MASS GRADING PLAN
FUTURE
WESTERN ELEMENTARY SCHOOL AND PARK

TAX MAP No.: 28 GRID No.: 8 PARCEL No.: 35

FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHEET INDEX

SHEET NUMBER	DESCRIPTION
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2	MASS GRADING PLAN
3	MASS GRADING PLAN
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5	TEMPORARY STORM WATER MANAGEMENT NOTES AND DETAILS
6	STORM DRAIN PROFILE, SEDIMENT CONTROL NOTES AND DETAILS
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8	SOILS MAP
9	FOREST CONSERVATION PLAN
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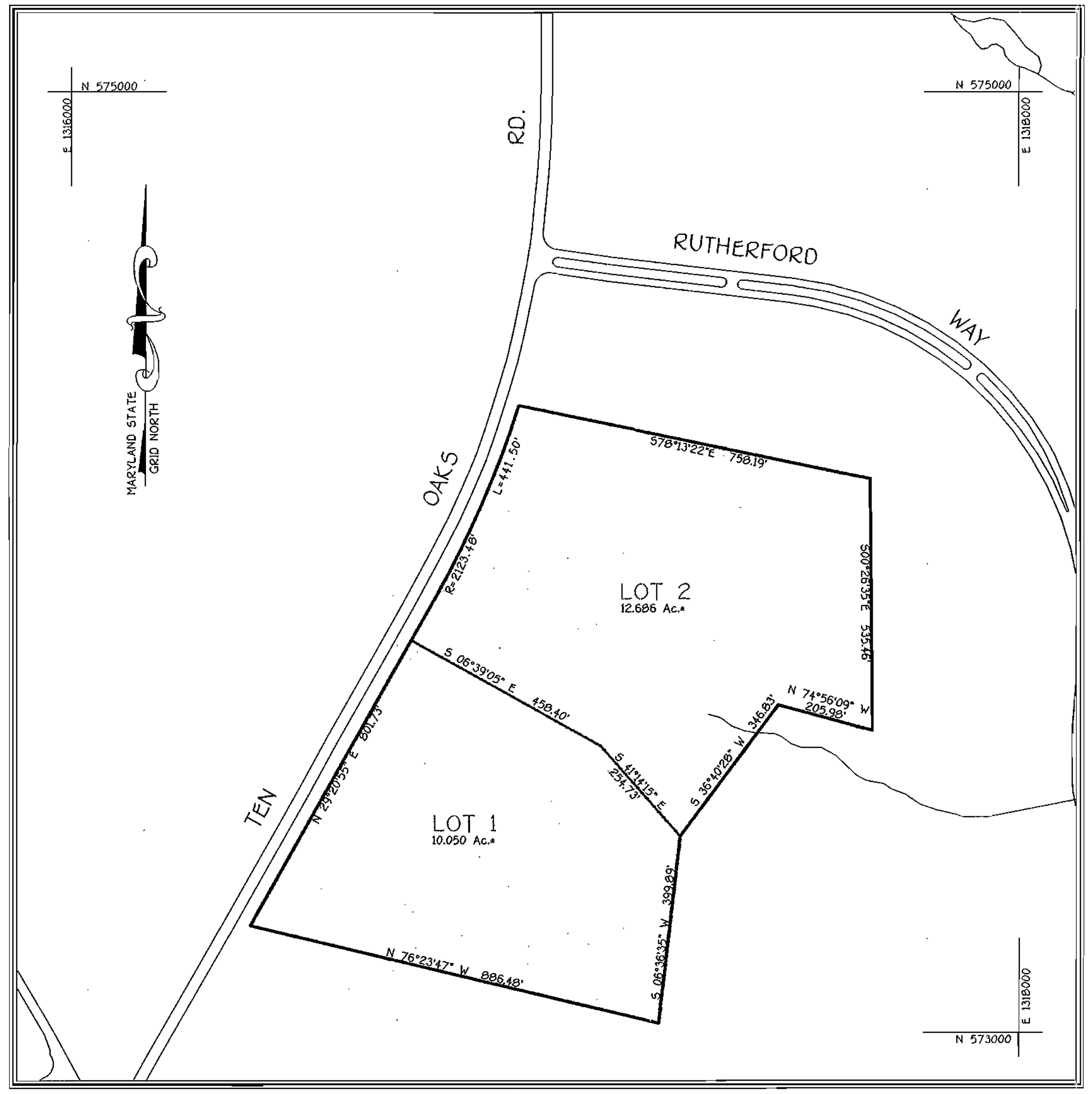
11	OFFSITE FOREST PLANTING PLAN

SITE ANALYSIS DATA

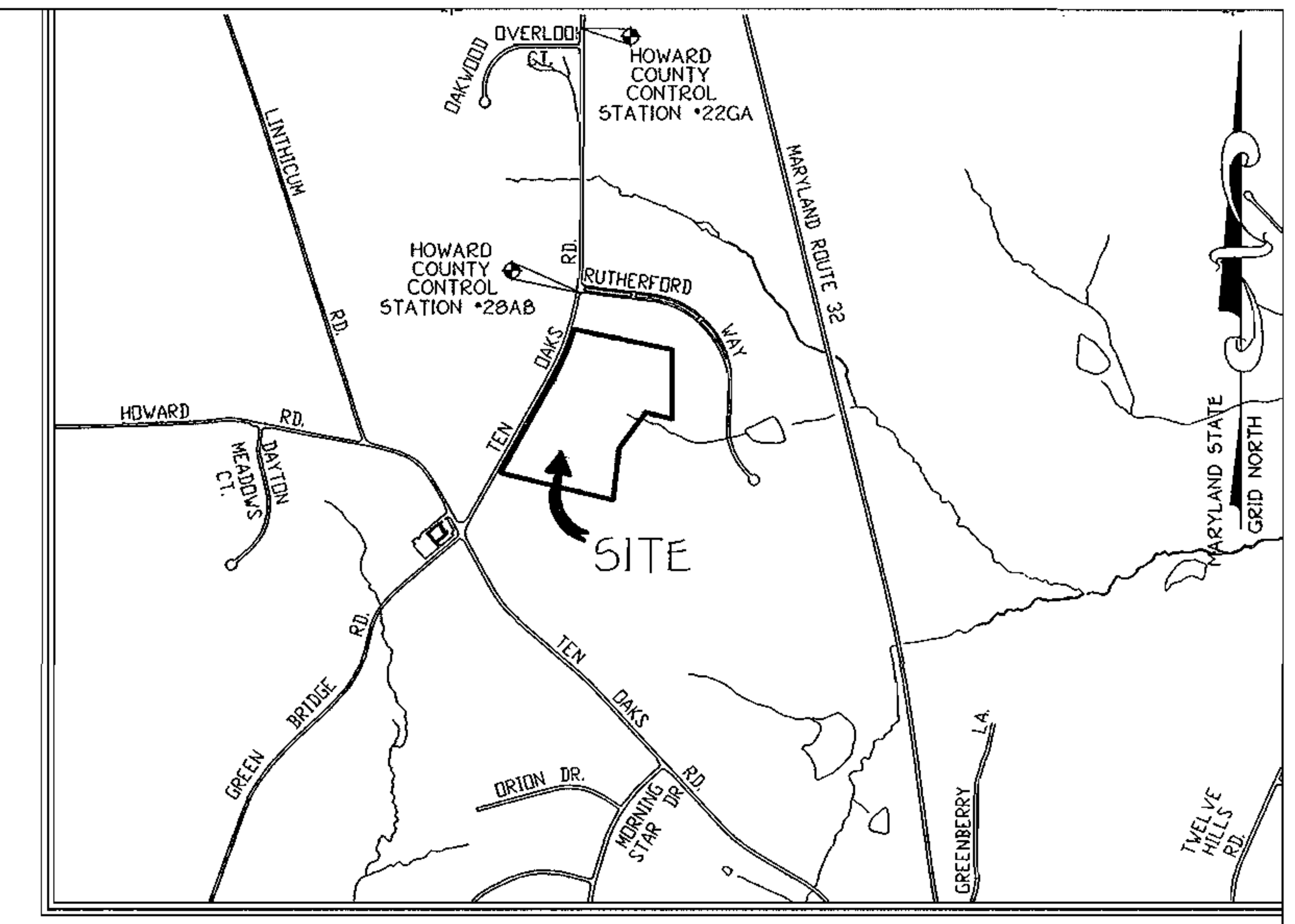
1. General Site Data:
   A. Present Zoning: RR-DEO
   B. Proposed use of site or structure. Institutional: Public School and Park
   C. Private water and sewer to be utilized.
2. Area Tabulation:
   A. Total project area: 22.736 Ac±
   B. Area of this plan submission: 19.08 Ac.± is the limit of submission and grading disturbance for the proposed mass grading operation.
   C. Impervious Coverage
      Existing houses, sheds and driveways - 14,810.40 sq.ft.

LEGEND

Description	Symbol
Existing Contour	- -600- - - - -
Proposed Contour	—600 ——
Existing Storm Drain Line	Ex. 12" S.D.
Existing Tree & Treeline	
New Treeline	
Existing Fence	X——X——X——X
Limit of Grading Disturbance (L.O.D.)	▬ ▬ ▬ ▬ ▬
Wetland Buffer	
Stream Buffer	
100 Year Floodplain	
Private Sewerage Easement	
Wetland Area	
Super Silt Fence	SSF——SSF——SSF
Tree Protection Fence	TP ——TP ——TP
Permanent Protection Signage and Temporary Protection Fence	▲—TP—▲—TP—▲
Forest Conservation Easement	



PLAN
SCALE: 1" = 200'



VICINITY MAP
SCALE: 1" = 1200'

General Notes

1. All construction shall be accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications if applicable.
2. The contractor shall notify the Bureau of Engineering/Construction Inspection Division at 410-313-1880 at least five working days prior to start of work.
3. The contractor shall notify Miss Utility at 1-800-257-7777 at least 48 hours prior to any digging and excavation work.
4. The contractor shall notify The Howard County Health Department 72 hours prior to the abandonment of the existing wells and the existing septic system.
5. Project Background:
Location: Tax Map 28, Grid 8, Parcel 35
Zoning: This project is zoned RR-DEO per the 2/2/04 comprehensive zoning plan.
Election District: FIFTH
Section/Area: N/A
Site Area: 22.736 Ac.±
6. Existing topography and features were derived from a field run monumented boundary survey by Fisher, Collins and Carter Inc. and Harford Aerial Surveys inc. on or about March 2003.
7. Coordinates are based on NAD 83 Maryland Coordinates System as projected by Howard County Geodetic Control Stations. 22GA N 576,646.789 E 1,316,983.483 ELEV. 590.008; 28AB N 574,608.769 E 1,317,002.059 ELEV. 579.614
8. Private water and sewer is to be utilized for this project.
9. Temporary Stormwater management is provided by 2 sediment basins that will be privately owned and maintained by the Howard County Public School System.
10. The existing utilities shown hereon were derived from available public records. The contractor must dig test pits by hand at all utility crossings and connection points to verify the exact location.
11. Any damage to County and or State owned right-of-way to be corrected at the contractor's expense.
12. There are no known grave sites or cemeteries on this site. Based on a visual site visit and based on an examination of the Howard County Cemetery Inventory MRP.
13. This Project is recorded among the land records in Howard County, Maryland as Plat # 16794-16796. Gosselin Property.
14. Previous DPZ file numbers F 89-139 and F 04-137.
15. A Forest Conservation Report Is Provided By Eco-Science Professionals, Inc. Dated March, 2004.
16. A Wetland delineation report was prepared by Eco-Science Professionals Inc. dated February 18, 2004. and field verified by the Howard Soils Conservation District on March 2004.
17. No grading removal of vegetative cover on trees or placement of new structures is permitted within the limits of wetlands, stream(s) or their buffers.
18. This SDP is subject to the First Amendment to the Fifth Edition of the Subdivision and Land Development Regulations dated October 2, 2003 and the Comprehensive Zoning Plan and Regulations adopted on 2/2/04.
19. See recorded plat under F 04-137 for Forest Conservation Easement Area, for bearing and distance information.
20. The Forest Conservation Act requirements for this project will be met through the retention of 1.0 acres of net tract area forest within the limits of a Forest Conservation Easement and the afforestation/reforestation of 2.4 acres of forest at the Bellows Spring Elementary School property off of Old Stockbridge Lane. (SDP 02-36)

NOTES: THE CONTRACTOR SHALL NOT CREATE ANY BORROW PITS WITHIN THE PRIVATE SEWERAGE EASEMENTS OR CUT BELOW THE FINISHED GRADES SHOWN WITHIN THE PRIVATE SEWERAGE EASEMENT AREAS.

STATE OF MARYLAND PROFESSIONAL ENGINEER

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

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 Condition And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

Signature Of Engineer — 6/2/04 Date

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 Of Developer — 6/1/04 Date

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.

U.S.D.A. - Natural Resources Conservation Service — 6/7/04 Date

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.

District Howard Soil Conservation Dist. — 6/7/04 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/2/04 Date

Chief, Division of Land Development — 7/1/04 Date

Chief, Development Engineering Division — 6/9/04 Date

PREPARED FOR
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 Maryland Route 108
Ellicott City, Maryland 21042
Attention Bruce Gist
410-313-6798

TCA ARCHITECTS
2661 RIVA ROAD, SUITE 120
ANNAPOLIS, MARYLAND 21401
(301) 261-8700

Address Chart

Parcel Number	Street Address
P. 35	Lot 1 4691 TEN OAKS ROAD
	Lot 2 4671 TEN OAKS ROAD

PROJECT				SECTION/AREA	PARCEL
FUTURE WESTERN ELEMENTARY SCHOOL AND PARK				N/A	35
DEED REF. 2632/573 PLAT REF: F 04-137 16794-16796	BLOCK NO. 8	ZONE RR-DEO	TAX/ZONE 28	ELEC. DIST. FIFTH	CENSUS TR. 6051.01
WATER CODE N/A			SEWER CODE N/A		

TITLE SHEET

MASS GRADING PLAN FOR FUTURE WESTERN ELEMENTARY SCHOOL AND PARK LOTS 1 AND 2

TAX MAP No.: 28 GRID No: 8 PARCEL No.: 35
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: MAY 10, 2004
"BID & CONSTRUCTION 17 MAY 2004"
SHEET 1 OF 11
SDP 04-128

SDP04-128

TEMPORARY SEDIMENT BASIN No. 1

INITIAL D.A. = 11.07 Ac.±
FINAL D.A. = 11.07 Ac±
STORAGE REQUIRED
WET = 1800 x 11.07 = 19,926 CuFt.
DRY = 1800 x 11.07 = 19,926 CuFt.
STORAGE PROVIDED
WET = 19,926 CuFt. @ ELEV. 552.76
DRY = 19,926 CuFt. @ ELEV. 554.68
BOTTOM ELEV. = 550.00
STORAGE DEPTH = 10.07'
TOP OF EMBANKMENT = 560.00
SIDE SLOPES: 3:1
CLEAN OUT ELEV. = 551.60
RISER CREST ELEV. = 554.05
1 YR. ORIFICE INV. = 550.00
Q1 exist. = 0.95 c.f.s.
Q1 prop. = 0.80 c.f.s.

NOTE: THE 50' ACCESS WILL REMAIN TO ALLOW FOR HO. CO. RECREATION AND PARKS TO MAINTAIN THE FIELDS AT THIS LOCATION.

PLAN
SCALE: 1" = 40'

STATE OF MARYLAND — CHARLES [illegible] — PROFESSIONAL ENGINEER

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
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Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.

U.S.D.A. - Natural Resources Conservation Service — 6/7/04 Date

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District Howard Soil Conservation Dist. — 6/7/04 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/2/04 Date

Chief, Division of Land Development — 7/1/04 Date

Chief, Development Engineering Division — 6/9/04 Date

PREPARED FOR
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10910 Maryland Route 108
Ellicott City, Maryland 21042
Attention Bruce Gist
410-313-6798

TCA ARCHITECTS
2661 RIVA ROAD, SUITE 120
ANNAPOLIS, MARYLAND 21401
(410) 841-6205

Address Chart

Parcel Number	Street Address
P. 35	Lot 1 4691 TEN OAKS ROAD
	Lot 2 4671 TEN OAKS ROAD

PROJECT			SECTION/AREA		PARCEL
FUTURE WESTERN ELEMENTARY SCHOOL AND PARK			N/A		35
DEED REF. 2632/573 PLAT REF. F 04-137	BLOCK NO. 8	ZONE RR-DEO	TAX/ZONE 28	ELEC. DIST. FIFTH	CENSUS TR. 6051.01
WATER CODE N/A			SEWER CODE N/A		

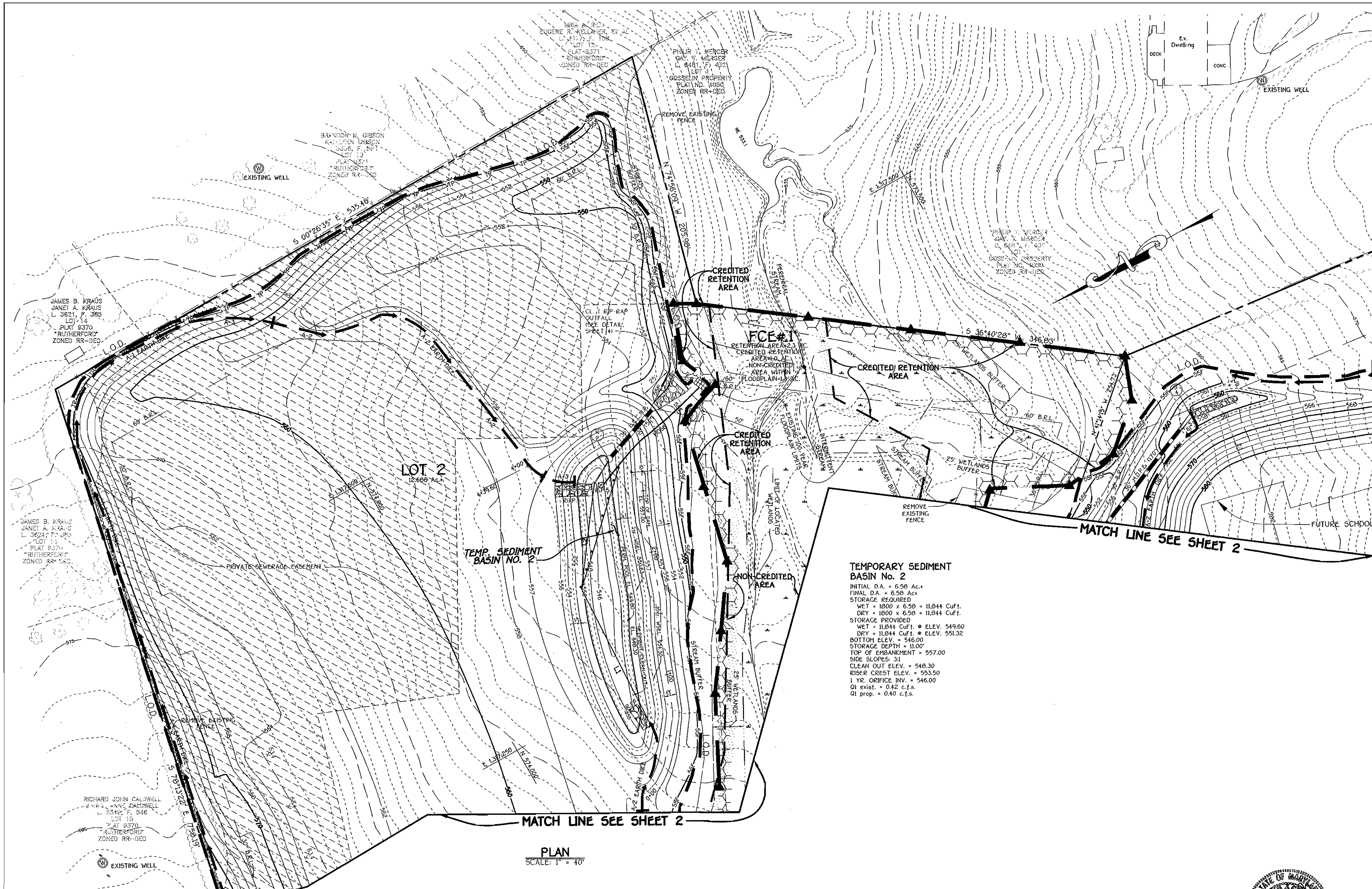
MASS GRADING PLAN FOR FUTURE WESTERN ELEMENTARY SCHOOL AND PARK LOTS 1 AND 2

TAX MAP No.: 28 GRID No: 8 PARCEL No.: 35
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: MAY 10, 2004

"BID & CONSTRUCTION 17 MAY 2004"

SHEET 2 OF 11 SDP 04-128

SDP 04-128

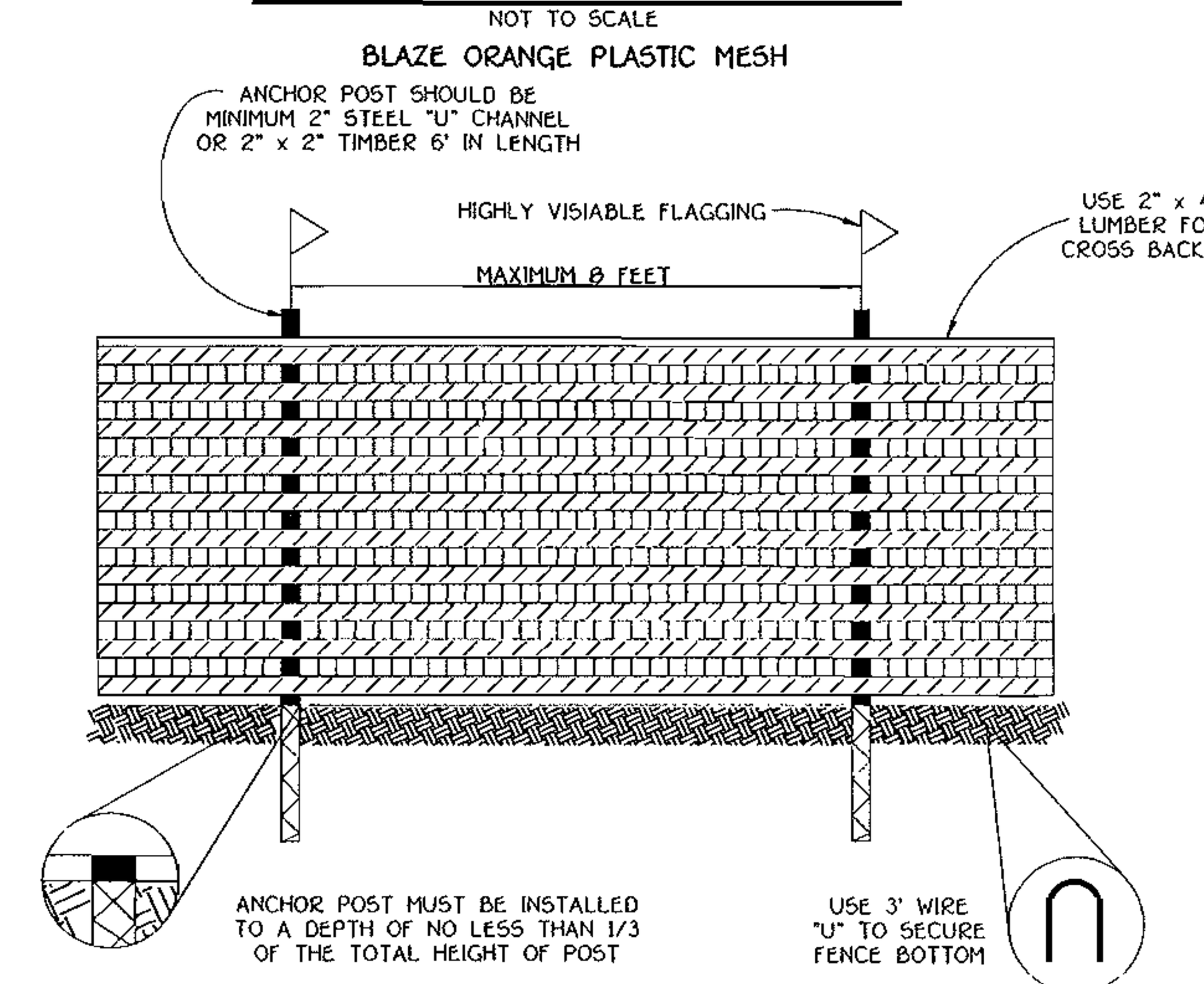


TEMPORARY SEDIMENT BASIN No. 2

INITIAL D.A. = 6.58 Ac.±
FINAL D.A. = 6.58 Ac±
STORAGE REQUIRED
WET = 1800 x 6.58 = 11,844 Cuft.
DRY = 1800 x 6.58 = 11,844 Cuft.
STORAGE PROVIDED
WET = 11,844 Cuft. @ ELEV. 549.60
DRY = 11,844 Cuft. @ ELEV. 551.32
BOTTOM ELEV. = 546.00
STORAGE DEPTH = 11.00'
TOP OF EMBANKMENT = 557.00
SIDE SLOPES: 3:1
CLEAN OUT ELEV. = 548.30
RISER CREST ELEV. = 553.50
1 YR. ORIFICE INV. = 546.00
Q1 exist. = 0.42 c.f.s.
Q1 prop. = 0.40 c.f.s.

PLAN
SCALE: 1" = 40'

TREE PROTECTION DETAIL
NOT TO SCALE



NOTES:
1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
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Signature Of Engineer — Date 6/2/04

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Signature Of Developer — Date 6/1/04

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.

U.S.D.A. - Natural Resources Conservation Service — Date 6/7/04

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.

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APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 7/2/04

Chief, Division of Land Development — Date 7/1/04

Chief, Development Engineering Division — Date 6/9/04

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Address Chart

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	Lot 2	4671 TEN OAKS ROAD

PROJECT				SECTION/AREA	PARCEL
FUTURE WESTERN ELEMENTARY SCHOOL AND PARK				N/A	35
DEED REF. / PLAT REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
2632/573 F 04-137	8	RR-DEO	28	FIFTH	6051.01
WATER CODE			SEWER CODE		
N/A			N/A		

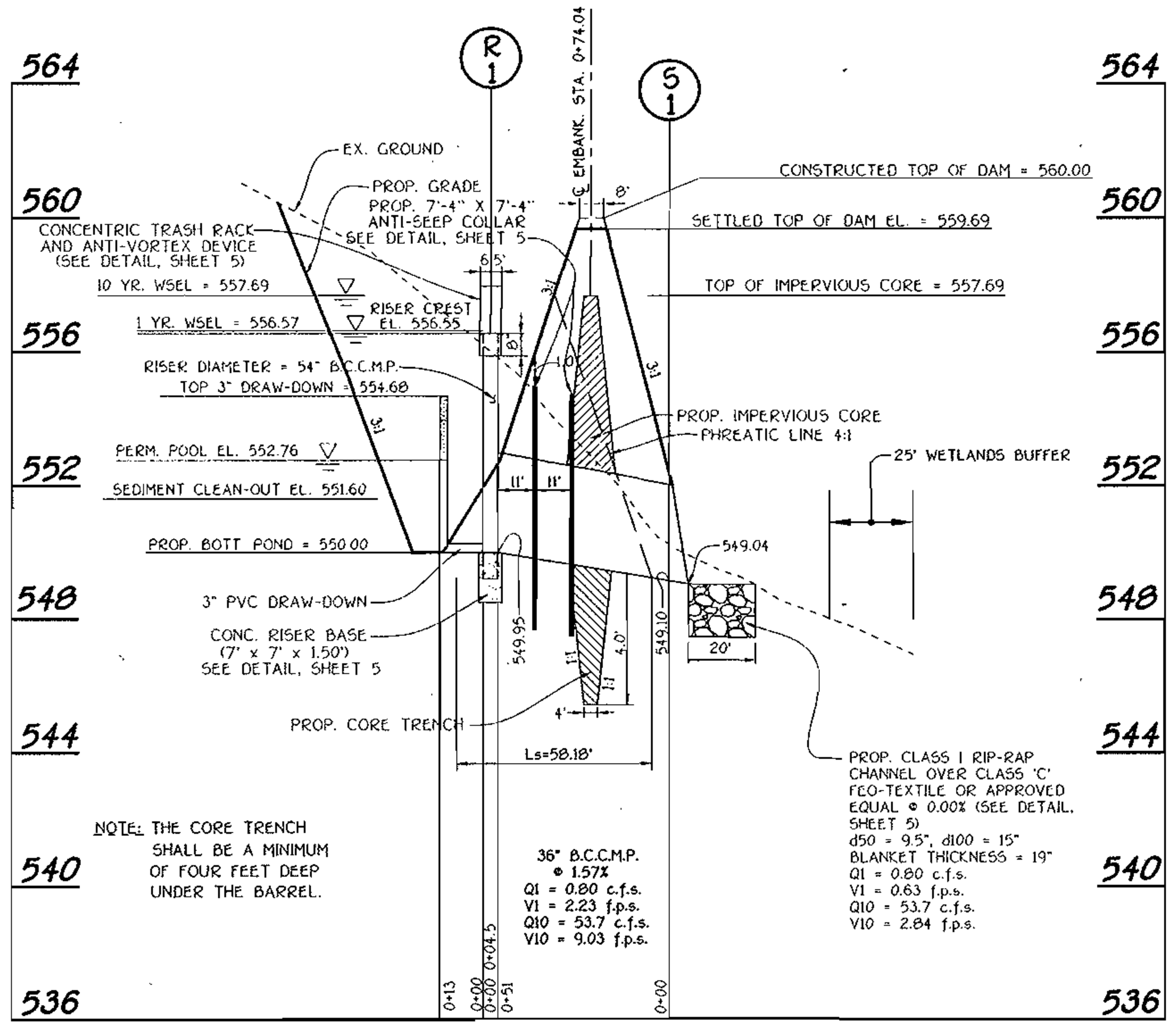
MASS GRADING PLAN FOR FUTURE WESTERN ELEMENTARY SCHOOL AND PARK LOTS 1 AND 2

TAX MAP No.: 28 GRID No: 8 PARCEL No.: 35
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: MAY 10, 2004

"BID & CONSTRUCTION 17 MAY 2004"

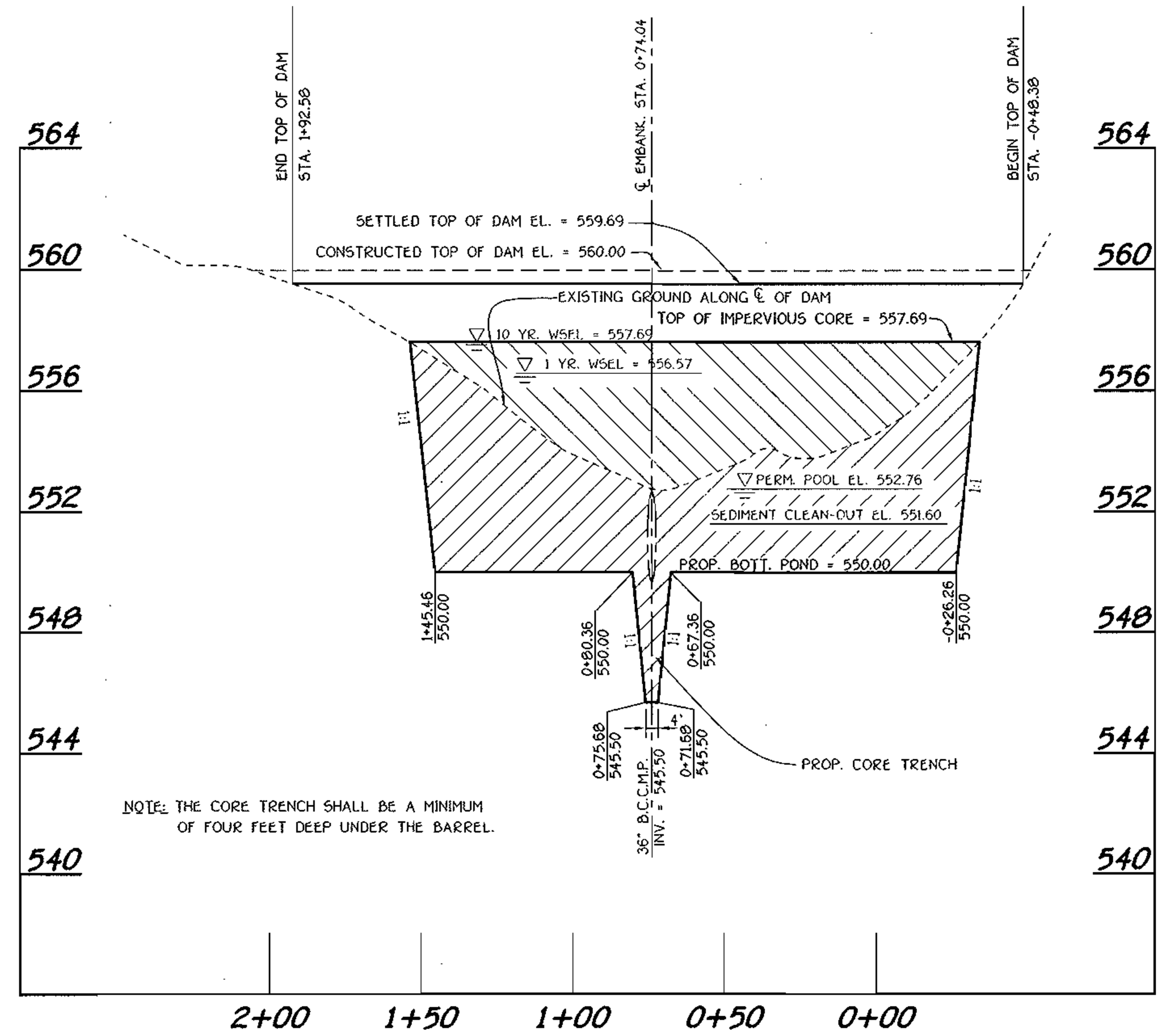
SDP04-128

K:\Drawings 4\40386 Ten Oaks\40386 Mass Grading Plan.dwg, 5/27/2004 8:58:04 AM



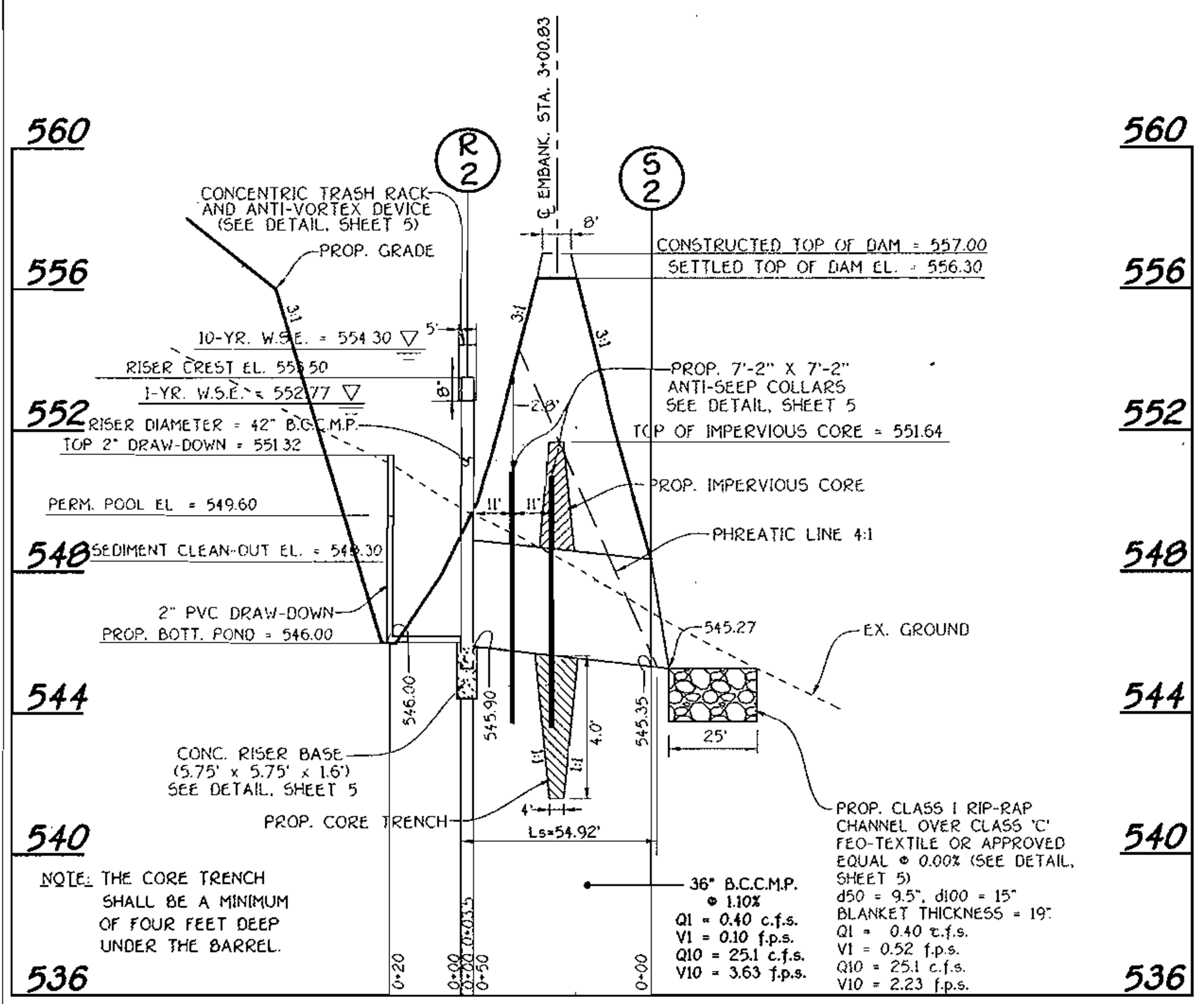
SEDIMENT BASIN NO. 1 PRINCIPLE SPILLWAY PROFILE

SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'



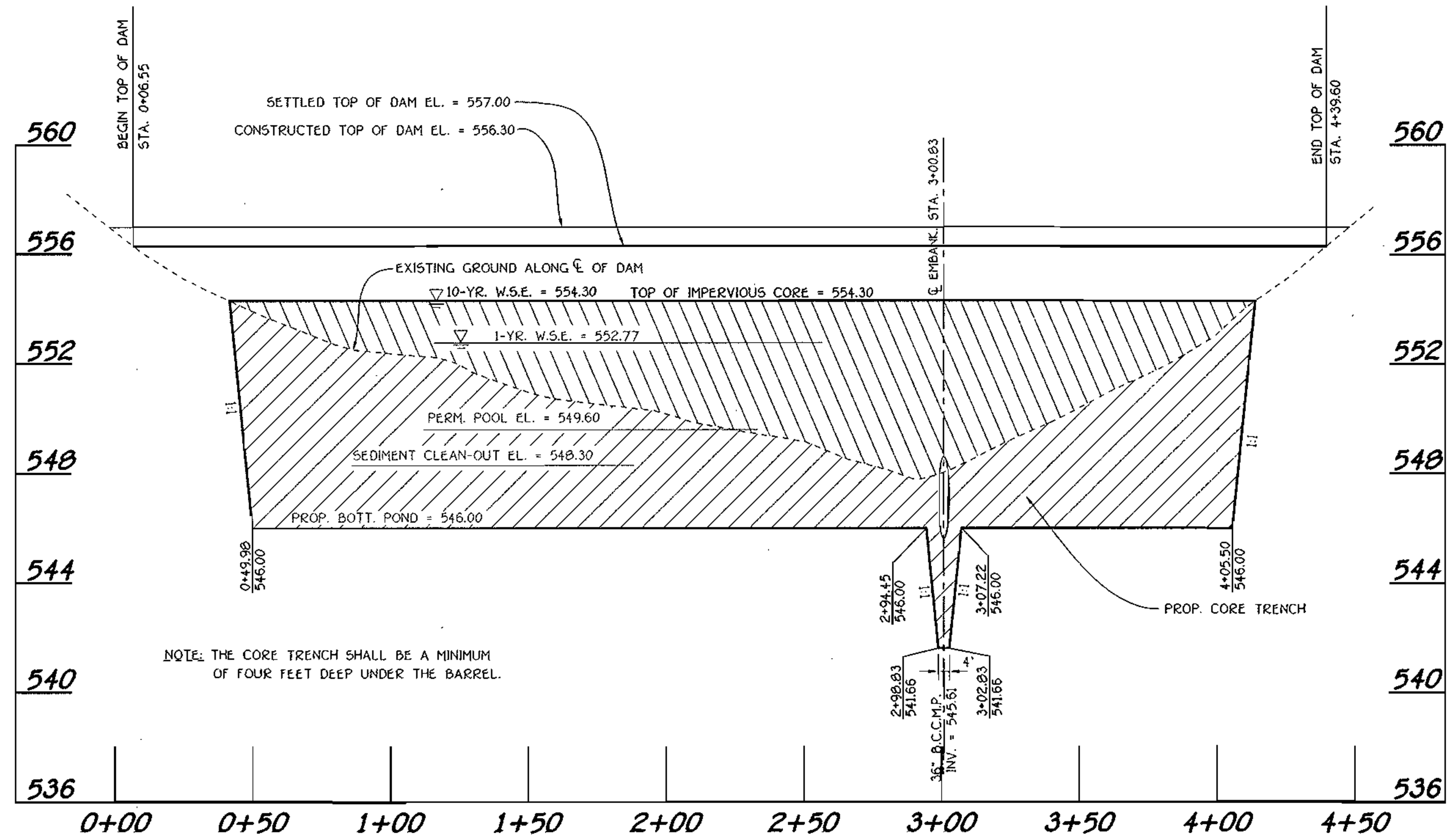
SEDIMENT BASIN NO. 1 PROFILE ALONG ℄ EMBANKMENT

SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'



SEDIMENT BASIN NO. 2 PRINCIPLE SPILLWAY PROFILE

SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'



SEDIMENT BASIN NO. 2 PROFILE ALONG ℄ EMBANKMENT

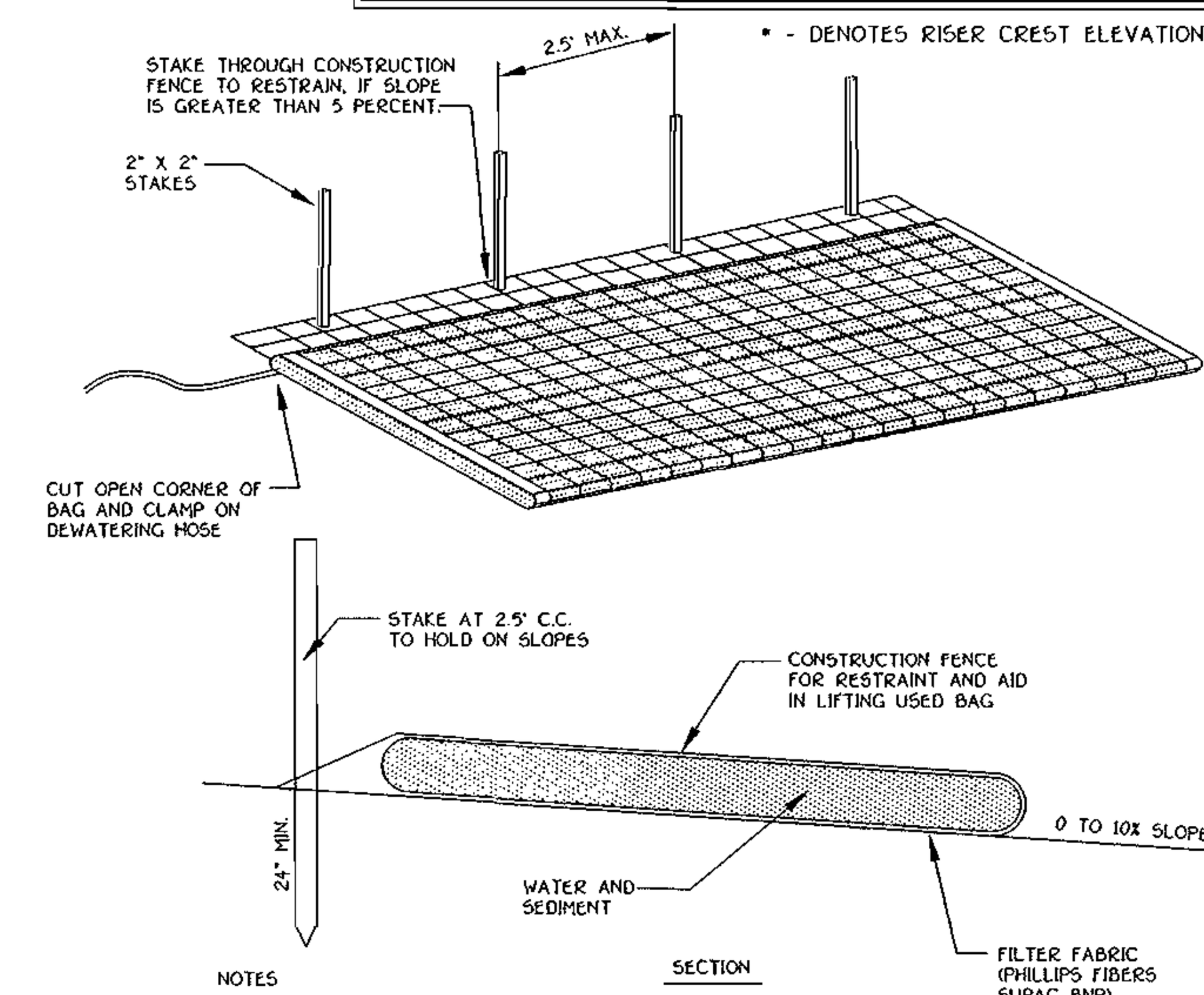
SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'

STRUCTURE SCHEDULE

STRUCTURE NO.	TOP ELEVATION	INV.IN	INV.OUT	LOCATION	TYPE	REMARKS
R-1	556.55 *	550.00	549.95	N 573,588.86 E 1,317,154.52	C.M.P. RISER	-----
R-2	553.50 *	546.00	545.90	N 573,806.31 E 1,317,426	C.M.P. RISER	-----
S-1	552.60	549.10	549.04	N 573,600.51 E 1,317,190.66	METAL END SECTION	S.D. - 5.60
S-2	548.35	545.35	545.27	N 573,769.56 E 1,317,435.76	METAL END SECTION	S.D. - 5.60
S-3	552.95	549.95	------	N 573,562.91 E 1,317,148.76	H.D.P.E. END SECTION	•
S-4	560.00	557.00	------	N 573,394.54 E 1,317,216.18	H.D.P.E. END SECTION	•

* - DENOTES RISER CREST ELEVATION

• - CALL ADVANCED DRAINAGE SYSTEMS @ 1-800-821-6710
4640 TRUEMAN BLVD.
HILLIARD, OH . 43026



NOTES

1. FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL, WELL GRADED VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM DEVICE AND ANY WORK AREAS.
2. WITDH AND LENTH SHALL BE AS SHOWN IN THE TABLE.
3. THE FILTER BAG MUST BE STAKED IN PLACE AND SECURED TO THE PUMP DISHARGE LINE.
4. FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 300 GPM.
5. DEVICE SHALL BE REMOVED AND DISPOSED OF AFTER BAG IS FILLED WITH SEDIMENT. SEDIMENT FROM BAG SHALL BE SPREAD IN AN UPLAND AREA.

AVAILABLE FROM:

INDIAN VALLEY INDUSTRIES, INC.
P.O. BOX 810
JOHNSON CITY, NEW YORK 13790
(800) 659-5111

OR

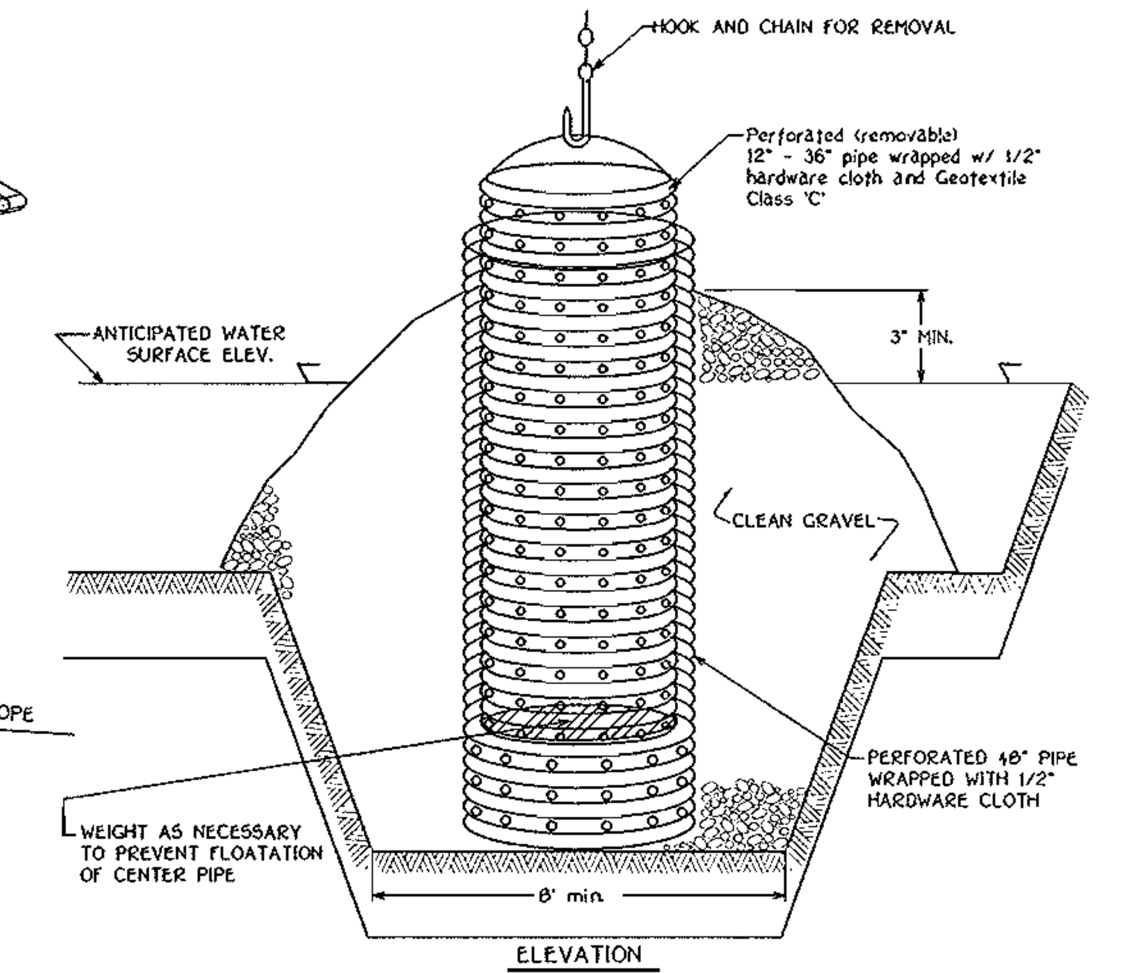
A.C.F. ENVIRONMENTAL
1801-A WILLIS ROAD
RICHMOND, VIRGINIA 23237
TOLL FREE 1-800-448-3636

OR

PRICE AND COMPANY, INC.
425 36TH STREET
WYOMING, MI. 49548
(616) 530-8230

FILTER BAG DETAIL

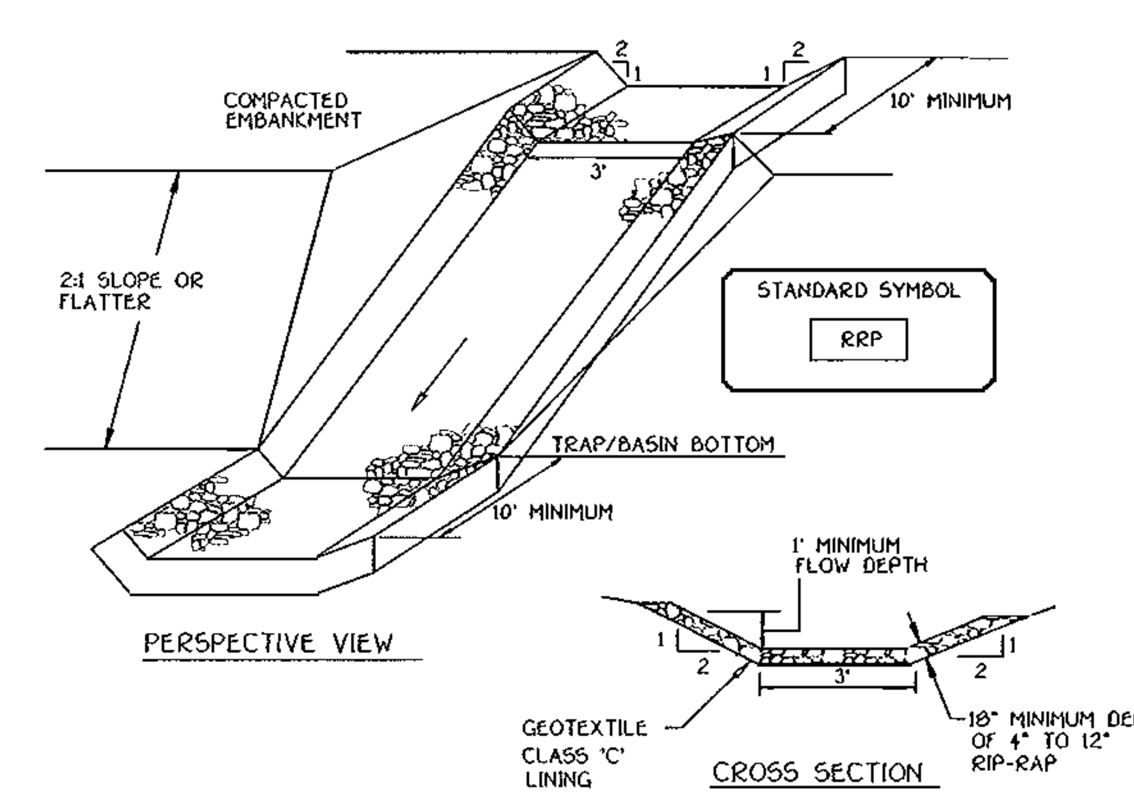
NOT TO SCALE



Construction Specifications

1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" X 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class C.
4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

REMOVABLE PUMPING STATION

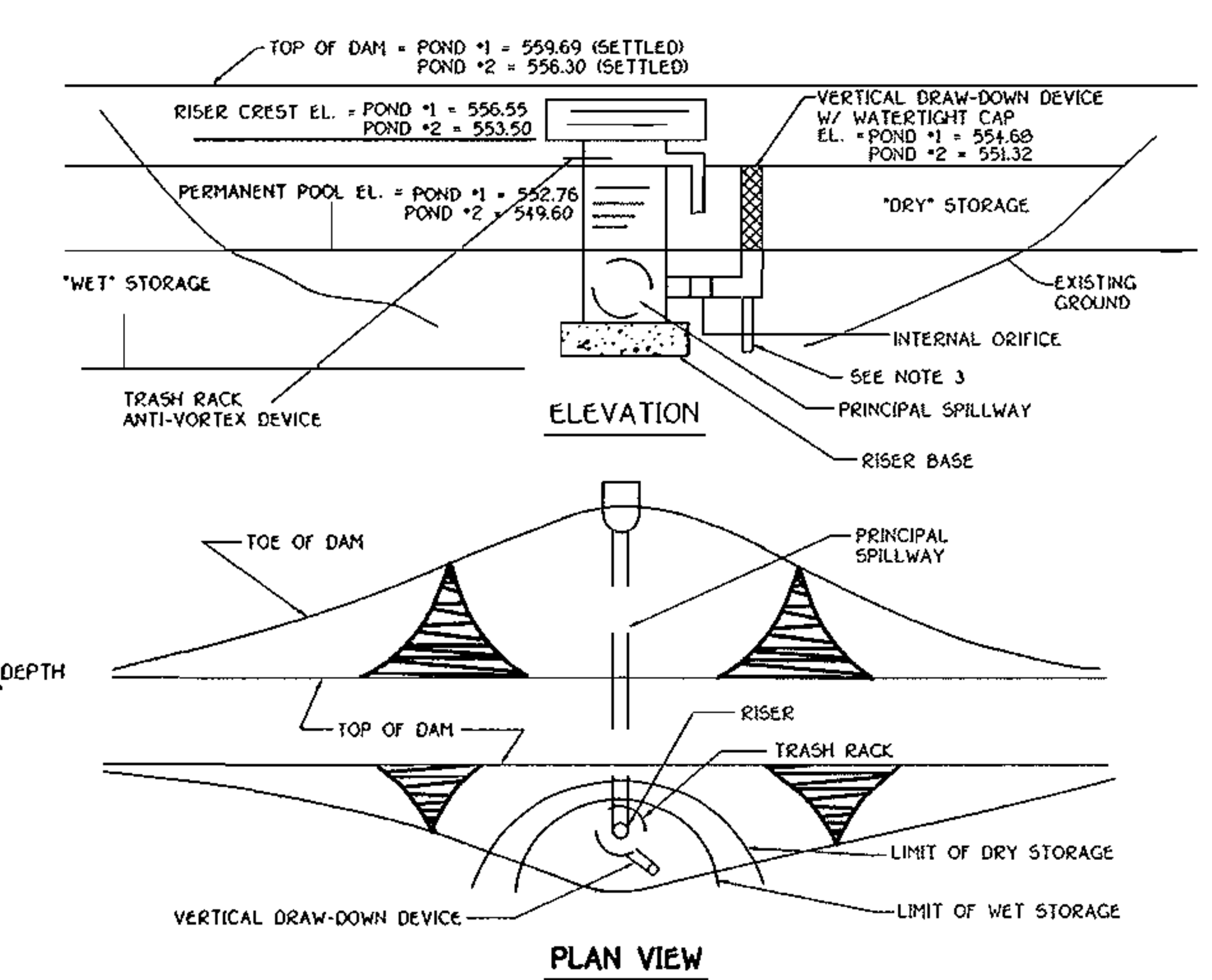


Construction Specifications

1. Rip-rap lined inflow channels shall be 1' in depth, have a trapezoidal cross section with 2:1 or flatter side slopes and 3' (min.) bottom width. The channel shall be lined with 4" to 12" rip- rap to a depth of 18".
2. Filter cloth shall be installed under all rip-rap. Filter cloth shall be Geotextile Class C.
3. Entrance and exit sections shall be installed as shown on the detail section.
4. Rip-rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a stormwater management facility.
5. Gabion Inflow Protection may be used in lieu of Rip-rap Inflow Protection.
6. Rip-rap should blend into existing ground.
7. Rip-rap Inflow Protection shall be used where the slope is between 4:1 and 10:1, for slopes flatter than 10:1 use Earth Dike or Temporary Swale lining criteria.

RIP-RAP INFLOW PROTECTION

NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. PERFORATIONS IN THE DRAW-DOWN DEVICE MAY NOT EXTEND INTO THE WET STORAGE.
2. THE TOTAL AREA OF THE PERFORATIONS MUST BE GREATER THAN 2 TIMES THE AREA OF THE INTERNAL ORIFICE
3. THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH AND GEOTEXTILE FABRIC. THE GEOTEXTILE FABRIC SHALL MEET THE SPECIFICATIONS FOR GEOTEXTILE CLASS E.
4. PROVIDE SUPPORT OF DRAW-DOWN DEVICE TO PREVENT SAGGING AND FLOTATION. AN ACCEPTABLE PREVENTATIVE MEASURE IS TO STAKE BOTH SIDES OF DRAW-DOWN DEVICE WITH 1" STEEL ANGLE, OR 1' BY 4" SQUARE OR 2" ROUND WOODEN POSTS SET 3' MINIMUM INTO THE GROUND THEN JOINING THEM TO THE DEVICE BY WRAPPING WITH 12 GAUGE MINIMUM WIRE.

VERTICAL DRAW-DOWN DEVICE

STATE OF MARYLAND · CHARLES J. CARTER · PROFESSIONAL ENGINEER

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
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Signature Of Engineer — 6/2/04 Date

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.

U.S.D.A. Natural Resources Conservation Service — 6/7/04 Date

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District Howard Soil Conservation Dist. — 6/7/04 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/2/04 Date

Chief, Division of Land Development — 7/1/04 Date

Chief, Development Engineering Division — 6/3/04 Date

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PROJECT	SECTION/AREA	PARCEL
FUTURE WESTERN ELEMENTARY SCHOOL AND PARK	N/A	35

DEED REF. / PLAT REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
2632/573 / F 04-137	8	RR-DEO	28	FIFTH	6051.01

WATER CODE	SEWER CODE
N/A	N/A

TEMPORARY STORMWATER MANAGEMENT DETAILS

MASS GRADING PLAN FOR FUTURE WESTERN ELEMENTARY SCHOOL AND PARK LOTS 1 AND 2

TAX MAP No.: 28 GRID No: 8 PARCEL No.: 35
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: MAY 10, 2004
"BID & CONSTRUCTION 17 MAY 2004"
SHEET 4 OF 11 SDP 04-128

SDP 04-128

K:\Drawings 4\40386 Ten Oaks\40386 Mass Grading SWM SHEETS.dwg, 5/27/2004 9:14:02 AM

TEMPORARY SEDIMENT BASIN AND PIPE CONSTRUCTION SPECIFICATIONS

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. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

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 a 25-foot radius 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.

EARTH FILL

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, 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 and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer. Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

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 heavy 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.

When required by the reviewing agency the minimum required density 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 (Standard Proctor).

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 governed 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.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

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 structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil 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 shall completely fill all voids adjacent to the flowable fill zone. 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 structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill zone shall be of the type and quality conforming to the specified for the core of the embankment or other embankment materials.

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 - (Polymer Coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Stel Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling bands or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

2. Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material and coatings as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.

3. Connections- All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-crafted an adequate number of corrugations to accommodate the bandwidth. The following type connections are acceptable for pipes less than 24-inches in diameter: flanges on both ends of the pipe with a circular 3/8-inch closed cell neoprene gasket, prepunched to the flange bolt circle, sandwiched between adjacent flanges; a 12-inch wide standard lap type band with 12-inch wide by 3/8-inch thick closed cell circular neoprene gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2-inch greater than the corrugation depth. Pipes 24-inches in diameter and larger shall be connected by a 24-inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12-inches on the end of each pipe. Flanged joints with 3/8-inch closed cell gaskets the full width of the flange is also acceptable.

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

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.

Plastic Pipe

The following criteria shall apply for plastic pipe:

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirement of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirement of AASHTO M294 Type S.

2. Joints and connections to anti-seep collars shall be completely watertight.

3. 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.

4. Backfilling shall conform to "Structure Backfill".

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

Stabilization

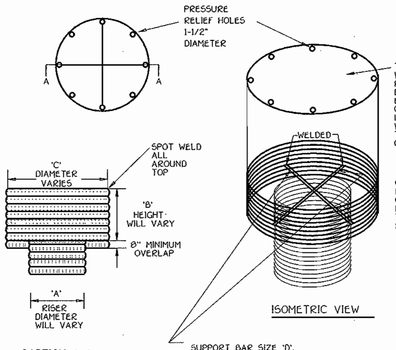
All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Erosion and Sediment Control

Construction operations will be carried 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.

CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE

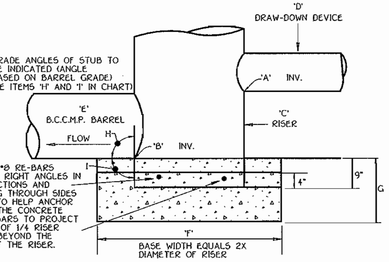
NO SCALE



BASIN NO.	A	B	C	D
1	54"	25"	78"	1-1/4" PIPE OR 1-1/4"x1-1/4"x1/4" ANGLE
2	42"	19"	60"	1-1/4" PIPE OR 1-1/4"x1-1/4"x1/4" ANGLE

RISER BASE DETAIL

NO SCALE



NOTE: ANCHORING BARS SHOULD PROJECT 1/4 DIAMETER BEYOND OUTSIDE OF THE RISER.

BASIN NO.	A	B	C	D	E	F	G	H	I
1	550.00	549.90	54"	3"	36"	7"	1.50'	90°53'58"	89°06'02"
2	546.00	545.90	42"	2"	36"	5.75'	1.60'	90°37'49"	89°22'11"

Construction Specifications

The riser shall have a base attached with a watertight connection and shall have sufficient weight to prevent flotation of the riser. Two approved bases for risers 10" or less in height are:

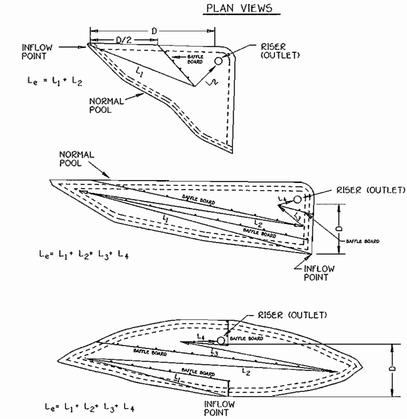
1. A concrete base as shown in the above chart with the riser embedded 9" in the base.

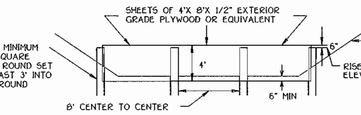
2. A 1/4" minimum thickness steel plate attached to the riser by a continuous weld around the circumference of the riser to form a watertight connection. The plate shall have 2" of stone, gravel, or compacted earth placed on it to prevent flotation. In either case, each side of the square base shall be twice the riser diameter.

SEDIMENT BASIN BAFFLES

NO SCALE

PLAN VIEWS





BAFFLE DETAIL

D = DISTANCE BETWEEN INFLOW AND OUTFLOW

A = AREA OF NORMAL POOL

W_e = EFFECTIVE WIDTH = A/D

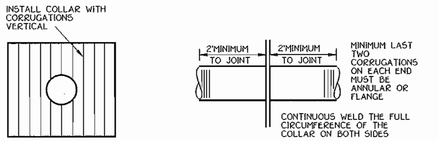
L_e = TOTAL DISTANCE FROM THE INFLOW POINT AROUND THE BAFFLES TO THE RISER

FORMULA: $\frac{L_e}{W_e} \geq 2$

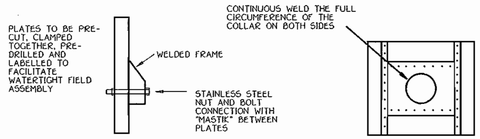
BASIN NO.	D	A	We	Le	L1	L2	L3	TOTAL L1+L2.....
1	38 FT.	9,215 SQ.FT. @ EL. 552.76	242.5 FT.	485.0 FT.	270 FT.	270 FT.	25 FT.	565 FT.
2	195 FT.	4,815 SQ.FT. @ EL. 549.60	24.7 FT.	49.4 FT.	120 FT.	80 FT.	-----	200 FT.

TYPICAL ANTI-SEEP COLLARS

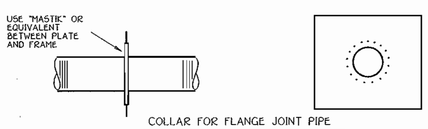
NO SCALE



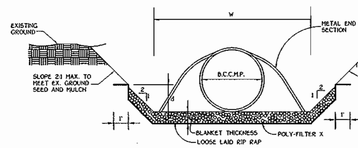
COLLAR WELDED IN PLACE ON BARREL SECTION



ANTI-SEEP COLLAR DESIGN

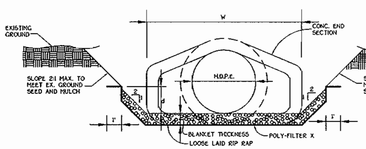


COLLAR FOR FLANGE JOINT PIPE



RIP RAP CHANNEL DETAIL-B.C.C.M.P.

NO SCALE



RIP RAP CHANNEL DETAIL-R.C.C.P.

NO SCALE

RIP-RAP CHANNEL DESIGN DATA

STRUCTURE	AREA	WETTED PERIMETER	R	$R^{2/3}$	S	$S^{1/2}$	W	d	N	V (f.p.s.)	Q 10 (c.f.s.)	RIP-RAP SIZE D_{50}	D_{MAX}	BLANKET THICKNESS
5-1	10.94'	16.05'	1.1260	1.0815	0.005	0.07017	10.5'	1.42'	.04	2.84	53.7	9.5"	15"	19"
5-2	11.04'	13.36'	0.8076	0.9232	0.005	0.07017	10.33'	1.12'	.04	2.43	25.1	9.5"	15"	19"
5-3	13.16'	16.39'	0.8029	0.8632	0.005	0.07017	10'	1.01'	.04	2.27	29.70	9.5"	15"	19"
5-4	7.72'	13.04'	0.5920	0.7094	0.0137	0.1173	10'	0.68'	.04	3.06	29.70	9.5"	15"	19"

CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS

1. The subgrade for the filter, riprap or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
2. The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
3. Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional shall hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
4. Stone for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogenous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

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FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

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 Condition And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

Signature Of Engineer — Date 6/4/04

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements

U.S.D.A. - Natural Resources Conservation Service — Date 6/7/04

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 Of Developer — Date 6/1/04

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District

District Howard Soil Conservation Dist. — Date 6/7/04

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 7/2/04

Chief, Division of Land Development — Date 7/1/04 VS

Chief, Development Engineering Division — Date 6/3/04

PREPARED FOR
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 Maryland Route 108
Ellicott City, Maryland 21042
Attention Bruce Gist
(410) 313-6790

TCA ARCHITECTS
2661 RIVA ROAD, SUITE 120
ANNAPOLIS, MARYLAND 21401
(410) 841-6205

Address Chart

Parcel Number	Street Address
P. 35	Lot 1 4691 TEN OAKS ROAD
	Lot 2 4671 TEN OAKS ROAD

PROJECT			SECTION/AREA	PARCEL
FUTURE WESTERN ELEMENTARY SCHOOL AND PARK			N/A	35
DEED REF. 2632/573	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
PLAT REF. F 04-137	8	RR-DEO	28	FIFTH	6051.01
WATER CODE		SEWER CODE			
N/A		N/A			

TEMPORARY STORMWATER MANAGEMENT NOTES AND DETAILS

MASS GRADING PLAN FOR FUTURE WESTERN ELEMENTARY SCHOOL AND PARK LOTS 1 AND 2

TAX MAP No.: 28 GRID No: 8 PARCEL No.: 35
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: MAY 10, 2004

"BID & CONSTRUCTION
17 MAY 2004"

SHEET 5 OF 11

SDP 04-128

SDP04-128

20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

PURPOSE

Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (Up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary Soil Stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.
Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.
Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. Site Preparation
   i. Install erosion and sediment control structures (either temporary of permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
   ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
   iii. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.
B. Soil Amendments (Fertilizer and Lime Specifications)
   i. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
   ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.
   iii. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98-100% will pass through a #20 mesh sieve.
   iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
C. Seedbed Preparation
   i. Temporary Seeding
      a. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
      b. Apply fertilizer and lime as prescribed on the plans.
      c. In corporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
   ii. Permanent Seeding
      a. Minimum soil conditions required for permanent vegetative establishment:
         1. Soil pH shall be between 6.0 and 7.0.
         2. Soluble salts shall be less than 500 parts per million (ppm).
         3. The soil shall contain less than 40% clay, but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or serecia lespedezas is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
         4. Soil shall contain 1.5% minimum organic matter by weight.
         5. Soil must contain sufficient pore space to permit adequate root penetration.
         6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
      b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
      c. Apply soil amendments as per soil test or as included on the plans.
      d. Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.
D. Seed Specifications
   i. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.
   Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
   ii. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75°-80° F. can weaken bacteria and make the inoculant less effective.
E. Methods of Seeding
   i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.
      a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen: maximum of 100 lbs. per acre total of soluble nitrogen; P205 (phosphorous): 200 lbs/ac; K20 (potassium): 200 lbs/ac.
      b. Lime - use only ground agricultural limestone. (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
      c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
   ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
      a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
      b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
   iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
      a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
      b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
F. Mulch Specifications (In order of preference)
   i. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
   ii. Wood Cellulose Fiber Mulch (WCFM)
      a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
      b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
      c. WCFM, including dye, shall contain no germination or growth inhibiting factors.
      d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
      e. WCFM material shall contain no elements or compounds at concentration levels that will be phytol-toxic.
      f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm. , diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.
   Note: Only sterile straw mulch should be used in areas where one species of grass is desired.
G. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.
   i. If grading is completed outside of the seeding season, mulch along shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
   ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
   iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.

H. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:
   i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
   ii. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
   iii. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crest of banks. The remainder of area should be appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
   iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.
I Incremental Stabilization - Cut Slopes
   i. All cuts slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
   ii. Construction sequence (Refer to Figure 3 below):
      a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
      b. Perform Phase 1 excavation, dress, and stabilize.
      c. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as necessary.
      d. Perform final phase excavation, dress and stabilize. Overseed previously seeded areas as necessary.
Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions int he operation of completing the operation out of the seeding season will necessitate the application of temporary stabilization.
J. Incremental Stabilization of Embankments - Fill Slopes
   i. Embankments shall be constructed in lifts as prescribed on the plans.
   ii. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15', or when the grading operation ceases as prescribed in the plans.
   iii. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device.
   iv. Construction sequence: Refer to Figure 4 (below).
      a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slope silt fence on low side of fill as shown in Figure 5, unless other methods shown on the plans address this area.
      b. Place Phase 1 embankment, dress and stabilize.
      c. Place Phase 2 embankment, dress and stabilize.
      d. Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.
Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

SECTION 2 - TEMPORARY SEEDING

Vegetation - annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed mixtures - Temporary Seeding

i. Select one or more of the species or mixtures listed in Table 26 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Temporary seeding summary below, along with application rates, seeding dates and seeding depths. If this summary is not put on the plans and completed, then Table 26 must be put on the plans.

ii. For sites having soil tests performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in. Soil tests are not required for Temporary Seeding.

Seed Mixture (Hardiness Zone 6a) From Table 26					Fertilizer Rate (10-10-10)	Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
1	Rye	140	8/1 TO 10/31 3/15 TO 5/31	1-2 IN	600 lb/ac (15 lb/1000sf)	2 tons/ac (100 lb/1000sf)
2	Barley Or Rye Plus - Foxtail Millet	150	3/15 TO 10/31	1 IN.		
3	Annual Rye Grass	50	3/15 TO 5/31 8/1 TO 10/31	1/4 -1/2 IN.		

SECTION 3 - PERMANENT SEEDING

Seeding grass and legumes to establish groung cover for a minimum of one year on disturbed areas generally receiving low maintenance.

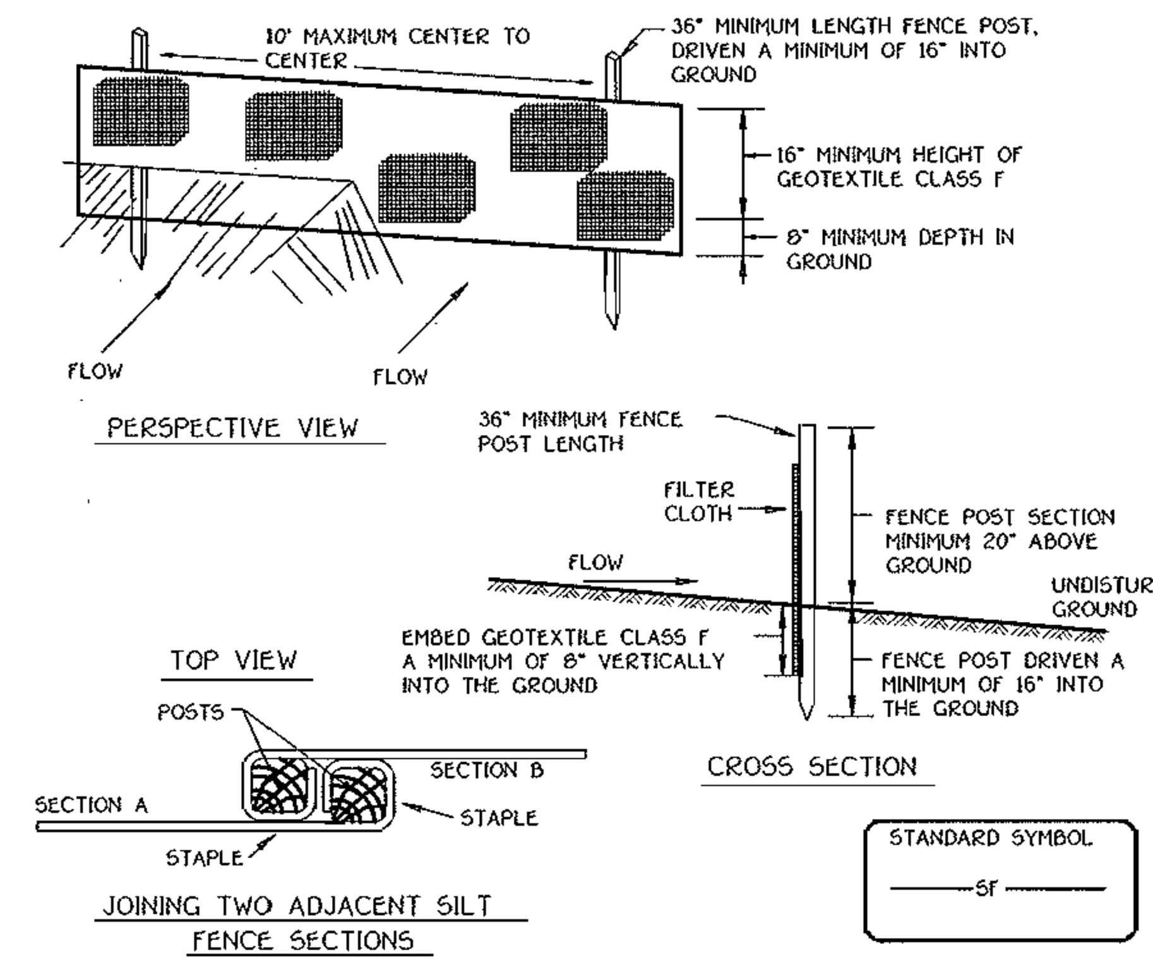
A. Seed mixtures - Permanent Seeding

i. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Techinical Field Office Guide, Section 342 - Critical Area Planting. For special lawn maintenance areas, see Sections IV Sod and V Turfgrass.

ii. For sites having disturbed area over 5 areas, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in.

iii. For areas receiving low maintenance, apply ureaform fertilizer (46-0-0) at 3 1/2 lbs/1000 sq. ft. (150 lbs/ac), in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

Seed Mixture (Hardiness Zone 6a) From Table 25					Fertilizer Rate (10-20-20)			Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P205	K20	
1	Tall Fescue (85%) Perennial Ryegrass (10%) Kentucky Bluegrass (5%)	125 15 10	3/15 TO 6/1 8/1 TO 10/1	1-2 IN	90 lb/ac (2.0 lb/1000sf)	175 lb/ac (4 lb/1000sf)	175 lb/ac (4 lb/1000sf)	2 tons/ac (100 lb/1000sf)
2	Tall Fescue (80%) Hard Fescue (20%)	120 30	3/15 TO 6/1 8/1 TO 10/1	1-2 IN.				
3	Hard Fescue (100%)	0.75	3/15 TO 6/1 8/1 TO 10/1	1-2 IN.				



STANDARD SYMBOL
——SF——

Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

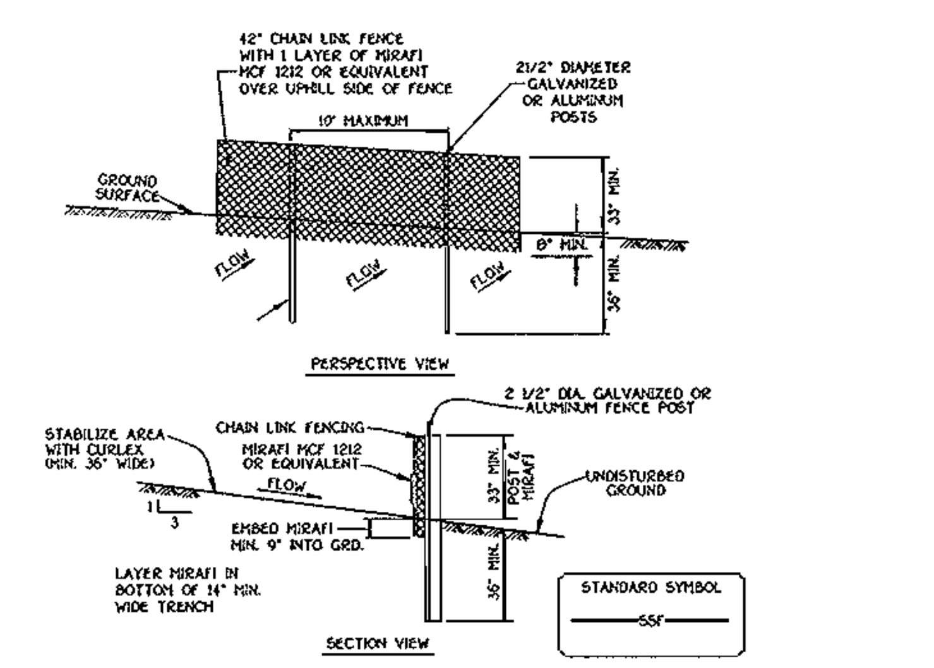
2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft / minute (max.)[2]	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

SILT FENCE
NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

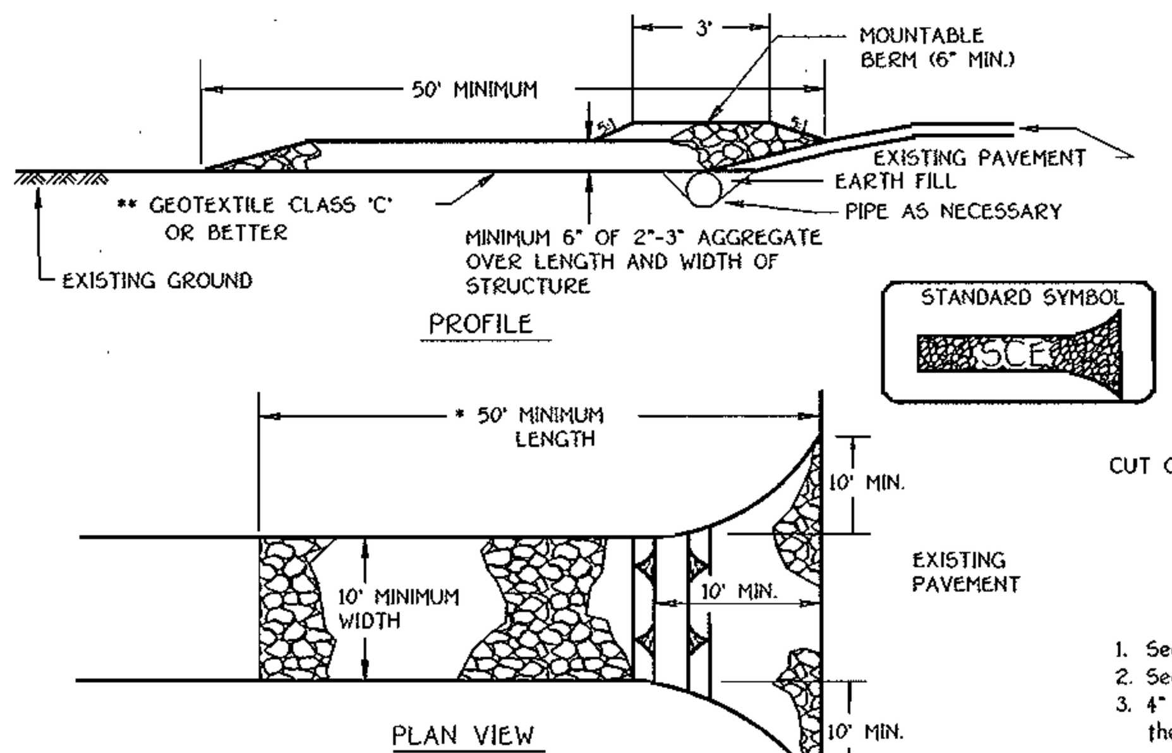
1. FENCING SHALL BE 42" HIGH CHAIN CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD DETAILS 690.01 AND 690.02 FOR CHAIN U FENCING. THE SPECIFICATIONS FOR A 6'-0" FENCE SHALL BE USED, SUBSTITUTING 42" FABRIC AND 6' POSTS. POSTS SHALL BE PLACED WITHOUT CONCRETE EMBEDMENT.
2. CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. THE LOWER TENSION WIRE, BRACE AND TRUSS RODS, ANCHORS AND POST CAPS ARE NOT REQUIRED EXCEPT ON THE ENDS OF THE FENCE.
3. FILTER CLOTH TO BE FASTENED SECURELY TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
4. FILTER CLOTH SHALL BE IMBEDDED A MINIMUM OF 9" INTO THE GROUND.
5. WHEN TWO SECTIONS OF DIVERSION CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED.

Fabric Properties	Value	Test Method
Grab Tensile Strength (lbs.)	90	ASTM D1682
Elongation at Failure (%)	50	ASTM D1682
Mullen Burst Strength (PSI)	190	ASTM D3786
Puncture Strength (lbs.)	40	ASTM D751
Slurry Flow Rate (gal/min/sf)	0.3	Virginia DOT VTM-51
Equivalent Opening Size	40-80	US Std Sieve CW-02215
Ultraviolet Radiation Stability (%)	90	ASTM G-26

Design Criteria

Slope	Slope Steepness	Slope Length (maximum)	Silt Fence Length (maximum)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	400 feet	1,500 feet
20 - 33%	5:1 - 3:1	300 feet	1,000 feet
33 - 50%	3:1 - 2:1	200 feet	500 feet
50% +	2:1 +	100 feet	250 feet

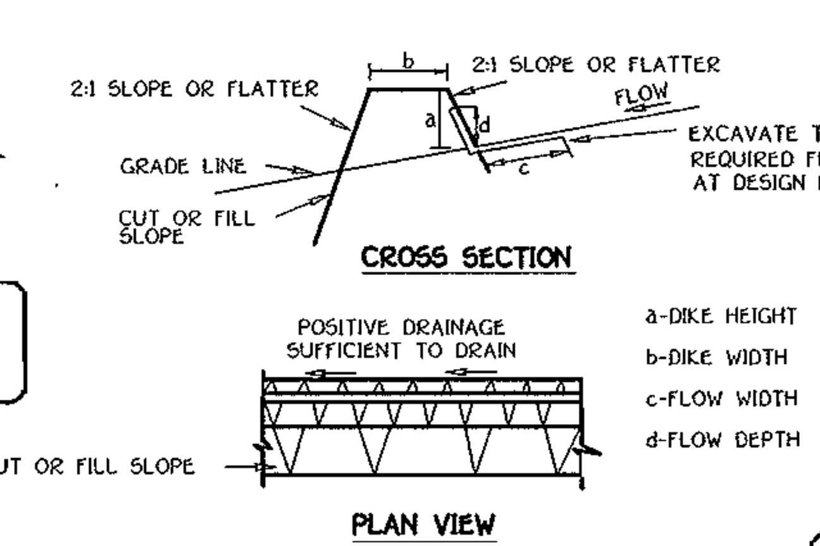
SUPER SILT FENCE
NOT TO SCALE



Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).
2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



	DIKE A	DIKE B
a-DIKE HEIGHT	18"	30"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	12"	24"

FLOW CHANNEL STABILIZATION
GRADE 0.5% MIN. 10% MAX.

STANDARD SYMBOL
A-2 / B-3

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.
4. All trees, brush, stumps, obstructions, and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
6. Fill shall be compacted by earth moving equipment.
7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
8. Inspection and maintenance must be provided periodically and after each rain event.

EARTH DIKE
NOT TO SCALE

STATE OF MARYLAND PROFESSIONAL ENGINEER

SEQUENCE OF CONSTRUCTION

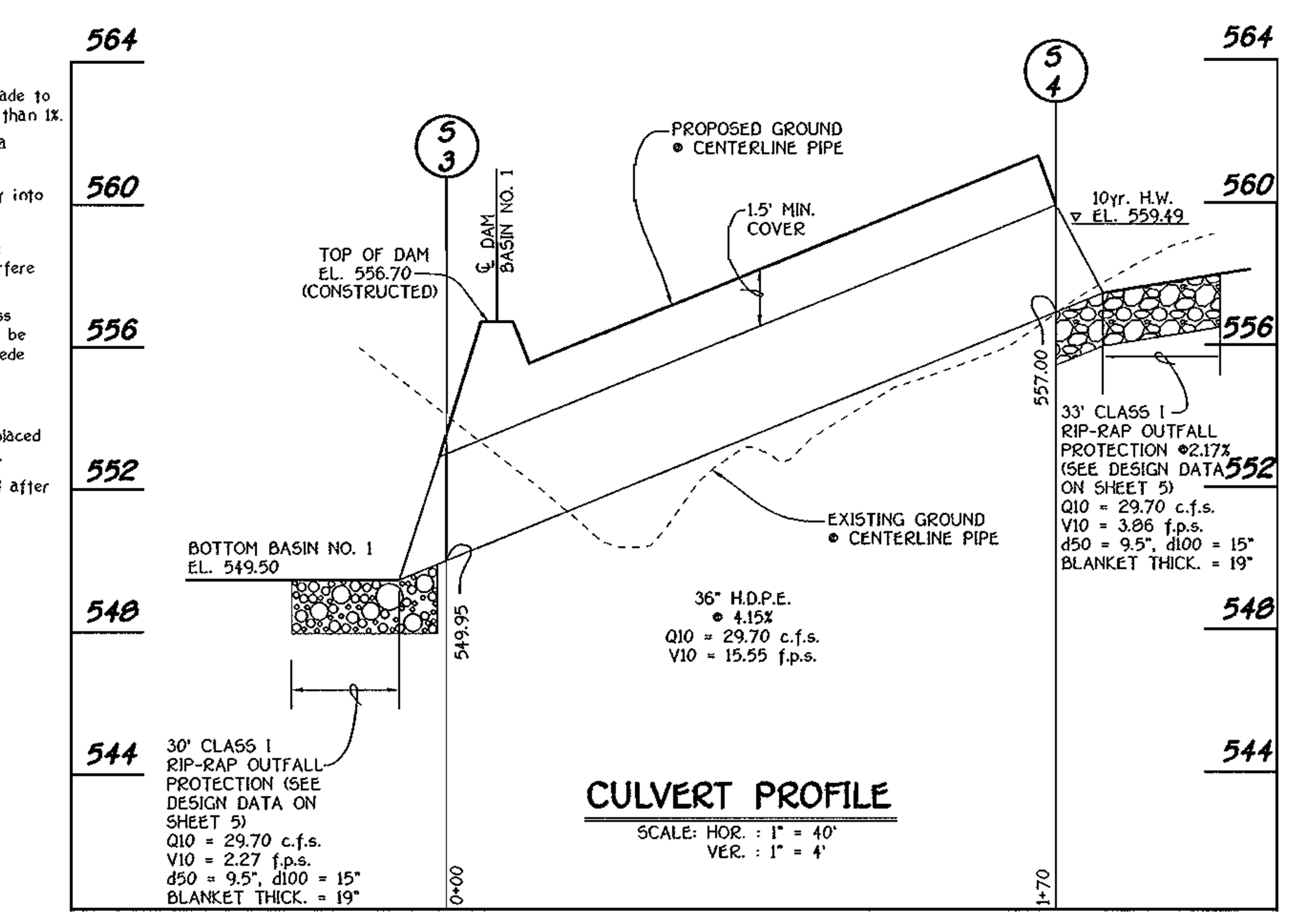
1. OBTAIN GRADING AND DEMOLITION PERMIT. (1 DAY)
2. NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION AT 410-313-1330 24 HOURS BEFORE STARTING WORK.
3. INSTALL TREE PROTECTION FENCE AS INDICATED ON THE PLANS. INSTALL STABILIZED CONSTRUCTION ENTRANCE. CLEAR AND GRUB FOR SEDIMENT BASINS. (3 DAYS)
4. INSTALL SEDIMENT BASINS AND ASSOCIATED SUPER SILT FENCE AS INDICATED ON THE PLANS. NO BLASTING WILL BE PERMITTED FOR THE EXCAVATION OF THE SEDIMENT BASIN EMBANKMENTS. WHERE NECESSARY, RIPPING AND JACK HAMMERING SHOULD BE UTILIZED IN THE EXCAVATION OF THE FACILITY. (3 WEEKS)
5. RECEIVE PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR PRIOR TO PROCEEDING. CLEAR AND GRUB FOR REMAINING SEDIMENT CONTROL MEASURES. INSTALL REMAINING SEDIMENT CONTROL MEASURES, EARTH DIKES, AND SUPER SILT FENCE AS INDICATED ON THE PLANS. (1 WEEK)
6. RECEIVE PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR PRIOR TO PROCEEDING. CLEAR AND GRUB THE REMAINDER OF THE SITE. (3 DAYS)
7. INSTALL TEMPORARY 36" HDPE PIPE GOING TO SEDIMENT BASIN #1. CONSTRUCT SWALE FROM S-4 TO THE 590 CONTOUR ADJACENT TO THE N76°23'47"W PROJECT BOUNDARY LINE. THE FILL SLOPE SHALL BE GRADED ADJACENT TO THE TEMPORARY 36" HDPE PIPE IN ORDER TO INSTALL THE EARTH DIKE TO PROVIDE POSITIVE DRAINAGE TO THE SEDIMENT BASIN. (2 WEEKS.)
8. GRADE SITE TO THE PROPOSED GRADES SHOWN. STABILIZE ALL SLOPES IMMEDIATELY UPON COMPLETION OF GRADING WITH TEMPORARY SEEDING. (12 WEEKS)
9. THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON ALL SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON, AFTER EACH RAINFALL AND ON A DAILY BASIS. REMOVE SEDIMENT FROM THE BASINS WHEN THE CLEANOUT ELEVATIONS HAVE BEEN REACHED. ALL SEDIMENT MUST BE PLACED UPSTREAM OF THE SEDIMENT BASINS.
10. NOTIFY HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS FOR FINAL INSPECTION OF THE COMPLETED PROJECT.
11. AFTER GRADING HAS BEEN COMPLETED AND THE SITE HAS BEEN STABILIZED WITH TEMPORARY SEEDING, THE REMOVAL OF THE SEDIMENT BASINS IS TO BE PERFORMED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

SEDIMENT CONTROL NOTES

1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LISCENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3) FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, b) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4) 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.
5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), 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 PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7) SITE ANALYSIS:

TOTAL AREA OF SITE	22.736 ACRES
AREA DISTURBED	19.08 ACRES
AREA TO BE ROOFED OR PAVED	0.00 ACRES
AREA TO BE VEGETATIVELY STABILIZED	19.08 ACRES
TOTAL CUT	117,731 CU.YDS.
TOTAL FILL	117,731 CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION	0.00 CU.YDS.

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 SEDIMENT CONTROL INSPECTOR.
10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, 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.
11) TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGHTS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.



CULVERT PROFILE
SCALE: HOR. : 1" = 40'
VER. : 1" = 4'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

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 Condition And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

Signature Of Engineer — 6/2/04 Date

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.
U.S.D.A. - Natural Resources Conservation Service — 6/7/04 Date

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 Of Developer — 6/1/04 Date

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.
District Howard Soil Conservation Dist. — 6/7/04 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/2/04 Date

Chief, Division of Land Development — 7/1/04 Date

Chief, Development Engineering Division — 6/9/04 Date

PREPARED FOR
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 Maryland Route 108
Ellicott City, Maryland 21042
Attention Bruce Gist
(410) 313-6798

TCA ARCHITECTS
2661 RIVA ROAD, SUITE 120
ANNAPOLIS, MARYLAND 21401
(410) 841-6205

Address Chart

Parcel Number	Street Address
P. 35	Lot 1 4691 TEN OAKS ROAD
	Lot 2 4671 TEN OAKS ROAD

PROJECT			SECTION/AREA	PARCEL	
FUTURE WESTERN ELEMENTARY SCHOOL AND PARK			N/A	35	
DEED REF. 2632/573 PLAT REF. F 04-137	BLOCK NO. 8	ZONE RR-DEO	TAX/ZONE 28	ELEC. DIST. FIFTH	CENSUS TR. 6051.01
WATER CODE N/A			SEWER CODE N/A		

STORM DRAIN PROFILE,
SEDIMENT CONTROL NOTES & DETAILS

MASS GRADING PLAN FOR FUTURE WESTERN ELEMENTARY SCHOOL AND PARK LOTS 1 AND 2

TAX MAP No.: 28 GRID No: 8 PARCEL No.: 35
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: MAY 10, 2004
"BID & CONSTRUCTION 17 MAY 2004"
SHEET 6 OF 11 **SDP 04-128**

SDP04-128

K:\Drawings 4\40386 Ten Oaks\40386 Mass Grading SWM SHEETS.dwg, 5/27/2004 9:16:41 AM

K:\Drawings 4\40386 Ten Oaks\40386 Soils Map (Mass Grading Plan).dwg, 5/27/2004 1:32:25 PM

SOILS LEGEND

SOIL	NAME	CLASS
CgB2	Chester gravelly silt loam, 3 to 8 percent slopes, moderately eroded	B
CgC2	Chester gravelly silt loam, 8 to 15 percent slopes, moderately eroded	B
ChB2	Chester silt loam, 3 to 8 percent slopes, moderately eroded	B
ChC2	Chester silt loam, 8 to 15 percent slopes, moderately eroded	B
GlC2	Glenelg loam, 8 to 15 percent slopes, moderately eroded	B
* GnB2	Glenville silt loam, 3 to 8 percent slopes, moderately eroded	C
** Ha	Hatboro silt loam	D
MgC2	Manor gravelly loam, 8 to 15 percent slopes, moderately eroded	B
MlD2	Manor loam, 15 to 25 percent slopes, moderately eroded	B

NOTES:

* Hydric soils and/or contains hydric inclusions

** May contain hydric inclusions

PLAN
SCALE: 1" = 40'

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CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

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 Condition And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

Signature Of Engineer — Date 6/2/04

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.

U.S.D.A. - Natural Resources Conservation Service — Date 6/7/04

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 Of Developer — Date 6/1/04

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.

District Howard Soil Conservation Dist. — Date 6/7/04

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 7/2/04

Chief, Division of Land Development — Date 7/1/04

Chief, Development Engineering Division — Date 6/9/04

PREPARED FOR
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 Maryland Route 108
Ellicott City, Maryland 21042
Attention Bruce Gist
410-313-6798

TCA ARCHITECTS
2661 RIVA ROAD, SUITE 120
ANNAPOLIS, MARYLAND 21401
(410) 841-6205

Address Chart

Parcel Number	Street Address	
P. 35	Lot 1 4651	TEN OAKS ROAD
	Lot 2 4671	TEN OAKS ROAD

PROJECT			SECTION/AREA	PARCEL	
FUTURE WESTERN ELEMENTARY SCHOOL AND PARK			N/A	35	
DEED REF. 2632/573 PLAT REF. F 04-137	BLOCK NO. 8	ZONE RR-DEO	TAX/ZONE 28	ELEC. DIST. FIFTH	CENSUS TR. 6051.01
WATER CODE N/A			SEWER CODE N/A		

SOILS MAP

MASS GRADING PLAN FOR FUTURE WESTERN ELEMENTARY SCHOOL AND PARK LOTS 1 AND 2

TAX MAP No.: 28 GRID No: 8 PARCEL No.: 35
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: MAY 10, 2004
"BID & CONSTRUCTION 17 MAY 2004"
SHEET 7 OF 11

SDP 04-128

SDP04-128

PLAN
SCALE: 1" = 40'

STATE OF MARYLAND — CHARLES CAREY — PROFESSIONAL ENGINEER

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
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Signature Of Developer — 6/1/04 Date

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District Howard Soil Conservation Dist. — 6/7/04 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/2/04 Date

Chief, Division of Land Development — 7/1/04 Date

Chief, Development Engineering Division — 6/3/04 Date

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Address Chart

Parcel Number	Street Address
P. 35	Lot 1 4691 TEN OAKS ROAD
	Lot 2 4671 TEN OAKS ROAD

PROJECT			SECTION/AREA		PARCEL
FUTURE WESTERN ELEMENTARY SCHOOL AND PARK			N/A		35
DEED REF. 2632/573 PLAT REF: F 04-137	BLOCK NO. 8	ZONE RR-DEO	TAX/ZONE 28	ELEC. DIST. FIFTH	CENSUS TR. 6051.01

WATER CODE	SEWER CODE
N/A	N/A

SOILS MAP

MASS GRADING PLAN FOR FUTURE WESTERN ELEMENTARY SCHOOL AND PARK LOTS 1 AND 2

TAX MAP No.: 28 GRID No: 8 PARCEL No.: 35
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: MAY 10, 2004
"BID & CONSTRUCTION 17 MAY 2004"
SHEET 8 OF 11 SDP 04-128

SDP04-128

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FOREST STAND DATA

KEY	COMMUNITY TYPE	ACREAGE	DOMINANT VEGETATION	GENERAL CONDITION	PRIORITY ACREAGE
F1	SUCCESSIONAL	1.2 (nta)	Acer rubrum, Fraxinus pennsylvanica, Salix Nigra, Liriodendron tulipifera, Quercus palustris	Fair	1.2± buffers

FSD NOTES

1. No rare, threatened or endangered species were observed on the property.
2. Surrounding land use is primarily low density residential and agriculture.
3. All forest on the site is in Stand F-1.

FLOODPLAIN NOTE:

Portions of the site occurring within the 100 year floodplain are not included as part of the net tract area of the site. Areas of floodplain forest occurring within the limits of a Forest Conservation Easement will be protected by the easement restrictions but have not been credited toward the projects FCA obligations.

FOREST CONSERVATION EASEMENT #1

1.0 acers
to be retained (nta)

SPECIMEN TREE

KEY	SPECIES/SIZE	CONDITION
A	ACER SACCHARINUM	FAIR

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MD DNR Qualified Professional
USACOE Wetland Delineator
Certification • WDCP93MD0610044B

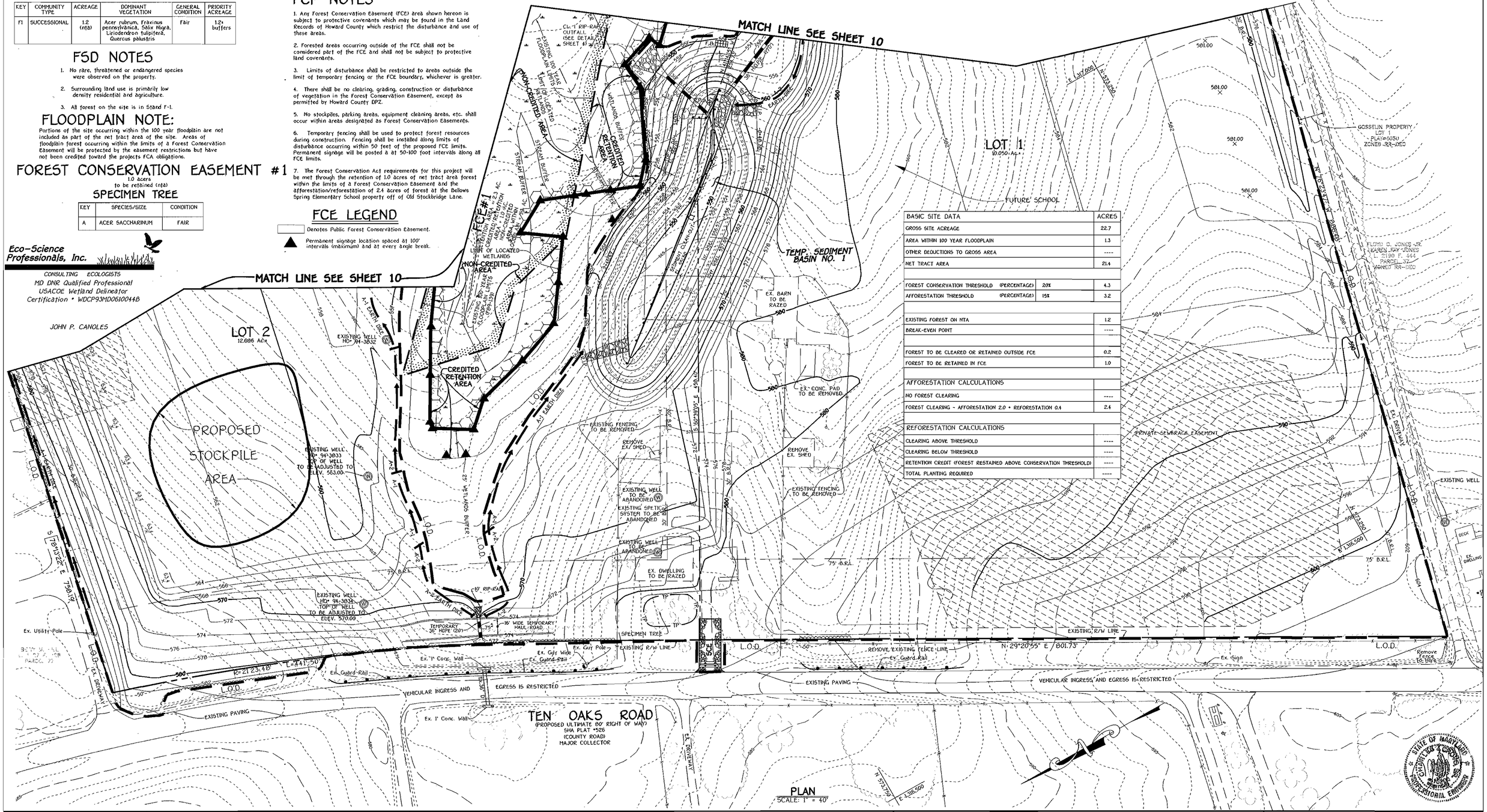
FCP NOTES

1. Any Forest Conservation Easement (FCE) area shown hereon is subject to protective covenants which may be found in the Land Records of Howard County which restrict the disturbance and use of these areas.
2. Forested areas occurring outside of the FCE shall not be considered part of the FCE and shall not be subject to protective land covenants.
3. Limits of disturbance shall be restricted to areas outside the limit of temporary fencing or the FCE boundary, whichever is greater.
4. There shall be no clearing, grading, construction or disturbance of vegetation in the Forest Conservation Easement, except as permitted by Howard County DPZ.
5. No stockpiles, parking areas, equipment cleaning areas, etc. shall occur within areas designated as Forest Conservation Easements.
6. Temporary fencing shall be used to protect forest resources during construction. Fencing shall be installed along limits of disturbance occurring within 50 feet of the proposed FCE limits. Permanent signage will be posted a at 50-100 foot intervals along all FCE limits.
7. The Forest Conservation Act requirements for this project will be met through the retention of 1.0 acres of net tract area forest within the limits of a Forest Conservation Easement and the afforestation/reforestation of 2.4 acres of forest at the Bellows Spring Elementary School property off of Old Stockbridge Lane.

FCE LEGEND

Denotes Public Forest Conservation Easement.

Permanent signage location spaced at 100' intervals (maximum) and at every angle break.



PLAN
SCALE: 1" = 40'

BASIC SITE DATA			ACRES
GROSS SITE ACREAGE			22.7
AREA WITHIN 100 YEAR FLOODPLAIN			1.3
OTHER DEDUCTIONS TO GROSS AREA			----
NET TRACT AREA			21.4
FOREST CONSERVATION THRESHOLD	(PERCENTAGE)	20%	4.3
AFFORESTATION THRESHOLD	(PERCENTAGE)	15%	3.2
EXISTING FOREST ON NTA			1.2
BREAK-EVEN POINT			----
FOREST TO BE CLEARED OR RETAINED OUTSIDE FCE			0.2
FOREST TO BE RETAINED IN FCE			1.0
AFFORESTATION CALCULATIONS			
NO FOREST CLEARING			----
FOREST CLEARING - AFFORESTATION 2.0 + REFORESTATION 0.4			2.4
REFORESTATION CALCULATIONS			
CLEARING ABOVE THRESHOLD			----
CLEARING BELOW THRESHOLD			----
RETENTION CREDIT (FOREST RESTAINED ABOVE CONSERVATION THRESHOLD)			----
TOTAL PLANTING REQUIRED			----

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Signature Of Engineer — Date 6/8/04

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.

U.S.D.A. - Natural Resources Conservation Service — Date 6/7/04

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Signature Of Developer — Date 6/11/04

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.

District Howard Soil Conservation Dist. — Date 6/9/04

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 7/12/04

Chief, Division of Land Development — Date 7/11/04 V3

Chief, Development Engineering Division — Date 6/3/04

PREPARED FOR
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 Maryland Route 108
Ellicott City, Maryland 21042
Attention Bruce Gist
410-313-6798

TCA ARCHITECTS
2661 RIVA ROAD, SUITE 120
ANNAPOLIS, MARYLAND 21401
(410) 841-6205

Address Chart

Parcel Number	Street Address
P. 35	Lot 1 4641 TEN OAKS ROAD
	Lot 2 4671 TEN OAKS ROAD

PROJECT			SECTION/AREA		PARCEL
FUTURE WESTERN ELEMENTARY SCHOOL AND PARK			N/A		35
DEED REF. 2632/573	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
PLAT REF. F 04-137	8	RR-DEO	28	FIFTH	6051.01
WATER CODE		SEWER CODE			
N/A		N/A			

FOREST CONSERVATION PLAN

MASS GRADING PLAN FOR FUTURE WESTERN ELEMENTARY SCHOOL AND PARK LOTS 1 AND 2

TAX MAP No.: 28 GRID No: 8 PARCEL No.: 35
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: MAY 10, 2004
"BID & CONSTRUCTION 17 MAY 2004"
SHEET 9 OF 11

SDP 04-128

SDP 04-128

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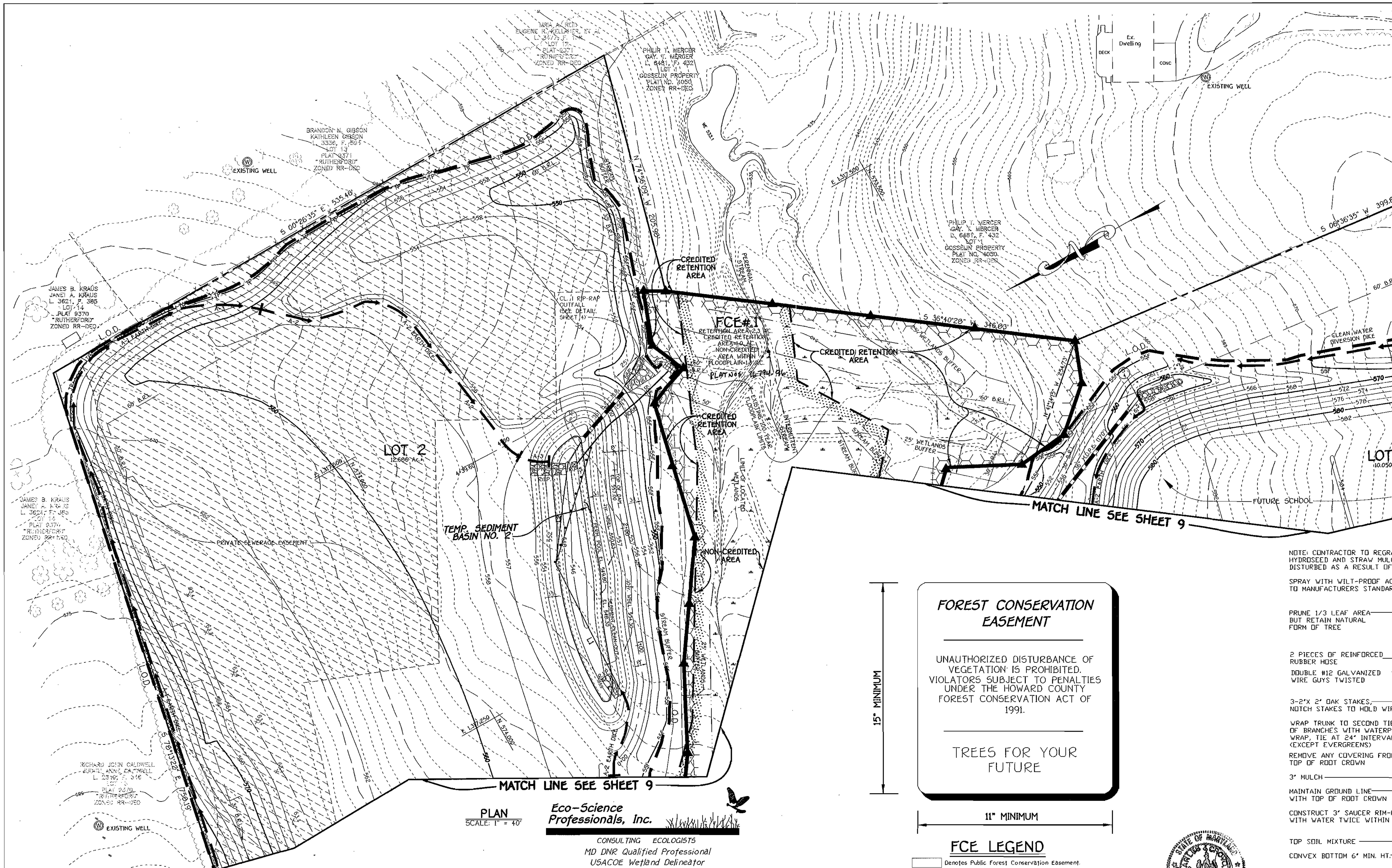

PLAN
SCALE: 1" = 40'

Eco-Science Professionals, Inc.

CONSULTING ECOLOGISTS
MD DNR Qualified Professional
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Certification • WDCP93MD0610044B

JOHN P. CANOLES

FOREST CONSERVATION EASEMENT

UNAUTHORIZED DISTURBANCE OF VEGETATION IS PROHIBITED. VIOLATORS SUBJECT TO PENALTIES UNDER THE HOWARD COUNTY FOREST CONSERVATION ACT OF 1991.

TREES FOR YOUR FUTURE

15" MINIMUM

11" MINIMUM

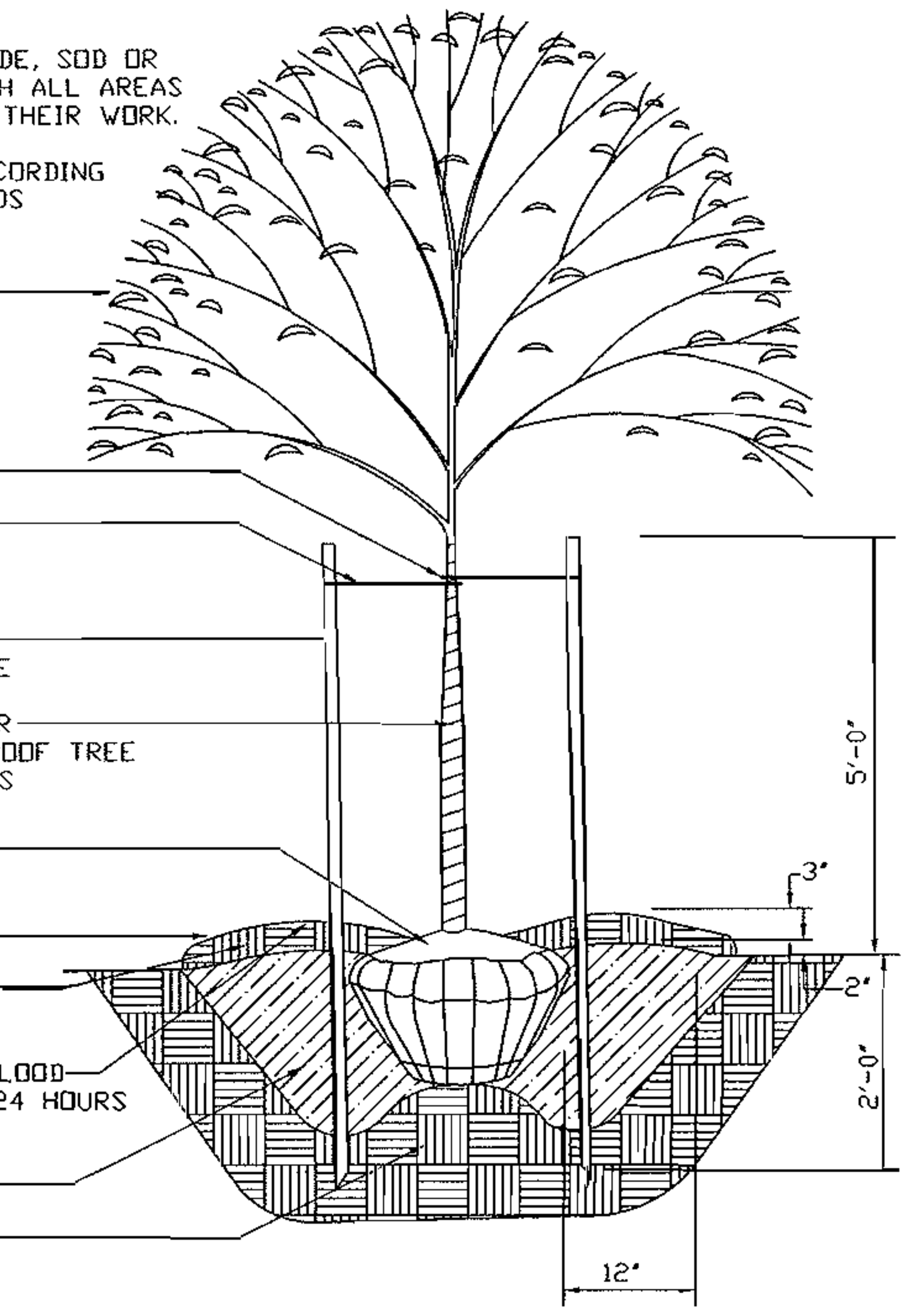
FCE LEGEND

Denotes Public Forest Conservation Easement.

▲ Permanent signage location spaced at 100' intervals (maximum) and at every angle break.

NOTE: CONTRACTOR TO REGRADE, SOD OR HYDROSEED AND STRAW MULCH ALL AREAS DISTURBED AS A RESULT OF THEIR WORK.

SPRAY WITH WILT-PROOF ACCORDING TO MANUFACTURERS STANDARDS



2" CALIPER TREE PLANTING DETAIL

NOT TO SCALE

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Signature Of Developer — 6/1/04 Date

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.

U.S.D.A. - Natural Resources Conservation Service — 6/7/04 Date

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.

District Howard Soil Conservation Dist. — 6/7/04 Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/2/04 Date

Chief, Division of Land Development — Date

Chief, Development Engineering Division — 6/9/04 Date

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PROJECT				SECTION/AREA	PARCEL
FUTURE WESTERN ELEMENTARY SCHOOL AND PARK				N/A	35
DEED REF. 2632/573 PLAT REF. F 04-137	BLOCK NO. 8	ZONE RR-DEO	TAX/ZONE 28	ELEC. DIST. FIFTH	CENSUS TR. 6051.01
WATER CODE N/A			SEWER CODE N/A		

FOREST CONSERVATION PLAN

MASS GRADING PLAN FOR FUTURE WESTERN ELEMENTARY SCHOOL AND PARK LOTS 1 AND 2

TAX MAP No.: 28 GRID No: 8 PARCEL No.: 35
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SCALE: AS SHOWN DATE: MAY 10, 2004
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SHEET 10 OF 11

SDP 04-128

SDP 04-128

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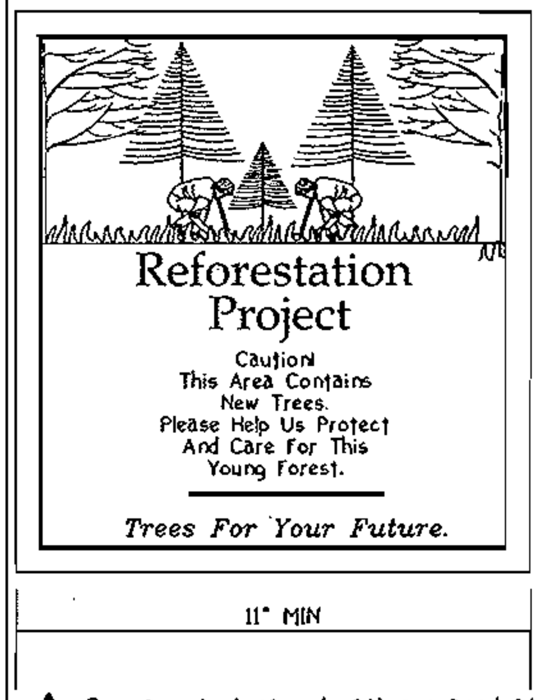

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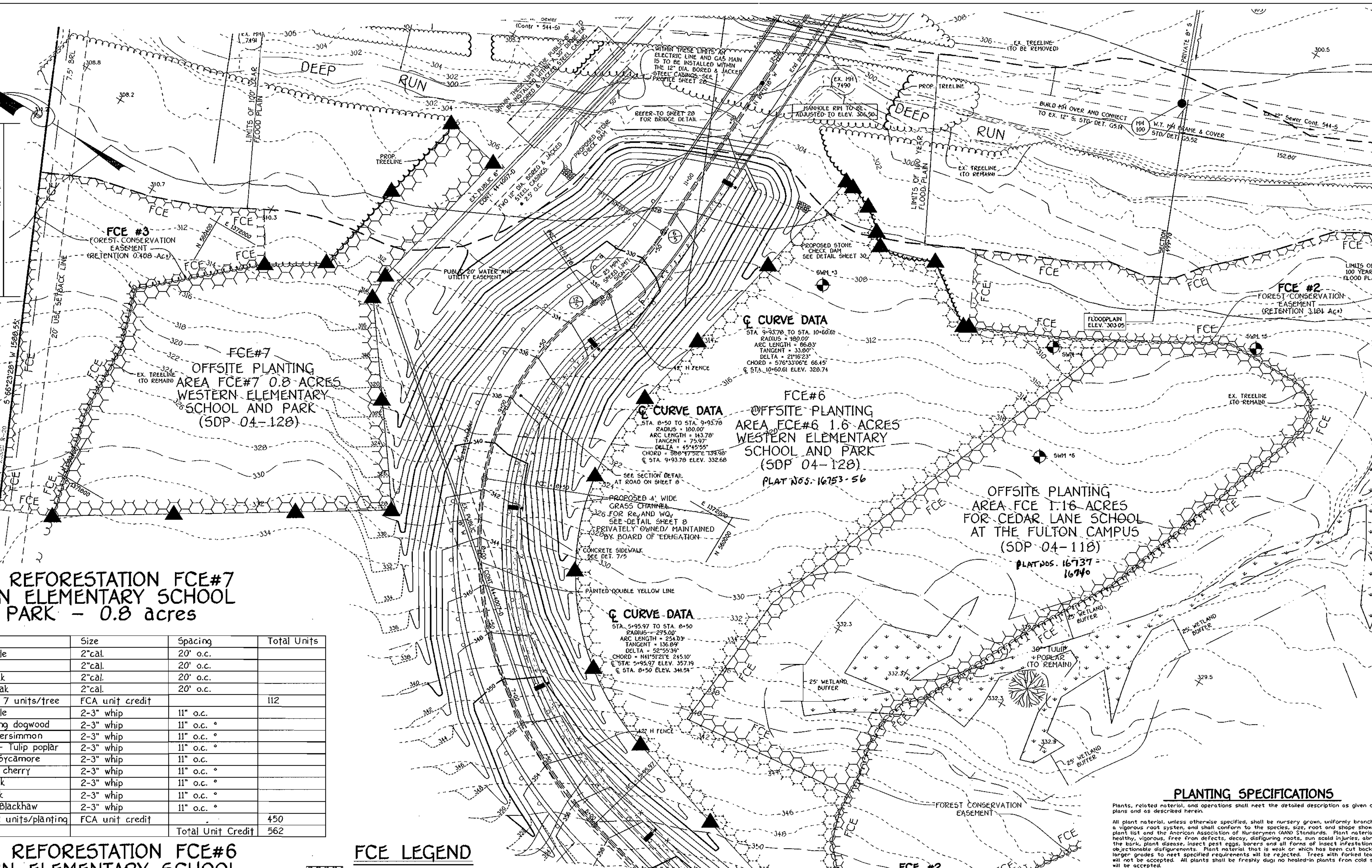
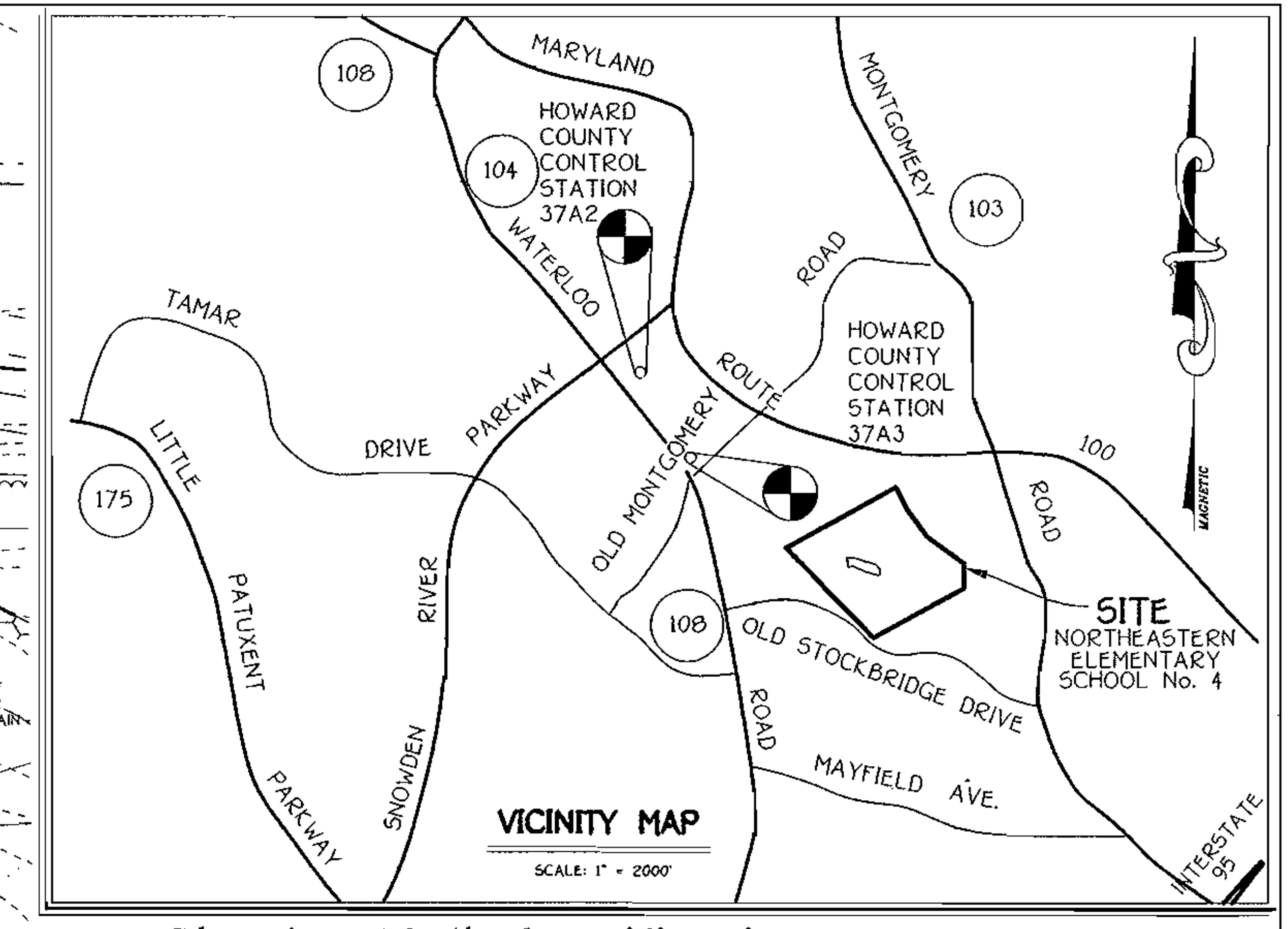




Planting/Soil Specifications

1. Planting of nursery stock shall take place between March 15th and April 30th or September 15th - November 15th .
2. A twelve (12) inch layer of topsoil shall be spread over all forestation areas impacted by site grading to assure a suitable planting area. Disturbed areas shall be seeded and stabilized as per general construction plan for project. Planting areas not impacted by site grading shall have no additional topsoil installed.
3. All bareroot planting stock shall have their root systems dipped into an anti-desiccant gel prior to planting.
4. Plants shall be installed so that the top of root mass is level with the top of existing grade. Backfill in the planting pits shall consist of 3 parts existing soil to 1 part pine fines or equivalent.
5. Fertilizer shall consist of Agriform 22-8-2, or equivalent, applied as per manufacturer's specifications.
6. A two (2) inch layer of hardwood mulch shall be placed over the root area of all plantings.
7. Plant material shall be transported to the site in a tarped or covered truck. Plants shall be kept moist prior to planting.
8. All non-organic debris associated with the planting operation shall be removed from the site by the contractor

Sequence of Construction

1. Sediment control and tree protection devices shall be installed in accordance with general construction plan for site. Site shall be graded in accordance with general construction plans.
2. Proposed forestation areas impacted by site grading shall be topsoiled and stabilized as per #2 of Planting/Soil Specifications for project.
3. Plants shall be installed as per Plant Schedule and the Planting/Soil Specifications for the project.
4. Upon completion of the planting, signage shall be installed as per the Forest Protection Devices shown on the Forest Conservation Plan.
5. Plantings shall be maintained and guaranteed in accordance with the Maintenance and Guarantee requirements for project.

Maintenance of Plantings

1. Maintenance of plantings shall last for a period of 24 months.
2. All plant material shall be watered twice a month during the 1st growing season. Watering may be more or less frequent depending on weather conditions. During second growing season, once a month during May-September, if needed.
3. Invasive exotics and noxious weeds will be removed from forestation areas. Old field successional species will be retained.
4. Plants will be examined a minimum two times during the growing season for serious plant pests and diseases. Serious problems will be treated with the appropriate agent.
5. Dead branches will be pruned from plantings.

Guarantee Requirements

1. A 75 percent survival rate of forestation plantings will be required at the end of the 24 month maintenance period. All plant material below the 75 percent threshold will be replaced at the beginning of the next growing season.

Surety for Forestation

1. The developer shall post a surety (bond, letter of credit) to ensure that forestation plantings are completed. Upon acceptance of the plantings by the County, the bond shall be released.

Multiflora Rose Control Note

Multiflora rose is prevalent in certain areas to be afforested. Prior to planting all multiflora rose shall be removed. Removal of the rose may be performed with mowing and herbicide treatments. Physical removal of all top growth following by a periodic herbicide treatment of stump sprouts is recommended. Native tree and shrub species occurring within the rose thickets should be retained wherever possible. Herbicides treatments shall occur on 2 month intervals during the first growing season and once each in the spring and fall for subsequent years. Herbicide used shall be made specifically to address woody plant material and shall be applied as per manufacturers specifications. Care should be taken not to spray planted trees or naturally occurring native tree/shrub seedlings. It is recommended that initiation of rose removal begin at least six months prior to planting.

NOTE: THE 2.4 AC. OF FOREST PLANTING AT NORTHEASTERN ELEMENTARY SCHOOL #4 SDP 02-36 IS TO SATISFY THE REQUIRED FOREST PLANTING THAT IS REQUIRED TO FULLFILL THE FORESTATION REQUIREMENTS OF THE WESTERN ELEMENTARY SCHOOL AND PARK SITE.

Planting Comments:

* - These species should not be planted within the wetland limits.

2" caliper trees should be staggered along the outer perimeter of the planting area to serve as demarcation of the boundary. The tree should be no closer that 20 foot spacing.

Planting shall be made in a curvilinear fashion along contour. The planting should avoid a grid appearance but should be spaced to facilitate maintenance

Multiflora rose removal/control may be required prior to installation of planting.

The County will require tree shelters on all whip units.

OFFSITE REFORESTATION FCE#7 WESTERN ELEMENTARY SCHOOL AND PARK - 0.8 acres

Planting units required: 560

Qty	Species	Size	Spacing	Total Units
4	Acer rubrum - Red maple	2"cal.	20' o.c.	
4	Liriodendron tulipifera	2"cal.	20' o.c.	
4	Quercus alba - White oak	2"cal.	20' o.c.	
4	Quercus rubra - Red oak	2"cal.	20' o.c.	
16	Total 2" caliper trees x 7 units/tree	FCA unit credit		112
40	Acer rubrum - Red maple	2-3" whip	11" o.c.	
15	Cornus florida - Flowering dogwood	2-3" whip	11" o.c. *	
15	Diospyros virginiana - Persimmon	2-3" whip	11" o.c. *	
60	Liriodendron tulipifera - Tulip poplar	2-3" whip	11" o.c. *	
10	Platanus occidentalis - Sycamore	2-3" whip	11" o.c.	
15	Prunus serotina - Black cherry	2-3" whip	11" o.c. *	
20	Quercus alba - White oak	2-3" whip	11" o.c. *	
25	Quercus rubra - Red oak	2-3" whip	11" o.c. *	
25	Viburnum prunifolium - Blackhaw	2-3" whip	11" o.c. *	
225	Total whip plantings x 2 units/planting	FCA unit credit		450
			Total Unit Credit	562

OFFSITE REFORESTATION FCE#6 WESTERN ELEMENTARY SCHOOL AND PARK - 1.6 acres

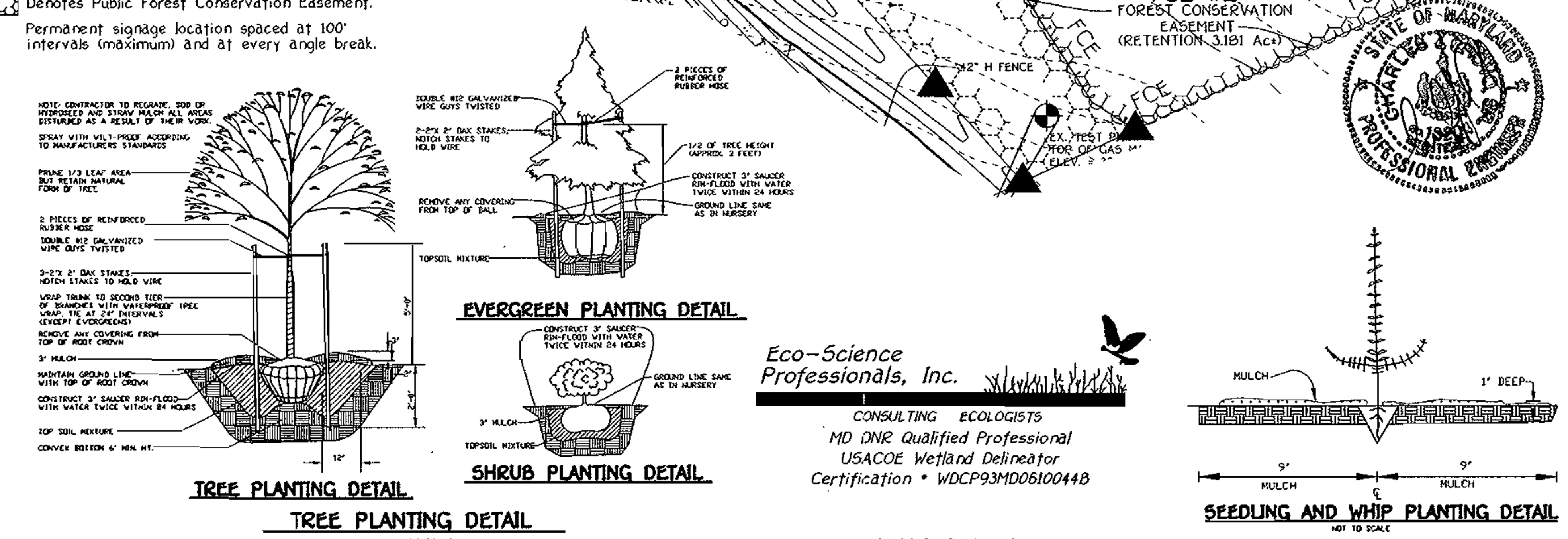
Planting units required: 1,120

Qty	Species	Size	Spacing	Total Units
5	Acer rubrum - Red maple	2"cal.	20' o.c.	
5	Liriodendron tulipifera	2"cal.	20' o.c.	
5	Quercus alba - White oak	2"cal.	20' o.c.	
5	Quercus rubra - Red oak	2"cal.	20' o.c.	
20	Total 2" caliper trees x 7 units/tree	FCA unit credit		140
90	Acer rubrum - Red maple	2-3" whip	11" o.c.	
35	Cornus florida - Flowering dogwood	2-3" whip	11" o.c. *	
30	Diospyros virginiana - Persimmon	2-3" whip	11" o.c. *	
120	Liriodendron tulipifera - Tulip poplar	2-3" whip	11" o.c. *	
30	Platanus occidentalis - Sycamore	2-3" whip	11" o.c.	
25	Prunus serotina - Black cherry	2-3" whip	11" o.c. *	
55	Quercus alba - White oak	2-3" whip	11" o.c. *	
55	Quercus rubra - Red oak	2-3" whip	11" o.c. *	
55	Viburnum prunifolium - Blackhaw	2-3" whip	11" o.c. *	
495	Total whip plantings x 2 units/planting	FCA unit credit		990
			Total Unit Credit	1130

FCE LEGEND

Denotes Public Forest Conservation Easement.

Permanent signage location spaced at 100' intervals (maximum) and at every angle break.



Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS
MD DNR Qualified Professional
USACOE Wetland Delineator
Certification # WDCP93MD0610044B

JOHN P. CANOLES

PLANTING SPECIFICATIONS

Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.

All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to the species, size, root and shape shown on the plant list and the American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, sun scald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug; no healed-in plants from cold storage will be accepted.

unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to 'Landscape Specification Guidelines for Baltimore-Washington Metropolitan Areas', (hereinafter 'Landscape Guidelines') approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architect, latest edition, including all agenda.

Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.

Contractor shall be responsible for notifying utility companies, utility contractors and 'Miss Utility' a minimum of 48 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expenseof the Contractor.

Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence or blaze orange safety fence at the drip line.

Contractor id responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within the growing season of completion of site construction.

Bid shall be base on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications

Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence

All shrubs shall be planted in continuous trenches or prepared planting beds and mulched with composted hardwood mulch as details and specified except where noted on plans.

Positive drainage shall be maintained in planting beds 2 percent slope).

Planting mix shall be as follows: Deciduous Plants - Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs. of standard fertilizer per cubic yard of planting mix. Evergreen Plants - two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic) fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.

Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to assure its adaptability to the specific ground cover to be treated

All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded.

This plan is intended for landscape use only see other plan sheets for more information on grading, sediment control, layout, etc.

STATE OF MARYLAND — CHARLES ... — PROFESSIONAL ENGINEER (seal)

THIS PLAN IS FOR FOREST PLANTING ONLY

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

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 Condition And That It Was Prepared In Accordance With The Requirements Of The Howard Soil Conservation District.

Signature Of Engineer — 6/2/04 Date

Reviewed For Howard County Soil Conservation District And Meets Technical Requirements.

U.S.D.A. - Natural Resources Conservation Service — Date

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 Of Developer — 6/1/04 Date

Approved: This Development Is Approved For Erosion And Sediment Control By The Howard Soil Conservation District.

District Howard Soil Conservation — Date

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 7/2/04 Date

Chief, Division of Land Development — 7/1/04 Date

Chief, Development Engineering Division — 6/4/04 Date

PREPARED FOR
HOWARD COUNTY PUBLIC SCHOOL SYSTEM
10910 Maryland Route 108
Ellicott City, Maryland 21042
Attention Bruce Gist
410-313-6798

TCA ARCHITECTS
2661 RIVA ROAD, SUITE 120
ANNAPOLIS, MARYLAND 21401
(410) 841-6205

Address Chart

Parcel Number	Street Address		
P. 35	Lot 1	4691	TEN OAKS ROAD
	Lot 2	4671	TEN OAKS ROAD

PROJECT			SECTION/AREA	PARCEL
FUTURE WESTERN ELEMENTARY SCHOOL AND PARK			N/A	35

DEED REF. / PLAT REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
2632/573 / F 04-137	8	RR-DEO	28	FIFTH	6051.01

WATER CODE	SEWER CODE
N/A	N/A

OFF-SITE FOREST PLANTING PLAN AT NORTHEASTERN ELEMENTARY SCHOOL-SDP02-36

MASS GRADING PLAN FOR FUTURE WESTERN ELEMENTARY SCHOOL AND PARK LOTS 1 AND 2

TAX MAP No.: 28 GRID No: 8 PARCEL No.: 35
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1"=40' DATE: MAY 10, 2004

"BID & CONSTRUCTION 17 MAY 2004"

SHEET 11 OF 11

SDP 04-128

SDP04-128

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