

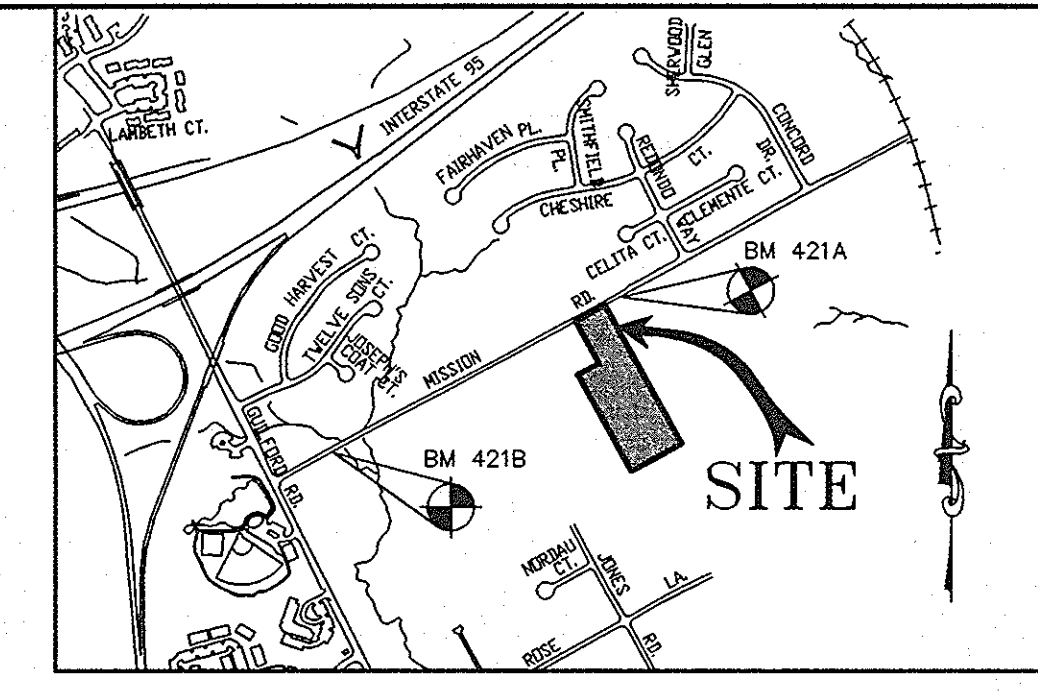
SHEET INDEX	
NO	DESCRIPTION
1	TITLE SHEET
2	PLAN AND PROFILE OF FAWN RUN AND STREET TREE PLANTINGS
3	GRADING AND SEDIMENT CONTROL AND DRAINAGE AREA MAP
4	PROFILES AND LANDSCAPE DETAILS
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10	SWM DRAINAGE AREA MAP - EXISTING CONDITIONS
11	SWM DRAINAGE AREA MAP - PROPOSED CONDITIONS
12	LANDSCAPE PLAN
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14	TRAFFIC CONTROL PLAN
15	OFF-SITE REFORESTATION PLANTING PLAN

ROADWAYS, STORM DRAINS & STORMWATER MANAGEMENT

NORDAU SUBDIVISION

LOTS 40-49, O.S. LOTS 50 & 51, & NON-BUILDABLE BULK PARCEL A, SECTION G

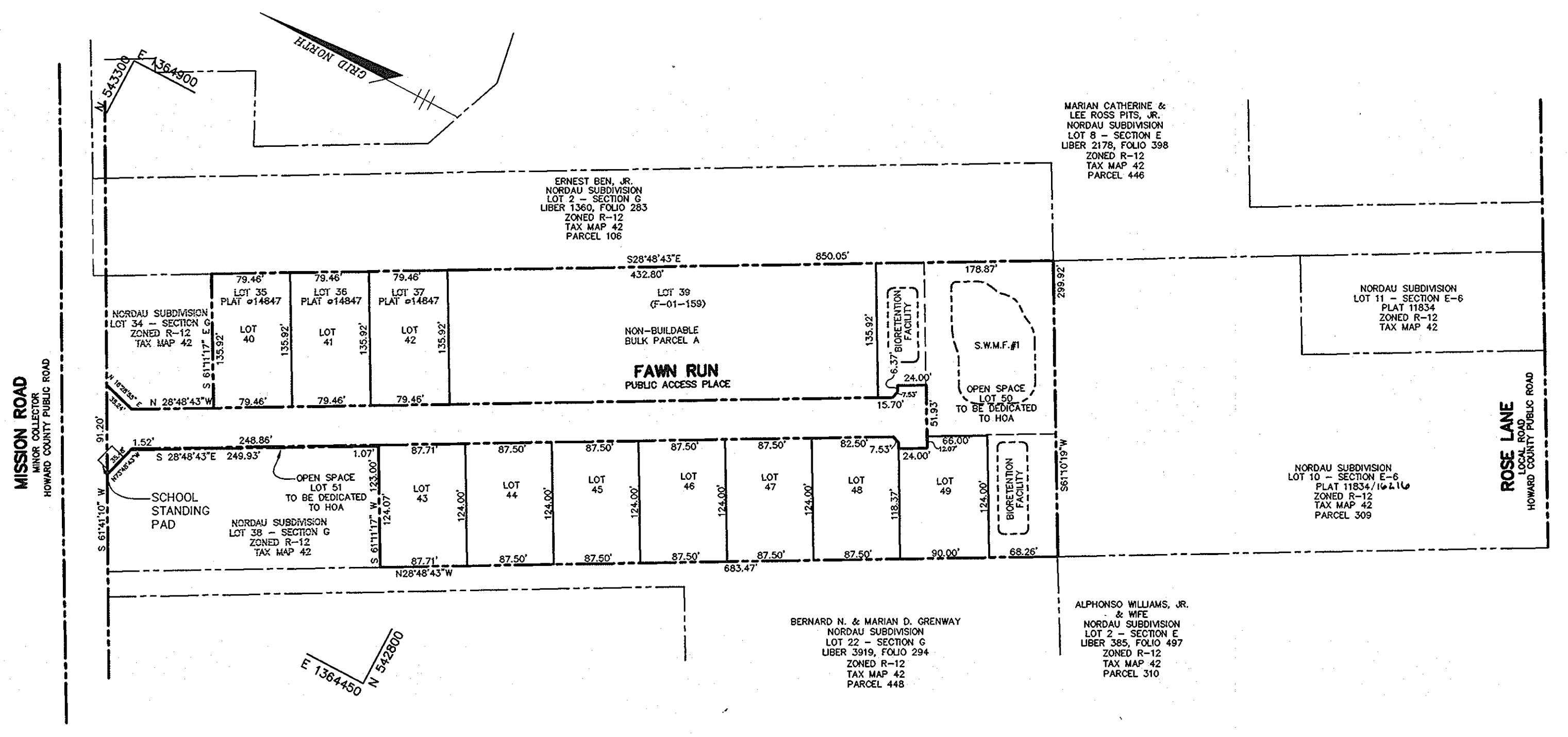
A RESUBDIVISION OF LOTS 35-37 & 39, SECTION G, NORDAU 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND



VICINITY MAP
SCALE 1"=1000'

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOL. IV "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION" PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS, (JANUARY 1998)." A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL SURVEY MAPS WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY WINGS, INC. FLOWN IN MARCH, 2001.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM, HOWARD COUNTY MONUMENT NOS. 421A AND 421B.
- WATER IS PUBLIC. CONTRACT NO. 24-3962
- SEWER IS PUBLIC. SEWER DRAINAGE AREA: LITTLE PATUXENT CONTRACT NO. 322-S
- THE STORMWATER MANAGEMENT FOR THIS SITE WILL BE A DRY EXTENDED DETENTION POND. TWO (2) BIORETENTION FACILITIES AND EXISTING DRY WELLS ON LOTS 40, 41, AND 42, THE EXTENDED DETENTION POND IS PRIVATELY OWNED AND JOINTLY MAINTAINED. THE BIORETENTION FACILITIES ARE PRIVATELY OWNED AND MAINTAINED. THIS NATURAL AREA CONSERVATION CREDIT IS BEING APPLIED FOR STORMWATER MANAGEMENT. THE CREDIT AREA IS 0.49 ACRES AND IS LOCATED ON PARCEL A. THE WATER QUALITY VOLUME WAS REDUCED FROM 0.020 AC.-FT. TO 0.010 AC.-FT.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY MIDLAN ENVIRONMENTAL SERVICES, DATED MAY, 2001.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY LEE CUNNINGHAM AND ASSOCIATES DATED MAY, 2001, PLUS REVISION DATED AUGUST, 2001.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- THE BOUNDARY SURVEY FOR THIS PROJECT WAS PREPARED BY RIEMER MUEGGE, A DIVISION OF PHR&A DATED JUNE 2001.
- SUBJECT PROPERTY ZONED R-12 PER 10-18-93 COMPREHENSIVE ZONING PLAN.
- ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- SEE DEPARTMENT OF PLANNING AND ZONING FILE NO.'S: F-01-19, F-01-159, WP-02-11, F-79-146, SP-01-11, F-04-10.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, LATEST AMENDMENTS.
- PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOL. III. ALL 40' RIGHT OF WAYS 20 M.P.H.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.
- ALL STREET CURB RETURNS SHALL HAVE 25' RADI UNLESS OTHERWISE NOTED.
- ALL STREET LIGHTS SHALL BE LOCATED BETWEEN 2'-0" AND 4'-0" BEHIND FACE OF CURB.
- STREET TREES (36) LOCATION, TYPE AND NUMBER OF TREES SHOWN ON THIS PLAN ARE TENTATIVE AND ARE USED FOR BOND PURPOSES ONLY. THE FINAL LOCATION AND VARIETY OF LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMMODATE FIELD CONDITIONS INCLUDING 20' CLEARANCE OF ANY STREET LIGHT AND SHALL BE IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. BOND RELEASE IS CONTINGENT UPON SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS, AS APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING. SURETY FOR STREET TREES, PERIMETER AND STORMWATER MANAGEMENT LANDSCAPING SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT.
- NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE STREAM OR REQUIRED BUFFER EXCEPT AS CONSIDERED ESSENTIAL BY THE DEPARTMENT OF PLANNING AND ZONING.
- THERE ARE NO WETLANDS OR 25% OR GREATER STEEP SLOPES LOCATED ON THE SUBJECT PROPERTY.
- BASED ON AVAILABLE COUNTY MAPS AND RECORDS, THERE ARE NO HISTORIC STRUCTURES OR CEMETERIES LOCATED ON THE SUBJECT PROPERTY.
- WP-02-11 - A REQUEST TO WAIVE SECTION 16.134(d)(1)(i) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS REQUIRING THE CONSTRUCTION OF A SIDEWALK ON ONLY ONE SIDE OF A CUL-DE-SAC OR LOCAL ROAD FOR A SINGLE FAMILY DETACHED RESIDENTIAL SUBDIVISION WITH 11 OR MORE DWELLING UNITS HAS BEEN DENIED PER LETTER DATED SEPTEMBER 11, 2001.
- THIS PLAN AND PROJECT ARE GRANDFATHERED TO THE 4th. EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS DUE TO THE INITIAL SUBMISSION OF SP-01-11 BEING PRIOR TO NOVEMBER 15, 2001.
- THE FOREST CONSERVATION OBLIGATION FOR THE PROPOSED SUBDIVISION COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY PROVIDING 2.69 AC. OFF-SITE REFORESTATION AND WILL OCCUR ON HOWARD COUNTY TAX MAP 2, PARCEL 17 (LIBER 561, FOLIO 521) IDENTIFIED AS THE LISTON FARM. SURETY FOR 2.69 ACRES OF OFF-SITE REFORESTATION IN THE AMOUNT OF \$58,588 WILL BE POSTED WITH THE DEVELOPER'S AGREEMENT.
- MDE WETLAND PERMIT TRACKING NUMBER: 02-NI-0469/200360657.
- HOA Documents have been recorded with the Maryland State Dept. of Assessments and Taxation as Liber 1049/Folio 0007.



PLAN
SCALE: 1"=100'

SITE TABULATION	
EXISTING ZONING	R-12
GROSS AREA OF PROPERTY	5.50 AC
AREA OF 100 YEAR FLOODPLAIN AND STEEP SLOPES	0 AC
NET TRACT AREA	5.50 AC
AREA OF PROPOSED BUILDABLE LOTS	2.49 AC
AREA OF PUBLIC ROAD RIGHT-OF-WAY	0.78 AC
MINIMUM LOT SIZE	10,800 SF
AREA OF REQUIRED OPEN SPACE (10% OF GROSS)	0.55 AC (23,592 SF)
AREA OF PROVIDED OPEN SPACE:	
CREDITED	0.87 AC
NON-CREDITED	0.01 AC
TOTAL PROVIDED	0.88 AC
AREA OF BULK PARCEL	0.59 AC
NUMBER OF BUILDABLE LOTS	10
NUMBER OF OPEN SPACE LOTS	2
PROPOSED WATER AND SEWER	PUBLIC

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.	
<i>William F. ...</i>	8-19-03
CHIEF, BUREAU OF HIGHWAYS	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Cynthia Hamilton</i>	9/26/03
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>Chris ...</i>	8/12/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE

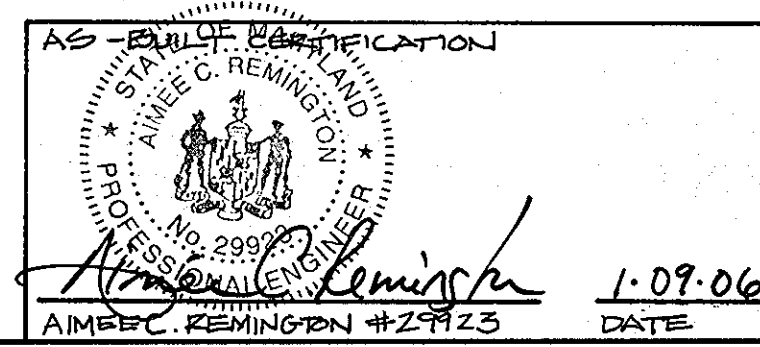
DATE	NO.	REVISION
OWNER / DEVELOPER		
MEADOWLARK, LLC ATTN: MARK PRITCHETT 6375 HANOVER CROSSING WAY HANOVER, MARYLAND 21076		
PROJECT		
NORDAU SUBDIVISION LOTS 40-49, O.S. LOTS 50 & 51, & NON-BUILDABLE BULK PARCEL A, SECTION G A RESUBDIVISION OF LOTS 35-37 AND 39, SECTION G, NORDAU		
AREA		
PARCEL 448 & 107 TAX MAP 42 GRID No. 24 ZONED R-12 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE		
TITLE SHEET		

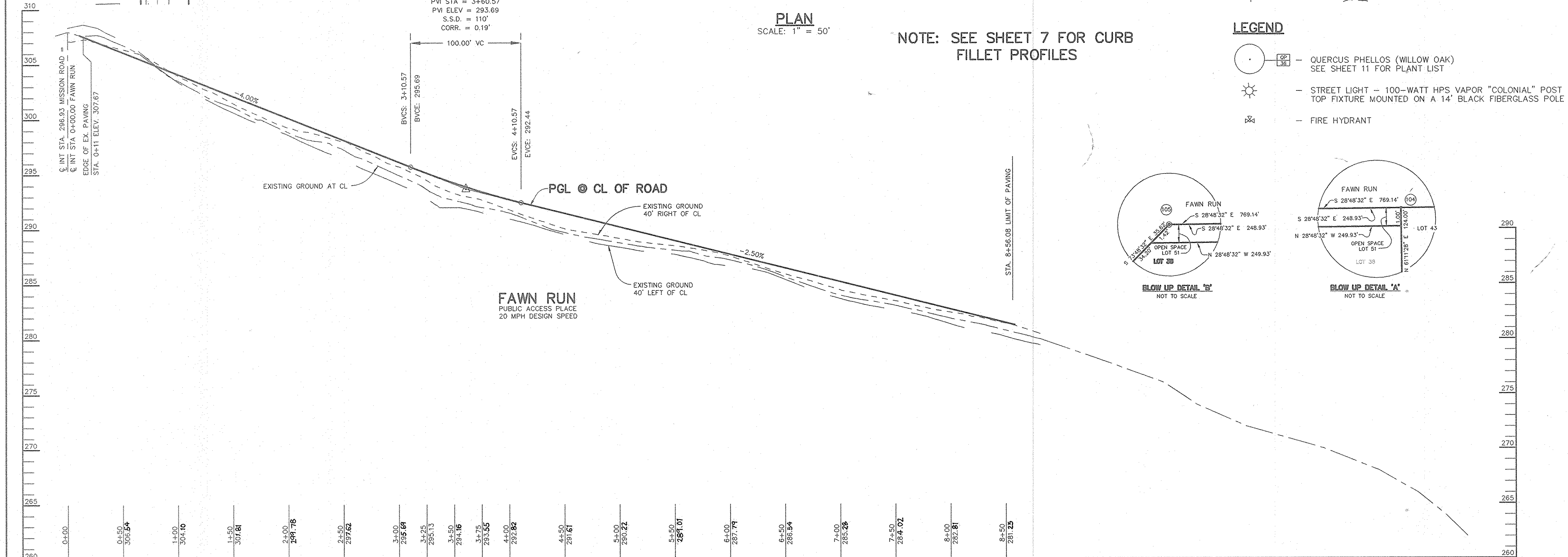
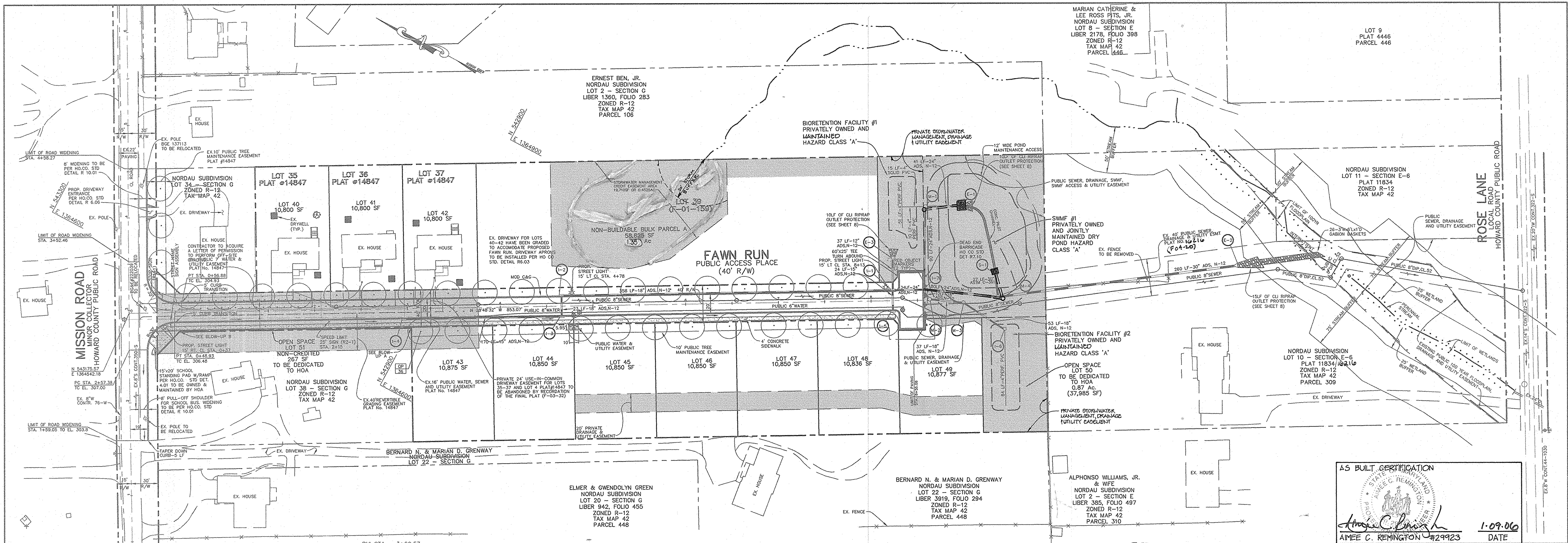
Patton Harris Rust & Associates, pc Engineers. Surveyors. Planners. Landscape Architects. 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9282	
7-23-03 DATE	DESIGNED BY: A.C.R.
	DRAWN BY: MAD
	CHECKED BY: C.J.R.
	PROJECT NO. 15-01076/1-0/ENR PLANS/FINALS/COODCOV
	DATE: JULY 23, 2003
	SCALE: AS SHOWN
	DRAWING NO. 1 OF 15

BENCH MARKS

HOWARD COUNTY MONUMENT 421A
N 543,390.386 E 1,364,912.655 ELEV.312.667
STANDARD STAMPED BRASS OR ALUMINUM DISC ON
CONCRETE MONUMENT: 0.3' BELOW SURFACE
LOCATED ON WEST MARGIN OF MISSION ROAD
340' EAST OF 8783 MISSION ROAD 74.3' NORTH OF
BGE POLE 297906.

HOWARD COUNTY MONUMENT 421B
N 542,366.879 E 1,363,076.003 ELEV.283.120
STANDARD STAMPED BRASS OR ALUMINUM DISC ON
CONCRETE MONUMENT: 0.3' BELOW SURFACE
LOCATED ON SOUTHERN MARGIN OF GUILFORD ROAD
ACROSS FROM MISSION ROAD 19.4' SOUTHEAST OF
BGE POLE 271362.





AS BUILT CERTIFICATION

AMEE C. RENINGTON #29923 DATE 1-09-06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Walter F. Walsh, Jr. 8-19-03
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

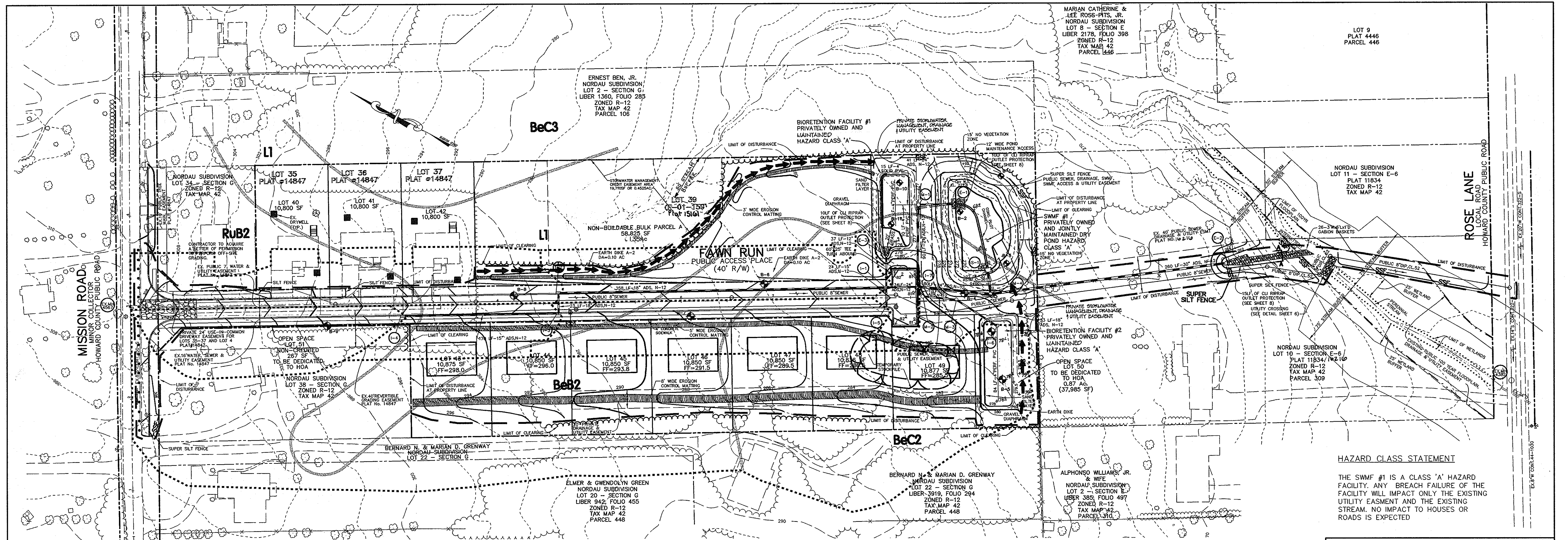
Cynthia Hamilton 7/26/03
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chris Dammann 8/23/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

9/18/06	1	REVISE STREAM DELINEATION AND BUFFER
DATE	NO.	REVISION
OWNER / DEVELOPER		
MEADOWLARK, LLC ATTN: MARK PRITCHETT 6375 HANOVER CROSSING WAY HANOVER, MARYLAND 21076		
PROJECT		
NORDAU SUBDIVISION LOTS 40-49, O.S. LOTS 50 & 51, & NON-BUILDABLE BULK PARCEL A, SECTION G A RESUBDIVISION OF LOTS 35-37 AND 39, SECTION G, NORDAU		
AREA		
PARCEL 448 & 107 TAX MAP 42 GRID No. 24 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE		
PLAN AND PROFILE OF FAWN RUN AND STREET TREE PLANTINGS		
Patton Harris Rust & Associates, p.c. Engineers, Surveyors, Planners, Landscape Architects. 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9282		
DESIGNED BY: A.C.R.		
DRAWN BY: MAD		
CHECKED BY: C.J.R.		
PROJECT NO: 01076/1-0/ENGR PLANS/FINALS/C400RD		
DATE: JULY 23, 2003		
SCALE: AS SHOWN		
DRAWING NO. 2 OF 15		

DATE 7-23-03

CHRISTOPHER J. REID #19949



DRAINAGE AREA CHART

INLET	AREA	'C'	% IMP
I-1	0.49 Ac	0.32	38*
I-2	0.59 Ac	0.32	38*
I-3	0.25 Ac	0.33	38*
I-4	0.57 Ac	0.29	38*
I-5	0.50 Ac	0.31	38*
I-6	3.03 Ac	0.30	36
I-7	0.03 Ac	0.86	100

*1/4 ACRE LOTS

S.W.M. Summary -- Drainage Area #1
 Cpv for drainage area #1 is ≤ 2 cfs and is less than the existing conditions; therefore, Cpv is not required for this drainage area. The Rev is provided by 3 existing dry wells on Lots 40, 41 and 42. WQv is addressed with the Rooftop/Non-rooftop Disconnection credits and the Natural Area Conservation Credit.

S.W.M. Summary -- Drainage Area #2

Storm	Required	Provided	Elevation	Remarks
WQv	5,113 cf *	5,113 cf	N/A	Bioretentions (2)
Cpv	14,338 cf	15,808 cf	272.62	Dry Pond
Rev	675 cf	675 cf	N/A	Bioretentions (2)

*WQv - Rev

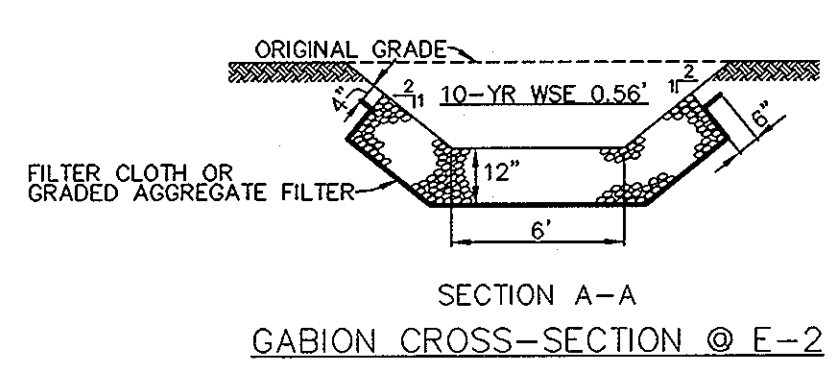
Storm Event (yr)	Proposed Discharge (cfs)	Pond Elevation (ft)	Storage Above WQv (ac-ft)
1	0.17	272.83	0.36
10	25	Bypass	N/A
100	41	Bypass	N/A

A dry pond is being used as the Best Management Practice (BMP) to manage the Cpv. The 100 year storm will be safely conveyed through a bypass system. Two (2) Bioretention facilities will be used to store the required WQv and Rev. no 10-yr or 100-yr storage volumes are required for this development. The pond is not a MD 378 pond.

LEGEND

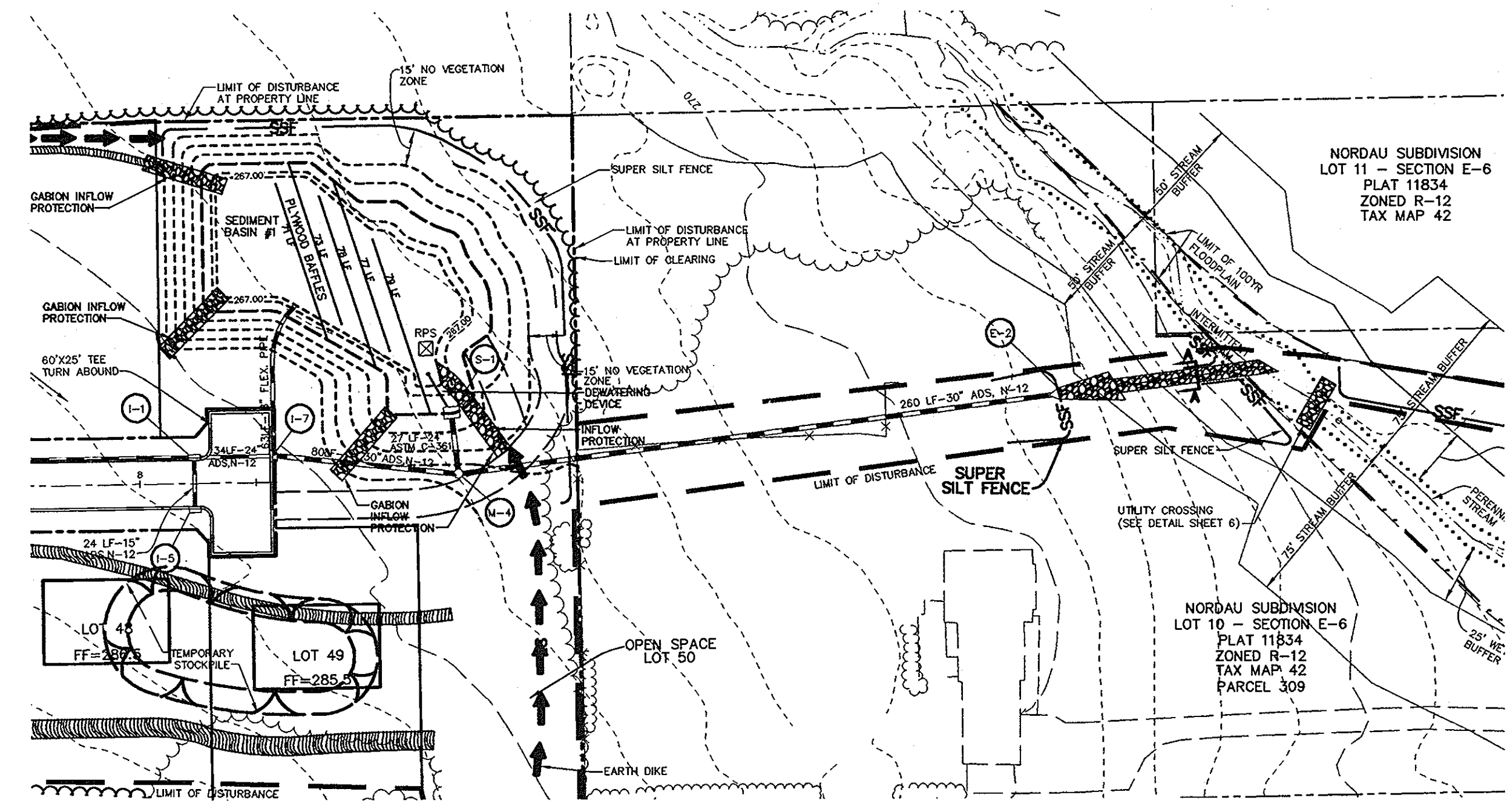
- STABILIZED CONSTRUCTION ENTRANCE
- EARTH DIKE
- EROSION CONTROL MATTING
- LIMIT OF CLEARING
- LIMIT OF DISTURBANCE
- SUPER SILT FENCE

PLAN
SCALE: 1"=50'

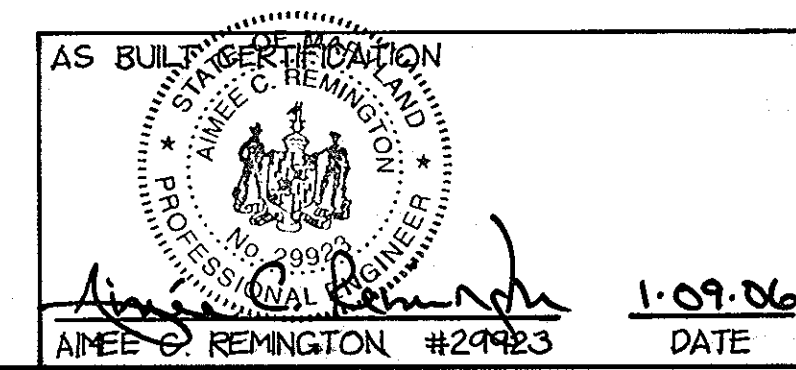


Basin #1

DRAINAGE AREA	6.4 ACRES
STOR. REQ'D (WET STOR.)	11520 CF
STOR. REQ'D (DRY STOR.)	11520 CF
STOR. PROV. (WET STOR.)	11520 CF @ 268.75
STOR. PROV. (DRY STOR.)	16550 CF @ 270.75
RISER CREST ELEVATION	270.75
TOP OF DAM	274.00
BOTTOM EL.	267.00
SIDE SLOPES	VARIES
Q ₁ EX	2.62 cfs
Q ₁ PR	2.33 cfs



SEDIMENT BASIN PLAN VIEW
SCALE: 1"=50'



BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Mark & Prichett 7/23/03
 DEVELOPER DATE

BY THE ENGINEER:

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Chad J. Reas 7-23-03
 ENGINEER DATE

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

Jim Meyer 8/4/03
 NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Robertson 8/4/03
 HOWARD SOIL CONSERVATION DISTRICT DATE

HAZARD CLASS STATEMENT
 THE SWMF #1 IS A CLASS 'A' HAZARD FACILITY. ANY BREACH FAILURE OF THE FACILITY WILL IMPACT ONLY THE EXISTING UTILITY EASEMENT AND THE EXISTING STREAM. NO IMPACT TO HOUSES OR ROADS IS EXPECTED.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

William F. Whittall 8-19-03
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Cindy Hamilton 7/26/03
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chad Damann 8/1/03
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

9/18/06	1	REVISED STREAM DELINEATION AND BUFFER
DATE NO.		REVISION

OWNER / DEVELOPER
 MEADOWLARK, LLC
 ATTN: MARK PRITCHETT
 6375 HANOVER CROSSING WAY
 HANOVER, MARYLAND 21076

PROJECT **NORDAU SUBDIVISION**
 LOTS 40-49, O.S. LOTS 50 & 51,
 & NON-BUILDABLE BULK PARCEL A, SECTION G
 A RESUBDIVISION OF LOTS 35-37 AND 39, SECTION G, NORDAU
 AREA PARCEL 448 & 107 TAX MAP 42 GRID No. 24
 6th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

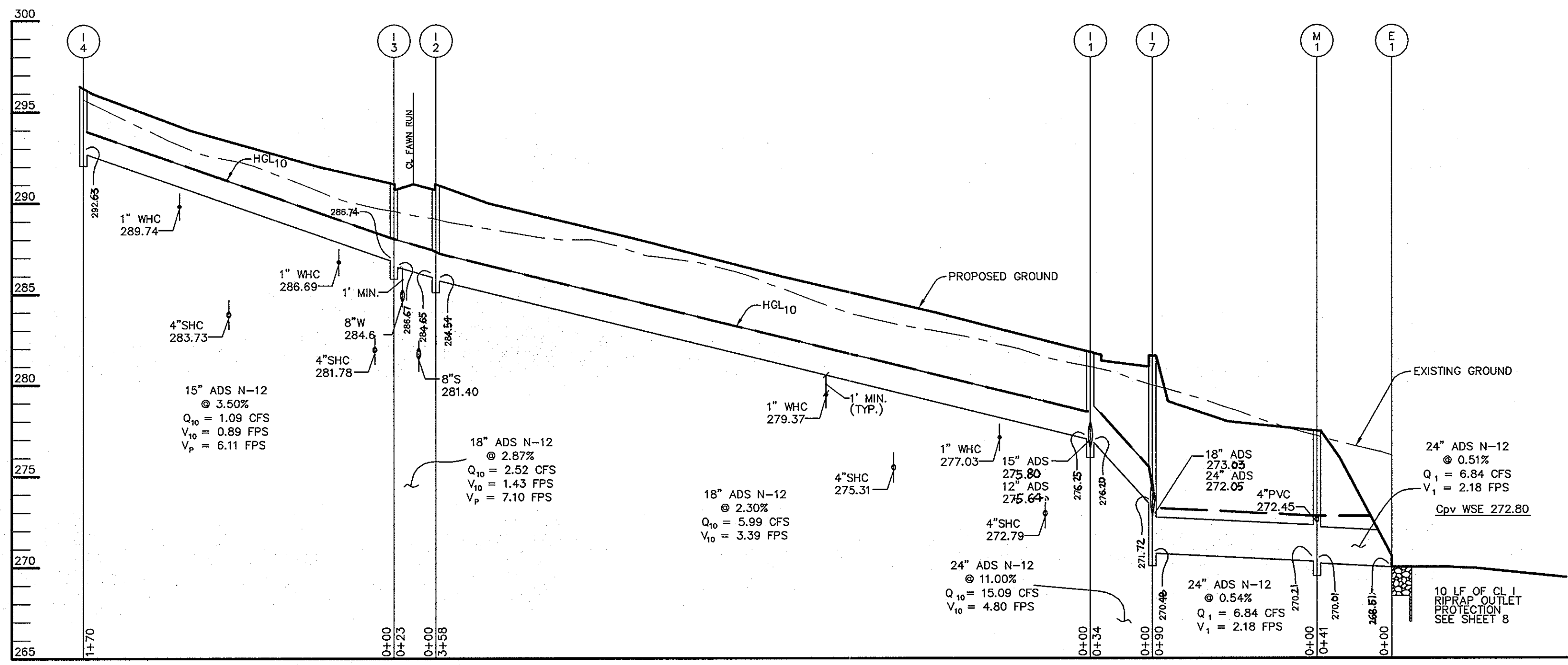
TITLE **GRADING, SEDIMENT CONTROL AND DRAINAGE AREA MAP**

Patton Harris Rust & Associates, PC
 Engineers, Surveyors, Planners, Landscape Architects,
 8818 Centre Park Drive
 Columbia, MD 21045
 T 410.997.8900
 F 410.997.9282

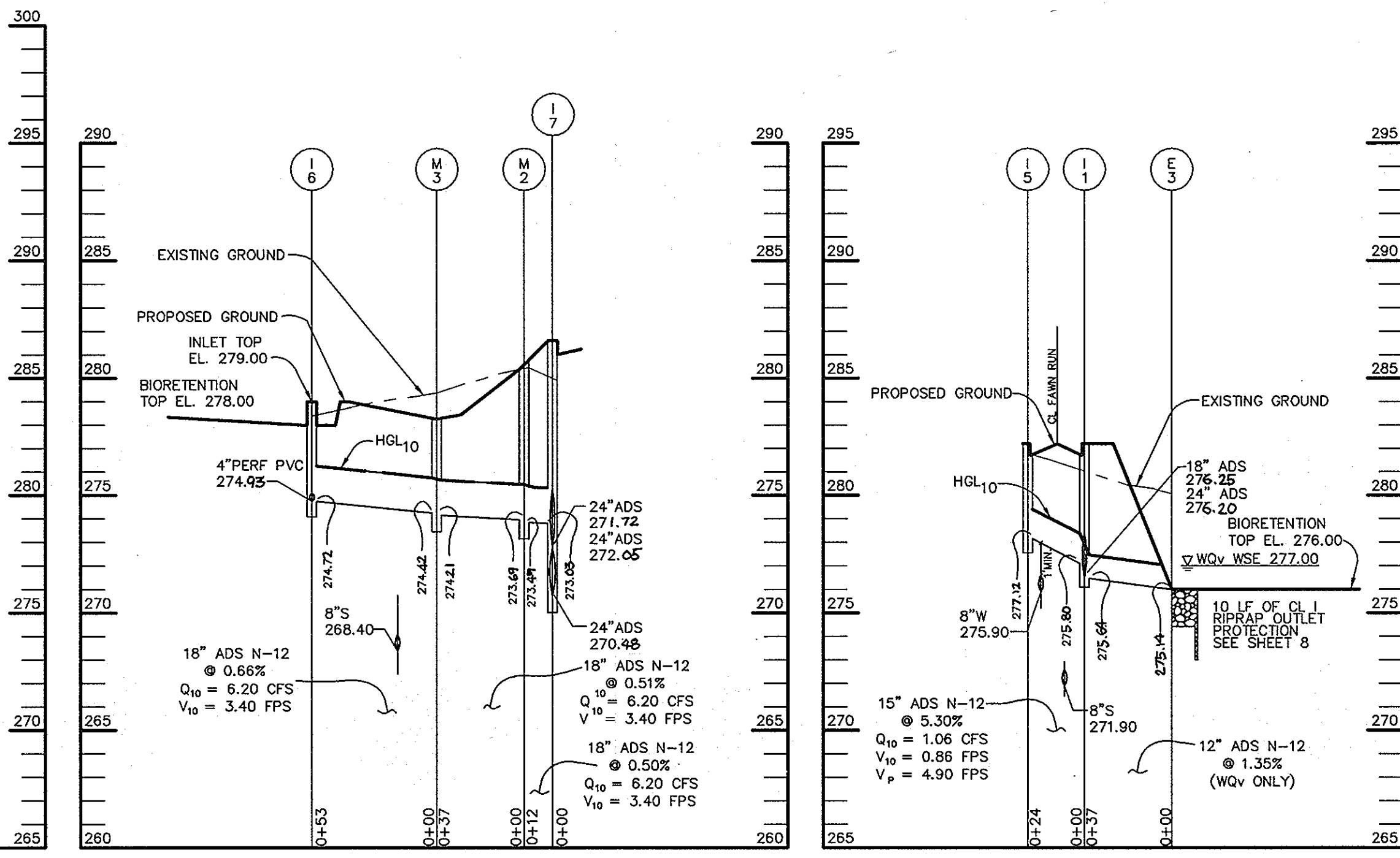
PHRA

7-23-03 DATE	DESIGNED BY: A.C.R.
	DRAWN BY: MAD
	CHECKED BY: C.J.R.
	PROJECT NO. 01076/1-0/ENGR PLANS/FINALS/C200ESC
	DATE: JULY 23, 2003
	SCALE: AS SHOWN
	DRAWING NO. 3 OF 15

CHRISTOPHER J. REID #19949

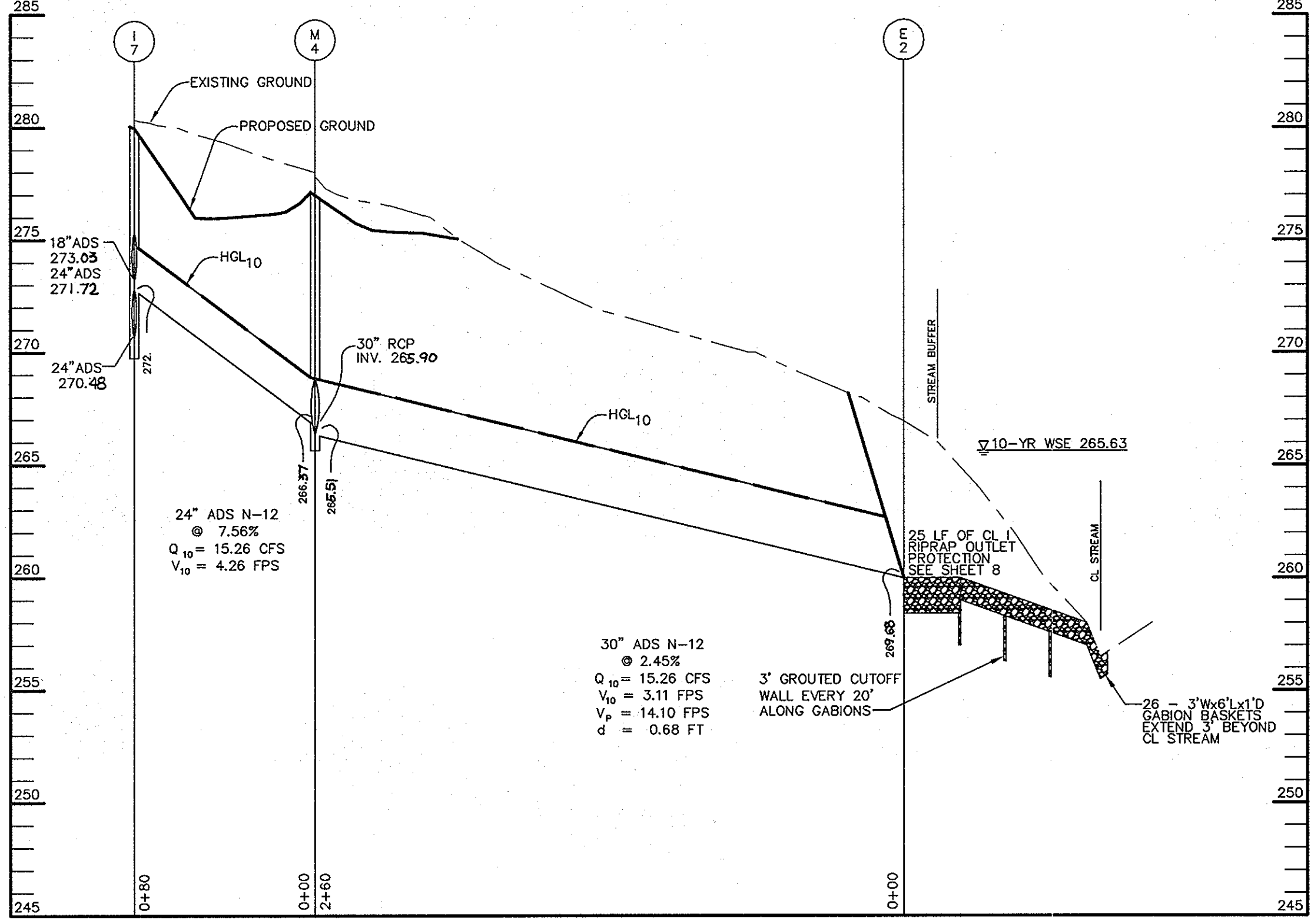


PROFILE
SCALE:
HOR.-1"=50'
VERT.-1"=5'



PROFILE
SCALE:
HOR.-1"=50'
VERT.-1"=5'

PROFILE
SCALE:
HOR.-1"=50'
VERT.-1"=5'



PROFILE
SCALE:
HOR.-1"=50'
VERT.-1"=5'

PLANTING SPECIFICATIONS

- Plants, related material, and operations shall meet the detailed description, as given on the plans and as described herein. Where discrepancies exist between Standards & Guidelines referenced within these specifications and the Howard County Landscape Manual, the latter takes precedence.
- All plant material, unless otherwise specified, that is not nursery grown, uniformly branched, does not have a vigorous root system, and does not conform to the most recent edition of the American Association of Nurserymen (AAN) Standards will be rejected. Plant material that is not healthy, vigorous, free from defects, decay, disfiguring roots, unsound injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements will be rejected. 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 be rejected. All B & B plants shall be freshly dug; no heeled-in plants or plants from cold storage will be accepted.
- Unless otherwise specified, all general conditions, planting operations, details and planting specifications shall conform to the most recent edition of the "Landscape Specification Guidelines by the Landscape Contractors Association of MD, DC, & VA", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architects.
- Contractor shall guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section on 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 all relevant and appropriate utility companies, utility contractors, and "Miss Utility" a minimum of 48 hours prior to the beginning of any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Major changes will require the approval of the landscape architect. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.
- Protection of existing vegetation to remain shall be accomplished via the temporary installation of 4 foot high snow fence at the drip line, see detail.
- Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within growing season of completion of site construction. Do not plant *Pinus strobus* or *Xylococarpus laevis* until after November 15 and March 15. Landscape plants are not to be installed before site is graded to final grade.
- Contractor to regrade, fine grade, sod, hydroseed and straw mulch all areas disturbed by their work.
- Bid shall be based on actual site conditions. No extra payment shall be made for work arising from actual 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 plant take precedence. Where discrepancies on the plan exist between the symbols and the callout leader, the number of symbols take precedence.
- All shrubs and groundcover areas shall be planted in continuous planting beds, prepared as specified, unless otherwise indicated on plans. (See Specification 13). Beds to be mulched with minimum 2" and maximum 3" of composted, double-shouldered hardwood mulch throughout.
- Positive drainage shall be maintained on planting beds (minimum 2 percent slope).
- Bed preparation shall be as follows: Till into a minimum depth of 6" 1 yard of Compro or Leafgro per 200 SF of planting bed, and 1 yard of topsoil per 100 SF of bed. Add 3 lbs of standard 10-10-5 fertilizer per cubic yard of planting mix and till. Ericaceous plants (Azaleas, Rhododendrons, etc.); top dress after planting with iron sulfate or comparable product according to package directions. *Taxus baccata* 'Repandens' (English weeping yew); top dress after planting with 1/4 to 1/2 cup lime each.
- Planting mix: For trees not in a prepared bed, mix 50% Compro or Leafgro with 50% soil from tree hole to use as backfill, see tree planting detail.
- Mead & insect control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. For tree planting, apply a pre-emergent on top of soil and root ball before mulching. Caution: For areas to be planted with a ground cover, be sure to carefully check the chemical used to assure its adaptability to the specific groundcover to be treated. Maintain the mulch weed-free for the extent of the warranty period. Under no circumstances is a pesticide containing *glyphosate* to be used as a means of pest control.
- Water: All plant material planted shall be watered thoroughly the day of planting. All plant material not yet planted shall be properly protected from drying out until planted. At a minimum, water unplanted plant material daily and as necessary to avoid desiccation.
- Pruning: Do not heavily prune trees and shrubs at planting. Prune only broken, dead, or diseased branches.
- All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded, grass seed planted, and covered with straw mulch.

NOTES:

- SELECT ONLY NURSERY STOCK WITH A SINGLE LEADER UNLESS OTHERWISE SPECIFIED ON PLAN. PLANTS WITH CO-DOMINANT, MISSED, OR DAMAGED LEADERS SHALL BE REJECTED.
- STAKE TREES ONLY IF RECOMMENDED ON THE PLANT SCHEDULE OR UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT. STAKING DETAIL SHOWN ONLY IF RECOMMENDED.
- BID PLANTING PIT THREE (3) INCHES AS SHOWN AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5".

EVERGREEN B&B TREE PLANTING DETAIL
NOT TO SCALE

NOTES:

- DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS, AND BROKEN OR DEAD BRANCHES. SOME INTERIOR THIN AND LATERAL BRANCHES MAY BE PRUNED, HOWEVER, DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.
- STAKE TREES ONLY IF RECOMMENDED ON THE PLANT SCHEDULE OR UPON THE APPROVAL OF THE LANDSCAPE ARCHITECT. STAKING DETAIL SHOWN ONLY IF RECOMMENDED.
- BID PLANTING PIT THREE (3) INCHES AS SHOWN AS THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5".

DECIDUOUS B&B TREE PLANTING DETAIL
NOT TO SCALE

NOTES:

- SEE PLANTING SPECIFICATIONS FOR PREPARATION OF PLANTING BED.
- DO NOT HEAVILY PRUNE THE SHRUB AT PLANTING. BRANCHES THAT ARE DAMAGED, OR BROKEN.
- BID PLANTING PIT 12" DEEPER THAN THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 5".
- FOR BID GRADING, REMOVE ALL THINE, ROPE, NIRE, AND BURLAP FROM TOP OF ROOT BALL. DO NOT REMOVE NIRE BASKET. BIRD TOP OF NIRE BASKET DOWN INTO PLANTING PIT.
- ALL CONTAINERS SHALL BE REMOVED BEFORE INSTALLATION.
- DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL. PLANT 1/2 OF ROOTBALL ABOVE FINAL GRADE.
- 2 TO 3 INCHES OF MULCH. DO NOT PLACE MULCH IN CONTACT WITH TRUNK OR BRANCHES.
- FINAL GRADE.
- TAMP SOIL AROUND BALL. BASE FIRMLY. SOIL NOT SHIFTER OF THE ROOT BALL.
- SCAFFERY ROOT BALL TO A DEPTH OF 3/4" ON ALL SIDES OR BUTTERFLY CUT CONTAINER PLANTS.
- PLACE ROOT BALL ON UNDEGRADED OR COMPACTED SOIL.

SHRUB BED PLANTING DETAIL - B&B AND CONTAINER SHRUBS
NOT TO SCALE

AS-BUILT CERTIFICATION

STATE OF MARYLAND
ANNIE G. REMINGTON
ALMERC REMINGTON #24923

Howard J. Whitely 1-09-06
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

William J. White Jr. 8-15-03
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Cindy Hammit 7/26/03
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chris Dammus 8/12/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE	NO.	REVISION

OWNER / DEVELOPER
MEADOWLARK, LLC
ATTN: MARK PRITCHETT
6375 HANOVER CROSSING WAY
HANOVER, MARYLAND 21076

PROJECT
NORDAU SUBDIVISION
LOTS 40-49, O.S. LOTS 50 & 51,
& NON-BUILDABLE BULK PARCEL A, SECTION G
A RESUBDIVISION OF LOTS 35-37 AND 39, SECTION G, NORDAU

AREA
PARCEL 448 & 107 TAX MAP 42 GRID No. 24
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE
PROFILES AND LANDSCAPE DETAILS

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

7-23-03
DATE

DESIGNED BY: A.C.R.
DRAWN BY: MAD
CHECKED BY: C.J.R.

PROJECT NO. 01076/1-0/ENGR
PLANS/FINALS/C700PROF

DATE: JULY 23, 2003
SCALE: AS SHOWN
DRAWING NO. 4 OF 15

CHRISTOPHER J. REID #19949
F-03-32

MD-370 STANDARDS AND SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-370. All references to ASTM and AASHTO specifications apply to the most recent version.

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.

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.

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.

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".

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 layers.

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 track of the equipment on compaction shall be covered by a minimum of four complete passes of a deepfooted rubber tire or vibratory roller.

When required by the reviewing agency the minimum required density shall not be less than 98% of maximum dry density of the soil as determined by the optimum.

Cutoff Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans.

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.

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.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 910.09, Class C.

PIPE CONSULTS

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 inches (1 mil) on both sides of the pipe.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-274 with watertight coupling bands or flanges.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-196 or M-211 with watertight coupling bands or flanges.

2. Coupling bands, anti-seep collars, and sections, etc., must be composed of the same material and coated as the pipe.

3. Connections - All connections with pipes must be completely watertight. The anchor pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled on adequate number of corrugations to accommodate the bond width.

4. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length.

5. Backfilling shall conform to "Structure Backfill."

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

1. Materials - Reinforced concrete pipe shall have ball and spigot joints with rubber gaskets and shall equal or exceed ASTM designation C-508.

2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length.

3. Laying pipe - Ball and spigot pipe shall be placed with the ball end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material.

4. Backfilling shall conform to "Structure Backfill."

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

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

7. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length.

8. Backfilling shall conform to Structure "Backfill".

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

10. Backfilling shall conform to Structure "Backfill".

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

12. Backfilling shall conform to Structure "Backfill".

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

14. Backfilling shall conform to Structure "Backfill".

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

16. Backfilling shall conform to Structure "Backfill".

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

18. Backfilling shall conform to Structure "Backfill".

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

20. Backfilling shall conform to Structure "Backfill".

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

22. Backfilling shall conform to Structure "Backfill".

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

24. Backfilling shall conform to Structure "Backfill".

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

26. Backfilling shall conform to Structure "Backfill".

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

28. Backfilling shall conform to Structure "Backfill".

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

30. Backfilling shall conform to Structure "Backfill".

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

32. Backfilling shall conform to Structure "Backfill".

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

34. Backfilling shall conform to Structure "Backfill".

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

36. Backfilling shall conform to Structure "Backfill".

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

38. Backfilling shall conform to Structure "Backfill".

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

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Conditions Where Practice Applies

1. This practice is limited to areas having 2:1 or flatter slopes where the structure of the exposed subsoil prevents natural or produce vegetative growth.

2. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

3. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization.

Construction and Material Specifications

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:

1. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand, other soils may be used if recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority.

II. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutgrass, poison ivy, thistle, or others as specified.

III. Where subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of the topsoil.

III. For sites having disturbed areas under 5 acres:

1. On soil meeting Topsoil specifications, obtain test results dictating Fertilizer and lime amendments required to bring the soil into compliance with the following:

a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.

II. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.

V. Topsoil Application

I. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.

II. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.

III. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4".

IV. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

VI. Alternative For Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

1. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for site having disturbed areas under 5 acres shall conform to the following requirements:

a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.

b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.

c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet, or 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use seed.

Materials - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1,000 sq. ft.) of untreated small grain straw immediately after seeding.

Anchor mulch immediately after application using mulch anchoring tool or 210 gal. per acre (5 gal. per 1,000 sq. ft.) of emulsified asphalt on flat areas, or slopes, 8 ft. or higher, use 247 gal. per acre (8 gal. per 1,000 sq. ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

Seeding Preparation - Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments - In lieu of soil test recommendations, use one of the following schedules:

1) Preferred - Apply 2 tons per acre dolomitic limestone (42 lbs. per 1,000 sq. ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1,000 sq. ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 600 lbs. per acre 30-0-0 urea-form fertilizer (4 lbs. per 1,000 sq. ft.) for anchoring.

2) Acceptable - Apply 2 tons per acre dolomitic limestone (42 lbs. per 1,000 sq. ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1,000 sq. ft.) before seeding. Harrow or disc into upper three inches of soil.

Seeding - For the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1,000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. per acre (1.4 lbs. per 1,000 sq. ft.) of Kentucky 31 Tall Fescue per acre and 100 lbs. per acre (0.25 lbs. per 1,000 sq. ft.) of creeping lovegrass. During the period October 16 thru February 29, protect sites by one of the following options:

1) 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.

2) Use seed.

3) Seed with 60 lbs. per acre of Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.

Mulching - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1,000 sq. ft.) of untreated small grain straw immediately after seeding.

Anchor mulch immediately after application using mulch anchoring tool or 210 gal. per acre (5 gal. per 1,000 sq. ft.) of emulsified asphalt on flat areas, or slopes, 8 ft. or higher, use 247 gal. per acre (8 gal. per 1,000 sq. ft.) for anchoring.

Maintenance - Inspect all seeded areas and make needed repairs, replacements and reseedings.

STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (31B-185B).

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 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THEREOF.

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 THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, 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 SEEDINGS, SOIL TEMPORARY SEEDING, AND MULCHING (SEC. 6.). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING PRACTICES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHED 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 5.5 ACRES

AREA TO BE ROOFED OR PAVED 3.9 ACRES

AREA TO BE VEGETATIVELY STABILIZED 0.9 ACRES

TOTAL CUT 3,400 CU. YARDS

TOTAL FILL 750 CU. YARDS

OFFSITE WASTE AREA LOCATION TO HAVE ACTIVE GRADING PERMIT.

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 LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

12. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.

13. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAR OUT ELEVATION SHOWN ON THE PLANS.

14. CUT AND FILL QUANTITIES PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR EMBANKMENT MATERIAL, NOR DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.

2. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, AND SUPER SILT FENCE. (3 DAYS)

3. INSTALL STORM DRAIN FROM E-2 TO S-1, CONSTRUCT SEDIMENT BASIN, AND INSTALL EARTH DIKE. (2 WEEKS)

4. UPON ACCEPTANCE BY THE COUNTY INSPECTOR CONTRACTOR TO PROCEED WITH ROUGH GRADING OF ENTIRE SITE. CONTRACTOR TO PROVIDE DUST CONTROL AS NECESSARY.

5. AS SUBGRADE ELEVATIONS ARE ESTABLISHED, INSTALL STORM DRAINS, WATER, AND SEWER. (2 WEEKS)

6. SEE SHEET 14 FOR PHASING SEQUENCE FOR THE INSTALLATION OF THE CURB AND GUTTER AND PAVEMENT OF ROADWAY. (2 WEEKS)

7. APPLY TOPSOIL AND STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (1 WEEK)

8. PERFORM FINE GRADING, LANDSCAPING, LIGHTING AND SIDEWALKS. (2 WEEKS)

9. INSTALL BIOTRENT FACILITIES ONCE THE AREA TO THE FACILITIES HAVE BEEN STABILIZED. (1 WEEK)

10. UPON PERMISSION OF COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES AND CONVERT SEDIMENT BASIN TO PERMANENT STORM WATER MANAGEMENT FACILITY. CONVERT THE FACILITY IN THE FOLLOWING STEPS:

A. CLEAN STORM DRAIN INLETS AND FLUSH OUT PIPES. (5 DAYS)

B. PUMP OUT STANDING WATER IN BASIN USING PUMPING STATION. (2 DAYS)

C. REMOVE TEMPORARY DEWATERING DEVICE AND PLYWOOD. (1 DAY)

D. REMOVE ACCUMULATED SEDIMENT. (2 DAYS)

E. GRADE FOR PERMANENT STORMWATER MANAGEMENT POND. (5 DAYS)

F. INSTALL PERMANENT DEWATERING DEVICE AND ORIFICE PLATE, AND BLOCK WEIRS. (3 DAYS)

G. STABILIZE REMAINING DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (3 DAYS)

HOA MAINTENANCE

1. Facilities shall be inspected annually and after major storms. Inspections should be performed during wet weather to determine if the pond is functioning properly.

2. Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September.

3. Debris and litter next to the outlet structure shall be removed during regular mowing operations and as needed.

4. Visible signs of erosion in the pond as well as riprap outlet area shall be repaired as soon as it is noticed.

COUNTY MAINTENANCE

1. Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the detection of any damage. The components should be inspected during routine maintenance operations.

2. Sediment should be removed when its accumulation significantly reduces the design storage, interfere with the function of the riser, when deemed necessary for aesthetic reasons, or when deemed necessary by the Howard County's Department of Public Works.

AS-BUILT CERTIFICATION stamp with signature of Aimee C. Remington #29923 and date 1-09-06.

BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Developer signature: Mark A. Rudolph 7/22/03

DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Engineer signature: Chery J. Reed 7.23.03

ENGINEER DATE

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

Signature: Jim Myers 8/4/03

NATURAL RESOURCES CONSERVATION SERVICE DATE

Signature: J. Miller 8/4/03

HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Signature: William F. Ashton 8-19-03

CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Signature: Cindy Hamstra 9/26/03

CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Signature: Chad Damann 10/22/03

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

OWNER / DEVELOPER

MEADOWLARK, LLC

ATTN: MARK PRITCHETT

6375 HANOVER CROSSING WAY

HANOVER, MARYLAND 21076

PROJECT NORDAU SUBDIVISION

LOTS 40-49, O.S. LOTS 50 & 51,

& NON-BUILDABLE BULK PARCEL A, SECTION G

A RESUBDIVISION OF LOTS 35-37 AND 39, SECTION G, NORDAU

AREA PARCEL 448 & 107 TAX MAP 42 GRID No. 24

6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE SEDIMENT CONTROL NOTES

Patton Harris Rust & Associates, P.C. Engineers, Surveyors, Planners, Landscape Architects.

8818 Centre Park Drive

Columbia, MD 21045

T 410.997.8900

F 410.997.9282

DESIGNED BY : A.C.R.

DRAWN BY: MAD

CHECKED BY: C.J.R.

PROJECT NO. 010761-0/ENR

PLANS/FINALS/C210ESC

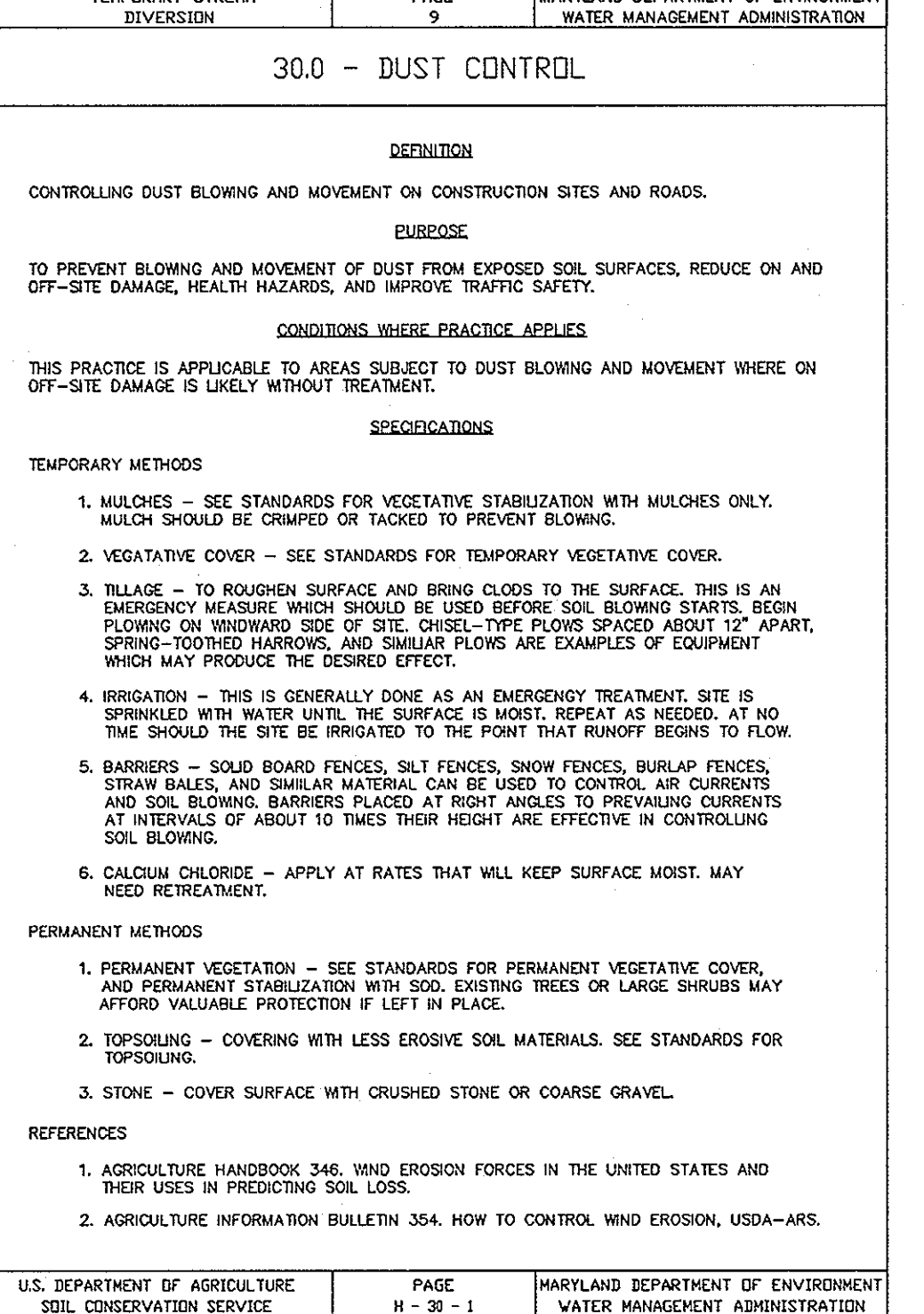
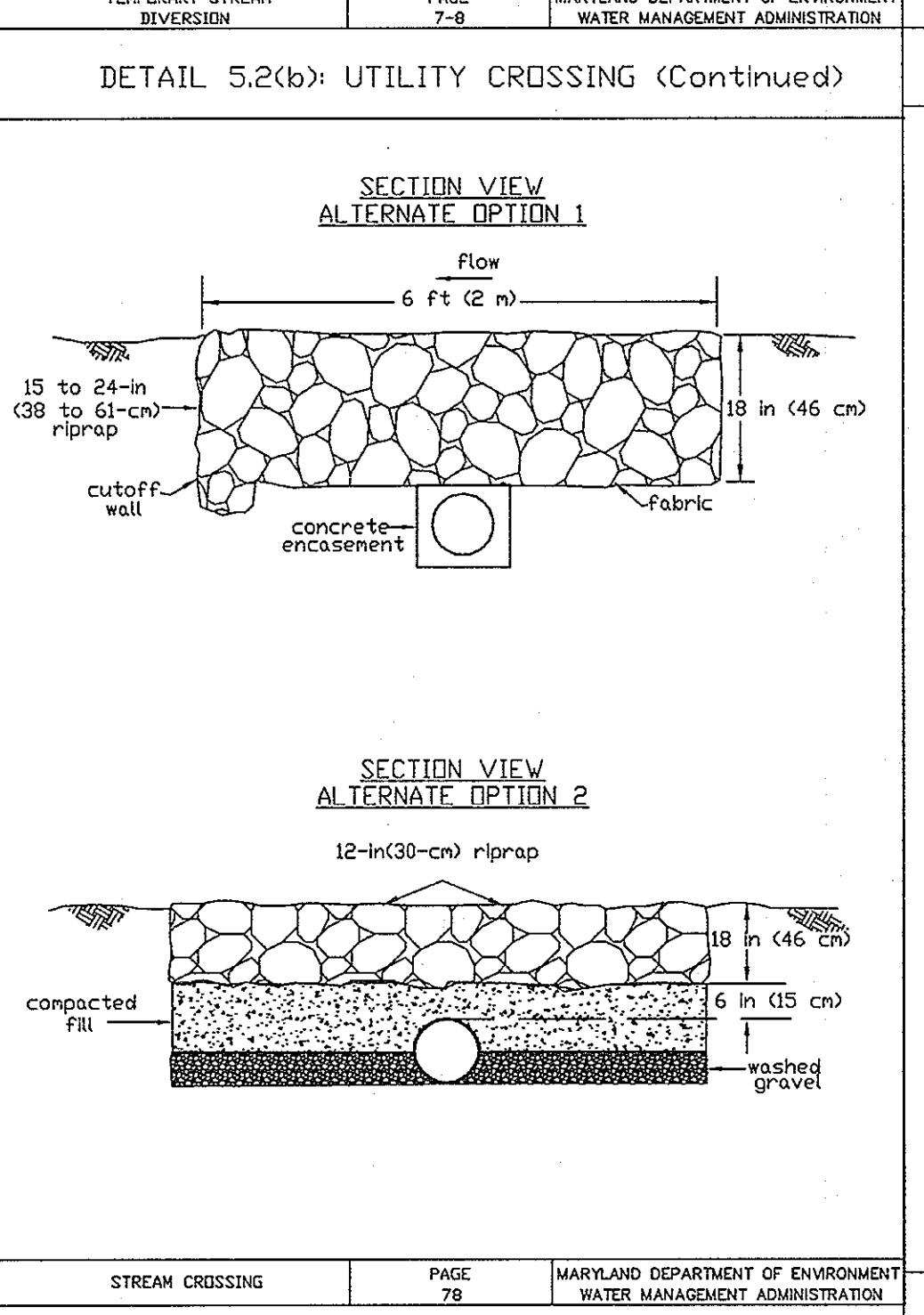
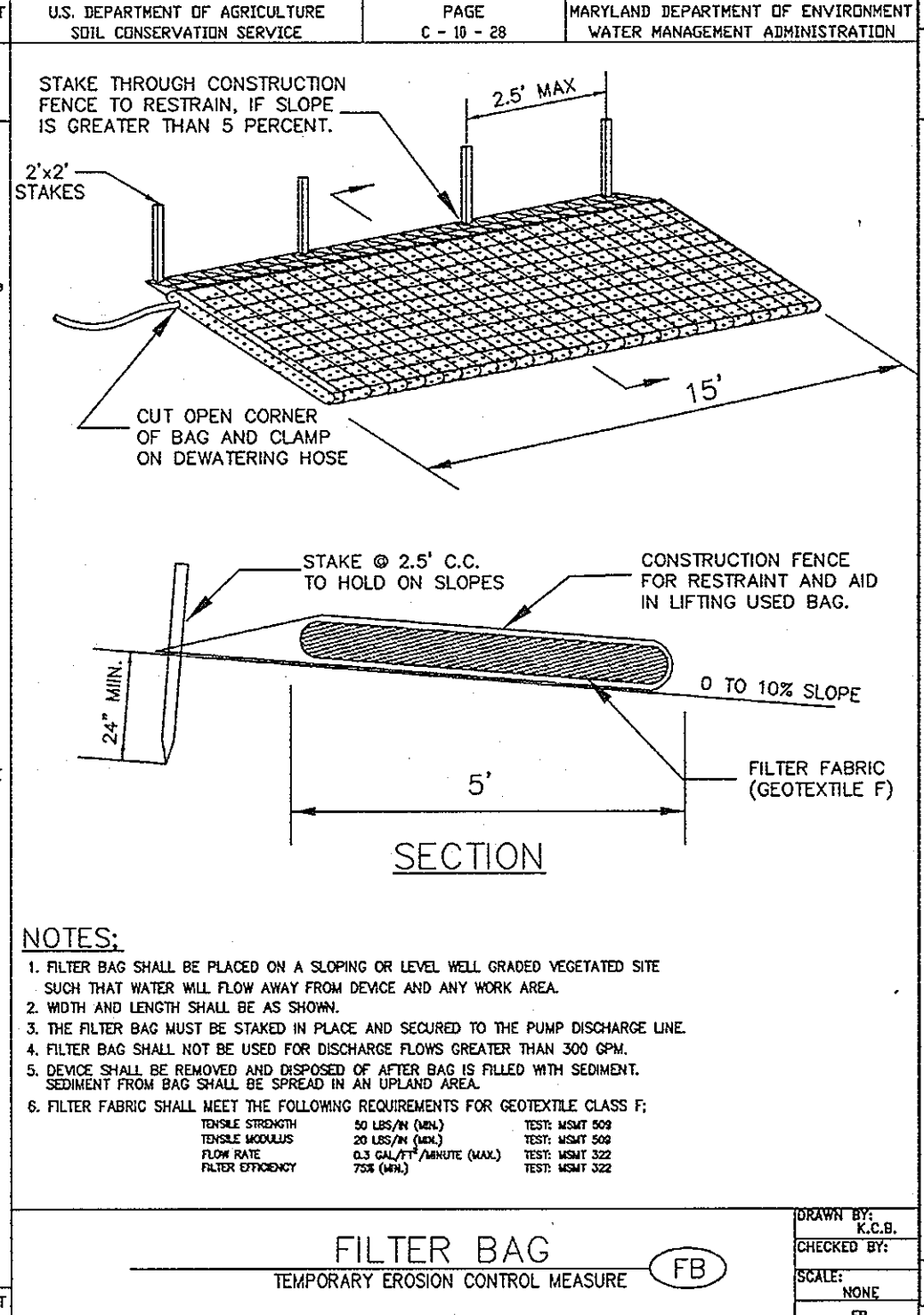
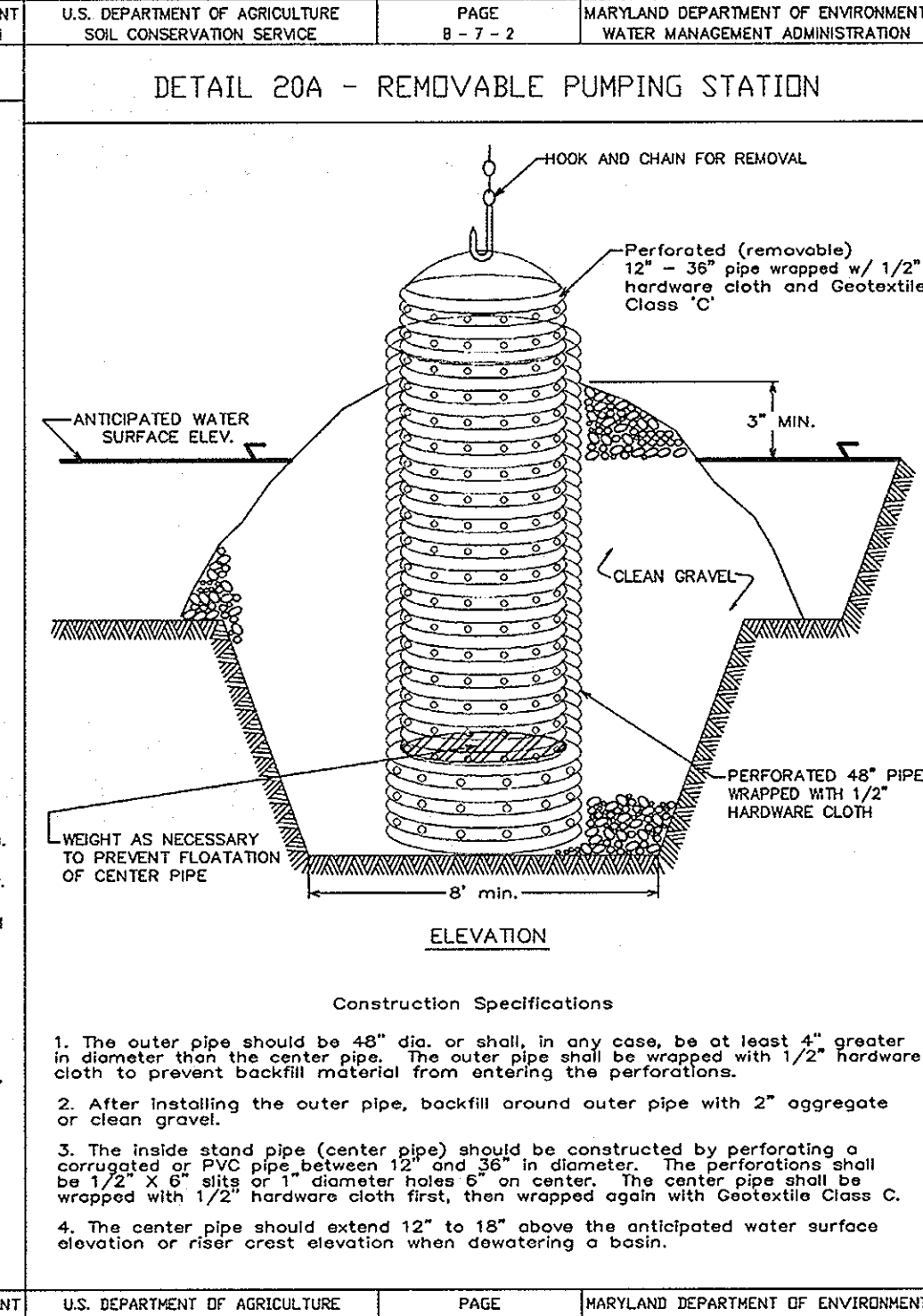
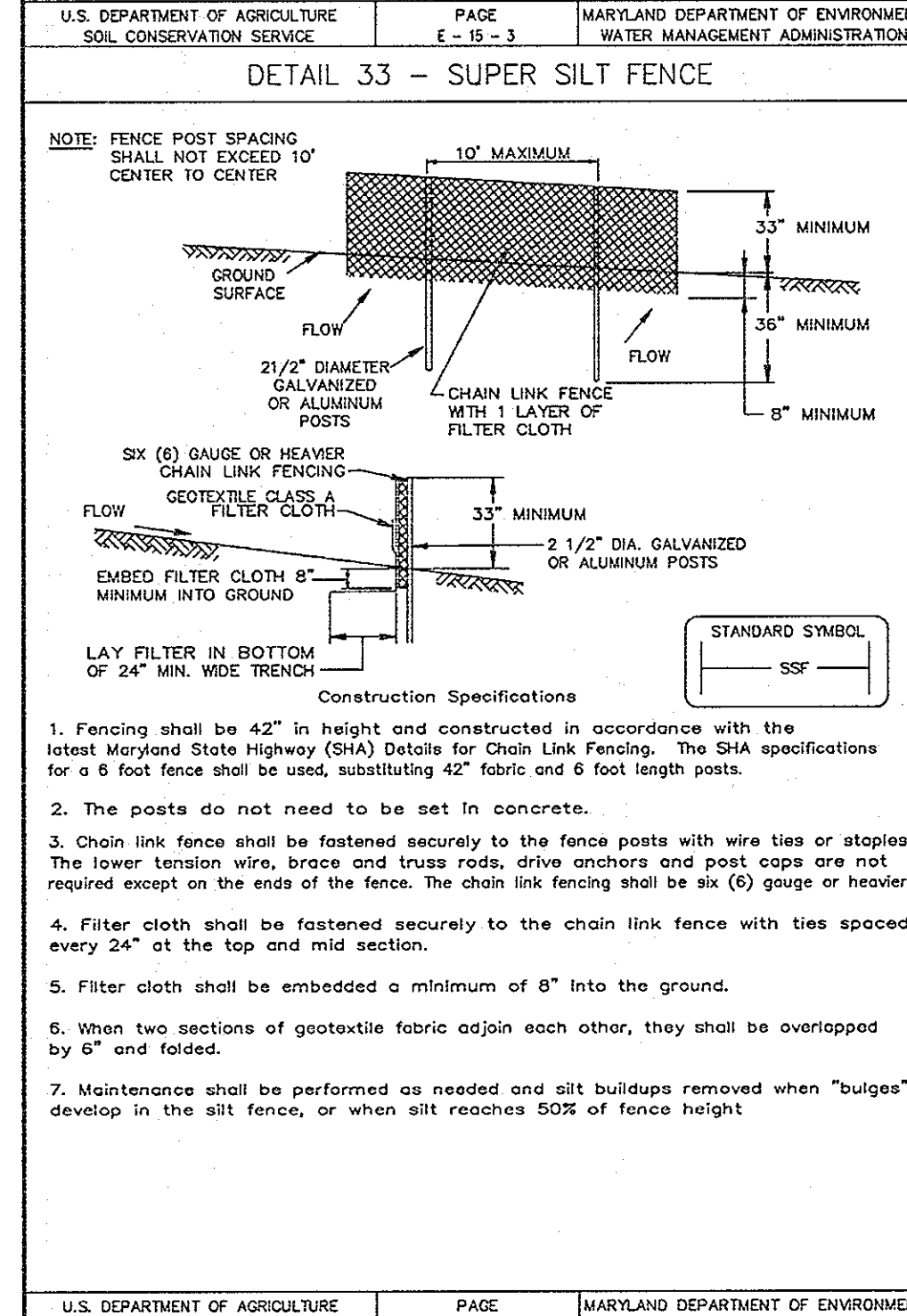
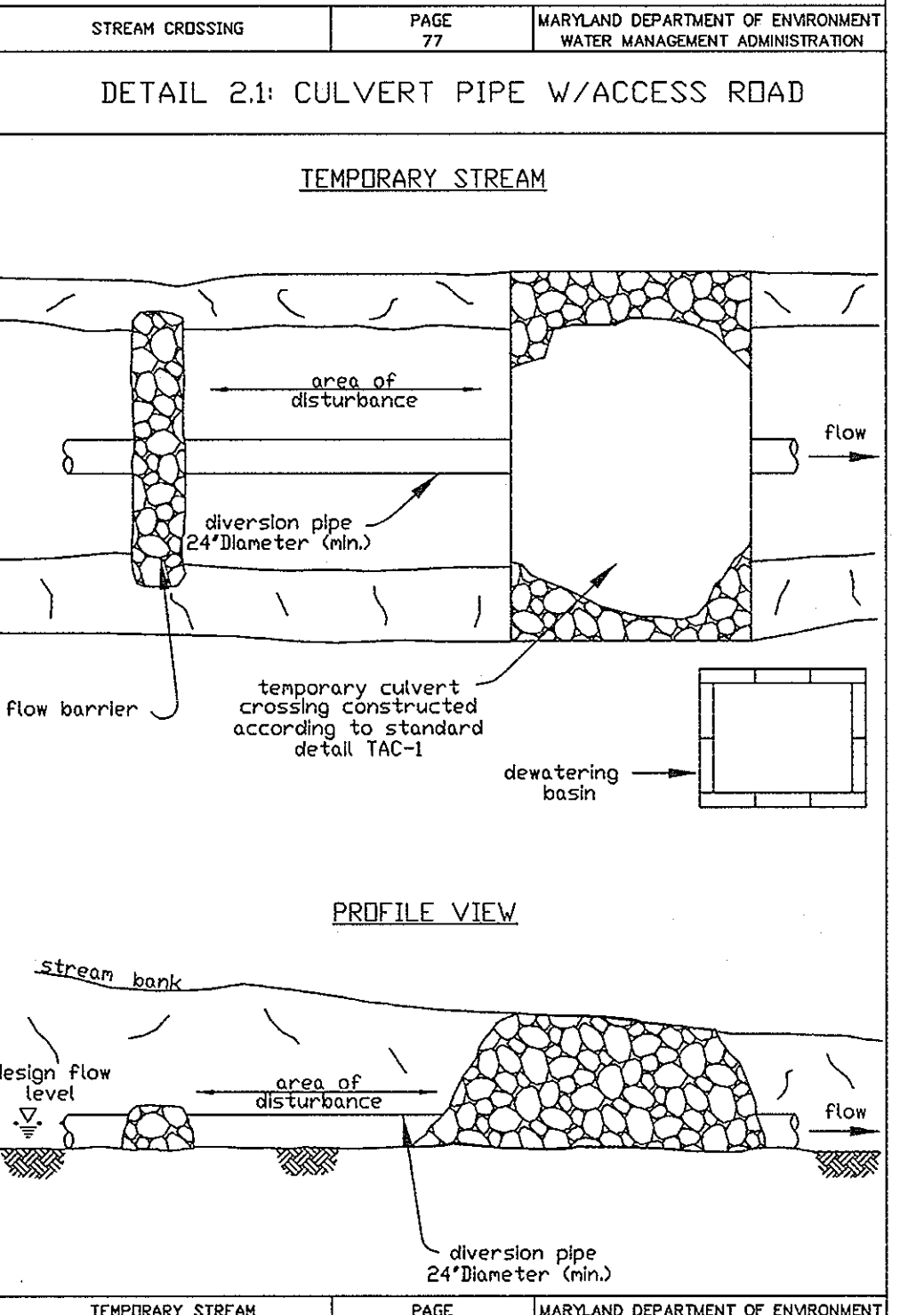
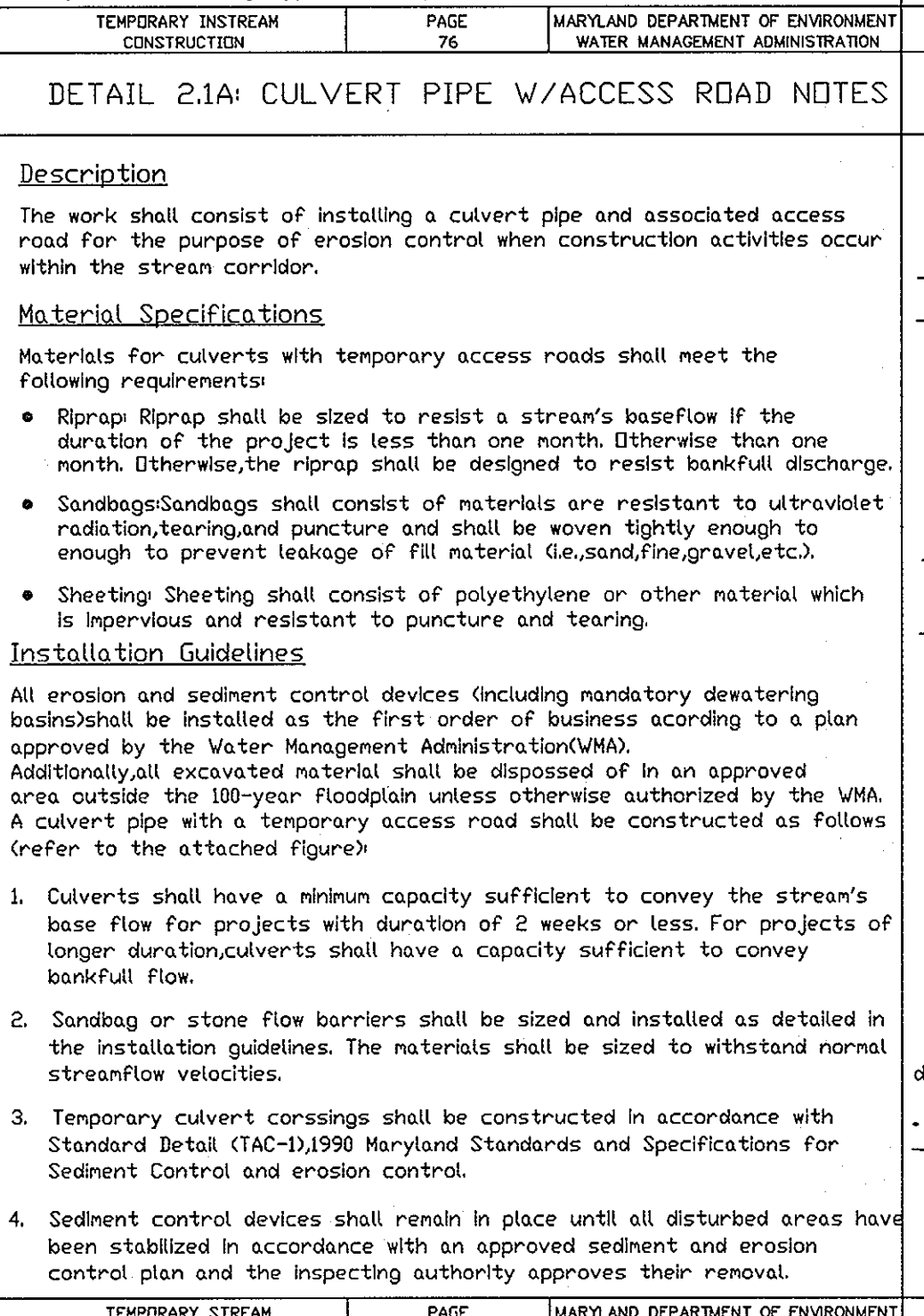
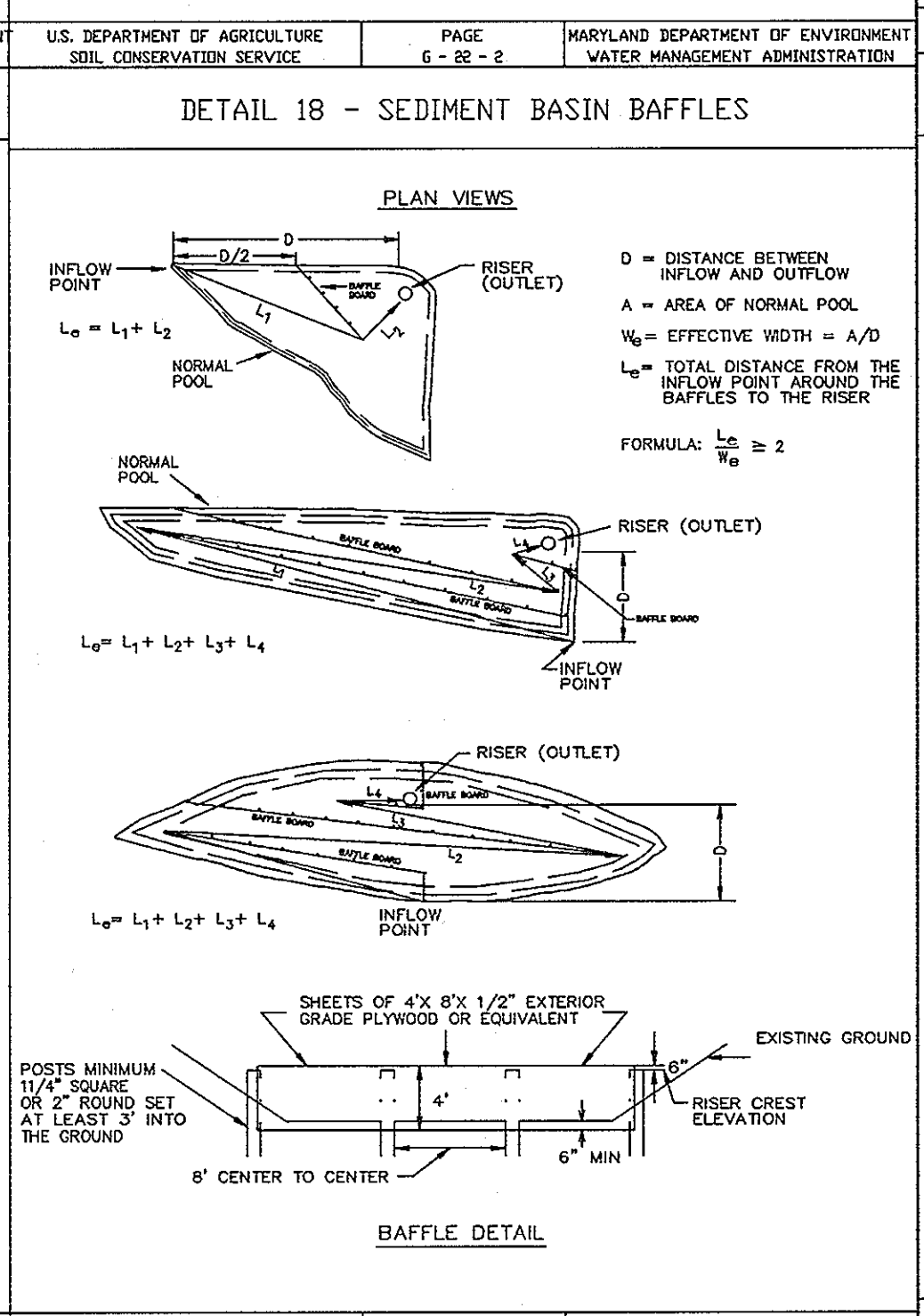
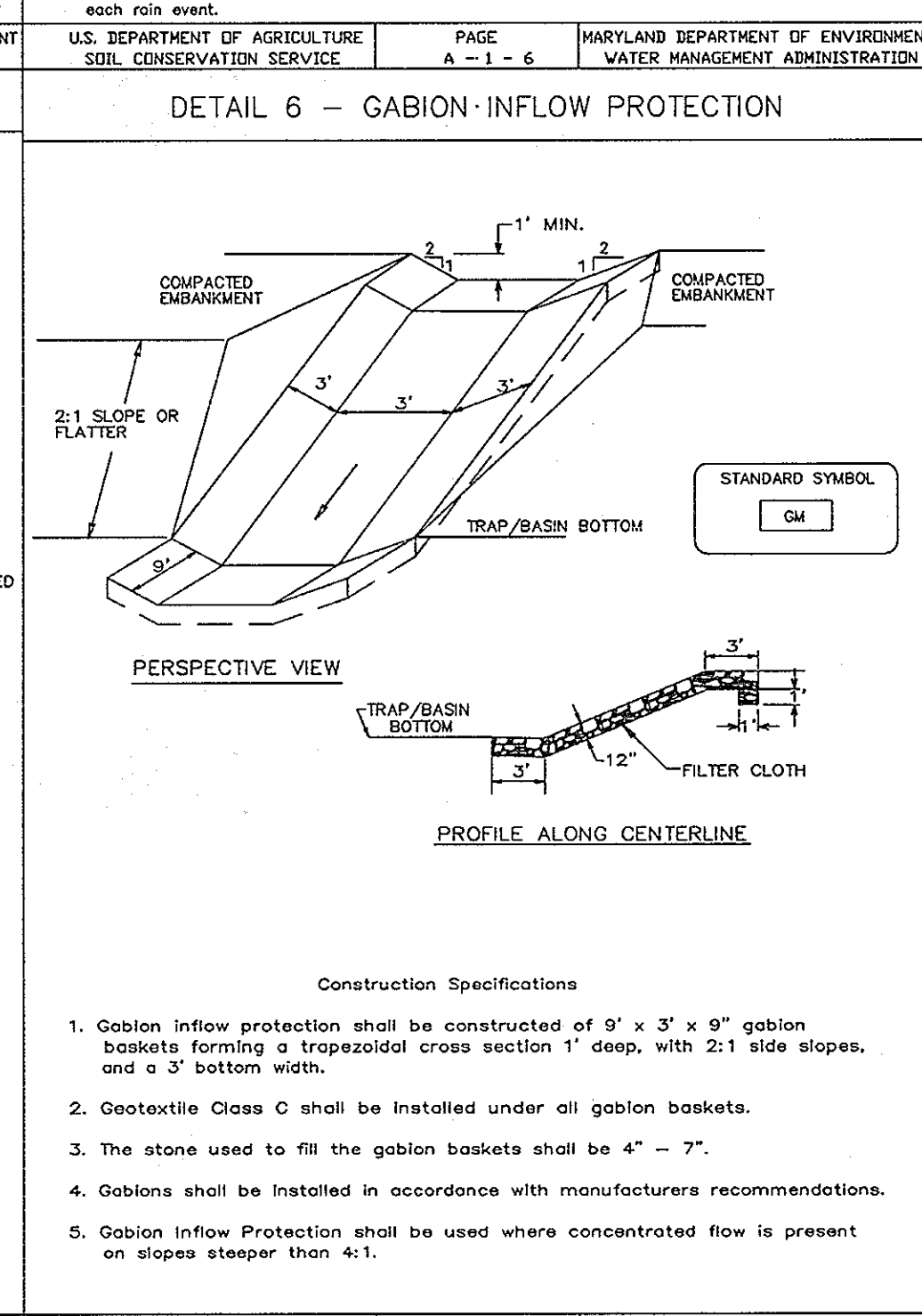
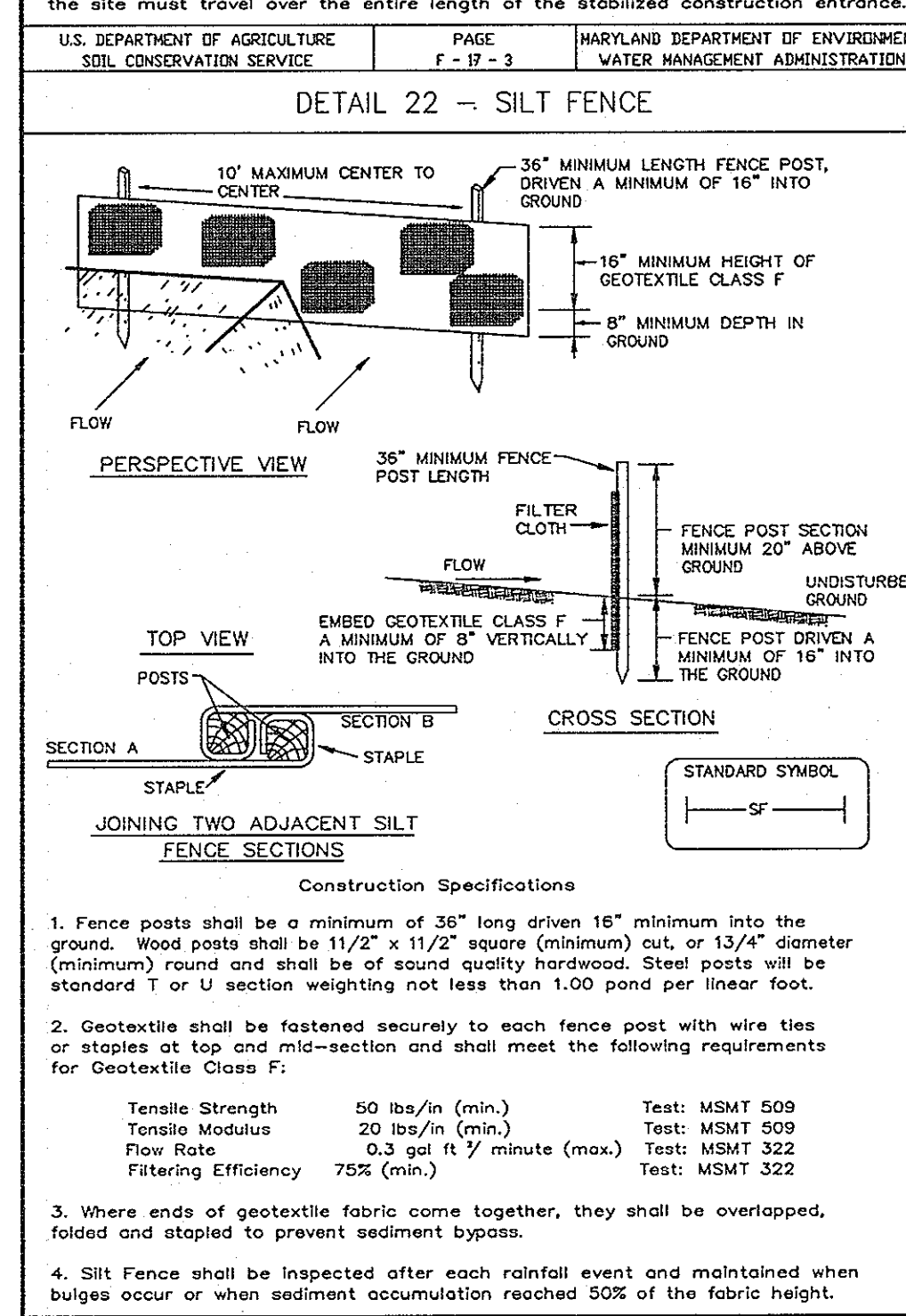
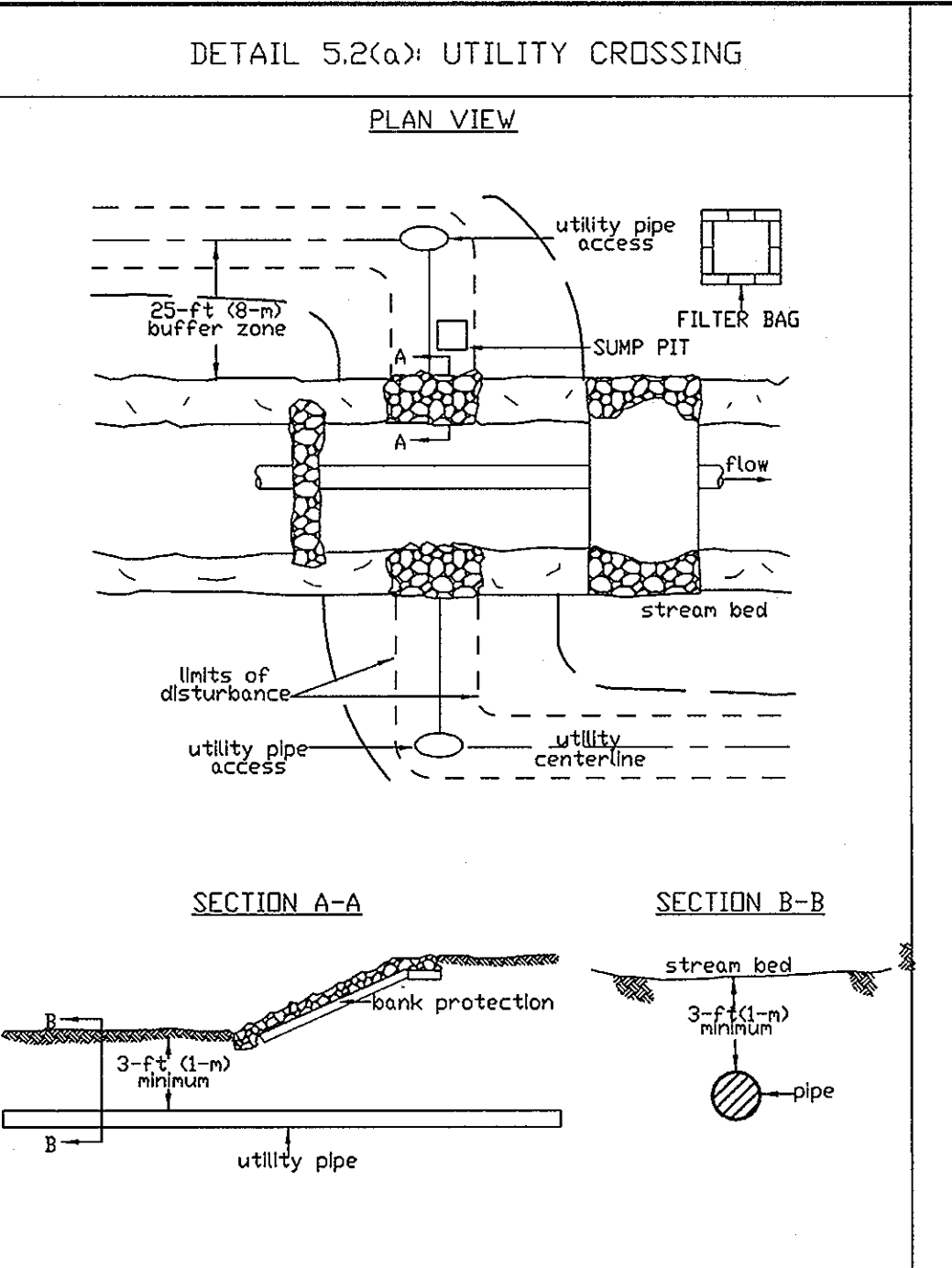
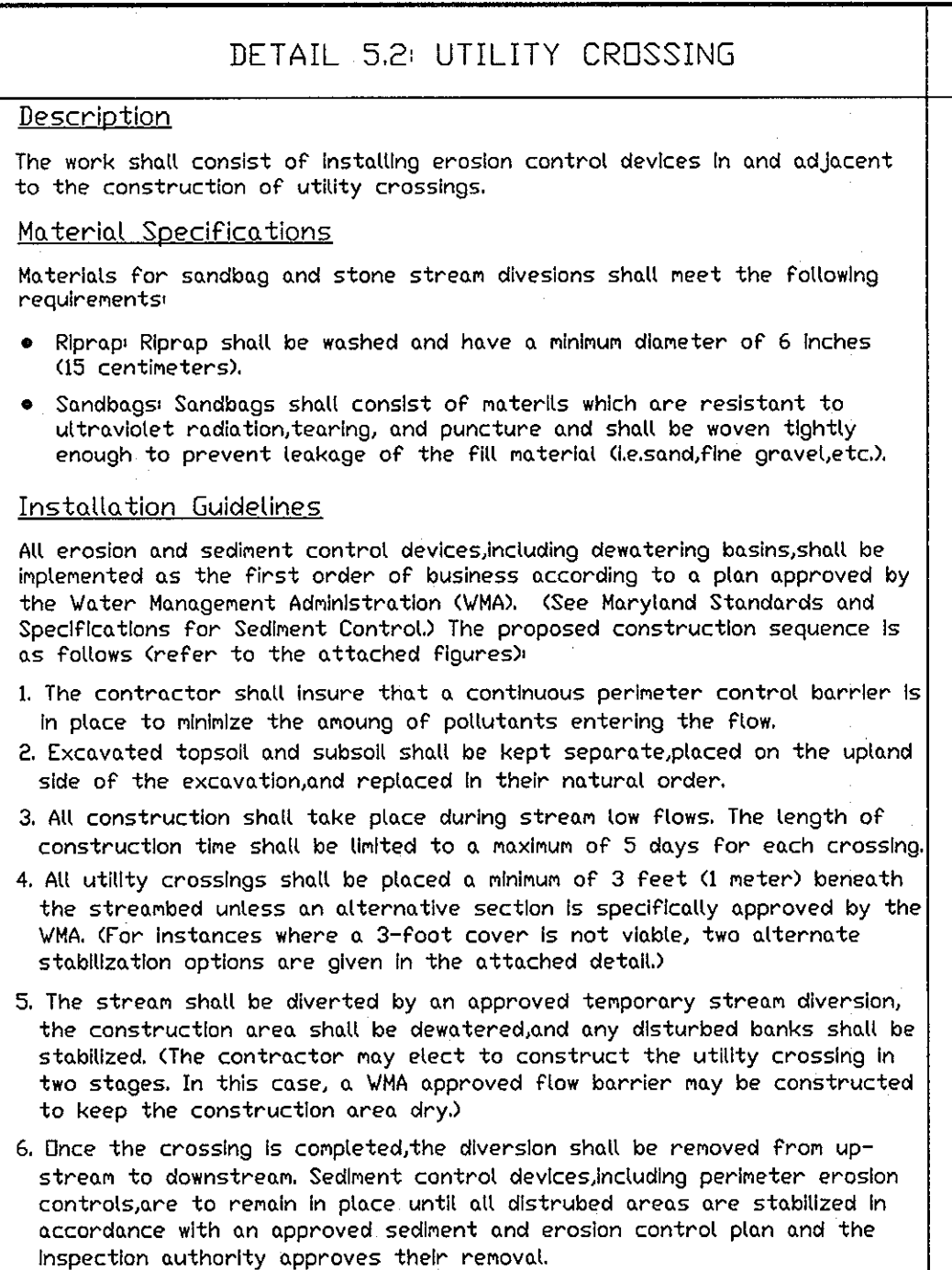
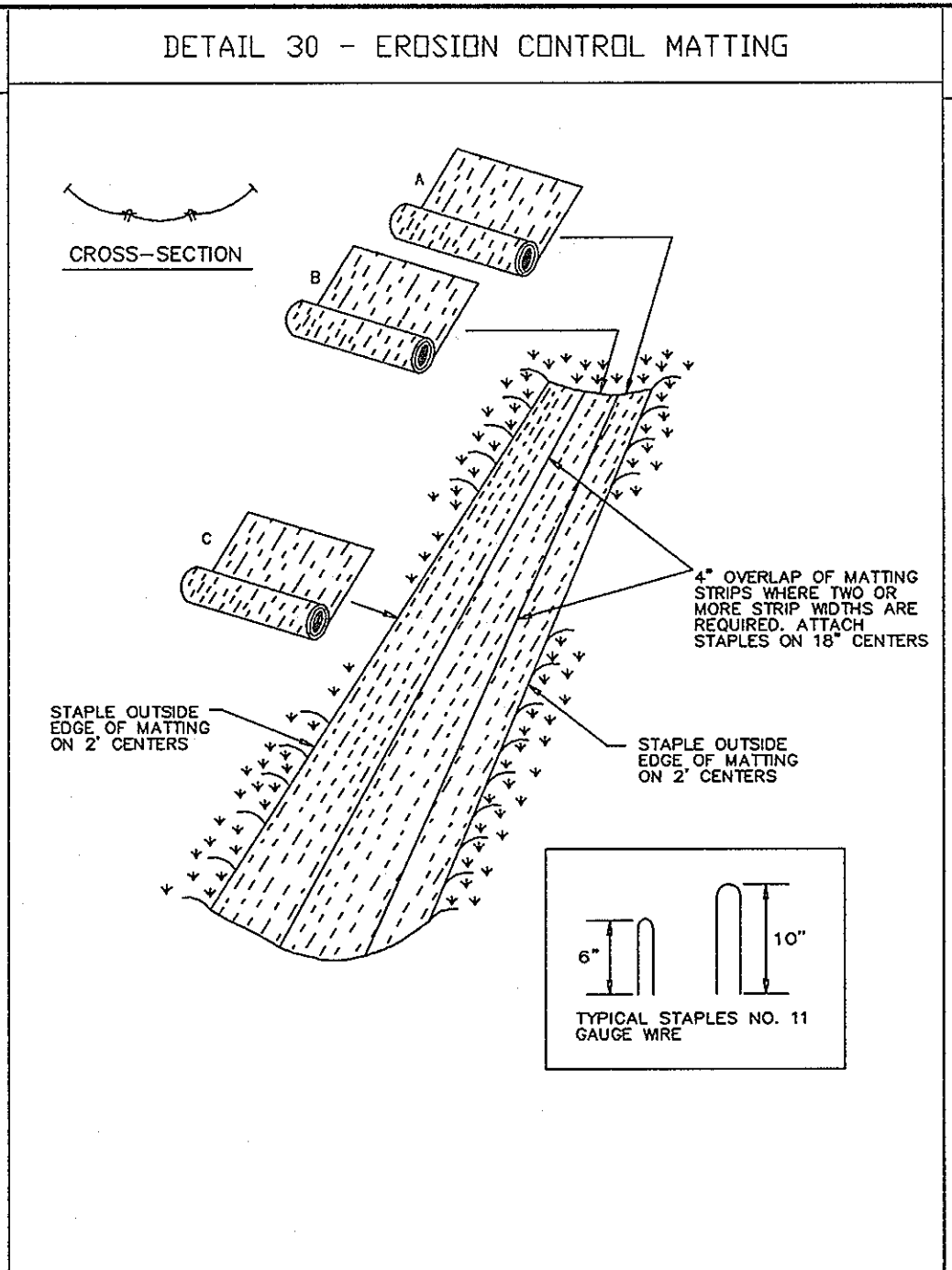
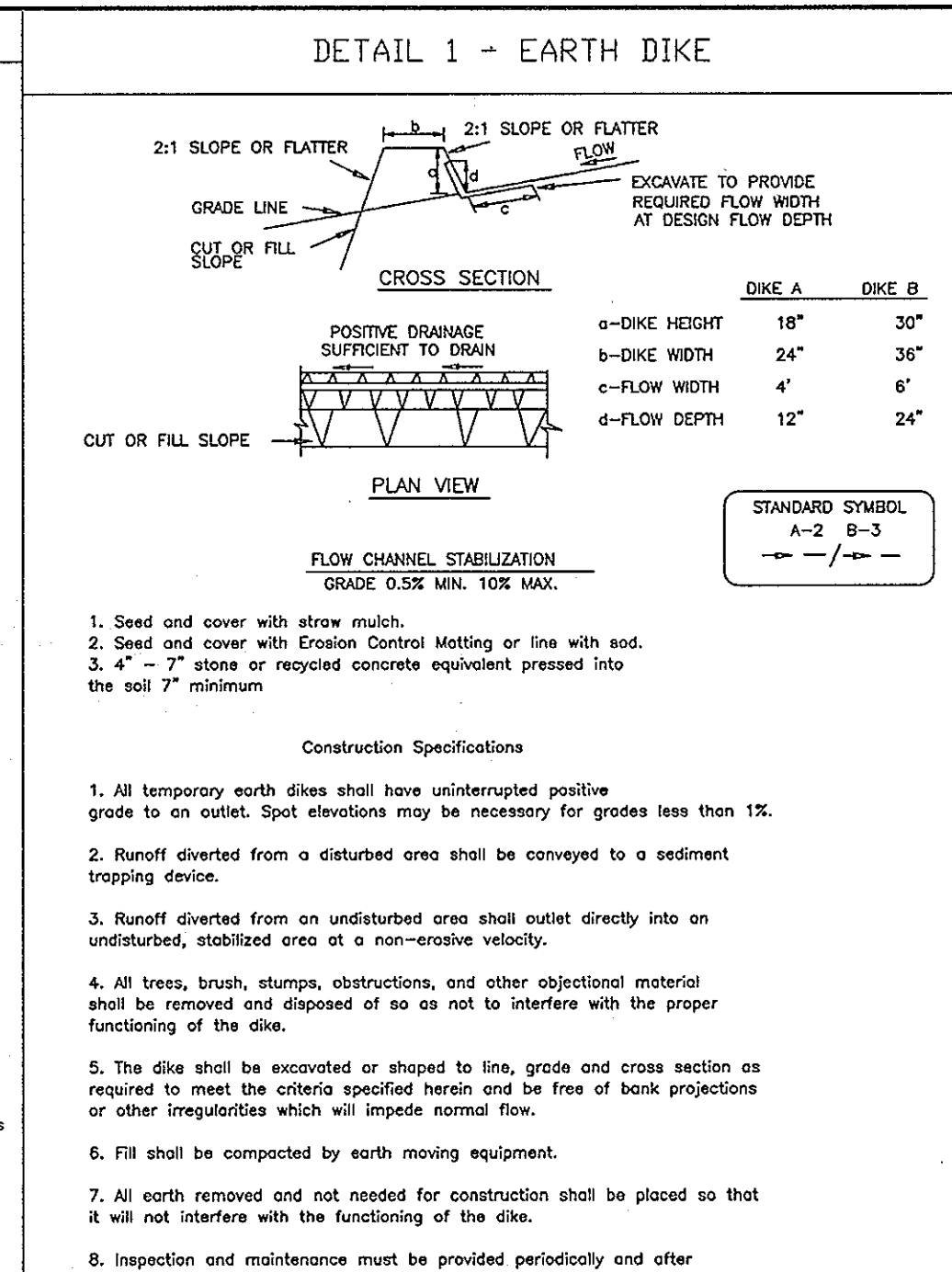
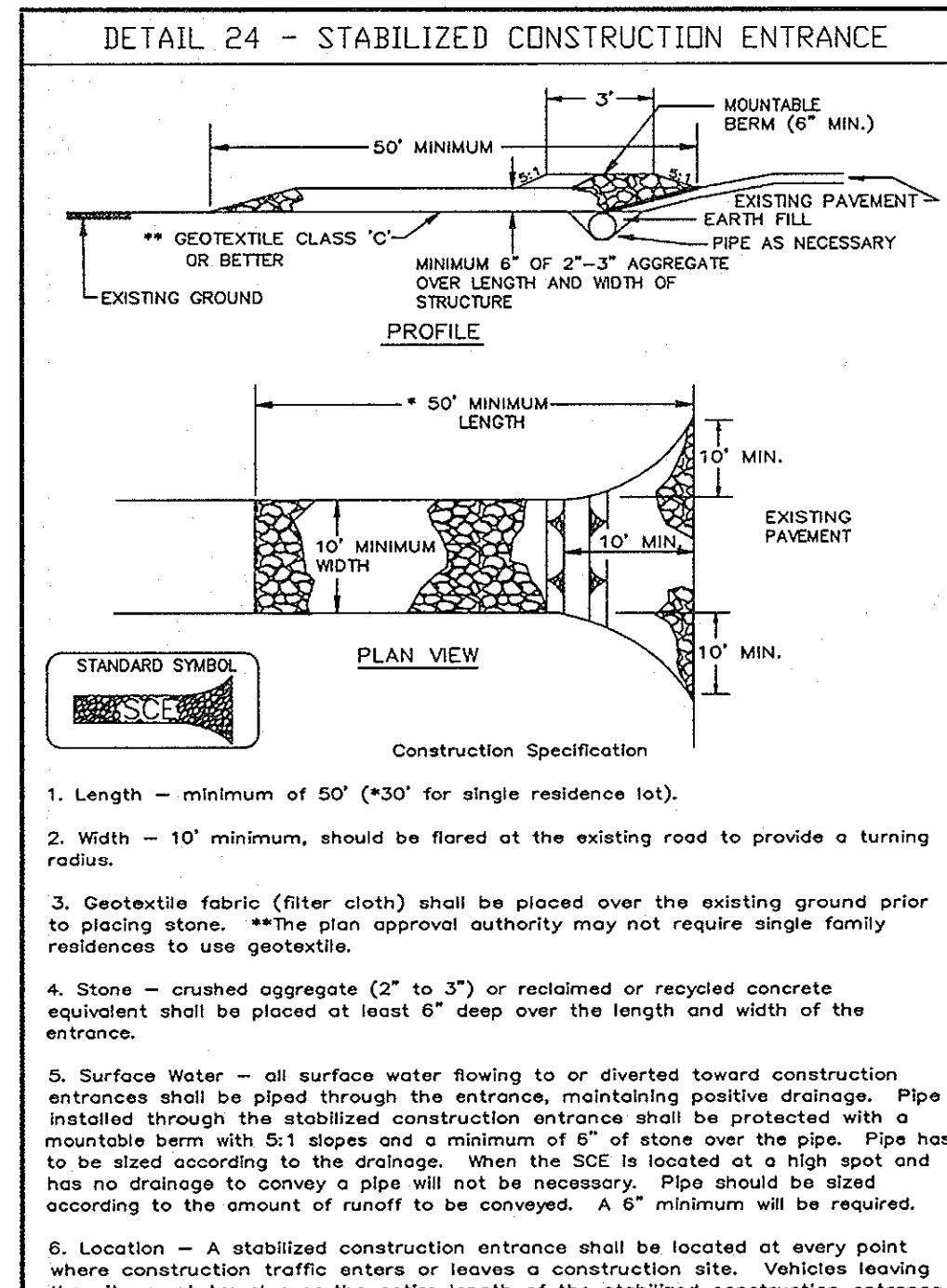
DATE : JULY 23, 2003

SCALE : AS SHOWN

DRAWING NO. 5 OF 15

F-03-32

GEOTECHNICAL RECOMMENDATIONS FOR EMBANKMENT CONSTRUCTION



AS-BUILT CERTIFICATION

 Christopher J. Reid
 PROFESSIONAL ENGINEER
 No. 20923
 STATE OF MARYLAND
 DATE: 1-09-06

BY THE DEVELOPER:
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Mark A. Pritchett 7/22/03
 DEVELOPER DATE

BY THE ENGINEER:
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 Chet S. Reed 7-23-03
 ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.
 Jim Murray 8/4/03
 NATURAL RESOURCES CONSERVATION SERVICE DATE

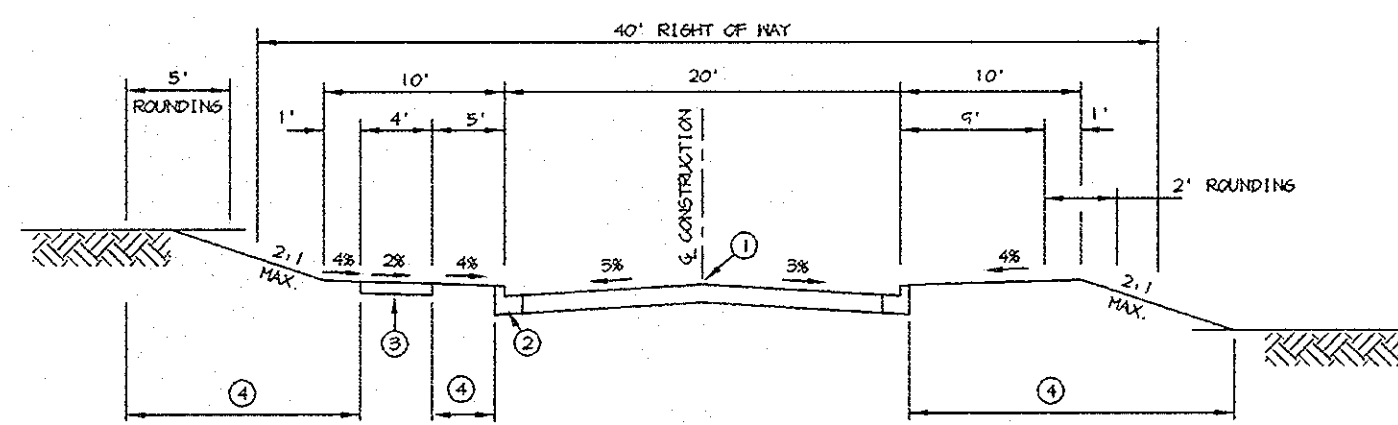
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 John R. Robertson 8/4/03
 HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 William F. White, Jr. 8-19-03
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 Cindy Hamilton 7/26/03
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

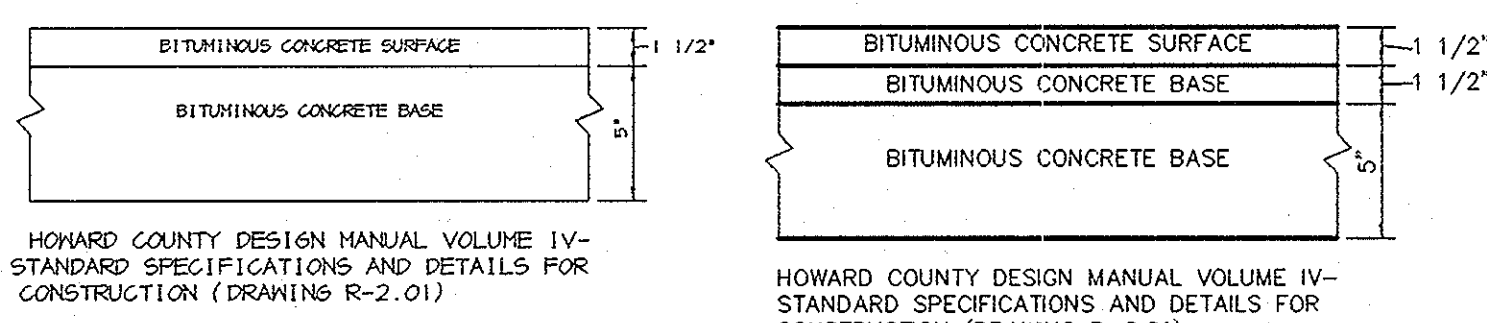
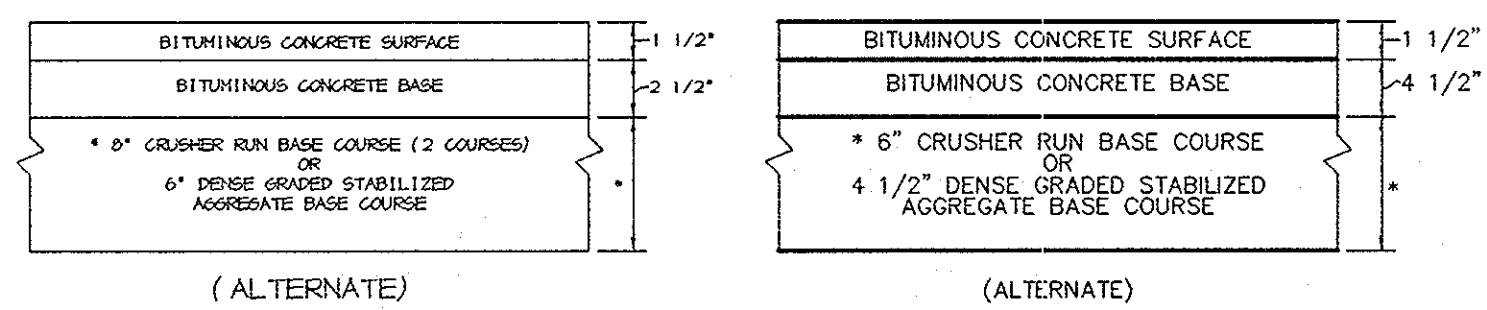
APPROVED: HOWARD COUNTY DEPARTMENT OF ENVIRONMENT AND WATER MANAGEMENT.
 Chad Dammann 8/22/03
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE	NO.	REVISION
OWNER / DEVELOPER		
MEADOWLARK, LLC ATTN: MARK PRITCHETT 6375 HANOVER CROSSING WAY HANOVER, MARYLAND 21076		
PROJECT		
NORDAU SUBDIVISION LOTS 40-49, O.S. LOTS 50 & 51, & NON-BUILDABLE BULK PARCEL A, SECTION G A RESUBDIVISION OF LOTS 35-37 AND 39, SECTION G, NORDAU		
AREA		
PARCEL 448 & 107 TAX MAP 42 GRID No. 24 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE		
SEDIMENT CONTROL DETAILS		
Patton Harris Rust & Associates, p.c. Engineers, Surveyors, Planners, Landscape Architects. 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9282		
DATE		
7-23-03		
DESIGNED BY: A.C.R.		
DRAWN BY: MAD		
CHECKED BY: C.J.R.		
PROJECT NO. 01076/1-0/ENGR PLANS/FINALS/C202ESC		
DATE: JULY 23, 2003		
SCALE: AS SHOWN		
DRAWING NO. 6 OF 15		
CHRISTOPHER J. REID #19949		

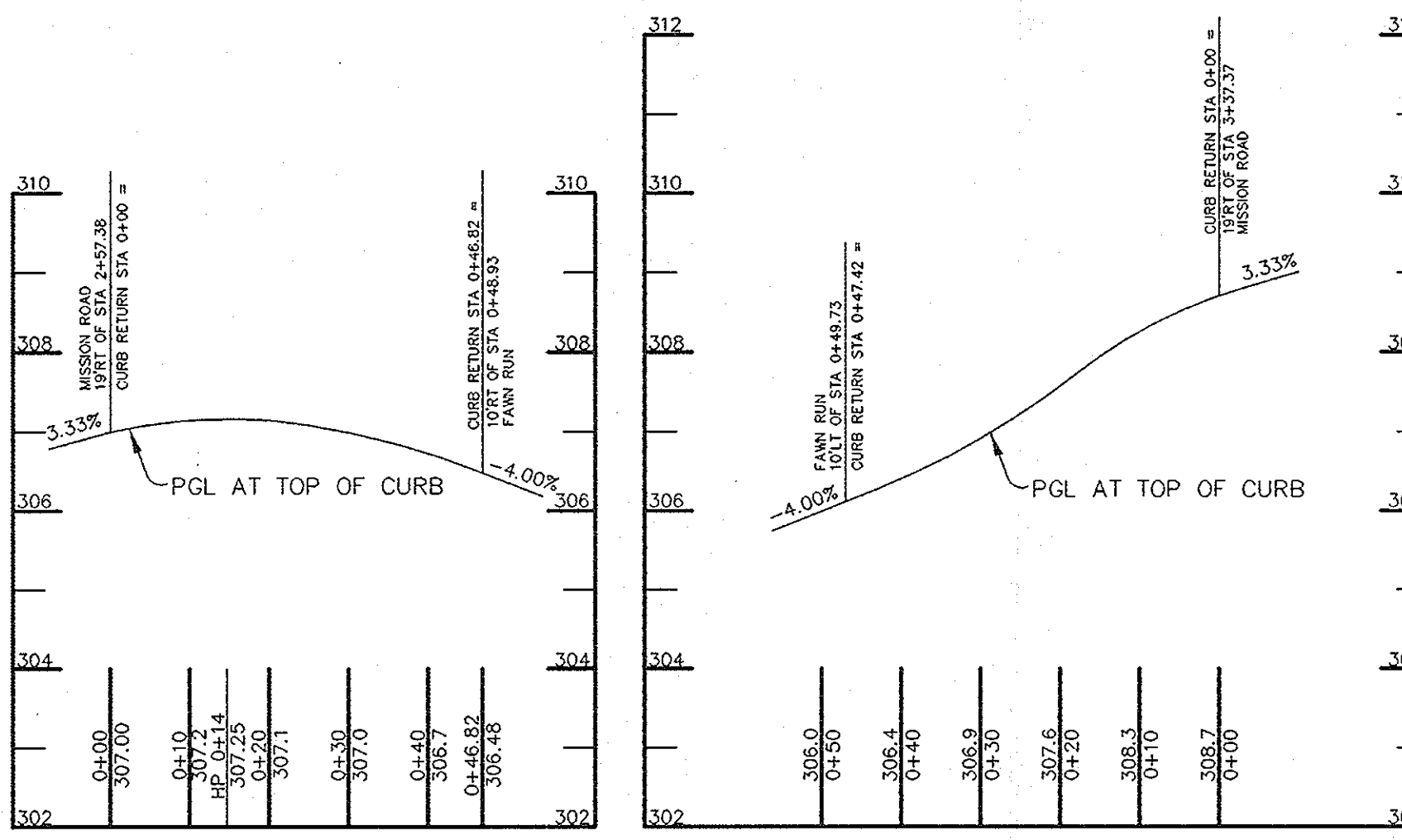


MODIFIED COMBINATION CURB AND GUTTER

* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 3% FOR MODIFIED CURB AND GUTTER.



HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.01)



PROFILE

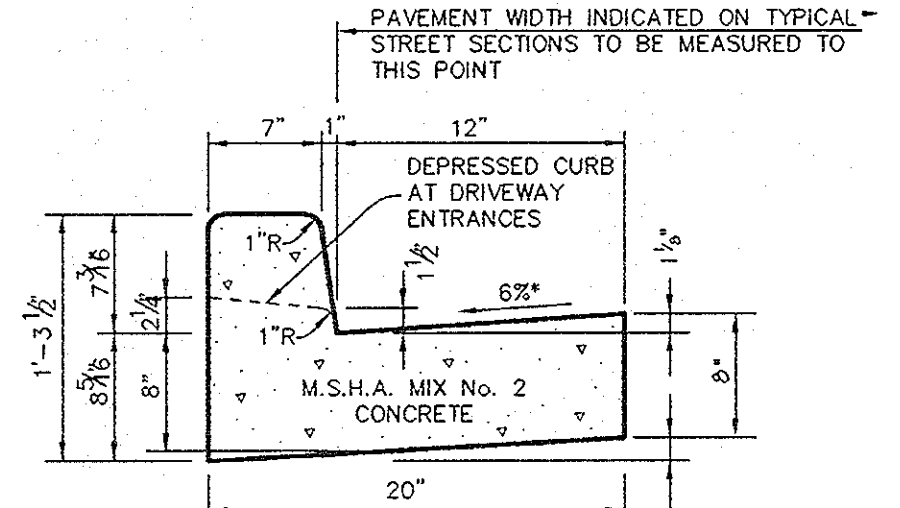
SCALE: HOR.-1"=20' VERT.-1"=2'

STRUCTURE SCHEDULE						
STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
I-1	A-5 2.5' WIDE	N 542458.75 E 1364947.81	276.80 (15')	276.64 (12')	282.55	HOCO STD. DETAIL SD-4.40
I-2	A-5 2.5' WIDE	N 542771.78 E 1364775.66	285.65 (18')	285.54 (18')	291.39	HOCO STD. DETAIL SD-4.40
I-3	A-5 2.5' WIDE	N 542762.14 E 1364758.14	286.74 (15')	286.67 (18')	291.34	HOCO STD. DETAIL SD-4.40
I-4	A-5 2.5' WIDE	N 542911.13 E 1364676.20	-	292.63 (15')	296.55	HOCO STD. DETAIL SD-4.40
I-5	A-5 2.5' WIDE	N 542449.11 E 1364930.29	-	277.12 (15')	282.49	HOCO STD. DETAIL SD-4.40
I-6	DOUBLE S 2.5' WIDE	N 542333.05 E 1364968.71	274.93 (4')	274.72 (18')	279.00	HOCO STD. DETAIL SD-4.23
I-7	A-5 3.0' WIDE	N 542430.91 E 1364964.64	273.03 (18')	272.05 (24')	281.30	HOCO STD. DETAIL SD 4.40
M-1	4'-0" DIA.	N 542471 E 1365055	270.21 (24')	270.01 (24')	279.71	HOCO STD. DETAIL G-5.11
M-2	4'-0" DIA.	N 542420 E 1364959	273.69 (18')	273.49 (18')	281.23	HOCO STD. DETAIL G-5.11
M-3	4'-0" DIA.	N 542386 E 1364973	274.42 (18')	274.21 (18')	279.39	HOCO STD. DETAIL G-5.11
M-4	4'-0" DIA.	N 542356 E 1364996	266.37 (24')	265.51 (30')	277.37	HOCO STD. DETAIL G-5.11
E-1	24" CMP END SECTION	N 542435 E 1365065	268.81 (24')	-	-	HOCO STD. DETAIL SD-5.61
E-2	30" CMP END SECTION	N 542144 E 1365147	259.68 (30')	-	-	HOCO STD. DETAIL SD-5.61
E-3	12" CMP END SECTION	N 542476 E 1364981	278.14 (12')	-	-	HOCO STD. DETAIL SD-5.61
S-1	MODIFIED STRUCTURE	N 542371 E 1365018	267.06 (4')	266.21 (30')	275.78	SEE SHEET 8

FOR END SECTIONS AND HEADWALLS THE LOCATION IS CENTER OF THROAT OPENING AT FACE OF STRUCTURE. LOCATION OF INLETS AND MANHOLES IS AT CENTER OF TOP COVER; FOR "A" INLETS LOCATION IS GIVEN FOR CENTER OF THROAT OPENING AT FACE OF CURB.

TYPICAL SECTION LOCAL ROAD

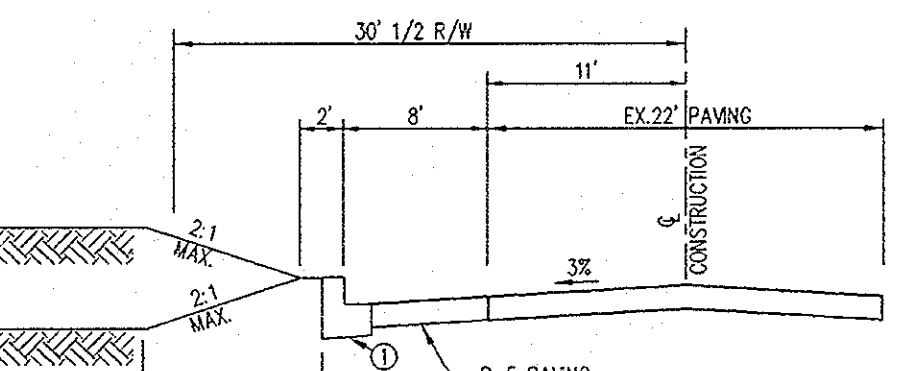
FAWN RUN FROM STA 0+00 TO STA 8+51.83 - 20 MPH DESIGN SPEED



HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-3.01)

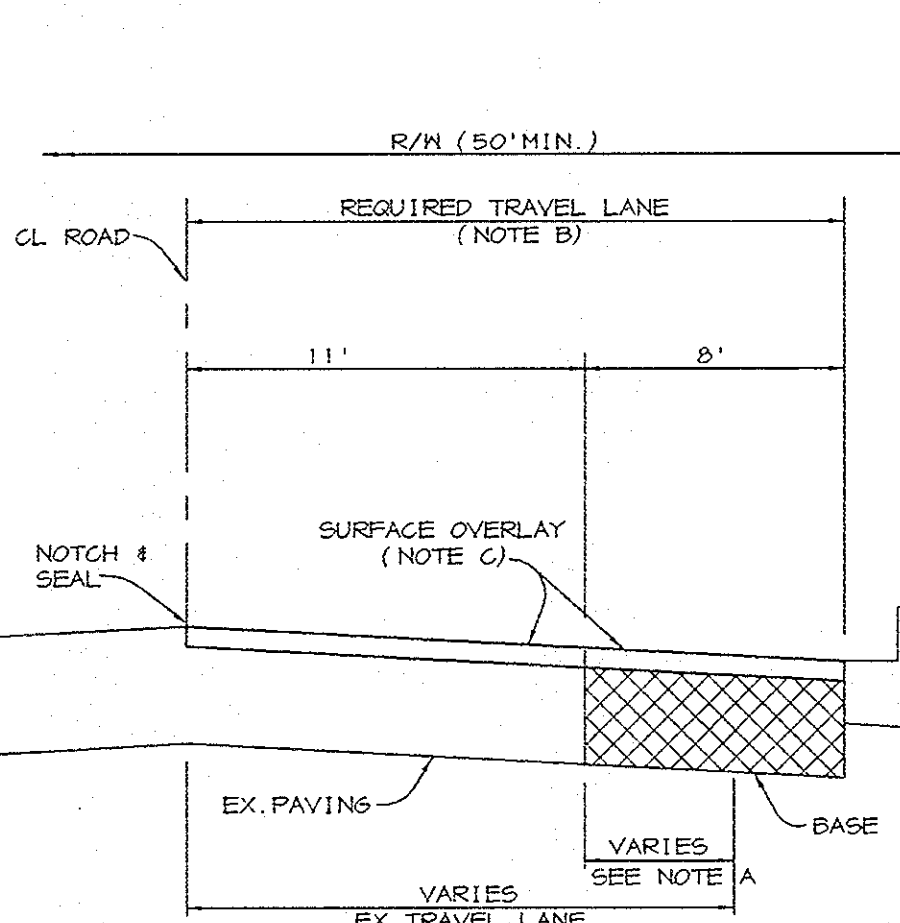
STANDARD 7" COMBINATION CURB AND GUTTER

NO SCALE



TYPICAL SECTION MISSION LANE

NO SCALE



NOTE A - WHEN EXISTING TRAVEL LANE IS LESS THAN THE REQUIRED 12' LANE, CONTRACTOR SHALL REMOVE ENOUGH OF THE EXISTING ROAD BED TO PROVIDE A MINIMUM BASE WIDENING OF 4'.

NOTE B - THE SURFACE OVERLAY SHALL BE CARRIED TO THE CL OF THE ROAD AND NOTCHED AND SEALED.

NOTE C - SURFACE OVERLAY COURSE TO BE EQUAL TO SURFACE COURSE OF TYPICAL PAVING SECTION OF SUBDIVISION.

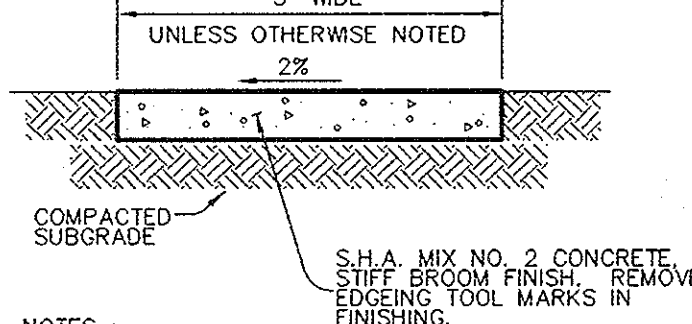
NOTE D - CL OF ROAD TO BE MILLED AT DEPTH OF 1 1/2" x 1' WIDE USING A MILLING MACHINE.

WIDENING STRIPS ALONG EXISTING ROADWAYS

NO SCALE

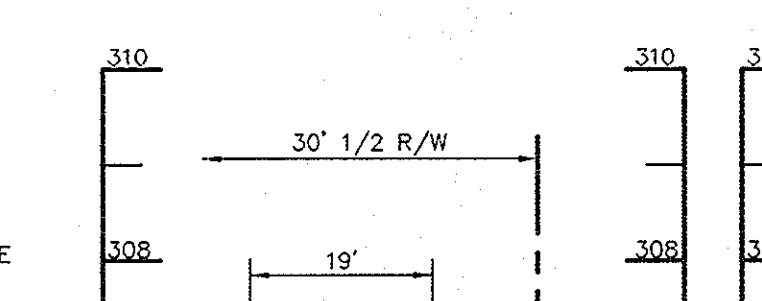
P-2 PAVING

NO SCALE



P-3 PAVING

NO SCALE



CL STA 2+00

SCALE: HOR.-1"=20' VERT.-1"=2'

CL STA 2+50

SCALE: HOR.-1"=20' VERT.-1"=2'

CL STA 3+00

SCALE: HOR.-1"=20' VERT.-1"=2'

CL STA 3+50

SCALE: HOR.-1"=20' VERT.-1"=2'

CL STA 4+00

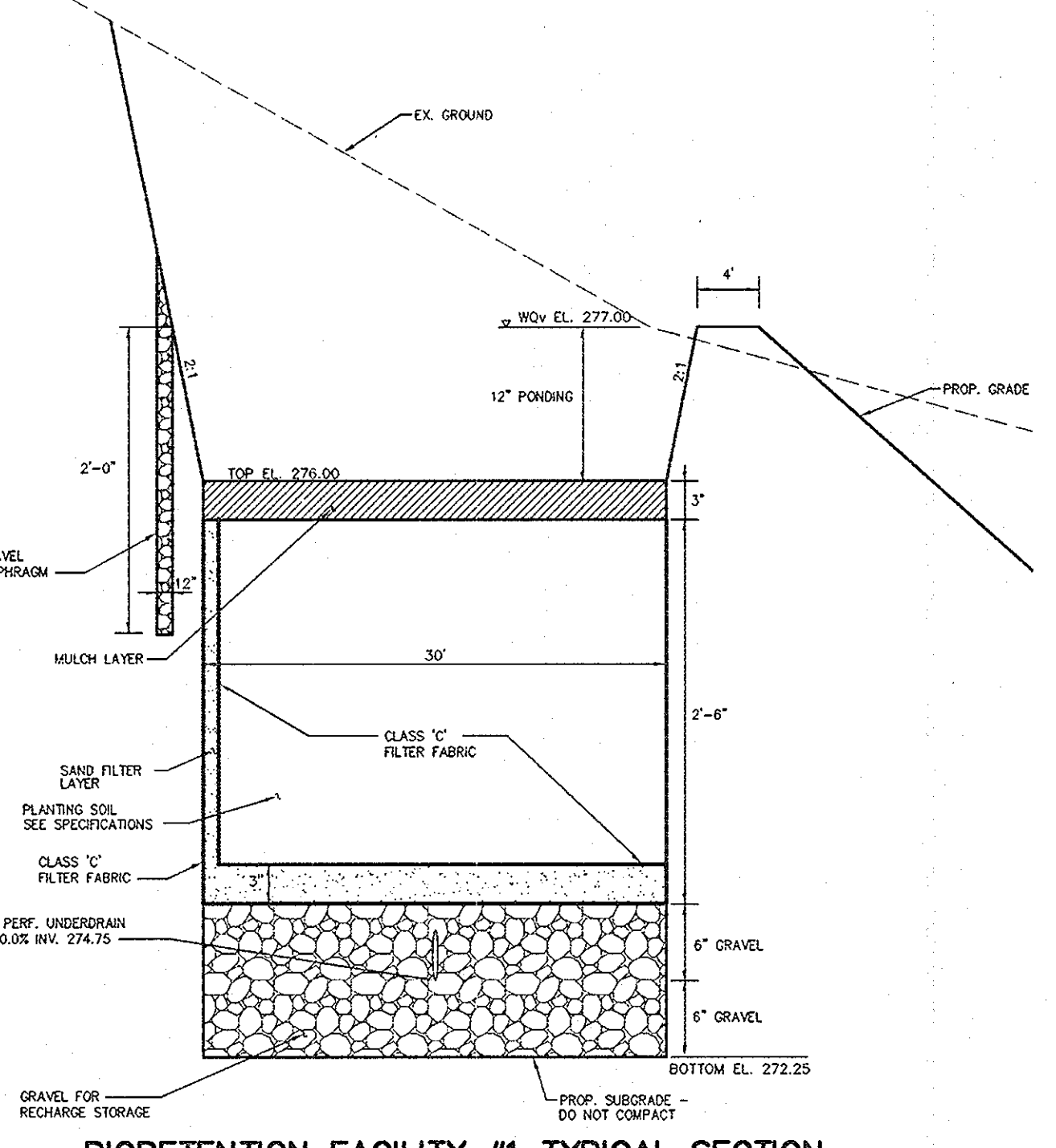
SCALE: HOR.-1"=20' VERT.-1"=2'

OPERATION AND MAINTENANCE SCHEDULE OF PRIVATELY OWNED AND MAINTAINED BIORETENTION FACILITY

- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER, AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT. TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
- MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER EVERY 2 TO 3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

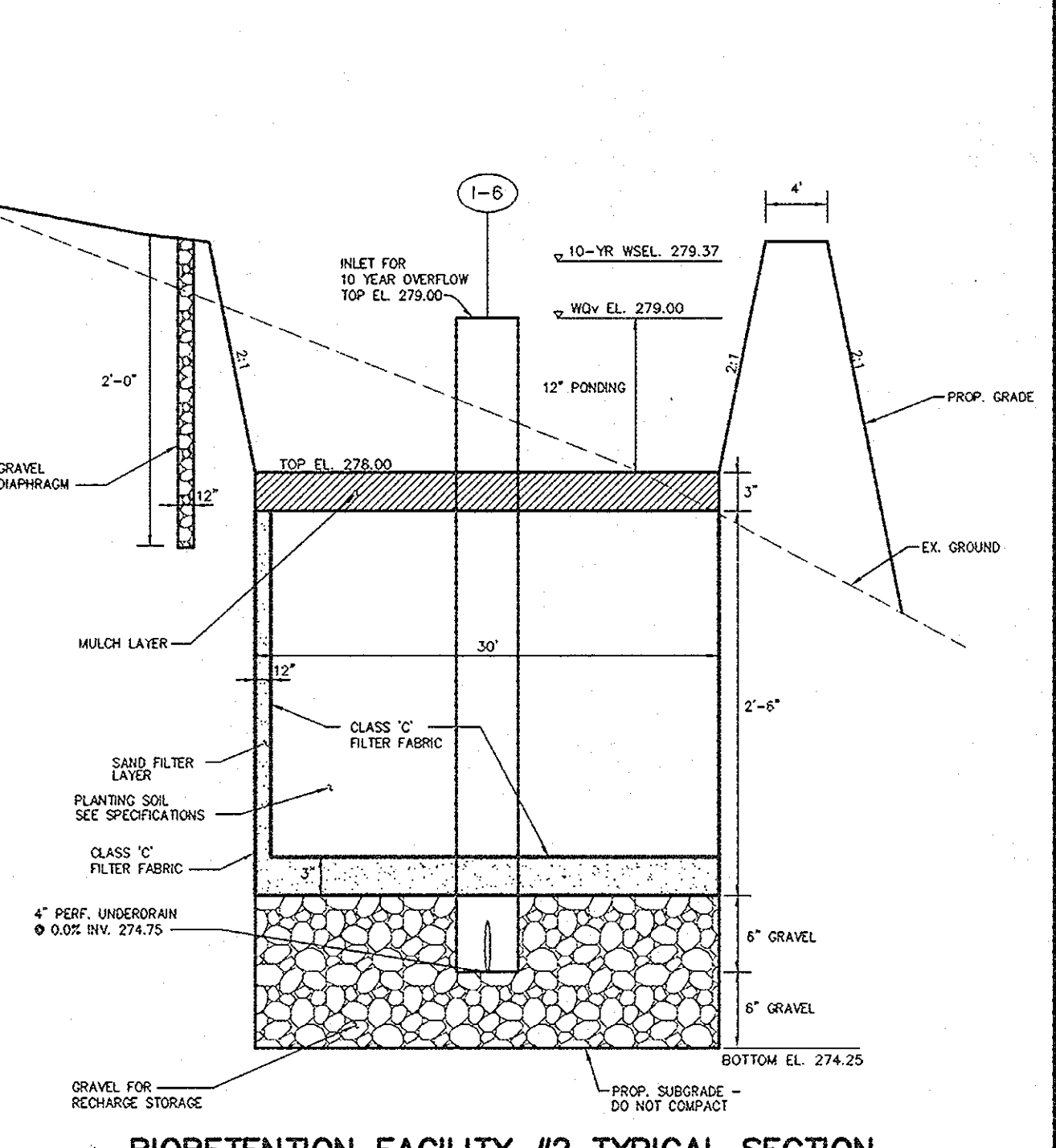
Table: Materials Specifications for Bioretention

MATERIAL	SPECIFICATIONS	SIZE	NOTES
PLANTINGS	SEE LANDSCAPE PLAN SHEET	N/A	
PLANTING SOIL (2.5' TO 4' DEEP)	SAND 35 - 60 % SILT 30 - 65 % CLAY 10 - 25 %	N/A	USDA SOIL TYPES LOAMY SAND, SANDY LOAM, OR LOAM
MULCH	SHREDDED HARDWOOD	N/A	AGED 6 MONTHS, MINIMUM
STONE DIAGRAM AND CURTAIN DRAIN	PEA GRAVEL: ASTM-D-448 ORNAMENTAL STONE: WASHED COBBLES	PEA GRAVEL: No. 6 STONE: 2" to 5"	
GEOTEXTILE	CLASSE "C" - APPARENT OPENING SIZE (ASTM-D-4751), GRAB TENSILE STRENGTH (ASTM-D-4832), PUNCTURE RESISTANCE (ASTM-D-4822)	N/A	FOR USE AS NECESSARY BENEATH UNDERDRAINS ONLY.
UNDERDRAIN GRAVEL	AASHTO M-43	0.375" to 0.75"	
UNDERDRAIN PIPE	F 758, TYPE PS 28 OR AASHTO M-278	4" TO 6" RIGID SCHEDULE 40 PVC OR SDR35	3/8" PERF. @ 6" O/C, 4 HOLES PER ROW
SAND	AASHTO M-6 or ASTM C-33	0.02" to 0.04"	SAND SUBSTITUTIONS SUCH AS DIABASE AND GRASTONE #10 ARE NOT ACCEPTABLE. NO CALCIUM CARBONATED OR DOLOMITIC SAND SUBSTITUTIONS ARE ACCEPTABLE. NO "ROCK DUST" CAN BE USED FOR SAND.



BIORETENTION FACILITY #1 TYPICAL SECTION

SCALE: HOR. 1"=10' VERT. 1"=1'



BIORETENTION FACILITY #2 TYPICAL SECTION

SCALE: HOR. 1"=10' VERT. 1"=1'

PIPE SCHEDULE

PIPE LENGTH	SIZE	TYPE
37	12"	ADS, N-12
194	15"	ADS, N-12
483	18"	ADS, N-12
245	24"	ADS, N-12
260	30"	ADS, N-12
27	30"	ASTM C-361
145	4" PERF.	PVC
15	4"	PVC

AS-BUILT CERTIFICATION
STATE OF MARYLAND
AMPEC REMINGTON #21923
1-09-06
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

WILLIAM J. WILSON, JR. 8-19-03
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

CHRIS HUNTER 7/26/03
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

CHRIS DUMAS 8/24/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE NO. REVISION

OWNER / DEVELOPER

MEADOWLARK, LLC
ATTN: MARK PRITCHETT
6375 HANOVER CROSSING WAY
HANOVER, MARYLAND 21076

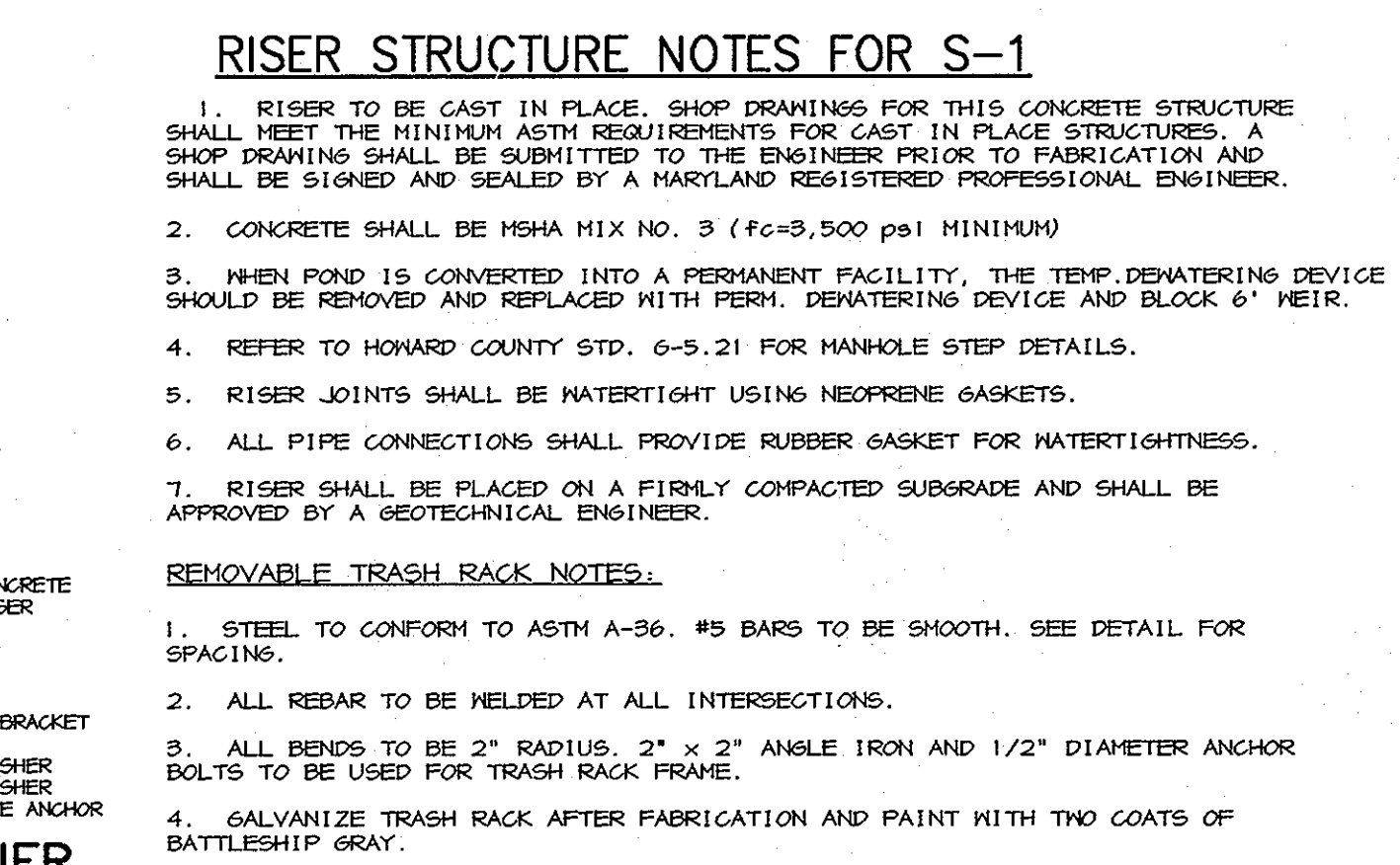
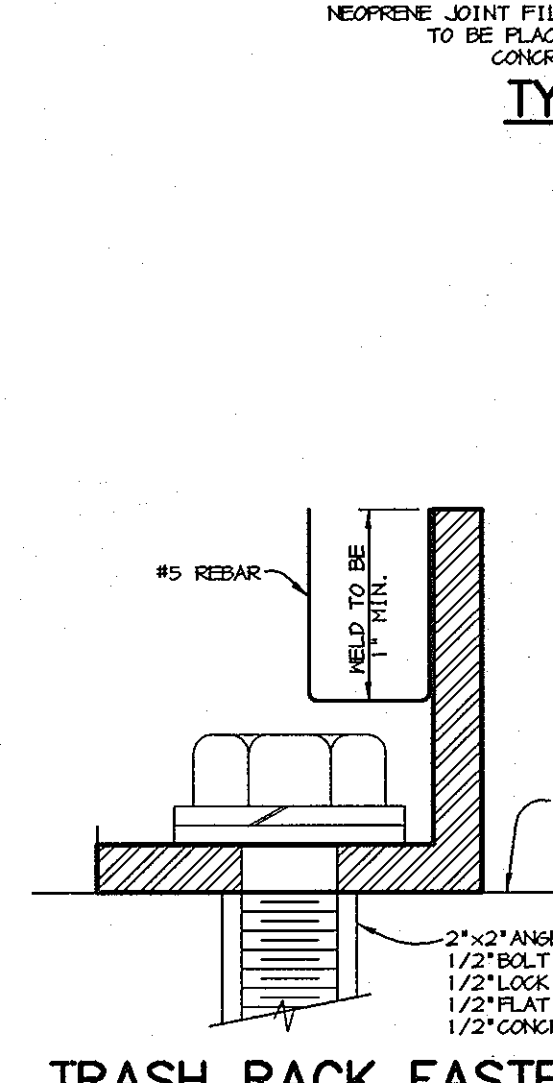
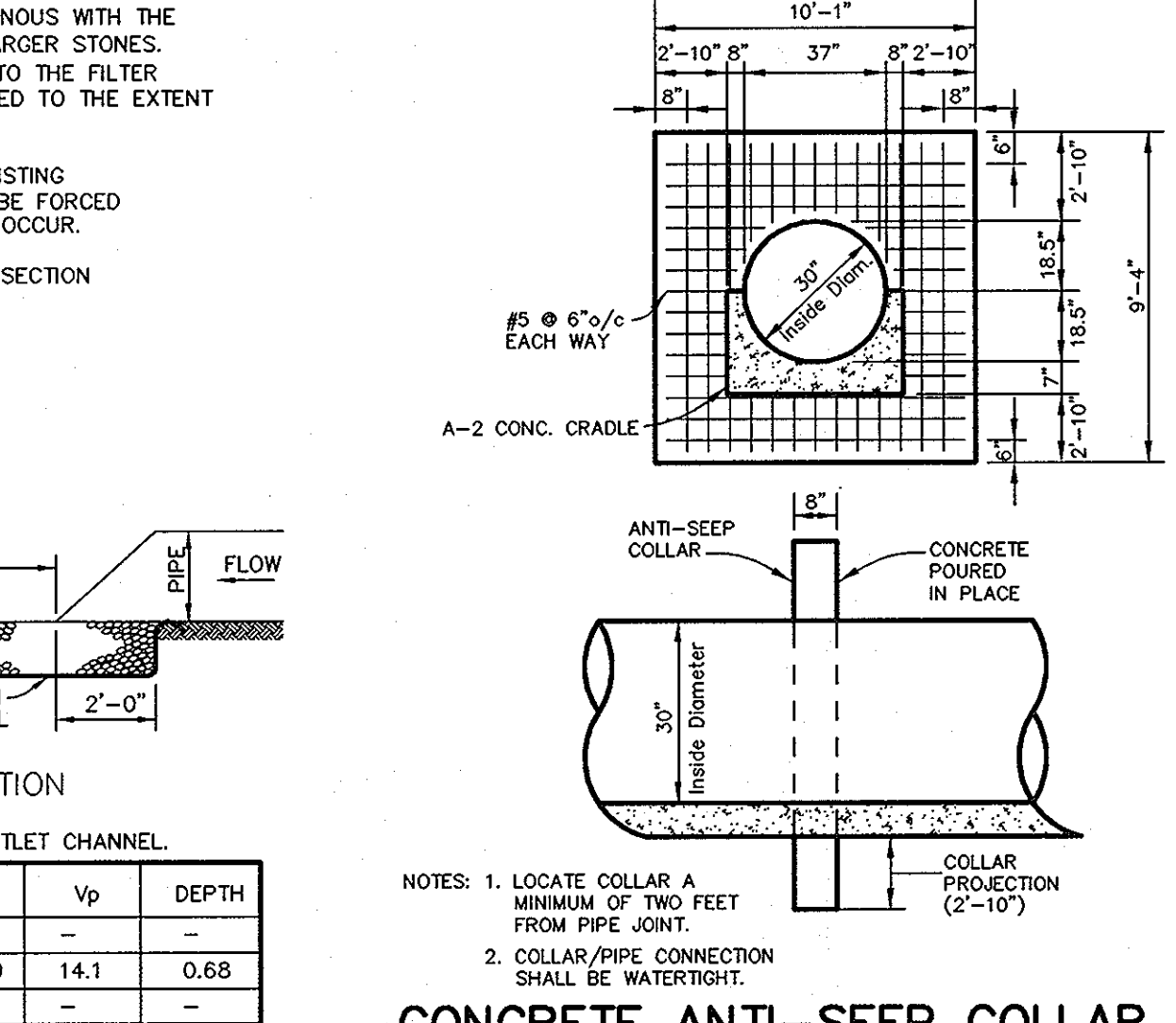
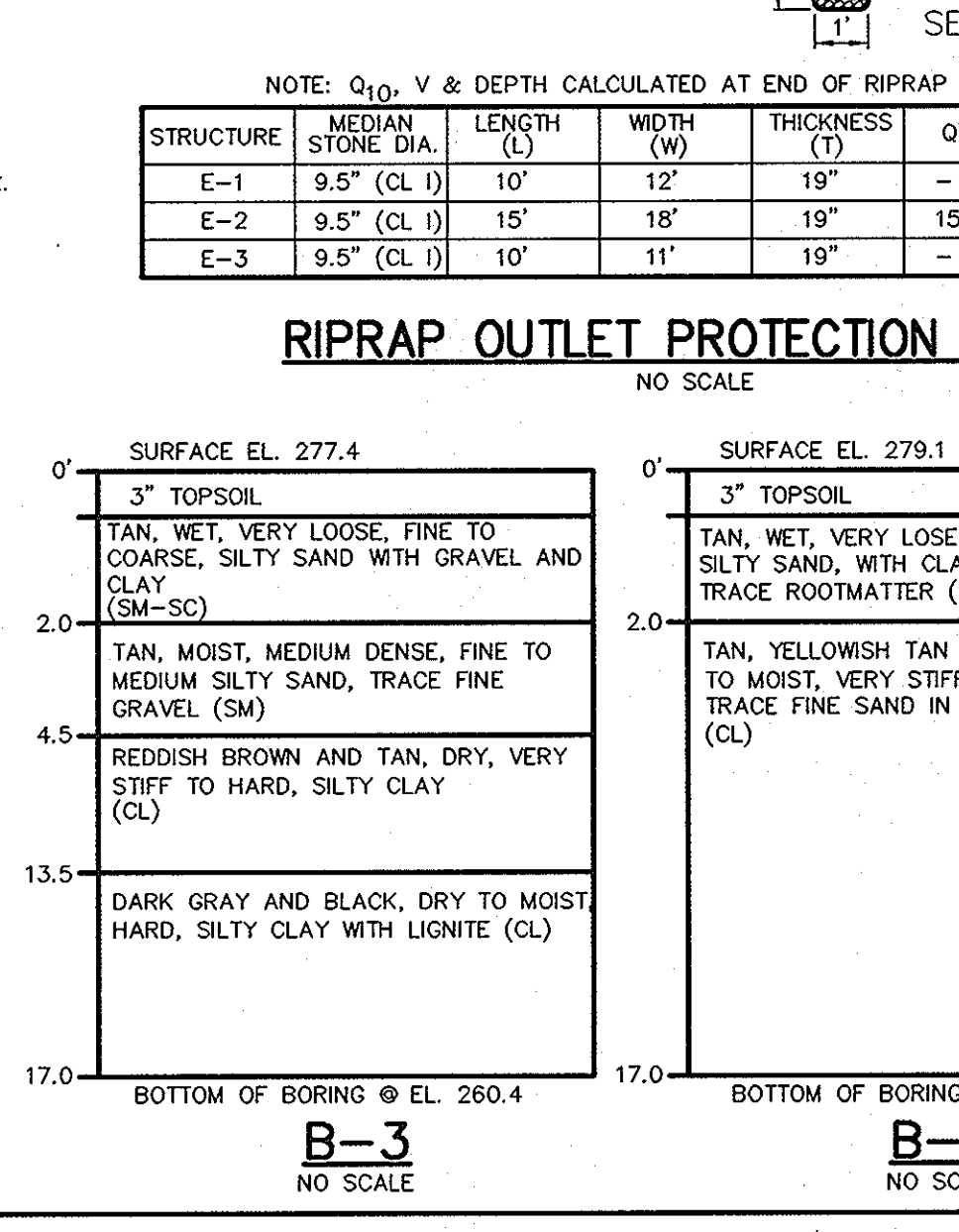
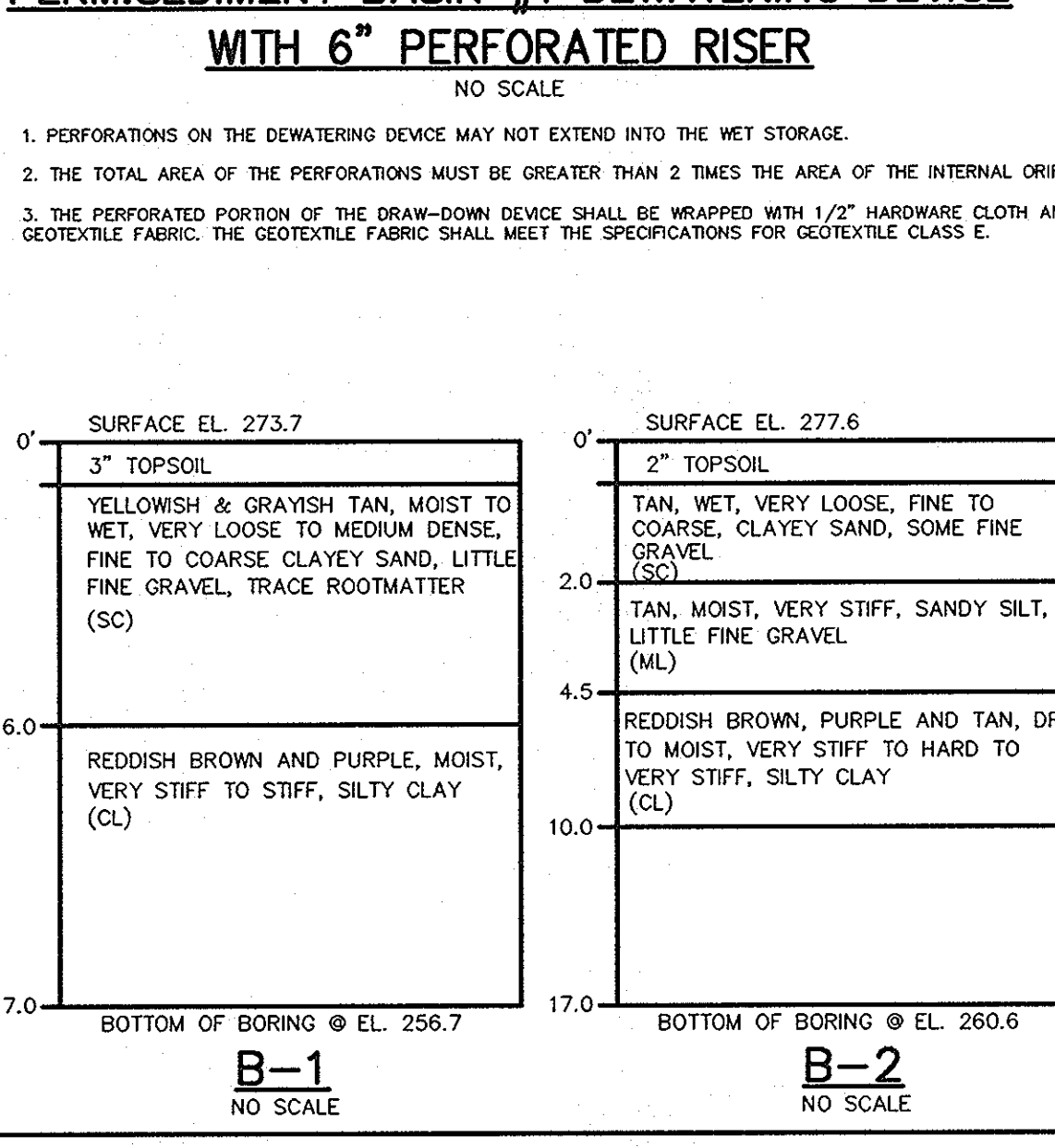
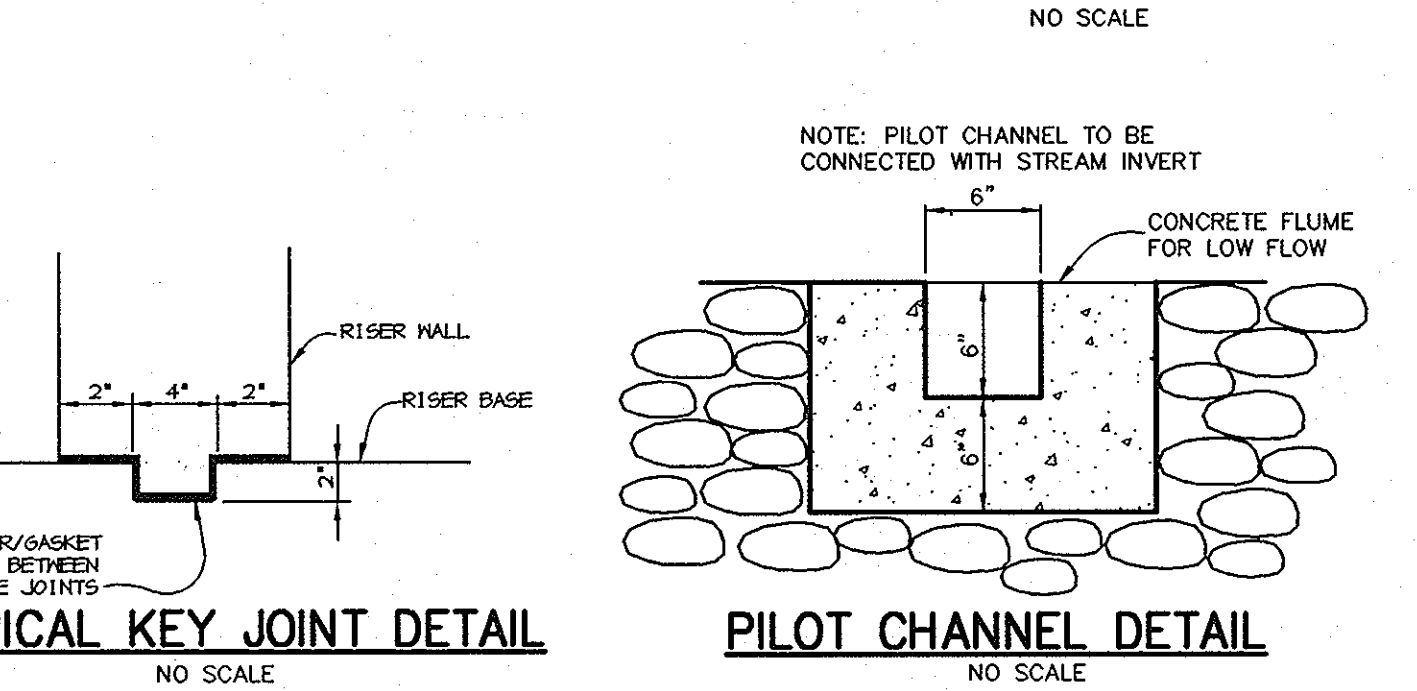
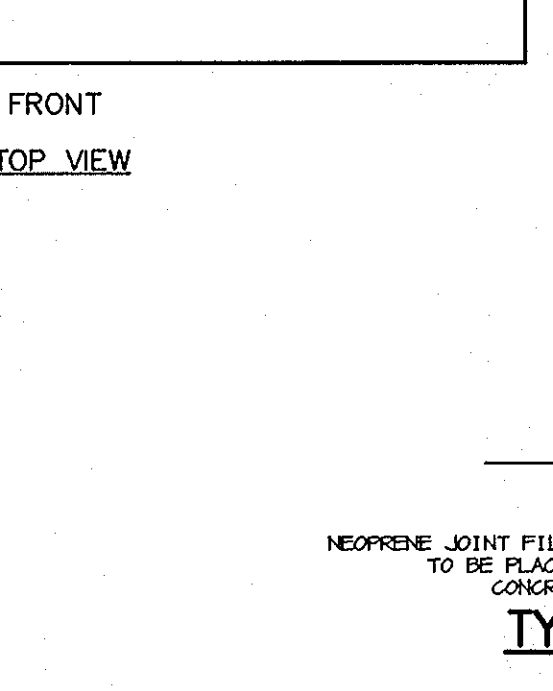
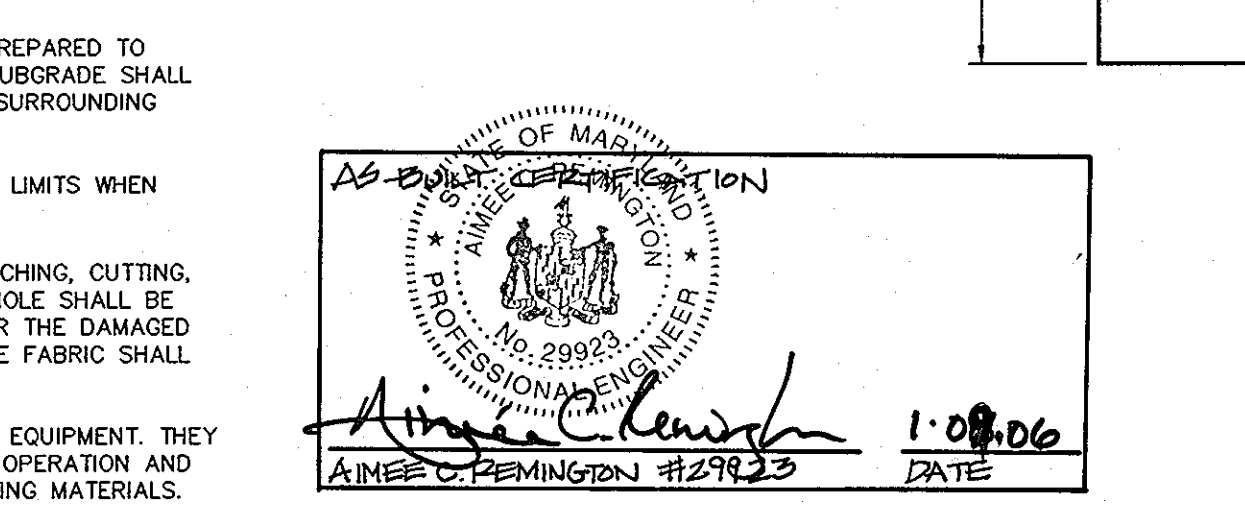
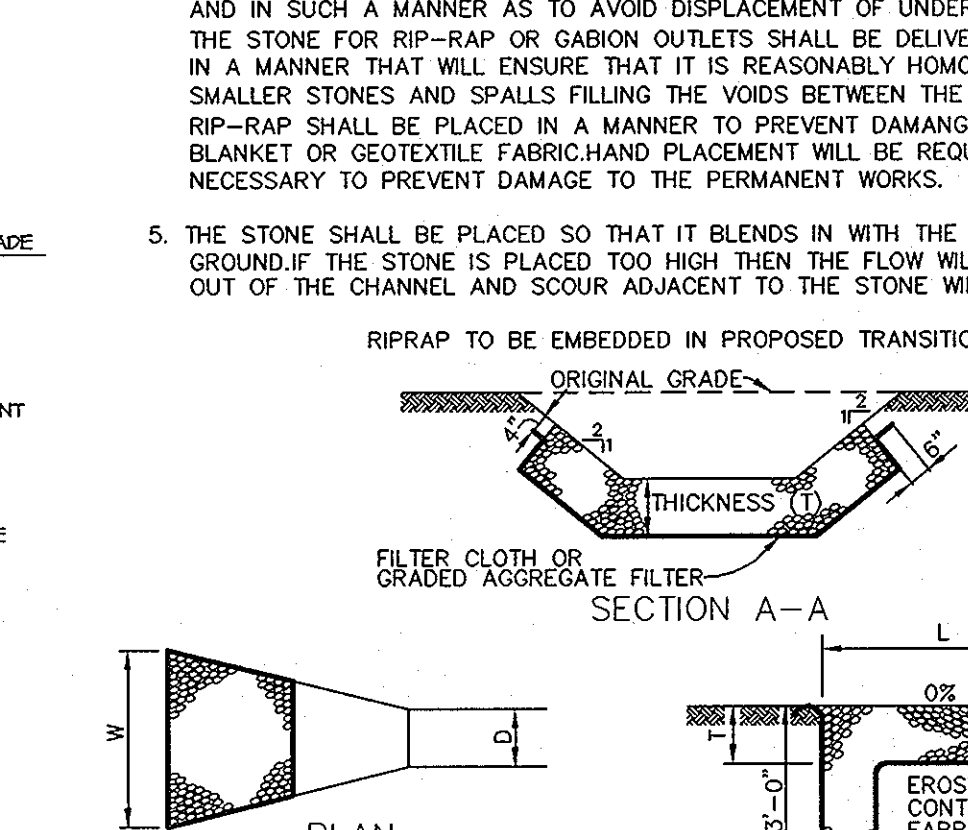
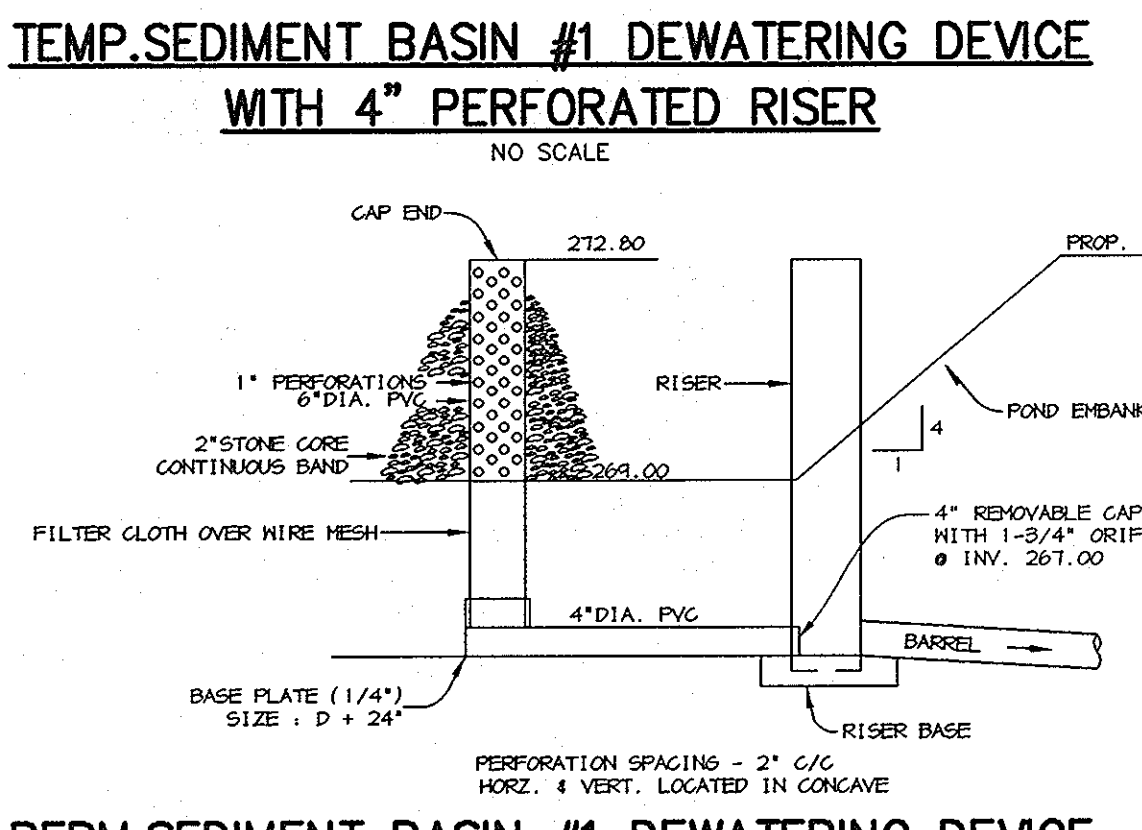
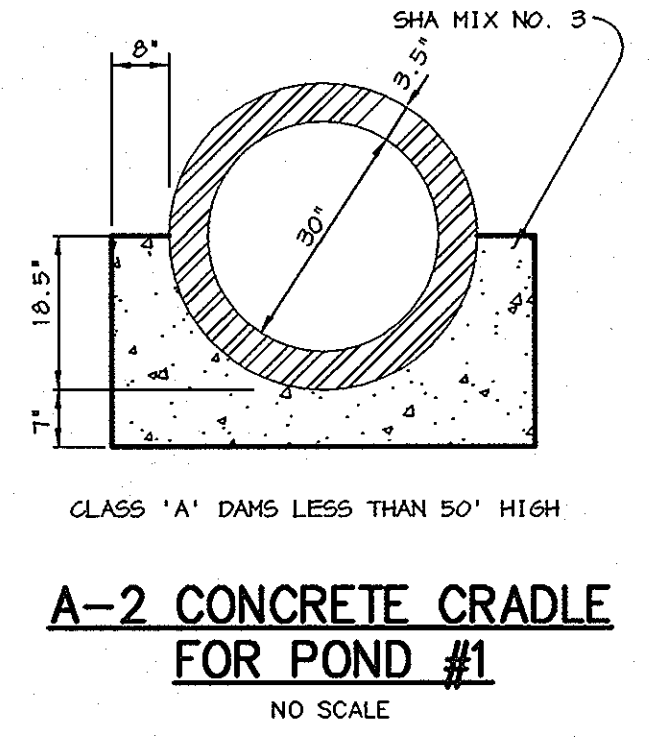
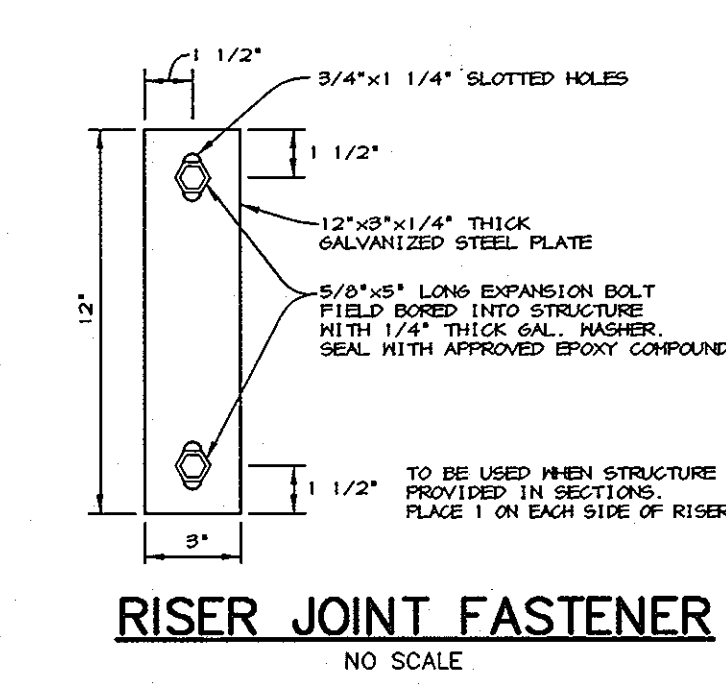
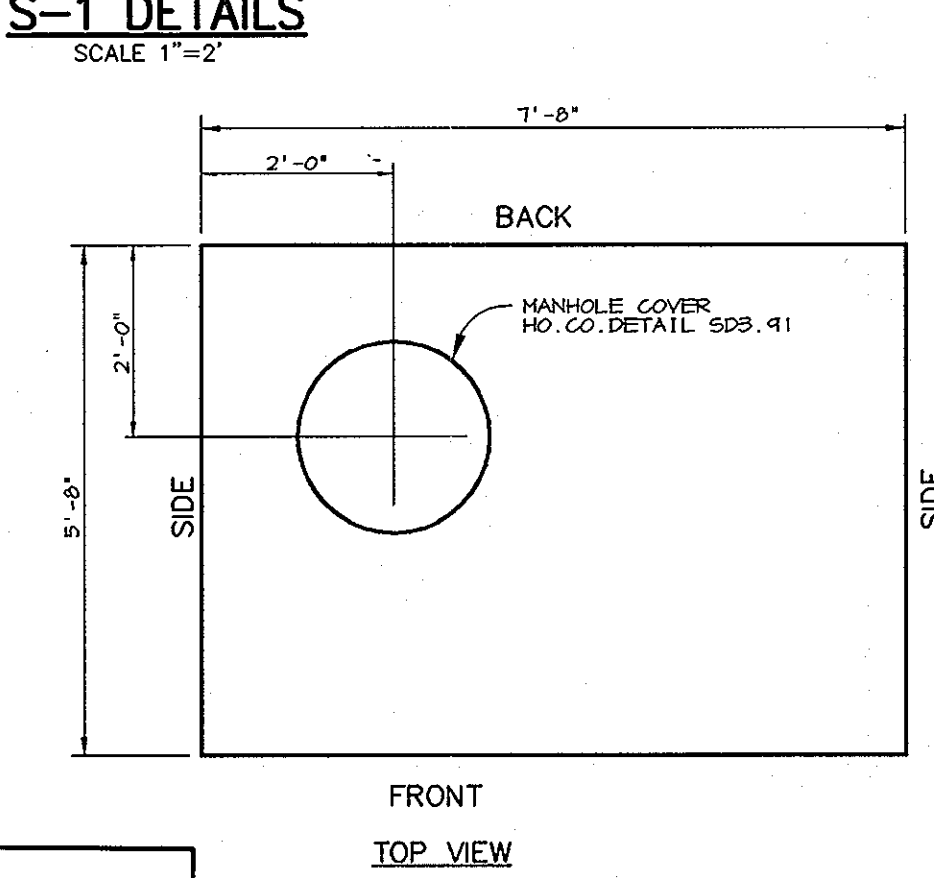
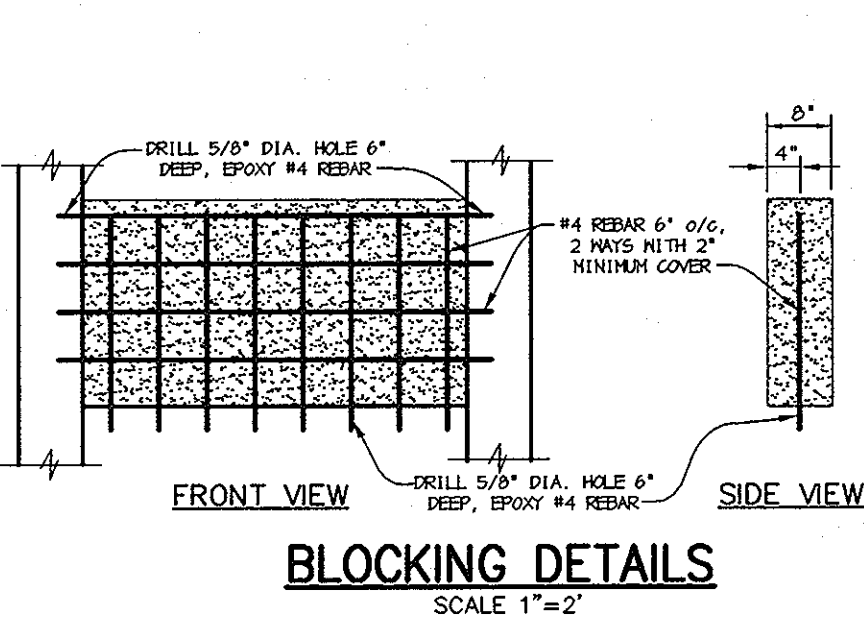
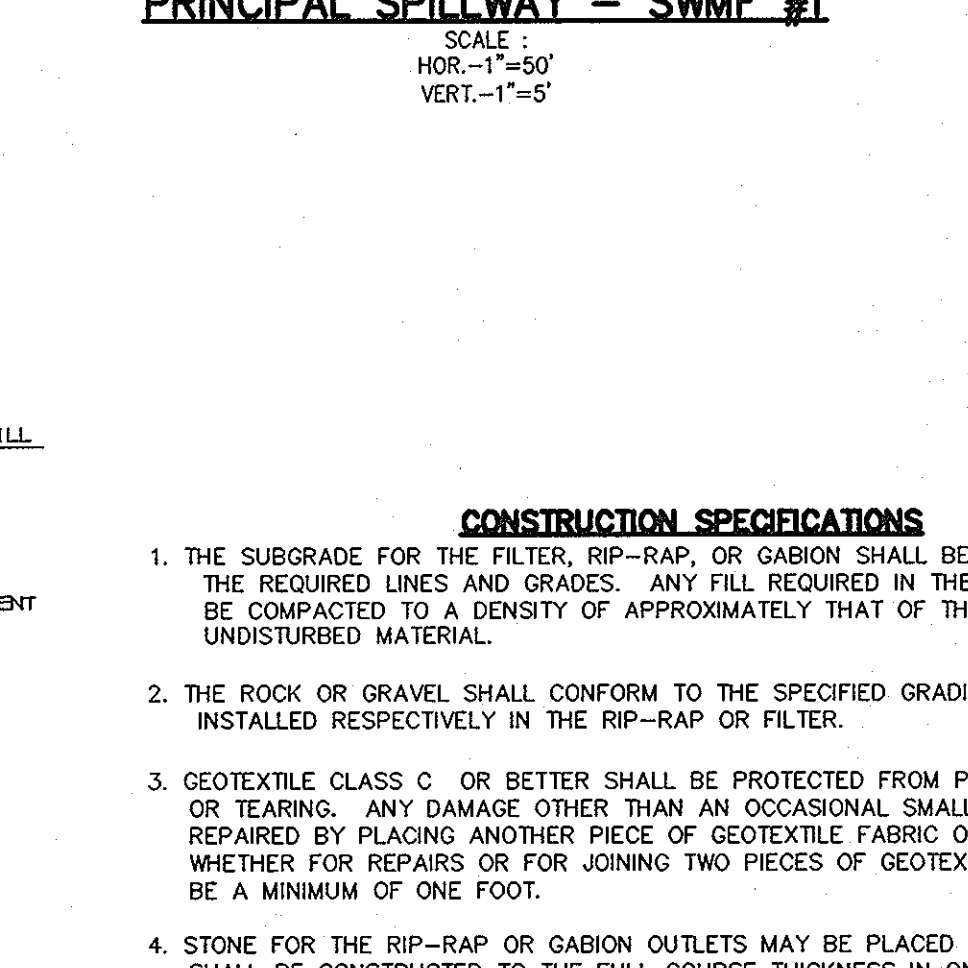
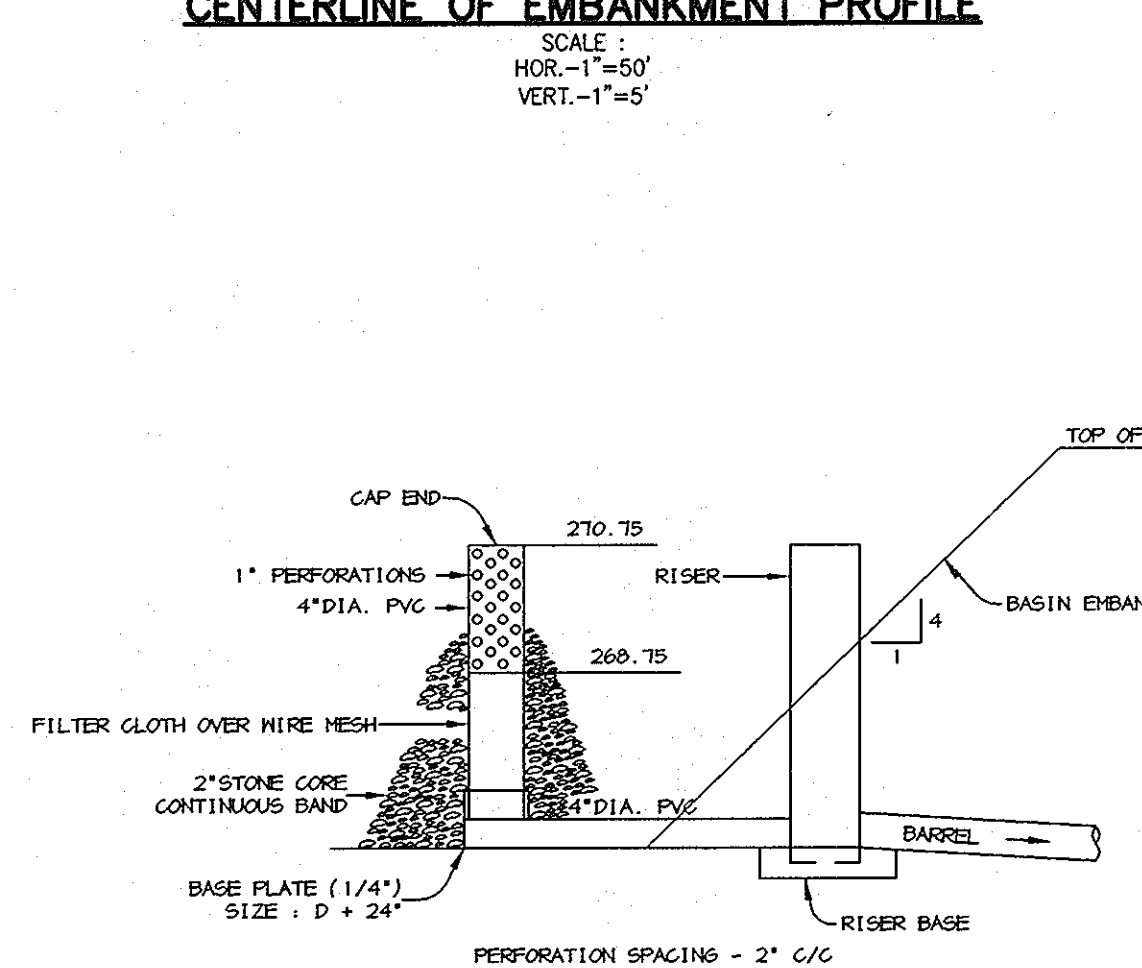
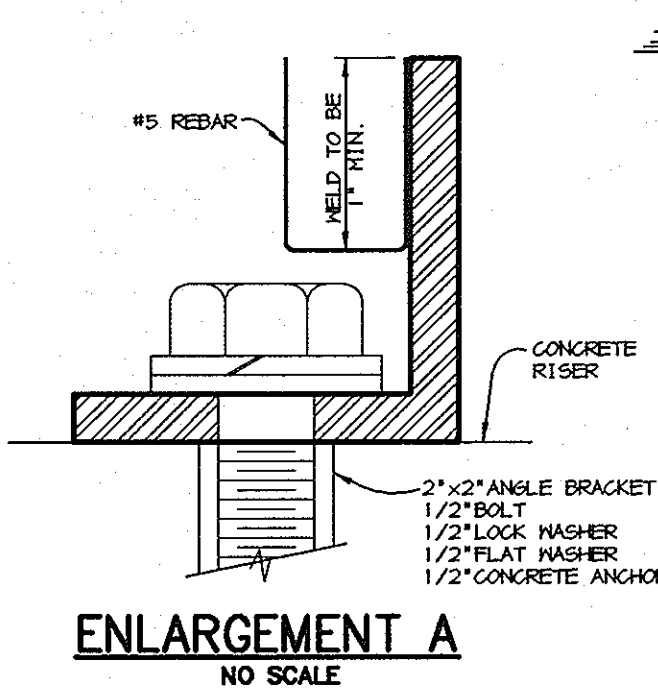
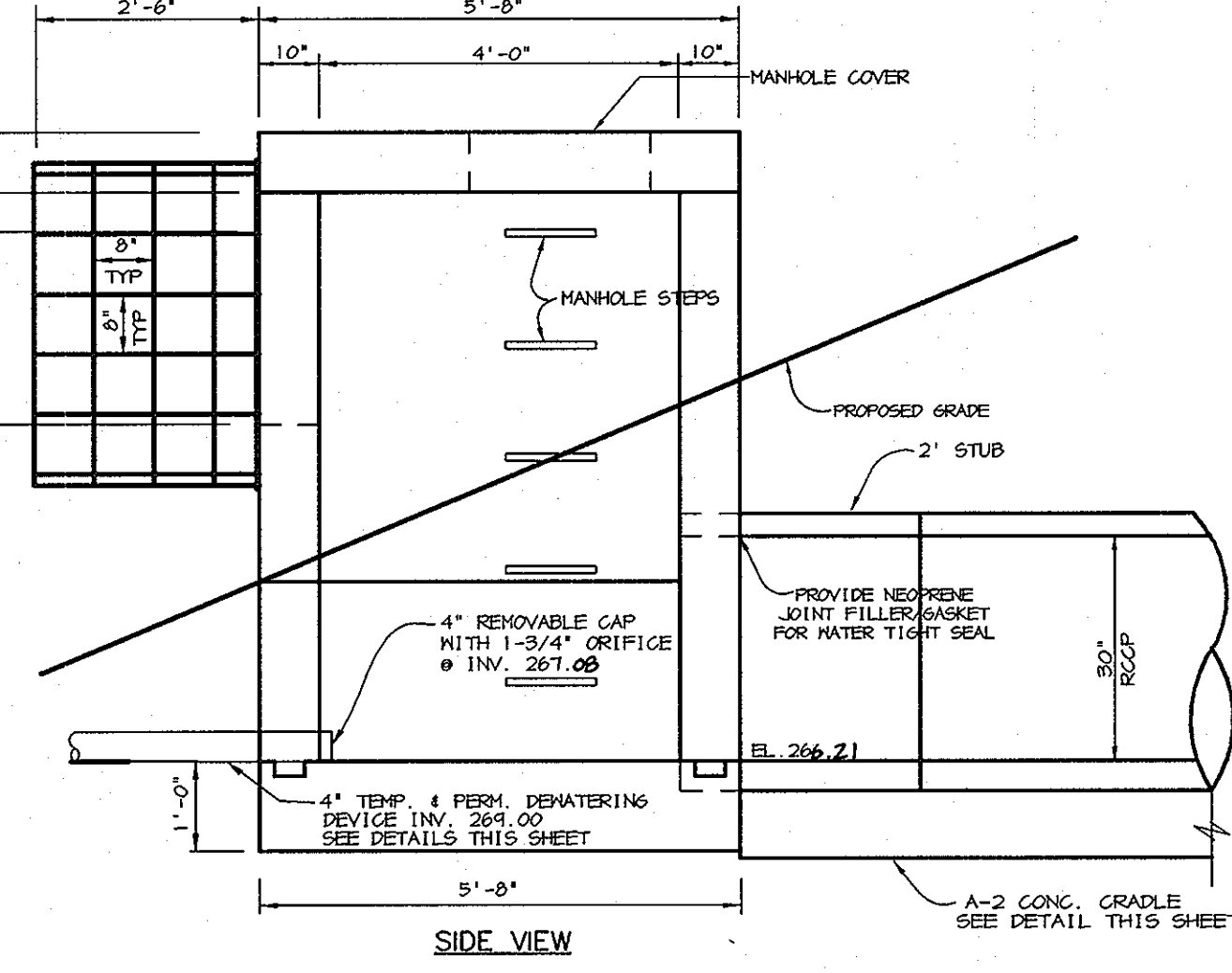
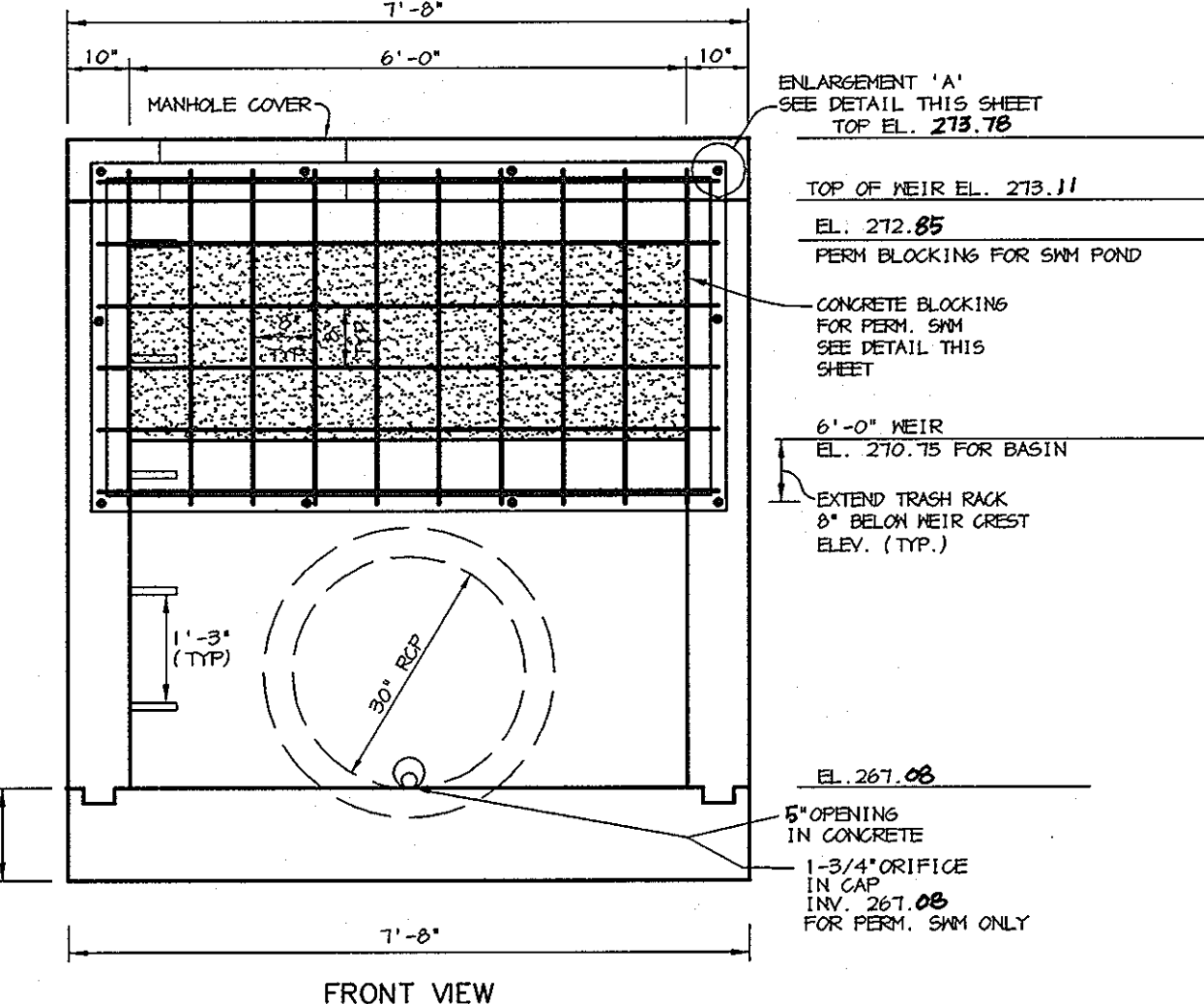
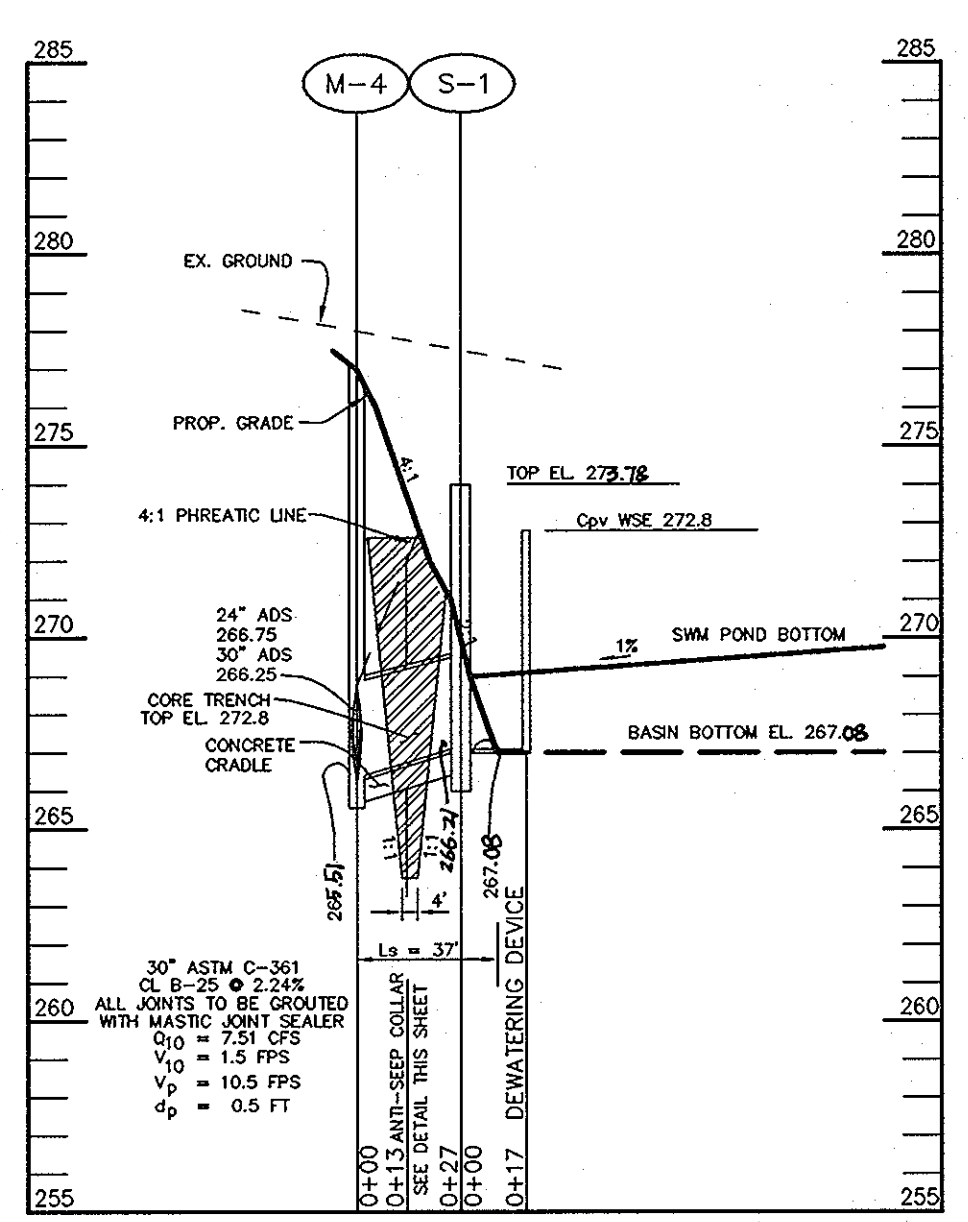
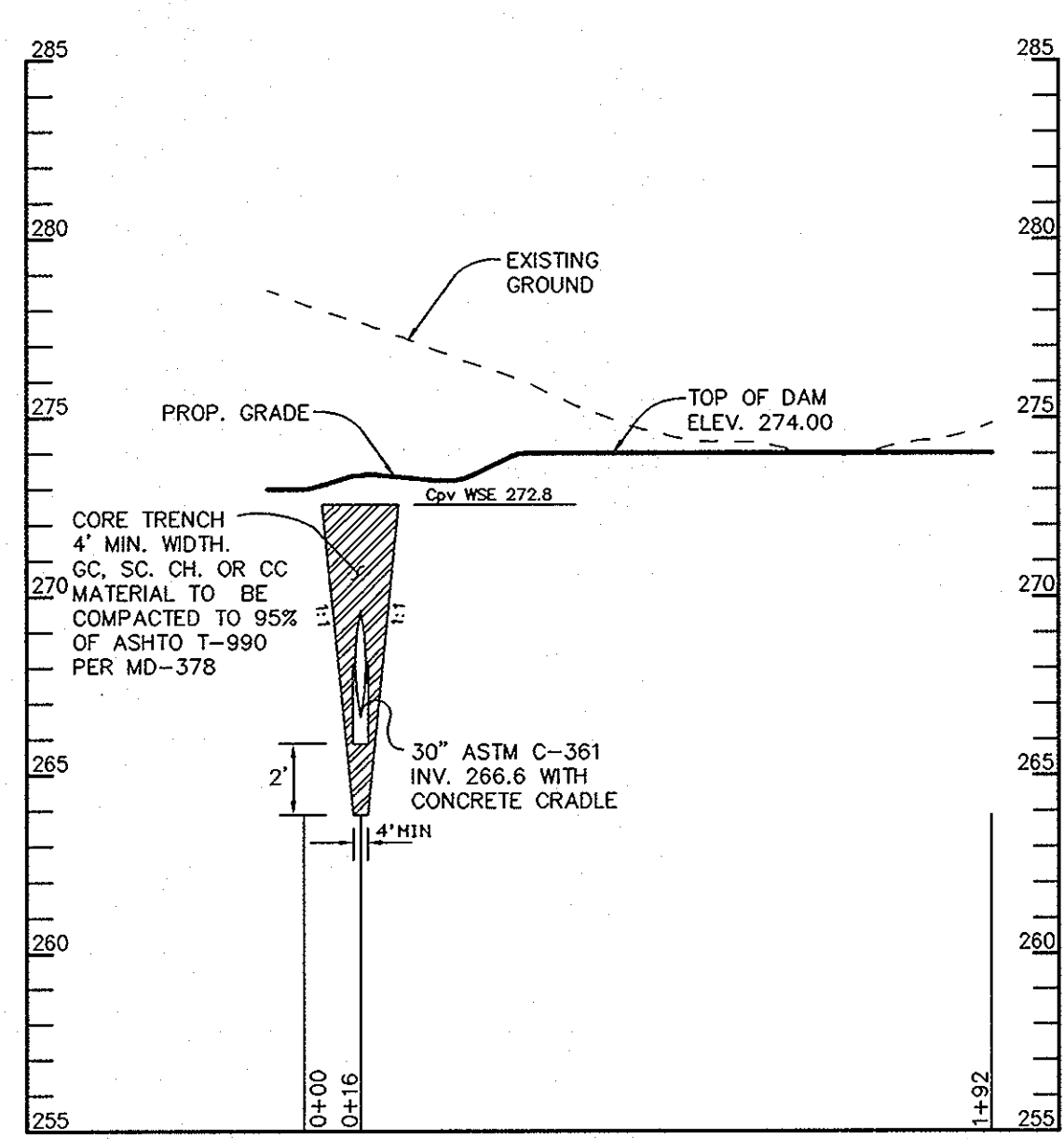
PROJECT **NORDAU SUBDIVISION**
LOTS 40-49, O.S. LOTS 50 & 51,
& NON-BUILDABLE BULK PARCEL A, SECTION G
A RESUBDIVISION OF LOTS 35-37 AND 39, SECTION G, NORDAU
AREA PARCEL 448 & 107 TAX MAP 42 GRID No. 24
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

DETAILS

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

7-20-03
DATE
DESIGNED BY: A.C.R.
DRAWN BY: MAD
CHECKED BY: C.J.R.
PROJECT NO: 01076/11-0/ENGR
PLANS/FINALS/C900DET
DATE: JULY 23, 2003
SCALE: AS SHOWN
DRAWING NO. 7 OF 15

CHRISTOPHER J. REID #19949
F-03-32



B-1	NO SCALE
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B-2	NO SCALE
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B-3	NO SCALE
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B-4	NO SCALE
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B-5	NO SCALE
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B-6	NO SCALE
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BY THE DEVELOPER :

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Mark A. Pritchett 7/23/03
DEVELOPER DATE

BY THE ENGINEER :

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Christopher J. Reid 7-23-03
ENGINEER DATE

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

JRN

NATURAL RESOURCES CONSERVATION SERVICE DATE

THE DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

JRN

HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
William J. ... 8-19-03
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
... 9/16/03
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

... 8/22/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

9-15-05 **REV. STRUCTURE + ELEV. PER POND AS-BUILT**
DATE NO. REVISION

OWNER / DEVELOPER
MEADOWLARK, LLC
ATTN: MARK PRITCHETT
6375 HANOVER CROSSING WAY
HANOVER, MARYLAND 21076

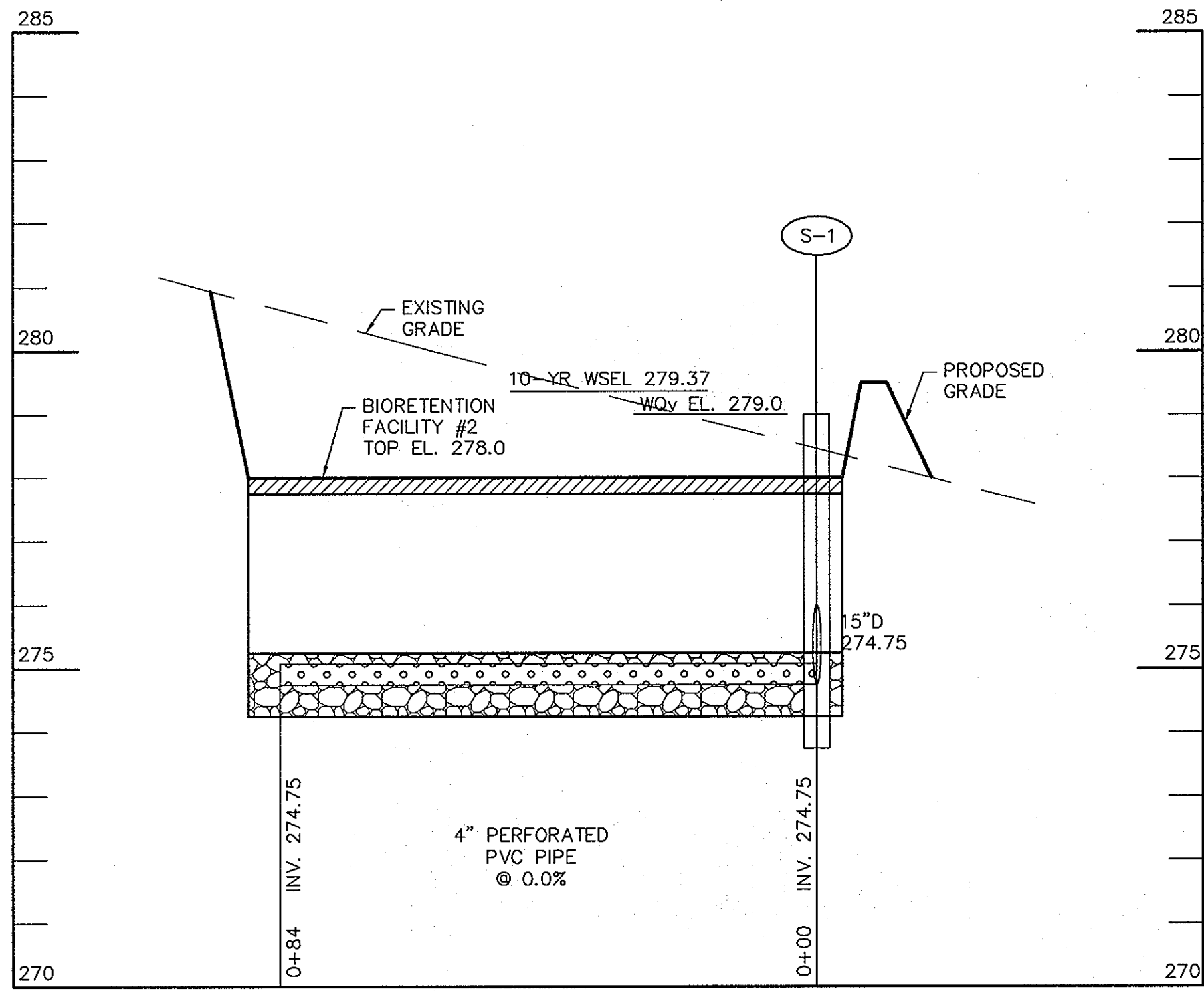
PROJECT **NORDAU SUBDIVISION**
LOTS 40-49, O.S. LOTS 50 & 51,
& NON-BUILDABLE BULK PARCEL A, SECTION G
A RESUBDIVISION OF LOTS 35-37 AND 39, SECTION G, NORDAU
AREA ZONED R-12
PARCEL 448 & 107 TAX MAP 42 GRID No. 24
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE **STORMWATER MANAGEMENT PROFILES AND DETAILS**

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
PHRA
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

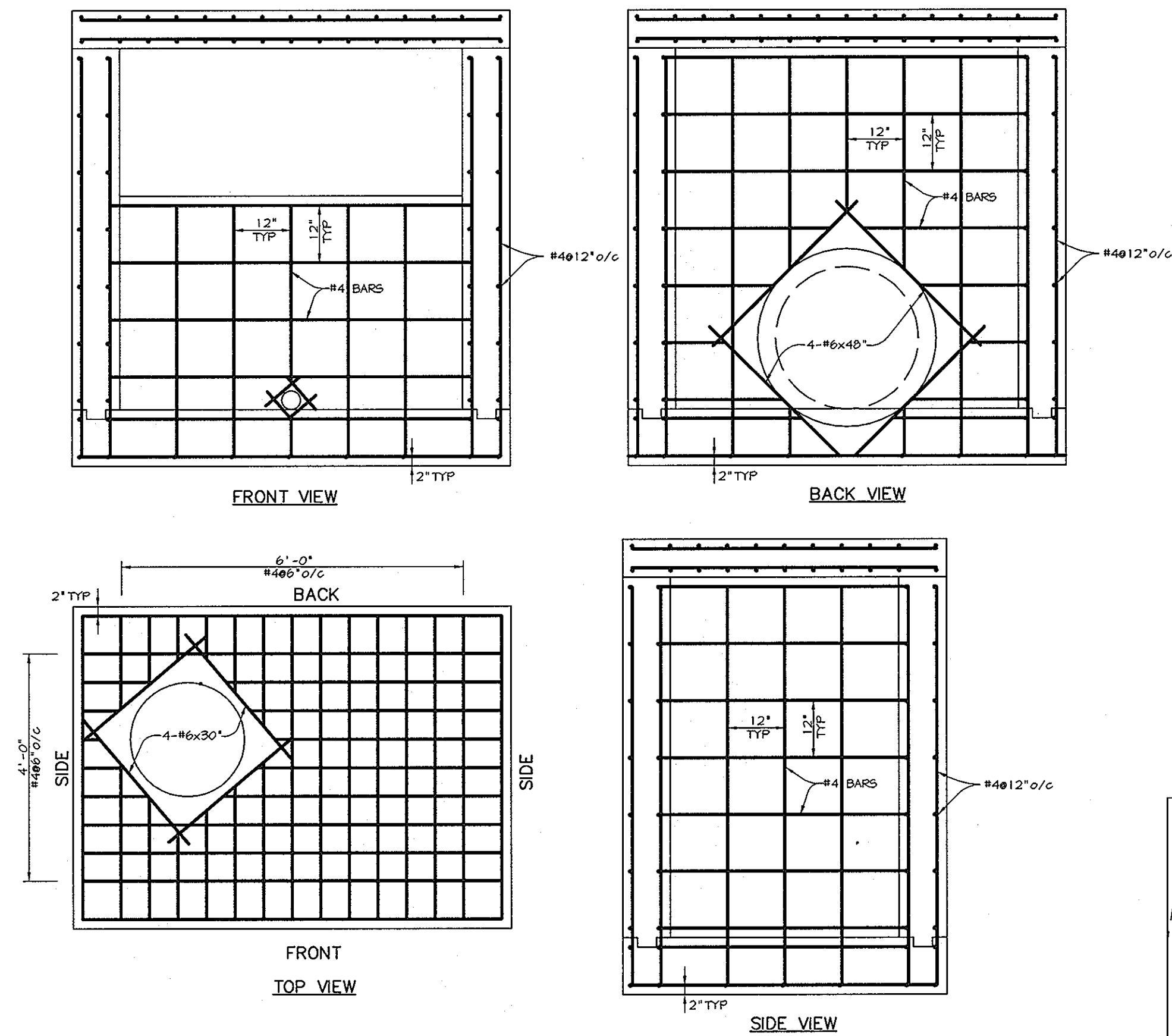
7-23-03 DATE
DESIGNED BY : A.C.R.
CHECKED BY : C.J.R.
PROJECT NO. 01076/11-0/ENGR
PLANS/FINALS/CS01SWM
DATE : JULY 23, 2003
SCALE : AS SHOWN
DRAWING NO. 8 OF 15
CHRISTOPHER J. REID #19949

F-03-32



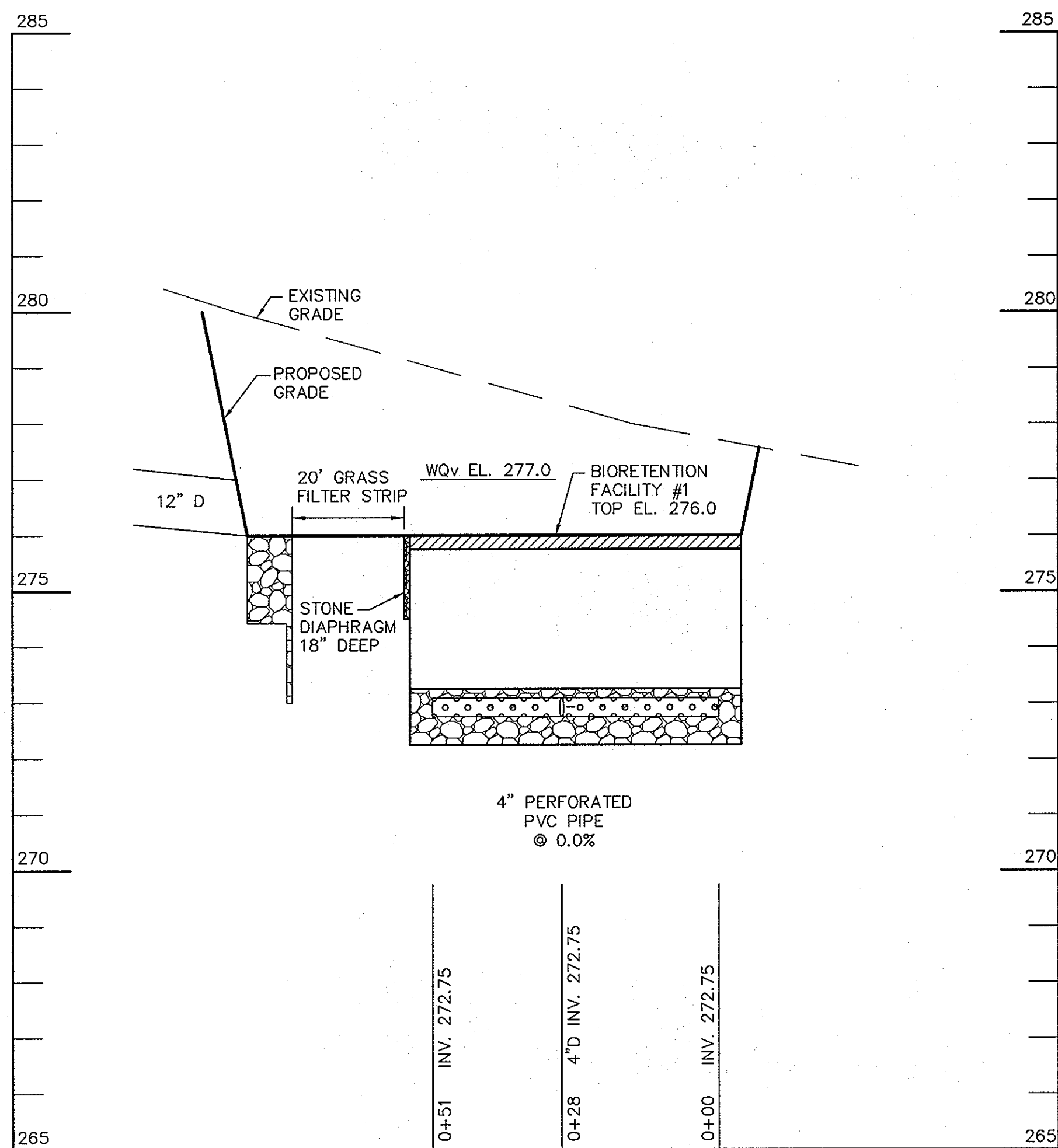
BIORETENTION #2 4" UNDERDRAIN PROFILE

SCALE:
HOR.-1"=20'
VERT.-1"=2'



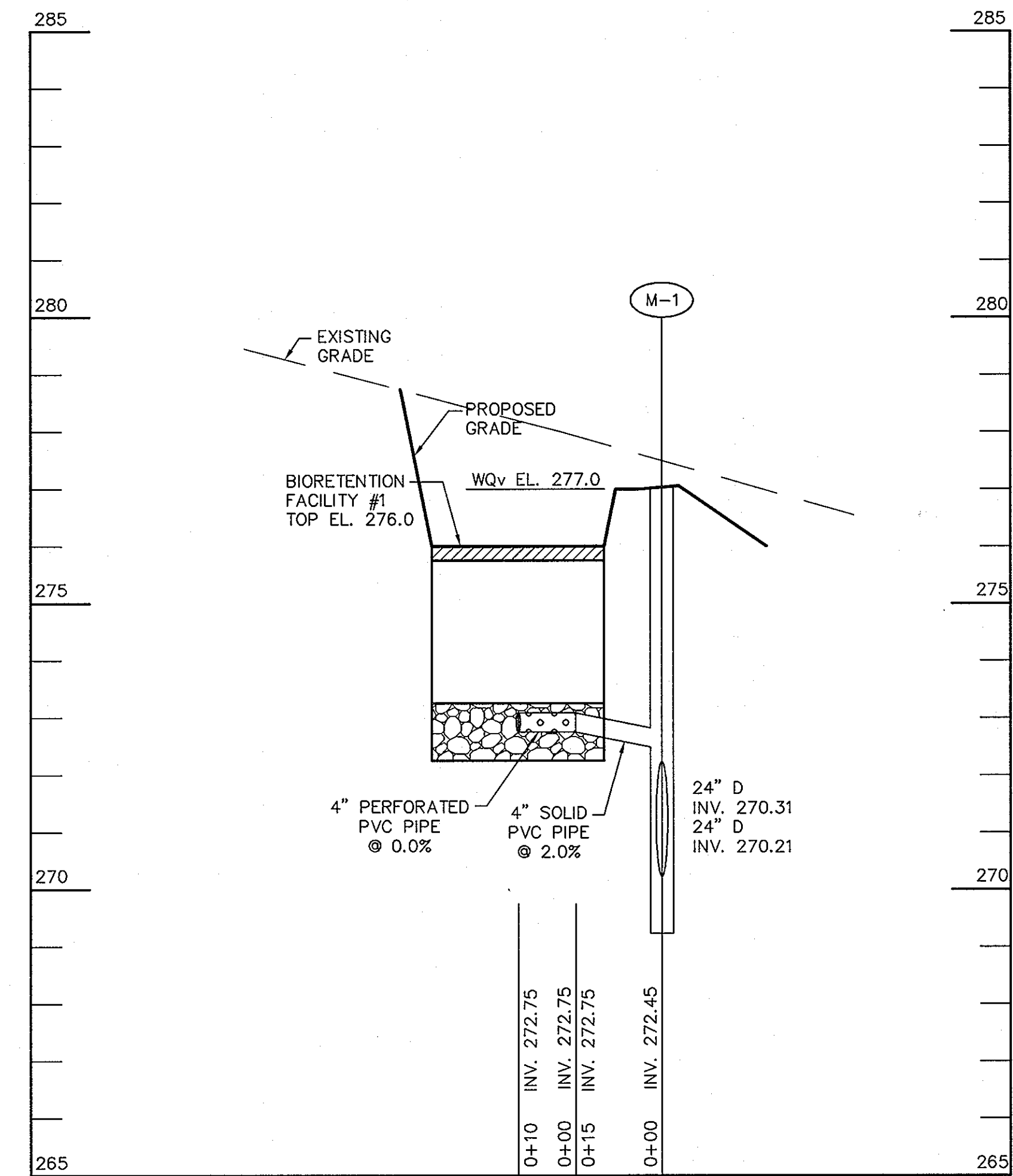
S-1 REINFORCEMENT DETAILS

SCALE 1"=2'



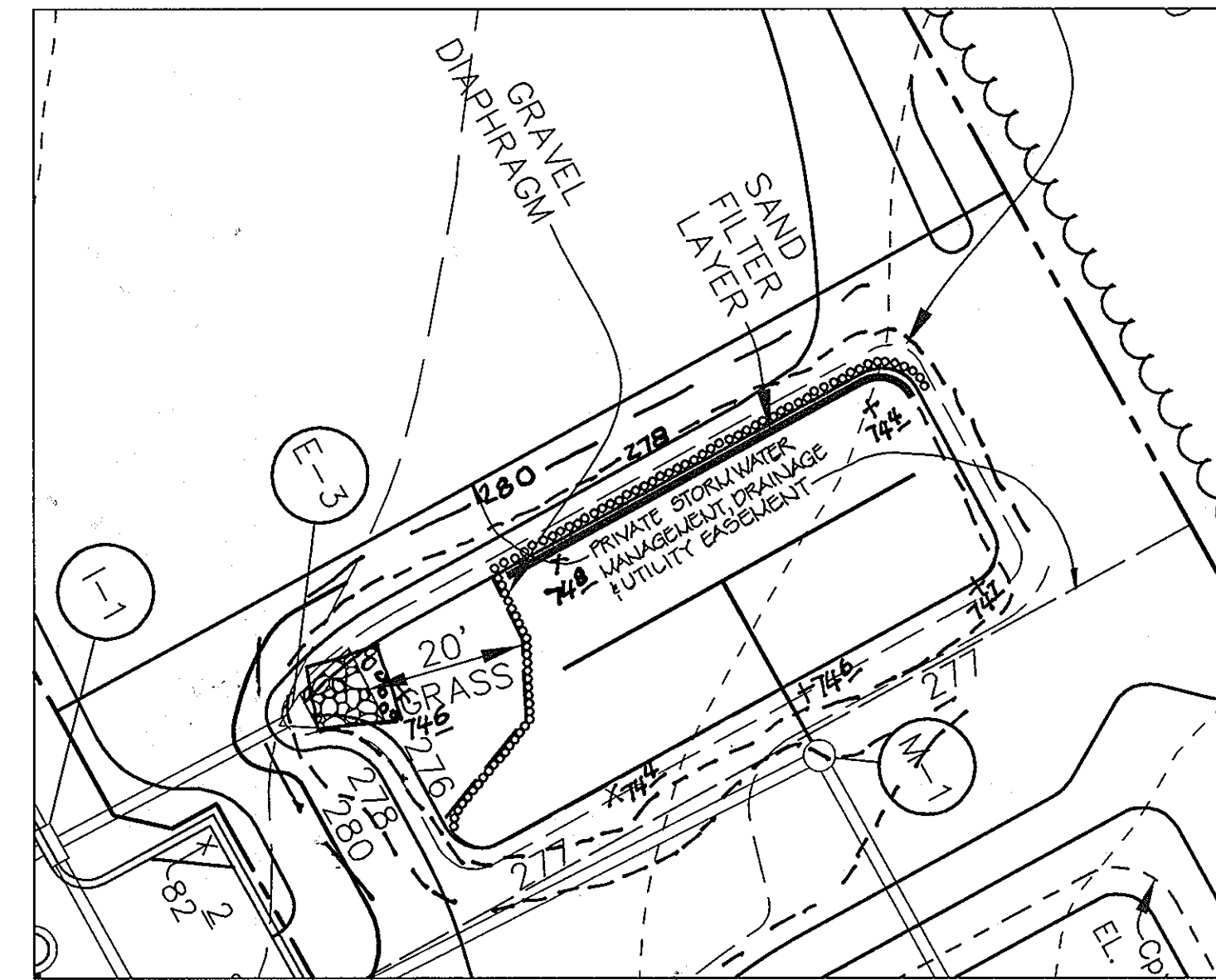
BIORETENTION #2 4" UNDERDRAIN PROFILE

SCALE:
HOR.-1"=20'
VERT.-1"=2'



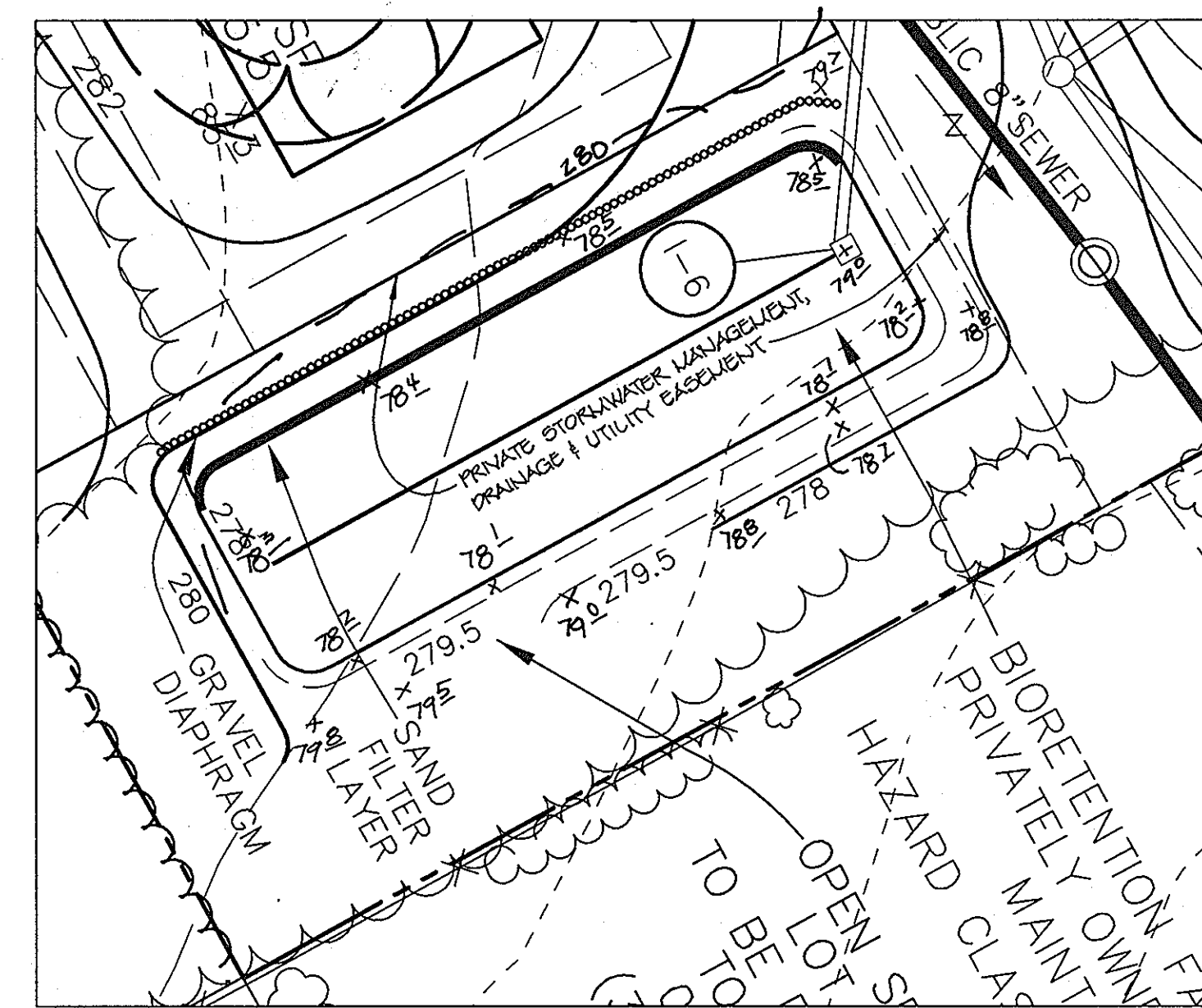
BIORETENTION #2 4" UNDERDRAIN PROFILE

SCALE:
HOR.-1"=20'
VERT.-1"=2'



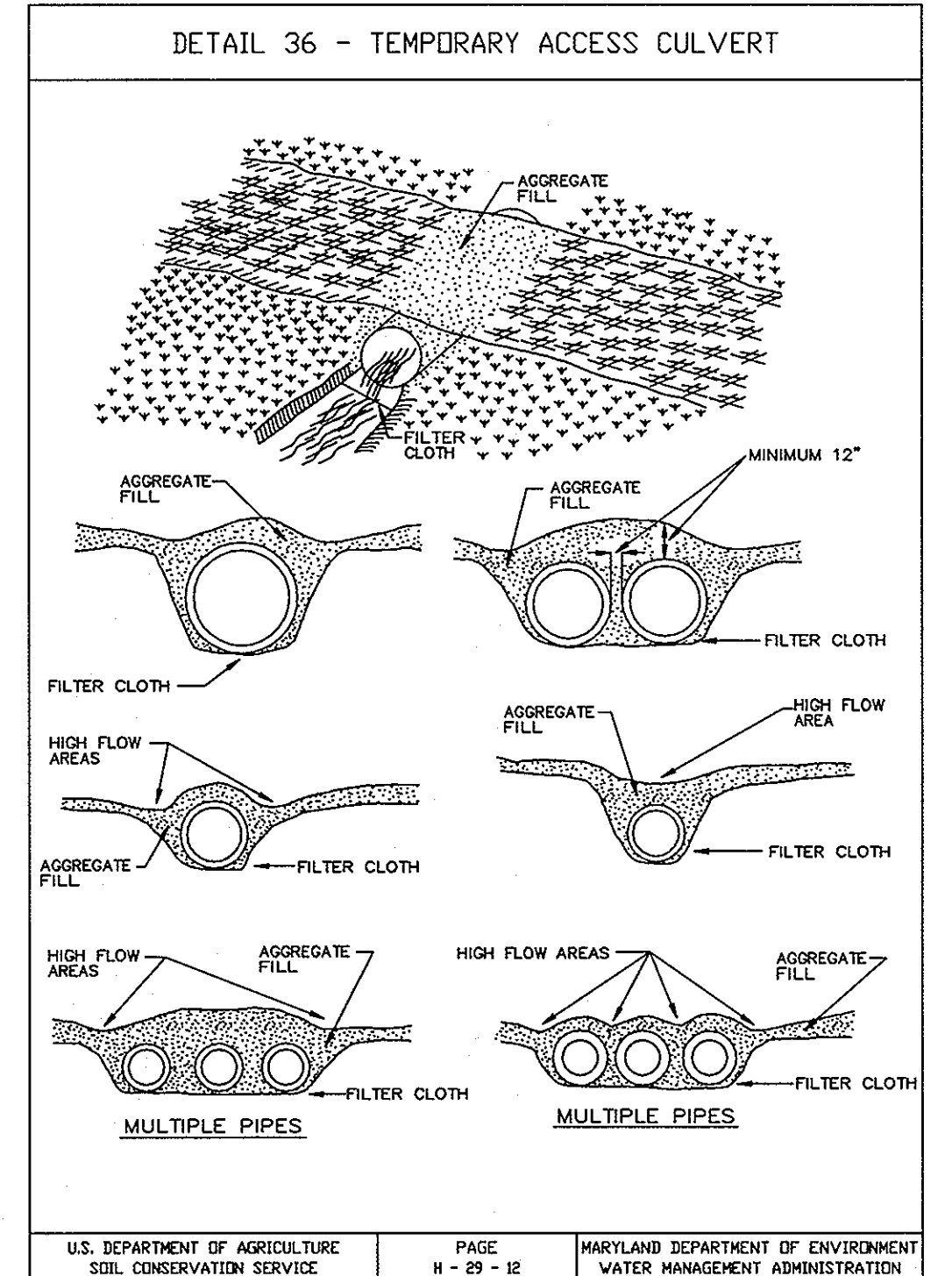
BIORETENTION FACILITY #1

SCALE 1"=20'



BIORETENTION FACILITY #2

SCALE 1"=20'



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 4 - 29 - 12 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

AS BUILT CERTIFICATION
STATE OF MARYLAND
AMIEE C. REMINGTON #29923
DATE 1-09-06

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

William F. ... 2-19-03
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Andy ... 9/10/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chris ... 01/23/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE NO. REVISION

OWNER / DEVELOPER

MEADOWLARK, LLC
ATTN: MARK PRITCHETT
6375 HANOVER CROSSING WAY
HANOVER, MARYLAND 21076

PROJECT **NORDAU SUBDIVISION**
LOTS 40-49, O.S. LOTS 50 & 51,
& NON-BUILDABLE BULK PARCEL A, SECTION G
A RESUBDIVISION OF LOTS 35-37 AND 39, SECTION G, NORDAU
AREA PARCEL 448 & 107 TAX MAP 42 GRID No. 24
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE **STORMWATER MANAGEMENT PROFILES AND DETAILS**

Patton Harris Rust & Associates, pc
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

DESIGNED BY: A.C.R.

DRAWN BY: MAD

CHECKED BY: C.J.R.

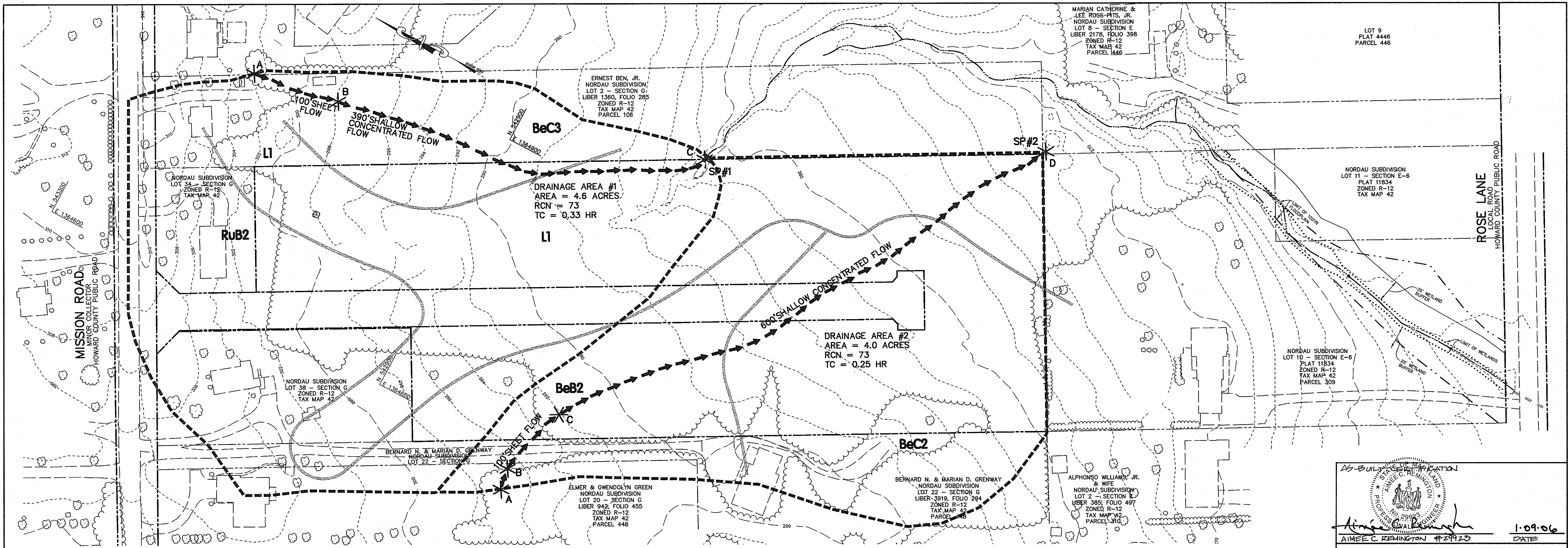
PROJECT NO. 01076/1-0/ENGR PLANS/FINALS/CS025WM

DATE: JULY 23, 2003

SCALE: AS SHOWN

DRAWING NO. 9 OF 15

CHRISTOPHER J. REID #19949



LEGEND

- DRAINAGE DIVIDES
- TIME OF CONCENTRATION FLOW PATH
- SOILS LINE

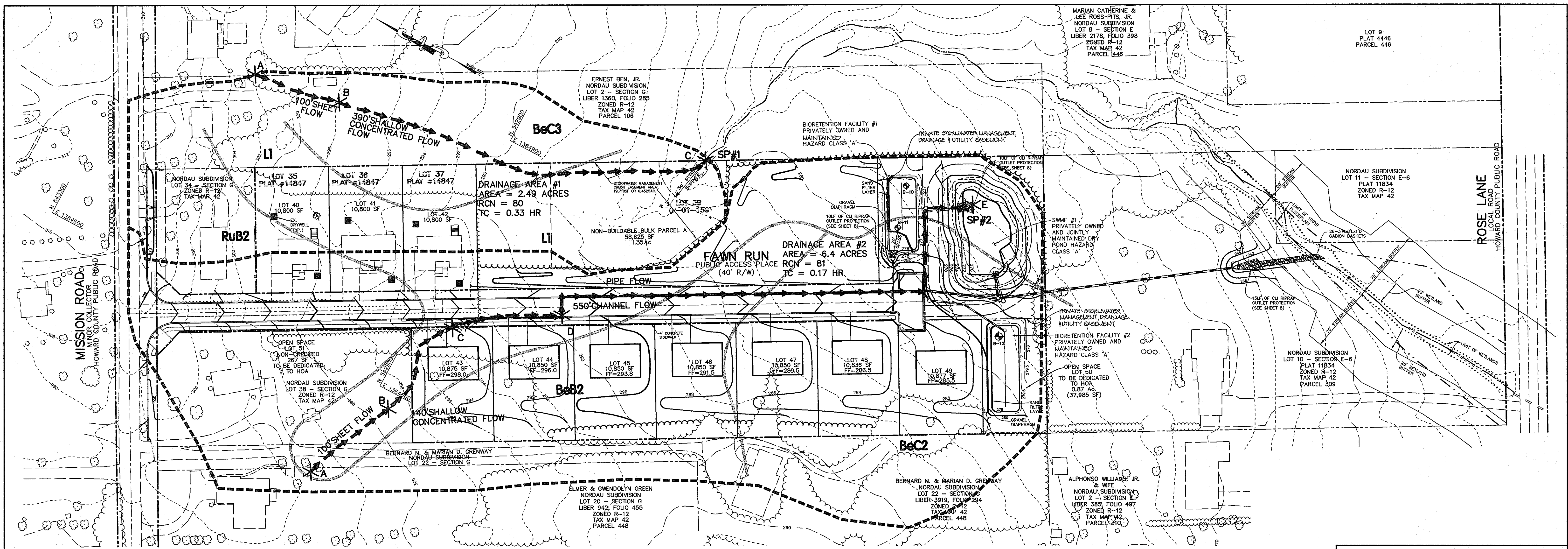
PLAN
SCALE: 1" = 50'

SOIL CLASSIFICATION

- BeB2 - BELTSVILLE SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED - 'C' SOILS
- BeC2 - BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED - 'C' SOILS
- BeC3 - BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED - 'C' SOILS
- LI - LEONARDTOWNE SILT LOAM - 'D' SOILS
- RuB2 - RUMFORD LOAMY SAND, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED - 'B' SOILS

AIMEE C. REMINGTON #29925 APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.	1-09-06 DATE
CHIEF, BUREAU OF HIGHWAYS	8-19-03 DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
CHIEF, DIVISION OF LAND DEVELOPMENT	9/26/03 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	0/23/03 DATE
9/18/06 REVISE STREAM DELINEATION AND BUFFER DATE NO. REVISION	
OWNER / DEVELOPER MEADOWLARK, LLC ATTN: MARK PRITCHETT 6375 HANOVER CROSSING WAY HANOVER, MARYLAND 21076	
PROJECT NORDAU SUBDIVISION LOTS 40-49, O.S. LOTS 50 & 51, & NON-BUILDABLE BULK PARCEL A, SECTION G A RESUBDIVISION OF LOTS 35-37 AND 39, SECTION G, NORDAU AREA ZONED R-12 PARCEL 448 & 107 TAX MAP 42 GRID No. 24 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE SWM DRAINAGE AREA MAP EXISTING CONDITIONS	
Patton Harris Rust & Associates, pc Engineers, Surveyors, Planners, Landscape Architects. 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9282	
7-23-03 DATE	DESIGNED BY: A.C.R.
DRAWN BY: MAD	
CHECKED BY: C.J.R.	
PROJECT NO. 01076/1-0/ENGR PLANS/FINALS/EXDA	
DATE: JULY 23, 2003	
SCALE: AS SHOWN	
DRAWING NO. 10 OF 15	
CHRISTOPHER J. REID #19949	

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PLAN
SCALE: 1" = 50'

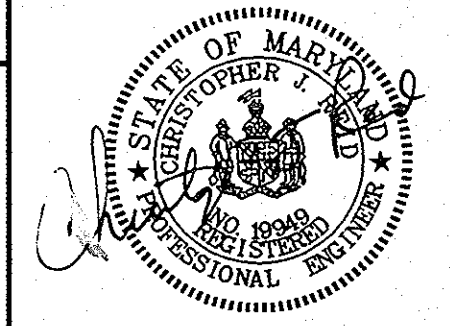
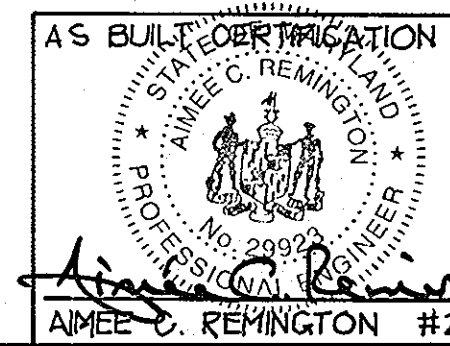
LEGEND

- DRAINAGE DIVIDES
- TIME OF CONCENTRATION FLOW PATH
- SOILS LINE

SOIL CLASSIFICATION

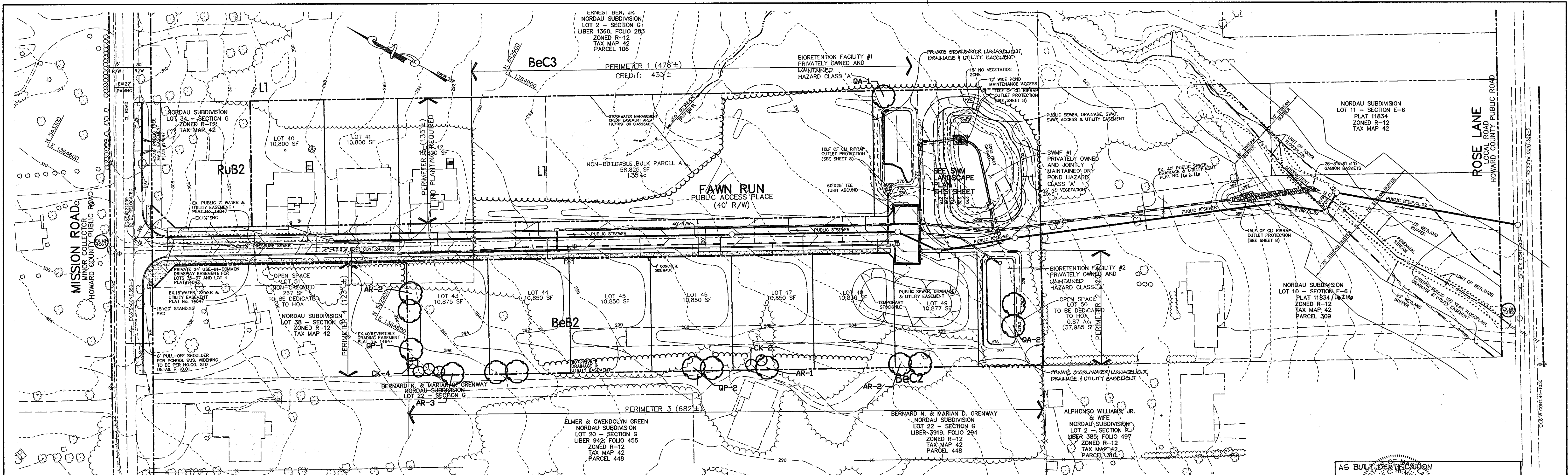
- BeB2 - BELTSVILLE SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED - 'C' SOILS
- BeC2 - BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED - 'C' SOILS
- BeC3 - BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, SEVERLY ERODED - 'C' SOILS
- LI - LEONARDTOWNE SILT LOAM - 'D' SOILS
- RuB2 - RUMFORD LOAMY SAND, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED - 'B' SOILS

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.	
<i>William J. ...</i> CHIEF, BUREAU OF HIGHWAYS	8-19-03 DATE
APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Cindy Hamilton</i> CHIEF, DIVISION OF LAND DEVELOPMENT	7/2/03 DATE
<i>Chris ...</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	8/23/03 DATE
9/18/06	1 REVISE STREAM DELINEATION AND BUFFER
DATE NO.	REVISION
OWNER / DEVELOPER MEADOWLARK, LLC ATTN: MARK PRITCHETT 6375 HANOVER CROSSING WAY HANOVER, MARYLAND 21076	
PROJECT NORDAU SUBDIVISION LOTS 40-49, O.S. LOTS 50 & 51, & NON-BUILDABLE BULK PARCEL A, SECTION G A RESUBDIVISION OF LOTS 35-37 AND 39, SECTION G, NORDAU	
AREA PARCEL 448 & 107 TAX MAP 42 GRID No. 24 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE SWM DRAINAGE AREA MAP PROPOSED CONDITIONS	
Patton Harris Rust & Associates, pc Engineers, Surveyors, Planners, Landscape Architects. 8818 Centre Park Drive Columbia, MD 21045 T 410.997.8900 F 410.997.9282	
PHRA	
7-23-03 DATE	DESIGNED BY : A.C.R.
	DRAWN BY: MAD
	CHECKED BY: C.J.R.
	PROJECT NO. 01076/1-0/ENGR PLANS/FINALS/PRDA
	DATE : JULY 23, 2003
	SCALE : AS SHOWN
	DRAWING NO. 11 OF 15

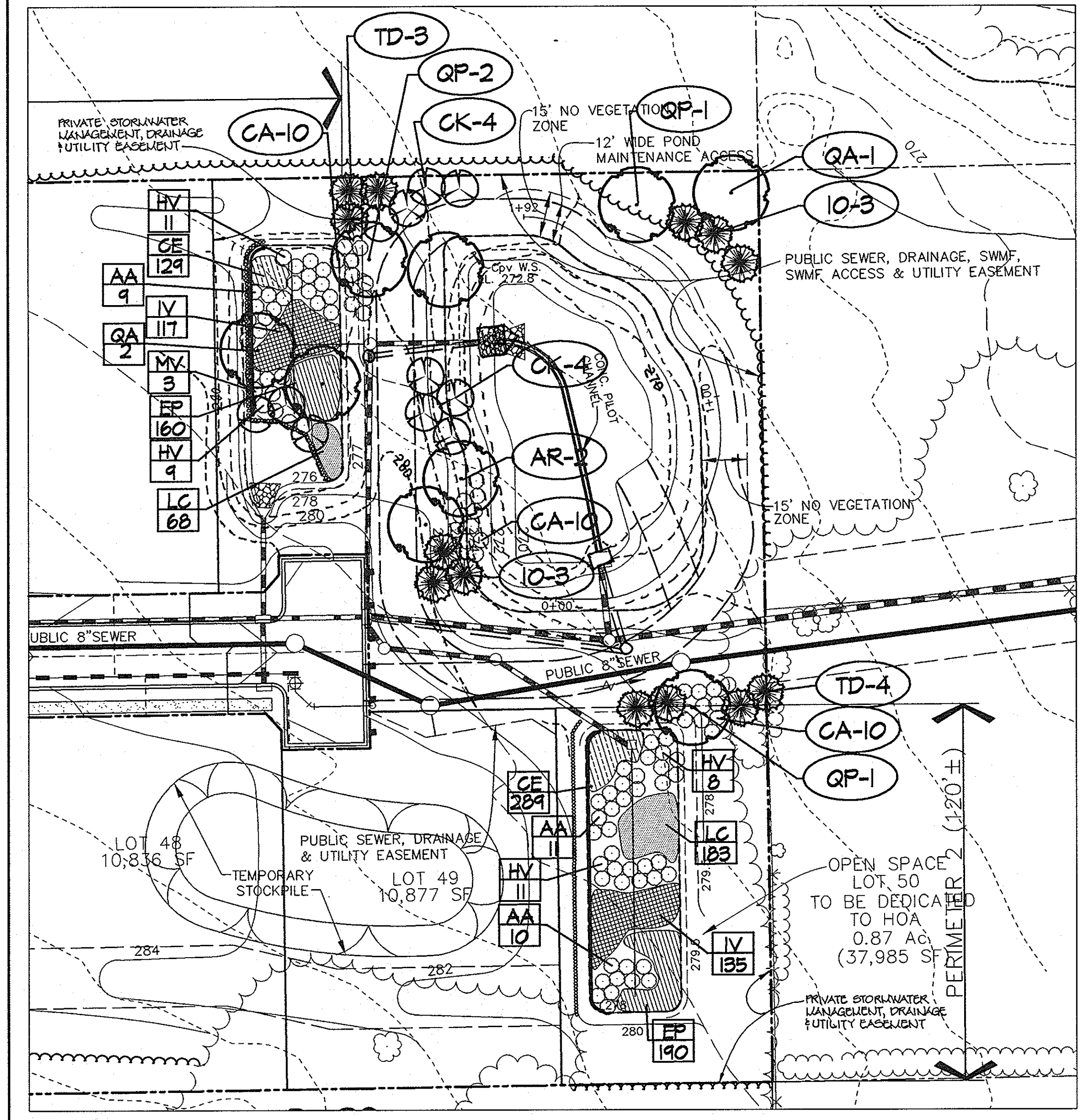


1-09-06
DATE

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PLAN PERIMETER LANDSCAPE
SCALE: 1"=50'



PLAN STORM WATER MANAGEMENT AREA
SCALE: 1"=30'

SCHEDULE A - PERIMETER LANDSCAPE EDGE

PERIMETER TYPE	PERIMETER PROPERTIES				
	1	2	3	4	5
LINEAR FEET OF ROADWAY	410'	120'	602'	123'	-
PERIMETER PROPERTY PERIMETER	410'	120'	602'	123'	-
CREDIT FOR EXISTING VEGETATION (YES/NO) (LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	YES 433'	NO	NO	NO	-
LINEAR FEET REMAINING	454'	120'	602'	123'	-
CREDIT FOR WALL, FENCE, OR BORN (YES/NO) (LINEAR FEET)	NO	NO	NO	NO	-
NUMBER OF PLANTS REQUIRED					
SHADE TREES	1	0	11	3	0
EVERGREEN TREES	0	0	0	0	0
ORNAMENTAL TREES	0	0	0	0	0
SHRUBS	0	0	0	0	0

SCHEDULE 'A' NOTES:
 * RESULTING OF NOT REDUCE LANDSCAPE EDGES, BUFFERINGS, OR SCREENING BETWEEN INTERNAL LOTS OR PARCELS WITHIN THE SAME DEVELOPMENT. (PAGE 17 OF THE HO. CO. LANDSCAPE MANUAL)
 SUBSTITUTION NOTES:
 PERIMETER 1: 433' OF EXISTING VEGETATION WAS CREDITED FOR (1) SHADE TREES
 PERIMETER 3: 204' OF EXISTING VEGETATION WAS CREDITED FOR (5) SHADE TREES
 ** 6 ORNAMENTAL TREES WERE SUBSTITUTED FOR 3 SHADE TREES

PERIMETER PLANT LIST

SYMBOL	QTY.	SCIENTIFIC COMMON NAME	SIZE	ROOT	REMARKS
AR	2	ACER PLATANUS 'RED SUNSET'	2.5'-3' GAL.	BIB	Plant as shown
GA	3	QUERCUS PRINCEPS	2.5'-3' GAL.	BIB	Plant as shown
GP	3	QUERCUS PRINCEPS	2.5'-3' GAL.	BIB	Plant as shown
CK	6	COCCYTHUS LAEVIS	6" - 10" HT.	BIB	Plant as shown

STREET TREE PLANT LIST

KEY	QTY.	SCIENTIFIC COMMON NAME	SIZE	ROOT	SPACING
GP	36	QUERCUS PRINCEPS	2.5'-3' GAL.	BIB	Plant as shown
		HILLION OAK			

BIORETENTION PLANT LIST

KEY	QTY.	SCIENTIFIC COMMON NAME	SIZE	ROOT	SPACING	ZONE*
GA	2	QUERCUS PRINCEPS	2.5'-3' GAL.	BIB	PLANT AS SHOWN	4
IV	4	MANCINIUS VITIFOLIA	6"-8" HT.	BIB	PLANT AS SHOWN	***
AA	30	ARISA FRUTICOSA	2.5'-3' HT.	CONT.	PLANT AS SHOWN	***
IV	24	VERBENA HENRIADAZA	2.5'-3' HT.	CONT.	PLANT AS SHOWN	***
CE	416	HELANDIA VERVILIA	1" GALLON	CONT.	12" SPACING	(1, 2), 3
EP	350	GARYA FLAVA 'HARDY'	1" GALLON	CONT.	10" SPACING	****
IV	252	IRIS VIRGATA 'BLUE PLAS 1815'	1" GALLON	CONT.	24" SPACING	(1, 2), 3
LC	251	IRIS VIRGATA 'CARDINAL PLONER'	1" GALLON	CONT.	10" SPACING	(1, 2), 3), 4

BIORETENTION PLANT LIST NOTES:
 * INTERPOLATED ZONES APPENDIX A OF THE MARYLAND MODEL STORMWATER MANAGEMENT ORDINANCE JULY 2000.
 ** ALSO KNOWN AS: SPICATA PALMS
 *** KNOWN TO TOLERATE IMMERSION AS WELL AS DRY AREAS ACCORDING TO DRR, MICHAEL A.
 **** COMMONLY USED BIORETENTION SPECIES ACCORDING TO TABLE A.4 IN APPENDIX A OF THE MARYLAND MODEL STORMWATER MANAGEMENT ORDINANCE JULY 2000.

STORM WATER MANAGEMENT AREA PLANT LIST

KEY	QTY.	SCIENTIFIC COMMON NAME	SIZE	ROOT	REMARKS
AR	2	ACER PLATANUS 'RED SUNSET'	2.5'-3' GAL.	BIB	PLANT AS SHOWN
GA	1	QUERCUS PRINCEPS	2.5'-3' GAL.	BIB	PLANT AS SHOWN
GP	4	QUERCUS PRINCEPS	2.5'-3' GAL.	BIB	PLANT AS SHOWN
CK	0	COCCYTHUS LAEVIS	6"-10" HT.	BIB	PLANT AS SHOWN
TD	7	TAXODIUM DISTICHUM	6"-8" HT.	BIB	PLANT AS SHOWN
IO	6	AMERICAN HOLY	3"-6" HT.	BIB	PLANT AS SHOWN
GA	30	GLORIOSA SUPERBA	2.5'-3' HT.	CONT.	PLANT AS SHOWN

LANDSCAPE GENERAL NOTES:

- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$10,000.00. 15 EVERGREEN TREES @ \$150 = \$2,250.00. 0 ORNAMENTAL TREES @ \$150 = \$0.00. 0 SHRUBS @ \$30 = \$0.00.
- THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION METHODS, TECHNIQUES, SEQUENCES, PROCEDURES AND SAFETY PRECAUTIONS AND PROGRAMS.
- ALL MATERIAL SELECTED SHALL BE EQUAL TO OR BETTER THAN THE REQUIREMENTS OF THE "USA STANDARD FOR NURSERY STOCK", LATEST EDITION, AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- ALL MATERIAL SHALL BE PLANTED IN ACCORDANCE WITH THE MINIMUM STANDARDS CITED IN THE LATEST EDITION OF "LANDSCAPE SPECIFICATION GUIDELINES" PUBLISHED BY THE LANDSCAPE CONTRACTORS ASSOCIATION.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS SHALL BE OF THE PROPER HEIGHT AND/OR SPREAD REQUIREMENTS IN ACCORDANCE WITH THIS PLAN AND THE HOWARD COUNTY LANDSCAPE MANUAL.
- NO SUBSTITUTIONS OR RELOCATION OF PLANTS MAY BE MADE WITHOUT PRIOR APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING OF HOWARD COUNTY. ANY DEVIATION FROM THIS LANDSCAPE PLAN WILL RESULT IN A REQUIREMENT FOR SUBMITTAL OF AN OFFICIAL "REDLINE REVISION" TO THE SITE DEVELOPMENT PLAN AND/OR DENIAL IN THE RELEASE OF LANDSCAPE SURETY.
- SEE SHEET 4 FOR PLANTING SPECIFICATIONS AND DETAILS.

DEVELOPER'S/BUILDER'S CERTIFICATE:

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

Signature: *Mark A. Pritchett* 2/24/03
 DATE

SCHEDULE D-STORMWATER MANAGEMENT AREA LANDSCAPING

LANDSCAPE TYPE	1
LINEAR FEET OF TOTAL PERIMETER	600'****
CREDIT FOR EX. VEGETATION (NO OR YES & #)	NO
CREDIT FOR OTHER PROP. LANDSCAPING (NO OR YES & #)	NO
LINEAR FEET OF REMAINING PERIMETER	600'
NUMBER OF TREES REQUIRED:	12
SHADE TREES	6
EVERGREEN TREES	15
ORNAMENTAL TREES	1
SHRUBS	3
SHRUBS	0**

NUMBER OF PLANTS PROVIDED:
 SHADE TREES: 1
 EVERGREEN TREES: 15
 ORNAMENTAL TREES: 1 (2.1) SUBSTITUTION, 50% MAX.)
 SHRUBS: 0**

SUBSTITUTION NOTES:
 * 6 ORNAMENTAL TREES WERE SUBSTITUTED FOR 4 SHADE TREES
 ** 10 SHRUBS WERE SUBSTITUTED FOR 3 EVERGREEN TREES.
 *** CALCULATED BASED ON PERIMETER OF POND ONLY.

AG BUILT OVER THE PLAN
 AMIE C. REMINGTON
 PROFESSIONAL LANDSCAPE ARCHITECT
 LICENSE NO. 20090
 DATE: 1-09-06
 APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 DATE: 8-19-03
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 DATE: 7/26/03
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 DATE: 8/22/03
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

DATE	NO.	REVISION
9/18/06	1	REVISE STREAM DELINEATION AND BUFFER

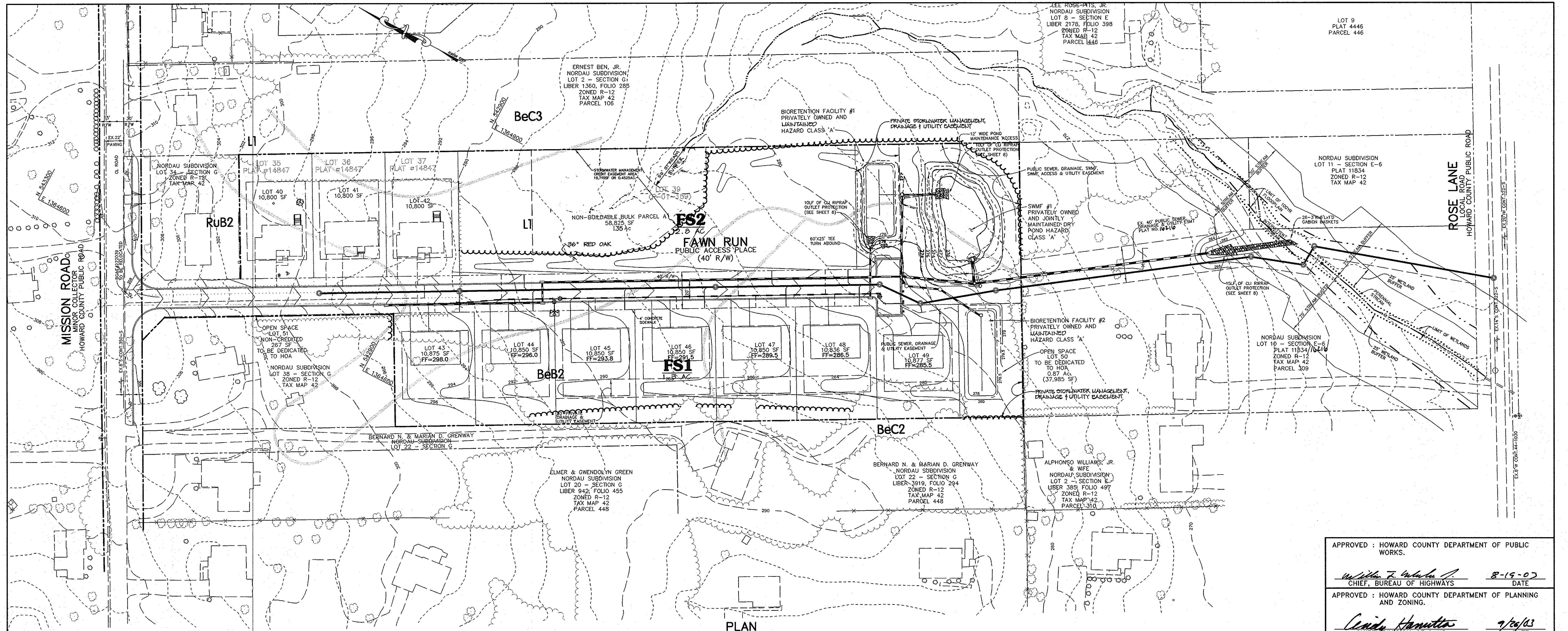
OWNER / DEVELOPER
 MEADOWLARK, LLC
 ATTN: MARK PRITCHETT
 6375 HANOVER CROSSING WAY
 HANOVER, MARYLAND 21076

PROJECT: NORDAU SUBDIVISION
 LOTS 40-49, O.S. LOTS 50 & 51,
 & NON-BUILDABLE BULK PARCEL A, SECTION G
 A RESUBDIVISION OF LOTS 35-37 AND 39, SECTION G, NORDAU
 AREA: ZONED R-12
 PARCEL 448 & 107 TAX MAP 42 GRID No. 24
 6TH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

TITLE: LANDSCAPE PLAN

Patton Harris Rust & Associates, p.c.
 Engineers, Surveyors, Planners, Landscape Architects.
 8818 Centre Park Drive
 Columbia, MD 21045
 T 410.997.8900
 F 410.997.9282

DATE: 7-24-03
 DESIGNED BY: K.L.S.
 DRAWN BY: K.L.S.
 CHECKED BY: D.T.D.
 PROJECT NO: 01076/1-0/ENGR PLANS/FINALS/L2000LD
 DATE: JULY 23, 2003
 SCALE: AS SHOWN
 DRAWING NO. 12 OF 15



PLAN
FINAL FOREST CONSERVATION
SCALE: 1"=50'

Howard County Forest Conservation Worksheet
PROJECT NAME: Mission Road Property COUNTY FILE #: 01076
DATE: 2/27/2003 PRR-A PROJECT #: 01076

- FOREST CONSERVATION GENERAL NOTES:**
- SPECIMEN TREE LOCATIONS ARE FIELD APPROXIMATED.
 - NO CRITICAL HABITATS OF RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED.
 - NO TREES, SHRUBS, OR PLANTS IDENTIFIED AS RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED.
 - THERE ARE NO KNOWN CEMETERY OR BURIAL PLOTS LOCATED ON THE SITE, ACCORDING TO THE HOWARD COUNTY HISTORIC & CEMETERY SITE MAP.
 - NO STRUCTURES EXIST ON SITE. THE PROPERTY IS NOT LISTED IN THE HOWARD COUNTY HISTORIC BUILDING REGISTER.
 - THIS SITE CONTAINS ONE HYDRIC SOIL, LEONARDTOWN (LI); AND ONE SOIL WITH POSSIBLE HYDRIC INCLUSIONS, BELTSVILLE (BeB2).
 - THE FSD, DATED FEBRUARY, 2001, HAS BEEN PREPARED BY MILDHAM ENVIRONMENTAL SERVICES IN CONJUNCTION WITH THIS PROJECT. THE FSD PLAN HAS BEEN PREPARED USING AIRIAL TOPOGRAPHY.
 - JUSTIFICATION FOR FOREST REMOVAL: IN ORDER TO DEVELOP THE SITE AS SHOWN AND CONSTRUCT THE INFRASTRUCTURE AS SHOWN, THE FORESTED AREAS MUST BE CLEARED.
 - THE HOWARD COUNTY FOREST CONSERVATION MANUAL SUPERCEDES ANY DISCREPANCIES BETWEEN THE MANUAL AND THESE PLANS.
 - THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION BY PROVIDING 5.39 AC. OFF-SITE FOREST RETENTION.
 - NO SLOPES EXCEED 15% WITHIN PROJECT AREA.
 - LOTS 34 & 40-42 HAVE BEEN EXCLUDED FROM THIS FOREST CONSERVATION PLAN AND THE TABULATIONS INCLUDED ON THIS SHEET. THE OBLIGATION FOR THESE LOTS HAS BEEN INCLUDED UNDER FINAL PLAN # F-01-19 AND SITE DEVELOPMENT PLAN # SDP-01-19B.
 - OFF-SITE REFORESTATION WILL OCCUR ON HOWARD COUNTY TAX MAP 2, PARCEL 17 (LIBER 561, FOLIO 521). IN THE AMOUNT OF 2.69 ACRES.

Site Data	
A. Total site area	5.50
B. Areas in 100 year floodplain	0.00
Areas in agriculture use and preservation parcels	0.00
Other (Lots which have previously satisfied forest conservation)	0.74
C. Net Tract Area (A-B)	4.76
D. Forest Cover on net tract area	4.10
E. Amount of Net Tract Area Forest to be cleared per plan	4.10
F. Reforestation requirement percent by land use category	20%
G. Afforestation requirement percent by land use category	15%
Break Even Point	
A. Area of forest above conservation threshold	3.15
B. Amount of forest to retain w/o mitigation	1.58
C. Forest clearing permitted w/o mitigation	2.52
Reforestation Calculations	
A. Net Tract Area	4.76
B. Total forest within Net Tract Area	4.10
C. Net Tract Area forests to be cleared by development plan	4.10
D. Forest area remaining	0.00
E. Reforestation threshold in acres	0.95
F. Reforestation Debt	
above threshold	0.79
below threshold	1.90
G. Reforestation credit	0.00
H. REFORESTATION OBLIGATION	2.69
Afforestation Calculations	
A. Net Tract Area	4.76
B. Total forest within Net Tract Area	4.10
C. Afforestation requirement in acres	0.71
D. AFFORESTATION OBLIGATION (C-B)	0.00
TOTAL REFORESTATION OBLIGATION	2.69

SITE CHARACTERISTICS

GROSS SITE AREA	5.5 ACRES
100 YEAR FLOODPLAIN AREA	0.00 ACRES
LOTS 40-42	0.74 ACRES
NET TRACT AREA	4.76 ACRES
TOTAL FORESTED AREA	4.10 ACRES

SOILS CHART

SYMBOL	SOIL NAME	TYPE	SLOPE %	EROSION POTENTIAL	HYDRIC	HYDRIC INCLUSIONS
BeB2	Beltsville	C	1-5%	MODERATE	-	YES
BeC2	Beltsville	C	5-10%	MODERATE	-	-
BeC3	Beltsville	C	0-2%	-	-	-
Li	Leonardtown	D	0-4%	LIMITED	YES	-
RuB2	Rumford	B	1-5%	MODERATE	-	-

LEGEND	EXISTING	PROPOSED
TREES ≥ 30" dbh	[Symbol]	[Symbol]
TREELINE	[Symbol]	[Symbol]
PROPERTY LINE	[Symbol]	[Symbol]
STREAM ± 50' BUFFER	[Symbol]	[Symbol]
CONTOUR LINES	[Symbol]	[Symbol]
SOILS	[Symbol]	[Symbol]
PLANT COMMUNITY TYPE	[Symbol]	[Symbol]
PLANT COMMUNITY DIVISION LINE	[Symbol]	[Symbol]

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
William F. White 8-19-02
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Candy Hamilton 7/26/03
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chris Danner 8/12/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

9/8/06 1 REVISION: REVISE STREAM DELINEATION AND BUFFER
DATE NO. REVISION

OWNER / DEVELOPER
MEADOWLARK, LLC
ATTN: MARK PRITCHETT
6375 HANOVER CROSSING WAY
HANOVER, MARYLAND 21076

PROJECT: NORDAU SUBDIVISION
LOTS 40-49, O.S. LOTS 50 & 51,
& NON-BUILDABLE BULK PARCEL A, SECTION G
A RESUBDIVISION OF LOTS 35-37 AND 39, SECTION G, NORDAU
AREA: PARCEL 448 & 107 TAX MAP 42 GRID No. 24
6th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: ON SITE FOREST CONSERVATION PLAN

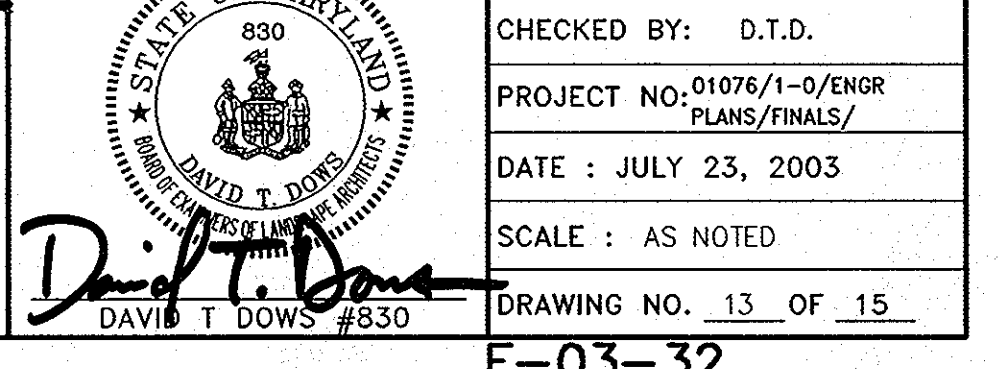
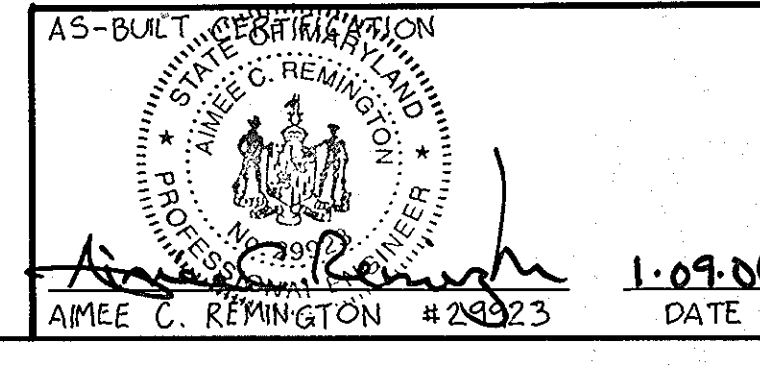
Patton Harris Rust & Associates, p.c.
Engineers, Surveyors, Planners, Landscape Architects.
8818 Centre Park Drive
Columbia, MD 21045
T 410.997.8900
F 410.997.9282

7-24-03 DATE
DESIGNED BY: P.J.S.

DRAWN BY: KLS
CHECKED BY: D.T.D.
PROJECT NO. 01076/1-0/ENGR PLANS/FINALS/
DATE: JULY 23, 2003
SCALE: AS NOTED
DRAWING NO. 13 OF 15

AMEE C. REMINGTON #24923 DATE 1-09-06
DAVID T. DOWS #830

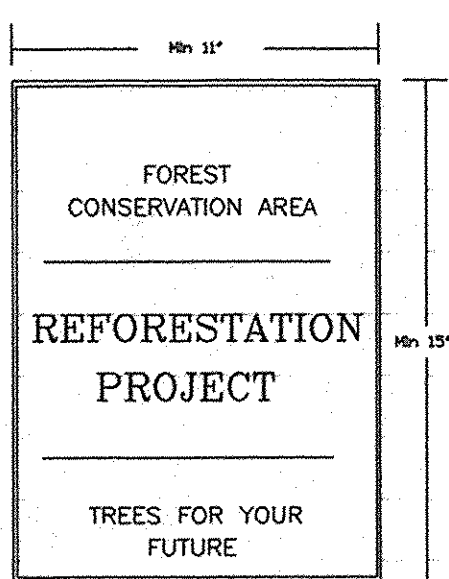
F-03-32



REFORESTATION PLANT LIST

QTY.	SPECIES	SHADE TOL.	MOIST. REGIME	WET. STATUS	MIN O.C. SPACING	SIZE & REMARKS
100	Prunus serotina Wild Black Cherry	I	M	FACU	11'	SEEDLING/WHIP W/TREE SHELTER
100	Robinia pseudoacacia Black Locust	VI	D-M	FACU	11'	SEEDLING/WHIP W/TREE SHELTER
100	Liriodendron tulipifera Tulip Poplar	I	D-M	FACU	11'	SEEDLING/WHIP W/TREE SHELTER
100	Quercus rubra Red Oak	MT	D-M	UPL	11'	SEEDLING/WHIP W/TREE SHELTER
100	Fraxinus americana White Ash	MT	D-M	FACU	11'	SEEDLING/WHIP W/TREE SHELTER
100	Nyssa sylvatica Black Gum	T	M-W	FACU	11'	SEEDLING/WHIP W/TREE SHELTER
100	Juglans nigra Black Walnut	VT	M	FACU	11'	SEEDLING/WHIP W/TREE SHELTER
100	Acer rubrum Red Maple	VT	D-W	FACU	11'	SEEDLING/WHIP W/TREE SHELTER
100	Cercis canadensis Eastern Redbud	T	M	UPL	11'	SEEDLING/WHIP W/TREE SHELTER
100	Diospyros virginiana Persimmon	I	D-M	UPL	11'	SEEDLING/WHIP W/TREE SHELTER

Quantities of Individual Species And Species Composition May Change Depending on Availability At Time Of Planting. Total Quantity Of Trees For Entire Easement Area Will Not Change. Any Species Substitution Must Be Listed On The Howard County Forest Association List. If Quantities Are Changed, A Minimum Of Five (5) Species Must Be Planted.

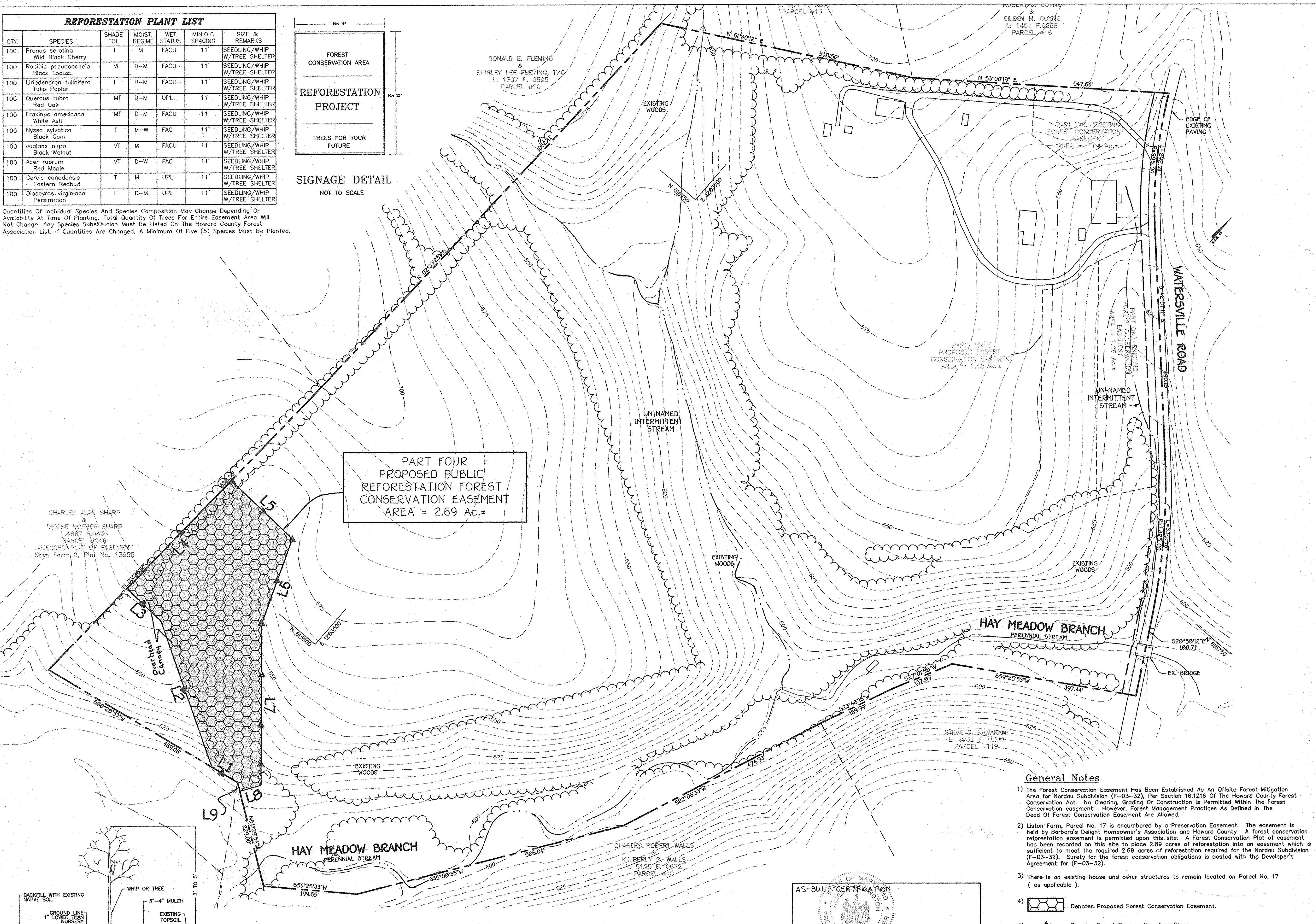


SIGNAGE DETAIL
NOT TO SCALE

PLANTING SPECIFICATIONS AND NOTES

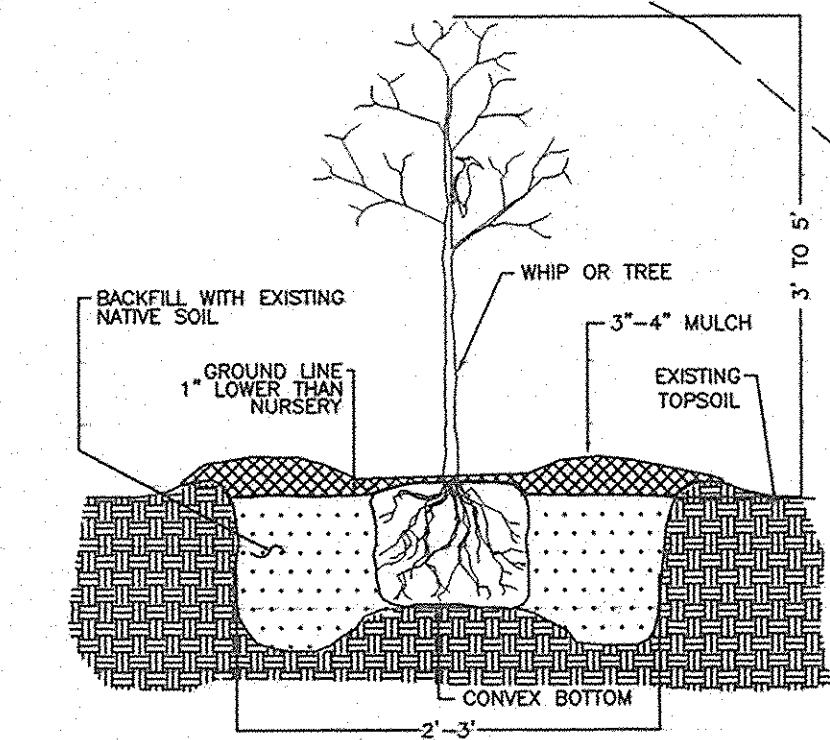
- SITE PREPARATION AND SOILS**
- PROTECTION FENCING AND SILT FENCES FOR SEDIMENT AND EROSION CONTROL ARE TO BE INSTALLED AS A FIRST ORDER OF BUSINESS. SEE PLAN FOR LOCATIONS.
 - DISTURBANCE OF SOILS SHOULD BE LIMITED TO THE PLANTING FIELD FOR EACH PLANT. AS SHOWN ON THE DETAIL VIEW, A PLANTING FIELD OF RADIUS = 5 X DIAMETER OF THE ROOT BALL OR CONTAINER IS RECOMMENDED.
 - SOIL MIX FOR ALL PLANTS EXCEPT ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION. WHERE NECESSARY, CONTROLS SHALL THOROUGHLY INCORPORATE 25% BY VOLUME OF COMPOSTED SLUDGE. SOIL MIX FOR ERICACEOUS MATERIAL: SOIL MIX SHALL CONSIST OF EXISTING NATIVE TOPSOIL MIXTURE AT EACH PLANTING FIELD LOCATION INTO WHICH THE CONTRACTOR SHALL THOROUGHLY INCORPORATE 25% BY VOLUME OF COMPOSTED SLUDGE.
 - ALL MIXING IN 3 AND 4 SHALL BE LIMITED TO CONTAINER GROWN OR BALL AND BURLAP STOCK ONLY AND CONTINUED TO THE PLANTING FIELD AND IMMEDIATE ADJACENT SOIL SURFACE AREA AND SHALL BE DONE TO THE SATISFACTION OF THE DESIGN TEAM OR ENGINEER.
- PLANT STORAGE AND INSPECTION**
- FOR CONTAINER GROWN NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN 2 WEEKS AFTER DELIVERY TO THE SITE.
 - FOR BALL AND BURLAP NURSERY STOCK, PLANTING SHOULD OCCUR WITHIN THREE DAYS AFTER DELIVERY TO THE SITE.
 - PLANTING STOCK SHOULD BE INSPECTED PRIOR TO PLANTING. PLANTS NOT CONFORMING TO STANDARD NURSERYMAN SPECIFICATIONS FOR SIZE, FORM, VIGOR, ROOTS, TRUNK WOUNDS, INSECTS AND DISEASE SHOULD BE REPLACED.
 - UNTIL PLANTED, ALL PLANT STOCK SHALL BE KEPT IN A SHADED, COOL, AND MOISTENED ENVIRONMENT.
- PLANT INSTALLATION**
- THE PLANTING FIELD SHOULD BE PREPARED AS SPECIFIED (SEE DETAIL). NATIVE STOCKPILED SOILS SHOULD BE USED FOR SOIL MIX AND BACKFILL FOR PLANTING. EXCESSIVE EXISTING ROOT DAMAGE MAY OCCUR DURING DIGGING OPERATION NEAR EXISTING FOREST.
 - CARE SHALL BE TAKEN WHEN DIGGING PLANTING FIELDS NOT TO CHOP THRU LARGER EXISTING ROOTS FROM EXISTING MATURE TREES. IF ROOTS GREATER THAN 1/2 INCH ARE ENCOUNTERED PLEASE TRY TO DIG AROUND THEM AS MUCH AS POSSIBLE TO MINIMIZE IMPACT TO EXISTING TREES. THEY WERE HERE FIRST.
 - CONTAINER GROWN STOCK SHOULD BE REMOVED FROM THE CONTAINER AND ROOTS GENTLY LOOSENED FROM THE SOIL. IF THE ROOTS ENIRCLE THE ROOT BALL, SUBSTITUTION IS STRONGLY RECOMMENDED. UN-SHIPPED OR KINKED ROOT SYSTEMS SHOULD ALSO BE NOTED. ROOTS MAY NOT BE TRIMMED ON SITE, DUE TO THE INCREASED CHANCES OF SOIL BORING DISEASES.
 - FOR BALL AND BURLAP STOCK, PLACE TREE IN PREPARED PLANTING FIELD AND REMOVE WIRE AND/OR STRING FROM ROOT BALL. THEN PEEL BACK BURLAP TO BASE OF ROOT BALL AND COVER ENTIRE ROOT BALL WITH TOPSOIL MIXTURE INDICATED ABOVE AND WATER GENEROUSLY. FOR TREES PLANTED IN THE AFORESAID AREA, CONTRACTOR SHALL EVENLY DISPERSE SPECIES IN GROUPS OF TWO (2) TO FOUR (4), PER SPECIES, OVER THE ENTIRE DESIGNATED AREA TO BE PLANTED WHILE MAINTAINING AN AVERAGE RANDOM SPACING OF INDIVIDUAL TREES AT PROPER SPACING INDICATED ON PLANT LIST.
 - AVOID PLANTING IN A STRAIGHT GRID PATTERN. TREES SHALL BE PLANTED ON AN AVERAGE SPACING AS INDICATED ON PLANT LISTS TO OBTAIN A MORE NATURAL APPEARANCE.
 - NEWLY PLANTED TREES MAY NEED WATERING AS MUCH AS ONCE A WEEK FOR THE ENTIRE GROWING SEASON, DUE TO THE WELL DRAINED NATIVE SOILS FOUND ON THIS SITE COMBINED WITH THE LOOSENESS OF THE BACKFILLED AREA WITHIN THE PLANTING FIELD. THE NEXT TWO YEARS MAY REQUIRE WATERING ONLY A FEW TIMES A YEAR DURING SUMMER AND DRY MONTHS. AFTER THAT PERIOD, TREES SHOULD ONLY NEED WATER IN SEVERE DROUGHTS. ANY WATERING PLAN SHOULD COMPENSATE FOR RECENT RAINFALL PATTERNS.
- FERTILIZING**
- DO NOT FERTILIZE NEWLY PLANTED TREES WITHIN THE FIRST GROWING SEASON AFTER PLANTING. DOING SO MAY CAUSE A SPURT OF CANOPY GROWTH WHICH THE ROOTS CANNOT SUPPORT AND ADD ADDITIONAL SHOCK TO THE ALREADY DISTURBED PLANT.
 - NOTHING SHOULD BE ADDED TO THE SOIL WITHOUT TESTING IT FIRST TO DETERMINE ITS NEEDS.
 - IF AND WHEN IT IS TIME TO FERTILIZE, ORGANIC FERTILIZERS ARE PREFERRED TO SYNTHETIC FERTILIZERS. BONE MEAL OR SEAWEED BASED PRODUCTS ARE AVAILABLE COMMERCIALY AND ARE RECOMMENDED. THEY HAVE THE ABILITY TO SUPPLY NUTRIENTS TO THE PLANT AS NEEDED WHILE MINIMIZING THE RISK OF EXCESS NUTRIENTS ENTERING THE FOREST SYSTEM AND WATER SUPPLY.
- MAINTENANCE SCHEDULE**
- ANNUAL MAINTENANCE DURING THE GROWING SEASON, FOR A THREE YEAR PERIOD.
 - ASSESS TREE MORTALITY OF PLANTING STOCK, REMOVE AND REPLACE ANY DEAD OR DISEASED PLANTINGS.
 - VOLUNTEER SEEDING OF NATIVE, LOCAL AND ENDEMIC VEGETATION IS TO BE EXPECTED. DO NOT DISCOURAGE THIS EFFORT UNLESS IT IS NEARLY ERADICATING THE PLANTED STOCK.
 - REMOVE THROUGH MANUAL MEANS (GRUBBING, PULLING, CUTTING) AGGRESSIVE, NOXIOUS, INVASIVE SPECIES AND ALL HERBACEOUS VEGETATION WITHIN A 3-FOOT RADIUS SURROUNDING THE PLANTED WOODY NURSERY STOCK.
 - REMOVE AND DISPOSE OF MAN-MADE TRASH, INCLUDING ITEMS CONTAINED WITHIN ENTIRE PLANTING AREA. DO NOT REMOVE DOWN AND DEAD MATERIAL NATURALLY OCCURRING OR ACCUMULATING, UNLESS IT IS SMOTHERING PLANTING STOCK.
 - A 75 PERCENT SURVIVAL OF PLANTED STOCK MUST BE ACHIEVED AT THE END OF THE 24 MONTH MANAGEMENT PERIOD. IF NOT, ADDITIONAL PLANTINGS MAY BE REQUIRED TO ACHIEVE THIS GOAL.
- SUPERVISION**
- ALL FOREST CONSERVATION ACTIVITIES SHALL BE DONE UNDER THE DIRECT SUPERVISION OF SOMEONE FROM THE DESIGN TEAM OR OTHER QUALIFIED PROFESSIONAL, AS DETERMINED BY THE REQUIREMENTS OF COMAR 08.19.06.01 AND THE MARYLAND DEPARTMENT OF NATURAL RESOURCES, PUBLIC LANDS AND FORESTRY DIVISION.

PART FOUR PROPOSED PUBLIC REFORESTATION FOREST CONSERVATION EASEMENT AREA = 2.69 Ac.±



General Notes

- The Forest Conservation Easement Has Been Established As An Offsite Forest Mitigation Area For Nordau Subdivision (F-03-32). Per Section 18.1216 Of The Howard County Forest Conservation Act. No Clearing, Grading Or Construction Is Permitted Within The Forest Conservation Easement; However, Forest Management Practices As Defined In The Deed Of Forest Conservation Easement Are Allowed.
- Liston Farm, Parcel No. 17 is encumbered by a Preservation Easement. The easement is held by Barbara's Delight Homeowner's Association and Howard County. A forest conservation reforestation easement is permitted upon this site. A Forest Conservation Plot of easement has been recorded on this site to place 2.69 acres of reforestation into an easement which is sufficient to meet the required 2.69 acres of reforestation required for the Nordau Subdivision (F-03-32). Surely for the forest conservation obligations is posted with the Developer's Agreement for (F-03-32).
- There is an existing house and other structures to remain located on Parcel No. 17 (as applicable).
- Denotes Proposed Forest Conservation Easement.
- Denotes Forest Conservation Area Signs.



TREE PLANTING DETAIL
CONTAINER GROWN

FOREST CONSERVATION EASEMENT TABLE

LINE	BEARING	DISTANCE
L1	S 80°28'53" W	63.60
L2	N 59°35'27" W	330.65
L3	N 86°33'48" W	100.47
L4	N 03°26'12" E	320.80
L5	S 86°33'48" E	180.55
L6	S 20°36'06" E	191.96
L7	S 40°07'14" E	346.26
L8	S 33°46'42" W	47.03
L9	N 54°29'54" W	19.42

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Andy Hamilton 9/26/13
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
Chris Dummer 8/21/13
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

AS-BUILT CERTIFICATION
 PROFESSIONAL ENGINEER
 AMEE C. REMINGTON #29923
 DATE 1-09-16

DEVELOPER: MEADOWLARK, LLC
 6375 MANOVER CROSSING WAY
 HANOVER, MARYLAND 21076
 c/o MARK PRITCHETT

OWNER/GRANTOR: WILLIAM & BARBARA LISTON
 P.O. BOX 228
 342 WATERSVILLE ROAD
 MT. AIRY, MARYLAND 21771

THIS PLAN IS FOR FOREST CONSERVATION EASEMENT PLANTING PURPOSES ONLY

DATE NO.	REVISION
PROJECT:	NORDAU SUBDIVISION TAX MAP 42 PARCEL 42 & P/O 448 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND F-03-32
TITLE:	OFF-SITE FOREST MITIGATION PLAN
AREA:	LISTON FARM PRESERVATION PARCEL TAX MAP 2 - PARCEL 17 FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE:	OFFSITE REFORESTATION PLANTING PLAN
 WILDMAN ENVIRONMENTAL SERVICES 4747 BONNIE BRANCH RD. ELLICOTT CITY, MD. 21043 PHONE: (410) 869-9999 FAX: (410) 869-9901 Ronald B. Selman 763109 DESIGNED BY: R.B.W. DRAWN BY: J.P. PROJECT NO. DATE: 6/9/03 SCALE: 1" = 100' SHEET NO. 15 OF 15	