

7-21-92 Δ REVISED LOCATIONS OF FC4, I-15 & 517 AND CHANGED ASSOCIATED PIPES FROM RCP TO CMP TO MATCH THE AS-BUILT CONDITIONS ON THE LONG MEADOW SIDE OF DAVIS ROAD YADDED CONC. SLAB.

NOTE: 10/14/16 - CAPROL PROTECT D-1169 REVISED THE PRINCIPAL SPILLWAY IN SUM POND "A" BY REPLACING THE METAL CONTROL STRUCTURE AND 30" CMP WITH A REINFORCED CONCRETE CONTROL STRUCTURE AND 30" RCP. ADDITIONAL STABILIZATION AND INFLOW PROTECTION WERE ALSO PROVIDED.

⊕ HORIZONTAL CURVE DATA-ROUNDTREE LANE
 PC=4+14.91 TO PT.=8+79.21
 R=530.00'
 L=464.30'
 Δ=50°11'37"
 CHZ= N.14°47'13"W. 449.60'
 TAN= 248.23'

TREE PLANTING NOTES:
 1. CONTRACTOR SHALL VERIFY LOCATION OF UNDERGROUND UTILITIES PRIOR TO DIGGING.
 2. FINAL LOCATION OF TREES MAY BE ADJUSTED SLIGHTLY TO ACCOMMODATE FIELD CONDITIONS.
 3. PLANTING PROCEDURES SHALL COMPLY WITH LANDSCAPE SPECIFICATIONS FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS.
 4. SUBSTITUTIONS TO THE AREA SPECIES MAY BE PERMITTED PROVIDED THAT THE PLANTING IS IN ACCORDANCE WITH THE STREET TREE AND LANDSCAPE REQUIREMENTS AS SPECIFIED IN SECTION 16.131 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS.

TREE SCHEDULE

KEY PLANT NAME	SIZE	QUANTITY	REMARKS
(M) GREER SARGENTUM GREEN MOUNTAIN SUGAR MAPLE	2" - 2 1/2" CAL.	59	B. & B. HEAVY HEADS
(K) PRUNUS SEROTINATA 'KNAZAN' KNAZAN CHERRY		6	

GENERAL NOTES:

1. ALL STORM DRAIN & PAVING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST DETAILS & SPECIFICATIONS OF HOWARD COUNTY #182 S.I.A.
2. TYPES OF STORM DRAIN STRUCTURES REFER TO THE STANDARD DETAILS OF HOWARD COUNTY #182 S.I.A.
3. TRENCH COMPACTOR FOR STORM DRAINS, WITHIN ROAD OR STREET RIGHT-OF-WAY LIMITS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL VOL. III (CLASS 'C' TRENCH BEDDING) TO BE USED FOR ALL STORM DRAIN, UNLESS SHOWN OTHERWISE SEE DETAIL SHT. 4.
4. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF THE MAINS BY DIGGING TEST PITS, BY HAND, AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF CONSTRUCTION.
5. ALL UTILITY COMPANIES SHALL BE NOTIFIED 24HRS. IN ADVANCE OF CONSTRUCTION.
6. ALL TRAFFIC CONTROL DEVICES, PARKING & SIGNING TO BE DONE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 1988 EDITION.
7. SAG & CREST VERTICAL CURVES WERE DESIGNED IN ACCORDANCE WITH HOWARD CO. DESIGN MANUAL VOL. III.
8. PROVIDE CONCRETE SIDEWALK RAMPS, HOWARD CO. STA. TYPE 'A', R-40 WHERE SHOWN ON PLAN.
9. DESIGN SPEED: 35 MPH SEE CHART SHT. 4.
10. ZONING: R-12
11. CONTRACTOR OR DEVELOPER SHALL CONTACT THE CONSTRUCTION INSPECTION/SURVEY DIVISION 24HRS. BEFORE COMMENCING WORK AT 792-7272.
12. FOR TREE SCHEDULE SEE THIS SHT.
13. STREET LIGHTS SHALL BE PROVIDED AT THE LOCATIONS SHOWN IN THE SCHEDULE ON SHT. 2 & IN ACCORDANCE WITH VOL. III OF THE HOWARD CO. DESIGN MANUAL.
14. MASS GRADING OF SITE AND GRADING WITHIN THE 25' WETLAND BUFFER ALLOWED PER WP-89-178.

APPROVED: DEPARTMENT OF PUBLIC WORKS
Oliver M. Johnson
 CHIEF, LAND DEVELOPMENT DIVISION
 DATE: 9/25/90

Braville W. Weaver
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 9/5/90

Chris ...
 CHIEF BUREAU OF ENGINEERING
 DATE: 9-26-90

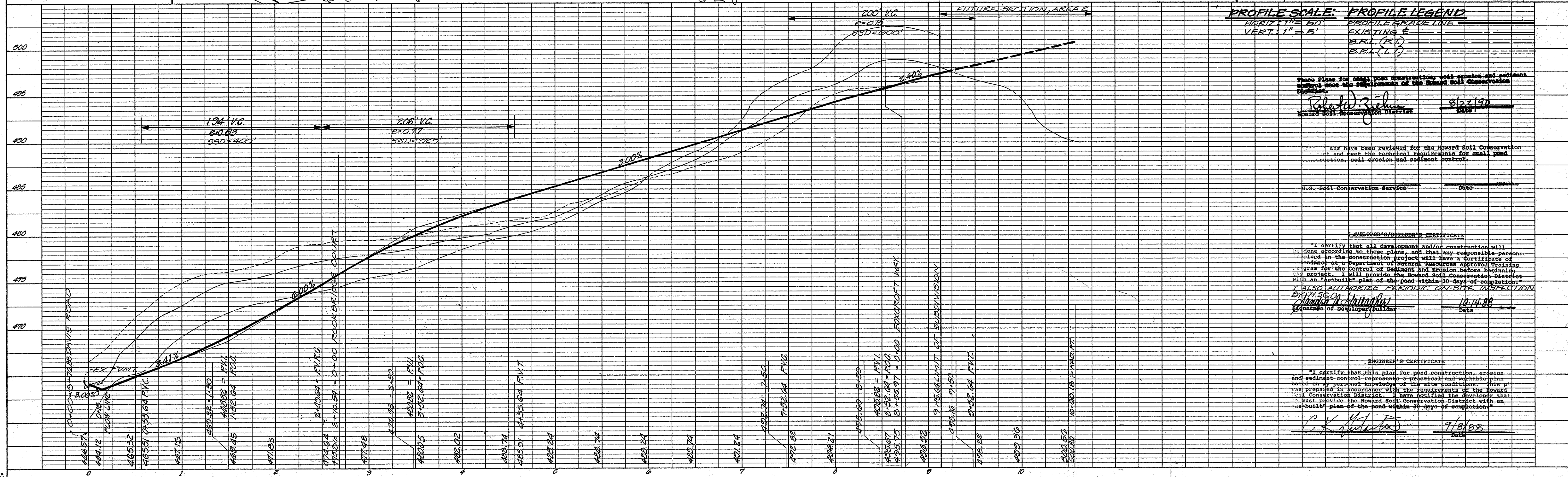
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
Mark ...
 CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT
 DATE: 9/28/90

GUTSCHICK LITTLE & WEBER, P.A.
 ENGINEERS, PLANNERS, SURVEYORS
 3009 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD. 20866
 TEL.: (301) 421-4024

DESIGNED: A.S.G.
 DRAWN: H.K.
 CHECKED: C.K.G.
 DATE: DEC. 1989

ROAD CONSTRUCTION PLANS
ROUNDTREE LANE
LONGRIDGE KNOLLS
 (FORMERLY 'ROUND TABLE FARM')
 SECTION ONE AREA ONE
 6th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 DEVELOPER: PORTER - SULLIVAN CORP.
 28 BETHESDA PARK DRIVE, SUITE 200
 BETHESDA, MARYLAND 20814

SCALE: AS SHOWN
 DRAWING: 1 OF 7
 JOB NO.: 87-052



PROFILE SCALE: PROFILE LEGEND
 HORIZONTAL 50'
 VERTICAL 5'
 PROFILE GRADE LINE
 EXISTING G.
 B.R.L. (R.O.)
 B.R.L. (L.R.)

These Plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.
Brad Zilch
 Howard Soil Conservation District
 DATE: 8/22/90

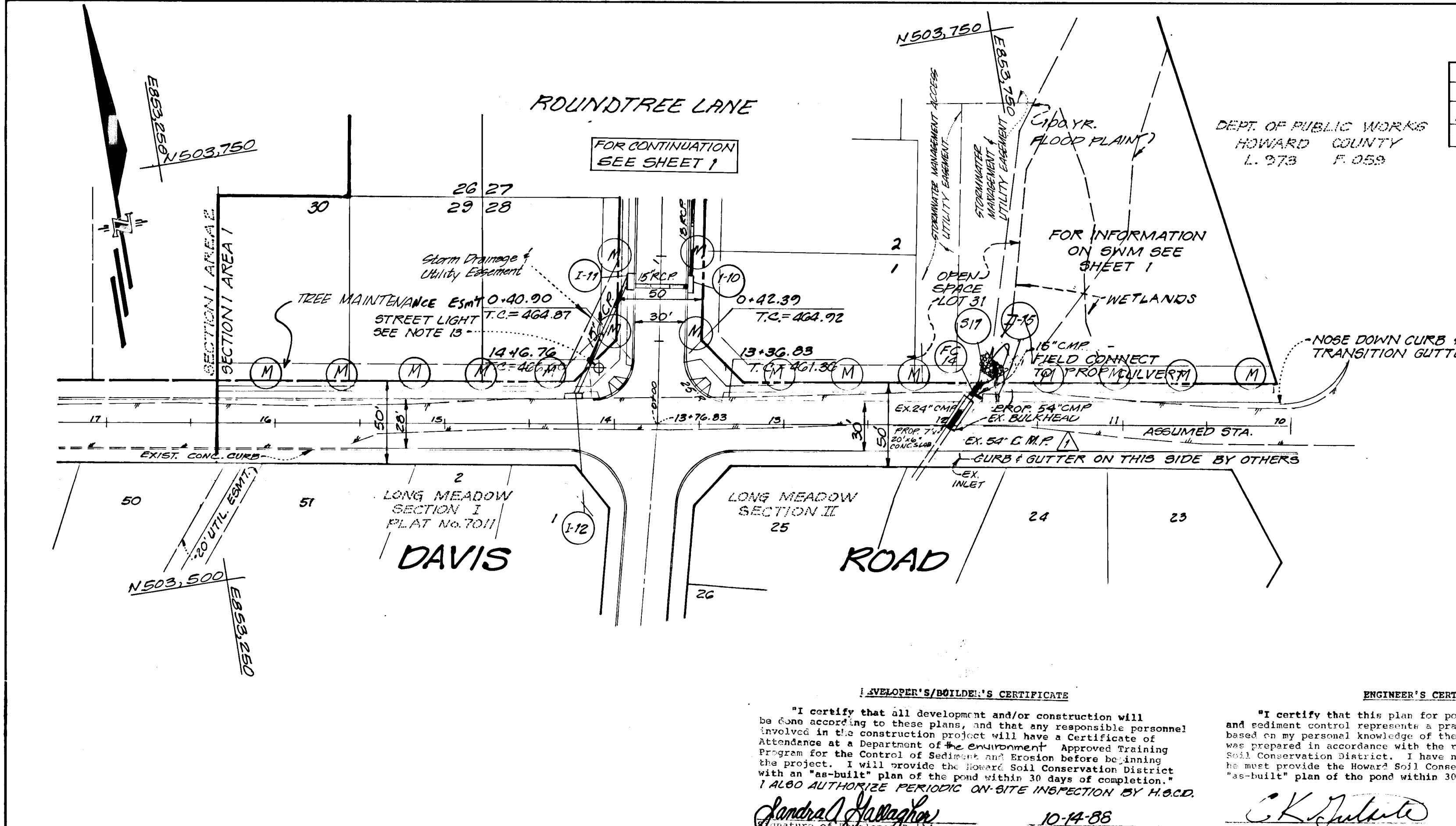
Plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.
 U.S. Soil Conservation Service
 DATE: 8/20

DEVELOPER'S/OWNER'S CERTIFICATE
 I certify that all development and/or construction will be done according to these plans, and that any responsible personnel 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 site projects. I will provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY H.S.C.D.
Michael A. Johnson
 DATE: 10/14/88

ENGINEER'S CERTIFICATE
 I certify that this plan for pond construction, erosion and sediment control represents a practical and verifiable 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 I must provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.
C.K.G.
 DATE: 9/8/88

15461

7-21-92 KEY LOCATION OF PROP. CULVERT & INLET. CHANGE ASSOCIATED PIPES TO CMP #4 ADD CONC. SUPPORT SLAB TO MATCH AS-BUILT CONDITIONS OF LONG MEADOW - AK



STREET LIGHT SCHEDULE			
LOCATION	LAMP TYPE	MOUNTING	POLE TYPE
ROUND TREE LANE 0+35 35' LT	100 WATT HIGH PRESSURE SODIUM VAPOR	TRADITIONAL (COLONIAL)	4" BLACK FIBERGLASS
ROUND TREE LANE 3+10 30' LT	100 WATT HIGH PRESSURE SODIUM VAPOR	TRADITIONAL (COLONIAL)	4" BLACK FIBERGLASS
ROUND TREE LANE 9+05 17' LT	100 WATT HIGH PRESSURE SODIUM VAPOR	TRADITIONAL (COLONIAL)	4" BLACK FIBERGLASS

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.

Robert W. Zichner 8/22/90
Soil Conservation Service

These Plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Robert W. Zichner 8/22/90
Soil Conservation District

APPROVED: DEPARTMENT OF PUBLIC WORKS

Alan M. Tangman 9/25/90
CHIEF, LAND DEVELOPMENT DIVISION DATE

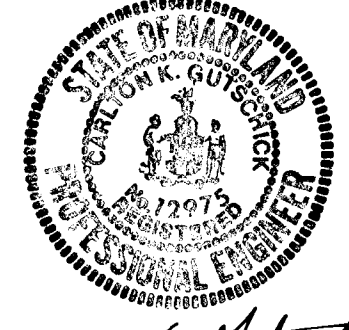
Lawrence W. Welland 9/5/90
CHIEF, BUREAU OF HIGHWAYS DATE

Richard E. Ryan 9-26-90
CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Paul J. Langley 9/2/90
CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT DATE

GUTSCHICK LITTLE & WEBER, P.A.
ENGINEERS, PLANNERS, SURVEYORS
3905 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD. 20866
TEL.: (301) 421-4024



DEVELOPER'S/BUILDER'S CERTIFICATE

"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 the Environment 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. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY H.O.C.D."

Samuel J. Gallagher 10-14-88
Signature of Developer/Builder DATE

ENGINEER'S CERTIFICATE

"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."

C.K. Little 4/24/89
DATE

CURB & GUTTER LEGEND

MOD. COMB. C.#4.
REV. MOD. COMB. C.#6.

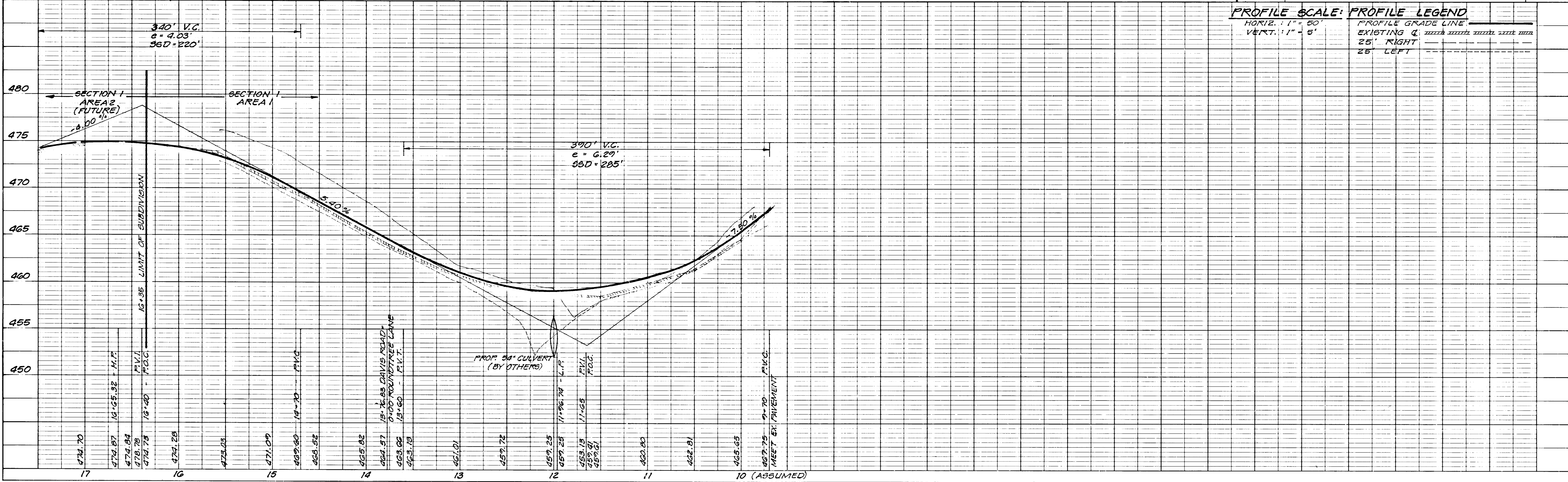
PLAN
SCALE: 1"=50'

DESIGNED: A.S.C. ROAD CONSTRUCTION PLANS DAVIS ROAD SCALE AS SHOWN

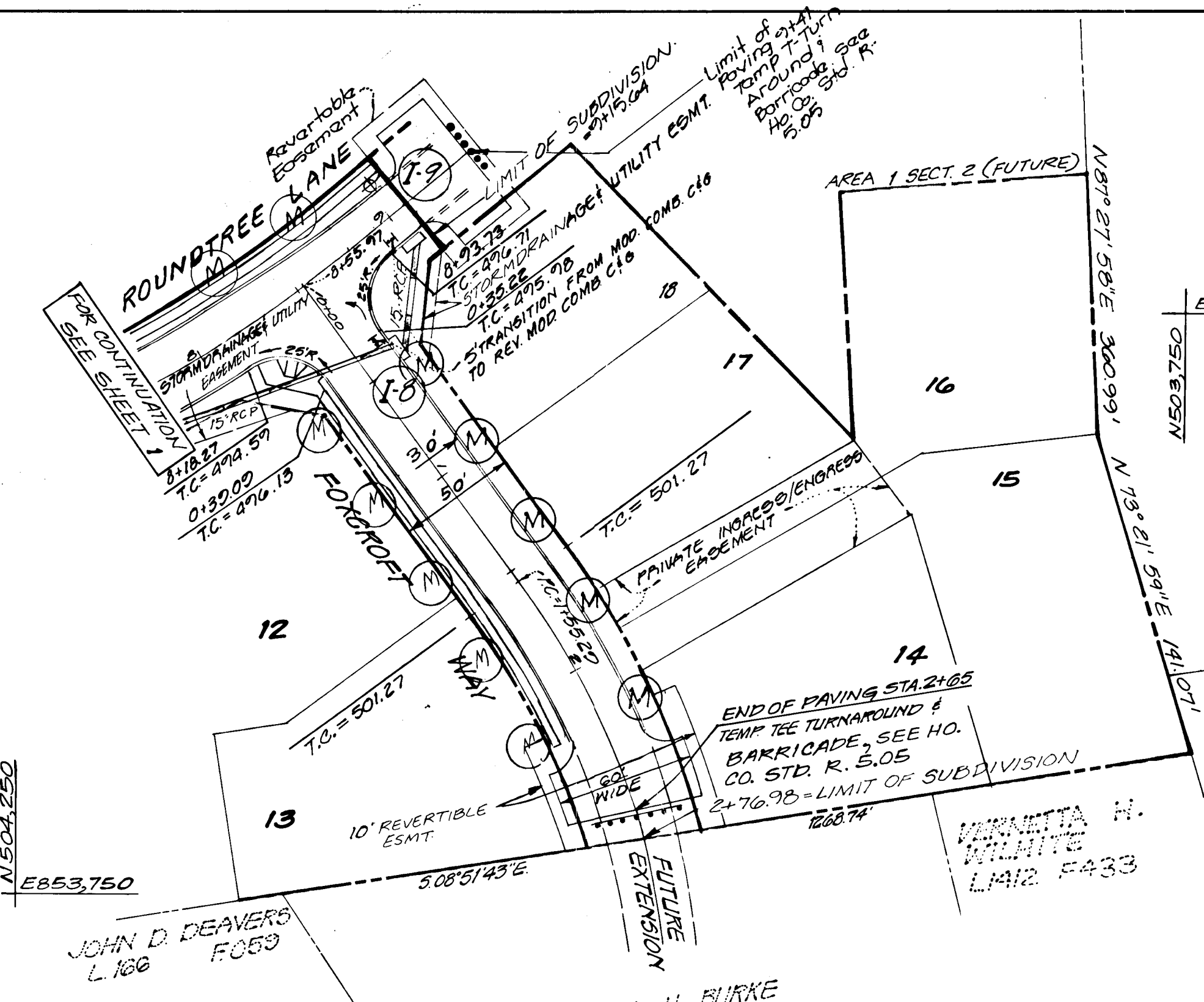
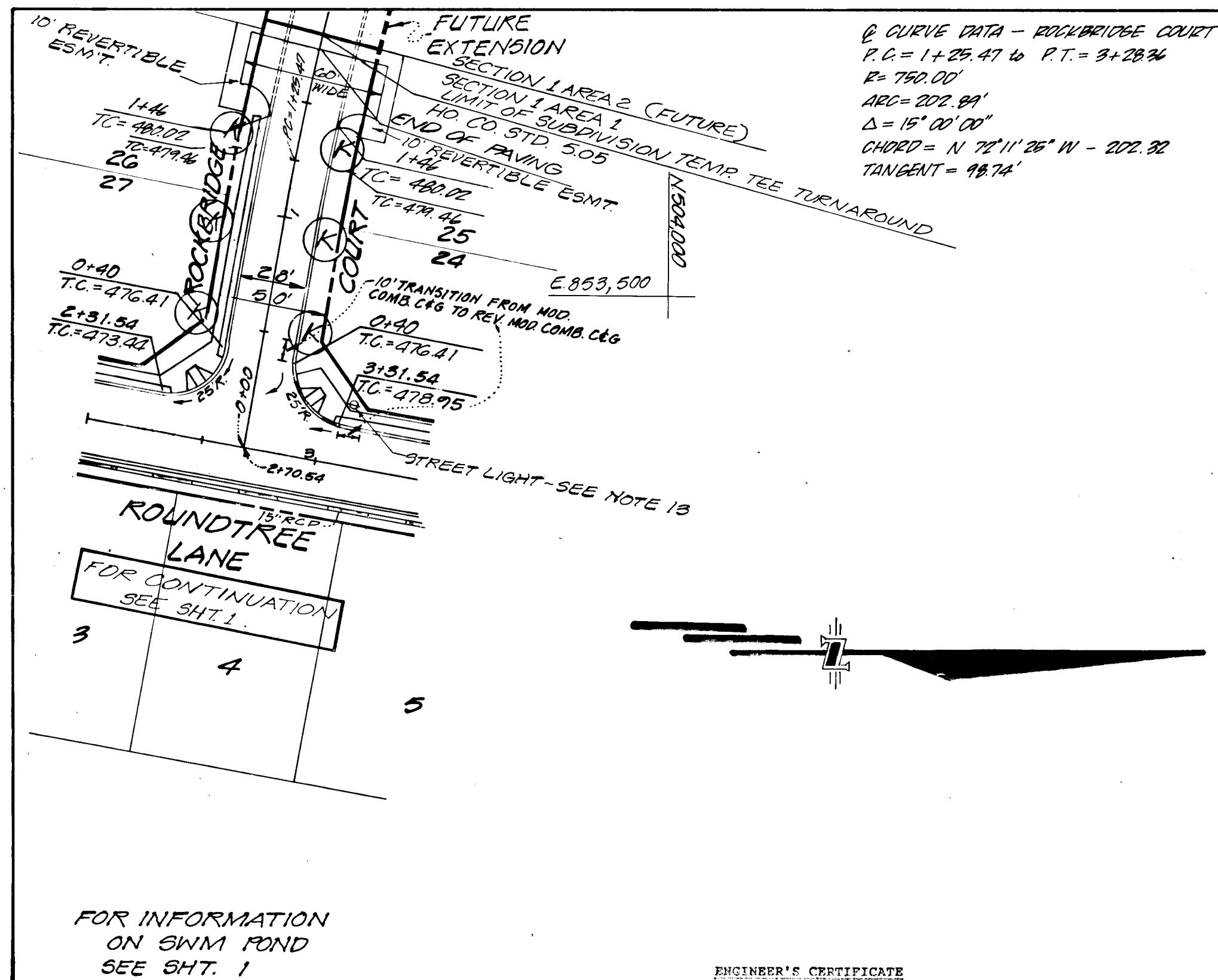
DRAWN: NB LONGRIDGE KNOLLS (FORMERLY "ROUND TABLE FARM") SECTION ONE AREA ONE DRAWING 2 OF 7

CHECKED: 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DATE: DEC 1989 DEVELOPER: FORTER - SULLIVAN CORP. 3 BETHESDA METRO CENTER SUITE 900 BETHESDA, MARYLAND 20814 (301) 654-1270 JOB NO. 87-052



1596



6 HORIZONTAL CURVE DATA - FOX CROFT WAY
 $R = 1 + 55.29$ TO $P.T. = 2 + 76.98$
 $R = 350.00'$
 $L = 464.30'$
 $\Delta = 19^\circ 55' 16''$
 $CHD = N 63^\circ 37' 48'' E 121.08'$
 $T = 61.97'$

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 H. Helm 8/22/90
 SOIL CONSERVATION DISTRICT

Plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.

Robert Ziehm 8/22/90
 SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PUBLIC WORKS
Alan M. Tengan 9/25/90
 CHIEF, LAND DEVELOPMENT DIVISION DATE

Francis W. Wellard 9/15/90
 CHIEF, BUREAU OF HIGHWAYS DATE

William H. Burke 9/20/90
 CHIEF, BUREAU OF ENGINEERING DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
John C. Smith 9/15/90
 CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT DATE

GOW GUTSCHICK LITTLE & WEBER, P.A.
 ENGINEERS, PLANNERS, SURVEYORS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD. 20866
 TEL.: (301) 421-4024

DESIGNED A.S.C.	ROAD CONSTRUCTION PLANS FOX CROFT WAY AND ROCKBRIDGE COURT	SCALE AS SHOWN
DRAWN C.L.O. & B.	LONGRIDGE KNOLLS (FORMERLY ROUND TABLE FARMS) SECTION ONE AREA ONE	DRAWING 3 OF 7
CHECKED	6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
DATE DEC 1989	DEVELOPER: PORTER SULLIVAN CORP. 1315 THESSES METRO CENTER SUITE 900 BETHESDA, MARYLAND 20814 301-554-7270	JOB NO. 87-052

ENGINEER'S CERTIFICATE
 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.

C.K. Hester 9/8/88
 DATE

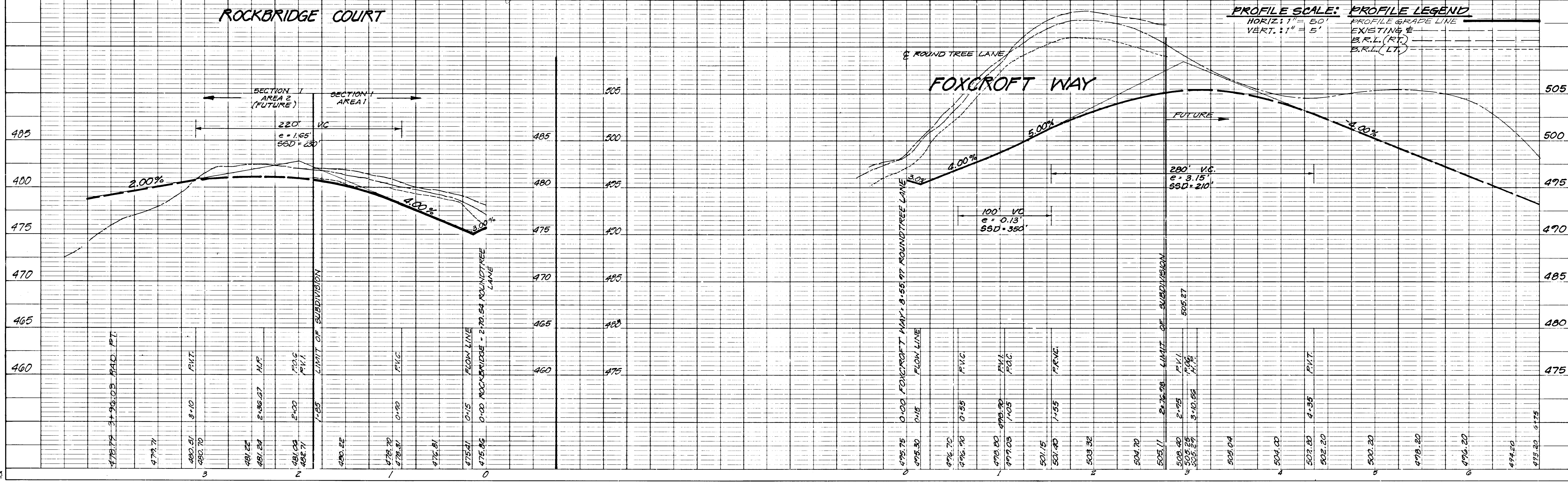


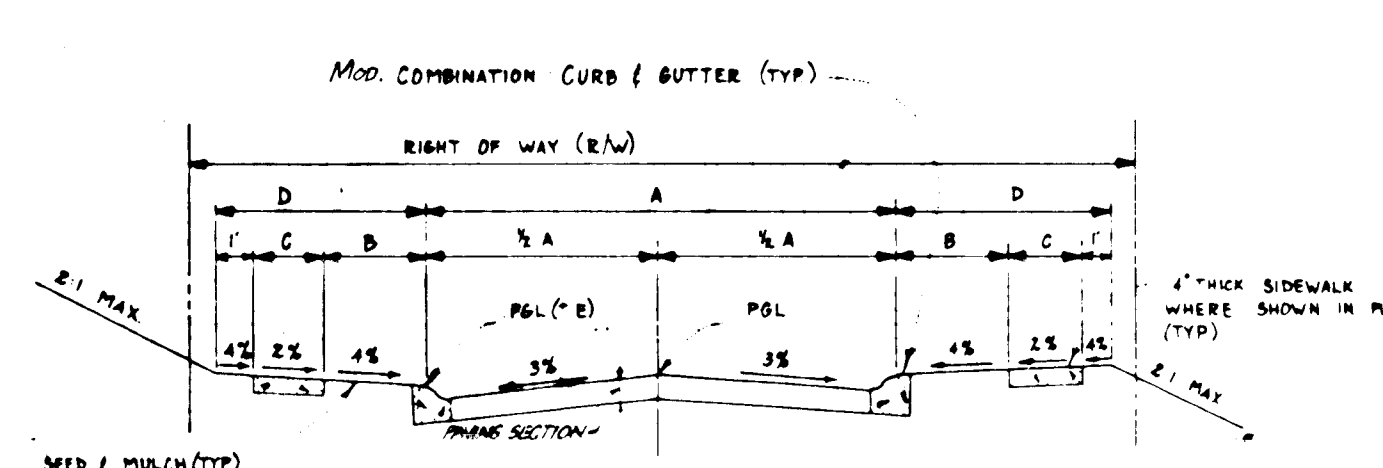
PLAN
 SCALE: 1" = 50'

DEVELOPER'S/BUILDER'S CERTIFICATE
 I certify that all development and/or construction will be done according to these plans, and that any responsible persons 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. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY H.S.C.D.

Jandra A. Young 10-14-88
 DATE

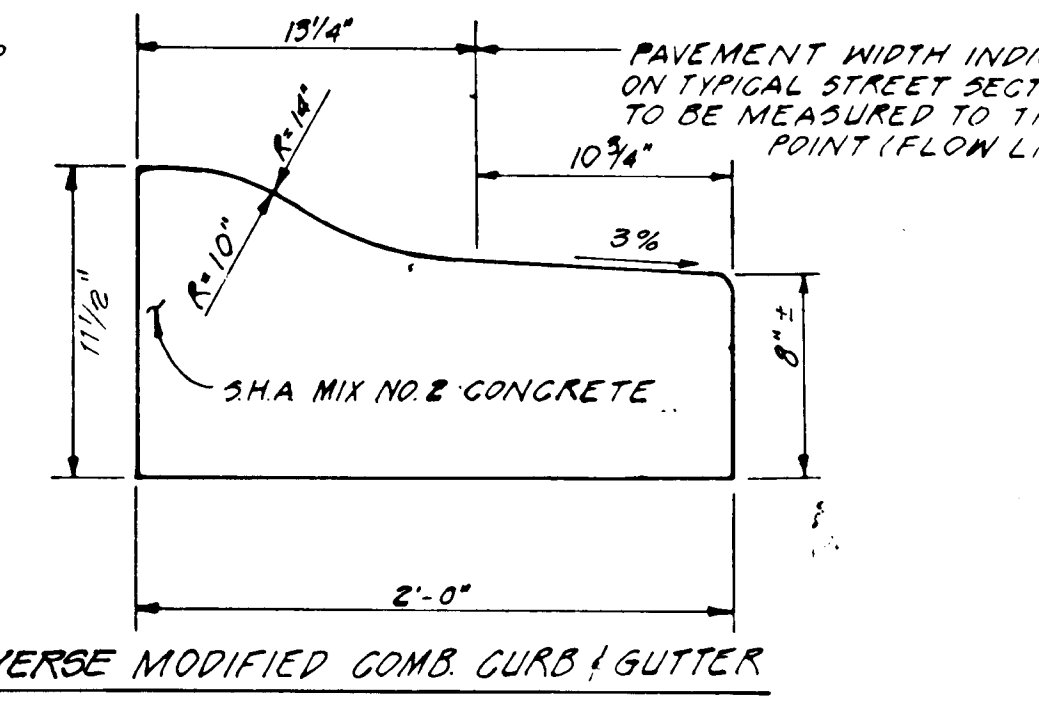
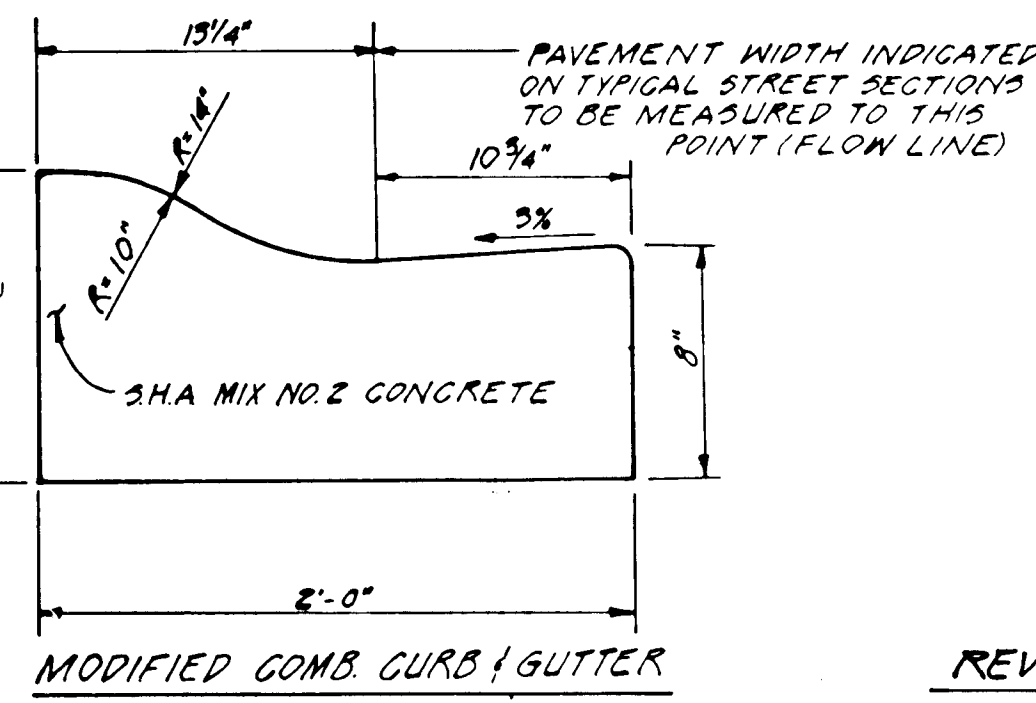
CURBS & GUTTER LEGEND
 MOD. COMB. C.#G.
 REV. MOD. COMB. C.#G.





STREET NAME & STATION

STREET NAME & STATION	TYPE OF TRAFFIC	A	B	C	D	R/W	ZONING	E	DESIGN SPEED	PAVING SECTION
DAVIS ROAD STA 10+00 TO STA 10+25	LOCAL	30'	4'	4'	11'	50'	R-12	15'	30 MPH	P-2
ROUNDTREE LANE STA 10+25 TO STA 10+50	LOCAL	30'	4'	4'	9'	50'	R-12	15'	30 MPH	P-2
ROCKBRIDGE COURT STA 10+50 TO STA 10+75	CUL-DE-SAC	28'	4'	4'	9'	50'	R-12	15'	25 MPH	P-2
FOXCROFT WAY STA 10+75 TO STA 10+100	LOCAL	30'	4'	4'	9'	50'	R-12	15'	30 MPH	P-2
DAVIS ROAD STA 10+100 TO STA 10+157	CUL-DE-SAC	28'	4'	4'	11'	50'	R-12	15'	25 MPH	P-2

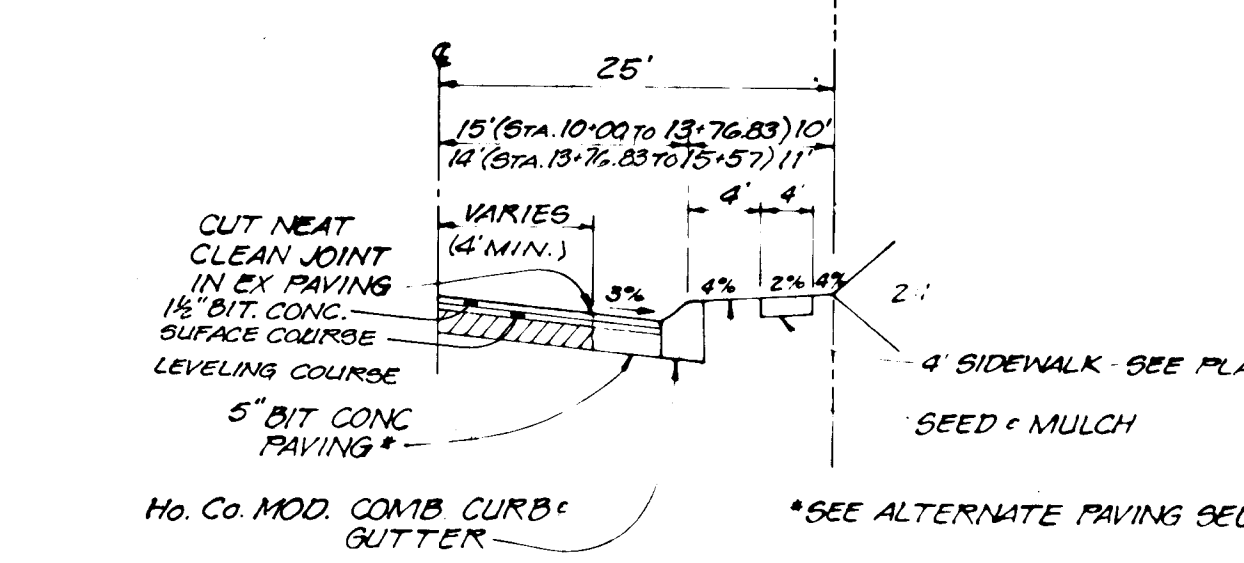


BITUMINOUS CONC. SURFACE	1 1/2"
BITUMINOUS CONC. BASE	2"
PRIME	
8" CRUSHER RUN BASE (PLACED IN 2 COURSES)	8"
6" DENSE GRADED STABILIZED AGGREGATE BASE COURSE	6"

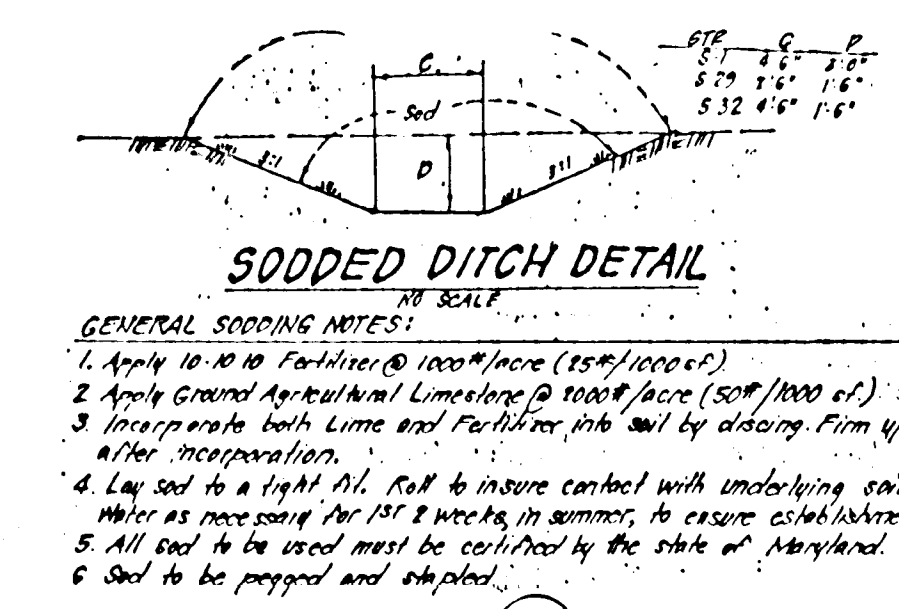
ALTERNATE PAVING SECTION (P-2) FOR PUBLIC ROADS

BITUMINOUS CONCRETE	1 1/2"
BITUMINOUS CONCRETE BASE	5"

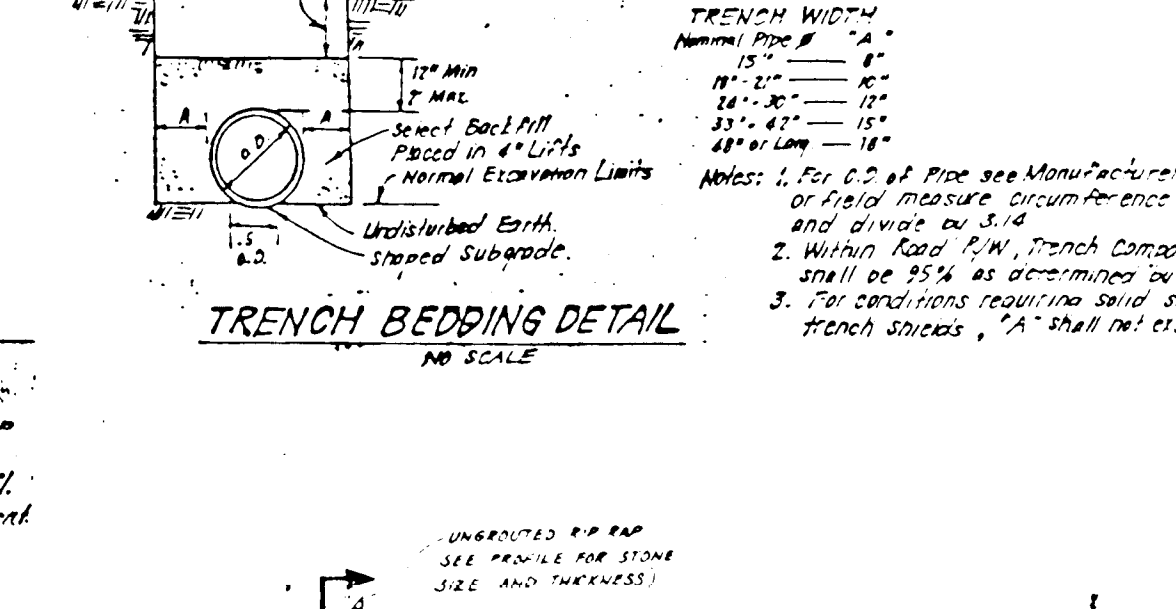
P-2 PAVING SECTION FOR PUBLIC ROADS



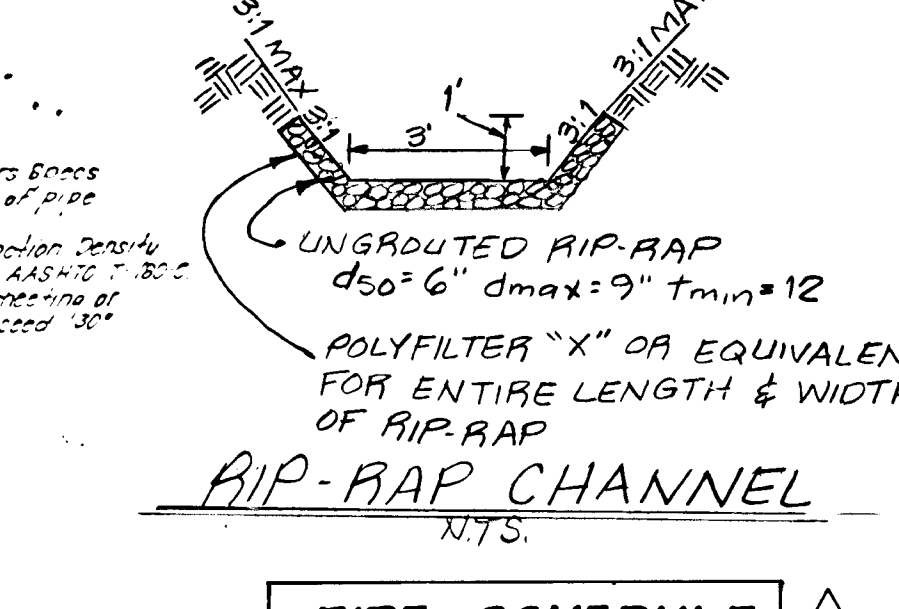
TYPICAL HALF SECTION DAVIS ROAD



SODDED DITCH DETAIL



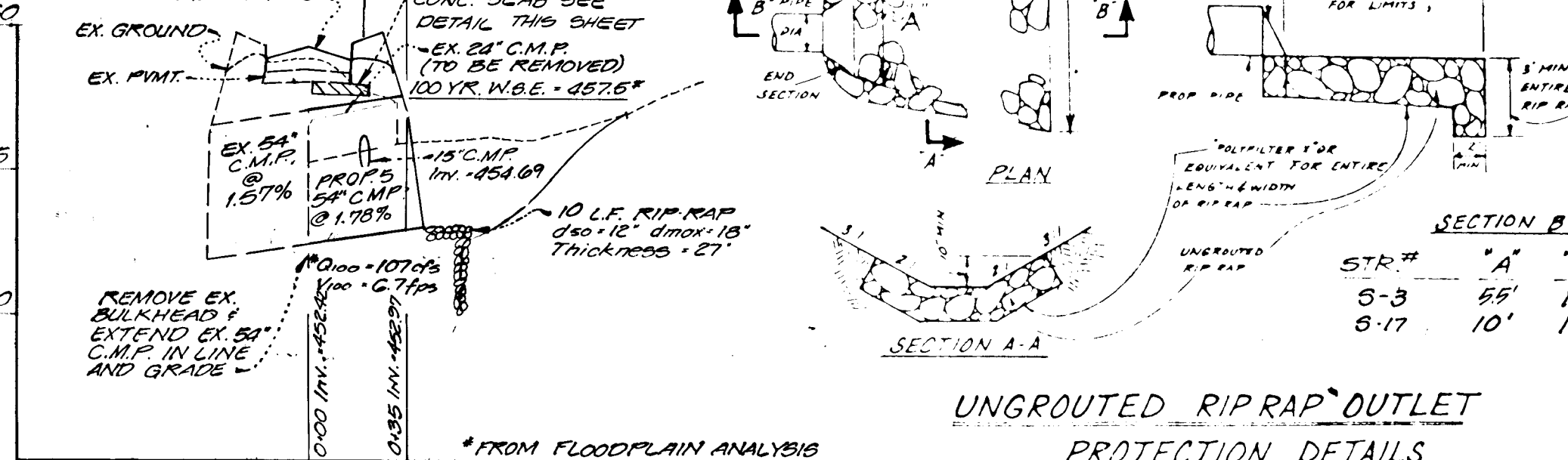
TRENCH BEDDING DETAIL



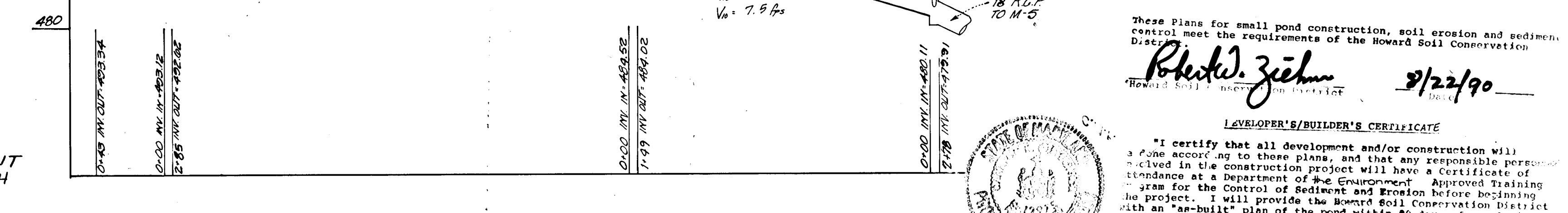
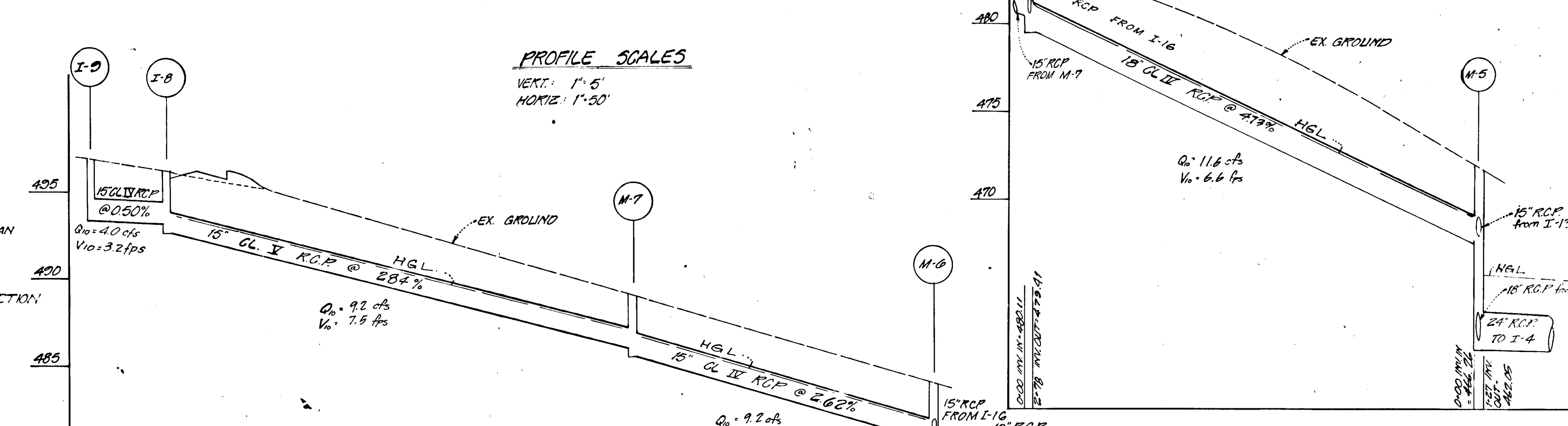
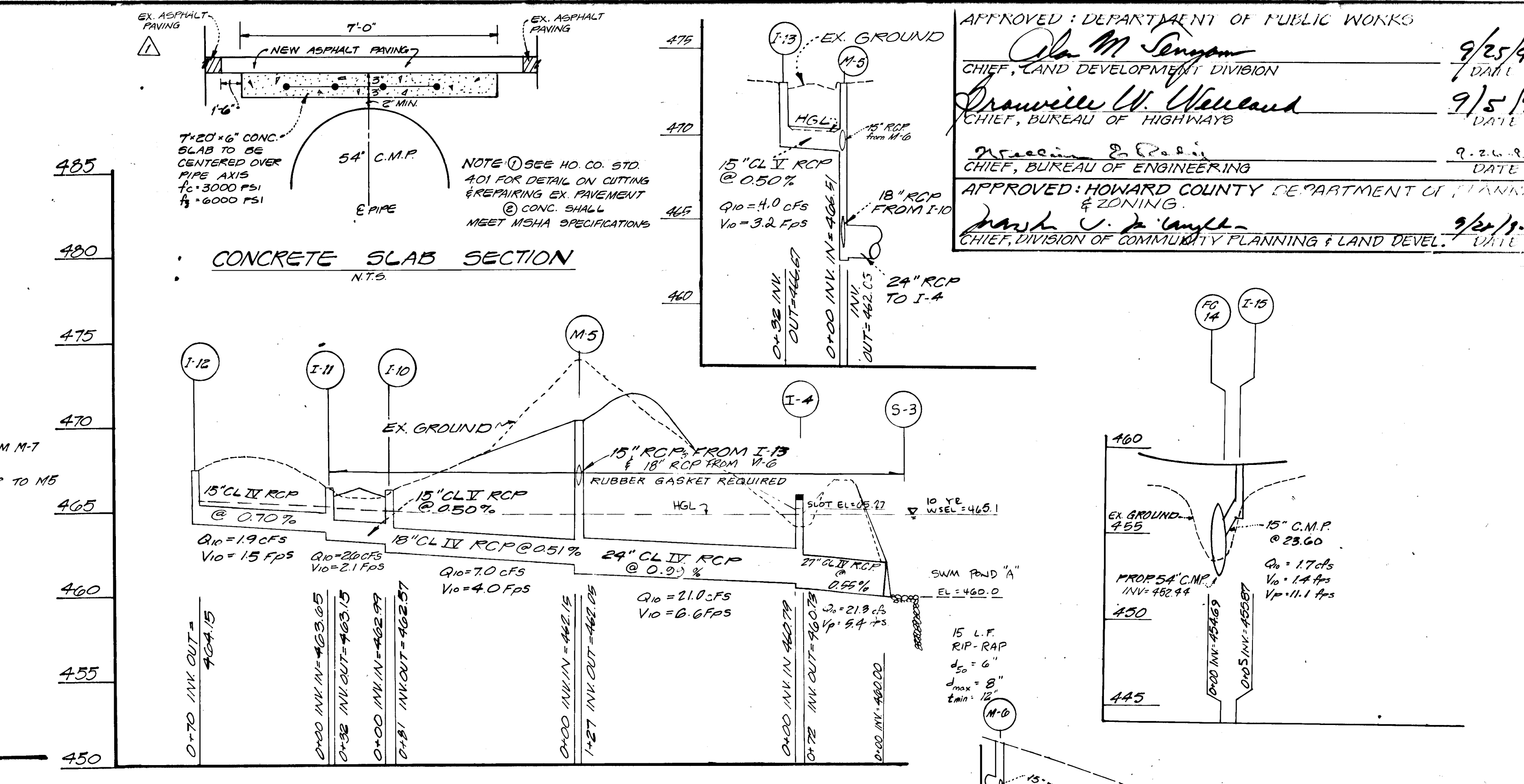
RIP-RAP CHANNEL

PIPE SCHEDULE

SIZE	TYPE	LENGTH
15"	R.C.P. CL IV	202 L.F.
54"	C.M.P. CL V	35 L.F.
18"	R.C.P. CL IV	459 L.F.
24"	R.C.P. CL IV	127 L.F.
15"	R.C.P. CL V	383 L.F.
21"	R.C.P. CL IV	72 L.F.
15"	C.M.P.	5 L.F.



UNGROUTED RIP-RAP OUTLET PROTECTION DETAILS



STRUCTURE SCHEDULE

No.	TYPE	INV. IN	INV. OUT	TOP ELEVATION UPPER/LOWER	REMARKS	LOCATION
M-7	MANHOLE	484.52	488.02	488.22	HCS 6 5.11	5+78 ROUNDTREE 10' RT.
S-3	END SECTION	460.00			HCS 30 5.52	SEE PLAN
M-5	MANHOLE	462.91	462.05	470.46	HCS 9 5.11	1+73 ROUNDTREE 19' RT.
I-10	A-10 INLET W/ DEF.	462.15	462.57	466.38/466.71	HCS 50 4.02 W-2.5'	Q INLET 0+85 ROUNDTREE 15.83' RT.
I-11	A-10 INLET	463.05	463.15	466.38/466.71	HCS 50 4.02 W-2.5'	Q INLET 0+85 ROUNDTREE 15.83' RT.
M-6	MANHOLE	480.11	479.41	484.26	HCS 6 5.11	4+55 ROUNDTREE 10' RT.
I-9	A-10 INLET		493.34	497.10/496.84	HCS 50 4.02 W-2.5'	Q INLET 7+01.23 ROUNDTREE 12.83' RT.
I-8	A-10 INLET	493.12	492.62	496.58/496.18	HCS 50 4.02 W-2.5'	Q INLET 7+01.23 ROUNDTREE 12.83' RT.
I-15	A-10 INLET		455.87	455.32	HCS 50 4.02 W-3.0'	Q INLET 11+87.74 DAVIS 13.83' RT.
FC-14	FIELD CONN.		455.6		HCS 50 5.61	SEE PLAN
B-17	END SECTION		464.15	467.97/467.40	HCS 50 4.02 W-2.5'	Q INLET 14+23.09 DAVIS 14.83' RT.
I-12	A-10 INLET W/ DEF.		462.79	462.79	HCS 50 4.11	SEE PLAN
I-4	D-INLET		462.79	462.79	HCS 50 4.02 W-2.5'	Q INLET 1+78 ROUNDTREE 15.83' RT.
I-13	A-10 WIDE FL.		462.67	472.20/470.81	HCS 50 4.02 W-2.5'	Q INLET 1+78 ROUNDTREE 15.83' RT.
I-16	A-10 INLET		480.25	483.11/483.76	HCS 50 4.02 W-2.5'	Q INLET 4+60 ROUNDTREE 15.83' RT.

G.L.W. GUTSCHICK LITTLE & WEBER, P.A.
 ENGINEERS, PLANNERS, SURVEYORS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD 20886
 TELEPHONE (301) 421-4024

REVISION

NO.	DATE	DESCRIPTION
1	1-21-92	REV. 54" TO C.M.P. 15" FROM I-10 TO C.M.P. ADD CONC. SLAB

PREPARED FOR:
 PORTEN-SULLIVAN CORP.
 3 BETHESDA METRO CENTER
 SUITE 900 BETHESDA, MARYLAND 20814
 (301) 654-7770

LONGRIDGE KNOLLS
 (SECTION 1 AREA 1)
 (FORMERLY ROUND TABLE FARM)
 HOWARD COUNTY, MARYLAND
 6th ELECTION DISTRICT

SCALE: AS SHOWN
 ZONING: —
 G.L.W. FILE NO.: 87-052
 DATE: DEC. 1989
 TAX MAP No.: —
 SHEET: 4 of 7

APPROVED: DEPARTMENT OF PUBLIC WORKS
John M. Longman
 CHIEF, LAND DEVELOPMENT DIVISION
 DATE: 9/25/90
 APPROVED: BUREAU OF ENGINEERING
Drawell W. Wallace
 CHIEF, BUREAU OF HIGHWAYS
 DATE: 9/15/90
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
James J. Campbell
 CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT
 DATE: 9/25/90

These Plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.
Robert W. Ziehm
 HOWARD SOIL CONSERVATION DISTRICT
 DATE: 9/22/90
 DEVELOPER'S/BUILDER'S CERTIFICATE
 I certify that all development and/or construction will be done according to these plans, and that any responsible person 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 will provide the Howard Soil Conservation District with an "as-built" plan of the pond within 90 days of completion. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY H.S.C.D.
Shanna A. Hargrave
 DATE: 10/4/88

ENGINEER'S CERTIFICATE
 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 Director of the District and provided the Howard Soil Conservation District with an "as-built" plan of the pond within 90 days of completion.
C.K. Johnston
 DATE: 9/8/88
 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.
Shanna A. Hargrave
 DATE: 8/22/90

1596

STORM WATER MANAGEMENT POND NOTES

1. SITE PREPARATION
 A. Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed.
 B. Areas to be covered by pond reservoir shall be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface.
 C. All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of spoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

2. EARTH FILL
 A. MATERIAL: The fill material shall be taken from approved designated borrow area or areas. It shall be free of rocks, stumps, wood, rubbish, oversized stones, frozen or other objectionable materials. The embankment shall be constructed to an elevation which provides for anticipated settlement to the design elevation. The fill height allowing for the length of the embankment shall be increased above the design elevation (including footings) as shown on the plans.
 B. PLACEMENT: Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in 8-inch maximum thickness (before compaction) layers which are to be continuous over the entire length of the fill. The most porous borrow material shall be placed in the downstream portions of the construction.
 C. COMPACTION: The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot rubber-tired or vibratory roller. Fill material shall contain sufficient moisture so that the required degree of compaction can be obtained with the equipment used. Where a minimum required density is specified, each layer of fill shall be compacted as necessary to obtain that density and is to be certified by the Engineer.
 D. CUTOFF TRENCH: Where specified, a cutoff trench shall be excavated along a parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be as shown on the plans. The side slopes of the trench shall be 1:1 or flatter. The depth shall be at least four feet or as shown on the plans. The bottom of the trench shall be 1:1 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.

3. STRUCTURAL BACKFILL
 Backfill material shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall be driven equipment be allowed to operate closer than four feet measured horizontally to any part of the structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe unless there is a compacted fill of twenty-four inches or greater over the structure or pipe.

4. PIPE CONDUITS (All pipes shall be circular in cross-section)
A. CORRUGATED METAL PIPE:
 MATERIALS (Steel Pipe): This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specifications M-100 Type A with water-tight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Steel pipes with polymer coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings are commercially available: Nevon, Plast-Coat, Blue-Klad and Both-Co-Lay Coated. Ungalvanized steel pipe shall meet the requirements of AASHTO M-245 and M-246.
 MATERIALS (Aluminum Steel Pipe): This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274-731 with water-tight coupling bands or flanges.
 MATERIALS (Aluminum Pipe): This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-106 or M-211 with water-tight coupling bands or flanges. Coupling bands, anti-seep collars and sections etc. must be composed of the same material as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of Zinc Chromate Primer hot dip galvanized that may be used for concrete. The pH of the surrounding soils shall be less than 2 and greater than 4.
 CONNECTIONS: All connections with pipe must be completely water-tight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Water-tight coupling bands or flanges shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to be completely water-tight. Dimple bands are not considered to be water-tight.
 BEDDING: The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

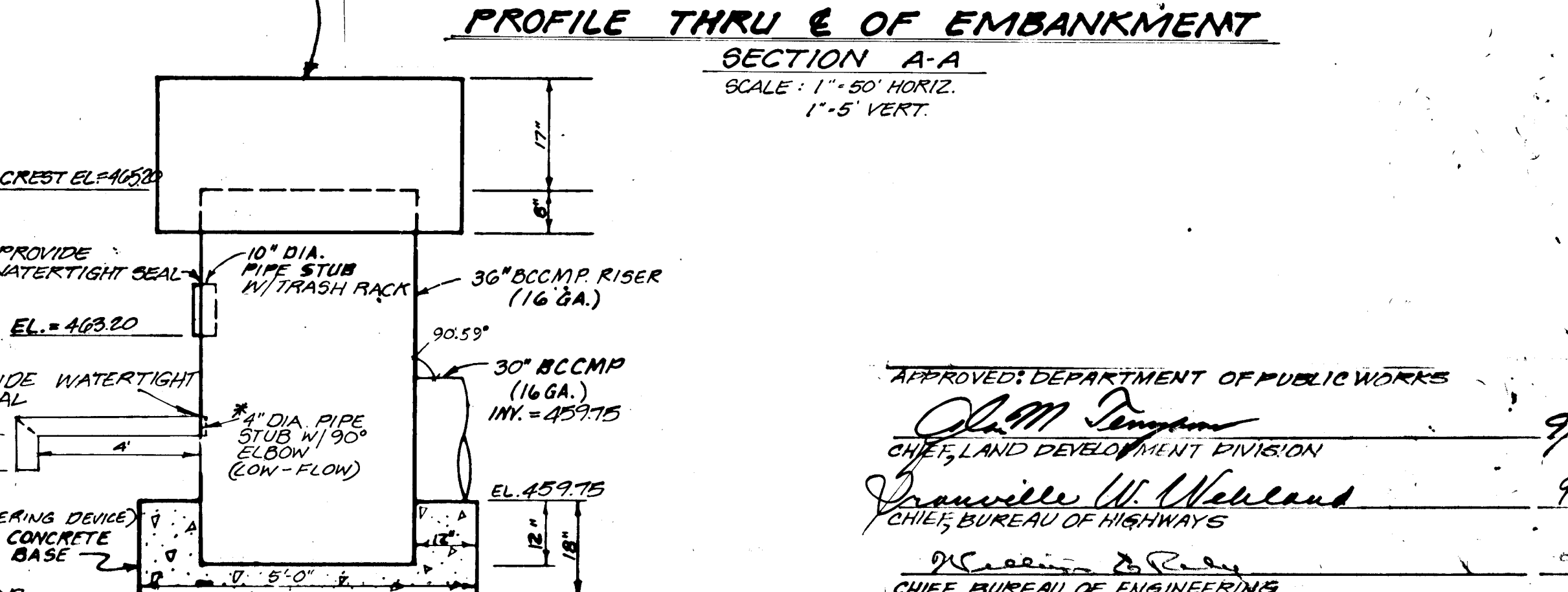
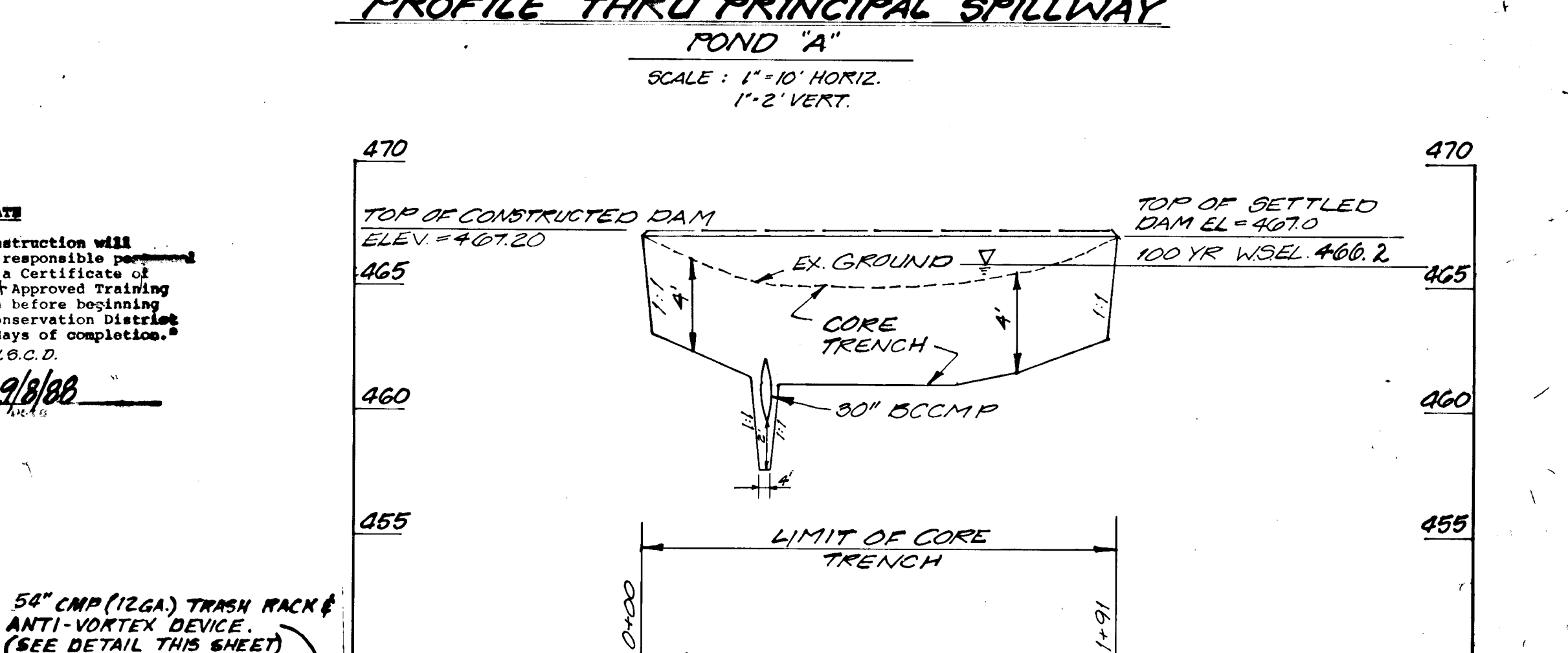
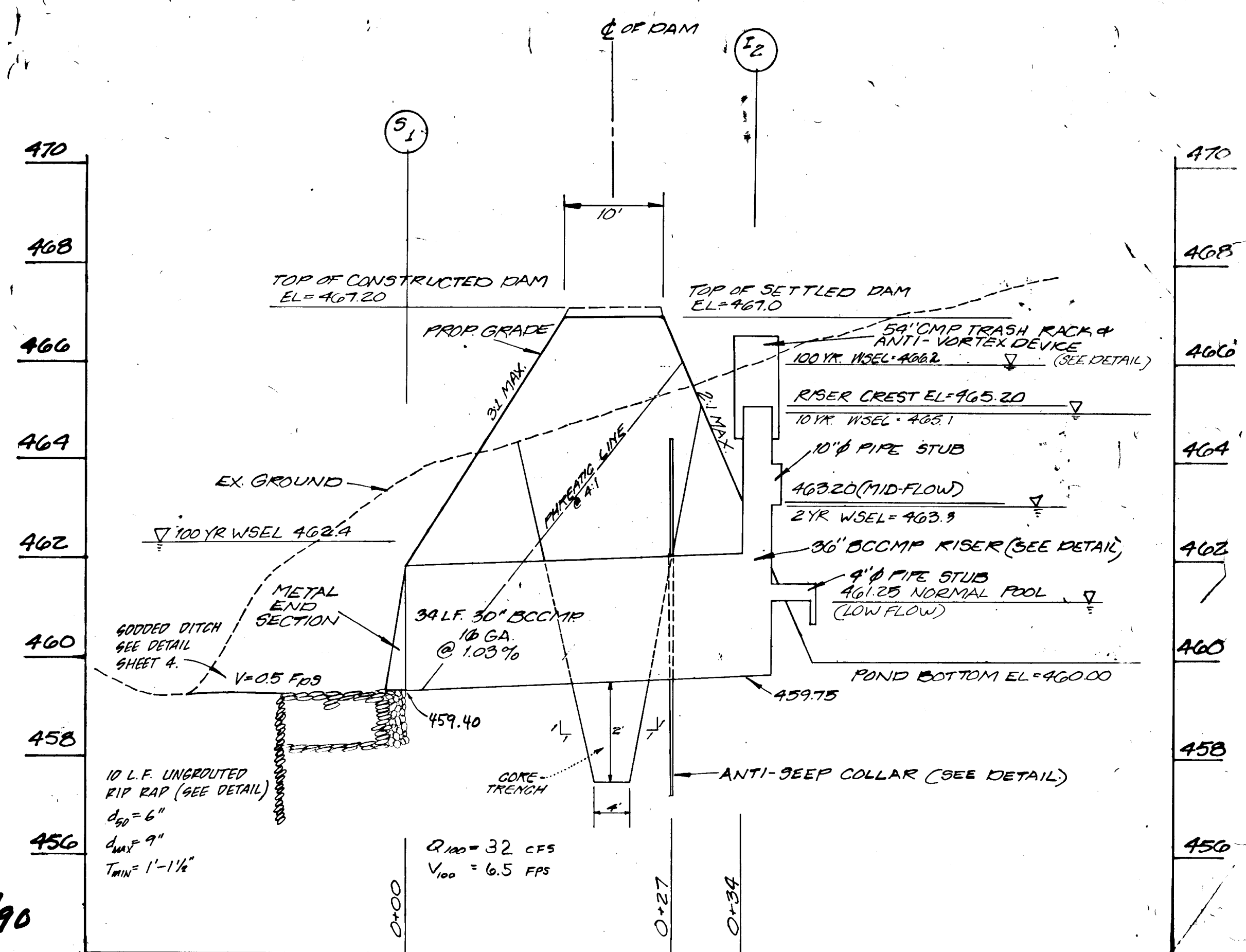
5. LAYING PIPE: The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the sides.
 Backfilling shall conform to structural backfill as shown above.
 Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

6. REINFORCED CONCRETE PIPE
 MATERIALS: Reinforced concrete pipe shall have a rubber gasket joint and shall equal or exceed ASTM Specification C-361. An approved equivalent is ANWA Specification C-301.
 BEDDING: All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of the outside diameter with a minimum thickness of 3" or as shown on the drawings.
 LAYING PIPE: Bell and gasket pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any displacement from the original line and grade of the pipe.
 Backfilling shall conform to structural backfill as shown above.
 Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.
 For pipes of other materials, specific specifications shall be shown on the drawings.

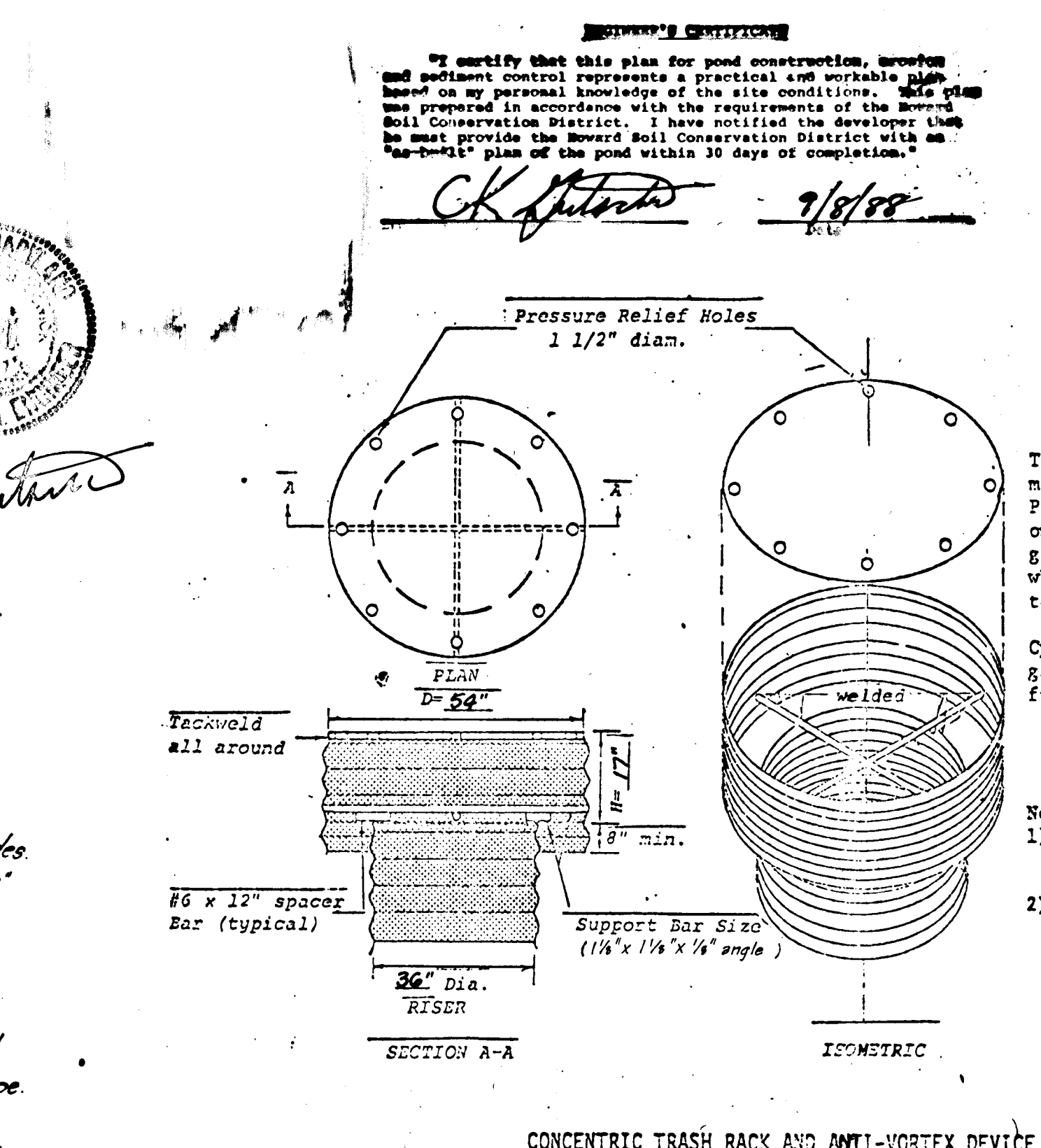
7. CONCRETE
A. MIXTURES:
 CEMENT: Normal Portland cement shall conform to latest ASTM Specification C-150.
 WATER: The water used in concrete shall be clean, free from oil, acid, alkali, scales, organic matter or other objectionable substances.
 SAND: The sand used in concrete shall be clean, hard, strong, and durable, and shall be well graded with 100% passing a one-quarter inch sieve. Limestone sand shall not be used.
 COARSE AGGREGATE: The coarse aggregate shall be clean, hard, strong, and durable, and free from clay and dirt. It shall be well graded with a maximum size of one and one-half (1 1/2) inches.
 REINFORCING STEEL: The reinforcing steel shall be deformed bars of intermediate grade billet steel or rail steel conforming to ASTM Specification A-615.
B. DESIGN MIX: The concrete shall be mixed in the following proportions measured by weight. The water-cement ratio shall be 5/8 to 6 US Gals of water per 94-pound bag of cement. The proportion of materials for the trial mix shall be 1 S 1/2. The combination of the aggregates may be adjusted to produce a plastic and workable mix that will not produce harshness in placing or setting in the structure.
C. MIXING: The concrete ingredients shall be mixed in batch mixers until the mixture is homogeneous and of uniform consistency. The mixing of each batch shall continue for not less than one and one-half minutes after all the ingredients, except the full amount of water, are in the mixer. The minimum mixing time is predicated on proper control of the speed of rotation of the mixer and of the distribution of the materials including water, into the mixer. Water shall be added prior to discharging and following the mixer-charging operations. Excessive overmixing requiring the addition of water to preserve concrete consistency shall not be permitted. Truck mixing will be allowed provided that the use of this method shall cause no violation of any applicable provisions of the specifications given here.
D. FORMS: The forms shall have sufficient strength and rigidity to hold the concrete and to withstand the necessary pressure, tamping and vibration without deflection from the prescribed lines. They shall be mortar-tight and constructed so they can be removed without hammering or prying against the concrete. The inside of the forms will be oiled with a non-staining mineral oil or thoroughly wetted before concrete is placed. Forms may be removed 24 hours after the placement of concrete. All wire ties and other devices used shall be recessed from the surface of the concrete.
E. REINFORCING STEEL: All reinforcing material shall be free of dirt, rust, scale, oil, paint or any other coatings. The steel shall be accurately placed and securely tied and blocked into position so that no movement of the steel will occur during placement of concrete.
F. CONSOLIDATION: Concrete shall be consolidated with internal type mechanical vibrators. Vibration shall be supplemented by spacing and hand tamping as necessary to assure smooth and dense concrete slabs. Form surfaces, corners, and around embedded items.
G. FINISHING: On effective concrete, honey-combed areas, voids left by removal of rebar ties, ridges on all concrete surfaces permanently exposed to view or to the finished structure shall be repaired immediately after the removal of forms. All voids shall be reamed and completely filled with dry patching mortar.
H. PROTECTION AND CURING: Exposed surfaces of concrete shall be protected from the direct rays of the sun for at least 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 exposed to freezing during the curing period. Curing compound may also be used.
I. PLACING TEMPERATURE: Concrete may not be placed at temperature below 37° with the temperature falling, or 34° with the temperature rising.

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

9. EROSION AND SEDIMENT CONTROL
 Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.
 It is recommended that the Storm Water Management Pond Dike, Embankment and Core be constructed in 8" thick layers, each compacted to a minimum of 95% of the maximum dry density determined by the standard moisture-density relationship test (ASTM D-1557).



CORRUGATED METAL ANTI-SEEP COLLAR DETAILS
 NO SCALE
 7'-6"
 Slit Corrugated Shits (Corrugations Vert)
 Continuous Weld
 Collar to be same gauge as pipe
 1/8" x 1/8" x 1/8" x 6'-0" Angle welded full length after fabrication at site (typ)
 ELEVATION
 1/2" x 2" Slotted Holes (Horizontal) for 3/8" dia bolts (typ)
 1/2" x 2" Slotted Holes (Vertical) for 3/8" dia bolts (typ)
 Corrugated metal sheet welded to center of band
 SECTION B-B
 12" Min.
 Weld both sides
 16 x 12" spacer Bar (typical)
 26" Dia. RISER
 Support Bar Size (1 1/8" x 1 1/8" x 1/4" angle)



THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Howard County, MD
 8/22/90
 Howard County, MD
 8/22/90

DEVELOPER'S/BUILDER'S CERTIFICATE
 I certify that all development and/or construction will be done according to these plans, and that any responsible person involved in the construction project will have a Certificate of Attendance at a Department of Type I Environmental 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.
 I also authorize periodic onsite inspection by H.C.S.D.
 CK Johnson 9/5/88
 Janice A. Hallingford 9/5/88

APPROVED: DEPARTMENT OF PUBLIC WORKS
 Chief, Land Development Division
 9/5/90
 Approved: Bureau of Highways
 Chief, Bureau of Highways
 9/5/90
 Approved: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
 Chief, Division of Community Planning & Land Development
 9/5/90

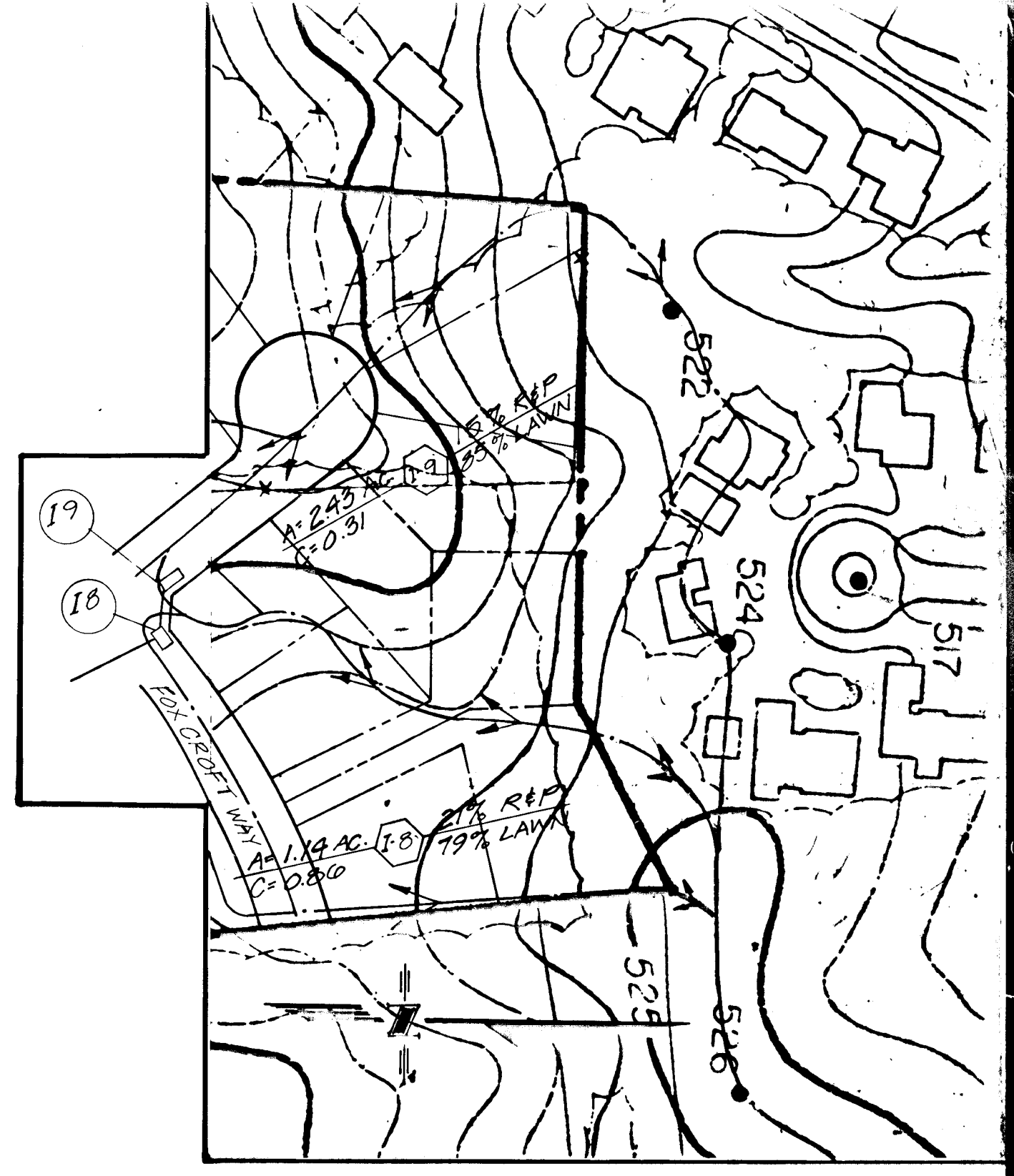
GUTSCHICK LITTLE & WEBER, P.A. ENGINEERS, PLANNERS, SURVEYORS 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD 20886 TELEPHONE: (301) 421-4024				PREPARED FOR: DEVELOPER: FORTEN - GULLIVAN CORP. 3 BETHESDA METRO CENTER SUITE 700 BETHESDA, MARYLAND 20814 (301) 684-1270				STORM WATER MANAGEMENT DETAILS & NOTES LONGRIDGE KNOLLS (FORMERLY "ROUND TABLE FARM") SECTION ONE - AREA ONE POND "A" 6 TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND				SCALE AS SHOWN ZONING R-12 G.L.W. FILE NO. 87-052	
DATE	REVISION	BY	APPR.	DATE	REVISION	BY	APPR.	DATE	TAX MAP NO.	SHEET			
								DEC. 1989	36 PARCEL 5	5 OF 7			

SEEDIMENT TRAP NO. 1
 RIP RAP OUTLET SEDIMENT TRAP
 DRAINAGE AREA = 1.0 AC (PRE-DEVELOPMENT)
 STORAGE REQUIRED = 1.0 (11800) = 11800 CU. FT.
 STORAGE DEPTH = 4.0
 CLEANOUT ELEVATION = 488.5
 OUTLET ELEVATION = 487.0
 BOTTOM ELEVATION = 484.0
 SIDE SLOPES = 1:1
 SURFACE AREA @ ELEVATION 488.0 (H.O.S.) = 244 SQ. FT.
 SURFACE AREA @ ELEVATION 487.0 (BOTTOM) = 300 SQ. FT.
 VOLUME PROVIDED = 244 x 300 = 73,200 CU. FT.
 L.O.S. = LIMIT OF STORAGE

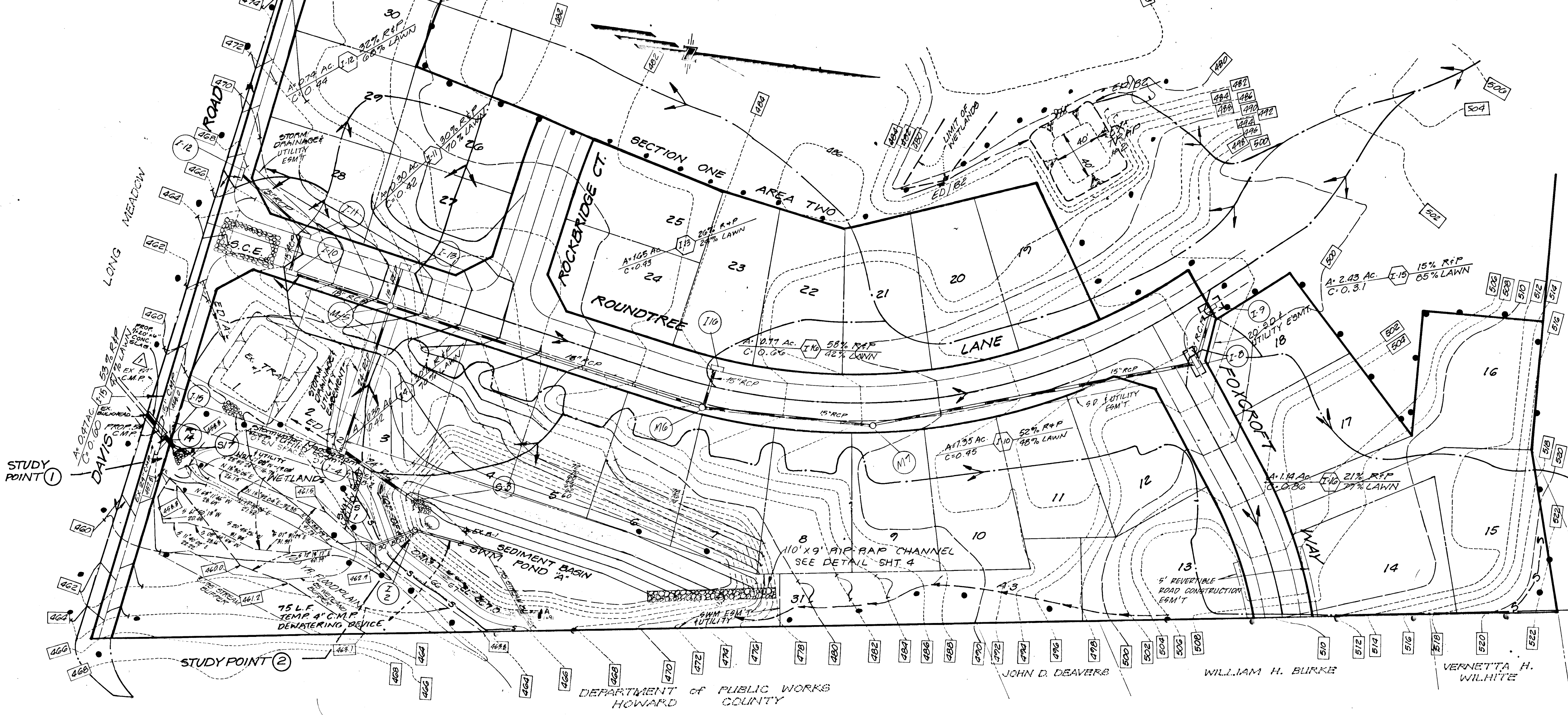
7-21-92 RELOC. LOCATION OF PROP. CULVERT & INLET, CHANGE ASSOCIATED PIPES TO C.M.P. & ADD CONC. SUPPORT SLABS TO MATCH AS-BUILT CONDITIONS OF LONG MEADOW-HK

EX SEDIMENT TRAP NO. 2
 RIP RAP OUTLET SEDIMENT TRAP
 DRAINAGE AREA = 1.5 AC (PRE-DEVELOPMENT)
 STORAGE REQUIRED = 1.5 (11800) = 17700 CU. FT.
 STORAGE DEPTH = 4.0
 CLEANOUT ELEVATION = 79.8
 OUTLET ELEVATION = 79.8
 BOTTOM ELEVATION = 74.8
 SIDE SLOPES = 2:1
 SURFACE AREA @ ELEVATION 78.0 (H.O.S.) = 8196 SQ. FT.
 SURFACE AREA @ ELEVATION 74.8 (BOTTOM) = 1600 SQ. FT.
 VOLUME PROVIDED = 8196 x 1600 = 13,113,600 CU. FT.
 L.O.S. = LIMIT OF STORAGE

SEEDIMENT BASIN NO. A
 RIP RAP OUTLET SEDIMENT TRAP
 DRAINAGE AREA = 5.9 AC (PRE-DEVELOPMENT)
 STORAGE REQUIRED = 5.9 (11800) = 69620 CU. FT.
 STORAGE DEPTH = 3.0
 CLEANOUT ELEVATION = 482.5
 OUTLET ELEVATION = 482.5
 BOTTOM ELEVATION = 481.0
 SIDE SLOPES = 2:1
 SURFACE AREA @ ELEVATION 484.0 (H.O.S.) = 11925 SQ. FT.
 SURFACE AREA @ ELEVATION 481.0 (BOTTOM) = 7400 SQ. FT.
 VOLUME PROVIDED = 11925 x 7400 = 88,245,000 CU. FT.
 L.O.S. = LIMIT OF STORAGE



OFFSITE DRAINAGE AREA MAP
 SCALE: 1" = 100'



LEGEND
 EX. CONTOUR
 PROP. CONTOUR
 EX. DRAINAGE DIVIDE
 PROP. STORM DRAIN
 PROP. STORM DRAIN
 SILT FENCE
 LIMIT OF DISTURBANCE
 INLET PROTECTION
 EARTH DIME
 100 YR. FLOOD ELEVATION

NOTE:
 GRADING INDICATED WITHIN BUILDABLE LOTS IS TEMPORARY FOR THE PURPOSE OF ROAD CONSTRUCTION AND INSTALLATION OF SEDIMENT TRAPS. THE FINAL SITE GRADING FOR THE LOTS WILL BE SHOWN IN COMPLIANCE WITH THE MINIMUM R-12 ZONING LOT SIZE REQUIREMENT ON THE SITE DEVELOPMENT PLAN.

WP-89-178 APPROVED ON 7-21-89 TO ALLOW GRADING WITHIN THE 25' WETLAND / 75' STREAM BUFFERS.



C.K. [Signature]

LANDOWNER'S CERTIFICATE
 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 the Environment 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. I also authorize periodic on-site inspection by H.S.C.D.
 Sandra R. Spangher 10/14/88

ENGINEER'S CERTIFICATE
 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.
 C.K. [Signature] 9/8/88

These plans for small pond construction, soil erosion and sediment control have been reviewed for the Howard Soil Conservation District.
 Robert W. Ziehm 9/23/90

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.
 [Signature] 9/22/90

APPROVED: DEPARTMENT OF PUBLIC WORKS	9/2/90
CHIEF, LAND DEVELOPMENT DIVISION	DATE
Spawville W. McLean	9/5/90
CHIEF, BUREAU OF HIGHWAYS	DATE
9-26-90	DATE
CHIEF, BUREAU OF ENGINEERING	DATE
9/24/90	DATE
CHIEF, DIVISION OF COMMUNITY PLANNING & LAND DEVELOPMENT	DATE

GLW GUTSCHICK LITTLE & WEBER, P.A.
 ENGINEERS, PLANNERS, SURVEYORS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD. 20866
 TELEPHONE: (301) 421-4024

PREPARED FOR:
 PORTEN-SULLIVAN CORP.
 3 BETHESDA METRO CENTER
 SUITE 700 BETHESDA, MARYLAND 20814
 (301) 654-7270

DRAINAGE AREA MAP - SEDIMENT CONTROL PLAN
LONGRIDGE KNOLLS
 SECTION ONE AREA ONE
 (FORMERLY "ROUND TABLE FARM")
 6th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE	ZONING	GL.W. FILE NO.
1" = 50'	R-12	
DATE	TAX MAP No.	SHEET
DEC. 1989	36 PARCEL 5	6 OF 7

9651

