

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	STORMWATER MANAGEMENT GRADING PLAN
3	GEOMETRY SHEET
4	STORMWATER MANAGEMENT PROFILES & DETAILS
5	STORMWATER MANAGEMENT DETAILS
6	STORMWATER MANAGEMENT NOTES
7	EROSION & SEDIMENT CONTROL PLAN
8	EROSION & SEDIMENT CONTROL NOTES & DETAILS
9	EROSION & SEDIMENT CONTROL NOTES & DETAILS
10	EROSION & SEDIMENT CONTROL NOTES & DETAILS
11	LANDSCAPE PLAN

LEGEND

LIMIT OF DISTURBANCE/ORANGE SAFETY FENCE	---	LOD
EXISTING MAJOR CONTOURS	---	387
EXISTING MINOR CONTOURS	---	387
PROPOSED CONTOURS	---	387
EXISTING TREE		
EXISTING TREE TO BE SAVED		
EXISTING WOODSLINE		
SOIL TYPE BOUNDARY AND MAP UNIT SYMBOLS		GbC-B
PROPERTY LINE	---	
EXISTING STORM DRAIN	---	SD
EXISTING SEWER MANHOLE		
EXISTING STORM DRAIN MANHOLE		
EXISTING UTILITY POLE		
EXISTING SEWER LINE	---	S
EXISTING EDGE OF PAVEMENT	---	
EXISTING BUILDING		
EXISTING RIPRAP		
PROPOSED RIPRAP PAD		
SANDBAG DAM		
PUMP AROUND AND HOSES		
REMOVABLE PUMPING STATION		RPS
FILTER BAG		FB
SILT FENCE	---	SF
PROPOSED TYPE 'B' SOIL STABILIZATION MATTING		
SOIL BORING		
STABILIZED CONSTRUCTION ENTRANCE		

ASHMEDE DRIVE POND ENHANCEMENTS

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
CAPITAL PROJECT D-1160



VICINITY MAP
SCALE: 1" = 2000'
ADC MAP COORD. 111 37



SITE SCHEMATICS
SCALE: 1" = 100'

SPECIAL CONTRACTOR NOTES

- PROJECT SITE IS NOT LOCATED WITHIN THE 100-YEAR FLOODPLAIN.
- THE CONTRACTOR SHALL EXERCISE CARE IN ACTIVITIES INVOLVING EITHER CUT AND FILL OR GRADING IN THE VICINITY OF TREES THAT ARE TO REMAIN. ALL EARTH CUTS AND ACTIVITIES IN THE VICINITY OF TREES TO REMAIN SHALL BE MADE IN A MANNER THAT DOES NOT DISTURB THE CRITICAL ROOT ZONE WITHIN THE DRIPLINE OF THE TREE. PROTECTIVE ORANGE FENCING SHALL BE INSTALLED AROUND THE PERIMETER OF THE CRITICAL ROOT ZONE PRIOR TO CONSTRUCTION. THE LOCATION OF THE PROTECTIVE ORANGE FENCING SHALL BE APPROVED BY THE ENGINEER OR HIS/HER REPRESENTATIVE PRIOR TO CONSTRUCTION.
- 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.
- ALL TREES TO BE REMOVED SHALL BE CUT AT THE BASE WITH A SAW AND NOT PUSHED OVER. TREE STUMPS MAY BE LEFT IN PLACE, UNLESS OTHERWISE DIRECTED ON THE PLANS.

GENERAL INFORMATION

- EXISTING FACILITY WAS CONSTRUCTED UNDER BOUNTY VISTA, 2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND STORMWATER MANAGEMENT AS-BUILT PLAN F-63-99, DATED 12-07-1997, AS ACCEPTED BY HOWARD COUNTY SOIL CONSERVATION DISTRICT.
- THERE ARE NO BURIAL GROUNDS OR CEMETERY SITES LOCATED ON THE PROJECT SITE. THIS PLAN MEETS THE REQUIREMENTS OF THE FOREST CONSERVATION REGULATIONS.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY CONTAINED HEREIN PLUS NSMA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS, BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1888 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 HEREIN 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 AUGUST 16, 2011 TO VERIFY THE PRESENCE OR ABSENCE OF WETLANDS AND "WATERS OF THE U.S." AT THE SITE.
- NO WETLANDS OR "WATERS OF THE U.S." WERE IDENTIFIED WITHIN THE PROJECT LIMITS.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH ONE FOOT CONTOUR INTERVALS PREPARED BY AS CONSULTANTS, INC., IN SEPTEMBER 2011.
- 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 OR 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.

ENGINEER'S CERTIFICATE
"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION AND SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH "AS-BUILT" PLANS OF THE POND WITHIN 30 DAYS OF COMPLETION."
Ryan W. Burdette P.E. # 38888 10/8/12
SIGNATURE OF ENGINEER (PRINT NAME BELOW SIGNATURE) DATE
RYAN W. BURDETTE, PE

DEVELOPER'S CERTIFICATE
"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."
Howard E. Salthus 10/4/12
SIGNATURE OF DEVELOPER (PRINT NAME BELOW SIGNATURE) DATE
Howard E. Salthus

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD
John R. Hunter 10/15/12
DATE
Howard E. Salthus 10/15/12
DATE
CHIEF, STORMWATER MANAGEMENT DIVISION

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.
Ryan W. Burdette 39696 01/20/14
SIGNATURE PE NO. DATE
REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
John R. Hunter 10/16/12
SIGNATURE DATE
HOWARD SCD

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. 39696, EXPIRATION DATE: JANUARY 04, 2013
Ryan W. Burdette

AS-BUILT 01-30-2014

DATE

NO. REVISIONS DESCRIPTION

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

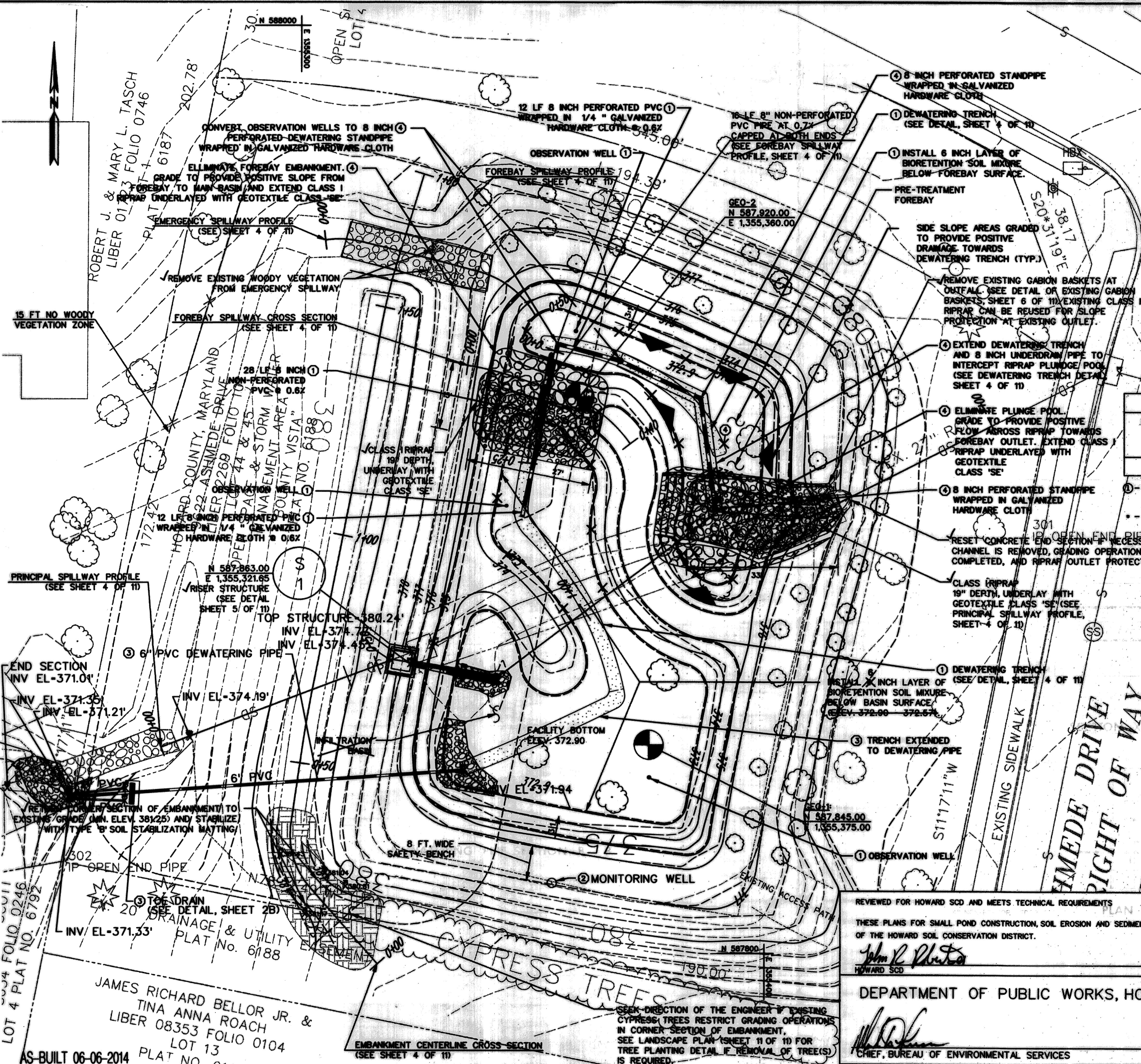
KCI TECHNOLOGIES

ASHMEDE DRIVE POND ENHANCEMENTS

EP/12-032

TITLE SHEET

SCALE: AS SHOWN
DATE: October 2012
PROJECT NO.: 01-081795.59
CAPITAL PROJECT NO.: D-1160
SHEET NO.: 1 OF 11



HYDRAULICS SUMMARY TABLE

STORM FREQUENCY	INFLOW (C.F.S.)	OUTFLOW (C.F.S.)	STORAGE (AC.-FT.)	D.H.W. ELEV. (FT.)
1-YR.	9.0	0.3	0.866-0.304*	976.46-376.36
2-YR.	14.4	0.9	0.404-0.440*	977.06-376.96
10-YR.	35.2	15.7-18.5	0.750-0.733*	978.19-378.05
100-YR.	60.4	26.9-24.6	1.226-1.237*	979.66-379.65

* 0.217 AC.-FT. OF AVAILABLE STORAGE VOLUME BELOW LOW FLOW ORIFICE NOT INCLUDED IN TOTAL STORAGE AT D.H.W. ELEV.

STORMWATER MANAGEMENT SUMMARY ①

DRAINAGE AREA (AC.)	T.C. (HRS.)	RCN	WQv (CF.)	RBv (CF.)	CPv (CF.)
			PROVIDED	PROVIDED	PROVIDED
9.70	0.10	74	11.971-9.453	11.971	17.946-17.543

① - PROPOSED INFILTRATION/CPV BASIN IS A RETROFIT. NO DEVELOPMENT WITHIN THE WATERSHED IS INCLUDED FOR THIS PROJECT. NO STORMWATER MANAGEMENT BEYOND RESTORING THE QUANTITY CONTROL PERFORMANCE OF THE FACILITY TO EXISTING CONDITIONS IS REQUIRED.
 ** - 100% OF THE WATER QUALITY VOLUME PROVIDED IS VIA GROUNDWATER RECHARGE.

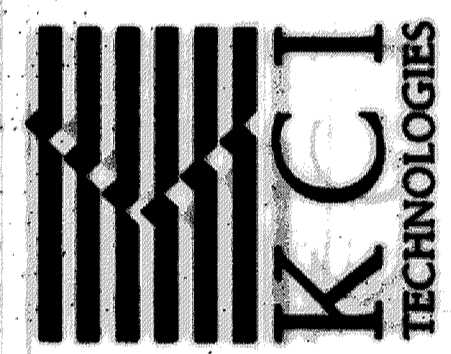
LEGEND

- EXISTING MAJOR CONTOURS _____ 387
- EXISTING MINOR CONTOURS _____
- PROPOSED MAJOR CONTOURS _____ 370
- PROPOSED MINOR CONTOURS _____
- EXISTING TREE _____
- EXISTING WOODLINE _____
- PROPERTY LINE _____
- EXISTING STORM DRAIN _____ SD
- EXISTING SEWER MANHOLE _____ S
- EXISTING STORM DRAIN MANHOLE _____
- EXISTING SEWER LINE _____
- EXISTING EDGE OF PAVEMENT _____
- EXISTING BUILDING _____
- EXISTING RIPRAP _____
- PROPOSED RIPRAP _____
- PROPOSED TYPE 'B' SOIL STABILIZATION MATTING _____
- SOIL BORING _____

REVISIONS DESCRIPTION

NO.	REVISIONS DESCRIPTION	DATE
1	DESIGN REVISION DECEMBER 2012	
2	DESIGN REVISION MAY 2013	
3	DESIGN REVISION SEPTEMBER 2013	
4	DESIGN REVISION JULY 2014	

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



NORMAN E. & HARRIET L. BIOND
 LIBER 01466 FOLIO 0696
 LOT 9 PLAT NO. 6102

ASHMEDE DRIVE
 POND ENHANCEMENTS

STORMWATER
 MANAGEMENT
 GRADING
 PLAN

SCALE 1" = 10'

DATE October 2012

DESIGNER 01-081795.59

CAPITAL PROJECT NO. D-1160

PERMIT NO.

CONSTRUCTION ISSUE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

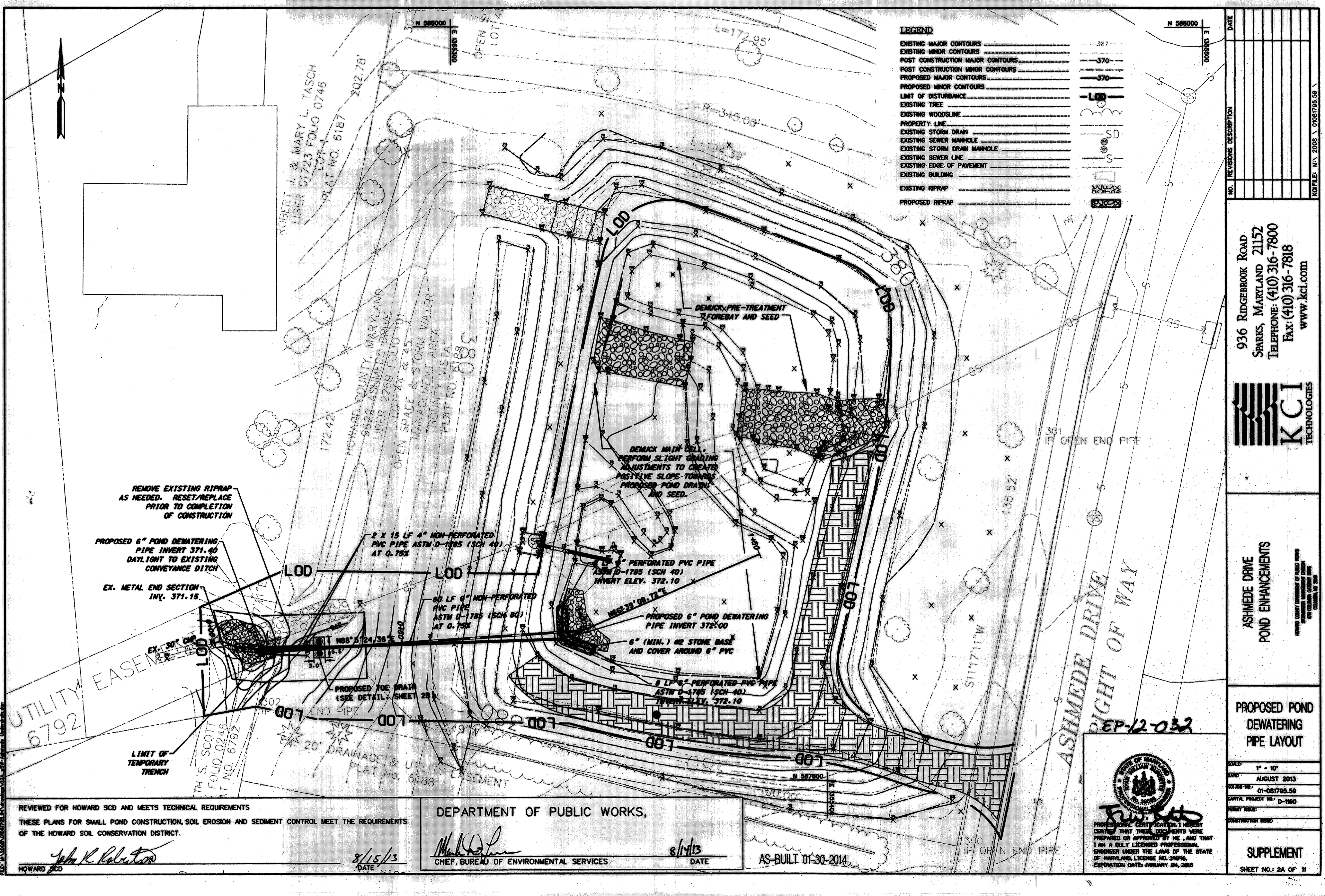
John R. Pluta
 HOWARD SCD

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

W. P. ...
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES



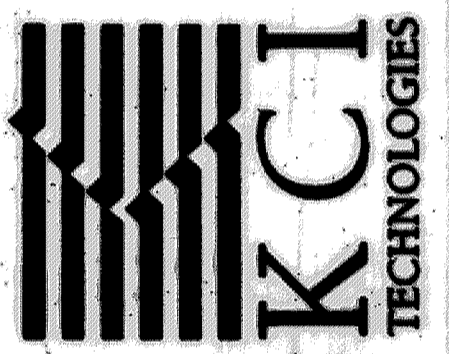
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 39896. EXPIRATION DATE: JANUARY 04, 2013



- LEGEND**
- EXISTING MAJOR CONTOURS 387
 - EXISTING MINOR CONTOURS 370
 - POST CONSTRUCTION MAJOR CONTOURS 370
 - POST CONSTRUCTION MINOR CONTOURS 370
 - PROPOSED MAJOR CONTOURS 370
 - PROPOSED MINOR CONTOURS 370
 - LIMIT OF DISTURBANCE LOD
 - EXISTING TREE [Symbol]
 - EXISTING WOODSLINE [Symbol]
 - PROPERTY LINE [Symbol]
 - EXISTING STORM DRAIN [Symbol] SD
 - EXISTING SEWER MANHOLE [Symbol] SM
 - EXISTING STORM DRAIN MANHOLE [Symbol] SM
 - EXISTING SEWER LINE [Symbol] S
 - EXISTING EDGE OF PAVEMENT [Symbol]
 - EXISTING BUILDING [Symbol]
 - EXISTING RIPRAP [Symbol]
 - PROPOSED RIPRAP [Symbol]

NO.	REVISIONS DESCRIPTION	DATE

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



**ASHMEDE DRIVE
 POND ENHANCEMENTS**

**PROPOSED POND
 DEWATERING
 PIPE LAYOUT**

SCALE:	1" = 10'
DATE:	AUGUST 2013
PROJECT NO.:	01-081705-59
DRAWING NO.:	D-1160
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	



F.W. BELL
 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. 14226,
 EXPIRATION DATE: JANUARY 24, 2015

SUPPLEMENT
 SHEET NO. 2A OF 11

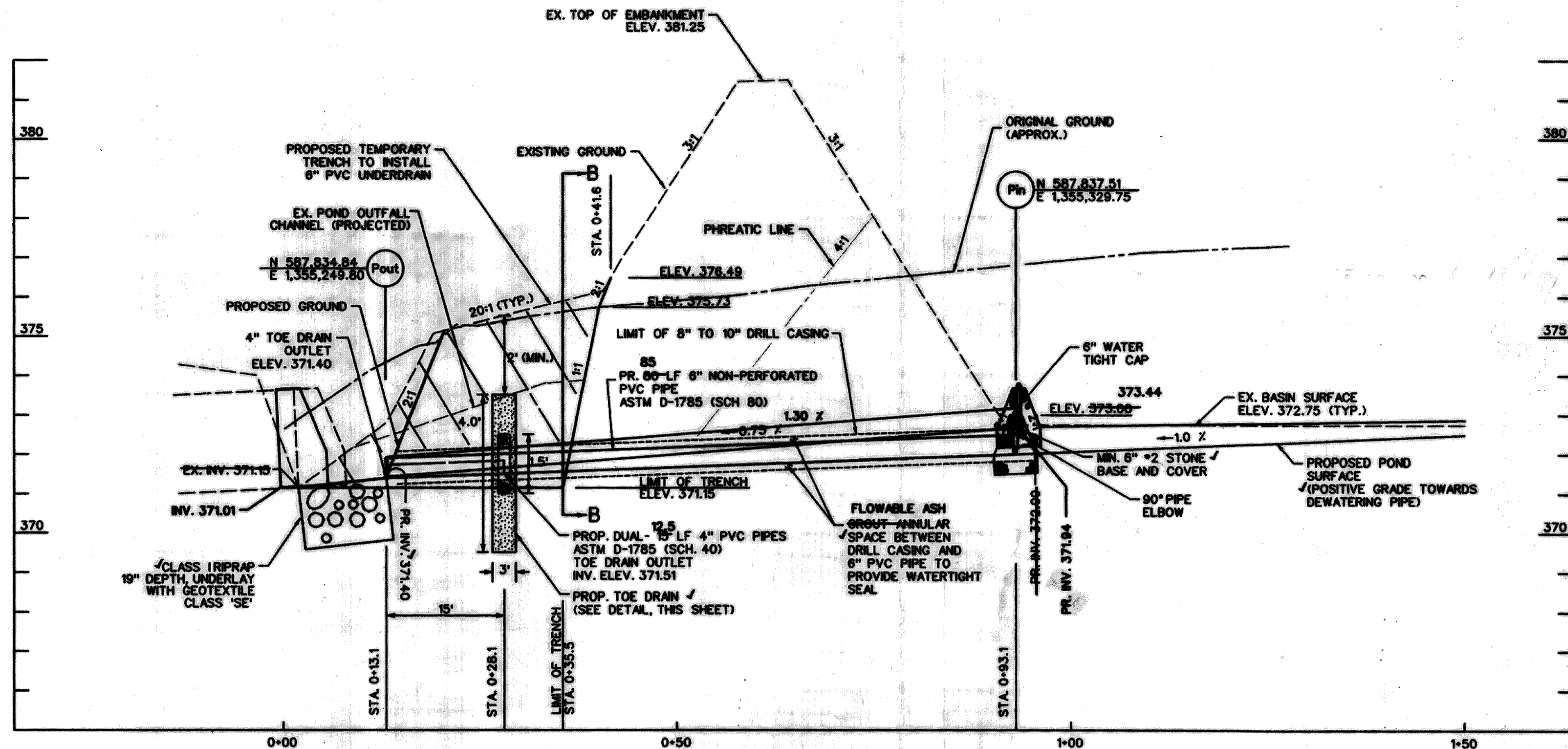
REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
 THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS
 OF THE HOWARD SOIL CONSERVATION DISTRICT.

John K. Robertson
 HOWARD SCD DATE: 8/15/13

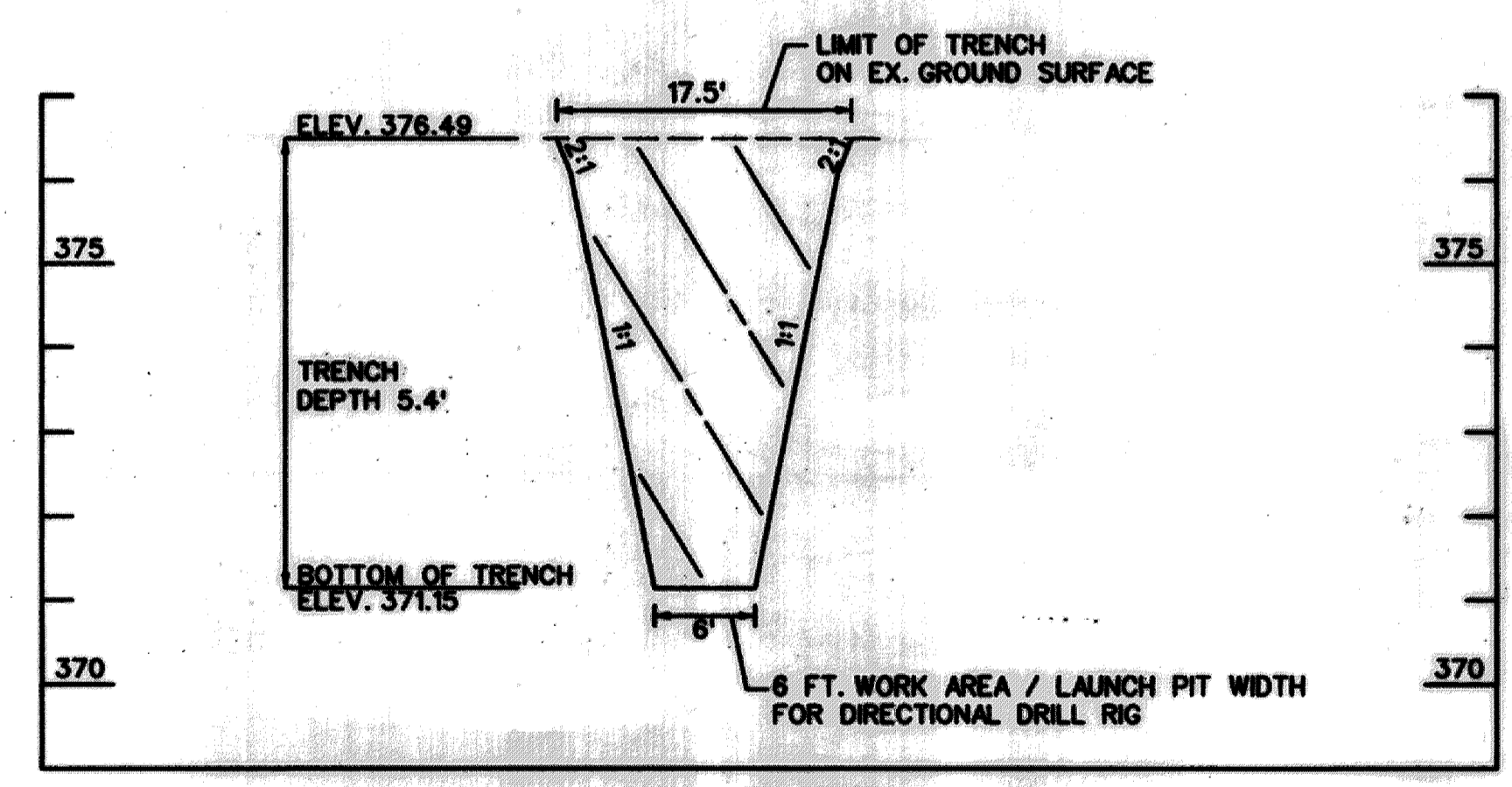
DEPARTMENT OF PUBLIC WORKS,
Mark D. Lima
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE: 8/14/13

AS-BUILT 01-30-2014

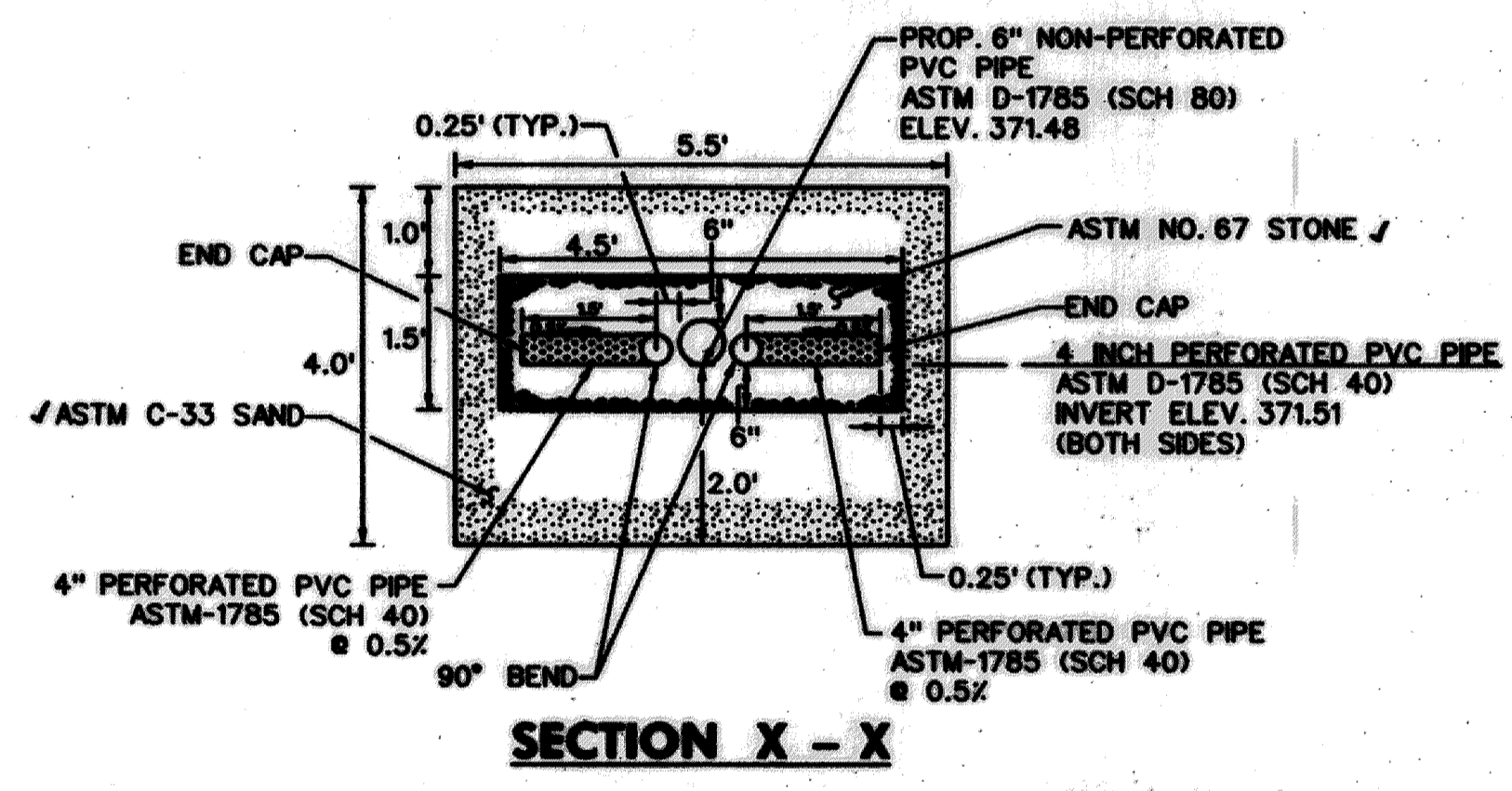
REP-12-032



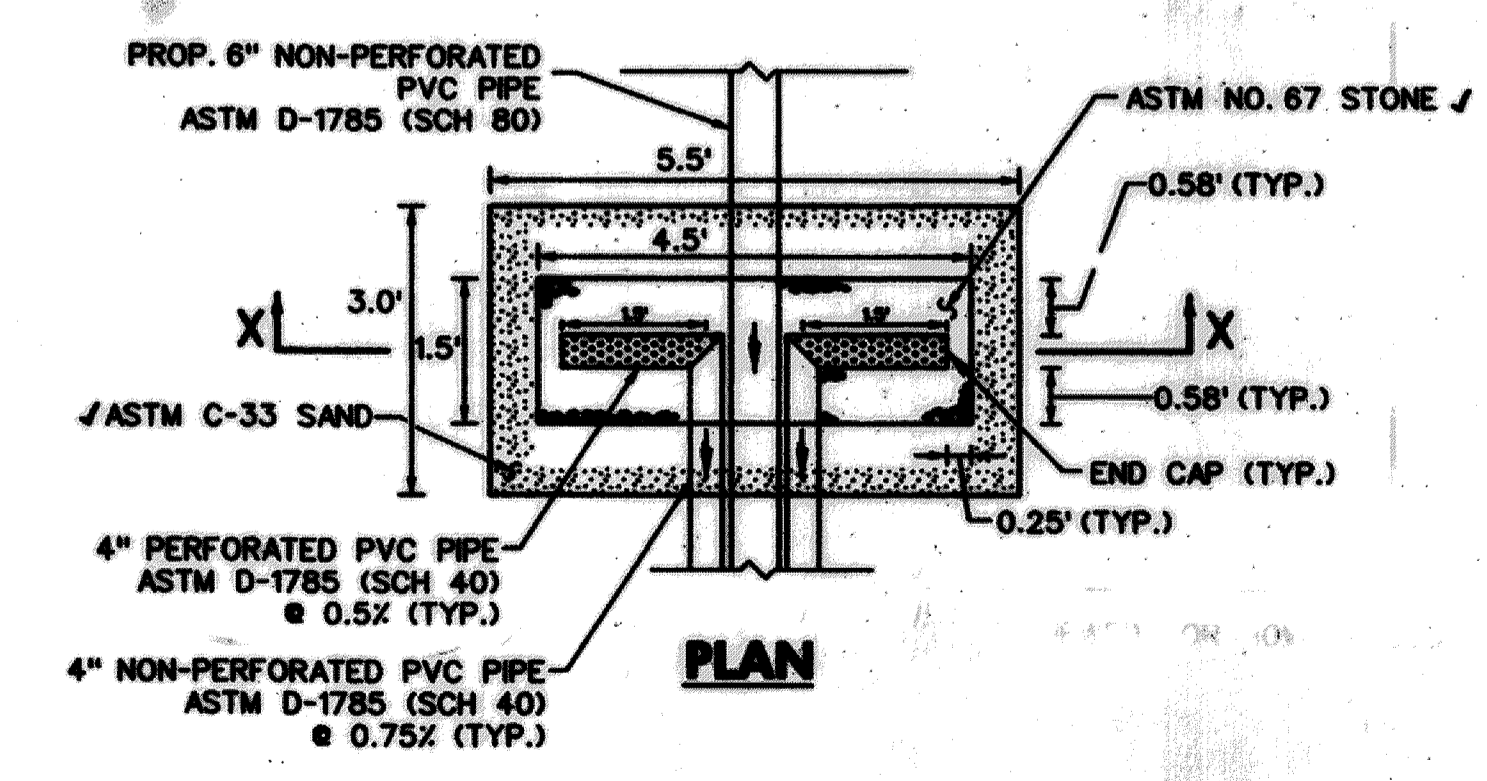
DEWATERING PIPE PROFILE
SCALE: HOR. 1" = 10'
VERT. 1" = 2'



DEWATERING PIPE SECTION B - B
SCALE: HOR. 1" = 10'
VERT. 1" = 2'



SECTION X - X



PLAN

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Robertson
HOWARD SCD
DATE: 8/15/13

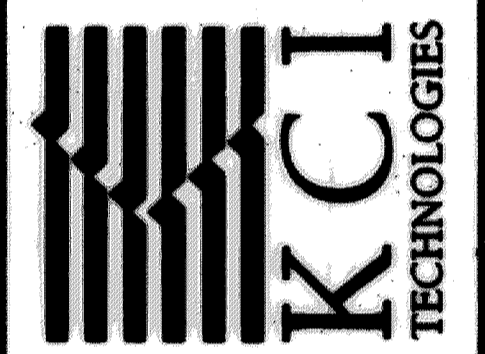
DEPARTMENT OF PUBLIC WORKS,
Mark DePina
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES
DATE: 8/15/13

STATE OF MARYLAND
PROFESSIONAL ENGINEER
James J. ...
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. 37676, EXPIRATION DATE: JANUARY 04, 2015.

AS-BUILT 01-30-2014

NO.	REVISIONS DESCRIPTION	DATE

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



ASHMEDE DRIVE
POND ENHANCEMENTS
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
ENVIRONMENTAL MANAGEMENT DIVISION
400 COLUMBIA GREENWAY DRIVE
COLUMBIA, MD 21046

PROPOSED POND
DEWATERING PIPE
PROFILE AND
DETAILS

SCALE:	1" = 10'
DATE:	AUGUST 2013
PROJECT NO.:	01-081795.59
DRAWING NO.:	D-1180
ISSUE:	
CONSTRUCTION ISSUE:	

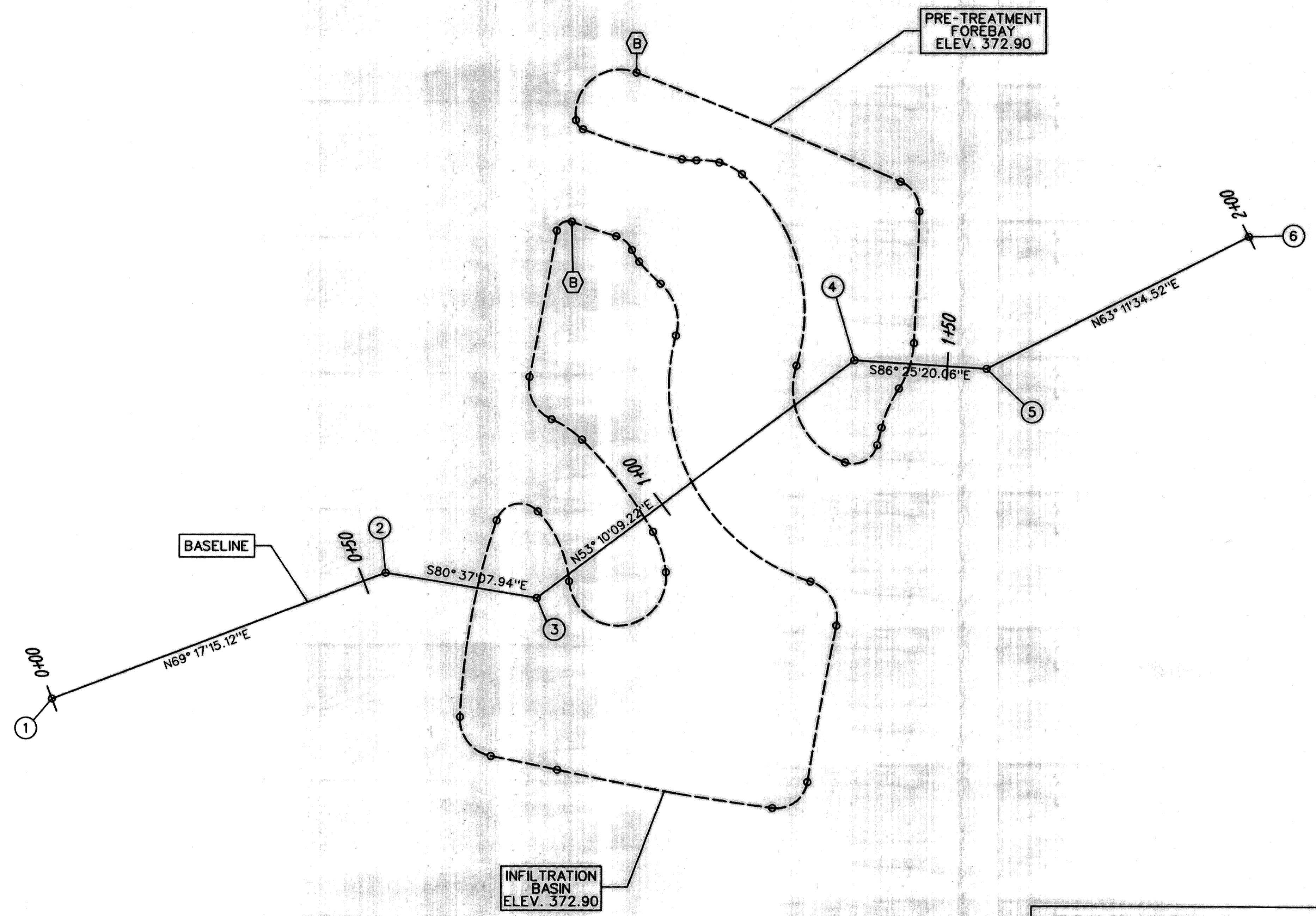
SUPPLEMENT
SHEET NO.: 28 OF 11

N 588000
E 1355300

N 588000
E 1355300

BASELINE CONTROL COORDINATES			
PT. NO.	STATION	NORTHING	EASTING
1	0+00.00	587844.40	1355269.63
2	0+53.51	587863.32	1355319.68
3	0+76.51	587859.58	1355342.37
4	1+36.03	587895.26	1355390.01
5	1+55.90	587894.02	1355409.84
6	2+00.00	587913.91	1355449.20

CONTOUR STAKEOUT INFORMATION			
LOCATION	STATION	NORTHING	EASTING
PRE-TREATMENT FOREBAY	0+00.00	1232.70' R	587938.34 1355357.31
	0+42.84	4.70' R	587922.03 1355396.92
	0+48.44	692.70' R	587917.59 1355399.75
	0+68.23	13.70' R	587897.83 1355398.93
	0+75.44	19.30' R	587891.05 1355396.68
	0+81.90	647.30' R	587855.16 1355394.09
	0+84.60	3.70' R	587882.54 1355393.43
	0+90.77	11.70' R	587879.94 1355388.61
	1+08.70	27.30' R	587894.43 1355381.31
	1+40.26	8.30' R	587923.11 1355373.10
	1+44.13	11.01' R	587924.89 1355369.70
	1+47.59	7.70' R	587925.20 1355366.27
	1+49.76	96.70' R	587925.36 1355364.12
	1+65.28	1.70' R	587929.87 1355349.28
1+67.09	6.70' R	587931.24 1355348.22	
INFILTRATION BASIN	0+00.00	110.30' R	587915.97 1355347.61
	0+07.00	3.70' R	587913.83 1355354.28
	0+10.24	7.30' R	587911.76 1355356.64
	0+12.30	31.30' R	587910.03 1355357.72
	0+16.91	7.70' R	587906.72 1355360.93
	0+25.46	30.30' R	587898.94 1355363.25
	0+71.90	5.70' R	587862.07 1355383.42
	0+80.27	647.30' R	587855.49 1355387.30
	1+04.14	4.70' R	587832.02 1355382.96
	1+11.37	392.70' R	587828.13 1355377.70
	1+44.15	342.30' R	587833.83 1355345.44
	1+54.32	5.70' R	587835.87 1355335.47
	1+62.46	107.70' R	587841.72 1355330.84
	1+92.56	3.70' R	587871.22 1355336.32
	2+00.21	17.70' R	587872.57 1355342.54
	2+11.90	7.30' R	587562.09 1355347.22
	2+34.93	15.30' R	587863.49 1355361.75
	2+41.33	63.30' R	587869.54 1355359.80
2+58.79	15.30' R	587883.31 1355349.14	
2+64.33	5.70' R	587886.39 1355344.58	
2+72.08	679.12' R	587892.74 1355341.28	
2+94.37	1.70' R	587914.66 1355345.37	



NOTE: CONTOUR STAKEOUT POINTS PROCEED IN A CLOCKWISE DIRECTION AROUND CONTOUR.

- LEGEND**
- (B) BEGINNING OF CONTOUR STAKEOUT POINTS
 - (1) BASELINE CONTROL POINT
 - BASELINE
 - - - - - CONTOUR LINE

N 587800
E 1355400

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Roberts
HOWARD SCD DATE: 10/16/12

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

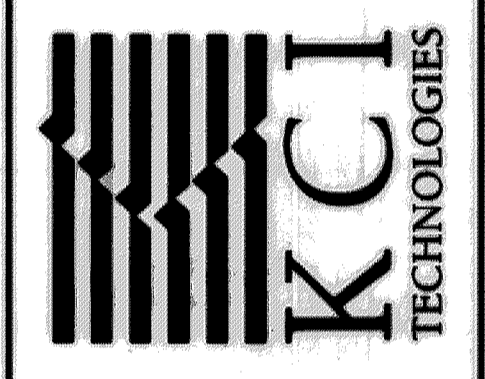
William D. L...
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES DATE: 10/5/12



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. 39696. EXPIRATION DATE: JANUARY 04, 2013

NO.	REVISIONS DESCRIPTION	DATE

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



ASHMEDE DRIVE
POND ENHANCEMENTS

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

GEOMETRY SHEET

SCALE: 1" = 10'

DATE: October 2012

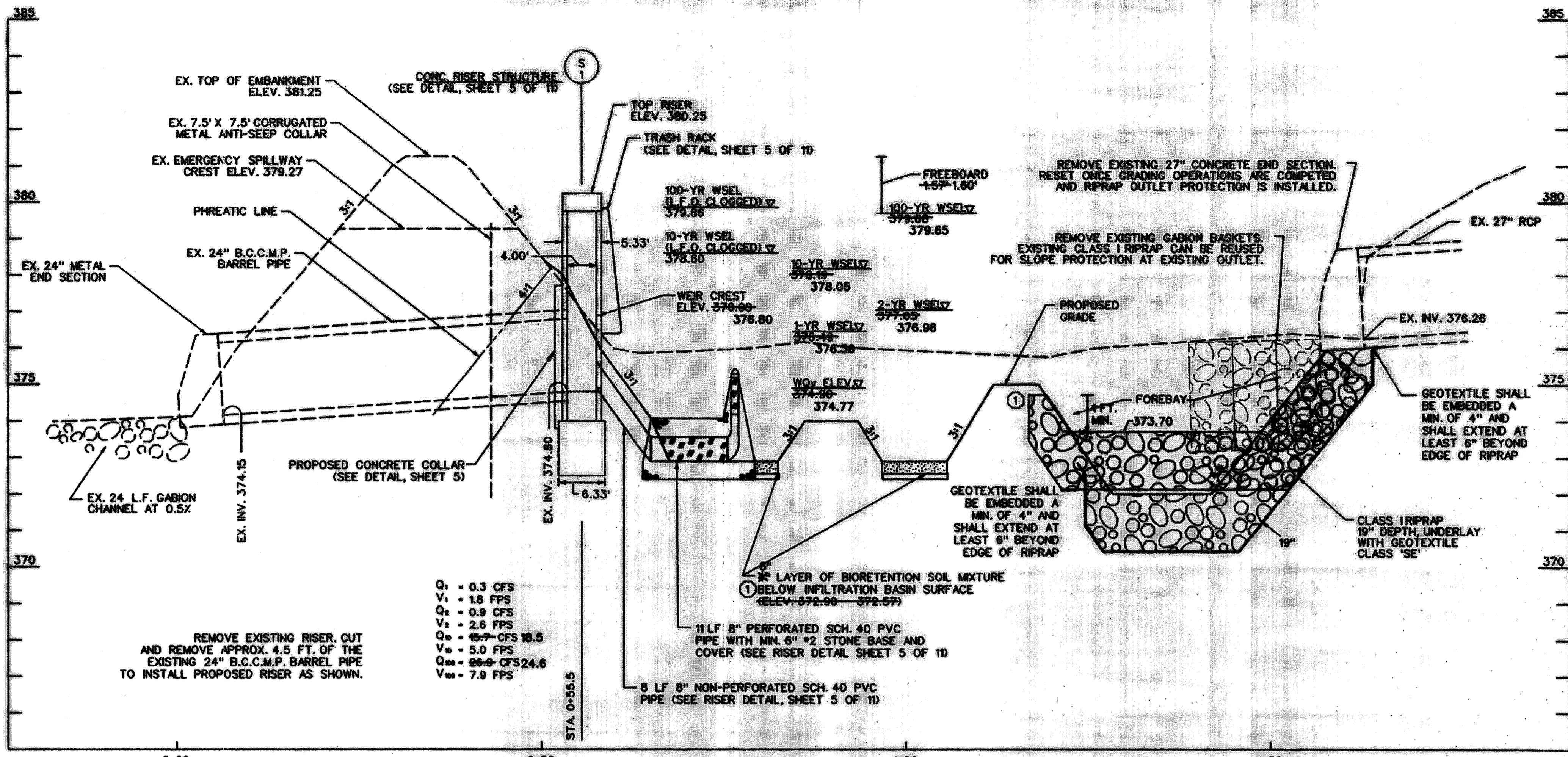
KCI JOB NO.: 01-081795.59

CAPITAL PROJECT NO.: D-1160

PERMIT ISSUE:

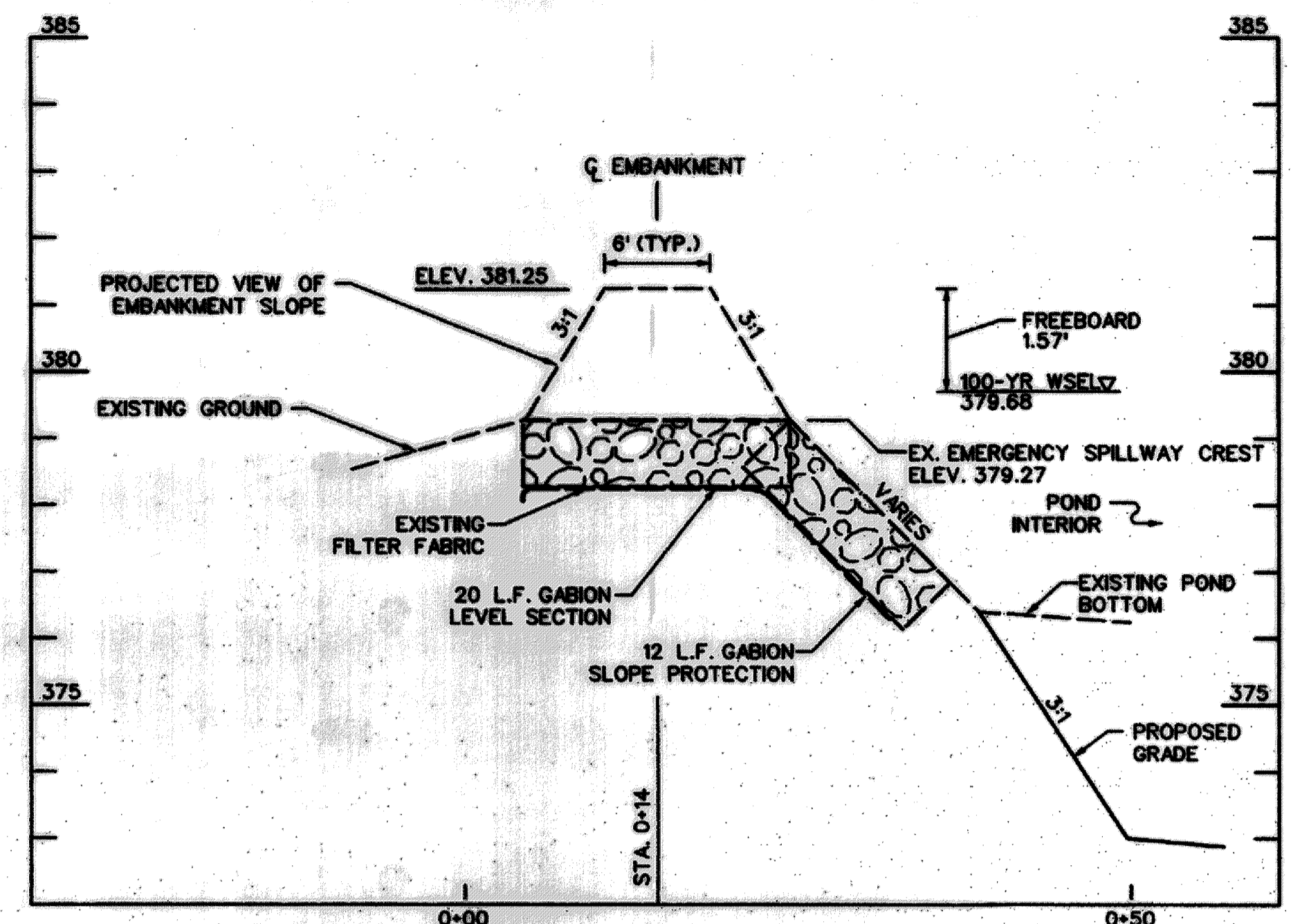
CONSTRUCTION ISSUE:

PLOTTED: 12:42 PM on Wednesday, October 03, 2012
FILE: \\KCI\2012\081795.59\ASHEDE_DRIVE_POND.dwg
PLOT: \\KCI\2012\081795.59\ASHEDE_DRIVE_POND.dwg



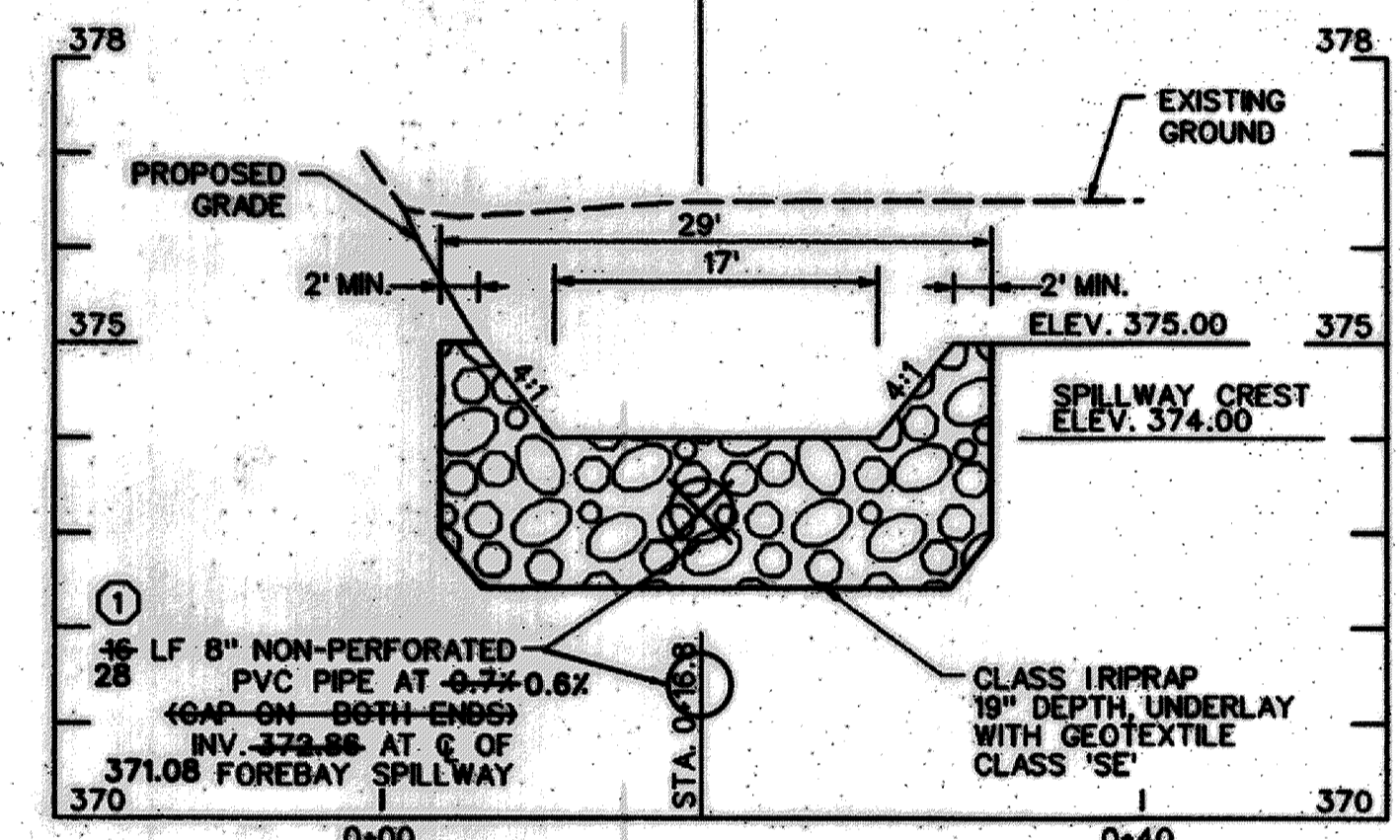
PRINCIPAL SPILLWAY PROFILE

SCALE: HOR. 1" = 10'
VERT. 1" = 2'



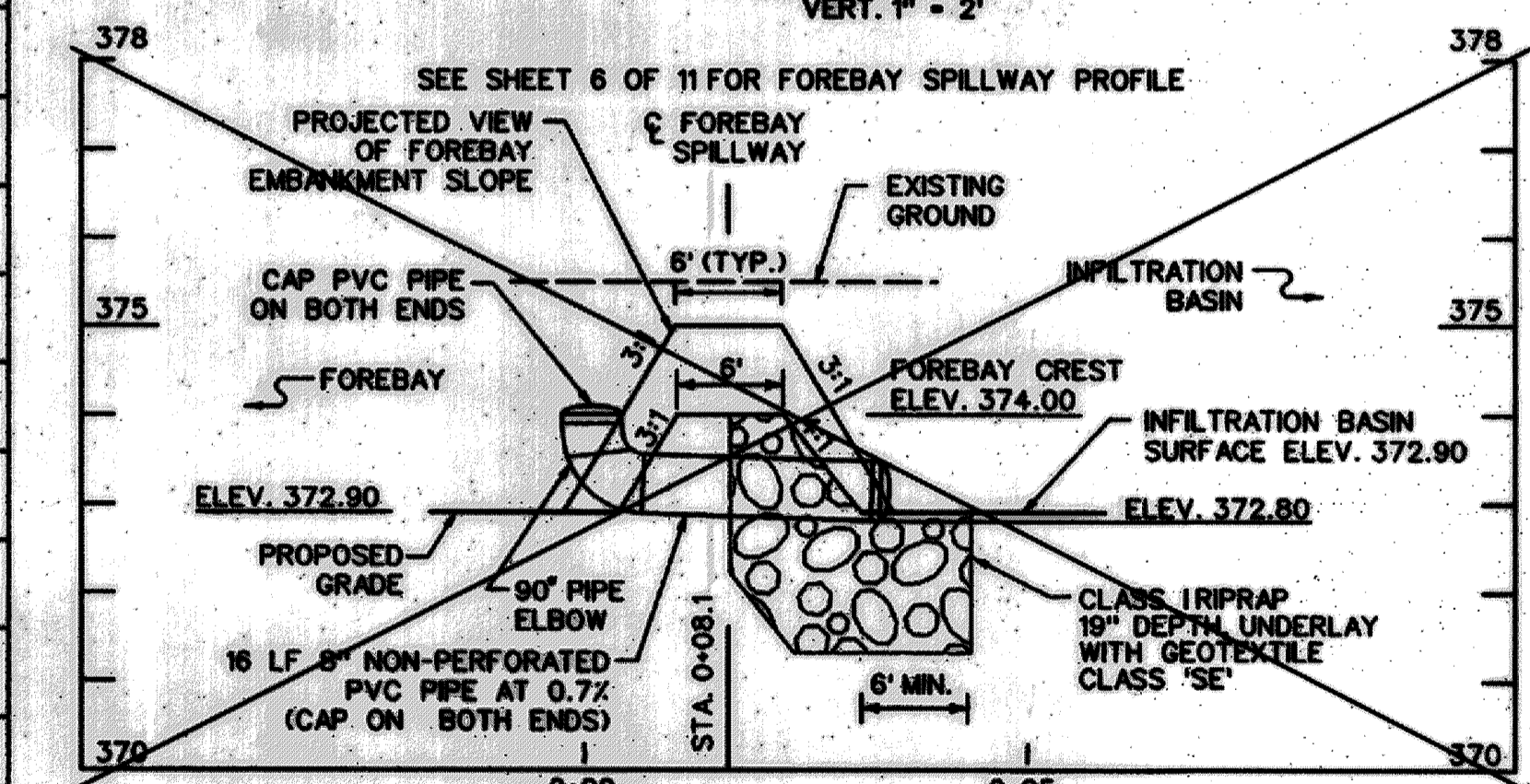
EMERGENCY SPILLWAY PROFILE

SCALE: HOR. 1" = 10'
VERT. 1" = 2'



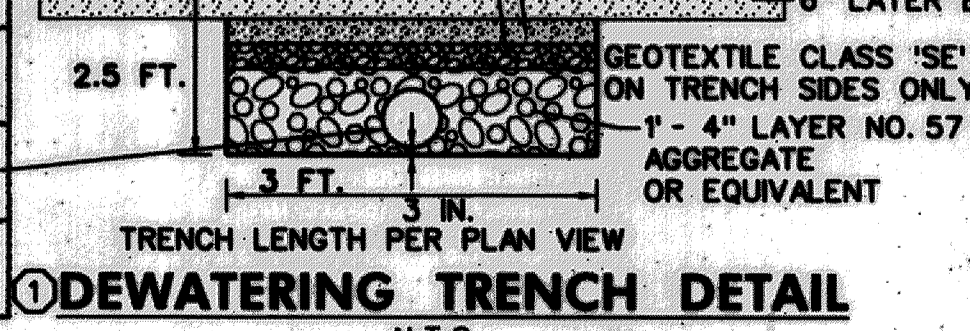
FOREBAY SPILLWAY CROSS SECTION

SCALE: HOR. 1" = 10'
VERT. 1" = 2'



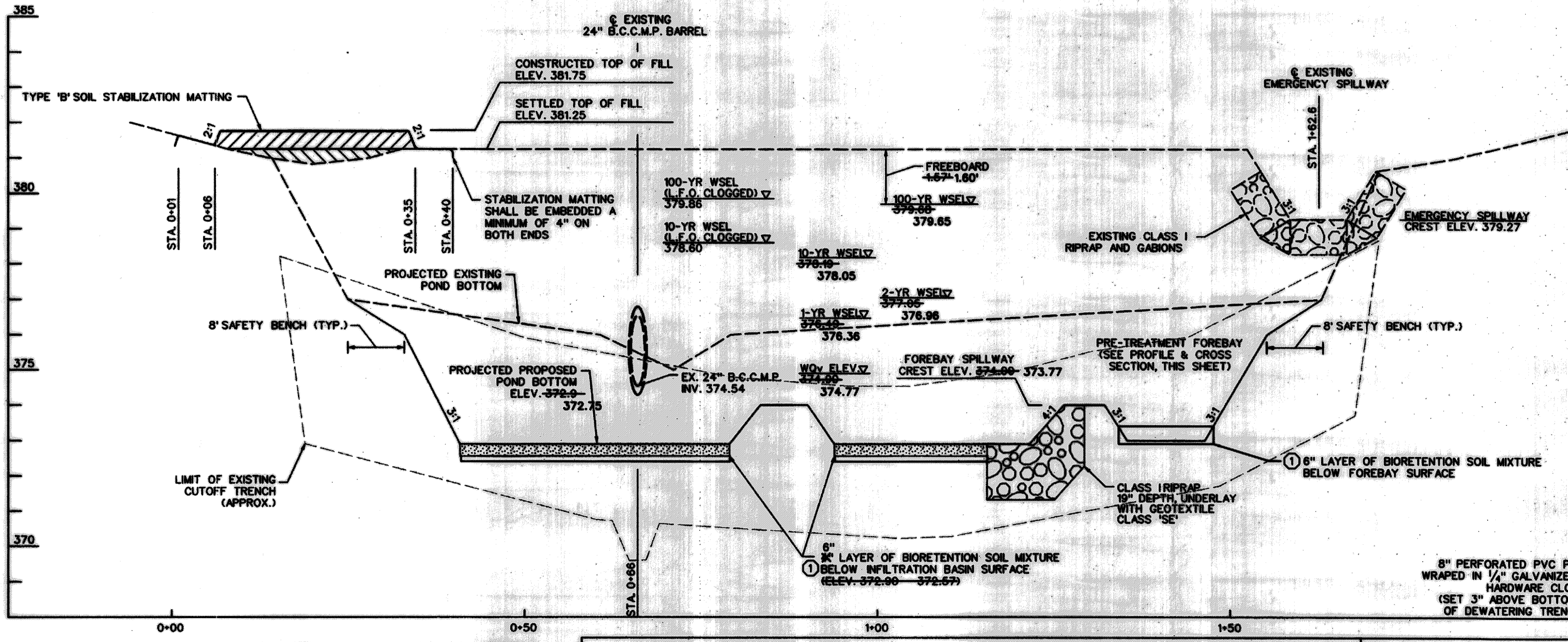
FOREBAY SPILLWAY PROFILE

SCALE: HOR. 1" = 10'
VERT. 1" = 2'



DEWATERING TRENCH DETAIL

N.T.S.



EMBANKMENT CENTERLINE CROSS SECTION

SCALE: HOR. 1" = 10'
VERT. 1" = 2'

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John R. [Signature]
HOWARD SCD

10/16/12

DATE

DEPARTMENT OF PUBLIC WORKS,

[Signature]
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

10/5/12

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. 31696, EXPIRATION DATE: JANUARY 24, 2013.

NO.	REVISIONS DESCRIPTION	DATE
1	DESIGN REVISION, DECEMBER 2012	

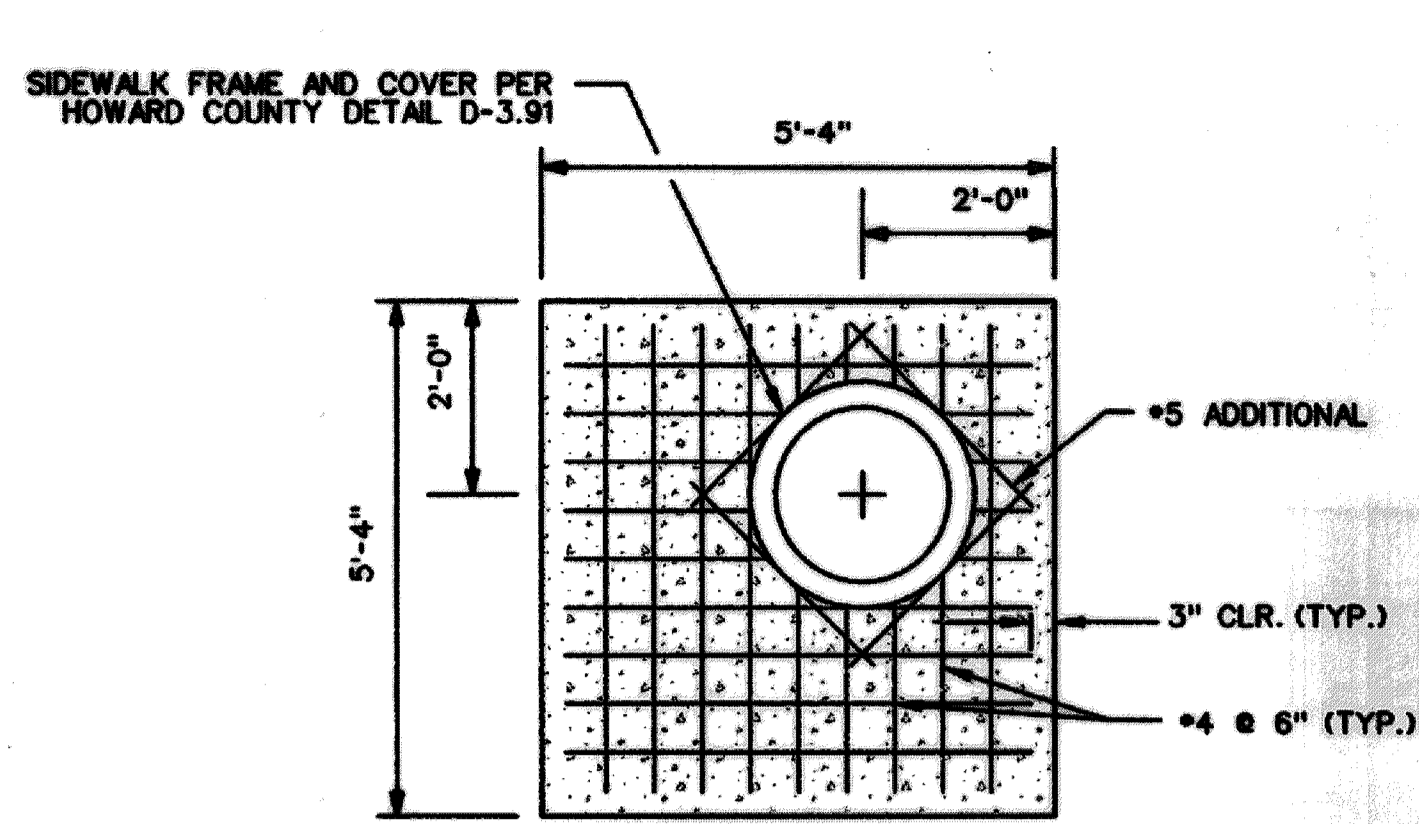
936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
WWW.KCI.COM



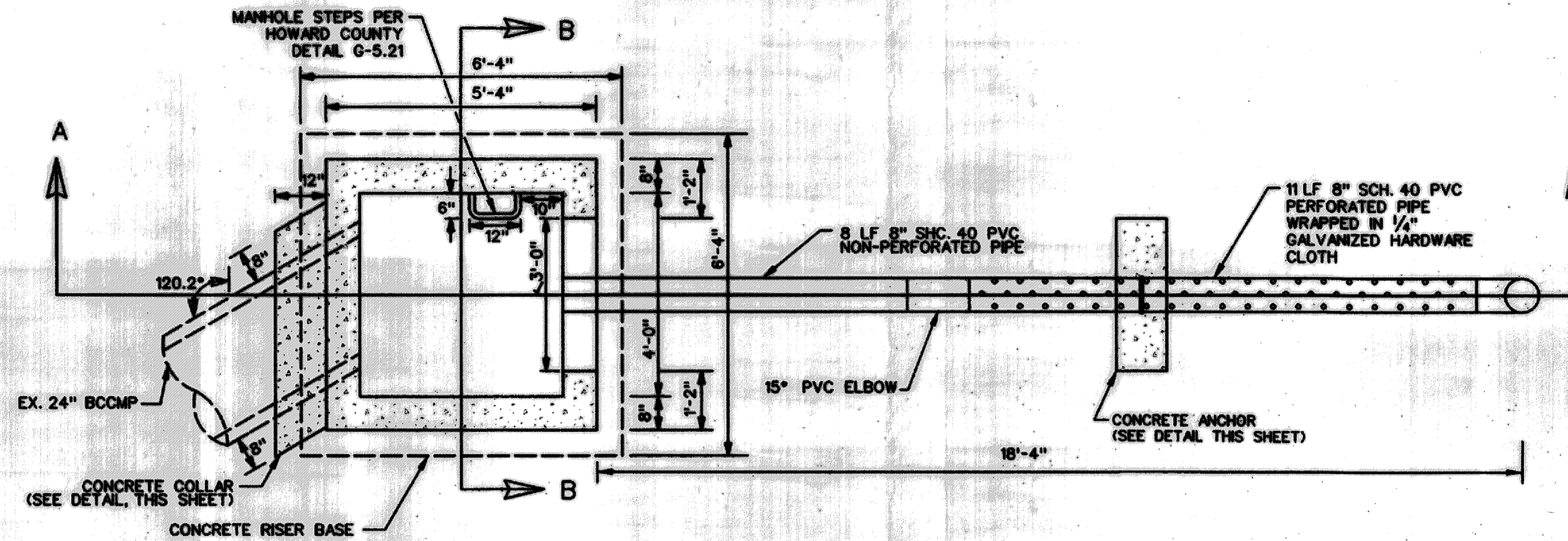
ASHMEDE DRIVE
POND ENHANCEMENTS

STORMWATER
MANAGEMENT
PROFILES
& DETAILS

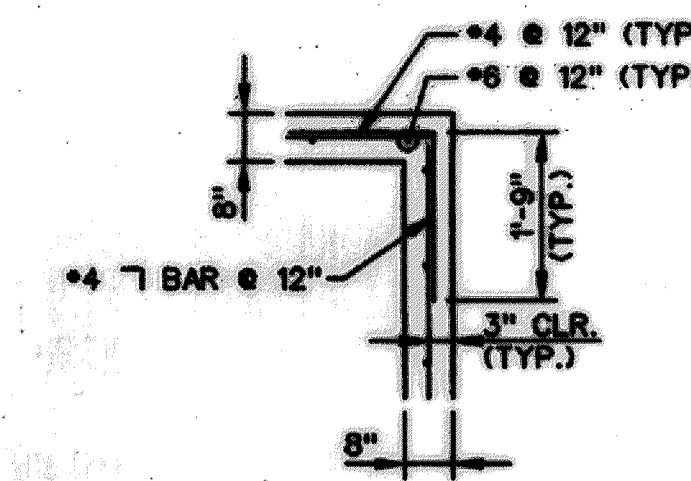
SCALE:	AS SHOWN
DATE:	October 2012
REVISED NO.:	01-081795.59
CAPITAL PROJECT NO.:	D-1180
FIGURE ISSUE:	
CONSTRUCTION ISSUE:	



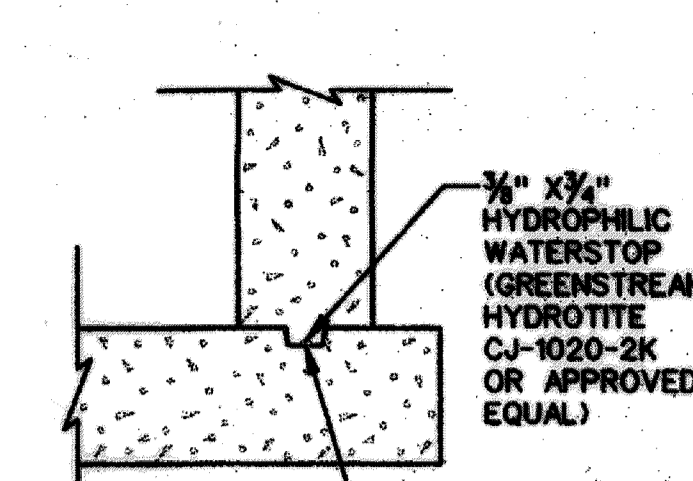
TOP SLAB DETAIL
SCALE: 1/2" = 1'-0"



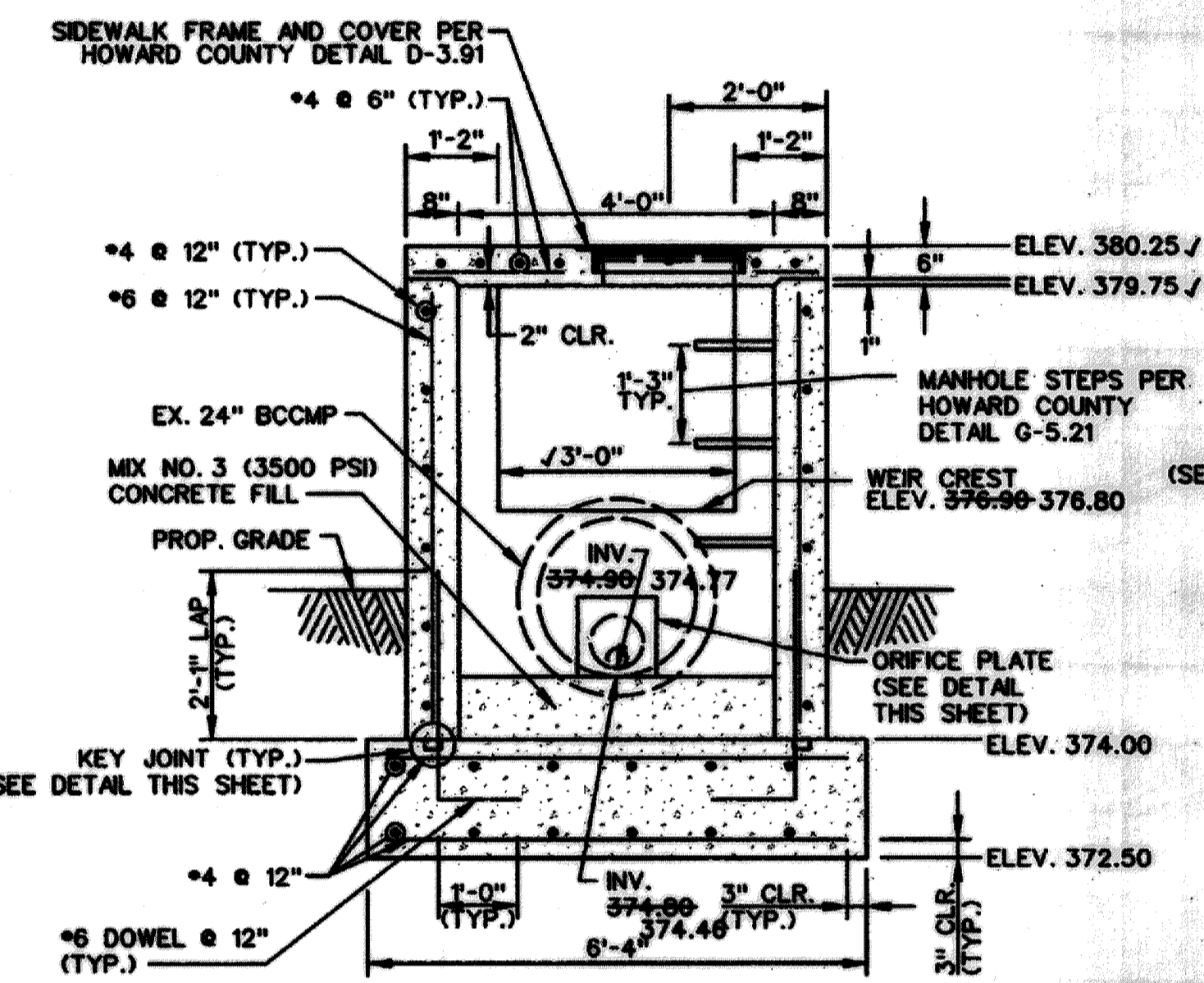
RISER S-1 PLAN
SCALE: 1/2" = 1'-0"



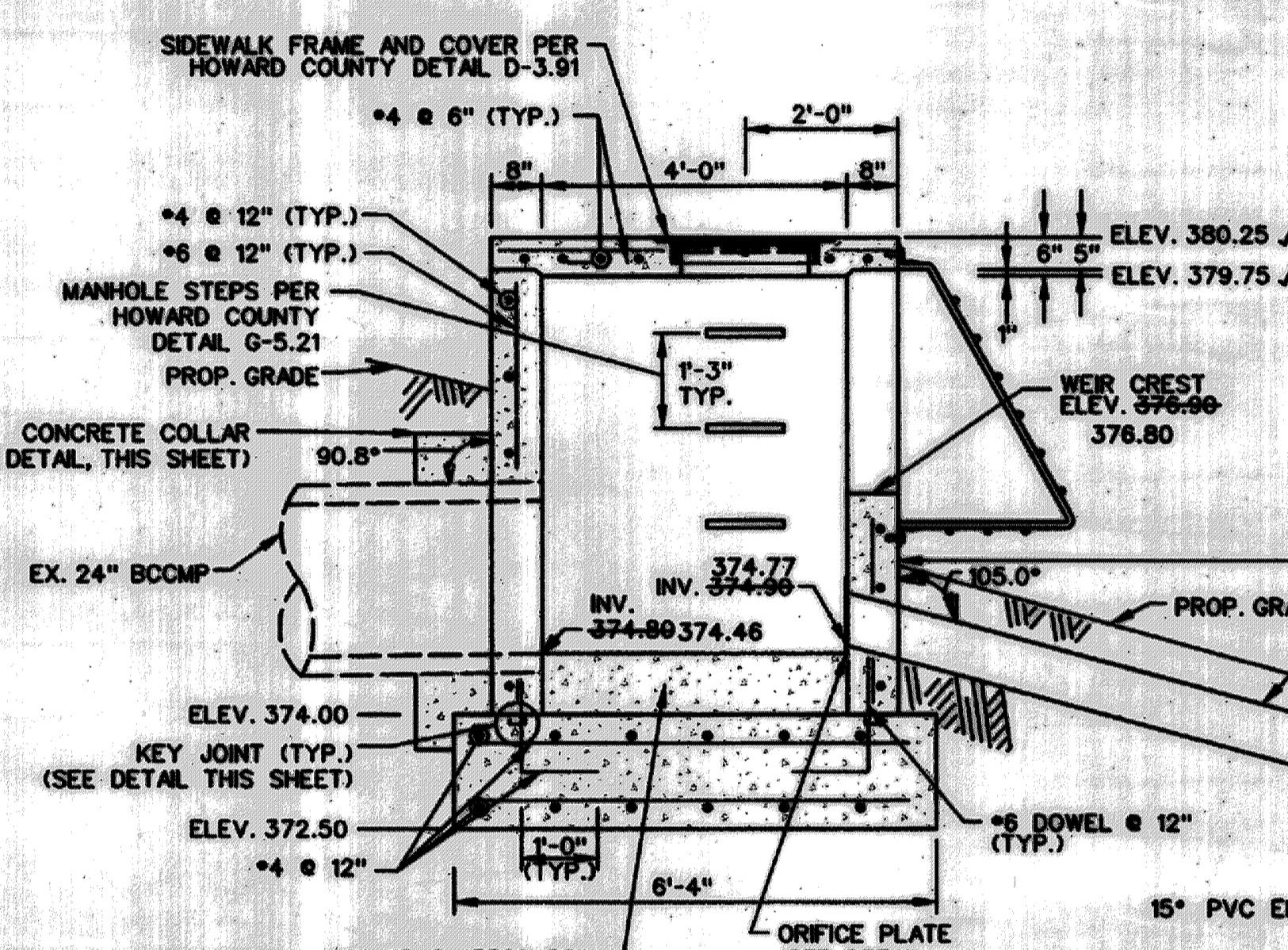
TYPICAL CORNER DETAIL
NOT TO SCALE



KEY JOINT DETAIL
NOT TO SCALE

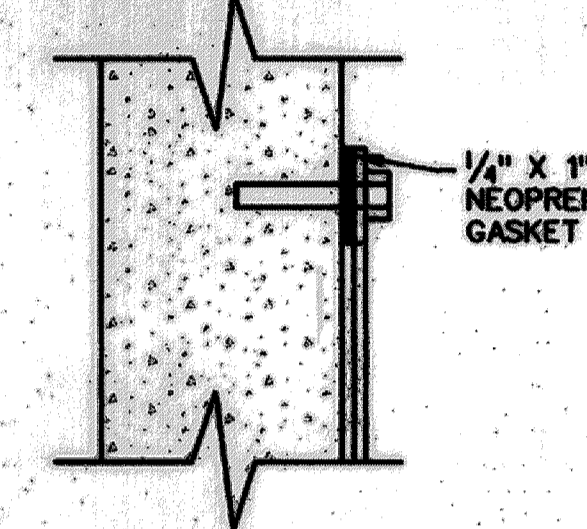


RISER S-1 CROSS SECTION B-B
SCALE: 1/2" = 1'-0"

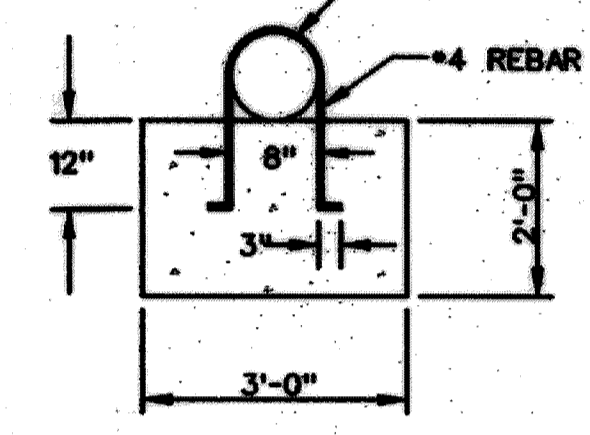


RISER S-1 CROSS SECTION A-A
SCALE: 1/2" = 1'-0"

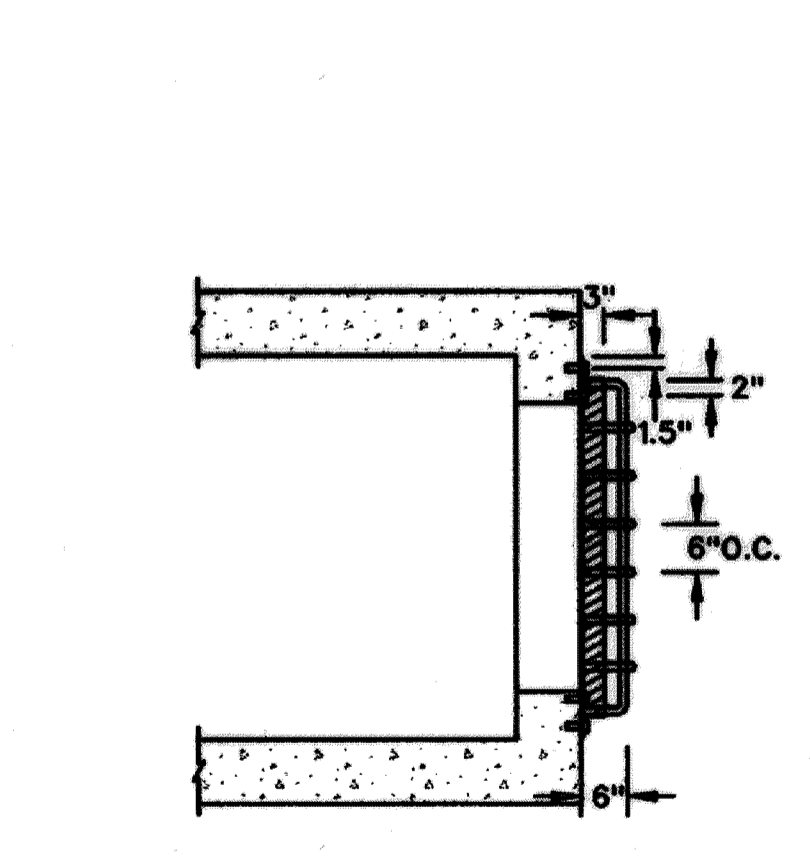
- RISER STRUCTURAL NOTES**
1. CONCRETE UNLESS OTHERWISE NOTED SHALL BE MIX NO. 6 (4500 PSI). ✓
 2. REINFORCING STEEL SHALL CONFORM TO A 615, GRADE 60.
 3. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED.



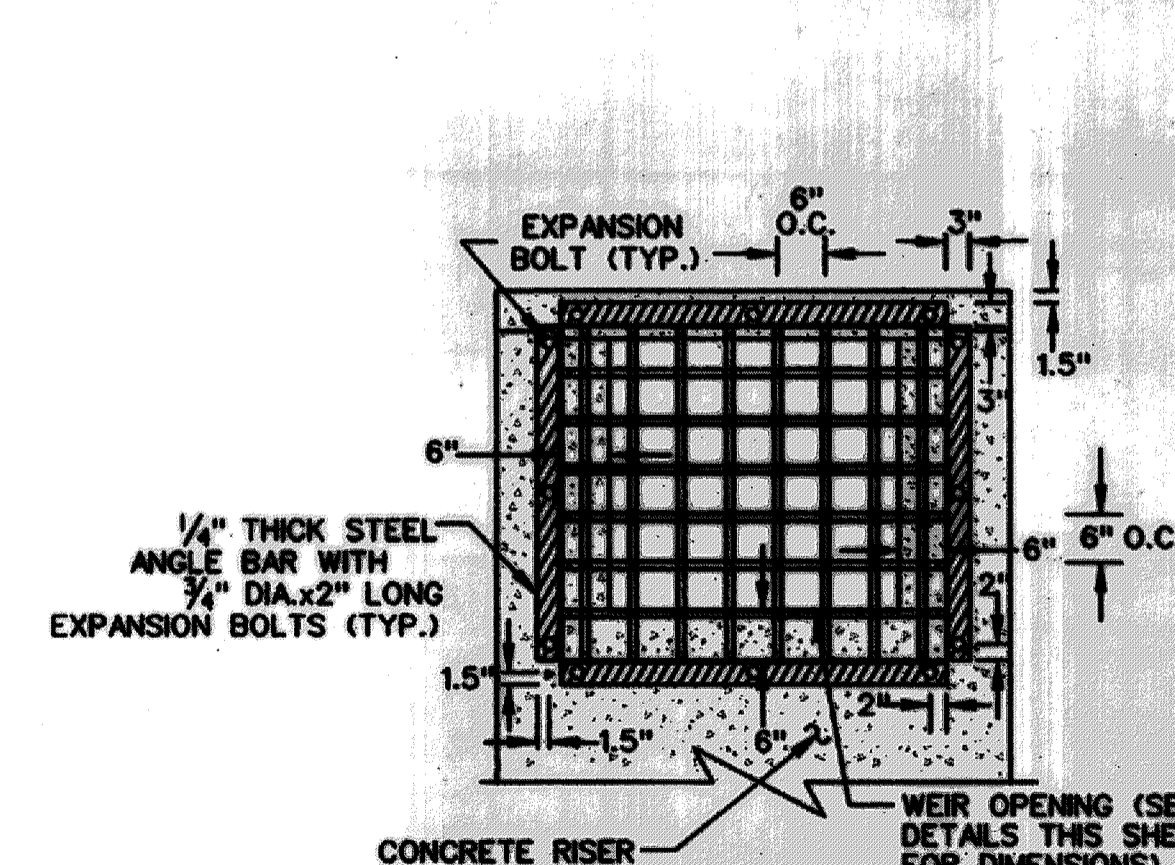
NEOPRENE GASKET DETAIL
NOT TO SCALE



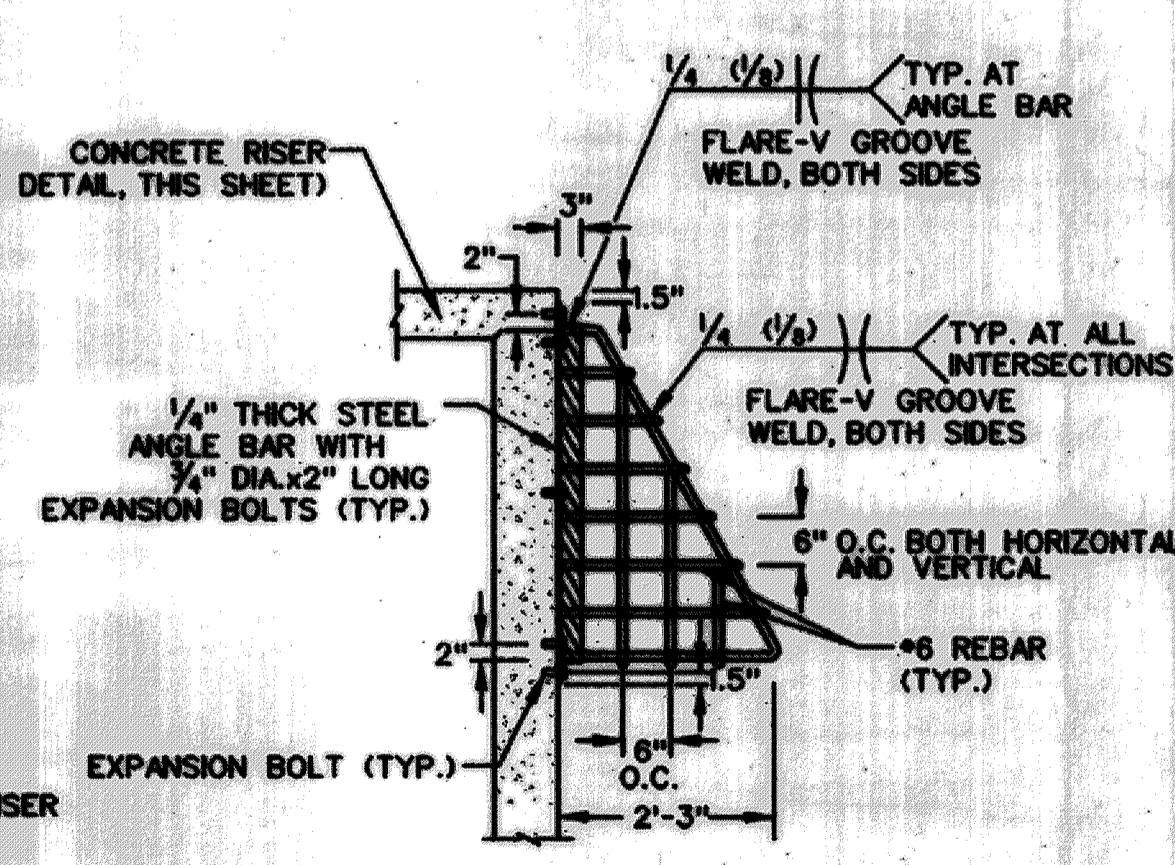
CONCRETE ANCHOR
NOT TO SCALE



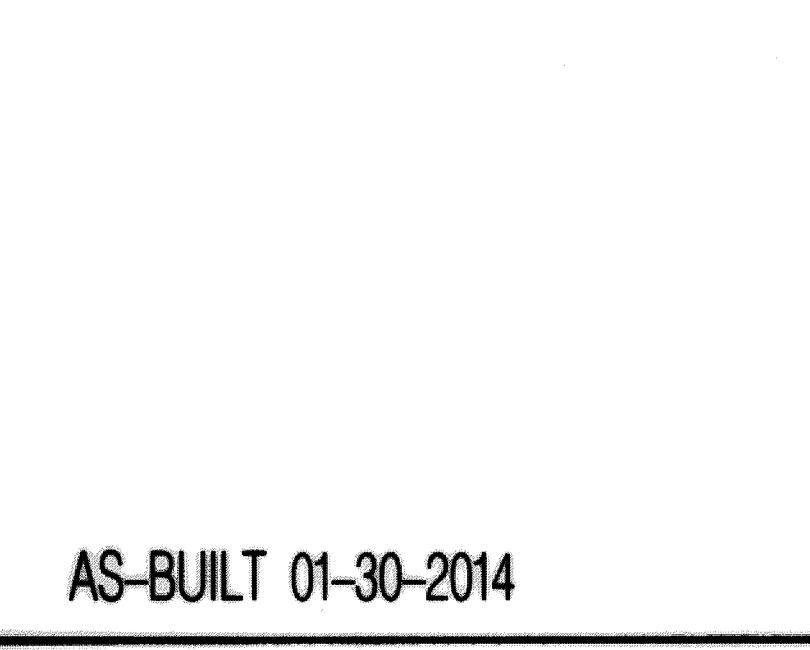
PLAN VIEW



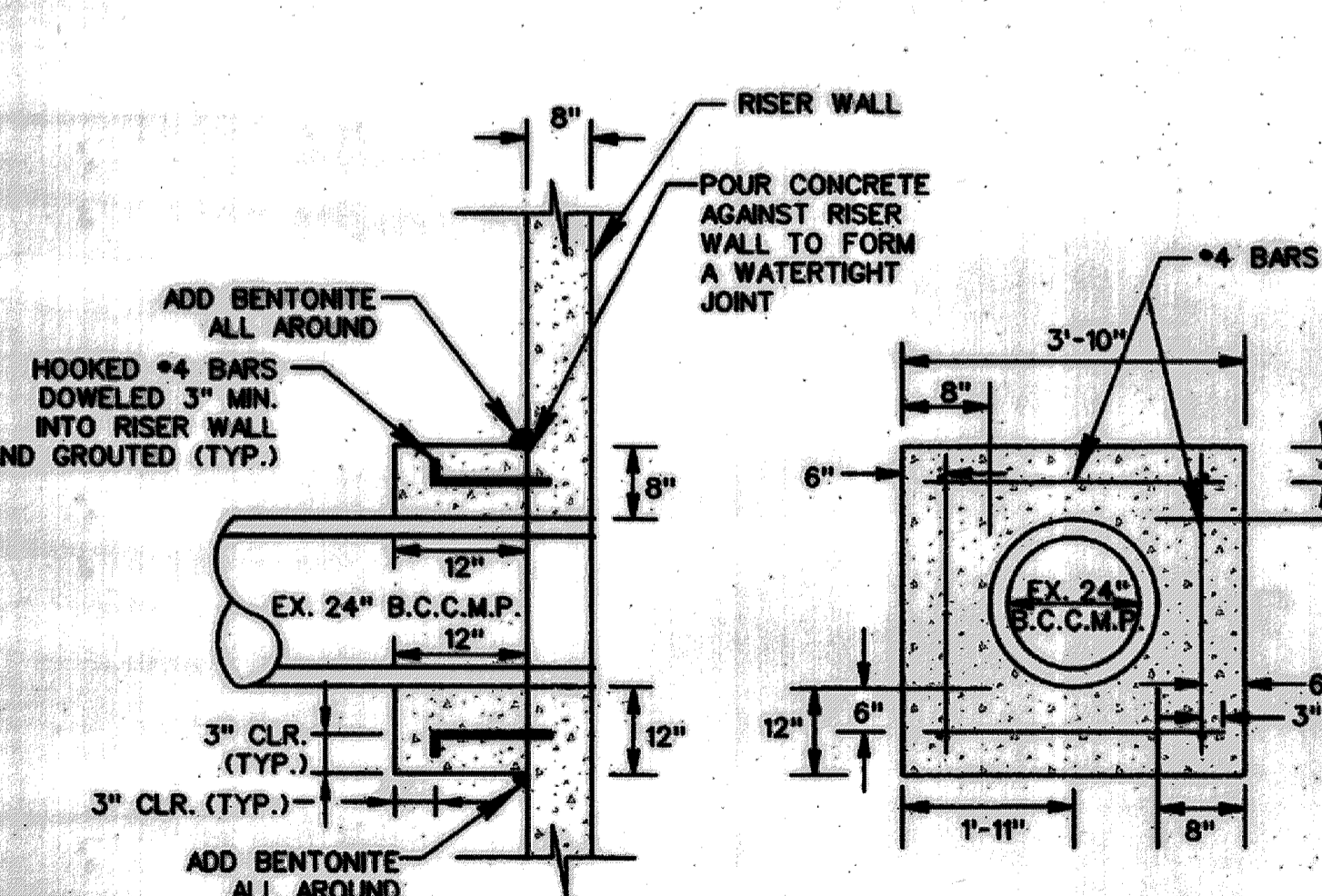
FRONT VIEW



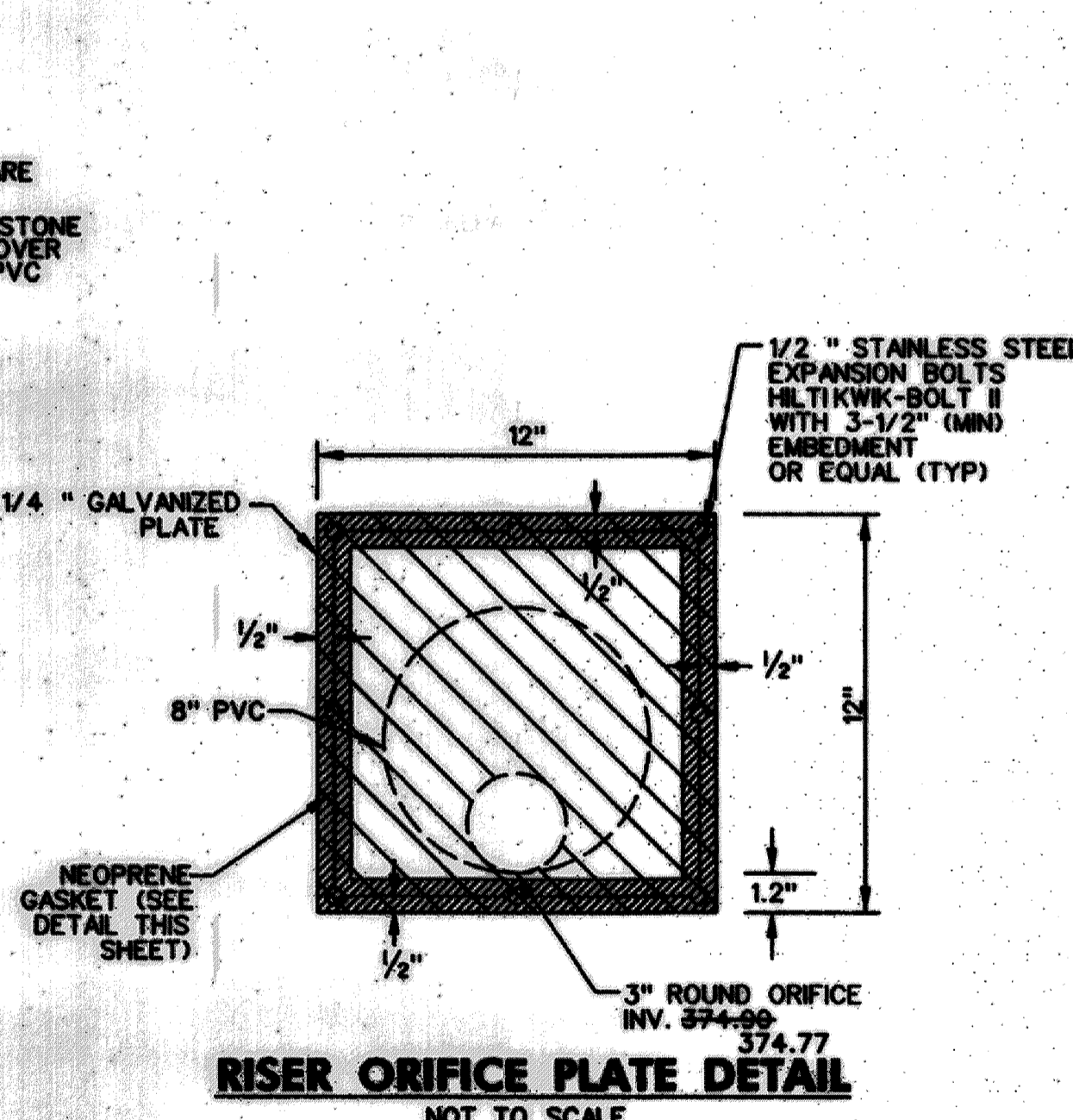
SIDE VIEW



TRASH RACK DETAIL
SCALE: 1/2" = 1'-0"



CONCRETE COLLAR DETAIL FOR 24" BCCMP
NOT TO SCALE



RISER ORIFICE PLATE DETAIL
NOT TO SCALE

- NOTES:**
1. ENTIRE TRASH RACK ASSEMBLY SHALL BE SHOP FABRICATED AND HOT-DIPPED GALVANIZED PER ASTM A-123 AFTER FABRICATION.
 2. STEEL SHALL CONFORM TO ASTM A-36.
 3. REBAR SHALL BE WELDABLE STEEL CONFORMING TO ASTM A-706.

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

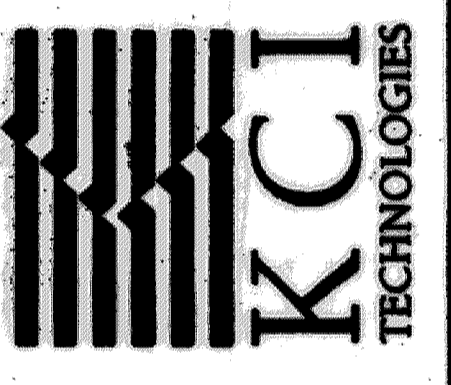
HOWARD SCD
John L. Howard
DATE: 10/16/12

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD
[Signature]
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES
DATE: 10/5/12

STATE OF MARYLAND
[Professional Seal]
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. 39896. EXPIRATION DATE: JANUARY 04, 2013.

NO.	REVISIONS DESCRIPTION	DATE

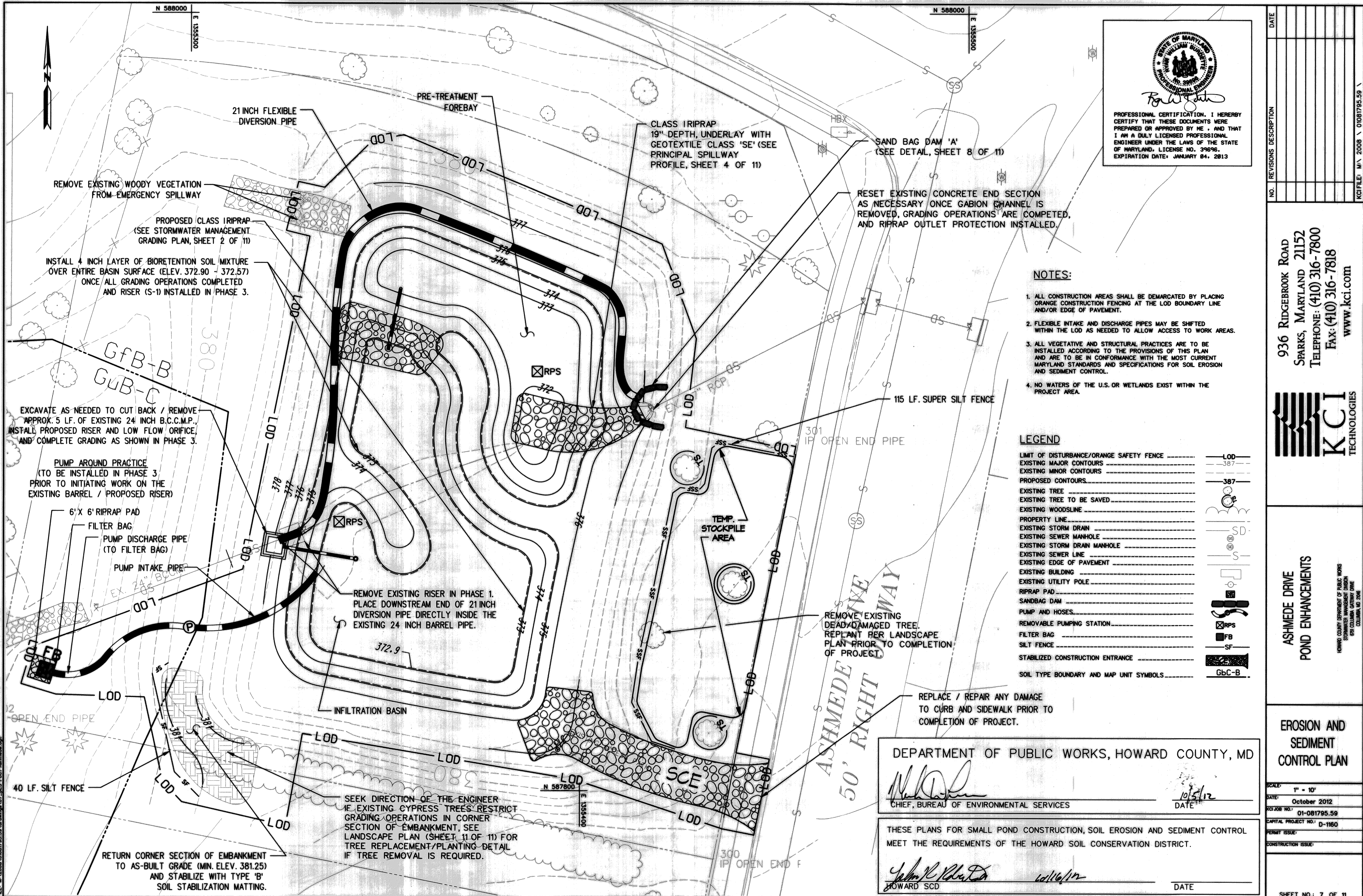
936 RIDGEBROOK ROAD
SPARKS, MARYLAND 21152
TELEPHONE: (410) 316-7800
FAX: (410) 316-7818
WWW.KCI.COM



ASHMEDE DRIVE
POND ENHANCEMENTS

STORMWATER
MANAGEMENT
DETAILS

SCALE:	AS SHOWN
DATE:	October 2012
PROJECT NO.:	01-081795.59
DRAWING PROJECT NO.:	D-1100
REVISION:	
CONSTRUCTION ISSUE:	



PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 39696. EXPIRATION DATE: JANUARY 04, 2013

NOTES:

- 1. ALL CONSTRUCTION AREAS SHALL BE DEMARCATED BY PLACING ORANGE CONSTRUCTION FENCING AT THE LOD BOUNDARY LINE AND/OR EDGE OF PAVEMENT.
- 2. FLEXIBLE INTAKE AND DISCHARGE PIPES MAY BE SHIFTED WITHIN THE LOD AS NEEDED TO ALLOW ACCESS TO WORK AREAS.
- 3. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- 4. NO WATERS OF THE U.S. OR WETLANDS EXIST WITHIN THE PROJECT AREA.

LEGEND

LIMIT OF DISTURBANCE/ORANGE SAFETY FENCE	LOD
EXISTING MAJOR CONTOURS	387
EXISTING MINOR CONTOURS	
PROPOSED CONTOURS	387
EXISTING TREE	
EXISTING TREE TO BE SAVED	
EXISTING WOODLINE	
PROPERTY LINE	
EXISTING STORM DRAIN	SD
EXISTING SEWER MANHOLE	
EXISTING STORM DRAIN MANHOLE	
EXISTING SEWER LINE	S
EXISTING EDGE OF PAVEMENT	
EXISTING BUILDING	
EXISTING UTILITY POLE	
RIPPRAP PAD	
SANDBAG DAM	
PUMP AND HOSES	
REMOVABLE PUMPING STATION	
FILTER BAG	RPS
SILT FENCE	FB
STABILIZED CONSTRUCTION ENTRANCE	
SOIL TYPE BOUNDARY AND MAP UNIT SYMBOLS	GbC-B

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

M. J. [Signature]
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES
DATE: 10/5/12

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature]
HOWARD SCD
DATE: 10/16/12

DATE	
NO.	
REVISIONS DESCRIPTION	
<p>936 RIDGEBROOK ROAD SPARKS, MARYLAND 21152 TELEPHONE: (410) 316-7800 FAX: (410) 316-7818 www.kci.com</p> <p>KCI TECHNOLOGIES</p>	
<p>ASHMEDE DRIVE POND ENHANCEMENTS</p>	
<p>EROSION AND SEDIMENT CONTROL PLAN</p>	
SCALE:	1" = 10'
DATE:	October 2012
KCI JOB NO.:	01-081795.59
CAPITAL PROJECT NO.:	D-1160
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	
SHEET NO.: 7 OF 11	

PLOTTED: 11:31 AM on Wednesday, October 03, 2012
 Plot File: D:\Projects\081795\081795.dwg
 Plot Style: ASHPOND.ctb
 Plot Device: HP DesignJet 540C
 User: [unclear]

SEQUENCE OF CONSTRUCTION

CONTRACTOR SHALL TAKE EXTRA PRECAUTION WHEN OPERATING EQUIPMENT AND TRANSPORTING MATERIALS IN THIS RESIDENTIAL AREA.

ALL GRADING OPERATIONS SHALL BE DONE IN STRICT ACCORDANCE WITH THE PUMP AROUND CRITERIA.

ALL EXCAVATED SEDIMENT SHALL BE TRANSPORTED TO AN APPROVED LOCATION OFFSITE.

CONTRACTOR SHALL MINIMIZE THE IMPACT ON EXISTING TREES, EXISTING UTILITIES, AND OTHER EXISTING FEATURES.

DURATION

PHASE 1

1. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777, AND HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION (410)-313-1880 AT LEAST SEVEN (7) DAYS PRIOR TO BEGINNING ANY WORK.
2. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION FROM THE COUNTY AT THE PRE-CONSTRUCTION MEETING. GRADING PERMIT #G12000294 ISSUED 10/31/2012 FOR CONSTRUCTION OF APPROVED PLANS "ASHMEDE DRIVE POND ENHANCEMENTS" EP-12-032 REMAINS OPEN AND WILL CONTINUE TO APPLY TO WORK SHOWN ON THE SUPPLEMENTAL PLAN SHEETS CONTAINED HEREIN.
3. CONTRACTOR SHALL COORDINATE AN ON-SITE PRE-CONSTRUCTION MEETING THAT SHALL INCLUDE COUNTY PROJECT MANAGER AND HOWARD COUNTY CONSTRUCTION INSPECTION, BUREAU OF UTILITY.
4. CONTRACTOR SHALL STAKE OUT LOD AND TREE SAVES PRIOR TO PRE-CONSTRUCTION MEETING.
- 5 DAYS
5. STAKE OUT THE LIMIT OF DISTURBANCE. CLEAR AREAS AS NEEDED WITHIN THE LIMIT OF DISTURBANCE REQUIRED TO ESTABLISH THE PROPOSED SEDIMENT CONTROL MEASURES.
6. INSTALL PERIMETER CONTROL DEVICES INCLUDING ORANGE SAFETY FENCE, TREE SAVES, STABILIZED CONSTRUCTION ENTRANCE, AND STOCKPILE AREA AS SHOWN ON THE PLANS OR AS DIRECTED BY THE SEDIMENT CONTROL INSPECTOR.
7. DURING AN ANTICIPATED THREE (3) DAY PERIOD OF DRY WEATHER, INSTALL EROSION AND SEDIMENT CONTROLS SHOWN IN PHASE 1 AREA (ONLY), INCLUDING SUPER SILT FENCE, PUMP AROUND PRACTICES, SAND BAG DAM AT POND OUTLET, SAND BAG DAM UPSTREAM OF 30" CMP END SECTION, AND FILTER BAG SETUP ON RIPRAP PAD AS SHOWN. PLACE THE PUMP OUTLET FROM THE POND DIRECTLY INSIDE THE EXISTING 30" CMP END SECTION. WHEN PLACING SAND BAGS, DO NOT BLOCK FLOW FROM ENTERING THE EXISTING CONVEYANCE DITCH LOCATED SOUTH OF THE EXISTING 30" CMP END SECTION.
8. NO WORK SHALL BE PERFORMED UNTIL THESE DEVICES ARE APPROVED BY THE SEDIMENT CONTROL INSPECTOR. AFTER PUMP AROUND PRACTICE IS INSTALLED AND FUNCTIONING, AND WITH PERMISSION FROM THE INSPECTOR, CONTRACTOR SHALL PROCEED WITH CONSTRUCTION.

PHASE 1 (CONT'D)

9. DURING AN ANTICIPATED THREE (3) DAY PERIOD OF DRY WEATHER, EXCAVATE ON THE DOWNSTREAM SIDE OF THE EMBANKMENT TO CREATE THE TEMPORARY TRENCH / LAUNCH PIT FOR THE HORIZONTAL DRILL RIG.
10. ONCE TEMPORARY TRENCH IS DUG AND HORIZONTAL DRILL RIG IN PLACE, WORKING FROM DOWNSTREAM TO UPSTREAM, CONDUCT DRILLING OPERATIONS TO INSTALL 6 INCH PVC DEWATERING PIPE AS SHOWN ON SUPPLEMENT #2B - PROPOSED DEWATERING PIPE PROFILE. INSTALL PROPOSED TOE DRAIN AND RIPRAP ON DOWNSTREAM END AND PERFORATED PVC DEWATERING SYSTEM AT THE TOE OF SLOPE ON THE UPSTREAM END.
11. ONCE DEWATERING PIPE SYSTEM, TOE DRAIN, AND RIPRAP STABILIZATION IS INSTALLED, BACK FILL TEMPORARY TRENCH AND STABILIZE.
- 10 DAYS
12. WITH PERMISSION FROM INSPECTOR, REMOVE PUMP AROUND PRACTICE AND SAND BAG DAMS ON DOWNSTREAM SIDE OF THE EMBANKMENT AND PROCEED WITH PHASE 2. DO NOT REMOVE SUPER SILT FENCE FROM UPSTREAM SIDE OF DEWATERING SYSTEM INSTALLED IN PHASE 1.

PHASE 2

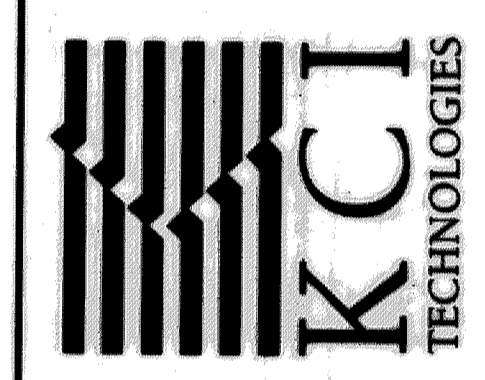
13. DURING AN ANTICIPATED THREE (3) DAY PERIOD OF DRY WEATHER, INSTALL SUPER SILT FENCE SHOWN IN AREA LABELED "PHASE 2". ONCE SUPER SILT FENCE IS INSTALLED, PERFORM GRADING OPERATIONS TO DEMUCK THE MAIN POND BASIN AND PRE-TREATMENT FOREBAY. MAINTAIN A POSITIVE SLOPE TOWARDS THE DEWATERING SYSTEM WHEN FINAL GRADING IN BOTH CELLS TO ENSURE PROPER DRAINAGE.
14. ONCE GRADING IN MAIN BASIN AND PRE-TREATMENT FOREBAY ARE FINAL, SEED ENTIRE DISTURBED AREA INSIDE OF POND.
- 3 DAYS
15. WITH PERMISSION FROM THE INSPECTOR, REMOVE THE SUPER SILT FENCE AND ALL REMAINING SEDIMENT CONTROL DEVICES AND PERMANENTLY STABILIZE ANY REMAINING DISTURBED AREA.
16. REMOVE ALL STOCKPILE AREAS AND STABILIZE THE AREA TO EXISTING CONDITION.
17. REPLACE/REPAIR ANY DAMAGE TO CURB AND/OR SIDEWALK PRIOR TO COMPLETION OF THE PROJECT.
18. INSTALL LANDSCAPE PLANTINGS PER THE LANDSCAPE PLANS (SHEET 11 OF 11).

LEGEND

- LIMIT OF DISTURBANCE/ORANGE SAFETY FENCE ----- LOD
- EXISTING MAJOR CONTOURS ----- 387
- EXISTING MINOR CONTOURS ----- 370
- POST CONSTRUCTION MAJOR CONTOURS ----- 370
- POST CONSTRUCTION MINOR CONTOURS ----- 370
- PROPOSED MAJOR CONTOURS ----- 370
- PROPOSED MINOR CONTOURS ----- 370
- EXISTING TREE -----
- EXISTING TREE TO BE SAVED -----
- EXISTING WOODLINE -----
- PROPERTY LINE -----
- EXISTING STORM DRAIN -----
- EXISTING STORM MANHOLE -----
- EXISTING STORM DRAIN MANHOLE -----
- EXISTING SEWER LINE -----
- EXISTING EDGE OF PAVEMENT -----
- EXISTING BUILDING -----
- EXISTING UTILITY POLE -----
- RIPRAP PAD -----
- SANDBAG DAM -----
- PUMP AND HOSES -----
- REMOVABLE PUMPING STATION -----
- FILTER BAG -----
- SILT FENCE -----
- STABILIZED CONSTRUCTION ENTRANCE -----

NO.	REVISIONS DESCRIPTION	DATE

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

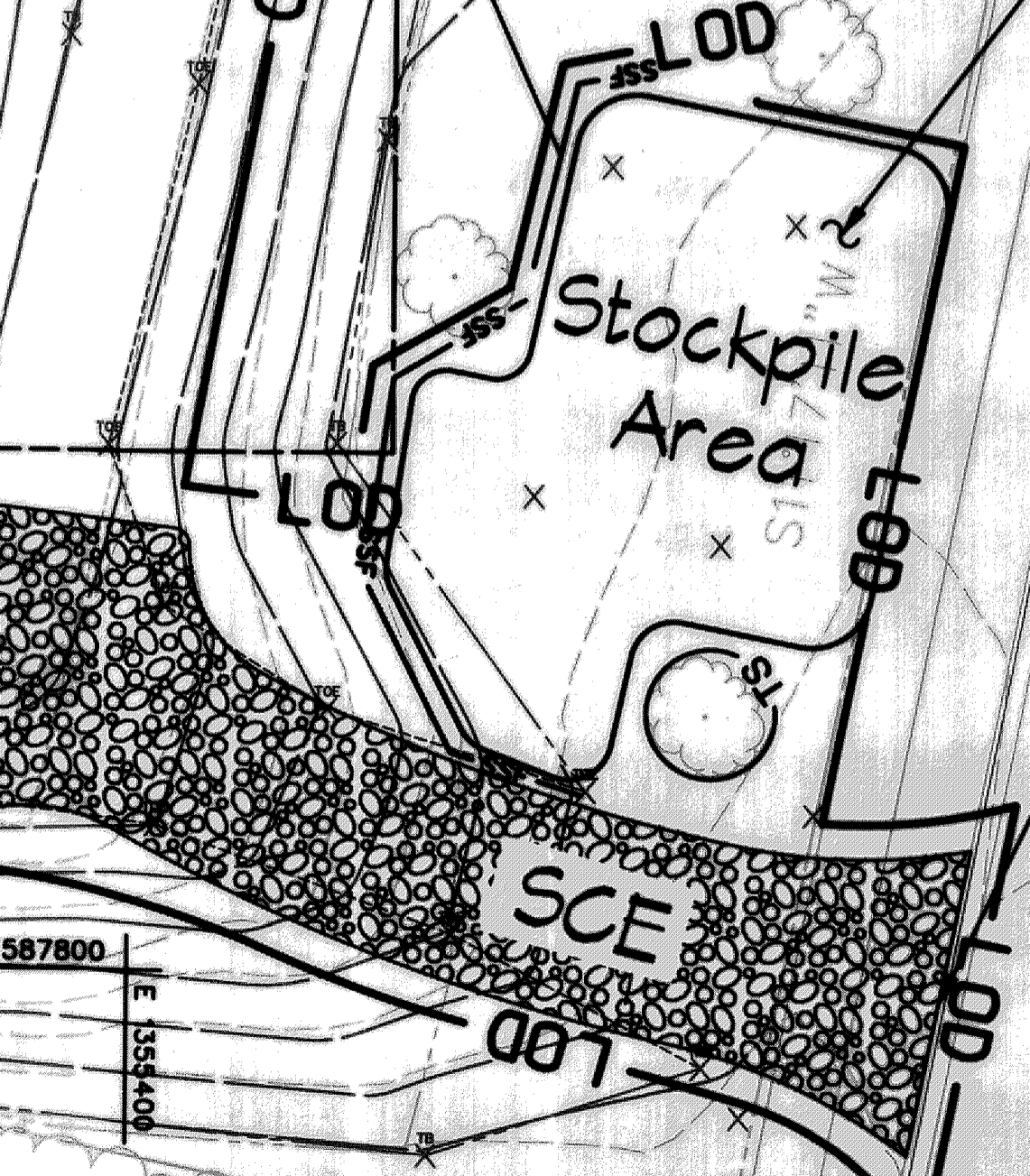
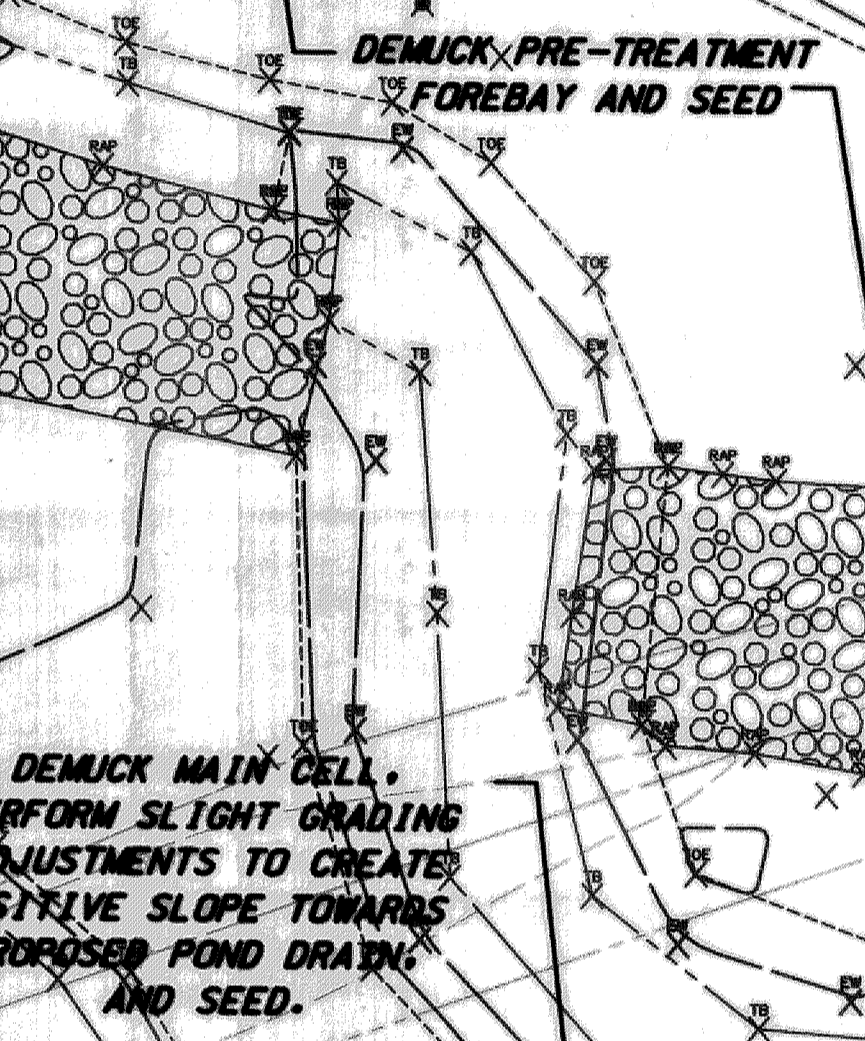
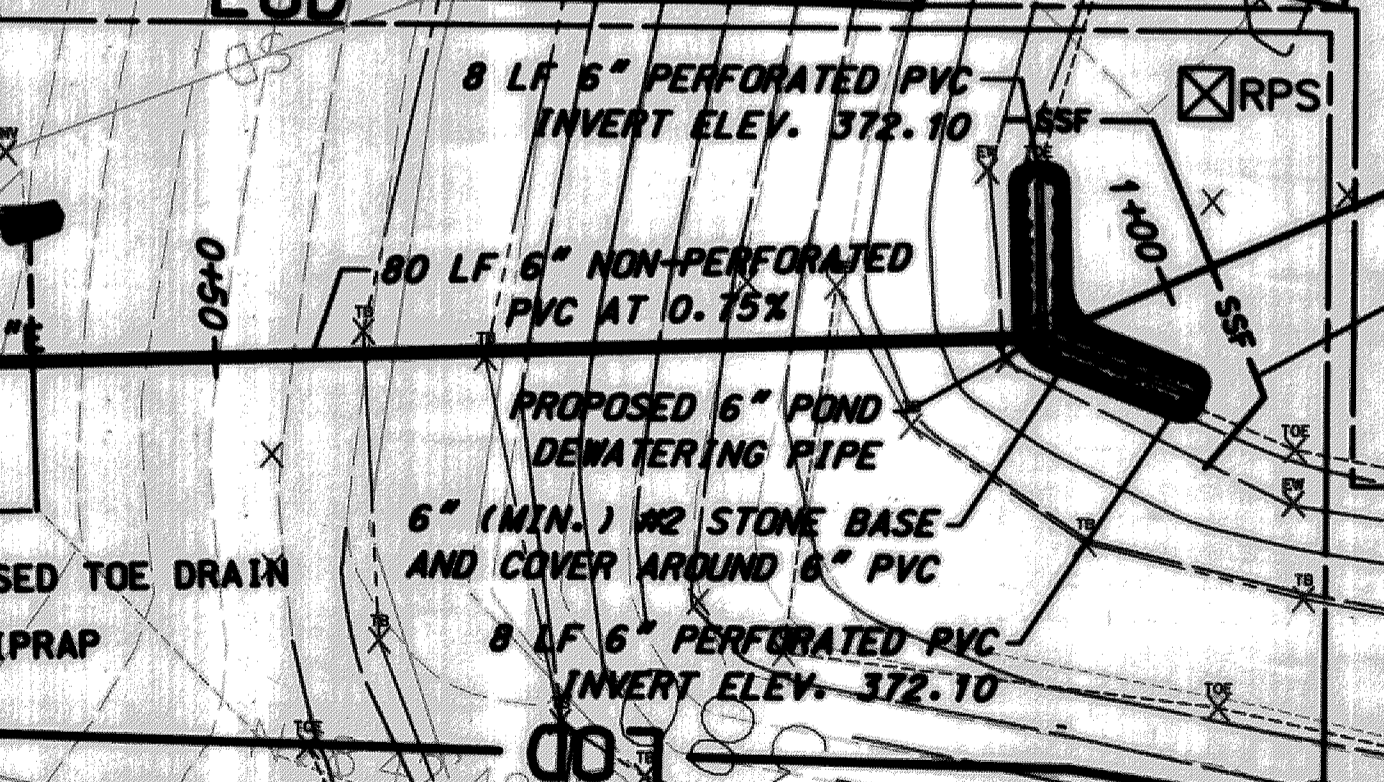
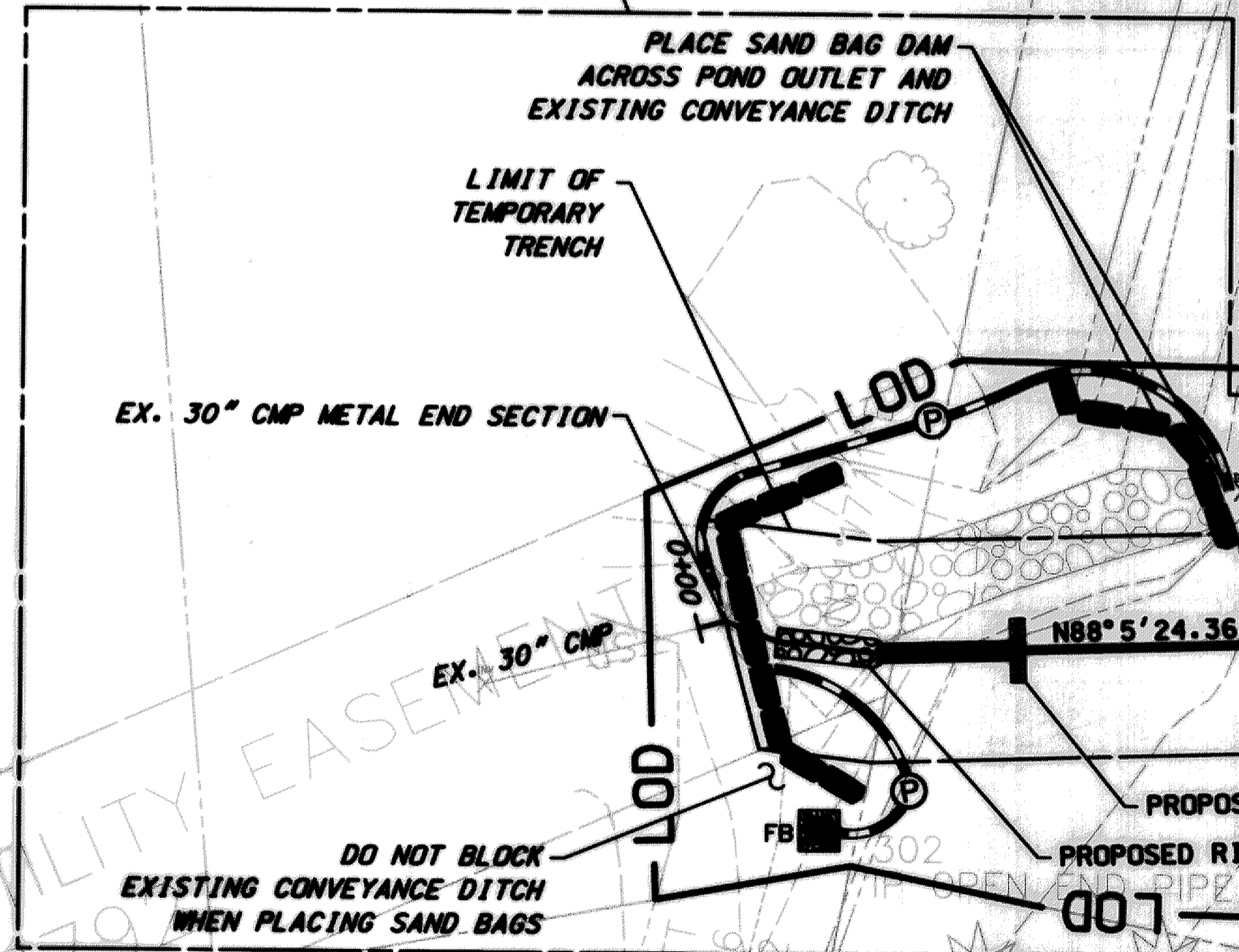


ASHMEDE DRIVE
 POND ENHANCEMENTS

PROPOSED POND
 DEWATERING PIPE
 EROSION AND
 SEDIMENT CONTROL
 PLAN

SCALE: 1" = 10'
 DATE: AUGUST 2013
 PROJECT NO.: 01-081795.59
 CAPITAL PROJECT NO.: D-1160
 PERMIT ISSUE:
 CONSTRUCTION ISSUE:
SUPPLEMENT
 SHEET NO.: 7A OF 11

PHASE 1



STOCKPILE OF MATERIALS IN EXCESS OF 15 FEET IN HEIGHT SHALL BE BENCHED

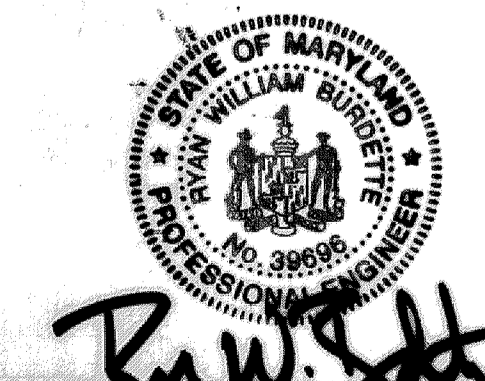
REPLACE / REPAIR ANY DAMAGE TO CURB AND SIDEWALK PRIOR TO COMPLETION OF PROJECT.

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

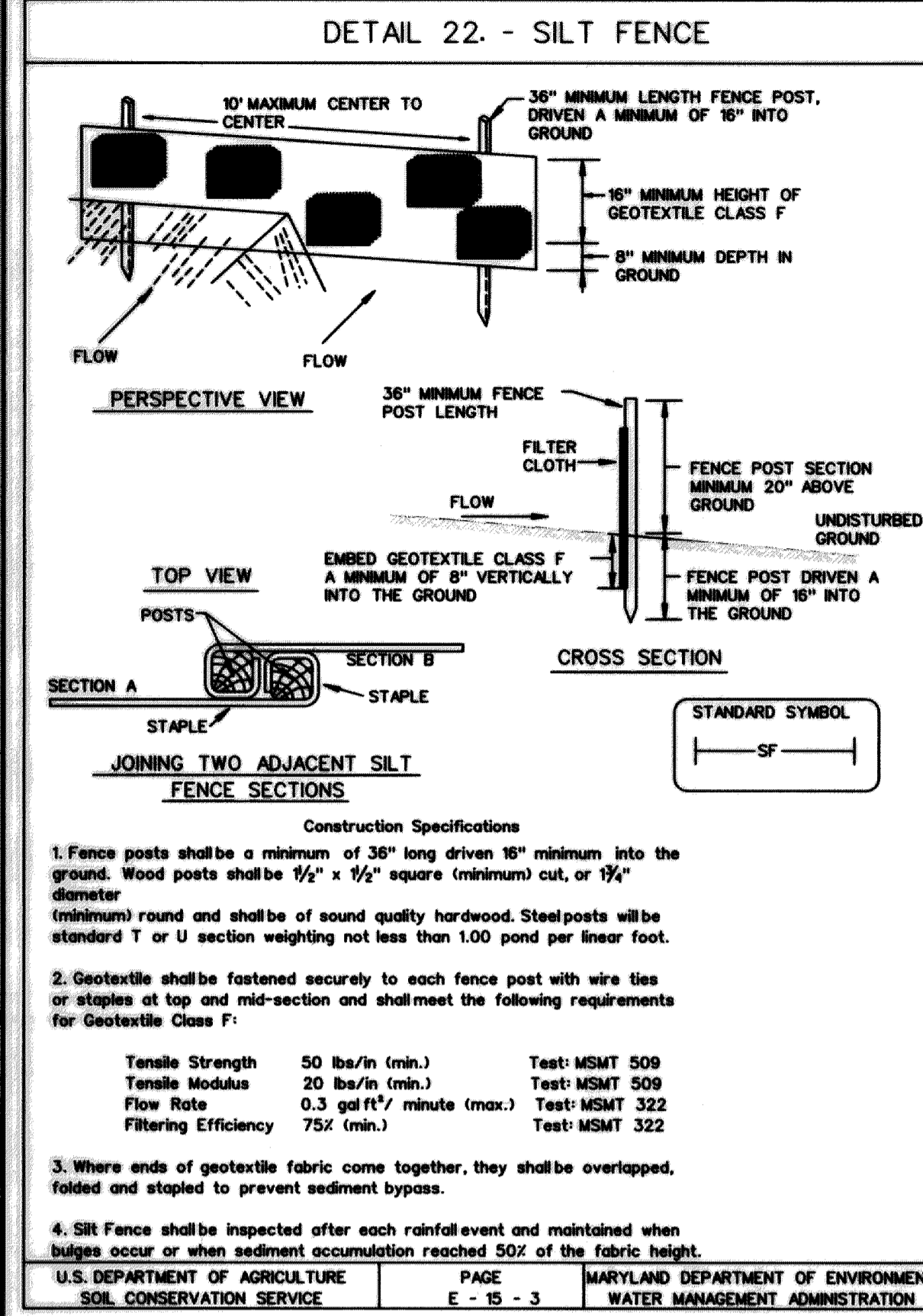
John R. Robertson
 HOWARD SCD
 DATE: 8/15/13

Maha Dharma
 CHIEF, BUREAU OF ENVIRONMENTAL SERVICES
 DATE: 8/14/13



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. 39696, EXPIRATION DATE: JANUARY 04, 2015

KCI FILE: MA 2008 \ 01081795.59



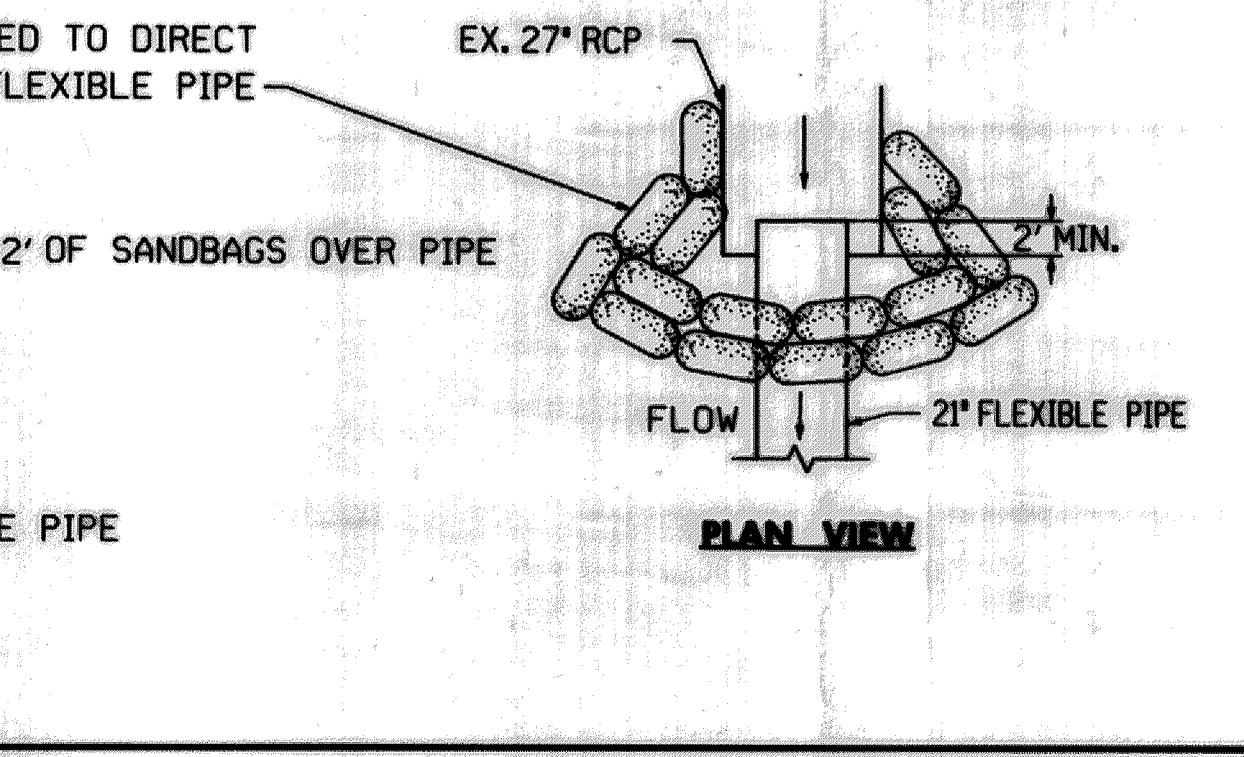
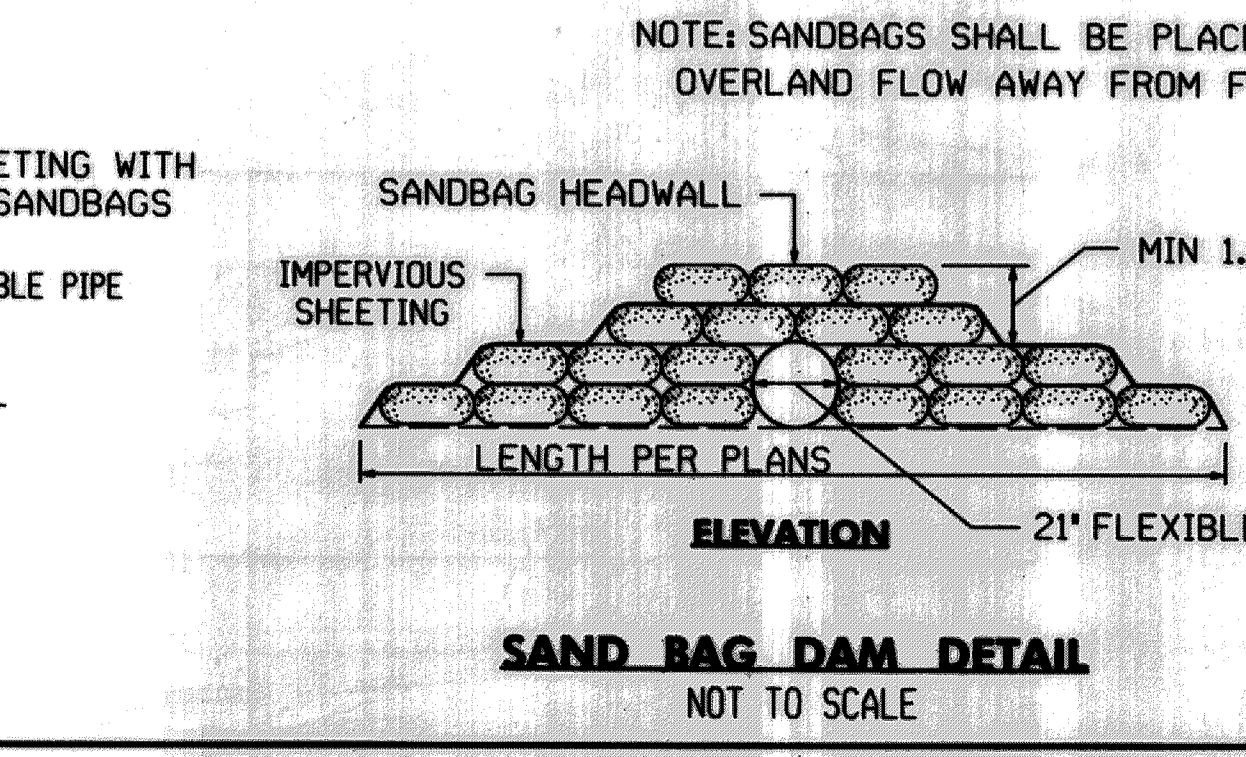
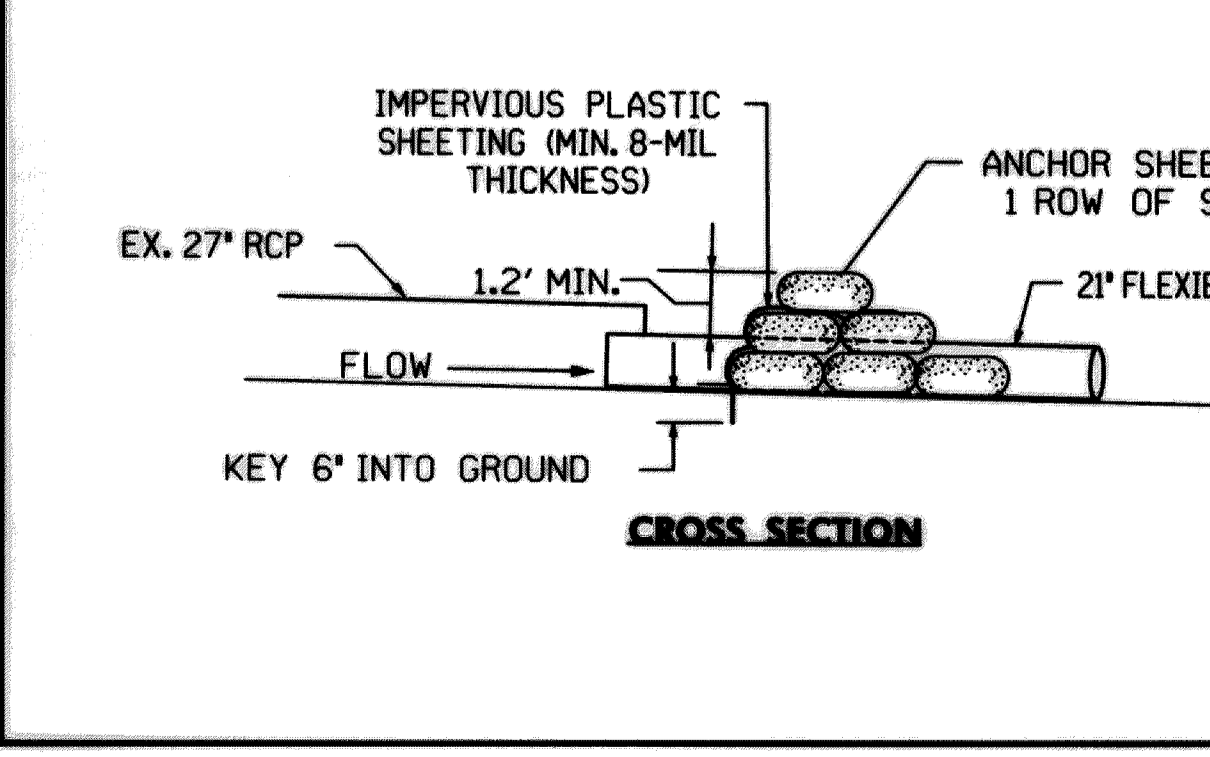
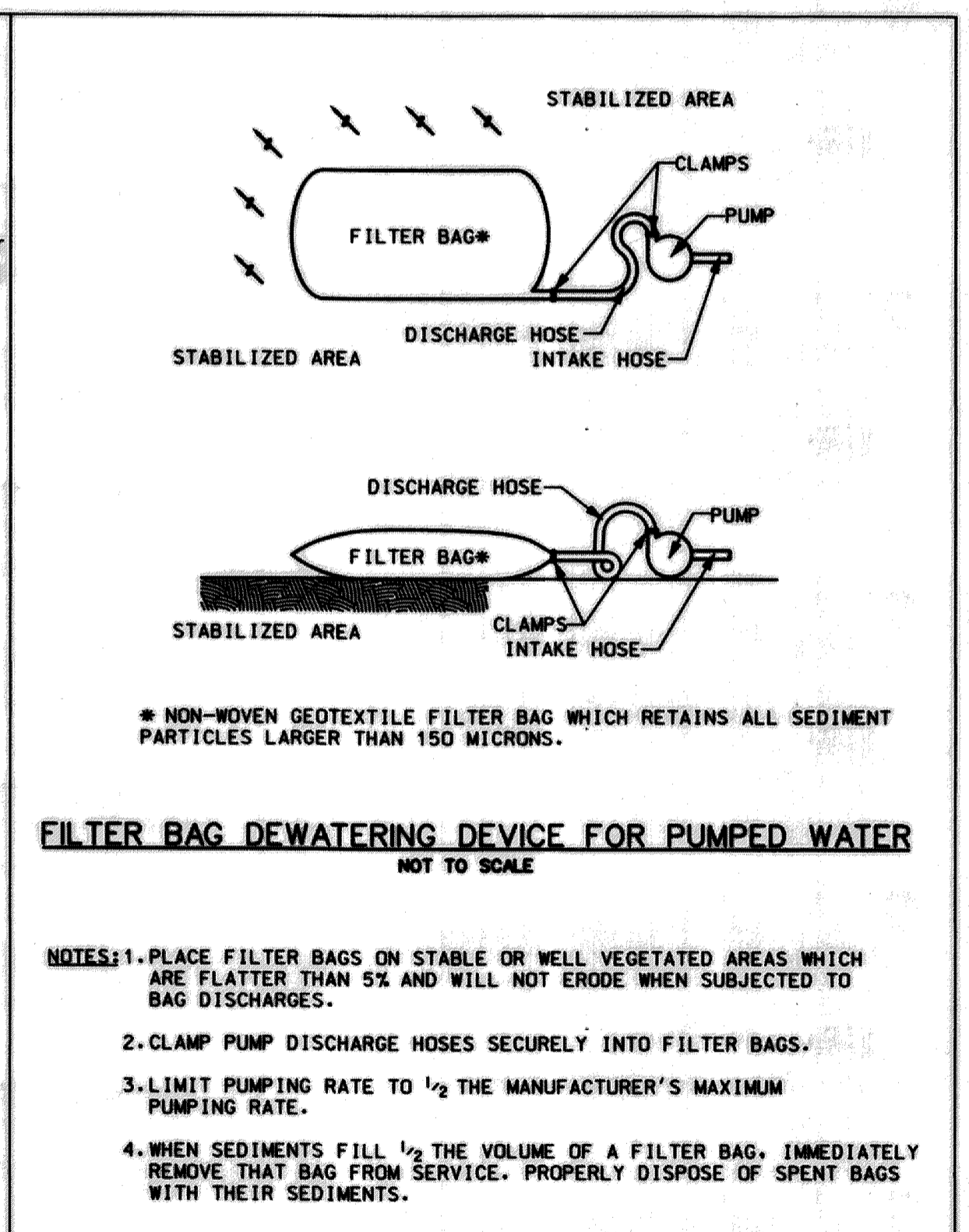
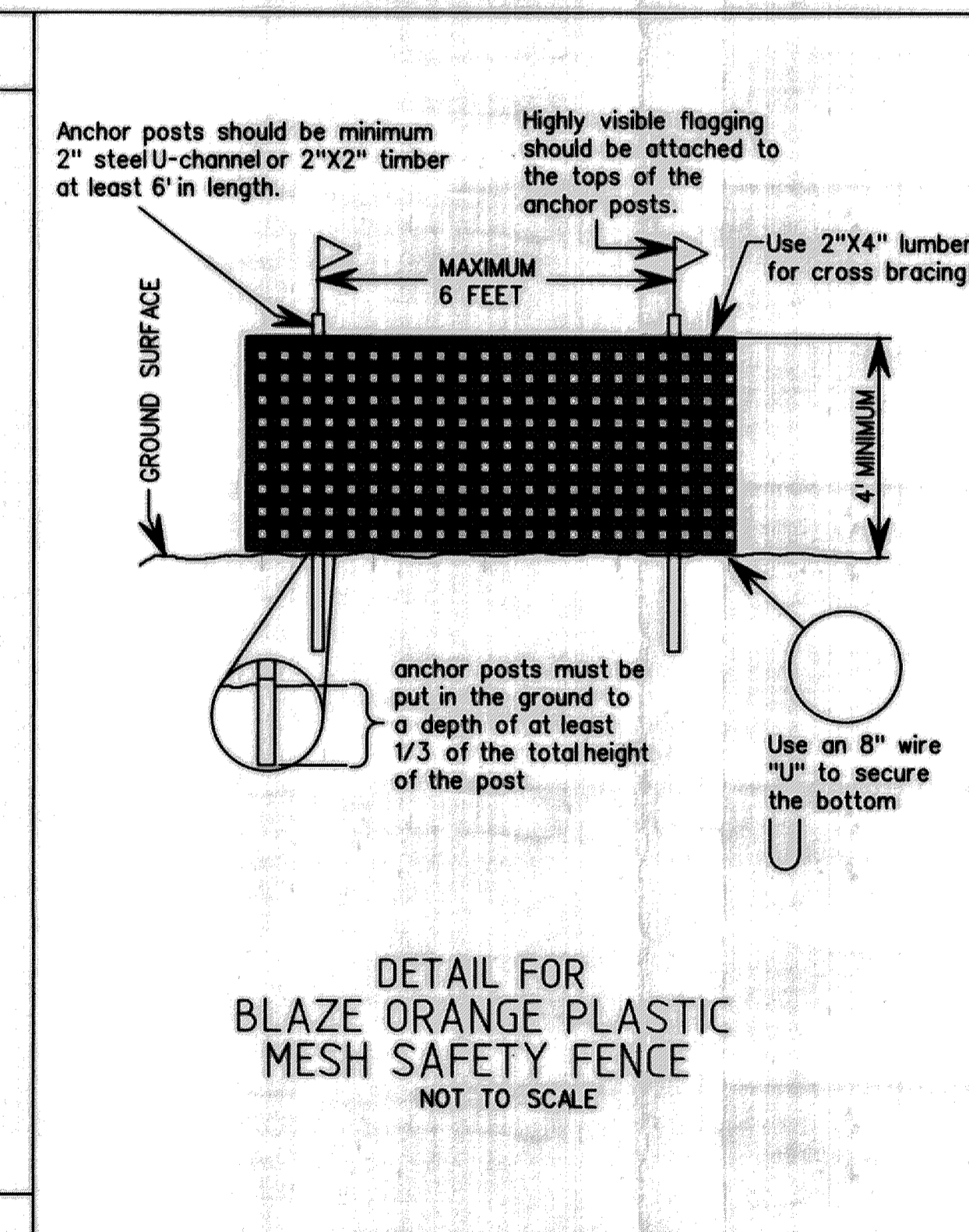
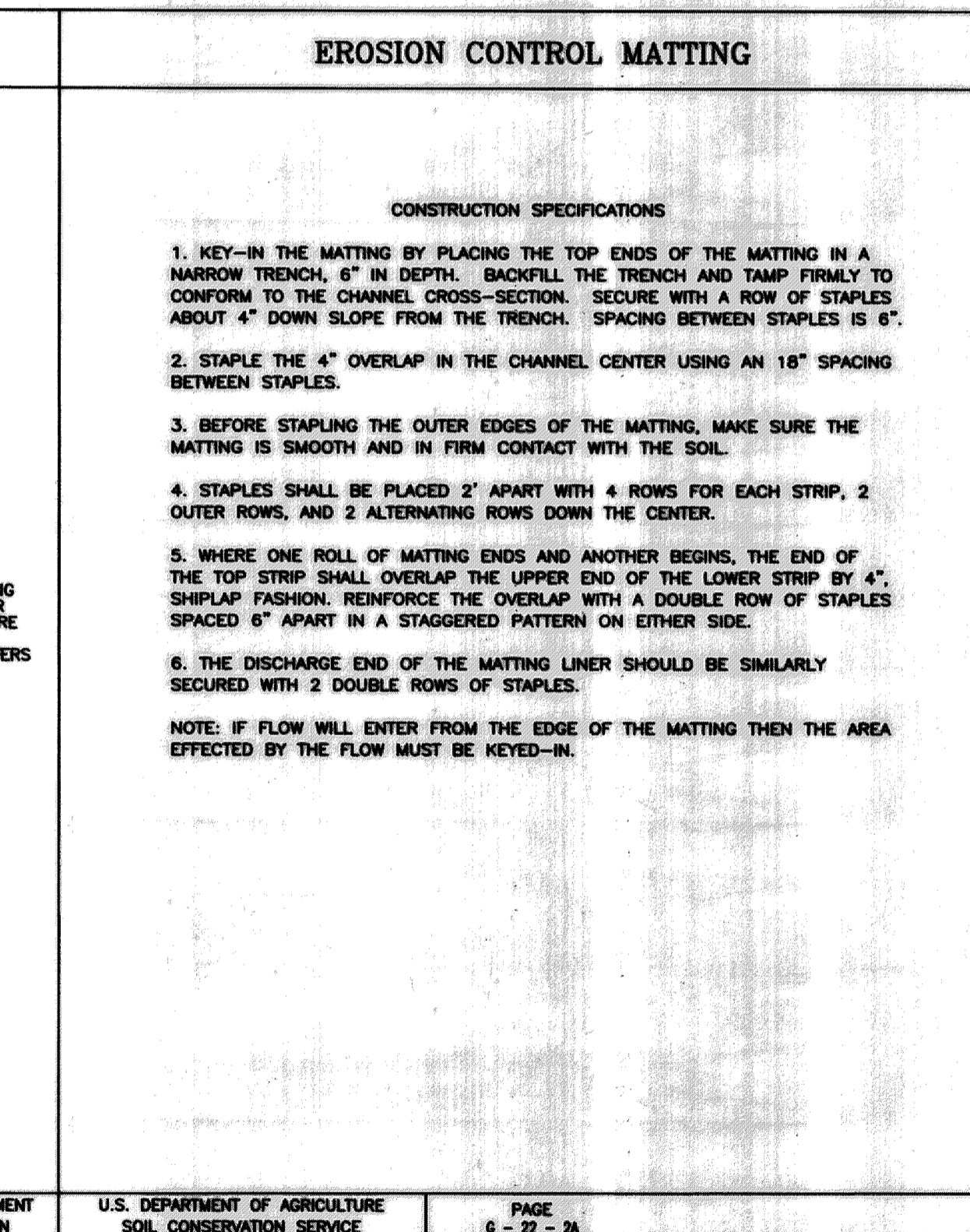
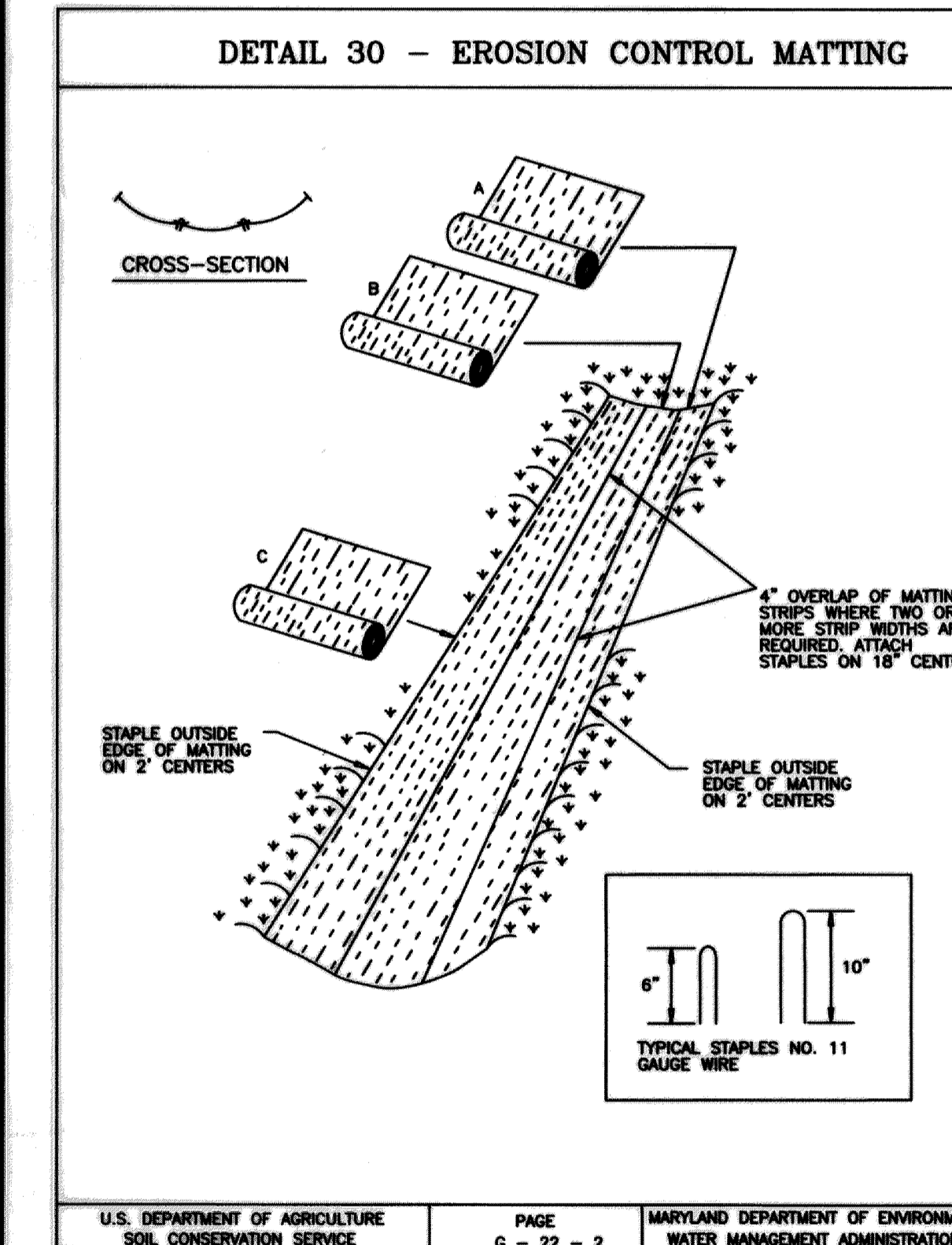
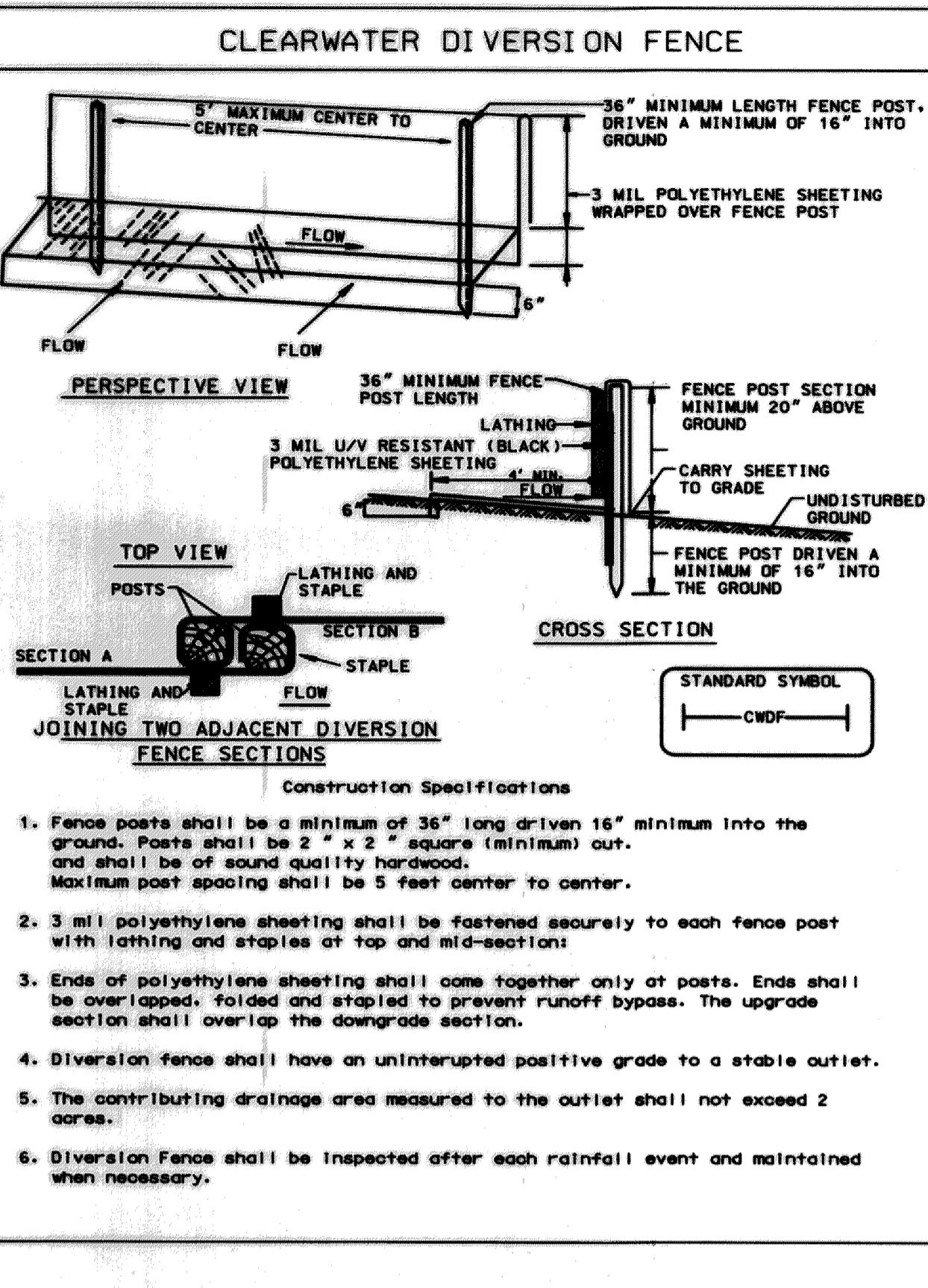
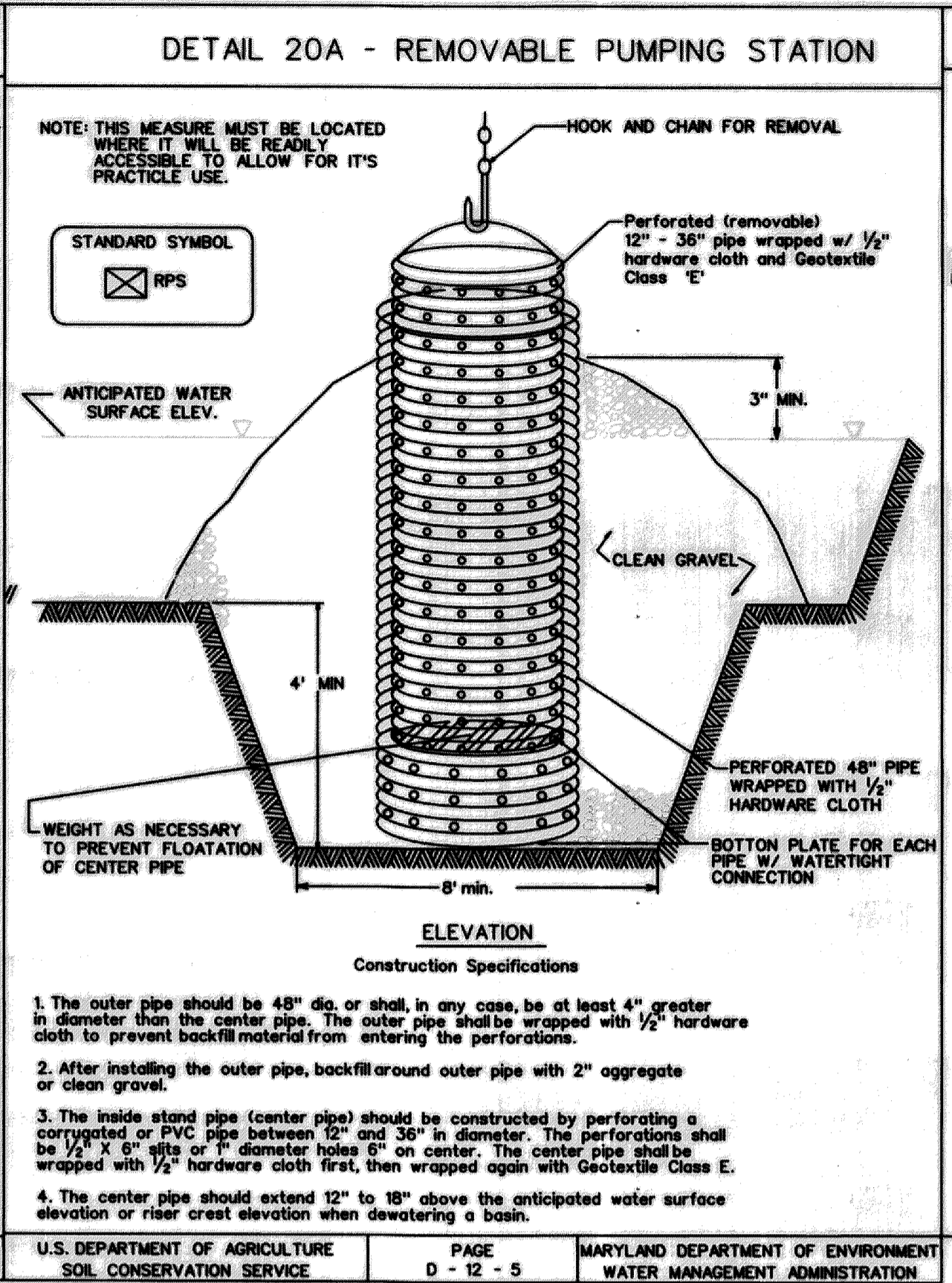
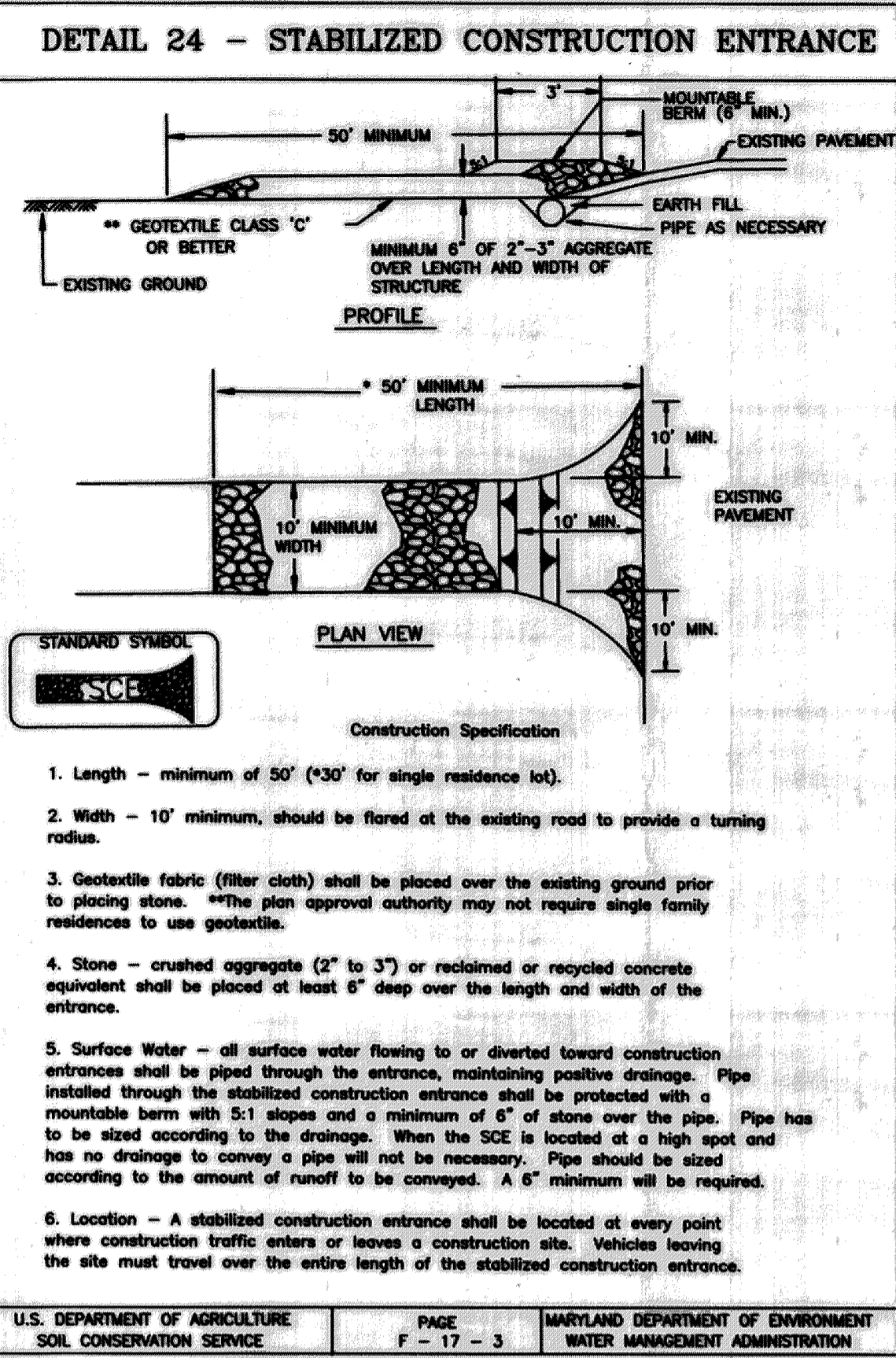
SILT FENCE

Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 5:1	unlimited	unlimited
5:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

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

U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE | PAGE E-15-3 | MARYLAND DEPARTMENT OF ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION



DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

[Signature]
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

10/16/12
DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature]
HOWARD SCD

10/16/12
DATE

STATE OF MARYLAND
DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
1500 COLUMBIA ROAD, SUITE 200
COLLEGE PARK, MD 20740

[Signature]

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. 39696. EXPIRATION DATE: JANUARY 04, 2013

SCALE: AS SHOWN
DATE: October 2012
KCI JOB NO.: 01-081795.59
CAPITAL PROJECT NO.: D-1160
PERMIT ISSUE:
CONSTRUCTION ISSUE:

DATE: _____

REVISIONS DESCRIPTION:

NO.	DESCRIPTION

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

KCI TECHNOLOGIES

ASHMEDE DRIVE
POND ENHANCEMENTS

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
1500 COLUMBIA ROAD, SUITE 200
COLLEGE PARK, MD 20740

EROSION AND SEDIMENT CONTROL NOTES & DETAILS

SHEET NO.: 8 OF 11

21.0 STANDARD AND SPECIFICATIONS

FOR
TOPSOIL
Definition

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

Purpose

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.

Conditions Where Practice Applies

- I. This practice 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.
- II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

- I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. 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-SCS in cooperation with Maryland Agricultural Experiment Station.
- II. Topsoil Specifications - Soil to be used as topsoil must meet the following:
 - i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
 - ii. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.
 - iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
- III. For sites having disturbed areas under 5 acres:
 - i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section - Vegetative Stabilization Methods and Materials.
- IV. For sites having disturbed areas over 5 acres:
 - i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
 - b. Organic content of topsoil shall be not less than 1.5 percent by weight.
 - c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time as elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

Note: 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.

- II. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section - Vegetative Stabilization Methods and Materials.
- V. Topsoil Application
 - i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
 - ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
 - iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall 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 shall be corrected in order to prevent the formation of depressions or water pockets.
 - iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that my otherwise be detrimental to proper grading and seedbed preparation.

HOWARD SOIL CONSERVATION DISTRICT
PERMANENT SEEDING NOTES **

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, disking

or other acceptable means before seeding, if not previously loosened.

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

1. Preferred -- Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs/acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.)
2. Acceptable -- Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs/acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.

Seeding - For the periods March 1 - April 30, and August 1 - October 15, seed with 60 lbs/acre (1.4 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 - July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (.05 lbs/100sq. ft.) of weeping lovegrass. During the period of October 16 - February 28, protect site by: Option 1 - Two tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option 2 - Use sod. Option 3 - Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching - Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool. No asphalt emulsion shall be used for anchoring. Only a non-toxic, latex tacking material is allowed.

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

** Contractor shall perform a soil test at the site as a first order of business. The results shall be reviewed by Department of Recreation and Parks to determine appropriate soil amendments and fertilization needs for this project. No fertilizer or soil amendments shall be added without approval of Department of Recreation and Parks.

FILL MATERIAL AND COMPACTION REQUIREMENTS:

In general, existing on-site soils free from environmental contamination, building debris, frozen, organic or wet materials and with a Unified Soils Classification of CL-ML, or more granular, with a plasticity index less than 12 can be reused as compacted fill. On-site soils with a Unified Soils Classification of CL, CH, or MH or with liquid limits greater than 40 and plastic indices greater than or equal to 12 are not suitable as structural fill. If imported materials are required it shall have a Unified Soils Classification of SM or more granular and less plastic and a maximum dry density of at least 105-pcf in accordance with the modified proctor test method (ASTM D-1557) or as approved by the Engineer.

Fill shall be placed in horizontal, eight-inch maximum loose lifts and compacted to at least 92 percent of the Modified Proctor maximum dry density (ASTM D-1557), or alternately the Contractor shall compact each lift a minimum of 3 to 4 passes as approved by the Engineer. The moisture content of the fill shall be properly controlled during placement and shall be within 3 percentage points of the optimum moisture. Fill being placed on hillsides shall be benched to prevent a sliding failure plane.

As directed by the Engineer, in-place density tests shall be performed by an engineering technician on a full-time basis under the supervision of a geotechnical engineer licensed in the State of Maryland to verify that the proper degree of compaction is being obtained.

HOWARD SOIL CONSERVATION DISTRICT
TEMPORARY SEEDING NOTES **

Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.

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

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

Seeding: -- For periods March 1 - April 30 and from August 15 - October 15, seed with 2-1/2 bushels per acre of annual ryegrass (3.2 lbs/1000 sq. ft.). For the period May 1 - August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 sq. ft.). For the period November 16 - February 28, protect site by applying 2 tons/acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: -- Apply 1-1/2 to 2 tons/acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool. No asphalt emulsion shall be used for anchoring. Only a non-toxic, latex backing material is allowed.

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

TABLE 28 STONE SIZE

NUMBER	SIZE RANGE	D 50	D 100	AASHTO	HEIGHT
57*	3/8"-1 1/2"			M-43	N/A
1	2"-3"		3"	M-43	N/A
RIP-RAP**	4"-7"		7"	N/A	N/A
CLASS I	N/A		15"	N/A	150 LB. MAX.
CLASS II	N/A		24"	N/A	700 LB. MAX.
CLASS III	N/A		34"	N/A	2000 LB. MAX.

* THIS CLASSIFICATION IS TO BE USED ON THE INSIDE FACE OF STONE OUTLETS AND CHECK DAMS.
** THIS CLASSIFICATION IS TO BE USED WHENEVER SMALL RIP-RAP IS REQUIRED. THE STATE HIGHWAY ADMINISTRATION DESIGNATION FOR THIS STONE IS STONE FOR GABIONS (905.0104).

24.0 MATERIALS AND SPECIFICATIONS
TABLE 27 GEOTEXTILE FABRICS

CLASS	APPARENT OPENING SIZE MM. MAX.	GRAB TENSILE STRENGTH LB. MIN.	BURST STRENGTH PSI MIN.
A	0.30**	250	500
B	0.60	200	320
C	0.30	200	320
D	0.60	90	145
E	0.30	200	145
F (SILT FENCE)	0.40 - 0.80 *	90	190

* US STD. SIEVE CW-02215 ** .50 MM. MAX. FOR SUPER SILT FENCE

THE PROPERTIES SHALL BE DETERMINED IN ACCORDANCE WITH THE FOLLOWING PROCEDURES:

- APPARENT OPENING SIZE MSMT 323
- GRAB TENSILE STRENGTH ASTM D 1682 4"x8" SPECIMEN 1"x2" CLAMPS, 12"/ MIN. STRAIN RATE IN BOTH PRINCIPAL DIRECTIONS OF GEOTEXTILE FABRIC.
- BURST STRENGTH ASTM D 3786

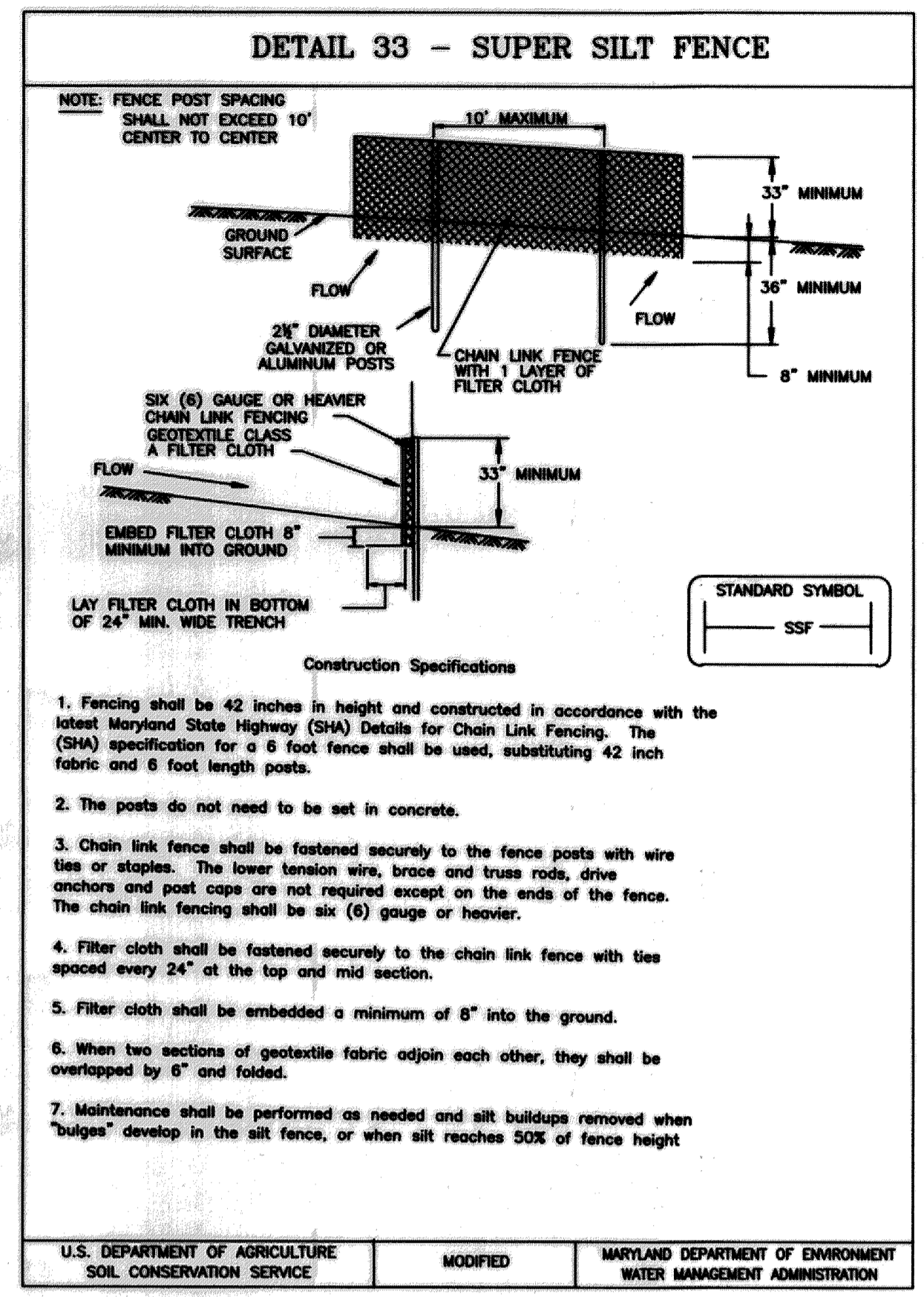
THE FABRIC SHALL BE INERT TO COMMONLY ENCOUNTERED CHEMICALS AND HYDROCARBONS, AND WILL BE ROT AND MILDEW RESISTANT. IT SHALL BE MANUFACTURED FROM FIBERS CONSISTING OF LONG CHAIN SYNTHETIC POLYMERS, AND COMPOSED OF A MINIMUM OF 85% BY WEIGHT OF POLYOLEPHINS, POLYESTERS, OR POLYAMIDES. THE GEOTEXTILE FABRIC SHALL RESIST DETERIORATION FROM ULTRAVIOLET EXPOSURE.

IN ADDITION CLASSES A THROUGH E SHALL HAVE A 0.01 CM/SEC. MINIMUM PERMEABILITY WHEN TESTED IN ACCORDANCE WITH MSMT 507, AND AN APPARENT MINIMUM ELONGATION OF 20 PERCENT (20%) WHEN TESTED IN ACCORDANCE WITH THE GRAB TENSILE STRENGTH REQUIREMENTS LISTED ABOVE.

SILT FENCE CLASS F GEOTEXTILE FABRICS FOR ALL SILT FENCE SHALL HAVE A SOLB./IN. MINIMUM TENSILE STRENGTH AND A 20 LB/IN. MINIMUM TENSILE MODULES WHEN TESTED IN ACCORDANCE WITH MSMT 509. MATERIAL SHALL ALSO HAVE A 0.3 GAL./FT. SQUARED/MIN. FLOW RATE AND SEVENTY-FIVE PERCENT (75%) MINIMUM FILTERING EFFICIENCY WHEN TESTED IN ACCORDANCE WITH MSMT 322.

GEOTEXTILE FABRICS USED IN THE CONSTRUCTION OF THE SILT FENCE SHALL RESIST DETERIORATION FROM ULTRAVIOLET EXPOSURE. THE FABRIC SHALL CONTAIN SUFFICIENT AMOUNTS OF ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 12 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 TO 120 DEGREES F.

MATERIALS SPECIFICATIONS



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

MODIFIED

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DESIGN CRITERIA

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

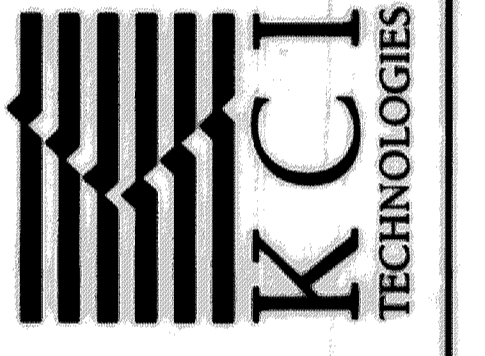
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

PAGE H - 26 - 3A

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

NO.	REVISIONS DESCRIPTION	DATE

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



ASHMEDE DRIVE
POND ENHANCEMENTS

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

EROSION AND SEDIMENT CONTROL NOTES & DETAILS

SCALE: AS SHOWN
DATE: October 2012
KCI JOB NO.: 01-081795.59
CAPITAL PROJECT NO.: D-1160
PERMIT ISSUE:
CONSTRUCTION ISSUE:

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD
[Signature]
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES
10/5/12
DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature]
HOWARD SCD
10/10/12
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. 39896. EXPIRATION DATE: JANUARY 24, 2013
[Signature]

PLOTTED: 11:32 AM on Wednesday, October 03, 2012
FILE: W:\2008\081795.59\ASMEDE.dwg, PLOT: 11:32 AM on Wednesday, October 03, 2012
PLOTTER: HP DesignJet 2450

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**
- Soil Preparation**
 - Temporary Stabilization**
 - 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 chiselplows 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.
 - Apply fertilizer and lime as prescribed on the plans.
 - Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.
 - Permanent Stabilization**
 - A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:
 - Soil pH between 6.0 and 7.0.
 - Soluble salts less than 500 parts per million (ppm).
 - 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.
 - Soil contains 1.5 percent minimum organic matter by weight.
 - Soil contains sufficient pore space to permit adequate root penetration.
 - Application of amendments or topsoils required if on-site soils do not meet the above conditions.
 - 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.
 - Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.
 - 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.

- Topsoiling**
 - 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.
 - 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.
 - Topsoiling is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent materials not adequate to produce vegetative growth.
 - 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.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.
- Areas having slopes steeper than 2:1 require special consideration and design.
- Topsoil Specifications:** Soil to be used as topsoil must meet the following criteria:
 - 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.
 - 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.
 - 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.

- Topsoil Application**
 - Erosion and sediment control practices must be maintained when applying topsoil.
 - 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.
 - Topsoil must not be placed if the topsoil or subsoil is in a frozen or muddy condition, when the subsoils excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

- Soil Amendments (Fertilizer and Lime Specifications)**
 - 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.
 - 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.
 - Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydrosedding) 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.
 - 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.
 - 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**
- Seeding**
 - Specifications**
 - 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.
 - 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.
 - 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 hydrosedding. 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.
 - 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 phytotoxic materials.
 - Application**
 - Dry Seeding:** This includes use of conventional drop or broadcast spreaders.
 - 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.
 - 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.
 - Application**
 - Apply mulch to all seeded areas immediately after seeding.
 - 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.
 - 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 obtain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
 - Anchoring**
 - 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:
 - 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.
 - 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.
 - Synthetic binders such as Acrylic DLR (Ago-Tack), DCA-70, Percoak, Terra Tex 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.
 - 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.

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/1000 ft ²	cu. ft/1000 ft ²		2b and 6a	6b	7a and 7b
Annual Ryegrass (<i>Lolium perenne</i> cv. 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 (<i>Hordeum vulgare</i>)	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 (<i>Avena sativa</i>)	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 (<i>Triticum aestivum</i>)	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
Canada Rye (<i>Sitona canadensis</i>)	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 Nov 15
Perennial Millet (<i>Syntherisma latifolium</i>)	30	0.7	0.5	Jun 1 to Jul 31	May 16 to Jul 31	May 1 to Aug 14
Perennial Millet (<i>Pennisetum glaucum</i>)	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 rate shall be adjusted to reflect percent seed germination and purity, as noted. Adjustments are usually not needed for the cool-season grasses.
2/ Seeding rates listed above are for temporary seedings, when planted alone. When planted in a warm crop with permanent seed mixes, use 1/3 of the seeding rate listed above for barley, oats, and wheat. For cool-season grasses (annual ryegrass, perennial ryegrass, timothy), do not exceed more than 2/3 (by weight) of the overall permanent seedling mix. Cool ryegrass should not be used as a warm crop, unless planting will occur in very late fall beyond the seeding dates for other temporary seedings. Cool ryegrass has allelopathic properties that inhibit the germination and growth of other plants. It's seed is used as a warm crop, and at 1/3 of the rate listed above.
3/ See the recommended warm crop for warm-season grasses.
4/ For steady soils, plant seeds at twice the depth listed above.
5/ The planting date listed are averages for each Zone and may require adjustment to reflect local conditions, especially near the boundaries of the zones.

- Drill or Calipacker Seeding:** Mechanized seeders that apply and cover seed with soil.
 - Calipacker 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.
 - Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction.
- Hydrosedding:** Apply seed uniformly with hydroseder (slurry includes seed and fertilizer).
 - 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; P₂O₅ (phosphorus), 200 pounds per acre; K₂O (potassium), 200 pounds per acre.
 - Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydrosedding). Normally, not more than 2 tons are applied by hydrosedding at any one time. Do not use burnt or hydrated lime when hydrosedding.
 - Mix seed and fertilizer on site and seed immediately and without interruption.
 - When hydrosedding do not incorporate seed into the soil.

- Mulching**
 - Mulch Materials (in order of preference)**
 - 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.
 - Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.
 - 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.
 - WCFM, including dye, must contain no germination or growth inhibiting factors.
 - 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 penetration properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
 - WCFM material must not contain elements or compounds at concentration levels that will be phytotoxic.
 - 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.

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**
- 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.
 - For sites having soil tests performed, use and show the recommended rates by the testing agency. Soil tests are not required for Temporary Seeding.
 - 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.

Hardiness Zone (from Figure B.3): _____				Fertilizer Rate (10-20-20)	Lime Rate
Seed Mixture (from Table B.1):					
No.	Species	Application Rate (lb/acre)	Seeding Dates	Seeding Depth	
					436 lb/acre (10 lb/1000 sq ft)
					2 tons/acre (90 lb/1000 sq ft)

B.18

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

Mark P. ...
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

8/14/13
DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

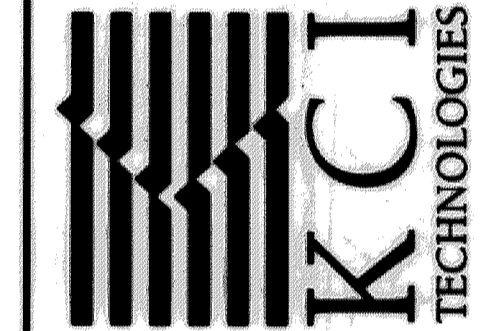
John R. Roberson
HOWARD SCD

8/15/13
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. 39696, EXPIRATION DATE: JANUARY 04, 2015

NO.	REVISIONS DESCRIPTION	DATE

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



ASHMEDE DRIVE
POND ENHANCEMENTS

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
SPERMANTER MANAGEMENT DIVISION
680 COLUMBIA GREENWAY DRIVE
COLUMBIA, MD 21046

EROSION AND
SEDIMENT
CONTROL NOTES

SCALE: AS SHOWN
DATE: AUGUST 2013
DCJ JOB NO.: 01-081795.59
CAPITAL PROJECT NO.: D-1160
PERMIT ISSUE:
CONSTRUCTION ISSUE:

SUPPLEMENT
SHEET NO.: 9A OF 11

BY: Ryan Burdette, Division: P033, Water Resources, Date: 08/14/13, File: H:\2008\081795.59\081795.59_S02-0002-Ashmede.dgn

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 1/4 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

B.21

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 1/4 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.24

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: 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 ensures 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 disk 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 1/2 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 (1/4 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

Permanent Seeding Summary

Hardiness Zone (from Figure B.3): _____ Seed Mixture (from Table B.3): _____				Fertilizer Rate (10-20-20)			Lime Rate	
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depth	N	P ₂ O ₅	K ₂ O	
				1/4 - 1/2 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)
				1/4 - 1/2 in				
				1/4 - 1/2 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 3/4 inch, plus or minus 1/8 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.

B.23

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

Mark K. Johnson
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

8/14/13
DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Kolbert
HOWARD SCD

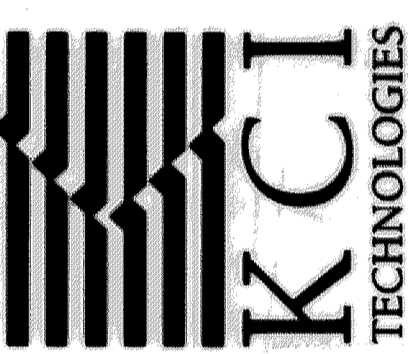
8/15/13
DATE



Mark K. Johnson
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. 29699. EXPIRATION DATE: JANUARY 04, 2015

NO.	REVISIONS DESCRIPTION	DATE

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



ASHMEDE DRIVE
POND ENHANCEMENTS

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
STORMWATER MANAGEMENT DIVISION
691 COLUMBIA GATEWAY DRIVE
COLUMBIA, MD 21048

EROSION AND SEDIMENT CONTROL NOTES

SCALE:	AS SHOWN
DATE:	AUGUST 2013
KCI JOB NO.:	01-081795.59
CAPITAL PROJECT NO.:	D-1160
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	

SUPPLEMENT
SHEET NO.: 9B OF 11

BY: [Signature] DATE: [Date] PLOTTED: [Date] PLOT: [Date]
 FILE: M:\2008\01081795.59\ASMEDE\ASMEDE.dgn

HOWARD COUNTY CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (313-1855).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol 1, Chapter 12 of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:

ASHMEDE DRIVE POND	
Total Area of Site	0.74 Acres
Area Disturbed	0.45 Acres
Area to be roofed or paved	--
Area to be vegetatively stabilized	0.45 Acres
Total Cut	930 Cu. Yds.
Total Fill	--
Offsite waste/borrow area location and permit	To Be Determined*

- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
- Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each work day, whichever is shorter.
*Offsite waste/borrow site shall have an approved sediment control plan and permit.

SEQUENCE OF CONSTRUCTION

- CONTRACTOR SHALL TAKE EXTRA PRECAUTION WHEN OPERATING EQUIPMENT AND TRANSPORTING MATERIALS IN THIS RESIDENTIAL AREA.
- CONTRACTOR SHALL FOLLOW CONSTRUCTION SPECIFICATIONS FOR INFILTRATION PRACTICES (SHEET 6 OF 11) TO AVOID COMPACTION OF THE BASIN FLOOR BY EQUIPMENT TRACKING.
- ALL GRADING OPERATIONS SHALL BE DONE IN STRICT ACCORDANCE WITH THE PUMP AROUND CRITERIA.
- ALL EXCAVATED SEDIMENT SHALL BE TRANSPORTED TO AN APPROVED LOCATION OFFSITE.
- CONTRACTOR SHALL MINIMIZE THE IMPACT ON EXISTING TREES, EXISTING UTILITIES, AND OTHER EXISTING FEATURES.
- FOLLOWING INFILTRATION FACILITY CONSTRUCTION, PLACE PLANTINGS ACCORDING TO LANDSCAPE PLAN.
- | DURATION | PHASE 1 |
|----------|--|
| 3 DAYS | <ol style="list-style-type: none"> THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777, AND HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION (410)-313-1880 AT LEAST SEVEN (7) DAYS PRIOR TO BEGINNING ANY WORK. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION, INCLUDING GRADING PERMIT, FROM THE COUNTY AT THE PRE-CONSTRUCTION MEETING. CONTRACTOR SHALL COORDINATE AN ON-SITE PRE-CONSTRUCTION MEETING THAT SHALL INCLUDE COUNTY PROJECT MANAGER AND HOWARD COUNTY CONSTRUCTION INSPECTION, BUREAU OF UTILITY. CONTRACTOR SHALL STAKE OUT LOD AND TREE SAVES PRIOR TO PRE-CONSTRUCTION MEETING. STAKE OUT THE LIMIT OF DISTURBANCE. CLEAR AREAS AS NEEDED WITHIN THE LIMIT OF DISTURBANCE REQUIRED TO ESTABLISH THE PROPOSED SEDIMENT CONTROL MEASURES. INSTALL ALL PERIMETER CONTROL DEVICES INCLUDING ORANGE SAFETY FENCE, SILT FENCE, SUPER SILT FENCE, TREE SAVES, STABILIZED CONSTRUCTION ENTRANCE, AND STOCKPILE AREA AS SHOWN ON THE PLANS OR AS DIRECTED BY THE SEDIMENT CONTROL INSPECTOR. NO WORK SHALL BE PERFORMED UNTIL THESE DEVICES ARE APPROVED BY THE SEDIMENT CONTROL INSPECTOR. WITH PERMISSION FROM THE INSPECTOR, CONTRACTOR SHALL PROCEED WITH CONSTRUCTION. DURING AN ANTICIPATED THREE (3) DAY PERIOD OF DRY WEATHER, EXCAVATE AT THE BASE OF THE EXISTING 27 INCH RCP INFLOW PIPE TO REMOVE THE EXISTING 20 FT. X 3 FT. X 1 FT. GABION CHANNEL. SEE SHEET 6 OF 11 FOR EXISTING GABION CHANNEL DETAIL. EXISTING RIPRAP CAN BE STOCKPILED AND REUSED IN RIPRAP SLOPE STABILIZATION AREAS ONCE GRADING IS COMPLETED. ONCE GABION CHANNEL IS REMOVED, INSTALL SAND BAG DAM AND 21 INCH FLEXIBLE DIVERSION PIPE AT THE EXISTING 27 INCH RCP INFLOW PIPE AS SHOWN. POSITION THE UPSTREAM END OF THE 21 INCH FLEXIBLE PIPE DIRECTLY INSIDE THE EXISTING 27 INCH RCP INFLOW PIPE. REMOVE THE EXISTING RISER STRUCTURE. PLACE THE DOWNSTREAM END OF THE 21 INCH FLEXIBLE DIVERSION PIPE DIRECTLY INSIDE THE EXISTING 24 INCH BCCMP BARREL PIPE AND SECURE WITH SAND BAGS AS NEEDED. ONCE REMOVAL OF THE GABION CHANNEL, REMOVAL OF THE EXISTING RISER, AND INSTALLATION OF FLEXIBLE DIVERSION PIPE AND SAND BAG DAM ARE COMPLETED, WITH PERMISSION FROM INSPECTOR, CONTRACTOR SHALL PROCEED WITH PHASE 2. |

- | DURATION | PHASE 2 |
|----------|---|
| 5 DAYS | <ol style="list-style-type: none"> ANY DEWATERING OF SEDIMENT LADEN WATER DURING PHASE 2 EXCAVATION SHALL BE THROUGH A REMOVABLE PUMPING STATION OR TO A FILTER BAG, PORTABLE SEDIMENT TANK, OR OTHER APPROVED DEWATERING DEVICE. BEGINNING WITH THE PRE-TREATMENT FOREBAY AREA, PERFORM GRADING OPERATIONS TO INSTALL PRE-TREATMENT FOREBAY (INCLUDING CAPPED 8 INCH NON-PERFORATED PVC PIPE THROUGH FOREBAY EMBANKMENT) AND INFILTRATION BASIN AS SHOWN ON THE GRADING PLAN. WHEN EXCAVATING THE INFILTRATION BASIN AREA, CONTRACTOR SHALL FOLLOW THE CONSTRUCTION SPECIFICATIONS FOR INFILTRATION PRACTICES (SHEET 6 OF 11) TO AVOID COMPACTION OF THE BASIN FLOOR AND BEST MAINTAIN THE INFILTRATION RATE OF THE NATIVE SOIL. EXCAVATE 4 INCHES DOWN BELOW THE ENTIRE PROPOSED INFILTRATION BASIN FLOOR (FROM ELEVATION 372.90 TO 372.57). THIS 4 INCH LAYER WILL BE BACKFILLED WITH 4 INCHES OF BIOTENTION SOIL MIXTURE IN PHASE 3 TO ARRIVE AT THE FINAL INFILTRATION BASIN BOTTOM ELEVATION 372.90. INSTALL CLASS 1 RIPRAP SLOPE PROTECTION UNDERLAYERED WITH GEOTEXTILE CLASS 'SE' AT POND INFLOW AND AT PRE-TREATMENT FOREBAY SPILLWAY AS SHOWN. RESET 27 INCH CONCRETE END SECTION AT THE POND INFLOW PIPE IF NECESSARY ONCE GRADING IS COMPLETED AND SLOPE STABILIZATION INSTALLED. RESTORE SOUTHWEST CORNER SECTION OF EMBANKMENT TO EXISTING GRADE (MINIMUM ELEVATION 381.25) AND STABILIZE WITH TYPE 'B' SOIL STABILIZATION MATTING. CONTRACTOR SHALL USE CAUTION TO PREVENT DAMAGE TO THE EXISTING CYPRESS TREES WHEN ACCESSING THIS WORK AREA. IF NECESSARY, CONTRACTOR SHALL SEEK DIRECTION FROM THE ENGINEER PRIOR TO REMOVAL OF ANY EXISTING CYPRESS TREES TO DETERMINE A NECESSARY COURSE OF ACTION TO COMPLETE WORK IN THIS AREA. ONCE GRADING OF THE PRE-TREATMENT FOREBAY, INFILTRATION BASIN, AND SOUTHWEST CORNER SECTION OF THE EMBANKMENT ARE COMPLETED AND STABILIZED, AND 8 INCH NON-PERFORATED PVC PIPE THROUGH FOREBAY EMBANKMENT AND RIPRAP SLOPE PROTECTION INSTALLED, WITH THE PERMISSION FROM INSPECTOR, REMOVE SANDBAG DAM AND 21 INCH FLEXIBLE DIVERSION PIPE AND PROCEED WITH PHASE 3. |
| DURATION | PHASE 3 |
| 5 DAYS | <ol style="list-style-type: none"> ANY DEWATERING OF SEDIMENT LADEN SURFACE WATER DURING PHASE 3 WORK SHALL BE THROUGH A PUMP AROUND PRACTICE TO A FILTER BAG, PORTABLE SEDIMENT TANK, OR OTHER APPROVED DEWATERING DEVICE. DURING AN ANTICIPATED THREE (3) DAY PERIOD OF DRY WEATHER, INSTALL PUMP AROUND PRACTICE FROM BASE OF PROPOSED RISER TO DOWNSTREAM TOE OF THE EXISTING EMBANKMENT INCLUDING RIPRAP PAD, FILTER BAG, PUMP, AND FLEXIBLE DEWATERING PIPES AS SHOWN. ONCE PUMP AROUND IS INSTALLED AND FUNCTIONING, EXCAVATE AS NEEDED TO CUT BACK AND REMOVE APPROXIMATELY FIVE (5) FEET OF THE EXISTING 24 INCH BCCMP BARREL PIPE. USE CAUTION TO AVOID EQUIPMENT TRAFFIC ON THE SURFACE OF THE INFILTRATION BASIN TO PREVENT COMPACTION OF THE BASIN FLOOR. INSTALL THE PROPOSED RISER, S-1, AND CONCRETE COLLAR ON THE EXISTING BARREL PIPE AS SHOWN. USE CAUTION TO ENSURE THAT THE CONNECTION BETWEEN THE EXISTING BARREL PIPE, CONCRETE COLLAR, AND PROPOSED RISER BOX IS INSTALLED PROPERLY AND WATERTIGHT (SEE DETAIL, SHEET 5 OF 11). INSTALL LOW FLOW DEWATERING SYSTEM AND GRADE ANY REMAINING AREAS SURROUNDING THE PROPOSED RISER TO FINAL. ONCE GRADING OF THE INFILTRATION BASIN AND PRE-TREATMENT FOREBAY ARE FINAL AND INSTALLATION OF PROPOSED RISER, LOW FLOW DEWATERING SYSTEM, AND SLOPE STABILIZATION RIPRAP COMPLETED, INSTALL 4 INCH LAYER OF BIOTENTION SOIL MIXTURE OVER THE ENTIRE INFILTRATION BASIN SURFACE (ELEVATION 372.57 TO 372.90). WITH PERMISSION FROM THE INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND PERMANENTLY STABILIZE ANY REMAINING DISTURBED AREA. REMOVE ALL STOCKPILE AREAS AND STABILIZE THE AREA TO EXISTING CONDITION. REPLACE/REPAIR ANY DAMAGE TO CURB AND/OR SIDEWALK PRIOR TO COMPLETION OF THE PROJECT. INSTALL LANDSCAPE PLANTINGS PER THE LANDSCAPE PLANS (SHEET 11 OF 11). |

DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD

[Signature]
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES

10/5/12
DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature]
HOWARD SCD

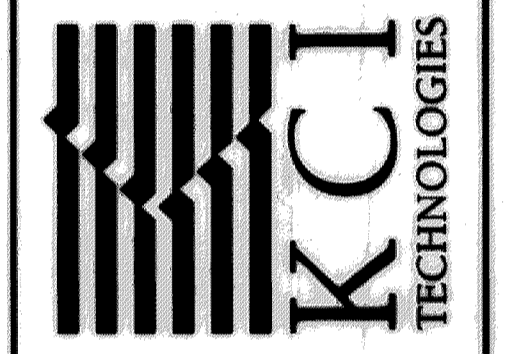
10/11/12
DATE

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. 39696. EXPIRATION DATE: JANUARY 04, 2013

[Signature]

NO.	REVISIONS DESCRIPTION	DATE

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



ASHMEDE DRIVE
POND ENHANCEMENTS

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
SPARKS, MARYLAND 21152
800 COLUMBIA GATEWAY DRIVE
COLUMBIA, MD 21046

EROSION AND
SEDIMENT
CONTROL NOTES

SCALE: AS SHOWN
DATE: October 2012
KCI JOB NO.: 01-081795.59
CAPITAL PROJECT NO.: D-1160
PERMIT ISSUE:
CONSTRUCTION ISSUE:

PLOTTED: 11:32 AM on Wednesday, October 03, 2012
BY: Ryan Burdette (Printer P053, Water Resources GMA
E.L. M. 3008 10/03/12 9:29 AM) C:\Users\RyanB\Documents\...

HOWARD COUNTY CONSERVATION DISTRICT
STANDARD SEDIMENT CONTROL NOTES

- A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (313-1855).
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.
- Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 3 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 7 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol 1, Chapter 12 of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 2011 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL (Sec. B-4-5), sed (Sec. B-4-4), (Sec. B-4-3) temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis: **SITE ANALYSIS DOES NOT INCLUDE SUPPLEMENTAL PLANS FOR REMEDIAL WORK**
ASHMEDE DRIVE POND

Total Area of Site	0.74 Acres
Area Disturbed	0.45 Acres
Area to be roofed or paved	--
Area to be vegetatively stabilized	0.45 Acres
Total Cut	930 Cu. Yds.
Total Fill	--
Offsite waste/borrow area location and permit	To Be Determined*
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
- Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each work day, whichever is shorter. *Offsite waste/borrow site shall have an approved sediment control plan and permit.
- Any changes or revisions to the sequence of construction must be reviewed and approved by the plan approval authority prior to proceeding with construction.
- 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 enforcement authority. Unless otherwise specified and approved by the approval authority, no more than 30 acres cumulatively may be disturbed at a given time.

SEQUENCE OF CONSTRUCTION

CONTRACTOR SHALL TAKE EXTRA PRECAUTION WHEN OPERATING EQUIPMENT AND TRANSPORTING MATERIALS IN THIS RESIDENTIAL AREA.

CONTRACTOR SHALL FOLLOW CONSTRUCTION SPECIFICATIONS FOR INFILTRATION PRACTICES (SHEET 6 OF 11) TO AVOID COMPACTION OF THE BASIN FLOOR BY EQUIPMENT TRACKING.

ALL GRADING OPERATIONS SHALL BE DONE IN STRICT ACCORDANCE WITH THE PUMP AROUND CRITERIA.

ALL EXCAVATED SEDIMENT SHALL BE TRANSPORTED TO AN APPROVED LOCATION OFFSITE.

CONTRACTOR SHALL MINIMIZE THE IMPACT ON EXISTING TREES, EXISTING UTILITIES, AND OTHER EXISTING FEATURES.

FOLLOWING INFILTRATION FACILITY CONSTRUCTION, PLACE PLANTINGS ACCORDING TO LANDSCAPE PLAN.

- | DURATION | PHASE 1 |
|----------|---|
| 3 DAYS | <ol style="list-style-type: none"> THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777, AND HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION (410)-313-1880 AT LEAST SEVEN (7) DAYS PRIOR TO BEGINNING ANY WORK. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION, INCLUDING GRADING PERMIT, FROM THE COUNTY AT THE PRE-CONSTRUCTION MEETING. CONTRACTOR SHALL COORDINATE AN ON-SITE PRE-CONSTRUCTION MEETING THAT SHALL INCLUDE COUNTY PROJECT MANAGER AND HOWARD COUNTY CONSTRUCTION INSPECTION, BUREAU OF UTILITY. |
| 3 DAYS | <ol style="list-style-type: none"> CONTRACTOR SHALL STAKE OUT LOD AND TREE SAVES PRIOR TO PRE-CONSTRUCTION MEETING. STAKE OUT THE LIMIT OF DISTURBANCE. CLEAR AREAS AS NEEDED WITHIN THE LIMIT OF DISTURBANCE REQUIRED TO ESTABLISH THE PROPOSED SEDIMENT CONTROL MEASURES. INSTALL ALL PERIMETER CONTROL DEVICES INCLUDING ORANGE SAFETY FENCE, SILT FENCE, SUPER SILT FENCE, TREE SAVES, STABILIZED CONSTRUCTION ENTRANCE, AND STOCKPILE AREA AS SHOWN ON THE PLANS OR AS DIRECTED BY THE SEDIMENT CONTROL INSPECTOR. NO WORK SHALL BE PERFORMED UNTIL THESE DEVICES ARE APPROVED BY THE SEDIMENT CONTROL INSPECTOR. WITH PERMISSION FROM THE INSPECTOR, CONTRACTOR SHALL PROCEED WITH CONSTRUCTION. DURING AN ANTICIPATED THREE (3) DAY PERIOD OF DRY WEATHER, EXCAVATE AT THE BASE OF THE EXISTING 27 INCH RCP INFLOW PIPE TO REMOVE THE EXISTING 20 FT. X 3 FT. X 1 FT. GABION CHANNEL. SEE SHEET 6 OF 11 FOR EXISTING GABION CHANNEL DETAIL. EXISTING RIPRAP CAN BE STOCKPILED AND REUSED IN RIPRAP SLOPE STABILIZATION AREAS ONCE GRADING IS COMPLETED. ONCE GABION CHANNEL IS REMOVED, INSTALL SAND BAG DAM AND 21 INCH FLEXIBLE DIVERSION PIPE AT THE EXISTING 27 INCH RCP INFLOW PIPE AS SHOWN. POSITION THE UPSTREAM END OF THE 21 INCH FLEXIBLE PIPE DIRECTLY INSIDE THE EXISTING 27 INCH RCP INFLOW PIPE. REMOVE THE EXISTING RISER STRUCTURE. PLACE THE DOWNSTREAM END OF THE 21 INCH FLEXIBLE DIVERSION PIPE DIRECTLY INSIDE THE EXISTING 24 INCH BCCMP BARREL PIPE AND SECURE WITH SAND BAGS AS NEEDED. |
| 5 DAYS | <ol style="list-style-type: none"> ONCE REMOVAL OF THE GABION CHANNEL, REMOVAL OF THE EXISTING RISER, AND INSTALLATION OF FLEXIBLE DIVERSION PIPE AND SAND BAG DAM ARE COMPLETED, WITH PERMISSION FROM INSPECTOR, CONTRACTOR SHALL PROCEED WITH PHASE 2. |

- | DURATION | PHASE 2 |
|----------|---|
| 5 DAYS | <ol style="list-style-type: none"> ANY DEWATERING OF SEDIMENT LADEN WATER DURING PHASE 2 EXCAVATION SHALL BE THROUGH A REMOVABLE PUMPING STATION OR TO A FILTER BAG, PORTABLE SEDIMENT TANK, OR OTHER APPROVED DEWATERING DEVICE. BEGINNING WITH THE PRE-TREATMENT FOREBAY AREA, PERFORM GRADING OPERATIONS TO INSTALL PRE-TREATMENT FOREBAY (INCLUDING CAPPED 8 INCH NON-PERFORATED PVC PIPE THROUGH FOREBAY EMBANKMENT) AND INFILTRATION BASIN AS SHOWN ON THE GRADING PLAN. WHEN EXCAVATING THE INFILTRATION BASIN AREA, CONTRACTOR SHALL FOLLOW THE CONSTRUCTION SPECIFICATIONS FOR INFILTRATION PRACTICES (SHEET 6 OF 11) TO AVOID COMPACTION OF THE BASIN FLOOR AND BEST MAINTAIN THE INFILTRATION RATE OF THE NATIVE SOIL. EXCAVATE 4 INCHES DOWN BELOW THE ENTIRE PROPOSED INFILTRATION BASIN FLOOR (FROM ELEVATION 372.90 TO 372.57). THIS 4 INCH LAYER WILL BE BACKFILLED WITH 4 INCHES OF BIORETENTION SOIL MIXTURE IN PHASE 3 TO ARRIVE AT THE FINAL INFILTRATION BASIN BOTTOM ELEVATION 372.90. INSTALL CLASS 1 RIPRAP SLOPE PROTECTION UNDERLAYERED WITH GEOTEXTILE CLASS 'SE' AT POND INFLOW AND AT PRE-TREATMENT FOREBAY SPILLWAY AS SHOWN. RESET 27 INCH CONCRETE END SECTION AT THE POND INFLOW PIPE IF NECESSARY ONCE GRADING IS COMPLETED AND SLOPE STABILIZATION INSTALLED. RESTORE SOUTHWEST CORNER SECTION OF EMBANKMENT TO EXISTING GRADE (MINIMUM ELEVATION 381.25) AND STABILIZE WITH TYPE 'B' SOIL STABILIZATION MATTING. CONTRACTOR SHALL USE CAUTION TO PREVENT DAMAGE TO THE EXISTING CYPRESS TREES WHEN ACCESSING THIS WORK AREA. IF NECESSARY, CONTRACTOR SHALL SEEK DIRECTION FROM THE ENGINEER PRIOR TO REMOVAL OF ANY EXISTING CYPRESS TREES TO DETERMINE A NECESSARY COURSE OF ACTION TO COMPLETE WORK IN THIS AREA. ONCE GRADING OF THE PRE-TREATMENT FOREBAY, INFILTRATION BASIN, AND SOUTHWEST CORNER SECTION OF THE EMBANKMENT ARE COMPLETED AND STABILIZED, AND 8 INCH NON-PERFORATED PVC PIPE THROUGH FOREBAY EMBANKMENT AND RIPRAP SLOPE PROTECTION INSTALLED, WITH THE PERMISSION FROM INSPECTOR, REMOVE SANDBAG DAM AND 21 INCH FLEXIBLE DIVERSION PIPE AND PROCEED WITH PHASE 3. |
| 3 DAYS | <ol style="list-style-type: none"> DURING AN ANTICIPATED THREE (3) DAY PERIOD OF DRY WEATHER, INSTALL PUMP AROUND PRACTICE FROM BASE OF PROPOSED RISER TO DOWNSTREAM TOE OF THE EXISTING EMBANKMENT INCLUDING RIPRAP PAD, FILTER BAG, PUMP, AND FLEXIBLE DEWATERING PIPES AS SHOWN. ONCE PUMP AROUND IS INSTALLED AND FUNCTIONING, EXCAVATE AS NEEDED TO CUT BACK AND REMOVE APPROXIMATELY FIVE (5) FEET OF THE EXISTING 24 INCH BCCMP BARREL PIPE. USE CAUTION TO AVOID EQUIPMENT TRAFFIC ON THE SURFACE OF THE INFILTRATION BASIN TO PREVENT COMPACTION OF THE BASIN FLOOR. INSTALL THE PROPOSED RISER, S-1, AND CONCRETE COLLAR ON THE EXISTING BARREL PIPE AS SHOWN. USE CAUTION TO ENSURE THAT THE CONNECTION BETWEEN THE EXISTING BARREL PIPE, CONCRETE COLLAR, AND PROPOSED RISER BOX IS INSTALLED PROPERLY AND WATERTIGHT (SEE DETAIL, SHEET 5 OF 11). INSTALL LOW FLOW DEWATERING SYSTEM AND GRADE ANY REMAINING AREAS SURROUNDING THE PROPOSED RISER TO FINAL. ONCE GRADING OF THE INFILTRATION BASIN AND PRE-TREATMENT FOREBAY ARE FINAL AND INSTALLATION OF PROPOSED RISER, LOW FLOW DEWATERING SYSTEM, AND SLOPE STABILIZATION RIPRAP COMPLETED, INSTALL 4 INCH LAYER OF BIORETENTION SOIL MIXTURE OVER THE ENTIRE INFILTRATION BASIN SURFACE (ELEVATION 372.57 TO 372.90). WITH PERMISSION FROM THE INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND PERMANENTLY STABILIZE ANY REMAINING DISTURBED AREA. REMOVE ALL STOCKPILE AREAS AND STABILIZE THE AREA TO EXISTING CONDITION. REPLACE/REPAIR ANY DAMAGE TO CURB AND/OR SIDEWALK PRIOR TO COMPLETION OF THE PROJECT. INSTALL LANDSCAPE PLANTINGS PER THE LANDSCAPE PLANS (SHEET 11 OF 11). |

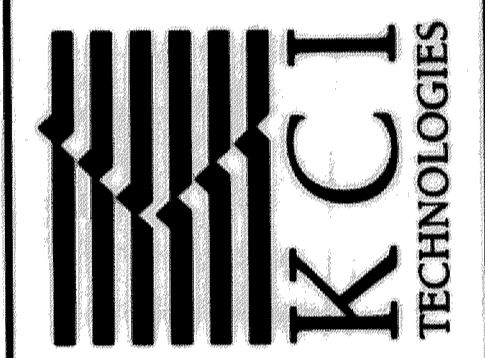
DEPARTMENT OF PUBLIC WORKS, HOWARD COUNTY, MD
William J. Burdette
CHIEF, BUREAU OF ENVIRONMENTAL SERVICES 8/14/13
DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
John R. Robertson
HOWARD SCD 8/15/13
DATE

STATE OF MARYLAND
WILLIAM BURDETTE
PROFESSIONAL ENGINEER
NO. 39696
William J. Burdette
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. 39696, EXPIRATION DATE: JANUARY 04, 2015

NO.	REVISIONS DESCRIPTION	DATE

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



ASHMEDE DRIVE
POND ENHANCEMENTS

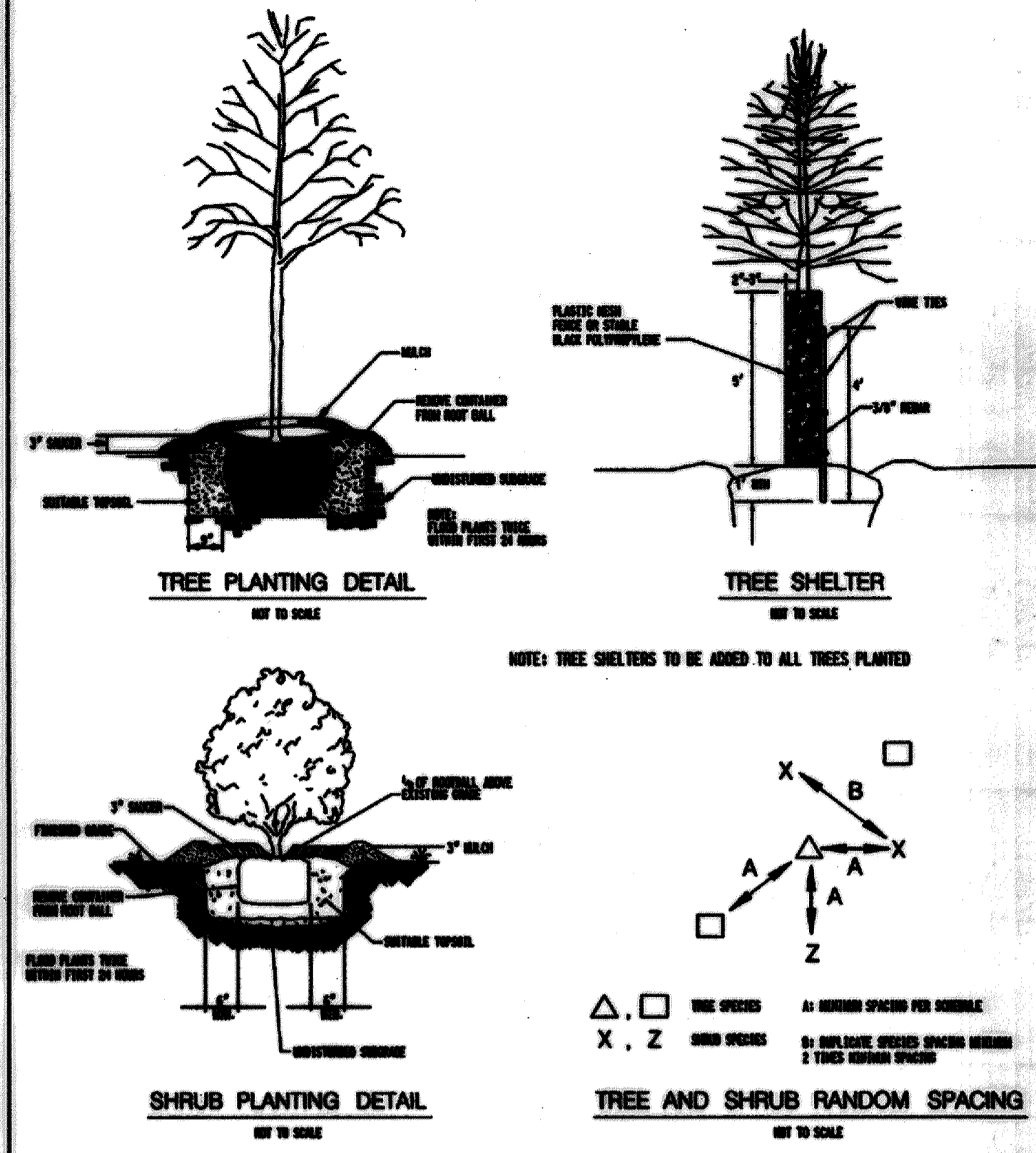
EROSION AND
SEDIMENT
CONTROL NOTES

SCALE: AS SHOWN
DATE: AUGUST 2013
KCI JOB NO.: 01-081795.59
CAPITAL PROJECT NO.: D-1160
PERMIT ISSUE:
CONSTRUCTION ISSUE:

SUPPLEMENT
SHEET NO.: 10A OF 11

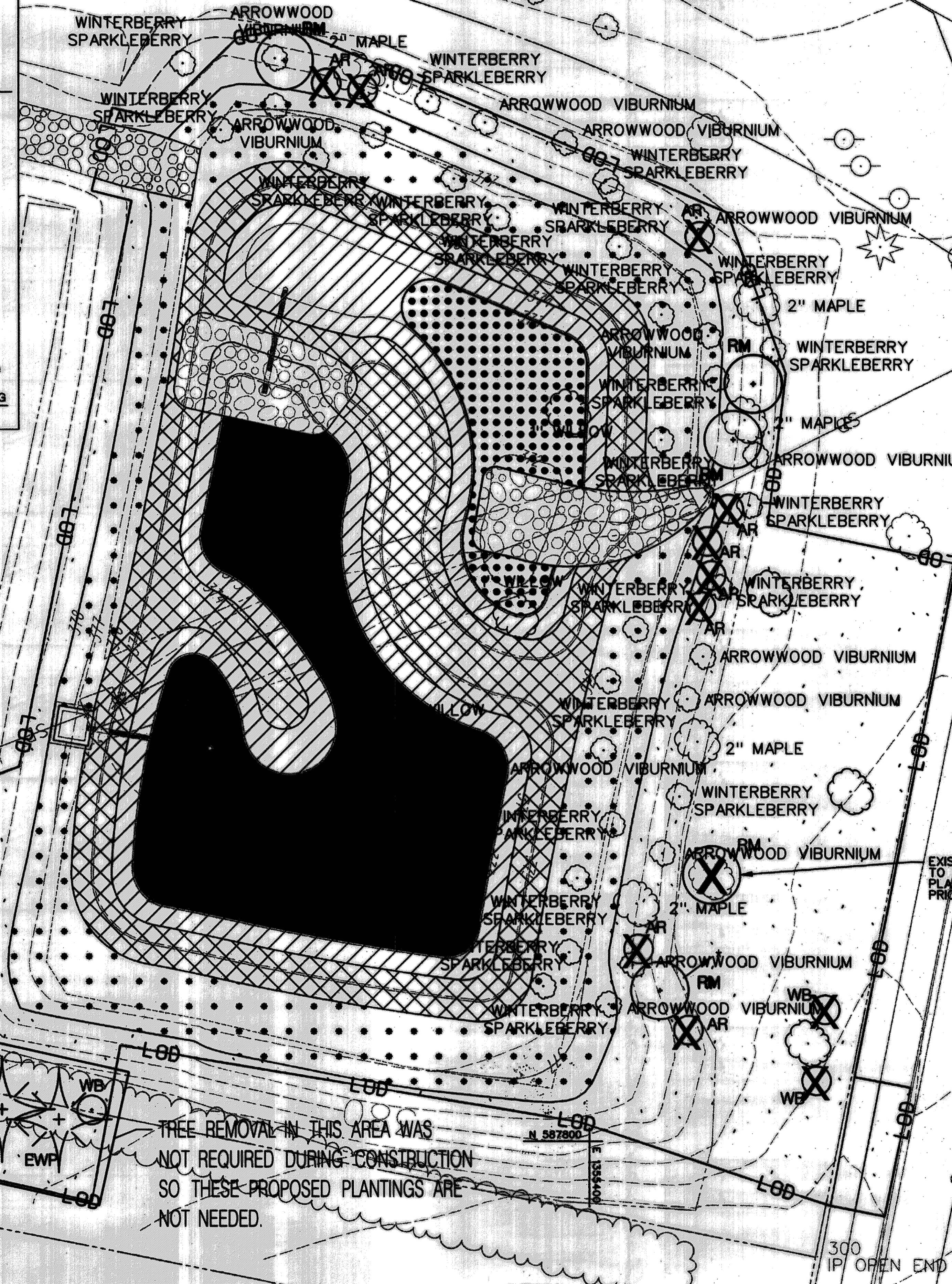
P:\R\Burdette\Division\POSS\Water Res\04\Emp
 FILE: 01-081795.59\Drawings\10A_PES-NOO3-Enhmeds.dgn

LANDSCAPE DETAILS



LANDSCAPE SCHEDULE

QTY	NAMES (COMMON/BOTANICAL)	SIZE	SPACING/RATE	FORM																		
Perimeter Zone 1 - 635 SF																						
95	BLUEFLAG/IRIS VERSICOLOR	2' OC/60%		PLUG																		
64	BROOM PANIC GRASS/DICANTHELIUM SCOPARIUM	2' OC/40%		PLUG																		
Infiltration Basin Zone 1 - 412 SF																						
120	TUSSOCK SEDGE/CAREX STRICTA	2' OC/20%		PLUG																		
120	SWITCHGRASS/PANICUM VIRGATUM	2' OC/20%		PLUG																		
121	WOOLGRASS/SCIRPUS CUSCUTRIFOLIUS	2' OC/20%		PLUG																		
121	BLUE VERVAIN/VALERIANA HASTATA	2' OC/20%		PLUG																		
121	NEW YORK FROEWED/VERNONIA NOVIBORACEAE	2' OC/20%		PLUG																		
Infiltration Basin Zone 2A - 1,823 SF																						
273	BROOM PANIC GRASS/DICANTHELIUM SCOPARIUM	2' OC/60%		PLUG																		
282	WOOLGRASS/SCIRPUS CYPERIENSIS	2' OC/40%		PLUG																		
Infiltration Zone 2B - 3,008 SF																						
30	SILKY DOGWOOD/CORNUS AMOMIUM	2 1/2'-3' HT	6'-8' OC	CONTAINER																		
30	HIGHBUSH BLUEBERRY/VACCINIUM CORYMBOSUM	2 1/2'-3' HT	6'-8' OC	CONTAINER																		
High Marsh Zone 3 - 2,888 SF																						
15-12	WINTERBERRY/VIBURNUM LENTAGO	2 1/2'-3' HT	6'-8' OC	CONTAINER																		
15-12	WINTERBERRY/ALEX VERTICILLATA	3'-4' HT	6'-8' OC	CONTAINER																		
15-13	ARROWWOOD/VIBURNUM DENTATUM	2 1/2'-3' HT	6'-8' OC	CONTAINER																		
Turf Grass Zone - 6,943 SF / 0.16 AC																						
<table border="1"> <thead> <tr> <th>Qty/lin</th> <th>Botanical Name</th> </tr> </thead> <tbody> <tr> <td>16</td> <td>Seed mix No. 1 (920.04.02)</td> </tr> </tbody> </table>					Qty/lin	Botanical Name	16	Seed mix No. 1 (920.04.02)														
Qty/lin	Botanical Name																					
16	Seed mix No. 1 (920.04.02)																					
*Application rate 100 lbs per acre																						
Native Wetland Retention Seed Mix (Throughout)																						
<table border="1"> <thead> <tr> <th>NAMES (COMMON/BOTANICAL)</th> <th>Percent of Mix</th> </tr> </thead> <tbody> <tr> <td>VIRGINIA WILD RYE/ELYMUS VIRGINICUS</td> <td>30% 35%</td> </tr> <tr> <td>DEER TONGUE/TILOGA/PANICUM CLANDESTINUM</td> <td>30% 35%</td> </tr> <tr> <td>FOX SEDGE/CAREX VULPINOIDEA</td> <td>25% 30%</td> </tr> <tr> <td>TICKLEGRASS/AGROSTIS ACABRA</td> <td>15% 15%</td> </tr> <tr> <td>TOTAL</td> <td>100%</td> </tr> </tbody> </table>		NAMES (COMMON/BOTANICAL)	Percent of Mix	VIRGINIA WILD RYE/ELYMUS VIRGINICUS	30% 35%	DEER TONGUE/TILOGA/PANICUM CLANDESTINUM	30% 35%	FOX SEDGE/CAREX VULPINOIDEA	25% 30%	TICKLEGRASS/AGROSTIS ACABRA	15% 15%	TOTAL	100%									
NAMES (COMMON/BOTANICAL)	Percent of Mix																					
VIRGINIA WILD RYE/ELYMUS VIRGINICUS	30% 35%																					
DEER TONGUE/TILOGA/PANICUM CLANDESTINUM	30% 35%																					
FOX SEDGE/CAREX VULPINOIDEA	25% 30%																					
TICKLEGRASS/AGROSTIS ACABRA	15% 15%																					
TOTAL	100%																					
PERIMETER LANDSCAPING																						
<table border="1"> <thead> <tr> <th>Symbol</th> <th>Species</th> <th>Size</th> </tr> </thead> <tbody> <tr> <td>○</td> <td>RED MAPLE/ACER RUBRUM</td> <td>6'-8' HT</td> </tr> <tr> <td>○</td> <td>EASTERN WHITE PINE/PINUS STROBUS</td> <td>9'-9' HT</td> </tr> <tr> <td>○</td> <td>WINTERBERRY/ALEX VERTICILLATA</td> <td>2'-4' HT</td> </tr> <tr> <td>○</td> <td>ARROWWOOD/VIBURNUM DENTATUM</td> <td>2'-4' HT</td> </tr> <tr> <td>○</td> <td>BLACK WILLOW / SALIX NIGRA</td> <td>1" CAL.</td> </tr> </tbody> </table>		Symbol	Species	Size	○	RED MAPLE/ACER RUBRUM	6'-8' HT	○	EASTERN WHITE PINE/PINUS STROBUS	9'-9' HT	○	WINTERBERRY/ALEX VERTICILLATA	2'-4' HT	○	ARROWWOOD/VIBURNUM DENTATUM	2'-4' HT	○	BLACK WILLOW / SALIX NIGRA	1" CAL.			
Symbol	Species	Size																				
○	RED MAPLE/ACER RUBRUM	6'-8' HT																				
○	EASTERN WHITE PINE/PINUS STROBUS	9'-9' HT																				
○	WINTERBERRY/ALEX VERTICILLATA	2'-4' HT																				
○	ARROWWOOD/VIBURNUM DENTATUM	2'-4' HT																				
○	BLACK WILLOW / SALIX NIGRA	1" CAL.																				
NOTE: FOR ALL BERRY-PRODUCING SHRUBBERY, PLEASE USE MALE OF THE SPECIES ONLY.																						



TREE REMOVAL IN THIS AREA WAS NOT REQUIRED DURING CONSTRUCTION SO THESE PROPOSED PLANTINGS ARE NOT NEEDED.

EXISTING DEAD/DAMAGED TREE TO BE REMOVED FOR CONSTRUCTION. PLANT RED MAPLE AT THIS LOCATION PRIOR TO COMPLETION OF PROJECT.

ASHMEDE DRIVE
50' RIGHT OF WAY

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. 34996. EXPIRATION DATE: JANUARY 31, 2013

NO.	REVISIONS DESCRIPTION	DATE
1	LANDSCAPE PLAN PHASE 1	APR. 2013
2	LANDSCAPE PLAN PHASE 2	NOV. 2013

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



ASHMEDE DRIVE
POND ENHANCEMENTS

LANDSCAPE PLAN

SCALE:	1" = 10'
DATE:	October 2012
PROJECT NO.:	01-081795.59
CAPITAL PROJECT NO.:	D-1160
PERMIT ISSUE:	
CONSTRUCTION ISSUE:	