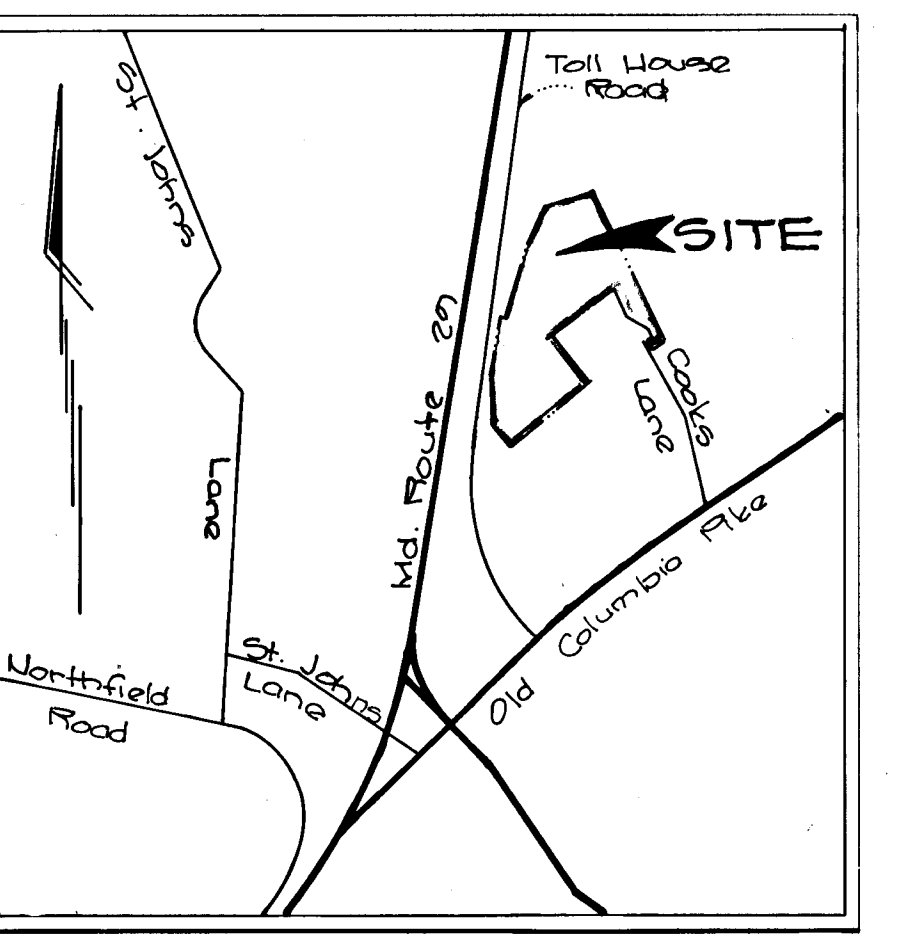
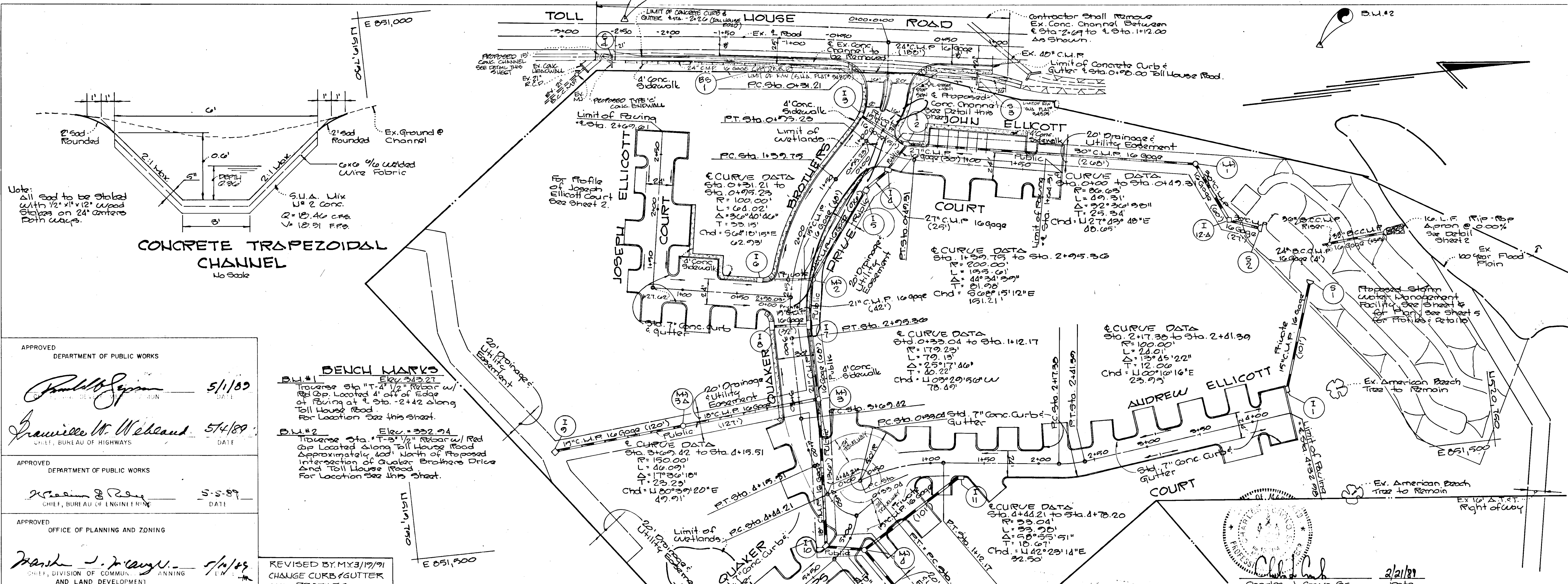


DATE: _____ BY: _____
 SURVEYED: _____
 GRADES CHECKED: _____
 ALIGNMENT CHECKED: _____
 RT. OF WAY CHECKED: _____
 NO. _____

DATE: _____ BY: _____
 SURVEYED: _____
 GRADES CHECKED: _____
 STRUCTURE NOTATIONS CHECKED: _____
 NO. _____



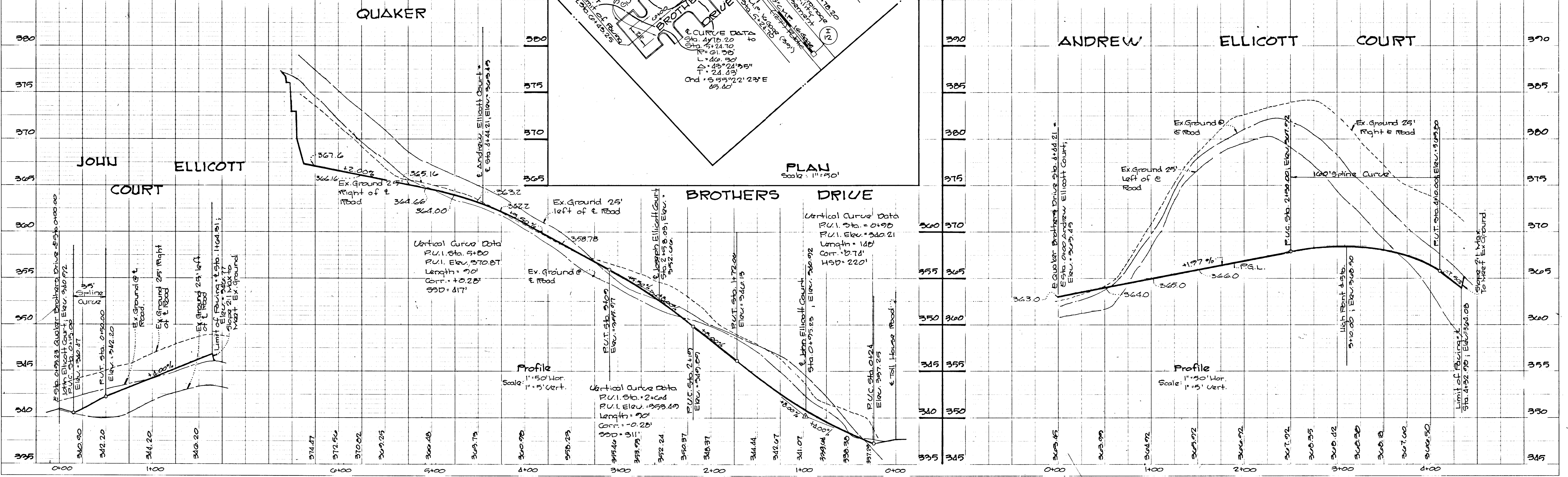
THE BLUFFS AT ELLICOTT MILLS
 LOT 1 AND P.D. OPEN SPACE LOT 2
 SECOND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

JOHN ELLICOTT COURT - Plan & Profile
 QUAKER BROTHERS DRIVE - Plan & Profile
 ANDREW ELLICOTT COURT - Plan & Profile
 JOSEPH ELLICOTT COURT - Plan

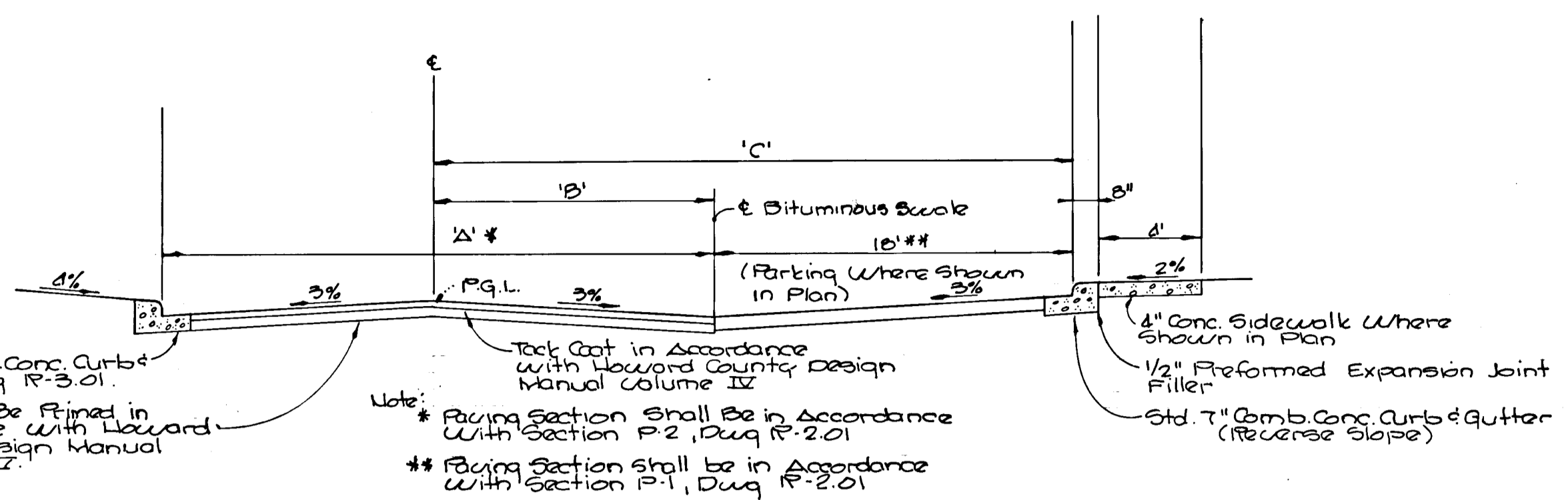
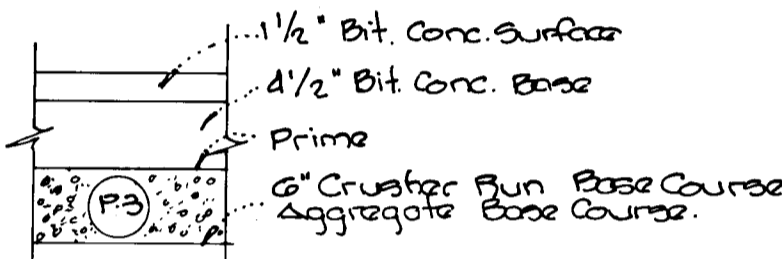
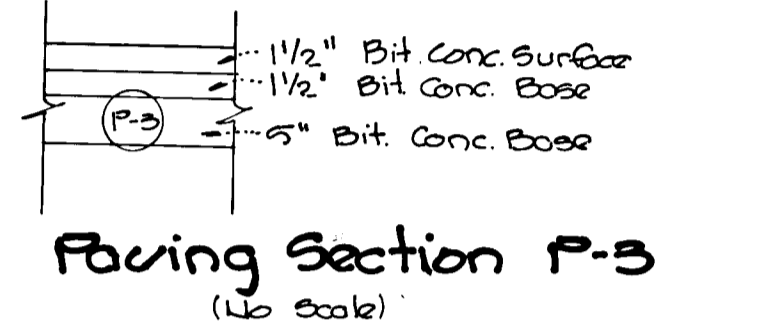
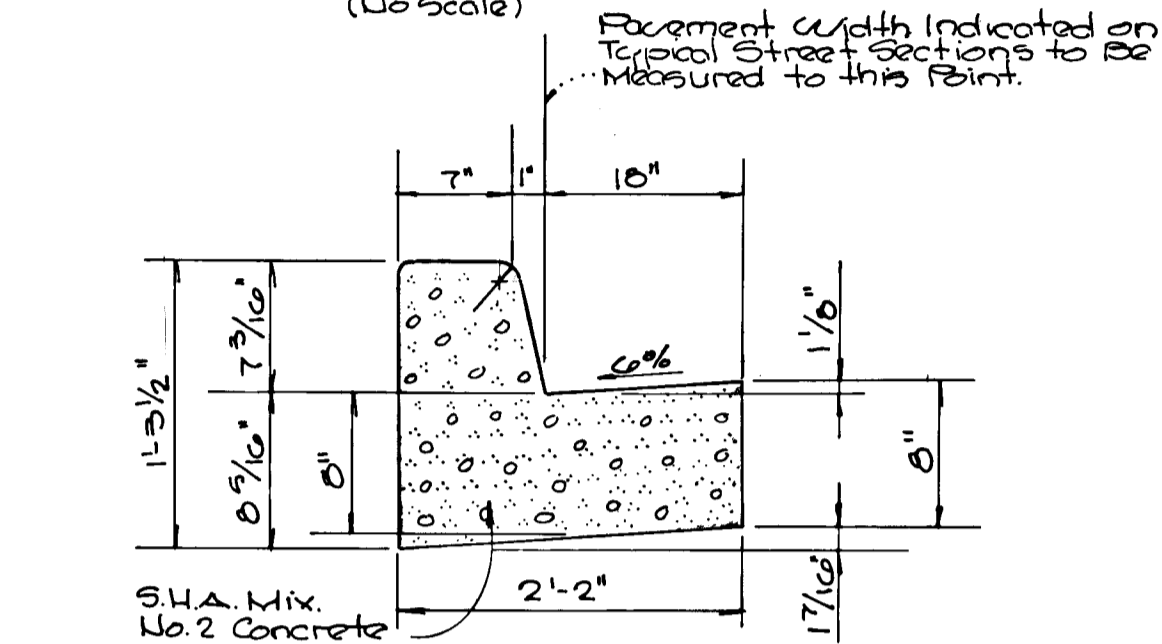
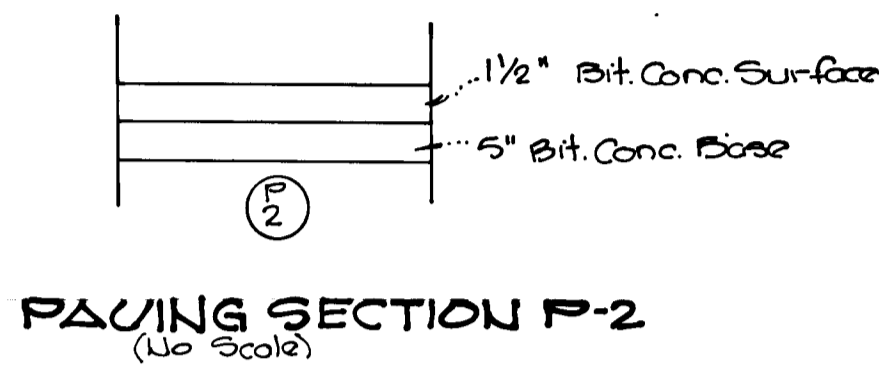
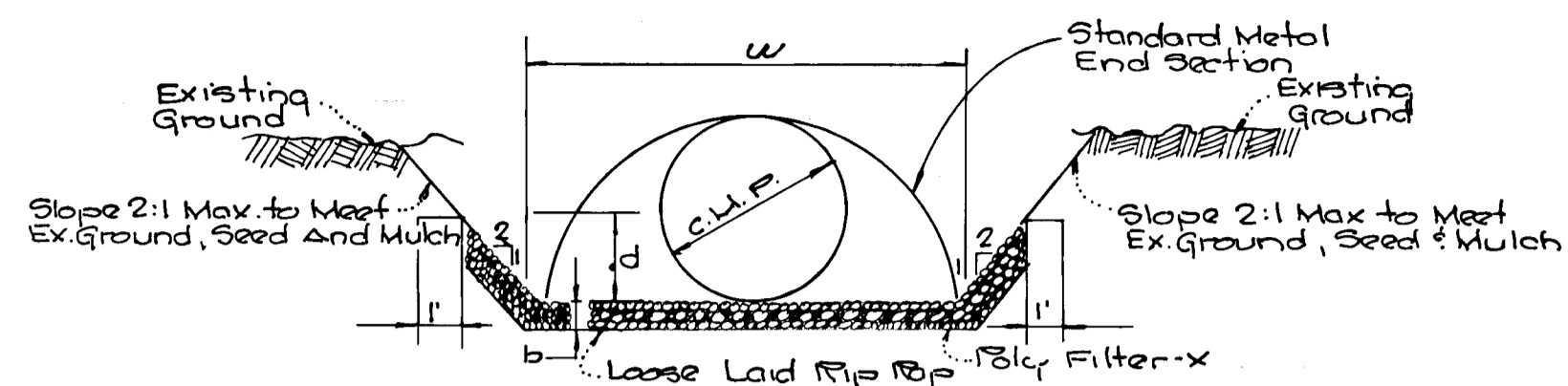
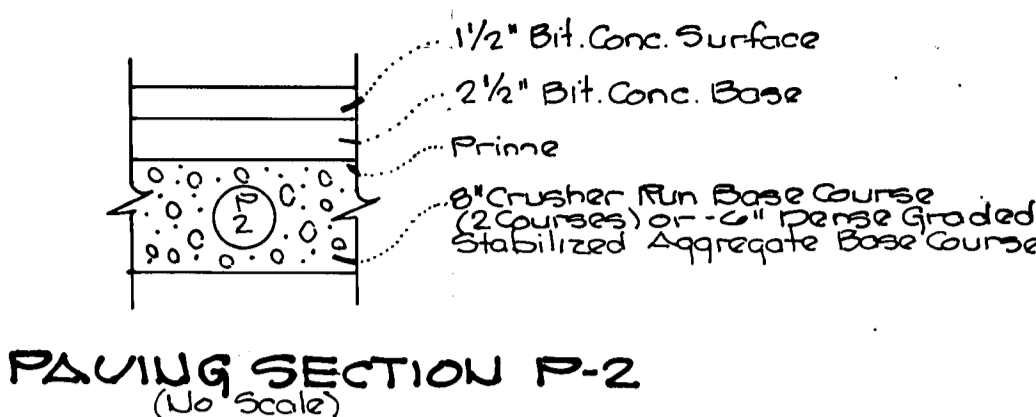
OWNER AND DEVELOPER
THE BLUFFS AT ELLICOTT MILLS
 GENERAL PARTNERSHIP
 9% LAND DESIGN & DEVELOPMENT
 8307 MAIN STREET
 ELLICOTT CITY, MARYLAND 21043

SCALE: 1"=50' DATE: 2/21/89 DWG. NO. 1 OF 6
 DES: R. KACOS DWN: M. FERRAST CHK: C. CROOK, P.E.

FISHER, COLLINS AND CARTER, INC.
 CIVIL ENGINEERS AND LAND SURVEYORS
 8388 COURT AVE. ELLICOTT CITY, MARYLAND 21043



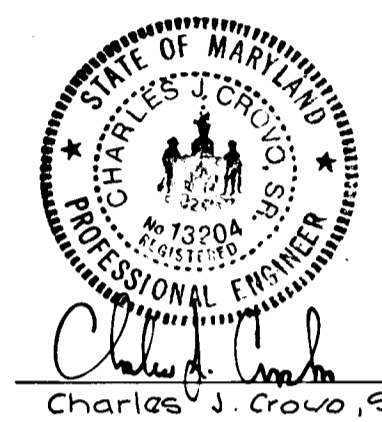
1444



TYPICAL SECTION - PARKING ADJACENT TO PRIVATE ROAD (No Scale)

| Road Name | Classification | Design Speed | Zoning | A | B | C | Station Limits |
|-----------------------|--------------------|--------------|--------|-----|-----|-----|--------------------|
| Quaker Brothers Drive | Private Local Road | 25 M.P.H. | R-ED | 30' | 15' | 30' | 0+00 to 4+78.20 |
| Quaker Brothers Drive | Private | 25 M.P.H. | R-ED | 24' | 12' | 30' | 4+78.20 to 6+43.20 |
| Andrew Ellicott Court | Private | 25 M.P.H. | R-ED | 24' | 12' | 30' | 0+00 to 4+32.70 |
| Joseph Ellicott Court | Private | 25 M.P.H. | R-ED | 24' | 12' | 30' | 0+00 to 2+49.01 |
| John Ellicott Court | Private | 25 M.P.H. | R-ED | 24' | 12' | 30' | 0+00 to 1+64.31 |

| Structure | A | P | R | R2/3 | S | S 1/2 | n | q | U | d | w | W/P | W/P | W/P |
|-----------|-------|-------|-------|-------|-------|-------|-----|--------------|-------|-------|-----|-----|-----|-----|
| S-5 | 1.71# | 7.46' | 2292' | 9227' | 1.00% | 1.000 | .04 | 51.16 c.f.s. | 0.956 | 0.55' | 50" | 6" | 9" | 14" |



THE BLUFFS AT ELLICOTT MILLS
 Lot 1 And P.O. Open Space Lot 2
 SECOND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

OWNER AND DEVELOPER
THE BLUFFS AT ELLICOTT MILLS
 GENERAL PARTNERSHIP
 26 LAND DESIGN & DEVELOPMENT
 2907 MAIN STREET
 ELLICOTT CITY, MARYLAND 21043

SCALE As Shown DATE 2/21/89 DWG NO 2 OF 6
 DES. R. 190009 DRN. W. Forrest CHK. C. Crowe, Sr.

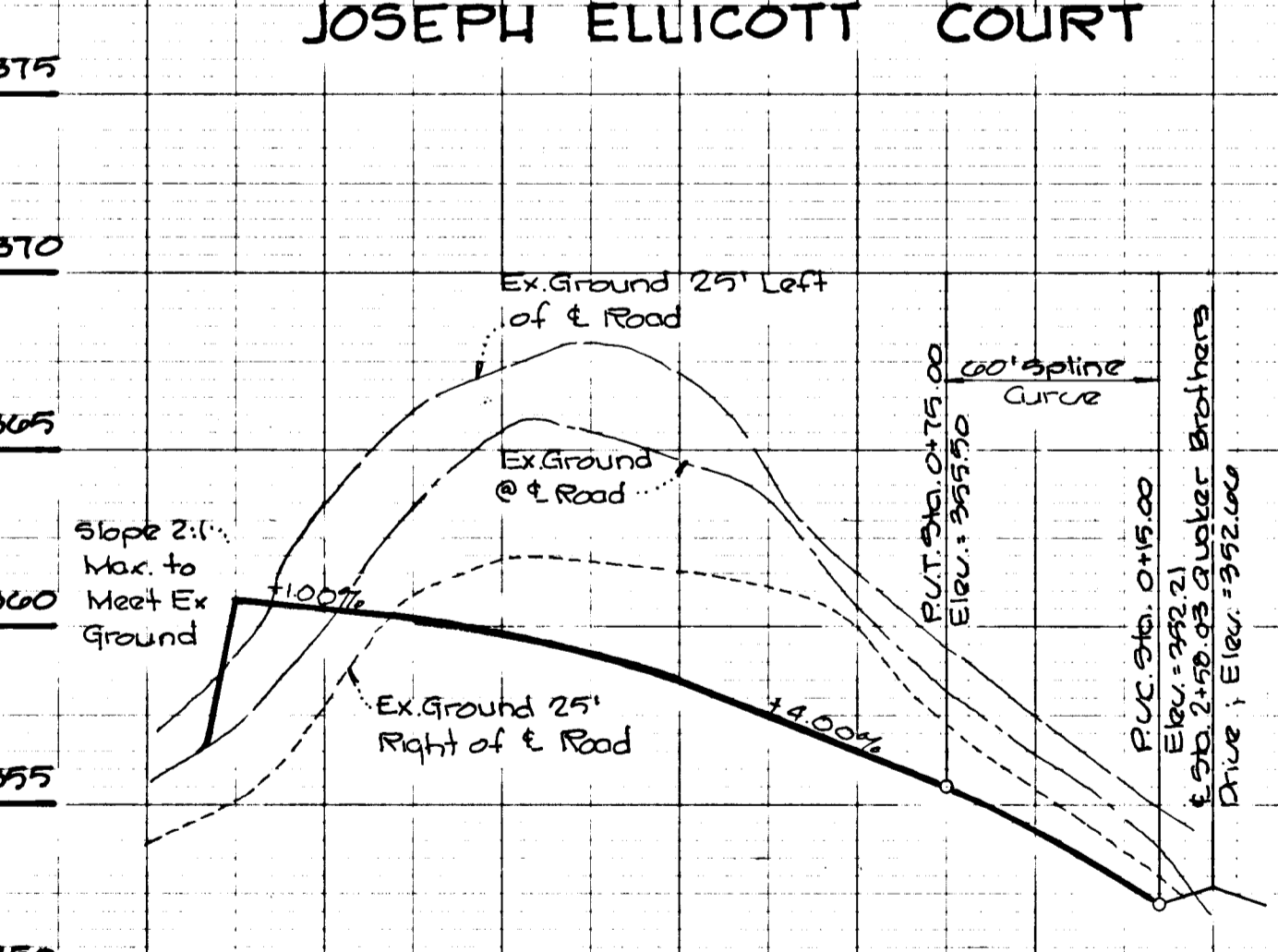
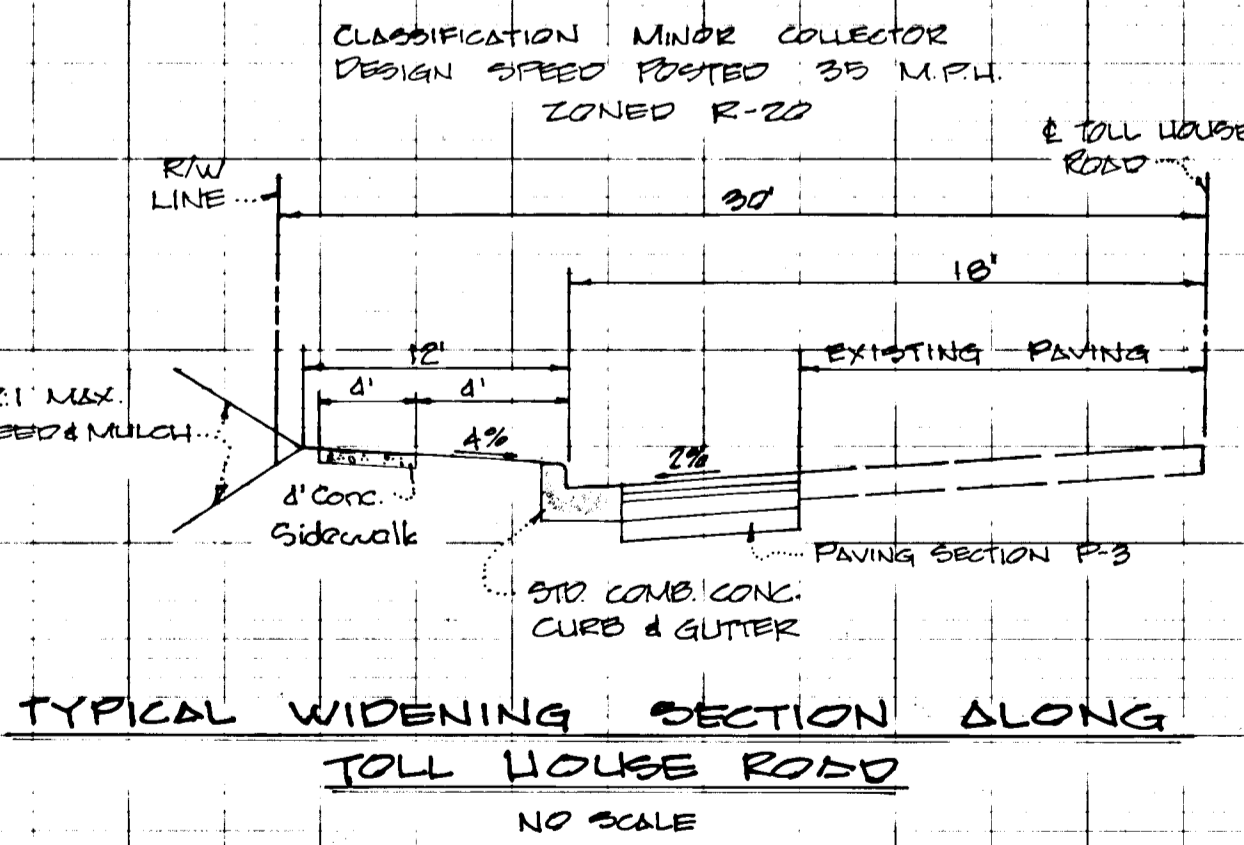
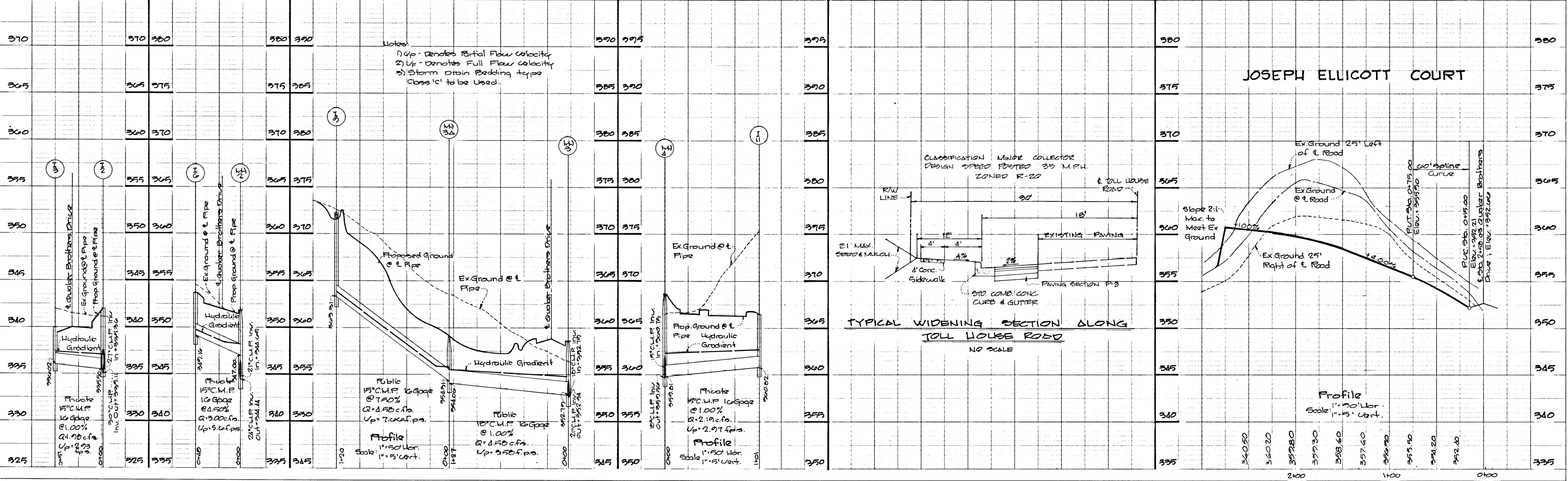
FISHER, COLLINS AND CARTER, INC.
 CIVIL ENGINEERS AND LAND SURVEYORS
 8388 COURT AVE. ELLICOTT CITY, MARYLAND 21043

APPROVED DEPARTMENT OF PUBLIC WORKS
Paul M. Syon 5/1/89 DATE
 CHIEF, BUREAU OF HIGHWAYS

APPROVED DEPARTMENT OF PUBLIC WORKS
William E. Riley 5-5-89 DATE
 CHIEF, BUREAU OF ENGINEERING

APPROVED OFFICE OF PLANNING AND ZONING
Mark J. Taugher 5/16/89 DATE
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

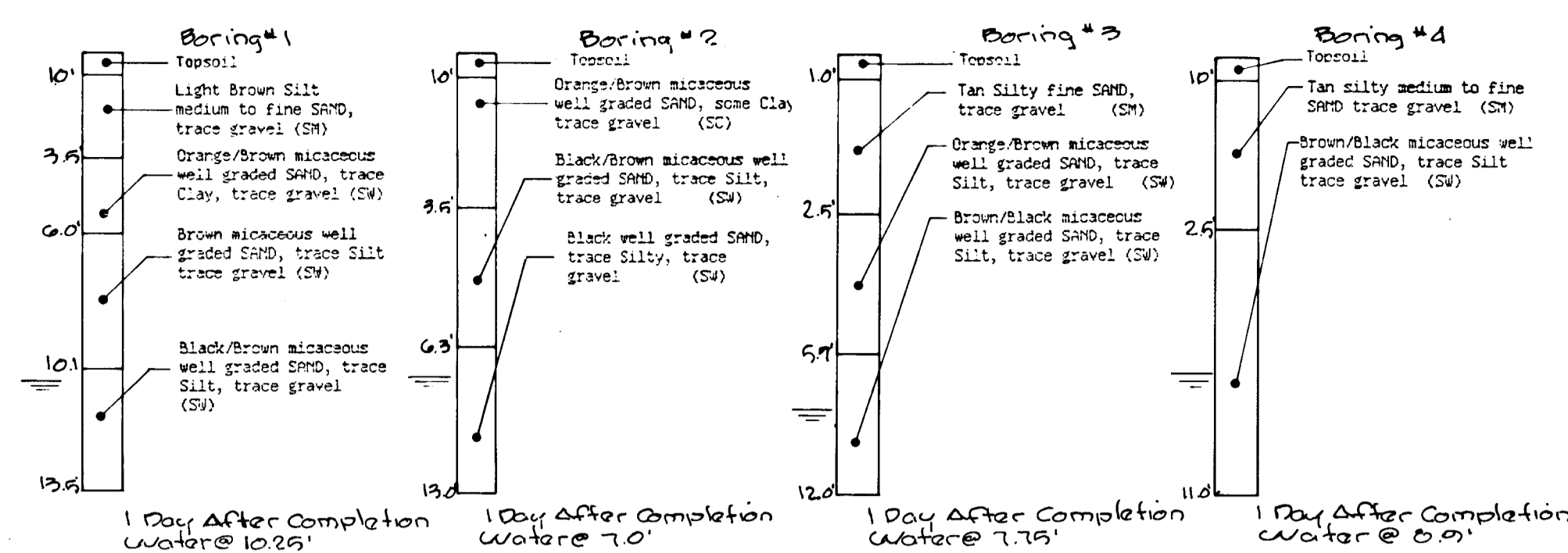
REVISED BY MY CHANGE JOSEPH ELLICOTT COURT PROFILE



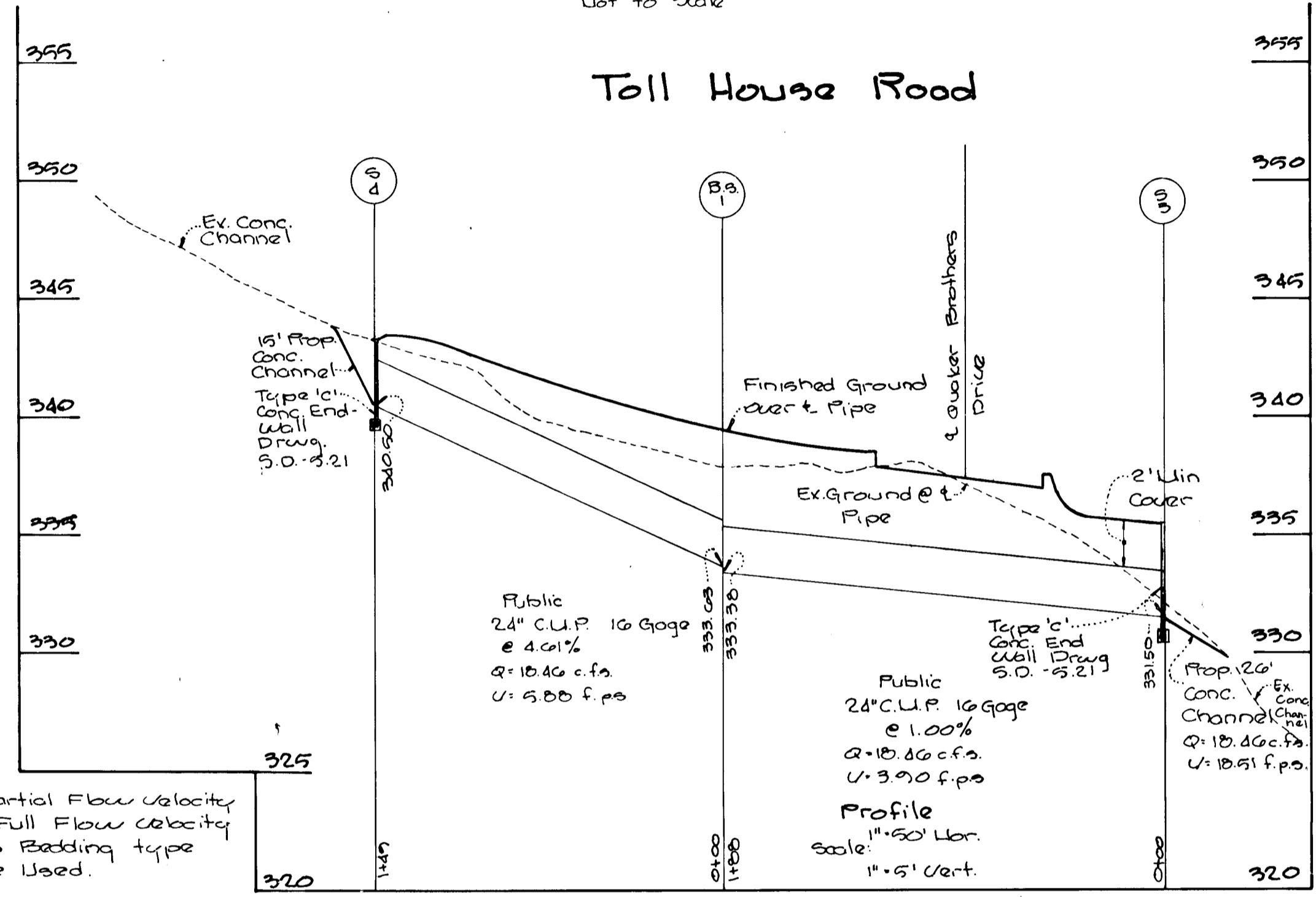
1441

| STRUCTURE SCHEDULE | | | | | | |
|--------------------|---------------------------|----------|----------|---------------|--|------------------------|
| STRUCT. | TYPE | INV. IN. | INV. OUT | TOP ELEVATION | ROAD STATION | REMARKS |
| I-1 | A-5 | 332.93 | 332.74 | 354.02 | ROAD STA. 4+36 ANDREW ELLICOTT CT. 12" LEFT | S.D.-4.01 |
| I-2 | A-10 | 334.61 | 334.36 | 342.10 | ROAD STA. 0+38.50 JOHN ELLICOTT COURT 12" LEFT | S.D.-4.02 |
| I-3 | A-5 W/DEFLECTORS | 336.02 | 335.85 | 339.85 | ROAD STA. 0+76 QUAKER BROTHERS DRIVE 15" RIGHT | S.D.-4.01 S.D.-4.83 |
| I-4 | A-5 | 335.62 | 335.37 | 342.40 | ROAD STA. 0+57 JOHN ELLICOTT COURT 12" RIGHT | S.D.-4.01 |
| I-5 | "D" INLET | 336.49 | 336.24 | 342.73 | ROAD STA. 1+31 QUAKER BROTHERS DRIVE 12" LEFT | S.D.-4.11* |
| I-6 | A-5 W/DEFLECTORS | 349.16 | 348.91 | 353.60 | ROAD STA. 0+40 JOSEPH ELLICOTT COURT 12" RIGHT | S.D.-4.01 S.D.-4.83 |
| I-7 | A-5 W/DEFLECTORS | 349.14 | 348.89 | 354.53 | ROAD STA. 2+82 QUAKER BROTHERS DRIVE 12" LEFT | S.D.-4.01 S.D.-4.83 |
| I-8 | A-10 W/DEFLECTORS | 349.80 | 349.55 | 354.53 | ROAD STA. 2+82 QUAKER BROTHERS DRIVE 12" LEFT | S.D.-4.02 S.D.-4.83 |
| I-9 | "D" INLET | 363.31 | 372.33 | 372.33 | ROAD STA. 3+74 QUAKER BROTHERS DRIVE 12" RIGHT | S.D.-4.11* |
| I-10 | A-5 W/DEFLECTORS | 358.48 | 358.23 | 367.70 | ROAD STA. 5+27 QUAKER BROTHERS DRIVE 12" RIGHT | S.D.-4.01 S.D.-4.83 |
| I-11 | A-5 W/DEFLECTORS | 360.82 | 365.38 | 365.38 | ROAD STA. 1+23 ANDREW ELLICOTT COURT 12" RIGHT | S.D.-4.02 |
| I-12 | "D" INLET | 366.80 | 372.33 | 372.33 | ROAD STA. 5+17 QUAKER BROTHERS DRIVE 138.5' LEFT; ROAD STA. 1+24 ANDREW ELLICOTT COURT 122.5' RIGHT | S.D.-4.11* |
| MH-1 | STD. MANHOLE | 332.67 | 332.72 | 339.50 | ROAD STA. 4+09 ANDREW ELLICOTT COURT 122.5' LEFT | 6-5.02 |
| MH-2 | STD. MANHOLE | 344.69 | 344.44 | 351.74 | ROAD STA. 2+38 QUAKER BROTHERS DRIVE 17' LEFT | 6-5.01 |
| MH-3 | STD. MANHOLE | 352.79 | 352.54 | 358.58 | ROAD STA. 3+53 QUAKER BROTHERS DRIVE 17' LEFT | 6-5.01 |
| MH-3A | STD. MANHOLE | 354.31 | 354.06 | 359.25 | ROAD STA. 3+44 QUAKER BROTHERS DRIVE 188' RIGHT | 6-5.01 |
| MH-4 | STD. MANHOLE | 360.75 | 359.56 | 367.55 | ROAD STA. 3+01 QUAKER BROTHERS DRIVE 14' LEFT | 6-5.01 |
| S-1 | STD. METAL END SECTION | 332.74 | 332.00 | 333.99 | | S.D.-5.61 |
| S-2 | STD. METAL END SECTION | 332.04 | 332.00 | 334.54 | | S.D.-5.81 |
| S-3 | STD. METAL END SECTION | 331.50 | 335.50 | | ROAD STA. 0+84 Toll House Road 12" RIGHT | S.D.-5.21 |
| S-4 | STD. METAL END SECTION | 322.80 | 322.50 | 325.05 | ROAD STA. 2+54 Toll House Road 12" LEFT | S.D.-5.61 |
| I-12A | "D" Inlet | 332.93 | 332.20 | 340.00 | | S.D. d.11* |
| BS-1 | Stand. Str. Stack | 333.63 | 333.90 | | Rel. Elev. 0+28 Quaker Brothers Dr. 1st Right | S.D. 1.01 |

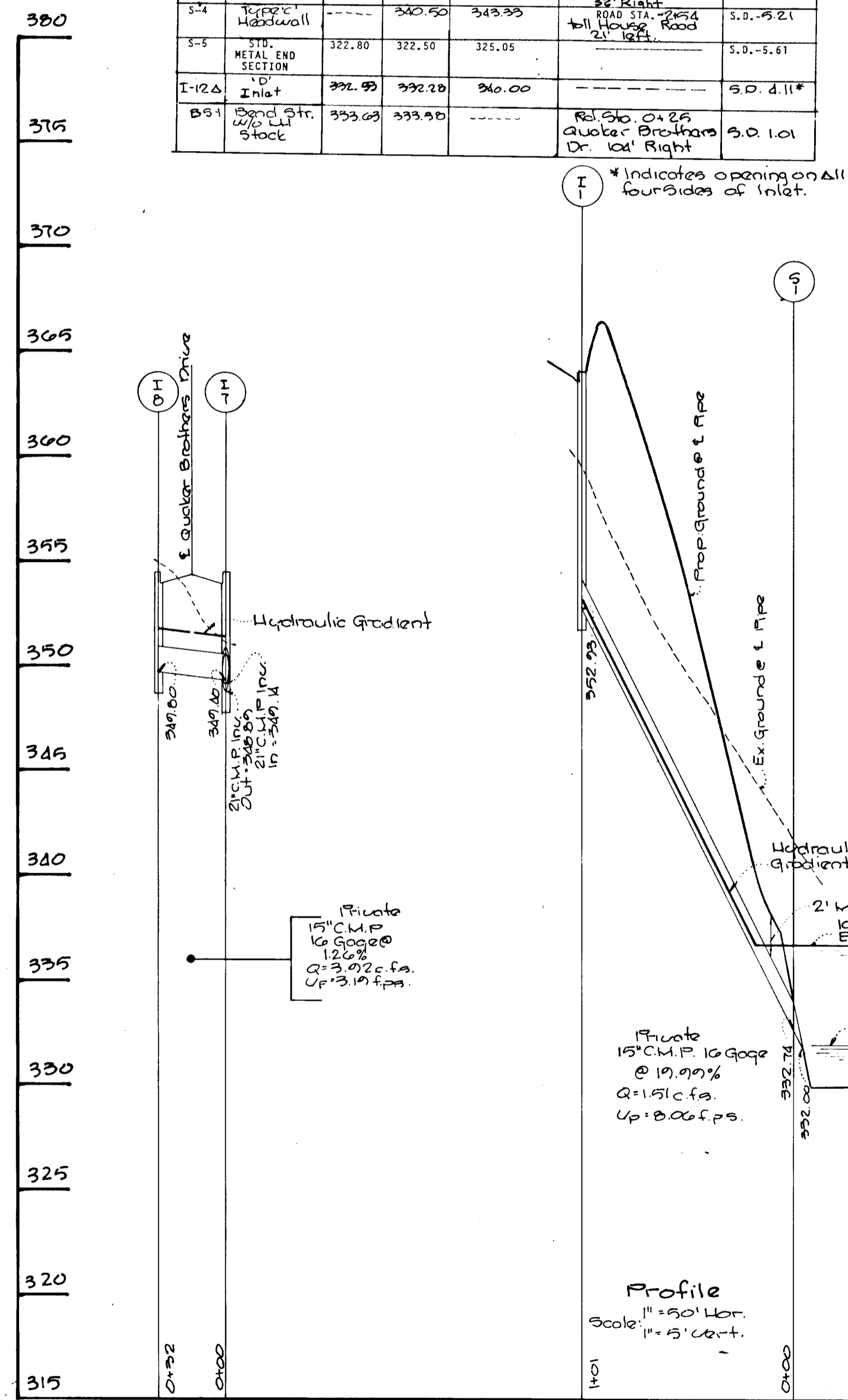
* Indicates opening on all four sides of Inlet.



Soil Borings
Not to scale



Notes:
1) V_p - Denotes Partial Flow Velocity
2) V_f - Denotes Full Flow Velocity
3) Storm Drain Bedding type Class 'C' to be Used.



1471

FISHER, COLLINS AND CARTER, INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
8388 COURT AVENUE
ELLICOTT CITY, MARYLAND 21043



2/20/89
Charles V. Crave, P.E.

THE BLUFFS AT ELLICOTT MILLS
GENERAL PARTNERSHIP
%LAND DESIGN DEVELOPMENT
8307 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

STORM DRAIN PROFILES
THE BLUFFS AT ELLICOTT MILLS
Lot 1 and P.O. Open Space Lot 2
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: FEBRUARY 21, 1989
SHEET 3 OF 6

APPROVED
DEPARTMENT OF PUBLIC WORKS
CHIEF, LAND DEVELOPMENT DIVISION
DATE: 5/1/89

APPROVED
DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS
DATE: 5/1/89

APPROVED
DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF ENGINEERING
DATE: 5-5-89

APPROVED
OFFICE OF PLANNING AND ZONING
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
DATE: 5/1/89

Approved:
 Department of Public Works
Small [Signature] 5/1/89
 Chief, Land Development Division, Date

Francis W. Weiland 5/4/89
 Chief, Bureau of Highways, Date

William E. Ray 5-5-89
 Chief, Bureau of Engineering, Date

Approved:
 Office of Planning and Zoning
Mark S. J. [Signature] 5/1/89
 Chief, Division of Community Planning and Land Development, Date



Francis W. Weiland 5/1/89
 Chief, Bureau of Highways, Date



Charles J. Cravo, Sr. 2/20/89
 Date

**DRAINAGE AREA MAP
 THE BLUFFS AT ELICOTT MILLS**

Lot 1 And P.O. Open Space Lot 2
 SECOND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE: 1"=100' DATE: FEB. 21, 1989
 SHEET 4 OF 6

THE BLUFFS AT ELICOTT MILLS
 GENERAL PARTNERSHIP
 % LAND DESIGN & DEVELOPMENT
 8507 MAIN STREET
 ELICOTT CITY, MARYLAND 21043

1771
 FISHER, COLLINS AND CARTER, INC.
 CONSULTING ENGINEERS AND LAND SURVEYORS
 8398 COURT AVENUE
 ELICOTT CITY, MARYLAND 21043

POND SPECIFICATIONS

I. SITE PREPARATION

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.

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, rubbish, over-size stones, frozen or other objectionable materials.

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.

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.

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 4-inches in thickness and compacted by hand tampers or other compaction equipment.

IV. PIPE CONDUITS

A. CORRUGATED METAL PIPE

- 1. Materials - Metal Pipe - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211, with watertight coupling bands.
2. Connections - All connections with pipes must be completely watertight.

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), Mix No. 3.

VI. STABILIZATION

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

Table with 4 columns: Material, Quantity, and other specifications for fertilizer, seed, mulch, and tie-down.

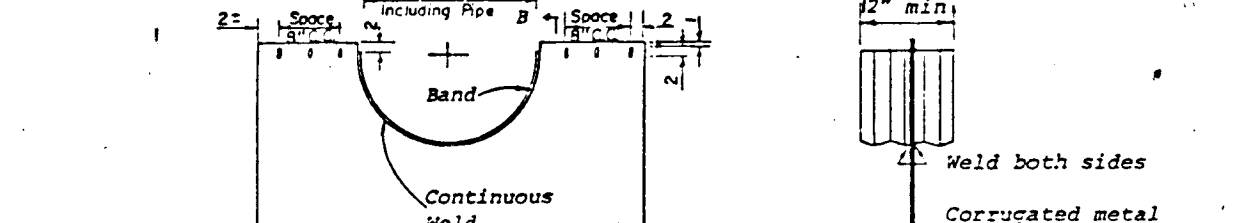
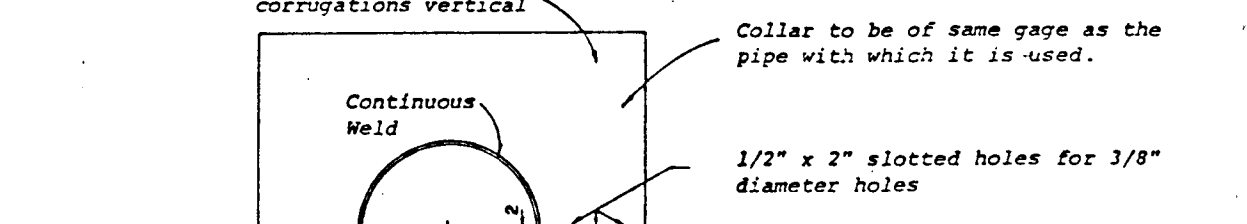
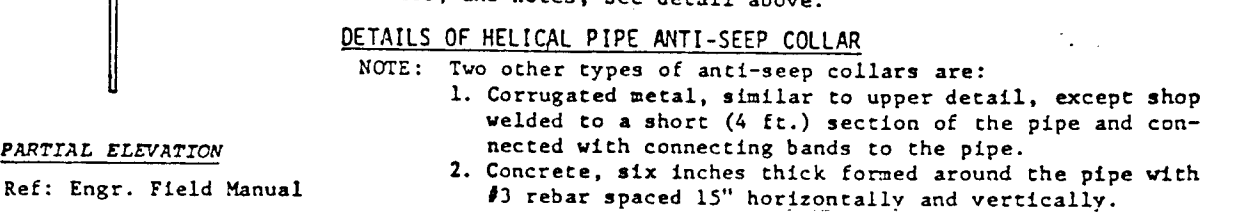
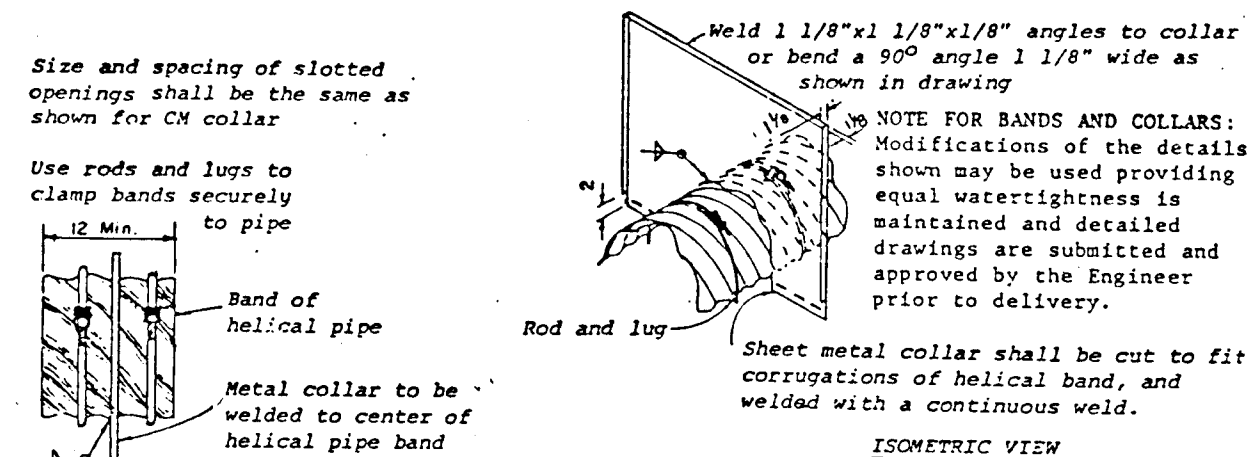
ALL EXPOSED AREAS OF THE EMBANKMENT AND POND SHALL BE STABILIZED BY:

- A. SPREADING 4" TOPSOIL (INCLUDING BOTTOM OF POND) WORKING IN 1 TON OF GROUND LIMESTONE AND 1,000 POUNDS OF 10-10-10 FERTILIZER PER ACRE (INCLUDING BOTTOM OF POND).
B. SEED WITH 40 LBS/ACRE OF "KENTUCKY 31" TALL FESCUE, AND 15 LBS./ACRE OF CROWNVECH INOCULATED.

OPERATION AND MAINTENANCE SPECIFICATIONS

I HEREBY CERTIFY THAT I WILL OPERATE AND MAINTAIN THE COMPLETED POND IN ACCORDANCE WITH THE FOLLOWING:

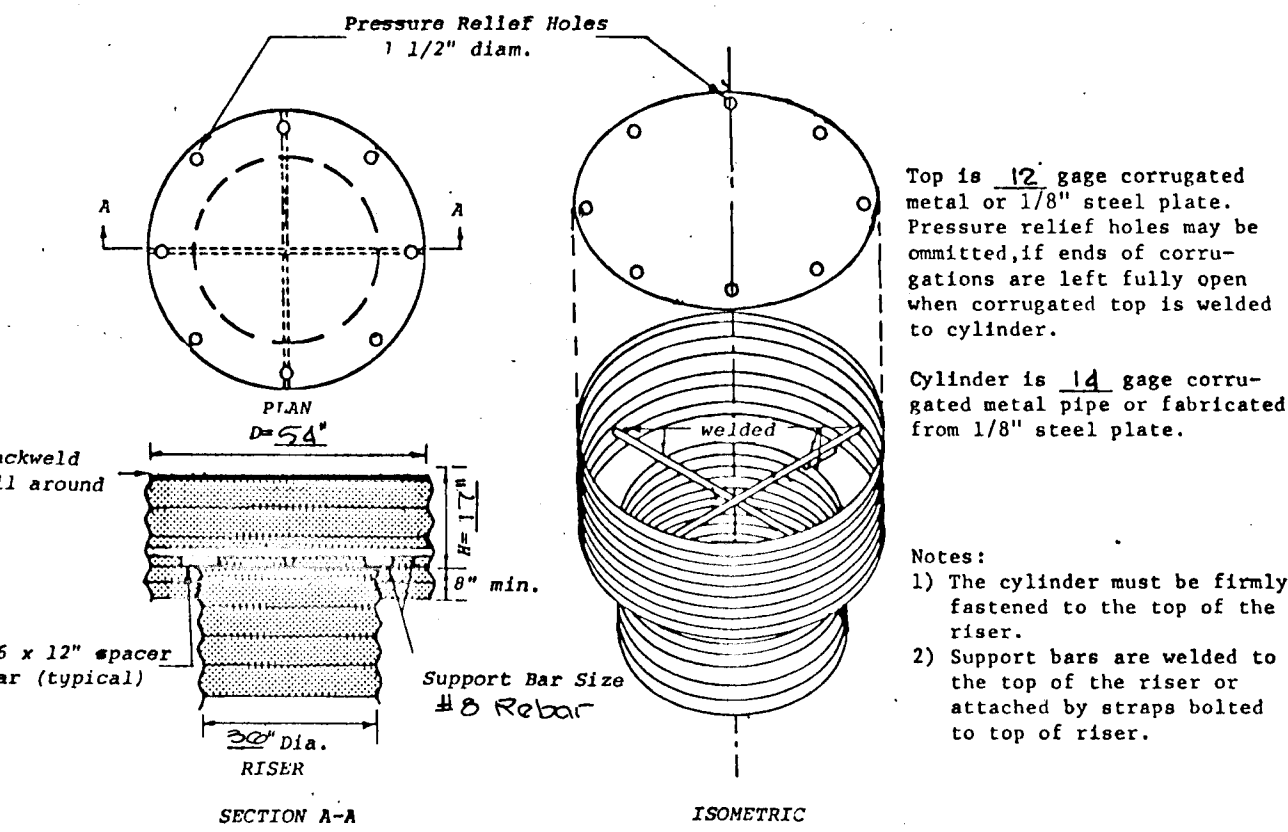
- 1. PERIODIC INSPECTIONS OF THE FACILITY WILL BE MADE TO IDENTIFY POTENTIAL PROBLEMS THAT MAY AFFECT ITS SAFETY. THESE INSPECTIONS WILL BE MADE AFTER PERIODS OF HEAVY RAINFALL AND AT LEAST TWICE ANNUALLY.
2. PROBLEMS IDENTIFIED DURING INSPECTIONS WILL BE PROMPTLY CORRECTED.



- NOTES FOR COLLARS: 1. All materials to be in accordance with construction and construction material specifications.
2. When specified on the plans, coating of collars shall be in accordance with construction and construction material specifications.

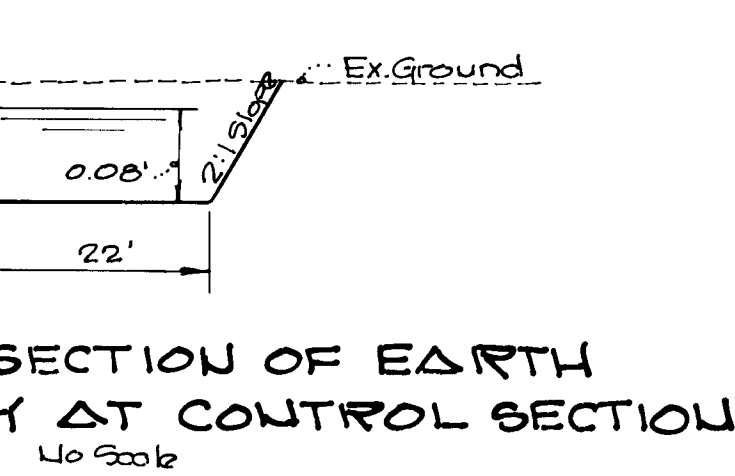
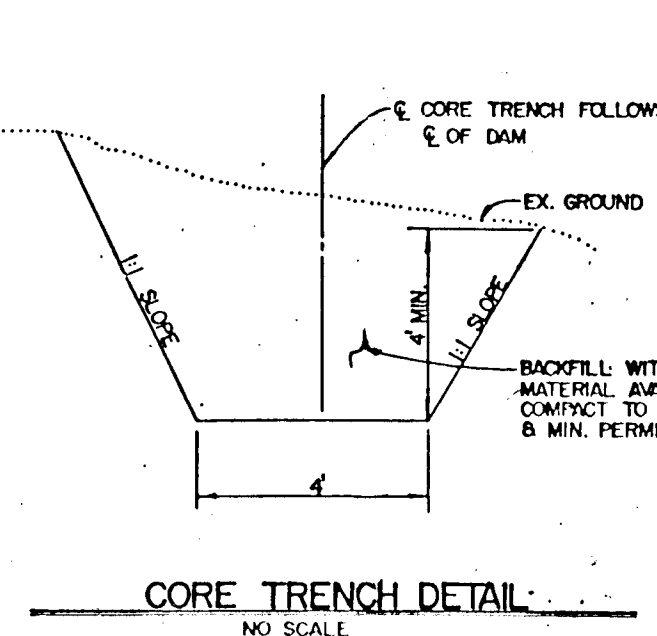
CORRUGATED METAL ANTI-SEEP COLLAR DETAILS

NO SCALE



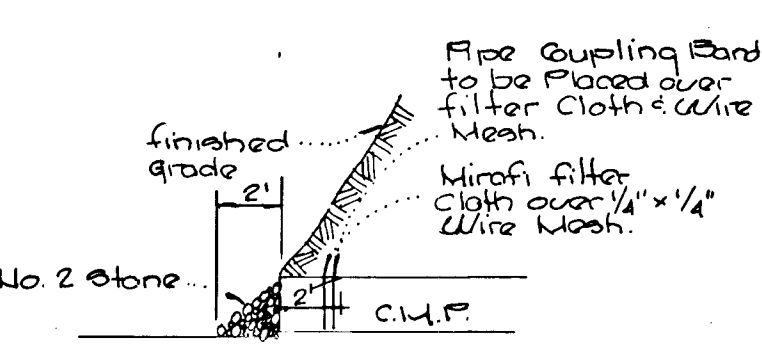
CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE DETAIL

NOT TO SCALE



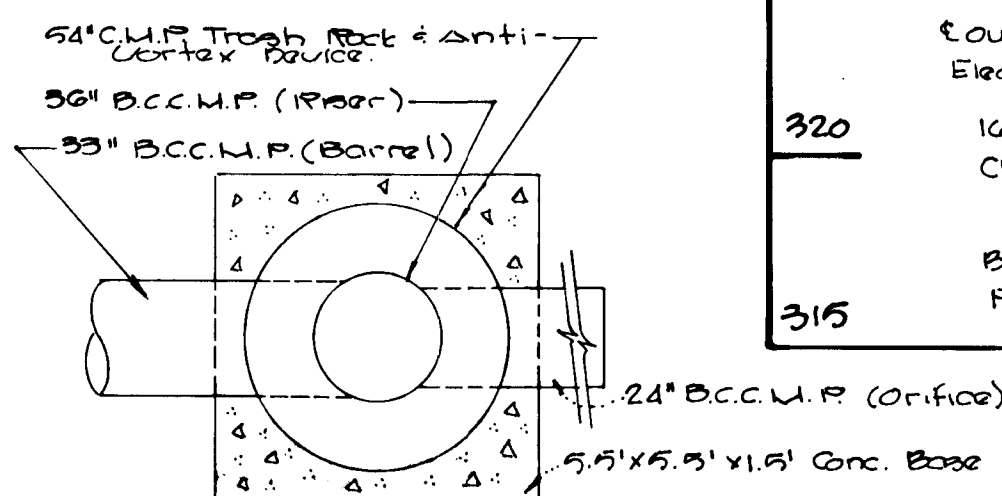
CROSS SECTION OF EARTH SPILLWAY AT CONTROL SECTION

NO SCALE



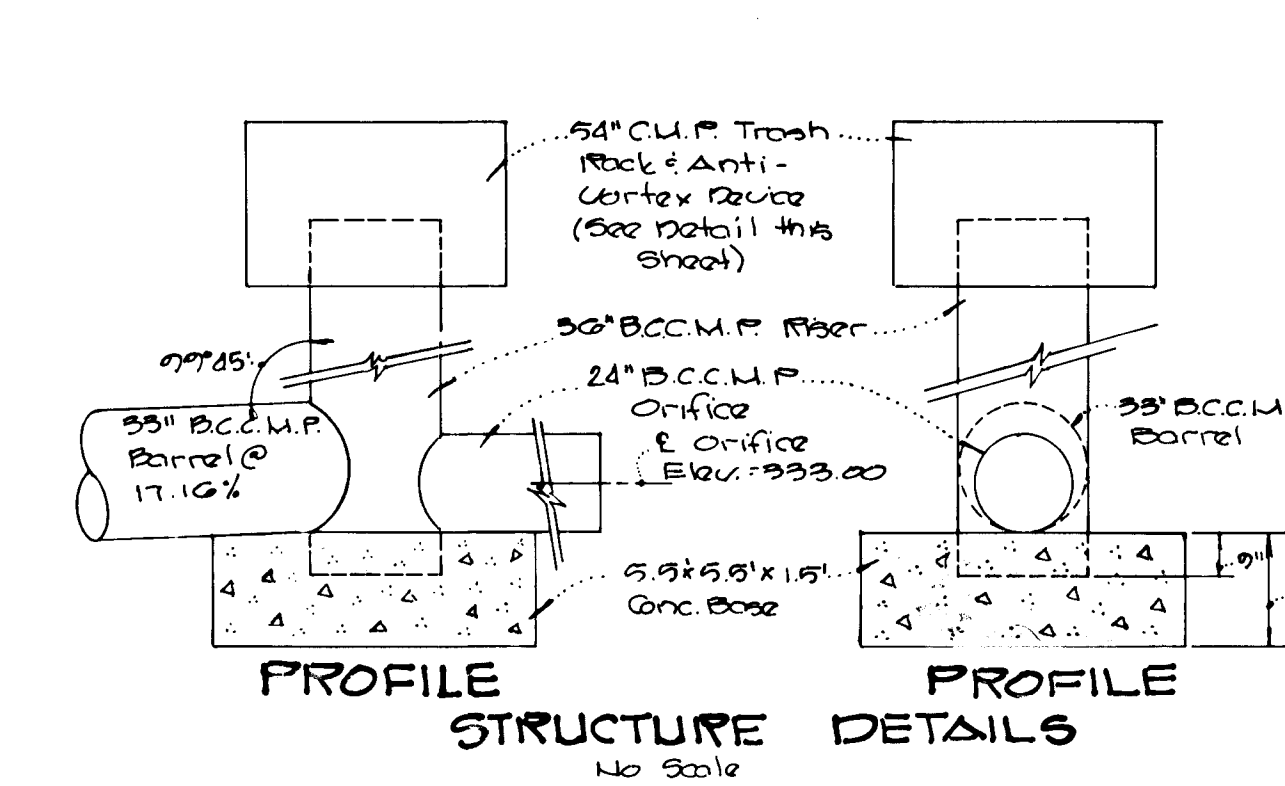
BLOCKING DETAIL FOR STORM WATER MANAGEMENT POND

NO SCALE



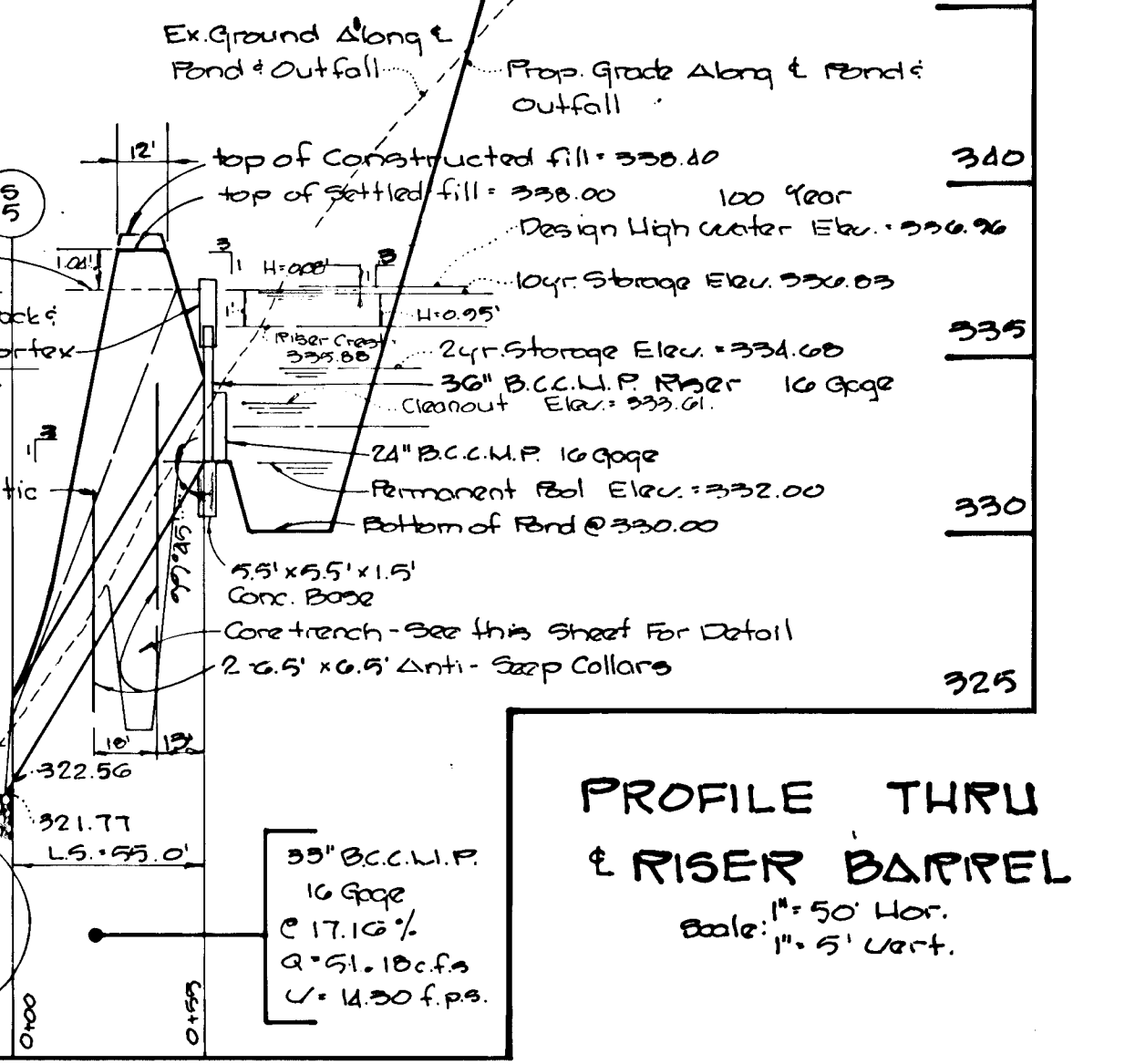
PLAN

NO SCALE



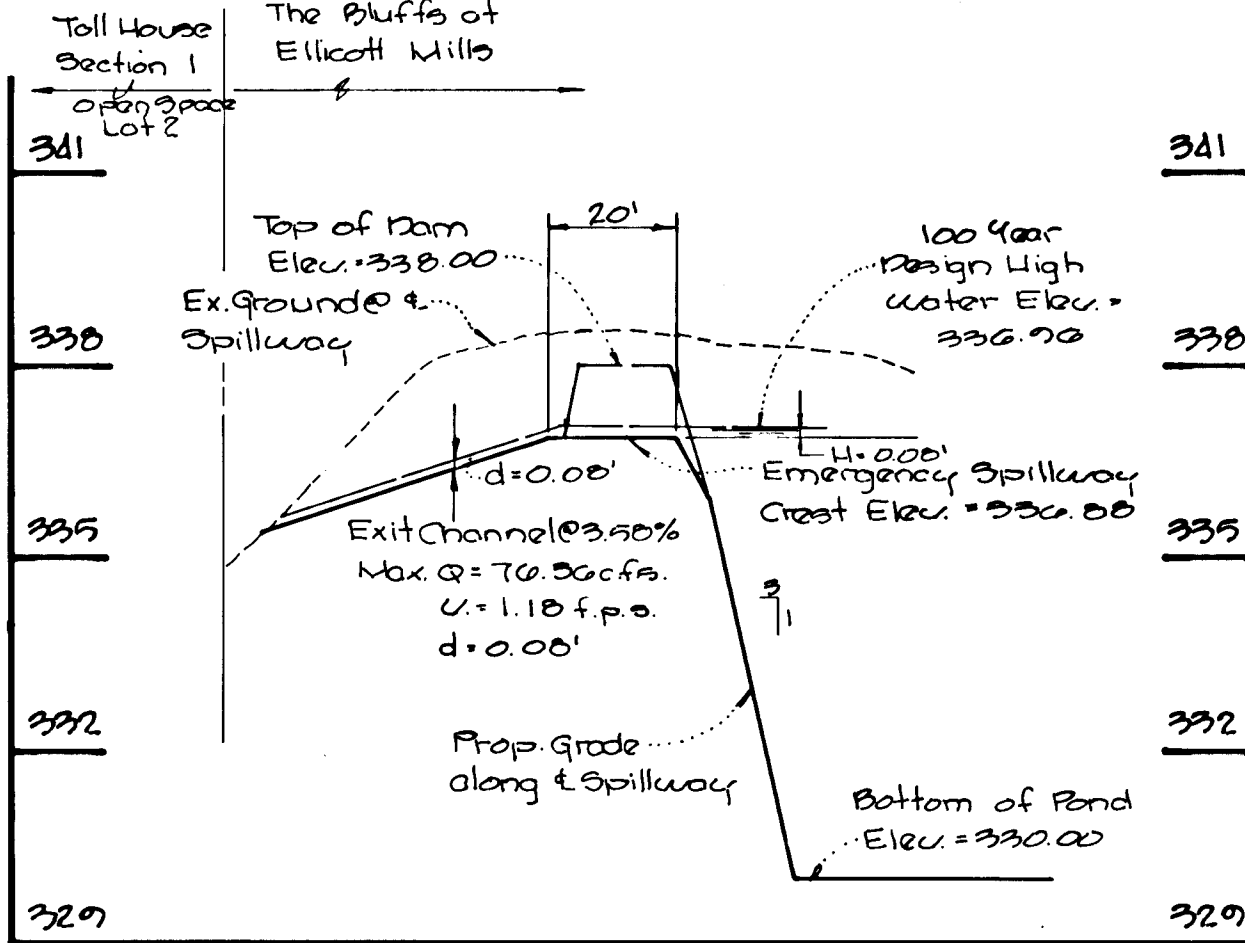
PROFILE STRUCTURE DETAILS

NO SCALE



PROFILE THRU RISER BARREL

Scale: 1" = 50' Hor. 1" = 5' Vert.

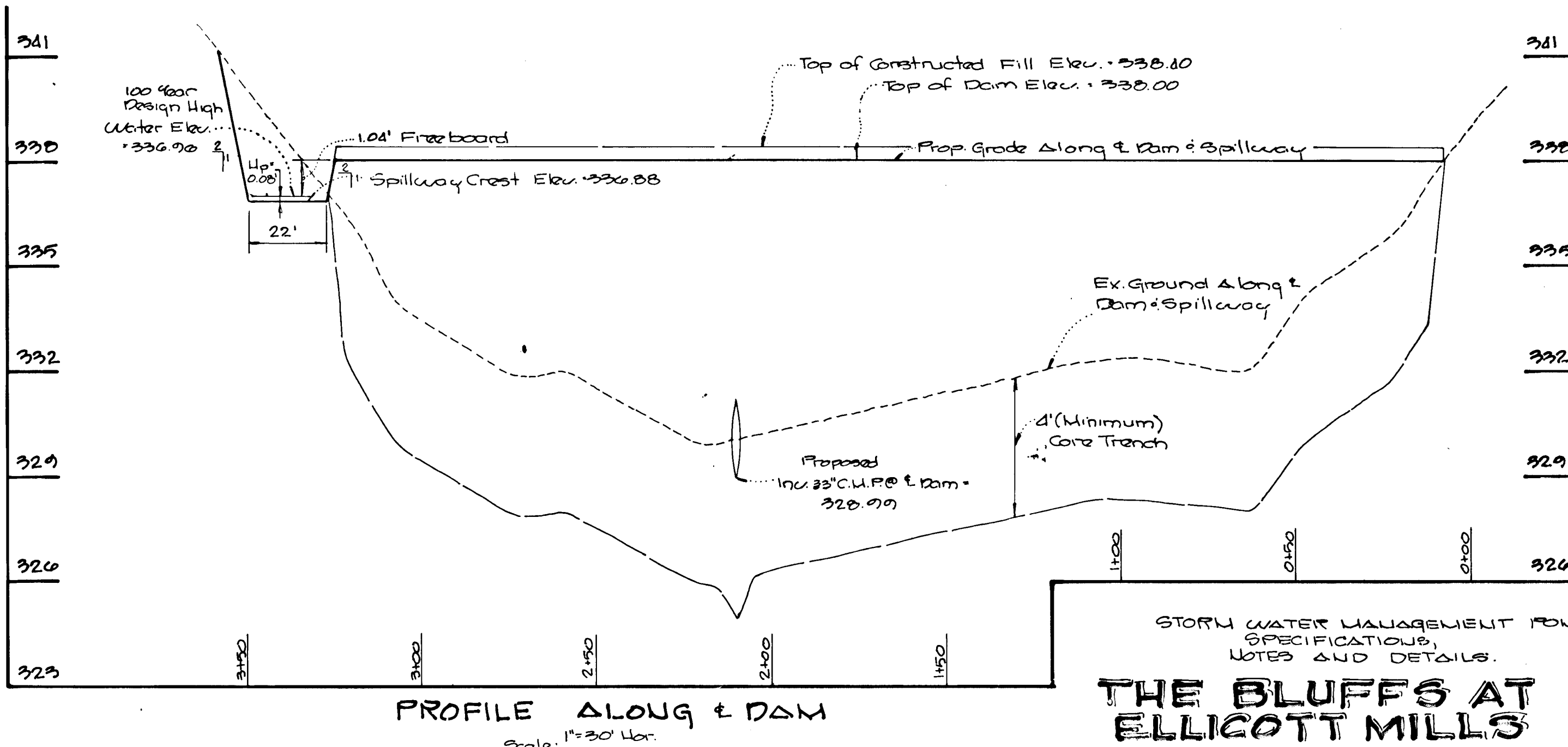


PROFILE THRU EMERGENCY SPILLWAY

Scale: 1" = 20' Hor. 1" = 5' Vert.

PROFILE ALONG DAM

Scale: 1" = 30' Hor. 1" = 3' Vert.



STORM WATER MANAGEMENT POND SPECIFICATIONS, NOTES AND DETAILS THE BLUFFS AT ELLICOTT MILLS

Lot 1 And P.O. Open Space Lot 2 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: FEBRUARY 21, 1989 SHEET 5 OF 6

STORM WATER MANAGEMENT POND CERTIFICATION AND APPROVAL

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.

DEVELOPER'S CERTIFICATE: I HEREBY 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.

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.

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

APPROVED: OFFICE OF PLANNING AND ZONING CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS CHIEF, LAND DEVELOPMENT DIVISION

CHIEF, BUREAU OF HIGHWAYS CHIEF, BUREAU OF ENGINEERING

POND CONSTRUCTION CERTIFICATION: I CERTIFY THAT UPON COMPLETION OF CONSTRUCTION I WILL BE RESPONSIBLE FOR THE OPERATION AND MAINTENANCE (O&M) OF THE SMALL POND. O&M WILL BE PERFORMED BY ME IN ACCORDANCE WITH THE SPECIFICATIONS ON THIS PLAN.

1441



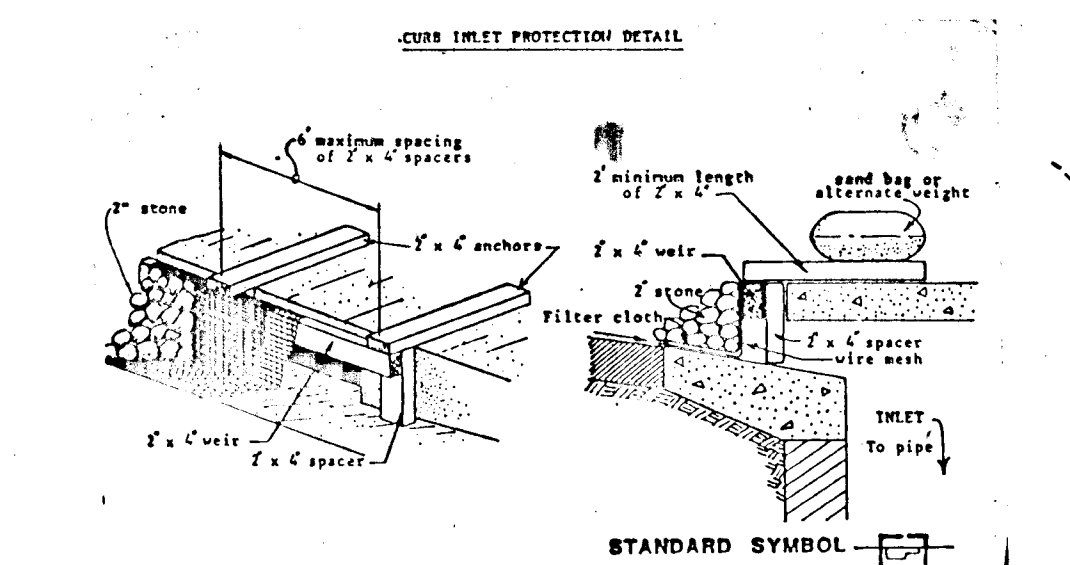
FISHER, COLLINS AND CARTER, INC. CONSULTING ENGINEERS AND LAND SURVEYORS 8388 COURT AVENUE ELLICOTT CITY, MARYLAND 21043

PERMANENT SEEDING NOTES:
 APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.
 SEEDING PREPARATION: LOOSEN UPPER THREE-INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.
 SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:
 1) PREFERRED - APPLY 2 TONS PER ACRE DOMOLITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.) BEFORE SEEDING.
 2) ACCEPTABLE - APPLY 2 TONS PER ACRE DOMOLITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ. FT.) BEFORE SEEDING.
 HARROW OR DISC INTO UPPER THREE-INCHES OF SOIL.
 SEEDING: FOR 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 30 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 ABOVE. OR OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE WOOD ANCHORED STRAW. MULCHING: APPLY 1 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 15 GALLONS PER ACRE (5 GAL/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FEET OR HIGHER, USE 348 GALS PER ACRE (8 GAL/1000 SQ. FT.) FOR ANCHORING. MAINTENANCE: INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESTORATIONS.

TEMPORARY SEEDING NOTES:
 APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE RESTORED WHERE A SHORT TERM VEGETATIVE COVER IS NEEDED.
 SEEDING PREPARATION: LOOSEN UPPER THREE-INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.
 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 2 1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.5 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 FEBRUARY 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS ABOVE AS POSSIBLE IN THE SPRING, OR USE SOD.
 MULCHING: APPLY 1 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 15 GALLONS 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 1993 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

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 (892-2437).
 2) ALL VEGETATION AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
 3) FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DICES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, BY 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
 4) ALL SEDIMENT TRAPS/BASINS SHALL BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
 5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51.500 (SEC. 543), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52), TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
 6) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
 7) SITE ANALYSIS:
 TOTAL AREA OF SITE: 10.50 ACRES
 AREA DISTURBED: 0.1 ACRES
 AREA TO BE ROOFED OR PAVED: 0.1 ACRES
 AREA TO BE VEGETATIVELY STABILIZED: 7.1 ACRES
 TOTAL CUT: 12,000 CU. YDS.
 TOTAL FILL: 12,000 CU. YDS.
 OFFSITE WASTE/BORROW AREA LOCATION:
 8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
 9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY OFFICE OF SEDIMENT CONTROL.
 10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED BEFORE TOWING, INSTALLATION OF PERIMETER SEDIMENT CONTROL STRUCTURES, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE, GRADING, OR BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

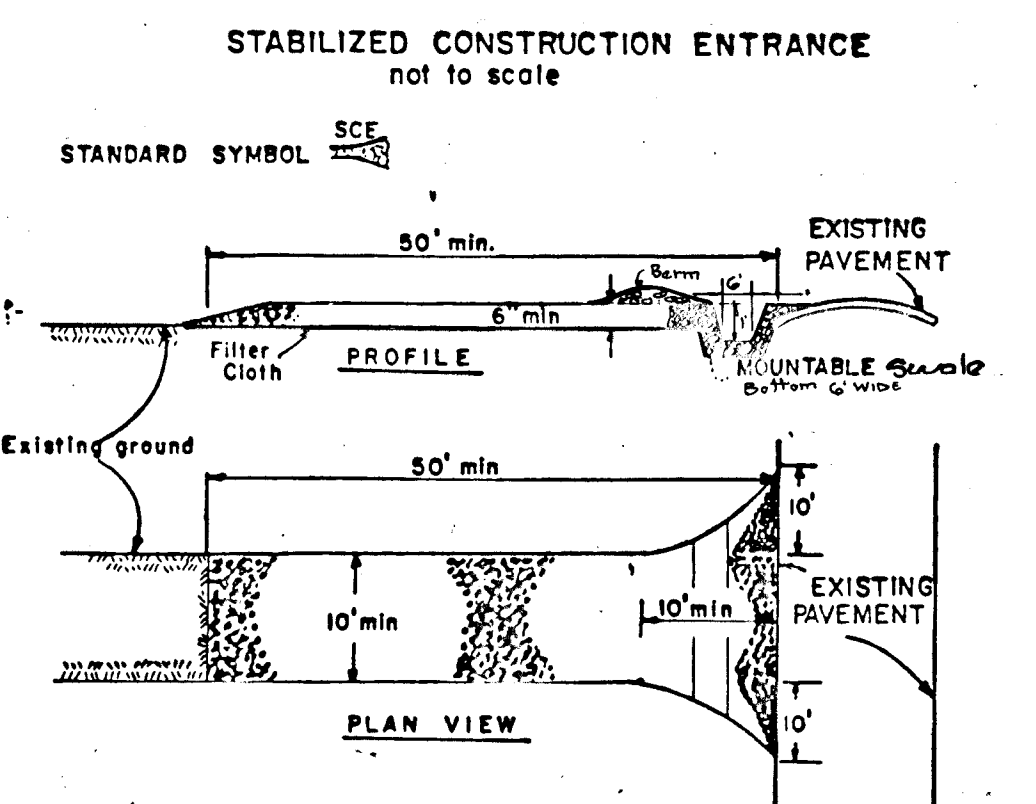


2. Curb Inlet Protection.

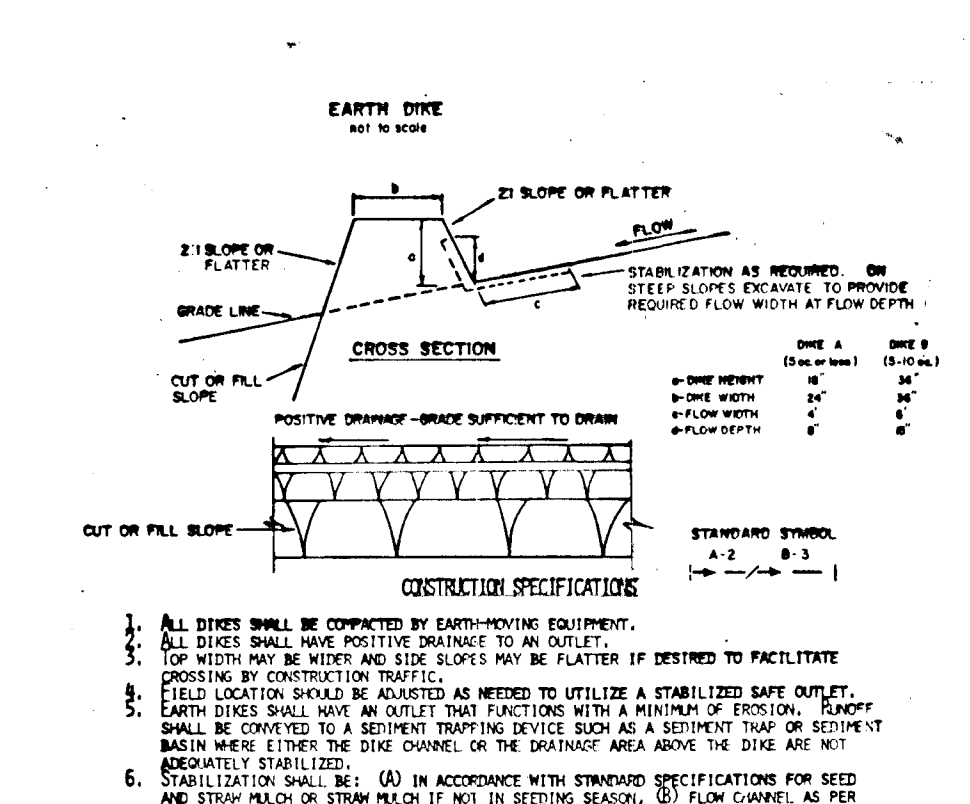
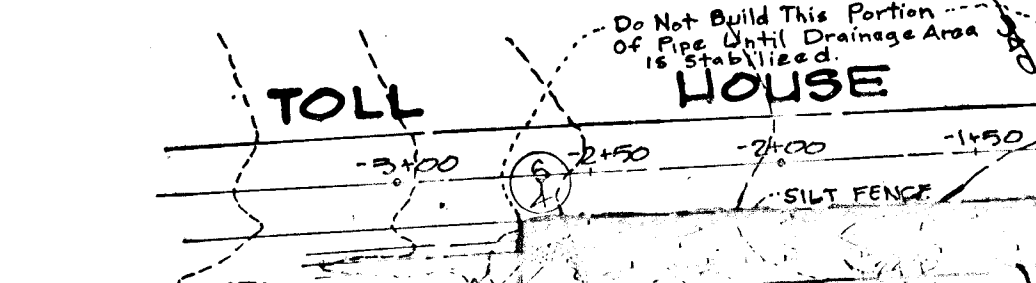
1. Attach a continuous piece of wire mesh (30" min. width by three length plus 4") to the 2" x 4" weir (ensuring throat length plus 2") as shown on the standard drawing.
2. Place a piece of approved filter cloth (40-55 sigma) of the same dimensions as the wire mesh over the wire mesh and securely attach to the 2" x 4" weir.
3. Securely nail the 2" x 4" weir to 9" long vertical supports to be located between the weir and inlet face (4" space).
4. Place the assembly against the inlet throat and nail (minimum length of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by another set of alternate weight.
5. The assembly shall be placed so that the end spacers are a minimum 1" beyond each end of the throat opening.
6. Form the wire mesh and filter cloth to the concrete gutter and against the face of curb on both sides of the inlet. Place clean 2" stone over the wire mesh and filter cloth in such a manner as to prevent water from entering the inlet under or around the filter cloth.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assume that storm flow does not bypass inlet by installing temporary scum or asphalt dike directing flow into inlet.

| REVISION | DATE | NO. |
|---------------------------------------|----------|-----|
| REMOVE FENCE AROUND PRIVATE SWIM FOND | 12-28-89 | 1 |

FISHER, COLLINS AND CARTER, INC.
 CONSULTING ENGINEERS AND LAND SURVEYORS
 8388 COURT AVENUE
 ELLICOTT CITY, MARYLAND 21043



- CONSTRUCTION SPECIFICATIONS**
1. Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
 2. Length - As required, but not less than 50 feet (except on a single residential lot where a 30 foot minimum length would apply).
 3. Thickness - Not less than six (6) inches.
 4. Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
 5. Filter Cloth - will be placed over the entire area prior to placing of stone! Filter will not be required on a single family residence lot.
 6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable curb with 5:1 slopes will be permitted.
 7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanup of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
 8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device. Periodic inspection and needed maintenance shall be provided after each rain.

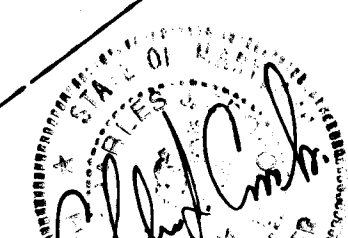
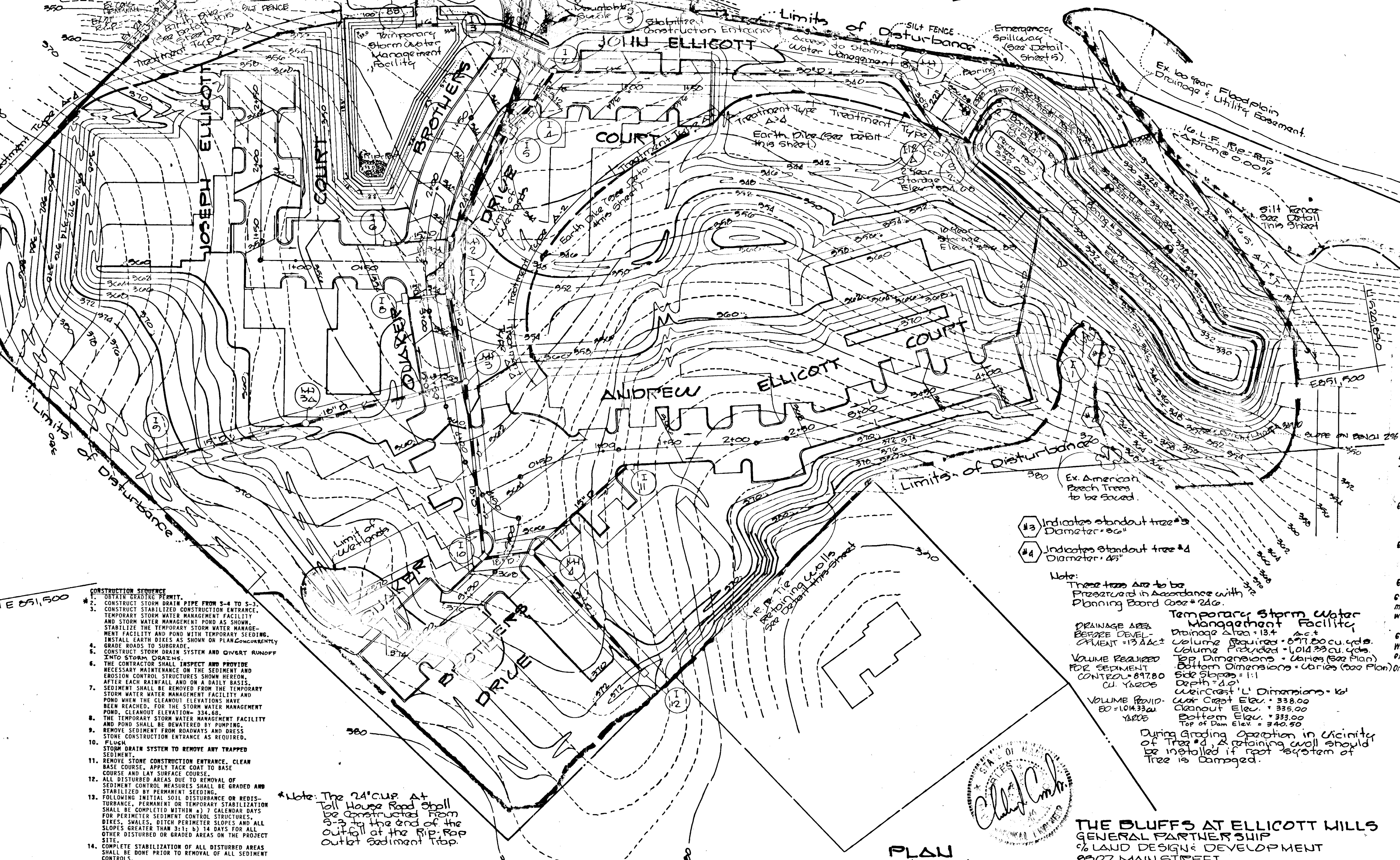


- CONSTRUCTION SPECIFICATIONS**
1. Stone to be 2 inch stone, or recycled concrete equivalent, in a layer at least 3 inches in thickness and be pressed into the soil with construction equipment.
 2. Rip-rap to be 4 inch stone, in a layer at least 8 inches in thickness and pressed into the soil.
 3. Approved equivalents can be substituted for any of the above materials.
 4. Periodic inspection and required maintenance must be provided after each rain event.

- CONSTRUCTION NOTES FOR PREPARED SILT FENCE**
1. Make sure fence to be fastened securely to fence posts with wire ties or staples.
 2. Filter cloth to be fastened securely to every 2' at top and mid section.
 3. When the sections of filter cloth align each other they shall be overlapped by six inches and folded.
 4. Maintenance shall be performed as needed and material removed when piles develop in the silt fence.

ELM OUTLET STABILIZATION

| TYPE OF PRESENTMENT | GRADE | LINE A | LINE B |
|---------------------|---------|---|---|
| 1 | 5.3-0.0 | SEED AND SNOW PLOW | SEED AND SNOW PLOW |
| 2 | 5.1-5.0 | SEED USING ATEL, OR EXCESSIVE SOIL 2" STONE | SEED USING ATEL, OR EXCESSIVE SOIL 2" STONE |
| 3 | 5.1-5.0 | SEED WITH ATEL, OR SOIL | SEED WITH ATEL, OR SOIL |
| 4 | 6.1-5.0 | LINED RIP-RAP 4-8" | ENGINEERING DESIGN |



THE BLUFFS AT ELLICOTT HILLS
 GENERAL PARTNER SHIP
 8007 MAIN STREET
 ELLICOTT CITY, MARYLAND 21043

RETAINING WALL DETAIL
 No Scale
 GRADING & SEDIMENT CONTROL PLAN
THE BLUFFS AT ELLICOTT HILLS
 PARCEL 'A'
 SECOND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: FEB 21, 1989
 SHEET 6 OF 6

ENGINEER'S CERTIFICATE
 I HEREBY 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.
 Signature: [Signature]
 4/19/89
 STATEMENT ENGINEER

DEVELOPER'S CERTIFICATE
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY.
 Signature: [Signature]
 4/19/89
 SIGNATURE OF DEVELOPER

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
 Signature: [Signature]
 4/19/89
 U.S. SOIL CONSERVATION DISTRICT

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 APPROVED:
 Signature: [Signature]
 4/19/89
 DISTRICT
 HOWARD SOIL CONSERVATION DISTRICT

APPROVED: OFFICE OF PLANNING AND ZONING
 Signature: [Signature]
 5/1/89
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
 APPROVED: DEPARTMENT OF PUBLIC WORKS
 Signature: [Signature]
 5-2-89
 CHIEF, BUREAU OF ENGINEERING

APPROVED: DEPARTMENT OF PUBLIC WORKS
 Signature: [Signature]
 CHIEF, BUREAU OF HIGHWAYS
 APPROVED: DEPARTMENT OF PUBLIC WORKS
 Signature: [Signature]
 CHIEF, LAND DEVELOPMENT DIVISION

NOTE: THE MAINTENANCE OF THE STORM WATER MANAGEMENT FUND WILL BE THE RESPONSIBILITY OF THE COMMUNITY ASSOCIATION.

NOTE:

1. Timbers shall be either:
 a) creosote treated railroad ties.
 b) OCA treated landscaping timbers (40' hot attention)
2. Hardware shall be hot dipped galvanized.
3. Weepholes with or without gravel drain are minimum measures for groundwater. For any substantial amount of groundwater, a drain system should be designed and utilized.
4. Design shall be verified for site specific soil condition by a Professional Geotechnical Engineer.

Connect tie back to wall with 4-galvanized 12" spikes (typ.)

6" x 8" Tie Back 6" (Top Only)

6" x 8" Tie Back 6" (Typ.)

6" x 8" Tie Back 6" (Typ.)

6" x 8" continuous anchor cross member installed to tie back wall galvanized 12" spikes (typ.)

6" x 8" treated timbers tie together w/ 12" galvanized spikes. When groundwater behind wall is possible, pile 12" w/ treated or creosote stone per 12' of wall (typ.)

1" dia. hole back to back with 12" x 12" spikes of filler chain, spaced to 50' max (typ.)

Temporary Storm Water Management Facility

DESIGN AREA: 0.25 ACRES
 CHANNEL: 113' ACRES
 VOLUME REQUIRED FOR SEDIMENT CONTROL: 87,800 CU. YARDS
 VOLUME PROVIDED: 80,104.39 CU. YARDS

Bottom Dimensions - 10' x 10' x 10' (see Plan)
 Side Slopes: 1:1
 Bottom: 12" x 12" x 12" (see Plan)

Clear Height: 10'
 Clear Crest Elev.: 338.00
 Channel Elev.: 338.00
 Bottom Elev.: 338.00
 Top of Dam Elev.: 340.00

During Grading Operation in Vicinity of Ties, a Protective Wall Should be Installed if Root System of Tree is Damaged.