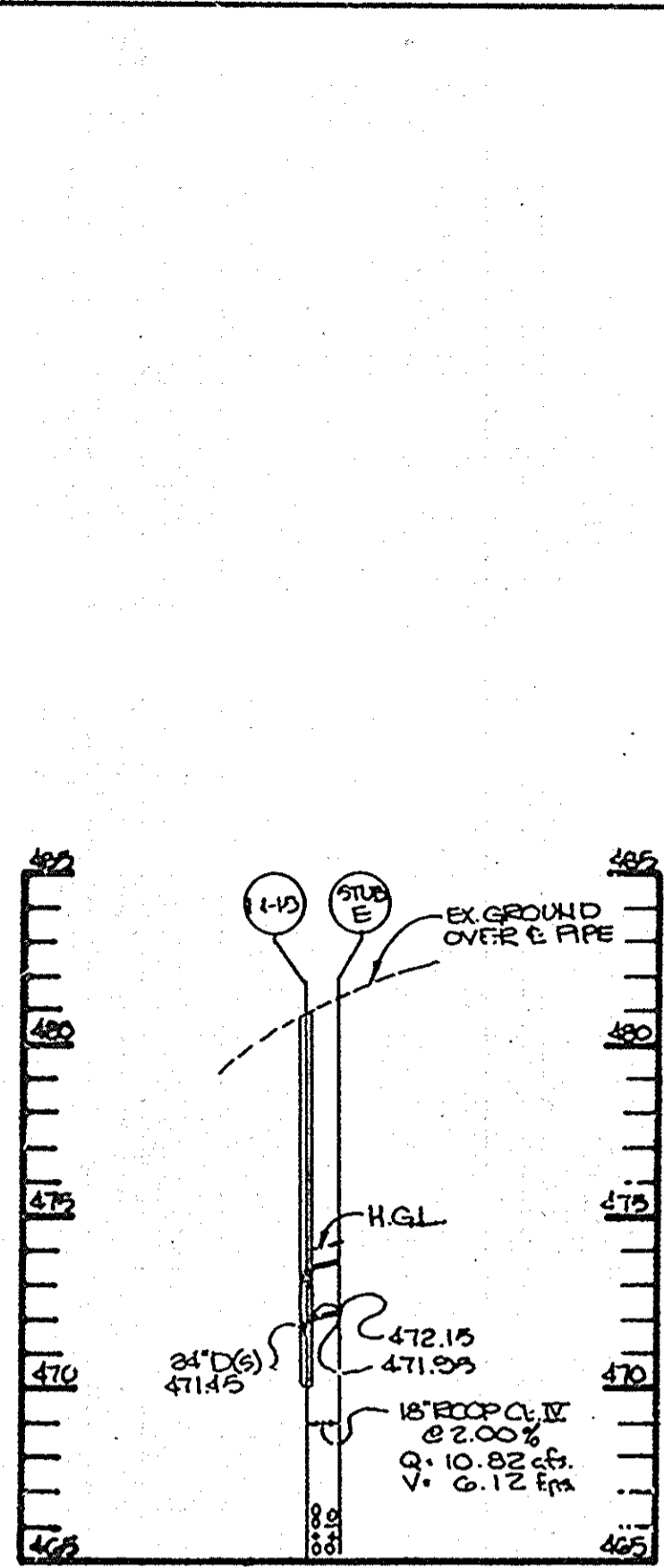
TITLE: GRADING AND
SEDIMENT CONTROL PLAN

THE RIEMER GROUP, INC.
The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
3105 Health Park Drive, Ellicott City, Maryland 21043 (801) 461-2890

10-24-80
DATE

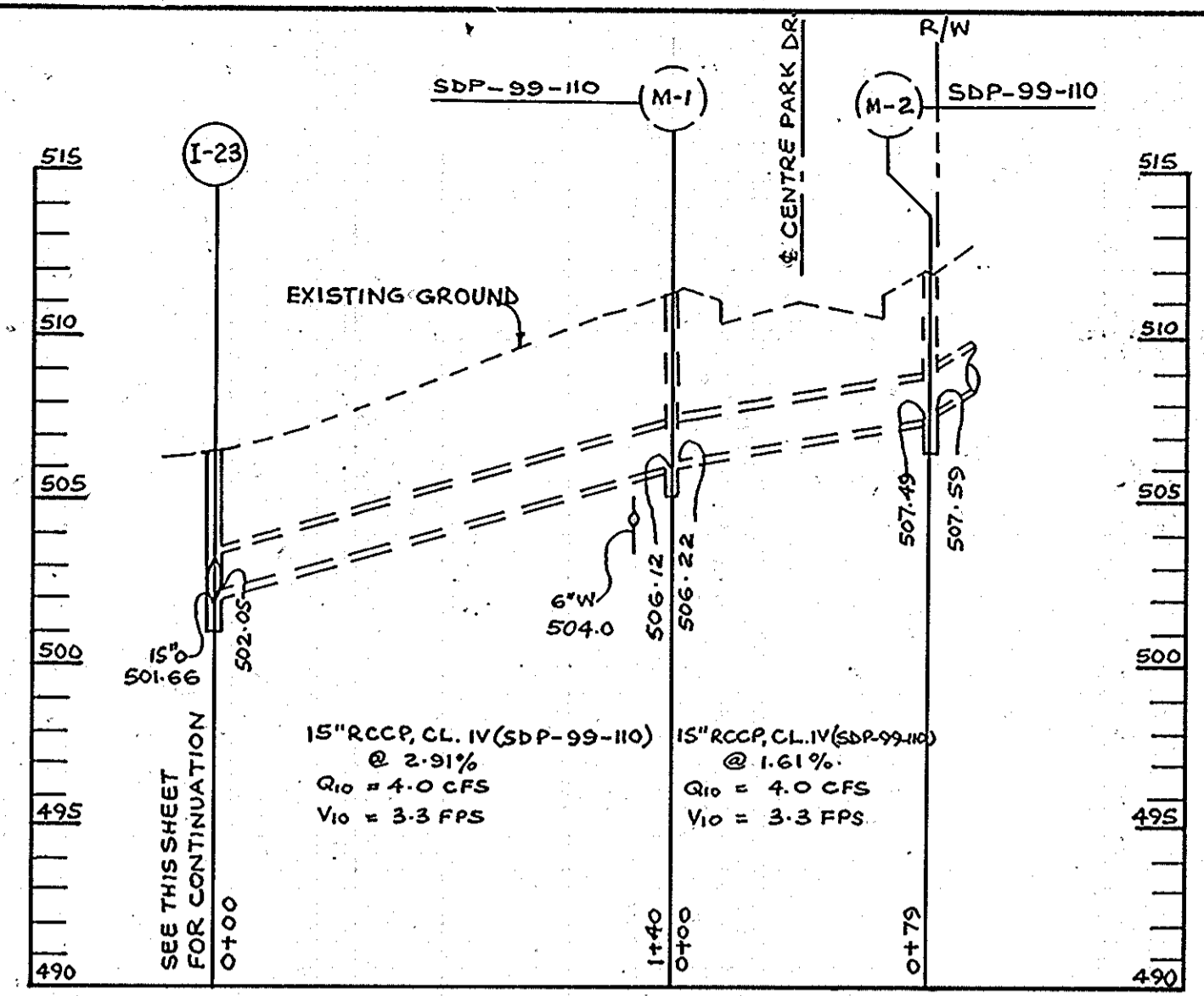
DESIGNED BY: W.C.W.
DRAWN BY: W.C.W.
PROJECT NO: 00810
DATE: 10-24-80
SCALE: 1"=50'
DRAWING NO. 4 OF 7



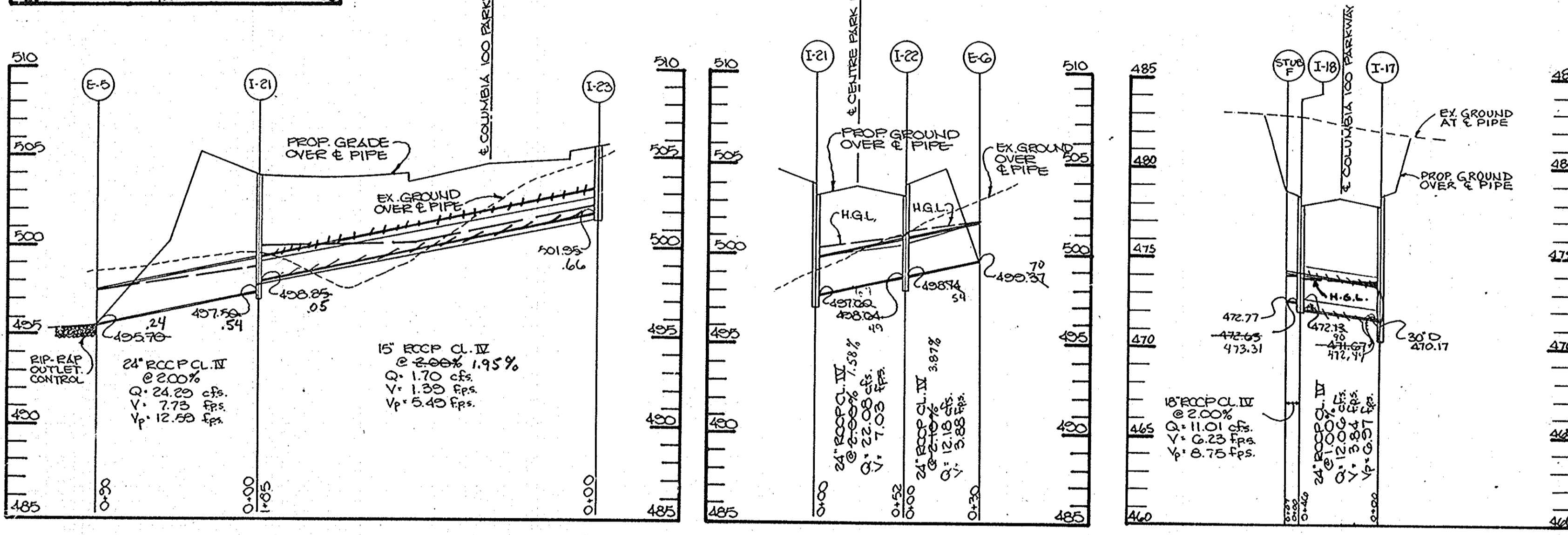


STRUCTURE	MEDIUM STONE DIA.	LENGTH (L)	WIDTH (W)	THICKNESS (T)
E-4	.5'	12'	16'	14"
E-5	.5'	12'	16'	14"
E-7	.5'	13'	18'	14"

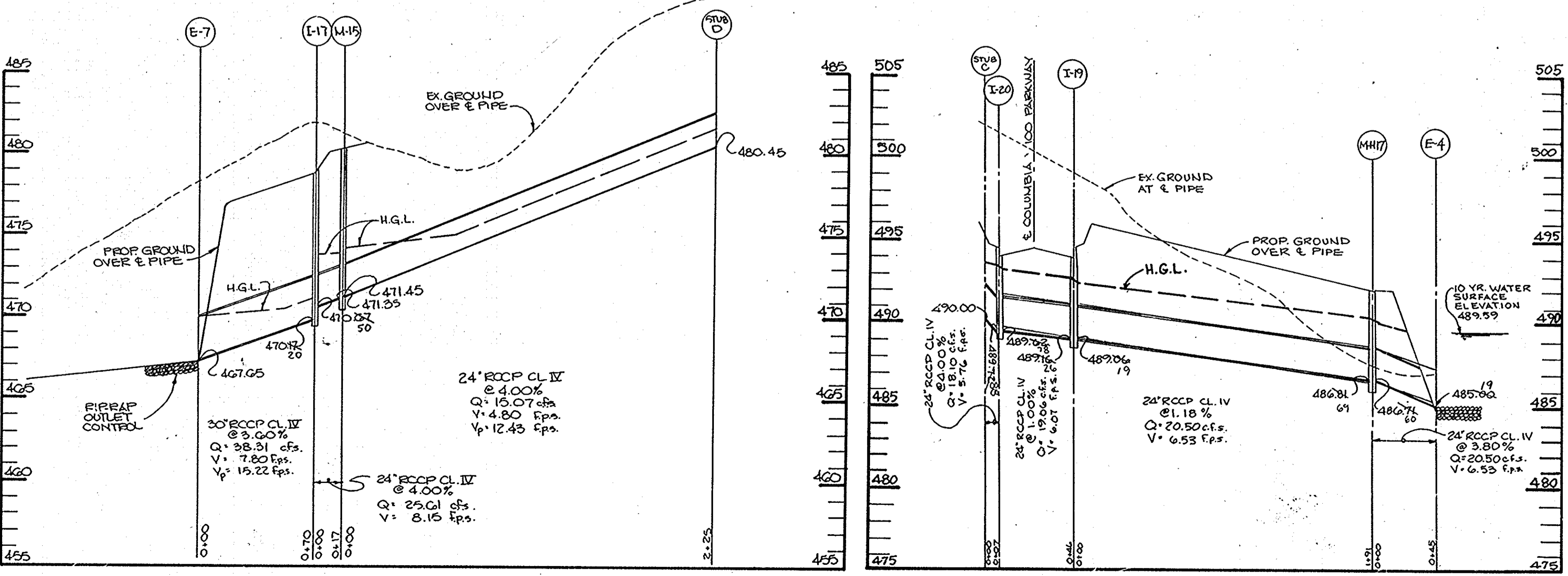
OUTLET PROTECTION DETAIL
No. Scale



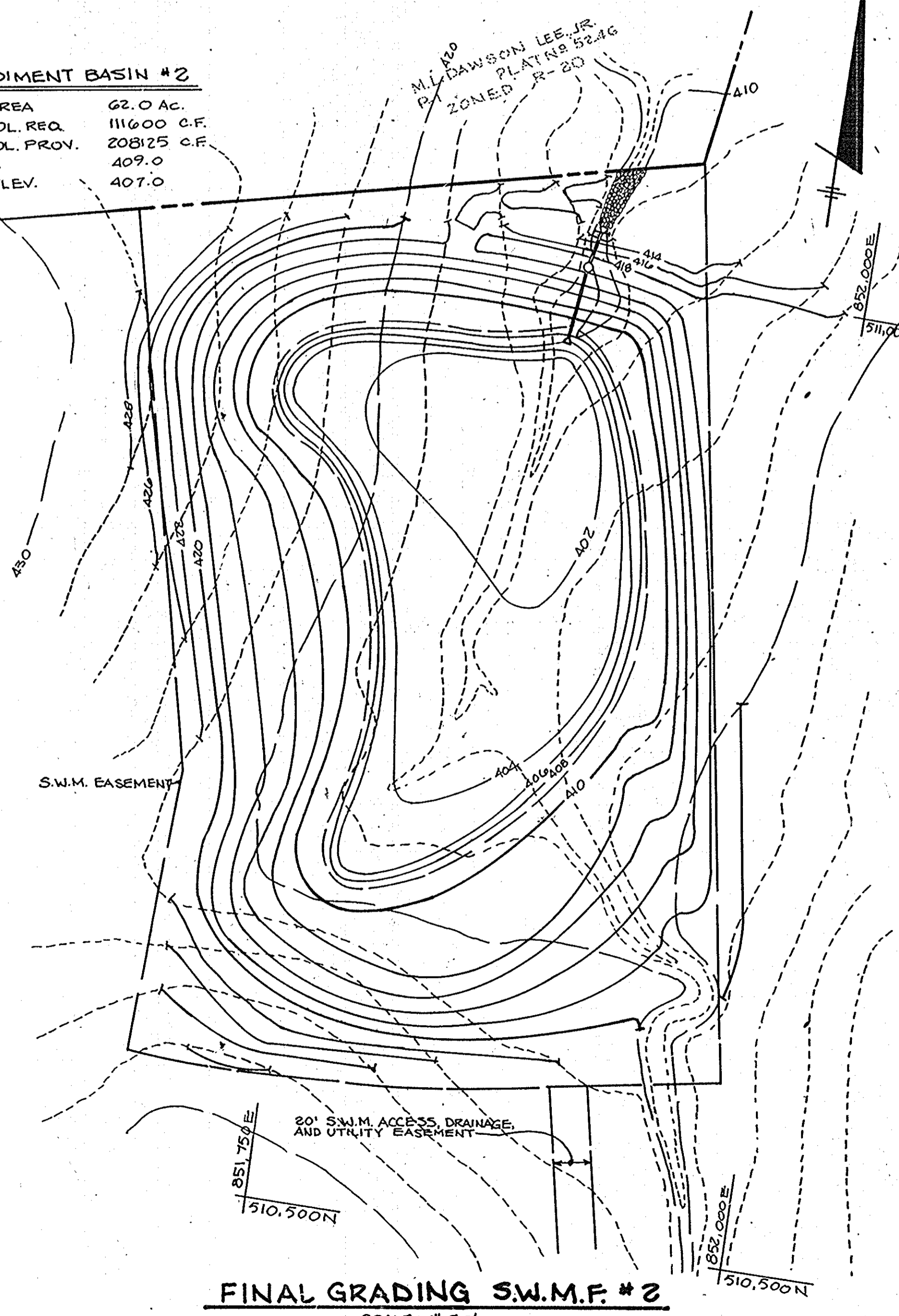
STORM DRAIN PROFILE
SCALE: HOR. 1" = 50'
VERT. 1" = 5'



SWM/SEDIMENT BASIN #2
DRAINAGE AREA 62.0 AC.
STORAGE VOL. REQ. 11600 C.F.
STORAGE VOL. PROV. 20825 C.F.
CREST ELEV. 409.0
CLEANOUT ELEV. 407.0



FINAL GRADING SW.M.F. #2
SCALE: 1" = 50'



BY THE DEVELOPER:
"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, 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. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

Arthur E. Muegge, III
DEVELOPER DATE 10-24-86

BY THE ENGINEER:
"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

Arthur E. Muegge, III
ENGINEER DATE

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

James M. Helm
U.S. SOIL CONSERVATION SERVICE DATE 11-6-86

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

APPROVED: *Robert Z. Ziem*
HOWARD S.D.D. DATE 11-6-86

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
John W. Muschman
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION DATE 11-7-86

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William S. Reilly
CHIEF, BUREAU OF ENGINEERING DATE 11-12-86

6-23-99 **ADDED STORM DRAIN PROFILE PER SdP-99-110**
DATE NO. REVISION

OWNER MJF ASSOCIATES LTD. PARTNERSHIP
1000 EQUITABLE BANK BUILDING
COLUMBIA, MARYLAND 21044

DEVELOPER MCCUAN DEVELOPMENT GROUP
1000 EQUITABLE BANK BUILDING
COLUMBIA, MARYLAND 21044

PROJECT: **COLUMBIA 100**
OFFICE RESEARCH PARK
SECTION 1, AREA 1

AREA TAX MAP # 30 PARCEL 2
2ND ELECTION DISTRICT FLAT # 524G
HOWARD COUNTY, MARYLAND

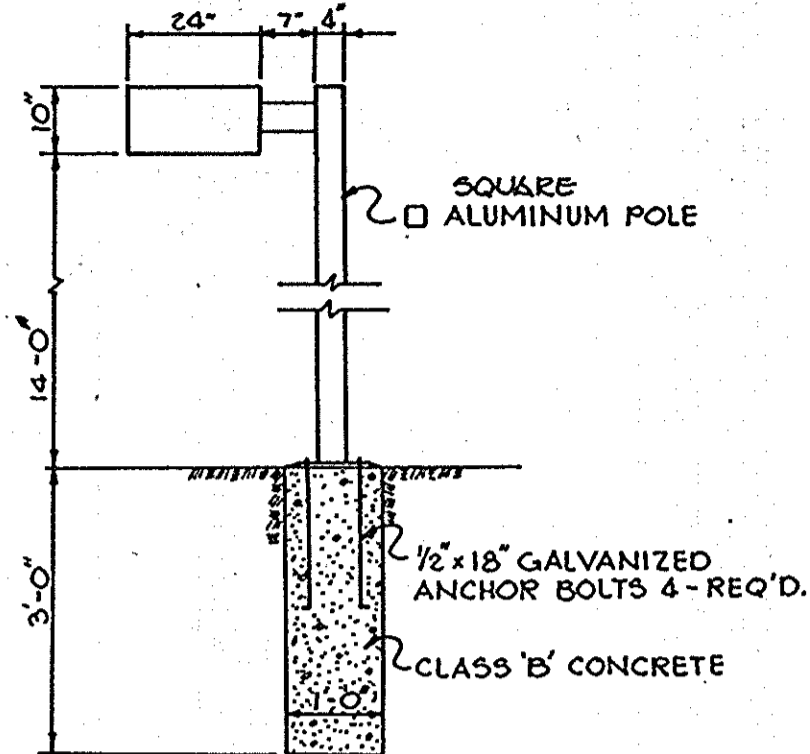
TITLE: **STORM DRAIN PROFILES AND DETAILS**

THE RIEMER GROUP, INC.
The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
3105 Health Park Drive, Ellicott City, Maryland 21043 (301) 481-2880

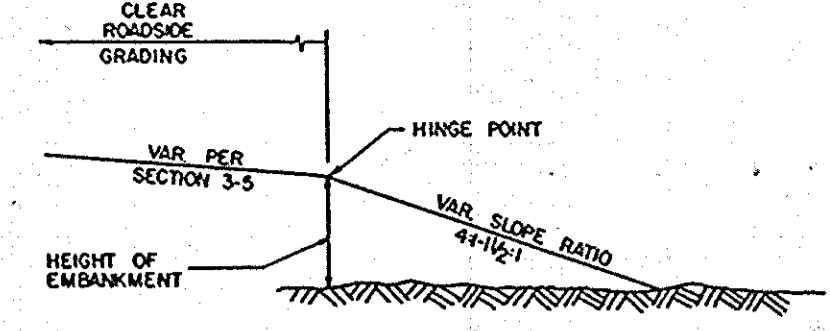
10-24-86
DATE
DESIGNED BY: WC.W.
DRAWN BY: WC.W.
PROJECT NO: COB10
DATE: 10-24-86
SCALE: AS SHOWN
DRAWING NO. 5 OF 7

Arthur E. Muegge, III
ARTHUR E. MUEGGE, III

- NOTES:
1. ALL LIGHT FIXTURES TO BE SINGLE LUMINAIRE 250 WATT MERCURY TYPE 1/2" HIGH WITH METAL POLES AND DIRECTED DOWNWARD.
 2. LOCATIONS OF LIGHT FIXTURES ARE ON THE PLAN AND ARE SHOWN THUS \otimes
 3. LIGHTS TO BE MODULE II TYPE AS MANUFACTURED BY MOLDCAST OR APPROVED EQUAL.
 4. POLE AND FIXTURES TO HAVE BRONZE POLYESTER ENAMEL FINISH.
 5. POLE TO BE LOCATED 3' BACK FROM BACK OF CURB.



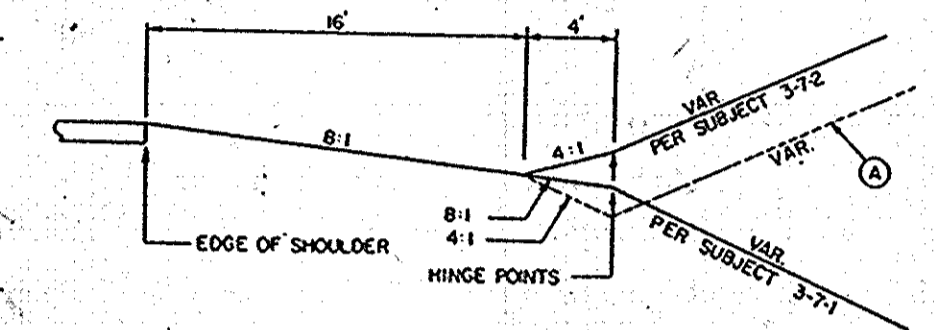
STREET LIGHT DETAIL
No Scale



HEIGHT OF EMBANKMENT	SLOPE RATIO
0' TO 10'	4:1
10' TO 20'	3:1
> 20'	2:1

- LONGITUDINAL BARRIER IS NOT WARRANTED FOR SLOPE RATIOS OF 4:1 OR 3:1.
- ON WASTE PROJECTS WHERE R/W IS AVAILABLE AT NOMINAL COSTS, CONSIDER INCREASING THE USE OF 4:1 AND 3:1 SLOPES.
- ON BORROW PROJECTS OR WHERE R/W COSTS ARE EXCESSIVE, CONSIDER DECREASING THE USE OF 4:1 AND 3:1 SLOPES.
- IN MOUNTAINOUS AREAS, CONSIDER INCREASING THE USE OF 3:1 & 2:1 SLOPES; AND REVIEW THE POSSIBILITY OF USING 1 1/2:1 SLOPES WITH THE BUREAU OF SOILS AND FOUNDATIONS. USE 1 1/2:1 SLOPES PER SOILS REPORT RECOMMENDATION ONLY.

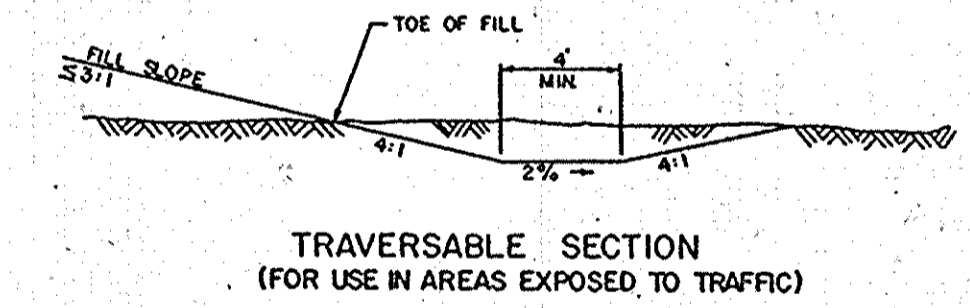
FILL SLOPE RATIOS
NO SCALE
(RTE. 100 ONLY)



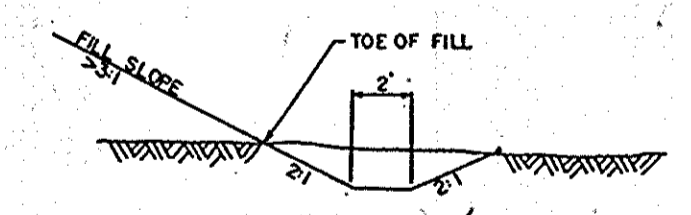
NOTE: Under certain conditions, a 50 M.P.H. open section may be constructed as shown on subject 3-5-5. The Assistant Chief Engineer-Highway Development will consider approval of a design exception for the reduced grading section as follows:

1. The request for an exception should be justified on the basis of at least one, but preferably two or more of the following:
 - Low volumes of traffic
 - Low operating speeds (anticipated)
 - R/W restrictions
 - Excessive grading costs
 - Functional classification - Arterial or Collector
2. For other than new construction, justification may be based on the above and/or the nature of the proposed improvements, i.e., reconstruction, rehabilitation, resurfacing or other limited scope of work.

SAFETY GRADE TRANSITION
NO SCALE
(RTE. 100 ONLY)



TRAVERSABLE SECTION
(FOR USE IN AREAS EXPOSED TO TRAFFIC)

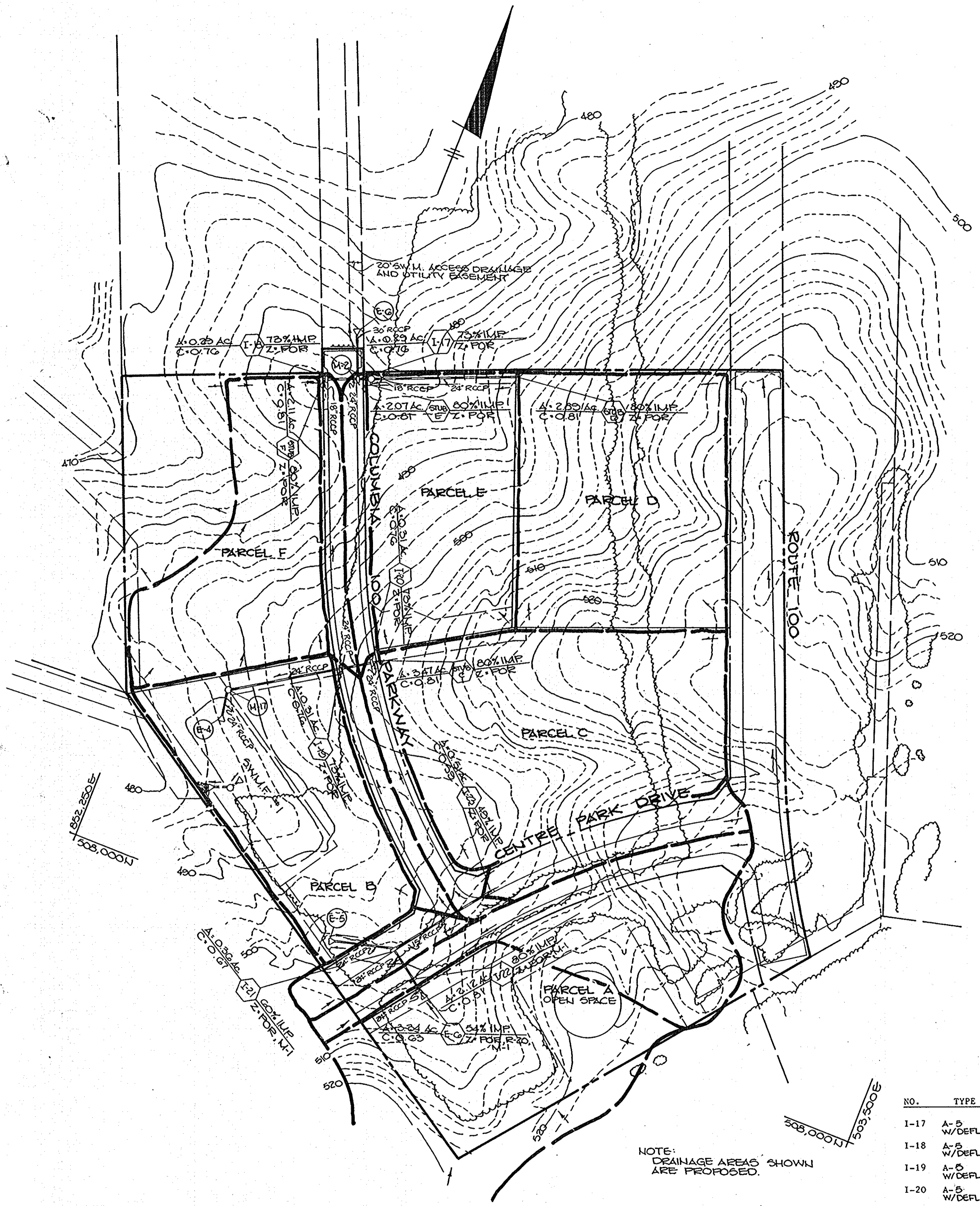


NON-TRAVERSABLE SECTION
(FOR USE IN AREAS NOT EXPOSED TO TRAFFIC)
SIDE DITCH IN FILL AREA
NO SCALE
(RTE. 100 ONLY)

STRUCTURE SCHEDULE

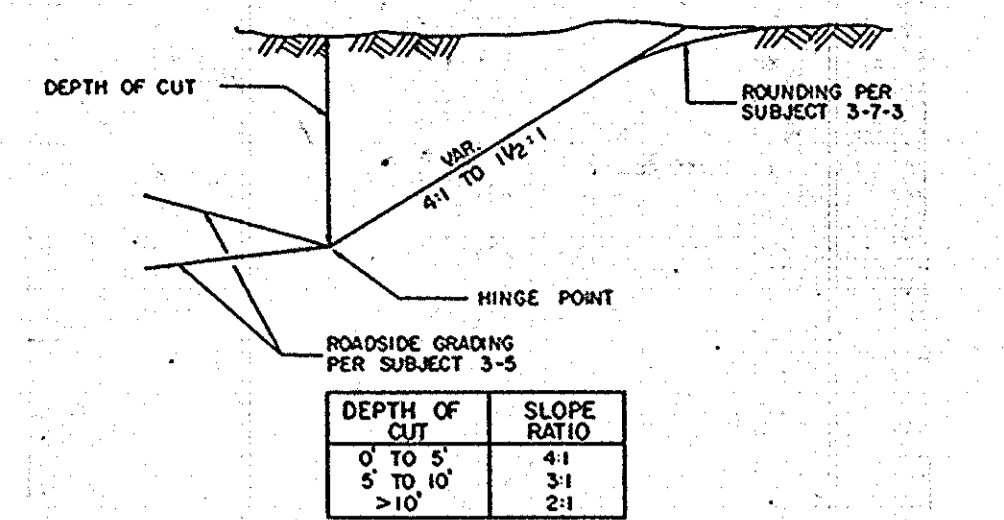
NO.	TYPE	LOCATION	INV. IN	INV. OUT	T.C. ELEV	REMARKS
1-17	A-5 W/DEFL.	22' Lt. Centerline Station 8+61	472.44 24"(E) 471.77	470.17 40	478.92	Ho. Co. Std. SD-4.01 450-4.85
1-18	A-5 W/DEFL.	22' Rt. Centerline Station 6+61	472.63 475.31	472.75 19	478.92	Ho. Co. Std. SD-4.01 450-4.85
1-19	A-5 W/DEFL.	22' Rt. Centerline Station 4+25	489.78 81	489.06 78	494.02	Ho. Co. Std. SD-4.01 450-4.85
1-20	A-5 W/DEFL.	22' Lt. Centerline Station 4+25	489.72 67	489.62 51	494.02	Ho. Co. Std. SD-4.01 450-4.85
1-21	A-5	25' Rt. Centerline Station 13+30.91	24"(N) 497.66 15"(W) 498.25	497.56 49	503.94	Ho. Co. Std. SD-4.01
1-22	A-10	25' Lt. Centerline Station 13+30.91	498.74 51	498.84 75	503.94	Ho. Co. Std. SD-4.01
1-23	A-5 W/DEFL.	25' Rt. Centerline Station 15+16	---	501.98 66	506.51	Ho. Co. Std. SD-4.01 450-4.85
M-15	Std. 4' Dia. Manhole	See Plan	24"(E) 471.55 18"(S) 471.95	471.45	*480.55	Ho. Co. Std. G-5.12
M-17	Std. 4' Dia. Manhole	See Plan	486.84 19	486.72	*492.31	Ho. Co. Std. G-5.12
E-4	24" Conc. End Section	See Plan	485.06	---	---	Ho. Co. Std. SD-5.01
E-5	24" Conc. End Section	See Plan	495.76 29	---	---	Ho. Co. Std. SD-5.01
E-6	24" Conc. End Section	See Plan	---	499.32	---	Ho. Co. Std. SD-5.01
E-7	30" Conc. End Section	See Plan	467.65	---	---	Ho. Co. Std. SD-5.01

* Top of Rim Elevation



DRAINAGE AREA MAP
SCALE: 1"=100'

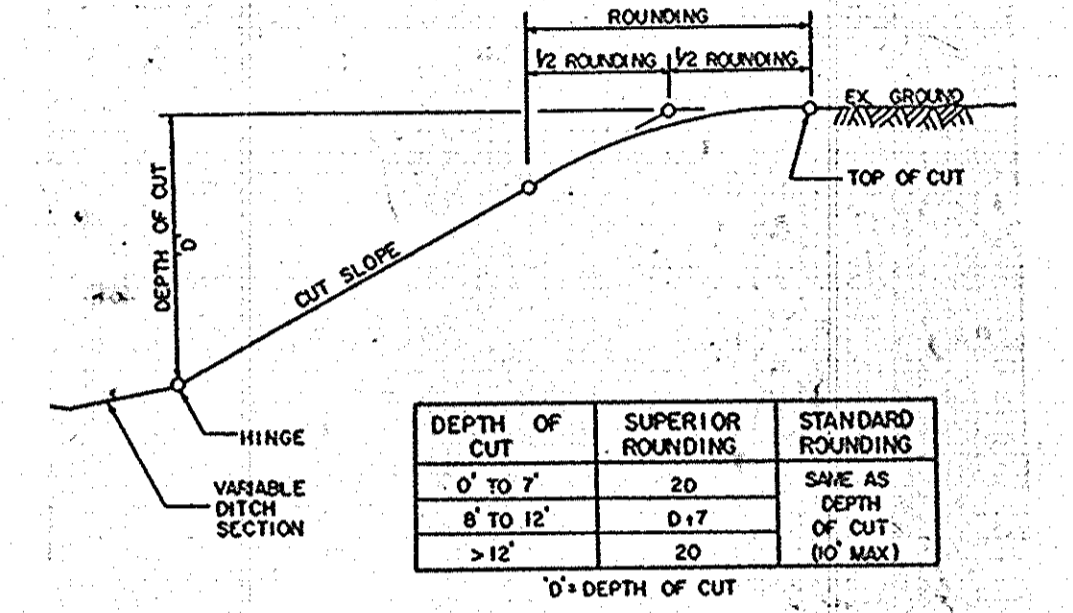
NOTE: DRAINAGE AREAS SHOWN ARE PROPOSED.



DEPTH OF CUT	SLOPE RATIO
0' TO 3'	4:1
3' TO 10'	3:1
> 10'	2:1

- LONGITUDINAL BARRIER IS NOT WARRANTED FOR SMOOTH FACE CUT SLOPES REGARDLESS OF RATIO, FLATTER SLOPES ARE PROVIDED AESTHETICS ONLY.
- ON BORROW PROJECTS WHERE R/W IS AVAILABLE AT NOMINAL COSTS, CONSIDER INCREASING THE USE OF 3:1 AND 4:1 SLOPES, OR USING 4:1 THROUGHOUT.
- ON WASTE PROJECTS OR WHERE R/W COSTS ARE EXCESSIVE CONSIDER INCREASING THE USE OF 3:1 AND 2:1 SLOPES, OR USING 2:1 THROUGHOUT.
- IN MOUNTAINOUS AREAS, CONSIDER INCREASING THE USE OF 3:1 AND 2:1 SLOPES; AND REVIEW THE POSSIBILITY OF USING 1 1/2:1 SLOPES WITH THE BUREAU OF SOILS AND FOUNDATIONS. USE 1 1/2:1 SLOPES PER SOILS REPORT RECOMMENDATION ONLY.

CUT SLOPE RATIOS
NO SCALE
(RTE. 100 ONLY)



DEPTH OF CUT	SUPERIOR ROUNDING	STANDARD ROUNDING
0' TO 7'	20	SAME AS DEPTH OF CUT (DO MAX)
8' TO 12'	D:17	
> 12'	20	

NOTE: THE USE OF SUPERIOR VERSUS STANDARD SLOPE ROUNDING WILL BE BASED ON THE JUDGEMENT OF THE DESIGN ENGINEER. IN GENERAL, THE SUPERIOR ROUNDING WILL BE USED ON EXPRESSWAYS, NEW OR RELOCATED ARTERIALS, AND WHEREVER THE R/W IS READILY AVAILABLE. THE STANDARD ROUNDING WILL BE USED ON LOCAL STREETS, COLLECTORS, AND IN UPGRADE HIGHWAYS WHERE R/W BECOMES A MAJOR PROBLEM. LAWN AREAS MAY BE GRADED TO THE SUPERIOR STANDARDS IF THE AFFECTED PROPERTY OWNER AGREES TO GRANT A TEMPORARY EASEMENT FOR LAWN GRADING.

CUT SLOPE ROUNDING
NO SCALE
(RTE. 100 ONLY)

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
 [Signature] 11-7-86 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 [Signature] 11-13-86 DATE
 CHIEF, BUREAU OF ENGINEERING

DATE NO. REVISION

OWNER: MJF ASSOCIATES LTD. PARTNERSHIP
 1000 EQUITABLE BANK BUILDING
 COLUMBIA, MARYLAND 21044

DEVELOPER: MCCUAN DEVELOPMENT GROUP
 1000 EQUITABLE BANK BUILDING
 COLUMBIA, MARYLAND 21044

PROJECT: COLUMBIA 100
 OFFICE RESEARCH PARK
 SECTION 1, AREA 1

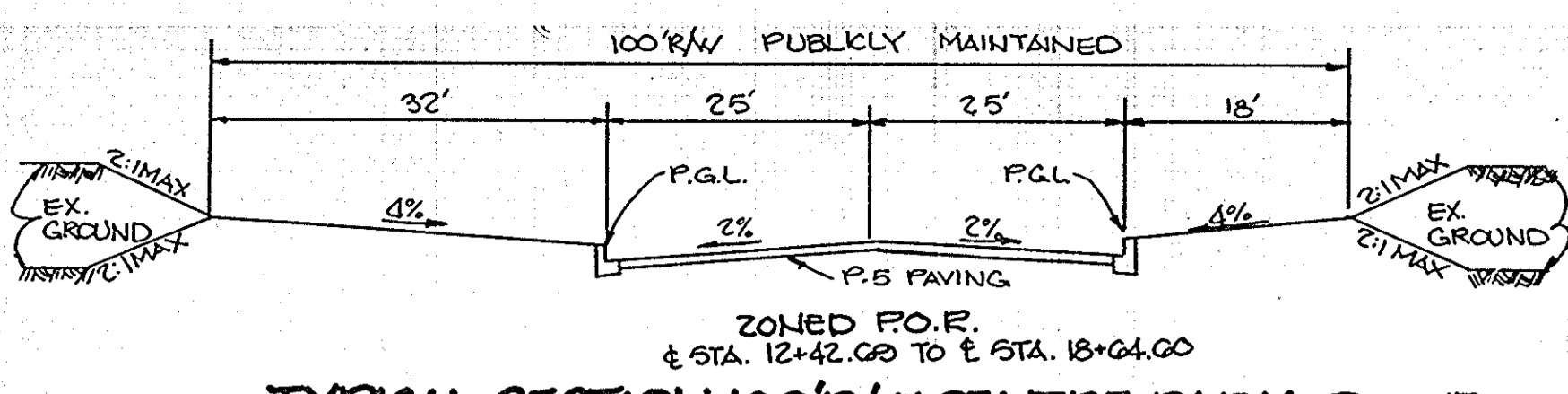
AREA: TAX MAP N# 30 PARCEL 2
 2ND ELECTION DISTRICT PLAT N# 5246
 HOWARD COUNTY, MARYLAND

TITLE: DRAINAGE AREA MAP
 & DETAILS

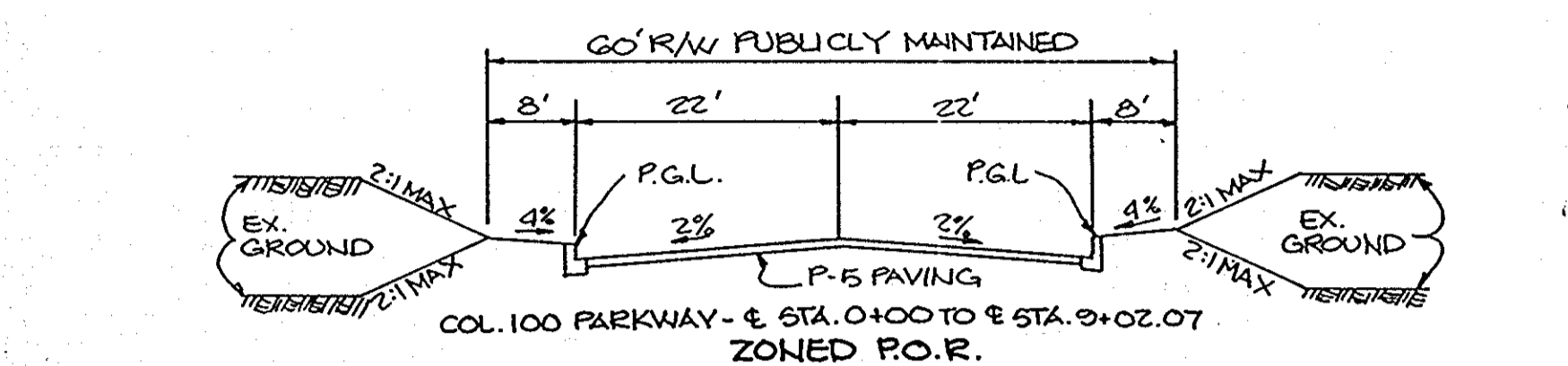
THE RIEMER GROUP, INC.
 The Riemer Group, Inc. A Land Planning, Design & Civil Engineering Firm
 3105 Health Park Drive, Ellicott City, Maryland 21043 (301) 461-2680

10-24-86 DATE
 STATE OF MARYLAND PROFESSIONAL ENGINEER
 [Signature] ARTHUR E. MUEGGEL III

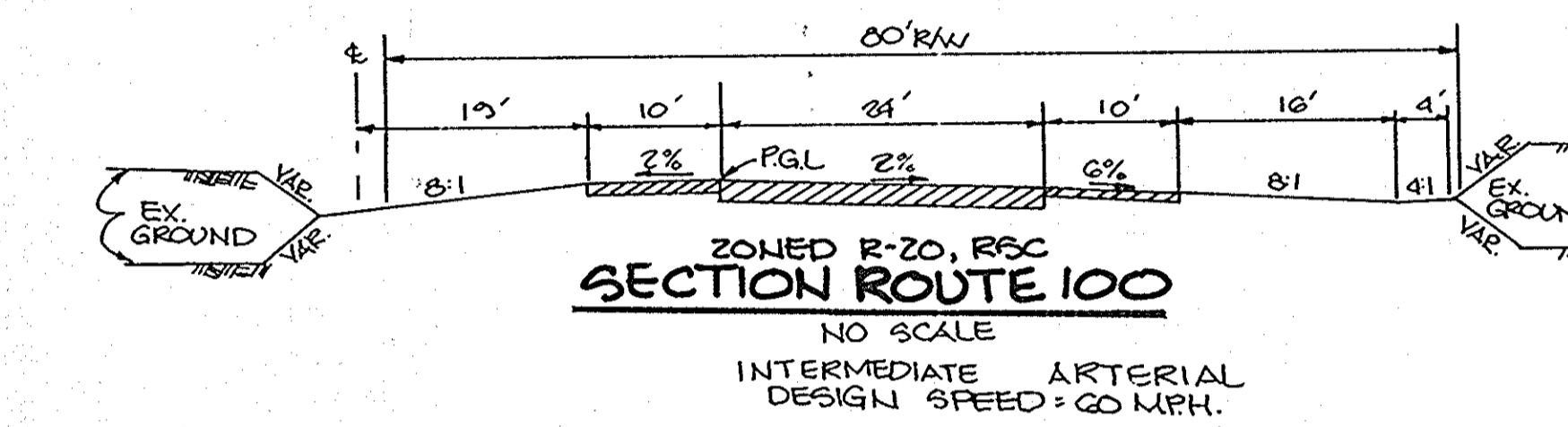
DESIGNED BY: W.C.W.
DRAWN BY: W.C.W.
PROJECT NO: 008
DATE: 10-24-86
SCALE: AS SHOWN
DRAWING NO. 6 OF 7



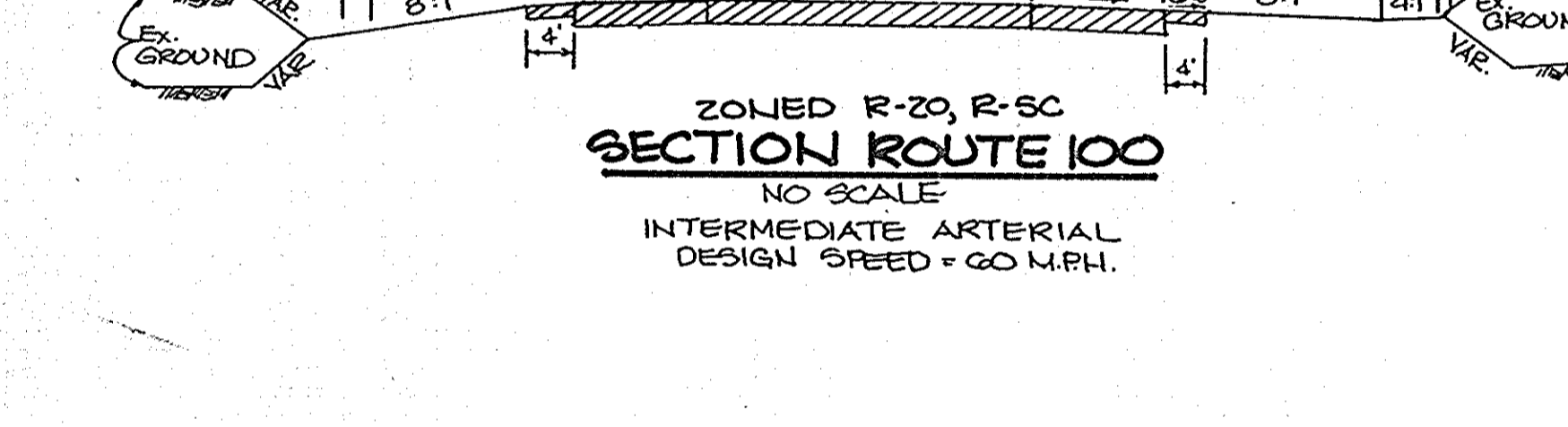
TYPICAL SECTION 100' R/W CENTRE PARK DRIVE
NO SCALE
MAJOR COLLECTOR
DESIGN SPEED = 40 M.P.H.



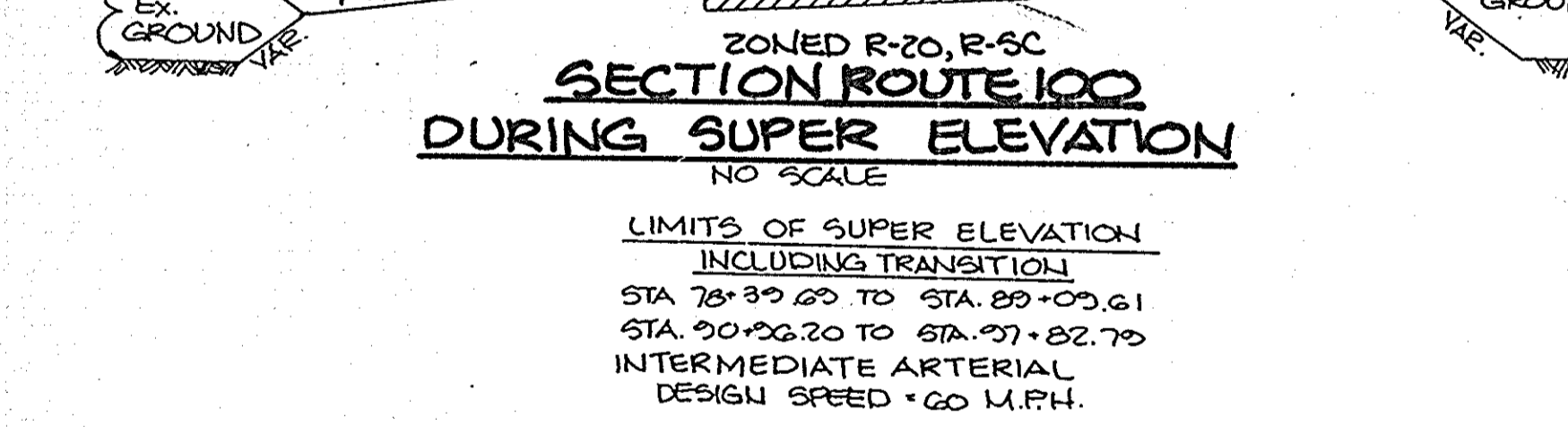
TYPICAL SECTION 60' R/W COLUMBIA 100 PARKWAY EXECUTIVE PARK DRIVE
NO SCALE
MINOR COLLECTOR
DESIGN SPEED = 35 M.P.H.



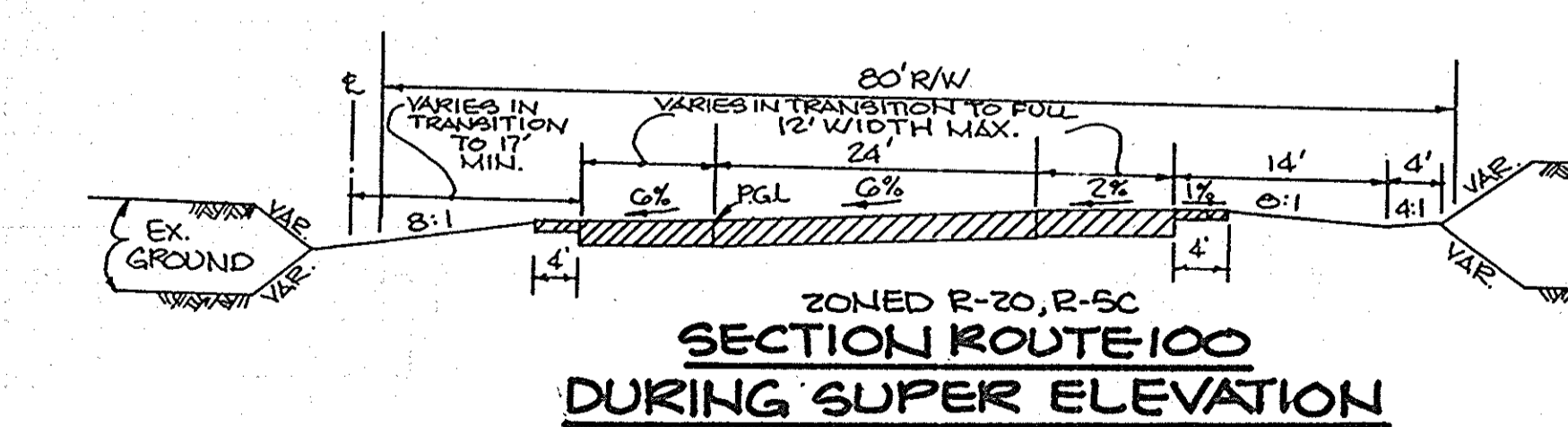
SECTION ROUTE 100
NO SCALE
INTERMEDIATE ARTERIAL
DESIGN SPEED = 60 M.P.H.



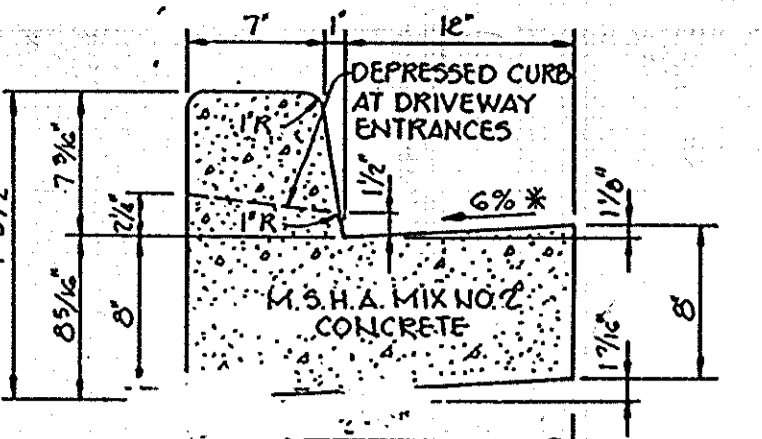
SECTION ROUTE 100
NO SCALE
INTERMEDIATE ARTERIAL
DESIGN SPEED = 60 M.P.H.



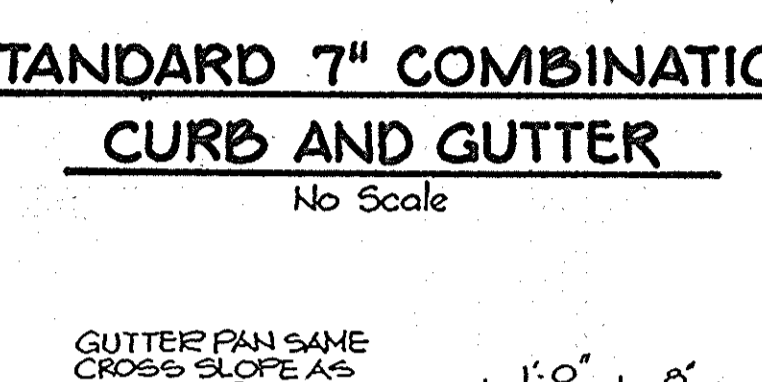
SECTION ROUTE 100 DURING SUPER ELEVATION
NO SCALE
LIMITS OF SUPER ELEVATION INCLUDING TRANSITION
STA. 78+30 TO STA. 80+00.61
STA. 80+00.20 TO STA. 81+82.75
INTERMEDIATE ARTERIAL
DESIGN SPEED = 60 M.P.H.



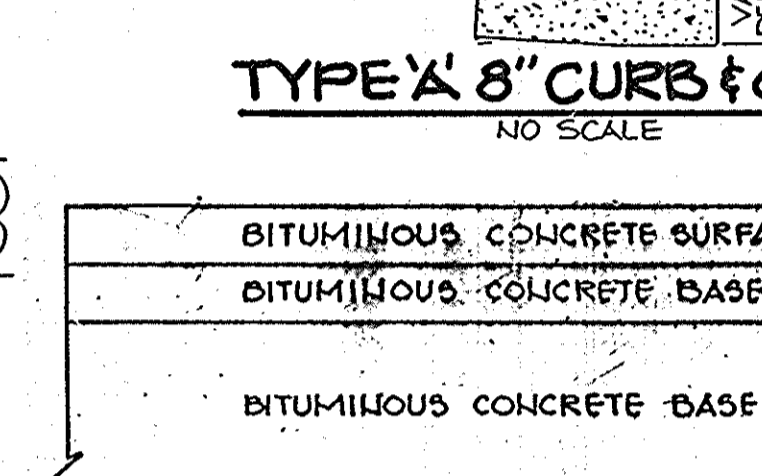
SECTION ROUTE 100 DURING SUPER ELEVATION
NO SCALE
LIMITS OF 4' PAVEMENT WIDTH INCLUDING TRANSITION
STA. 83+30 TO STA. 85+84
STA. 88+36 TO STA. 87+83
NOTE: SEE PLAN VIEW FOR EXACT STATIONING OF EAST AND WEST BOUND AUXILIARY LANES.



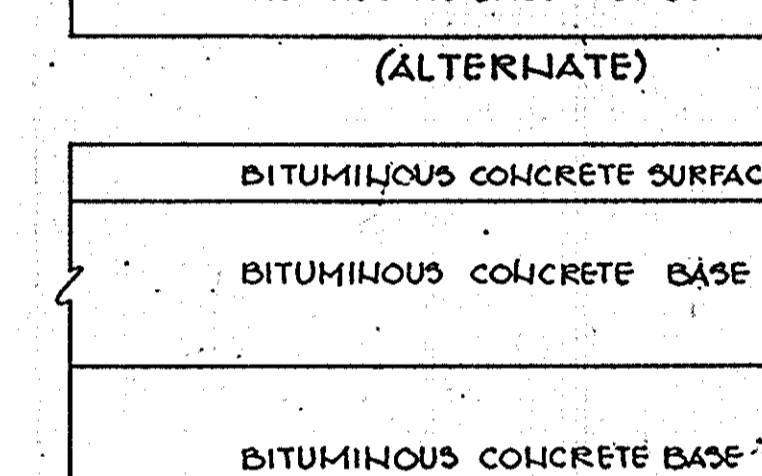
STANDARD 7" COMBINATION CURB AND GUTTER
NO SCALE



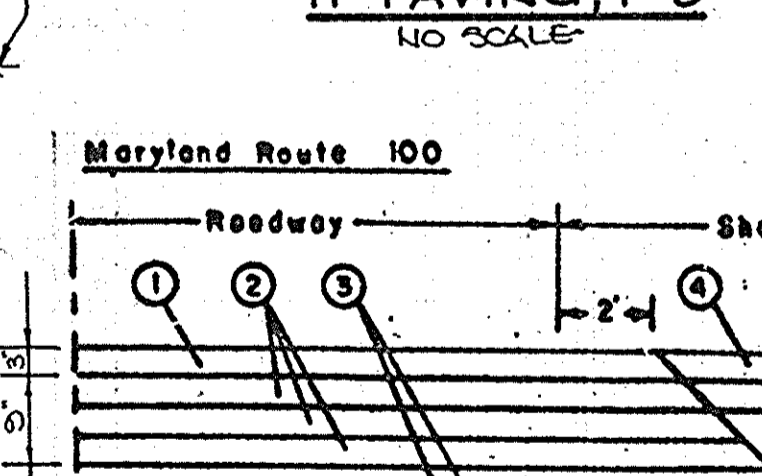
TYPE 'A' 8" CURB & GUTTER
NO SCALE



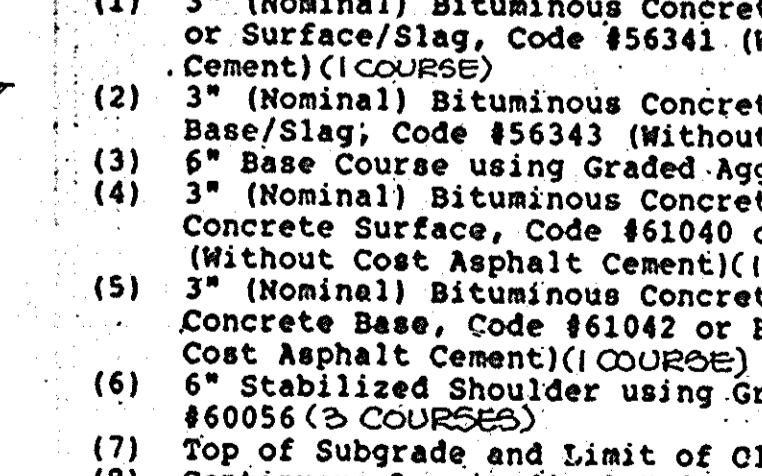
BITUMINOUS CONCRETE SURFACE
BITUMINOUS CONCRETE BASE



BITUMINOUS CONCRETE SURFACE
BITUMINOUS CONCRETE BASE



TYPICAL PAVING SECTION ROUTE 100
NO SCALE



MARYLAND ROUTE 100

SITE PREPARATION
Areas under the borrow areas, embankment, and structural works shall be cleared, grubbed and the topsoil stripped to remove all trees, vegetation, roots or other objectionable material. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

CONCRETE
Concrete shall be consolidated with internal type mechanical vibrators. Vibration shall be supplemented by spading and hand tamping as necessary to insure smooth and dense concrete along form surfaces, in corners, and around embedded items.

FINISHING
Defective concrete, honeycombed areas, voids left by the removal of the rods, ridges on all concrete surfaces permanently exposed to view or subject to weathering, shall be repaired. The repair shall be made and completely finished with dry-patching mortar.

PROTECTION AND CURING
Exposed surfaces of concrete shall be protected from the direct rays of the sun for at least the first three (3) days. All concrete shall be kept continuously moist for at least ten (10) days after being placed. Moisture may be applied by spraying or sprinkling as necessary to prevent the concrete from drying. Concrete shall not be subjected to freezing during the curing period. Curing compounds may also be used.

PLACEMENT
Concrete may not be placed at temperatures below 32° F with the temperature falling or 34° with the temperature rising.

STABILIZATION
All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, driveway, spoil and borrow areas and berms shall be stabilized by seeding, fertilizing and mulching (1) in accordance with the vegetative treatment specifications shown on or accompanying the drawings.

SEDIMENT CONTROL NOTES
1. A minimum of 26 hours notice must be given to the Howard County Office of Planning and Zoning and Permits prior to the start of any construction (992-2437)

SEEDING
1. 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.

SEEDING
2. Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1; b) 16 days as to all other disturbed or graded areas on the project site.

SEEDING
3. 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. Seeding shall be done in accordance with the vegetative treatment specifications shown on or accompanying the drawings.

SEEDING
4. 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.

CUTOFF TRENCH
Where specified, a cutoff trench shall be excavated along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill material for the cutoff trench shall be the most impervious material available and shall be compacted with equipment or rollers to assure maximum density and minimum permeability.

STRUCTURAL BACKFILL
Backfill material shall be of the type and quality conforming to that specified for the adjoining fill. The backfill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tamping or other compaction equipment. The material needs to fill completely all spaces under and around the structure. At no time during the backfilling operation shall the structure be subjected to a load greater than four feet, measured horizontally, to any part of its structure. Under no circumstances shall the contractor drive equipment over any part of a twenty-four inches or greater over the structure or pipe.

CONCRETE
Concrete shall be consolidated with internal type mechanical vibrators. Vibration shall be supplemented by spading and hand tamping as necessary to insure smooth and dense concrete along form surfaces, in corners, and around embedded items.

FINISHING
Defective concrete, honeycombed areas, voids left by the removal of the rods, ridges on all concrete surfaces permanently exposed to view or subject to weathering, shall be repaired. The repair shall be made and completely finished with dry-patching mortar.

PROTECTION AND CURING
Exposed surfaces of concrete shall be protected from the direct rays of the sun for at least the first three (3) days. All concrete shall be kept continuously moist for at least ten (10) days after being placed. Moisture may be applied by spraying or sprinkling as necessary to prevent the concrete from drying. Concrete shall not be subjected to freezing during the curing period. Curing compounds may also be used.

PLACEMENT
Concrete may not be placed at temperatures below 32° F with the temperature falling or 34° with the temperature rising.

STABILIZATION
All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, driveway, spoil and borrow areas and berms shall be stabilized by seeding, fertilizing and mulching (1) in accordance with the vegetative treatment specifications shown on or accompanying the drawings.

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SEEDING
1. 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.

SEEDING
2. Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1; b) 16 days as to all other disturbed or graded areas on the project site.

SEEDING
3. 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. Seeding shall be done in accordance with the vegetative treatment specifications shown on or accompanying the drawings.

TEMPORARY SEEDING NOTES
Apply to graded or cleared areas likely to be redistributed where a short-term vegetative cover is needed.

SEEDING
For periods March 1 thru April 30 and from August 15 thru November 15, seed with 140 lbs. per acre (3.2 lbs./1000 sq-ft.). For the period May 1 thru August 14, seed with 180 lbs. per acre (4.5 lbs./1000 sq-ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well-anchored straw mulch and seed as soon as possible in the spring, or use soil.

SEEDING
Apply 15 to 2 tons per acre (70 to 90 lbs./1000 sq-ft.) of untreated 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 ft. or higher, use 242 gal. per acre (8 gal./1000 sq-ft.) for anchoring.

SEEDING
Apply 0-20-20 fertilizer at the rate of 600 lbs. per acre. Narrow or disc line and 0-20-20 fertilizer into the soil to a minimum depth of 3". Lanes or high maintenance areas will be dragged and leveled with a York rake. At the time of seeding, apply 400 lbs. of 30-0-0 ureaform fertilizer and 500 lbs. of 10-20-20 or equivalent fertilizer per acre.

SEEDING
For the periods March 1 thru April 30, and August 1 thru October 15, seed with 40 lbs. per acre (1 lb./1000 sq-ft.) of a mixture of certified 'Merion' Kentucky bluegrass; common Kentucky bluegrass @ 40 lbs. per acre (1 lb./1000 sq-ft.) and Red Fescue, Pennlawn or Jamestown @ 20 lbs. per acre (0.5 lb./1000 sq-ft.) for the period May 1 thru July 31, seed with 40-40-20 mix as specified above and 2 lbs. per acre (0.05 lb./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 soil. (Option 3) Seed with 40-40-20 mix specified above and mulch with well-anchored straw.

MULCHING
Apply 15 to 2 tons per acre (70 to 90 lbs./1000 sq-ft.) of untreated 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 242 gallons per acre (8 gal./1000 sq-ft.) for anchoring.

MAINTENANCE
Inspect all seeded areas and make needed repairs, replacements and reseedings.

SEEDING
Apply 0-20-20 fertilizer at the rate of 600 lbs. per acre. Narrow or disc line and 0-20-20 fertilizer into the soil to a minimum depth of 3". Lanes or high maintenance areas will be dragged and leveled with a York rake. At the time of seeding, apply 400 lbs. of 30-0-0 ureaform fertilizer and 500 lbs. of 10-20-20 or equivalent fertilizer per acre.

SEEDING
For the periods March 1 thru April 30, and August 1 thru October 15, seed with 40 lbs. per acre (1 lb./1000 sq-ft.) of a mixture of certified 'Merion' Kentucky bluegrass; common Kentucky bluegrass @ 40 lbs. per acre (1 lb./1000 sq-ft.) and Red Fescue, Pennlawn or Jamestown @ 20 lbs. per acre (0.5 lb./1000 sq-ft.) for the period May 1 thru July 31, seed with 40-40-20 mix as specified above and 2 lbs. per acre (0.05 lb./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 soil. (Option 3) Seed with 40-40-20 mix specified above and mulch with well-anchored straw.

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MAINTENANCE
Inspect all seeded areas and make needed repairs, replacements and reseedings.

BY THE DEVELOPER:
"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, 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. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

BY THE ENGINEER:
"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

APPROVED: Howard County Office of Planning and Zoning

APPROVED: Howard County Department of Public Works

APPROVED: Howard County Office of Planning and Zoning

APPROVED: Howard County Department of Public Works

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APPROVED: Howard County Office of Planning and Zoning

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