

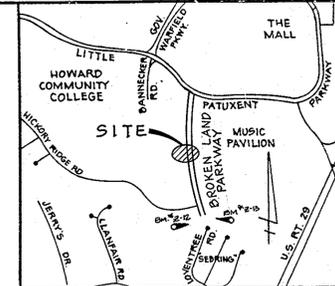
TOPOGRAPHY TAKEN FROM:

MAPS PREPARED BY PHOTOGRAMMETRY BY "MAPS INCORPORATED" FOR THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION, ON MARCH 9, 1977. TOPOGRAPHY FIELD CHECKED DECEMBER 1979.

GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME IV, "STANDARD DETAILS AND SPECIFICATIONS FOR CONSTRUCTION".
2. 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.
3. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES, WHERE DIRECTED BY THE ENGINEER, A MINIMUM OF TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS.
4. CONTRACTOR TO NOTIFY "MISS UTILITY" PHONE (1) 539-0100 AT LEAST THREE (3) DAYS BEFORE STARTING WORK SHOWN ON THIS/DRAWING(S).
5. ALL ELEVATIONS SHOWN ARE BASED ON U.S.C. AND G.S. MEAN SEA LEVEL DATUM 1929.
6. ALL COORDINATES BASED ON MARYLAND STATE GRID SYSTEM.
7. PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
8. ALL STORM DRAIN BEDDING TO BE CONCRETE EXCEPT WHERE OTHERWISE NOTED.
9. 100 YEAR FLOODPLAIN ELEVATIONS ARE BASED ON THE VILLAGE OF HICKORY RIDGE REGIONAL STORM WATER MANAGEMENT REPORT PREPARED BY CENTURY ENGINEERING, INC.

BENCH MARKS
 W.R. & B.M. #Z-12 ELEV. 350.65
 R.R. SPIKE BASE 15" OAK @
 TOP STREAM BANK 20'±
 PAST P.I. #Z-621
 W.R. & B.M. #Z-13 ELEV. 340.93
 R.R. SPIKE BASE 15" BEECH
 10'± LEFT OF P.I. #Z-623



ESTIMATED QUANTITIES

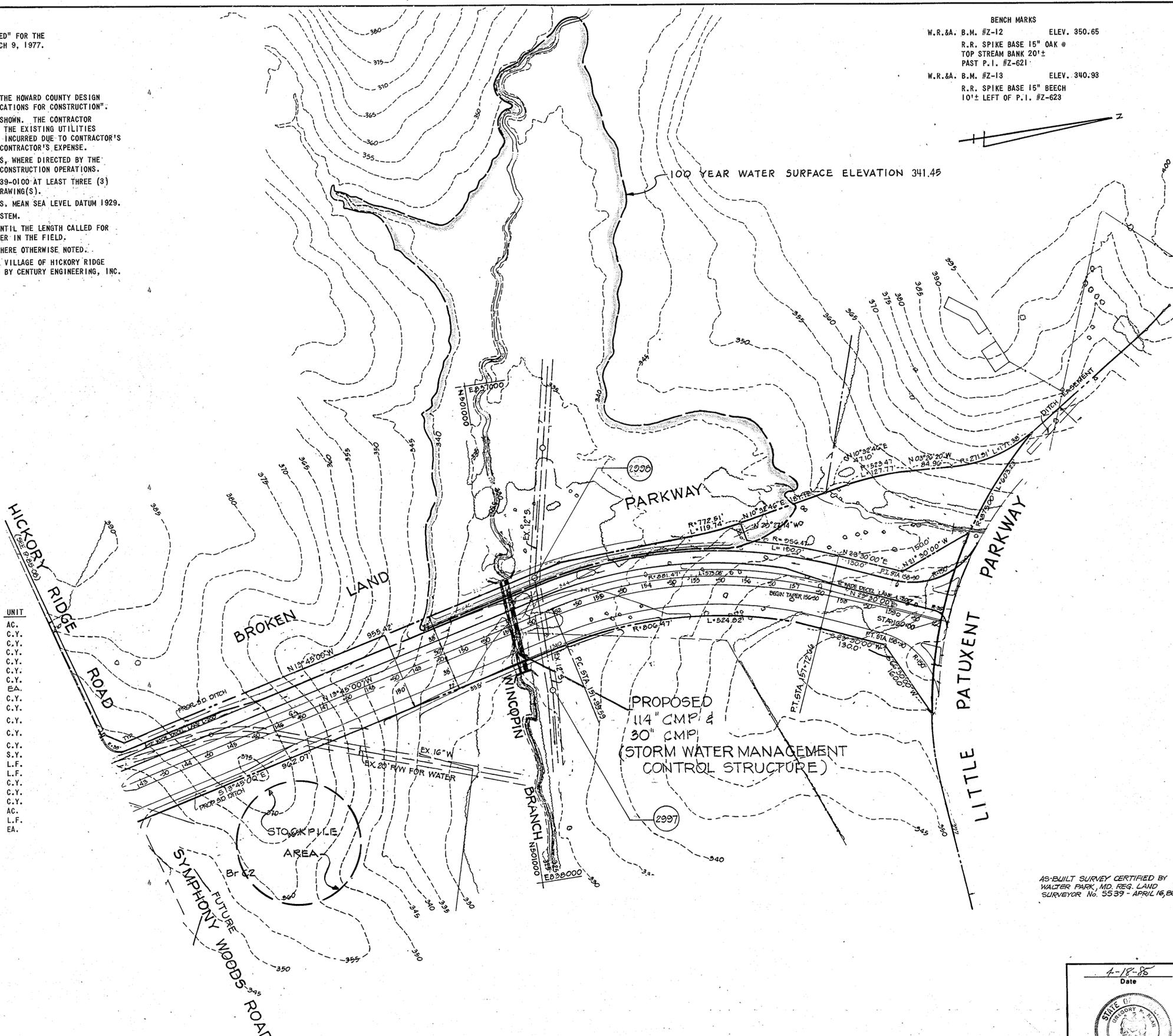
ITEM	QUANTITY	UNIT
CLEARING & GRUBBING	3.2	AC.
TOPSOIL	1,720	C.Y.
EARTH FILL	53,590	C.Y.
CUTOFF TRENCH	1,100	C.Y.
CONCRETE (HEADWALLS)	80	C.Y.
CONCRETE BEDDING	65	C.Y.
CONCRETE ENCASUREMENT	25	C.Y.
ANTI SEEP COLLAR 7.5'x7.5' (2)	2	EA.
CONCRETE	3.0	C.Y.
RIPRAP d50 100 LBS.	490	C.Y.
d50 60 LBS.	15	C.Y.
d50 40 LBS.	240	C.Y.
FILTER MATERIAL 2" STONE	140	C.Y.
FILTER CLOTH	1,100	S.Y.
114" CMP	168	L.F.
30" CMP	168	L.F.
STILLING BASIN EXCAVATION	2,400	C.Y.
SEDIMENT TRAP EXCAVATION	175	C.Y.
STONE OUTLET STRUCTURE 4" STONE	2	C.Y.
LIME FERTILIZER, SEED & MULCH	2.31	AC. L.F.
REINFORCING	1	EA.
MANHOLE, HOWARD COUNTY STD. SANITARY		
SEWER 4'-0" PRECAST MH DEPTH = 20'-0"		

STRUCTURE CLASSIFICATION AND DESIGN CRITERIA:

STRUCTURE CLASS: 'A'
 STORAGE X HEIGHT PRODUCT: 2310
 WATERSHED AREA: 660 AC.
 NORMAL POND SURFACE AREA: NORMALLY DRY
 STRUCTURE LOCATION: RURAL

HYDROLOGIC CRITERIA:

PRINCIPAL SPILLWAY ROUTING: 100 YR. FREQ.
 FREEBOARD: 3.5' ABOVE 100 YR. FREQ.



BY THE DEVELOPER:
 "I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS OF DEVELOPMENT, POND CONSTRUCTION AND EROSION AND SEDIMENT CONTROL. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY. DEVIATION FROM THIS PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HOWARD SOIL CONSERVATION DISTRICT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH A RED-LINED "AS-BUILT" OF THE POND WITHIN 30 DAYS OF COMPLETION."
 Signature of Developer: *John H. ...* Date: 4-22-85

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 A RED-LINED "AS-BUILT" OF THE POND WITHIN 30 DAYS OF COMPLETION."
 Signature of Engineer: *James M. ...* Date: 4-18-85

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.
 U.S. Soil Conservation Service Date: 7-3-85

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 APPROVED: *Stephen L. ...* Date: 7-3-85
 Howard S.C.D.

PLAN NUMBER: F-85-131

Date	No	Revision Description
0-10-85	1	CHANGE PIPE TO 114" CMP @ 14' DEPTH @ 800'±

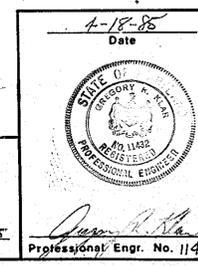
Owner and Developer
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE COMPANY
 Columbia, Maryland 21044
 PHONE: 992-6084

CENTURY ENGINEERING, INC.
 CONSULTING ENGINEERS • PLANNERS
 TOWSON, MARYLAND 21204
 PHONE: 823-8070

AREA: VILLAGE OF HICKORY RIDGE SECTION 5 AREA 2
 PARCEL 49 & 81 TAX MAP 35 & 36
 5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

STORM WATER MANAGEMENT CONTROL STRUCTURE PLAN VIEW
 Des By R.J.D. Scale 1"=100' Proj No 85-0023
 Drn By J.A.G. Date 4-18-85 Drawing No. 1 OF 5
 Chk By Approved

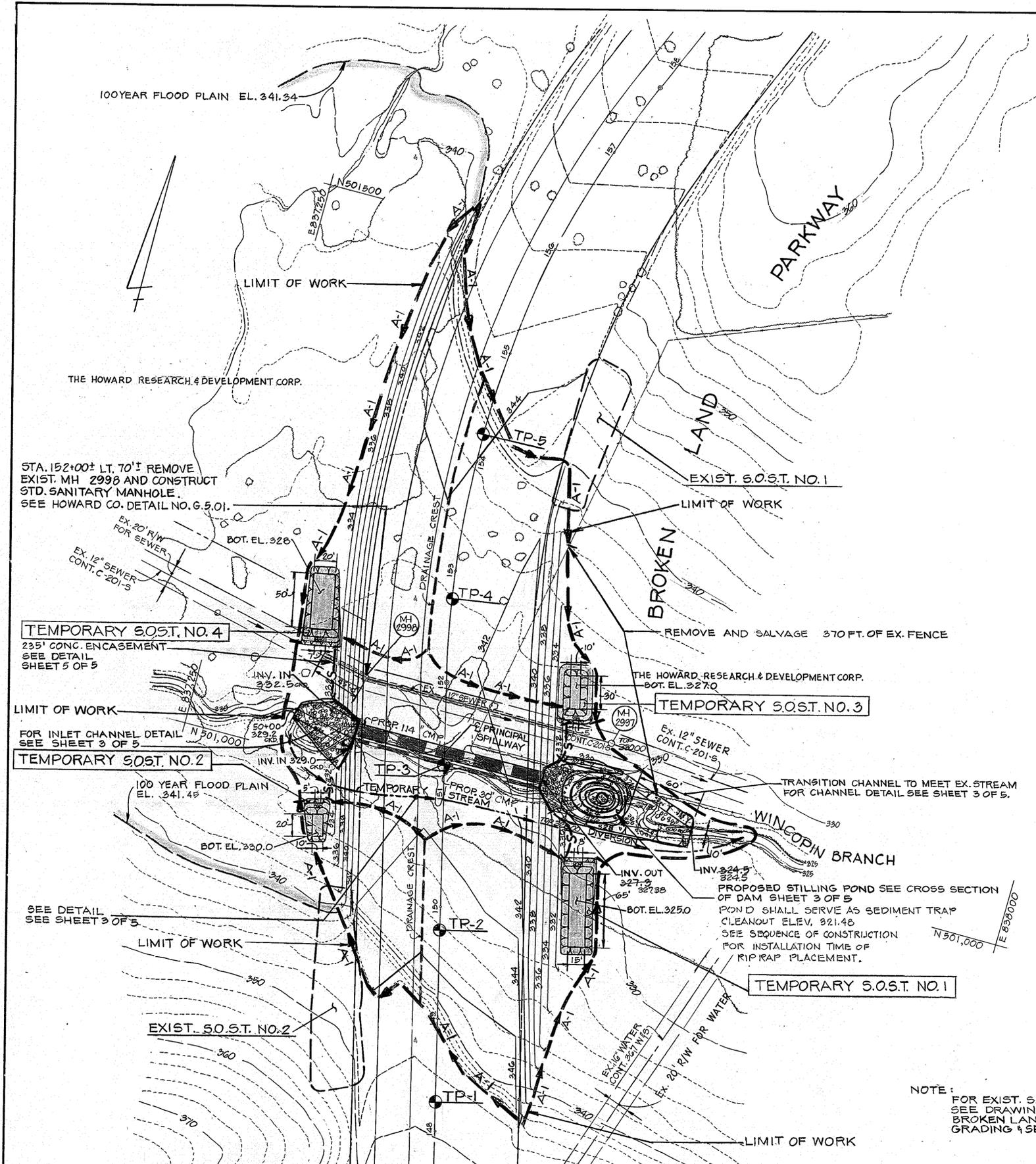
AS-BUILT SURVEY CERTIFIED BY WALTER PARK, MD. REG. LAND SURVEYOR No. 5539 - APRIL 16, 86



DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development and Zoning Administration
 Signature: *John M. ...* Date: 7-9-85

DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Engineering
 Signature: *James M. ...* Date: 7-10-85

#42



CONSTRUCTION SPECIFICATIONS

- SITE PREPARATION** (SEE SECT. 201 - STD. SPECS. FOR CONSTR. & MAT'L.S. - MD. DEPT. OF TRANS. STATE HWY. ADMIN. JAN. 1982)
 - 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. CHANNEL BANKS AND SHARP BREAKS SHALL BE SLOPED TO NO STEEPER THAN 1:1.
 - AREAS TO BE COVERED BY THE POND OR 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.
 - ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR REPRESENTATIVE. WHEN SPECIFIED, A SUFFICIENT QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.
- EARTH FILL** (SEE SECT. 202 - STD. SPECS. FOR CONSTR. & MAT'L.S. - MD. DEPT. OF TRANS. STATE HWY. ADMIN. JAN. 1982)
 - THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREA OR AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, WOOD, RUBBISH, OVERSIZE 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 ALL ALONG THE LENGTH OF THE EMBANKMENT SHALL BE INCREASED ABOVE THE DESIGN ELEVATION (INCLUDING FREEBOARD) AS SHOWN ON THE PLANS.
 - PLACEMENT**
 - AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN 6-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 EMBANKMENT.
 - 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 TREAD TRACK OF THE EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TIED OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH 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 DENSITY AND IS TO BE CERTIFIED BY THE ENGINEER.
 - 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 AS SHOWN ON THE DRAWINGS, 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** (SEE SECT. 203 - STD. SPECS. FOR CONSTR. & MAT'L.S. - MD. DEPT. OF TRANS. STATE HWY. ADMIN. JAN. 1982)
 - 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 DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN FOUR FEET, MEASURED HORIZONTALLY, TO ANY PART OF A 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.
- REINFORCED CONCRETE PIPE** (SEE SECT. 602 - STD. SPECS. FOR CONSTR. & MAT'L.S. - MD. DEPT. OF TRANS. STATE HWY. ADMIN. JAN. 1982)
 - MATERIALS** - REINFORCED CONCRETE PIPE SHALL HAVE A RUBBER GASKET JOINT AND SHALL EQUAL OR EXCEED ASTM SPECIFICATION C-301. AN APPROVED EQUIVALENT IS ANA 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 ITS OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 3" AS SHOWN ON THE DRAWINGS.
 - LAYING PIPE** - BELL AND SPIGOT 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 DEVIATION 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.
- CONCRETE**
 - MATERIALS**
 - CEMENT - NORMAL PORTLAND CEMENT SHALL CONFORM TO THE 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 PERCENT 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 OR 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.
 - DESIGN MIX** - THE CONCRETE SHALL BE MIXED IN THE FOLLOWING PROPORTIONS, MEASURED BY WEIGHT. THE WATER-CEMENT RATIO SHALL BE 5-1/2 TO 6 U.S. GALLONS OF WATER PER 94 POUND BAG OF CEMENT. THE PROPORTION OF MATERIALS FOR THE TRIAL MIX SHALL BE 1:2:3-1/2. THE COMBINATION OF AGGREGATES MAY BE ADJUSTED TO PRODUCE A PLASTIC AND WORKABLE MIX THAT WILL NOT PRODUCE HARSHNESS IN PLACING OR HONEYCOMBING IN THE STRUCTURE.
 - 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 PREDICTED ON PROPER CONTROL OF THE SPEED OF ROTATION OF THE MIXER AND OF THE INTRODUCTION OF THE MATERIALS, INCLUDING WATER, INTO THE MIXER. WATER SHALL BE ADDED PRIOR TO, DURING, AND FOLLOWING THE MIXER-CHARGING OPERATIONS. EXCESSIVE OVERMIXING REQUIRING THE ADDITION OF WATER TO PRESERVE THE REQUIRED CONCRETE CONSISTENCY SHALL NOT BE PERMITTED. TROUGH MIXING WILL BE ALLOWED PROVIDED THAT THE USE OF THIS METHOD SHALL CAUSE NO VIOLATION OF ANY APPLICABLE PROVISIONS OF THE SPECIFICATIONS GIVEN HERE.
 - FORMS** - THE FORMS SHALL HAVE SUFFICIENT STRENGTH AND RIGIDITY TO HOLD THE CONCRETE AND TO WITHSTAND THE REVERSE PRESSURE, TAMPING, AND VIBRATION WITHOUT DEFLECTION FROM THE PRESCRIBED LINES. THEY SHALL BE MORTAR-TIGHT AND CONSTRUCTED SO THAT THEY CAN BE REMOVED WITHOUT HAMMERING OR PRYING AGAINST THE CONCRETE. THE INSIDE OF FORMS SHALL 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.
 - 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 BUCKLED INTO POSITION SO THAT NO MOVEMENT OF THE STEEL WILL OCCUR DURING PLACEMENT OF CONCRETE.
 - CONSOLIDATING** - CONCRETE SHALL BE CONSOLIDATED WITH INTERNAL TYPE MECHANICAL VIBRATORS. VIBRATION SHALL BE SUPPLEMENTED BY SPADING AND HAND TAMPING AS NECESSARY TO INSURE SMOOTH AND CLOSE CONCRETE ALONG FORM SURFACES, IN CORNERS, AND AROUND ENBEDDED ITEMS.
 - FINISHING** - DEFECTIVE CONCRETE, HONEYCOMBED AREAS, VOIDS LEFT BY THE REMOVAL OF THE RODS, RIDGES ON ALL CONCRETE SURFACES PERMANENTLY EXPOSED TO VIEW OR EXPOSED TO WATER ON THE FINISHED STRUCTURE, SHALL BE REPAIRED IMMEDIATELY AFTER THE REMOVAL OF FORMS. ALL VOIDS SHALL BE REAMED AND COMPLETELY FILLED WITH SET-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 EXPOSED TO FREEZING DURING THE CURING PERIOD. CURING COMPOUNDS MAY ALSO BE USED.
 - PLACING TEMPERATURE** - CONCRETE MAY NOT BE PLACED AT TEMPERATURES BELOW 37° F WITH THE TEMPERATURE FALLING, OR 32° WITH THE TEMPERATURE RISING.
- STABILIZATION**

SEDIMENT CONTROL STRUCTURE SCHEDULE

TRAP NO.	TRAP	TRAP DEPTH	DRAINAGE AREA	DISTURBED AREA	VOLUME (cf)		BOTTOM DIMENSION	BOTTOM ELEVATION	CLEANOUT ELEVATION	CREST ELEV.
					REQ'D	PROV.				
1	S.O.S.T.	4'-0"	2.05 AC.	2.05 AC.	3690	3700	15'x65'	325.0	320.5	330.5
2	S.O.S.T.	3'-0"	.28 AC.	.28 AC.	504	600	10'x20'	330.0	331.5	334.0
3	S.O.S.T.	4'-0"	.64 AC.	.64 AC.	1152	1200	10'x30'	327.0	328.5	332.0
4	S.O.S.T.	3'-0"	1.58 AC.	1.58 AC.	2844	3000	50'x20'	328.0	329.5	332.5

NOTES:

- FOR SEDIMENT CONTROL DETAILS SEE SHEET 4 OF 5.
- SEED AND MULCH ALL SLOPES IMMEDIATELY AFTER CONSTRUCTION.

NOTIFY MISS UTILITY AT 539-0100 BEFORE BEGINNING ANY CONSTRUCTION

FOR BENCH MARKS SEE SHEET 1 OF 5

BY THE DEVELOPER:

"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS OF DEVELOPMENT, POND CONSTRUCTION AND EROSION AND SEDIMENT CONTROL. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY. DEVIATION FROM THIS PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HOWARD SOIL CONSERVATION DISTRICT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH A RED-LINED "AS-BUILT" OF THE POND WITHIN 30 DAYS OF COMPLETION."

John H. Nicks
Signature of Developer
4-22-85
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 A RED-LINED "AS-BUILT" OF THE POND WITHIN 30 DAYS OF COMPLETION."

Joseph R. Nicks
Signature of Engineer
4-18-85
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 McHale
U.S. Soil Conservation Service
7-3-85
Date

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

APPROVED: *Stephen L. Fisher*
Howard S.C.D.
7-3-85
Date

PLAN NUMBER: **F-85-131**

Date	No	Revision Description
7-19-85	1	CHANGE PIPE TO 14" CMP & DELETE BEDDING

Owner and Developer

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE COMPANY
Columbia, Maryland 21044
PHONE: 992-6094

CENTURY ENGINEERING, INC.
CONSULTING ENGINEERS • PLANNERS

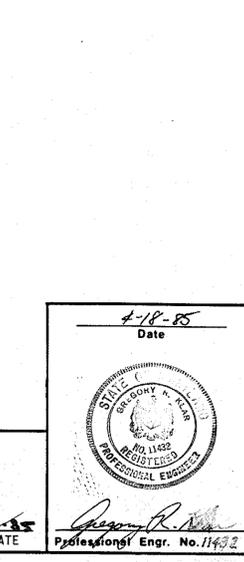
TOWSON, MARYLAND 21204
PHONE: 823-8070

AREA: VILLAGE OF HICKORY RIDGE SECTION 5 AREA 2
PARCEL 49 & 81 TAX MAP 35 & 36
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: STORM WATER MANAGEMENT CONTROL STRUCTURE PLAN VIEW

Des By G.B.Z. Scale 1"=50' Proj No 85-0023
Drn By J.B.D. Date 4-18-85 Drawing No 2 OF 5
Chk By G.R.K. Approved

AS-BUILT SURVEY CERTIFIED BY WALTER PARK MD. REG. LAND SURVEYOR No. 5537 - APRIL 16, 86



DEPARTMENT OF PLANNING AND ZONING
John H. Nicks
7-9-85
DATE
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION

DEPARTMENT OF PUBLIC WORKS
Joseph R. Nicks
7-10-85
DATE
CHIEF, BUREAU OF ENGINEERING

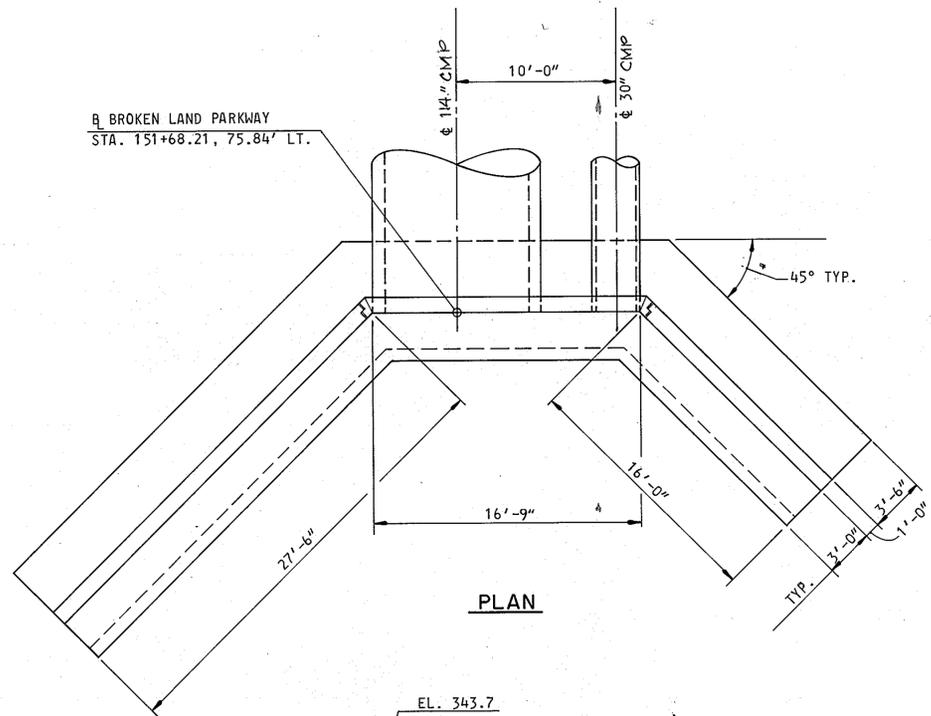
NOTE: FOR EXIST. S.O.S.T. NO. 1 & S.O.S.T. NO. 2 SEE DRAWING OF 3 BROKEN LAND PKWY. WEST GRADING & SEDIMENT CONTROL PLAN

#42

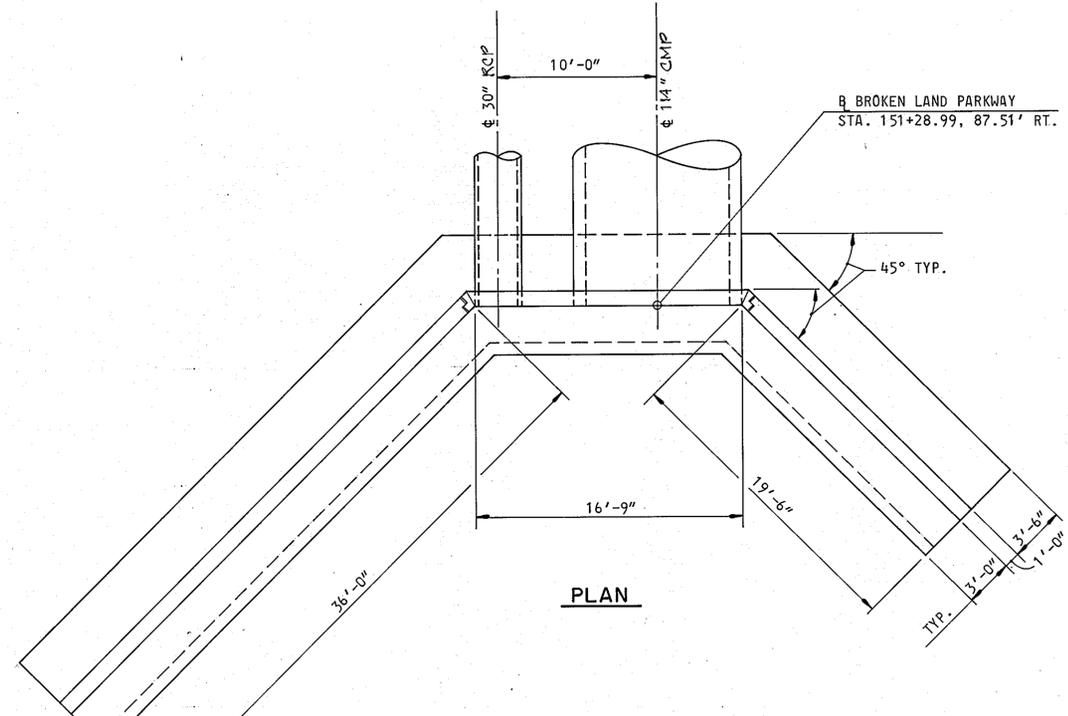
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BRUNING 44-132 53864

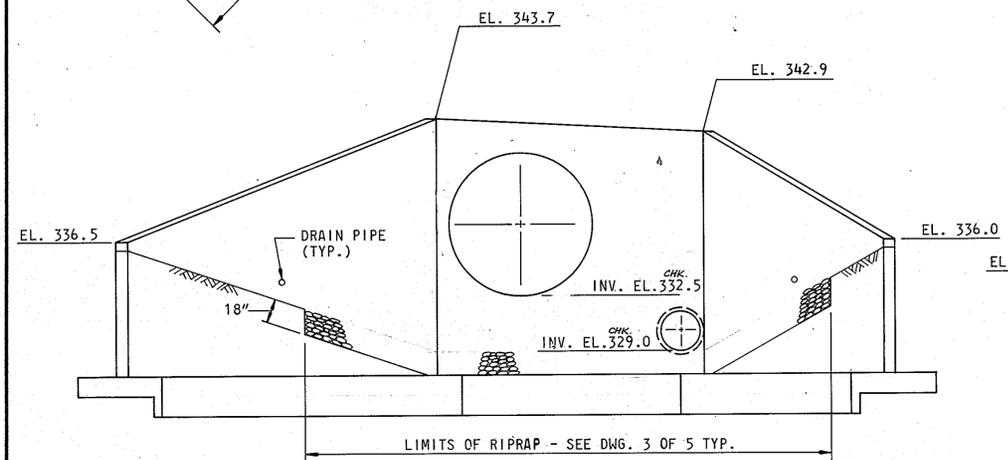
F-85-131 AS-BUILT 4-18-86



PLAN



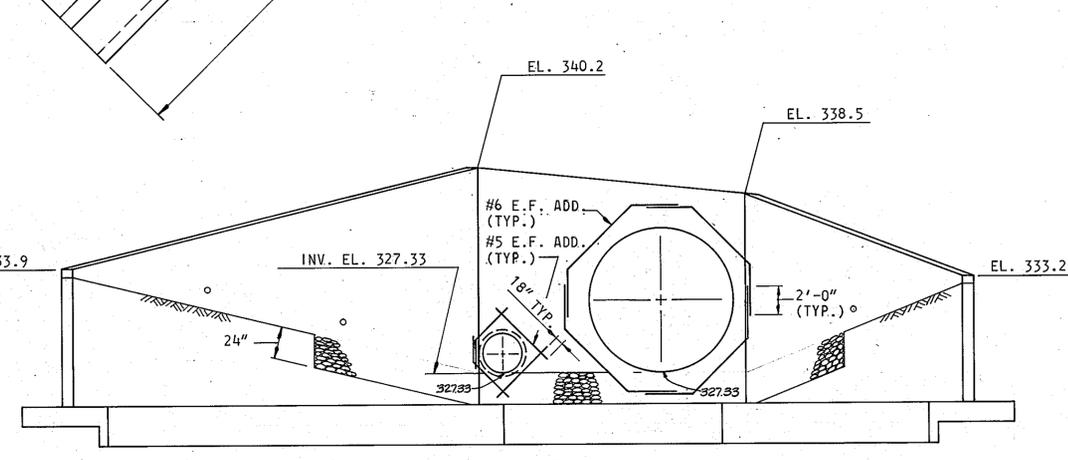
PLAN



ELEVATION

INLET

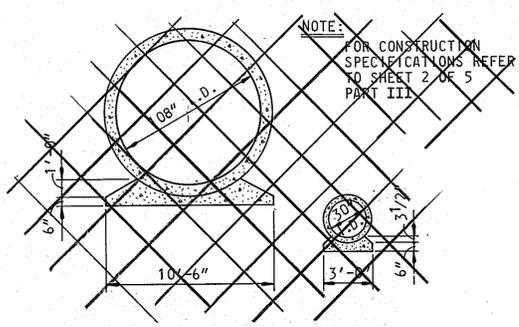
SCALE: 3/16" = 1'-0"



ELEVATION

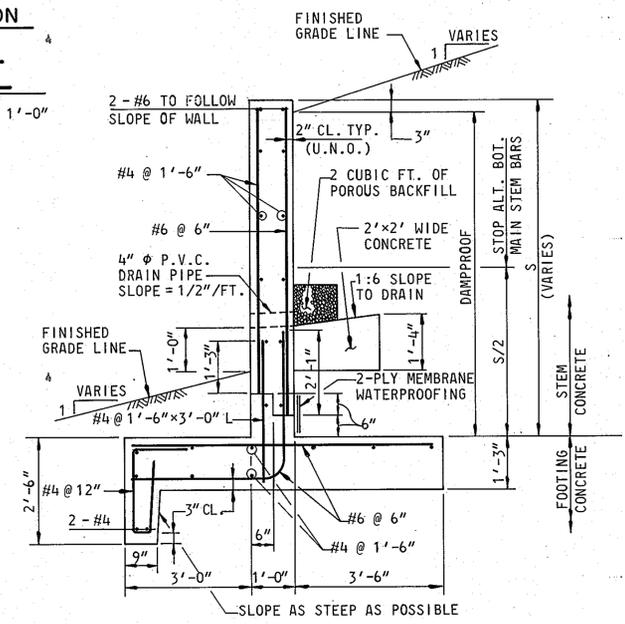
OUTLET

SCALE: 3/16" = 1'-0"



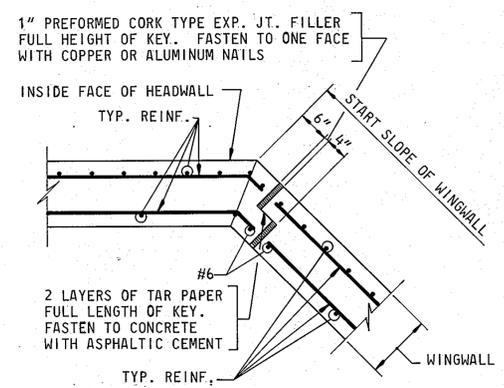
DETAIL OF BEDDING

N.E.S.



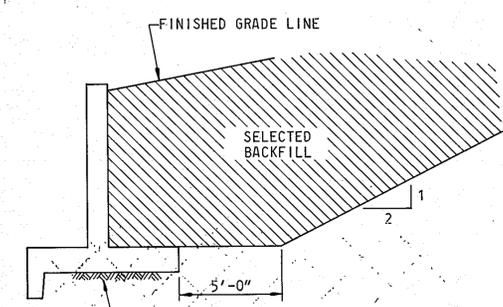
TYPICAL SECTION

SCALE: 1/2" = 1'-0"



WINGWALL EXPANSION JOINT

SCALE: 3/4" = 1'-0"



BACKFILL DETAIL

N.T.S.

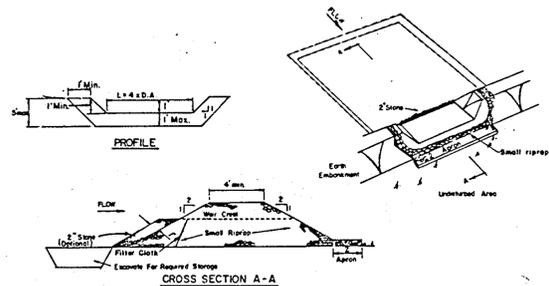
AS-BUILT SURVEY CERTIFIED BY: WALTER PARK, MD REG. LAND SURVEYOR No. 5539 APRIL 16, 1986

4-18-85
Date
Professional Engr. No. 11432

- GENERAL NOTES**
1. ALL CAST-IN-PLACE CONCRETE SHALL BE AIR-ENTRAINED AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,500 PSI AT 28 DAYS.
 2. REINFORCING STEEL FOR CAST-IN-PLACE CONCRETE SHALL CONFORM TO ASTM DESIGNATION A 615, GRADE 60.
 3. ALL SELECTED BACKFILL MATERIAL USED BEHIND THE HEADWALLS AND WINGWALLS, AS SHOWN ON THIS SHEET, SHALL BE REASONABLY FREE FROM ORGANIC AND OTHERWISE DELETERIOUS MATERIALS AND SHALL CONFORM TO THE FOLLOWING GRADATION LIMITS AS DETERMINED BY AASHTO T-27.

SIEVE SIZE	% PASSING
6"	100
3"	75-100
NO. 200	0-10
 4. CONCRETE COVER FOR REINFORCING STEEL FOR CAST-IN-PLACE CONCRETE SHALL BE 2", UNLESS NOTED OTHERWISE.
 5. ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED WITH 3/4"x3/4" MILLED CHAMFER STRIPS.
 6. MINIMUM ALLOWABLE SOIL PRESSURE IS 2.5 KSF.
 7. POROUS BACKFILL SHALL BE STONE CONFORMING TO AASHTO M 43, SIZE NO. 57.
 8. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOLUME IV, "STANDARD DETAILS AND SPECIFICATIONS FOR CONSTRUCTION".

DEPARTMENT OF PUBLIC WORKS			
<i>K. Crain</i>		2-16-85	
CHIEF, BUREAU OF ENGINEERING			
DEPARTMENT OF PLANNING AND ZONING			
<i>John M. ...</i>		7-9-85	
CHIEF, DIV. OF LAND DEVEL. AND ZONING ADM.			
Date	No.	Revision	Description
7-17-85	1	CHANGE PIPE TO 14" CMP	DELETED BEDDING
OWNER AND DEVELOPER THE HOWARD RESEARCH AND DEVELOPMENT CORP. THE ROUSE COMPANY COLUMBIA, MARYLAND			
CENTURY ENGINEERING, INC. CONSULTING ENGINEERS - PLANNERS TOWSON, MARYLAND 21204			
AREA VILLAGE OF HICKORY RIDGE			
SECTION 5 AREA 2			
PARCEL 49 & 81		TAX MAP 35 & 36	
5TH ELECTION DISTRICT		HOWARD COUNTY, MARYLAND	
TITLE STORM WATER MANAGEMENT CONTROL STRUCTURE DETAILS			
Des By	J.S.M.	Scale	AS SHOWN
Drn By	S.K.L.	Date	4-18-85
Chk By	G.R.K.	Approved	
Proj No		85-0023	
Drawing No.		4 OF 5	

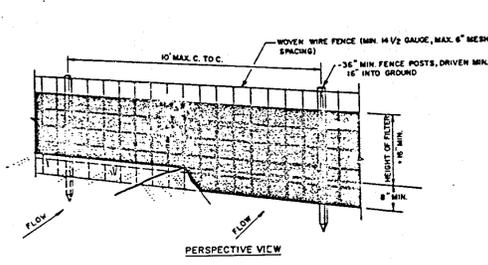


NOTE: A one foot layer of 2" stone may be placed on the upstream side of the riprap in place of the embedded filter cloth.

CONSTRUCTION SPECIFICATIONS FOR ST-7

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 over-sized 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 of the small riprap or embedded filter cloth in the riprap.
5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 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.

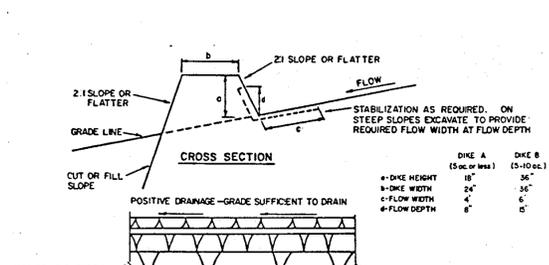
Maximum Drainage Area: 5 Acres



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 "MUDS" DEVELOP IN THE SILT FENCE.

POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD
 FENCE: WOVEN WIRE, 1/4" GA. 6" MAX. MESH OPENING
 FILTER CLOTH: FILTER X, MIRAFLO, STABILINKA 1140N OR APPROVED EQUAL
 PREFABRICATED UNIT: GEOPAB, ENVIROFENCE, OR APPROVED EQUAL.



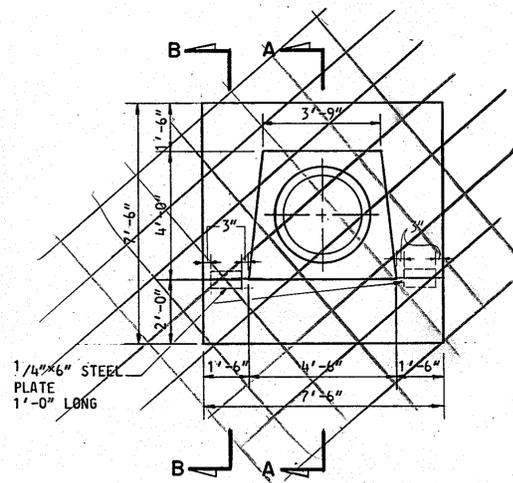
1. ALL DIKES SHALL BE COMPACTED BY EARTH-MOVING EQUIPMENT.
2. ALL DIKES SHALL HAVE POSITIVE DRAINAGE TO AN OUTLET.
3. TOP WIDTH MAY BE NARROWER AND SIDE SLOPES MAY BE FLATTER IF DESIRED TO FACILITATE CROSSING BY CONSTRUCTION TRAFFIC.
4. FIELD LOCATION SHOULD BE ADJUSTED AS NEEDED TO UTILIZE A STABILIZED SAFE OUTLET.
5. EARTH DIKES SHALL HAVE AN OUTLET THAT FUNCTIONS WITH A MINIMUM OF EROSION. RHOPEF SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE SUCH AS A SEDIMENT TRAP OR SEDIMENT BASIN WHERE EITHER THE DIKE CHANNEL OR THE DRAINAGE AREA ABOVE THE DIKE ARE NOT ADEQUATELY STABILIZED.
6. STABILIZATION SHALL BE: (A) IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR SEED AND STRAW MULCH OR STRAW MULCH IF NOT IN SEEDING SEASON, (B) FLOW CHANNEL AS PER THE CHART BELOW.

TYPE OF TREATMENT	CHANNEL GRADE	DIKE A	DIKE B
1	5-3.0%	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0%	SEED AND STRAW MULCH	SEED USING JUTE, OF EXCELSTOR; SOG; 2" STONE
3	5.1-8.0%	SEED WITH JUTE, OR SOG; 2" STONE	LINED RIP-RAP 4-8"
4	8.1-20%	LINED RIP-RAP 4-8"	ENGINEERING DESIGN

A. STONE TO BE 2 INCH STONE, OR RECYCLED CONCRETE EQUIVALENT, IN A LAYER AT LEAST 3 INCHES IN THICKNESS AND BE PRESSED INTO THE SOIL WITH CONSTRUCTION EQUIPMENT.
 B. RIP-RAP TO BE 4-8 INCHES IN A LAYER AT LEAST 8 INCHES THICKNESS AND PRESSED INTO THE SOIL.
 C. APPROVED EQUIVALENTS CAN BE SUBSTITUTED FOR ANY OF THE ABOVE MATERIALS.
 7. PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED AFTER EACH RAIN EVENT.

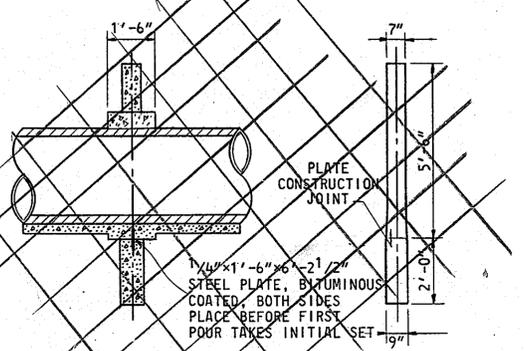
STONE OUTLET SEDIMENT TRAP DETAIL

NO SCALE



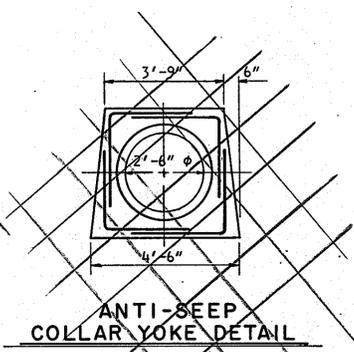
ANTI-SEEP COLLAR DETAIL

SCALE: 1" = 8/8"



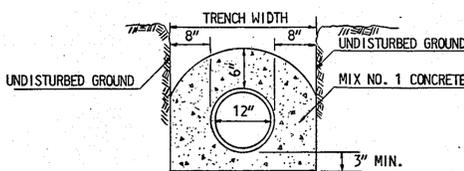
SILT FENCE DETAIL

NO SCALE



EARTH DIKE DETAIL

NO SCALE



ENCASEMENT DETAIL

NO SCALE

TIME SCHEDULE

work days

5
5
5
1
10
3
3
2
5
10
12
5
15
2
3
TOTAL 77 working days*

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT AND MARYLAND STATE W.R.A. PERMIT.
2. NOTIFY THE DPM SEDIMENT CONTROL INSPECTOR FOR HOWARD COUNTY 48 HOURS PRIOR TO THE START OF ANY CONSTRUCTION.
3. MAINTAIN EXISTING STABILIZED CONSTRUCTION ENTRANCE AT STA. 160+20 PROPOSED BROKEN LAND PARKWAY AND ON HICKORY RIDGE ROAD STA. 35+80.
4. AREAS DESIGNATED FOR STOCKPILE, EMBANKMENT, AND STRUCTURAL WORK SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL. REMOVE EX. FENCE AS SHOWN ON PLAN.
5. MAINTAIN SEDIMENT CONTROL DEVICES FOR EXISTING STOCKPILE LOCATED AT RT. STA. 145± PROPOSED BROKEN LAND PARKWAY.
6. CLEAR AREA AND INSTALL SEDIMENT CONTROL AND TEMPORARY STREAM DIVERSION.
7. CONSTRUCT CONCRETE ENCASEMENT FOR EXISTING 12" SEWER. INSTALL TEMPORARY SILT FENCE ON DOWNHILL SIDE OF TRENCH. CONSTRUCT MANHOLE.
8. EXCAVATE TEMPORARY SEDIMENT TRAP NO. 1, 2, 3 & 4. CONSTRUCT STONE OUTLET STRUCTURE. EXCAVATE STILLING POND, MAINTAIN SAME AS TRAP. CLEANOUT EL. 321.48.
9. CONSTRUCT EARTH DIKE A-1 AS SHOWN ON PLAN.
10. UNDERCUT SOFT MATERIAL UNDER DAM AND PIPE AREA.
11. BEGIN EARTH FILL IN LIFTS AS SPECIFIED FOR DAM CONSTRUCTION @ STA. 149± TO 150+50 AND STA. 152+25 TO 154+50. CONSTRUCT 30" DRAIN.
12. CONSTRUCT BEDDING FOR LARGE PIPE AND BRING FILL UP AFTER PIPE INSTALLATION.
13. CONSTRUCT HEADWALLS.
14. INSTALL SILT FENCE. CLEAN OUT STILLING POND AND CONSTRUCT RIPRAP CHANNELS, UPSTREAM AND DOWNSTREAM.
15. FILL IN TEMPORARY DIVERSION DITCH FOR STREAM. CONTINUE EARTH FILL OPERATION TO TOP OF DAM ELEVATION. DIRECT STREAM FLOW TO 30" DRAIN.
16. CONTRACTOR IS GIVEN 14 DAYS FROM THE TIME THE AREA IS DISTURBED TO THE TIME THE AREA SHALL BE STABILIZED. CONTRACTOR SHALL STABILIZE SUCH AREAS IN ACCORDANCE WITH THE TEMPORARY SEEDING.
17. UPON COMPLETION OF ALL GRADING OPERATIONS AND APPROVAL BY THE HOWARD COUNTY DPM SEDIMENT CONTROL INSPECTOR. PUMP OUT AND BACKFILL ALL TRAPS. REMOVE ALL SILT FENCING, STABILIZED CONSTRUCTION ENTRANCE AND EARTH DIKES. STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES.

* NOTE: TOTAL WORK DAYS FROM START TO COMPLETION OF THIS JOB MAY VARY, DUE TO CONSTRUCTION SIMULTANEOUSLY PERFORMED.

AS-BUILT SURVEY CERTIFIED BY WALTER PARK, MD RES. LAND SURVEYOR NO. 5539 - APRIL 16, 1985

TEMPORARY SEEDING
 Apply to graded or cleared areas likely to be redistributed where a short-term vegetative cover is needed.
 Seeded Preparation: Loosen upper three 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 March 1 thru April 30 and from August 15 thru November 15, seed with 20 bushels per acre of annual rye (1.2 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 applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.
 Mulching: Apply 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.

PERMANENT SEEDING
 Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.
 Seeded Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding.
 Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:
 1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 square ft) and 400 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding.
 Barrow 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/1000 sq ft).
 2) 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.
 Barrow 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 (1.4 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/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.
 Mulching - Apply 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 seeded areas and make needed repairs, replacements and reseedings.

SEDIMENT CONTROL NOTES
 1) A minimum of 24 hours notice must be given to the Howard County Office of Inspections and Permits prior to the start of any construction (592-2437)
 2) All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
 3) 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) 14 days for all other disturbed or graded areas on the project site.
 4) All disturbed areas must be established 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. 31) and (Sec. 34), temporary seedings (Sec. 30) and mulching (Sec. 32). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
 5) 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.
 6) Site Analysis:
 Total Area of Site 2.85 acres
 Area Disturbed 2.85 acres
 Area to be roofed or paved 0 acres
 Area to be vegetatively stabilized 2.85 acres
 Total Cut 8,500 Cu. yds
 Total Fill 8,500 Cu. yds
 Offsite waste/borrow area location HICKORY RIDGE RD.
 7) Any sediment control practice which is disturbed by grading activity or placement of utilities must be repaired on the same day of disturbance.
 8) Additional sediment controls must be provided, if deemed necessary by the Howard County DPW sediment control inspector.

BY THE DEVELOPER:
 "I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS OF DEVELOPMENT, POND CONSTRUCTION AND EROSION AND SEDIMENT CONTROL. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY. DEVIATION FROM THIS PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HOWARD SOIL CONSERVATION DISTRICT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH A RED-LINED "AS-BUILT" OF THE POND WITHIN 30 DAYS OF COMPLETION."
 Signature of Developer: *J. H. Nally* Date: 4-22-85

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 A RED-LINED "AS-BUILT" OF THE POND WITHIN 30 DAYS OF COMPLETION."
 Signature of Engineer: *James R. Nally* Date: 4-18-85

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.
 U.S. Soil Conservation Service: *James M. Nally* Date: 7-3-85

APPROVED: *Stephen J. Fisher* Date: 7-3-85
 Howard S.C.D.

PLAN NUMBER: F-85-131

Date	No	Revision Description
7-19-85	1	DELETE BEDDING DETAIL

Owner and Developer
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE COMPANY
 Columbia, Maryland 21044

CENTURY ENGINEERING, INC.
 CONSULTING ENGINEERS • PLANNERS
 TOWSON, MARYLAND 21204

AREA	VILLAGE OF HICKORY RIDGE SECTION 5	AREA 2
PARCEL	49 & 81	TAX MAP 35 & 36
5TH ELECTION DISTRICT		HOWARD COUNTY, MARYLAND
TITLE	STORM WATER MANAGEMENT CONTROL STRUCTURE SEDIMENT CONTROL DETAILS	
Des By	G.B.Z.	Scale AS SHOWN
Drn By	J.B.D.	Date 4-18-85
Chk By	G.R.K.	Approved
Proj No	85-0023	Drawing No
		2 OF 5

F-85-131
 AS-BUILT 4-16-86

DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development and Zoning Administration: *John M. Nally* Date: 7-9-85

DEPARTMENT OF PUBLIC WORKS
 Chief, Bureau of Engineering: *James R. Nally* Date: 7-10-85

Professional Engr. No. 11432
 Signature: *James R. Nally* Date: 4-18-85

#42