

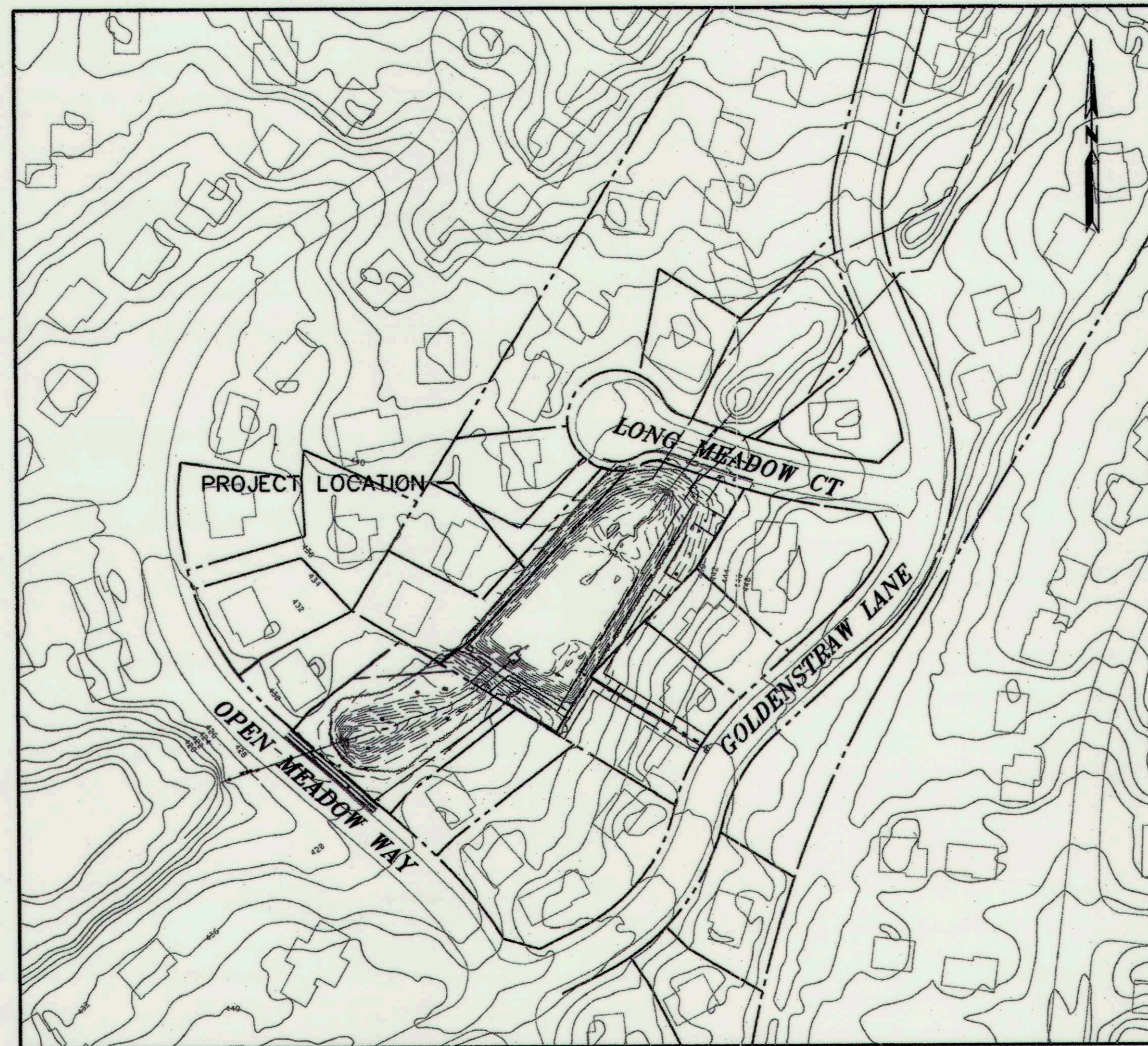
LONG MEADOW II POND DECOMMISSION

HOWARD COUNTY, MARYLAND
FINAL DESIGN SUBMITTAL
DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT D-1159

INDEX OF SHEETS

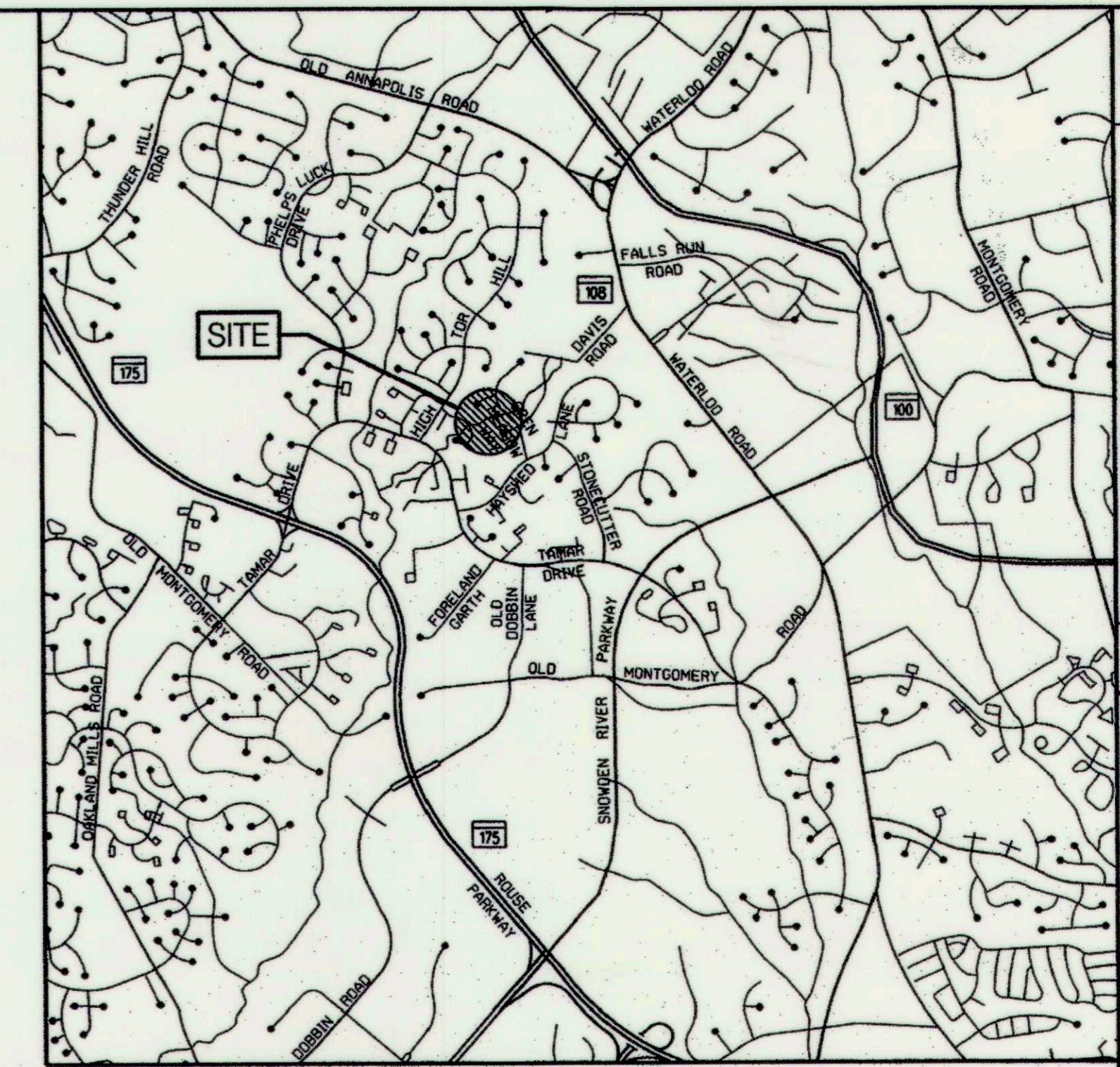
SHEET NO.	DESCRIPTION
1	TITLE SHEET
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3	GEOMETRY SHEET
4	GRADING PLAN
5	PROFILE
6	DETAILS
7	EROSION & SEDIMENT CONTROL PLAN PHASE I
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DESIGN INFORMATION	
WATERSHED ID	02131050953
IMPERVIOUS AREA (AC)	12.17
IMPERVIOUS TREATED (AC)	5.21
DRAINAGE AREA (AC)	50.45
WATER QUALITY VOLUME	48,911 CF
% TREATED	42.8%



SITE LOCATION
SCALE: 1" = 100'

HOWARD COUNTY SURVEY CONTROL			
DESIGNATION	NORTHING	EASTING	ELEVATION
36CA	562262.5707	1361002.9222	430.043
36AB	561137.3764	1369891.8437	390.394



VICINITY MAP
SCALE: 1" = 2000'

SPECIAL CONTRACTOR NOTES

- CONTRACTOR SHALL NOT STORE EQUIPMENT, MATERIALS AND/OR SUPPLIES BEYOND THE LIMIT OF DISTURBANCE SHOWN ON THE PLANS.
- UPON COMPLETION OF THE WORK, BUT PRIOR TO DE-MOBILIZATION, THE CONTRACTOR SHALL REMOVE ALL REMNANTS OF CONSTRUCTION MATERIALS FROM THE SITE. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO A CONDITION EQUAL TO OR BETTER THAN THE PRE-CONSTRUCTION CONDITIONS.
- PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES, PHOTOGRAPHS OF THE PROPOSED WORK AREA AND ACCESS SHALL BE TAKEN.

GENERAL INFORMATION

- EXISTING FACILITY WAS CONSTRUCTED UNDER HOWARD COUNTY, MARYLAND STORMWATER MANAGEMENT AS-BUILT PLAN F-89-090, DATED 10-12-1993, AS ACCEPTED BY HOWARD SOIL CONSERVATION DISTRICT.
- A JOINT PERMIT APPLICATION WILL BE SUBMITTED TO MDE FOR THIS PROJECT (TRACKING NUMBER *15-NT-3210/201561200). IN-STREAM WORK IS PROHIBITED FROM MARCH 1 TO JUNE 15, INCLUSIVE, OF ANY YEAR.
- THERE ARE NO KNOWN BURIAL GROUNDS OR CEMETERY SITES LOCATED ON THE PROJECT SITE.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 24 HOURS IN ADVANCE OF ANY WORK BEING DONE.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- THE COORDINATES SHOWN HEREON ARE BASED ON HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM.
- WATER IS PUBLIC.
- SEWER IS PUBLIC.
- EXISTING UTILITIES ARE BASED ON FIELD SURVEYS AND AVAILABLE RECORD DRAWINGS. CONTRACTOR TO VERIFY INFORMATION TO HIS/HER OWN SATISFACTION.
- KCI PERFORMED A SITE VISIT ON MAY 7, 2013 TO VERIFY THE PRESENCE OF WETLANDS AND "WATERS OF THE U.S." AT THE SITE.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH ONE FOOT CONTOUR INTERVALS PREPARED BY AB CONSULTANTS, INC., IN AUGUST 2012.
- NO TRAFFIC STUDY IS REQUIRED FOR THIS PROJECT.
- OBSTRUCTIONS SHOWN ON THIS DRAWING ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY AND KCI TECHNOLOGIES, INC. DOES NOT WARRANT NOR GUARANTEE THE CORRECTNESS OR COMPLETENESS OF THE INFORMATION GIVEN. SHOULD THE CONTRACTOR DISCOVER ANY DISCREPANCIES BETWEEN THE PLANS AND THE FIELD CONDITIONS, THE CONTRACTOR MUST VERIFY SUCH INFORMATION TO HIS OWN SATISFACTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE ENGINEER, THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- THERE ARE NO CRITICAL AREAS WITHIN THE STUDY AREA.

936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
WWW.KCI.COM



LONG MEADOW II
POND DECOMMISSION
CAPITAL PROJECT D-1159
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
6751 COLUMBIA GATEWAY DRIVE
COLUMBIA, MD 21046

AS-BUILT
TITLE SHEET

STATE OF MARYLAND
JAMES A. TOMLINSON
PROFESSIONAL ENGINEER
5/28/16

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY 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. 31201. EXPIRATION DATE: JANUARY 24, 2017

PERMIT INFORMATION CHART			
SUBDIVISION NAME LONG MEADOW	SECTION/AREA SECTION 2	PARCEL* 264	
PLAT or L/F B970	ORD * 6	ZONING R-12	TAX MAP NO. ELECT. DIST. CENSUS TRACT 36
WATER CODE PUBLIC	SEWER CODE PUBLIC		

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

James A. Tomlinson 5/28/16
DIRECTOR OF PUBLIC WORKS DATE

Mark S. Richmond 7/13/16
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE

Mark S. Richmond 6/3/16
CHIEF, STORMWATER MANAGEMENT DIVISION DATE

DESIGN CERTIFICATION

"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN DESIGNED IN ACCORDANCE WITH 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."

James A. Tomlinson 5/28/16
DESIGNER'S SIGNATURE DATE
JAMES A. TOMLINSON, PE MD REGISTRATION NO. 31201 P.E., R.L.S., OR R.L.A. (CIRCLE ONE)

OWNER/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 PERIODIC ON-SITE EVALUATION BY HOWARD COUNTY, THE HOWARD SOIL CONSERVATION DISTRICT AND/OR MDE."

Mark S. Richmond 6/3/16
OWNER'S/DEVELOPER'S SIGNATURE DATE
Mark S. Richmond, Chief Swm Div. PRINTED NAME & TITLE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

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

Mark S. Richmond 7/15/16
HOWARD SCD DATE

AS-BUILT CERTIFICATION

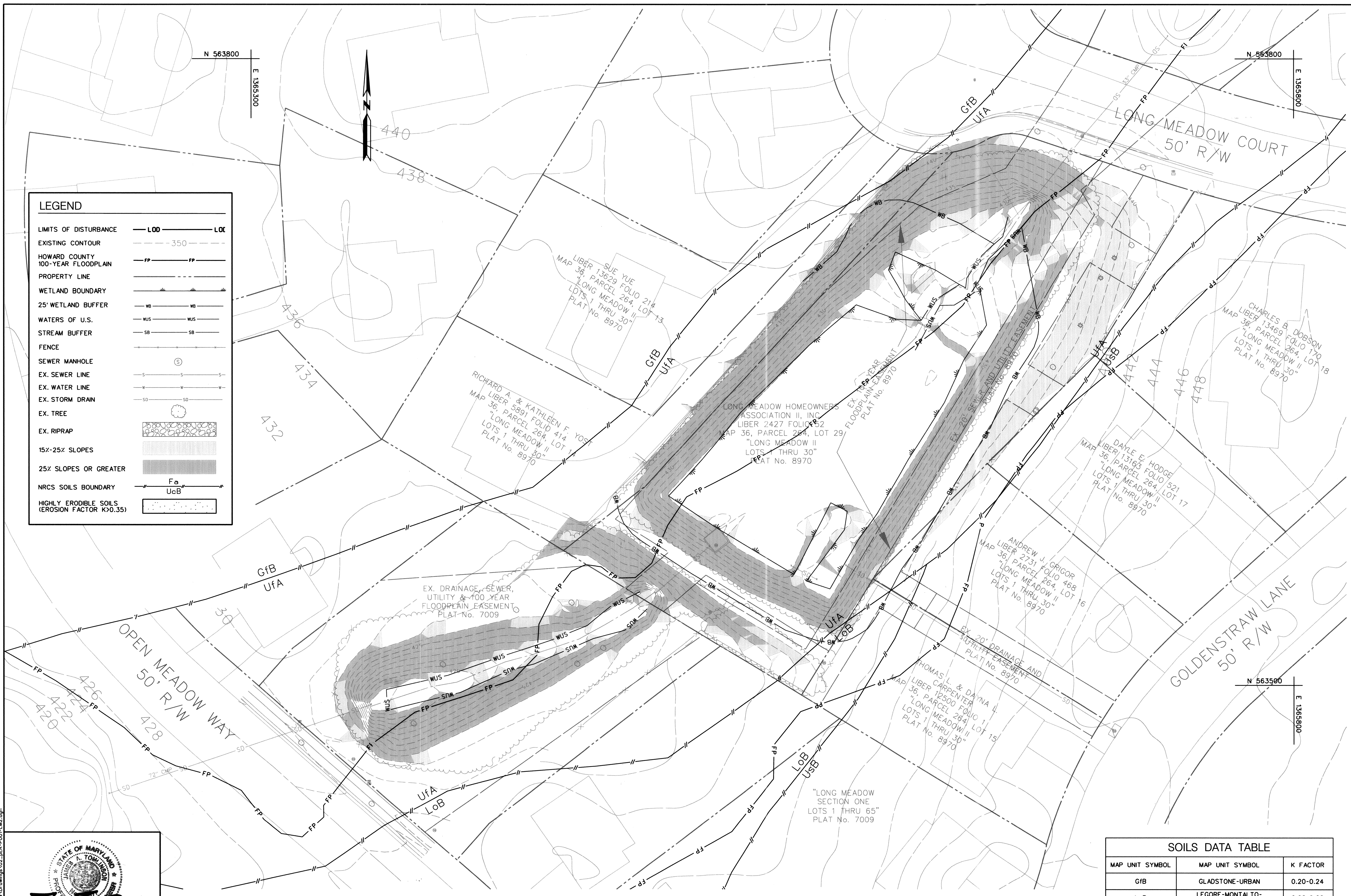
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

James A. Tomlinson 6/27/17
SIGNATURE DATE
31201 PE NO.

SCALE:	AS SHOWN
DATE:	MAY 2016
KCI JOB NO.:	17133314.49
CAPITAL PROJECT NO.:	D-1159
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	
SHEET NO.:	1 OF 12

LEGEND

LIMITS OF DISTURBANCE	— L00 — L00
EXISTING CONTOUR	--- 350 ---
HOWARD COUNTY 100-YEAR FLOODPLAIN	— FP — FP
PROPERTY LINE	— PL — PL
WETLAND BOUNDARY	— WB — WB
25' WETLAND BUFFER	— WB — WB
WATERS OF U.S.	— WUS — WUS
STREAM BUFFER	— SB — SB
FENCE	— F — F
SEWER MANHOLE	— S — S
EX. SEWER LINE	— S — S
EX. WATER LINE	— W — W
EX. STORM DRAIN	— SD — SD
EX. TREE	— T — T
EX. RIPRAP	— R — R
15%-25% SLOPES	— S — S
25% SLOPES OR GREATER	— S — S
NRCS SOILS BOUNDARY	— Fa — UcB —
HIGHLY ERODIBLE SOILS (EROSION FACTOR K>0.35)	— H — H



DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD
 Chief, Bureau of Environmental Services
 7/13/16
 DATE

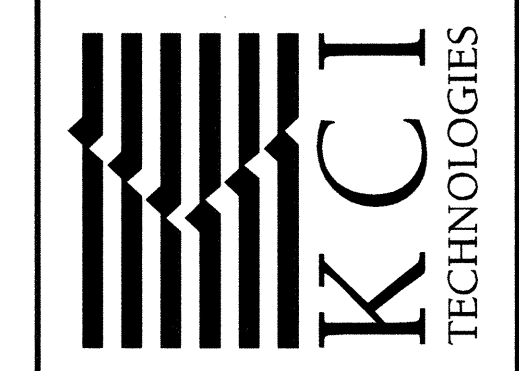
NOTE: FIELD RUN SURVEY WITHIN THE PROJECT LIMITS HAS BEEN SUPPLEMENTED WITH AERIAL TOPOGRAPHY PROVIDED BY HOWARD COUNTY.

SOILS DATA TABLE

MAP UNIT SYMBOL	MAP UNIT SYMBOL	K FACTOR
GfB	GLADSTONE-URBAN	0.20-0.24
LoB	LEGORE-MONTALTO-URBAN	0.02-0.28
UfA	URBAN LAND-FALLSINGTON	N/A
UsB	URBAN LAND-SASSAFRAS-BELTSVILLE	N/A

NO.	REVISIONS DESCRIPTION	DATE

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 SPARKS, MARYLAND 21152
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 WWW.KCI.COM



**LONG MEADOW II
 POND DECOMMISSION**
 CAPITAL PROJECT D-1159
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 STORMWATER MANAGEMENT DIVISION
 6751 COLUMBIA GATEWAY DRIVE
 COLUMBIA, MD 21046

**ENVIRONMENTAL
 RESOURCES
 MAP**

SCALE:	1" = 20'
DATE:	MAY 2016
KCI JOB NO.:	17133314.49
CAPITAL PROJECT NO.:	D-1159
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	
SHEET NO.:	2 OF 12

N 563800
E 1365300

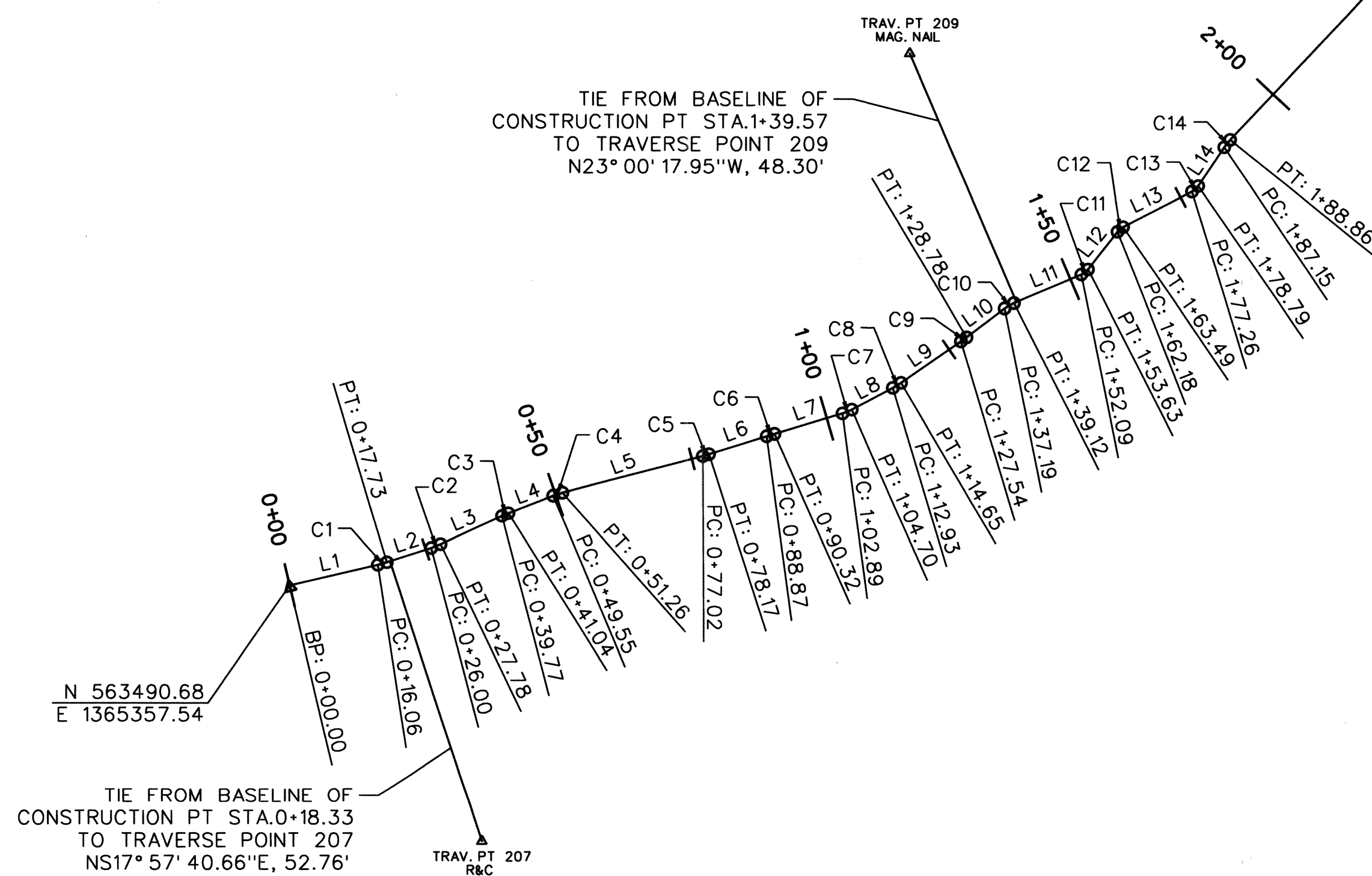
N 563800
E 1365800

Line Table: Alignments

Line #	Length	Direction
L1	16.06	N 76° 50' 04.53"E
L2	8.27	N 72° 02' 19.34"E
L3	11.99	N 65° 13' 50.65"E
L4	8.51	N 68° 52' 44.72"E
L5	25.76	N 75° 23' 54.06"E
L6	10.70	N 72° 46' 15.07"E
L7	12.57	N 73° 35' 58.30"E
L8	8.23	N 62° 03' 10.47"E
L9	12.89	N 55° 30' 09.83"E
L10	8.41	N 53° 08' 03.89"E
L11	12.97	N 66° 59' 42.05"E
L12	8.55	N 37° 35' 41.10"E
L13	13.77	N 62° 37' 22.92"E
L14	8.36	N 33° 22' 25.26"E
L15	136.26	N 43° 11' 48.90"E
L16	8.39	N 39° 10' 25.17"E
L17	71.75	N 42° 37' 34.47"E

Curve Table: Alignments

Curve #	Radius	Length	Delta	Tangent	Chord Direction	Chord Length
C1	20.00	1.67	4°47'45.24"	0.84	N74° 26' 11.94"E	1.67
C2	15.00	1.78	6°48'28.80"	0.89	N68° 38' 05.00"E	1.78
C3	20.00	1.27	3°38'54.24"	0.64	N67° 03' 17.69"E	1.27
C4	15.00	1.71	6°31'09.48"	0.85	N72° 08' 19.39"E	1.71
C5	25.00	1.15	2°37'39.00"	0.57	N74° 05' 04.56"E	1.15
C6	25.00	1.45	0°49'43.32"	0.72	N73° 11' 06.68"E	1.45
C7	100.00	1.81	11°32'47.76"	0.91	N67° 49' 34.39"E	1.81
C8	9.00	1.71	6°33'00.72"	0.86	N58° 46' 40.15"E	1.71
C9	15.00	1.24	2°22'05.88"	0.62	N54° 19' 06.86"E	1.24
C10	8.00	1.94	13°51'38.16"	0.97	N60° 03' 52.97"E	1.93
C11	3.00	1.54	29°24'01.08"	0.79	N52° 17' 14.57"E	1.52
C12	3.00	1.31	25°01'41.88"	0.67	N50° 06' 32.01"E	1.30
C13	3.00	1.53	29°14'57.48"	0.78	N47° 59' 54.09"E	1.51
C14	10.00	1.71	9°49'23.52"	0.86	N38° 17' 07.08"E	1.71
C15	20.00	1.40	4°01'23.88"	0.70	N41° 11' 07.03"E	1.40
C16	30.00	1.81	3°27'09.36"	0.90	N40° 53' 59.82"E	1.81



Traverse Coordinate List

Point	Northing	Easting	Elevation
203	563653.94	1365670.95	434.71
207	563444.79	1365391.63	430.01
209	563585.14	1365467.62	433.32

TIE FROM BASELINE OF CONSTRUCTION PT. STA. 3+50.02 TO TRAVERSE POINT 203 S47° 22' 25.53"E, 50.04'

TIE FROM BASELINE OF CONSTRUCTION PT. STA. 1+39.57 TO TRAVERSE POINT 209 N23° 00' 17.95"W, 48.30'

TIE FROM BASELINE OF CONSTRUCTION PT. STA. 0+18.33 TO TRAVERSE POINT 207 N51° 57' 40.66"E, 52.76'



N 563500
E 1365800

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
www.kci.com



LONG MEADOW II
POND DECOMMISSION
CAPITAL PROJECT D-1159
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
8701 COLUMBIA GATEWAY DRIVE
COLUMBIA, MD 21046

GEOMETRY SHEET

SCALE:	1" = 20'
DATE:	MAY 2016
KCI JOB NO.:	17133314.49
CAPITAL PROJECT NO.:	D-1159
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY 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. 31201
EXPIRATION DATE: JANUARY 24, 2017

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

DATE: 7/13/16

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

Mark D. Luca
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

DATE: 7/13/16



LEGEND

EXISTING CONTOUR	---	350
PROPOSED CONTOUR	---	350
PROPERTY LINE	---	
STORM DRAIN	SD	SD
WETLAND LINE	---	
WATERS OF U.S.	WUS	
EXISTING WOODS	---	
WETLAND BUFFER	WB	
FENCE	---	
SEWER LINE	S	S
EXISTING 100-YR WSE	---	
PROPOSED 100-YR WSE	---	
SEWER MANHOLE	⊙	
EX. TREE	⊙	
PROPOSED RIFFLE	⊙	
PROPOSED CASCADE	⊙	
PONDED AREA	⊙	

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

 DATE: 7/15/16

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

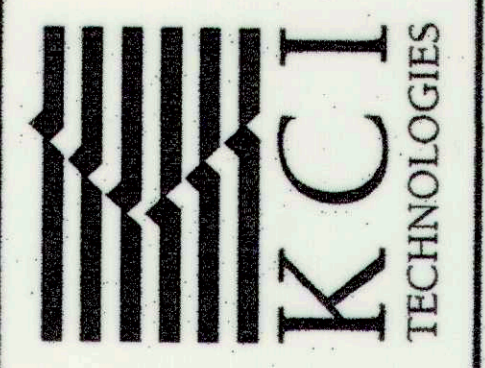
 DATE: 7/13/16

NOTE: FIELD RUN SURVEY WITHIN THE PROJECT LIMITS HAS BEEN SUPPLEMENTED WITH AERIAL TOPOGRAPHY PROVIDED BY HOWARD COUNTY.

AS-BUILT
JUNE 2017
EP-16-02

NO.	REVISIONS DESCRIPTION	DATE

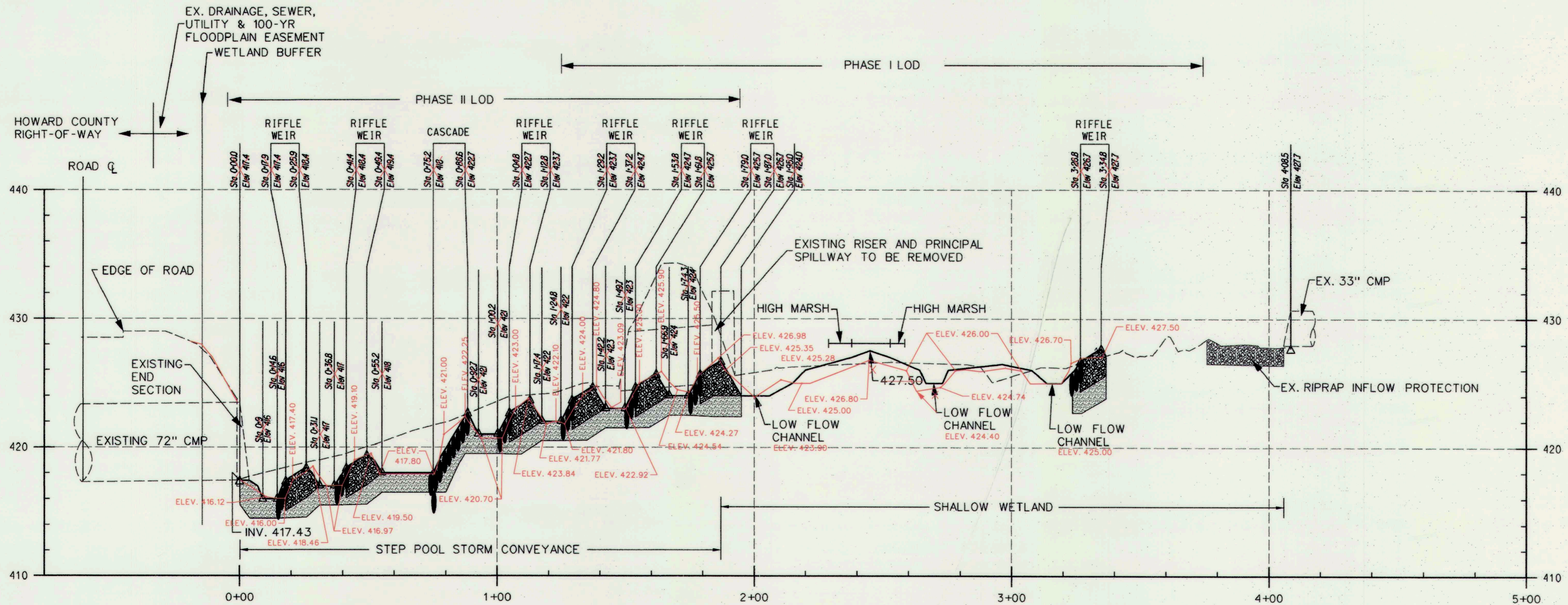
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AS-BUILT
GRADING
PLAN

SCALE:	1" = 20'
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CONSTRUCTION ISSUE:	



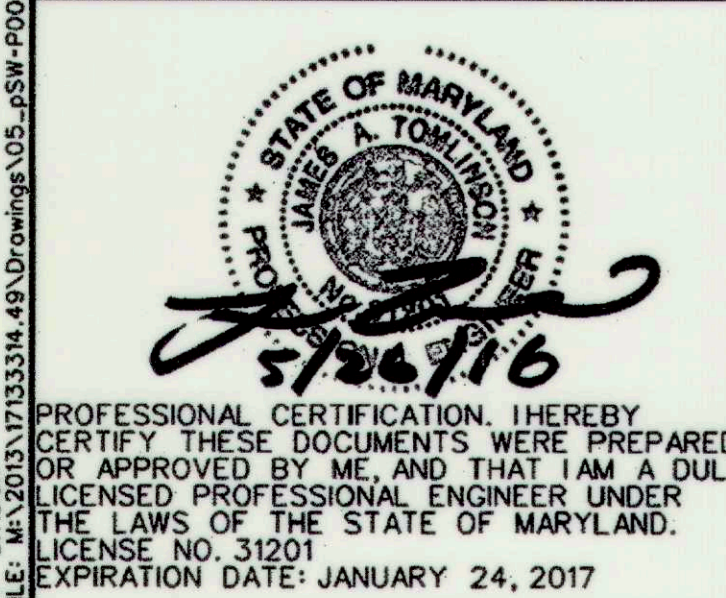
PROFILE
SCALE: HOR. 1" = 20'
VERT. 1" = 4'

LEGEND	
EXISTING CONTOUR	---
PROPOSED CONTOUR	—
SAND/WOODCHIP MIX	[Pattern]
COBBLES	[Pattern]
WEIR STONES	[Symbol]

OPERATION AND MAINTENANCE SCHEDULE

WETLAND
INSPECT DAM ANNUALLY AND DURING & AFTER STORM EVENTS >4 INCHES. VEGETATION SHOULD BE MAINTAINED IN GOOD CONDITION AND BE LESS THAN 12" IN MOWING HEIGHT. REMOVE ACCUMULATED PAPER, TRASH AND DEBRIS AFTER EVERY STORM EVENT, AS NECESSARY. SEDIMENT SHALL BE REMOVED FROM BASIN WHEN 50% OF STORAGE LOSS HAS BEEN ACHIEVED OR WHEN NECESSARY FOR AESTHETIC REASONS. VISIBLE SIGNS OF EROSION IN THE BASIN AS WELL AS THE RIPRAP STONES SHALL BE REPAIRED. NOTE: THE EXISTING POND WILL BE DECOMMISSIONED, AND OPERATIONS AND MAINTENANCE FOR DAM STRUCTURE WILL NOT BE APPLIED.

STEP POOL STORM CONVEYANCE
ROUTINE/BIANNUAL MAINTENANCE OF COUNTY-OWNED SPSC SYSTEM IS PRESCRIBED FOR A PERIOD OF FIVE YEARS. THIS INCLUDES, BUT IS NOT LIMITED TO, MULCHING OF DEVOID AREAS. DISEASED PLANT REPLACEMENT AND REPLANTING IF NECESSARY. REMOVAL OF EXCESSIVE DEBRIS AND INVASIVE SPECIES. IN THE EVENT THAT SEDIMENT ACCUMULATION EXCEED SIX INCHES IN THE FIRST YEAR, THE CONTRACTOR SHALL SPRAY DOWN AN ADDITIONAL LAYER OF COMPOST AND REPLANT THE POOL BOTTOMS. DIRECT MAINTENANCE ACCESS SHALL BE PROVIDED TO THE POOLS AND FILTER BED.



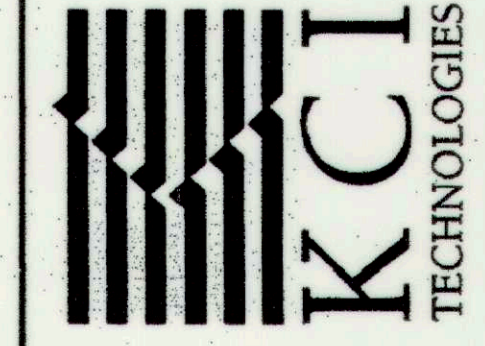
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7/15/16
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DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD
7/13/16
DATE

AS-BUILT
JUNE 2017
EP-16-02

NO.	REVISIONS DESCRIPTION	DATE

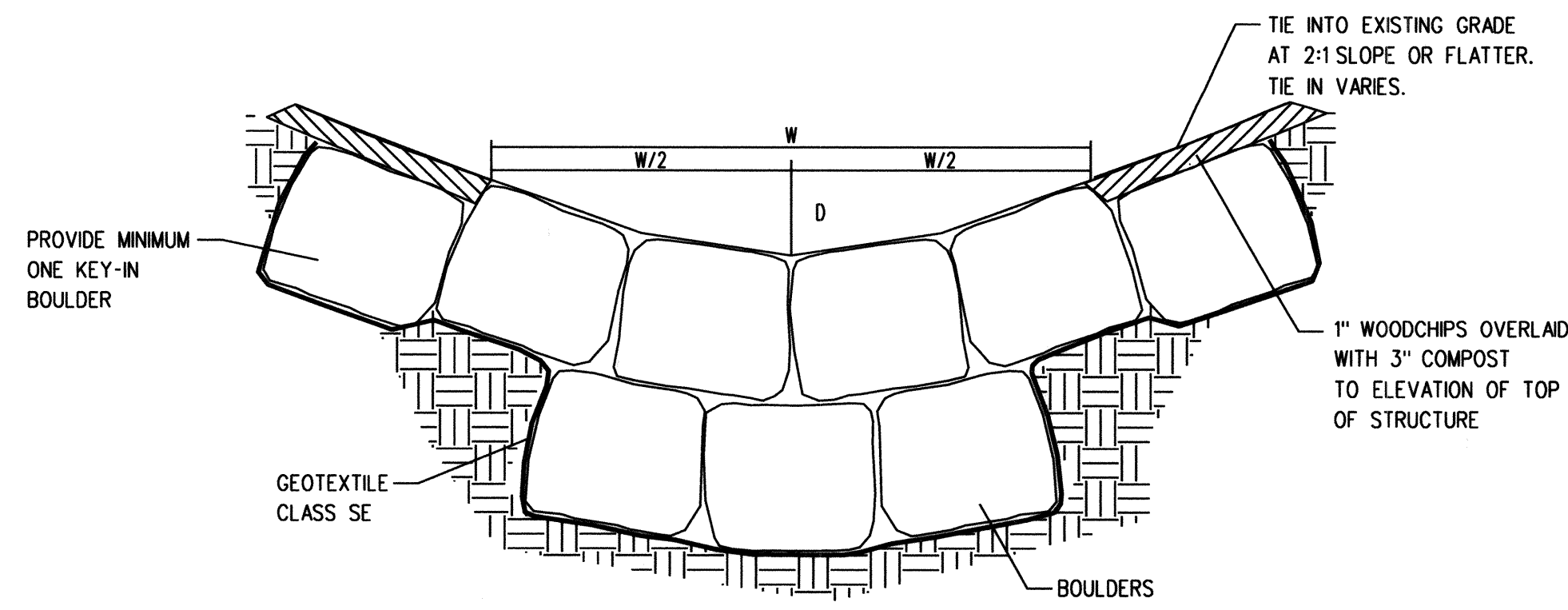
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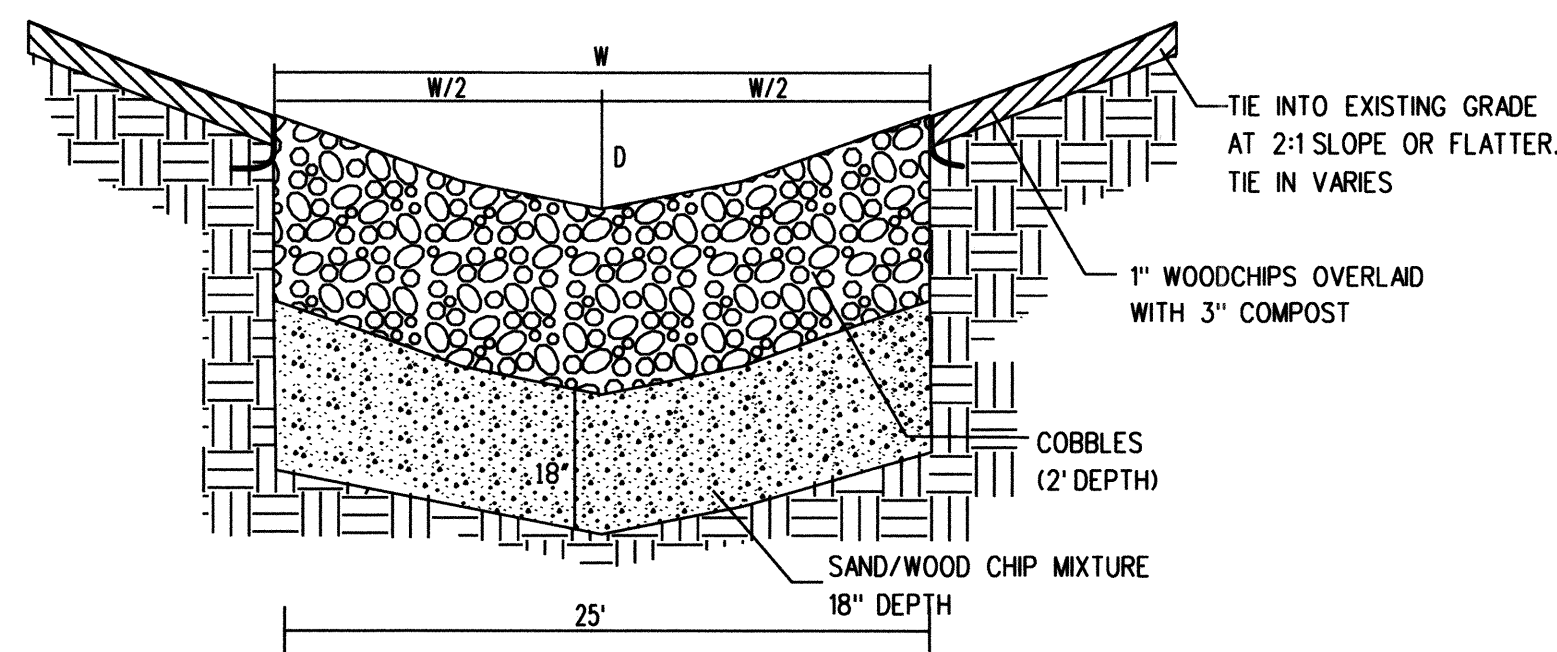
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AS-BUILT
PROFILE

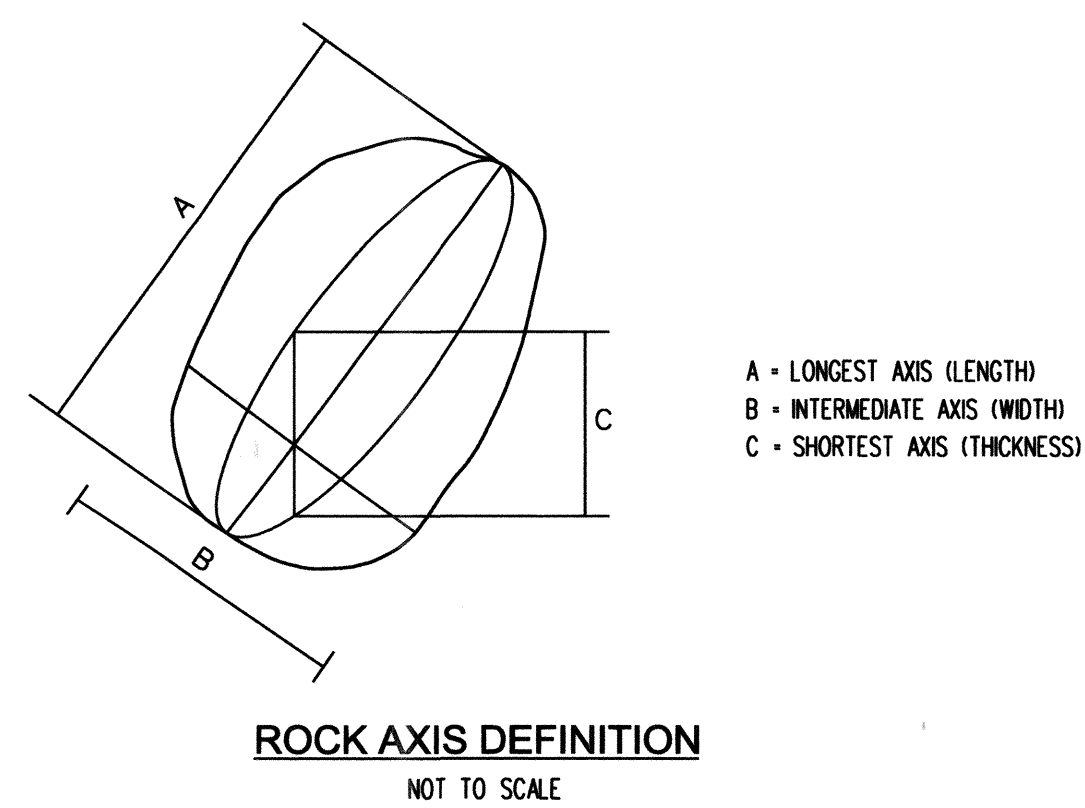
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TYPICAL SECTION - BOULDERS
NOT TO SCALE



TYPICAL SECTION - RIFFLE
NOT TO SCALE



ROCK AXIS DEFINITION
NOT TO SCALE

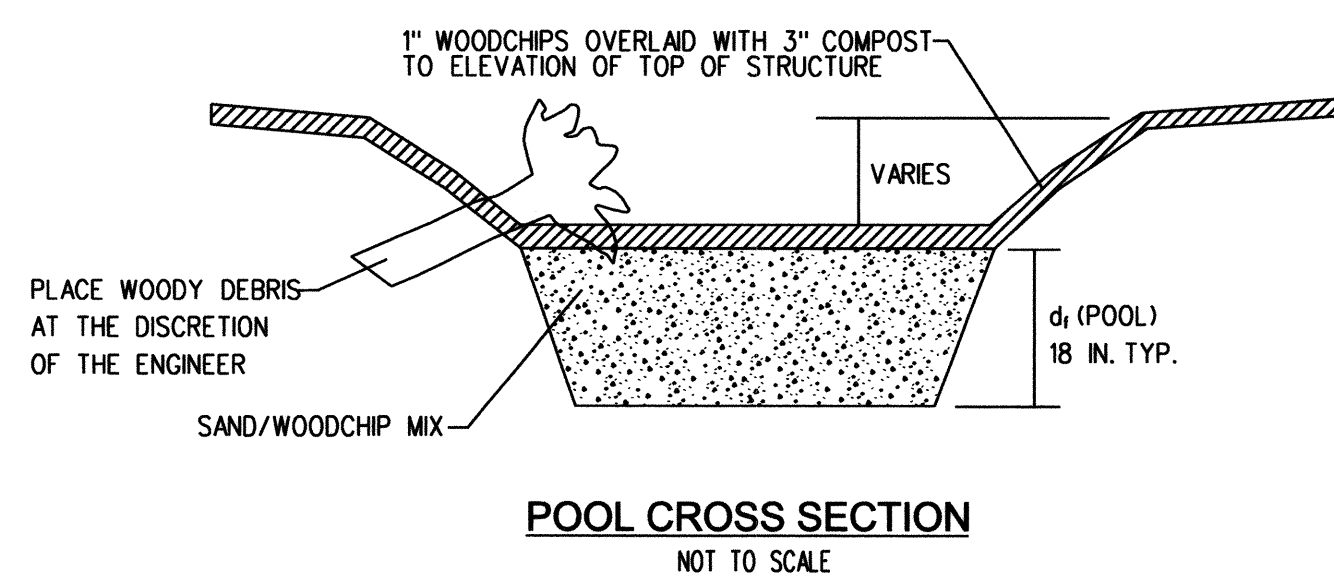
STRUCTURE	WIDTH (W) (FT)	DEPTH (D) (FT)	LENGTH	COBBLE D ₅₀
RIFFLE WEIR	25'	2.5'	8'	7"
CASCADE	25'	1.2'	13.4'	-

AXIS	A (LONGEST)	B (INTERMEDIATE)	C (SHORTEST)
STONE TYPE	MAX.	RANGE	MIN.
COBBLES *	>7"	>7"	>7"
WEIR **	2.0'-4.0'	2.0'- 3.0'	2.0'

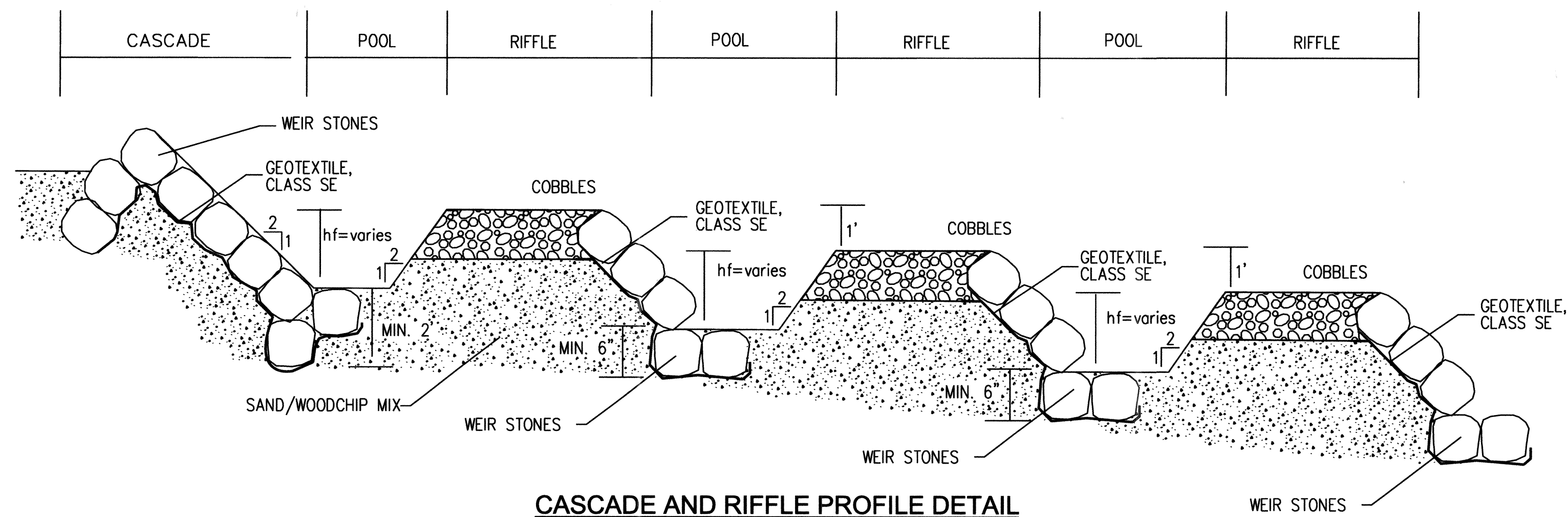
80%	SAND (0.02" TO 0.04")
20%	WOODCHIPS

* COBBLES SHALL BE ROUNDED RIVER STONE (NOT RIPRAP).
** WEIR STONES SHALL BE SANDSTONE OR NON-WHITE GRANITE, AND ANGULAR AND BLOCKY IN SHAPE.

STRUCTURE	DEPTH
RIFFLE WEIR	1.98'
CASCADE	1.98'
POOL	4.17'

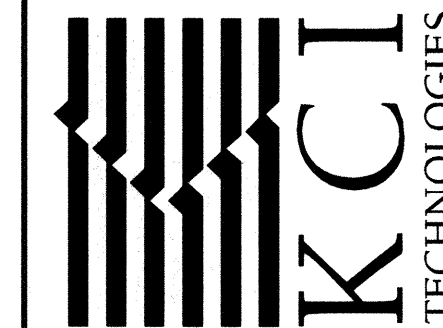


POOL CROSS SECTION
NOT TO SCALE



CASCADE AND RIFFLE PROFILE DETAIL

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DETAILS

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DATE: MAY 2016
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CONSTRUCTION ISSUE:



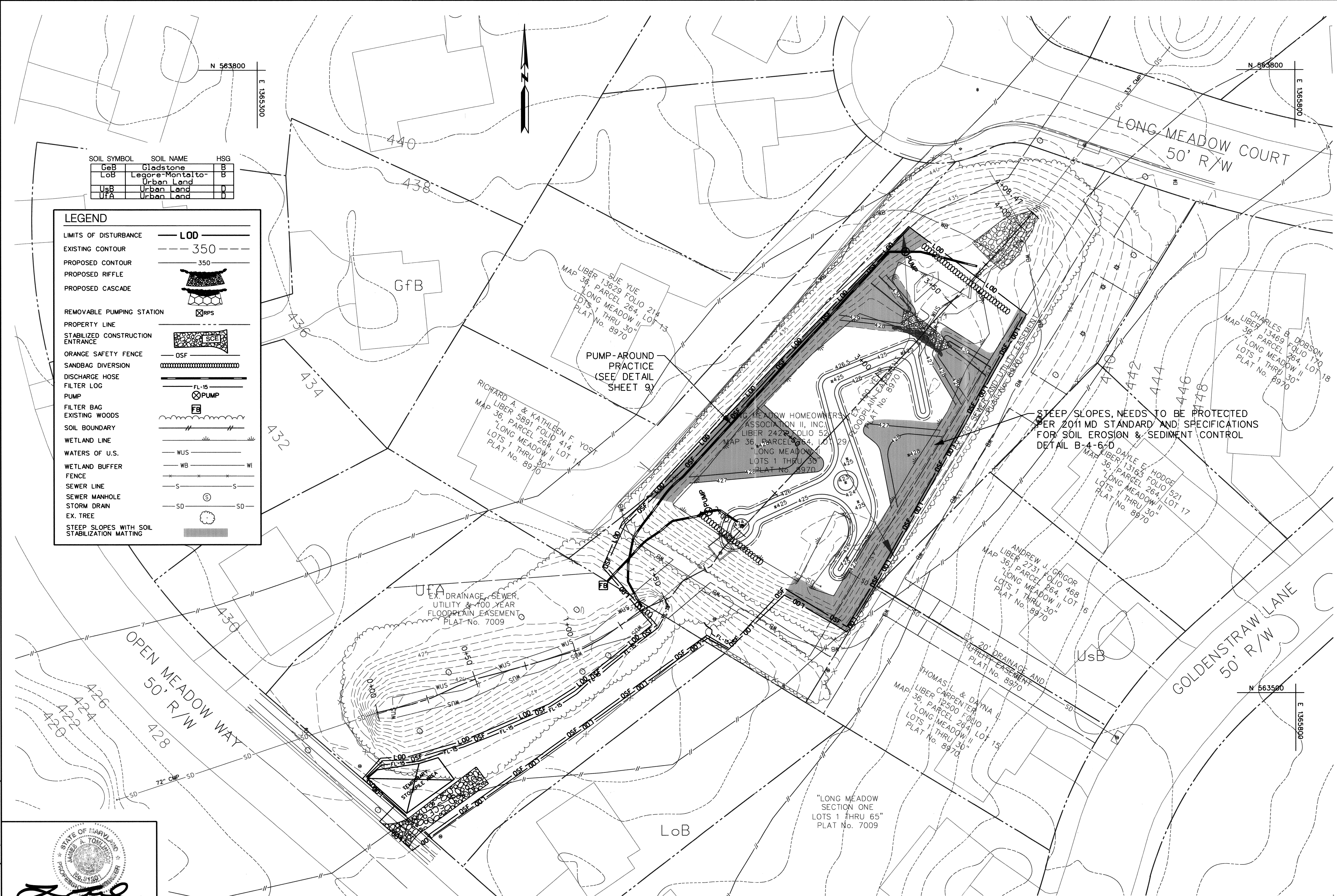
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 31201 EXPIRATION DATE: JANUARY 24, 2017

HOWARD SCD

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD
7/13/16
Mark A. Tomlinson
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES
7/13/16

SOIL SYMBOL	SOIL NAME	HSG
GeB	Cladstone	B
LoB	Legons Montalto- Urban Land	B
UsB	Urban Land	D
UfA	Urban Land	D

LEGEND	
LIMITS OF DISTURBANCE	— LOD —
EXISTING CONTOUR	--- 350 ---
PROPOSED CONTOUR	--- 350 ---
PROPOSED RIFFLE	
PROPOSED CASCADE	
REMOVABLE PUMPING STATION	
PROPERTY LINE	— — — — —
STABILIZED CONSTRUCTION ENTRANCE	
ORANGE SAFETY FENCE	OSF
SANDBAG DIVERSION	
DISCHARGE HOSE	FL-15
FILTER LOG	
PUMP	
FILTER BAG	FB
EXISTING WOODS	
SOIL BOUNDARY	— — — — —
WETLAND LINE	— — — — —
WATERS OF U.S.	— WUS —
WETLAND BUFFER FENCE	— WB — WI
SEWER LINE	— S — S
SEWER MANHOLE	— SD — SD
STORM DRAIN	— SD — SD
EX. TREE	
STEEP SLOPES WITH SOIL STABILIZATION MATTING	



STEEP SLOPES, NEEDS TO BE PROTECTED PER 2011 MD STANDARD AND SPECIFICATIONS FOR SOIL EROSION & SEDIMENT CONTROL DETAIL B-4-6-D

STATE OF MARYLAND
 JAMES A. TOLSON
 PROFESSIONAL ENGINEER
 LICENSE NO. 31201
 EXPIRATION DATE: JANUARY 24, 2017

James A. Tolson
 7/13/16

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

[Signature]
 HOWARD SCD

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

[Signature]
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

7/13/16
 DATE

NOTE: FIELD RUN SURVEY WITHIN THE PROJECT LIMITS HAS BEEN SUPPLEMENTED WITH AERIAL TOPOGRAPHY PROVIDED BY HOWARD COUNTY.

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
 TELEPHONE: (410) 316-7800
 FAX: (410) 316-7818
 www.kci.com

LONG MEADOW II
 POND DECOMMISSION

CAPITAL PROJECT D-1159

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 STORMWATER MANAGEMENT DIVISION
 6751 COLUMBIA GATEWAY DRIVE
 COLUMBIA, MD 21046

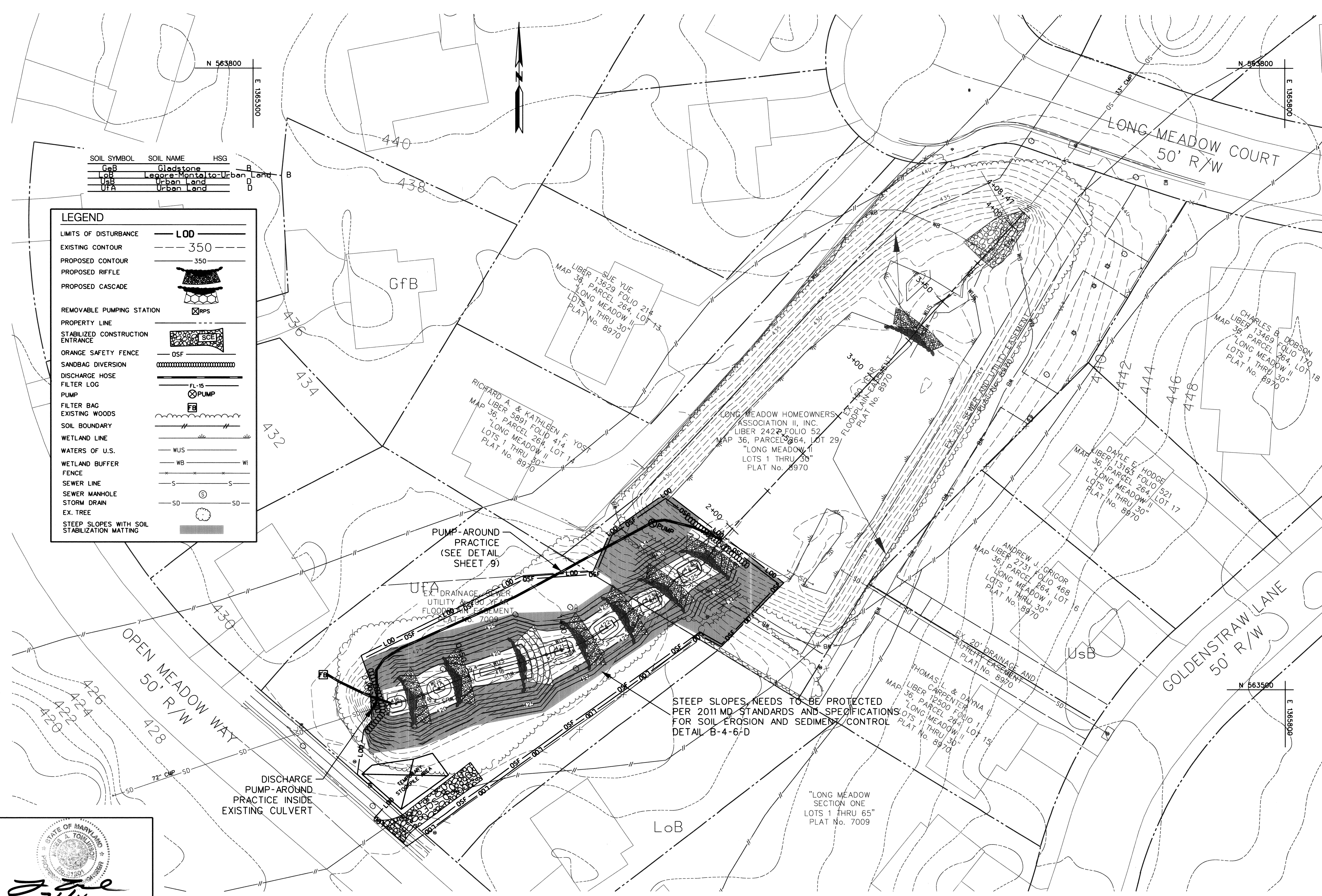
EROSION & SEDIMENT CONTROL PLAN PHASE I

SCALE:	1" = 20'
DATE:	JUNE 2016
KCI JOB NO.:	17133314.49
CAPITAL PROJECT NO.:	D-1159
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

SHEET NO.: 7 OF 12

SOIL SYMBOL	SOIL NAME	HSG
GfB	Gladstone	B
LoB	Leopore-Monta to Urban Land	B
UsB	Urban Land	D
UfA	Urban Land	D

LEGEND	
LIMITS OF DISTURBANCE	LOD
EXISTING CONTOUR	350
PROPOSED CONTOUR	350
PROPOSED RIFFLE	
PROPOSED CASCADE	
REMOVABLE PUMPING STATION	RPS
PROPERTY LINE	
STABILIZED CONSTRUCTION ENTRANCE	SCS
ORANGE SAFETY FENCE	OSF
SANDBAG DIVERSION	
DISCHARGE HOSE	FL-15
FILTER LOG	
PUMP	PUMP
FILTER BAG	FB
EXISTING WOODS	
SOIL BOUNDARY	
WETLAND LINE	
WATERS OF U.S.	WUS
WETLAND BUFFER FENCE	WB WI
SEWER LINE	S S
SEWER MANHOLE	SM
STORM DRAIN	SD SD
EX. TREE	
STEEP SLOPES WITH SOIL STABILIZATION MATTING	



STEEP SLOPES NEEDS TO BE PROTECTED PER 2011 MD STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL DETAIL B-4-6-D

STATE OF MARYLAND
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[Signature]
 DATE: 7/15/16

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HOWARD SCD
 DATE: 7/15/16

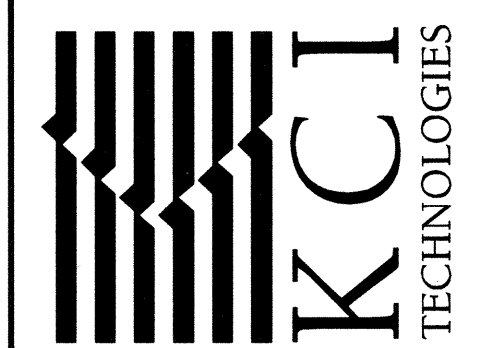
DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

[Signature]
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES
 DATE: 7/13/16

NOTE: FIELD RUN SURVEY WITHIN THE PROJECT LIMITS HAS BEEN SUPPLEMENTED WITH AERIAL TOPOGRAPHY PROVIDED BY HOWARD COUNTY.

NO.	REVISIONS DESCRIPTION	DATE

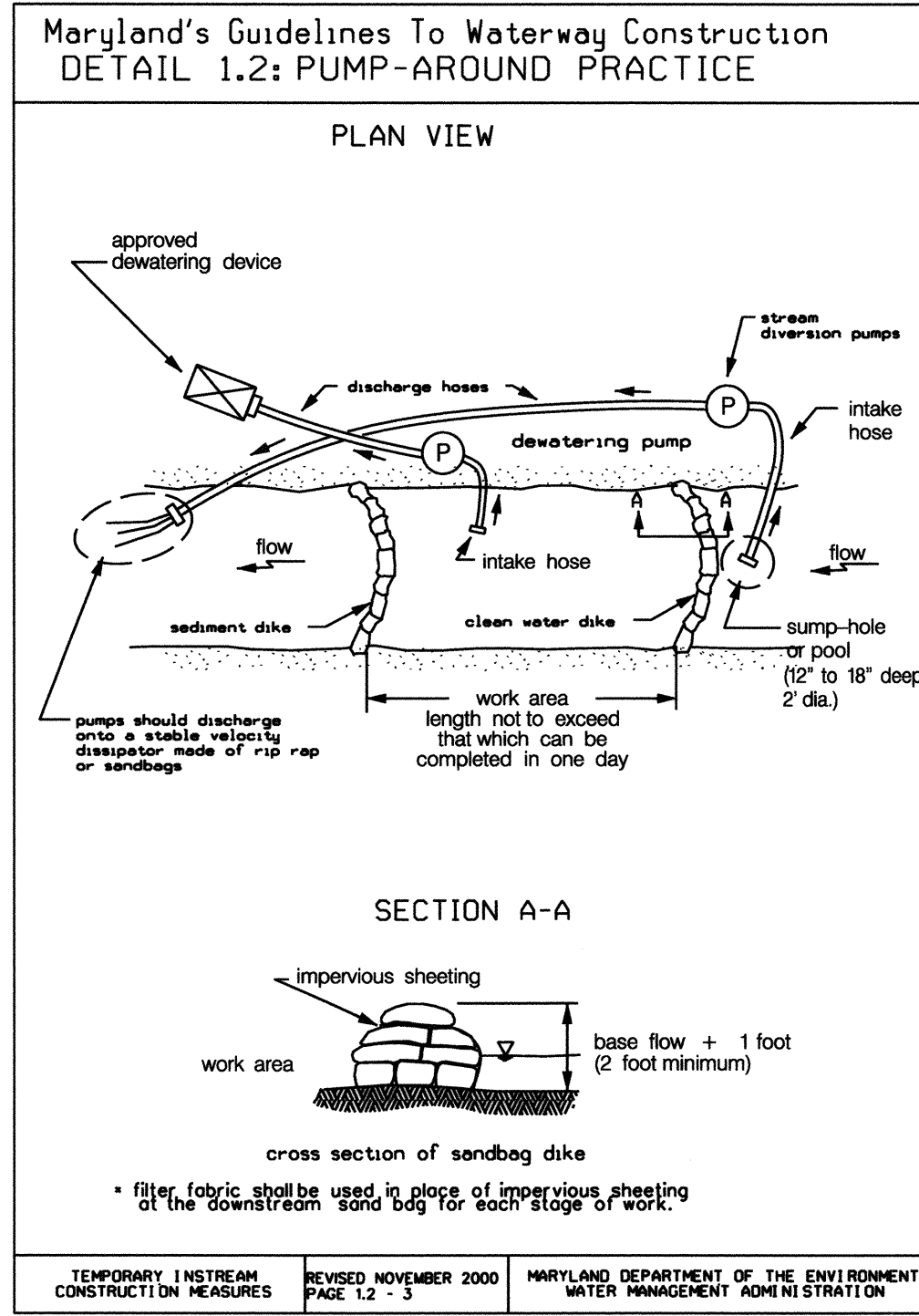
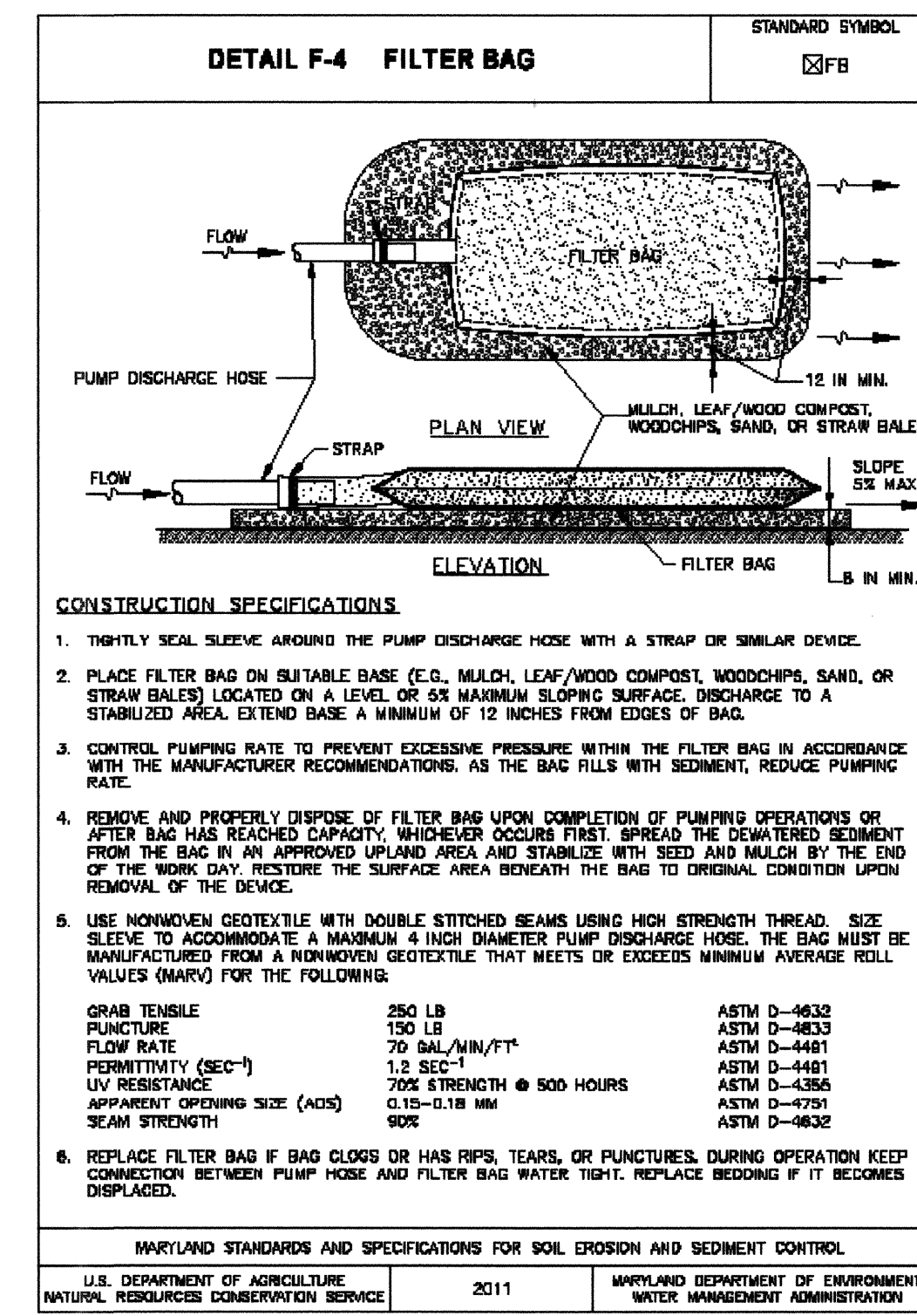
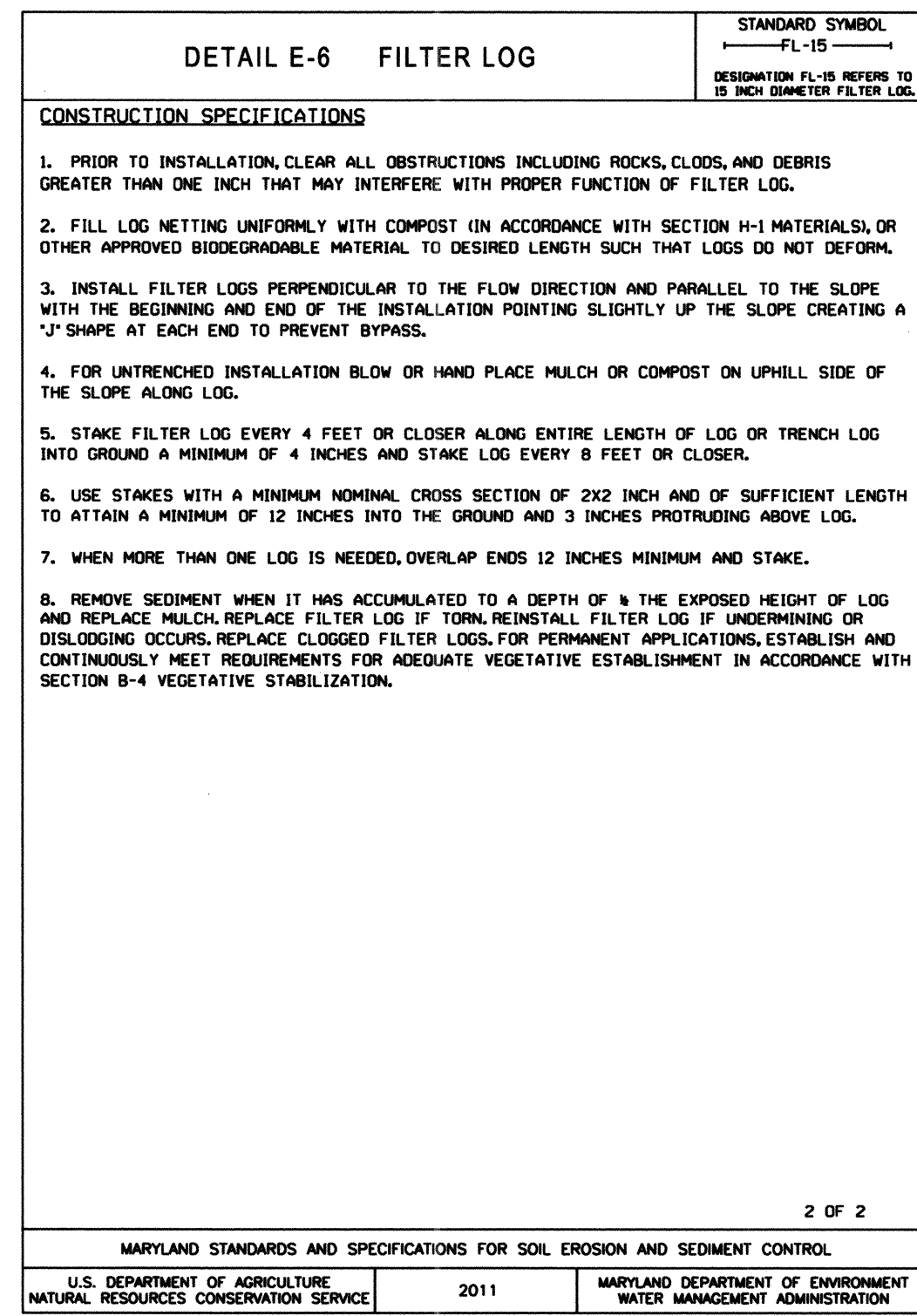
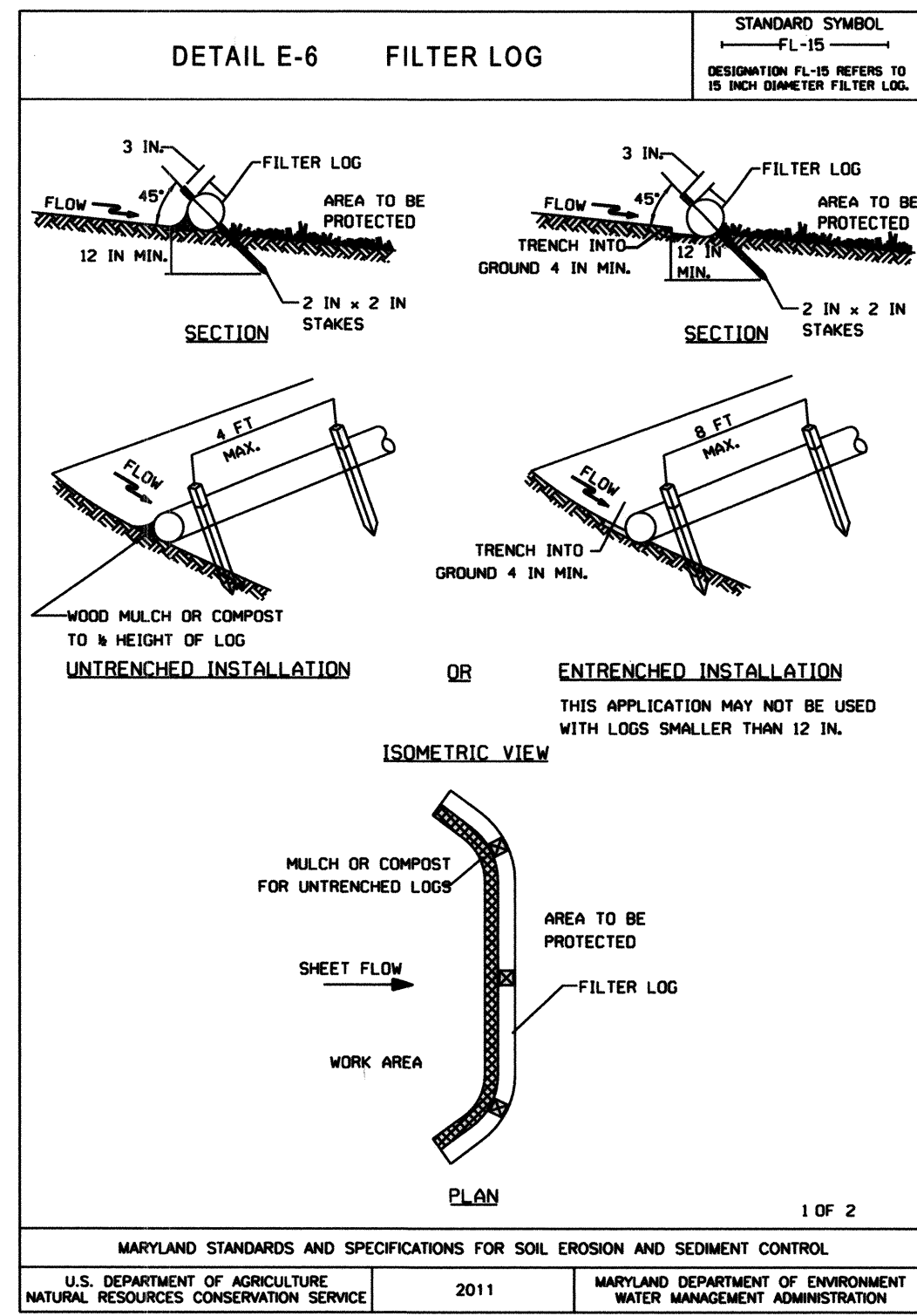
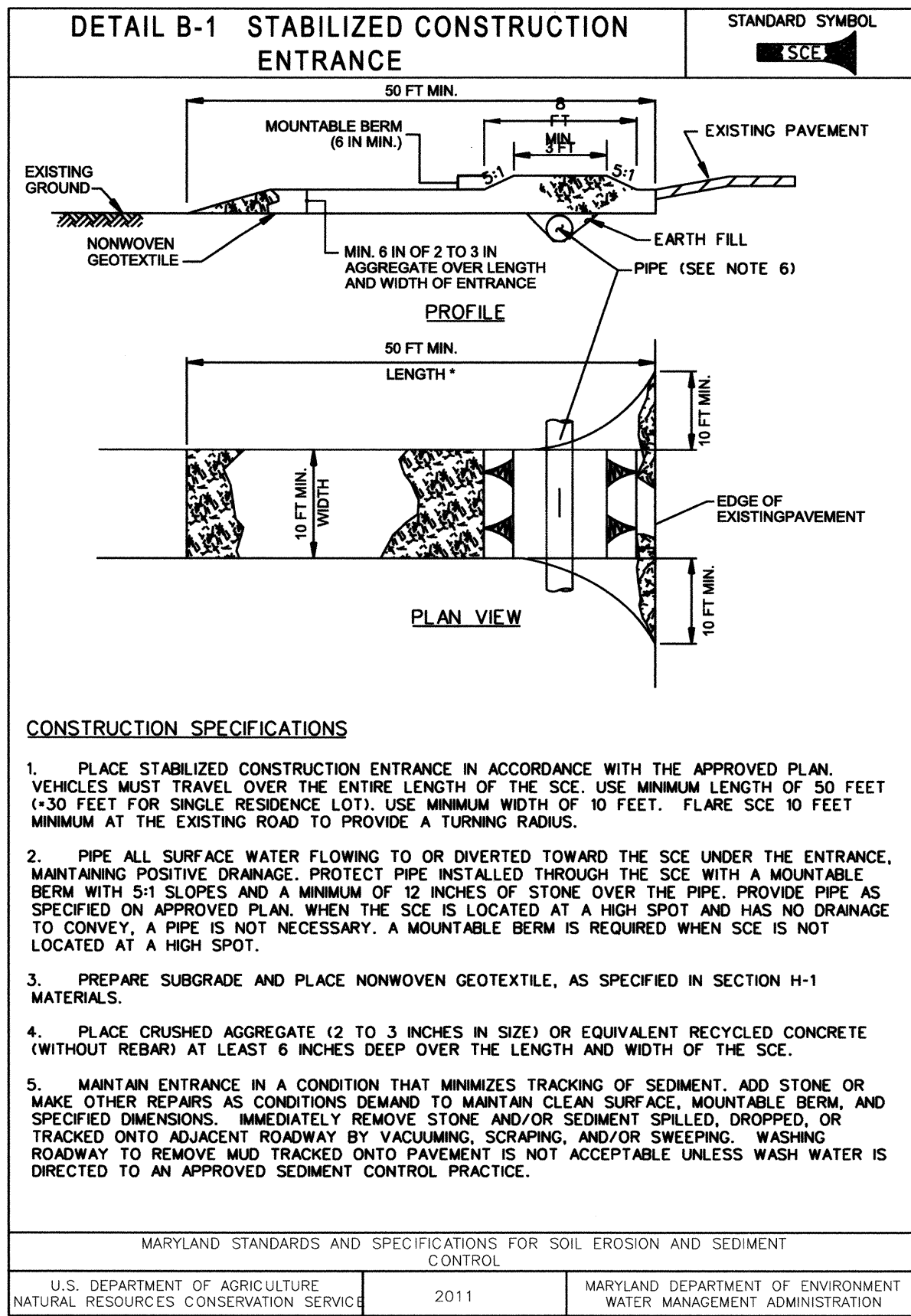
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LONG MEADOW II
 POND DECOMMISSION
 CAPITAL PROJECT D-1159
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 STORMWATER MANAGEMENT DIVISION
 6751 COLUMBIA GATEWAY DRIVE
 COLUMBIA, MD 21046

EROSION & SEDIMENT CONTROL PLAN PHASE II

SCALE:	1" = 20'
DATE:	JUNE 2016
KCI JOB NO.:	17133314.49
CAPITAL PROJECT NO.:	D-1159
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

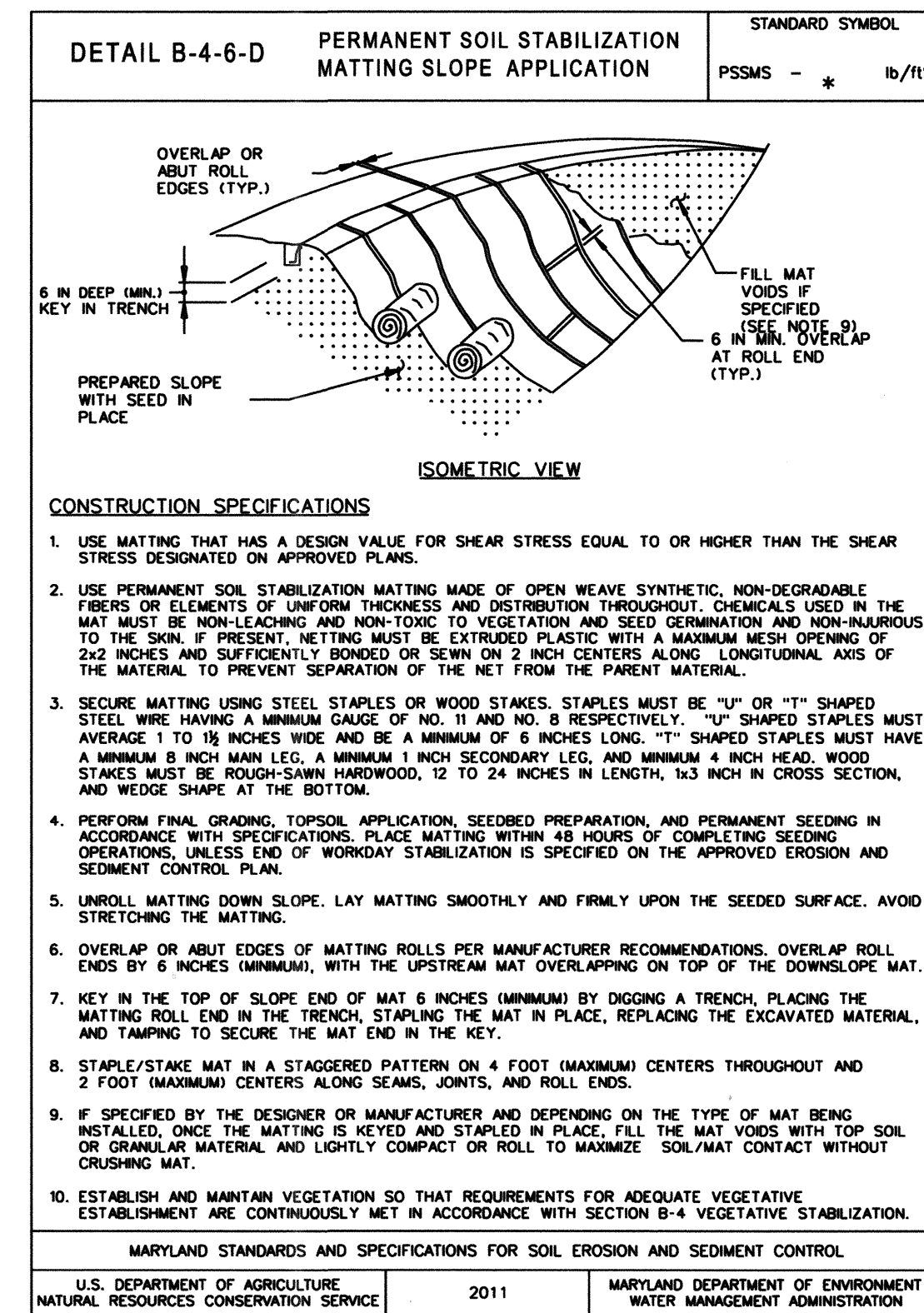
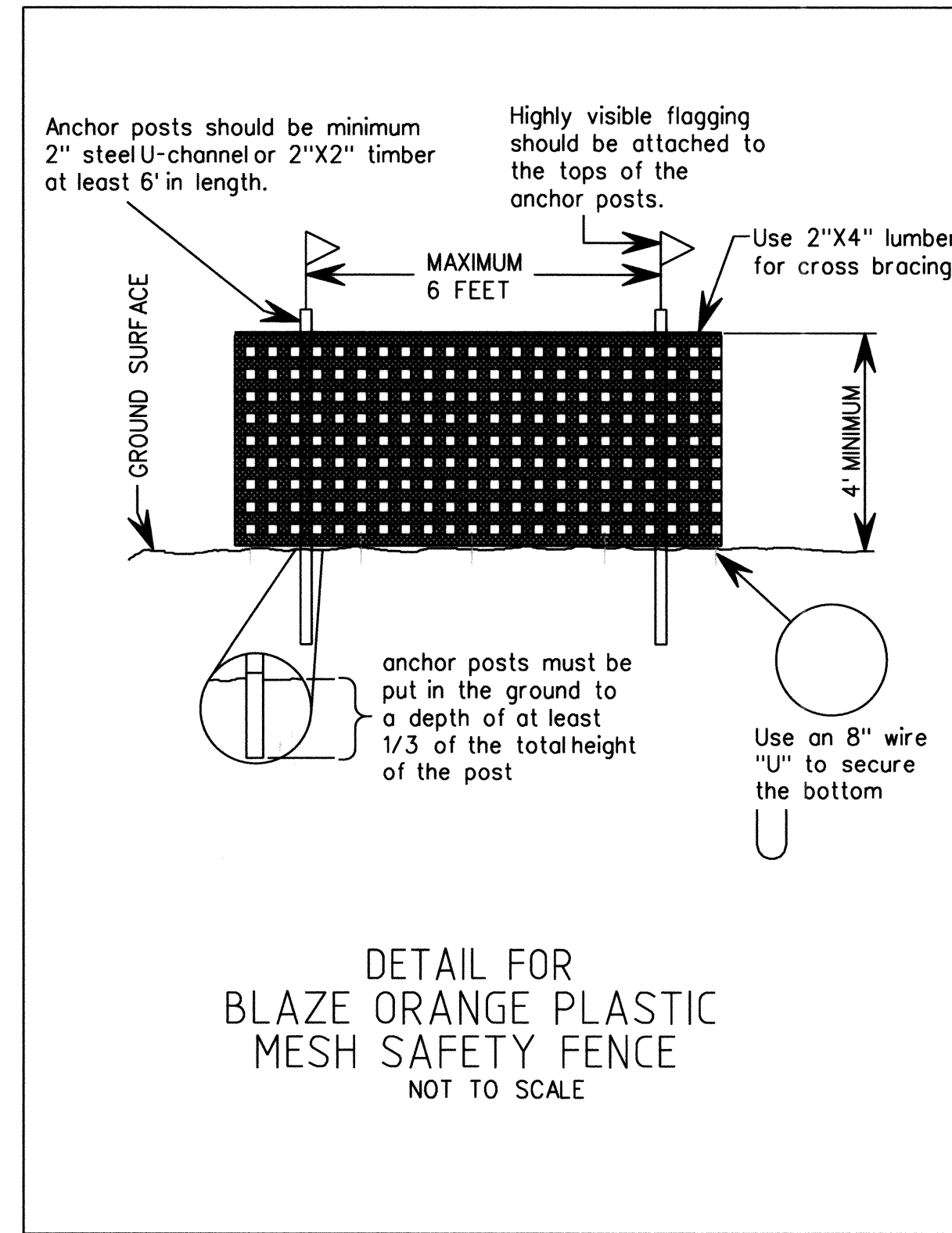


MOWC 1.2: PUMP-AROUND PRACTICE
 Temporary measure for dewatering in-channel construction sites

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 easement areas 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 their 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 localities 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 and the local environmental protection and resource management inspection and enforcement division, the contractor should begin work of 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 and/or clearing the channel. At the end of each workday, 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.
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 stop when 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 of 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 and/or clearing the channel. At the end of each workday, 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 or 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.
7. Water from the work area should be pumped to a sediment filtering measure such as a sandbag dike, 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. To work in stream 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 linear matting or similar measures should be used to minimize disturbance to the stream. 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 final sediment dike or 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 outlet, 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 outlet 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. If the flow of water from the tributary is to be pumped around the work area on the main stem, the 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.



PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY 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. 51201 EXPIRATION DATE: JANUARY 24, 2017

STATE OF MARYLAND
 ENGINEER A TOLLIER
 5/13/16

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

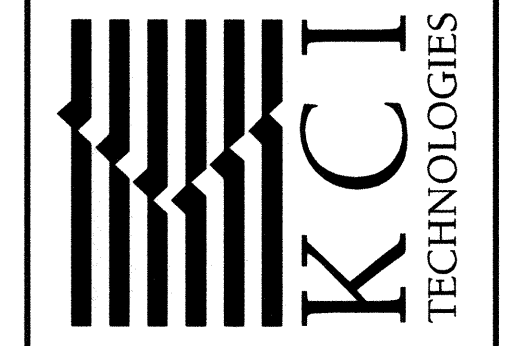
7/15/16
 DATE

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

7/13/16
 DATE

NO.	REVISIONS DESCRIPTION	DATE

936 RIDGEBROOK ROAD
 SPARKS, MARYLAND 21152
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LONG MEADOW II
 POND DECOMMISSION
 CAPITAL PROJECT D-1159
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 STORMWATER MANAGEMENT DIVISION
 678 COLUMBIA GATEWAY DRIVE
 COLUMBIA, MD 21046

EROSION AND SEDIMENT CONTROL DETAILS

SCALE: AS SHOWN
 DATE: MAY 2016
 KCI JOB NO.: 17133314.49
 CAPITAL PROJECT NO.: D-1159
 PERMIT ISSUE:
 CONSTRUCTION ISSUE:

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. Seeded 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 chiselplovers or rippers mounted on construction equipment. After the soils are 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 topsoils 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. Seeded loosening may be unnecessary on newly disturbed areas.

B. Topsoiling

1. Topsoils 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 materials not adequate to produce vegetative growth.
b. The soil materials 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 soils 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 1 1/2 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 subsoils are 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 also 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 subsoils are 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-4-5 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 planning 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 1/2 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 areas. Mixture includes: Certified Kentucky Bluegrass Cultivars 30 to 40 percent and Certified Fine Fescue and 60 to 70 percent. Seeding Rate: 1 1/2 to 3 pounds per 1000 square feet.

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

Choose certified material. Certified material is the best guarantee of cultivar purity. The 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 1/4 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 seedlings with adequate water for plant growth (1/2 to 1 inch every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedlings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

B.22

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

Table with columns: No., Species, Application Rate (lb/ac), Seeding Dates, Seeding Depths, Fertilizer Rate (10-20-20), Lime Rate. Rows include Ryegrass, Borley, Foxtail/Millet, Pearl Millet.

B.18

SEQUENCE OF CONSTRUCTION

- 1. NOTIFY HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION AT LEAST THREE (3) DAYS PRIOR TO DOING ANY WORK (410-313-1855) AND OBTAIN GRADING PERMIT. NO W/STREAM CONSTRUCTION PER MDE PERMIT 3/1 to 6/15.
2. CONTRACTOR SHALL COORDINATE AN ONSITE PRE-CONSTRUCTION MEETING WHICH SHALL INCLUDE, BUT NOT BE LIMITED TO, THE COUNTY PROJECT MANAGER, THE ENGINEER, AND A REPRESENTATIVE FROM HOWARD COUNTY CONSTRUCTION INSPECTION. (1 DAY)
3. NOTIFY CERTIFYING ENGINEER 5 WORKING DAYS PRIOR TO BEGINNING STORMWATER MANAGEMENT CONSTRUCTION. (5 DAYS)
4. INSTALL STABILIZED CONSTRUCTION ENTRANCE TO PROVIDE ACCESS TO THE SITE. MARK LIMITS OF DISTURBANCE AND SET ORANGE SAFETY FENCE ALONG THE PERIMETER, AS SHOWN. (3 DAYS)
PHASE I
5. SET SAND BAGS ABOVE AND BELOW THE EXISTING SWM POND AREA AS PLAN SHOWS (STATIONS 1+95 TO 3+75). INSTALL PUMP, DISCHARGE HOSE, DEWATERING DEVICE, FILTER LOG AND PROVIDE A STABLE OUTLET ONTO SAND BAGS. (3 DAYS)
6. NOTIFY HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION UPON COMPLETION OF INSTALLATION. (1 DAY)
7. CONSTRUCT THE GRADING WORK FOR THE POND AREA INCLUDING ONE RIFLE WEIR, LOW FLOW CHANNEL, AND HIGH MARSH ZONES AND REMOVE THE EXISTING CABON STRUCTURE AT 3+30 AS PLAN SHOWS (STATIONS 1+95 TO 3+50). ONLY DISTURB THAT WHICH CAN AND SHALL BE STABILIZED IN ONE WORK DAY. (10 DAYS)
PHASE II
8. MOVE THE SAND BAGS, PUMP, AND DISCHARGE HOSE TO THE WORK AREA AS PLAN SHOWS (STATIONS 0+00 TO 2+00). (3 DAYS)
9. WITH 5 DAYS CLEAR FORECAST, EXCAVATE THE EMBANKMENT AND REMOVE THE EXISTING RISER AND BARREL PIPE. (5 DAYS)
10. INSTALL THE PROPOSED WORK DOWNSTREAM OF THE POND INCLUDING CASCADE, RIFLE WEIRS AND POOLS FROM UPSTREAM TO DOWNSTREAM (STATIONS 0+00 TO 2+00). STABILIZE AT END OF EACH DAY. ONLY DISTURB THAT WHICH CAN AND SHALL BE STABILIZED IN ONE WORK DAY. (3 WEEKS)
11. PERFORM FINAL GRADING. STABILIZE DISTURBED AREAS PER THE LANDSCAPE PLAN AND SEDIMENT CONTROL PLAN. (5 DAYS)
12. UPON COMPLETION AND WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL MEASURES. (2 DAYS)
13. DEMOBILIZE FROM SITE. STABILIZE ANY AREAS DISTURBED BY THIS PROCESS. (2 DAYS)

Rev: 8/2015

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 special 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: 0.72 Acres
Area Disturbed: 0.72 Acres
Area to be roofed or paved: 0.0 Acres
Area to be vegetatively stabilized: 0.72 Acres
Total Cut: 1.050 Cu. Yds.
Total Fill: 250 Cu. Yds.
Offsite waste/borrow area location: Site With an Active Grading Permit

- 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 be 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 CID, 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 II: March 1 - June 15
• Use III and III: 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.

Table with columns: NO., REVISIONS DESCRIPTION, DATE

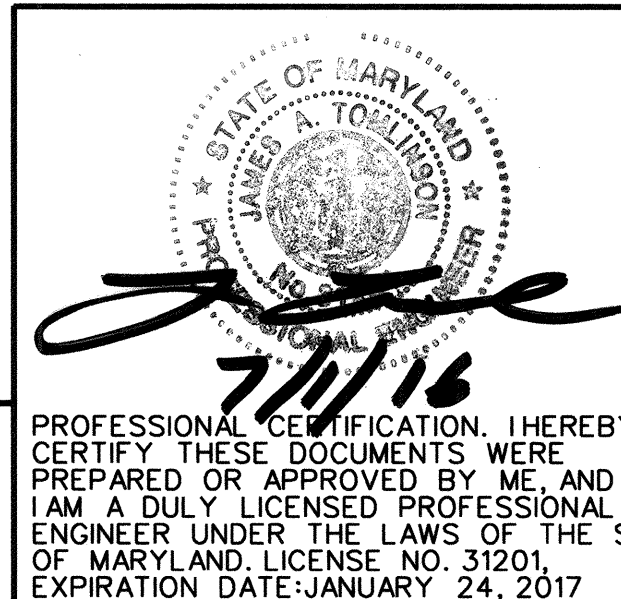
936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
WWW.KCI.COM



LONG MEADOW II
POND DECOMMISSION
CAPITAL PROJECT D-1159
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
6751 COLUMBIA GATEWAY DRIVE
COLUMBIA, MD 21046

EROSION AND SEDIMENT CONTROL NOTES

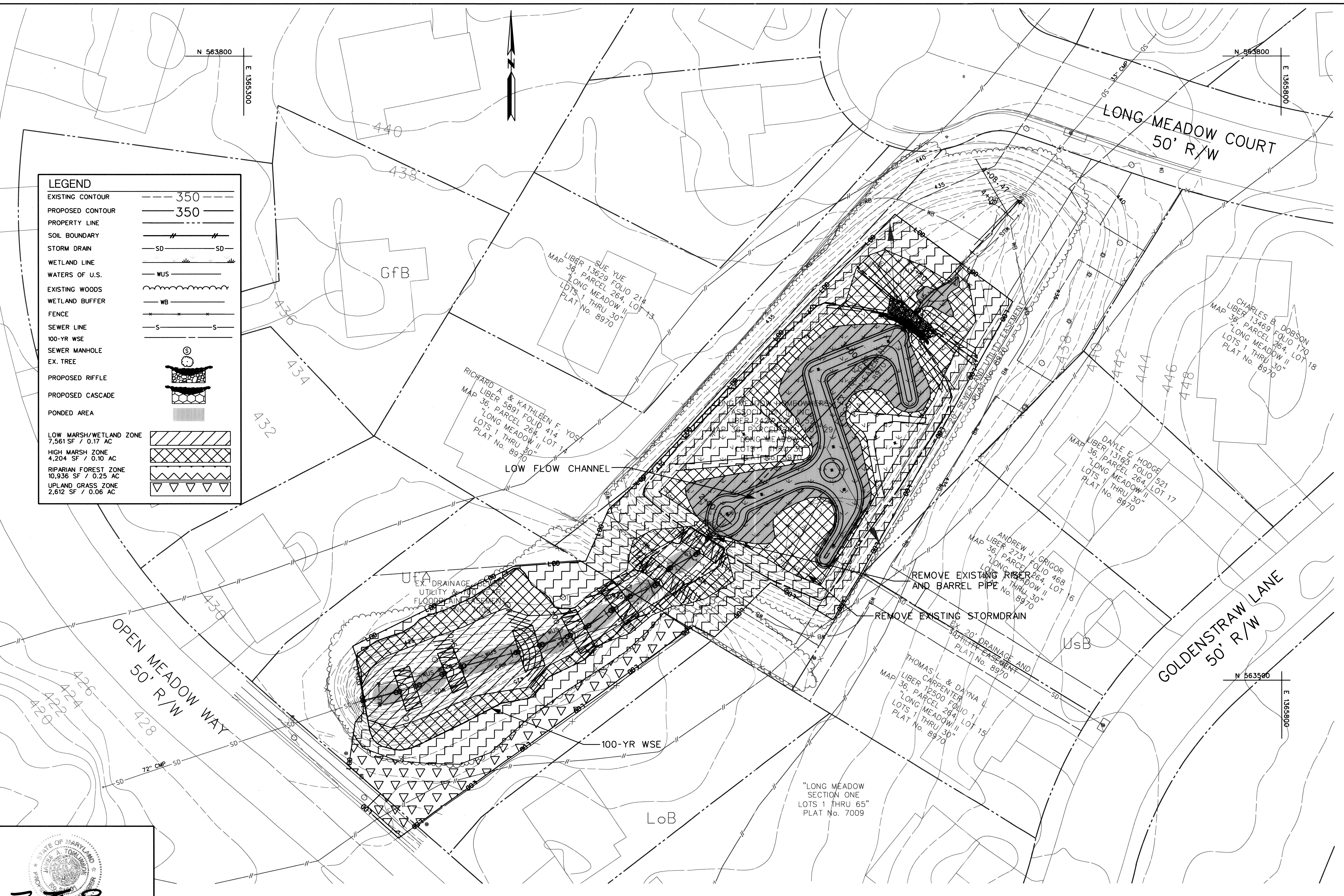
SCALE: AS SHOWN
DATE: JUNE 2016
KCI JOB NO.: 17133314.49
CAPITAL PROJECT NO.: D-1159
PERMIT ISSUE:
CONSTRUCTION ISSUE:



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY 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. 31201, EXPIRATION DATE: JANUARY 24, 2017

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
HOWARD SCD
7/15/16
DATE

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD
7/13/16
DATE
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES



BY: *[Signature]*
 7/13/16
 PROFESSIONAL CERTIFICATION, I HEREBY CERTIFY 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. 31201 EXPIRATION DATE: JANUARY 24, 2017

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 HOWARD SCD

[Signature]
 DATE

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD
[Signature]
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES
 DATE 7/13/16

NO.	REVISIONS DESCRIPTION	DATE

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KCI
 TECHNOLOGIES

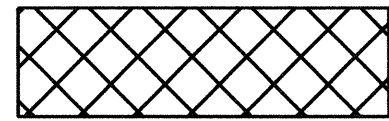
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LANDSCAPE PLAN

SCALE:	1" = 20'
DATE:	JUNE 2016
KCIJOB NO.:	17133314.49
CAPITAL PROJECT NO.:	D-1159
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

SHEET NO.: 11 OF 12

MASTER PLANT SCHEDULE



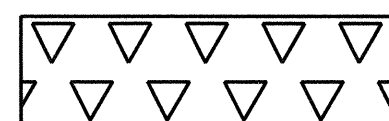
High Marsh Planting Zone					
(4,204 SF / 0.10 AC)					
Botanical Name	Common Name	Size	Form	Spacing	Quantity
Salix nigra	Black willow	5' Height	Container	10' O.C.	14
Liquidambar styraciflua	Sweet gum	5' Height	Container	10' O.C.	15
Viburnum dentatum	Smooth arrowwood	3' Height	Container	6' O.C.	11
Cornus amomum	Silky dogwood	3' Height	Container	6' O.C.	12
Vaccinium corymbosum	Highbush blueberry	3' Height	Container	6' O.C.	12



Low Marsh Planting Zone					
(7,561 SF / 0.17 AC)					
Botanical Name	Common Name	Size	Form	Spacing	Quantity
Peltandra virginica	Arrow arum	NA	Plug	2' O.C.	378
Sagittaria latifolia	Arrowhead	NA	Plug	2' O.C.	378
Elodea canadensis	Broad water weed	NA	Plug	2' O.C.	378
Andropogon glomeratus	Bushy beardgrass	NA	Plug	2' O.C.	378
Scirpus pungens	Common three square	NA	Plug	2' O.C.	378



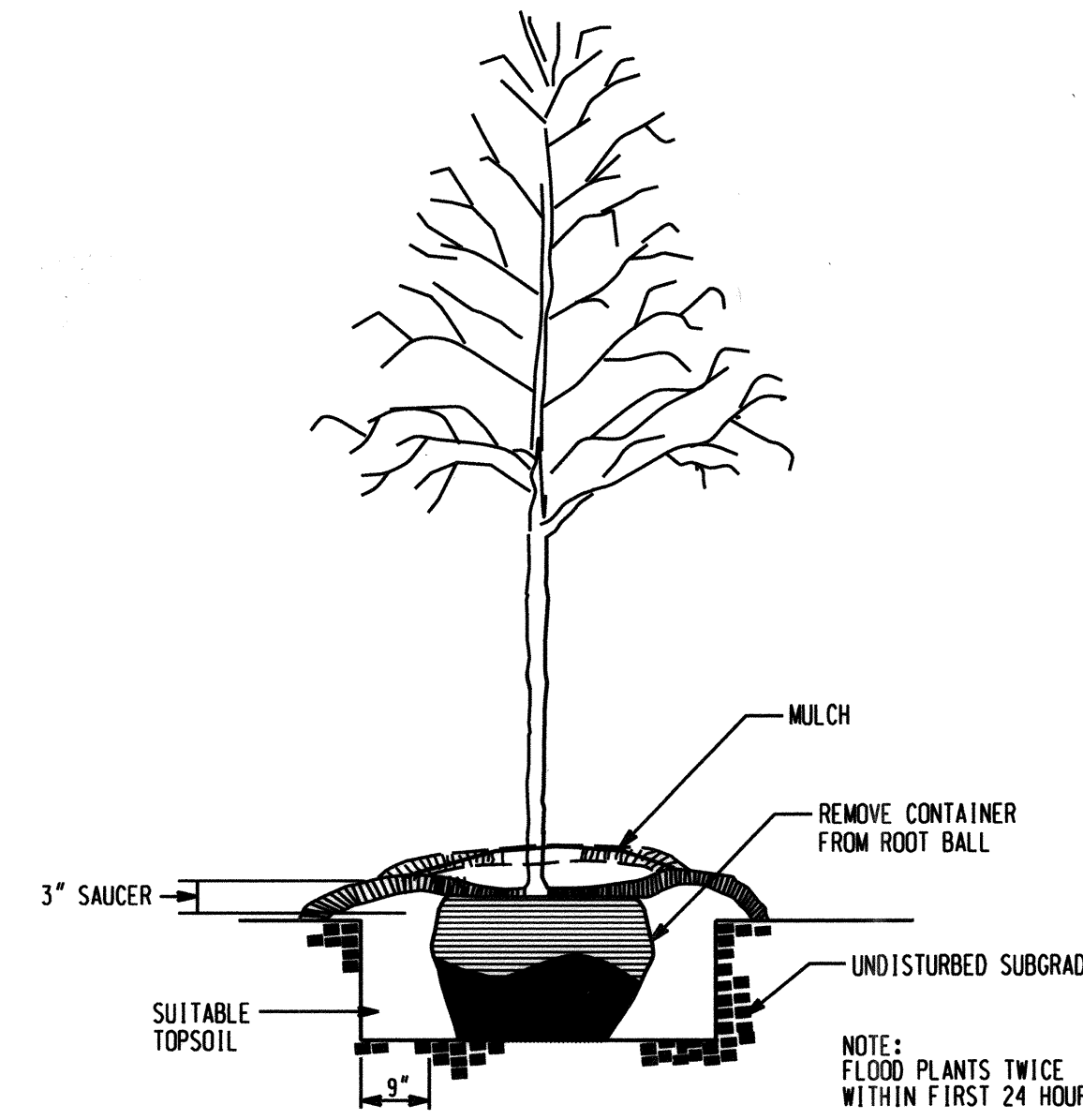
Riparian Forest Zone					
(10,936 SF / 0.25 AC)					
Botanical Name	Common Name	Size	Form	Spacing	Quantity
Lindera benzoin	Northern spicebush	3' Height	Container	6' O.C.	30
Magnolia virginiana	Sweetbay magnolia	3' Height	Container	6' O.C.	30
Amelanchier canadensis	Serviceberry	3' Height	Container	6' O.C.	31
Carya cordiformis	Bitternut hickory	5' Height	Container	10' O.C.	19
Quercus rubra	North red oak	5' Height	Container	10' O.C.	19
Quercus alba	White oak	5' Height	Container	10' O.C.	19
Juglans nigra	Black walnut	5' Height	Container	10' O.C.	20



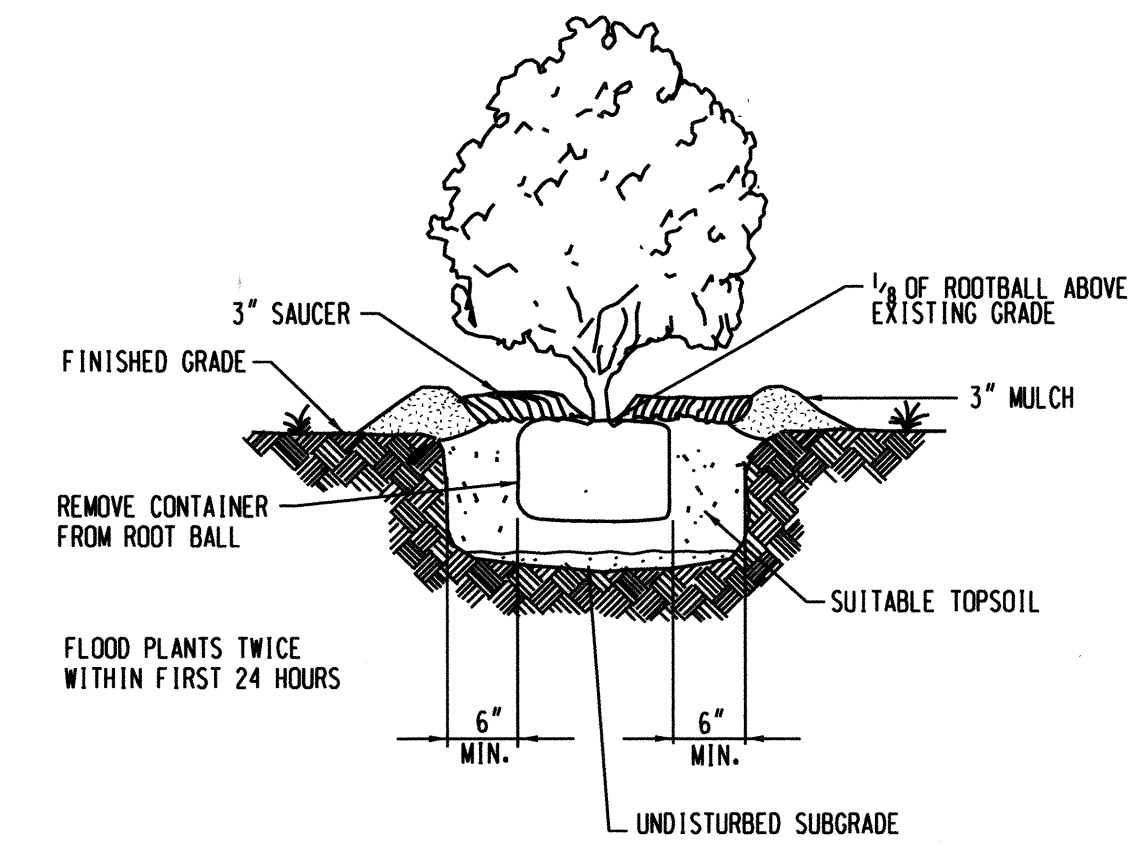
Upland Grass Zone			
(2,612 SF / 0.06 AC)			
Seed Mix	Seed Rate	Quantity	
ERNST Upland Grass Mix ERNMX-720	15lb per acre	1	

NOTES:

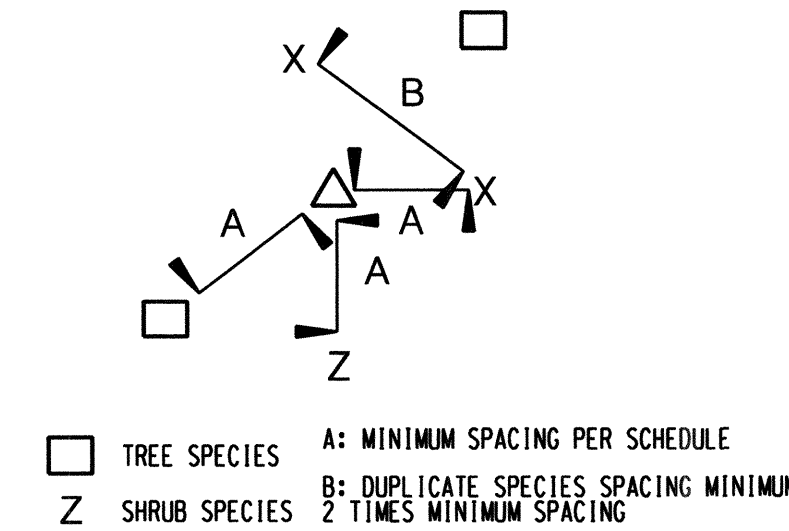
1. NO TREES OR SHRUBS ARE TO BE PLANTED DIRECTLY OVER UTILITY LINES.
2. ALL VEGETATION IS TO BE PLANTED WITHIN THE REGULAR GROWING SEASON FROM MARCH 15 TO OCTOBER 30, INCLUSIVE DURING ANY YEAR.
3. ALL TREES AND SHRUBS MUST BE BRANCHING.
4. TREES AND SHRUBS ARE TO PLACED RANDOMLY ACCORDING TO THIS PLAN WITHIN THE ZONES DESCRIBED HEREIN.
5. DO NOT PLANT ANY TREES OR SHRUBS DIRECTLY WITHIN THE CENTERLINE OF THE STREAM CHANNEL.



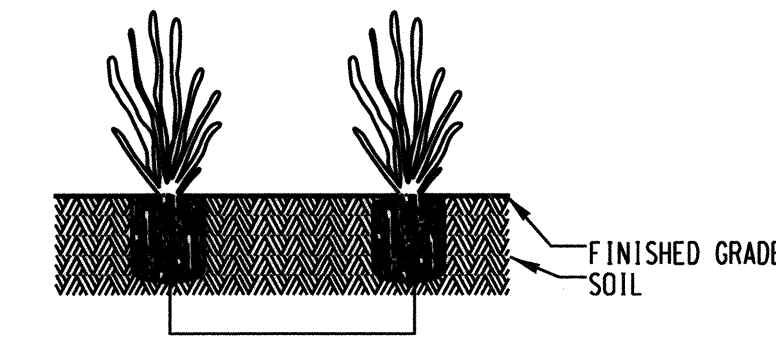
TREE PLANTING DETAIL
NOT TO SCALE



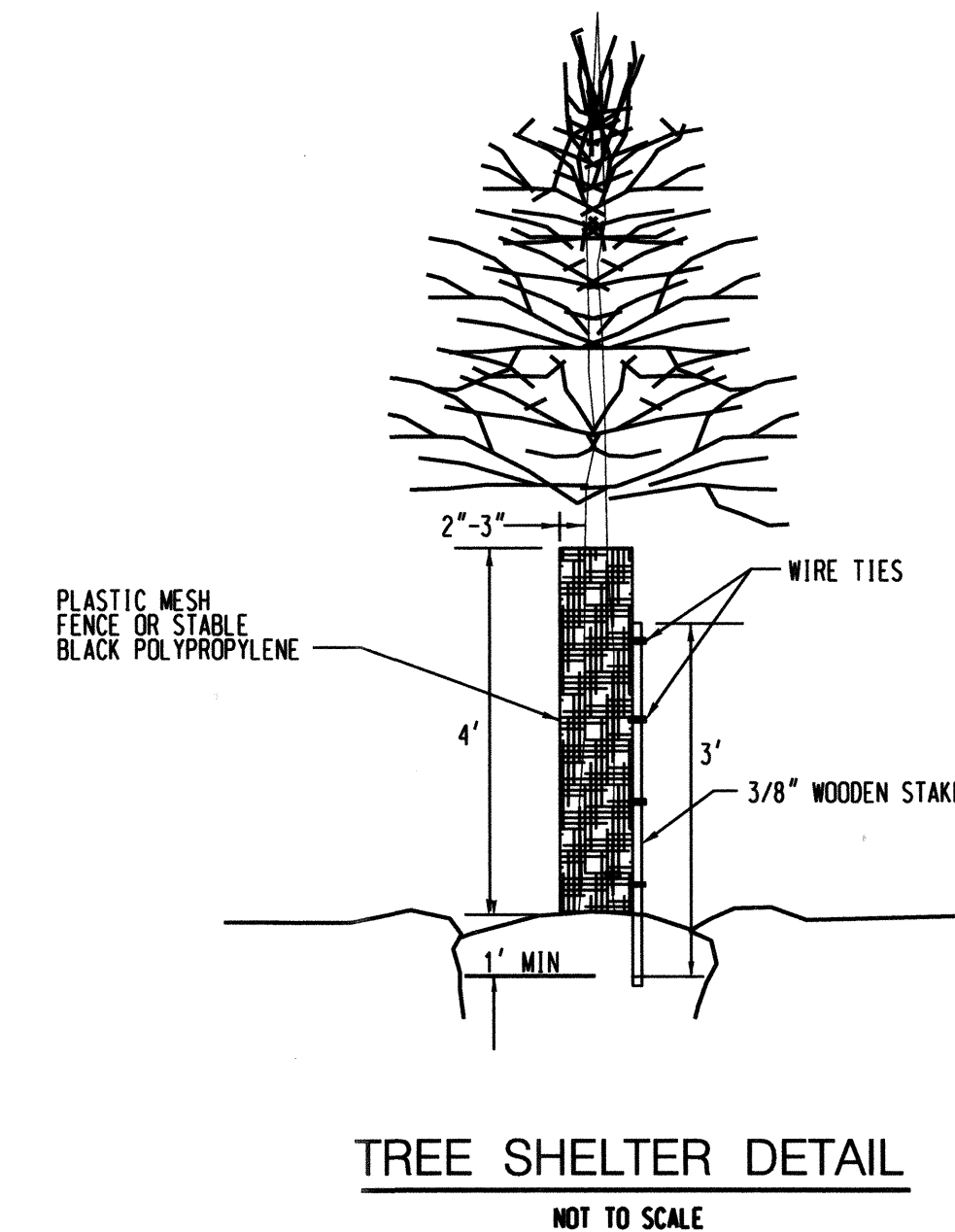
SHRUB PLANTING DETAIL
NOT TO SCALE



TREE AND SHRUB RANDOM SPACING
NOT TO SCALE



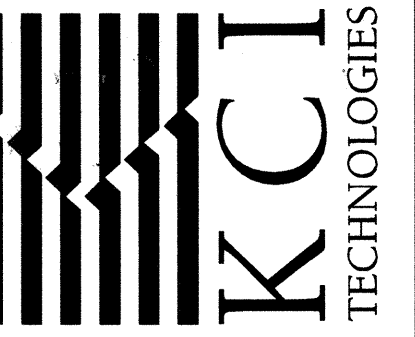
PERENNIAL PLANTING DETAIL
NOT TO SCALE



TREE SHELTER DETAIL
NOT TO SCALE

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LANDSCAPE
NOTES &
DETAILS

SCALE:	N.T.S.
DATE:	JUNE 2016
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CONSTRUCTION ISSUE:	

7/13/16

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

HOWARD_SCD _____ DATE _____

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

M. D. Lee
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

7/13/16
DATE