

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

Reviewed for Howard Soil Conservation District and meets technical requirements.

Approved: *Robert W. Zielinski* 10-18-84  
 Howard Soil Conservation District Date

*James M. Schmitt* 10-17-84  
 Soil Conservation Dist. Date

**FURDUM & JESCHKE**  
 CONSULTING ENGINEERS  
 LAND SURVEYORS  
 1023 North Calvert Street  
 Baltimore, Maryland 21202 301/837-0184

Approved: Howard County Department of Public Works  
*James M. Schmitt* 10/23/84  
 Chief, Bureau of Engineering Date

Approved: Howard County Office of Planning and Zoning  
*James M. Schmitt* 10-18-84  
 Chief, Div. of Land Development and Zoning Admin. Date

**DEVELOPER'S CERTIFICATION**  
 I certify that all development and construction will be done according to this plan any responsible personnel involved in the construction project will have a certificate of attendance at the Dept. of Natural Resources approved training program for the control of any sediment erosion before beginning the project.  
*James M. Schmitt* 6/17/84

**ENGINEERS CERTIFICATION**  
 I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.  
*William G. Rasch II* 6/19/84  
 William G. Rasch II Date

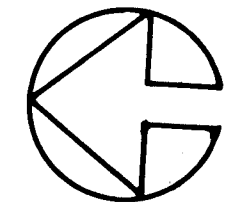


ROADS & STORM DRAIN  
 PLANS & PROFILES  
 TREE PLANTING PLAN  
**PATAPSCO PARK ESTATES**  
 SECTION 3, AREA 2  
 FIRST ELECT. DIST. HOWARD CO. MARYLAND  
 TAX MAP 17 PARCEL 38  
 DATE: 3-23-84 SCALE: AS NOTED

SHEET 1 OF 6  
 DES: A.R.T.  
 DRW: S.E.T.  
 CHK: W.G.R.

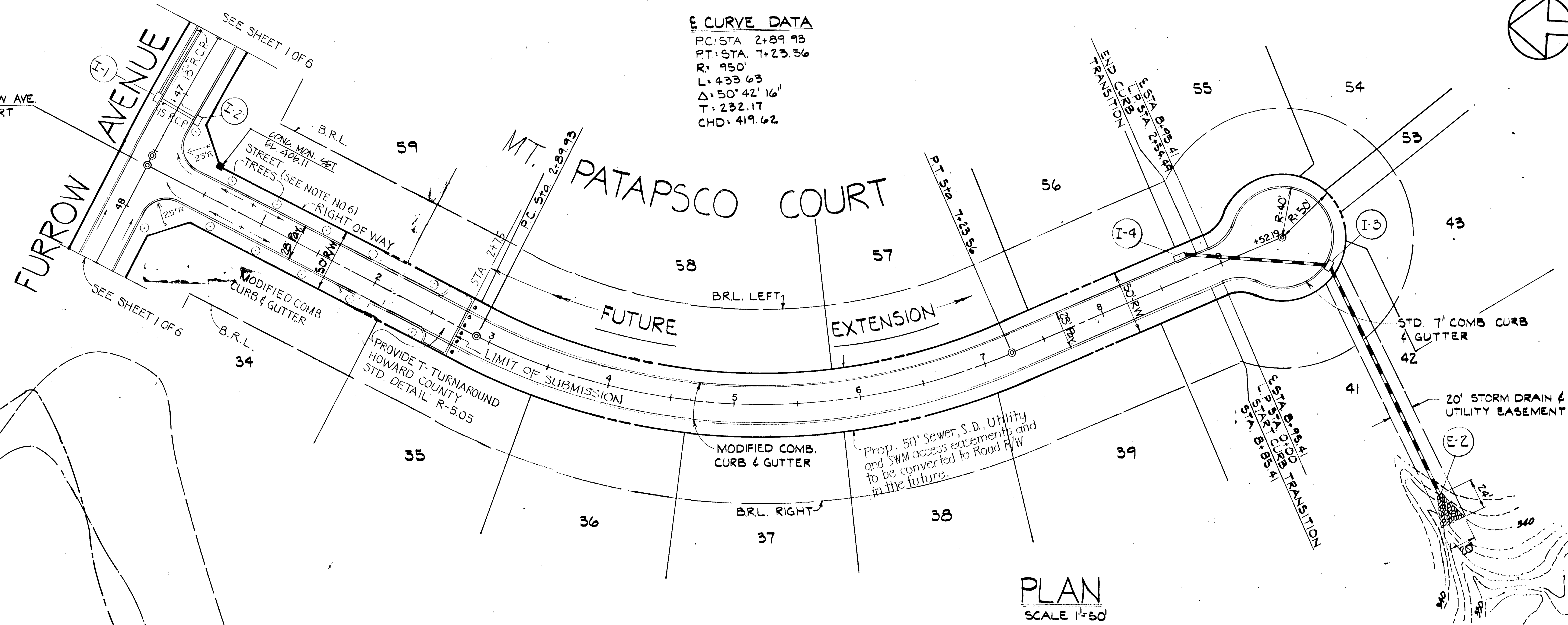


E849250  
N537250



**E CURVE DATA**  
 PC: STA 2+89.93  
 PT: STA 7+23.56  
 R: 950'  
 L: 433.63  
 Δ: 50°42'16"  
 T: 232.17  
 CHD: 419.62

Sta 47+63.23 FURROW AVE.  
 Sta 0+00 PATAPSCO COURT

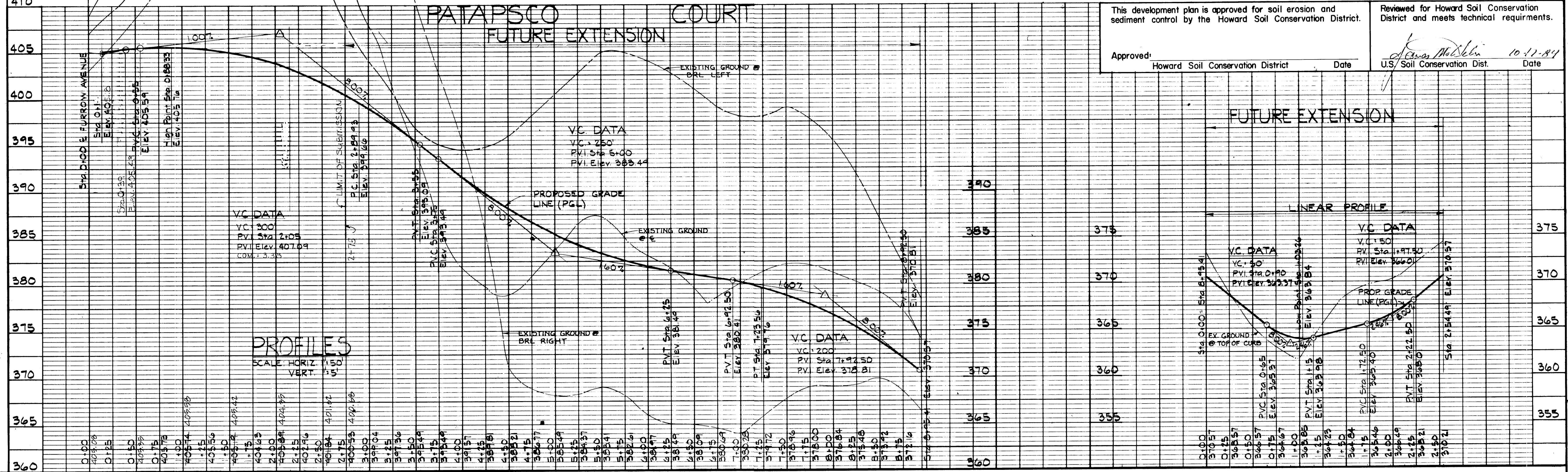


**PLAN**  
 SCALE 1"=50'

430  
425  
420  
415  
410  
405  
400  
395  
390  
385  
380  
375  
370  
365  
360

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District. Reviewed for Howard Soil Conservation District and meets technical requirements.

Approved: Howard Soil Conservation District Date: 10-11-84  
 U.S. Soil Conservation Dist. Date: 10-11-84



**PROFILES**  
 SCALE: HORIZ. 1"=50'  
 VERT. 1"=5'

**FUTURE EXTENSION**

**LINEAR PROFILE**

**PURDUM & JESCHKE**  
**CONSULTING ENGINEERS**  
**LAND SURVEYORS**  
 1023 North Calvert Street  
 Baltimore, Maryland 21202 301/837-0184

Approved: Howard County Department of Public Works  
 Chief, Bureau of Engineering Date: 10/11/84

Approved: Howard County Office of Planning and Zoning  
 Chief Div. of Land Development and Zoning Admin. Date: 10-11-84

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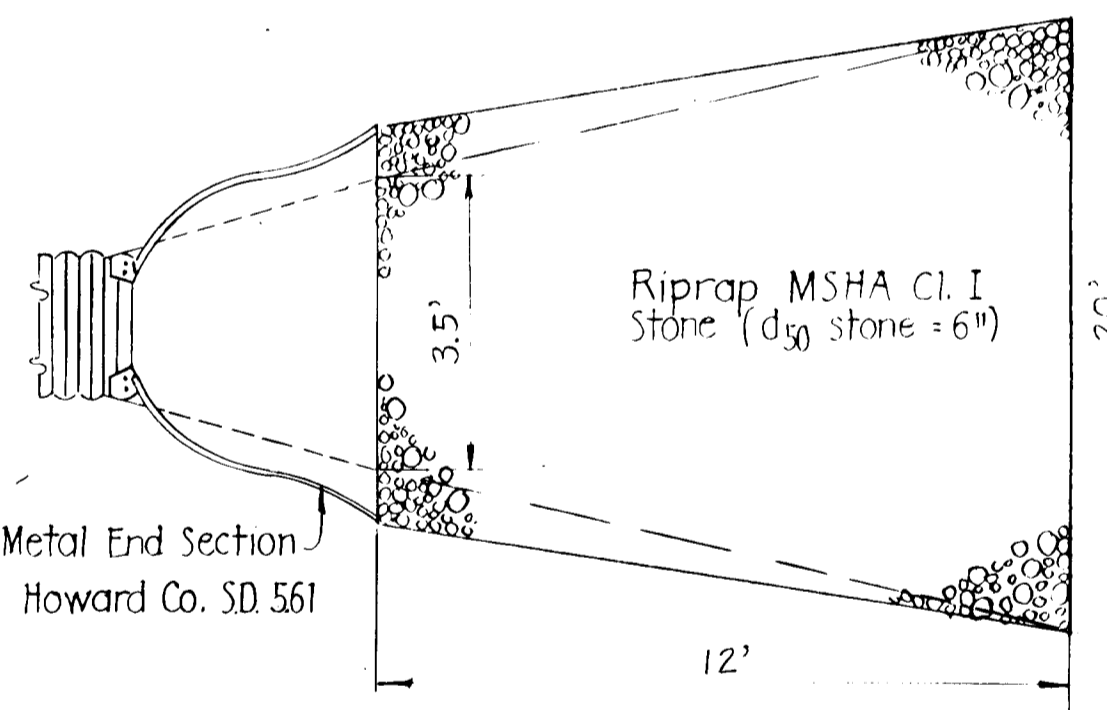
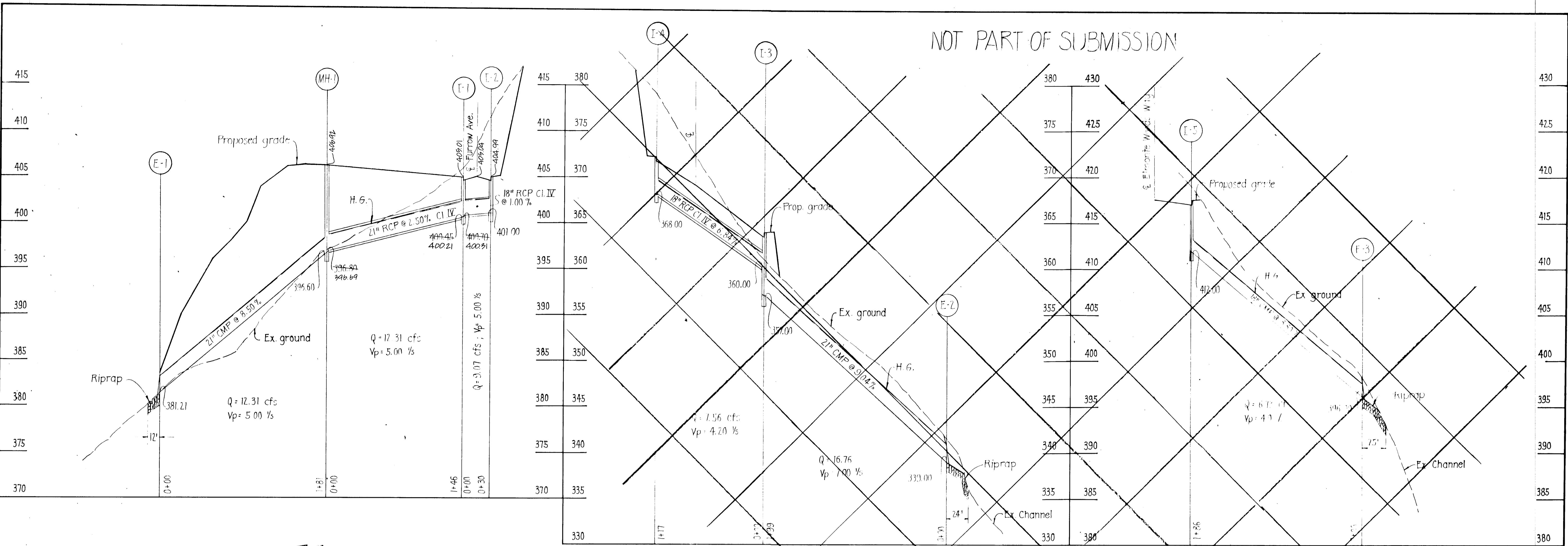
**ROADS & STORM DRAIN PLANS & PROFILES**  
**PATAPSCO PARK ESTATES**  
**SECTION 3, AREA 2**  
 FIRST ELECT. DIST. HOWARD CO. MARYLAND  
 TAX MAP 17 PARCEL 38  
 DATE: 3-23-84 SCALE: AS NOTED

SHEET 2 OF 6  
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 DRW: S.E.T.  
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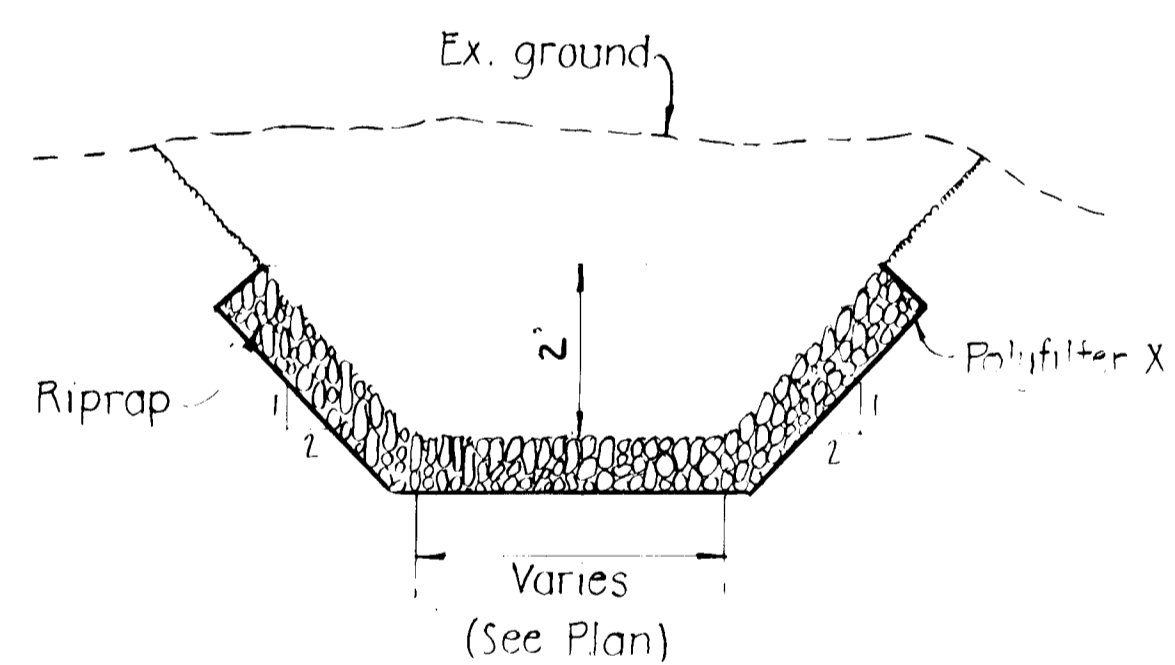
F-84-210



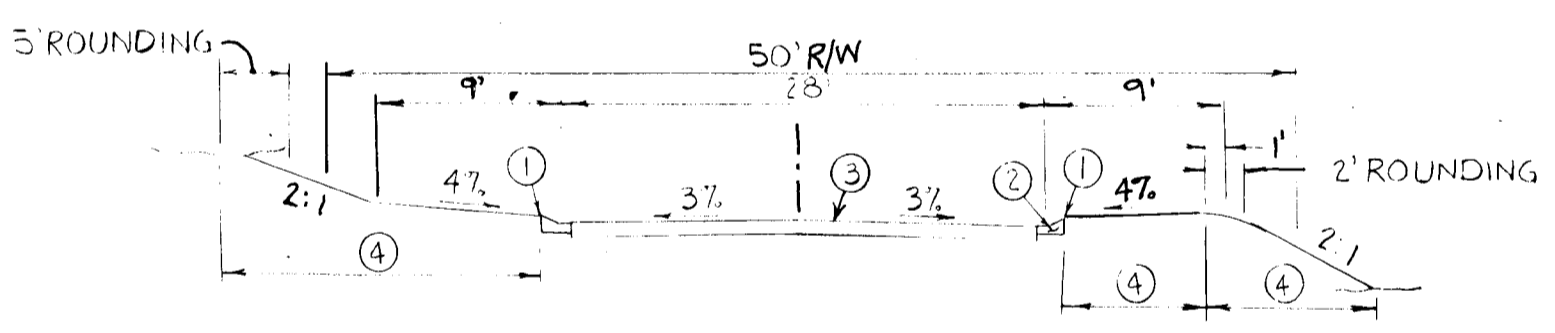
NOT PART OF SUBMISSION



RIPRAP OUTLET PROTECTION DETAIL  
NOT TO SCALE

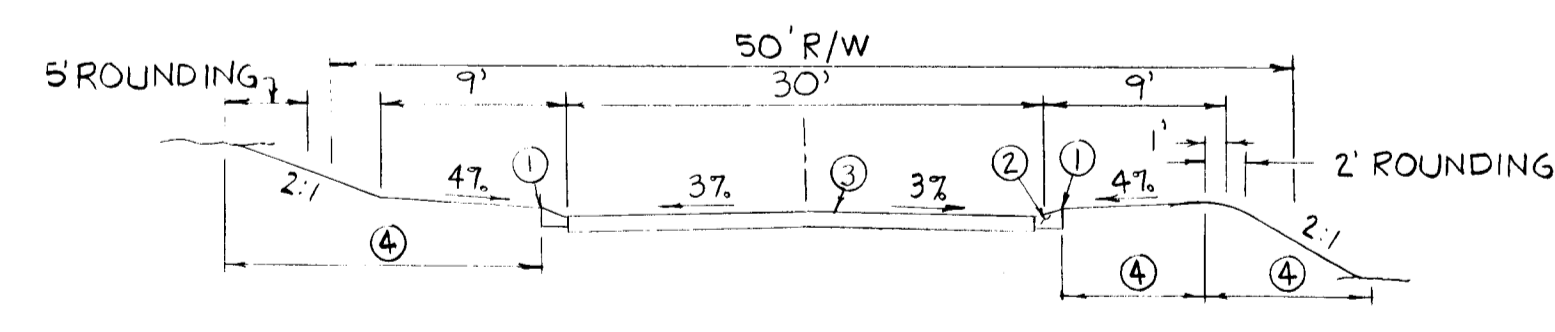


STRUCTURE SCHEDULE						
No.	Type	Inv. In	Inv. Out	Top Elev.	Std. No.	± Road Sta.
I-1	A-5	400.70	400.45	404.92	S.D. -4.01	Sta 47+14.58-R
I-2	A-10	-	401.00	404.92	S.D. -4.02	Sta 47+14.58-L
MH-1	4" Brick Manhole	396.60	396.60	406.29	G-5.01	Sta. 45+68.50-R
E-1	Metal End section	-	381.21	-	S.D.-5.61	SEE PLAN

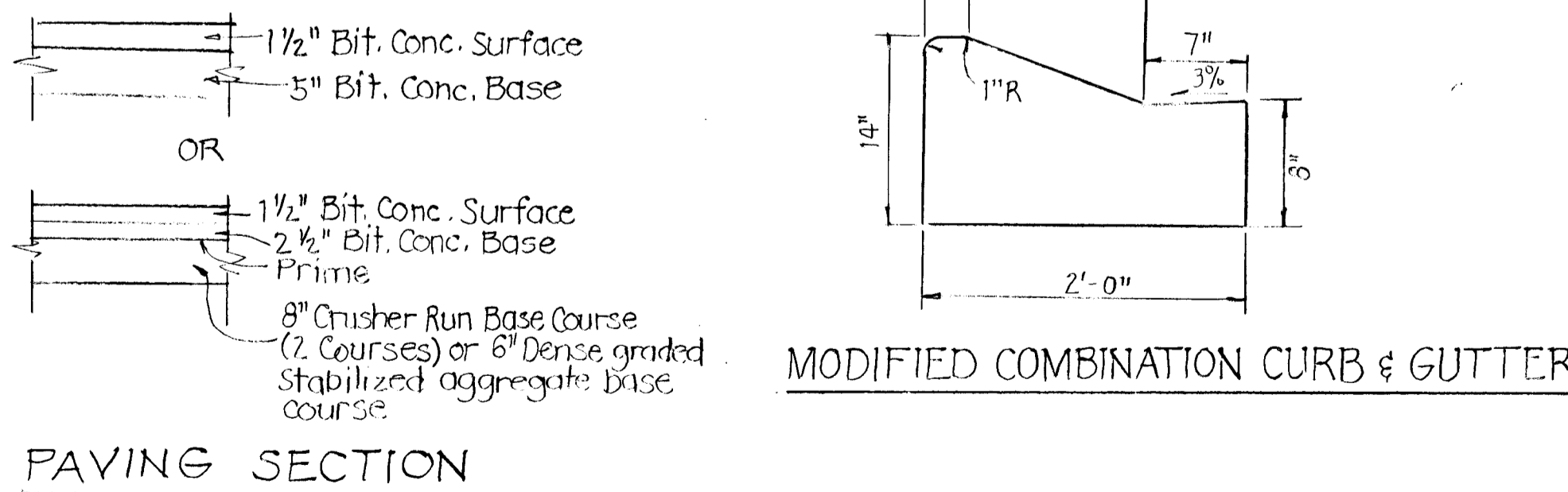


TYPICAL SECTION  
FURROW AVENUE STA 47+63.23 TO STA 49+77.00  
MT. PATAPSCO COURT STA. 0+00 TO STA. 2+15

- ROAD TYPICAL KEY
1. PROFILE GRADE LINE (PGL)
  2. MODIFIED CONCRETE CURB & GUTTER (R-301)
  3. HOWARD COUNTY STANDARD PAVING SECTION P2 (R-201)
  4. PLACE 2" TOPSOIL SEED & MULCH (R-305)
  5. HOWARD COUNTY STANDARD PAVING SECTION P3 (R-201)



TYPICAL SECTION  
FURROW AVENUE STA. 39+01.16 TO STA. 47+63.23



PAVING SECTION

MODIFIED COMBINATION CURB & GUTTER

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

Approved: *Robert W. Ziehm* 10-18-84  
Signature Date

Reviewed for Howard Soil Conservation District and meets technical requirements.

*James Mitchell* 10-17-84  
U.S. Soil Conservation Dist. Date

**PURDUM & JESCHKE**  
CONSULTING ENGINEERS  
LAND SURVEYORS  
1023 North Calvert Street  
Baltimore, Maryland 21202 301/837-0194

Approved: Howard County Department of Public Works

*William G. Rasch II* 10/18/84  
Chief, Bureau of Engineering Date

Approved: Howard County Office of Planning and Zoning

*William G. Rasch II* 10/18/84  
Chief Div. of Land Development and Zoning Admin. Date

DEVELOPER'S CERTIFICATION

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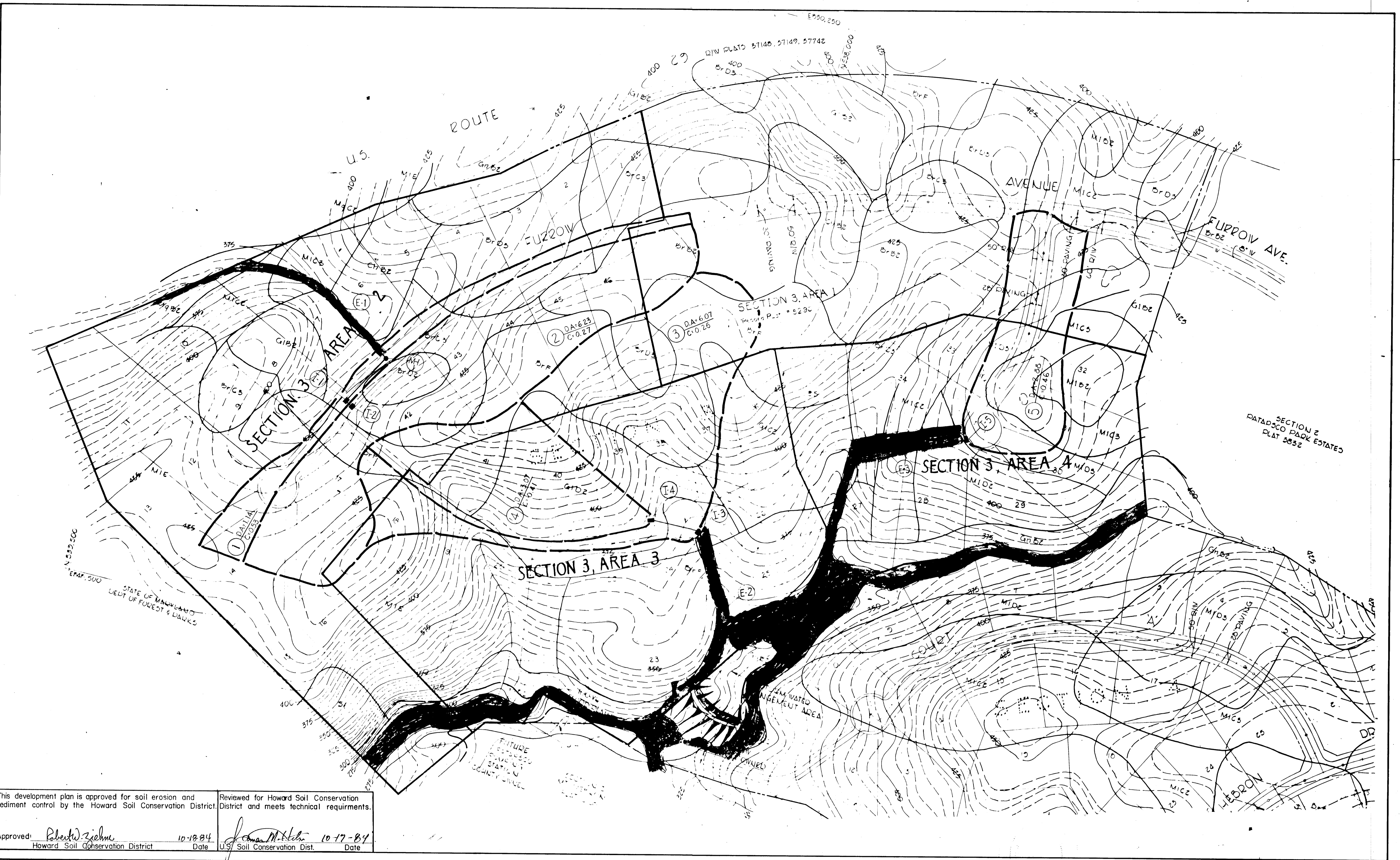
*William G. Rasch II* 10/18/84  
Date

PROFILE & DETAILS

**PATAPSCO PARK ESTATES**  
SECTION 3, AREA 2  
FIRST ELECT. DIST. HOWARD CO. MARYLAND  
TAX MAP 17 PARCEL 38  
DATE: 3-23-84 SCALE: AS NOTED

SHEET 3 OF 6

DES: A.R.T.  
DRW: S.E.T.  
CHK: W.G.R.



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Howard Soil Conservation District Date

Approved: James M. Miller 10-17-84  
U.S. Soil Conservation Dist. Date

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Approved: Howard County Department of Public Works

Approved: Chief, Bureau of Engineering 10/18/84  
Date

Approved: Howard County Office of Planning and Zoning

Approved: Chief Div. of Land Development and Zoning Admin. 10-18-84  
Date

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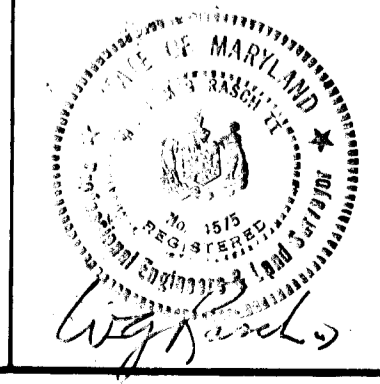
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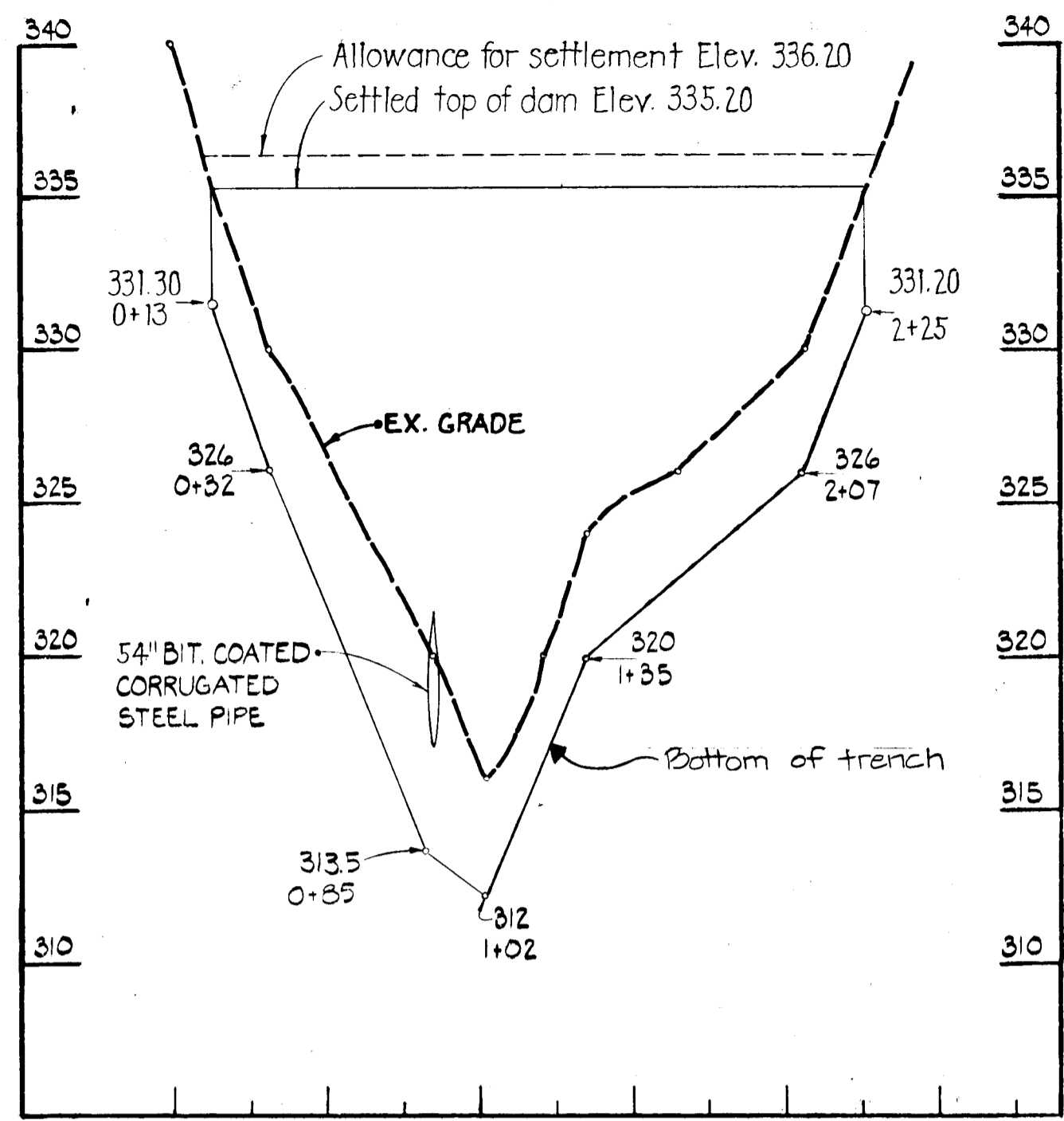
STORM DRAINAGE AREA MAP  
**PATAPSCO PARK ESTATES**  
SECTION 3, AREA 2

FIRST ELECT. DIST. HOWARD CO. MARYLAND  
TAX MAP 17 PARCEL 38  
DATE: 3-23-84 SCALE: AS NOTED

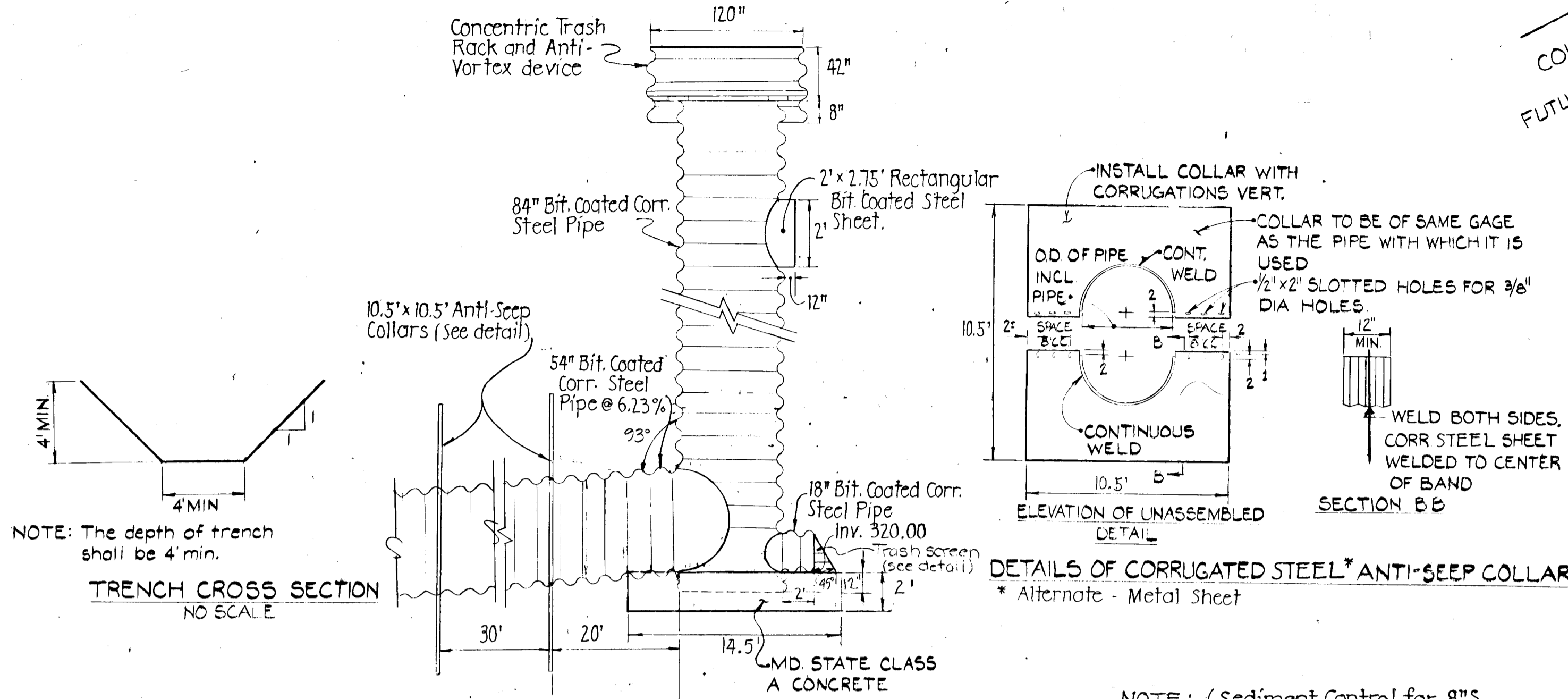
SHEET 4 OF 6

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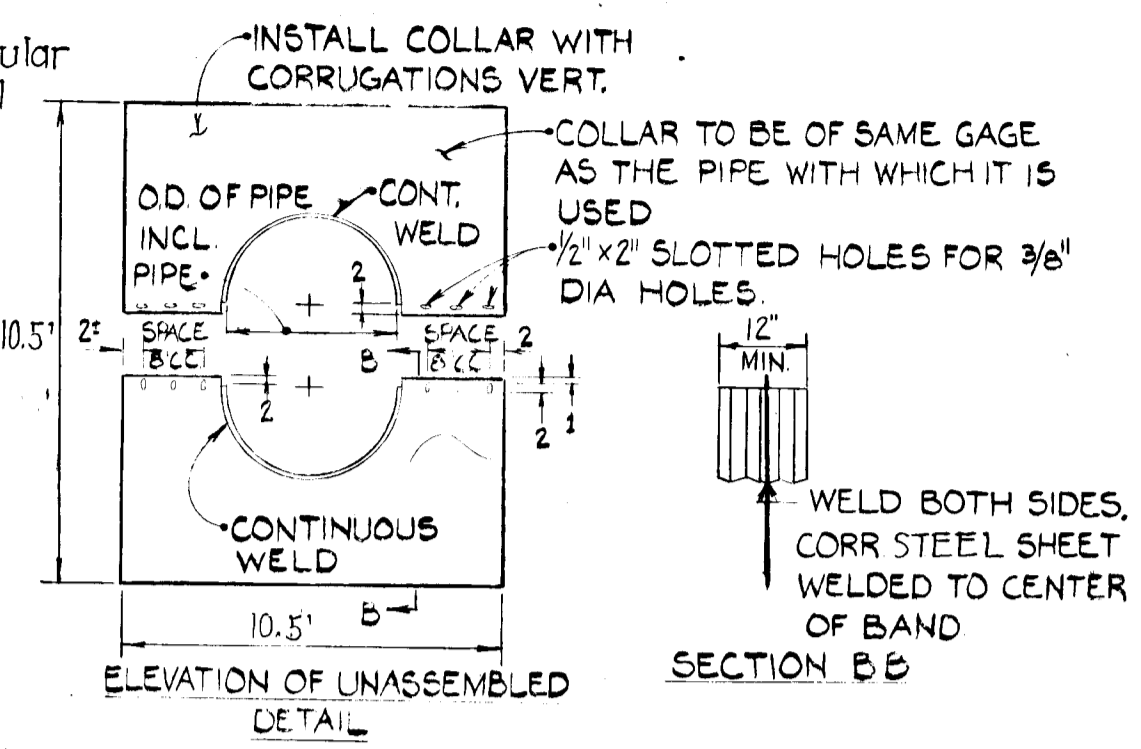




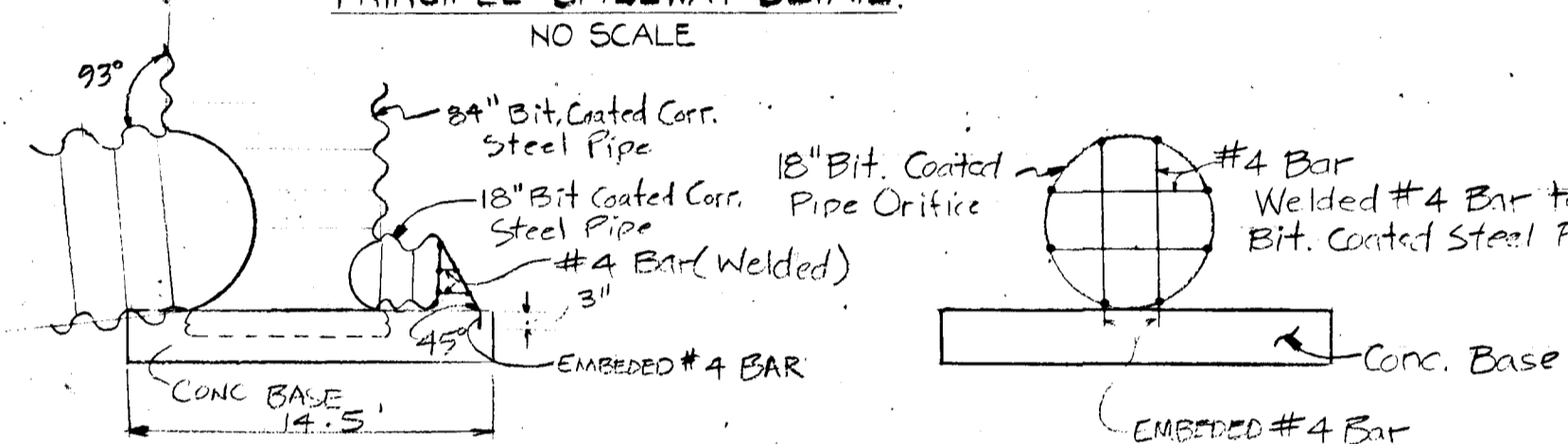
CUTOFF TRENCH PROFILE  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'



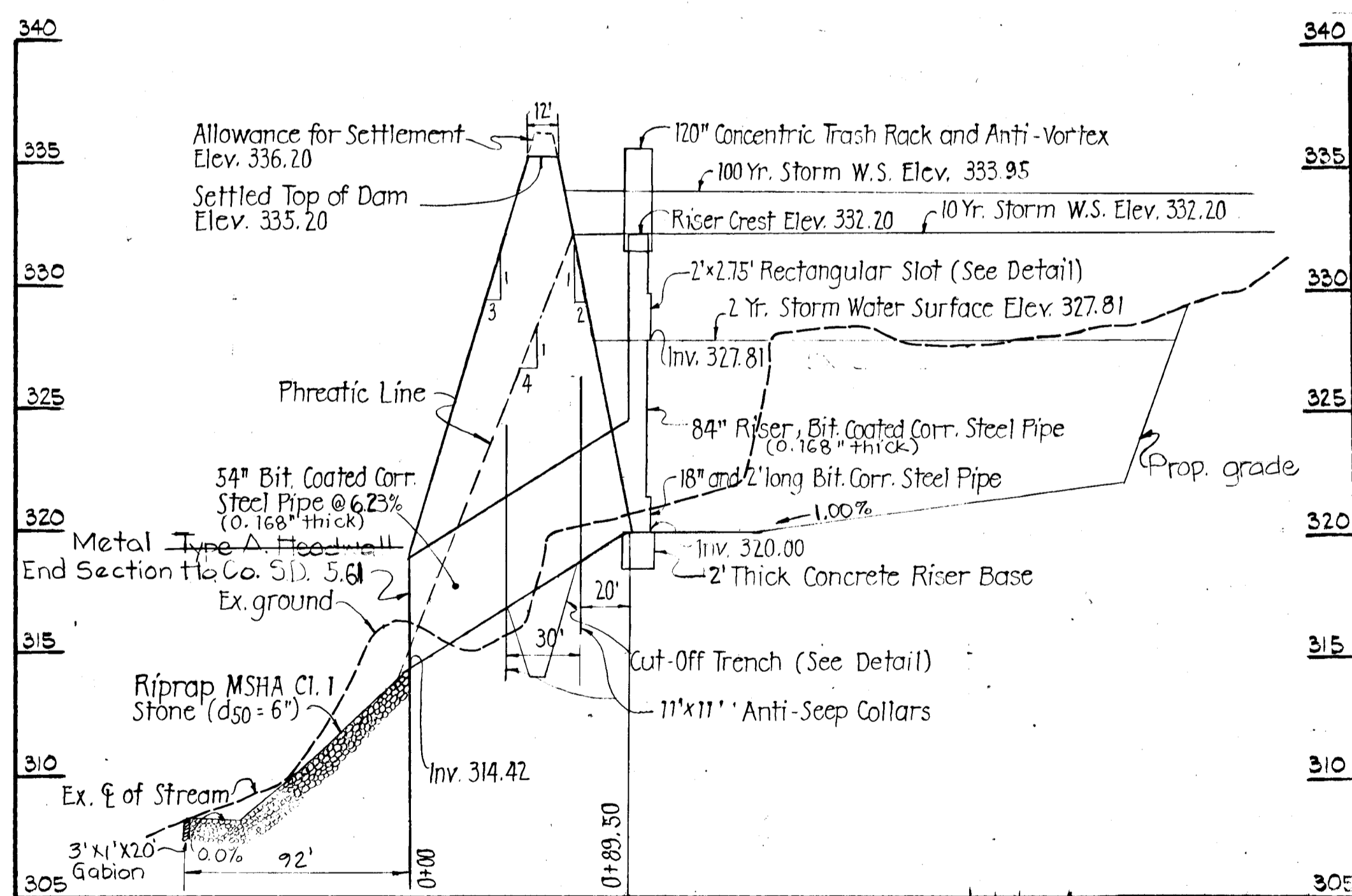
PRINCIPLE SPILLWAY DETAIL  
NO SCALE



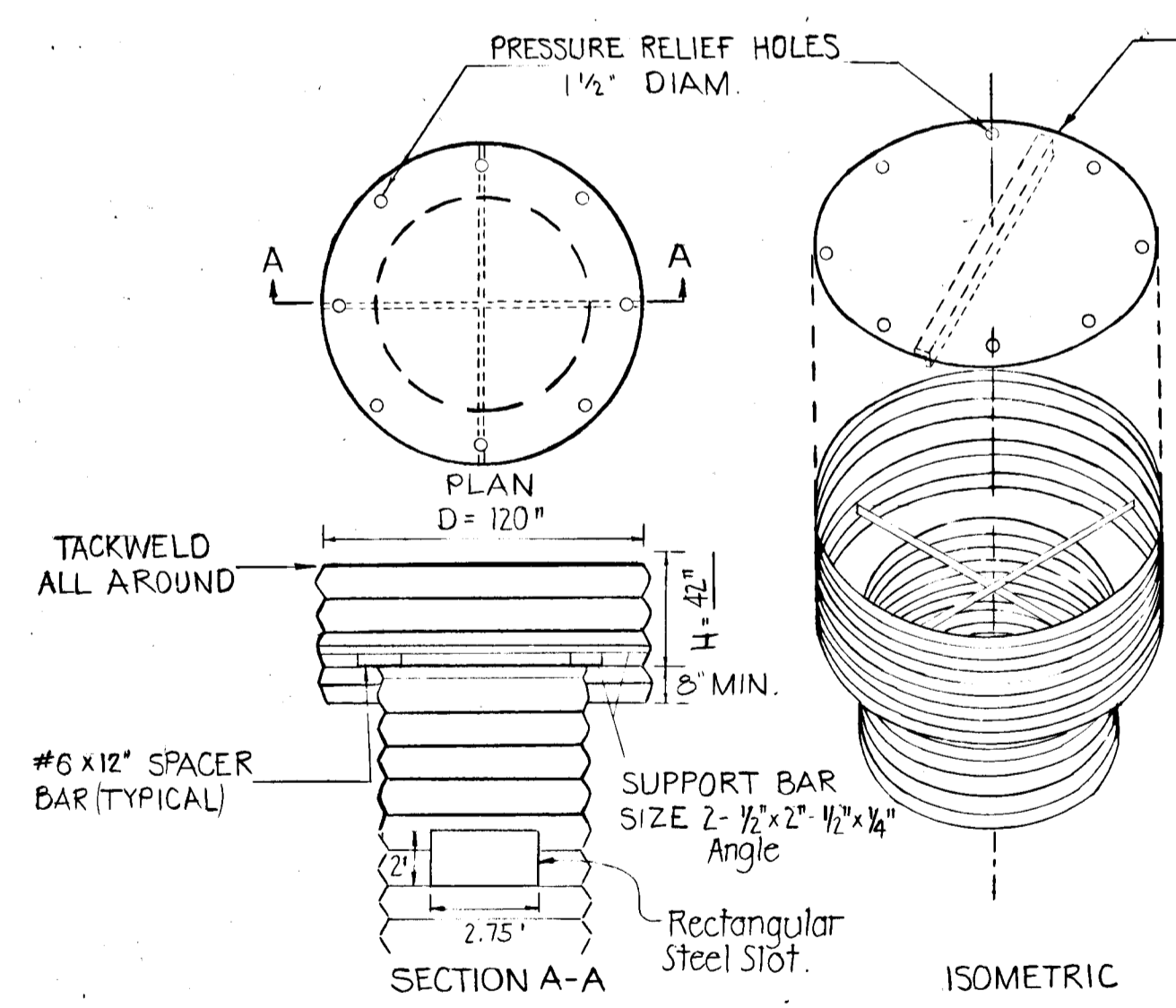
DETAILS OF CORRUGATED STEEL ANTI-SEEP COLLAR  
\* Alternate - Metal Sheet



TRASH SCREEN DETAIL  
N.T.S.

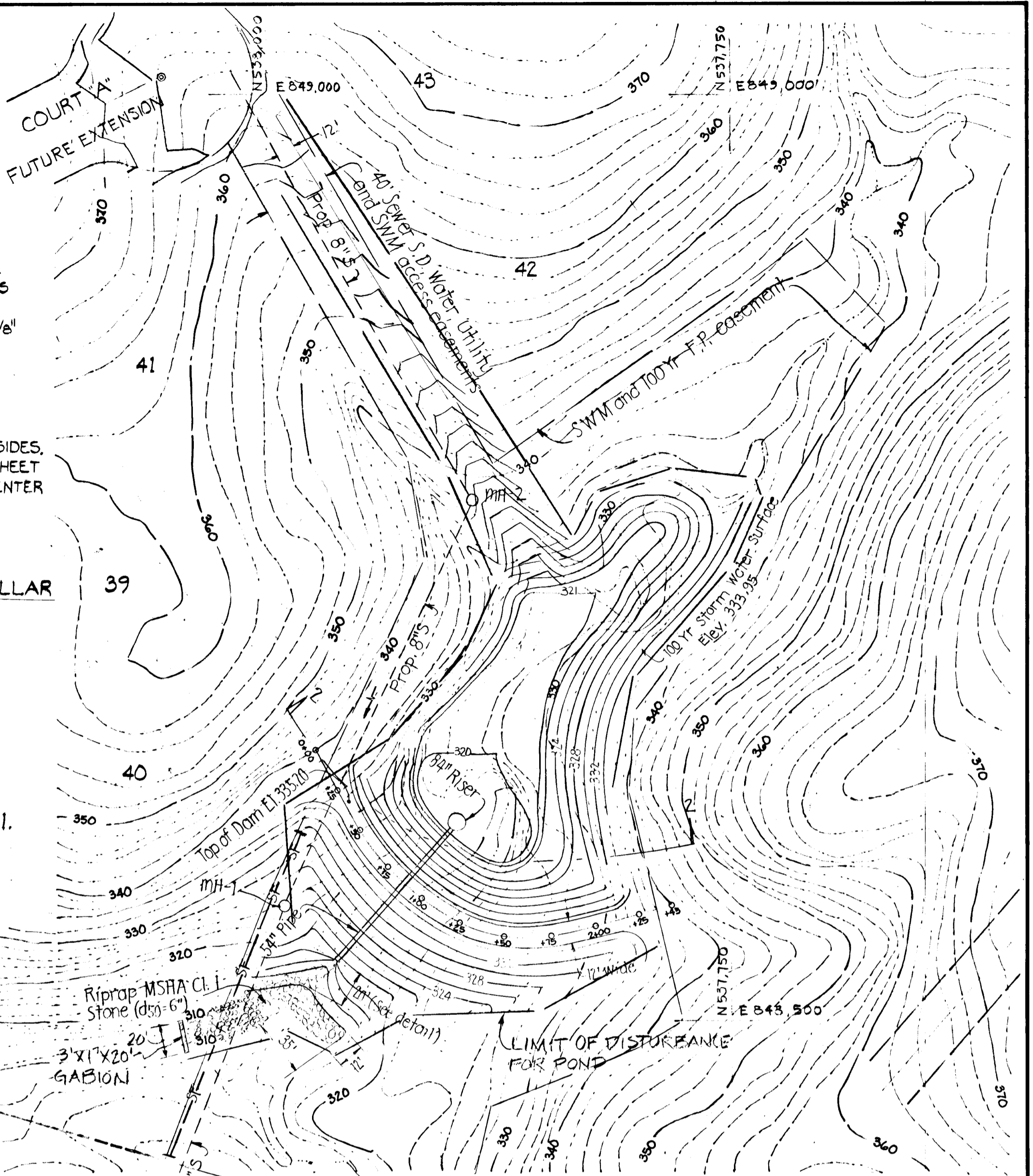


DAM PROFILE  
SCALE: 1" = 50'

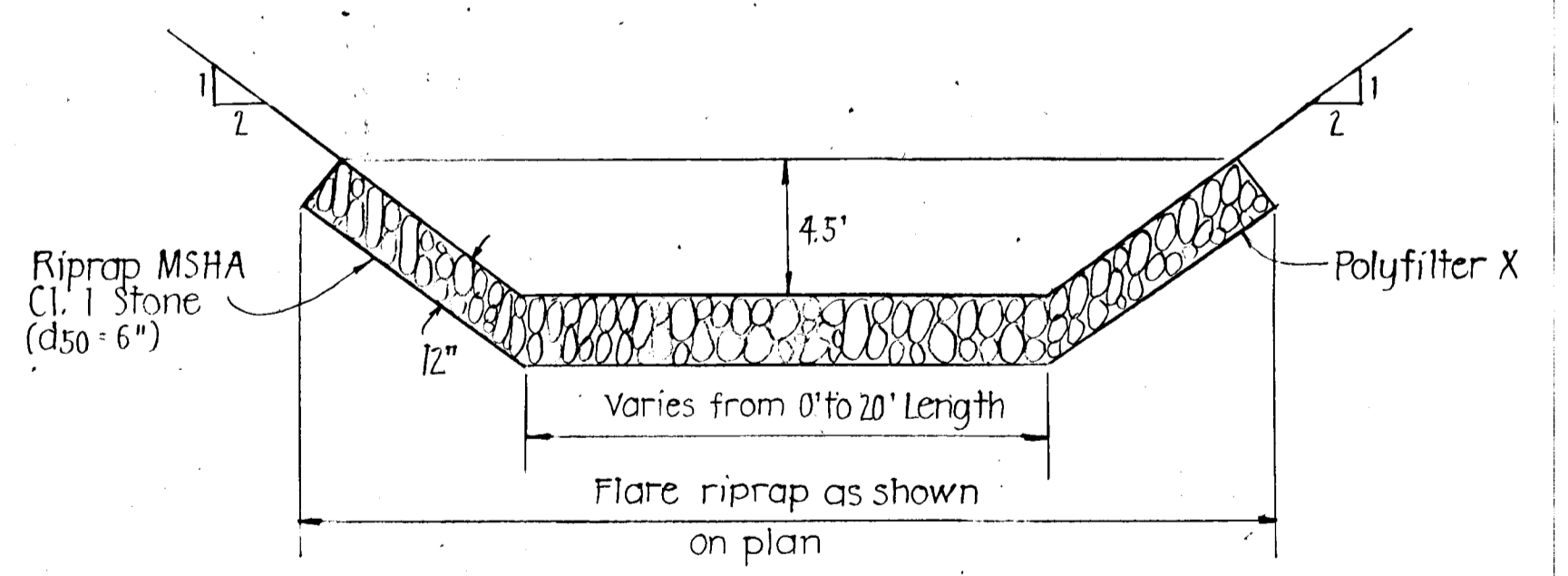


CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE  
NO SCALE

TOP STIFFENER: 2-1/2" x 2" - 1/2" x 3/16" ANGLE WELDED TO TOP AND ORIENTED PERPENDICULAR TO CORRUGATIONS.  
TOP IS 8-GAGE CORRUGATED METAL OR 1/8" STEEL PLATE. PRESSURE RELIEF HOLES MAY BE OMITTED IF ENDS OF CORRUGATIONS ARE LEFT FULLY OPEN WHEN CORRUGATED TOP IS WELDED TO CYLINDER.  
CYLINDER IS 10-GAGE CORRUGATED METAL PIPE OR FABRICATED FROM 1/8" STEEL PLATE.  
NOTES:  
1) THE CYLINDER MUST BE FIRMLY FASTENED TO THE TOP OF THE RISER.  
2) SUPPORT BARS ARE WELDED TO THE TOP OF THE RISER OR ATTACHED BY STRAPS BOLTED TO TOP OF RISER



PLAN  
1" = 50'



RIPRAP OUTLET PROTECTION  
NO SCALE

This development plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.  
Approved: \_\_\_\_\_  
Signature Date

These plans have been reviewed for Howard Soil Conservation District and meet technical requirements for small pond construction, soil erosion and sediment control.  
Approved: *James M. Hahn* 10-17-84  
U.S. Soil Conservation Dist. Date

These plans for small pond construction, soil erosion and sediment control meet the requirements of the Howard Soil Conservation District.  
Approved: *Robert W. Zichew* 10-18-84  
Howard Soil Conservation District Date

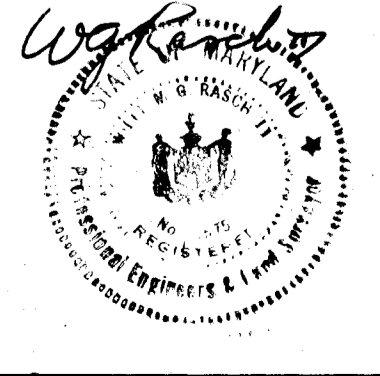
**PURDUM & JESCHKE**  
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1023 North Calvert Street  
Baltimore, Maryland 21202 301/837-0194

Approved: Howard County Department of Public Works  
Approved: *William G. Rasch II* 10-18-84  
Chief, Bureau of Engineering Date

Approved: Howard County Office of Planning and Zoning  
Approved: *Simon Rosenberg* 10-18-84  
Chief Div. of Land Development and Zoning Admin. Date

**DEVELOPER'S CERTIFICATION**  
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Approved: *Simon Rosenberg* 10-18-84  
DATE

**ENGINEERS CERTIFICATION**  
I certify that this plan for pond construction, erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the Developer that he must provide the Howard Soil Conservation District with an "as-built" plan of the pond within 30 days of completion.  
Approved: *William G. Rasch II* 6/18/84  
DATE



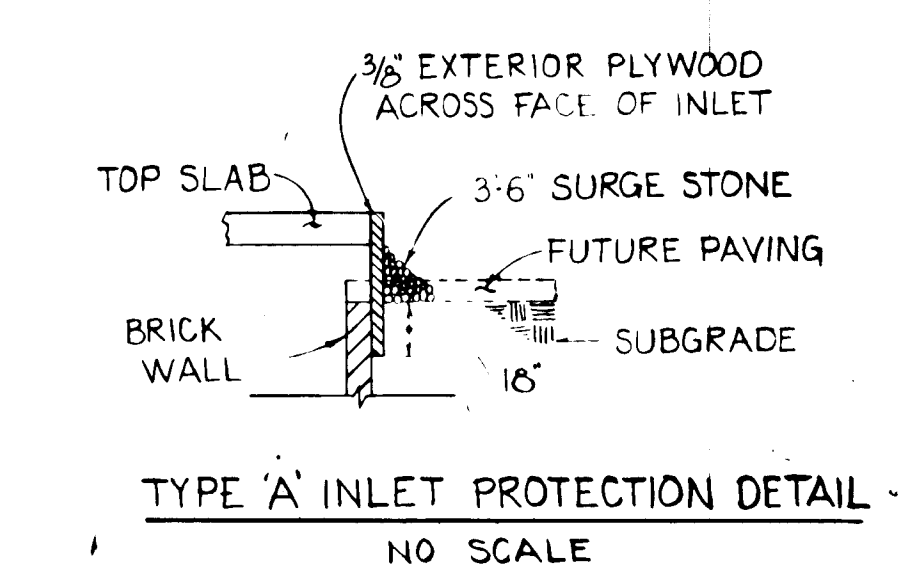
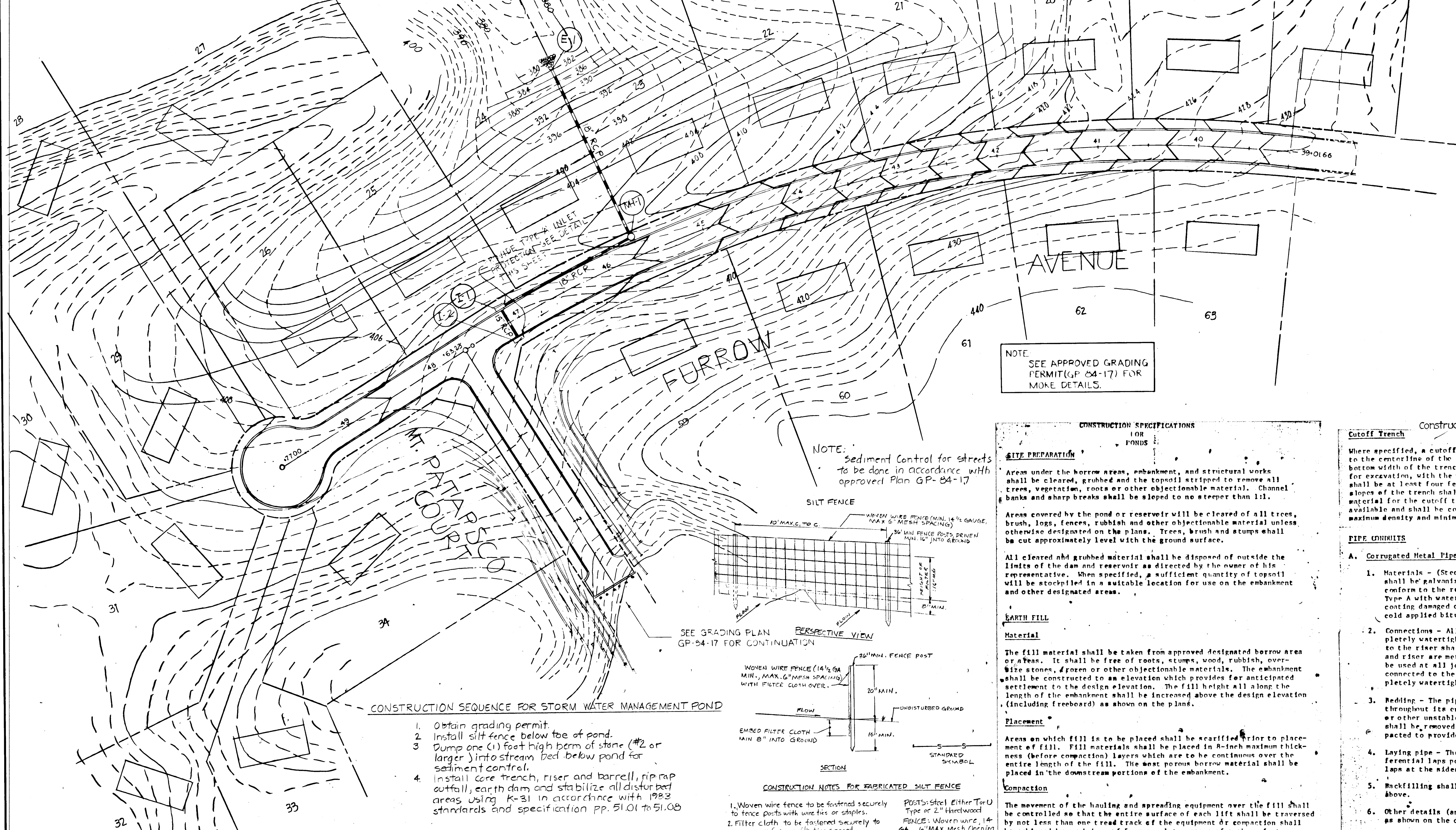
STORM WATER MANAGEMENT  
PLAN, & PROFILE & DETAILS  
**PATAPSCO PARK ESTATES**  
SECTION 3, AREA 2  
FIRST ELECT. DIST. HOWARD CO. MARYLAND  
TAX MAP 17 PARCEL 38  
DATE: 3-23-84 SCALE: AS NOTED

SHEET 5 OF 6  
DES: A.R.T.  
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NOTE:

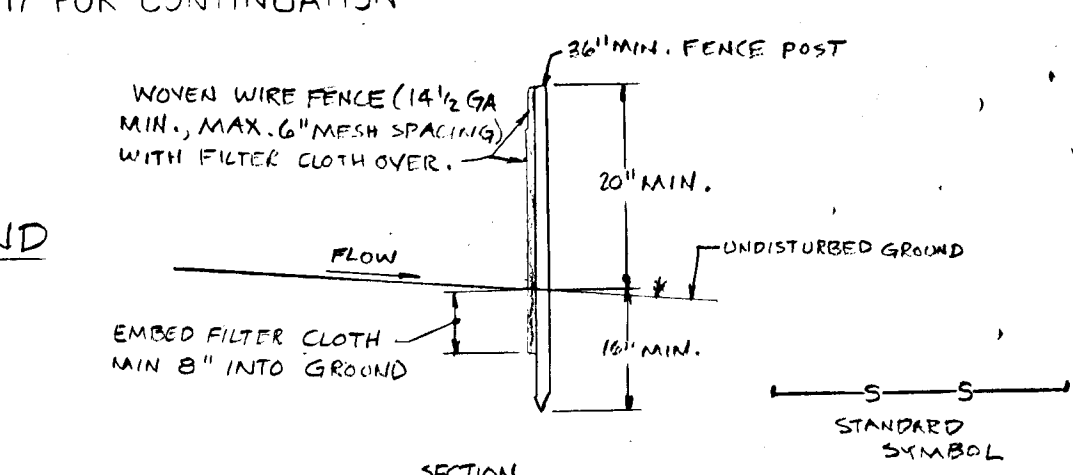
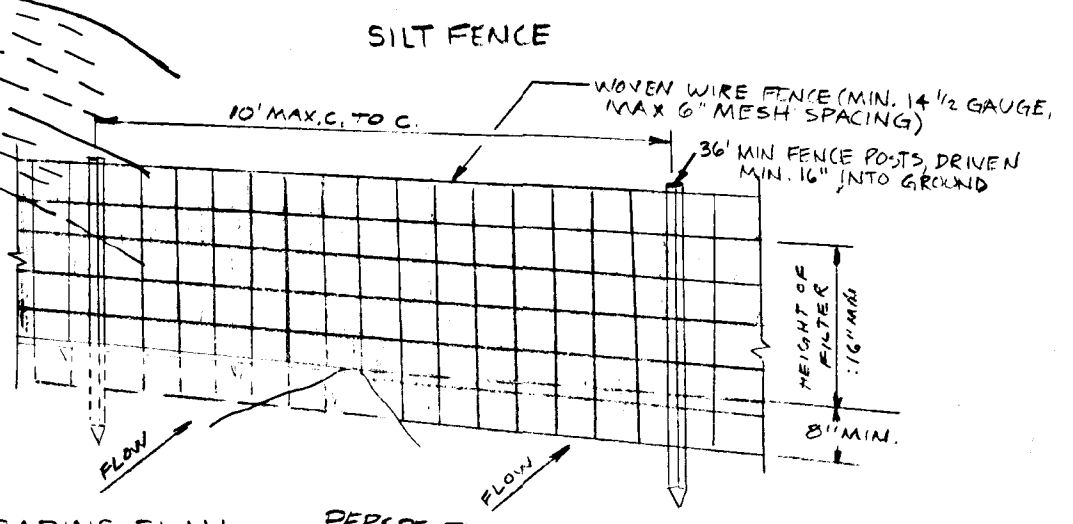
- Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: 1) 7 calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes and or slopes greater than 3:1 and 2) 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1 Chapter 12 of the Howard County Design Manual - Storm Drainage.



- CONSTRUCTION SEQUENCE
- OBTAIN GRADING PERMIT (APPROVED GP-84-17).
  - INSTALL SEDIMENT CONTROL DEVICES (EXISTING, SEE GP-84-17), SEE SHT. 5 OF 6 FOR SWM. NOTE.
  - GRADE ROADS TO SUBGRADE AND CONSTRUCT S.W.M.
  - INSTALL WATER, SEWER AND STORM DRAINS.
  - INSTALL TYPE 'A' PROTECTION AND REPAIR SEDIMENT CONTROL DEVICES AS REQUIRED.
  - SEED ALL DISTURBED AREAS OUTSIDE LIMITS OF STREETS AS GRADING IS COMPLETED.
  - INSTALL CURB AND GUTTER AND PAVED ROADWAY.
  - REMOVE TEMPORARY SEDIMENT CONTROL DEVICES UPON APPROVAL OF SEDIMENT CONTROL INSPECTOR AFTER AREAS ARE STABILIZED.
  - INSTALL STORM BASIN PIPE FROM MH-1 TO E-1, AFTER REMOVAL OF TEMPORARY SEDIMENT BASIN.

NOTE: SEE APPROVED GRADING PERMIT (GP-84-17) FOR MORE DETAILS.

NOTE: Sediment Control for streets to be done in accordance with approved Plan GP-84-17.



- CONSTRUCTION NOTES FOR FABRICATED SILT FENCE
- Woven wire fence to be fastened securely to fence posts with wire ties or staples.
  - Filter cloth to be fastened securely to woven wire fence, with ties spaced every 24\"/>
  - When two sections of filter cloth adjoin each other they shall be overlapped by 6\"/>
  - Maintenance shall be performed as needed and material removed when "logs" develop in the silt fence.
- POSTS: Steel, Either T-10 Type or 2\"/>

FENCE: Woven wire, 14 GA., 6\"/>

FILTER CLOTH: Filter X, Mirel 100X, Stabilika T140N or approved equal.

PREFABRICATED UNIT: Geotab, Envirofence, or approved equal.

CONSTRUCTION SEQUENCE FOR STORM WATER MANAGEMENT POND

- Obtain grading permit.
- Install silt fence below toe of pond.
- Dump one (1) foot high berm of stone (#2 or larger) into stream bed below pond for sediment control.
- Install core trench, riser and barrel, rip rap cutoff, earth dam and stabilize all disturbed areas using K-31 in accordance with 1983 standards and specification pp. 51.01 to 51.05.

CONSTRUCTION SPECIFICATIONS FOR PONDS

**SITE PREPARATION**

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

Areas covered by the pond or reservoir will 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 of his 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**

**Material**

The fill material shall be taken from approved designated borrow area or areas. It shall be free of roots, stumps, wood, rubbish, over-size 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 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. Air compaction shall be achieved by a minimum of four complete passes of a sheepfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction can be obtained with the equipment used.

Construction Specifications (Continuation)

**Cutoff Trench**

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

**PIPE LIMITS**

- 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 Specification M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.
  - Connections** - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Watertight coupling bands shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight.
  - 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.
  - 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.

**STABILIZATION**

All borrow areas shall be graded to provide proper 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, fertilizing and mulching (if required) in accordance with the vegetative treatment specifications shown on or accompanying the drawings.

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

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

*Jeanne M. Helm* 10-17-84  
U.S. Soil Conservation Dist. Date

*Robert W. Ziehm* 10-18-84  
Howard Soil Conservation District Date

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*William G. Rosch II* 9/6/84  
Date



HOUSE LOCATION  
EROSION & SEDIMENT CONTROL PLAN  
AND STORM WATER MANAGEMENT CONST. SPECS.  
**PATAPSCO PARK ESTATES**  
SECTION 3, AREA 2

FIRST ELECT. DIST. HOWARD CO. MARYLAND  
TAX MAP 17 PARCEL 38  
DATE: 3-23-84 SCALE: AS NOTED

SHEET 6 OF 6

DES: A.R.T.  
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F-84-210