

DRAWING NO 2 OF 4 SDP-86-104

PROJECT NO: 83 - 0020

DATE: FEBRUARY, 1984

15 SHOWN

DESIGNED BY:

DRAWN BY:

SCALE:

AND STORM

Date

Date

1-16-86

TAX MAP 47

PARCEL 108

C.R.C.

C.R.C./C.H.C

REVISION DESCRIPTION

CONSTRUCTION SPECIFICATIONS

I. SITE FREPARATION

Areas under the embankment and structural works shall be cleared, grubbed and the topsoil stripped to remove all trees, vegetation, roots or other objectionable material. To facilitate clean out and restoration, it is recommended that the permanent pool area be cleared of all brush and trees.

II. EARTH FILL

Material

The fill material shall be taken from approved designated borrow area or areas. It shall be free from roots, stumps, wood, rublish, 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 at least 10 percent above the design elevation (including freeboard) unless otherwise shown on the plans.

Flacement

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 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 compantion shall te achieved by a minimum of four complete passes of a sheet foot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture so that it can be formed into a hall without crumbling. If water can be squeezed out of the ball, it is too wet to compact properly.

Core Trench

Where specified, a core 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 or the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill material for the core trench shall be the most impervious material available and shall be compacted with equipment or rollers to assure maximum density and minimum permeability.

III. 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 driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall the contractor drive equipment 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.

IV. PIPE CONDUITS

REINFORCED CONCRETE PIPE

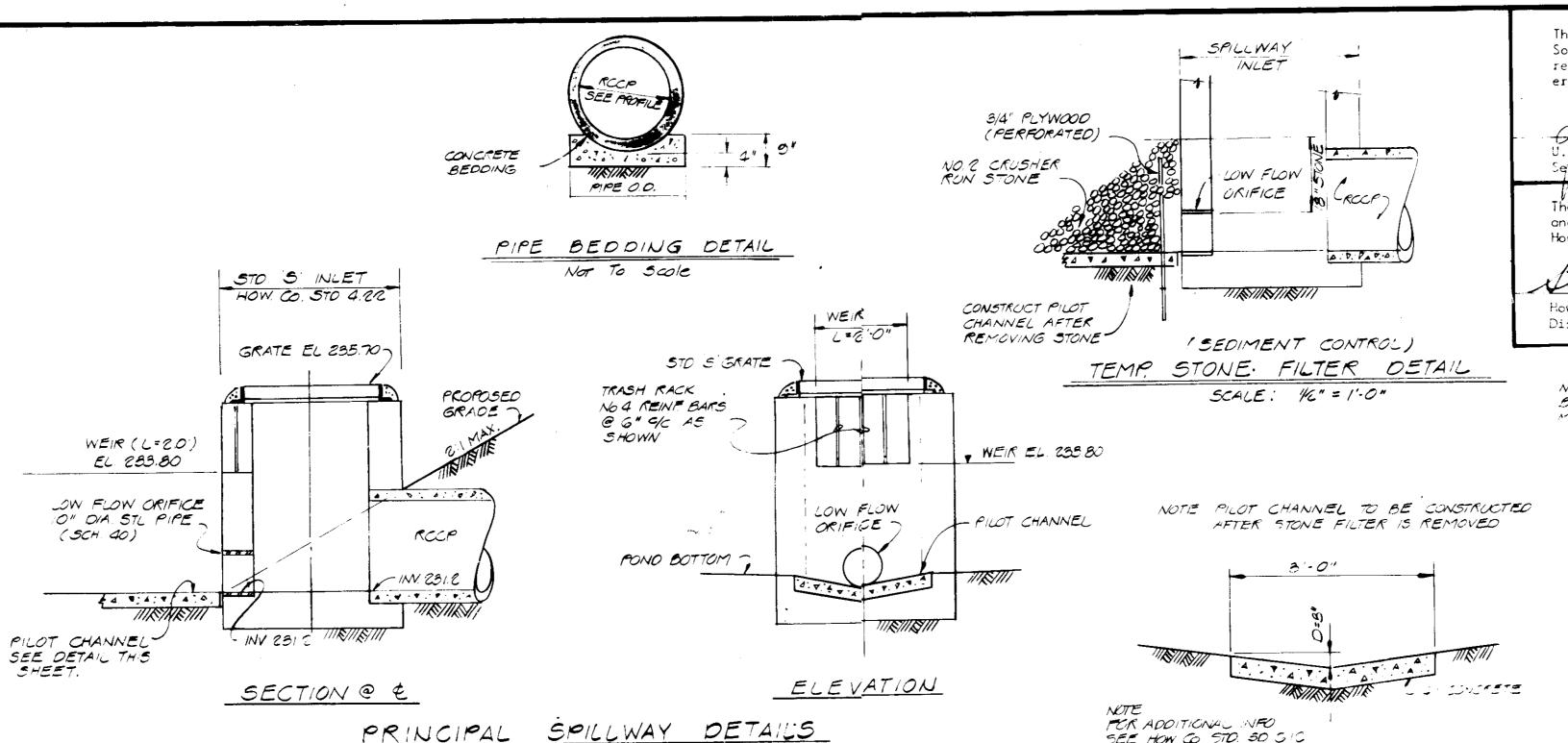
- 1. Materials Reinforced concrete pipe shall have a rubber qasket joint and shall equal or exceed ASTM Specification C-361. Approved equivalents are AWWA Specification C-300, 301, and 302.
- 2. Bedding All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 10% of its diameter with a minimum thickness of 3". W.S.S.C. low cradle bedding is an approved equivalent.
- 3. 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 on 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.
- 4. Backfilling shall conform to structural backfill as shown above.
 - 5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

V. CONCRETE

Concrete shall meet minimum requirements set forth in Maryland State Highway Administration Specifications for Materials, Highways, Bridges, and Incidental Structures, Article 20.07 (Portland Cement Concrete Mixtures), Class A-1, or P-1.

VI. STABILIZATION

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway and borrow areas shall be stabilized by seeding and applying straw mulch in accordance with Standards and Specifications for Soil Erosion and Sediment Control in Urbanizing Areas immediately after finish grading.



SEE HOW CO STO. 50 510

PILOT CHANNEL DETAIL

APPK VI

DIVISION OF LAND BOY WAR

:-#4BARS

EW AS

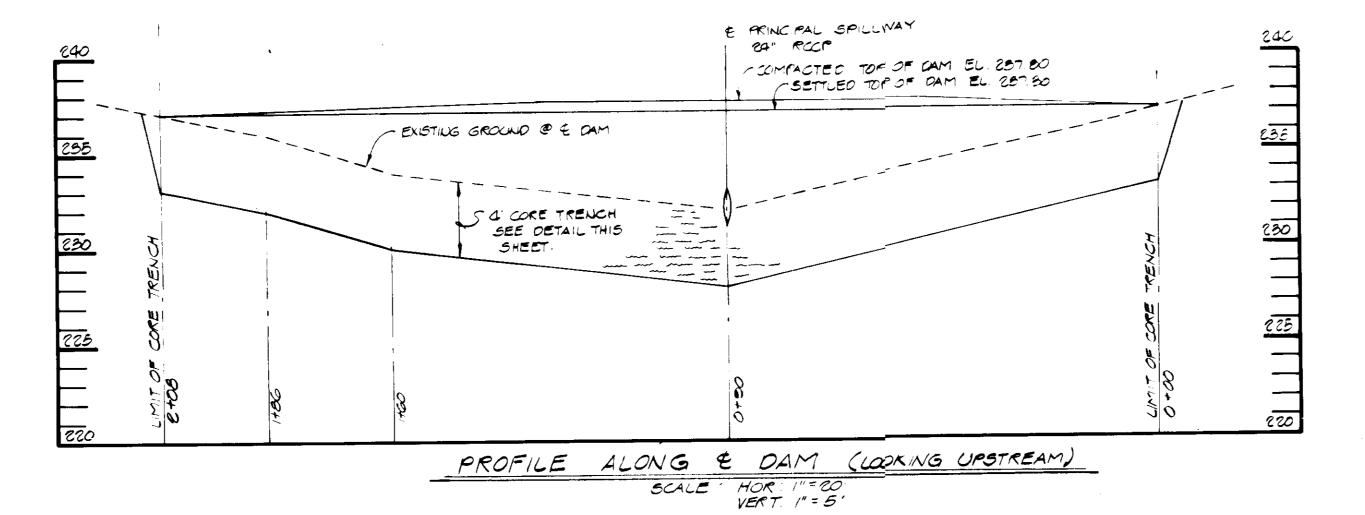
SHOWN -

ELEVATION

PRINCIPAL SPILLWAY DETAILS STORM WATER MANAGEMENT

PRINCIPAL SPILLWAY SEE DETAIL THIS SHT. 240 EXIST UG EL. 227. 30 GROWNO ~ 100 YR. W.S. 1 - 1 00 E 00 - EL 253,20 11/5/11 FILTER / IN (SEE CETAIL) CORE TRENCH PIPE BEDDING (SEE DETAIL) SEE DETAIL THIS SHEET e5=200% n Q10 = 878c#3 dp = 0.70' Vel = 8/5EC.

> PROFILE STORM WATER MANAGEMENT POND 5CALE: HOR 1"= 20.



PEAK ELEV. PEAK FLOW STORAGE 0.08/ACPT. 233 20 8.35 CF5 665 CF5 10 YEAR 8.78 CFS 15.99 CFS 0.185 AC FT. 234 54 100 YEAR 10.56 CF.5 26.50 CF.5 0.266 AC FT. 235.29 SEDIMENT CONTROL DATA 5.70 ACRES DRAINAGE AKEA VOLUME STORAGE REQU. 248 W. YOS. VOLUME STORAGE PROVIDED. 338 CU YOS. CLEAN OUT ELEVATION 2.53

ANTI- SEEP COLLAR DETAIL

STORM WATER MANAGEMENT DATA

CLASS A STRUCTURE

5CALE 1/2" = 1'-0"

SECTION

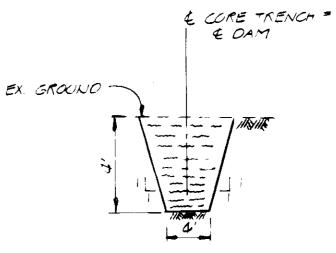
These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pond construction, soil erosion and sediment control.

U.S. Scil Conservation Service

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

Stephen L. Zulen 1-7-80 Howard Soil Conservation . District

BACKFILL CORE TRENCH WITH MOST IMPERVIOUS MATERIAL AVAILABLE. COMPACT TO MAX DENSITY.



TRENCH DETAIL

_ # 4 BARS @ E

NO SCALE

NOTE COLLAR SHALL BE CONSTRUCTED

IN A VERTICAL POSITION.

ALL JOINTS IN COLLAR

SHALL BE WATER TIGHT.

"as-built" plan of the pond within 30 days of completion.

By the Developer:

By the Engineer:

Charles R. Crocken, P.E.

"I certify that all development and/or

construction will be done according to

these plans, and that any responsible

project will have a Certificate of

Attendance at a Department of Natural

fore beginning the project. I will provide the Howard Soil Conservation

pond within 30 days of completion.

"I certify that this plan for pond

construction, erosion and sediment control

based on my personal knowledge of the site

Howard Soil Conservation District. I have notified the developer that he must provide

the Howard Soil Conservation District with an

12-4-75

represents a practical and workable plan

conditions. This plan was prepared in

accordance with the requirements of the

Resources Approved Training Program for

the Control of Sediment and Erosion be-

District with an "as-built" plan of the

personnel involved in the construction

APPROJED: FOR PUBLIC WATER, AND STORM DRAINAGE SYSTEMS AND ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE

SYSTEMS HOWARD COUNTY HEALTH DEPARTMEN.

1-14-84 County Health Of theer

APPROVED: HOWARD COUNTY OFFICE OF PLASNING AND ZONING.

Revised Per. Co. Comments Dated 5/7/184

and Zoning Administration

REVISION DESCRIPTION DATE NO. OWNER C.RICHARD LEHNERT ELEHNERT & SONS 7655 PULASKI HIGHWAY DALTIMORE, MD. 21237

DEVELOPER: G. RICHARD LEHNERT.
E. LEHNERT & SONS

7655 PULASKI HIGHWAY PURCHASER' BALTIMORE, MD. 21237

SITE DEVELOPMENT PLAN E. LEHNERT & SOUS

ANNAPOLIS JUNCTION GTH ELECTION DISTRICT TAX MAP 47 HOWARD COUNTY, MD. PARCEL 108

TITLE: STORM WATER MANAGEMENT DETAILS

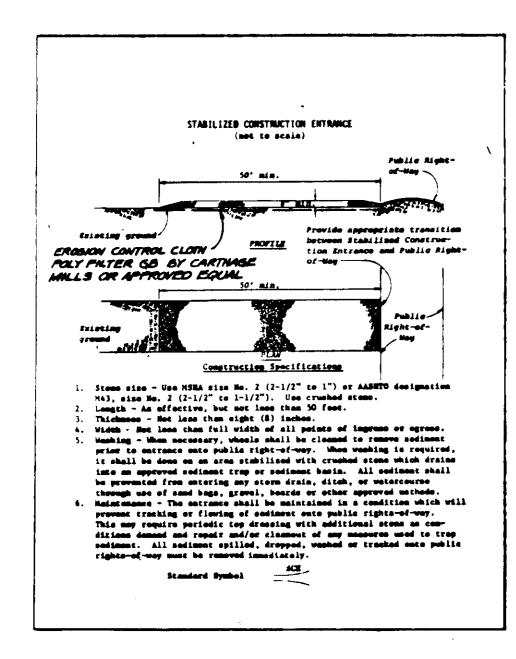
CHARLES R. CROCKEN AND ASSOCIATES INC.

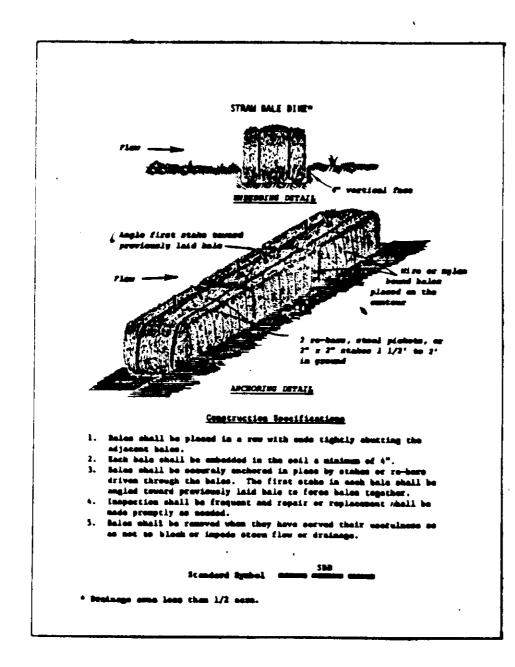
CIVIL ENGINEERING AND LAND PLANNING 3697 PARK AVENUE ELLICOTT CITY MD. 21043 465 3555

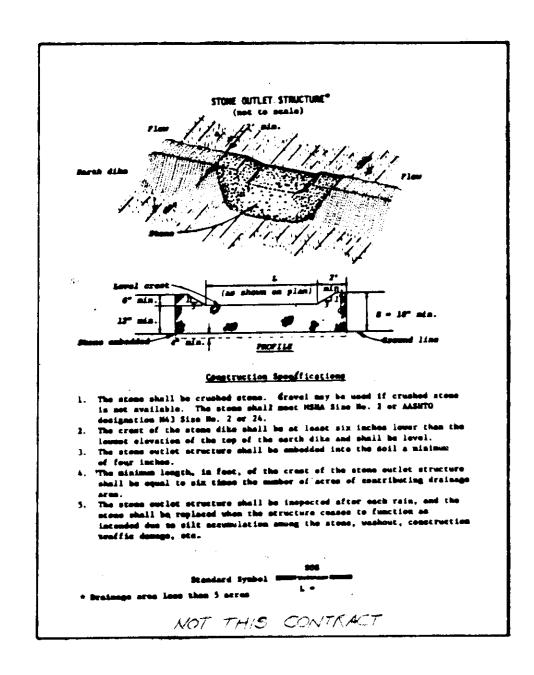


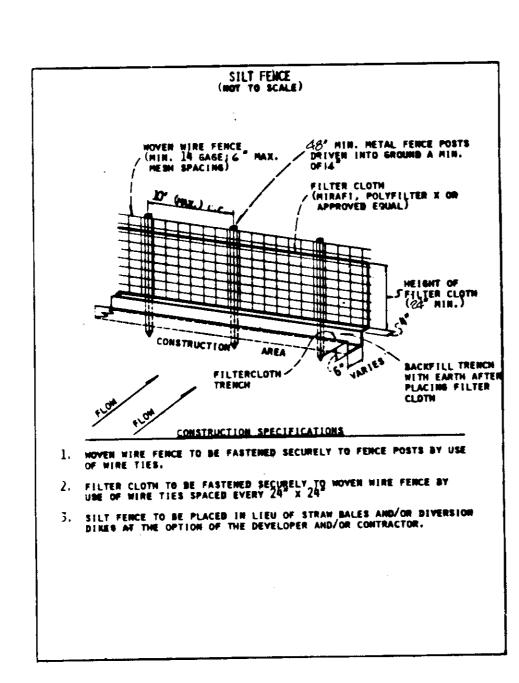
CRC DESIGNED BY: CRC DRAWN BY: PROJECT NO: MARCH, 1984 SCALE: AS SHOWN DRAWING NO _5 OF 4

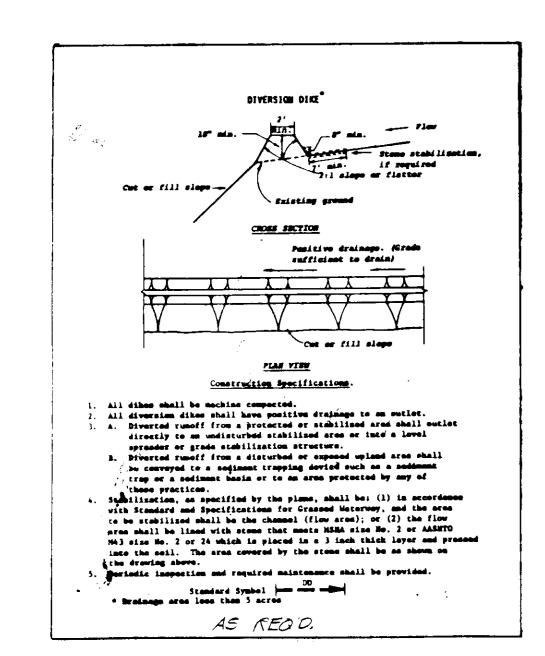
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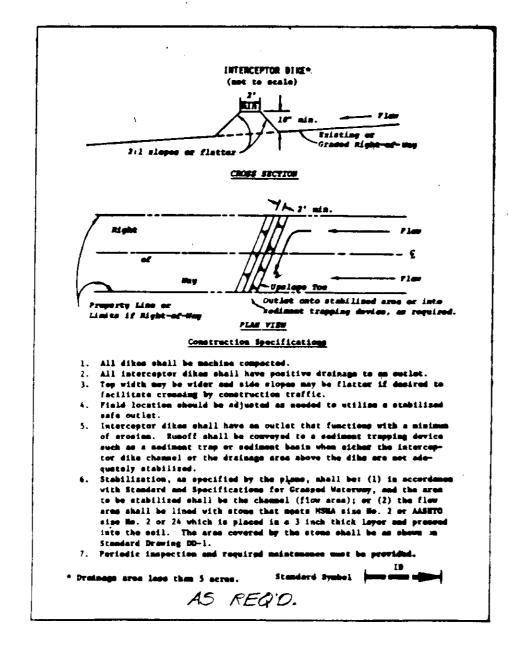












SEDIMENT CONTROL CONSTRUCTION NOTES

GENERAL NOTES

- 1. A MINIMUM 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF INSPECTION AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (922-245G)
- 2. ALL SEDIMENT CONTROL STRUCTURES WILL BE INSTALLED IN ACCORDANCE WITH "THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS" AS PREPARED BY THE U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE.
- 3. SITE GRADINGS WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
- 4. ALL DISTURBED AREAS ARE TO BE DRESSED AND STABLIZED ACCORDING TO THE TEMPORARY OR PERMANENT SEEDING SCHEDULES AS SCON AS PROPER WEATHER CONDITIONS EXIST FOR THE ESTABLISHMENT OF A PERMANENT VEGETATIVE COVER.
- 5. SEDIMENT WILL BE REMOVED FROM TRAP WHEN THE DEP'TH REACHES THE CLEAN OUT ELEVATION SHOWN ON THE PLANS.
- 6. FERTILIZER AND LIME RATES MAY BE CHANGED THROUGH AUTHORIZATION BY THE HOWARD SOIL CONSERVATION DISTRICT IF SOIL TESTS DETERMINE A REDUCTION IN THE SPECIFIED RATES IS JUSTIFIED.
- 7. 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 HOMARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 8. REFERENCES CALLED FOR ON THE SEDIMENT CONTROL CONSTRUCTION PLAN AND DETAILS ARE MADE TO "THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS".

TEMPORARY SEEDING

AREA TO BE SEEDED SHALL BE RECENTLY LOOSENED. IF THE GROUND IS PACKED, CRUSTED OR HARD, THE TOP LAYER OF SOIL SHALL BE LOOSENED BY DISCING, RACKING OR OTHER ACCEPTABLE MEANS.

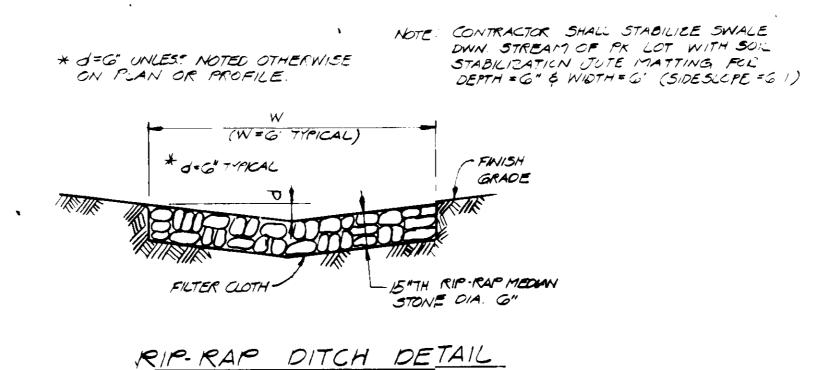
- 1. APPLY 10-20-10 FERTILIZER (OR EQUIVALENT) AT THE PATE OF 600 LBS. PER ACRE OR 15 LBS. PER 1000 SQ. FT.
- 2. WHERE SOIL IS KNOWN TO BE HIGHLY ACID, APPLY DOLOMITIC LIMESTONE AT THE RATE OF 1 TON PER ACRE.
- 3. WORK BOTH INTO SOIL AND SEED WITH CYCLONE SEEDER, DRILL, CULTIPAKER SEEDER OR HYDROSEEDER (SLURRY WILL INCLUDE SEED AND FERTILIZER) AT THE RATE OF 40 LBS. PER ACRE OF ITALIAN OR PERENNIAL RYEGRASS.
- 4. MULCH WITH UNMEATHERED SMALL GRAIN STRAW AT THE RATE OF 14 TO 2 TONS. PER ACRE AND ANCHOR WITH A CUTBACK ASPHALT OR BAULSIFIED ASPHALT AT THE RATE OF 5 GAL. PER 1000 SQ. FT.

PERMANENT SEEDING

FINAL STABLIZATION WILL TAKE PLACE AS SOON AS POSSIBLE AS WEATHER CONDITIONS PERMIT, AS FOLLOWS:

- 1. APPLY DOLOMITIC LIMESTONE AT THE RATE OF 2 TONS, PER ACRE (ONE TON, PER ACRE IF APPLICATION OF TON, PER ACRE WAS MADE FOR TEMPORARY SEEDING).
- 2. APPLY 0-20-20 FERTILIZER AT THE RATE OF 600 LBS. PER ACRE. HARROW OR DISC LIME AND 0-20-20 FERTILIZER INTO THE SOIL TO A MINIMUM DEPTH OF 3 LAWNS OR HIGH MAINTENANCE AREAS WILL BE DRAGGED AND LEVELED WITH A YORK RAKE. AT THE TIME OF SEEDING APPLY 400 POUNDS OF 38-0-0 UREAFORM FERTILIZER AND 500 LBS. OF 10-20-20 OR EQUIVALENT FERTILIZER PER ACRE.
- 3. SEED WITH A MIXTURE OF CERTIFIED "MERION" KENTUCKY BLUEGRASS @ 40 LBS. PER ACRE: COMMON KENTUCKY BLUEGRASS @ 40 LBS. PER ACRE: RED FESCUE, PENNLAWN OR JAMESTOWN @ 20 LBS. PER ACRE.
- 4. MULCH WITH UNWEATHERED SMALL GRAIN STRAW AT THE RATE OF 11 TO 2 TONS. PER ACRE AND ANCHOR WITH A CUTBACK ASPHALT (IR EMULSIFIED ASPHALT AT THE RATE OF 5 GAL. PER 1000 SQ. FT.
- 5. SEED ALL SLOPES WITH A MIXTURE OF CERTIFIED KENTUCKY 31 TALL FESCUE @ 50 LBS. PER ACRE AND INOCULATED KOREAN LESPEDEZA @ 15 LBS. PER ACRE.

NO SCALE



These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements for small pand construction, soil erosion and sediment control.

Scil Conservation

These plans for small pand construction, sail erasion and sediment control meet the requirements of the Howard Soil Conservation District.

Howard Soil Conservation District

SEQUENCE OF CONSTRUCTION

2. INSTALL STABILIZED CONSTRUCTION ENTRANCE.

5. INSTALL ALL PERIMETER DIKES AND SILT FENCE

3. CLEAR AND GRADE FOR SWM POND ONLY.

1. OBTAIN GRADING PERMIT.

AS SHOWN ON THE PLANS.

By the Engineer:

completion.

By the Developer:

"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

"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 Erosian be-

District with an "as-built" plan of the

fore beginning the project. I will provide the Howard Soil Conservation

pond within 30 days of completion.

Charles R. Crocken, P.E.

124-85 Date

6. PERFORM CLEARING AND ROUGH GRADING OPERATION SEED PER TEMPORARY SEEDING NOTES AS REQUIRED. 7. CONSTRUCT PROPOSED BUILDING, PAVE SITE, PLACE

CONSTRUCT STORM WATER MANAGEMENT POND WITH

TEMPORARY STONE FILTER FOR SEDIMENT CONTROL.

LANDSCAPING AND SEED REMAINING AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES AS REQUIRED.

- 8. WHEN ENTIRE SITE IS STABILIZED REMOVE ALL TEMPORARY SEDIMENT CONTROL MEASURES INCLUDING TEMPORARY STONE FILTER IN SWM POND.
- 9. SWM POND SHALL BE CLEANED OF ALL SILT AND RESTORED TO LINES AND GRADES SHOWN ON PLAN IN ACCORDANCE WITH POND NOTES.
 - NOTE: NO STORM DRAINS (EXCEPT FOR POND) SHALL BE INSTALLED UNDER THIS PERMIT. ALL SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED UNTILL SUCH TIME AS ALL GRADING HAS BEEN COMPLETED.

APPROVED

DIVISION OF LAND DEVELOPMENT &

ZONING ADMINISTRATION

HOWARD COUNTY MARY AND

DATE _11-26-85

APPROVED: FOR PUBLIC WATER. AND STORM DRAINAGE SYSTEMS AND ROADS IOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

hief, Bureau of Engine

APPROVED: FOR PUBLIC WATER AND PRIVATE SEWERAGE SYSTEMS

HOWARD COUNTY HEALTH DEPARTMENT

County (Health Office) 1-14-86

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING

- Marine Marine Plannin_e Director Date Division of Land Development

and Zoning Administration

1 Revised Per. Co. Comments Dated 5/7/84 DATE REVISION DESCRIPTION OWNER: C. RICHARD LEHNERT

7655 PULASKI HIGHWAY BALTIMORE MD 21237 DEVELOPER: C. RICHARD LEHNERT E. LEHNERT & SONS CONTRACT 7655 PULASKI HIGHWAY PURCHASER BALTIMORE, MD. 21237

E. LEHNERT & SONS.

SITE DEVELOPMENT PLAN E. LEHUERT & SONS

AREA: ANNAPOLIS JUNCTION GTH. ELECTION DISTRICT

HOWARD COUNTY, MD.

SEDIMENT CONTROL DETAILS

CHARLES R. CROCKEN

AND ASSOCIATES INC. CIVIL ENGINEERING AND LAND PLANNING 3007 MARK AVENUE ELLICOTT CITY MD. 21043 465-8666



CRC DESIGNED BY: CRC DRAWN BY: PROJECT NO: MARCH, 1984 DATE:

PROFESSIONAL ENGR. NO.

DRAWING NO 4 OF 4

SCALE: AS SHOWN

TAX MAP 47

PARCEL 108