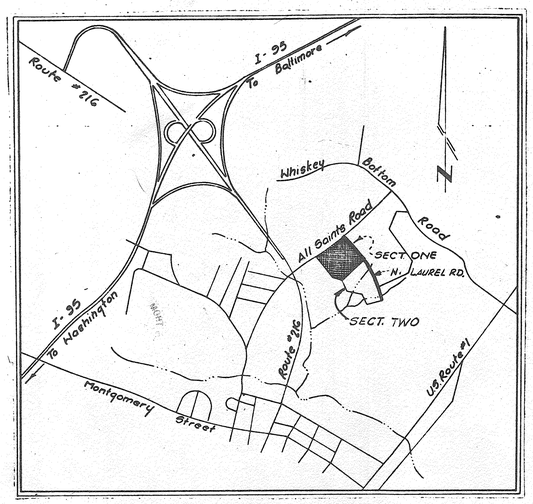
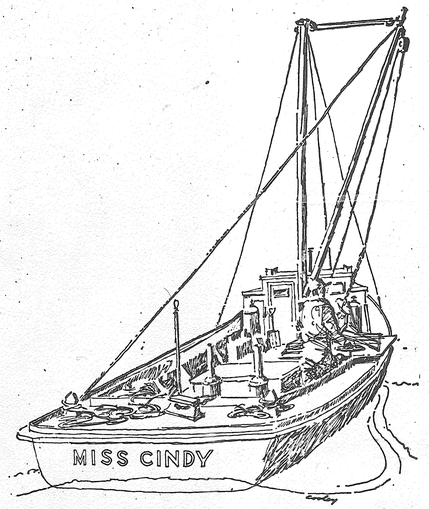
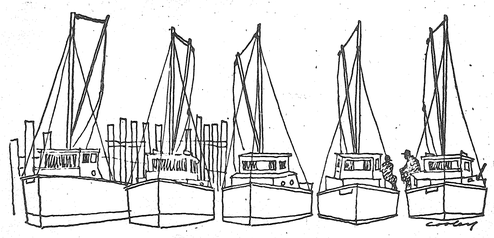


VICINITY MAP
SCALE 1" = 2000'

LIST OF DRAWINGS

SHEET NO.	TITLE
S-1	COVER SHEET
S-2	SITE & GRADING PLAN
S-3	SITE & GRADING PLAN
S-4	SITE IMPROVEMENT DETAILS
S-5	BUILDING LOCATION PLAN
S-6	BUILDING LOCATION PLAN
S-7	DRIVEWAY PROFILES
S-8	STORM DRAIN PROFILES
~~SCS-1~~	~~SEDIMENT CONTROL PLAN~~
~~SCS-2~~	~~SEDIMENT CONTROL PLAN~~
~~SCS-3~~	~~SEDIMENT CONTROL PLAN~~
~~SCS-4~~	~~SEDIMENT CONTROL PLAN~~





Oyster tonging on the Chesapeake Bay at the peak of the winter season seems as ageless—and as ingrained in Maryland folklore—as the Eastern Shore itself.

ON MAY 21, 2021 THE DIRECTOR OF THE DEPARTMENT OF PLANNING AND ZONING APPROVED THE ALTERNATIVE COMPLIANCE (WP-21-121) SUBJECT TO THE FOLLOWING CONDITIONS:

1. ALL DISTURBED AREAS WITHIN THE STREAM, STREAM BANK BUFFER AND 100-YEAR FLOODPLAIN SHALL BE STABILIZED, SEEDED AND/OR PLANTED AFTER CONSTRUCTION IS COMPLETE. THE SITE DEVELOPMENT PLAN, SDP-72-084, SHALL BE REVISED TO INCLUDE ALL REQUIRED STABILIZATION, SEEDING AND PLANTING DETAILS FOR THE PROPOSED PROJECT. THE DISTURBED AREAS WITHIN THE STREAM BUFFER SHALL BE REPLANTED AT A RATE OF AT LEAST 100 TREES PER ACRE.

2. THE APPLICANT SHALL OBTAIN ALL REQUIRED AUTHORIZATIONS AND PERMITS FROM THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) AND THE U.S. ARMY CORPS OF ENGINEERS FOR DISTURBANCES WITHIN THE STREAM AND FLOODPLAIN. THE APPLICANT SHALL COORDINATE WITH MDE TO REVISE THE EXISTING AUTHORIZATION (201961118 / 19-NT-3160) TO BE CONSISTENT WITH THE STREAM BANK AND FLOODPLAIN IMPACTS AS SHOWN ON THE ALTERNATIVE COMPLIANCE PLAN EXHIBIT AND SDP-72-084. REFERENCE THE MDE AUTHORIZATION NUMBERS ON SDP-72-084 AND PROVIDE COPIES OF THE APPROVED MDE AUTHORIZATIONS WITH THE GRADING PERMIT APPLICATION.

SHEET NO.	TITLE
S-9	RETAINING WALL REPLACEMENT
S-10	RETAINING WALL REPLACEMENT EXISTING ~~PROPOSED~~
S-11	~~PROPOSED~~ RETAINING WALL SITE PLAN
~~S-12~~	~~PROPOSED RETAINING WALL SEDIMENT AND EROSION CONTROL PLAN~~
~~S-13~~	~~PROPOSED RETAINING WALL SEDIMENT AND EROSION CONTROL NOTES & DETAILS~~
~~S-14~~	~~PROPOSED RETAINING WALL SEDIMENT AND EROSION CONTROL NOTES & DETAILS~~
S-15 12	EXISTING ~~PROPOSED~~ RETAINING WALL
S-16 13	EXISTING ~~PROPOSED~~ RETAINING WALL
S-17 14	EXISTING ~~PROPOSED~~ RETAINING WALL
3 S-15	STREAM STABILIZATION
S-16	GABION WALL - A, SECTIONS & ELEVATIONS
S-17	GABION WALL - B, SECTIONS & ELEVATIONS
S-18	STREAM RESTORATION PLANTING PLAN
S-19	STREAM RESTORATION PLANTING NOTES
S-20	STREAM STABILIZATION EROSION & SEDIMENT CONTROL PLAN
S-21	STREAM STABILIZATION EROSION & SEDIMENT CONTROL ENLARGEMENT
S-22	STREAM STABILIZATION EROSION & SEDIMENT CONTROL NOTES & DETAILS
S-23	STREAM STABILIZATION EROSION & SEDIMENT CONTROL NOTES & DETAILS
S-24	STREAM STABILIZATION EROSION & SEDIMENT CONTROL NOTES & DETAILS

SECTION TWO

WHISKEY BOTTOM APARTMENTS

SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 11124 EXPIRATION DATE: OCTOBER 3, 2022.

3 STATE OF MARYLAND — CHARLES THOMAS GODLEY — No. 11124 — PROFESSIONAL ENGINEER

HOWARD COUNTY HEALTH DEPT.
PUBLIC WATER AND SEWER SYSTEMS
APPROVED _____
_____ COUNTY HEALTH OFFICER

HOWARD COUNTY OFFICE OF PLANNING AND ZONING
APPROVED 9-14-72
DATE — PLANNING DIRECTOR
9/13/72
DATE — CHIEF, DIVISION OF LAND DEVELOPMENT & TRANSPORTATION PLANNING

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
PUBLIC WATER, SEWER, AND STORM DRAINAGE SYSTEMS AND ROADS
APPROVED:
9/7/72 — DIRECTOR
9/6/72
DATE — CHIEF, BUREAU OF HIGHWAYS

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
REVIEWED: 9-1-72 DATE
DISTRICT CONSERVATIONIST
APPROVED: 9-1-72 DATE
HOWARD SOIL CONSERVATION DISTRICT

APPROVED
PLANNING BOARD OF HOWARD COUNTY
DATE 6/28/72
ARCHITECT
RONALD S. SENSEMAN, FAIA
7676 NEW HAMPSHIRE AVENUE
LANGLEY PARK, MD. 20783

3 LANDMARK ENGINEERING, INC.
13722 LAMBERTINA PLACE — PHONE: (301) 230-5881
ROCKVILLE, MARYLAND 20850 — FAX: (301) 230-9684
CONSULTING ENGINEERS PLANNERS SURVEYORS

OWNER AND DEVELOPER
WHISKEY BOTTOM CONDOMINIUM, INC.
1720 WISCONSIN AVENUE, N.W.
WASHINGTON, D.C. 20007

REVISIONS
2 MAY 20, 2017 - RENUMBERED AND ADDED NEW SHEETS ON LIST OF DRAWINGS
3 MAR. 28, 2022 - RENUMBERED AND ADDED NEW SHEETS ON LIST OF DRAWINGS

STATE OF MARYLAND — CHARLES THOMAS GODLEY — No. 11124 — PROFESSIONAL ENGINEER
5/20/17

LANDMARK ENGINEERING, INC.
6110 EXECUTIVE BLVD., STE. 110
ROCKVILLE, MD. 20852
PHONE: (301) 230-5881

JEROME J. NORRIS AND ASSOCIATES
LAND PLANNING - HOUSING CONSULTANTS
6001 32ND STREET, N.W.
WASHINGTON, D.C. 20015

STATE OF MARYLAND — JEROME J. NORRIS — No. 1507 — REGISTERED LAND SURVEYOR

SDP-72-84
SHEET 1 OF 12 17 24

SDP-72-84

SUMMARY

AREA OF SECTION TWO		15.91 Acs.
PRESENT ZONING		R-A-1
• DWELLING UNITS:		
2 BEDROOM	146	
3 BEDROOM - ONE STORY	12	
3 BEDROOM - TWO STORY	64	
TOTAL No OF DWELLING UNITS		222
TOTAL PARKING REQUIRED		333
TOTAL PARKING FURNISHED		368
PARKING RATIO		1.66 to 1
AREA PER D.U.		3122 #
BUILDING HEIGHT		2 STY-22.5'
DWELLING UNIT FLOOR SPACE		
2 BEDROOM		937 #
3 BEDROOM - ONE STORY		1067 #
3 BEDROOM - TWO STORY		1152 #
BUILDING COVERAGE		17.0%

NOTE
NO SIGNS, WALLS OR FENCES ARE TO BE CONSTRUCTED ON THIS ON THIS SITE.

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR — DATE 9/6/72
CHIEF, BUREAU OF HIGHWAYS — DATE 9/6/72

STATE OF MARYLAND — CHARLES THOMAS RADLEY — No. 11124 — PROFESSIONAL ENGINEER — 5/22/17

STATE OF MARYLAND — ROBERT DOUGLAS WILLARD — No. 6607 — REGISTERED PROFESSIONAL LAND SURVEYOR — 5/22/17

NOW OR FORMERLY VIRGNIA SHUGRUE
LIBER NW 8 216, FOLIO 240

APPROVED
PLANNING BOARD OF HOWARD COUNTY
DATE 6/28/72

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 11124, EXPIRATION DATE: OCTOBER 3, 2017

STATE OF MARYLAND — CHARLES THOMAS RADLEY — No. 11124 — PROFESSIONAL ENGINEER

OWNER-DEVELOPER
WHISKEY BOTTOM CONDOMINIUMS, INC.
1720 WISCONSIN AVENUE, N.W.
WASHINGTON, D.C. 20007

JEROME J. NORRIS & ASSOCIATES
LAND PLANNING — HOUSING CONSULTANTS
6001 32ND STREET, N.W.
WASHINGTON, D.C.

WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT
HOWARD COUNTY MARYLAND

SECTION TWO
SITE & GRADING PLAN

REVISIONS
1 MARCH 27, 2009 ADD RET. WALL
2 MAY 20, 2017 ADD PROP. RET. WALL SITE
3 MAR. 28, 2022 STREAM STABILIZATION

SCALE: 1"=30'
DRAWING No. S-2
JULY 3, 1972
OF ~~#217~~ 84

SDP-72-84

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William D. Allen — 9/7/72
DIRECTOR — DATE

J. M. Mehrens — 9/6/72
CHIEF, BUREAU OF HIGHWAYS — DATE

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 6/28/72
James D. Harris Jr.

JEROME A. NORRIS — STATE OF MARYLAND — No. 6617 REGISTERED LAND SURVEYOR

OWNER-DEVELOPER
WHISKEY BOTTOM CONDOMINIUMS, INC.
1720 WISCONSIN AVENUE, N.W.
WASHINGTON, D.C. 20007

JEROME J. NORRIS & ASSOCIATES
LAND PLANNING - HOUSING CONSULTANTS
6001 32ND STREET, N.W.
WASHINGTON, D.C.

WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT
HOWARD COUNTY MARYLAND

SECTION TWO
SITE & GRADING PLAN

REVISIONS

SCALE: 1"=30'
JULY 3, 1972

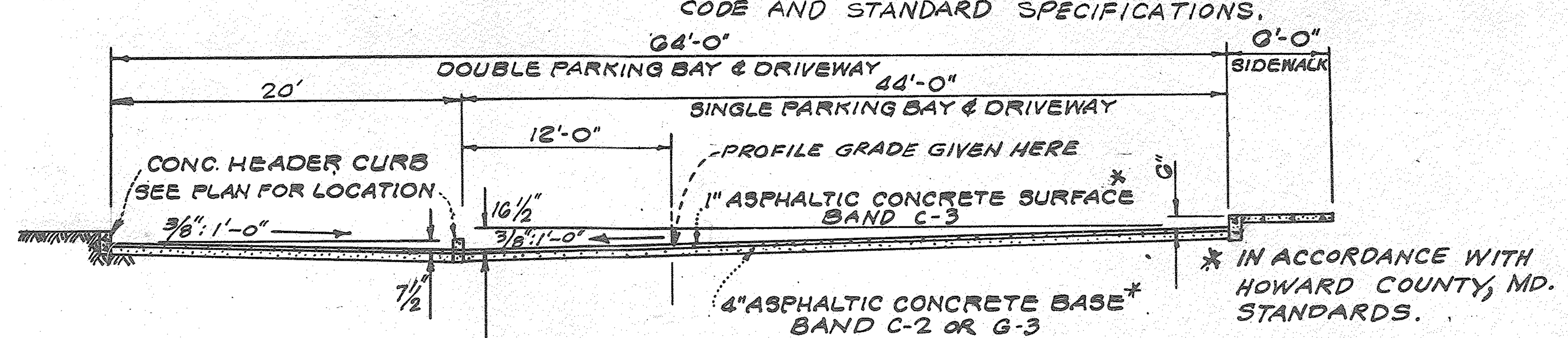
DRAWING No. S-3
OF ~~12~~ 17 14

SDP-72-84

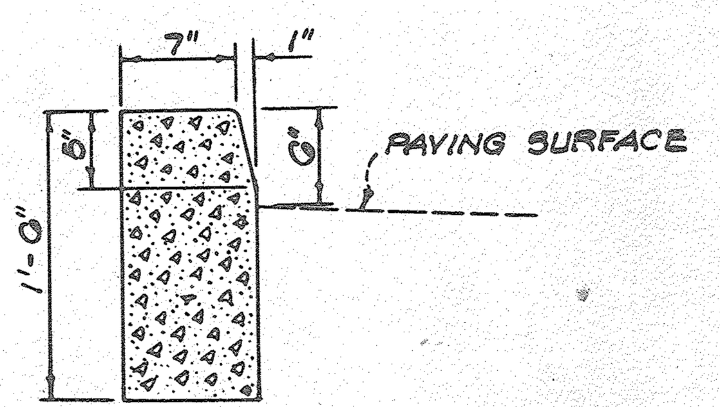
BASE WILL BE PRIMED IN ACCORDANCE WITH C-30-3 AS PROVIDED IN THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND STANDARD SPECIFICATIONS.

TACK COAT IS REQUIRED IN ACCORDANCE WITH SECTION C-31-4 OF THE HOWARD COUNTY ROAD CONSTRUCTION CODE AND STANDARD SPECIFICATIONS.

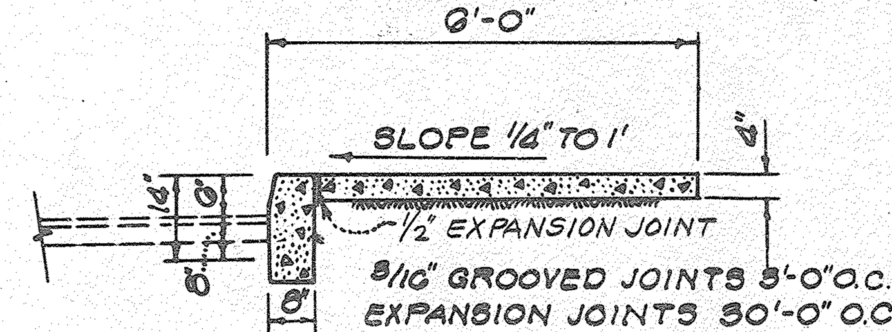
SEE SITE AND GRADING PLAN FOR WARPING OF STANDARD SECTION



TYPICAL CROSS SECTION - PARKING BAYS
SCALE 1/8"=1'-0"

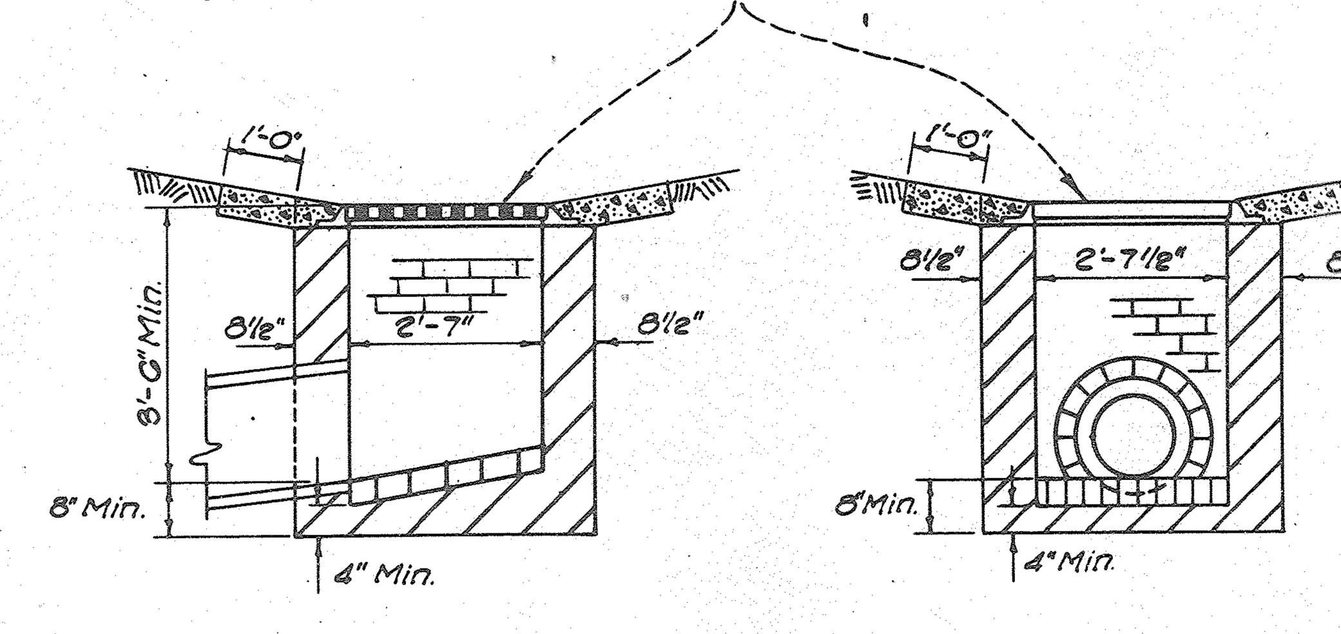


CONCRETE BARRIER CURB
SCALE 1"=1'-0"



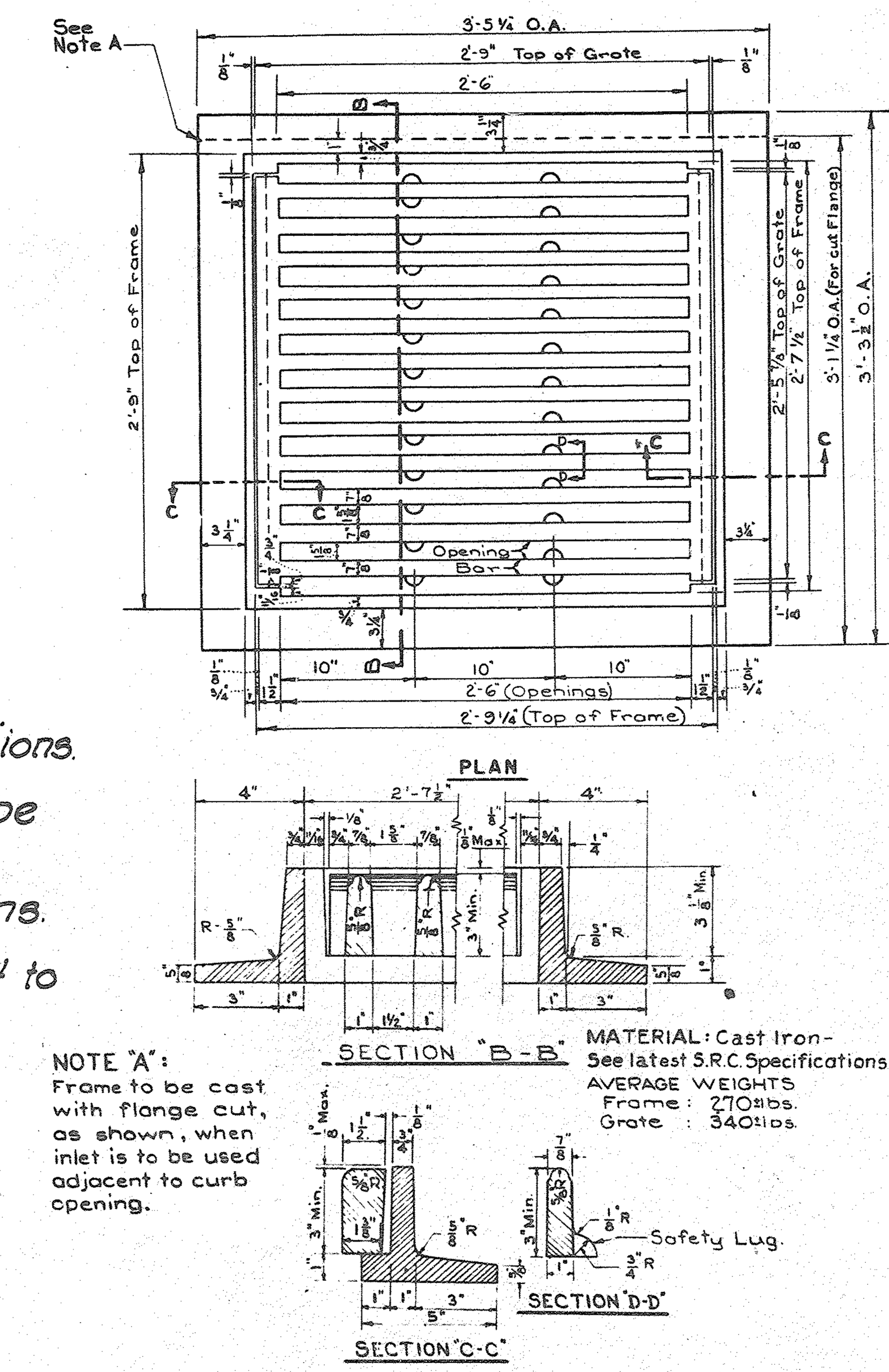
BARRIER CONCRETE CURB AND SIDEWALK
SCALE 3/8"=1'-0"

Frame & Grate for standard K Inlet, See S.R.C. standard MD-379.02.



1. Inlet may be constructed of standard concrete block or brick. Size, type & direction of inlet connection will vary to suit conditions.
2. Top 4" of walls may be brick masonary. Additional brick may be used to bring the grate to grade if required.
3. Brick for masonary to comply with latest S.R.C. specifications.
4. Invert may be plain concrete or 4" brick laid on edge. Invert to slope down toward outlet at the rate of two(2) inches per foot, or as directed.
5. See Md. S.R.C. standard MD-378.01 for information not shown hereon.

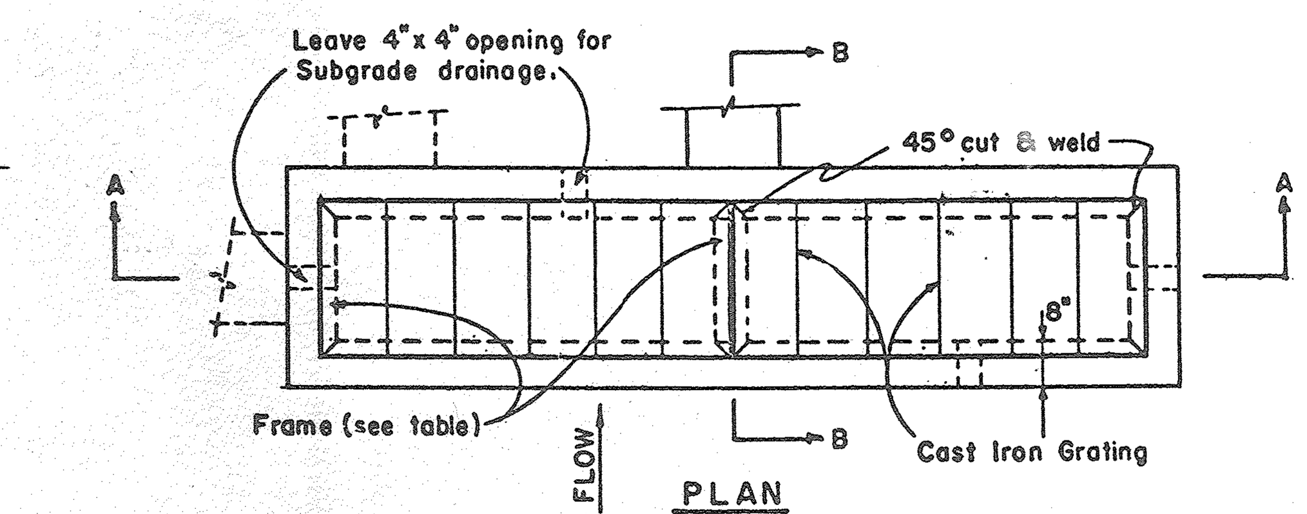
SPECIAL GRATE INLET
SCALE: 3/8"=1'-0"

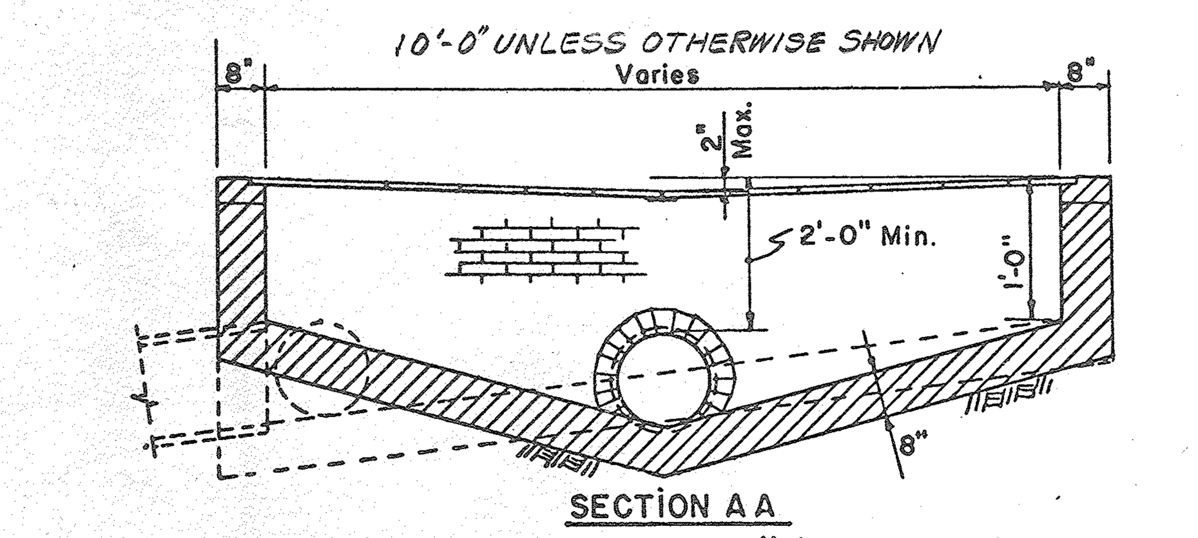


MATERIAL: Cast Iron - See latest S.R.C. Specifications
AVERAGE WEIGHTS
Frame: 270 lbs.
Grate: 340 lbs.

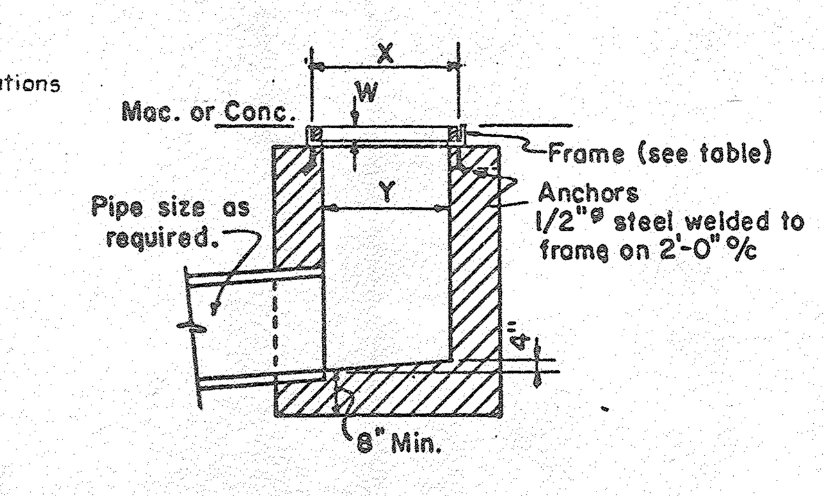
NOTE "A": Frame to be cast with flange cut, as shown, when inlet is to be used adjacent to curb opening.

MD. SRC TYPE S GRATE



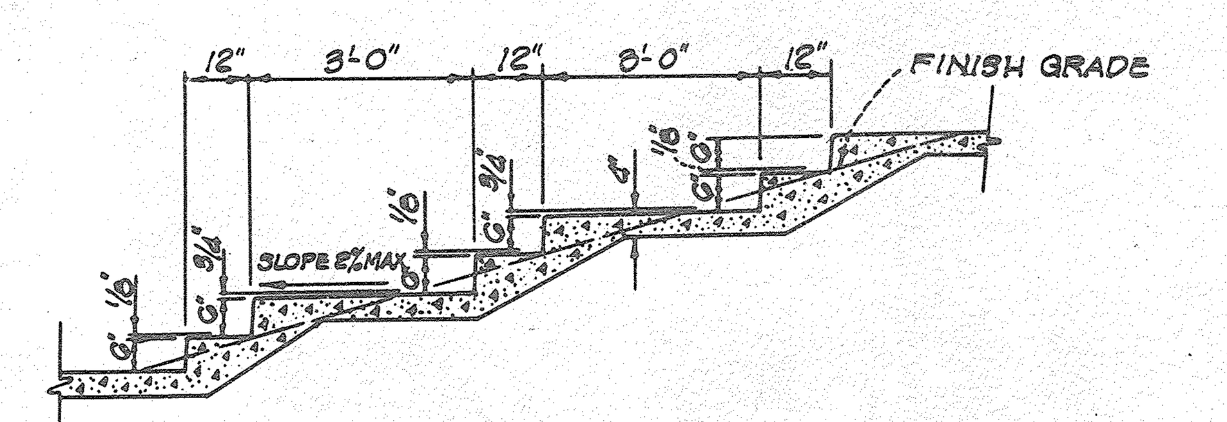


Notes:
1. Invert shall be brick or plain Class "A" concrete masonry.
2. Top 4" of walls shall be brick masonry.
3. Maximum depth of wall shall be 3'-6" where outlet pipe requires greater depth, drop section shall be formed around pipe.
4. Invert shall be brick laid on edge.

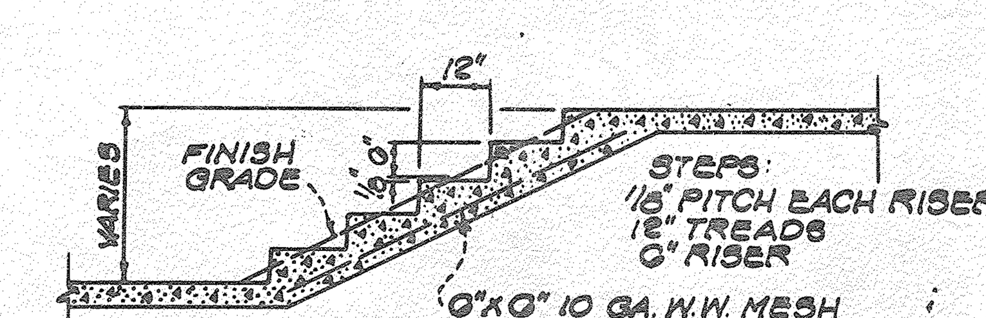


W	X	Y	FRAME ANGLES
S 3"	2'-9"	2'-7"	3½"x2½"x 3/8"
A 2-1/2"	2'-2"	1'-9"	3"x2 1/2"x 3/8"
B 1-3/4"	1'-5"	1'-0"	2"x2 1/2"x 3/8"

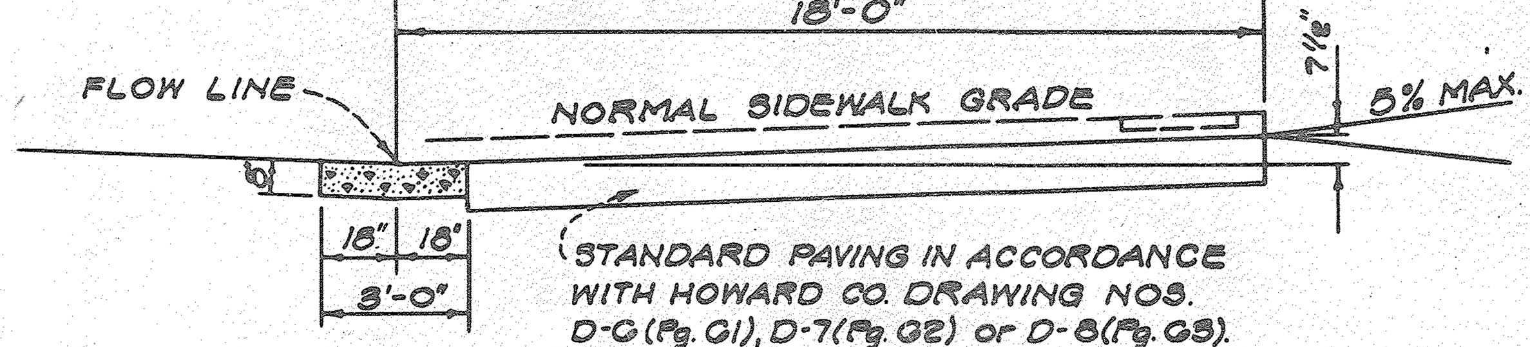
SPECIAL DRIVEWAY GRATE INLET
NO SCALE



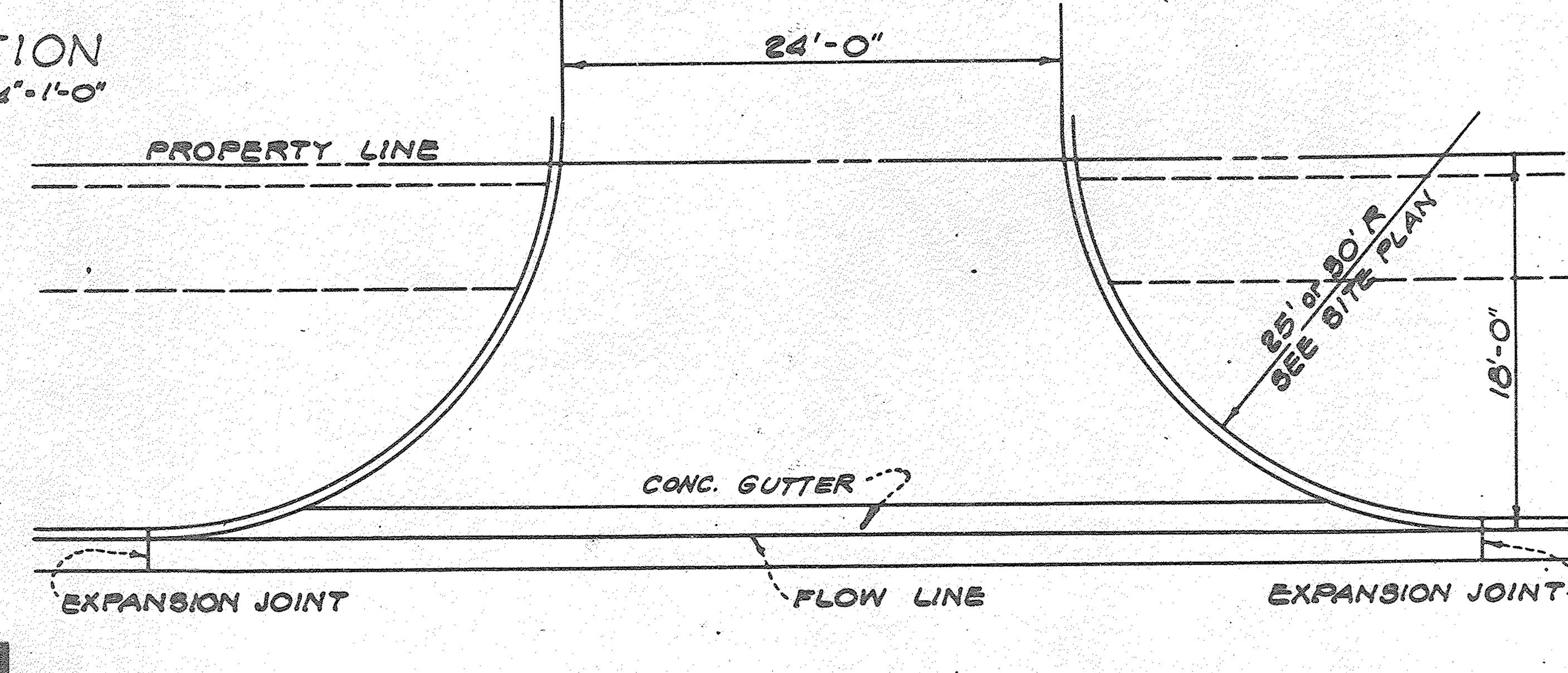
DOUBLE RISER RAMP STEP DETAIL
SCALE: 3/8"=1'-0"



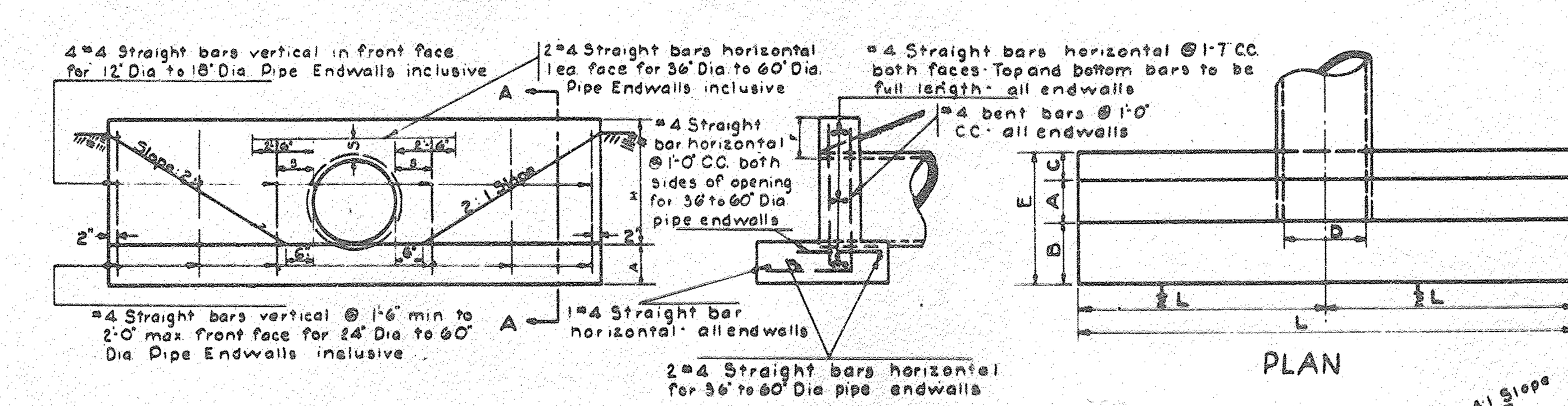
YARD STEPS
SCALE: 3/8"=1'-0"



SECTION
SCALE 1/4"=1'-0"



SPECIAL DRIVEWAY ENTRANCE DETAIL
SCALE 1/8"=1'-0"

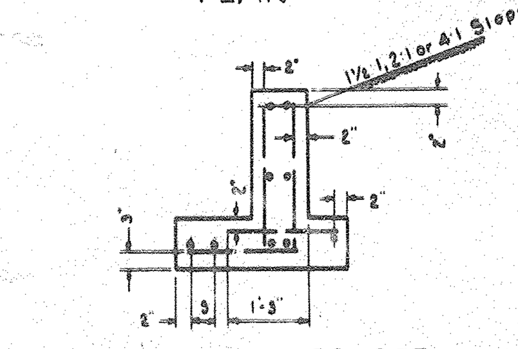


"S" Distances from inside surface of pipe to vertical bars in front and rear face
4" for 12" Dia to 18" Dia pipes incl
6" for 24" Dia to 36" Dia pipes incl
8" for 42" Dia to 60" Dia pipes incl

HOWARD COUNTY STANDARD TYPE "C" ENDWALL
No Scale

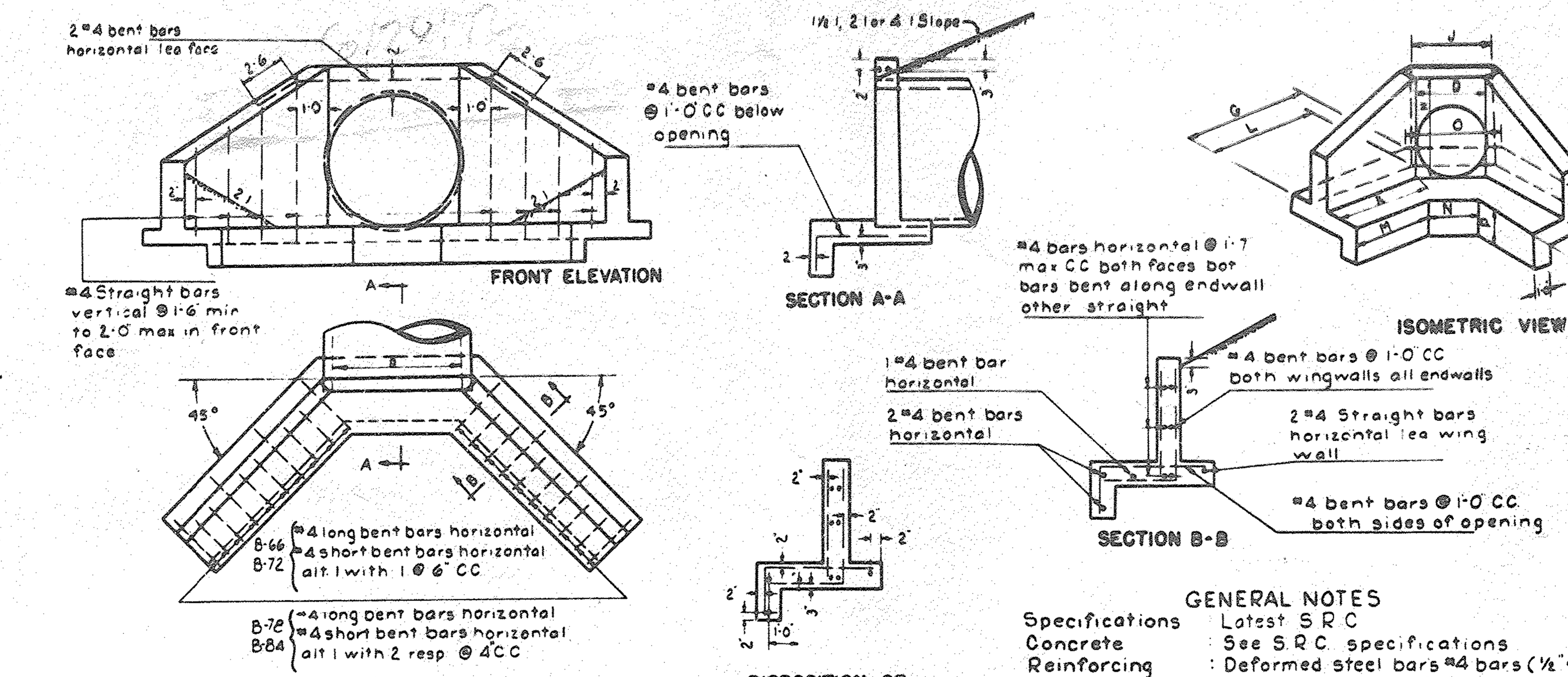
Openings		Dimensions							Volume	Steel
D Inches	Area Sq. Ft.	A	B	C	E	F	H	L	Conc. C.Y.	Lbs.
12	0.79	9"	6"	6"	1'-9"	9"	1'-9"	6'-6"	0.61	38
15	1.23	9"	6"	6"	1'-9"	9"	2'-0"	7'-9"	0.78	55
18	1.78	9"	6"	6"	1'-9"	9"	2'-3"	9'-0"	0.95	62
24	3.14	9"	14"	6"	2'-5"	9"	2'-9"	11'-6"	1.56	91
30	4.91	9"	14"	6"	2'-5"	12"	3'-6"	14'-2"	2.19	136
36	7.07	12"	16"	10"	3'-2"	12"	4'-0"	16'-8"	4.18	222
42	9.62	12"	16"	10"	3'-2"	12"	4'-6"	19'-2"	5.13	265
48	12.57	12"	16"	10"	3'-2"	12"	5'-0"	21'-8"	6.12	326
54	15.90	12"	20"	12"	3'-8"	12"	5'-6"	24'-2"	7.68	384
60	19.64	12"	20"	12"	3'-8"	12"	6'-0"	26'-8"	8.86	428

Quantities in Table to be used for Estimating Only.



DISPOSITION OF BARS - DETAIL

General Notes
Specifications: Latest S.R.C.
Concrete: See S.R.C. specifications.
Reinforcing: Deformed steel bars #4 bars (1/2"∅)
Chamfer: All exposed edges 1"x1" or as directed.



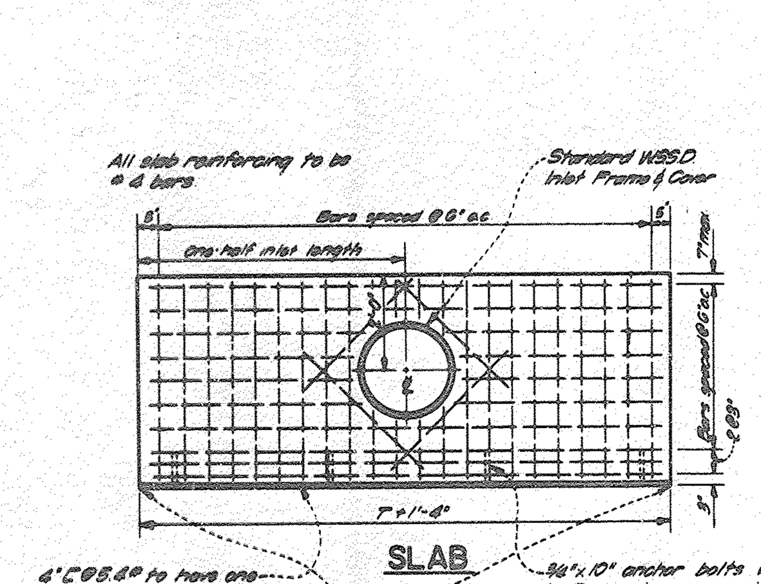
STANDARD B-66 B-72 B-78 B-84 HEADWALLS

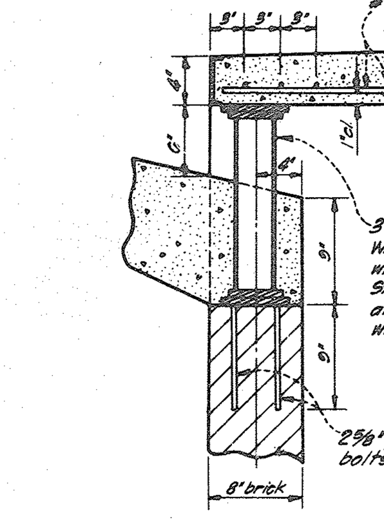
GENERAL NOTES
Specifications: Latest S.R.C.
Concrete: See S.R.C. specifications
Reinforcing: Deformed steel bars #4 bars (1/2"∅)
Chamfer: All exposed edges 1"x1" or as directed

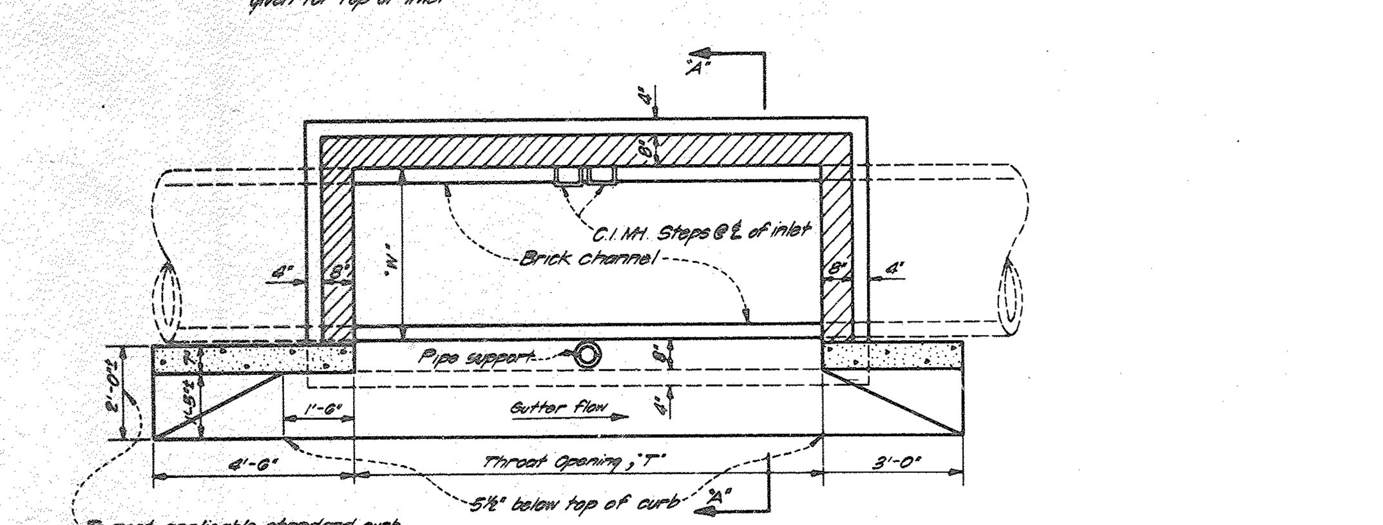
Opening		Dimensions													Vol.	Steel
D Inches	Area Sq.Ft.	B	C	E	F	G	H	J	K	L	M	N	O	P	Conc. C.Y.	Lbs.
66	23.80	2'-6"	1'-3"	4'-9"	3'-0"	11'-2½"	6'-8½"	6'-4"	10'-3¾"	10'-8½"	9'-3"	3'-5"	7'-4½"	2'-0"	9.7	532
72	28.27	2'-6"	1'-3"	4'-9"	3'-3"	12'-1"	7'-3"	6'-10"	11'-7½"	11'-6½"	10'-1¼"	3'-11"	7'-10½"	2'-0"	10.9	590
78	33.20	3'-0"	1'-6"	5'-6"	3'-6"	13'-0½"	7'-9½"	7'-4"	12'-0"	12'-5"	10'-9"	4'-0"	8'-6¾"	2'-6"	13.3	807
84	38.48	3'-0"	1'-6"	5'-6"	3'-9"	13'-10"	8'-4"	7'-10"	12'-9½"	13'-2½"	11'-6½"	4'-6"	9'-0¾"	2'-6"	14.7	924

Quantities in table to be used for estimating only

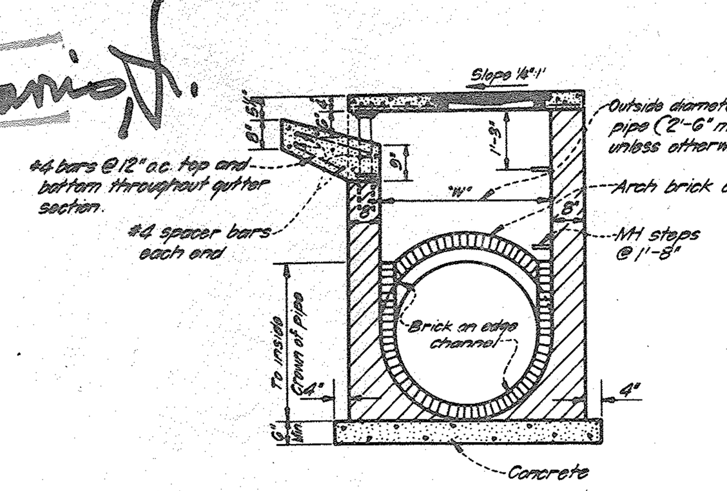
HOWARD COUNTY STANDARD LARGE "B" HEADWALL
No Scale







APPROVED
PLANNING BOARD OF HOWARD COUNTY
DATE 6/28/72
[signature]



DESIGNATION	T THROAT OPENING	NUMBER OF PIPE SUPPORTS
A-5	5'-0"	0
A-10	10'-0"	1
A-15	15'-0"	2
A-20	20'-0"	3

Pipe supports to be spaced 5'-0" o.c.

NOTES:

For pipes larger than 27" provide steps in channels of structures. See Standard Storm Drain Detail #561223-L.

On terminal inlets, the inlet bottom shall be sloped to outlet pipe with a 9" minimum fall.

HOWARD COUNTY STANDARD CLASS A INLET
No Scale

STATE OF MARYLAND REGISTERED LAND SURVEYOR No. 4607

APPROVED - FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
William A. Alt 9/7/72
DIRECTOR DATE
[signature] 9/6/72
CHIEF, BUREAU OF HIGHWAYS DATE

JEROME J. NORRIS & ASSOCS.
LAND PLANNING - HOUSING CONSULTANTS
6001 32ND STREET, N.W.
WASHINGTON, D.C.

WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SECTION TWO
SITE IMPROVEMENT DETAILS

REVISIONS

SCALE: NOTED
JULY 3, 1972

DRAWING No. S-4 OF ~~12~~ 17

24

SDP-72-84

SECTION ONE
WHISKEY BOTTOM APARTMENTS

COVERED WAGON DRIVE

HITCHING POST LANE

HITCHING POST LANE

BRIDLE PATH LANE

NORTH LAUREL ROAD

50' BUILDING RESTRICTION LINE

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 6/28/72

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR — DATE 9/7/72
CHIEF, BUREAU OF HIGHWAYS — DATE 9/6/72

STATE OF MARYLAND — CLAUDE DOUGLAS WARE — No. 20972 REGISTERED PROFESSIONAL ENGINEER — 3/29/89

STATE OF MARYLAND — JEROME J. NORRIS — No. 667 REGISTERED LAND SURVEYOR

OWNER-DEVELOPER
WHISKEY BOTTOM CONDOMINIUMS, INC.
1720 WISCONSIN AVENUE, N.W.
WASHINGTON, D.C. 20007

JEROME J. NORRIS & ASSOCIATES
LAND PLANNING - HOUSING CONSULTANTS
6001 32ND STREET, N.W.
WASHINGTON, D.C.

WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT
HOWARD COUNTY MARYLAND

SECTION TWO
BUILDING LOCATION PLAN

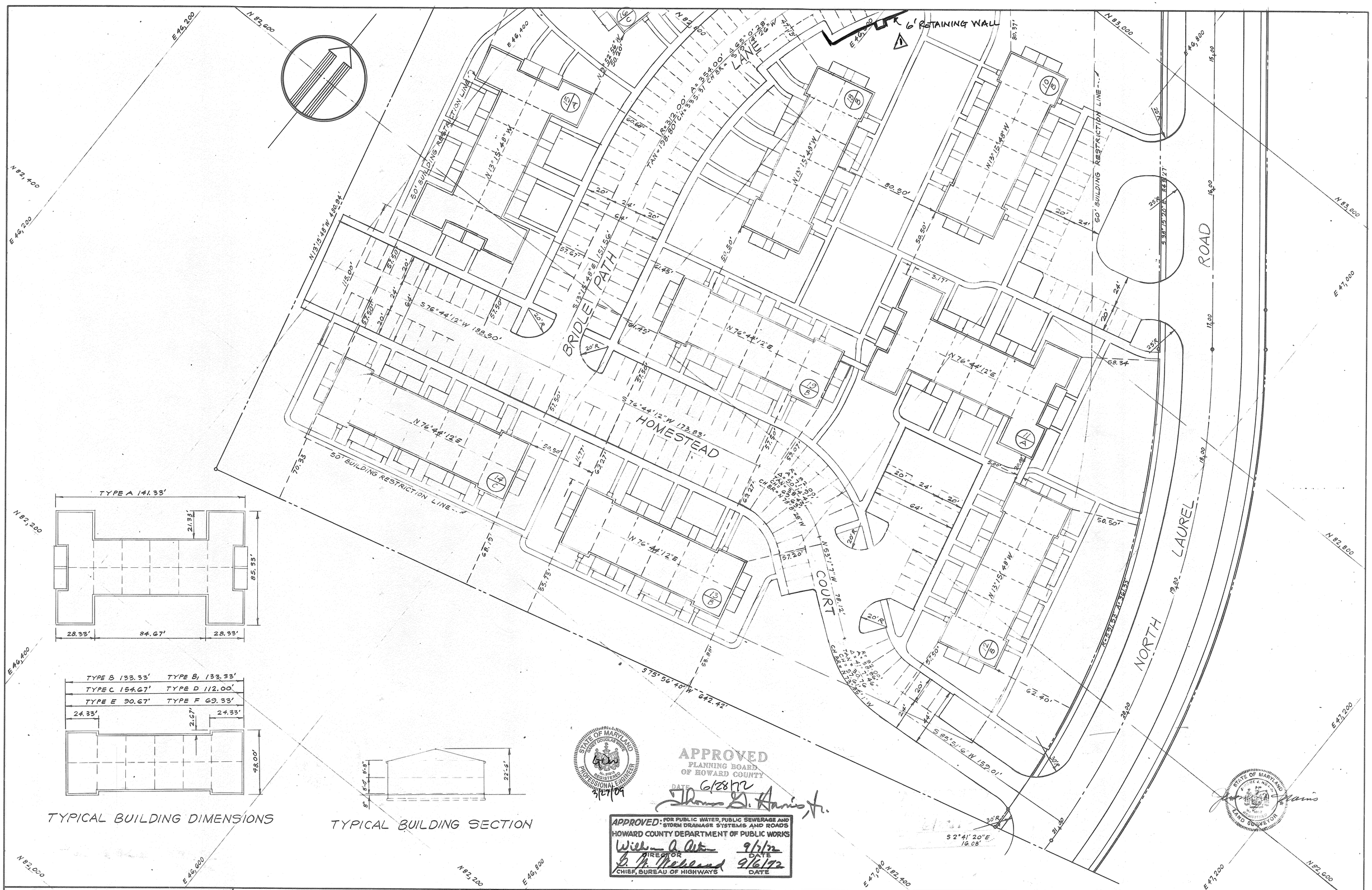
REVISIONS
1 March 27, 2009 ADD RET. WALL

SCALE: 1"=30'
JULY 3, 1972

DRAWING No. S-5 OF 12 17

24

SDP-72-84



OWNER-DEVELOPER
WHISKEY BOTTOM CONDOMINIUMS, INC.
1720 WISCONSIN AVENUE, N.W.
WASHINGTON, D.C. 20007

JEROME J. NORRIS & ASSOCIATES
LAND PLANNING - HOUSING CONSULTANTS
6001 32ND STREET, N.W.
WASHINGTON, D.C.

WHISKEY BOTTOM APARTMENTS

SIXTH ELECTION DISTRICT
HOWARD COUNTY MARYLAND

SECTION TWO

BUILDING LOCATION PLAN

REVISIONS
1 MARCH 27, 2007 ADD RET. WALL

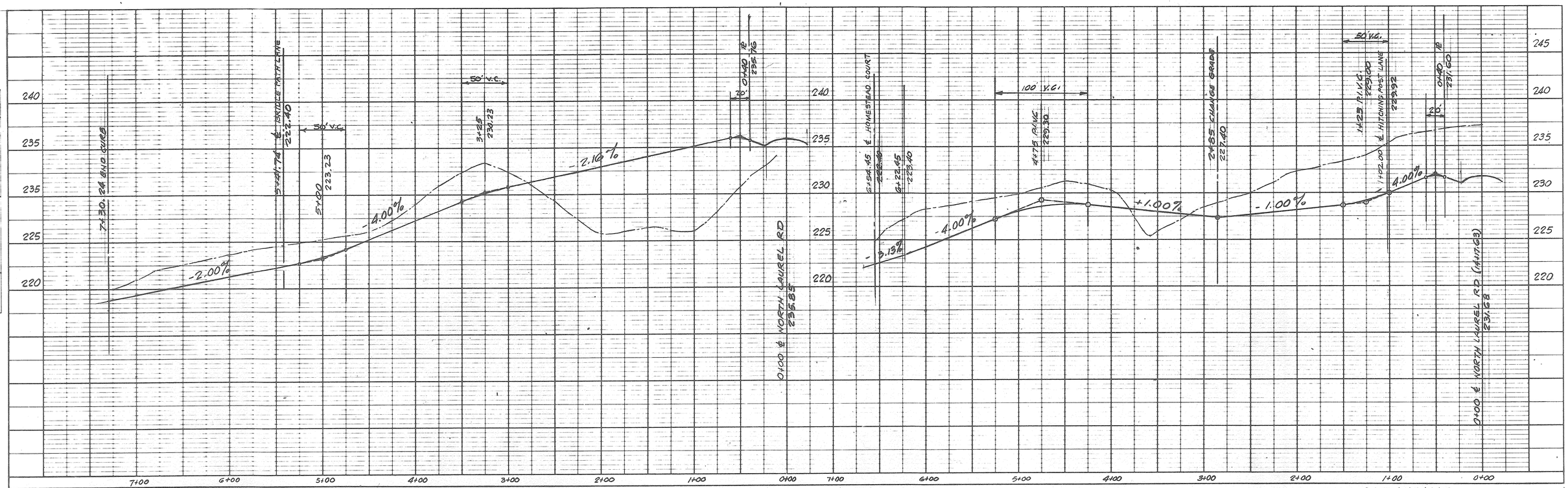
SCALE: 1"=30'
JULY 3, 1972

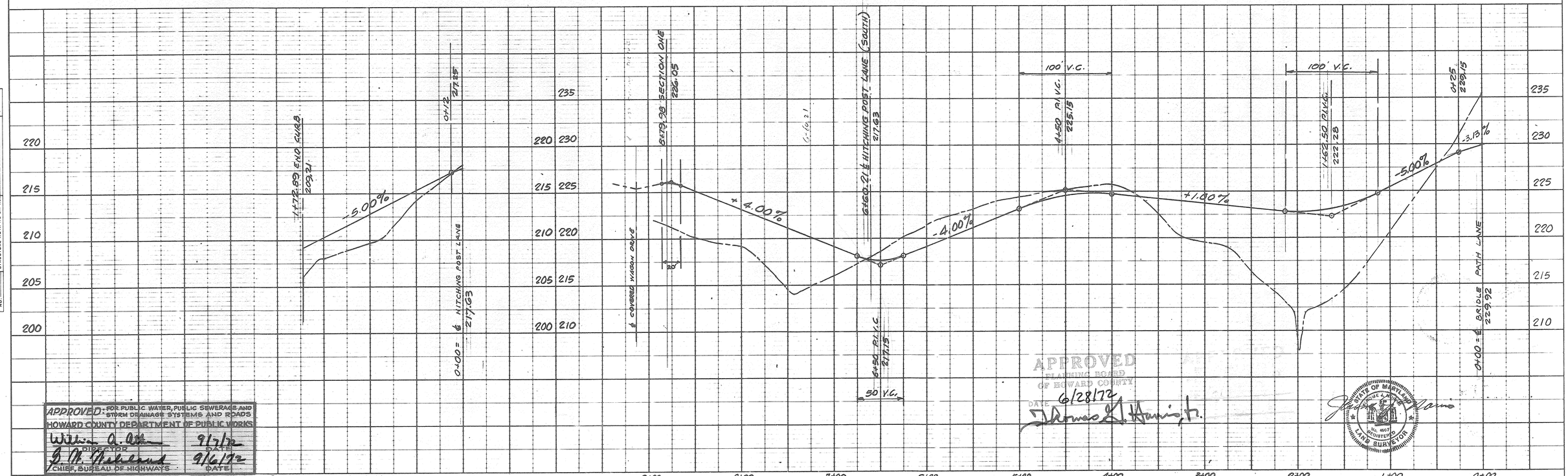
DRAWING No. S-6 OF ~~12~~ 17

24

SDP-72-84

PROFILE
SURVEYED
PLOTTED
NOTE BOOK
NO.
BY
DATE
DRAWN
CHECKED
B. MK. NOTED
STRUCTURE NOTA MS CH'GD.





APPROVED - FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

DIRECTOR	9/7/72 DATE
CHIEF, BUREAU OF HIGHWAYS	9/6/72 DATE

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 6/28/72

STATE OF MARYLAND — No. 4607 — REGISTERED LAND SURVEYOR

OWNER-DEVELOPER
WHISKEY BOTTOM CONDOMINIUMS, INC.
1720 WISCONSIN AVENUE, N.W.
WASHINGTON, D.C. 20007

JEROME J. NORRIS & ASSOCS.
LAND PLANNING - HOUSING CONSULTANTS
6001 32ND STREET, N.W.
WASHINGTON, D.C.

WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT
HOWARD COUNTY MARYLAND

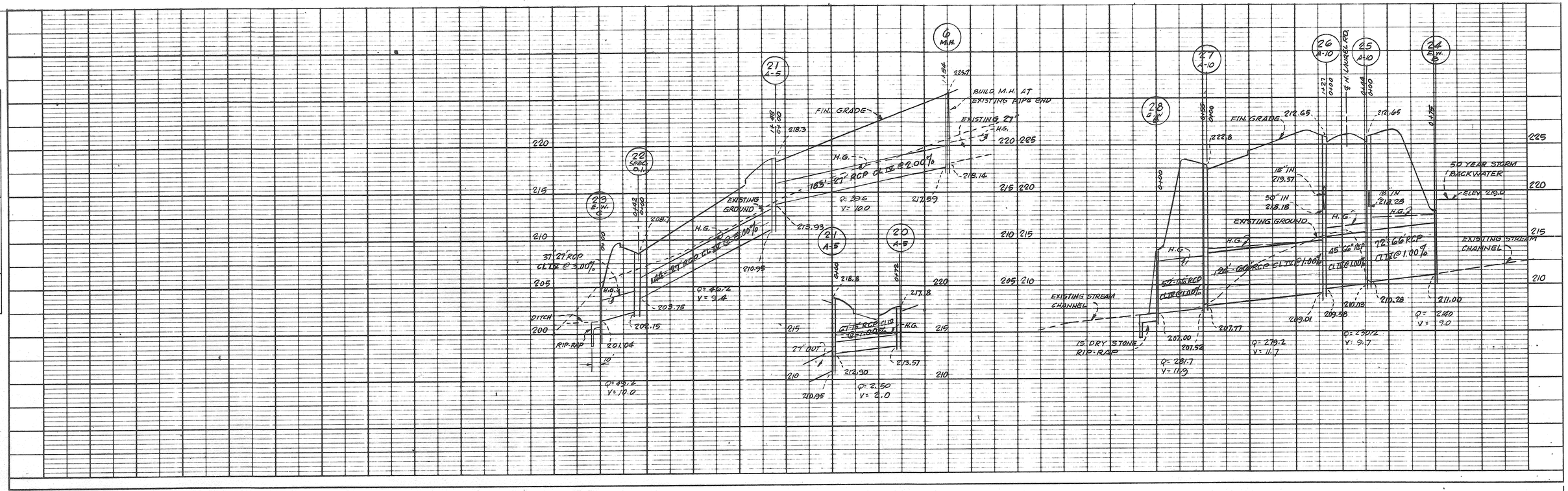
SECTION TWO
DRIVEWAY PROFILES

REVISIONS

SCALE: 1"=50
JULY 3, 1972

DRAWING No. S-7
OF ~~17~~ 24

SDP-72-84



PROFILE

SURVEYED
PLOTTED
DRAWN CHECKED
BASE MAP NOTED
NOTE BOOK
NO. STRUCTURE NOTATIONS ON PLAN

BY	DATE

STRUCTURE SCHEDULE

No.	TYPE	TOP ELEV.	REMARKS
G	MH	225.7	
20	A-5	217.8	
21	A-5	218.8	
22	SPEC D.I.	208.7	SEE DETAIL SHEET NO. 4
23	E.W.-C		10' DRY STONE RIP-RAP
24	E.W.-B		
25	A-10	212.65	
26	A-10	212.65	
27	A-10	222.8	
28	E.W.-B		15' DRY STONE RIP-RAP
47	SPEC G.I.	238.13	SEE DETAIL SHEET 4
48	SPEC G.I.	235.2	SEE DETAIL SHEET 4
48A	MH	229.5	
49	SPEC D.I.	227.1	SEE DETAIL SHEET 4
50	E.W.-C		10' DRY STONE RIP-RAP
51	SPEC D.I.	223.0	SEE DETAIL SHEET 4
51A	MH	221.8	
52	SPEC D.I.	218.3	SEE DETAIL SHEET 4
53	E.W.-C		10' DRY STONE RIP-RAP

NOTE: STORM DRAIN STRUCTURES ARE HOWARD COUNTY STANDARD UNLESS OTHERWISE NOTED.

APPROVED: FOR PUBLIC WATER, PUBLIC SEWERAGE AND STORM DRAINAGE SYSTEMS AND ROADS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

DIRECTOR	9/5/72 DATE
CHIEF, BUREAU OF HIGHWAYS	9/6/72 DATE

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE 6/28/72

OWNER-DEVELOPER
WHISKEY BOTTOM CONDOMINIUMS, INC.
1720 WISCONSIN AVENUE, N.W.
WASHINGTON, D.C. 20007

JEROME J. NORRIS & ASSOCS.
LAND PLANNING - HOUSING CONSULTANTS
6001 32ND STREET, N.W.
WASHINGTON, D.C.

WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT
HOWARD COUNTY MARYLAND

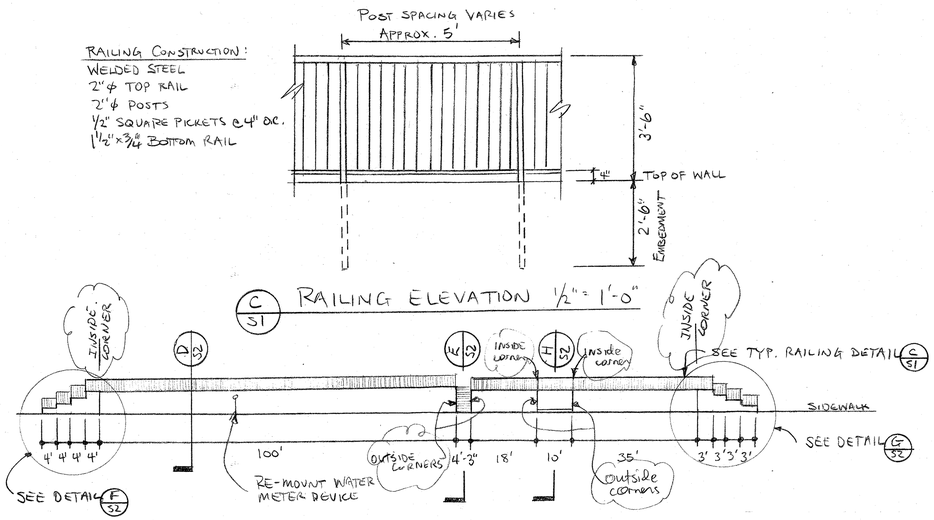
SECTION TWO
STORM DRAIN PROFILES

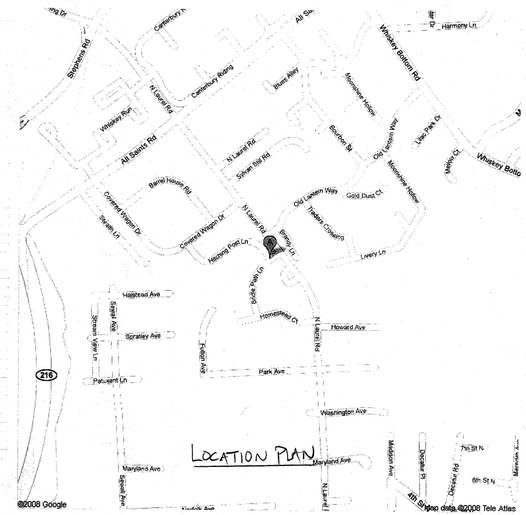
REVISIONS

SCALE: 1"=50'
JULY 3, 1972

DRAWING No. S-8 OF 17

SDP-72-84





PERMIT INFORMATION CHART				
Whiskey Bottom South Condominiums		Section 2		
SDP-72-084	Residential	Tax Map 50	Election District 6	Parcel 479

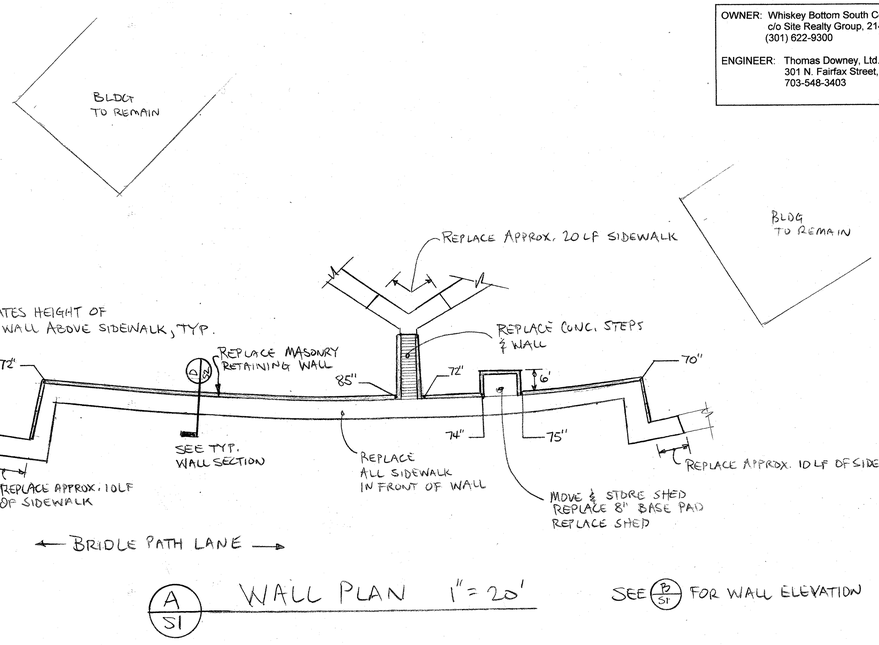
ENGINEER'S CERTIFICATE

"I 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."

G. Douglas White, P.E., No. 20312 — Date 4/2/09

OWNER: Whiskey Bottom South Condominium Association
c/o Site Realty Group, 2141 Industrial Parkway, Silver Spring, Maryland 20904 SUITE 200
(301) 622-9300

ENGINEER: Thomas Downey, Ltd.
301 N. Fairfax Street, Suite 108, Alexandria, Virginia 22314
703-548-3403



APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 5.4.9

Chief, Division of Land Development — Date 5/5/09

Director — Date 5/5/09

SCOPE OF WORK

Remove and replace the brick and concrete masonry retaining wall across from 9200 Bridle Path Lane, Laurel, Maryland.

STRUCTURAL NOTES

Code: Work shall comply with the 2006 International Building Code (IBC).

Dimensions: Dimensions of existing construction are shown for information only. Verify dimensions before beginning work.

Differing Conditions: If conditions differing from those shown on the drawings are encountered, or if unforeseen conditions are uncovered that prevent performing the work as shown, consult the Engineer for direction.

SPECIFICATIONS

Soil Value. Assumed soil bearing capacity is 3,000 psf. Wall footings are to bear on undisturbed soil.

Soil for backfilling. Clean granular soil fill. Install in 8" layers. Mechanically compact each layer. It is not acceptable to use the excavated material unless it is granular fill free from contamination.

Concrete Materials. Comply with ACI 318-95 code requirements. Concrete design compressive strength, f'c, is 3,500 psi. Coarse aggregate shall be stone (regular weight concrete). Cement content shall be a minimum of 540 pounds per cubic yard of concrete. Water cement ratio shall not exceed 0.45. Water reducing admixtures are acceptable. No admixtures shall contain chlorides. Concrete shall be air entrained. Submit mix design to Engineer for approval.

Concrete Forms. Construct per ACI recommended practices. Forms for new slab soffit shall be plywood with B grade facing on concrete side.

Concreting Operations. Comply with ACI recommended practices.

Finishing And Curing Concrete. Concrete shall be wet-cured with wet burlap covered with plastic sheeting for a minimum of seven days, or cured using a colorless membrane curing compound. Exposed concrete surfaces shall have a light broomed finish.

Reinforcing Steel. Reinforcing bars shall be Grade 60 conforming to ASTM A615.

Masonry Installation. Per the recommended practices in ACI 530-99, and ACI 530.1-99, Building Code Requirements and Specifications for Masonry Structures.

Concrete Masonry. Type II normal weight concrete masonry units per ASTM C90. Sizes per drawings.

Brick Masonry. Solid building brick per ASTM C62, size and type to match existing.

Mortar. Type N per ACI 530.1.

Grout. Fine grout per ASTM C476.

Masonry Accessories. Galvanized wire truss type joint reinforcement per ASTM A951in concrete masonry every other course.

Waterproofing membrane. Bituthene 3000 manufactured by W.R. Grace or approved equal. Accessories such as termination bars, mastic, liquid membrane, patching material, and primers by membrane manufacturer and installed per manufacturer's details.

Drainage board. Hyroduct 2 manufactured by W.R. Grace or approved equal. Install per manufacturer's details.

Caulk. Dow 795 Silicone Sealant. Color: to match mortar.

Drainage pipes. Schedule 40 PVC with solvent welded joists and molded fittings. Sizes are shown on the plans.

Filter cloth. Non-woven synthetic fabric filter cloth designed for buried applications.

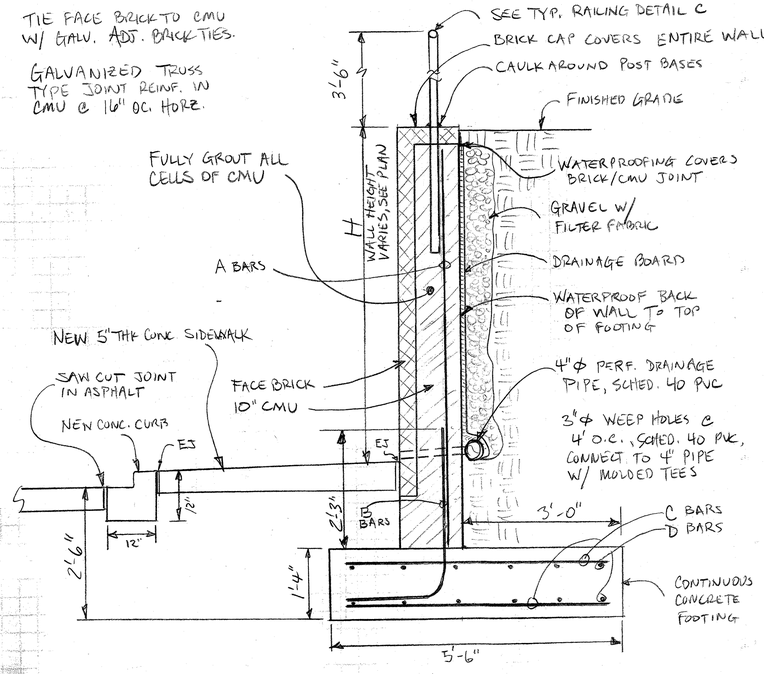
Handrails and railings. Fabricated from A36 steel and welded. Prime painted with one coat of zinc rich primer and 2 finish coats of alkyd exterior enamel. Details per IBC sections 1012 and 1013.

STATE OF MARYLAND — G. DOUGLAS WHITE — No. 20312 — REGISTERED PROFESSIONAL ENGINEER

Professional Certification
I certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, license number 20312, expiration date January 7, 2010.

THOMAS DOWNEY, LTD. CONSULTING ENGINEERS 301 N. FAIRFAX ST., SUITE 108, ALEXANDRIA, VIRGINIA 22314 OFFICE (703) 548-3403 FAX (703) 548-3715	**WHISKEY BOTTOM SOUTH** 9200 Bridle Path Lane Laurel, Maryland 20723 1 **RETAINING WALL REPLACEMENT**
PLANS, SPECIFICATIONS AND NOTES ISSUED FOR REVIEW 10-23-2008 Issued for Construction 2-9-2009 REV. 4-2-09 TO SHOW INSIDE CORNERS	SHEET S1 of 17

SDP-72-084 — 5-9 — 24

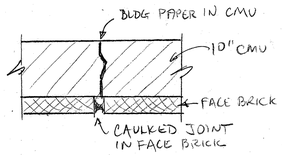


D / S2 RETAINING WALL SECTION 3/4" = 1'-0"

WALL REINFORCING SCHEDULE

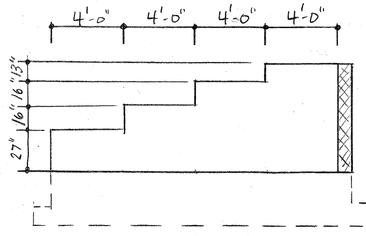
HEIGHT H	A BARS	B BARS	C BARS	D BARS
4'-0"	#4@16"	#4@8"	#4@12"	#3@12"
5'-0"	#4@16"	#4@8"	↓	↓
6'-0"	#5@16"	#4@8"		
7'-6"	#5@8"	#5@8"		

ALL CELLS OF CMU SHALL BE FULLY GROUTED



PLAN SECTION - CONTROL JOINT NTS

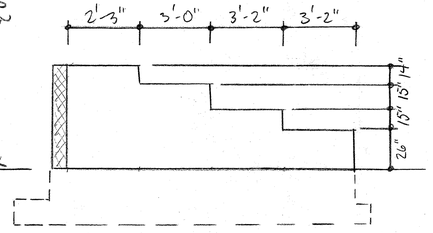
INSTALL CONTROL JOINTS VERTICALLY AT APPROX. 20' O.C.



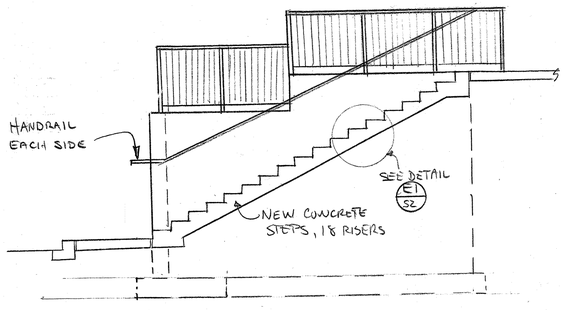
F / S2 WALL DETAIL 1/4" = 1'-0"

RAILINGS ON TOPS OF WALLS (NOT SHOWN HERE)

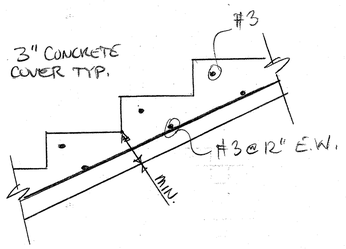
TOP OF SIDEWALK



G / S2 WALL DETAIL 1/4" = 1'-0"



E / S2 STEP DETAILS 1/4" = 1'-0"



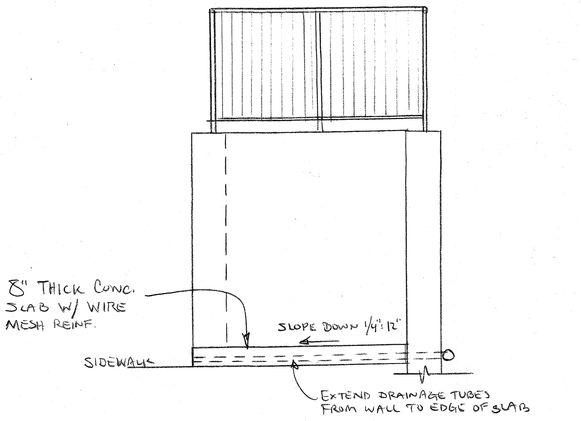
E1 / S2 STEP DETAILS NTS

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division — Date 5.4.9

Chief, Division of Land Development — Date 5/5/09

Director — Date 5/7/09



H / S2 WALL SECTION AT RECESS 1/2" = 1'-0"

PERMIT INFORMATION CHART				
Whiskey Bottom South Condominiums		Section 2		
SDP-72-084	Residential	Tax Map 50	Election District 6	Parcel 479

ENGINEER'S CERTIFICATE

"I 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."

G. Douglas White, P.E., No. 20312 — Date 4/2/09

OWNER: Whiskey Bottom South Condominium Association
c/o Site Realty Group, 2141 Industrial Parkway, Silver Spring, Maryland 20904 SUITE 200
(301) 622-9300

ENGINEER: Thomas Downey, Ltd.
301 N. Fairfax Street, Suite 108, Alexandria, Virginia 22314
703-548-3403

Professional Certification
I certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, license number 20312, expiration date January 7, 2010.

D
THOMAS DOWNEY, LTD.
CONSULTING ENGINEERS
301 N. FAIRFAX ST., SUITE 108, ALEXANDRIA, VIRGINIA 22314
OFFICE (703) 548-3403
FAX (703) 548-3715

WHISKEY BOTTOM SOUTH
9200 Bridle Path Lane
Laurel, Maryland 20723
1
RETAINING WALL REPLACEMENT

DETAILS

ISSUED FOR REVIEW 10-23-2008
Issued for Construction 2-9-2009

SHEET S2 5-10 OF ~~17~~ 24

SDP-72-084

SEE DETAILS SHEETS S-15 THROUGH S-17

SECTION TWO
AREA ONE
WHISKEY BOTTOM APARTMENTS
PLAT BOOK 23 PLAT NO. 75

(3) PROPOSED STREAM STABILIZATION WALL - A

(3) PROPOSED STREAM STABILIZATION WALL - B

SCALE: 1" = 20'

N24°57'53"E
259.34'

100 YEAR FLOOD PLAIN AND STORM DRAINAGE EASEMENT

CENTERLINE EXISTING STREAM

12" RENO MATTRESS

GABION WALL A

GABION WALL B

EX. 10" SEWER

N41°34'12"E
176.55'

EX. 60" RCP

EX. 8"S

EX. CONC. WALK

EX. CONC. PATIO

EX. MECH. SHED

PROPOSED TEMPORARY 3' WIDE GRAVEL PATHWAY

EX. 2 STY. BRICK CONDOMINIUM BUILDING NO. 9220
FF = 222.00

EX. 2 STY. BRICK CONDOMINIUM BUILDING NO. 9220
FF = 226.00

EX. 2 STY. BRICK CONDOMINIUM BUILDING NO. 9200
FF = 222.00

EX. 2 STY. BRICK CONDOMINIUM BUILDING NO. 9200
FF = 226.00

50' STREAM VALLEY BUFFER

EX. CONC. SIDEWALK

EX. ASPHALT PARKING

EX. 6" WATER

BRIDLE PATH LANE

POST HITCHING LANE

PARCEL A
SECTION TWO
AREA TWO
WHISKEY BOTTOM APARTMENTS
PLAT BOOK 25 PLAT NO. 92

S36°15'20"E
116.27'

N51°44'40"E
76.00'

R=186.00'
A=89.83'

50.0'

LEGEND

S	SEWER MANHOLE	PED	CABLE TV PEDESTAL
D	STORM DRAIN MANHOLE	LP	LIGHT POLE
W	WATER MANHOLE		POWER POLE
M	WATER METER	GUY	GUY WIRE
	FIRE HYDRANT	RD	ROOF DRAIN
	WATER VALVE	FD	FLOOR DRAIN
SP	SPRINKLER	IPF	IRON PIPE FOUND
G	GAS VALVE	RBCF	REBAR W/ CAP FOUND
203.7	EX. SPOT GRADE	TW219.00	PROPOSED TOP WALL SPOT GRADE
		BW215.14	PROPOSED BOTTOM WALL SPOT GRADE

- OH — OVERHEAD WIRE
- G — UNDERGROUND GAS
- T — T — UNDERGROUND TELECOMMUNICATION
- CTV — CTV — UNDERGROUND CABLE TV
- E — E — UNDERGROUND ELECTRIC
- WATER
- SEWER
- S — S — S — SEWER HOUSE CONNECTION
- STORM DRAIN
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- STREAM
- SVB — STREAM VALLEY BUFFER
- 216 — PROPOSED CONTOUR
- LOD — LOD — PROPOSED LIMITS OF DISTURBANCE
- SF — SF — PROPOSED SILT FENCE
- SSF — SSF — PROPOSED SUPER SILT FENCE

HOWARD COUNTY OFFICE OF PLANNING AND ZONING
APPROVED

CHIEF, LAND DEVELOPMENT	DATE 7-11-17
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 7.7.17
DIRECTOR OF PLANNING AND ZONING	DATE 7-11-17

GENERAL NOTES:

1. Site property is known as Section Two – Area Two,, Whiskey Bottom Apartments recorded Plat Book 25 at Plat No. 92. Current Zoning: R-A-15
2. The site lies within the Patuxent River Watershed.
3. Topographic information from survey conducted in the field August and September, 2015 by Landmark Engineering, Inc. Horizontal Data per Plat No 92. Vertical Datum per previous approved Site and Grading Plan.
4. No Significant and Specimen trees observed on site or on immediately adjacent property within 100' of the property boundary. The tree diameters were measured using diameter tape or estimated for inaccessible trees.
5. The property is not located within a FEMA mapped 100-year floodplain as determined in review of Howard County, Maryland Community Panel No. 24027C0230D with effective date of November 6, 2013.
6. The proposed retaining wall is for stabilization of unstable slope caused by the erosion of the toe of the slope by water flowing from the creek at rear of the existing condominium building numbers 9200 and 9220. Due to this eroded slope, settlement of the sidewalks, lamp poles, fences and lawn areas has been observed. Also observed are interior and exterior cracks on some of the units of the two buildings are present due to this unstable slope. Installing this wall will stabilized the grade settlement and also prevent further structural damages to the two existing condominium buildings.
7. Wall design to be per plan by Professional Consulting Corporation. Proposed wall to be gravity wall. Work to be executed under guidance of geotechnical engineer.
8. Activities located within stream buffer are considered necessary in accordance with Subsection 16.116(c).
9. Relocation of underground and above ground utilities to be coordinated with the utility companies.
10. Temporary access pathway closure and route will be in coordination with the general contractor.

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 11124, EXPIRATION DATE: OCTOBER 3, 2022.

(3) STATE OF MARYLAND · JAMES THOMAS · No. 11124 · PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 11124, EXPIRATION DATE: OCTOBER 3, 2018.

STATE OF MARYLAND · JAMES THOMAS · No. 11124 · PROFESSIONAL ENGINEER

OWNER-DEVELOPER
WHISKEY BOTTOM CONDOMINIUMS, ASSOC.
c/o MR. ARTHUR F. BLUME, PRESIDENT
WHISKEY BOTTOM SOUTH, BOARD OF DIRECTORS
9220 BRIDLE PATH LANE, UNIT F
LAUREL, MD. 20723

LANDMARK ENGINEERING, INC.
6110 EXECUTIVE BLVD, SUITE 110 PHONE: (301) 230-5881
ROCKVILLE, MARYLAND 20852 FAX: (301) 230-5884
CONSULTING ENGINEERS PLANNERS SURVEYORS

WHISKEY BOTTOM APARTMENTS

SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

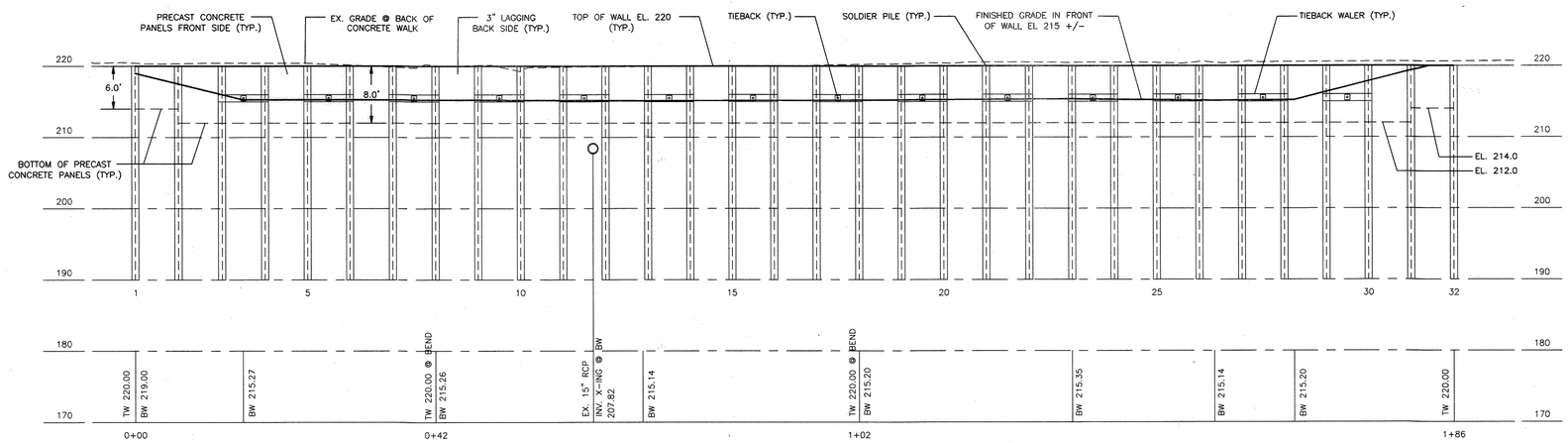
(2) ~~EXISTING~~ ~~PROPOSED~~ RETAINING WALL
SITE PLAN, GRADING PLAN AND PROFILE

(2) REVISIONS
MAR. 28, 2022 ADD PROP. STREAM STABILIZATION SITES

DRN: DCV CK: CTG
PROJECT NO.: 1530
SCALE: AS SHOWN
DATE: MAY 5, 2017

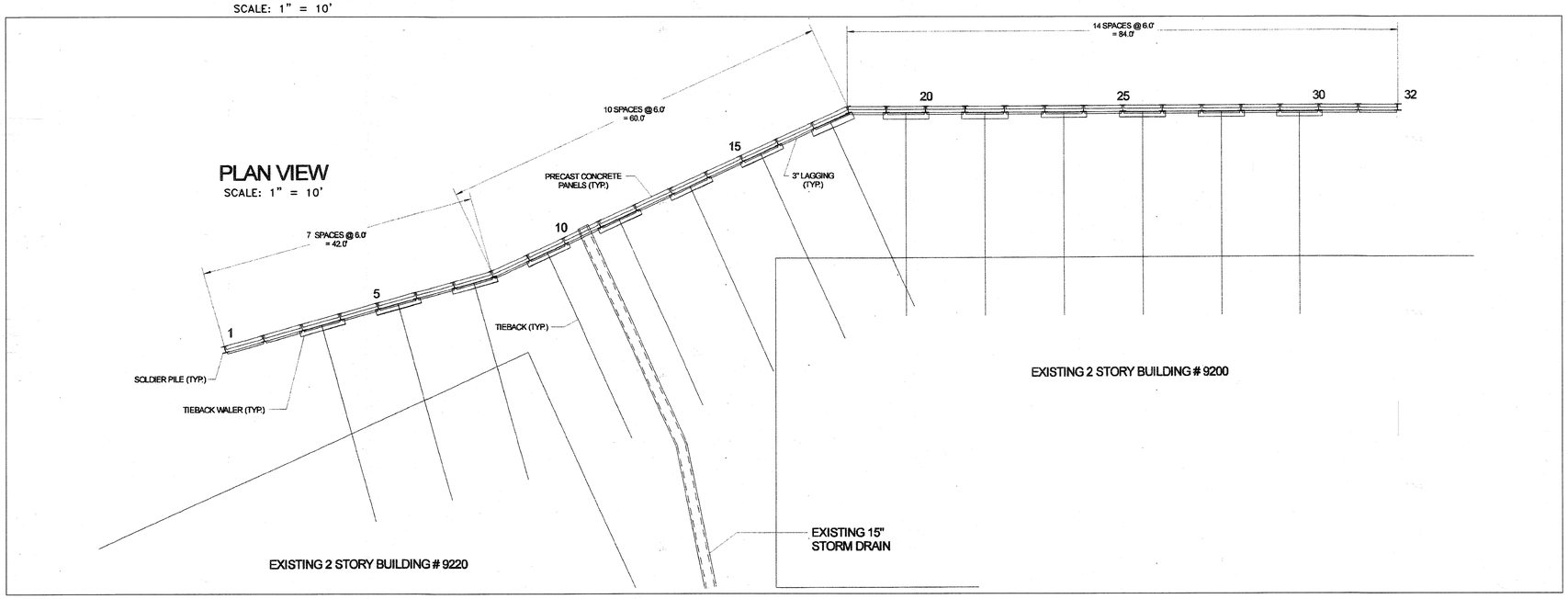
DRAWING NO. S-11
OF ~~17~~ 24

SDP-72-84



WALL PROFILE VIEW

HORIZONTAL & VERTICAL
SCALE: 1" = 10'



SEQUENCE OF CONSTRUCTION

1. ALL SEDIMENT CONTROL MEASURES TO BE INSTALLED. LAYOUT SOLDIER PILES. CONTRACTOR TO NOTIFY "MISS UTILITY" AND VERIFY ALL UTILITY LOCATIONS AND RESOLVE ALL POTENTIAL CONFLICTS PRIOR TO DRILLING SOLDIER PILES. SEE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION.
2. INSTALL ALL SOLDIER PILES DOING EVERY OTHER PILE AT A TIME. ADDITIONAL HOLES ARE NOT TO BE DRILLED UNTIL ADJACENT HOLES ARE SET & FILLED.
3. INSTALL SAFETY RAIL. NOTE THAT SAFETY RAIL IS FOR WORKER PROTECTION ONLY. INSTALL TEMPORARY FENCE A FEW FEET INSIDE WALL FOR PUBLIC SAFETY. INSTALL ALL WALERS AND LAGGING ABOVE WALERS DOING EVERY OTHER BAY AT A TIME. FULLY BACKFILL AND COMPACT EACH COMPLETED BAY BEFORE EXCAVATING ADJACENT BAYS.
4. INSTALL AND TEST ALL TIEBACKS. INSTALL TRUMPETS, TOP GROUT, CAPS AND CAP GREASE.
5. COMPLETE EXCAVATION AND LAGGING TO BOTTOM OF NEW PANELS.
6. POWER WASH, PRIME AND PAINT ALL EXPOSED STEEL. INSTALL FILTER FABRIC OVER ENTIRE WALL FULLY COVERING ALL LAGGING.
7. INSTALL CONCRETE PANELS AND #57 STONE FROM THE BOTTOM UP. NOTE PANELS MUST BE LEVEL AND BEAR ON THE PILE TOE CONCRETE.
8. PERMANENT FENCE BY OTHERS TO BE INSTALLED IMMEDIATELY UPON COMPLETION OF THIS WORK.

OWNER
WHISKEY BOTTOM SOUTH
C/O SIMMONS MGMT. GROUP
COLLEGE, MARYLAND 20740

ENGINEER
PROFESSIONAL CONSULTING CORP.
PO BOX 129
DUNKIRK, MARYLAND 20754
301-980-4672

PROJECT
WHISKEY BOTTOM APARTMENTS
HOWARD COUNTY, MD.

RETAINING WALL

DATE 10/11/2016
REVISION # 1 10/23/2016

DWG. 101

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE # 14246, EXPIRATION 12/23/2018

NICHOLAS J. A. WHITE, PE
301-980 - 4672

STATE OF MARYLAND — NICHOLAS JOHN ALAN WHITE — No. 14246 — PROFESSIONAL ENGINEER

HOWARD COUNTY OFFICE OF PLANNING AND ZONING APPROVED

CHIEF, LAND DEVELOPMENT	DATE 7-11-17
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 7-7-17
DIRECTOR OF PLANNING AND ZONING	DATE 7-11-17

Owners/Developer Certification:

"I/We hereby certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for the periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

Owner's/ Developer's Signature — 6/9/17 Date

ARTHUR BLUME - PRESIDENT
Printed Name & Title

Design Certification:

"I hereby certify that this plan has been designed in accordance with the current Maryland erosion and sediment control laws, regulations, and standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Designer's Signature — 6/19/17 Date

Charles T. Grimsley
Printed Name

MD P.E. Registration No. 11124

Howard SCD Signature Block:

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District."

Howard Soil Conservation District — Date

OWNER-DEVELOPER
WHISKEY BOTTOM CONDOMINIUMS, ASSOC.
c/o MR. ARTHUR F. BLUME, PRESIDENT
WHISKEY BOTTOM SOUTH, BOARD OF DIRECTORS
9220 BRIDLE PATH LANE, UNIT F
LAUREL, MD. 20723

LANDMARK ENGINEERING, INC.
6110 EXECUTIVE BLVD, SUITE 110 PHONE: (301) 230-5881
ROCKVILLE, MARYLAND 20852 FAX: (301) 230-5884
CONSULTING ENGINEERS PLANNERS SURVEYORS

SECTION TWO
WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

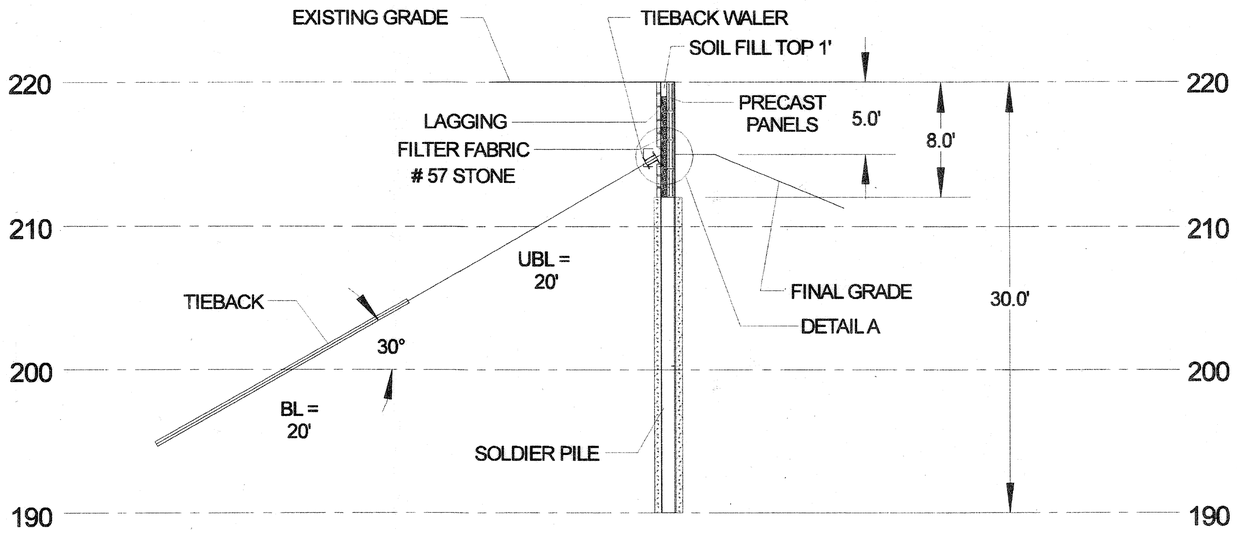
SITE DEVELOPMENT PLAN
~~PROPOSED~~ RETAINING WALL
EXISTING

REVISIONS

DRN: DCV CK: CTG
PROJECT NO.: 1530
SCALE: AS SHOWN
DATE: MAY 5, 2017

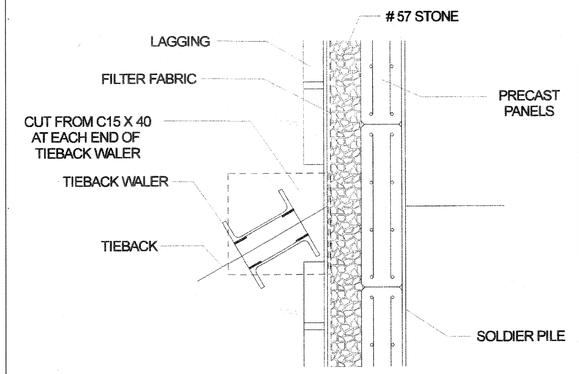
DRAWING NO. ~~S-15~~ 12
OF ~~17~~ 24

SDP-72-84

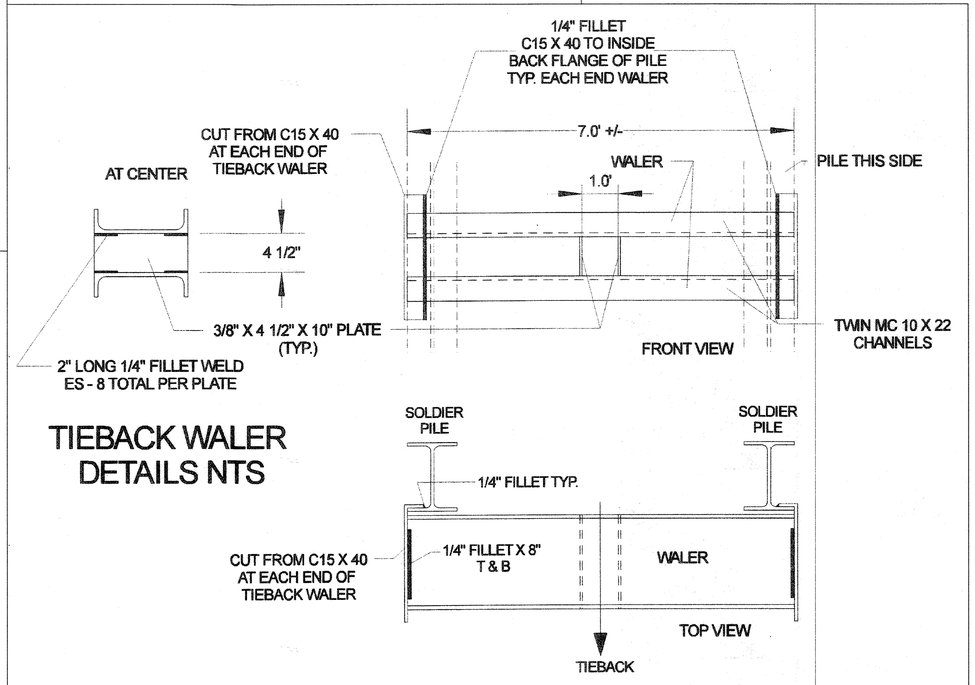


TYPICAL SECTION

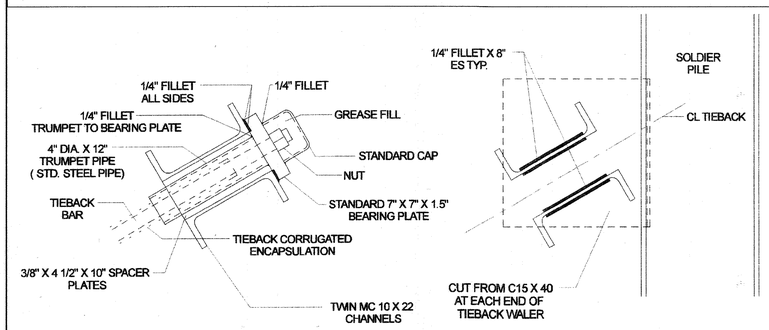
(SEE CIVIL DRAWINGS FOR DETAILS NOT CONTAINED HEREIN)



DETAIL A



TIEBACK WALER DETAILS NTS



TIEBACK WALER CONNECTION SECTION VIEW

TIEBACK SCHEDULE

TIEBACK NUMBER	QUANTITY / TYPE	DESIGN LOAD KIPS	UNBONDED LENGTH	MIN.BONDED LENGTH	MIN. DRILL LENGTH	BAR SIZE
ALL	14	65	20'	20'	40'	1.25" DIA.

TIEBACK BARS TO BE 150 KSI STEEL MINIMUM

OWNER	WHISKEY BOTTOM SOUTH C/O SIMMONS MGMT. GROUP COLLEGE, MARYLAND 20740
ENGINEER	PROFESSIONAL CONSULTING CORP. PO BOX 129 DUNKIRK, MARYLAND 20754 301-980-4672
PROJECT	WHISKEY BOTTOM APARTMENTS HOWARD COUNTY, MD.
	RETAINING WALL
	DATE 10/11/2016 REVISION # 1 10/23/2016
	DWG. 102

HOWARD COUNTY OFFICE OF PLANNING AND ZONING APPROVED

CHIEF, LAND DEVELOPMENT — DATE 7-11-17

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 7.7.17

DIRECTOR OF PLANNING AND ZONING — DATE 7-11-17

Owners/Developer Certification:

"I/We hereby certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for the periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

Owner's/ Developer's Signature — Date 4/11/17

ARTHUR BLUME - PRESIDENT
Printed Name & Title

Design Certification:

"I hereby certify that this plan has been designed in accordance with the current Maryland erosion and sediment control laws, regulations, and standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Designer's Signature — Date 6/19/17

Charles T. Grimsley
Printed Name

MD P.E. Registration No. 11124

Howard SCD Signature Block:

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District."

Howard Soil Conservation District — Date

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE # 14246, EXPIRATION 12/23/2018

NICHOLAS J. A. WHITE, PE
301-980 - 4672

STATE OF MARYLAND · NICHOLAS JOHN ALAN WHITE · No. 14246 · PROFESSIONAL ENGINEER

OWNER–DEVELOPER
WHISKEY BOTTOM CONDOMINIUMS, ASSOC.
c/o MR. ARTHUR F. BLUME, PRESIDENT
WHISKEY BOTTOM SOUTH, BOARD OF DIRECTORS
9220 BRIDLE PATH LANE, UNIT F
LAUREL, MD. 20723

LANDMARK ENGINEERING, INC.
6110 EXECUTIVE BLVD, SUITE 110 PHONE: (301) 230-5881
ROCKVILLE, MARYLAND 20852 FAX: (301) 230-5884
CONSULTING ENGINEERS PLANNERS SURVEYORS

SECTION TWO
WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

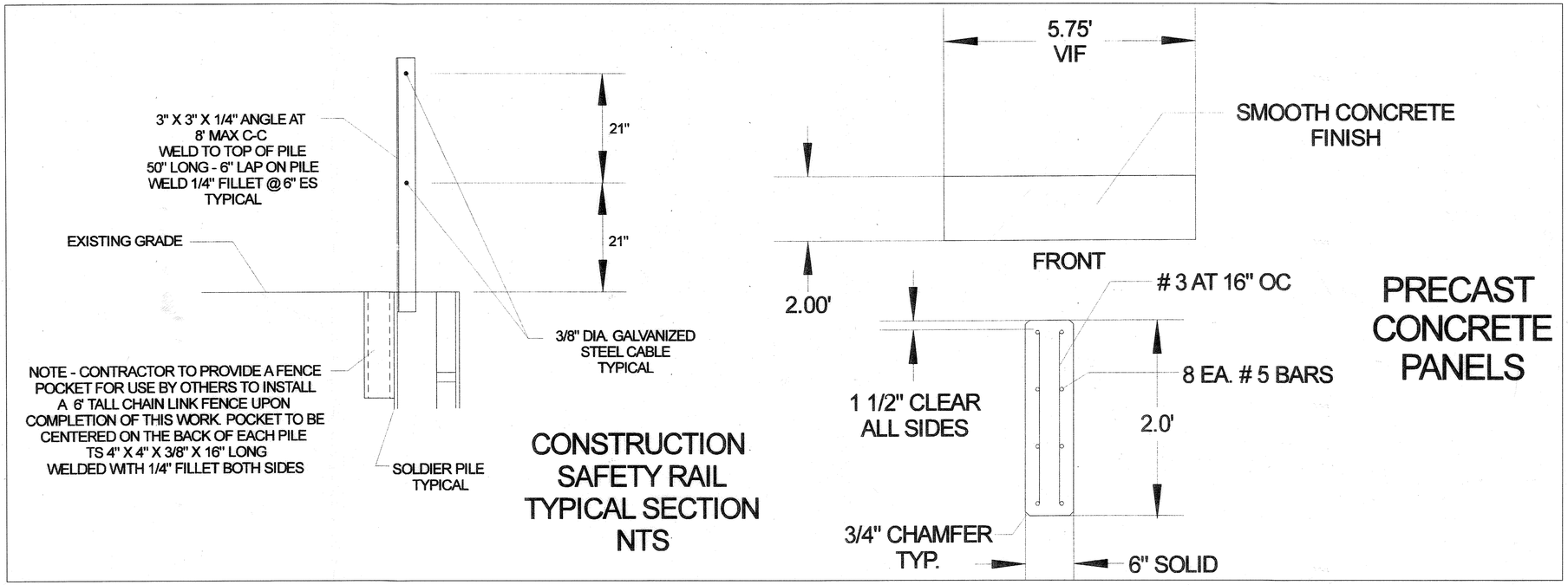
SITE DEVELOPMENT PLAN
~~PROPOSED~~ RETAINING WALL
EXISTING

REVISIONS

DRN: DCV CK: CTG
PROJECT NO.: 1530
SCALE: AS SHOWN
DATE: MAY 5, 2017

DRAWING NO. S-~~16~~ 13
OF ~~17~~ 24

SDP-72-84



GENERAL NOTES

1. ALL SOLDIER PILES ARE TO BE MINIMUM 30' LONG HP 12 X 53 GRADE 50 (A572) STEEL MINIMUM. ALL PILES ARE TO BE SET INTO 24" DIAMETER PRE DRILLED FULL DEPTH HOLES AND THEN BACKFILLED WITH 3000 PSI CONCRETE IN THE PILE TOE. THE REMAINDER OF THE HOLES ARE TO BE FILLED TO GRADE WITH FLOWABLE FILL OR STONE DUST. HOLES TO BE DRILLED EVERY OTHER HOLE, SET & FILLED BEFORE DRILLING ADJACENT HOLE. PILES TO BEAR ON DENSE DISINTEGRATED ROCK OR SOLID ROCK.
2. ALL STRUCTURAL STEEL TO BE MIN. 50 KSI STEEL. ALL REINFORCING STEEL TO BE 60 KSI AND ALL CONCRETE FOR CONCRETE PANELS TO BE 3500 PSI MINIMUM. ALL EXPOSED STEEL IS TO BE COATED WITH RUST RESISTANT PRIMER AND BLACK ENAMEL PAINT. WELDED OR DISTURBED STEEL AREAS TO BE CLEANED AND RECOATED AS NEEDED TO ASSURE COMPLETE COVERAGE.
3. ALL WELDING TO BE PER AWS REQUIREMENTS. ALL WELDING RODS TO BE E70XX.
4. THE UNDERSIGNED ENGINEER IS TO BE NOTIFIED IMMEDIATELY UPON ANY CHANGE OF ANTICIPATED CONDITIONS THAT DIFFER FROM THESE DRAWING DETAILS. NICHOLAS J. A. WHITE 301-980-4672
5. ALL TIEBACKS ARE TO CLASS 1 FULLY ENCAPSULATED SOLID THREAD BAR PERMANENT TIES IN ACCORDANCE WITH FHWA & PTI REQUIREMENTS. MINIMUM DRILL HOLE DIAMETER IS 4". THE UNBONDED LENGTH OF THE BAR IS TO BE COVERED IN PE PLASTIC TUBING BEFORE ENCAPSULATION. LENGTHS SHOWN ARE MINIMUM LENGTHS TO BE INCREASED AS NEEDED TO PROVIDE THE CAPACITY INDICATED.
6. TIEBACK GROUT IS TO BE NEAT CEMENT GROUT USING A MIXTURE OF 1 BAG OF PORTLAND TYPE 3 CEMENT TO 5 1/2 GALLONS OF POTABLE WATER. TIEBACK GROUT TO BE PUMPED FROM THE BOTTOM OF THE HOLE UP BEFORE INSERTING THE ENCAPSULATED TIEBACKS MAKING SURE THAT CLEAN GROUT RETURNS TO THE SURFACE BEFORE STOPPING GROUTING.
7. ALL TIEBACKS ARE TO BE PROOF TESTED TO 133% OF DESIGN LOAD, AND LOCKED OFF AT 100% OF DESIGN LOAD. THE MAXIMUM INCREMENTAL MOVEMENT OF A TIEBACK IS 0.04" DURING A 10 MINUTE HOLD AT 133% TEST LOAD IN ORDER THAT THE TIEBACK BE DEEMED ACCEPTABLE. MOVEMENT TO BE MEASURED USING A DIAL GAUGE OF 0.001" ACCURACY.
8. CONTRACTOR TO NOTIFY "MISS UTILITY". VERIFICATION OF ALL UTILITY LOCATIONS & ELEVATIONS, UTILITY TEST PITS AND UTILITY RELOCATIONS AS REQUIRED TO SAFELY PERFORM THIS WORK IS THE RESPONSIBILITY OF OTHERS.
9. EXCAVATION SHALL BE MADE IN MAXIMUM LIFT HEIGHTS OF 4 FEET TO FACILITATE PLACEMENT OF LAGGING. EXCAVATION AND LAGGING IS TO BE DONE ON AN ALTERNATE BAY BASIS. WALERS ARE TO BE INSTALLED, LAGGING COMPLETE AND PROPERLY BACKFILLED ABOVE THE WALERS BEFORE THE ADJACENT BAY IS EXCAVATED. BACKFILL AROUND WALER AND LAGGING ABOVE TO BE SM MATERIAL OR BETTER COMPACTED TO AT LEAST 95% MAXIMUM DRY DENSITY PER ASTM D698. BACKFILL OPERATIONS TO BE OBSERVED AND TESTED BY THIRD PARTY INSPECTOR. TIEBACKS ARE TO BE FULLY COMPLETED AND TESTED PRIOR TO LAGGING BELOW THE WALER ELEVATION.
10. ALL LAGGING TO BE 3" THICK MINIMUM TREATED BOARDS. 1" THICK LOUVER BLOCKS TO BE USED TO ASSURE PROPER DRAINAGE.

OWNER	WHISKEY BOTTOM SOUTH C/O SIMMONS MGMT. GROUP COLLEGE, MARYLAND 20740
ENGINEER	PROFESSIONAL CONSULTING CORP. PO BOX 129 DUNKIRK, MARYLAND 20754 301-980-4672
PROJECT	WHISKEY BOTTOM APARTMENTS HOWARD COUNTY, MD.
	RETAINING WALL
	DATE 10/11/2016 REVISION #1 10/23/2016
	DWG. 103

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE # 14246, EXPIRATION 12/23/2018

NICHOLAS J. A. WHITE, PE
301-980 - 4672

STATE OF MARYLAND
NICHOLAS JOHN ALAN WHITE
No. 14246
PROFESSIONAL ENGINEER

HOWARD COUNTY OFFICE OF PLANNING AND ZONING APPROVED

CHIEF, LAND DEVELOPMENT — DATE 7/26/17

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 7.7.17

DIRECTOR OF PLANNING AND ZONING — DATE 7-11-17

Owners/Developer Certification:

"I/We hereby certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for the periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

Owner's/ Developer's Signature — Date 6/21/17

ARTHUR F. BLUME - PRESIDENT
Printed Name & Title

Design Certification:

"I hereby certify that this plan has been designed in accordance with the current Maryland erosion and sediment control laws, regulations, and standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Designer's Signature — Date 6/19/17

Charles T. Grimsley
Printed Name — MD P.E. Registration No. 11124

Howard SCD Signature Block:

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District."

Howard Soil Conservation District — Date

OWNER-DEVELOPER
WHISKEY BOTTOM CONDOMINIUMS, ASSOC.
c/o MR. ARTHUR F. BLUME, PRESIDENT
WHISKEY BOTTOM SOUTH, BOARD OF DIRECTORS
9220 BRIDLE PATH LANE, UNIT F
LAUREL, MD. 20723

LANDMARK ENGINEERING, INC.
6110 EXECUTIVE BLVD, SUITE 110 PHONE: (301) 230-5881
ROCKVILLE, MARYLAND 20852 FAX: (301) 230-5884
CONSULTING ENGINEERS PLANNERS SURVEYORS

SECTION TWO
WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SITE DEVELOPMENT PLAN
~~PROPOSED~~ RETAINING WALL
EXISTING

REVISIONS

DRN: DCV CK: CTG
PROJECT NO.: 1530
SCALE: AS SHOWN
DATE: MAY 5, 2017

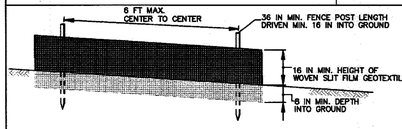
DRAWING NO. S-17 OF 17

14
24

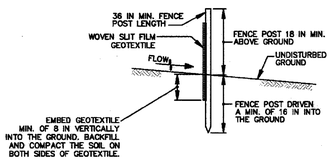
SDP-72-84

DETAIL E-1 SILT FENCE

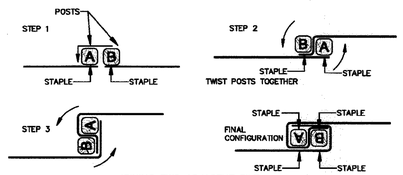
STANDARD SYMBOL: SF



ELEVATION



CROSS SECTION



JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1⅜ X 1⅜ ± ⅜ INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

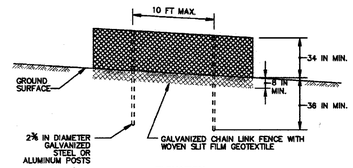
2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

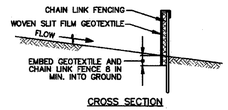
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF



ELEVATION



CROSS SECTION

CONSTRUCTION SPECIFICATIONS

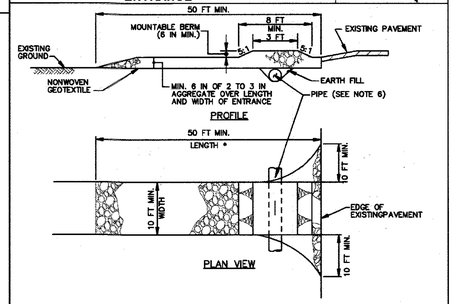
1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HOG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



PROFILE

PLAN VIEW

CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

HOWARD COUNTY OFFICE OF PLANNING AND ZONING APPROVED

CHIEF, LAND DEVELOPMENT	DATE 7-11-17
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 7.7.17
DIRECTOR OF PLANNING AND ZONING	DATE 7-11-17

Owners/Developer Certification:

"I/We hereby certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for the periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

Owner's/ Developer's Signature — 6/21/17 Date

ARTHUR BLUME - PRESIDENT
Printed Name & Title

Design Certification:

"I hereby certify that this plan has been designed in accordance with the current Maryland erosion and sediment control laws, regulations, and standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Designer's Signature — 6/19/17 Date

Charles T. Grimsley
Printed Name

MD P.E. Registration No. 11124

Howard SCD Signature Block:

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

Howard Soil Conservation District — Date

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 11124, EXPIRATION DATE: OCTOBER 3, 2018.

STATE OF MARYLAND · CHARLES THOMAS GRIMSLEY · No. 11124 · PROFESSIONAL ENGINEER

OWNER-DEVELOPER
WHISKEY BOTTOM CONDOMINIUMS, ASSOC.
c/o MR. ARTHUR F. BLUME, PRESIDENT
WHISKEY BOTTOM SOUTH, BOARD OF DIRECTORS
9220 BRIDLE PATH LANE, UNIT F
LAUREL, MD. 20723

LANDMARK ENGINEERING, INC.
6110 EXECUTIVE BLVD, SUITE 110 PHONE: (301) 230-5881
ROCKVILLE, MARYLAND 20852 FAX: (301) 230-5884
CONSULTING ENGINEERS PLANNERS SURVEYORS

SECTION TWO
WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

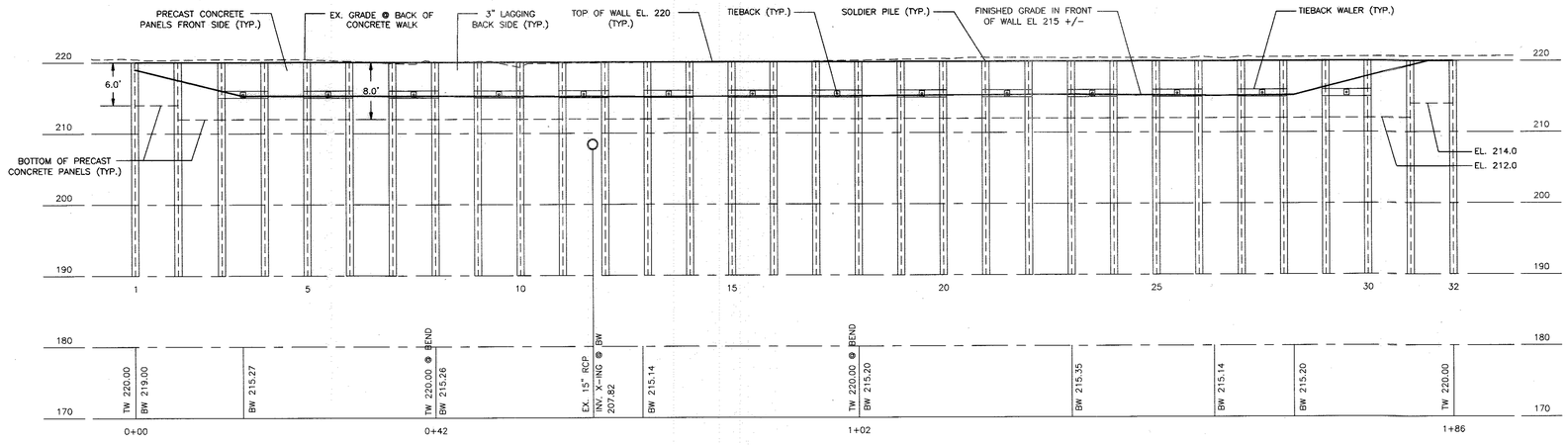
SITE DEVELOPMENT PLAN
PROPOSED RETAINING WALL
SEDIMENT AND EROSION CONTROL NOTES & DETAILS

REVISIONS

DRN: DCV CK: CTG
PROJECT NO.: 1530
SCALE: AS SHOWN
DATE: MAY 5, 2017

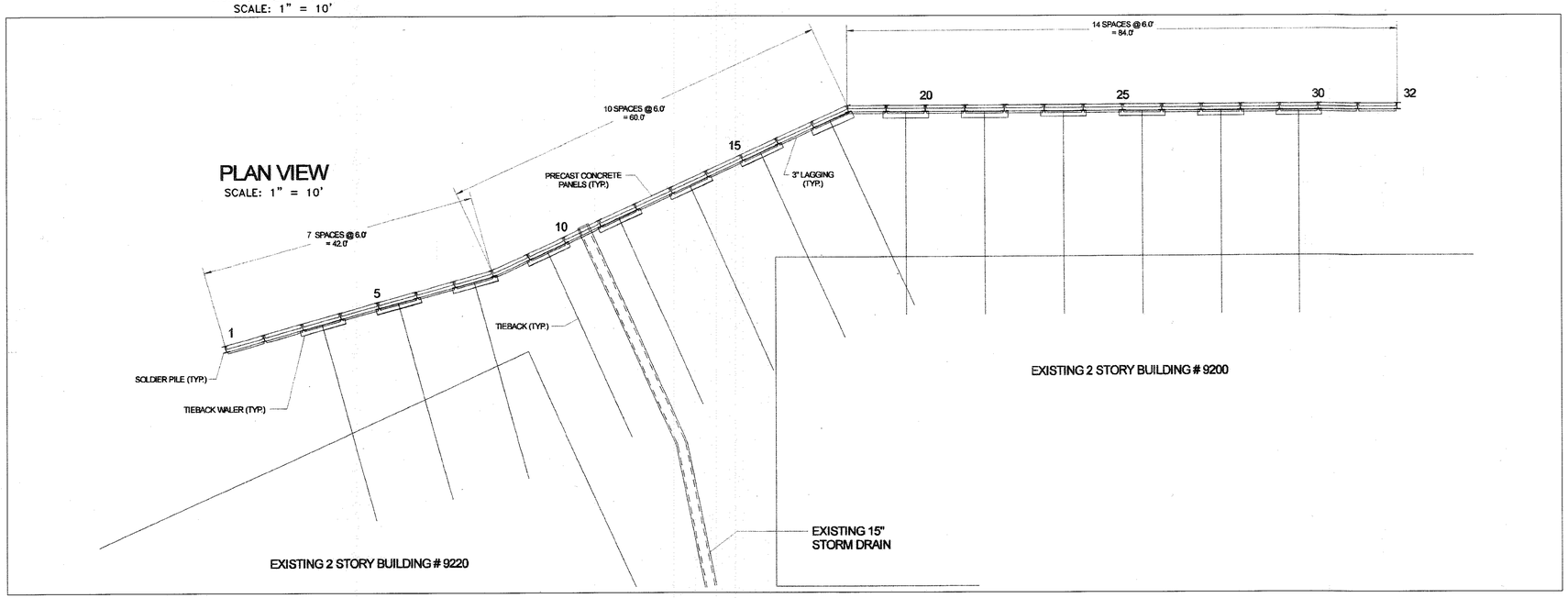
DRAWING NO. S-14 OF 17

SDP-72-84



WALL PROFILE VIEW

HORIZONTAL & VERTICAL
SCALE: 1" = 10'



SEQUENCE OF CONSTRUCTION

1. ALL SEDIMENT CONTROL MEASURES TO BE INSTALLED. LAYOUT SOLDIER PILES. CONTRACTOR TO NOTIFY "MISS UTILITY" AND VERIFY ALL UTILITY LOCATIONS AND RESOLVE ALL POTENTIAL CONFLICTS PRIOR TO DRILLING SOLDIER PILES. SEE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION.
2. INSTALL ALL SOLDIER PILES DOING EVERY OTHER PILE AT A TIME. ADDITIONAL HOLES ARE NOT TO BE DRILLED UNTIL ADJACENT HOLES ARE SET & FILLED.
3. INSTALL SAFETY RAIL. NOTE THAT SAFETY RAIL IS FOR WORKER PROTECTION ONLY. INSTALL TEMPORARY FENCE A FEW FEET INSIDE WALL FOR PUBLIC SAFETY. INSTALL ALL WALERS AND LAGGING ABOVE WALERS DOING EVERY OTHER BAY AT A TIME. FULLY BACKFILL AND COMPACT EACH COMPLETED BAY BEFORE EXCAVATING ADJACENT BAYS.
4. INSTALL AND TEST ALL TIEBACKS. INSTALL TRUMPETS, TOP GROUT, CAPS AND CAP GREASE.
5. COMPLETE EXCAVATION AND LAGGING TO BOTTOM OF NEW PANELS.
6. POWER WASH, PRIME AND PAINT ALL EXPOSED STEEL. INSTALL FILTER FABRIC OVER ENTIRE WALL FULLY COVERING ALL LAGGING.
7. INSTALL CONCRETE PANELS AND #57 STONE FROM THE BOTTOM UP. NOTE PANELS MUST BE LEVEL AND BEAR ON THE PILE TOE CONCRETE.
8. PERMANENT FENCE BY OTHERS TO BE INSTALLED IMMEDIATELY UPON COMPLETION OF THIS WORK.

OWNER
WHISKEY BOTTOM SOUTH
C/O SIMMONS MGMT. GROUP
COLLEGE, MARYLAND 20740

ENGINEER
PROFESSIONAL CONSULTING CORP.
PO BOX 129
DUNKIRK, MARYLAND 20754
301-980-4672

PROJECT
WHISKEY BOTTOM APARTMENTS
HOWARD COUNTY, MD.

RETAINING WALL

DATE 10/11/2016
REVISION # 1 10/23/2016

DWG. 101

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE # 14246, EXPIRATION 12/23/2018

NICHOLAS J. A. WHITE, PE
301-980 - 4672

STATE OF MARYLAND · NICHOLAS JOHN ALAN WHITE · NO. 14246 · PROFESSIONAL ENGINEER

HOWARD COUNTY OFFICE OF PLANNING AND ZONING APPROVED

CHIEF, LAND DEVELOPMENT	DATE 7-11-17
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 7.7.17
DIRECTOR OF PLANNING AND ZONING	DATE 7-11-17

Owners/Developer Certification:

"I/We hereby certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for the periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

Owner's/ Developer's Signature — 6/9/17 Date

ARTHUR BLUME - PRESIDENT
Printed Name & Title

Design Certification:

"I hereby certify that this plan has been designed in accordance with the current Maryland erosion and sediment control laws, regulations, and standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Designer's Signature — 6/12/17 Date

Charles T. Grimsley
Printed Name

MD P.E. Registration No. 11124

Howard SCD Signature Block:

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District."

Howard Soil Conservation District — Date

OWNER-DEVELOPER
WHISKEY BOTTOM CONDOMINIUMS, ASSOC.
c/o MR. ARTHUR F. BLUME, PRESIDENT
WHISKEY BOTTOM SOUTH, BOARD OF DIRECTORS
9220 BRIDLE PATH LANE, UNIT F
LAUREL, MD. 20723

LANDMARK ENGINEERING, INC.
6110 EXECUTIVE BLVD, SUITE 110 PHONE: (301) 230-5881
ROCKVILLE, MARYLAND 20852 FAX: (301) 230-5884
CONSULTING ENGINEERS PLANNERS SURVEYORS

SECTION TWO
WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

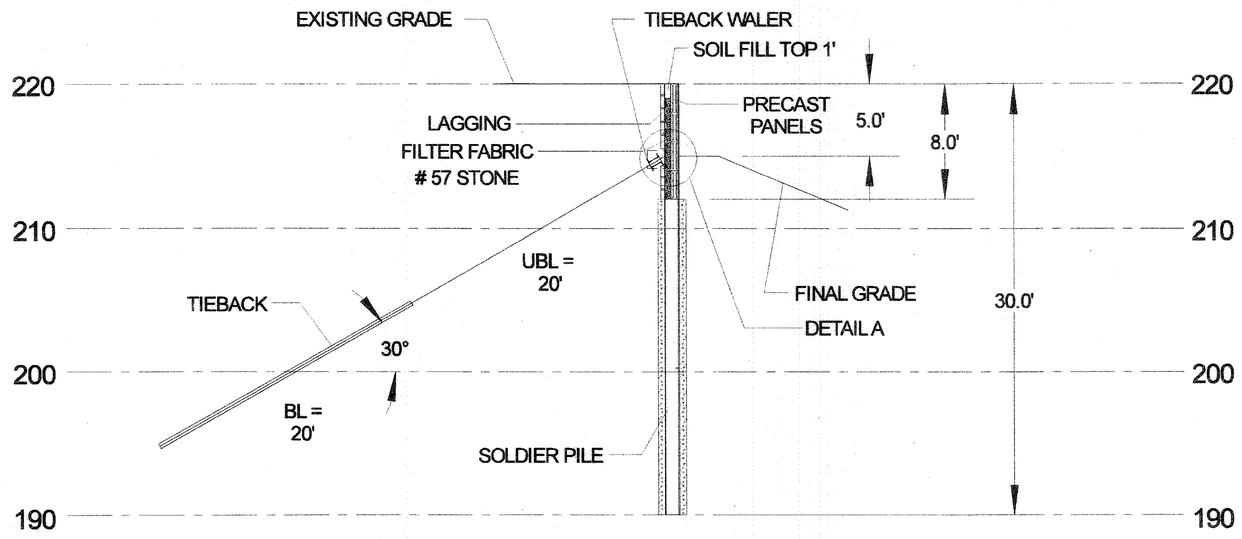
SITE DEVELOPMENT PLAN
PROPOSED RETAINING WALL

REVISIONS

DRN: DCV	CK: CTG
PROJECT NO.: 1530	
SCALE: AS SHOWN	
DATE: MAY 5, 2017	

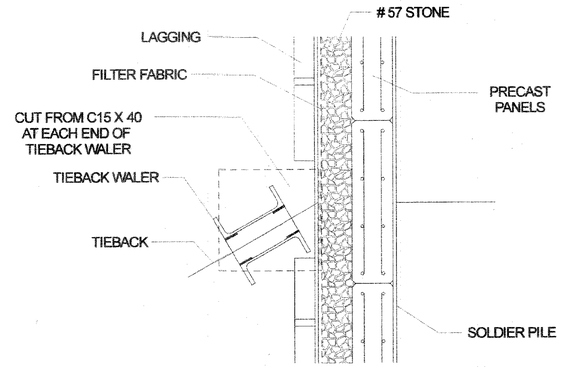
DRAWING NO. S-15 OF 17

SDP-72-84

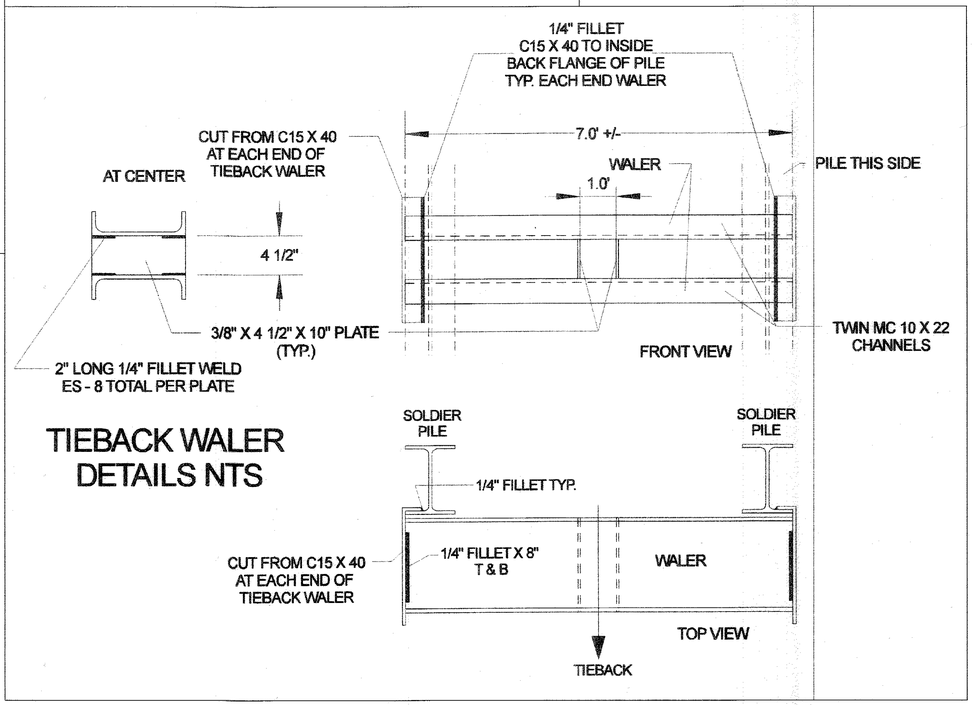


TYPICAL SECTION

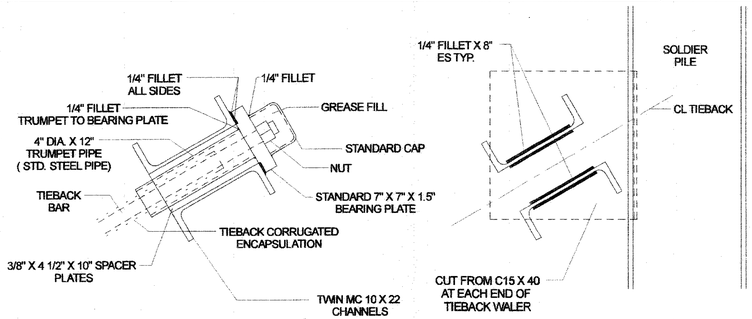
(SEE CIVIL DRAWINGS FOR DETAILS NOT CONTAINED HEREIN)



DETAIL A



TIEBACK WALER DETAILS NTS



TIEBACK WALER CONNECTION SECTION VIEW

TIEBACK SCHEDULE

TIEBACK NUMBER	QUANTITY / TYPE	DESIGN LOAD KIPS	UNBONDED LENGTH	MIN.BONDED LENGTH	MIN. DRILL LENGTH	BAR SIZE
ALL	14	65	20'	20'	40'	1.25" DIA.

TIEBACK BARS TO BE 150 KSI STEEL MINIMUM

OWNER	ENGINEER	PROJECT
WHISKEY BOTTOM SOUTH C/O SIMMONS MGMT. GROUP COLLEGE, MARYLAND 20740	PROFESSIONAL CONSULTING CORP. PO BOX 129 DUNKIRK, MARYLAND 20754 301-980-4672	WHISKEY BOTTOM APARTMENTS HOWARD COUNTY, MD.

RETAINING WALL

DATE 10/11/2016
REVISION # 1 10/23/2016

DWG. 102

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE # 14246, EXPIRATION 12/23/2018

NICHOLAS J. A. WHITE, PE
301-980 - 4672

STATE OF MARYLAND · NICHOLAS JOHN ALAN WHITE · No. 14246 · PROFESSIONAL ENGINEER

HOWARD COUNTY OFFICE OF PLANNING AND ZONING APPROVED

CHIEF, LAND DEVELOPMENT — DATE 7-11-17
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 7-7-17
DIRECTOR OF PLANNING AND ZONING — DATE 7-11-17

Owners/Developer Certification:

"I/We hereby certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for the periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

Owner's/ Developer's Signature — 4/3/17 Date
ARTHUR BLUME - PRESIDENT
Printed Name & Title

Design Certification:

"I hereby certify that this plan has been designed in accordance with the current Maryland erosion and sediment control laws, regulations, and standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Designer's Signature — 6/19/17 Date
Charles T. Grimsley
Printed Name
MD P.E. Registration No. 11124

Howard SCD Signature Block:

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District."

Howard Soil Conservation District — Date

OWNER-DEVELOPER
WHISKEY BOTTOM CONDOMINIUMS, ASSOC.
c/o MR. ARTHUR F. BLUME, PRESIDENT
WHISKEY BOTTOM SOUTH, BOARD OF DIRECTORS
9220 BRIDLE PATH LANE, UNIT F
LAUREL, MD. 20723

LANDMARK ENGINEERING, INC.
6110 EXECUTIVE BLVD, SUITE 110 PHONE: (301) 230-5881
ROCKVILLE, MARYLAND 20852 FAX: (301) 230-5884
CONSULTING ENGINEERS PLANNERS SURVEYORS

SECTION TWO
WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

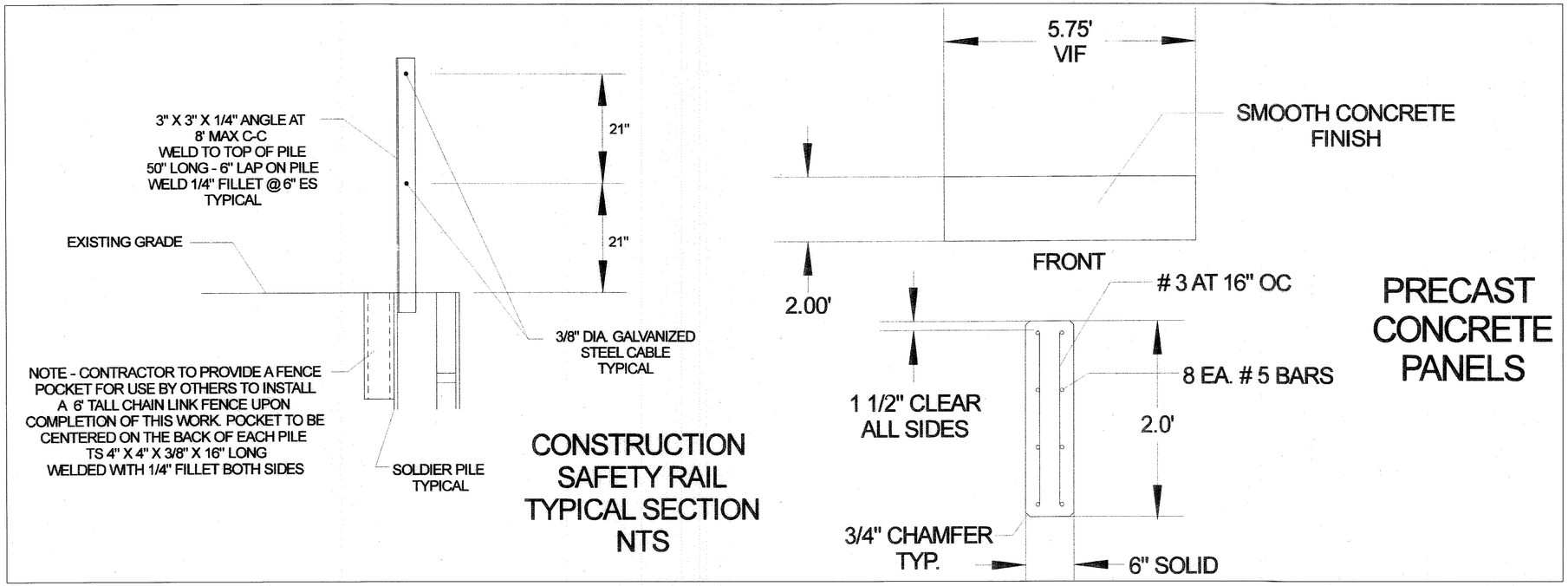
SITE DEVELOPMENT PLAN
PROPOSED RETAINING WALL

REVISIONS

DRN: DCV CK: CTG
PROJECT NO.: 1530
SCALE: AS SHOWN
DATE: MAY 5, 2017

DRAWING NO. S-16 OF 17

SDP-72-84



GENERAL NOTES

1. ALL SOLDIER PILES ARE TO BE MINIMUM 30' LONG HP 12 X 53 GRADE 50 (A572) STEEL MINIMUM. ALL PILES ARE TO BE SET INTO 24" DIAMETER PRE DRILLED FULL DEPTH HOLES AND THEN BACKFILLED WITH 3000 PSI CONCRETE IN THE PILE TOE. THE REMAINDER OF THE HOLES ARE TO BE FILLED TO GRADE WITH FLOWABLE FILL OR STONE DUST. HOLES TO BE DRILLED EVERY OTHER HOLE, SET & FILLED BEFORE DRILLING ADJACENT HOLE. PILES TO BEAR ON DENSE DISINTEGRATED ROCK OR SOLID ROCK.
2. ALL STRUCTURAL STEEL TO BE MIN. 50 KSI STEEL. ALL REINFORCING STEEL TO BE 60 KSI AND ALL CONCRETE FOR CONCRETE PANELS TO BE 3500 PSI MINIMUM. ALL EXPOSED STEEL IS TO BE COATED WITH RUST RESISTANT PRIMER AND BLACK ENAMEL PAINT. WELDED OR DISTURBED STEEL AREAS TO BE CLEANED AND RECOATED AS NEEDED TO ASSURE COMPLETE COVERAGE.
3. ALL WELDING TO BE PER AWS REQUIREMENTS. ALL WELDING RODS TO BE E70XX.
4. THE UNDERSIGNED ENGINEER IS TO BE NOTIFIED IMMEDIATELY UPON ANY CHANGE OF ANTICIPATED CONDITIONS THAT DIFFER FROM THESE DRAWING DETAILS. NICHOLAS J. A. WHITE 301-980-4672
5. ALL TIEBACKS ARE TO CLASS 1 FULLY ENCAPSULATED SOLID THREAD BAR PERMANENT TIES IN ACCORDANCE WITH FHWA & PTI REQUIREMENTS. MINIMUM DRILL HOLE DIAMETER IS 4". THE UNBONDED LENGTH OF THE BAR IS TO BE COVERED IN PE PLASTIC TUBING BEFORE ENCAPSULATION. LENGTHS SHOWN ARE MINIMUM LENGTHS TO BE INCREASED AS NEEDED TO PROVIDE THE CAPACITY INDICATED.
6. TIEBACK GROUT IS TO BE NEAT CEMENT GROUT USING A MIXTURE OF 1 BAG OF PORTLAND TYPE 3 CEMENT TO 5 1/2 GALLONS OF POTABLE WATER. TIEBACK GROUT TO BE PUMPED FROM THE BOTTOM OF THE HOLE UP BEFORE INSERTING THE ENCAPSULATED TIEBACKS MAKING SURE THAT CLEAN GROUT RETURNS TO THE SURFACE BEFORE STOPPING GROUTING.
7. ALL TIEBACKS ARE TO BE PROOF TESTED TO 133% OF DESIGN LOAD, AND LOCKED OFF AT 100% OF DESIGN LOAD. THE MAXIMUM INCREMENTAL MOVEMENT OF A TIEBACK IS 0.04" DURING A 10 MINUTE HOLD AT 133% TEST LOAD IN ORDER THAT THE TIEBACK BE DEEMED ACCEPTABLE. MOVEMENT TO BE MEASURED USING A DIAL GAUGE OF 0.001" ACCURACY.
8. CONTRACTOR TO NOTIFY "MISS UTILITY". VERIFICATION OF ALL UTILITY LOCATIONS & ELEVATIONS, UTILITY TEST PITS AND UTILITY RELOCATIONS AS REQUIRED TO SAFELY PERFORM THIS WORK IS THE RESPONSIBILITY OF OTHERS.
9. EXCAVATION SHALL BE MADE IN MAXIMUM LIFT HEIGHTS OF 4 FEET TO FACILITATE PLACEMENT OF LAGGING. EXCAVATION AND LAGGING IS TO BE DONE ON AN ALTERNATE BAY BASIS. WALERS ARE TO BE INSTALLED, LAGGING COMPLETE AND PROPERLY BACKFILLED ABOVE THE WALERS BEFORE THE ADJACENT BAY IS EXCAVATED. BACKFILL AROUND WALER AND LAGGING ABOVE TO BE SM MATERIAL OR BETTER COMPACTED TO AT LEAST 95% MAXIMUM DRY DENSITY PER ASTM D698. BACKFILL OPERATIONS TO BE OBSERVED AND TESTED BY THIRD PARTY INSPECTOR. TIEBACKS ARE TO BE FULLY COMPLETED AND TESTED PRIOR TO LAGGING BELOW THE WALER ELEVATION.
10. ALL LAGGING TO BE 3" THICK MINIMUM TREATED BOARDS. 1" THICK LOUVER BLOCKS TO BE USED TO ASSURE PROPER DRAINAGE.

OWNER	ENGINEER	PROJECT
WHISKEY BOTTOM SOUTH C/O SIMMONS MGMT. GROUP COLLEGE, MARYLAND 20740	PROFESSIONAL CONSULTING CORP. PO BOX 129 DUNKIRK, MARYLAND 20754 301-980-4672	WHISKEY BOTTOM APARTMENTS HOWARD COUNTY, MD.

RETAINING WALL

DATE 10/11/2016
REVISION #1 10/23/2016

DWG. 103

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE # 14246, EXPIRATION 12/23/2018

NICHOLAS J. A. WHITE, PE
301-980 - 4672

STATE OF MARYLAND
NICHOLAS JOHN ALAN WHITE
No. 14246
PROFESSIONAL ENGINEER

HOWARD COUNTY OFFICE OF PLANNING AND ZONING
APPROVED

CHIEF, LAND DEVELOPMENT	DATE 7/10/17
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 7.7.17
DIRECTOR OF PLANNING AND ZONING	DATE 7-11-17

Owners/Developer Certification:

"I/We hereby certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for the periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

Owner's/ Developer's Signature — Date 6/21/17

ARTHUR BLUME - PRESIDENT
Printed Name & Title

Design Certification:

"I hereby certify that this plan has been designed in accordance with the current Maryland erosion and sediment control laws, regulations, and standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Designer's Signature — Date 6/19/17

Charles T. Grimsley
Printed Name — MD P.E. Registration No. 11124

Howard SCD Signature Block:

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.

Howard Soil Conservation District — Date

OWNER-DEVELOPER
WHISKEY BOTTOM CONDOMINIUMS, ASSOC.
c/o MR. ARTHUR F. BLUME, PRESIDENT
WHISKEY BOTTOM SOUTH, BOARD OF DIRECTORS
9220 BRIDLE PATH LANE, UNIT F
LAUREL, MD. 20723

LANDMARK ENGINEERING, INC.
6110 EXECUTIVE BLVD, SUITE 110 PHONE: (301) 230-5881
ROCKVILLE, MARYLAND 20852 FAX: (301) 230-5884
CONSULTING ENGINEERS PLANNERS SURVEYORS

SECTION TWO
WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

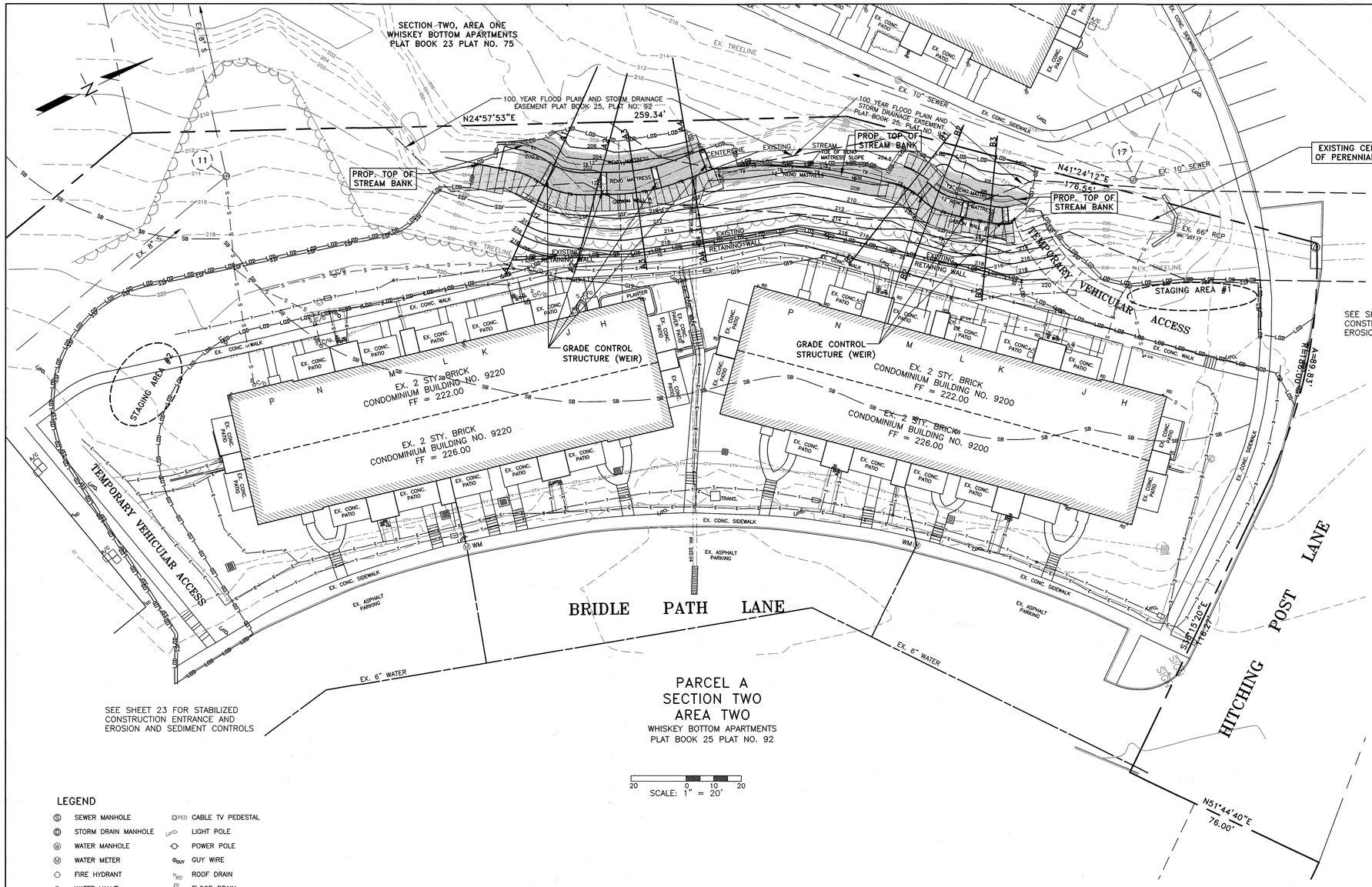
SITE DEVELOPMENT PLAN
PROPOSED RETAINING WALL

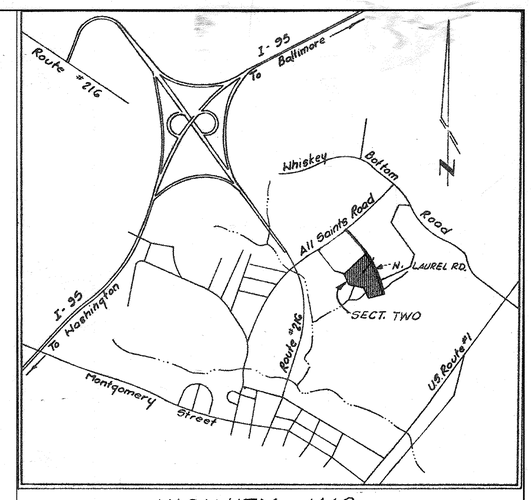
REVISIONS

DRN: DCV CK: CTG
PROJECT NO.: 1530
SCALE: AS SHOWN
DATE: MAY 5, 2017

DRAWING NO. S-17 OF 17

SDP-72-84





VICINITY MAP
SCALE 1" = 2000'

LEGEND

(S)	SEWER MANHOLE	CPED	CABLE TV PEDESTAL
(D)	STORM DRAIN MANHOLE	LP	LIGHT POLE
(W)	WATER MANHOLE		POWER POLE
(M)	WATER METER	GUY	GUY WIRE
	FIRE HYDRANT	RD	ROOF DRAIN
	WATER VALVE	FD	FLOOR DRAIN
SP	SPRINKLER	IPF	IRON PIPE FOUND
(G)	GAS VALVE	RBCF	REBAR W/ CAP FOUND
203.7	EX. SPOT GRADE	TW219.00+	PROPOSED TOP WALL SPOT GRADE
		BW215.14+	PROPOSED BOTTOM WALL SPOT GRADE

	PROPERTY LINE	CTV	UNDERGROUND CABLE TV
	INDEX CONTOUR	E	UNDERGROUND ELECTRIC
	INTERMEDIATE CONTOUR	W	WATER
	TREELINE		SEWER
	PERENNIAL STREAM	S	SEWER HOUSE CONNECTION
SB SB	75' STREAM BANK BUFFER		STORM DRAIN
216	PROPOSED CONTOUR	LOD	PROPOSED LIMITS OF DISTURBANCE
TB	TOP OF BANK	SF	PROPOSED SILT FENCE
BB	BOTTOM OF BANK	SSF	PROPOSED SUPER SILT FENCE
OH	OVERHEAD WIRE		
G	UNDERGROUND GAS		
T	UNDERGROUND TELECOMMUNICATION		

HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
APPROVED

CHIEF, LAND DEVELOPMENT	DATE 6/21/22
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 6.9.22
DIRECTOR, OF PLANNING AND ZONING	DATE 6/22/22

GENERAL NOTES:

1. Site property is known as Section Two – Area Two, Whiskey Bottom Apartments recorded Plat Book 25 at Plat No. 92. Current Zoning: R-A-15
2. The purpose of this project is to remediate for shifts in the stream centerline which is endangering the stability of 28 units of single family attached dwellings. The project will stabilize stream bank erosion and assign global stability with respect to the nearby buildings. The total disturbed area is 17,490 sq. ft.
3. The site lies within the Patuxent River Watershed which is Maryland Class Use I with no in-stream construction permitted from March 1 to June 15, inclusive.
4. Topographic information from survey conducted in the field August and September, 2015 by Landmark Engineering, Inc. Horizontal Data per Plat No 92. Vertical Datum per previous approved Site & Grading Plan. Field work in 2019 documented further streambank erosion. The as-built location of the retaining wall was done by field survey in July 2020.
5. The property is not located within a FEMA mapped 100-year floodplain as determined in review of Howard County, Maryland Community Panel No. 24027C0230D with effective date of November 6, 2013. The drainage area to the work area is 83.26 ac. The existing floodplain easement was established by record plat Section Two, Area Two Whiskey Bottom Apartments, Plat Book 25, Plat No. 92.
6. Gabion design to be per plan by the geotechnical engineer, Professional Consulting Corporation. The proposed wall to be gravity wall constructed under guidance of the geotechnical engineer.
7. The location of underground and above ground utilities as shown on this plan were field marked and survey located. This does not relieve the contractor for requirements to have utilities marked by Miss Utility. Any conflicts to be coordinated with the utility companies.
8. During preliminary investigations cameras were used to examine the conditions of the existing pipes. It was determined that the 15" RCP had a joint offset very close to the existing retaining wall. This pipe will get repaired and extended as part of this construction.
9. This stream restoration project is exempt from forest Conservation requirements in accordance with Section 16.1202(b)(1)(xv) of the Howard County Code.
10. The Maryland Department of the Environment issued an Authorization to Proceed for this project on August 5, 2019, Authorization Number 201961118/19/NT-3160. A modification of this Authorization as approved by this site plan revision will be obtained prior to final Sediment Control Permit Issuance.
11. Alternative Compliance WP-21-121 for this project was approved under Section 16.116.a.2.ii and Section 16.115.c of the County Code by the The Director of the Department of Planning and Zoning, Director of Public Works and Administrator of the Office of Community Sustainability on May 21, 2021. The approval is conditioned on the following items:
    a. All disturbed areas within the stream, stream bank buffer and 100-year floodplain shall be stabilized, seeded and/or planted after construction is complete. The disturbed areas within the stream buffer shall be replanted at a rate of at least 100 trees per acre.
    b. The applicant shall obtain all required authorizations and permits from the Maryland Department of the Environment (MDE) and the U.S. Army Corps of Engineers for disturbances within the stream and floodplain. The applicant shall coordinate with MDE to revise the existing authorization (201961118/19-NT-3160) to be consistent with the stream bank and floodplain impacts as shown on SDP-72-084.

PROJECT DESCRIPTION

This project is the second of two phases of work to provide structural stability and stream restoration for two of the Whiskey Bottom South Condominium Buildings – 9200 and 9220 Bridle Path Lane. The geotechnical engineers, Professional Consulting Corporation, determined from their analyses that these two buildings were susceptible to global instability due to the severe eroding of the stream channel and the ground slope which has significant sloughing. The first phase of work consisted of a structural retaining wall system, located at the top of the stream bank near the rear of the two buildings. This wall was approved in the prior SDP Revision in July 2017 and permitted by Howard County. Construction is complete for the first phase.

The second phase of the work being proposed by this plan will stabilize the stream channel and banks below the structural retaining wall. There are two pronounced areas of erosion and sloughing where improvements are being proposed. The plan proposes to utilize gabion walls to shift the alignment of the stream channel and provide bank and channel bottom stabilization with Reno Mattresses (or equivalent) and supplemental riprap stone.

Maryland Department of the Environment (MDE) provided Authorization to proceed No. 201961118/19-NT-3160 for work in the regulated stream and floodplain. There were no wetlands identified in the project construction limits by the MDE staff during a field meeting on February 19, 2019. These plans are submitted to Howard County Department of Planning and Zoning as a Redline Revision to Site Plan SDP 72-84. Approval of this SDP Revision will include the approval of the Sediment Control plans as part of this Site Development Plan.

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 11124, EXPIRATION DATE: OCTOBER 3, 2022.

3/28/22
STATE OF MARYLAND
CRAIG THOMAS MARTIN
No. 11124
PROFESSIONAL ENGINEER

OWNER-DEVELOPER
WHISKEY BOTTOM CONDOMINIUM, ASSOC.
c/o MR. ARTHUR F. BLUME, PRESIDENT
WHISKEY BOTTOM SOUTH, BOARD OF DIRECTORS
9220 BRIDLE PATH LANE, UNIT F
LAUREL, MD. 20723

LANDMARK ENGINEERING, INC.
13722 LAMBERTINA PLACE PHONE: (301) 230-5881
ROCKVILLE, MARYLAND 20850 FAX: (301) 230-5884
CONSULTING ENGINEERS PLANNERS SURVEYORS

SECTION TWO
WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

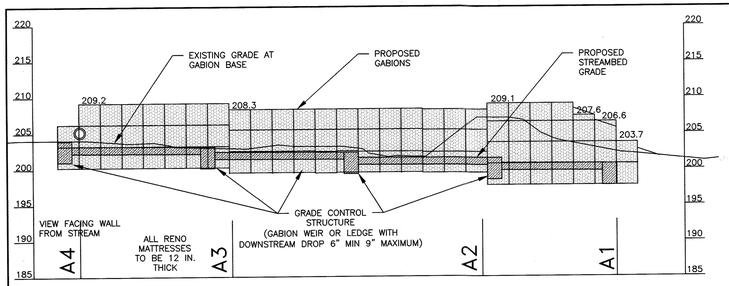
SITE DEVELOPMENT PLAN
STREAM STABILIZATION

REVISIONS
6.9.22: SHEETS 15-24 WERE REVISED FOR STREAM RESTORATION DESIGN.

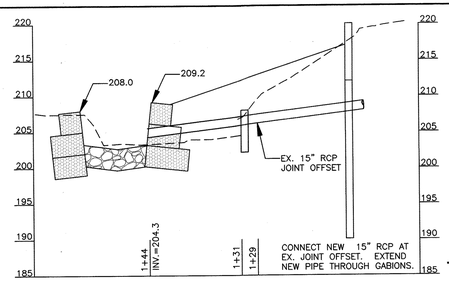
DRN: DCV CK: CTG
PROJECT NO.: 1530
SCALE: AS SHOWN
DATE: MAR. 28, 2022

DRAWING NO. S-15 OF 24

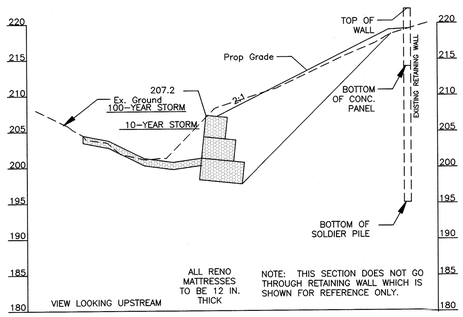
SDP-72-84



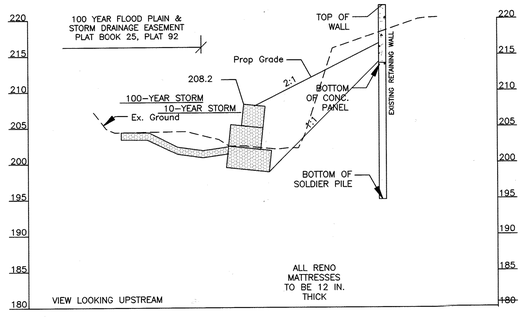
GABION WALL A
ELEVATION
SCALE: 1" = 10' HORIZ.
1" = 10' VERT.



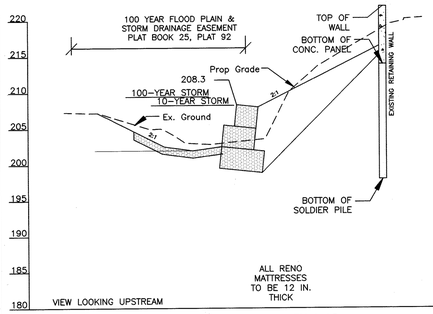
PARTIAL PROFILE AT EXISTING
15" RCP OUTFALL
SCALE: 1" = 10' HORIZ.
1" = 10' VERT.



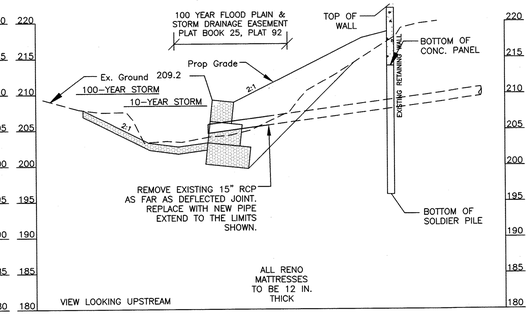
STREAM CROSS SECTION A1
SCALE: 1" = 10' HORIZ.
1" = 10' VERT.



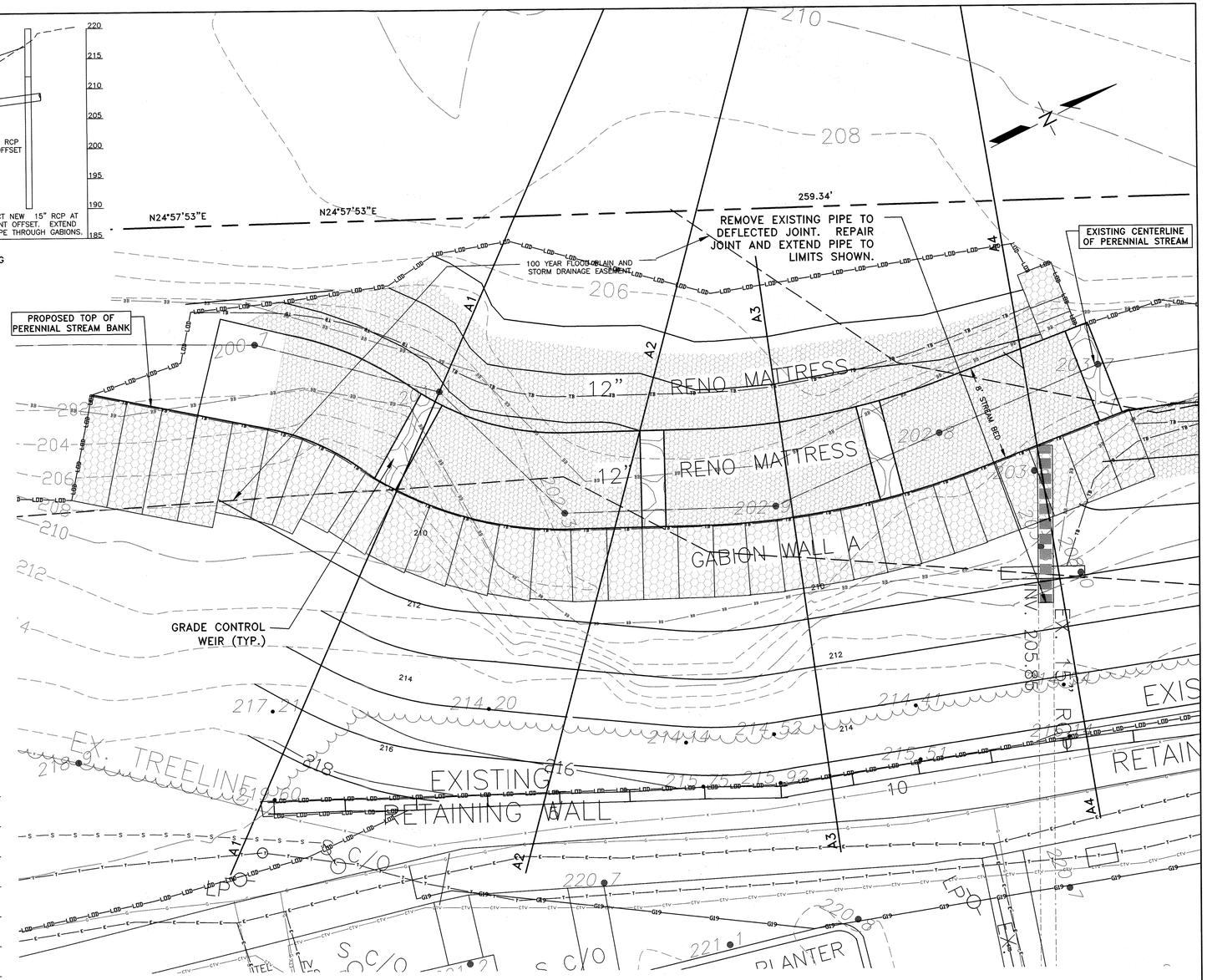
STREAM CROSS SECTION A2
SCALE: 1" = 10' HORIZ.
1" = 10' VERT.



STREAM CROSS SECTION A3
SCALE: 1" = 10' HORIZ.
1" = 10' VERT.



STREAM CROSS SECTION A4
SCALE: 1" = 10' HORIZ.
1" = 10' VERT.



GABION WALL A

GABION WALL A DETAIL
SCALE: 1" = 5'

NOT FOR CONSTRUCTION

ALL CROSS SECTIONS
LOOKING DOWNSTREAM
OR AS LABELLED

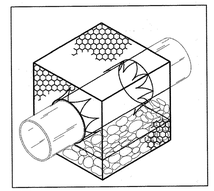
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
APPROVED

CHIEF, LAND DEVELOPMENT	6/21/22 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	6.9.22 DATE
DIRECTOR OF PLANNING AND ZONING	6/22/22 DATE

LEGEND

S	SEWER MANHOLE	PED	CABLE TV PEDESTAL
D	STORM DRAIN MANHOLE	LP	LIGHT POLE
W	WATER MANHOLE		POWER POLE
M	WATER METER	GUY	GUY WIRE
	FIRE HYDRANT	RD	ROOF DRAIN
	WATER VALVE	FD	FLOOR DRAIN
SP	SPRINKLER	IPF	IRON PIPE FOUND
G	GAS VALVE	RBCF	REBAR W/ CAP FOUND
203.7	EX. SPOT GRADE		

PROPERTY LINE
INDEX CONTOUR
INTERMEDIATE CONTOUR
TREELINE
PERENNIAL STREAM
75' STREAM BANK BUFFER
216 PROPOSED CONTOUR
TOP OF BANK
BOTTOM OF BANK
OVERHEAD WIRE
UNDERGROUND GAS
UNDERGROUND TELECOMMUNICATION
UNDERGROUND CABLE TV
UNDERGROUND ELECTRIC
WATER
SEWER
SEWER HOUSE CONNECTION
STORM DRAIN
PROPOSED LIMITS OF DISTURBANCE
PROPOSED SILT FENCE
PROPOSED SUPER SILT FENCE



REPLACEMENT/EXTENSION OF PIPE TO BE FITTED TROUGHT GABION WALL. MANUFATURER TO PROVIDE SHOP DRAWING PRIOR FOR REVIEW /APPROVAL BY PROJECT ENGINEER.

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 11124, EXPIRATION DATE: OCTOBER 3, 2022.

3/28/22
STATE OF MARYLAND
THOMAS
No. 11124
PROFESSIONAL ENGINEER

OWNER-DEVELOPER
WHISKEY BOTTOM CONDOMINIUM, ASSOC.
c/o MR. ARTHUR F. BLUME, PRESIDENT
WHISKEY BOTTOM SOUTH, BOARD OF DIRECTORS
9220 BRIDLE PATH LANE, UNIT F
LAUREL, MD. 20723

LANDMARK ENGINEERING, INC.
13722 LAMBERTINA PLACE PHONE: (301) 230-5881
ROCKVILLE, MARYLAND 20850 FAX: (301) 230-5884
CONSULTING ENGINEERS PLANNERS SURVEYORS

SECTION TWO
WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

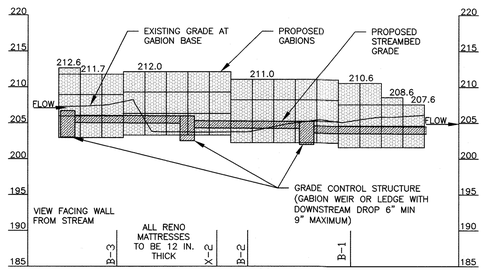
SITE DEVELOPMENT PLAN
STREAM STABILIZATION
GABION WALL A SECTIONS AND ELEVATIONS

REVISIONS

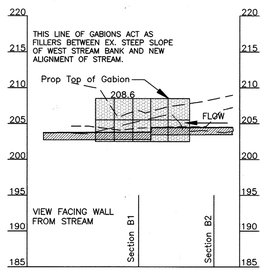
DRN: DCV CK: CTG
PROJECT NO.: 1530
SCALE: AS SHOWN
DATE: MAR. 28, 2022

DRAWING NO. S-16 OF 24

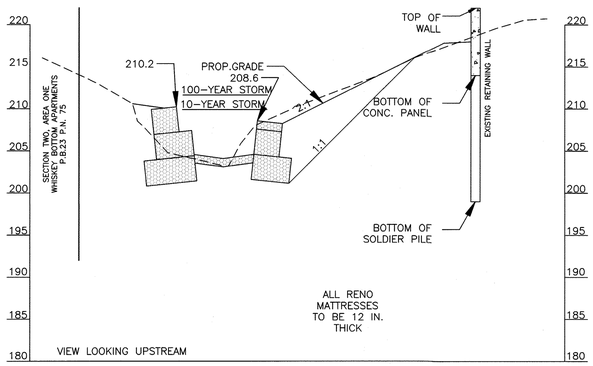
SDP-72-84



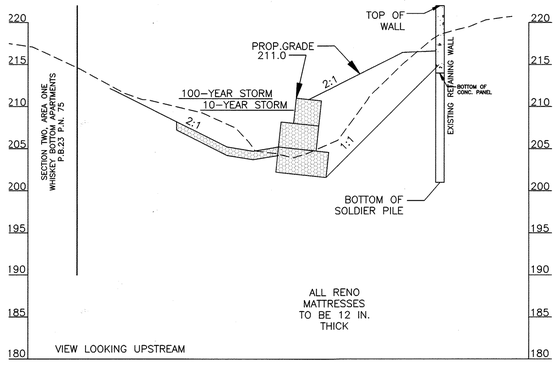
GABION WALL B ELEVATION
SCALE: 1" = 10' HORIZ.
1" = 10' VERT.



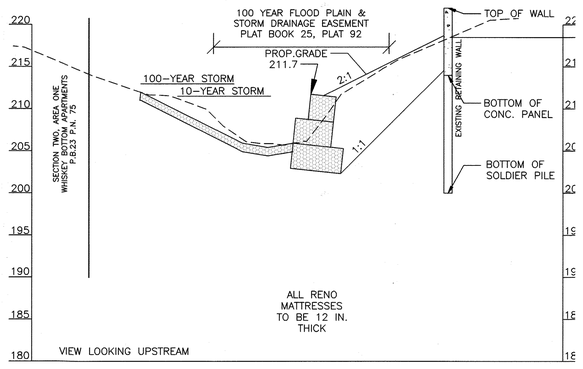
GABION WALL B WEST SIDE ELEVATION
SCALE: 1" = 10' HORIZ.
1" = 10' VERT.



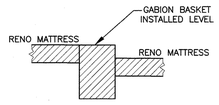
STREAM CROSS SECTION B1
SCALE: 1" = 10' HORIZ.
1" = 10' VERT.



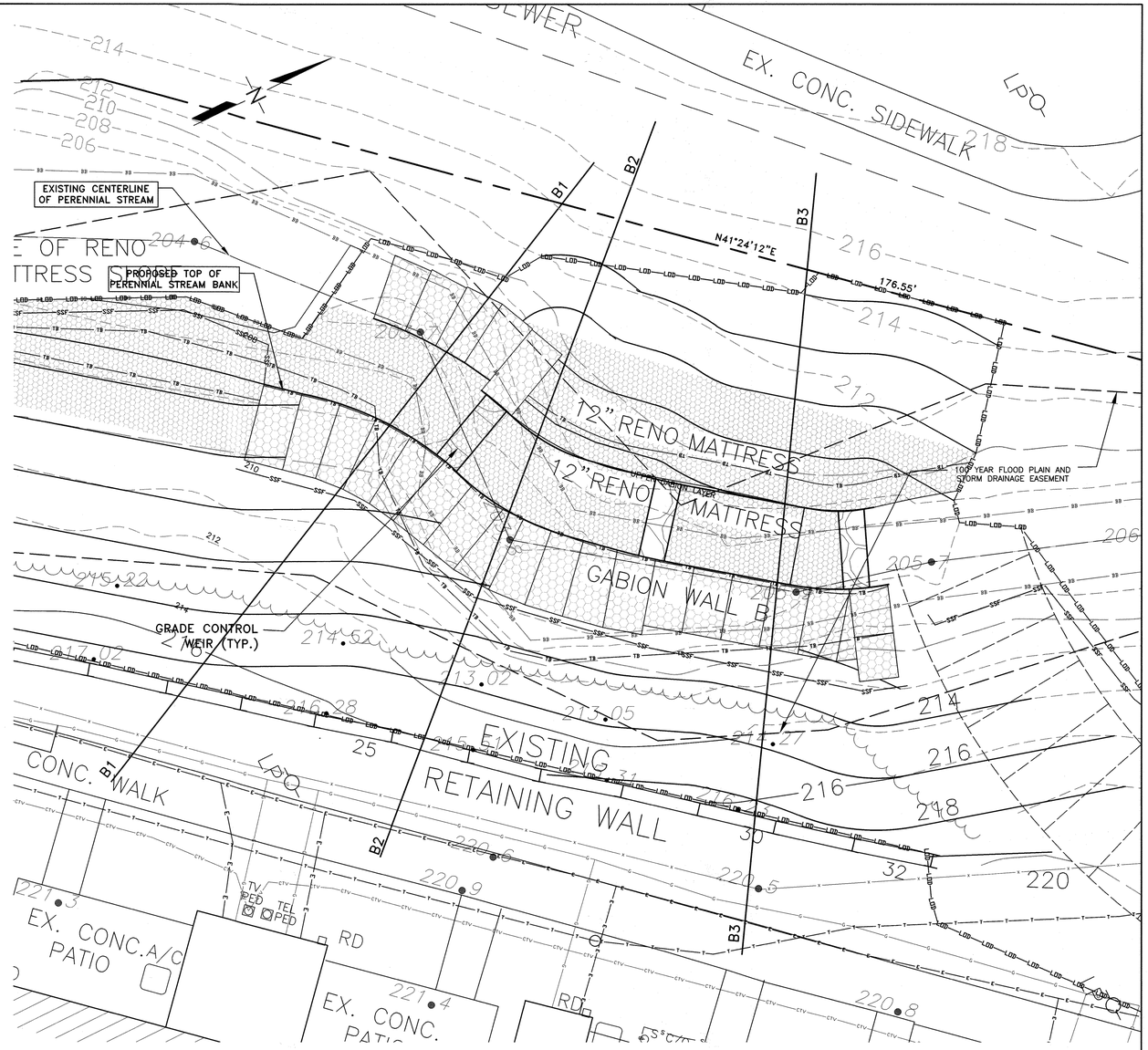
STREAM CROSS SECTION B2
SCALE: 1" = 10' HORIZ.
1" = 10' VERT.



STREAM CROSS SECTION B3
SCALE: 1" = 10' HORIZ.
1" = 10' VERT.



GRADE CONTROL STRUCTURE
SCALE: 1" = 4'



GABION WALL B DETAIL
SCALE: 1" = 5'

NOT FOR CONSTRUCTION

ALL CROSS SECTIONS
LOOKING DOWNSTREAM OR AS LABELED

HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
APPROVED

CHIEF, LAND DEVELOPMENT	DATE 6/21/22
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 6.9.22
DIRECTOR OF PLANNING AND ZONING	DATE 6/22/22

LEGEND

S	SEWER MANHOLE	CPED	CABLE TV PEDESTAL
D	STORM DRAIN MANHOLE	LP	LIGHT POLE
W	WATER MANHOLE		POWER POLE
M	WATER METER	GUY	GUY WIRE
	FIRE HYDRANT	RD	ROOF DRAIN
	WATER VALVE	FD	FLOOR DRAIN
	SPRINKLER	IPF	IRON PIPE FOUND
G	GAS VALVE	RBCF	REBAR W/ CAP FOUND
203.7	EX. SPOT GRADE		

PROPERTY LINE
INDEX CONTOUR
INTERMEDIATE CONTOUR
TREELINE
PERENNIAL STREAM
75' STREAM BANK BUFFER
PROPOSED CONTOUR
TOP OF BANK
BOTTOM OF BANK
OVERHEAD WIRE
UNDERGROUND GAS
UNDERGROUND TELECOMMUNICATION
UNDERGROUND CABLE TV
UNDERGROUND ELECTRIC
WATER
SEWER
SEWER HOUSE CONNECTION
STORM DRAIN
PROPOSED LIMITS OF DISTURBANCE
PROPOSED SILT FENCE
PROPOSED SUPER SILT FENCE

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 11124, EXPIRATION DATE: OCTOBER 3, 2022.

3/28/22
STATE OF MARYLAND THOMAS C. GORMAN No. 11124 PROFESSIONAL ENGINEER

OWNER-DEVELOPER
WHISKEY BOTTOM CONDOMINIUM, ASSOC.
c/o MR. ARTHUR F. BLUME, PRESIDENT
WHISKEY BOTTOM SOUTH, BOARD OF DIRECTORS
9220 BRIDLE PATH LANE, UNIT F
LAUREL, MD. 20723

LANDMARK ENGINEERING, INC.
13722 LAMBERTINA PLACE PHONE: (301) 230-5881
ROCKVILLE, MARYLAND 20850 FAX: (301) 230-5884
CONSULTING ENGINEERS PLANNERS SURVEYORS

SECTION TWO
WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

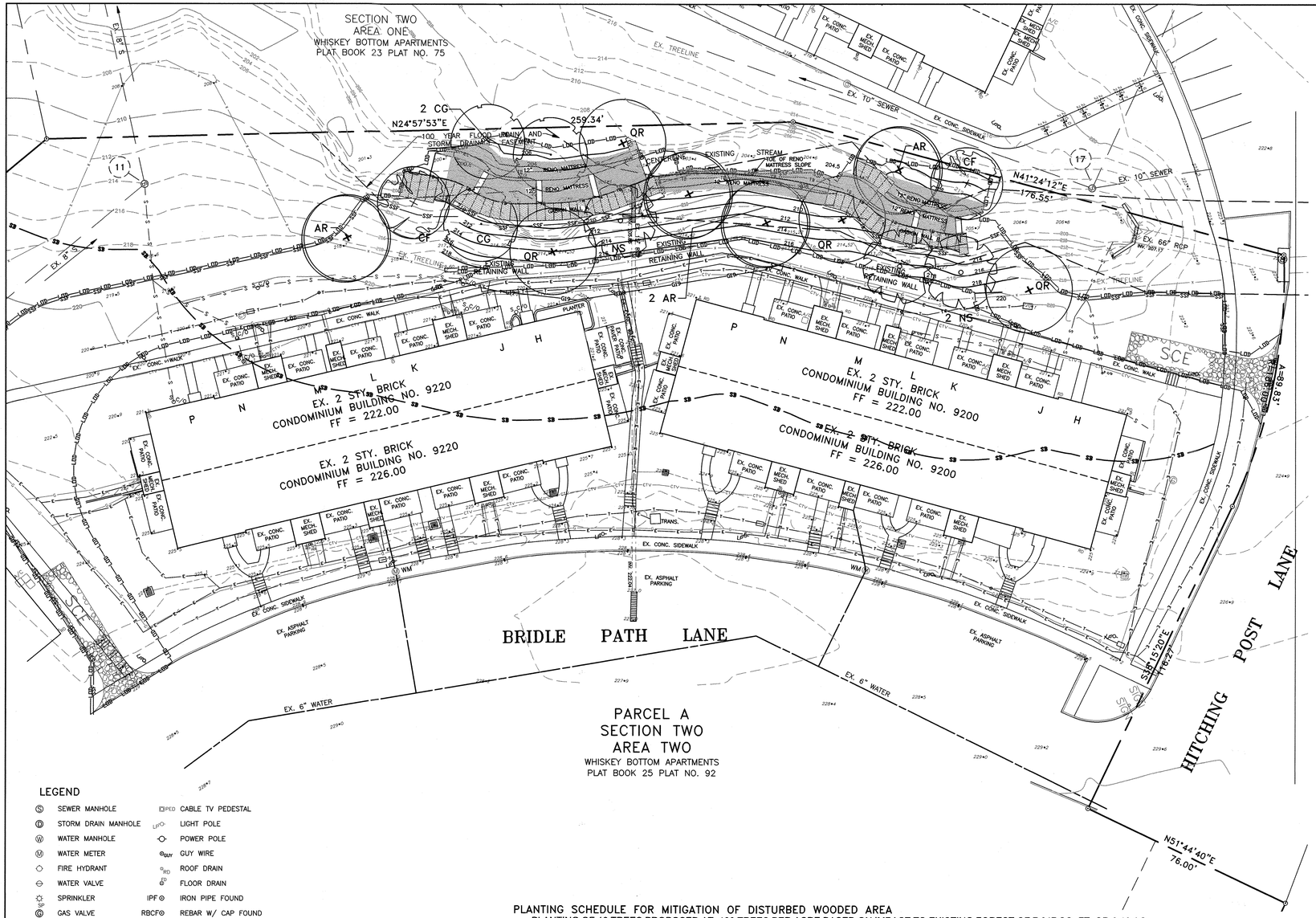
SITE DEVELOPMENT PLAN
STREAM STABILIZATION
GABION WALL B SECTIONS AND ELEVATIONS

REVISIONS

DRN: DCV CK: CTG
PROJECT NO.: 1530
SCALE: AS SHOWN
DATE: MAR. 28, 2022

DRAWING NO. S-17 OF 24

SDP-72-84



LEGEND

- SEWER MANHOLE
- STORM DRAIN MANHOLE
- WATER MANHOLE
- WATER METER
- FIRE HYDRANT
- WATER VALVE
- SPRINKLER (SP)
- GAS VALVE
- CABLE TV PEDESTAL (PED)
- LIGHT POLE (LP)
- POWER POLE
- GUY WIRE (GUY)
- ROOF DRAIN (RD)
- FLOOR DRAIN (FD)
- IRON PIPE FOUND (IPF)
- REBAR W/ CAP FOUND (RBCF)
- 203.7 EX. SPOT GRADE

- OVERHEAD WIRE (OH)
- UNDERGROUND GAS (G)
- UNDERGROUND TELECOMMUNICATION (T)
- UNDERGROUND CABLE TV (CTV)
- UNDERGROUND ELECTRIC (E)
- WATER
- SEWER
- SEWER HOUSE CONNECTION (S)
- STORM DRAIN
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- STREAM
- 75' STREAM BANK BUFFER (SB)
- 216 PROPOSED CONTOUR
- PROPOSED LIMITS OF DISTURBANCE (LOD)
- PROPOSED SILT FENCE (SF)
- PROPOSED SUPER SILT FENCE (SSF)

- DISTURBED WOODED AREA
- SOIL STABILIZATION MATTING

HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
APPROVED

CHIEF, LAND DEVELOPMENT	DATE 6/21/22
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 6.9.22
DIRECTOR OF PLANNING AND ZONING	DATE 6/22/22

PLANTING SCHEDULE FOR MITIGATION OF DISTURBED WOODED AREA

PLANTING OF 16 TREES PROPOSED AT 100 TREES PER ACRE BASED ON IMPACT TO EXISTING FOREST OF 7,017 SQ. FT. OR 0.16 AC.

Deciduous Trees

Symbol	Quantity	Botanical Name	Common Name	Size	Cond.	Comments
AR	4	Acer rubrum	October Glory Red Maple	2-1/2" cal.	B & B	
QR	4	Quercus alba	White Oak	2-1/2" cal.	B & B	
CG	3	Carya glabra	Pignut Hickory	2-1/2" cal.	B & B	
NS	3	Nyssa sylvatica	Black Gum	2-1/2" cal.	B & B	
CF	2	Cornus florida	Flowering Dogwood	2-1/2" cal.	B & B	

FOREST CONSERVATION NOTES:

This project involves streambed realignment necessary to maintain the structural safety of 28 units of single family attached housing. This stream restoration project is exempt from forest conservaiton requirements in accordance with Section 16.1202(b)(1)(xv) of the Howard County Code. As part of this work we are proposing tree planting at the normal reforestation planting level of 100 tree per acre.

GENERAL NOTES:

1. Site property is known as Section Two – Area Two, Whiskey Bottom Apartments recorded Plat Book 25 at Plat No. 92. Current Zoning: R–A–15
2. The purpose of this project is to remediate for shifts in the stream centerline which is endangering the stability of 28 units of single family attached dwellings. The project will stabilize stream bank erosion and assign global stability with respect to the nearby buildings. The total disturbed area is 17,490 sq. ft.
3. The site lies within the Patuxent River Watershed which is Maryland Class Use I with no in–stream construction permitted from March 1 to June 15, inclusive.
4. Topographic information from survey conducted in the field August and September, 2015 by Landmark Engineering, Inc. Horizontal Data per Plat No 92. Vertical Datum per previous approved Site & Grading Plan. Field work in 2019 documented further streambank erosion. The as–built location of the retaining wall was done by field survey in July 2020.
5. The property is not located within a FEMA mapped 100–year floodplain as determined in review of Howard County, Maryland Community Panel No. 24027C0230D with effective date of November 6, 2013. The drainage area to the work area is 83.26 ac. The existing floodplain easement was established by record plat Section Two, Area Two Whiskey Bottom Apartments, Plat Book 25, Plat No. 92.
6. Gabion design to be per plan by the geotechnical engineer, Professional Consulting Corporation. The proposed wall to be gravity wall constructed under guidance of the geotechnical engineer.
7. The location of underground and above ground utilities as shown on this plan were field marked and survey located. This does not relieve the contractor for requirements to have utilities marked by Miss Utility. Any conflicts to be coordinated with the utility companies.
8. During preliminary investigations cameras were used to examine the conditions of the existing pipes. It was determined that the 15" RCP had a joint offset very close to the existing retaining wall. This pipe will get repaired and extended as part of this construction.
9. This stream restoration project is exempt from forest Conservation requirements in accordance with Section 16.1202(b)(1)(xv) of the Howard County Code.
10. The Maryland Department of the Environment issued an Authorization to Proceed for this project on August 5, 2019, Authorization Number 201961118/19/NT–3160. A modification of this Authorization as approved by this site plan revision will be obtained prior to final Sediment Control Permit Issuance.
11. Alternative Compliance WP–21–121 for this project was approved under Section 16.116.a.2.ii and Section 16.115.c of the County Code by the The Director of the Department of Planning and Zoning, Director of Public Works and Administrator of the Office of Community Sustainability on May 21, 2021. The approval is conditioned on the following items:
    a. All disturbed areas within the stream, stream bank buffer and 100–year floodplain shall be stabilized, seeded and/or planted after construction is complete. The disturbed areas within the stream buffer shall be replanted at a rate of at least 100 trees per acre.
    b. The applicant shall obtain all required authorizations and permits from the Maryland Department of the Environment (MDE) and the U.S. Army Corps of Engineers for disturbances within the stream and floodplain. The applicant shall coordinate with MDE to revise the existing authorization (201961118/19–NT–3160) to be consistent with the stream bank and floodplain impacts as shown on SDP–72–084.

SEQUENCE OF EVENTS

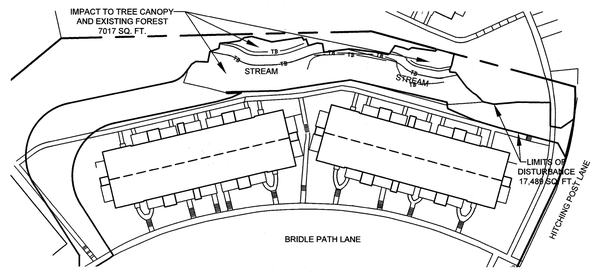
Reforestation Sequence of Events

1. An on–site pre–construction meeting is required after the limits of disturbance have been staked and flagged, but before any clearing or grading begins. An ISA certified arborist or Maryland–licensed tree expert that will implement the tree protection measures should also attend this pre–construction meeting.

2. No clearing or grading shall begin before stress– reduction measures have been implemented. Appropriate measures may include, but are not limited to Root pruning, Crown reduction or pruning, Watering, fertilizing, Vertical mulching, Root aeration matting

3. A Maryland–licensed tree expert or an ISA certified arborist must perform all stress reduction measures. The tree expert or arborist will determine the exact method to convey the stress reductions measures during the pre–construction meeting.

4. Temporary tree protection devices shall be installed per the Forest Conservation Plan/Tree Save Plan and prior to any construction activities. Tree protection fencing locations should be staked prior to the pre–construction meeting. The tree expert or arborist may make field adjustments to increase the survivability of trees and forest shown as saved on the approved plan. Temporary tree protect devices may include chain link fence (four feet high), super silt fence with wire strung between support poles with high visibility flagging, 14 gauge 2 inch x 4 inch welded wire fencing supported by steel T–bar posts with high visibility flagging.



All areas within the Limits of Disturbance shall be stabilized, seeded and/or planted after construction is complete.

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 11124, EXPIRATION DATE: OCTOBER 3, 2022.

3/28/22
STATE OF MARYLAND — THOMAS C. LANDMARK — No. 11124 — PROFESSIONAL ENGINEER

OWNER–DEVELOPER
WHISKEY BOTTOM CONDOMINIUMS, ASSOC.
c/o MR. ARTHUR F. BLUME, PRESIDENT
WHISKEY BOTTOM SOUTH, BOARD OF DIRECTORS
9220 BRIDLE PATH LANE, UNIT F
LAUREL, MD. 20723

LANDMARK ENGINEERING, INC.
13722 LAMBERTINA PLACE PHONE: (301) 230–5881
ROCKVILLE, MARYLAND 20850 FAX: (301) 230–5884
CONSULTING ENGINEERS PLANNERS SURVEYORS

SECTION TWO
WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SITE DEVELOPMENT PLAN
STREAM RESTORATION & PLANTING PLAN

REVISIONS

DRN: DCV CK: CTG
PROJECT NO.: 1530
SCALE: AS SHOWN
DATE: MAR. 28, 2022

DRAWING NO. S–18 OF 24

SDP–72–84

Reforestation Sequence of Events

1. An on–site pre–construction meeting is required after the limits of disturbance have been staked and flagged, but before any clearing or grading begins. The Howard County Construction Inspection Division staff shall be at the Erosion and Sediment Control preconstruction meeting to discuss tree care measures. An ISA certified arborist or Maryland–licensed tree expert that will implement the tree protection measures should also attend this pre–construction meeting.

2. No clearing or grading shall begin before stress–reduction measures have been implemented. Appropriate measures may include, but are not limited to Root pruning, Crown reduction or pruning, Watering, fertilizing, Vertical mulching, Root aeration matting

Measures not specified on this plan may be required by the arborist.

3. A Maryland–licensed tree expert or an International Society of Arboriculture– certified arborist must perform all stress reduction measures. Documentation of stress reduction measures must be either observed by the arborist. The arborist will determine the exact method to convey the stress reductions measures during the pre–construction meeting.

4. Temporary tree protection devices shall be installed per the Forest Conservation Plan/Tree Save Plan and prior to any construction activities. Tree protection fencing locations should be staked prior to the pre–construction meeting. The arborist, in coordination with the Construction Inspection Division sediment control inspector, may make field adjustments to increase the survivability of trees and forest shown as saved on the approved plan.

Temporary tree protect devices may include chain link fence (four feet high), super silt fence with wire strung between support poles (minimum 4 feet high) with high visibility flagging, or 14 gauge 2 inch x 4 inch welded wire fencing supported by steel T–bar posts (minimum 4 feet high) with high visibility flagging.

5. Temporary protection devices shall be maintained and installed by the contractor for the duration of construction project and must not be altered without prior approval from the forest conservation inspector. No equipment, trucks, materials, or debris may be stored within the tree protection fence areas during the entire construction project. No vehicle or equipment access to the fenced area will be permitted. Tree protection shall not be removed without prior approval of the arborist.

6. Forest retention area signs shall be installed as required, or as shown on the approved plan.

7. Long–term protection devices will be installed per the Forest Conservation Plan/Tree Save Plan and attached details. Installation will occur at the appropriate time during the construction project. Refer to the plan drawing for long–term protection measures to be installed.

During Construction

8. Periodic inspections by the arborist will occur during the construction project. Corrections and repairs to all tree protection devices, as determined by the arborist, must be made within the timeframe established by the arborist.

Post–Construction

9. After construction is completed, an inspection shall be requested. Corrective measures may include:

a. Removal and replacement of dead and dying trees

b. Pruning of dead or declining limbs

c. Soil aeration

d. Fertilization

e. Watering

f. Wound repair

g. Clean up of retention areas

10. After inspection and completion of corrective measures have been undertaken, all temporary protection devices shall be removed from the site. Removal of tree protection devices that also operate for erosion and sediment control must be coordinated with the Construction Inspection Division. No additional grading, sodding, or burial may take place after the tree protection fencing is removed.

SITE PREPARATION FOR PLANTING

Disturbed Areas
Soils should be treated by incorporating natural mulch within the top 12 inches or by amendments as determined by a soils analysis. Soil amendments, by definition, include modifications of soils to improve such structural characteristics as bulk density or porosity. On development sites, the common use of fill materials may increase the need for such amendments. Natural amendments such as organic mulch or leaf mold compost are preferred.
When fill material is used at the planting site, it should be clean fill topped with 12 inches of native soil. Stockpiling of native top soils must be done in such away that the height of the pile does not damage the seed bank.

Planting period
Planting windows for 2 inch container grown stock is January 1 through June 15 and October 15 through December 31. Planting in the summer months is discouraged to improve the survivability of the planting stock.

Plant Material Storage
Planting should occur within 24 hours of delivery to the site. Plant materials left unplanted for more than 24 hours should be protected from direct sun and weather and kept moist. Bare root stock unplanted for more than 24 hours should be heeled in as shown in Exhibit H–2. Nursery stock should be planted within 2 weeks. On–site or local transplanted materials should be stored in tree banks if unplanted for more than 24 hours, following the example in Exhibit H–3.
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.

PLANT MATERIAL SIZE AND DENSITY
Plant Size
Nursery grown plant materials greater than 1" caliper should meet or exceed the requirements of American Association of Nurserymen specifications, i.e. should be typical of the species and variety, have a normal habit of growth, be first quality, sound, vigorous, well–branched, have healthy, well furnished root systems, and be free of disease, insect pests and mechanical injuries.

The spacings identified above are not meant to imply that trees must be planted in a grid pattern. A more natural appearance is desired.

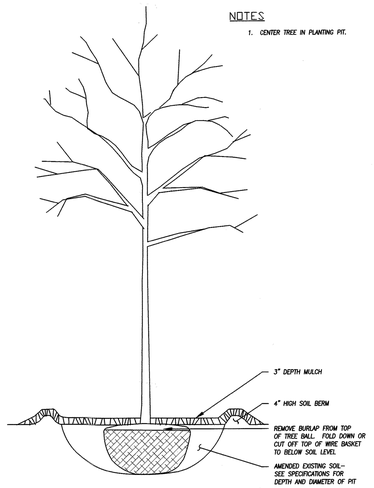
Container Grown Stock
Successful planting of container grown stock requires careful site preparation and inspection of the plant material root system. Caution when using plants grown in a soil medium differing from the soil on the planting site. The plant should be removed from the container and the roots gently loosened from the soil. If the roots encircle the root ball, substitution is strongly recommended. J–shaped Qr. kinked root systems should also be noted, and the plants replaced if necessary. Roots may not be trimmed on–site, due to the increased chances of soil borne diseases. (See Exhibit H–7.)
Balled and Burlapped Trees
Balled and burlapped trees greater than 2" caliper) and usually planted using tree spades. This technique is particularly when suited for transplanting On–site or with local plant materials. For trees larger than 6" caliper, specialized equipment is recommended.
Balled and burlapped trees must be handled with care while planting. Trees should not be picked up by the truck or dropped; both these practices may separate the trunk from the root ball. priority planting, root balls should be kept moist. (See Exhibit H–7.)
Planting fields
The planting field should be prepared and native stockpiled soils should be used to backfill the planting field. Rake Soils evenly over the planting field and cover with 2 to 4 inches of mulch. Use watering to settle soil backfilled around trees. Amendments are not recommended in the planting field; studies have shown that roots will be encouraged to stay within the amended soils
Staking of larger trees is not recommended except in areas of high winds. Staking may be used for trees larger than 8 feet in height. Movement is necessary to strengthen the trunk of the planted tree. When stakes are used, the post–construction period management plan should specify their removal after the first growing season (See Exhibit H–8).

GENERAL GUIDANCE FOR MAINTENANCE OF PLANTED AREAS
Watering
A watering plan should only be implemented to compensate for deficient rainfall patterns. Trees can die from too much water as well as too little. Newly planted trees may need water as much as once a week for the entire first growing season. The next two years, in contrast, may require watering only a few times a year (one a month during July and August). After that, trees should only need water in severe droughts. Bare root transplants, if sufficiently watered during planting, may not need water for almost 2–4 weeks after growth begins. Balled and burlap material may require more frequent watering.
Soil and Watering: Soil texture influences the downward flow of water. Soils with more clay tend to retain more water and can be watered less often; soils with more sand drain more quickly and need to be watered more often. For examples of on–site evaluation recommendations. If the soil was well prepared before planting, there should be few drainage problems. Restricted downward penetration indicctes the soil may have been compacted during construction and not aerated before planting, or there may be a clay hardpan.
How to Water. The best way to water is deeply and slowly using a regular hose, a soaker hose, or drip irrigation. For larger trees, start by watering the root ball thoroughly. The watered area shall be enlarged to include the whole root zone as the tree becomes more established. Mulching around the base of newly transplanted trees prevents roots from drying too quickly while still providing air movement to the roots.

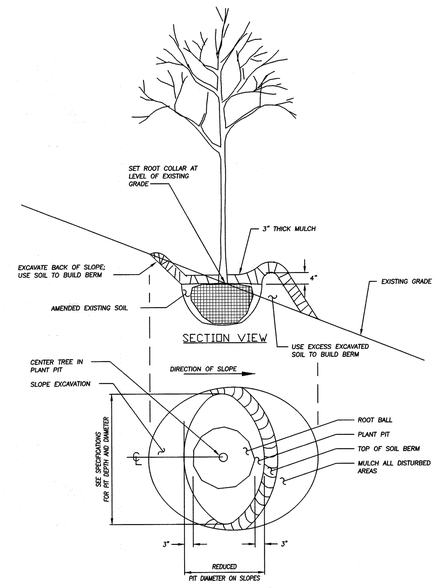
Fertilizing
Fertilizing is the chemical modification of soils to correct for a specific nutrient deficiency. These deficiencies are most effectively identified in a laboratory soils analysis. Nothing should be added to the soil without first testing to determine any nutrient needs.
What Nutrients to Apply: Trees depend on three major nutrients, nitrogen, phosphorus, and potassium and a host of other minor ones (or micronutrients) such as calcium,
When to Fertilize: Even when soils are deficient in nitrogen, fertilizing within the first growing season after planting is not recommended. Too much nitrogen may cause a spurt of canopy growth which the roots cannot support. It is, therefore, best to wait until after the end of the first growing season, either in the late fall or early spring.
What Type of Fertilizer Organic fertilizers are preferred to synthetic fertilizers. Bone meal or seaweed based products are available commercially. Organic fertilizers have a slow release effect that can supply nutrients to the plant as needed while minimizing the risk of excess nutrients entering the forest system and the water supply. Some synthetic fertilizers can mimic this slow–release action and may be appropriate for use.

Control of Competing Vegetation
Unfortunately, good sites for reforestation and afforestation are generally good sites for unwanted vegetation as well. Unwanted vegetation growing near newly planted trees can take over the site. The need to control this problem depends on the ability of the planted material to withstand the intrusion. Smaller trees may need more care, although some seedlings survive with the overgrowth and will shade it out as the trees grow. As a preventative measure, consider the potential for growth of invasive species while choosing a reforestation or afforestation area.
Mulch is one of the best weed deterrents. Spread a 2" to 4" layer of mulch over the root area of the newly planted trees avoiding direct contact with the trunk, a prime spot for fungal growth. (Mulch also helps maintain the soil moisture level and may provide a buffer for any equipment such as mowers that may be used to maintain the area.) Mulching and manual control of competing vegetation is more compatible with the long term forest health than the use of herbicides.

Protection: Pests, Diseases and Mechanical Injury,
Integrated Pest Management (IPM) is one of the most effective and safest approaches for maintaining a healthy forest. IPM basics include proper species selection for the site, good pruning, mulching and fertilizing practices, regular monitoring, and proper timing of necessary sprays. Good cultural practices will minimize the amount of spraying. ProfessionalIPM programs have reduced pesticide use by 90%. Some aspects of a full IPM program include:
1) Elimination of some low vegetation before planting to help control the rodent population which thrives in brushy environments.
2) Use of tree shelters to protect the trunks of seedlings or whips from animal damage. The shelters act as mini–greenhouses to speed growth. (These trees need more water than those planted without tree shelters, however.)
3) Mulching around the trees to minimize trunk damage from mowers. Wounds provide an entry way for pests.
4) Pruning dead and diseased branches with a clean cut to prevent establishment or spreading of disease.
Sun scald is a problem for thin barked young trees. Tree wrap was commonly used to protect trees from sun scald but is no longer recommended due to the increased opportunities for insect infestation and disease. An alternative to wrapping is to allow small non–competitive branches, commonly pruned during or before planting, to grow on the sunny side of the trunk to help shade the trunk.



PLANTING SHADE TREES
2 1/2" CALIPER TO 3 1/2" CALIPER



PLAN VIEW – PLANT PIT

PLANTING TREES ON SLOPES
FROM 3:1 TO 2:1

All areas within the Limits of Disturbance shall be stabilized, seeded and/or planted after construction is complete.

HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
APPROVED

CHIEF, LAND DEVELOPMENT	DATE 6/21/22
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 6.9.22
DIRECTOR OF PLANNING AND ZONING	DATE 6/22/22

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 11124, EXPIRATION DATE: OCTOBER 3, 2022

3/28/22
STATE OF MARYLAND · THOMAS C. GRADY · No. 11124 · PROFESSIONAL ENGINEER

OWNER–DEVELOPER
WHISKEY BOTTOM CONDOMINIUMS, ASSOC.
c/o MR. ARTHUR F. BLUME, PRESIDENT
WHISKEY BOTTOM SOUTH, BOARD OF DIRECTORS
9220 BRIDLE PATH LANE, UNIT F
LAUREL, MD. 20723

LANDMARK ENGINEERING, INC.
13722 LAMBERTINA PLACE PHONE: (301) 230–5881
ROCKVILLE, MARYLAND 20850 FAX: (301) 230–5884
CONSULTING ENGINEERS PLANNERS SURVEYORS

SECTION TWO
WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

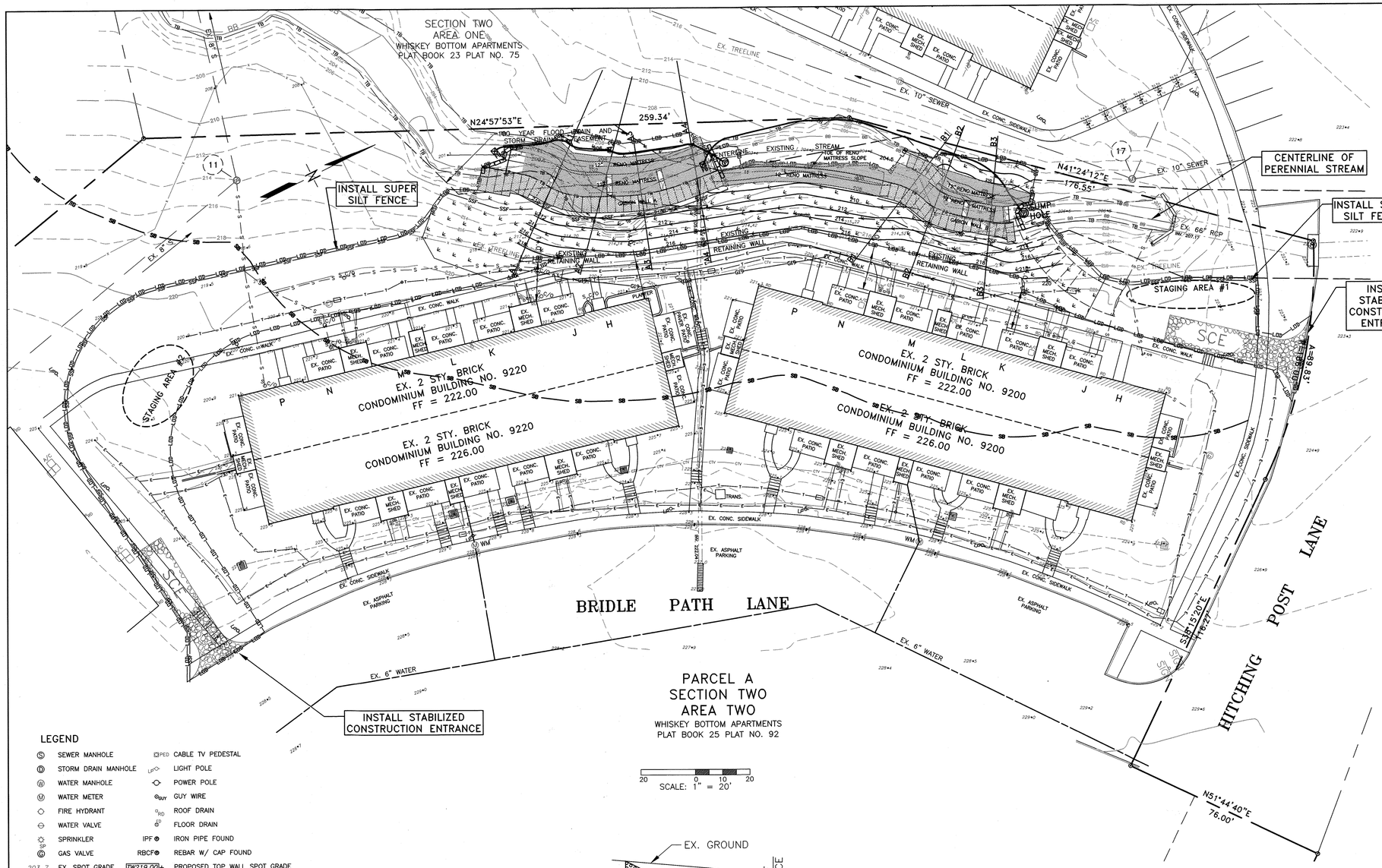
SITE DEVELOPMENT PLAN
STREAM RESTORATION
PLANTING NOTES

REVISIONS

DRN: DCV CK: CTG
PROJECT NO.: 1530
SCALE: AS SHOWN
DATE: MAR. 28, 2022

DRAWING NO. S–19
OF 24

SDP–72–84

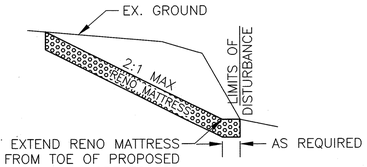


PARCEL A
SECTION TWO
AREA TWO
WHISKEY BOTTOM APARTMENTS
PLAT BOOK 25 PLAT NO. 92

SCALE: 1" = 20'

LEGEND

- SEWER MANHOLE
- STORM DRAIN MANHOLE
- WATER MANHOLE
- WATER METER
- FIRE HYDRANT
- WATER VALVE
- SPRINKLER
- GAS VALVE
- EX. SPOT GRADE — TW219.00+
- PUMP
- CABLE TV PEDESTAL
- LIGHT POLE
- POWER POLE
- GUY WIRE
- ROOF DRAIN
- FLOOR DRAIN
- IPF — IRON PIPE FOUND
- RBCF — REBAR W/ CAP FOUND
- PROPOSED TOP WALL SPOT GRADE — TW219.00+
- PROPOSED BOTTOM WALL SPOT GRADE — BW215.14+
- OVERHEAD WIRE
- UNDERGROUND GAS
- UNDERGROUND TELECOMMUNICATION
- UNDERGROUND CABLE TV
- UNDERGROUND ELECTRIC
- WATER
- SEWER
- SEWER HOUSE CONNECTION
- STORM DRAIN
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- STREAM
- 75' STREAM BANK BUFFER
- TOP OF BANK
- BOTTOM OF BANK
- PROPOSED CONTOUR
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED SILT FENCE
- PROPOSED SUPER SILT FENCE
- SOIL STABILIZATION MATTING REQUIRED



RENO MATTRESS BETWEEN GABION WALL A AND GABION WALL B PROVIDES SMOOTH TRANSITION BETWEEN WALLS AND EXPAND FLOW AREA

RENO MATTRESS BETWEEN GABION WALL A AND GABION WALL B

NOT TO SCALE

This project is located in the Patuxent River watershed which is a Maryland Class Use I stream. Disturbance within the stream is restricted from March 1 to June 15, inclusive.

All areas within the Limits of Disturbance shall be stabilized, seeded and/or planted after construction is complete.

GENERAL NOTES:

1. Site property is known as Section Two – Area Two, Whiskey Bottom Apartments recorded Plat Book 25 at Plat No. 92. Current Zoning: R-A-15
2. The purpose of this project is to remediate for shifts in the stream centerline which is endangering the stability of 28 units of single family attached dwellings. The project will stabilize stream bank erosion and assign global stability with respect to the nearby buildings. The total disturbed area is 17,490 sq. ft.
3. The site lies within the Patuxent River Watershed which is Maryland Class Use I with no in-stream construction permitted from March 1 to June 15, inclusive.
4. Topographic information from survey conducted in the field August and September, 2015 by Landmark Engineering, Inc. Horizontal Data per Plat No 92. Vertical Datum per previous approved Site & Grading Plan. Field work in 2019 documented further streambank erosion. The as-built location of the retaining wall was done by field survey in July 2020.
5. The property is not located within a FEMA mapped 100-year floodplain as determined in review of Howard County, Maryland Community Panel No. 24027C0230D with effective date of November 6, 2013. The drainage area to the work area is 83.26 ac. The existing floodplain easement was established by record plat Section Two, Area Two Whiskey Bottom Apartments, Plat Book 25, Plat No. 92.
6. Gabion design to be per plan by the geotechnical engineer, Professional Consulting Corporation. The proposed wall to be gravity wall constructed under guidance of the geotechnical engineer.
7. The location of underground and above ground utilities as shown on this plan were field marked and survey located. This does not relieve the contractor for requirements to have utilities marked by Miss Utility. Any conflicts to be coordinated with the utility companies.
8. During preliminary investigations cameras were used to examine the conditions of the existing pipes. It was determined that the 15" RCP had a joint offset very close to the existing retaining wall. This pipe will get repaired and extended as part of this construction.
9. This stream restoration project is exempt from forest Conservation requirements in accordance with Section 16.1202(b)(1)(xv) of the Howard County Code.
10. The Maryland Department of the Environment issued an Authorization to Proceed for this project on August 5, 2019, Authorization Number 201961118/19/NT-3160. A modification of this Authorization as approved by this site plan revision will be obtained prior to final Sediment Control Permit Issuance.
11. Alternative Compliance WP-21-121 for this project was approved under Section 16.116.a.2.ii and Section 16.115.c of the County Code by the The Director of the Department of Planning and Zoning, Director of Public Works and Administrator of the Office of Community Sustainability on May 21, 2021. The approval is conditioned on the following items:
    a. All disturbed areas within the stream, stream bank buffer and 100-year floodplain shall be stabilized, seeded and/or planted after construction is complete. The disturbed areas within the stream buffer shall be replanted at a rate of at least 100 trees per acre.
    b. The applicant shall obtain all required authorizations and permits from the Maryland Department of the Environment (MDE) and the U.S. Army Corps of Engineers for disturbances within the stream and floodplain. The applicant shall coordinate with MDE to revise the existing authorization (201961118/19-NT-3160) to be consistent with the stream bank and floodplain impacts as shown on SDP-72-084.

SEQUENCE OF CONSTRUCTION

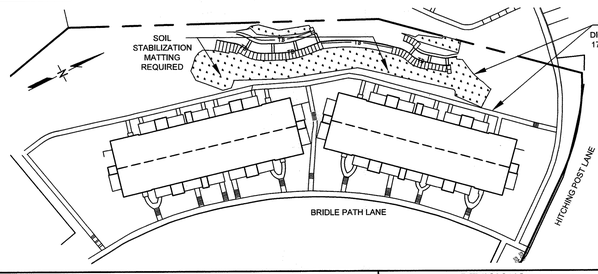
1. Obtain Grading Permit.
2. The contractor shall have all existing utilities marked in the field prior to construction. The contractor is responsible for any damage to existing utilities that may result from construction and should repair the damage at his/her own expense to the county's or utility company's satisfaction. The contractor shall have Limits of Disturbance and Tree Protection areas field staked by Design Engineer.
3. The contractor shall notify the Maryland Department of the Environment or WMA sediment control inspector at least 5 days prior to construction. Contact Howard County Department of Public Works Construction Inspection Division (CID) at 410-313-1855 (48 hours notice required), Landmark Engineering, Inc. at 301-240-5881 (48 hours notice required), Professional Consulting Corporation at (48 hours notice required) and owners representative (48 hours notice required) to conduct pre-construction meeting. — 5 days
4. After the preconstruction meeting and with written consent of the CID inspector, install Stabilized Construction Entrance, Silt Fence and/or Super Silt Fence and other Sediment Controls measures per approved Sediment Control Plan. Sediment control devices are to remain in place until all disturbed areas are stabilized and the inspecting authority approves their removal. — 5 days

WORK AREA A: Downstream gabion walls

5. Starting at the upstream barrier and working downstream, install pump around practice and pipe as shown on detail 1.2, sheet S-24. Height of barrier to be per MGWC 1.2 Pump-Around Practice.
6. Install filter bags (Detail Sheet S-24) and pump from work area to filter bag to provide dry area for construction.
7. Excavate and install gabion walls per plan. Install Reno mattress on stream bed. All excavated material should be deposited and stabilized in an approved area outside the 100-year floodplain. — 30-35 days
8. Provide temporary stabilizization of areas around gabions per schedule on approved Sediment Control Plan.

WORK AREA B: Upstream gabion walls

9. Starting at the upstream barrier and working downstream, install pump around practice as shown on detail 1.2 sheet S-24. Height of barrier to be per MGWC 1.5 Sandbag/Stone Channel Diversion
10. Install filter bags (Detail Sheet S-24) and pump from work area to filter bag to provide dry area for construction.
11. Excavate and install gabion walls per plan. Install Reno mattress on stream bed. Continue downstream to install gabion walls on 2:1 slope between Gabion Wall A and Gabion Wall B. All excavated material should be deposited and stabilized in an approved area outside the 100-year floodplain. — 25-30 days
12. Provide permanent stabilization for areas around gabions per schedual on approved Sediment Control Plan.
13. Plant trees per approved planting plan. All areas within the Limits of Disturbance shall be stabilized, seeded and/or planted after construction is complete. — 10 days
14. With written permission from Howard County Sediment Control Inspector, remove sediment control practices.



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 11124, EXPIRATION DATE: OCTOBER 3, 2022.

3/28/22
STATE OF MARYLAND — CHARLES THOMAS GRIMSLEY — No. 11124 — PROFESSIONAL ENGINEER

HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING APPROVED

CHIEF, LAND DEVELOPMENT	DATE 6/21/22
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 6.9.22
DIRECTOR OF PLANNING AND ZONING	DATE 6/22/22

Owners/Developer Certification:

"I/We hereby certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for the periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

Owner's/ Developer's Signature — Date 5/17/22

Printed Name & Title: ARTHUR BLUME - PRESIDENT HBS-BOD

Design Certification:

"I hereby certify that this plan has been designed in accordance with the current Maryland erosion and sediment control laws, regulations, and standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Designer's Signature — Date 3/28/22

Charles T. Grimsley, P.E. — Printed Name — MD P.E. Registration No. 11124

Howard SCD Signature Block:

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District."

Howard Soil Conservation District — Date 06/06/22

OWNER-DEVELOPER
WHISKEY BOTTOM CONDOMINIUMS, ASSOC.
c/o MR. ARTHUR F. BLUME, PRESIDENT
WHISKEY BOTTOM SOUTH, BOARD OF DIRECTORS
9220 BRIDLE PATH LANE, UNIT F
LAUREL, MD. 20723

LANDMARK ENGINEERING, INC.
13722 LAMBERTINA PLACE — PHONE: (301) 230-5881
ROCKVILLE, MARYLAND 20850 — FAX: (301) 230-5884
CONSULTING ENGINEERS PLANNERS SURVEYORS

SECTION TWO
WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SITE DEVELOPMENT PLAN
STREAM STABILIZATION
SEDIMENT AND EROSION CONTROL PLAN

REVISIONS		
3	ESC TO SUPPORT STREAM STABILIZATION REPLACES SHEET S-12 OF PRIOR SDP PLAN SET	03/28/2022

DRN: DCV CK: CTG
PROJECT NO.: 1530
SCALE: 1" = 20'
DATE: MAR. 28, 2022

DRAWING NO. S-20 OF 24

SDP-72-84

OUTFALL PUMP AROUND PIPE ON FILTER BAG

OUTFALL PUMP AROUND PIPE ON FILTER BAG

SANDBAGS AT BEGINNING OF WORK AREA A AND END OF WORK AREA B

BEGIN WORK AREA A SUMP PIT, PUMP & SANDBAG DIKE

SANDBAG DIKES TO BE MIN. 2 FT. OR TWICE THE BASEFLOW + 1 FT.

BEGIN WORK AREA B SUMP PIT, PUMP & SANDBAG DIKE

N24°57'53"E 259.34'

N41°24'12"E 176.55'

100 YEAR FLOOD PLAIN AND STORM DRAINAGE EASEMENT

EXISTING STREAM

TOE OF RENO MATTRESS SLOPE

CENTERLINE

12" RENO MATTRESS

GABION WALL A

GABION WALL B

EXISTING RETAINING WALL

EX. TREELINE

EX. CONC. WALK

EX. CONC. SIDEWALK

EX. CONC. PATIO

EX. MECH. SHED

EX. CONC. PAVER PATIO

PLANTER

TRANS.

PUMP HOLE

EX. ASPHALT PARKING

EX. 2 STY. BRICK CONDOMINIUM BUILDING NO. 9220 FF = 222.00

EX. 2 STY. BRICK CONDOMINIUM BUILDING NO. 9200 FF = 226.00

SCALE: 1" = 10'

HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING APPROVED

CHIEF, LAND DEVELOPMENT — DATE 6/6/22

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6.9.22

DIRECTOR OF PLANNING AND ZONING — DATE 6/22/22

Owners/Developer Certification:

"I/We hereby certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for the periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

Owner's/ Developer's Signature — 4/17/22 Date

ARTHUR BLUME - PRESIDENT
Printed Name & Title

Design Certification:

"I hereby certify that this plan has been designed in accordance with the current Maryland erosion and sediment control laws, regulations, and standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Designer's Signature — 3/28/22 Date

Charles T. Grimsley, P.E.
Printed Name

MD P.E. Registration No. 11124

Howard SCD Signature Block:

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District."

Howard Soil Conservation District — 06/06/22 Date

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 11124, EXPIRATION DATE: OCTOBER 3, 2022.

3/28/22

STATE OF MARYLAND — CHARLES THOMAS GRIMSLEY — No. 11124 — PROFESSIONAL ENGINEER

All areas within the Limits of Disturbance shall be stabilized, seeded and/or planted after construction is complete.

OWNER-DEVELOPER
WHISKEY BOTTOM CONDOMINIUMS, ASSOC.
c/o MR. ARTHUR F. BLUME, PRESIDENT
WHISKEY BOTTOM SOUTH, BOARD OF DIRECTORS
9220 BRIDLE PATH LANE, UNIT F
LAUREL, MD. 20723

LANDMARK ENGINEERING, INC.
13722 LAMBERTINA PLACE — PHONE: (301) 230-5881
ROCKVILLE, MARYLAND 20850 — FAX: (301) 230-5884
CONSULTING ENGINEERS PLANNERS SURVEYORS

SECTION TWO
WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SITE DEVELOPMENT PLAN
STREAM STABILIZATION
SEDIMENT AND EROSION CONTROL ENLARGEMENT

REVISIONS

3	ESC TO SUPPORT STREAM STABILIZATION NEW SHEET FOR SDP PLAN SET	03/28/2022

DRN: DCV CK: CTG
PROJECT NO.: 1530
SCALE: 1" = 10'
DATE: MAR. 28, 2022

DRAWING NO. S-21 OF 24

SDP-72-84

HOWARD SOIL CONSERVATION DISTRICT (HSCD)
STANDARD SEDIMENT CONTROL NOTES

1. A pre-construction meeting must occur with the Howard County Department of Public Works, Construction Inspection Division (CID), 410-313-1855 after the future LOD and protected areas are marked clearly in the field. A minimum of 48 hour notice to CID must be given at the following stages:

   a. Prior to the start of earth disturbance,
   b. Upon completion of the installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading,
   c. Prior to the start of another phase of construction or opening of another grading unit,
   d. Prior to the removal or modification of sediment control practices.

   Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made. Other related state and federal permits shall be referenced, to ensure coordination and to avoid conflicts with this plan.

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 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and revisions thereto.

3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization is required within three (3) calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes steeper than 3 horizontal to 1 vertical (3:1); and seven (7) calendar days as to all other disturbed areas on the project site except for those areas under active grading.

4. All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for topsoil (Sec. B-4-2), permanent seeding (Sec. B-4-5), temporary seeding (Sec. B-4-4) and mulching (Sec. B-4-3). Temporary stabilization with mulch alone can only be applied between the fall and spring seeding dates if the ground is frozen. Incremental stabilization (Sec. B-4-1) specifications shall be enforced in areas with >15° of cut and/or fill. Stockpiles (Sec. B-4-8) in excess of 20 ft. must be benched with stable outlet. All concentrated flow, steep slope, and highly erodible areas shall receive soil stabilization matting (Sec. B-4-6).

5. 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 CID.

6. Site Analysis:

Total Area of Site:	15.911	Acres
Area Disturbed:	0.402	Acres
Area to be roofed or paved:	0.000	Acres
Area to be vegetatively stabilized:	0.359 *	Acres
Total Cut:	432	Cu. Yds.
Total Fill:	110	Cu. Yds.
Offsite waste/borrow area location:	To be determined	

   * Within the LOD 0.043 acres are streambed, gabions or riprap.

7. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

8. Additional sediment control must be provided, if deemed necessary by the CID. The site and all controls shall be inspected by the contractor weekly; and the next day after each rain event. A written report by the contractor, made available upon request, is part of every inspection and should include:

   - Inspection date
   - Inspection type (routine, pre-storm event, during rain event)
   - Name and title of inspector
   - Weather information (current conditions as well as time and amount of last recorded precipitation)
   - Brief description of project's status (e.g., percent complete) and/or current activities
   - Evidence of sediment discharges
   - Identification of plan deficiencies
   - Identification of sediment controls that require maintenance
   - Identification of missing or improperly installed sediment controls
   - Compliance status regarding the sequence of construction and stabilization requirements
   - Photographs
   - Monitoring/sampling
   - Maintenance and/or corrective action performed
   - Other inspection items as required by the General Permit for Stormwater Associated with Construction Activities (NPDES, MDE).

9. Trenches for the construction of utilities is limited to three pipe lengths or that which can and shall be back-filled and stabilized by the end of each workday, whichever is shorter.

10. Any major changes or revisions to the plan or sequence of construction must be reviewed and approved by the HSCD prior to proceeding with construction. Minor revisions may allowed by the CID per the list of HSCD-approved field changes.

11. Disturbance shall not occur outside the L.O.D. A project is to be sequenced so that grading activities begin on one grading unit (maximum acreage of 20 ac. per grading unit) at a time. Work may proceed to a subsequent grading unit when at least 50 percent of the disturbed area in the preceding grading unit has been stabilized and approved by the CID. Unless otherwise specified and approved by the HSCD, no more than 30 acres cumulatively may be disturbed at a given time.

12. Wash water from any equipment, vehicles, wheels, pavement, and other sources must be treated in a sediment basin or other approved washout structure.

13. Topsoil shall be stockpiled and preserved on-site for redistribution onto final grade.

14. All Silt Fence and Super Silt Fence shall be placed on-the-contour, and be imbricated at 25' minimum intervals, with lower ends curled uphill by 2' in elevation.

15. Stream channels must not be disturbed during the following restricted time periods (inclusive):
   - Use I and IP March 1 - June 15
   - Use III and IIIP October 1 - April 30
   - Use IV March 1 - May 31

16. A copy of this plan, the 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, and associated permits shall be on-site and available when the site is active.

Rev. 8.2016

B-4-2 STANDARDS AND SPECIFICATIONS
FOR
SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

Definition

The process of preparing the soils to sustain adequate vegetative stabilization.

Purpose

To provide a suitable soil medium for vegetative growth.

Conditions Where Practice Applies

Where vegetative stabilization is to be established.

Criteria

A. Soil Preparation

1. Temporary Stabilization
   a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope.
   b. Apply fertilizer and lime as prescribed on the plans.
   c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
2. Permanent Stabilization
   a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
      i. Soil pH between 6.0 and 7.0.
      ii. Soluble salts less than 500 parts per million (ppm).
      iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable.
      iv. Soil contains 1.5 percent minimum organic matter by weight.
      v. Soil contains sufficient pore space to permit adequate root penetration.
   b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.
   c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.

   d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
   e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

B. Topsoiling

1. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.
3. Topsoiling is limited to areas having 2:1 or flatter slopes where:
   a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
   b. 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.
   c. The original soil to be vegetated contains material toxic to plant growth.
   d. The soil is so acidic that treatment with limestone is not feasible.
4. Areas having slopes steeper than 2:1 require special consideration and design.
5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:
   a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½ inches in diameter.
   b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.
   c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
6. Topsoil Application
   a. Erosion and sediment control practices must be maintained when applying topsoil.
   b. Uniformly distribute topsoil in a 5 to 8 inch layer and lightly compact to a minimum thickness of 4 inches. Spreading is to be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations must be corrected in order to prevent the formation of depressions or water pockets.
   c. Topsoil must not be placed if 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.

C. Soil Amendments (Fertilizer and Lime Specifications)

1. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas of 5 acres or more. Soil analysis may be performed by a recognized private or commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.
3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass through a #20 mesh sieve.
4. Lime and fertilizer are to be evenly distributed and incorporated into the top 3 to 5 inches of soil by disking or other suitable means.
5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil.

B-4-3 STANDARDS AND SPECIFICATIONS
FOR
SEEDING AND MULCHING

Definition

The application of seed and mulch to establish vegetative cover.

Purpose

To protect disturbed soils from erosion during and at the end of construction.

Conditions Where Practice Applies

To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

Criteria

A. Seeding

1. Specifications
   a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate.
   b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws.
   c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective.
   d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

2. Application
   a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
      i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries.
      ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.

   b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
      i. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
      ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
   c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer).
      i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P_2O_5 (phosphorous), 200 pounds per acre; K_2O (potassium), 200 pounds per acre.
      ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
      iii. Mix seed and fertilizer on site and seed immediately and without interruption.
      iv. When hydroseeding do not incorporate seed into the soil.

B. Mulching

1. Mulch Materials (in order of preference)
   a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. **Note: Use only sterile straw mulch in areas where one species of grass is desired.**
   b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
      i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
      ii. WCFM, including dye, must contain no germination or growth inhibiting factors.
      iii. WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
      iv. WCFM material must not contain elements or compounds at concentration levels that will be phyto-toxic.
      v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.

2. Application
   a. Apply mulch to all seeded areas immediately after seeding.
   b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.
   c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
3. Anchoring
   a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:
      i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should follow the contour.
      ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
      iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. **Use of asphalt binders is strictly prohibited**.
      iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

B-4-4 STANDARDS AND SPECIFICATIONS
FOR
TEMPORARY STABILIZATION

Definition

To stabilize disturbed soils with vegetation for up to 6 months.

Purpose

To use fast growing vegetation that provides cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for a period of 6 months or less. For longer duration of time, permanent stabilization practices are required.

Criteria

1. **Select one or more of the species or seed mixtures listed in Table B.1 for the appropriate Plant Hardiness Zone (from Figure B.3), and enter them in the Temporary Seeding Summary below along with application rates, seeding dates and seeding depths. If this Summary is not put on the plan and completed, then Table B.1 plus fertilizer and lime rates must be put on the plan.**
2. **For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.**
3. **When stabilization is required outside of a seeding season, apply seed and mulch or straw mulch alone as prescribed in Section B-4-3.A.1.b and maintain until the next seeding season.**

Temporary Seeding Summary

Hardiness Zone (from Figure B.3): 6b
Seed Mixture (from Table B.1): n/a

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20)	Lime Rate
	Annual Ryegrass	40	Mar 1-May 15	0.5 in.	436 lb/ac (10 lb/1000 sf)	2 tons/ac (90 lb/1000 sf)
	Foxtail Millet	30	May 16-Jul 31	0.5 in.		

Table B.1: Temporary Seeding for Site Stabilization

Plant Species	Seeding Rate 1/		Seeding Depth 2/ (inches)	Recommended Seeding Dates by Plant Hardiness Zone 3/		
	lb/ac	lb/1000 ft²		5b and 6a	6b	7a and 7b
Cool-Season Grasses						
Annual Ryegrass (*Lolium perenne* spp. *multiflorum*)	40	1.0	0.5	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Barley (*Hordeum vulgare*)	96	2.2	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Oats (*Avena sativa*)	72	1.7	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Wheat (*Triticum aestivum*)	120	2.8	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Cereal Rye (*Secale cereale*)	112	2.8	1.0	Mar 15 to May 31; Aug 1 to Oct 31	Mar 1 to May 15; Aug 1 to Nov 15	Feb 15 to Apr 30; Aug 15 to Dec 15
Warm-Season Grasses						
Foxtail Millet (*Setaria italica*)	30	0.7	0.5	Jun 1 to Jul 31	May 16 to Jul 31	May 1 to Aug 14
Pearl Millet (*Pennisetum glaucum*)	20	0.5	0.5	Jun 1 to Jul 31	May 16 to Jul 31	May 1 to Aug 14

NOTES:
1/ Seeding rates for the warm-season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as tested. Adjustments are usually not needed for the cool-season grasses.

Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seed mixes, use 1/3 of the seeding rate listed above for barley, oats, and wheat. For smaller-seeded grasses (annual ryegrass, pearl millet, foxtail millet), do not exceed more than 5% (by weight) of the overall permanent seeding mix. Cereal rye generally should not be used as a nurse crop, unless planting will occur in very late fall beyond the seeding dates for other temporary seedings. Cereal rye has allelopathic properties that inhibit the germination and growth of other plants. If it must be used as a nurse crop, seed at 1/3 of the rate listed above.

Oats are the recommended nurse crop for warm-season grasses.

2/ For seedy soils, plant seeds at twice the depth listed above.
3/ The planting dates listed are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone.

ALL NOTES AND DETAILS ON THIS SHEET WERE REPLACED WITH STANDARD NOTES AND DETAILS TO ENSURE COMPLIANCE WITH REVISIONS BY MARYLAND DEPARTMENT OF THE ENVIRONMENT TO THE EROSION AND SEDIMENT CONTROL MANUAL

HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING APPROVED

CHIEF, LAND DEVELOPMENT	6/1/22 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	6.9.22 DATE
DIRECTOR OF PLANNING AND ZONING	6/22/22 DATE

Owners/Developer Certification:

"I/We hereby certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for the periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

Owner's/ Developer's Signature — 5/17/22 Date

ARTHUR BLUME - PRESIDENT
Printed Name & Title — NBS-BOD

Design Certification:

"I hereby certify that this plan has been designed in accordance with the current Maryland erosion and sediment control laws, regulations, and standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Designer's Signature — 3/28/22 Date

Charles T. Grimsley, P.E.
Printed Name — MD P.E. Registration No. 11124

Howard SCD Signature Block:

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District."

Howard Soil Conservation District — 06/06/22 Date

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 11124, EXPIRATION DATE: OCTOBER 3, 2022.

3/28/22
STATE OF MARYLAND · CHARLES THOMAS GRIMSLEY · No. 11124 · PROFESSIONAL ENGINEER

OWNER-DEVELOPER
WHISKEY BOTTOM CONDOMINIUMS, ASSOC.
c/o MR. ARTHUR F. BLUME, PRESIDENT
WHISKEY BOTTOM SOUTH, BOARD OF DIRECTORS
9220 BRIDLE PATH LANE, UNIT F
LAUREL, MD. 20723

LANDMARK ENGINEERING, INC.
13722 LAMBERTINA PLACE — PHONE: (301) 230-5881
ROCKVILLE, MARYLAND 20850 — FAX: (301) 230-5884
CONSULTING ENGINEERS PLANNERS SURVEYORS

SECTION TWO
WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SITE DEVELOPMENT PLAN
STREAM STABILIZATION
SEDIMENT AND EROSION CONTROL NOTES & DETAILS

REVISIONS		
3	ESC TO SUPPORT STREAM STABILIZATION REPLACES SHEET S-13 OF PRIOR SDP PLAN SET	03/28/2022

DRN: DCV CK: CTG
PROJECT NO.: 1530
SCALE: AS SHOWN
DATE: MAR. 28, 2022

DRAWING NO. S-22 OF 24

SDP-72-84

B-4-5 STANDARDS AND SPECIFICATIONS

FOR

PERMANENT STABILIZATION

Definition

To stabilize disturbed soils with permanent vegetation.

Purpose

To use long-lived perennial grasses and legumes to establish permanent ground cover on disturbed soils.

Conditions Where Practice Applies

Exposed soils where ground cover is needed for 6 months or more.

Criteria

A. Seed Mixtures

1. General Use

   a. Select one or more of the species or mixtures listed in Table B.3 for the appropriate Plant Hardiness Zone (from Figure B.3) and based on the site condition or purpose found on Table B.2. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The Summary is to be placed on the plan.

   b. Additional planting specifications for exceptional sites such as shorelines, stream banks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-NRCS Technical Field Office Guide, Section 342 - Critical Area Planting.

   c. For sites having disturbed area over 5 acres, use and show the rates recommended by the soil testing agency.

   d. For areas receiving low maintenance, apply urea form fertilizer (46-0-0) at 3 ½ pounds per 1000 square feet (150 pounds per acre) at the time of seeding in addition to the soil amendments shown in the Permanent Seeding Summary ,

2. Turfgrass Mixtures

   a. Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance.

   b. Select one or more of the species or mixtures listed below based on the site conditions or purpose. Enter selected mixture(s), application rates, and seeding dates in the Permanent Seeding Summary. The summary is to be placed on the plan.

      i. Kentucky Bluegrass: Full Sun Mixture: For use in areas that receive intensive management. Irrigation required in the areas of central Maryland and Eastern Shore. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

      ii. Kentucky Bluegrass/Perennial Rye: Full Sun Mixture: For use in full sun areas where

rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding Rate: 2 pounds mixture per 1000 square feet. Choose a minimum of three Kentucky bluegrass cultivars with each ranging from 10 to 35 percent of the total mixture by weight.

iii. Tall Fescue/Kentucky Bluegrass: Full Sun Mixture: For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes; Certified Tall Fescue Cultivars 95 to 100 percent, Certified Kentucky Bluegrass Cultivars 0 to 5 percent. Seeding Rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.

iv. Kentucky Bluegrass/Fine Fescue: Shade Mixture: For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes; Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1½ to 3 pounds per 1000 square feet.

Notes:
Select turfgrass varieties from those listed in the most current University of Marylan Publication, Agronomy Memo #77, "Turfgrass Cultivar Recommendations for Maryland"

Choose certified material. Certified material is the best guarantee of cultivar purity. Th certification program of the Maryland Department of Agriculture, Turf and Seed Section provides a reliable means of consumer protection and assures a pure genetic line

c. Ideal Times of Seeding for Turf Grass Mixtures

Western MD: March 15 to June 1, August 1 to October 1 (Hardiness Zones: 5b, 6a)

Central MD: March 1 to May 15, August 15 to October 15 (Hardiness Zone: 6b)

Southern MD, Eastern Shore: March 1 to May 15, August 15 to October 15 (Hardiness Zones: 7a, 7b)

d. Till areas to receive seed by disking or other approved methods to a depth of 2 to 4 inches, level and rake the areas to prepare a proper seedbed. Remove stones and debris over 1½ inches in diameter. The resulting seedbed must be in such condition that future mowing of grasses will pose no difficulty.

e. If soil moisture is deficient, supply new seedings with adequate water for plant growth (½ to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

Permanent Seeding Summary

Hardiness Zone (from Figure B.3): 6b
Seed Mixture (from Table B.3): 1

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-20-20) N	P_2O_5	K_20	Lime Rate
	Switchgrass	40	Mar 1-May 15 Aug 1-Oct 15	½- ½ in	45 pounds per acre (1.0 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	90 lb/ac (2 lb/ 1000 sf)	2 tons/ac (90 lb/ 1000 sf)
	Creeping Red Fescue	30	Mar 1-May 15 Aug 1-Oct 15	½- ½ in				
	Partridge Peas	30	Mar 1-May 15 Aug 1-Oct 15	½- ½ in				

B. Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).

1. General Specifications

   a. Class of turfgrass sod must be Maryland State Certified. Sod labels must be made available to the job foreman and inspector.

   b. Sod must be machine cut at a uniform soil thickness of ¾ inch, plus or minus ¼ inch, at the time of cutting. Measurement for thickness must exclude top growth and thatch. Broken pads and torn or uneven ends will not be acceptable.

   c. Standard size sections of sod must be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.

   d. Sod must not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.

   e. Sod must be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period must be approved by an agronomist or soil scientist prior to its installation.

2. Sod Installation

   a. During periods of excessively high temperature or in areas having dry subsoil, lightly irrigate the subsoil immediately prior to laying the sod.

   b. Lay the first row of sod in a straight line with subsequent rows placed parallel to it and tightly wedged against each other. Stagger lateral joints to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.

   c. Wherever possible, lay sod with the long edges parallel to the contour and with staggering joints. Roll and tamp, peg or otherwise secure the sod to prevent slippage on slopes. Ensure solid contact exists between sod roots and the underlying soil surface.

   d. Water the sod immediately following rolling and tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. Complete the operations of laying, tamping and irrigating for any piece of sod within eight hours.

3. Sod Maintenance

   a. In the absence of adequate rainfall, water daily during the first week or as often and sufficiently as necessary to maintain moist soil to a depth of 4 inches. Water sod during the heat of the day to prevent wilting.

   b. After the first week, sod watering is required as necessary to maintain adequate moisture content.

   c. Do not mow until the sod is firmly rooted. No more than ⅓ of the grass leaf must be removed by the initial cutting or subsequent cuttings. Maintain a grass height of at least 3 inches unless otherwise specified.

B-4-8 STANDARDS AND SPECIFICATIONS

FOR

STOCKPILE AREA

Definition

A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

Purpose

To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

Conditions Where Practice Applies

Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

Criteria

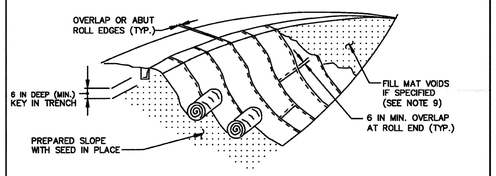
1. The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
2. The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
3. Runoff from the stockpile area must drain to a suitable sediment control practice.
4. Access the stockpile area from the upgrade side.
5. Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
6. Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
7. Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
8. If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

Maintenance

The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

DETAIL B-4-6-D PERMANENT SOIL STABILIZATION MATTING SLOPE APPLICATION

STANDARD SYMBOL: PSSMS – 2.25 lb/ft² (SHEAR STRESS)



ISOMETRIC VIEW

CONSTRUCTION SPECIFICATIONS

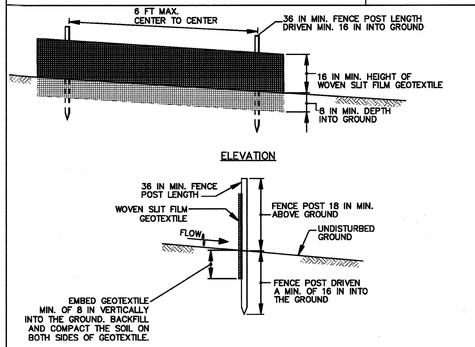
1. USE MATTING THAT HAS A DESIGN VALUE FOR SHEAR STRESS EQUAL TO OR HIGHER THAN THE SHEAR STRESS DESIGNATED ON APPROVED PLANS.
2. USE PERMANENT SOIL STABILIZATION MATTING MADE OF OPEN WEAVE SYNTHETIC, NON-DEGRADABLE FIBERS OR ELEMENTS OF UNIFORM THICKNESS AND DISTRIBUTION THROUGHOUT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2x2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
3. SECURE MATTING USING STEEL STAPLES OR WOOD STAKES. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1½ INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1x3 INCH IN CROSS SECTION, AND WEDGE SHAPE AT THE BOTTOM.
4. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS, UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
5. UNROLL MATTING DOWN SLOPE. LAY MATTING SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
6. OVERLAP OR ABUT EDGES OF MATTING ROLLS PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSTREAM MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
7. KEY IN THE TOP OF SLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
8. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
9. IF SPECIFIED BY THE DESIGNER OR MANUFACTURER AND DEPENDING ON THE TYPE OF MAT BEING INSTALLED, ONCE THE MATTING IS KEYED AND STAPLED IN PLACE, FILL THE MAT VOIDS WITH TOP SOIL OR GRANULAR MATERIAL AND LIGHTLY COMPACT OR ROLL TO MAXIMIZE SOIL/MAT CONTACT WITHOUT CRUSHING MAT.
10. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

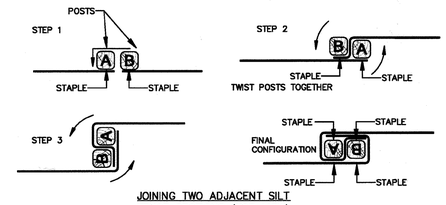
DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF



ELEVATION

CROSS SECTION



JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

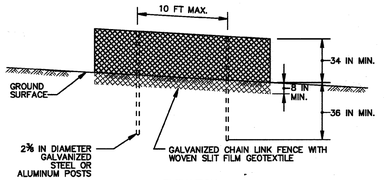
1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

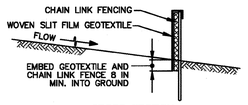
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF



ELEVATION



CROSS SECTION

CONSTRUCTION SPECIFICATIONS

1. INSTALL 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ ± ⅛ INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

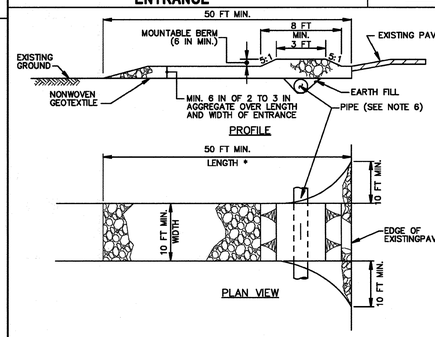
2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING APPROVED

CHIEF, LAND DEVELOPMENT	6/23/22 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	6.9.22 DATE
DIRECTOR OF PLANNING AND ZONING	6/22/22 DATE

Owners/Developer Certification:

"I/We hereby certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for the periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

A.R. Blume — 5/17/22
Owner's/ Developer Signature — Date

ARTHUR BLUME - PRESIDENT
Printed Name & Title

Design Certification:

"I hereby certify that this plan has been designed in accordance with the current Maryland erosion and sediment control laws, regulations, and standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Charles T. Grimsley — 3/28/22
Designer's Signature — Date

Charles T. Grimsley, P.E.
Printed Name

MD P.E. Registration No. 11124

Howard SCD Signature Block:

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District."

Howard Soil Conservation District — 06/06/22 Date

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 11124, EXPIRATION DATE: OCTOBER 3, 2022.

3/28/22 — STATE OF MARYLAND — CHARLES THOMAS GRIMSLEY — No. 11124 — PROFESSIONAL ENGINEER

THIS IS A NEW SHEET OF EROSION AND SEDIMENT CONTROL NOTES AND DETAILS TO SUPPORT THE CONSTRUCTION OF STREAM RESTORATION IMPROVEMENTS.

OWNER-DEVELOPER
WHISKEY BOTTOM CONDOMINIUMS, ASSOC.
c/o MR. ARTHUR F. BLUME, PRESIDENT
WHISKEY BOTTOM SOUTH, BOARD OF DIRECTORS
9220 BRIDLE PATH LANE, UNIT F
LAUREL, MD. 20723

LANDMARK ENGINEERING, INC.
13722 LAMBERTINA PLACE — PHONE: (301) 230-5881
ROCKVILLE, MARYLAND 20850 — FAX: (301) 230-5884
CONSULTING ENGINEERS PLANNERS SURVEYORS

SECTION TWO
WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SITE DEVELOPMENT PLAN
STREAM STABILIZATION
SEDIMENT AND EROSION CONTROL NOTES & DETAILS

REVISIONS		
3	ESC TO SUPPORT STREAM STABILIZATION REPLACES SHEET S-14 OF PRIOR SDP PLAN SET	03/28/2022

DRN: DCV CK: CTG
PROJECT NO.: 1530
SCALE: AS SHOWN
DATE: MAR. 28, 2022

DRAWING NO. S-23 OF 24

SDP-72-84

F-4 STANDARDS AND SPECIFICATIONS

FOR

FILTER BAG

Definition

A geotextile bag through which sediment-laden water is pumped.

Purpose

To filter sediment-laden water prior to discharge.

Conditions Where Practice Applies

When dewatering is needed in association with excavations, trenches, cofferdams, sediment traps or basins.

Design Criteria

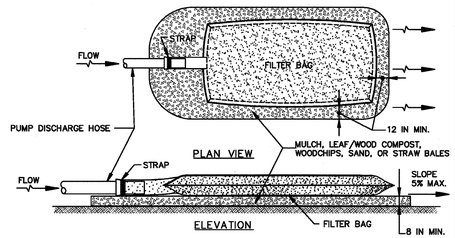
The filter bag should be placed in a location that allows for ease of disposal of the trapped sediment and has minimal interference with construction activities and pedestrian traffic.

Maintenance

If the filter bag clogs, it needs to be replaced. Rips, tears, and punctures also necessitate replacement of the filter bag. The connection between the pump hose and the filter bag needs to be kept water tight during operation. If the bedding becomes displaced, it must be replaced.

DETAIL F-4 FILTER BAG

STANDARD SYMBOL: ☒FB



CONSTRUCTION SPECIFICATIONS

1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4833
FLOW RATE	70 GAL/MIN/FT²	ASTM D-4491
PERMITTIVITY (SEC^{-1})	1.2 SEC^{-1}	ASTM D-4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D-4355
APPARENT OPENING SIZE (AOS)	0.15–0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632

6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

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, toxic material, or any other deleterious substance.

4) Place heavy equipment on mats or suitably operate the equipment to prevent damage 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 structure or fill.

6) Rectify any nontidal wetlands, wetland buffers, waterways, or 100-year floodplain temporarily impacted by any construction.

7) All stabilization in the nontidal wetland and nontidal wetland buffer shall consist of the following species: Annual Ryegrass (Lolummultiflorum), Millet (Setariaitalica), Barley (Hordeumsp.), Oats (Uniolasp.), and/or Rye (Secalecereale). 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 completed.

8) After installation has been completed, make post-construction 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 classification of the stream:

Use I waters: In-stream work shall not be conducted during the period March 1 through June 15, inclusive, during any year.

Use III waters: In-stream work shall not be conducted during the period October 1 through April 30, inclusive, during any year.

Use IV waters: In-stream work shall not be conducted during the period March 1 through May 31, inclusive, during any year.

10) Stormwater runoff from impervious surfaces shall be controlled to prevent the washing of debris into the waterway.

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.

MGWC 1.2: PUMP-AROUND PRACTICE

Temporary measure for dewatering in-channel construction sites

DESCRIPTION

The work should consist of installing a temporary pump around and supporting measures to divert flow around in-stream construction sites.

IMPLEMENTATION SEQUENCE

Sediment control measures, pump-around practices, and associated channel and bank construction should be completed in the following sequence (refer to Detail 1.2):

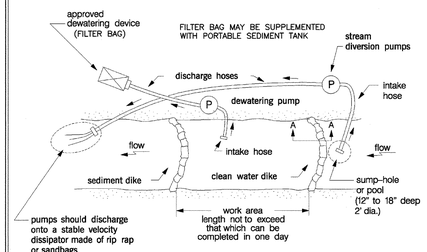
1. Construction activities including the installation of erosion and sediment control measures should not begin until all necessary easements and/or right-of-ways have been acquired. All existing utilities should be marked in the field prior to construction. The contractor is responsible for any damage to existing utilities that may result from construction and should repair the damage at his/her own expense to the county's or utility company's satisfaction.
2. The contractor should notify the Maryland Department of the Environment or WMA sediment control inspector at least 5 days before beginning construction. Additionally, the contractor should inform the local environmental protection and resource management inspection and enforcement division and the provider of local utilities a minimum of 48 hours before starting construction.
3. The contractor should conduct a pre-construction meeting on site with the WMA sediment control inspector, the county project manager, and the engineer to review limits of disturbance, erosion and sediment control requirements, and the sequence of construction. The contractor should stake out all limits of disturbance prior to the pre-construction meeting so they may be reviewed. The participants will also designate the contractor's staging areas and flag all trees within the limit of disturbance which will be removed for construction access. Trees should not be removed within the limit of disturbance without approval from the WMA or local authority.
4. Construction should not begin until all sediment and erosion control measures have been installed and approved by the engineer and the sediment control inspector. The contractor should stay within the limits of the disturbance as shown on the plans and minimize disturbance within the work area whenever possible.
5. Upon installation of all sediment control measures and approval by the sediment control inspector and the local environmental protection and resource management inspection and enforcement division, the contractor should begin work at the upstream section and proceed downstream beginning with the establishment of stabilized construction entrances. In some cases, work may begin downstream if appropriate. The sequence of construction must be followed unless the contractor gets written approval for deviations from the WMA or local authority. The contractor should only begin work in an area which can be completed by the end of the day including grading adjacent to the channel. At the end of each work day, the work area must be stabilized and the pump around removed from the channel. Work should not be conducted in the channel during rain events.
6. Sandbag dikes should be situated at the upstream and downstream ends of the work area as shown on the plans, and stream flow should be pumped around the work area. The pump should discharge onto a stable velocity dissipater made of riprap or sandbags.

MGWC 1.2: PUMP-AROUND PRACTICE

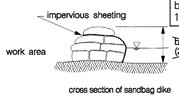
7. Water from the work area should be pumped to a sediment filtering measure such as a dewatering basin, sediment bag, or other approved source. The measure should be located such that the water drains back into the channel below the downstream sandbag dike.
8. Traversing a channel reach with equipment within the work area where no work is proposed should be avoided. If equipment has to traverse such a reach for access to another area, then timber mats or similar measures should be used to minimize disturbance to the channel. Temporary stream crossings should be used only when necessary and only where noted on the plans or specified. *(See Section 4, Stream Crossings, Maryland Guidelines to Waterway Construction).*
9. All stream restoration measures should be installed as indicated by the plans and all banks graded in accordance with the grading plans and typical cross- sections. All grading must be stabilized at the end of each day with seed and mulch or seed and matting as specified on the plans.
10. After an area is completed and stabilized, the clean water dike should be removed. After the first sediment flush, a new clean water dike should be established upstream from the old sediment dike. Finally, upon establishment of a new sediment dike below the old one, the old sediment dike should be removed.
11. A pump around must be installed on any tributary or storm drain outfall which contributes baseflow to the work area. This should be accomplished by locating a sandbag dike at the downstream end of the tributary or storm drain outfall and pumping the stream flow around the work area. This water should discharge onto the same velocity dissipater used for the main stem pump around.
12. If a tributary is to be restored, construction should take place on the tributary before work on the main stem reaches the tributary confluence. Construction in the tributary, including pump around practices, should follow the same sequence as for the main stem of the river or stream. When construction on the tributary is completed, work on the main stem should resume. Water from the tributary should continue to be pumped around the work area in the main stem.
13. The contractor is responsible for providing access to and maintaining all erosion and sediment control devices until the sediment control inspector approves their removal.
14. After construction, all disturbed areas should be regraded and revegetated as per the planting plan.

Maryland's Guidelines To Waterway Construction
DETAIL 1.2: PUMP-AROUND PRACTICE

PLAN VIEW



SECTION A–A



The installed height of sandbag dike shall be 2 times the height of the baseflow, plus an additional 1 foot.

Base flow depth was observed in the range of 4 to 6 inches. Sandbag dike to be a minimum of 2 ft. Conditions at the time of work may require additional height.

SEE EROSION AND SEDIMENT CONTROL PLAN FOR DETAILS ON PUMP STATION, SUMP PIT, AND FILTRATION

HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
APPROVED

CHIEF, LAND DEVELOPMENT	DATE 6/21/22
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE 6.9.22
DIRECTOR OF PLANNING AND ZONING	DATE 6/22/22

Owners/Developer Certification:

"I/We hereby certify that any clearing, grading, construction, or development will be done pursuant to this approved erosion and sediment control plan, including inspecting and maintaining controls, and that the responsible personnel involved in the construction project will have a Certificate of Training at a Maryland Department of the Environment (MDE) approved training program for the control on erosion and sediment prior to beginning the project. I certify right-of-entry for the periodic on-site evaluation by Howard County, the Howard Soil Conservation District and/or MDE."

Owner's/ Developer's Signature — Date 5/17/22

ARTHUR BLUME - PRESIDENT — WBS-BOD
Printed Name & Title

Design Certification:

"I hereby certify that this plan has been designed in accordance with the current Maryland erosion and sediment control laws, regulations, and standards, that it represents a practical and workable plan based on my personal knowledge of the site, and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Designer's Signature — Date 3/28/22

Charles T. Grimsley, P.E. — MD P.E. Registration No. 11124
Printed Name

Howard SCD Signature Block:

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District."

Howard Soil Conservation District — Date 06/06/22

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 11124, EXPIRATION DATE: OCTOBER 3, 2022.

3/28/22
STATE OF MARYLAND — CHARLES THOMAS GRIMSLEY — No. 11124 — PROFESSIONAL ENGINEER

OWNER–DEVELOPER
WHISKEY BOTTOM CONDOMINIUM, ASSOC.
c/o MR. ARTHUR F. BLUME, PRESIDENT
WHISKEY BOTTOM SOUTH, BOARD OF DIRECTORS
9220 BRIDLE PATH LANE, UNIT F
LAUREL, MD. 20723

LANDMARK ENGINEERING, INC.
13722 LAMBERTINA PLACE — PHONE: (301) 230-5881
ROCKVILLE, MARYLAND 20850 — FAX: (301) 230-5884
CONSULTING ENGINEERS PLANNERS SURVEYORS

SECTION TWO
WHISKEY BOTTOM APARTMENTS
SIXTH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SITE DEVELOPMENT PLAN
STREAM STABILIZATION
SEDIMENT AND EROSION CONTROL NOTES & DETAILS

REVISIONS

DRN: DCV CK: CTG
PROJECT NO.: 1530
SCALE: AS SHOWN
DATE: MAR. 28, 2022

DRAWING NO. S-24 OF 24

SDP-72-84