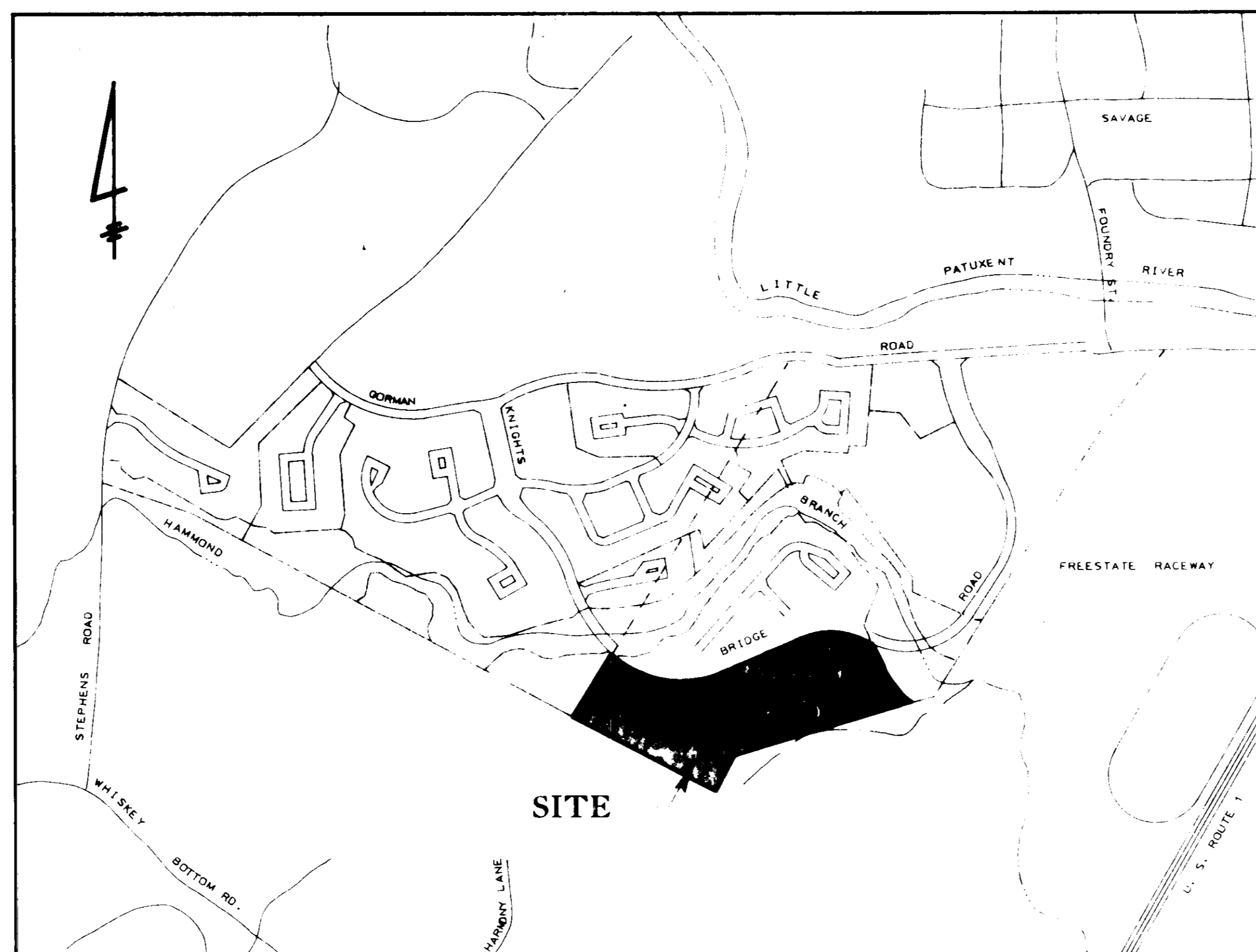


# BOWLING BROOK FARMS

## PARCEL 'C'

### SHEET INDEX

1. TITLE SHEET
2. MASS GRADING - SEDIMENT CONTROL
3. MASS GRADING - SEDIMENT CONTROL
4. SEDIMENT BASIN #1 - PROFILES & DETAILS
5. SEDIMENT BASIN #2 - PROFILES & DETAILS
6. SEDIMENT BASIN SPECIFICATIONS & DETAILS
7. SEDIMENT CONTROL NOTES & DETAILS
8. EXISTING DRAINAGE AREA MAP
9. PROPOSED DRAINAGE AREA MAP



VICINITY MAP  
SCALE: 1" = 600'

### GENERAL NOTES

1. TOTAL AREA OF PARCEL: 20.19 AC±
2. PRESENT ZONING: RSA-8
3. EXISTING USE: WOODS
4. PROPOSED USE: MASS GRADING FOR FUTURE TOWNHOMES
5. TOPOGRAPHY SHOWN BASED ON FIELD SURVEY BY HARRIS, SMARIGA, MATZ, INC. DATED NOVEMBER, 1991.
6. WETLANDS AND FLOODPLAIN SHOWN HEREIN WERE DELINEATED BY OTHERS AND RECORDED ON THE PLATS OF BOWLING BROOK FARM: 10094-10099.
7. THERE ARE NO EXISTING BUILDINGS, STRUCTURES, HISTORIC STRUCTURES OR CEMETERIES ON THE SITE. THE SITE DOES CONTAIN ENVIRONMENTALLY SENSITIVE AREAS INCL. WETLANDS, WETLAND BUFFERS, STREAMBANK BUFFERS AND STEEP SLOPES.
8. SEE DEPARTMENT OF PLANNING AND ZONING FILE S-92-12 AND WP-92-117.
9. NO ROOTS, STUMPS AND DEBRIS SHALL BE PLACED IN ANY FILL AREAS SHOWN HEREIN.
10. GEOTECHNICAL REPORTS SHALL BE PROVIDED ON ALL CONTROLLED FILL AREAS DESIGNATED FOR FUTURE ROADS.
11. ALL FUTURE ROAD RIGHTS-OF-WAY WILL BE STAKED IN THE FIELD PRIOR TO ANY WORK IN THOSE AREAS.
12. IN AREA WHERE EXCAVATION IS NEEDED WITHIN THE ROAD RIGHT-OF-WAY, EXCAVATION MUST BE MADE WITHIN 1 FOOT OF THE FINAL SUBGRADE.
13. WHERE FILL IS PROPOSED WITHIN THE ROAD RIGHT-OF-WAY, THE FILL SHALL BE A MINIMUM OF 2 FEET BELOW THE FINAL ROAD SUBGRADE.

## SITE DEVELOPMENT PLAN

### SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL FOND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

*James M. Matz* 6/18/92  
U.S. SOIL CONSERVATION SERVICE DATE

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

*Shirley Z. Bell* 6/18/92  
HOWARD SOIL CONSERVATION DISTRICT DATE

*R. H. Marshall*  
HARRIS, SMARIGA, MATZ, INC.  
PLANNERS / ENGINEERS / SURVEYORS  
101 CHURCH LANE, SUITE 100  
BALTIMORE, MARYLAND 21201  
(301) 484-1511

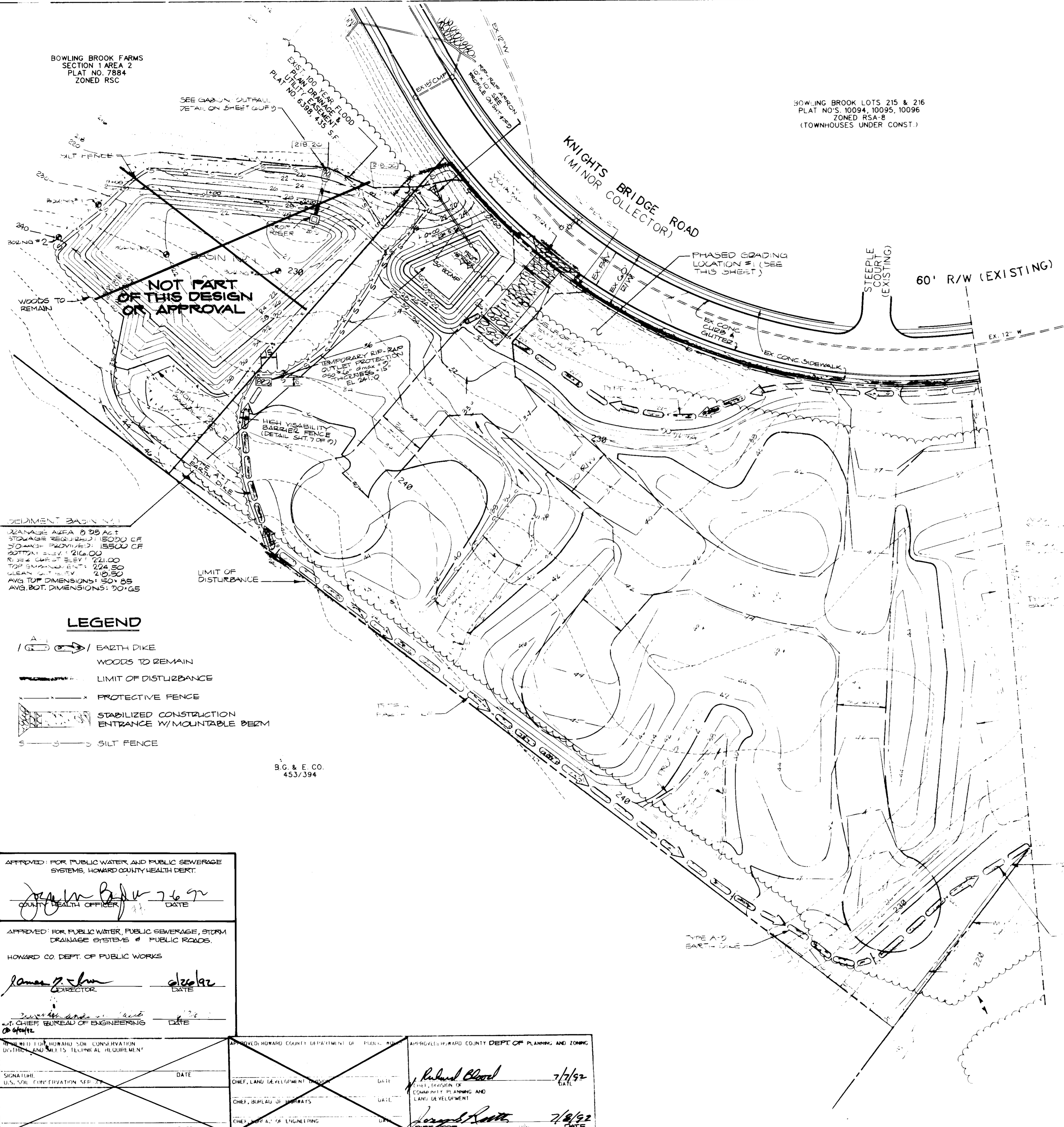
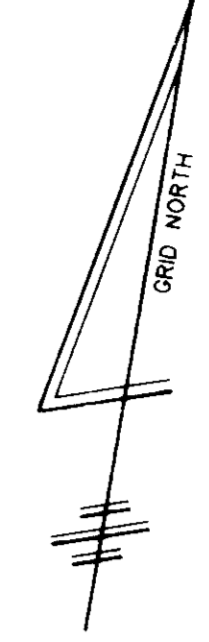
|   |  |
|---|--|
| APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS                                      | APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING |
| APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT |  |
| <i>Joseph W. Brough</i> 7-6-92<br>COUNTY HEALTH OFFICER DATE                            |  |
| APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS.   |  |
| HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  |  |
| <i>James P. Lewis</i> 6/26/92<br>DIRECTOR DATE  |  |
| APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS                                      |  |
| CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT                              | <i>Richard Blood</i> 7/1/92<br>DATE                  |
| CHIEF, BUREAU OF HIGHWAYS   |  |
| CHIEF, BUREAU OF ENGINEERING  | <i>Howard Smith</i> 7/8/92<br>DIRECTOR DATE          |

|               |                |  |  |                      |
|---------------|----------------|--|--|----------------------|
| ADDRESS CHART |                | DESIGNED<br>DM   | BOWLING BROOK FARMS<br>PARCEL C                  | SCALE<br>1"=50'      |
| LOT NUMBER    | STREET ADDRESS | DRAWN<br>GSD/SS  |  | DRAWING<br>1 OF 9    |
|               |                | CHECKED<br>DM  |  | JOB NO.<br>40554     |
|               |                | DATE<br>6/17/92  |  | FILE NO.             |
|               |                | SIXTH ELECTION DISTRICT<br>HOWARD COUNTY, MARYLAND   |  |                      |
|               |                | OWNER DEVELOPER<br>JAMES F. KNOTT DEVELOPMENT CORPORATION<br>10 WEST ROAD, SUITE 203<br>TOWSON, MARYLAND 21204<br>(410) 321-1030 |  |                      |
| LATE          | REVISION       | SUBDIVISION NAME<br>BOWLING BROOK FARMS  | SECT / AREA<br>47                                | LOT / PARCEL<br>6063 |
|               |                | PLAT • OR L/F BLOCK • ZONE<br>RSA-8  | TAX / ZONE MAP ELEC. DIST. CENSUS TR<br>6TH 6063 |                      |
|               |                | WATER CODE   | SEWER CODE                                       |                      |

REVISION # 1: 6/18/92: REV. BASIN SIZES & LOCATION ON SHEETS 2, 3, 4, 5, 6 & 9.

BOWLING BROOK FARMS  
SECTION 1 AREA 2  
PLAT NO. 7884  
ZONED RSC

BOWLING BROOK LOTS 215 & 216  
PLAT NO'S. 10094, 10095, 10096  
ZONED RSA-8  
(TOWNHOUSES UNDER CONST.)



NOT PART OF THIS DESIGN OR APPROVAL

NOT PART OF THIS DESIGN OR APPROVAL

Reviewed: *Howard* S.C.D.  
*James M. Kelp* 4/22/92

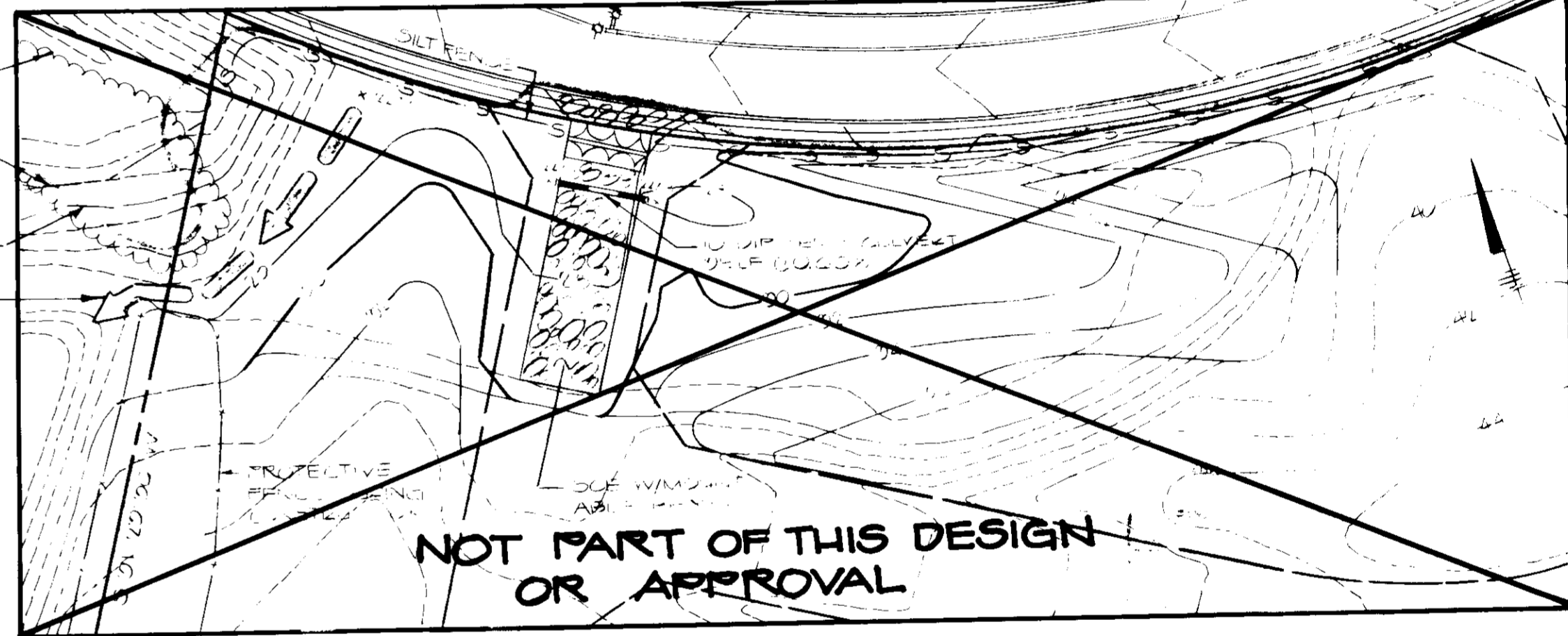
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION CONTROL AND CONSERVATION.  
Approved: *Howard S. J.* 4/22/92

SEEDIMENT BASIN #1  
CAPACITY AREA 8,000 ACFT  
STORAGE REQUIRED: 15000 CF  
30 MINUTE EXCESS FLOW  
BOTTOM ELEV: 216.00  
RIP RAP CURT ELEV: 221.00  
TOP SURFACE ELEV: 224.50  
CLEAN OUT ELEV: 210.50  
AVG TOP DIMENSIONS: 50' x 85'  
AVG BOT. DIMENSIONS: 70' x 65'

**LEGEND**

- EARTH DIKE
- WOODS TO REMAIN
- LIMIT OF DISTURBANCE
- PROTECTIVE FENCE
- STABILIZED CONSTRUCTION ENTRANCE W/ MOUNTABLE BERM
- SILT FENCE

B.G. & E. CO.  
453/394



**LOCATION #1 PHASING**

- 1. REMOVE THIS AREA EARTH DIKE ONCE PHASING #1 IS COMPLETED.
- 2. REMOVE THIS AREA EARTH DIKE ONCE PHASING #2 IS COMPLETED.
- 3. REMOVE THIS AREA EARTH DIKE ONCE PHASING #3 IS COMPLETED.

BANKERS TRUST CO.  
626/573  
ZONED INDUSTRIAL

**HARRIS, SMARIGA, MATZ, INC.**  
PLANNERS / ENGINEERS / SURVEYORS  
104 CHURCH LANE, SUITE 100  
BALTIMORE, MARYLAND 21208  
(301) 486-1511

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPT.  
*James M. Kelp* 7/6/92  
COUNTY HEALTH OFFICER DATE

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS & PUBLIC ROADS.  
HOWARD CO. DEPT. OF PUBLIC WORKS  
*James M. Kelp* 7/6/92  
DIRECTOR DATE

APPROVED FOR HOWARD SOIL CONSERVATION DISTRICT AND METS TECHNICAL REQUIREMENT  
*Richard Blood* 7/7/92  
CHIEF, LAND DEVELOPMENT DIVISION DATE

APPROVED FOR HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
*Richard Blood* 7/7/92  
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED FOR HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
*Howard S. J.* 7/8/92  
DIRECTOR DATE

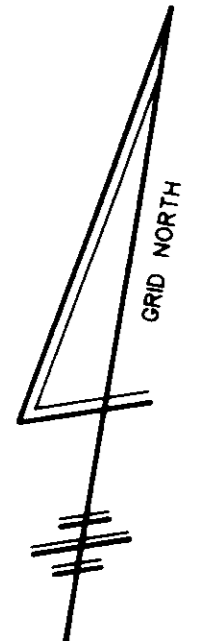
|          |                              |  |        |
|----------|------------------------------|--|--------|
| DESIGNED | MATZ, SMARIGA & HARRIS, INC. | SCALE  | 1"=50' |
| DRAWN    |                              | DRAWING  | 5      |
| CADD     |                              | JOB NO.  | 40554  |
| CHECKED  |                              | FILE NO.   |        |
| DATE     | 6/17/92                      | SIXTH ELECTION DISTRICT<br>HOWARD COUNTY, MARYLAND |        |

OWNER DEVELOPER  
JAMES F. KNOTT DEVELOPMENT CORPORATION  
110 WEST ROAD, SUITE 203  
TOWSON, MARYLAND 21284  
(410) 321-1000

|                  |                      |            |              |            |           |
|------------------|----------------------|------------|--------------|------------|-----------|
| SUBDIVISION NAME | BOWLING BROOKS FARMS | SECT./AREA | LOT/PARCE    | PARCEL C   |           |
| PLAT • OR L/F    | BLOCK •              | ZONE       | TAX/ZONE MAP | ELEC. DIST | CENSUS TR |
|                  |                      | RSA-8      | 47           | 6TH        | 6063      |
| WATER CODE       | SEWER CODE           |            |              |            |           |

| DATE | REVISION |
|------|----------|
|      |          |
|      |          |
|      |          |

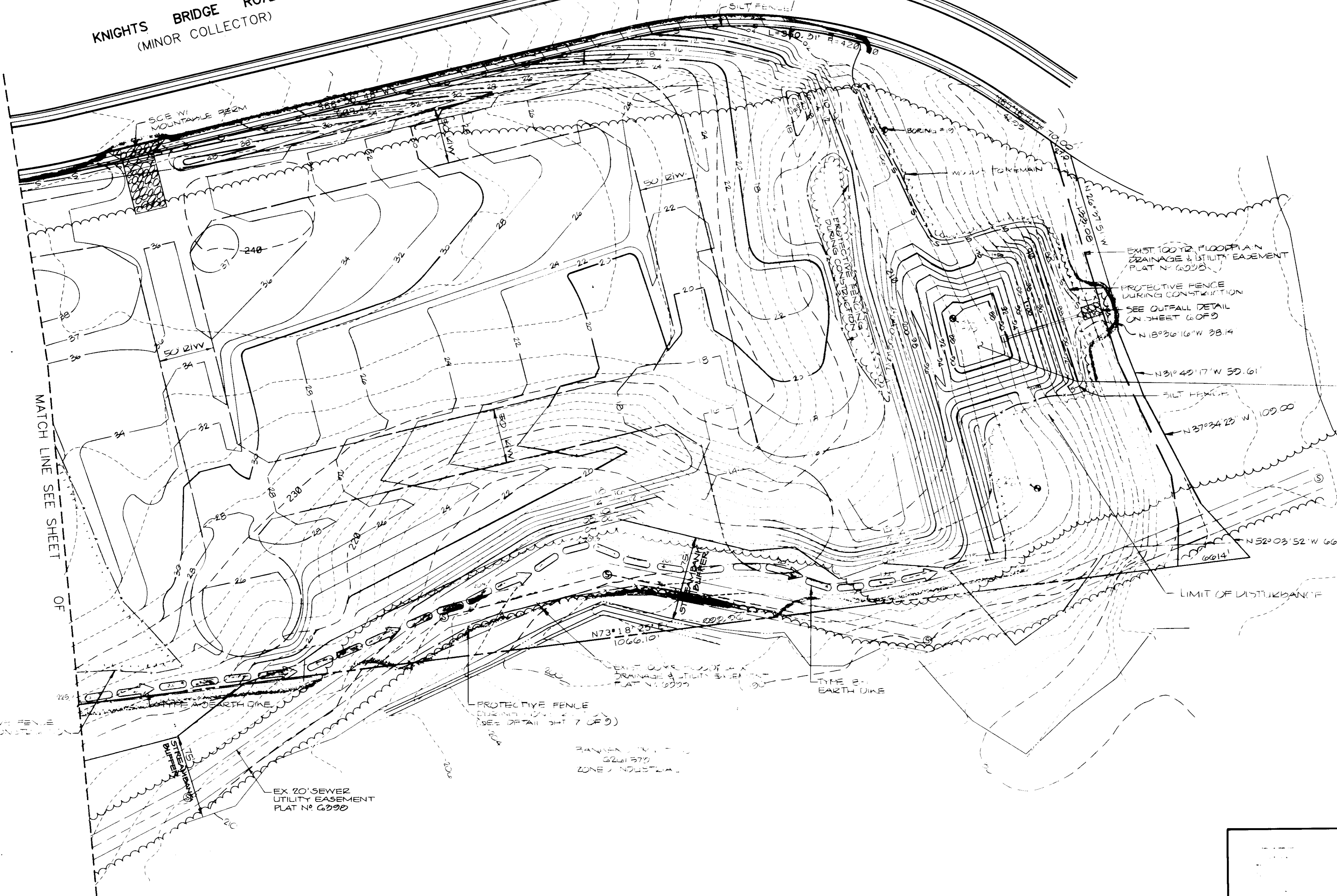
BOWLING BROOK LOTS 215 & 216  
 PLAT NO'S. 10094, 10095, 10096  
 ZONED RSA-8  
 (TOWNHOUSES UNDER CONST.)



KNIGHTS BRIDGE ROAD  
 (MINOR COLLECTOR)

BURLEY LANE  
 (EXISTING)

60' R/W (EXISTING)



BOWLING BROOK LOT 224  
 PLAT NO. 10097  
 ZONED RSA-8  
 (TOWNHOUSES UNDER CONST.)

**SEDIMENT BASIN N#2**  
 STORAGE CAPACITY: 22,590 CF  
 STORAGE SURFACE: 25,145 CF  
 BOTTOM ELEV.: 157.50  
 TOP ELEV.: 194.00  
 TOP SPREAD: 190.00  
 CLEARANCE ELEV.: 191.00  
 AVG. TOP DIMENSIONS @ EL. 194.00 = 75' x 85'  
 AVG. BOT. DIMENSIONS @ EL. 157.50 = 40' x 50'

Reviewed for HOWARD  
 S.C.D.  
 James M. Hahnke  
 6/15/92

THIS DEVELOPMENT PLAN IS FOR SOIL CONSERVATION CONTROL OF THE CONSERVATION DISTRICT.  
 Approved: [Signature]  
 6/15/92

NOTE  
 FOR LEGAL, SEE SHEET 2

APPROVED FOR PUBLIC WATER & PUBLIC SEWERAGE SYSTEMS, HOWARD CO. HEALTH DEPT.  
 [Signature]  
 CO. HEALTH OFFICER  
 7/6/92  
 DATE

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS & PUBLIC ROADS.  
 HOWARD CO. DEPT. OF PUBLIC WORKS  
 [Signature]  
 DIRECTOR  
 7/1/92  
 DATE

APPROVED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT.  
 [Signature]  
 DIRECTOR  
 7/1/92  
 DATE

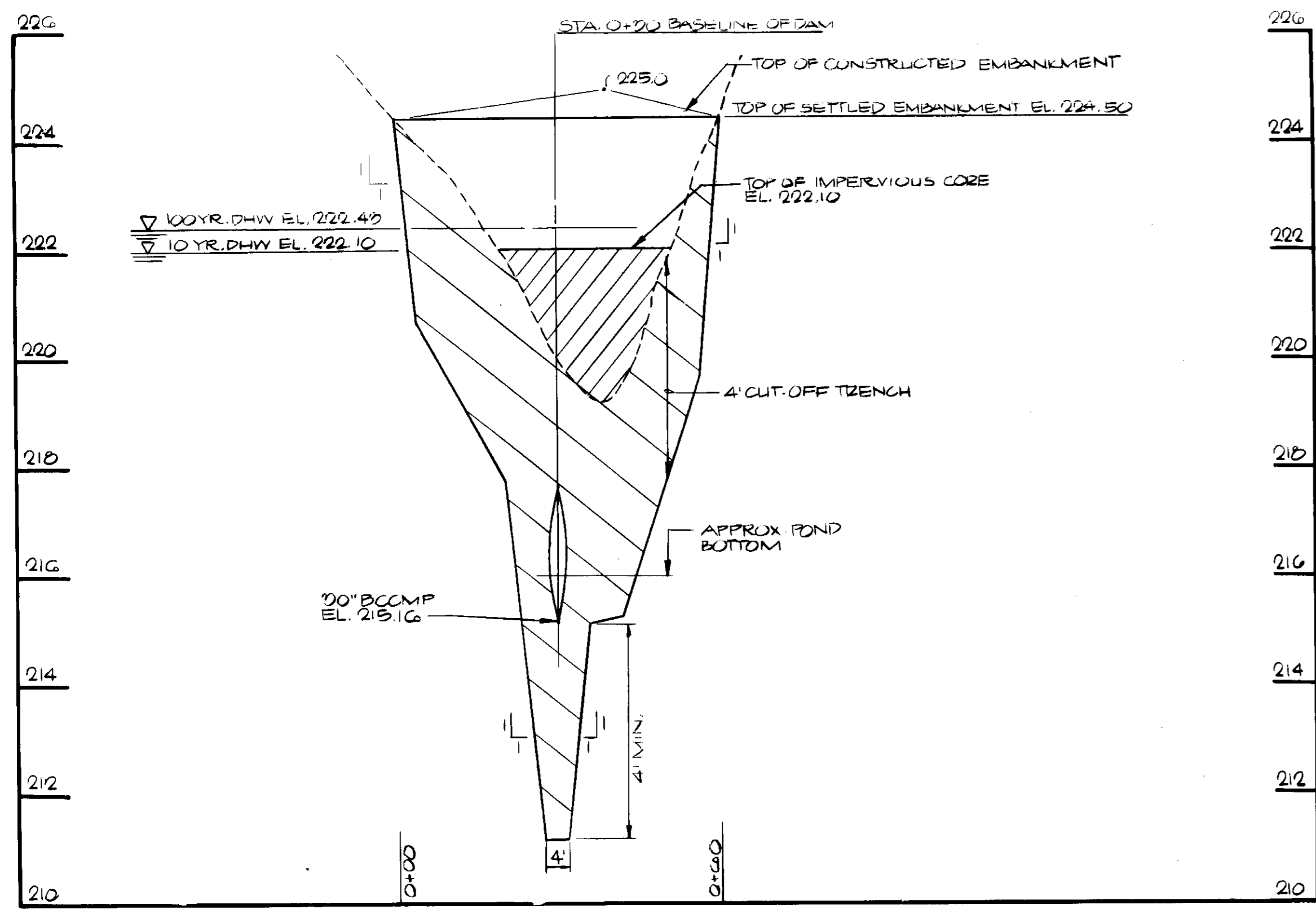
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 [Signature]  
 DIRECTOR  
 7/1/92  
 DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
 [Signature]  
 DIRECTOR  
 7/1/92  
 DATE

APPROVED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT.  
 [Signature]  
 DIRECTOR  
 7/1/92  
 DATE

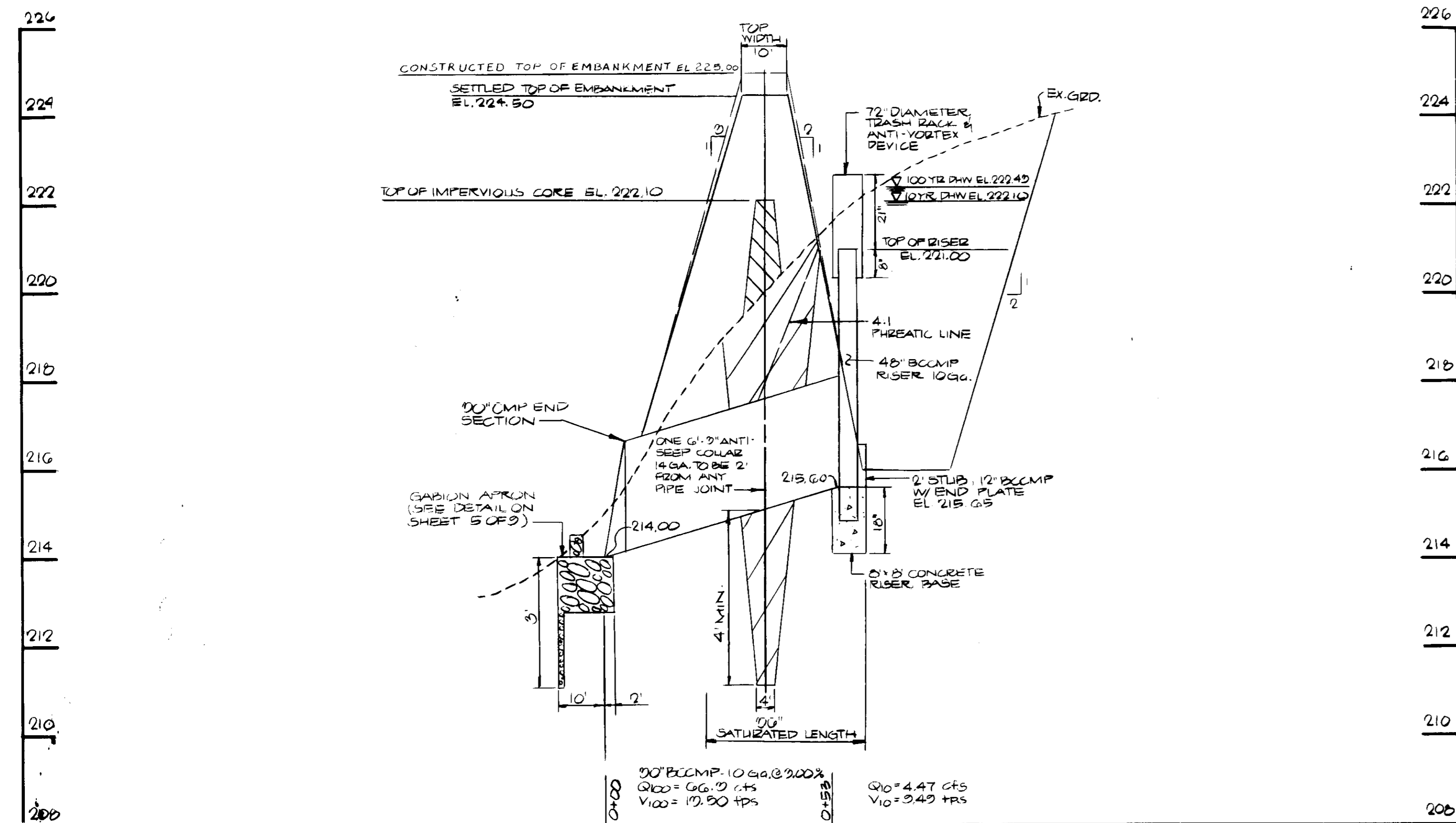
| DESIGNED  | AMV        | SCALE        |
|---|------------|--------------|
| MASS GRADING & SEDIMENT CONTROL PLAN  |            | 1"=50'       |
| DRAWN   | CADD       | DRAWING      |
|   |            | 10/15/92     |
| CHECKED   | AMV        | JOB NO.      |
|   |            | 40554        |
| DATE  |            | FILE NO.     |
| 6/17/92   |            |              |
| SIXTH ELECTION DISTRICT<br>HOWARD COUNTY, MARYLAND  |            |              |
| OWNER DEVELOPER<br>JAMES F. KNOTT DEVELOPMENT CORPORATION<br>110 WEST ROAD, SUITE 203<br>TOWSON, MARYLAND 21204<br>(410) 321-1000 |            |              |
| SUBDIVISION NAME  | SECT./AREA | LOT/PARCEL   |
| BOWLING BROOKS FARMS  |            | PARCEL C     |
| PLAT • OR L/F   | BLOCK •    | TAX/ZONE MAP |
|   |            | 47           |
| WATER CODE  | SEWER CODE |              |
|   |            | 6063         |

**HARRIS, SMARIGA, MATZ, INC.**  
 PLANNERS / ENGINEERS / SURVEYORS  
 104 CHURCH LANE, SUITE 100  
 BALTIMORE, MARYLAND 21208  
 (301) 486-1511



PROFILE ALONG 1/2 DAM - BASIN NO 1 (TEMPORARY)

SCALE VERT. 1" = 2'  
 HOZZ. 1" = 20'



PRINCIPAL SPILLWAY PROFILE - BASIN NO 1 (TEMPORARY)

SCALE VERT. 1" = 2'  
 HOZZ. 1" = 20'

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

CHEF, LAND DEVELOPMENT DIVISION DATE: Richard Blood 7/7/92

CHEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

CHEF, BUREAU OF HIGHWAYS DATE: Joseph R. Smith 7/8/92

CHEF, BUREAU OF ENGINEERING DATE: \_\_\_\_\_

APPROVED FOR HOWARD SOIL CONSERVATION DISTRICT AND METS. TECHNICAL REQUIREMENT

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

HOWARD S.C.D. DATE \_\_\_\_\_

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS, HOWARD CO HEALTH DEPT.

James J. Smith 7-6-92  
 CO. HEALTH OFFICER DATE

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS & PUBLIC ROADS.

HOWARD CO. DEPT. OF PUBLIC WORKS

James J. Smith 6/26/92  
 DIRECTOR DATE

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

RECORD OF SOIL EXPLORATION

Project Name: Bowling Brook Farms Boring # B-1

Location: Savage, MD Job # 92021

Date: \_\_\_\_\_

Soil Elev.: 232.79 Hammer Wt. 140 Lbs. Hole Diameter 8" Foreman Webb

Date Started: 2-17-92 Pipe Size 2 in. Rock Core Dia. \_\_\_\_\_ Inspector \_\_\_\_\_

Date Completed: 2-17-92 Boring Method HSA Date Completed: 2-17-92

| DEPTH | SOIL DESCRIPTION  | STRA. SCALE | DEPTH | DEPTH | NO | REC | REMARKS                           |
|-------|---|-------------|-------|-------|----|-----|-----------------------------------|
| 0     | SURFACE   |             | 0     |       |    |     |                                   |
| 1-2-2 | Brown to reddish brown moist soft to very stiff silt with traces of sand and clay |             | 1     | 16"   | 1  | 16" | Roots in S-1 (Visible 1.5' (117)) |
| 5     | (ML - Silt Loam)  |             | 2     | 16"   | 2  | 16" | 8" Topsoil                        |
| 10    |   |             | 3     | 16"   | 3  | 16" |                                   |
| 12.0  | Bottom of boring at 12.0'   |             |       |       |    |     |                                   |

SAMPLER TYPE: \_\_\_\_\_

SAMPLE CONDITIONS: \_\_\_\_\_

GROUND WATER DEPTH: \_\_\_\_\_

BORING METHOD: \_\_\_\_\_

STANDARD PENETRATION TEST DRIVING: 2.00 SAMPLER 1 WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

RECORD OF SOIL EXPLORATION

Project Name: Bowling Brook Farms Boring # B-3

Location: Savage, MD Job # 92021

Date: \_\_\_\_\_

Soil Elev.: 235.73 Hammer Wt. 140 Lbs. Hole Diameter 8" Foreman Webb

Date Started: 2-17-92 Pipe Size 2 in. Rock Core Dia. \_\_\_\_\_ Inspector \_\_\_\_\_

Date Completed: 2-17-92 Boring Method HSA Date Completed: 2-17-92

| DEPTH   | SOIL DESCRIPTION   | STRA. SCALE | DEPTH | DEPTH | NO | REC | REMARKS              |
|---------|--|-------------|-------|-------|----|-----|----------------------|
| 0       | SURFACE  |             | 0     |       |    |     |                      |
| 1-2-2-3 | Brown, moist soft to med. stiff clayey silt with trace fine sand                       |             | 1     | 16"   | 1  | 16" | Roots in S-1         |
| 5       | (ML - Silt Loam)   |             | 2     | 16"   | 2  | 16" | 8" Topsoil           |
| 8.0     |  |             |       |       |    |     |                      |
| 10      | Yellowish brown, reddish brown moist very stiff to stiff fine sandy silt to silty sand |             | 3     | 16"   | 3  | 16" |                      |
| 14.0    | (ML - Sandy Loam)  |             | 4     | 18"   | 4  | 18" | Trace of clay in S-3 |
| 14.0    | Bottom of boring at 14.0'  |             |       |       |    |     |                      |

SAMPLER TYPE: \_\_\_\_\_

SAMPLE CONDITIONS: \_\_\_\_\_

GROUND WATER DEPTH: \_\_\_\_\_

BORING METHOD: \_\_\_\_\_

STANDARD PENETRATION TEST DRIVING: 2.00 SAMPLER 1 WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

RECORD OF SOIL EXPLORATION

Project Name: Bowling Brook Farms Boring # B-2

Location: Savage, MD Job # 92021

Date: \_\_\_\_\_

Soil Elev.: 238.62 Hammer Wt. 140 Lbs. Hole Diameter 8" Foreman Webb

Date Started: 2-17-92 Pipe Size 2 in. Rock Core Dia. \_\_\_\_\_ Inspector \_\_\_\_\_

Date Completed: 2-17-92 Boring Method HSA Date Completed: 2-17-92

| DEPTH | SOIL DESCRIPTION  | STRA. SCALE | DEPTH | DEPTH | NO | REC | REMARKS                    |
|-------|---|-------------|-------|-------|----|-----|----------------------------|
| 0     | SURFACE   |             | 0     |       |    |     |                            |
| 1-1-1 | Brown, moist medium stiff to hard sandy silt with trace of clay |             | 1     | 16"   | 1  | 16" | Roots in S-1               |
| 5     | (ML - Silt Loam)  |             | 2     | 16"   | 2  | 16" | 8" Topsoil                 |
| 10    |   |             | 3     | 16"   | 3  | 16" | Hard material 5.0' to 7.5' |
| 13.0  |   |             |       |       |    |     |                            |
| 15    | Brown, reddish brown moist hard fine sandy silt                 |             | 4     | 16"   | 4  | 16" |                            |
| 17.0  | (ML - Silt Loam)  |             |       |       |    |     |                            |
| 21.5  | Brown, wet dense silty sand (SH - Sand)                         |             | 5     | 16"   | 5  | 16" | Recovered water at 21.0'   |
| 21.5  | Bottom of boring at 21.5'                                       |             |       |       |    |     |                            |

SAMPLER TYPE: \_\_\_\_\_

SAMPLE CONDITIONS: \_\_\_\_\_

GROUND WATER DEPTH: \_\_\_\_\_

BORING METHOD: \_\_\_\_\_

STANDARD PENETRATION TEST DRIVING: 2.00 SAMPLER 1 WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

RECORD OF SOIL EXPLORATION

Project Name: Bowling Brook Farms Boring # B-4

Location: Savage, MD Job # 92021

Date: \_\_\_\_\_

Soil Elev.: 230.85 Hammer Wt. 140 Lbs. Hole Diameter 8" Foreman Webb

Date Started: 2-12-92 Pipe Size 2 in. Rock Core Dia. \_\_\_\_\_ Inspector \_\_\_\_\_

Date Completed: 2-17-92 Boring Method HSA Date Completed: 2-17-92

| DEPTH   | SOIL DESCRIPTION                                 | STRA. SCALE | DEPTH | DEPTH | NO | REC | REMARKS              |
|---------|--|-------------|-------|-------|----|-----|----------------------|
| 0       | SURFACE  |             | 0     |       |    |     |                      |
| 1-2-3   | Brown, moist medium stiff clayey silt            |             | 1     | 16"   | 1  | 16" | Roots in S-1         |
| 4.0     | (ML - Silt Loam)                                 |             | 2     | 16"   | 2  | 16" | 8" Topsoil           |
| 5       | Brown, moist very stiff to stiff fine sandy silt |             |       |       |    |     |                      |
| 9-10-14 | (ML - Silt Loam)                                 |             | 3     | 16"   | 3  | 16" | Trace of clay in S-3 |
| 14.5    |  |             |       |       |    |     |                      |
| 14.5    | Bottom of boring at 14.5'                        |             |       |       |    |     |                      |

SAMPLER TYPE: \_\_\_\_\_

SAMPLE CONDITIONS: \_\_\_\_\_

GROUND WATER DEPTH: \_\_\_\_\_

BORING METHOD: \_\_\_\_\_

STANDARD PENETRATION TEST DRIVING: 2.00 SAMPLER 1 WITH 140# HAMMER FALLING 30" COUNT MADE AT 6" INTERVALS

NOTES TO THE CONTRACTOR

1. A GROUNDWATER MONITORING POINT SHALL BE INSTALLED AT THE LOCATION SHOWN ON SHEET 5 OF 9.

2. THE GROUNDWATER MONITORING POINT SHALL BE INSTALLED AT A DEPTH OF 4.0 FEET BELOW THE TOP OF THE IMPERVIOUS CORE.

3. THE GROUNDWATER MONITORING POINT SHALL BE INSTALLED AT A DEPTH OF 4.0 FEET BELOW THE TOP OF THE IMPERVIOUS CORE.

4. THE GROUNDWATER MONITORING POINT SHALL BE INSTALLED AT A DEPTH OF 4.0 FEET BELOW THE TOP OF THE IMPERVIOUS CORE.

Reviewed for: HOWARD S.C.D.

Signature: James J. Smith Date: 6/25/92

U.S. Soil Conservation Service

Approved: Howard S.C.D. Date: 6/25/92

HARRIS SMARIGA MATZ, INC.

PLANNERS / ENGINEERS / SURVEYORS

104 CHURCH LANE, SUITE 100

BALTIMORE, MARYLAND 21204

(301) 944-1515

DESIGNED: AMV

DRAWN: LADV

CHECKED: AM

DATE: 6/25/92

SCALE: AS SHOWN

DRAWING: 4-21-2

JOB NO.: 47524

FILE NO.: \_\_\_\_\_

BOWLING BROOK FARMS

SEDIMENT BASIN #1

SIXTH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

SUBDIVISION NAME: BOWLING BROOK FARMS

SECT./AREA: \_\_\_\_\_

LOT/PARCEL: \_\_\_\_\_

PLAT / OR L/F: \_\_\_\_\_

BLOCK: \_\_\_\_\_

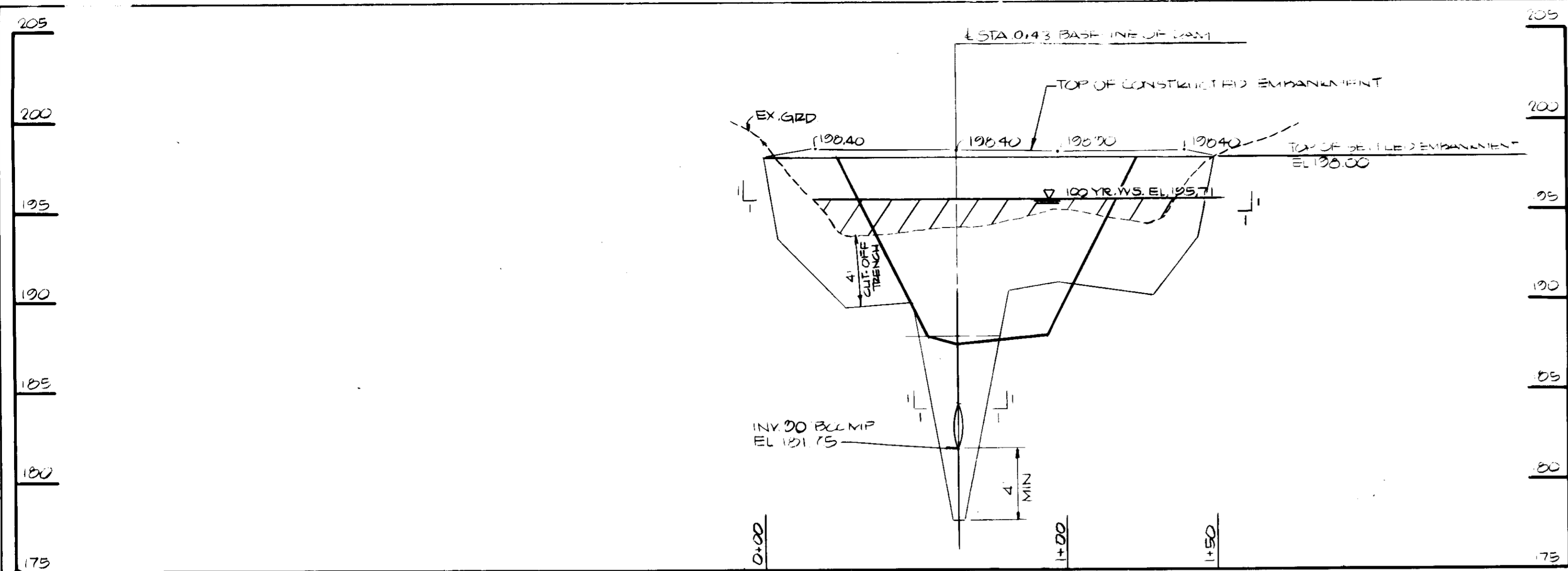
ZONE: \_\_\_\_\_

TAX/ZONE MAP: \_\_\_\_\_

ELEC. DIST. CENSUS TR. MAP: \_\_\_\_\_

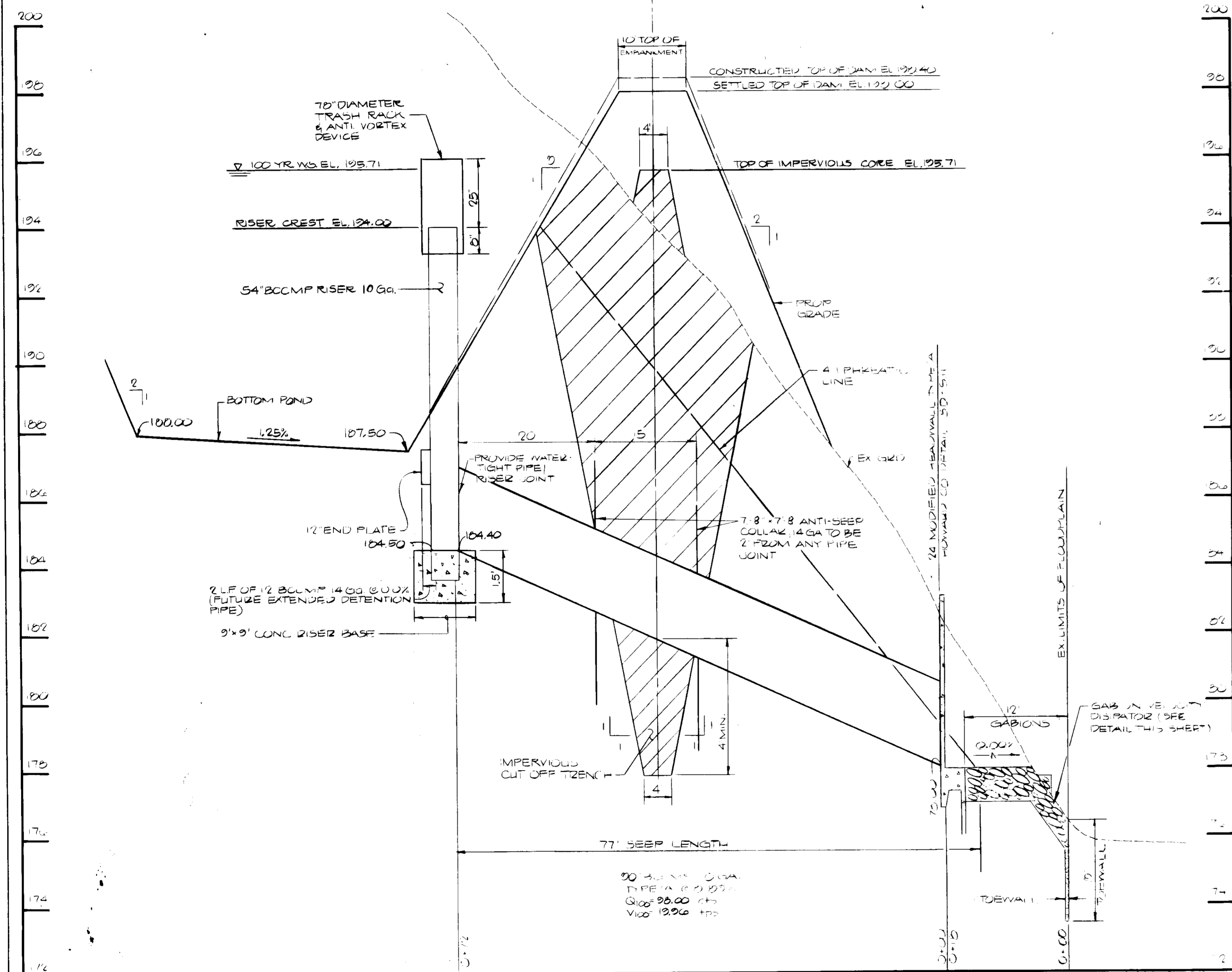
WATER CODE: \_\_\_\_\_

SEWER: \_\_\_\_\_



PROFILE ALONG DAM - BASIN 2

SCALE: HORIZ. 1" = 20'  
VERT. 1" = 5'



PRINCIPAL SPILLWAY PROFILE - BASIN 2

SCALE: HORIZ. 1" = 10'  
VERT. 1" = 2'

RECORD OF SOIL EXPLORATION  
Project Name: Bowling Brook Farms, Savage, Md.  
Location: Savage, Md.  
Boring No.: B-19  
Job #: 92021  
Date: 2-12-92  
Date Completed: 2-12-92

| ELEV.  | SOIL DESCRIPTION  | SPT DEPTH | COR. | BOWLS  | NO. | REC. | BORING & SAMPLING NOTES     |       |
|--------|---|-----------|------|--------|-----|------|-----------------------------|-------|
|        |   |           |      |        |     |      | DEPTH                       | SCALE |
| 199.00 | Surface   | 0.0       |      |        |     |      |                             |       |
| 198.50 | Brown moist soft silt with trace of (M) - Silt Loam                   | 2.5       | I    | 3-2-3  | 1   | 8"   | 5" Topsoil                  |       |
| 197.50 | Brown moist hard sandy silt with trace rock fragments (M) - Silt Loam | 6.0       | I    | 6-5/4" | 2   | 10"  | Hard Aggregate 2.5" to 6.0" |       |
| 196.50 | Bottom of boring at 6.0'  |           |      |        |     |      | Aggr Refusal at 6.0'        |       |

SAMPLER TYPE: STANDARD PENETRATION TEST (DRIVING) (2) SAMPLER WITH 140 HAMMER FALLING 3" COUNT MADE AT 6" INTERVALS

RECORD OF SOIL EXPLORATION  
Project Name: Bowling Brook Farms, Savage, Md.  
Location: Savage, Md.  
Boring No.: B-20  
Job #: 92021  
Date: 2-12-92  
Date Completed: 2-12-92

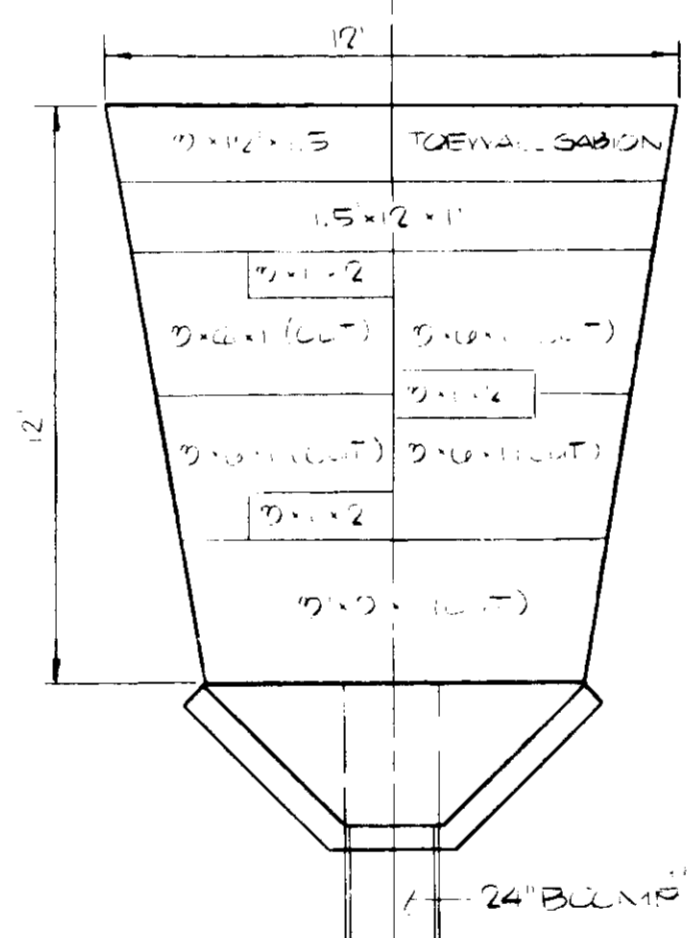
| ELEV.  | SOIL DESCRIPTION   | SPT DEPTH | COR. | BOWLS    | NO. | REC. | BORING & SAMPLING NOTES |       |
|--------|--|-----------|------|----------|-----|------|-------------------------|-------|
|        |  |           |      |          |     |      | DEPTH                   | SCALE |
| 199.00 | Surface  | 0.0       |      |          |     |      |                         |       |
| 198.50 | Brown moist medium stiff silt with some clay, trace of rock fragments (M) - Silt Loam                      | 4.0       | I    | 3-3-3    | 1   | 15"  | 8" Topsoil              |       |
| 197.50 | Brown to greenish gray moist to dry very stiff to hard fine sandy silt with rock fragments (M) - Silt Loam | 10.0      | I    | 7-7-10   | 2   | 18"  |                         |       |
| 196.50 | Brown green moist very dense silty sand (SM - Loose Sand)  | 10.0      | I    | 43-51/9" | 3   | 11"  |                         |       |
| 195.50 | Bottom of boring at 10.5'  |           |      |          |     |      |                         |       |

SAMPLER TYPE: STANDARD PENETRATION TEST (DRIVING) (2) SAMPLER WITH 140 HAMMER FALLING 3" COUNT MADE AT 6" INTERVALS

RECORD OF SOIL EXPLORATION  
Project Name: Bowling Brook Farms, Savage, Md.  
Location: Savage, Md.  
Boring No.: B-21  
Job #: 92021  
Date: 2/12/92  
Date Completed: 2/12/92

| ELEV.  | SOIL DESCRIPTION  | SPT DEPTH | COR. | BOWLS  | NO. | REC. | BORING & SAMPLING NOTES |       |
|--------|---|-----------|------|--------|-----|------|-------------------------|-------|
|        |   |           |      |        |     |      | DEPTH                   | SCALE |
| 199.00 | Surface   | 0.0       |      |        |     |      |                         |       |
| 198.50 | Brown moist soft silt with trace of clay, rocks (M) - Silt Loam   | 4.0       | I    | 2-2-2  | 1   | 12"  | 9" Topsoil              |       |
| 197.50 | Brown, green, yellowish brown moist very stiff sandy silt with rock fragments and silt, sand lenses (M) - Silt Loam | 10.0      | I    | 6-8-13 | 2   | 14"  |                         |       |
| 196.50 | Bottom of boring at 10.2'   |           |      |        |     |      |                         |       |

SAMPLER TYPE: STANDARD PENETRATION TEST (DRIVING) (2) SAMPLER WITH 140 HAMMER FALLING 3" COUNT MADE AT 6" INTERVALS



GABION APRON DETAIL FOR BASIN #1 & 2  
N.T.S.

APPROVED FOR PUBLIC WATER & PUBLIC SEWERAGE SYSTEMS, HOWARD CO. HEALTH DEPT.  
*John B. [Signature]* 7-6-92  
DATE

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE, SIDEM DRAINAGE SYSTEMS & PUBLIC ROADS.  
HOWARD CO DEPT. OF PUBLIC WORKS  
*Lance J. [Signature]* 6/26/92  
DATE

*Stephen [Signature]* 9/16/92  
DATE  
CHIEF, BUREAU OF ENGINEERING

Reviewed by: **HOWARD** S.C.D.  
*John M. [Signature]* 4/5/92  
DATE

THIS DEVELOPMENT IS IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS FOR SOIL EROSION CONTROL BY THE USE OF CONSERVATION STRUCTURES.  
Approved: *[Signature]* Date: 4/5/92  
HOWARD S.C.D.

APPROVED FOR HOWARD CO. CONSERVATION DEPARTMENT AND MEETS TECHNICAL REQUIREMENT

APPROVED BY HOWARD COUNTY DEPT. OF PLANNING AND ZONING

SIGNATURE: *[Signature]* DATE: 7/7/92  
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

SIGNATURE: *[Signature]* DATE: 7/8/92  
DIRECTOR

HOWARD S.C.D. DATE: \_\_\_\_\_ REVISION: \_\_\_\_\_

CHIEF, LAND DEVELOPMENT DIVISION DATE: \_\_\_\_\_

CHIEF, BUREAU OF SURVEYS DATE: \_\_\_\_\_

CHIEF, BUREAU OF ENGINEERING DATE: \_\_\_\_\_

**HARRIS SMARIGA MATZ, INC.**  
PLANNERS / ENGINEERS / SURVEYORS  
114 CHURCH LANE, SUITE 100  
BALTIMORE, MARYLAND 21201  
(301) 584-1515

**BOWLING BROOK FARMS**  
PARCEL C  
SEDIMENT BASIN NO. 2  
PROFILES & DETAILS  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

OWNER/DEVELOPER  
JAMES F. KNOTT DEVELOPMENT CORPORATION  
110 WEST ROAD, SUITE 203  
TOWSON, MARYLAND 21204  
(410) 321-1000

SUBDIVISION NAME: BOWLING BROOKS FARMS  
SECT./AREA: 47  
LOT/PARCEL: PARCEL C

PLAT: OR L/F BLOCK: 618  
ZONE: RSA-B  
TAX/ZONE MAP/ELE. DIST./GENUS. TR: 6TH 6063

WATER CODE: \_\_\_\_\_ SEWER CODE: \_\_\_\_\_

DESIGNED: JAM  
DRAWN: JAM  
CHECKED: JAM  
DATE: 6/17/92

SCALE: 1" = 50'  
DRAWING: 5017  
JOB NO: 40554  
FILE NO: \_\_\_\_\_

**STORMWATER MANAGEMENT POND  
CONSTRUCTION SPECIFICATIONS**

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD FOR PRACTICE MD-378. ALL REFERENCES TO ASTM AND AASHTO SPECIFICATIONS APPLY TO THE MOST RECENT VERSION.

**I. SITE PREPARATION**

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 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 FOR DRY STORMWATER MANAGEMENT PONDS. A MINIMUM OF 50 FOOT RADII SHALL BE MAINTAINED AROUND THE INLET STRUCTURE SHALL BE CLEARED.

ALL CLEARED AND GRUBBED MATERIAL SHALL BE DISPOSED OF OUTSIDE AND BELOW THE LIMITS OF THE DAM AND RESERVOIR AS DIRECTED BY THE OWNER OR HIS REPRESENTATIVE. WHEN SPECIFIED, A SUFFICIENT QUANTITY OF TOPSOIL WILL BE STOCKPILED IN A SUITABLE LOCATION FOR USE ON THE EMBANKMENT AND OTHER DESIGNATED AREAS.

**II. EARTH FILLS**

MATERIAL - THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, LOGS, RUBBISH, STONES GREATER THAN 6" FROZEN OR OTHER OBJECTIONABLE MATERIALS. FILL MATERIAL FOR THE CENTER OF THE EMBANKMENT AND CUT OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH OR CL. CONSTRUCTION MAY BE GIVEN TO THE USE OF OTHER MATERIALS IN THE EMBANKMENT IF DESIGN AND CONSTRUCTION ARE SUPERVISED BY A GEOTECHNICAL ENGINEER.

PLACEMENT - AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT OF FILL. FILL MATERIALS SHALL BE PLACED IN MAXIMUM 8 INCH THICK (BEFORE COMPACTION) LAYERS WHICH ARE TO BE CONTINUOUS OVER THE ENTIRE LENGTH OF THE FILL. THE MOST PERMEABLE BORROW MATERIAL SHALL BE PLACED IN THE DOWNSTREAM PORTIONS OF THE EMBANKMENT. THE PRINCIPAL SPILLWAY MUST BE INSTALLED CONCURRENTLY WITH FILL PLACEMENT AND NOT EXCAVATED INTO 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 Tired OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DEGREE OF COMPACTION WILL BE OBTAINED WITH THE EQUIPMENT USED. THE FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT IF FORMED INTO A BALL IT WILL NOT CRUMBLE YET NOT BE SO WET THAT WATER CAN BE SQUEEZED OUT.

WHERE A MINIMUM REQUIRED DENSITY IS SPECIFIED, IT SHALL NOT BE LESS THAN 95% OF MAXIMUM DRY DENSITY WITH A MOISTURE CONTENT WITHIN + 2% OF THE OPTIMUM EACH LAYER OF FILL SHALL BE COMPACTED AS NECESSARY TO OBTAIN THAT DENSITY, AND IS TO BE CERTIFIED BY THE ENGINEER AT THE TIME OF CONSTRUCTION. ALL COMPACTION IS TO BE DETERMINED BY AASHTO METHOD T-99.

CUT OFF TRENCH - THE CUTOFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS. THE BOTTOM WIDTH OF THE TRENCH SHALL BE COVERED BY THE EQUIPMENT USED FOR EXCAVATION, WITH THE MINIMUM WIDTH BEING FOUR FEET. THE DEPTH SHALL BE AT LEAST FOUR FEET BELOW EXISTING GRADE OR AS SHOWN ON THE PLANS. THE SIDE SLOPES OF THE TRENCH SHALL BE 1 TO 1 OR FLATTER. THE BACKFILL SHALL BE COMPACTED WITH CONSTRUCTION EQUIPMENT, ROLLERS, OR HAND TAMPERS TO ASSURE MAXIMUM DENSITY AND MINIMUM PERMEABILITY.

**III. STRUCTURE BACKFILL**

BACKFILL ADJACENT TO PIPES OR STRUCTURES 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 MANUALLY DIRECTED 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 24" OR GREATER OVER THE STRUCTURE OR PIPE.

**IV. PIPE CONDUITS**

ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION. CORRUGATED METAL PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE:

1. 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 WATER-TIGHT COUPLING BANDS. ANY BITUMINOUS COATING DAMAGED OR OTHERWISE REMOVED SHALL BE REPLACED WITH COLD APPLIED BITUMINOUS COATING COMPOUND. STEEL PIPES WITH POLYMERIC COATINGS SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (10 MIL) ON BOTH SIDES OF THE PIPE. THE FOLLOWING COATINGS OR AN APPROVED EQUAL MAY BE USED: NEXON, PLASTI-COTE, BLACK-KLAD, AND BETH-CU-LOY. COATED CORRUGATED STEEL PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M-245 AND M-248.

2. COUPLING BANDS, ANTI-SEEP COLLARS, END SECTIONS, ETC. MUST BE COMPOSED OF THE SAME MATERIAL AS THE PIPE. METALS MUST BE INSULATED FROM DISSIMILAR MATERIALS WITH USE OF RUBBER OR PLASTIC INSULATING MATERIALS AT LEAST 24" IN THICKNESS.

3. CONNECTIONS - ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATER-TIGHT. THE DRAIN PIPE OR BARREL CONNECTION TO THE RISER SHALL BE WELDED ALL AROUND WHEN THE PIPE AND RISER ARE METAL. ANTI-SEEP COLLARS SHALL BE CONNECTED TO THE PIPE IN SUCH A MANNER AS TO BE COMPLETELY WATER-TIGHT. DUPLE BANDS ARE NOT CONSIDERED TO BE WATER-TIGHT.

ALL CONNECTIONS SHALL USE A RUBBER OR NEOPRENE GASKET WHEN JOINING PIPE SECTIONS. THE END OF EACH PIPE SHALL BE RE-ROLLED AN ADEQUATE NUMBER OF CORRUGATIONS TO ACCOMMODATE THE BAND WIDTH. THE FOLLOWING TYPE CONNECTIONS ARE ACCEPTABLE FOR PIPES LESS THAN 48" IN DIAMETER. FLANGES ON BOTH ENDS OF THE PIPE. A 12" WIDE STANDARD LAP TYPE BAND WITH 12" WIDE BY 3/8" THICK CLOSED CELL CIRCULAR NEOPRENE GASKET. AND A 12" WIDE HUGGER TYPE BAND WITH O-RING GASKETS HAVING A MINIMUM DIAMETER OF 1/2" GREATER THAN THE CORRUGATION DEPTH. PIPES 48" IN DIAMETER AND LARGER SHALL BE CONNECTED BY A 24" LONG ANNULAR CORRUGATED BAND USING RODS AND LUGS. A 12" WIDE BY 3/8" THICK CLOSED CELL CIRCULAR NEOPRENE GASKET WILL BE INSTALLED ON THE END OF EACH PIPE OR TOTAL OF 24" HELICALLY CORRUGATED PIPE SHALL HAVE EITHER CONTINUOUSLY WELDED SEAMS OR HAVE LOCK SEAMS.

4. BEDDING - THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH WHERE ROCK OR SOFT SPONGY OR OTHER UNSTABLE SOIL IS ENCOUNTERED. ALL SUCH MATERIAL SHALL BE REMOVED AND REPLACED WITH SUITABLE EARTH COMPACTED TO PROVIDE ADEQUATE SUPPORT.

5. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".

6. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

**V. CONCRETE**

CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 608.04 OR 608.03. REINFORCING STEEL MUST BE ASTM A615, GRADE 60. STEEL ANGLES AND ANCHOR BARS MUST BE ASTM A36.

**VI. ROCK RIPRAP**

ALL ROCK SHALL BE DENSE, SOUND, AND FREE FROM CRACKS, SEAMS, AND OTHER DEFECTS CONDUCTIVE TO ACCELERATED WEATHERING. THE ROCK FRAGMENTS SHALL BE ANGULAR TO SUBROUNDED IN SHAPE. THE LEAST DIMENSION OF AN INDIVIDUAL ROCK FRAGMENT SHALL BE NOT LESS THAN ONE-THIRD THE GREATEST DIMENSION OF THE FRAGMENT.

THE ROCK SHALL HAVE THE FOLLOWING PROPERTIES:

1. BULK SPECIFIC GRAVITY (SATURATED SURFACE DRY BASIS) NOT LESS THAN 2.5
2. ABSORPTION NOT MORE THAN THREE PERCENT.
3. SOUNDNESS: WEIGHT LOSS IN FIVE CYCLES NOT MORE THAN 20 PERCENT WHEN SODIUM SULFATE IS USED.

BULK SPECIFIC GRAVITY AND ABSORPTION SHALL BE DETERMINED ACCORDING TO ASTM C 127. THE TEST FOR SOUNDNESS SHALL BE PERFORMED ACCORDING TO ASTM C 88.

THE RIPRAP SHALL BE PLACED TO THE REQUIRED THICKNESS IN ONE OPERATION. THE ROCK SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL INSURE THE RIPRAP IS PLACED AS BE REASONABLY HOMOGENEOUS WITH THE LARGER ROCKS UNIFORMLY DISTRIBUTED AND FIRMLY IN CONTACT ONE ANOTHER WITH THE SMALLER ROCKS FILLING THE VOIDS BETWEEN THE LARGER ROCKS. FILTER CLOTH SHALL BE PLACED UNDER ALL RIPRAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND STATE DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 919.12.

**VII. CARE OF WATER DURING CONSTRUCTION**

ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DICES, LEVEES, COFFERDAMS, DRAINAGE CHANNELS AND STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY PUMPING AND OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM THE VARIOUS SECTIONS, ETC. MUST BE COMPOSED OF THE PARTS OF THE WORK AND FOR MAINTAINING THE EXCAVATIONS, FOUNDATION AND OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER. WHILE CONSTRUCTING EACH PART OF THE WORK, AFTER HAVING SERVED THEIR PURPOSE, ALL TEMPORARY PROTECTIVE WORKS SHALL BE REMOVED OR DIRECTED BY THE ENGINEER TO THE EXTENT REQUIRED TO PREVENT OBSTRUCTION IN ANY DEGREE WHATSOEVER OF THE FLOW OF WATER TO THE SPILLWAY OR OUTLET WORKS AND SO AS NOT TO INTERFERE IN ANY WAY WITH THE OPERATION OR MAINTENANCE OF THE STRUCTURE. STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PERMANENT WORKS. THE REMOVAL OF THE WATER FROM THE REQUIRED EXCAVATION AND THE FOUNDATION SHALL BE ACCOMPLISHED IN A MANNER AND TO THE EXTENT THAT WILL MAINTAIN STABILITY OF THE EXCAVATED SLOPES AND BOTTOM OF REQUIRED EXCAVATIONS AND WILL ALLOW SATISFACTORY PERFORMANCE OF ALL CONSTRUCTION OPERATIONS DURING THE PLACING AND COMPACTING OF MATERIAL IN REQUIRED EXCAVATIONS. THE WATER LEVEL AT THE LOCATIONS BEING REFILLED SHALL BE MAINTAINED BELOW THE BOTTOM OF THE EXCAVATION AT SUCH LOCATIONS WHICH MAY REQUIRE DRAINING THE WATER TO SLOPES FROM WHICH THE WATER SHALL BE PUMPED.

8. STABILIZATION - ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A STABLE CONDITION. ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPOIL AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING IN ACCORDANCE WITH THE MARYLAND SOIL CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA PLANTING (MD-342) OR AS SHOWN ON THE ACCOMPANYING DRAWINGS.

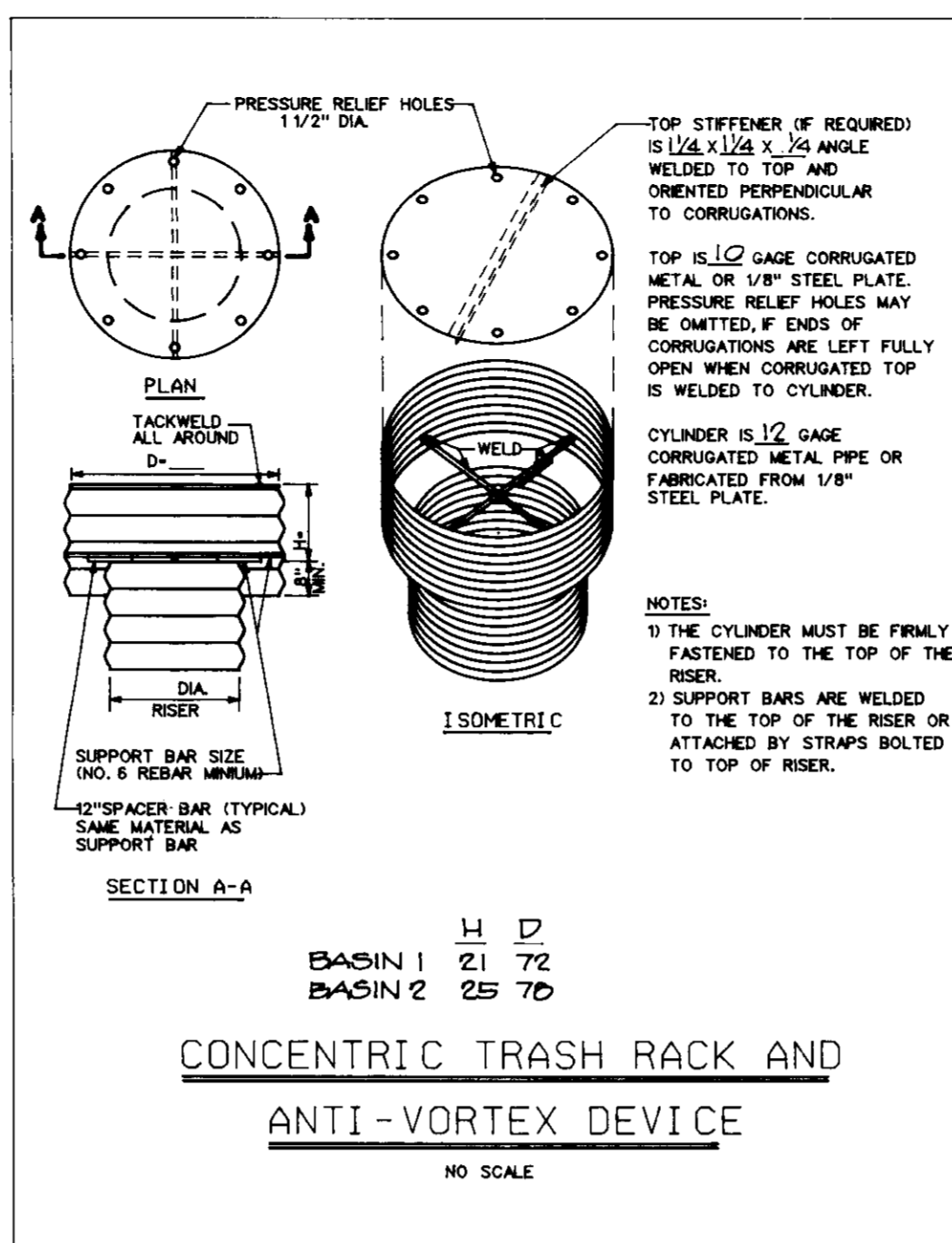
**IX. EROSION AND SEDIMENT CONTROL**

CONSTRUCTION OPERATIONS WILL BE CONDUCTED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED AND WATER AND AIR POLLUTION MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT WILL BE FOLLOWED. CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES TO BE EMPLOYED DURING THE CONSTRUCTION PROCESS.

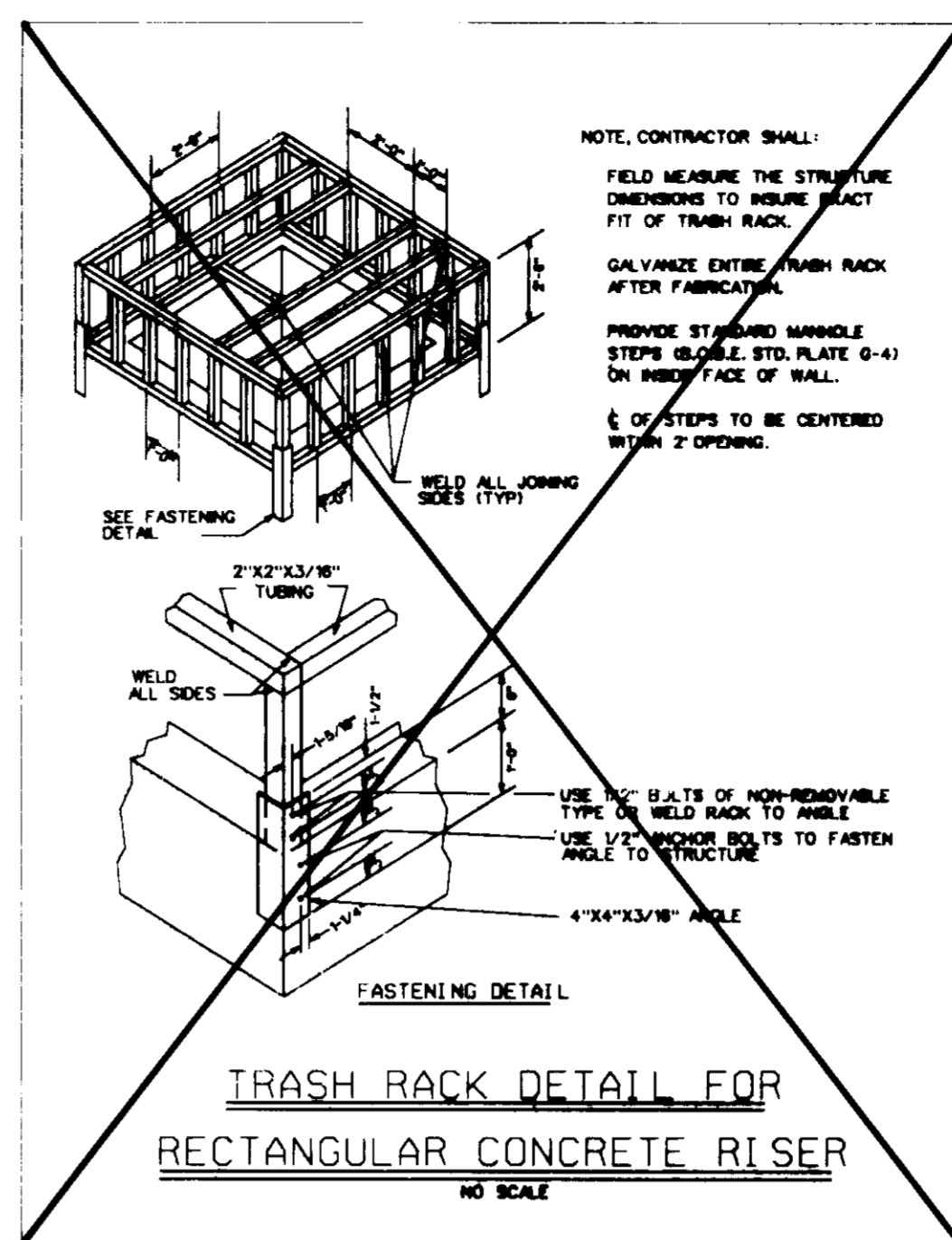
**X. FENCE AND GATE (42" HIGH) (IF REQUIRED)**

CONSTRUCT FENCING IN ACCORDANCE WITH THE STATE HIGHWAY ADMINISTRATION STANDARD DETAILS 690.01 AND 690.04. USE SPECIFICATIONS FOR A 6 FOOT FENCE, SUBSTITUTING 42-INCH FABRIC AND 6 FOOT B INCH LINE POSTS. CONSTRUCT THE GATE IN ACCORDANCE WITH STATE HIGHWAY ADMINISTRATION STANDARD DETAIL 692.01 WITH 42-INCH FABRIC. THE FABRIC USED FOR THE FENCE AND GATE MUST CONFORM TO AASHTO DESIGNATION M-181.74.

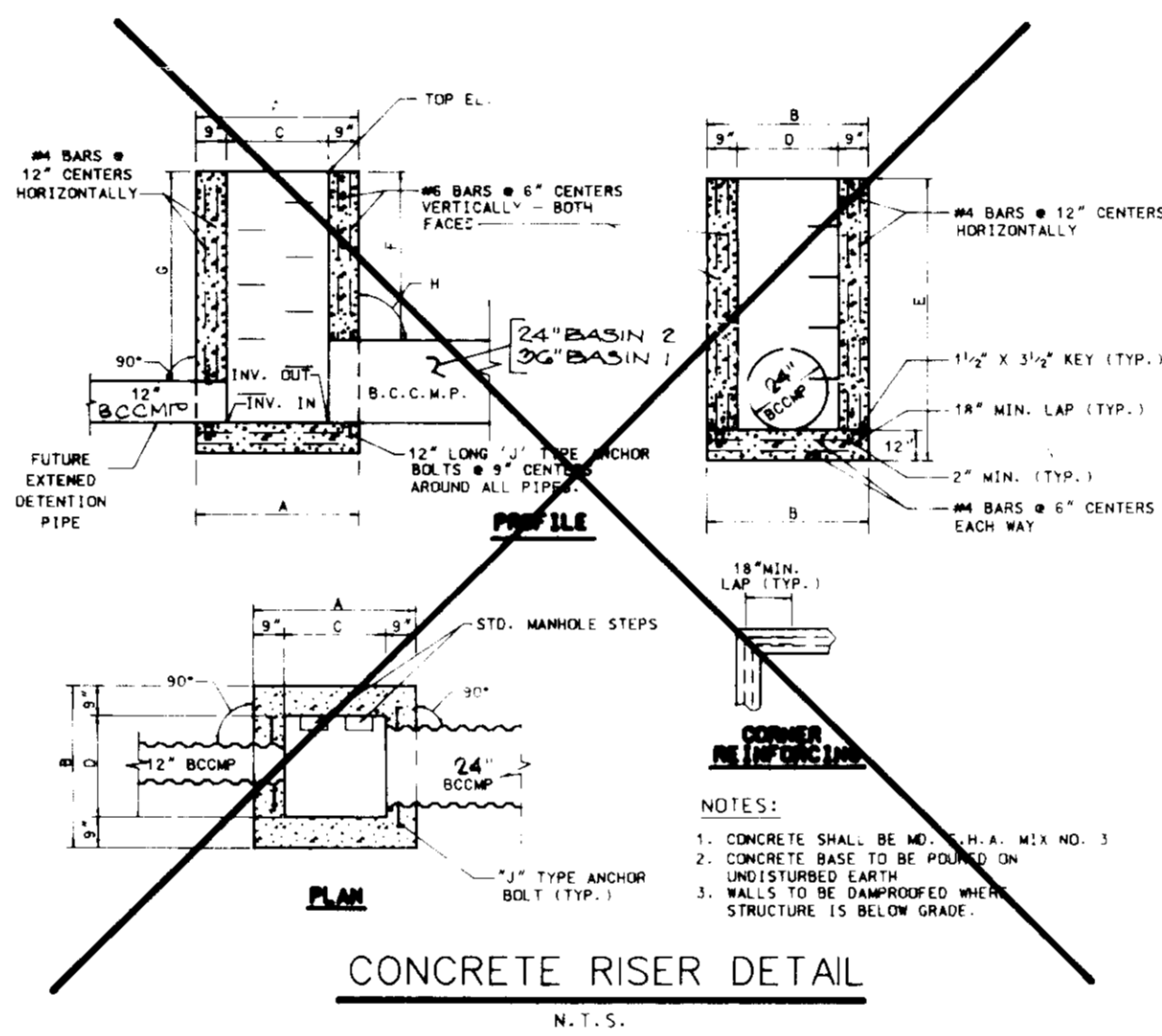
A MINIMUM ACCESS GATE OF 18 FEET SHALL BE PROVIDED WHEN ACCESS IS PERPENDICULAR TO THE GATE. A 24-FOOT GATE SHALL BE PROVIDED WHEN ACCESS IS SKEWED.



**CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE**  
NO SCALE

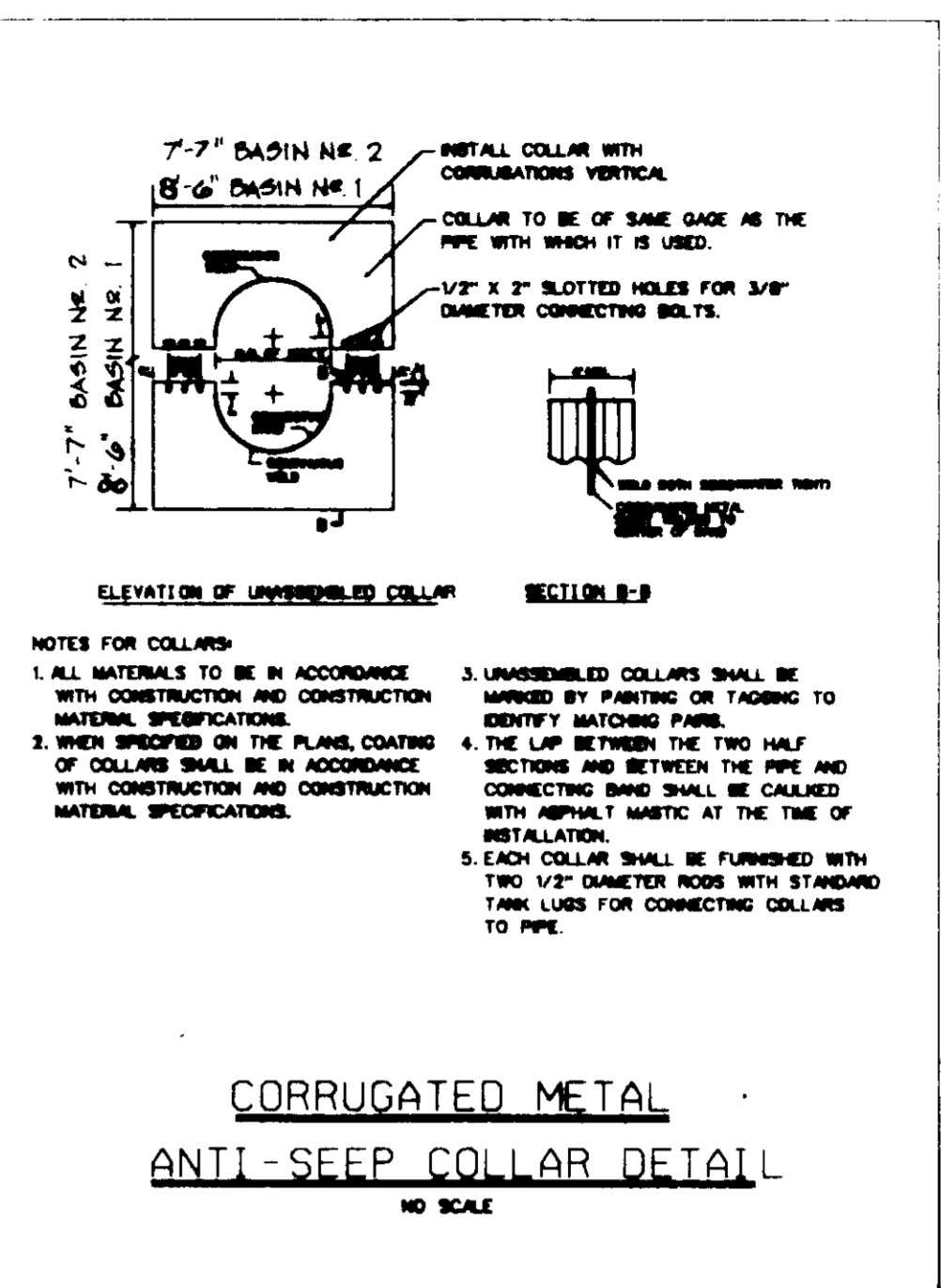


**TRASH RACK DETAIL FOR RECTANGULAR CONCRETE RISER**  
NO SCALE



| CONCRETE RISER DATA |           |          |
|---------------------|-----------|----------|
|                     | BASIN #1  | BASIN #2 |
| TOP ELEV.           | 228.00    | 184.50   |
| INV. IN.            | 218.50    | 184.50   |
| INV. OUT.           | 218.40    | 184.40   |
| A                   | 8.50      | 5.50     |
| B                   | 7.00      | 5.00     |
| C                   | 4.00      | 4.00     |
| D                   | 4.50      | 3.80     |
| E                   | 7.00      | 0.80     |
| F                   | 3.85      | 0.95     |
| G                   | 5.50      | 0.75     |
| H                   | 90" x 12" | 95" x 4" |

**CONCRETE RISER DETAIL**  
NO SCALE



**CORRUGATED METAL ANTI-SEEP COLLAR DETAIL**  
NO SCALE

**"AS-BUILT" CERTIFICATION**

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

SIGNED: \_\_\_\_\_ DATE: \_\_\_\_\_  
BY: \_\_\_\_\_

**CONTRACTOR'S NOTES**

THE CONSTRUCTION SHOWN HEREON MUST BE CERTIFIED TO THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

A REGISTERED PROFESSIONAL ENGINEER MUST BE NOTIFIED SUFFICIENTLY IN ADVANCE OF CONSTRUCTION SO THAT HE CAN ARRANGE FOR:

1. INSPECTION OF THE PIPE TRENCH AND BEDDING.
2. INSPECTION OF THE PIPE RISER AND ANTI-SEEP COLLARS.
3. SUPERVISION OF EMBANKMENT CONSTRUCTION AND COMPACTION TESTING.
4. INSTALLATION OF ACCESS ROAD.
5. OTHER STRUCTURES AND DRAINAGE FEATURES.

**CONSULTANT'S HAZARD CLASS CERTIFICATION**

I certify that this pond meets all requirements for hazard class A (A.B. or C). (Requirements as stated in the SOIL CONSERVATION SERVICE-MARYLAND STANDARDS AND SPECIFICATIONS FOR POND CODE 378, JANUARY 1991.) All necessary investigations and computations have been performed to verify this finding. A copy of said information has been supplied to S.C.S./H.C.S.C.D.

Signature: Richard H. Caspell Md. License No. 12427 Date 4/20/92  
Print Name: RICHARD H. CASPELL

APPROVED FOR PUBLIC WATER & PUBLIC SEWERAGE SYSTEMS, HOWARD CO HEALTH DEPT.  
[Signature] HEALTH OFFICER 7-6-92 DATE

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS & PUBLIC ROADS  
HOWARD CO DEPT. OF PUBLIC WORKS  
[Signature] DIRECTOR 6/26/92 DATE

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
[Signature] CHIEF, BUREAU OF ENGINEERING 6/26/92 DATE

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT FOR SOIL EROSION CONTROL AND CONSERVATION.  
[Signature] DISTRICT S.C.D. 4/25/92 DATE

HOWARD S.C.D. \_\_\_\_\_ DATE

**HARRIS, SMARIGA, MATZ, INC.**

PLANNERS / ENGINEERS / SURVEYORS  
104 CHURCH LANE, SUITE 100  
BALTIMORE, MARYLAND 21202  
(301) 766-1911

DESIGNED: AMV  
DRAWN: CADD  
CHECKED: LHM  
DATE: 6/17/92

**BOWLING BROOK FARMS**  
PARCEL C  
SEDIMENT BASIN  
SPECIFICATIONS & DETAILS  
SIXTH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

OWNER DEVELOPER  
JAMES F. KNOTT DEVELOPMENT CORPORATION  
110 WEST ROAD, SUITE 203  
TOWSON, MARYLAND 21204  
(410) 321-1000

| SUBDIVISION NAME      | SECT./AREA | LOT/PARCEL                         |
|-----------------------|------------|------------------------------------|
| BOWLING BROOKS FARMS  | 47         | PARCEL C                           |
| PLAT * OR L/F BLOCK * | ZONE       | TAX/ZONE MAP ELEC. DIST. CENSUS TR |
|                       | RSA-8      | 6TH 6063                           |
| WATER CODE            | SEWER CODE |                                    |

| DATE | REVISION |
|------|----------|
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**STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION WITH SOD**

**CLASSIFICATION**  
 CLASS OF TURFGRASS SOD SHALL BE MARYLAND OR VIRGINIA STATE CERTIFIED, OR MARYLAND OR VIRGINIA STATE APPROVED SOD.

**SOD INSTALLATION**  
 A. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE THE SOIL SHALL BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING OF SOD.  
 B. THE FIRST ROW OF SOD SHALL BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND TIGHTLY JOINTED AGAINST EACH OTHER. LATERAL JOINTS SHALL BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. INSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.  
 C. ON SLOPING AREAS WHERE EROSION MAY BE A PROBLEM, SOD SHALL BE LAID WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERED JOINTS. SECURE THE SOD BY TAMING AND FLOODING OR OTHER APPROVED METHODS.  
 D. AS SPACING IS COMPLETED IN ANY ONE SECTION, THE ENTIRE AREA SHALL BE ROLLED OR TAMPED TO INSURE SOLID CONTACT OF ROOTS WITH THE SOIL SURFACE. SOD SHALL BE WATERED IMMEDIATELY AFTER ROLLING OR TAMING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW OF THE SOD ARE THOROUGHLY WET. THE OPERATIONS OF LAYING, TAMING AND IRRIGATING FOR ANY PIECE OF SOD SHALL BE COMPLETED WITHIN EIGHT HOURS.

**SOD MAINTENANCE**  
 A. IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHALL BE PERFORMED DAILY OR AS OFTEN AS NECESSARY DURING THE FIRST WEEK AND IN SUFFICIENT QUANTITIES TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATERING SHOULD BE DONE DURING THE HEAT OF THE DAY TO PREVENT MILTING.  
 B. AFTER THE FIRST WEEK, SOD SHALL BE WATERED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE AND INSURE ESTABLISHMENT.  
 C. FIRST MOWING SHOULD NOT BE ATTEMPTED UNTIL SOD IS FIRMLY ROOTED. NO MORE THAN 1/2 OF THE GRASS LEAF SHALL BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED.  
 D. MAINTENANCE OF ESTABLISHED SOD SHOULD FOLLOW SPECIFICATIONS OUTLINED IN TABLE 54-1.

**OWNERS/DEVELOPERS CERTIFICATION**  
 I/WE HEREBY CERTIFY THAT ANY CLEARING, GRADING, CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENTMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT BEGINS THE PROJECT. ALSO THAT THE SITE WILL BE INSPECTED AT THE END OF EACH WORKING DAY, AND THAT ANY NEEDED MAINTENANCE WILL BE COMPLETED SO AS TO INSURE THAT ALL SEDIMENT CONTROL PRACTICES ARE LEFT IN OPERATIONAL CONDITION. I/WE AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS.

**CONSULTANT'S CERTIFICATION**  
 I CERTIFY THAT THIS PLAN OF EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE, AND THAT THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT AND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. I HAVE REVIEWED THIS EROSION AND SEDIMENT CONTROL PLAN WITH THE OWNER/DEVELOPER.

SIGNATURE: Richard H. Caspell MD. LICENSE NO. 12421  
 NAME: Richard H. Caspell DATE: 6/15/92

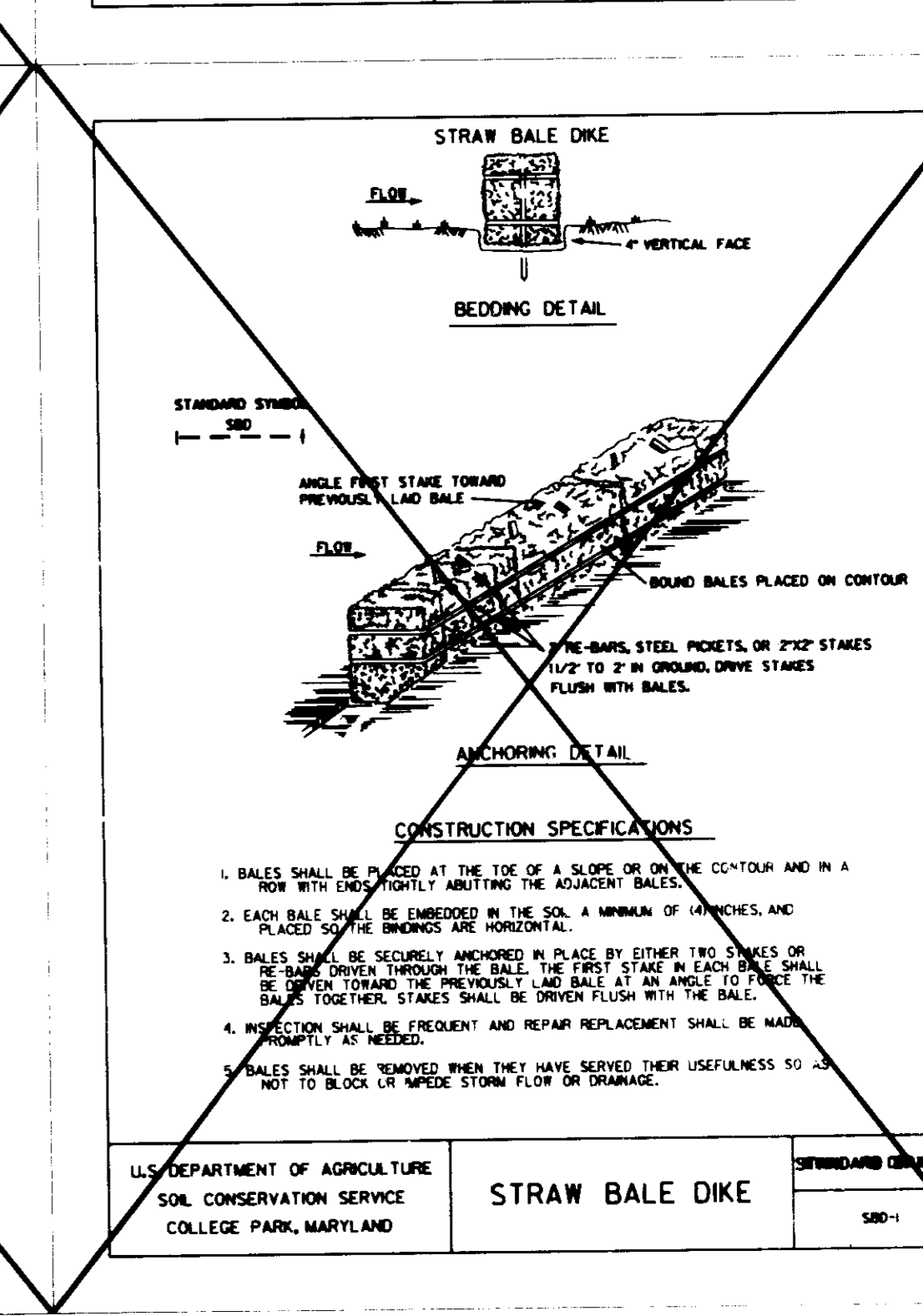
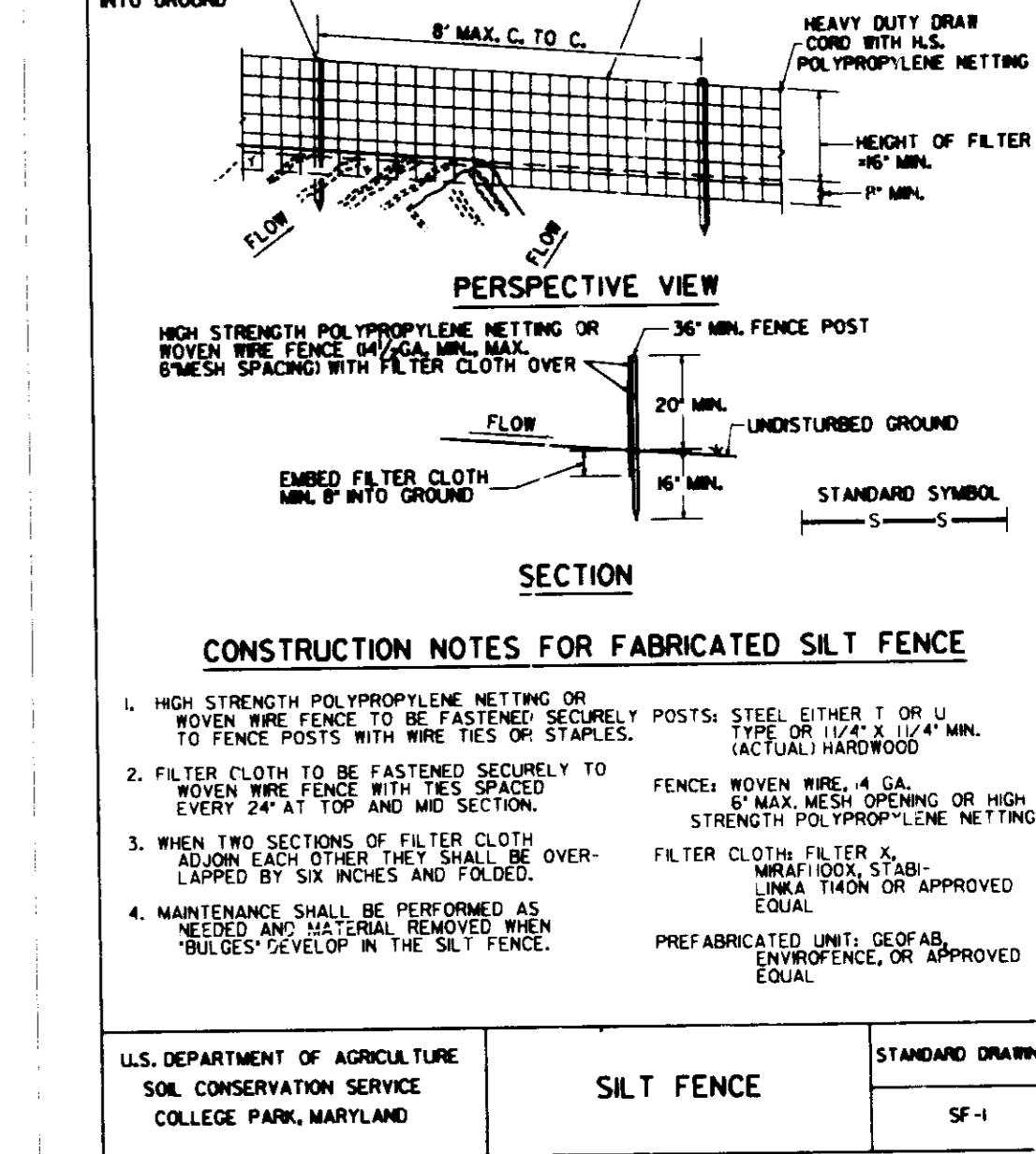
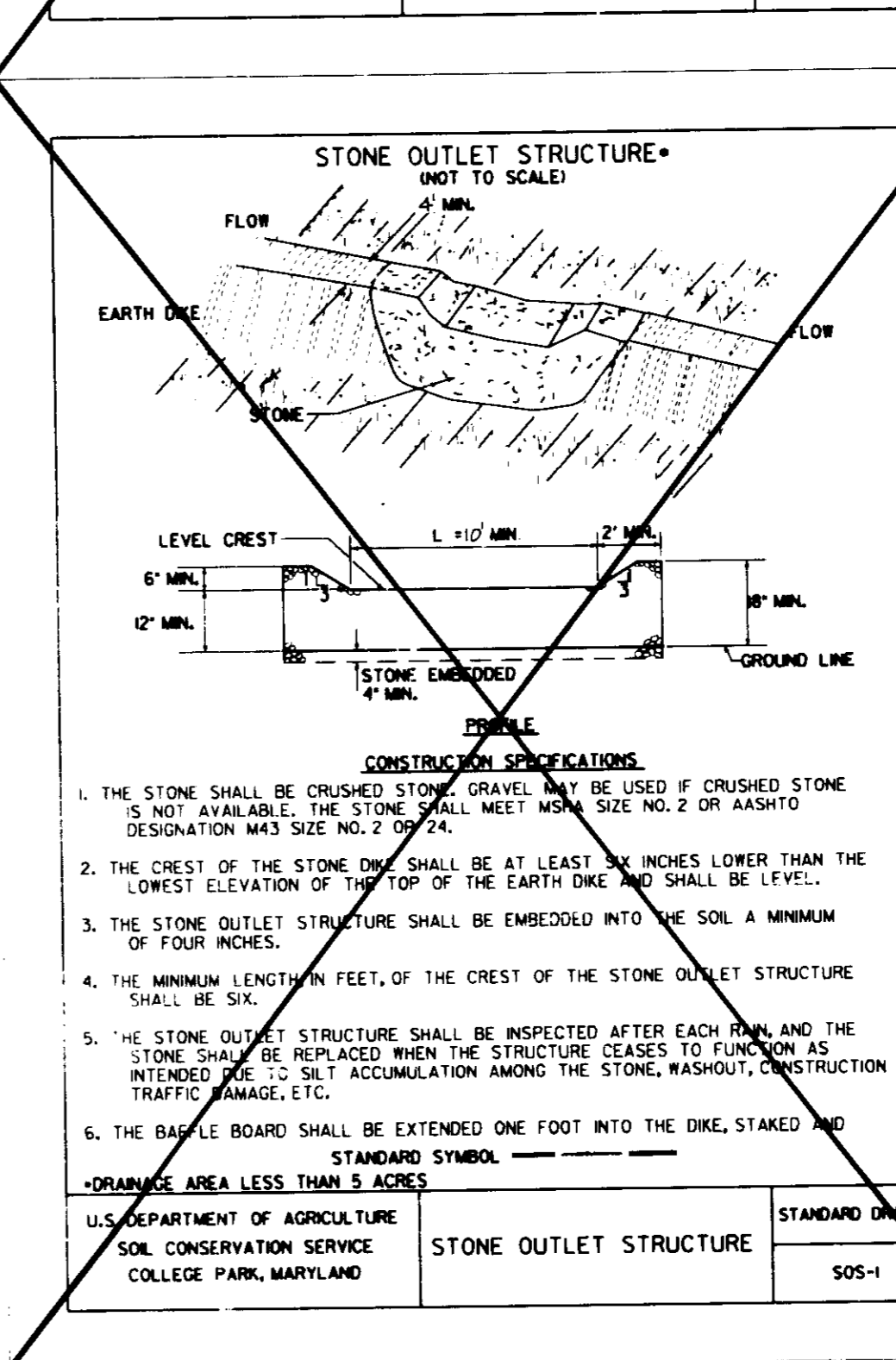
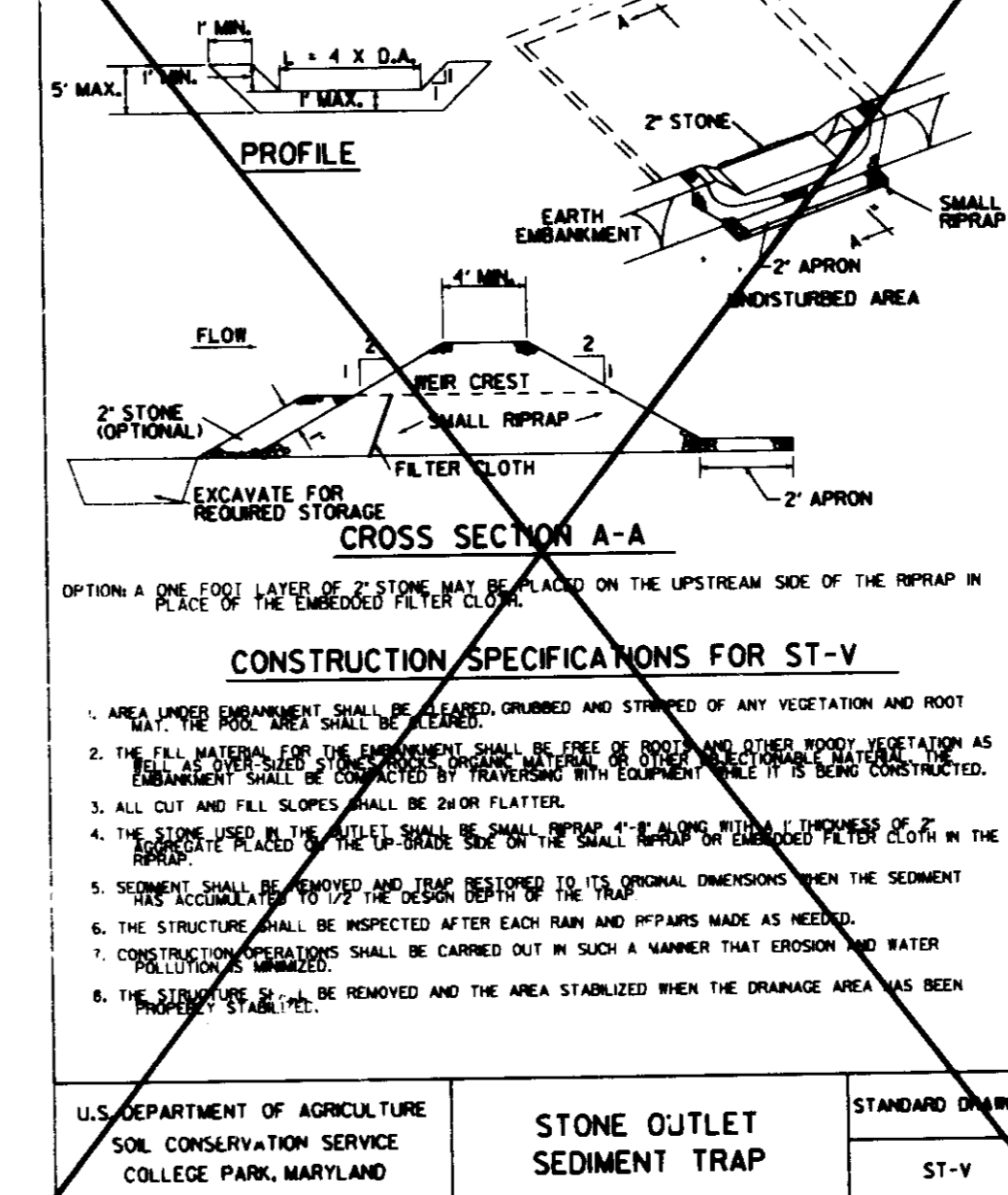
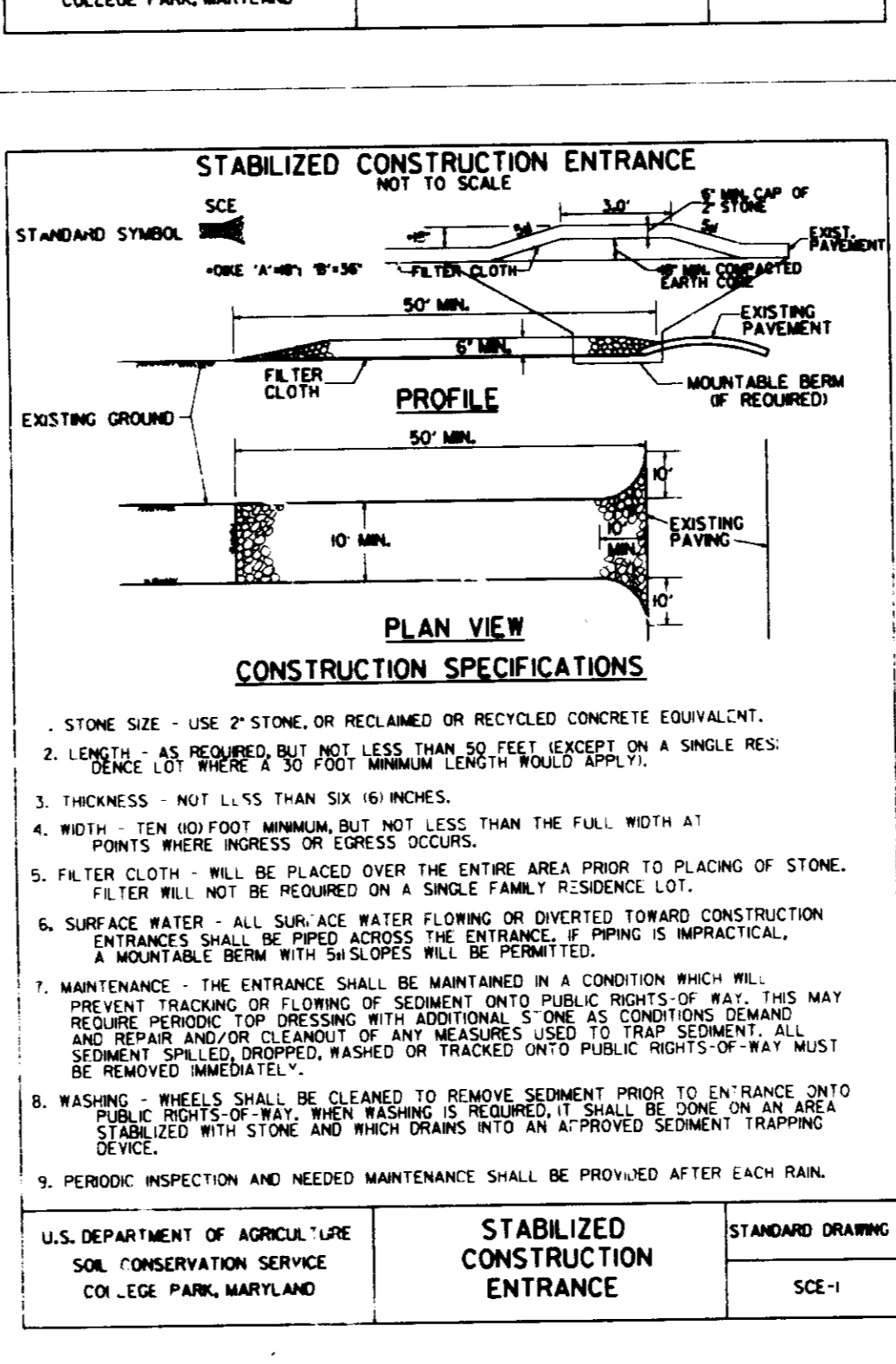
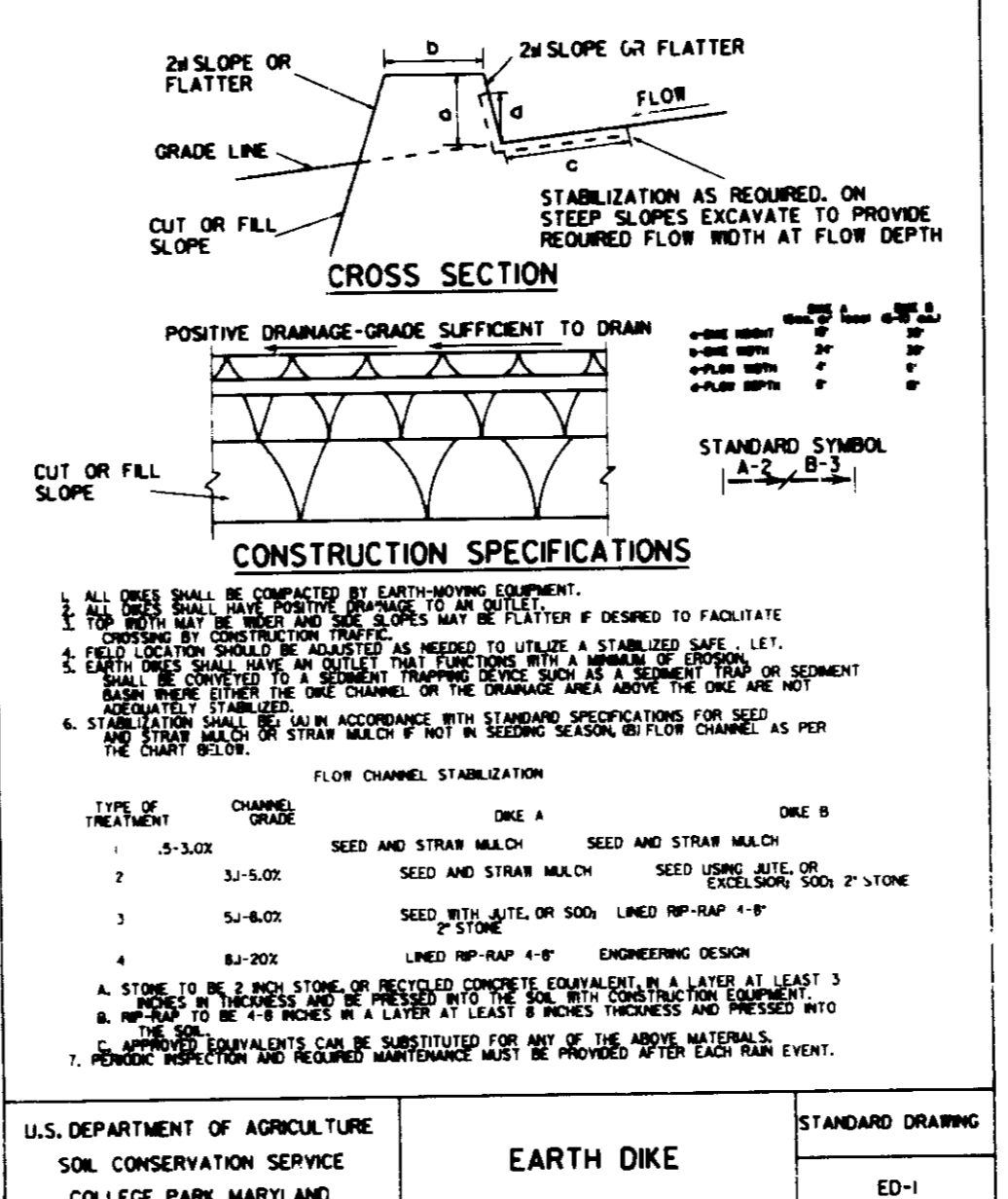
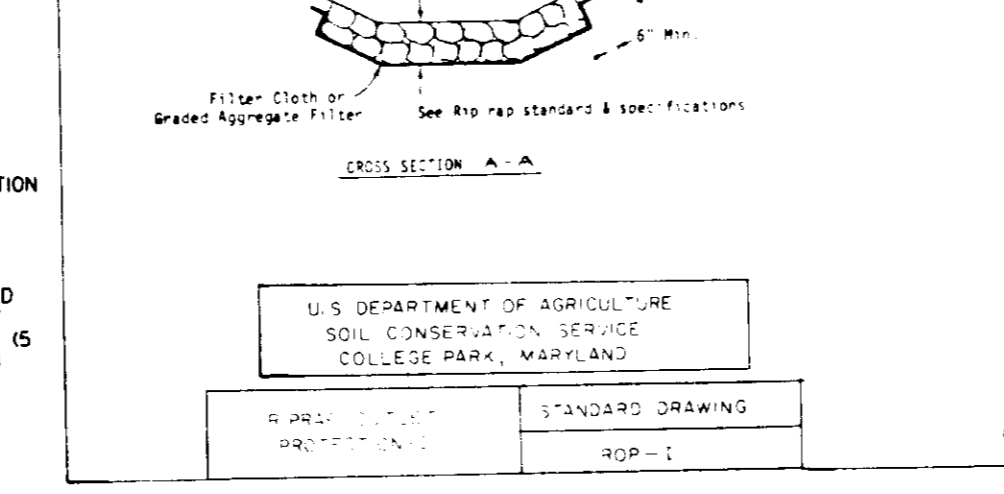
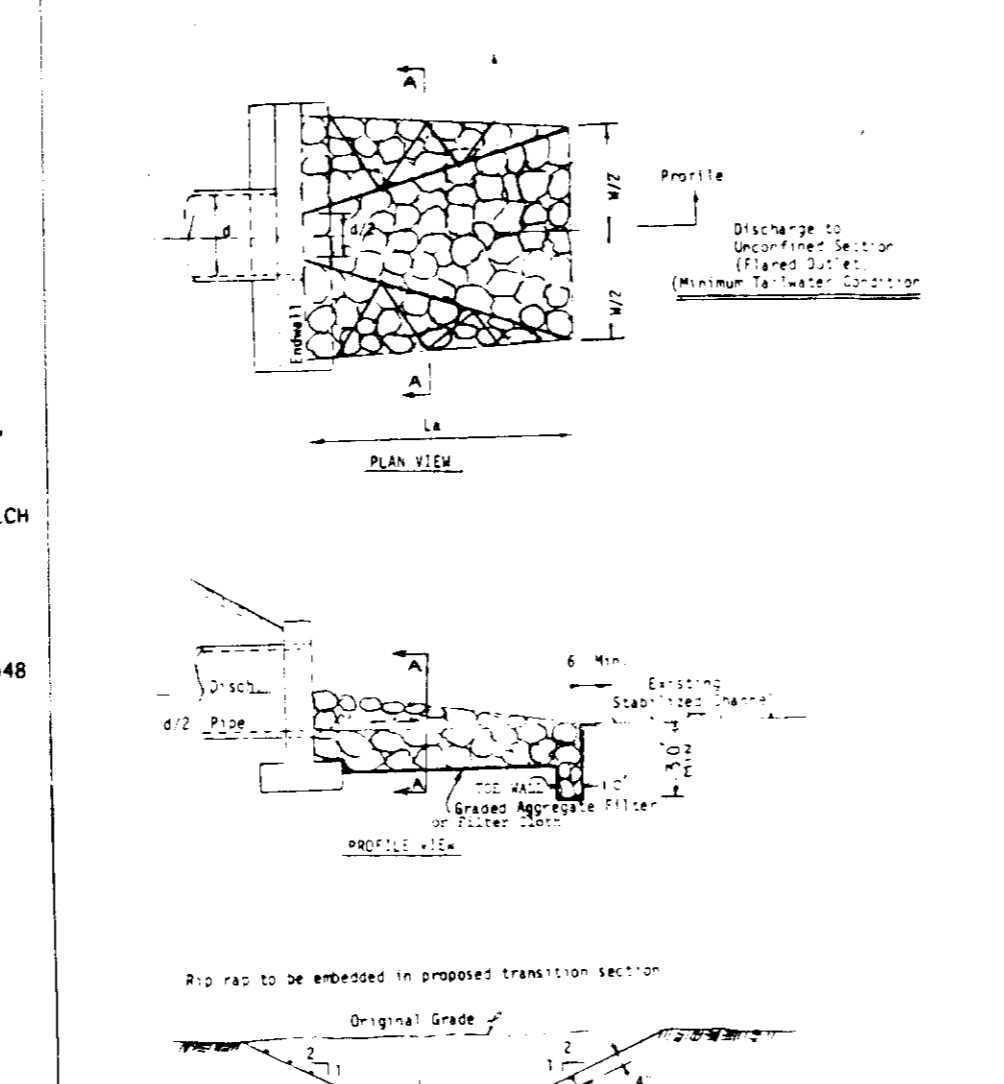
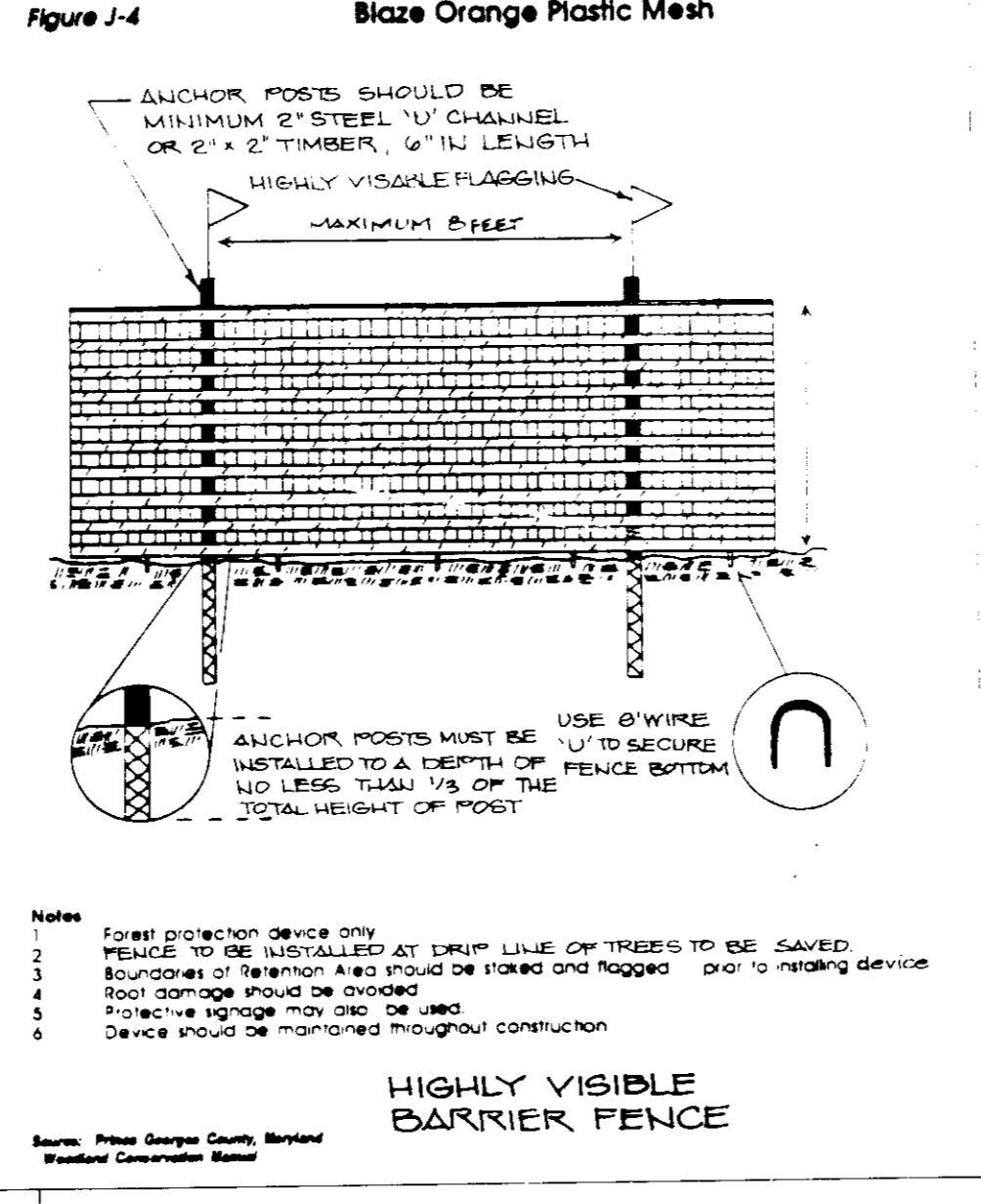
**SEDIMENT CONTROL NOTES**

- A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction.
- Vegetative 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.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1 or 4:1 or to greater disturbed or graded areas on the project site.
- All sediment traps/basins 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.
- 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 seeding (Sec. 50) and temporary seeding (Sec. 51) and mulching (Sec. 52). Temporary stabilization with such done can only be done when recommended seeding rates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permanent cover for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:  
 Total Area of Site: 20.19 Acres  
 Area to be Developed: 17.60 Acres  
 Area to be vegetated or paved: 2.59 Acres  
 Total Cut: 50,500 cu. yds.  
 Total Fill: 0 cu. yds.  
 Offsite water/borrow area location: STOCKPILE ON SITE.
- Any sediment control practice which is disturbed by grading or other construction activity shall be replaced or repaired on the same day of disturbance.
- Additional sediment controls must be provided if deemed necessary by the Howard County DPB sediment control inspector.
- On all areas with disturbed areas in excess of 2 acres, approval of the Inspection agency should be requested upon completion of stabilization or erosion control and sediment control, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the Inspection agency is made.

**TEMPORARY SEEDING NOTES**  
**SEEDBED PREPARATION:**  
 LOOSEN UPPER 3 INCHES BY DISCING, RAKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.  
**SOIL AMENDMENTS:**  
 APPLY 500 LBS. PER ACRE (4 LBS./1,000 SQ. FT.) OF 10-10-10 FERTILIZER.  
**SEEDING:**  
 FOR PERIODS MARCH 1 THRU APRIL 30, AND FROM AUGUST 15 THRU NOVEMBER 15, SEED WITH 1/2 BU PER ACRE OF ANNUAL RYE (32 LBS./1,000 SQ. FT.) FOR THE PERIOD MAY 1 THRU AUG. 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (107 LBS./1,000 SQ. FT.) FOR PERIOD NOV. 16 THRU FEB. 28. PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELLS ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.  
**MULCHING:**  
 APPLY 1/2 TO 2 TONS PER ACRE (10 TO 90 LBS./1,000 SQ. FT.) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 28 GALLONS PER ACRE (5 GALLONS/1,000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. IF SLOPES OF 8 FEET OR HIGHER USE 348 GALLONS PER ACRE (18 GALLONS/1,000 SQ. FT.) FOR ANCHORING.

**PERMANENT SEEDING NOTES**  
 ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:  
**SEEDBED PREPARATION:**  
 LOOSEN UPPER 3 INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.  
**SOIL AMENDMENTS:**  
 APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1,000 SQ. FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1,000 SQ. FT.) BEFORE SEEDING. HOLLOW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (19 LBS./1,000 SQ. FT.).  
**SEEDING:**  
 FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE OF MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (20 LBS./1,000 SQ. FT.) OF WEEPING LOVEGRASS FOR THE PERIOD OCTOBER 16 THRU FEBRUARY 28. PROTECT SITE BY OPTION (1) 2 TONS PER ACRE OF WELLS 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 WELLS ANCHORED STRAW.  
**MULCHING:**  
 APPLY 1/2 TO 2 TONS PER ACRE (10 TO 90 LBS./1,000 SQ. FT.) OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 28 GALLONS PER ACRE (5 GALLONS/1,000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES OF 8 FEET OR HIGHER USE 348 GALLONS PER ACRE (18 GALLONS/1,000 SQ. FT.) FOR ANCHORING.

**MAINTENANCE:**  
 INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS, AND RESEEDINGS.



APPROVED FOR PUBLIC WATER & PUBLIC SEWERAGE SYSTEMS, HOWARD CO HEALTH DEPT.

Josum Boyle 7-6-92 DATE

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS & PUBLIC ROADS.

HOWARD CO. DEPT. OF PUBLIC WORKS

Laura J. Blum 6-26-92 DATE

CO. CHIEF, BUREAU OF ENGINEERING

APPROVED FOR HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED FOR HOWARD COUNTY DEPT. OF PLANNING AND ZONING

Richard Blood 7/7/92 DATE

James M. Wilkes 6/15/92 DATE

U.S. Soil Conservation Service

**CONSTRUCTION SEQUENCE**

- OBTAIN GRADING PERMIT.
- NOTIFY HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS 24 HOURS PRIOR TO STARTING WORK.
- INSTALL S.O.C.R. AT LOCATIONS SHOWN ON PLAN.
- INSTALL PROTECTIVE HIGH VISIBILITY FENCING IN THE DESIGNATED LOCATIONS.
- INSTALL SILT FENCING AROUND THE PROPOSED SEDIMENT BASINS.
- CONSTRUCT SEDIMENT BASINS #1 AND #2.
- CONSTRUCT EARTH DIKES AS SHOWN FOR PHASE ONE.
- OBTAIN APPROVAL OF INSTALLATION OF SEDIMENT CONTROL DEVICES FROM DEPT. OF INSPECTIONS & PERMITS PRIOR TO MASS GRADING THE SITE.
- MASS GRADE SITE BEING CAREFUL NOT TO DISTURB THOSE AREAS PROTECTED BY HIGH VISIBILITY FENCING.
- STABILIZE SITE UPON COMPLETION OF GRADING, BASINS, EARTH DIKES AND FENCING TO REMAIN IN PLACE.

DESIGNED: [Signature]

DRAWN CAD/D: [Signature]

CHECKED: [Signature]

DATE: 6/17/92

SCALE: 1"=50'

DRAWING: [Signature]

JOB NO.: 40554

FILE NO.: [Signature]

HARRIS, SMARIGA, MATZ, INC.

PLANNERS / ENGINEERS / SURVEYORS

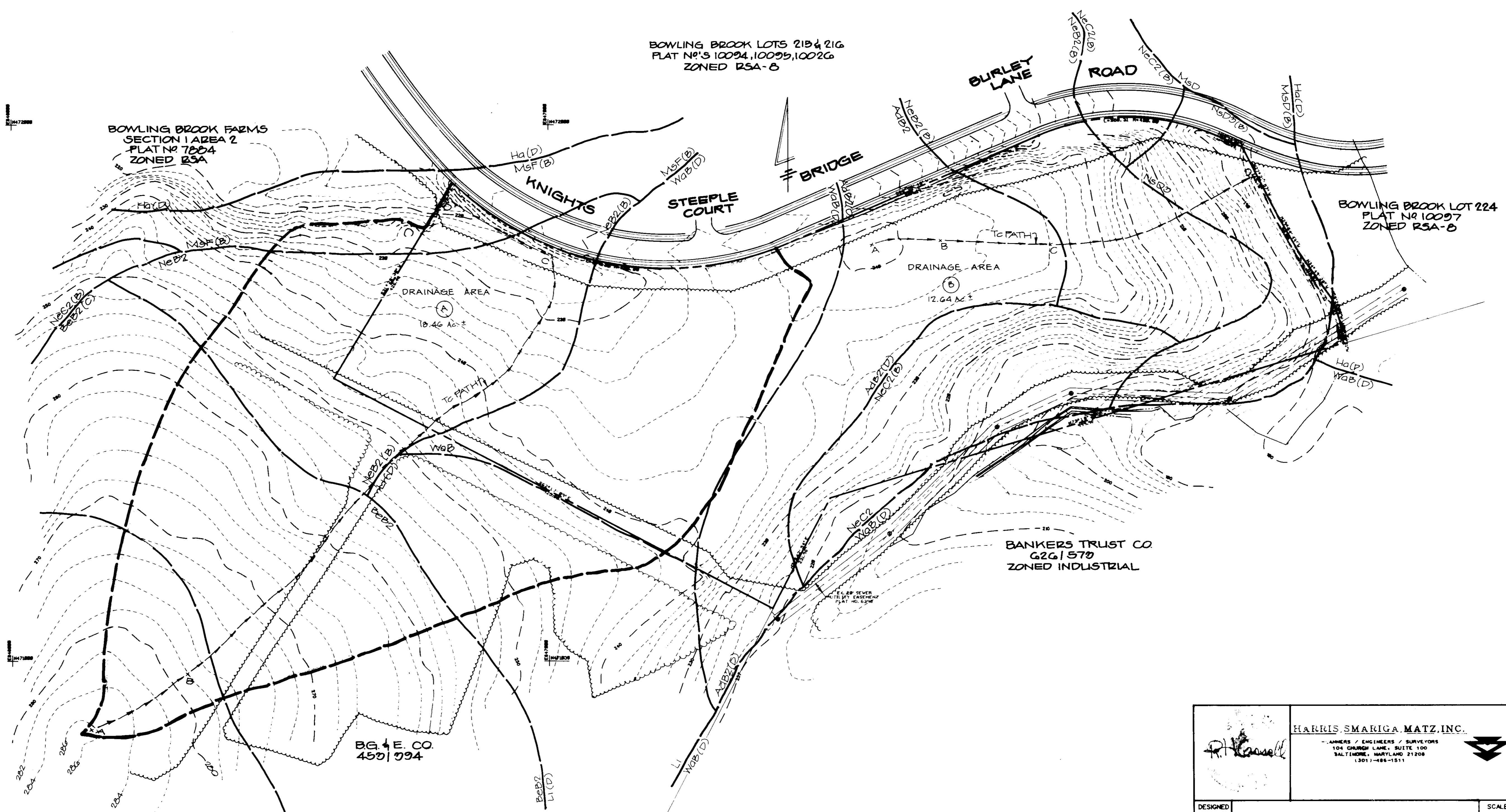
124 CHURCH LANE, SUITE 106  
 BALTIMORE, MARYLAND 21208  
 (301) 486-1511

**BOWLING BROOK FARMS**

PARCEL C  
 SEDIMENT CONTROL NOTES & DETAILS  
 SIXTH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

OWNER DEVELOPER  
 JAMES F. KNOTT DEVELOPMENT CORPORATION  
 110 WEST ROAD, SUITE 203  
 TOWSON, MARYLAND 21204  
 (410) 221-1000

|                       |                     |              |                        |
|-----------------------|---------------------|--------------|------------------------|
| SUBDIVISION NAME      | POWELL BROOKS FARMS | SECT./AREA   | LOT/PARCEL #           |
| PLAT * OR L/F BLOCK * | RSA-8               | TAX/ZONE MAP | ELEC. DIST. CENSUS TR. |
| WATER CODE            |                     | SEWER CODE   |                        |



BOWLING BROOK FARMS  
SECTION 1 AREA 2  
PLAT NO 7804  
ZONED RSA

BOWLING BROOK LOTS 215 & 216  
PLAT NO'S 10094, 10095, 10026  
ZONED RSA-B

BOWLING BROOK LOT 224  
PLAT NO 10097  
ZONED RSA-B

BANKERS TRUST CO  
626/570  
ZONED INDUSTRIAL

B.G. & E. CO.  
450/094

APPROVED FOR PUBLIC WATER & PUBLIC SEWERAGE SYSTEMS, HOWARD CO. HEALTH DEPT.

*[Signature]* 7/6/92  
DATE

APPROVED FOR PUBLIC WATER, PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS & PUBLIC ROADS.  
HOWARD CO. DEPT. OF PUBLIC WORKS

*[Signature]* 7/6/92  
DATE

*[Signature]* 7/6/92  
DATE

APPROVED FOR HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

APPROVED FOR HOWARD COUNTY DEPT. OF PLANNING AND ZONING

APPROVED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT

*[Signature]* 7/6/92  
DATE

*[Signature]* 7/6/92  
DATE

*[Signature]* 7/6/92  
DATE

*[Signature]* HARRIS, SMARIGA, MATZ, INC.  
ENGINEERS / ENGINEERS / SURVEYORS  
104 CARROLL LANE, SUITE 100  
BALTIMORE, MARYLAND 21208  
(301) 488-1511

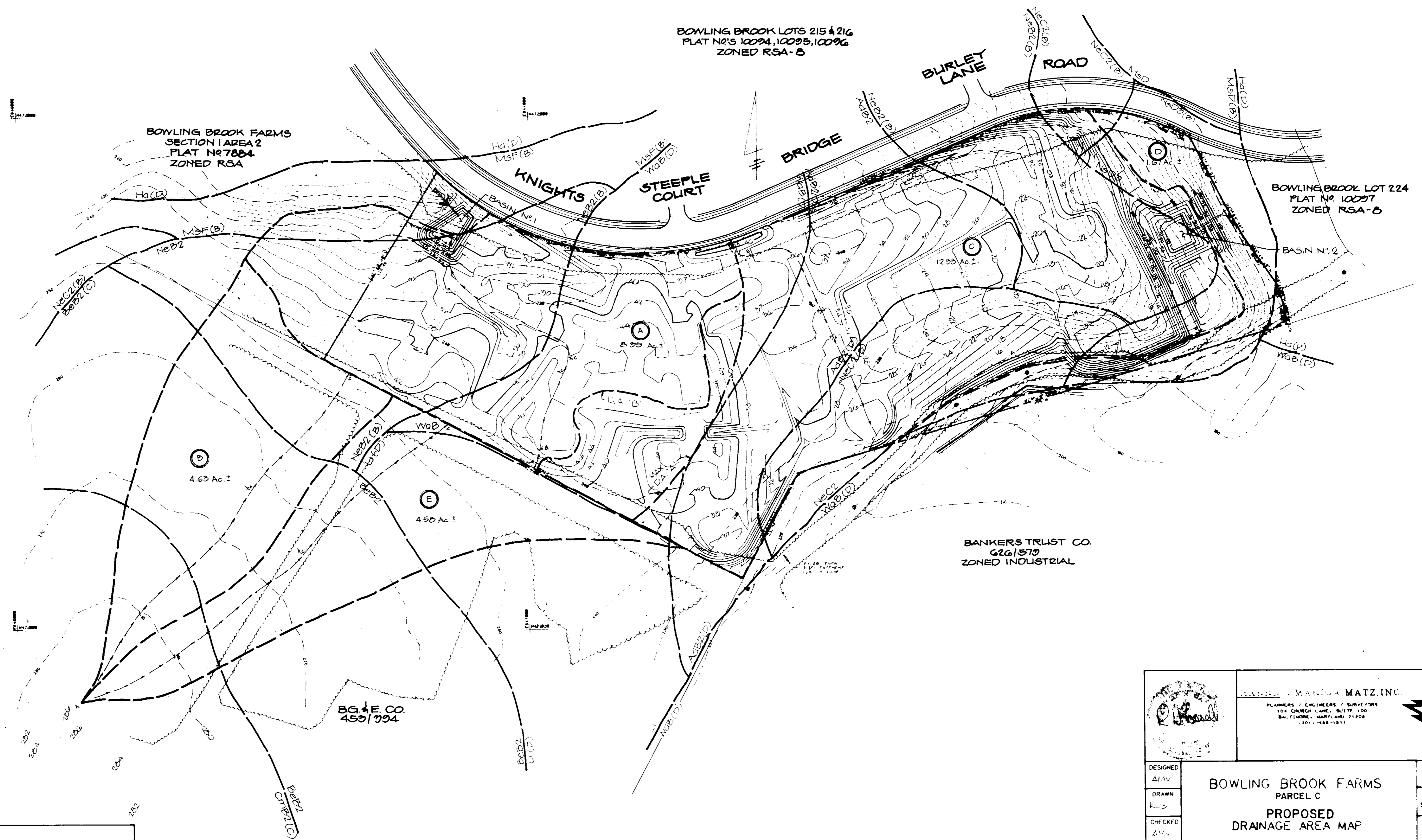
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|-----------------|--|-------------------|
| DESIGNED<br>AMV | <b>BOWLING BROOK FARMS<br/>PARCEL C</b><br><br><b>EXISTING<br/>DRAINAGE AREA MAP</b><br><br>SIXTH ELECTION DISTRICT<br>HOWARD COUNTY, MARYLAND | SCALE<br>1"=100'  |
| DRAWN<br>KLS    |  | DRAWING<br>3 OF 3 |
| CHECKED<br>DM   |  | JOB NO.<br>40554  |
| DATE<br>6/17/92 |  | FILE NO.          |

OWNER DEVELOPER  
JAMES F. KNOTT DEVELOPMENT CORPORATION  
110 WEST ROAD, SUITE 203  
TOWSON, MARYLAND 21204  
(410) 321-1000

|  |                  |                        |
|--|------------------|------------------------|
| SUBDIVISION NAME<br>BOWLING BROOKS FARMS | SECT./AREA<br>47 | LOT/PARCEL<br>PARCEL C |
| PLAT OR L/F<br>BLOCK                     | ZONE<br>RSA-B    | TAX/ZONE MAP<br>6TH    |
| WATER CODE                               | SEWER CODE       | 6063                   |

| DATE | REVISION |
|------|----------|
|      |          |
|      |          |
|      |          |





APPROVED FOR PUBLIC WATER AND SEWERAGE SYSTEMS  
 HOWARD COUNTY HEALTH DEPARTMENT  
 COUNTY HEALTH OFFICER: *[Signature]* DATE: 7-6-92

APPROVED FOR HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 DIRECTOR: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED FOR PUBLIC WATER AND SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS  
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 DIRECTOR: *[Signature]* DATE: 6/22/92

CHIEF BUREAU OF ENGINEERING: *[Signature]* DATE: 6/22/92

APPROVED FOR HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
 CHIEF, LAND DEVELOPMENT DIVISION: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED FOR HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT: *[Signature]* DATE: 7/2/92

APPROVED FOR HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
 CHIEF, BUREAU OF HIGHWAYS: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED FOR HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
 CHIEF, BUREAU OF ENGINEERING: *[Signature]* DATE: 7/6/92

APPROVED FOR HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED FOR HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT: \_\_\_\_\_ DATE: \_\_\_\_\_

|  |   |   |  |
|--|---|---|--|
|  |   | <b>M. MATZ, INC.</b><br>PLANNERS / ENGINEERS / SURVEYORS<br>104 CHURCH LANE, SUITE 100<br>BALTIMORE, MARYLAND 21208<br>(301) 488-1511 |  |
| DESIGNED<br>AMV  | <b>BOWLING BROOK FARMS<br/>         PARCEL C<br/>         PROPOSED<br/>         DRAINAGE AREA MAP</b><br><br>SIXTH ELECTION DISTRICT<br>HOWARD COUNTY, MARYLAND | SCALE<br>1"=100'  |  |
| DRAWN<br>KLS   |   | DRAWING<br>5065   |  |
| CHECKED<br>AMV   |   | JOB NO.<br>40554  |  |
| DATE<br>6/17/92  |   | FILE NO.  |  |
| OWNER DEVELOPER<br><b>JAMES F. KNOTT DEVELOPMENT CORPORATION</b><br>110 WEST ROAD, SUITE 203<br>TOWSON, MARYLAND 21284<br>(410) 321-1000 |   |   |  |
| BOWLING BROOKS FARMS PARCEL C  |   | PARCEL C  |  |
| BOWLING BROOKS FARMS PARCEL C  |   | PARCEL C  |  |
| BOWLING BROOKS FARMS PARCEL C  |   | PARCEL C  |  |
| BOWLING BROOKS FARMS PARCEL C  |   | PARCEL C  |  |
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