### **GENERAL NOTES**

- TOPOGRAPHY SHOWN ON THESE DRAWINGS ARE BASED ON: SITE DEVELOPMENT PLANS (96-150, 97-134, 98-15, 98-63, 98-73, 98-96, 98-101, 98-118, 99-02, 99-13)ROAD PLANS (F-96-110, F-94-61) AND ON HOWARD COUNTY TOPOGRAPHY. THE INFORMATION SHOWN OR NOT SHOWN HEREON DOES NOT RELIEVE THE THE CONTRACTOR OF RESPONSIBILITY FOR PROPER COMPLETION OF GRADING
- ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY
- DEVIATIONS FROM THESE PLANS AND SPECIFICATIONS WITHOUT PRIOR WRITTEN CONSENT OF THE RBA GROUP MAY CAUSE THE WORK TO BE
- THE LOCATION OF UTILITIES AND UTILITY EASEMENTS SHOWN ON THESE PLANS ARE FROM APPROVED SDP'S AND RECORDED PLATS. THE CONTRACTOR SHALL TAKE ALL
- THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES WITHIN THE LIMITS OF CONSTRUCTION AND MAINTAIN MINIMUM COVER IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL.
  - MIN. COVER OVER WATER MAINS: 3.5'
  - MIN. COVER OVER SANITARY LINES: 2.5' ABOVE INVERT
  - MIN. COVER OVER STORM DRAIN: 18"
  - MIN. COVER OVER GAS LINES: (AS PER BGE REQUIREMENTS) MIN. COVER OVER ELECTRIC LINES: (AS PER BGE REQUIREMENTS)
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAS UTILITY MARKINGS WITH THOSE OF A PRIVATE COMPANY HIRED AND PAID FOR BY THE CONTRACTOR TO INSURE THAT ALL EXISTING UTILITIES ARE CLEARLY
- FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NORMALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO PERFORM SUCH WORK.
- ALL PROPOSED IMPROVEMENTS WILL BE MAINTAINED BY THE COLUMBIA
- A FEE SHALL BE PAID IN LIEU OF STORMWATER MANAGEMENT IN THE AMOUNT
- THE CONTRACTOR SHALL CONTACT THE BUREAU OF ENGINEERING, CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 48 HOURS IN ADVANCE
- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL STAKE OUT ALL CONSTRUCTION AND VERIFY ALL OFFSETS, SETBACKS, EXISTING
- THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. THE TESTING AND GFOTECHNICAL ENGINEER SHALL BE PROVIDED BY THE OWNER.
- ALL FILL SHALL BE ROLLED TO A MINIMUM DEGREE OF COMPACTION TO 95% MAXIMUM STANDARD PROCTOR DENSITY WITH A MOISTURE CONTENT BETWEEN 0 AND 3% OF OPTIMUM AS DETERMINED BY ASTM-D-698. FILL UNDER PAVED AREAS, SHALL BE COMPACTED TO 98% MAXIMUM STANDARD PROCTOR DENSITY PER ASTM-D-698
- ALL TREES 12" IN DIAMETER OR GREATER SHALL REMAIN PROTECTED AND UNDAMAGED AT ALL TIMES UNLESS OTHERWISE INDICATED. THE CON-TRACTOR WILL ATTEMPT TO PROTECT ALL OTHER TREES THROUGH FIELD ADJUSTMENTS TO THE LAYOUT.
- THE DEVELOPER IS RESPONSIBLE FOR THE ACQUISITION OF ALL EASEMENTS, RIGHTS, OR RIGHTS-OF-WAYS THAT MAY BE REQUIRED TO COMPLETE THE WORK SHOWN HEREON.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES AND SAFETY PRECAUTIONS AND PROGRAMS
- THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN SEDIMENT AND EROSION CONTROL MEASURES AND NOTIFY THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (410) 313-1855. SEE SHEET 7 FOR ADDITIONAL
- ADJUSTMENTS TO THE SEQUENCE OF CONSTRUCTION MUST BE APPROVED BY THE HOWARD COUNTY CONSTRUCTION AND INSPECTION DIVISION PRIOR TO
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE IN ACCORDANCE WITH HOWARD COUNTY SPECIFICATIONS AND STANDARDS.
- ALL ROADS SHOWN ON THESE PLANS ARE PUBLIC ROADS.
- THE PERMIT NUMBER TO ALLOW CONSTRUCTION IN WETLANDS, WETLAND BUFFERS, WATERWAYS, AND FLOODPLAINS IS 99-HT-0348/199965298.
- THIS PROJECT IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS BECAUSE IT IS ZONED NEW TOWN.
- THE FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY WHITMAN REQUARDT AND ASSOCIATES, DATED 12/94, AND WAS APPOVED ON 1/20/95.
- THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY EXPLORATION RESEARCH AND ASSOCIATES AND WAS APPROVED ON 1/20/95.
- NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.

#### **INDEX** TITLE REFERENCE TITLE SHEET 1 OF 8 2-5 OF 8 PATHWAY PLANS SITE DETAILS 6-7 OF 8 SEDIMENT AND EROSION CONTROL NOTES AND DETAILS 8 OF 8

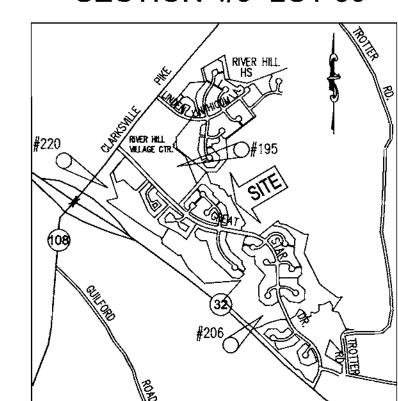
# PHEASANT RIDGE PATHWAYS

# VILLAGE OF RIVER HILL

**OPEN SPACE LOTS:** SECTION 1/4-LOT 53 **SECTION 2/5-LOTS 30, 31** SECTION 4/1- LOTS 82, 83, 86, 87 SECTION 4/3- LOTS 68, 69 SECTION 4/5- LOTS 139, 140, 141, 142 SECTION 4/6-LOT 56

# SITE ANALYSIS

- 1. TOTAL AREA OF PARCELS 128.5794 ACRES (5,361,086 S.F.)
- 2. PROPOSED USE: PEDESTRIAN PATHWAYS LENGTH OF PAVED PATHWAYS: 4.53 MILES (23,917 L.F.) LENGTH OF BOARDWAKS AND BRIDGES: 0.03 MILES (180 L.F.) 4.56 MILES (24,097 L.F.)
- TOTAL LIMITS OF DISTURBANCE: 5.49 ACRES (239,170 S.F.)
- 4. ZONING: NT-OS
- 6. PREVIOUS FILE REFERENCES: SEE CHART THIS SHEET



### **BENCHMARKS**

- #195: 1/2' X 18" REBAR WITH TRAV. CAP. N 561932.019 E 1331138.577 #206 1/2" X 18" REBAR WITH TRAV CAP
- ELEV. 374.3 N 559936.249 E 1332328.583
- #220 1/2" X 18" REBAR WITH TRAV CAP ELEV. 457.14 N 561238.646 E 1329635.522

**VICINITY MAP** 

# SITE DEVELOPMENT PLANS

## PREPARED FOR:

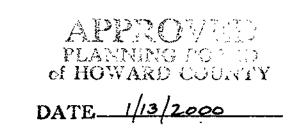
# COLUMBIA ASSOCIATION

10221 WINCOPIN CIRCLE SUITE 100 COLUMBIA, MD 21044 - 3410

## PREPARED BY:



7164 COLUMBIA GATEWAY DRIVE SUITE 205 COLUMBIA, MARYLAND 21046 (410) 312-0966



ADDRESS CHART								
LOT/PARCEL #	STREET ADDRESS							
30, 31, 53, 56, 68, 69, 82, 83, 86, 87, 139, 140, 141, 142	6100 CREAT STAR DR.							

### LIST OF LOTS

LEGEND:

(NOT PART OF THIS PROJECT)

AREA (NOT PART OF THIS PROJECT)

MUTI-USE FUTURE MULTI-USE RECREATION
RECREATION
ADEA (NOT DART OF THIS PROJE

LOT#	ACERAGE	SQUARE FEET	RECORD PLAT					
30	10.4896	456,925	11935					
31	18.4314	802,874	11936					
53	0.0660	2,876	10369					
56	3.3474	14,581	13506, 13507, 1350					
68	0.0833	3,628	12757					
69	17.5916	766,290	12757, 12758					
82	41.5653	1,810,585	12851, 12852					
83	8.4938	369,991	12849					
86	2.5106	109,361	12692					
87	14.9743	652,280	12693					
139	3.5983	48,139	12855, 12856, 1285					
140	1.1010	47,961	12857					
141	6.2241	271,123	12859					
142	0.1027	4,472	12858					
TOTAL AREA	128.5794 AC.	5,361,086 S.F.						

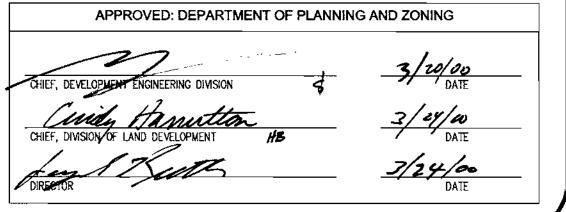
PI	ERMIT INFOR	MATION CHAP	रा	
SUBDIVISION NAME VILLAGE OF RIVER HILL	SECTION/AREA 2/5 4/1 4/3	LOT/PARCEL # 30, 31 82, 83, 86, 87 68, 69	SECTION/AREA 4/5 4/6 1/4	LOT/PARCEL # 139, 140, 141, 142 56 53
ZONING	TAX MAP	¥¥1 <del>¥</del> ¥	ELECTION DIST.	<u> </u>
NT-OS	34, 35		5TH	
WATER CODE	SEWER CODE		CENSUS TRACT	
I 10	665300		6055	

### DDEVIOUS EILE MILIMDEDS

**AREA MAP** 

SCALE: 1"= 600"

LOT#	FDP	F
30, 31	209, Part V	F9548
53	214	F-92-87
56	222A, Part VI	F-98-37
68, 69	222, Part III	F96124
82, 83	222, Part I	F-96-123
86, 87	222, Part I	F-96-110
139, 140, 141, 142	222A, Part V	F-98-122

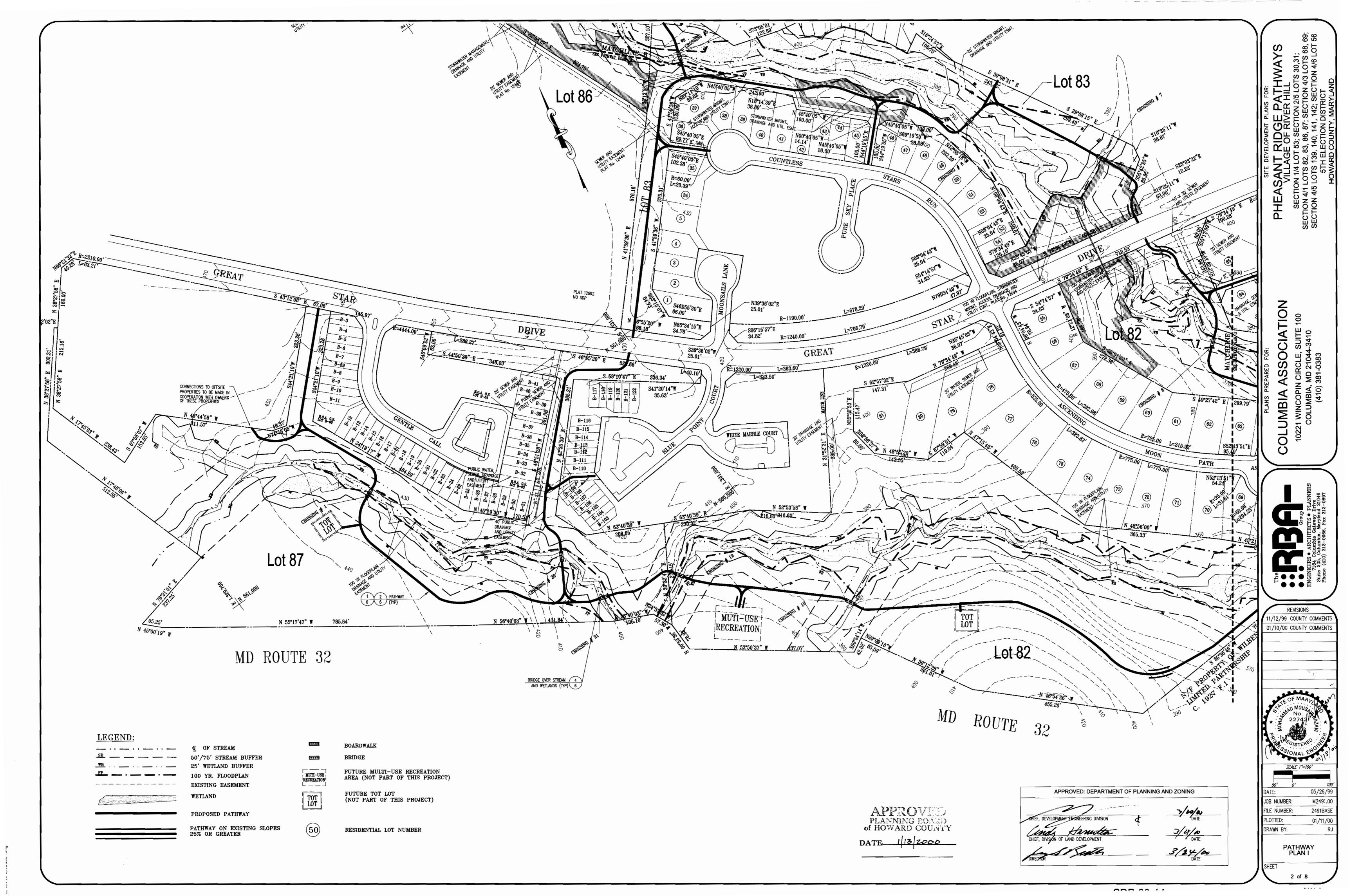


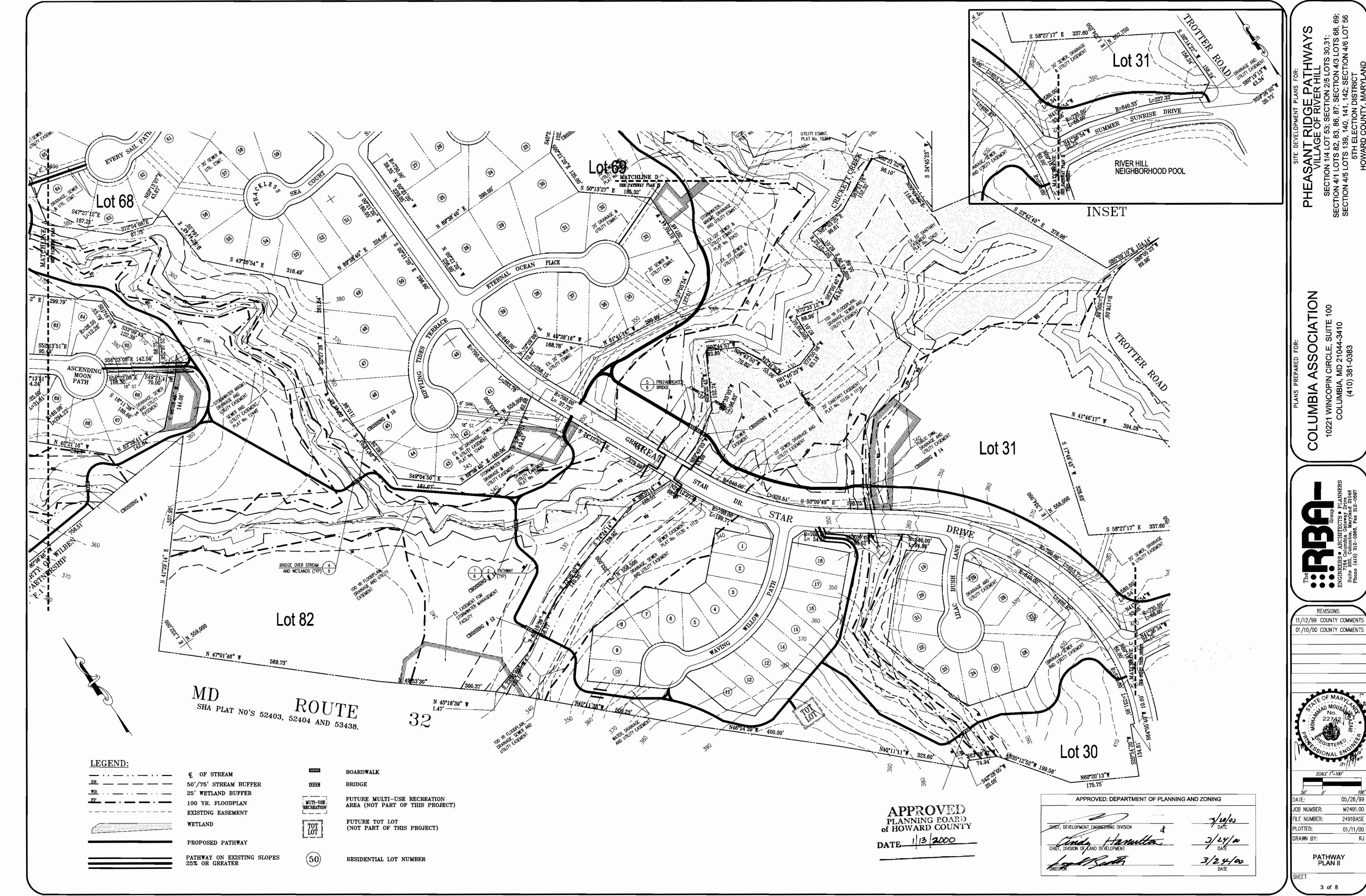


REVISIONS 11/12/99 COUNTY COMMEN 01/10/00 COUNTY COMMENTS

04/29/99 M2491.00 2491C0V LOTTED: RAWN BY:

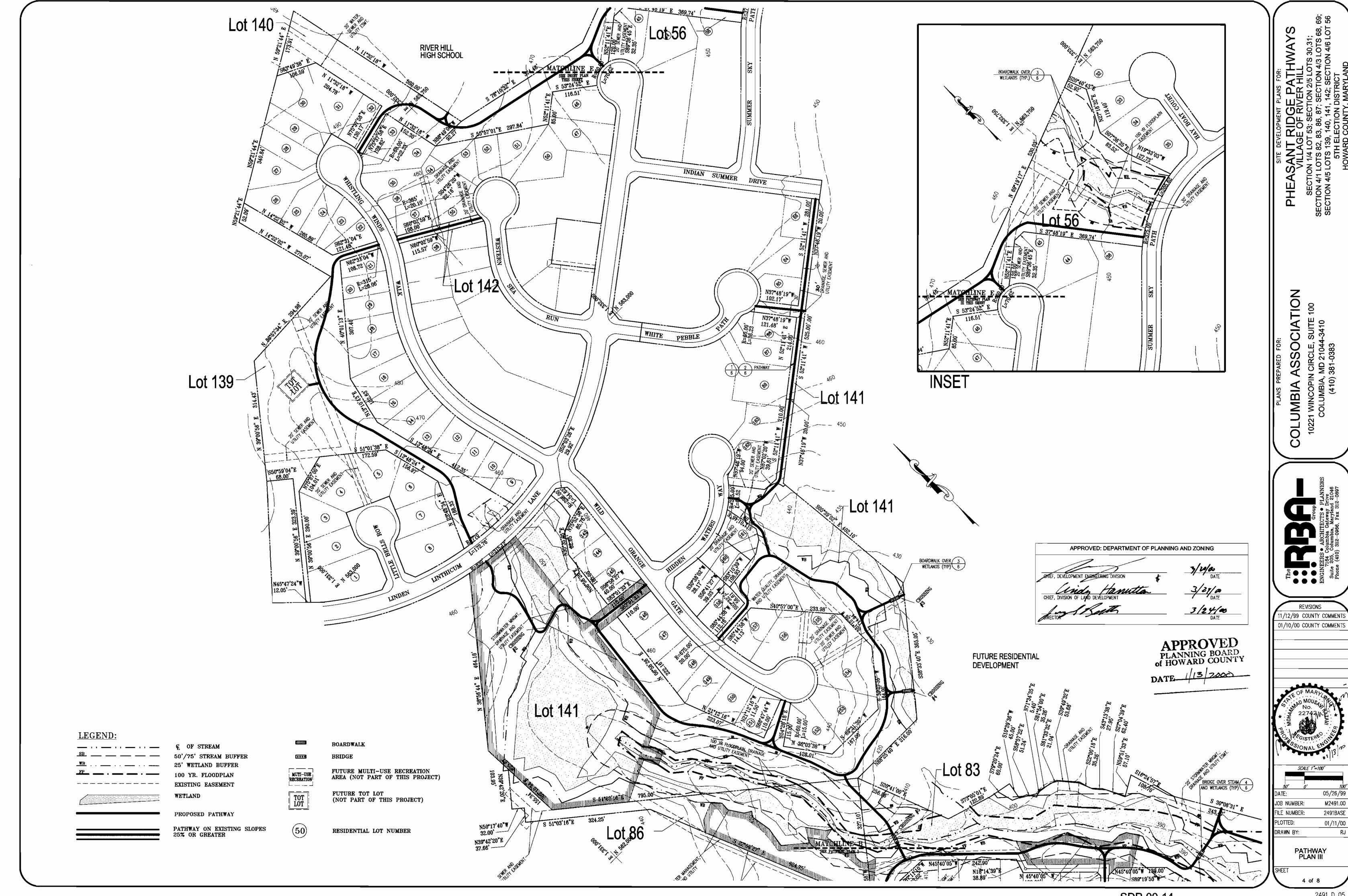
TITLE SHEET 1 of 8



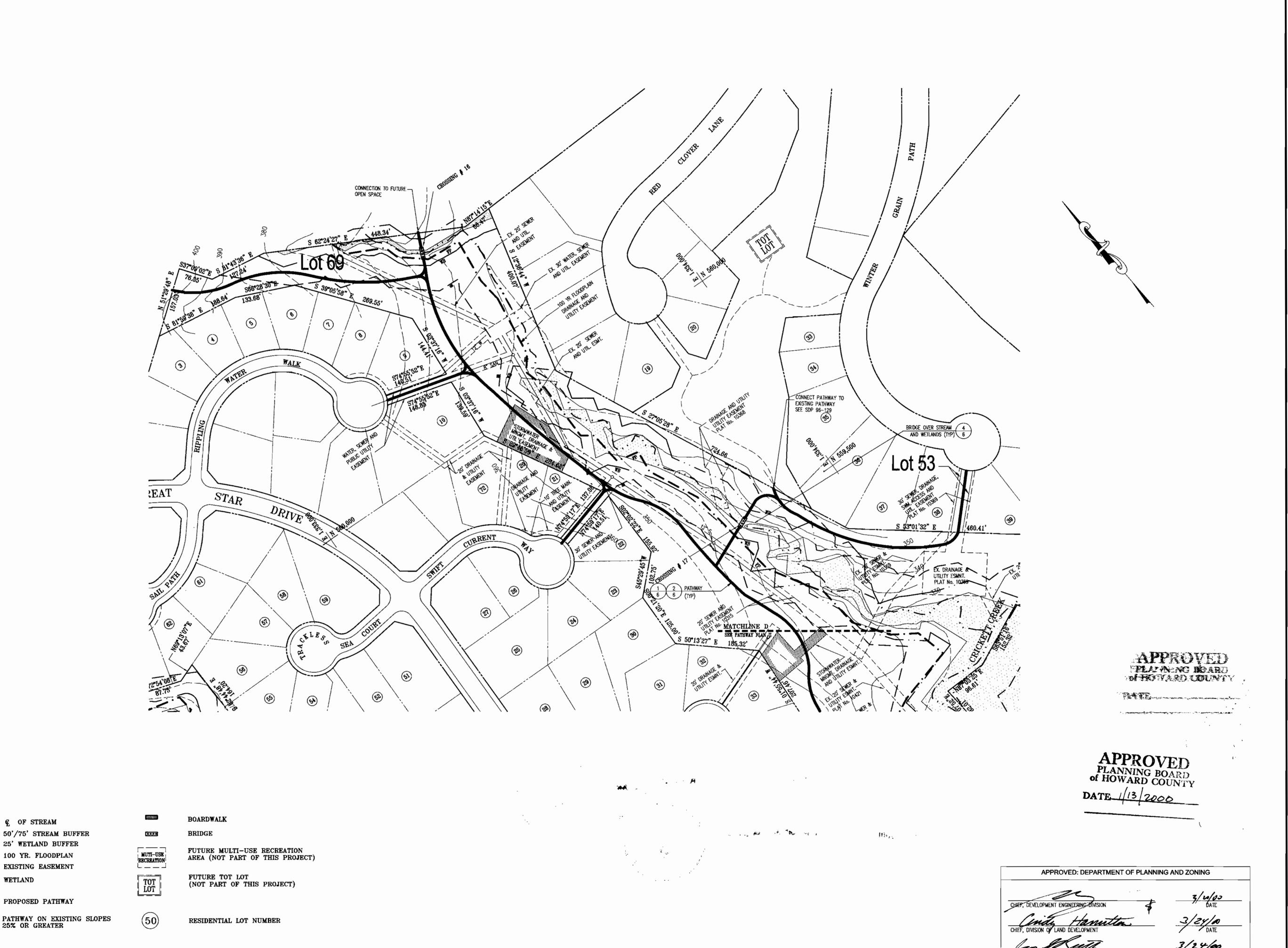


2491 D 05

SDP-00-14



SDP-00-14



LEGEND:

€ OF STREAM

100 YR. FLOODPLAN EXISTING EASEMENT

PROPOSED PATHWAY

25% OR GREATER

ASSOCIATION

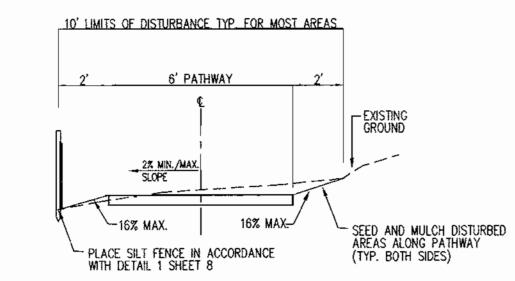
REVISIONS 11/12/99 COUNTY COMMENTS 01/10/00 COUNTY COMMENTS

05/26/99 JOB NUMBER: M2491.00 FILE NUMBER: 2491BASE PLOTTED: 01/11/00 DRAWN BY:

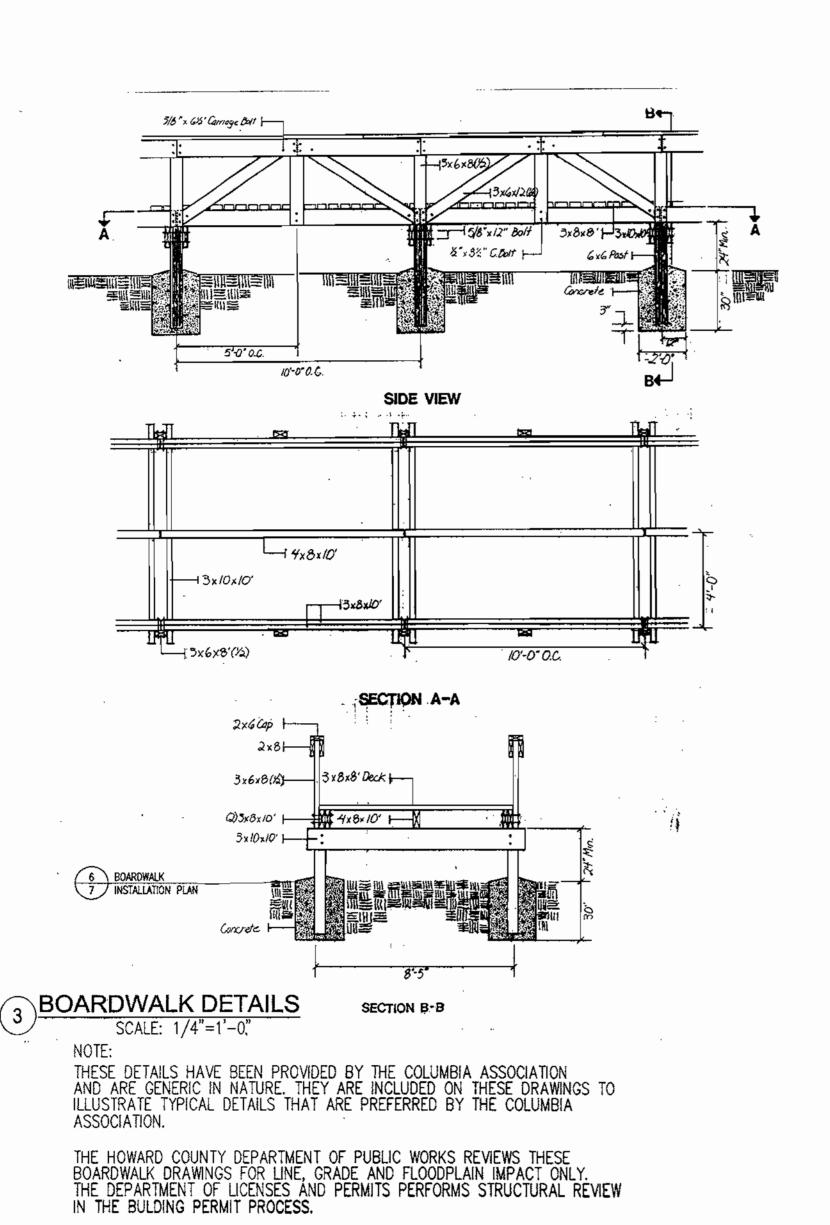
> PATHWAY PLAN IV 5 of 8

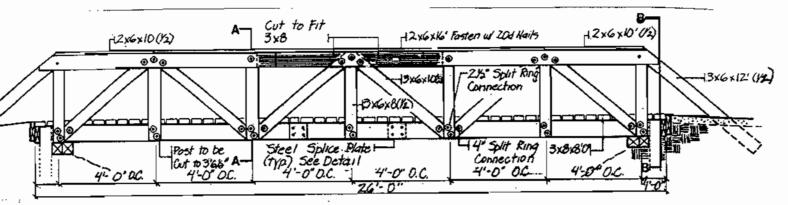
NOTE: ALL FILL SHALL BE ROLLED TO A MINIMUM DEGREE OF COMPACTION TO 95% MAXIMUM STANDARD PROCTOR DENSITY WITH A MOISTURE CONTENT BETWEEN O AND 3% OF OPTIMUM AS DETERMINED BY ASTM-D-698. FILL UNDER PAVED AREAS SHALL BE COMPACTED TO 98% MAXIMUM STANDARD PROCTOR DENSITY PER ASTM-D-698.

# 1 PATHWAY PAVEMENT SECTION SCALE: NTS



# 2 TYPICAL PATHWAY SECTION SCALE: NTS





#### SIDE VIEW

		† 10° +	3x8x/l'	
7,9	3x8x <i>b</i> ′	Forsten w/ Teco Fas	tener (NA) -13x8x15'	o Chord
9,6	\$ *	13x8 x8'		Note to both
ė,	0		3x 10x 3x8 Cut to	——મારૂ
	- · ·		<u> </u>	g,

#### DECK FRAMING PLAN

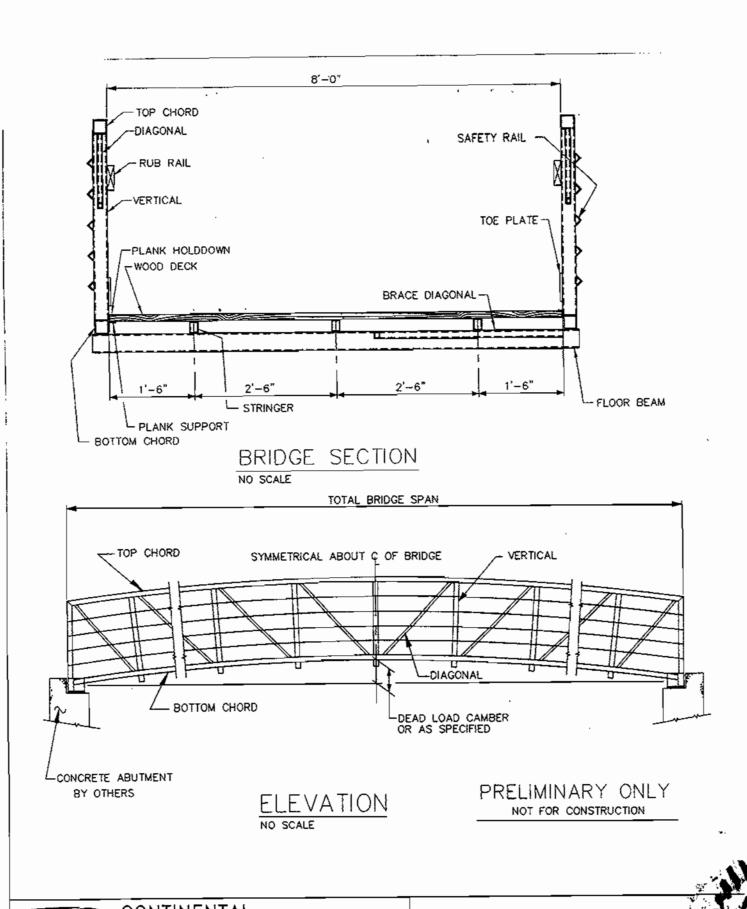


#### TOP CHORD

# BRIDGE DETAILS SCALE: NTS SCALE: 1/4"=1'-0"

THESE DETAILS HAVE BEEN PROVIDED BY THE COLUMBIA ASSOCIATION AND ARE GENERIC IN NATURE. THEY ARE INCLUDED ON THESE DRAWINGS TO ILLUSTRATE TYPICAL DETAILS THAT ARE PREFERRED BY THE COLUMBIA ASSOCIATION.

THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS REVIEWS THESE BRIDGE DRAWINGS FOR LINE, GRADE AND FLOODPLAIN IMPACT ONLY. THE DEPARTMENT OF LICENSES AND PERMITS PERFORMS STRUCTURAL REVIEW IN THE BULDING PERMIT PROCESS.

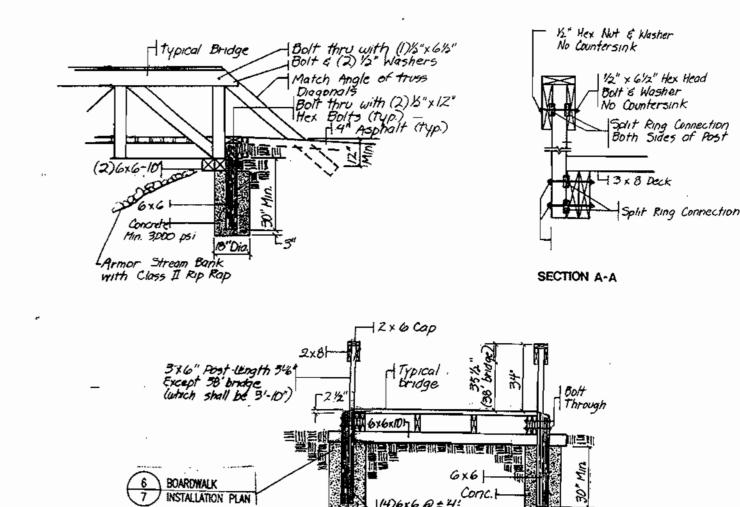


# CONTINENTAL

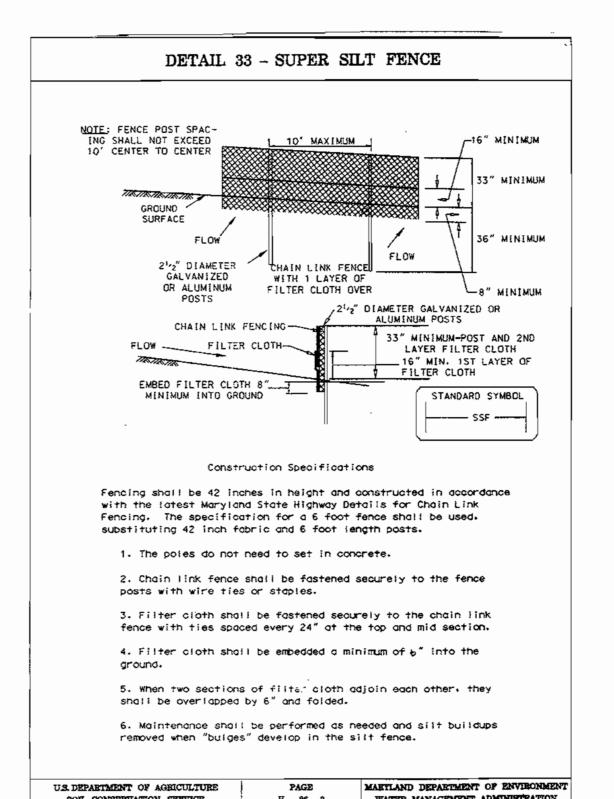
IN THE BULDING PERMIT PROCESS.

# 5 PREFABRICATED BRIDGE DETAILS SCALE: NTS

THESE DETAILS HAVE BEEN PROVIDED BY CONTIENTAL BRIDGE AND ARE GENERIC IN NATURE. THEY ARE INCLUDED ON THESE DRAWINGS TO ILLUSTRATE THE TYPE OF BRIDGE PROPOSED OVER COLUMBIA ASSOCIATION. THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS REJUSTICAL
BRIDGE DRAWINGS FOR LINE, GRADE AND FLOODPLAIN IMPACT ONLY.
THE DEPARTMENT OF LICENSES AND PERMITS PERFORMENT PROCESS.



SECTION B-B



FOOTING DETAILS

	Design	Criteria	
Stope	Steepness_	Slope Length (maximum)	Silt Fence (maxim
0 - 10%	0 - 10:1	Un!imi†ed	Unlimit
10 - 20%	10:1 - 5:1	200 feet	1,500 f
20 - 33%	5:1 - 3:1	100 feet	1.000 f
33 - 50%	3:1 - 2:1	100 feet	500 fe
50% +	2:1 +	50 feet	250 fe

**APPROVED** PLANNING BOARD OF HOWARD COUNTY

### CERTIFICATION BY THE ENGINEER

I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION 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.

# 1 15 0 %

### CERTIFICATION BY THE DEVELOPER/BUILDER

OF DEVELOPMENT AND PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL 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 INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE-DEEMED NECESSARY".



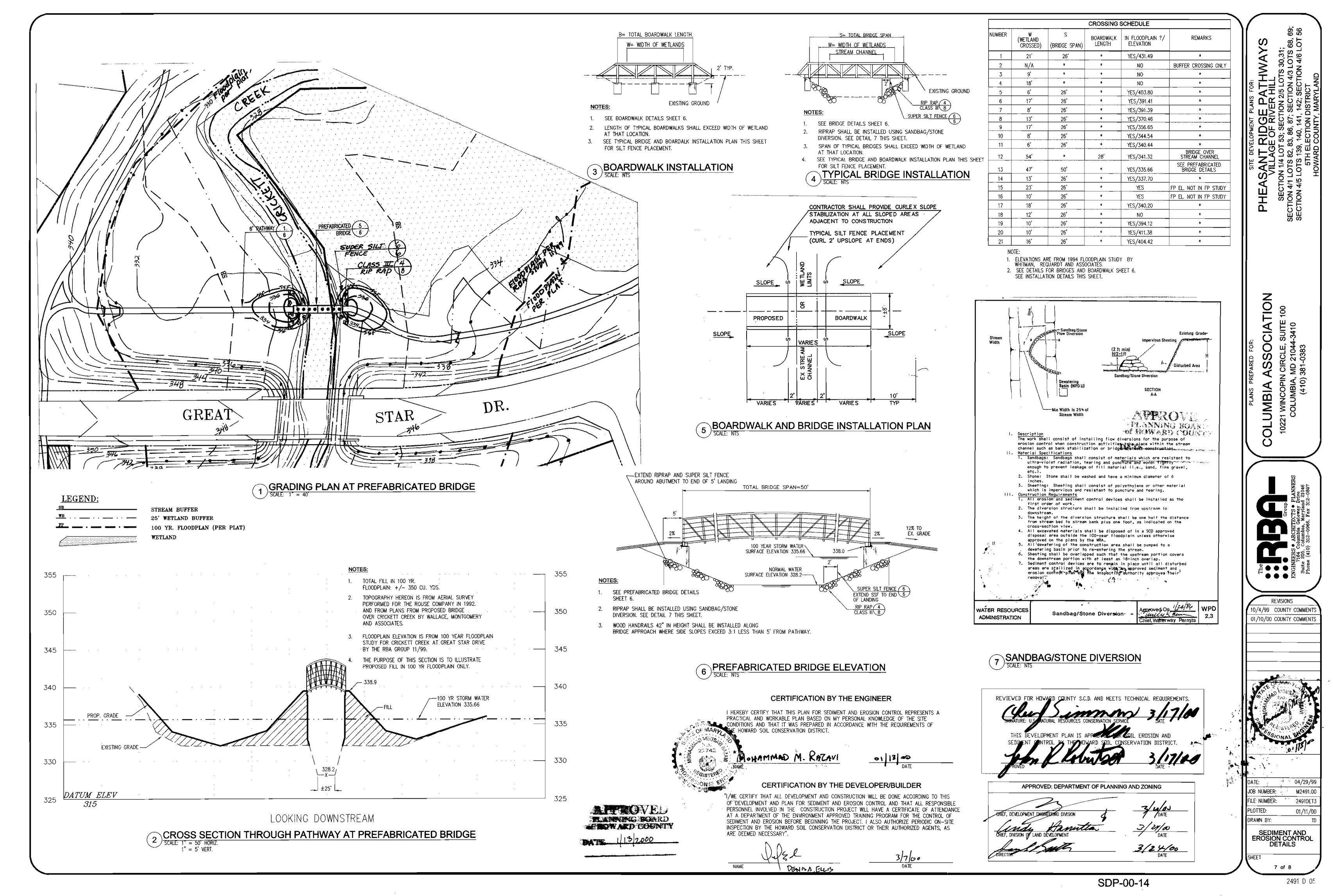
0113 2000

REVIEWED FOR HOWARD COUNTY S.C.D. AND MEETS TECHNICAL REQUIREMENTS.
SIGNATURE: U.S. ATURAL RESOURCES CONSERVATION SERVICE DATE
THIS DEVELOPMENT PLAN IS A PROVED FOR SOIL EROSION AND
SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
APPROVED SIPTION

APPROVED: DEPARTMENT OF PLANNING AND ZONING						
CHIEF, DEVELOPMENT ENGINEERING DIVISION	3/w/as					
CHIEF, DIVISION OF LAND DEVELOPMENT	2/24/av					
DIRECTION	3/24/00 DATE					

REVISIONS 11/12/99 COUNTY COMMENTS 01/10/00 COUNTY COMMENTS

04/29/99 M2491.00 JOB NUMBER: FILE NUMBER: 2491DET PLOTTED: 01/11/00 DRAWN BY: SITE DETAILS.



E \2491\2491r.dwg | lue Jan

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, (410-880-3450).

2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", and revisions thereto.

3. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater that 3:1, b) 14 days as to all other disturbed or graded areas on the project site.

128.58 \_\_\_\_Acres

5.49 Acres

3.29 Acres

5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.

6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.

7. Site Analysis:

Total Area of Site Area Disturbed Area to be roofed or payed Areas to be vegetatively stabilized Total Cut

\_\_\_\_\_1.10\_\_\_Acres \_\_\_\_0\_\_Cubic Yards \_\_350 \_\_\_\_Cubic Yards Total Fill Off-site waste/borrow area location Approved site by Howard SCD

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 control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.

#### SEQUENCE OF CONSTRUCTION

Obtain a grading permit and all other necessary permits — 1 Day.

Notify the Howard County Bureau of Licenses, inspections and Permits at least 48 hours before beginning any work. Determine stabilized construction entrances and project phasina - 2 Days.

3. All work in nontidal wetlands, wetland buffers, waterways and 100 year floodplain shall be in confromance with the Best Management Practices given on this sheet and with the Letter of Authorization for this project issued by the Maryland Department of the Environment.

After the completion of steps 1 & 2 comply with the following steps for each phase of construction: 4. Install stabilized construction entrances - 1 Day.

Stake out pathway - 2-3 Days.

 Install sit fence, tree protection fence and other perimeter controls - 3-4 Days. 7. Obtain approval from inspector prior to proceeding - 1 Day.

8. Begin clearing and grubbing for construction - 1 Week.

Grade pathway maintaining positive drainage at all times - 1-2 Weeks.

Compact subgrade and install aggregate base for pothway - 1 Week.

11. Install perimeter controls for bridges and boardwalks. in-stream work for the installation of riprop shall be in accordance with the detail for Sandbag/Stone diversion on this sheet - 1 Week.

12. Install bridges and boardwalks - 1-2 Weeks

Install pathway pavement - 1-2 Weeks.

 Stabilize all disturbed areas with seed and mulch within 14 days of disturbance. e seed restrictions in the Best Management Practices — 1—2 Weeks

15. Upon stabilization of the site and approval of the Howard County Sediment Control Inspector,

DETAIL 22 - SILT FENCE

FLOW

INTO THE GROUND

Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter

(minimum) round and shall be of sound quality hardwood. Steel posts will be

standard T or U section weighting not less than 1.00 pond per linear foot.

2. Geotextile shall be fastened securely to each fence post with wire ties

or staples at top and mid-section and shall meet the following requirements

20 lbs/in (min.)

3. Where ends of geotextile fabric come together, they shall be overlapped,

4. Silt Fence shall be inspected after each rainfall event and maintained when

E - 15 - 3

bulges occur or when sediment accumulation reached 50% of the fabric height.

∖STANDARD SILT FENCE

75% (min.)

SECTION B

TISTISTISTISTISTISTISTISTIS

DRIVEN A MINIMUM OF 16" INTO

" MINIMUM DEPTH IN

GROUND

CROSS SECTION

0.3 gal ft 1/ minute (max.) Test: MSMT 322

FENCE POST SECTION MINIMUM 20" ABOVE

- FENCE POST DRIVEN

STANDARD SYMBOL

\_\_\_\_\_SF \_\_\_\_

Test: MSMT 509

Test: MSMT 509

Test: MSM7 322

MARYLAND BEPARTMENT OF ENVIRONMENT

WATER MANAGEMENT ADMINISTRATION

remove sediment and erosion controls.

PERSPECTIVE VIEW

TOP VIEW

POSTS-

STAPLE

for Geotextile Class F:

Flow Rate

Tensile Modulus

U.S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Fiftering Efficiency

folded and stapled to prevent sediment bypass

JOINING TWO ADJACENT SILT

FENCE SECTIONS

PERMANENT SEEDING NOTES

permanent long-lived vegetative cover is needed.

upper three inches of soil.

Apply to graded or cleared areas note subject to immediate further disturbance where a

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

<u>Soil Amendments</u> — in lieu of soil test recommendations, use one of the following schedules:

1) <u>Preferred</u> — Apply 2 tons per acre dolomitic limestone (92 lbs./1000 sq. ft.) and 600 lbs.

per acre 10—10—10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs./1000 sq. ft.) 2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs./1000 sq. ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs./1000 sq. ft.) before seeding. Harrow or disk into

Seeding — Fore the periods March 1 through April 30, and August 1 through October 15, seed with 60 lbs. per acre (1.4 lbs./1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 through July 31, seed with 60 lbs, Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (.05 lbs./1000 sq. ft.) of weeping lovegrass. During the period of October 16 through February 28, protect site by: Option (1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs./acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

REFER TO BEST MANAGEMENT PRACTICES FOR SEEDING IN SENSITIVE AREAS Mulching - Apply 1½ to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring

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

### BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS.

WATERWAYS, AND 100-YEAR FLOODPLAINS

1. NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN. 2. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR

SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN. 3. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL

BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS,

4. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE

TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.

STRUCTURE OR FILL

Slope Steepness

Flatter than 50:1

50:1 to 10:1

10:1 to 5:1

5:1 to 3:1

3:1 to 2:1

to nontidal wetlands, nontidal wetland buffers, waterways, or the 100-year floodplain. 5. REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED

6. RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.

7. ALL SYABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLA SP.) AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN

8. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVATIONS HE SAME AS THE ORIGINAL GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.

9. TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE

USE I WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH I THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.

10. STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE

Silt Fence Design Criteria

(Maximum)

Slope Length

unlimited

125 feet

100 feet

60 feet

40 feet

11. CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

### 31 See Table for a list of recommended varieties best suited for Maryland.

Recommended planting dates are indicated by an X. For seeding during time periods not recommended use a nurse crop such as meeping love grass or millet (mid-summer), or cereal rye (late fall to early spring) refer to Table 26 Temporary Seeding.

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A/USED BY SHA ON SLOPED AREAS. ADD A LEGIUME FOR SLOPES > THAN 3:1.

B/USED IN MEDIAN AREAS BY SHA. SHADE TOLERANT.
C/POPULAR MIX-PRODUCES PERMANENT OROUNDONER QUICKLY. BLUEGRASS THICKENS STAND.
D/BEST USE ON SHADY SLOPES NOT OR POORLY DRAINED CLAYS.
E/USE ON LOW MAINTENANCE, STEEP SLOPES. USE TALL FESCUR IN DRAUGHTY COND. CROWNVETCH BEST FOR 56, 60, 66
F/SUITABLE FOR SEEDING IN MID-SUMMER.

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is

Seedbed Preparation -- Loosen upper three inches of soil by raking, disking or other acceptable

Seeding - For periods March 1 through April 30 and from August 15 through October 15, seed with 2½ bushel per acre of annual rye (3.2 ibs./1000 sq. ft.). For the period May 1 through August 14, seed with 3 lbs. per acre of weeping lovegrass (.07 ibs./1000 sq. ft.). For the period

November 16 through February 28, protect site by applying 2 tons per acre of well anchored

Mulching - Apply 1½ to 2 tons per acre (70 to 90 lbs./1000 sq. ft.) of unrotted, weed-free, small

anchoring tool or 218 gallons per acre (5 gal./1000 sq. ft.) of emulsified asphalt on flat areas. On

grain straw immediately after seeding. Anchor mulch immediately after application using mulch

Soil Amendments - Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 sq. ft.).

slopes 8 feet or higher, use 348 gallons per acre (8 gal./1000 sq. ft.) for anchoring.

Table 25 Permanent Seeding for Low Maintenance Areas

RECOMMENDED PLANTING DATES

X

HARDINESS 3/1- 3/15- 5/16- 6/2- 8/1- 8/15- 8/15- ZONES 5/15 6/1 8/14 7/31 10/1 10/15 11/15

MOIST TO DRY 56 X X A

l x l

58 X X X

6a

straw mulch and seed as soon as possible in the spring, or use sod

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL

EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

REFER TO BEST MANAGEMENT PRACTICES FOR SEEDING IN SENSITIVE AREAS

means before seeding, if not previously loosened.

(USE CERTIFIED MATERIAL IF AVAILABLE)

TALL FESCUE (75%), CANADA BLUEGRASS (10%), KENTUCKY BLUEGRASS (10%), REDTOP (5%)#

KENTUCKY BLUEGRASS (50%), CREEPING RED FESCUE OR

RED FESCUE OR CHEWINGS FESCUE (80%) PERENNIAL RYEGRASS (20%)

TALL FESCUE (85%) OR, PERENNIAL RYEGRASS (50%) PLUS CROWNVETCH OR FLATPEA

WEEPING LOVEGRASS (17%) SERECIA LESPEDEZA (83%)

Refer to Figure 5.

34 Maryland State Highway Administration Approved Mixes.

#### TEMPORARY SEEDING NOTES Table 25 Permanent Seeding for Low Maintenance Areas (Cont'd)

WIX	SEED MIX	PLANTING RATE SITE		USBA								H	
	(USE CERTIFIED MATERIAL IF AVAILABLE)	LBS/AC   LBS/1000	HARDINESS ZUNES	3/1- 5/15	3/!5- 6/1		6/2- 7/31	8/1- 10/1	8/15- 10/15	8/15- 11/15	Ĭ E 2		
7	TALL FESCUE (820),	120	25	DRY TO VERY	56		х		х	×			6
	VEEPING LOVEGRASS (2%) PLUS SERECIA LESPEDEZA (15%)	3	.07	DRY	6a		X		х	х			
		20	.46		6 <b>b</b>	X		Х			x		
					70	×		X	,			X	
				7b	X		×				х	_	
8	REED CANARYGRASS (75%) REBTOP (6%) PLUS	40 .92 WET TO	5lc		x			x			н		
	BIRDSFEET TREEFEIL (19%)	10	3 .07 MODERATELY -	6a		x			х				
					6ib	x					х		
					7a	х						X	
					7to	Х						×	
9	TALL FESCUE (86%) PDA TRIVIALIS (7%)	125	2.9	.23 HODERATELY	5%		x			x			1
	BIRDSFORT TREFOIL (7%)	10	.23 .23		64		x			x			
					6b	×					X		
10	TALL FESCUE (80%)	120 30	3.4 .69	MOIST TO DRY	5b		X			х			٦,
	HARD FESCUE (20%)	30	.63		6a		X			x			
					6lb	×					×		
					7a	×						×	
					7tb	X	Ĺ					X	
11	HARD FESCUE (100%)	.75	1.7	MEIST TO DRY	5%		X			X	L		,
					60.		X			X			
					6lo	×					X		
					7a	X					I	X	

G/VEEPING LOVEGRASS MAY BE SEEDED WITH TALL FESCUE IN MID-SUMMER, SERECIA LESPEDEZA IS BEST SUITED FOR ZONES 70 AND 76.
H/USE ON POORLY DRAINED SOILS-DITCHES OR VATERVAYS. BIRDSFOOT TREEFOILSIS BEST FOR ZONES 36, 60, ABOVE 2,000 FT.
I/USE IN AREAS OF MOIST SHADE. POA TRIVIALIS THRIVES IN VET SHADY AREAS.
J/TALL FESCUE MAY BE SEEDED ALONE. THE HARD FESCUE PROVIDES BETTER SHADE TOLERANCE AND PRODUCES A BETTER STAND.
K/LOW FERTILITY GRASS. REQUIRES INFREQUENT MOUNTING, GOOD COMPANION FOR VILDFLOWERS.

G-20-19

Table 24 Maintenance Fertilization for Permanent Seedings

Use	Soil	Test	Results	or	Rates	Showa	Below

Seeding Mixture	Туре	lb/oc	1b/1000 sf	Time	Mowing	
fall fescue makes up 70% or more of cover	10-10-10 or	500	11.5	Yearly or as needed.	Not closer than 3" If occasional moving is	
	30-10-10	400	9.2		desired	
Crownvetch Gericea Lespedeza Brasfoot Trefoil	0-20-0	400	9.2	Spring, the year following establishment and every 4—5 years thereafter	Do not more crownvetch	
Fairty uniform stand of tall fescue and serices lespedeza, or birdsfoot trefoll	5-10-10	500	11.5	fall the year following establishment and every 4-5 years thereafter	Not required, no closer than 4" in the tall after seed has matured.	
Weeping lovegrass & sericea tespedeza fairly uniform plant distribution.	51010	500	Ħ. <b>5</b>	Spring, the year tollowing establishment and every 3-4 years thereafter.	Not required, not closer than 4" in the fall after seed has matured.	
Red & chewings fescue, Kentucky bluegrass, hard fescue mixtures	20-10-10	250	5.8	September, 30 days later. December, May 20, June 30, if needed.	Mow no closer than 2" for red fescue and K. bkuegross, 3" for fescue.	
-		100	2.3		3 10x 103000.	

Table 26 Temporary Seeding Rates, Depths, and Bates

SPECIES	MINIMUM SEET	DING RATES	PLANTING DEPTH*		HARDINESS ZONES AND SEEDING DATES								
					7a and	7b		6 <b>b</b>		6a and			
	PER ACRE	LBS/1000 SQ.FT.	INCHES	2/1- 4/30	5/1- 8/14	8/15~ 11/30	3/1- 4/30	5/1- 8/14	8/15- 11/15	3/15- 5/31	6/1- 7/31	8/1- 10/31	
CHOOSE ONE: BARLEY DATS RYE?	2.5 BU. (122tibs) 3 BU. (96tbs) 2.5 BU. (140tbs)	2.60 2.21 3.22	1-2 1-2 1-2	x x x		BY 10/15 - X	X X X	-	BY 10/15 - X	X X X	- - -	BY 10/1	
BARLEY DR RYE PLUS FOXTAIL MILLEF	150 ∜los	3.45	1	X X	x	10/15 X	X X	X X	19/15 X	x x	×	10/1 X	
WEEPING LOVEGRASS	4 tos	.09	1/4-1/2	-	X	-	-	х	-	-	x	-	
ANNUAL RYEGRASS	50 lbs	1.15	1/4-1/2	х	-	11/1	х	-	11/1	x	-	8/1	
MILLET*	50 (los	1.15	1/2	-	х	-	-	X	-	-	х	-	

6-50-50

36 Applicable on slopes of 311 or flatter

37 Refer to Figure A - Adopted from USDA, ARS Miscellaneous Publication #1475, January 1990 38 Between fall and spring seeding dates, use mulch only if ground is frozen and reseed when

39 May be used as a nurse crop for late fall/early winter permanent seedings, add  $56\ lbs/ac$  to the permanent seeding mixture

40 Maryland State Highway Administration Temporary Seed Mix

41 May be used as a nurse crop for mid-summer permanent seedings. Add 2 lbs/ac to permanen

42 May be used as a nurse crop for mid-summer permanent seedings. Add 10 lbs/ac to the

SECTION III Permanent Seeding Seeding grass and legumes to establish ground cover for a minimum period of one year on disturbed areas generally receiving low maintenance.

A. Seed Mixtures - Permanent Seeding

Section IV Sad and V Turfgrass.

Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this Summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purpose such as wildlife or aesthetic treatment may be found in USDA-SCS Technical Field Office Guide,

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

Section 342-Critical Area Planting. For special lawn maintenance area, see

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

PERMANENT SEEDING SUMMARY SEE MIXTURE (FOR HARDINESS ZONE 7A (FROM TABLE 25) APPLICATION SEEDING SEEDING RATE (1b/ac) DATES DEPTHS RATE SPECIES P205 K20 175 ib/ac 175 ib/ac 2 tans/ac (4 lb/ (4 lb/ (100 lb/ 1000 sf) 1000 sf) 3/1 - 5/15 1/4" KENTUCKY BLUEGRASS

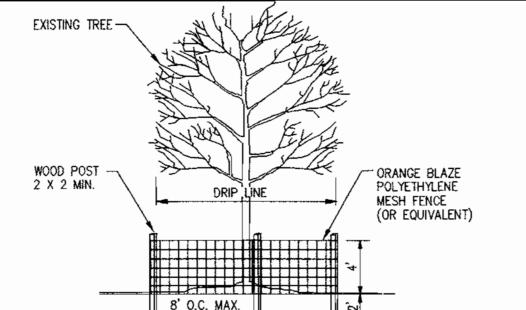
> APPROVIL PLANNING BOARD of HOWARD COUNTY

# DETAIL 24 - STABILIZED, CONSTRUCTION ENTRANCE

Silt Fence Length unlimited 1,000 feet 750 feet 500 feet 250 feet 125 feet

2:1 and steeper Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control

MARYLAND DEPARTMENT OF ENVIRONMENT U.S. DEPARTMENT OF AGRICULTURE WATER MANAGEMENT ADMINISTRATION SOIL CONSERVATION SERVICE



MINISTALL TREE PROTECTION FENCE AT THE DRIP LINE OF THE TREES TO BE PROTECTED

OR, IF THAT IS NOT POSSIBLE, AS FAR FROM THE TREE AS POSSIBLE

THE CONTRACTOR SHALL HAVE THE RESPONSIBILITY FOR TREE PROTECTION. ALL TREES 12" CALIPER AND GREATER SHALL BE PROTECTED FROM HARM. HE SHALL TAKE CARE TO PROTECT TREE ROOT SYSTEMS WITHIN THE DRIP LINE FROM DAMAGE INCLUDING SMOTHERING AND SPILLAGE.

3. REMOVAL OF TOPSOIL OR ROOT MAT WITHIN THE TREE PROTECTION AREA IS PROHIBITED TREE PROTECTION FENCE

BETWEEN POST

### MOUNTABLE BERM (6" MIN.) EXISTING PAVEMENT - EARTH FILL \*\* GEDTEXTILE CLASS ' -- PIPE AS NECESSARY OR BETTER MINIMUM 6' DF 2'-3' AGGREGATE OVER LENGTH AND WIDTH OF LEXISTING GROUND STRUCTURE PROFILE --- \* 50' MINIMUM-LENGTH STANDARD SYMBOL SE SCEN Construction Specification . Length - minimum of 58' (\*30' for single residence lot).

2. Width - 10' minimum, should be flared at the existing road to provide a turning

3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. \*\*The plan approval authority may not require single family residences to use geotextile.

4. Stone - crushed aggregate (2' to 3') or reclaimed or recycled concrete equivalent shall be placed at least 6' deep over the length and width of the entrance.

5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable bern with 5:1 slopes and a minimum of 6' of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6' minimum will be required.

6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance. MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION SDIL CONSERVATION SERVICE

INSPECTOR. STABILIZED CONSTRUCTION ENTRANCE

NOTE: STABILIZED ENTRANCES SHALL BE LOCATED WITH THE APPROVAL

OF THE SEDIMENT CONTROL

Description This work shall consist of protecting slopes and channels tron erosion with coverings of stone in accordance with the dumped raprap Material Specification: A. Bonk run gravel shall meet the following seive size size based on bankfull velocity 2 1/2 16 CROSS SECTION SIZING RIPRAP PER STREAM VELOCITY B. Geotextile filter fabric shall meet the following requirements: Jensile Strength Burst Strength Puncture Strength Permeability Elongation at Failure Minimum Lap Length 2. Riprop: The maximum weight of stone shall be based upon the chart. The gradation of the stone shall be as Construction Requirements The contractor shall install all sediment and erosion

control devices as a first order of business.

stream bed so as to provide protection against undermining. If this cannot be accomplished by extending the toe trench as indicated in Cross Section, an alternative method of protection must received prior written . Excavation for riprap shall be made in reasonably close conformity with the existing stream slope and bed.

Provisions must be made to anchor the migrap at the

geotextile filter labric meeting the specifications of 5. The placement of riprap shall begin with the too. The larger stones shall be placed in the toe and along the outside edges of the limits of the slope and channel protection. The riprap shall be placed with suitable equipment in such a manner as to produce a reasonable graded mass of stones with zero drop height. The

. A filter bedding is required under all riprap. Bedding

material shall consist of either a bank run gravet or a

 Any excavation voids existing along the edges of the completed stope and chapnel protection shall be 7. All disturbed areas shall be permanently stabilized in accordance with an approved sediment and erosion control

placing of stones that cause extensive segregation is

Approved On 174 86 WPD 3.1 Chief, Waterway Permits WATER RESOURCES Riprap **ADMINISTRATION** 

RIPRAP (4) SCALE: NIS

in ft/sec

RIPRAP GRADATION

BESED ON ISBOSH CURYE

100 max

100 10 mag

### CERTIFICATION BY THE ENGINEER

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

**CERTIFICATION BY THE DEVELOPER/BUILDER** 

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS OF DEVELOPMENT AND PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL 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 INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY".

3/7/00 DENIN ELLS REVIEWED FOR HOWARD COUNTY S.C.D. AND MEETS TECHNICAL REQUIREMENTS.

NATURAL RESOURCES CONSERVATION SERVICE PPROVED FOR SOIL EROSION AND

APPROVED: DEPARTMENT OF PLANNING AND ZONING THEF, DEVELOPMENT PROTRETRING DIVISION

04/29/99 M2491.00 2491DET2 01/11/00 DETAILS

8 of 8

SDP-00-14

••• REVISIONS

VER VER ION 2 SECT 142;

ASANT RIDGE
VILLAGE OF RIVE
10N 1/4 LOT 53; SECTION
11 LOTS 82, 83, 86, 87; SE
15 LOTS 139, 140, 141, 14
5 LOTS 139, 140, 141, 14

0

 $\mathbf{C}$ 

 $\mathbf{m}$ 

0/4/99 COUNTY COMMENT 01/10/00 COUNTY COMMENT

JOB NUMBER: ILE NUMBER PLOTTED: DRAWN BY:

SEDIMENT AND **EROSION CONTROL**