

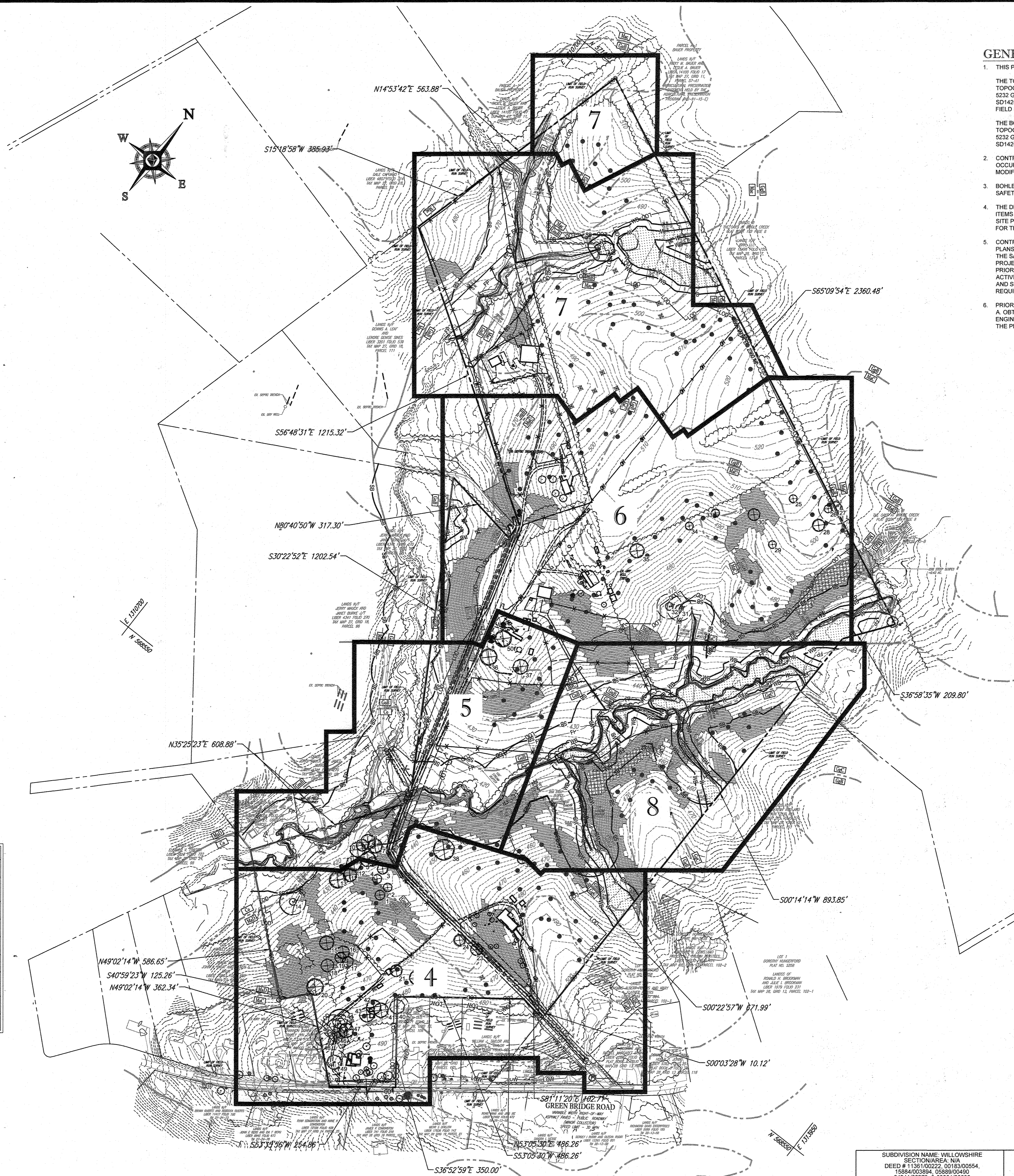




**STANDARD DRAWING LEGEND**

FOR ENTIRE PLAN SET  
(NOT TO SCALE)

EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
---	ONSITE PROPERTY LINE / R.O.W. LINE	---
---	NEIGHBORING PROPERTY LINE / INTERIOR PARCEL LINE	---
---	EASEMENT LINE	---
---	SETBACK LINE	---
---	CONCRETE CURB & GUTTER	CURB AND GUTTER DEPRESSED CURB AND GUTTER
⊕	TYPICAL LIGHT	⊕
⊕	TYPICAL SIGN	⊕
⊕	HYDRANT	⊕
⊕	SANITARY MANHOLE	⊕
⊕	SANITARY TERMINAL	⊕
⊕	STORM MANHOLE	⊕
⊕	WATER VALVE	⊕
⊕	TYPICAL END SECTION	⊕
○	CLEAN OUT	○
---	EXISTING NOTE	PROPOSED NOTE
---	TYPICAL NOTE TEXT	---
---	YARD/OVERFLOW INLET	---
---	SEPTIC DISPOSAL AREA	PRIVATE SHARED
---	WETLAND BUFFER	---
---	STREAM BUFFER	---
---	TREELINE	---
---	FULL DEPTH PAVEMENT	---
---	PERENNIAL STREAM	---
---	INTERMITTENT STREAM	---
---	BIORETENTION FACILITY / SUBMERGED GRAVEL WETLAND	---
---	WELL AREA	---
---	LIMIT OF FIELD RUN SURVEY	---



**GENERAL DEMOLITION NOTES:**

- THIS PLAN REFERENCES THE FOLLOWING:
  - THE TOPOGRAPHY SHOWN HEREON IS BASED ON HOWARD COUNTY GIS AND A BOUNDARY & TOPOGRAPHIC SURVEY PREPARED BY BOHLER ENGINEERING TITLED: ELM STREET DEVELOPMENT, 5232 GREEN BRIDGE ROAD, 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND, PROJECT NO. SD142048, DATED 03/20/15, LAST REVISED 11/20/2015. TOPOGRAPHY SHOWN OUTSIDE LIMIT OF FIELD RUN SURVEY IS TAKEN FROM HOWARD COUNTY GIS.
  - THE BOUNDARY LINES SHOWN HEREON ARE BASED ON HOWARD COUNTY GIS AND A BOUNDARY & TOPOGRAPHIC SURVEY PREPARED BY BOHLER ENGINEERING TITLED: ELM STREET DEVELOPMENT, 5232 GREEN BRIDGE ROAD, 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND, PROJECT NO. SD142048, DATED 03/20/15, LAST REVISED 11/20/2015.
- CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, (29 U.S.C. 651 ET SEQ.), AS AMENDED AND ANY MODIFICATIONS, AMENDMENTS OR REVISIONS TO SAME.
- BOHLER ENGINEERING HAS NO CONTRACTUAL, LEGAL, OR OTHER RESPONSIBILITY FOR JOB SITE SAFETY OR JOB SITE SUPERVISION, OR ANYTHING RELATED TO SAME.
- THE DEMOLITION PLAN IS INTENDED TO PROVIDE GENERAL INFORMATION ONLY, REGARDING ITEMS TO BE DEMOLISHED AND/OR REMOVED. THE CONTRACTOR MUST ALSO REVIEW THE OTHER SITE PLAN DRAWINGS AND INCLUDE IN DEMOLITION ACTIVITIES ALL INCIDENTAL WORK NECESSARY FOR THE CONSTRUCTION OF THE NEW SITE IMPROVEMENTS.
- CONTRACTOR MUST RAISE ANY QUESTIONS CONCERNING THE ACCURACY OR INTENT OF THESE PLANS OR SPECIFICATIONS, CONCERNING REGARDING THE APPLICABLE SAFETY STANDARDS, OR THE SAFETY OF THE CONTRACTOR OR THIRD PARTIES IN PERFORMING THE WORK ON THIS PROJECT, WITH BOHLER ENGINEERING, IN WRITING, AND RESPONDED TO BY BOHLER, IN WRITING, PRIOR TO THE INITIATION OF ANY SITE ACTIVITY AND ANY DEMOLITION ACTIVITY. ALL DEMOLITION ACTIVITIES MUST BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THESE PLANS AND SPECIFICATIONS AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS, RULES, REQUIREMENTS, STATUTES, ORDINANCES, AND CODES.
- PRIOR TO STARTING ANY DEMOLITION, CONTRACTOR IS RESPONSIBLE FOR:
  - A. OBTAINING ALL REQUIRED PERMITS AND MAINTAINING THE SAME ON SITE FOR REVIEW BY THE ENGINEER AND OTHER PUBLIC AGENCIES HAVING JURISDICTION THROUGHOUT THE DURATION OF THE PROJECT, SITE WORK AND DEMOLITION WORK.

**REVISIONS**

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EDUCATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE: CAL - 811 (WWW-1-800-245-4548) (PA-1-800-242-1776) (DC-1-800-257-7777) (VA-1-800-453-7031) (MD-1-800-257-7777) (DE-1-800-393-2659)

**APPROVED FOR CONSTRUCTION**

PROJECT NO.:	MD142048	AVG
DRAWN BY:	BRR	BRR
CHECKED BY:		
DATE:	08/26/19	1" = 200'
SCALE:		EP3
CAD ID:		

**FINAL ROAD CONSTRUCTION PLAN FOR**

**WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B.R. ROWE**

PROFESSIONAL ENGINEER  
 LICENSE NO. 14009  
 PROFESSIONAL CERTIFICATION  
 I BRANCH IN ORDER TO RENEW MY CERTIFICATION 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. 14009, EXPIRES DATE: 7/31/21

**OVERALL EXISTING CONDITION AND DEMOLITION PLAN**

SHEET NUMBER: **3 OF 92**

SOILS NAME	SOILS DESCRIPTION	HYDROLOGIC SOILS GROUP	HIGHLY ERODIBLE SOIL	K FACTOR	AREA - AC.
Co	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	NO	0.32	3.88
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.28	16.53
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	11.63
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	YES	0.43	9.42
GmB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	9.49
GoB	GLENVILLE-CODORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	4.16
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	35.66
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	NO	0.28	9.09

APPROVED DEPARTMENT OF PUBLIC WORKS  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE: 11/26/2019

APPROVED DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 2/20/2020

APPROVED DEPARTMENT OF DEVELOPMENT  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 12-9-19

<b>OWNERS:</b> PARCEL 98 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044	<b>PARCEL 34</b> TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044	<b>PARCEL 112</b> TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044
<b>PARCEL 111</b> DENNIS A LEAF LENORE D SINES 5236 GREEN BRIDGE ROAD DAYTON, MD 21036	<b>PARCEL 98</b> JERRY MAUCK JANET BURKE JIT 5234 GREEN BRIDGE ROAD DAYTON, MD 21036	
<b>DEVELOPER:</b> GREEN BRIDGE FARM II, L.C. 5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTACT: JASON VAN KIRK PHONE: (410) 720-3021		

<b>SUBDIVISION NAME:</b> WILLOWSHIRE SECTION AREA: N/A DEED # 11391/00222 - 0183/00554, 15884/003894, 05889/00490 0434/100270, & 03201/00659	<b>PREVIOUS FILE NO.:</b> ECP-16-023 PB436 SP-17-002 WP-17-005	<b>TAX MAP:</b> 27 <b>GRID:</b> 18 <b>ZONED:</b> RR-DEO <b>PARCEL:</b> 34, 36, 98, 111 & 112 <b>5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND</b>
--	---	--

SOILS TABLE					
SOILS NAME	SOILS DESCRIPTION	HYDROLOGIC SOILS GROUP	HIGHLY ERODIBLE SOIL	K FACTOR	AREA - AC.
Co	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	NO	0.32	3.88
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.28	16.53
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	11.63
GnB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	YES	0.43	9.42
GnB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	9.49
GnB	GLENVILLE-CODORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	4.16
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	35.66
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	NO	0.28	9.09

**NOTE:**  
1. THE EXISTING WELL MUST BE PROPERLY ABANDONED BY A LICENSED WELL DRILLER WITH AN ABANDONMENT REPORT SUBMITTED TO THE HEALTH DEPARTMENT. THE EXISTING SEWAGE SYSTEM MUST BE PUMPED OUT BY A LICENSED SEWAGE HAULER AND PROPERLY ABANDONED WITH DOCUMENTATION SUBMITTED TO THE HEALTH DEPARTMENT PRIOR TO HEALTH DEPARTMENT APPROVAL OF THE RECORD PLAN.

**NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET**  
*John Shanabarger* 10/11/2019  
 Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/11/2019  
 Shanabarger & Lane  
 INSTRUMENTS USED IN PREPARING THIS AS-BUILT SURVEY: 5 SECOND GOMAX 1X, ROBOTIC TOTAL STATION, TOPCON PC-5 RECEIVER, SOKKIA 300' PRISM

**LEGEND**

- #10 PERCOLATION HOLE (PASSED)
- #10 PERCOLATION HOLE (FAILED)
- LIMITS OF FOREST CLEARING
- STEEP SLOPES 15-25%
- STEEP SLOPES >25%
- SPECIMEN TREE (TO BE REMOVED)
- CRITICAL ROOT ZONE



APPROVED: DEPARTMENT OF PUBLIC WORKS  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE: 11/24/2019

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 2/26/2020

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 12.9.19

**OWNERS:**  
 PARCEL 34: TOLL MID ATLANTIC LP COMPANY INC.  
 PARCEL 36: TOLL MID ATLANTIC LP COMPANY INC.  
 PARCEL 112: TOLL MID ATLANTIC LP COMPANY INC.  
 PARCEL 111: DENNIS A LEAF, JERRY MAUCK, LENORE D. SINES  
 PARCEL 98: JERRY MAUCK, JANET BURKE JTT

**DEVELOPER:** GREEN BRIDGE FARM II, L.C.  
 6074 DORSEY HALL ROAD, SUITE 205  
 COLUMBIA, MD 21042  
 CONTACT: JASON VAN KIRK  
 DAYTON, MD 21036  
 PHONE: (410) 720-3021

**TAX MAP:** 27 GRID: 18 ZONED: RR-DEO  
 PARCELS: 34, 36, 98, 111, & 112  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 CORPORATE OFFICE: WARRREN, NJ  
 OFFICES: WARRREN, NJ; WASHINGTON, DC; TOWSON, MD; WILMINGTON, DE; PHILADELPHIA, PA; PITTSBURGH, PA; BALTIMORE, MD; ANN ARBOR, MI; CHICAGO, IL; CINCINNATI, OH; COLUMBUS, OH; DAYTON, OH; DENVER, CO; HOUSTON, TX; LOS ANGELES, CA; MIAMI, FL; NEW YORK, NY; PHILADELPHIA, PA; RICHMOND, VA; TAMPA, FL; WASHINGTON, DC; WILMINGTON, DE.

CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

**REVISIONS**

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE: IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE. CALL (1-800-245-4948) (PA 1-800-242-1779) (DC 1-800-257-7777) (VA 1-800-352-7001) (MD 1-800-257-7777) (DE 1-800-382-8888)

**APPROVED FOR CONSTRUCTION**

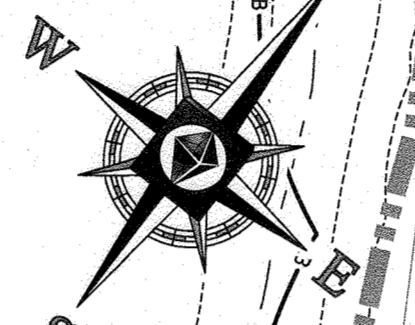
PROJECT No: MD142046  
 DRAWN BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD I.D.: EP3

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & I, F & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE: 5232 GREEN BRIDGE ROAD, 5TH ELECTION DISTRICT, TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7957  
 www.BohlerEngineering.com

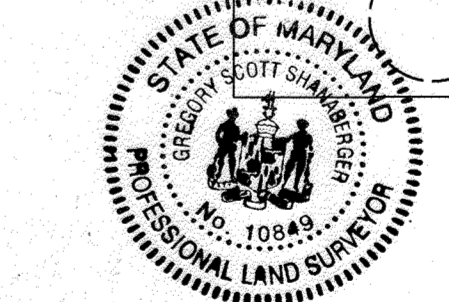
**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 PROFESSIONAL CERTIFICATION  
 I BRANDBOOK ROWE, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND THAT I AM A QUALIFIED LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 9868, EXPIRATION DATE: 7/3/2021

SHEET TITLE: **EXISTING CONDITIONS, SOILS MAP AND DEMOLITION PLAN**  
 SHEET NUMBER: **4 OF 92**



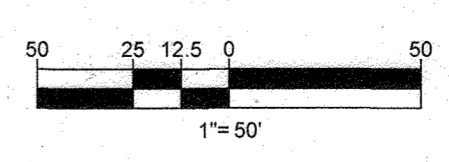
**LEGEND**

● #10	PERCOLATION HOLE (PASSED)
⊗ #10	PERCOLATION HOLE (FAILED)
[Diagonal Hatching]	LIMITS OF FOREST CLEARING
[Steeper Diagonal Hatching]	STEEP SLOPES 15-25%
[Cross-hatching]	STEEP SLOPES >25%
⊗	SPECIMEN TREE (TO BE REMOVED)
○	CRITICAL ROOT ZONE



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

*Jason Van Kirk* 10/11/2023  
 G. Scott Shanberger  
 Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 12/10/2022  
 Shanberger & Lane  
 INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: S55000 SOKKIA 1X ROBOTIC TOTAL STATION, TOPCON PC-5 RECEIVER SOKKIA 3000 PPSM



<b>OWNERS:</b> PARCEL 36 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044 TEL: 610-221-1000	<b>PARCEL 34</b> TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044 TEL: 610-221-1000	<b>PARCEL 112</b> TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044 TEL: 610-221-1000
<b>PARCEL 111</b> DENNIS A LEAF LENDRE D SINES 5226 GREEN BRIDGE ROAD DAYTON, MD 21036 TEL: 410-720-3021	<b>PARCEL 98</b> JERRY MAUCK JANET BURKE JT 5234 GREEN BRIDGE ROAD DAYTON, MD 21036 TEL: 410-720-3021	

<b>SUBDIVISION NAME:</b> WILLOWSHIRE <b>SECTION/AREA:</b> N/A <b>DEED #:</b> 1156100222, 0018900554, 15884003894, 05888900480, 0434100270, & 0320100539	<b>PREVIOUS FILE NO.:</b> ECP-16-023 PB436 SP-17-002 WP-17105	<b>TAX MAP:</b> 27 <b>GRID:</b> 18 <b>ZONED:</b> RR-DEO <b>PARCEL:</b> 34, 36, 98, 111 & 112 <b>5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND</b>
---	---	--

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
 WARRREN NJ

OFFICES:  
 BOHLE MD  
 TOWSON MD  
 ALBANY NY  
 CALICUT PA  
 CENTER VALLEY PA  
 FORT LAUDERDALE FL  
 HARRISBURG PA  
 HUNTSVILLE AL

CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

**REVISIONS**

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXAMINATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL: 811 (WV 1-800-245-4848) (PA 1-800-242-1776) (DC 1-800-257-3777) (VA 1-800-552-7031) (MD 1-800-257-7777) (DE 1-800-283-8549)

**NOT APPROVED FOR CONSTRUCTION**

PROJECT No: MD142006  
 DRAWN BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD I.D.: EPS

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C  
 NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & I - P & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

801 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7500  
 Fax: (410) 821-7587  
 www.BohlerEngineering.com

**B.R. ROWE**

PROFESSIONAL ENGINEER  
 LICENSE NO. 10849  
 EXPIRES 04/02/2024

**EXISTING CONDITIONS, SOILS MAP AND DEMOLITION PLAN**

SHEET NUMBER:  
**5 OF 92**

APPROVED: DEPARTMENT OF PUBLIC WORKS <i>James</i> 11/26/2019 CHIEF, BUREAU OF HIGHWAYS DATE
APPROVED: DEPARTMENT OF PLANNING AND ZONING <i>John</i> 2/26/2020 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
<i>John</i> 12.9.19 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

MATCHLINE (SHEET 7)

THE OAKS AT BRIDLE  
PLAT BOOK 199 PA

LANDS N/F  
JERRY MAUCK, LLC  
LIBER 15436-POLE  
TAX MAP 28, GRID  
PARCEL 13-B

**LEGEND**

- PERCOLATION HOLE (PASSED)
- PERCOLATION HOLE (FAILED)
- LIMITS OF FOREST CLEARING
- STEEP SLOPES 15-25%
- STEEP SLOPES >25%
- SPECIMEN TREE (TO BE REMOVED)
- CRITICAL ROOT ZONE

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
WARREN, NJ

CIVIL & CONSULTING ENGINEERS

SUBOFFICES:  
BOSTON, MA  
DENVER, CO  
HOUSTON, TX  
LOS ANGELES, CA  
MIAMI, FL  
MINNEAPOLIS, MN  
NEW YORK, NY  
PHILADELPHIA, PA  
PORTLAND, ME  
SAN ANTONIO, TX  
WASHINGTON, DC

PROJECT MANAGERS:  
ALBANY, NY  
BOSTON, MA  
CHICAGO, IL  
CINCINNATI, OH  
COLUMBIA, SC  
DENVER, CO  
FORT LAUDERDALE, FL  
HOUSTON, TX  
INDIANAPOLIS, IN  
LOS ANGELES, CA  
MINNEAPOLIS, MN  
NEW YORK, NY  
PHILADELPHIA, PA  
PORTLAND, ME  
SAN ANTONIO, TX  
WASHINGTON, DC

LANDSCAPE ARCHITECTS:  
ANN ARBOR, MI  
BOSTON, MA  
DENVER, CO  
HOUSTON, TX  
LOS ANGELES, CA  
MIAMI, FL  
MINNEAPOLIS, MN  
NEW YORK, NY  
PHILADELPHIA, PA  
PORTLAND, ME  
SAN ANTONIO, TX  
WASHINGTON, DC

**REVISIONS**

REV	DATE	COMMENT	BY

**APPROVED FOR CONSTRUCTION**

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE:

PA 1-800-245-4046 (PA 1-800-242-1776) DC 1-800-257-7777  
VA 1-800-652-7001 MD 1-800-257-7777 DE 1-800-332-8859

PROJECT No. MD142048  
DRAWN BY: BRR  
CHECKED BY: BRR  
DATE: 08/26/19  
SCALE: 1" = 50'  
CADD I.D.: EP3

**FINAL ROAD CONSTRUCTION PLAN**  
FOR  
**WILLOWSHIRE**  
LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, P & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

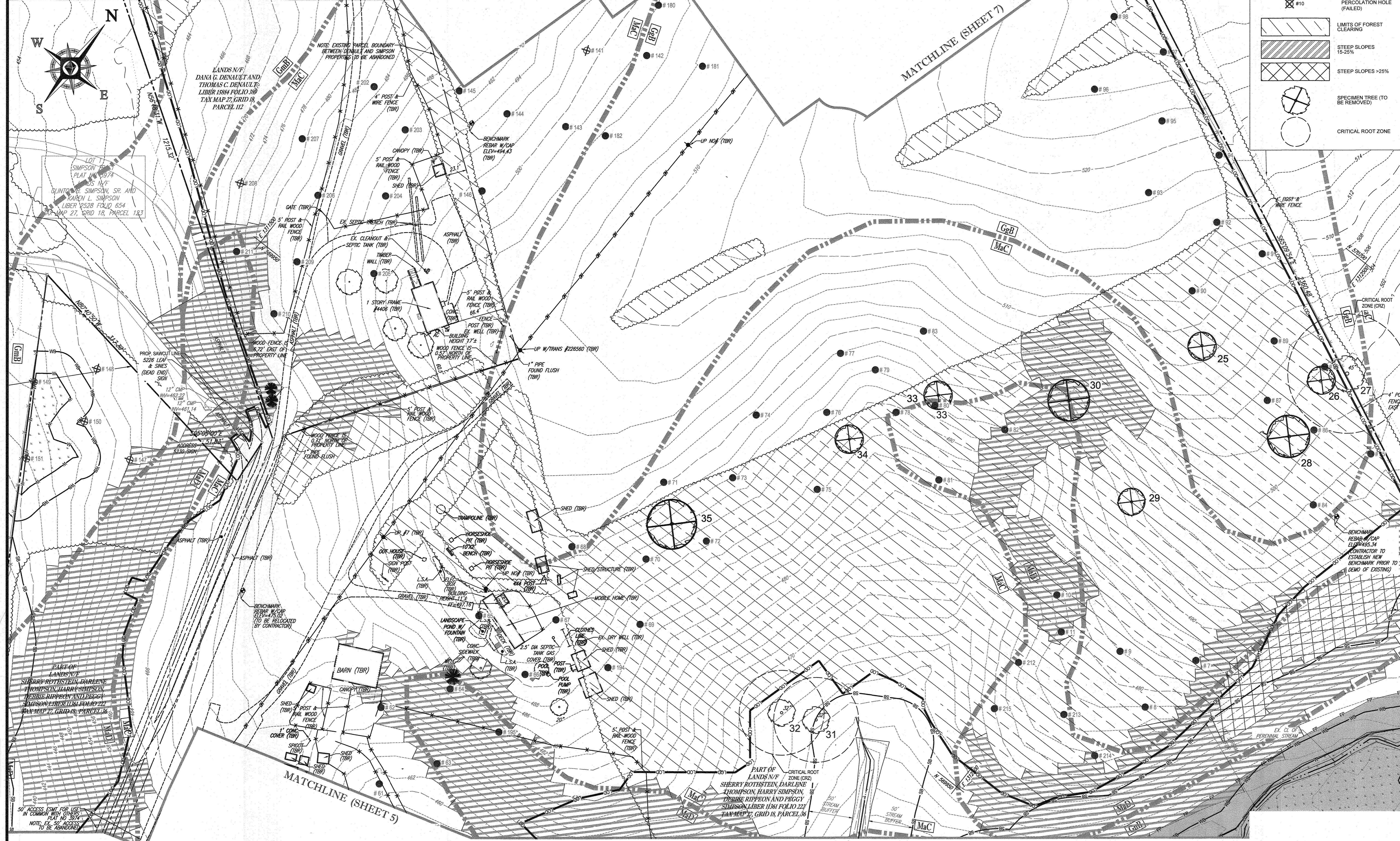
**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD,  
SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7900  
Fax: (410) 821-7987  
www.BohlerEngineering.com

**B.B. ROWE**  
PROFESSIONAL ENGINEER  
LICENSE NO. 130221

**EXISTING CONDITIONS, SOILS MAP AND DEMOLITION PLAN**

SHEET NUMBER:  
**6 OF 92**



APPROVED: DEPARTMENT OF PUBLIC WORKS  
11/26/2019  
DATE  
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
2/20/2020  
DATE  
CHIEF, DIVISION OF LAND DEVELOPMENT

12.9.19  
DATE  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

MATCHLINE (SHEET 8)

**STATE OF MARYLAND**  
PROFESSIONAL LAND SURVEYOR

NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

Professional L.S. # 10849 Exp. Date 4/2/2024  
AS-BUILT DATE: 10/12/2022  
Shanerberger & Lane

INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: 5 SECOND BORNIKA 1X ROBOTIC TOTAL STATION, TRIPOLI DC-5 RECEIVER, SOKKIA 300° PRISM

SCALE: 1" = 50'

OWNERS:  
PARCEL 36  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TAY ROAD  
HORSHAM PA, 19044

PARCEL 34  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TAY ROAD  
HORSHAM PA, 19044

PARCEL 111  
DENNIS A LEAF  
LENORE D. SINES  
5232 GREEN BRIDGE ROAD  
DAYTON, MD 21036

PARCEL 98  
JERRY MAUCK  
JANET BURKE JTT  
5234 GREEN BRIDGE ROAD  
DAYTON, MD 21036

DEVELOPER:  
GREEN BRIDGE FARM II, L.C.  
5074 DORSEY HALL ROAD, SUITE 205  
COLUMBIA, MD 21042  
CONTACT: JASON VAN KIRK  
PHONE: (410) 720-3021

TAX MAP: 27, GRID: 18, ZONED: RR-DEO  
PARCEL: 34, 36, 98, 111 & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

PREVIOUS FILE NO.:  
ECP-16-023 PB436  
SP-17-002 WP-17105

SUBDIVISION NAME: WILLOWSHIRE  
SECTION/AREA: N/A  
DEED # 1136100222-018300554  
158841003894 0588900490  
0434100270, & 03201100539

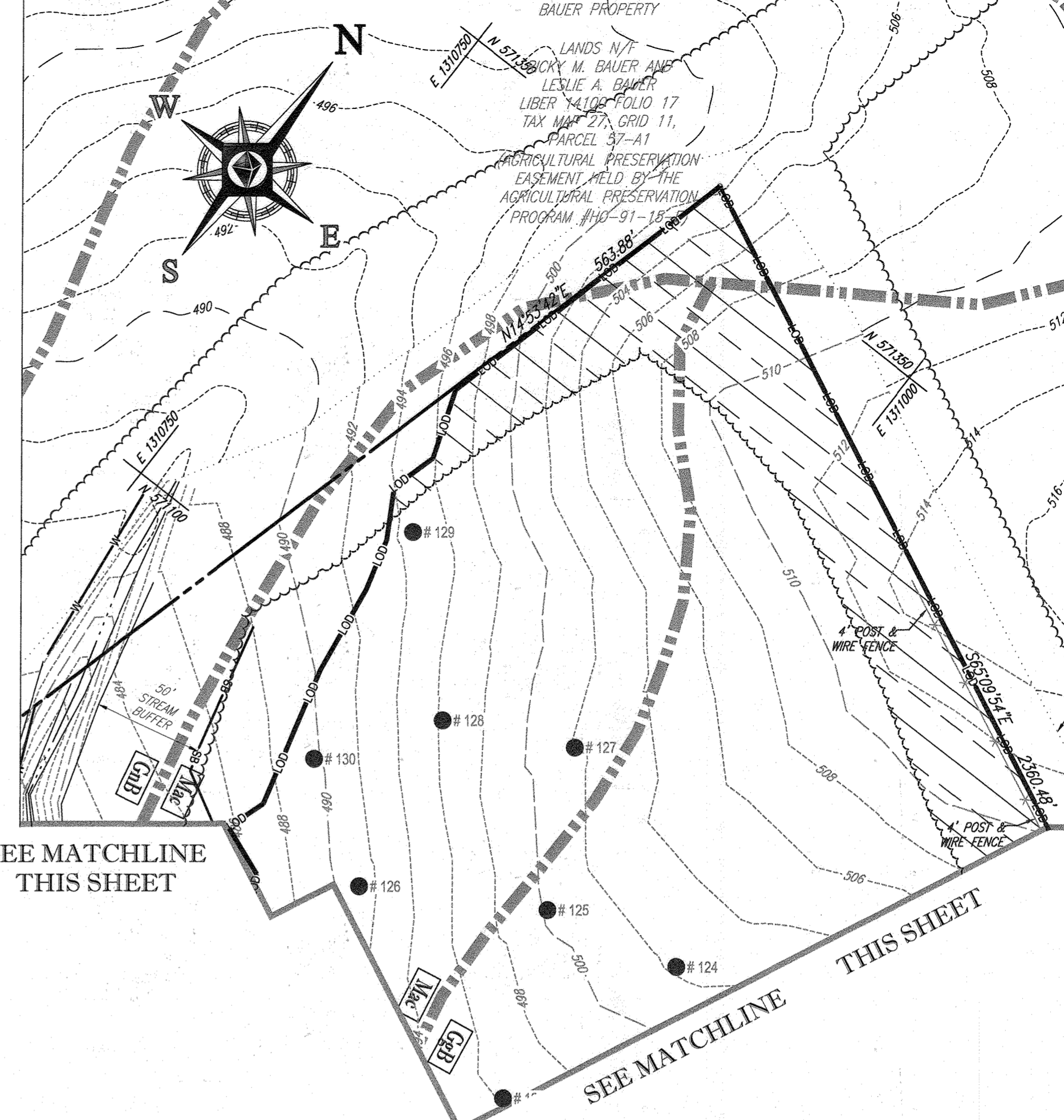
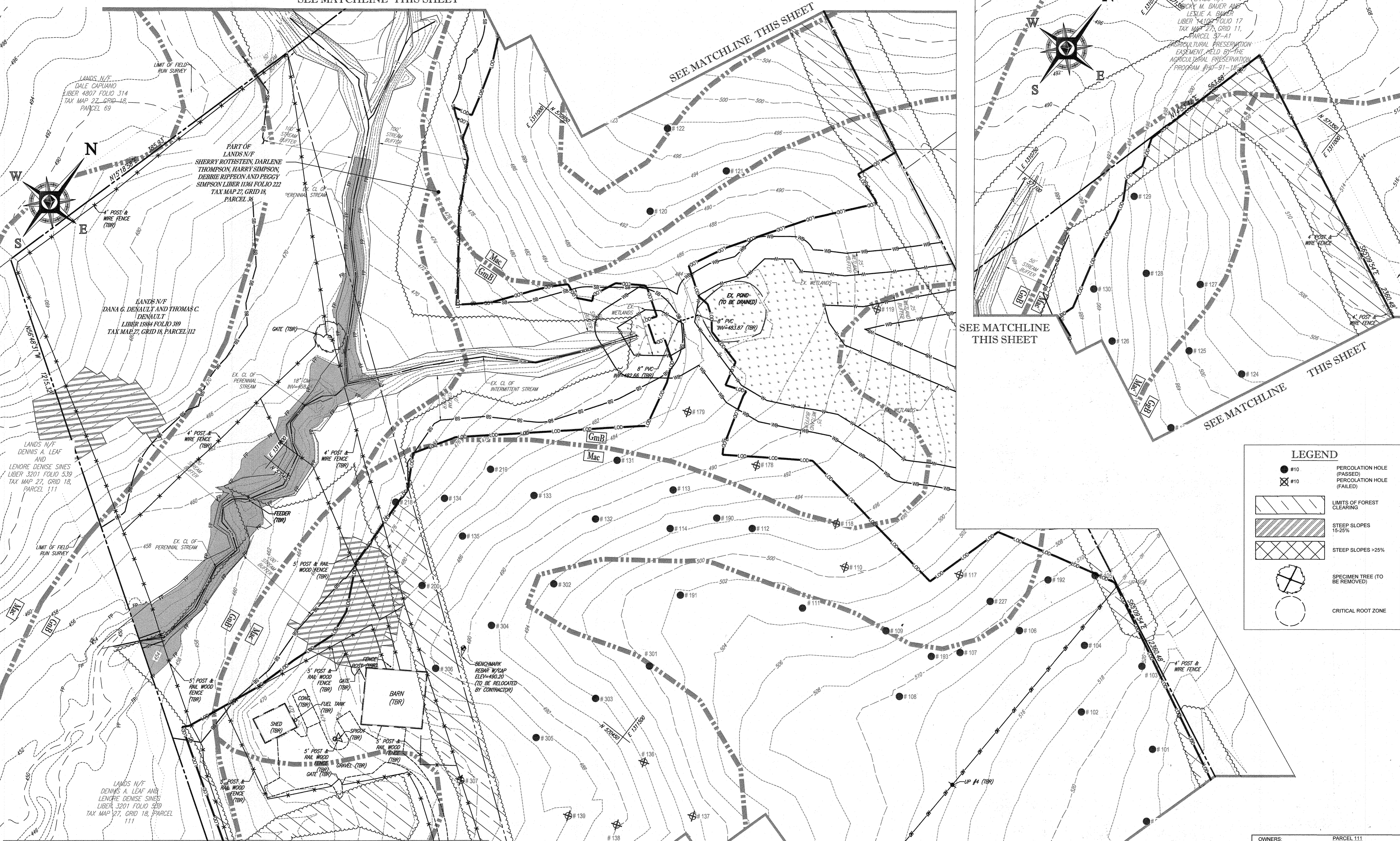
W:\142048\DRAWING\PLAN 5232\5232\5232\_R001\_C001\_P01.dwg PRINTED BY: JAWADA, 8/27/19 @ 4:12 PM. (JOB SAVED BY: JAWADA)

SEE MATCHLINE THIS SHEET

SEE MATCHLINE THIS SHEET

SEE MATCHLINE THIS SHEET

SEE MATCHLINE THIS SHEET



**LEGEND**

- #10 PERCOLATION HOLE (PASSED)
- ⊗ #10 PERCOLATION HOLE (FAILED)
- [Diagonal Lines] LIMITS OF FOREST CLEARING
- [Cross-hatch] STEEP SLOPES 15-25%
- [Steeper Cross-hatch] STEEP SLOPES >25%
- ⊗ SPECIMEN TREE (TO BE REMOVED)
- CRITICAL ROOT ZONE

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
 WARREN, NJ

OFFICES:  
 BOZELWOOD, VA  
 ALBANY, NY  
 CHANTON, VA  
 CENTER VALLEY, PA  
 FORT LAUDERDALE, FL  
 TAMPA, FL

CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

**REVISIONS**

REV	DATE	COMMENT	BY

**PROFESSIONAL ENGINEER**

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL 1-800-245-4848 (PA 1-800-242-1776) (DC 1-800-257-7777) (VA 1-800-352-7001) (MD 1-800-257-7777) (DE 1-800-332-8888)

**APPROVED FOR CONSTRUCTION**

PROJECT No: MD142016  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD I.D.: EPS

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE  
 5234 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7800  
 Fax: (410) 821-7887  
 www.BohlerEngineering.com

**B.B. ROWE**

PROFESSIONAL ENGINEER  
 MARYLAND LICENSE NO. 14088

PROFESSIONAL CERTIFICATION  
 I, BRANDON R. ROWE, 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. 9898, EXPIRATION DATE: 7/31/2021

**EXISTING CONDITIONS, SOILS MAP AND DEMOLITION PLAN**

SHEET NUMBER:  
**7 OF 92**

MATCHLINE (SHEET 6)

MATCHLINE (SHEET 6)

**SOILS TABLE**

SOILS NAME	SOILS DESCRIPTION	HYDROLOGIC SOILS GROUP	HIGHLY ERODIBLE SOIL	K FACTOR	AREA - AC.
Co	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	NO	0.32	3.88
GpB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.28	16.53
GpC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	11.63
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	YES	0.43	9.42
GnB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	9.49
GoB	GLENVILLE-CODORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	4.16
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	35.66
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	NO	0.28	0.09

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 DATE: 11/26/2019

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 DATE: 2/20/2020

CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 12.9.19

CHIEF, DEVELOPMENT ENGINEERING DIVISION

NOTE: THERE ARE NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/10/2022

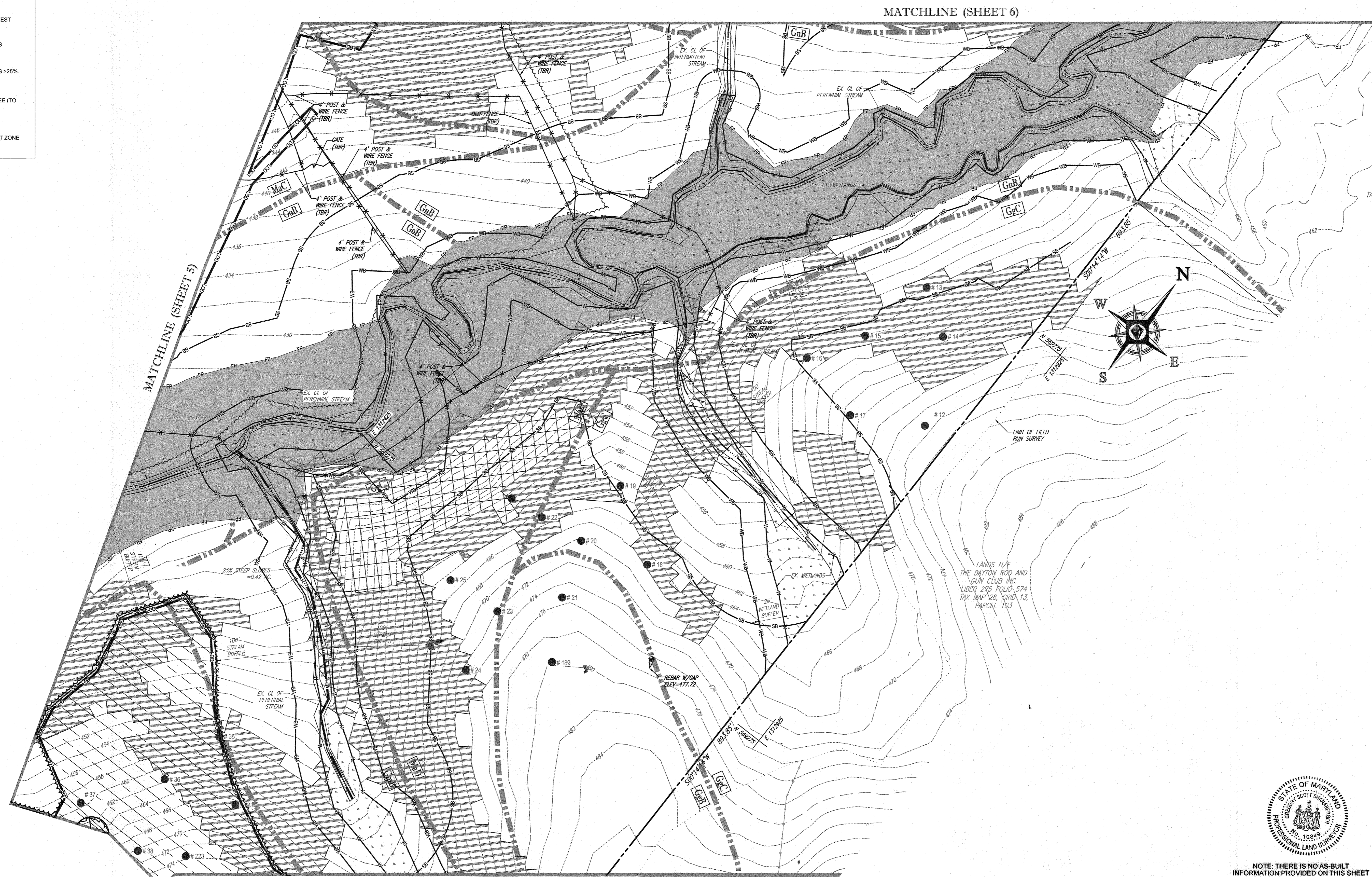
Shanaberger & Lane  
 5 SECOND STREET, SUITE 200, FORT LAUDERDALE, FL 33301  
 PC-5 RECEIVER, SOKKIA 360° PRISM

SUBDIVISION NAME: TBD SECTION/AREA: N/A DEED # 1136100222-0018300554, 15884003894, 0588900480 0434100270, & 0320100539	PREVIOUS FILE NO.: ECP-16-023 PB436 SP-17-002 WP-17105	TAX MAP: 27 GRID: 18 ZONED: RR-DEO PARCEL: 34, 36, 98, 111 & 112 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
--	---	---

SCALE: 1" = 50'

**LEGEND**

- #10 PERCOLATION HOLE (PASSED)
- #10 PERCOLATION HOLE (FAILED)
- LIMITS OF FOREST CLEARING
- STEEP SLOPES 15-25%
- STEEP SLOPES >25%
- SPECIMEN TREE (TO BE REMOVED)
- CRITICAL ROOT ZONE



OWNERS: <b>PARCEL 36</b> TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAR ROAD HORSHAM PA, 19044 TEL: <b>PARCEL 111</b> DENNIS A LEAF LENORE D. SINES 5226 GREEN BRIDGE ROAD DAYTON, MD 21036 TEL: <b>PARCEL 112</b> TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAR ROAD HORSHAM PA, 19044 TEL: <b>PARCEL 98</b> JERRY MAUCK JANET BURKE JTT 3231 GREEN BRIDGE ROAD DAYTON, MD 21036 TEL:	DEVELOPER: GREEN BRIDGE FARM II, L.C. 5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTACT: JASON VAN KIRK PHONE: (410) 720-3021 TEL:
SUBDIVISION NAME: WILLOWSHIRE SECTION/AREA: N/A DEED # 11361/00222-00183/00554, 15884/003894, 05889/00490 04341/00270, & 03201/00539	PREVIOUS FILE NO.: ECP-16-023 PB436 SP-17-002 WP-17105
TAX MAP: 27 GRID: 18 ZONED: RR-DEO PARCEL: 34, 36, 98, 111 & 112 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND	

NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

*Scott Shanabarger* 10/11/2023  
 G. Scott Shanabarger  
 PROFESSIONAL L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/18/2022  
 Shanabarger & Lane  
 INSTRUMENTS USED IN PREPARING THIS AS-BUILT SURVEY: 55SECOND SOKKIA 1X REVERSE TOTAL STATION, TOPCON PC-5 RECEIVER, SOKKIA 300' PRISM

APPROVED DEPARTMENT OF PUBLIC WORKS  
*Jane* 11/26/2017  
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED DEPARTMENT OF PLANNING AND ZONING  
*Chad* 12/9/2020  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*Chad* 12-9-19  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
 WARREN, NJ

OFFICES:  
 BOSTON, MA  
 CHICAGO, IL  
 COLUMBIA, MD  
 DALLAS, TX  
 DENVER, CO  
 FORT LAUDERDALE, FL  
 HOUSTON, TX  
 PHILADELPHIA, PA

CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

**REVISIONS**

REV	DATE	COMMENT	BY

**APPROVED FOR CONSTRUCTION**

PROJ. NO: MD142046  
 DRAWN BY: BRR  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD I.D.: EP3

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**

LOTS 1-15, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & I, P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B.R. ROWE**

PROFESSIONAL ENGINEER  
 I BRANDED FOR ME, THESE CERTIFICATES THESE DOCUMENTS WERE RECORDED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND  
 LICENSE NO. 9868, EXPIRATION DATE: 7/31/2021

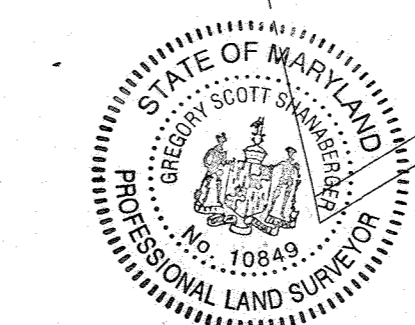
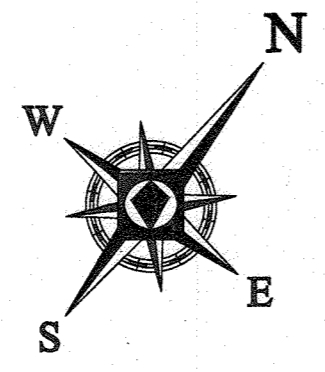
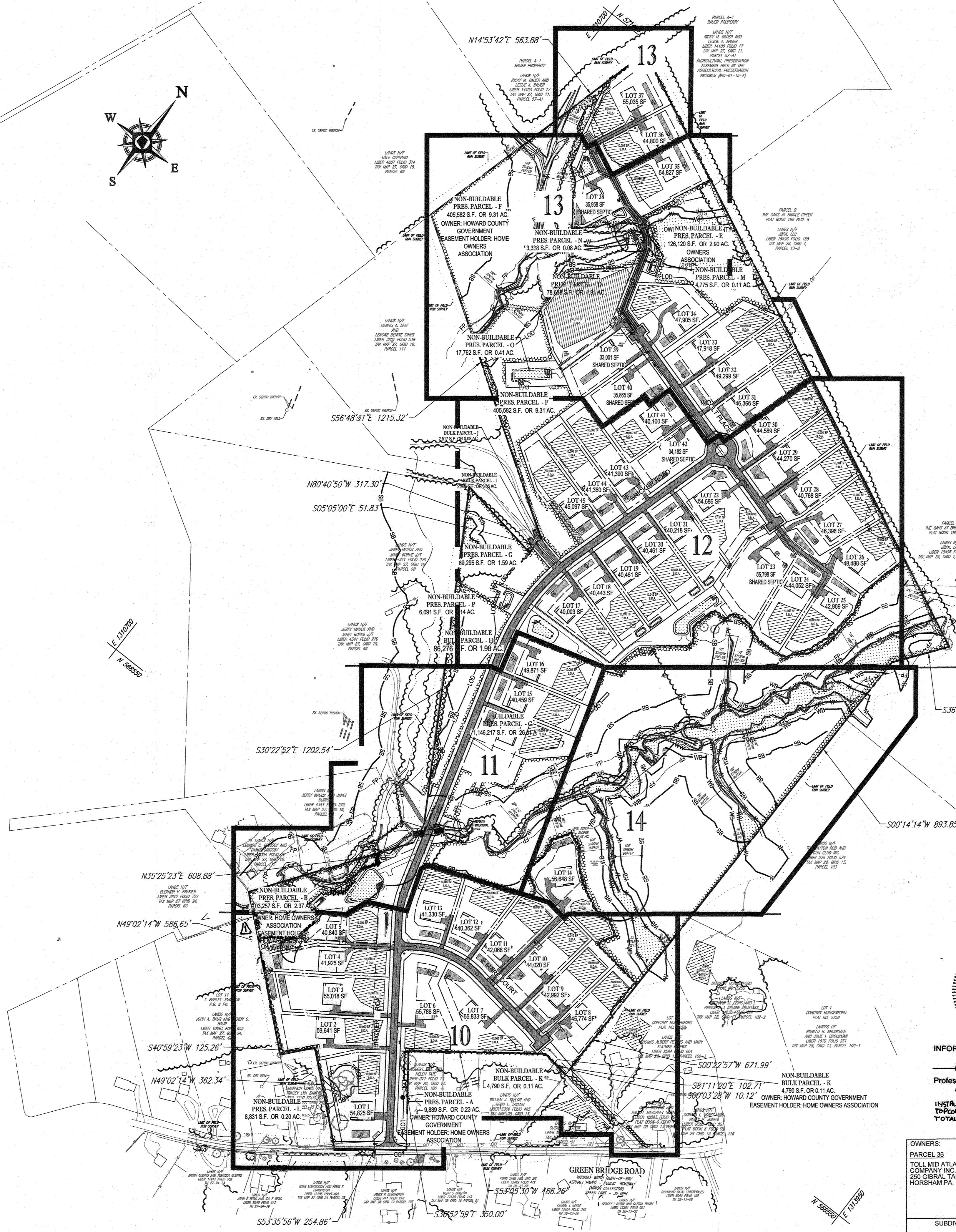
**EXISTING CONDITIONS, SOILS MAP AND DEMOLITION PLAN**

SHEET NUMBER:  
**8 OF 92**

\\V:\1042046\1042046\PLAN SET\FINAL ROAD CONSTRUCTION PLAN\1042046.DWG PRINTED BY: ANHARA, 8/27/19 @ 4:12 PM. LAST SAVED BY: ANHARA



STANDARD DRAWING LEGEND		
FOR ENTIRE PLAN SET		
(NOT TO SCALE)		
EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
---	ONSITE PROPERTY LINE / R.O.W. LINE	---
---	NEIGHBORING PROPERTY LINE / INTERIOR PARCEL LINE	---
---	EASEMENT LINE	---
---	SETBACK LINE	---
---	CONCRETE CURB & GUTTER	---
---		CURB AND GUTTER
---		DEPRESSED CURB AND GUTTER
	TYPICAL LIGHT	
	TYPICAL SIGN	
	HYDRANT	
	SANITARY MANHOLE	
	SANITARY TERMINAL	
	STORM MANHOLE	
	WATER VALVE	
	TYPICAL END SECTION	
	CLEAN OUT	
EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
	YARDOVERFLOW INLET	
	SEPTIC RESERVE AREA	
WB	WETLAND BUFFER	WB
SB	STREAM BUFFER	SB
	TREELINE	
	FULL DEPTH PAVEMENT	
	PERENNIAL STREAM	
	INTERMITTENT STREAM	
	BIORETENTION FACILITY / SUBMERGED GRAVEL WETLAND	
	WELL AREA	
	LIMIT OF FIELD RUN SURVEY	
	FOREST CONSERVATION EASEMENT	
	100 YR FLOODPLAIN	



NOTE: LOTS WITH \* INDICATE SMALLER BUILDING FOOTPRINT UTILIZED

NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/16/2022  
 Shanabarger & Lane

INSTRUMENTS USED IN PREPARING THIS AS-BUILT SURVEY:  
 TOPCON RC-5 RECEIVER, 2 SECOND SOKKIA IX ROBOTIC  
 TOTAL STATION, SOKKIA 3600 TRIAX

OWNERS:	PARCEL 34 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044	PARCEL 112 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044	DEVELOPER: GREEN BRIDGE FARM II, L.C. 5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTACT: JASON VAN KIRK PHONE: (410) 720-3021
PARCEL 36 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044	PARCEL 111 JERRY MAUCK LEONORE D. SINES 5026 GREEN BRIDGE ROAD DAYTON, MD 21038	PARCEL 88 JERRY MAUCK JAYNET BURKE JITT 5234 GREEN BRIDGE ROAD DAYTON, MD 21038	TAX MAP: 27 PARCEL 18 ZONED: RR-DEO PARCEL: 34, 36, 98, 111 & 112 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
SUBDIVISION NAME: WILLOWSHIRE SECTION/AREA: NA DEED # 11391100222 0018300554 15884/002884 05899/00490 0434/100270, & 03201/00539	PREVIOUS FILE NO.: ECP-16-023 PB436 SP-17-002 WP-17105		

APPROVED - DEPARTMENT OF PUBLIC WORKS	11/26/2019
CHIEF, BUREAU OF HIGHWAYS	DATE
APPROVED - DEPARTMENT OF PLANNING AND ZONING	2/26/2020
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	12-9-19
	DATE

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
 WARREN, NJ

CIVIL & CONSULTING ENGINEERS  
 SURVEYORS

PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

OFFICES:  
 BOSTON, MA  
 CHICAGO, IL  
 DENVER, CO  
 FORT LAUDERDALE, FL  
 HOUSTON, TX  
 LOS ANGELES, CA  
 MIAMI, FL  
 PHILADELPHIA, PA  
 RICHMOND, VA

REV	DATE	COMMENT	BY
A	10/22/20	UPDATED PCE #3	OMR

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EDUCATORS, DESIGNERS, OR ANY PERSON PREPARING TO RESTORE THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND THE DISTRICT OF COLUMBIA:

CALL 811  
 (VA) 1-800-245-4848 (PA) 1-800-245-1778 (DC) 1-800-257-7777  
 (VA) 1-800-552-7000 (MD) 1-800-257-7777 (DC) 1-800-382-8689

**APPROVED FOR CONSTRUCTION**

PROJECT NO.: MD142048  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD I.D.: SP3

**FINAL ROAD CONSTRUCTION PLAN**

**FOR**

**WILLOWSHIRE**

LOTS 1-15, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E - G & L - P & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD,  
 SUITE 801  
 TOWSON, MARYLAND 21204  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B.B. ROWE**

PROFESSIONAL ENGINEER  
 PROFESSIONAL CERTIFICATION  
 BRADON R. ROWE, ENGINEER, CERTIFIED THAT THESE DOCUMENTS WERE PREPARED OR SUPERVISED BY HIM AND THAT I AM A QUALIFIED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
 LICENSE NO. 10849, EXPIRES 4/2/2024

**OVERALL SITE LAYOUT PLAN**

SHEET NUMBER:  
**9 OF 92**

**FOREST CONSERVATION EASEMENT #3**

EXISTING FOREST AREA = 0 AC  
 NONCREDIT FOREST FLOODPLAIN = 0 AC  
 CREDITED FOREST = 0 AC  
 REFORESTATION = 1.4 AC  
 EASEMENT AREA = 1.4 AC  
 CREDITED EASEMENT AREA = 1.4 AC

NOTE: ADDITIONAL 2 1/2" TRESS REQUIRED WITHIN 30' OF THE PROPERTY LINES OF LOTS 4 AND 5.

CURVE TABLE						
CURVE #	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C-1	348.188	119.146	N25°51'36"W	118.57	019°36'21"	60.16
C-2	740.000	415.592	N00°01'09"W	410.15	032°10'40"	213.44
C-3	325.000	245.305	N76°00'41"E	239.52	043°14'46"	128.83
C-4	350.000	23.836	S80°25'51"E	23.63	003°52'09"	11.82

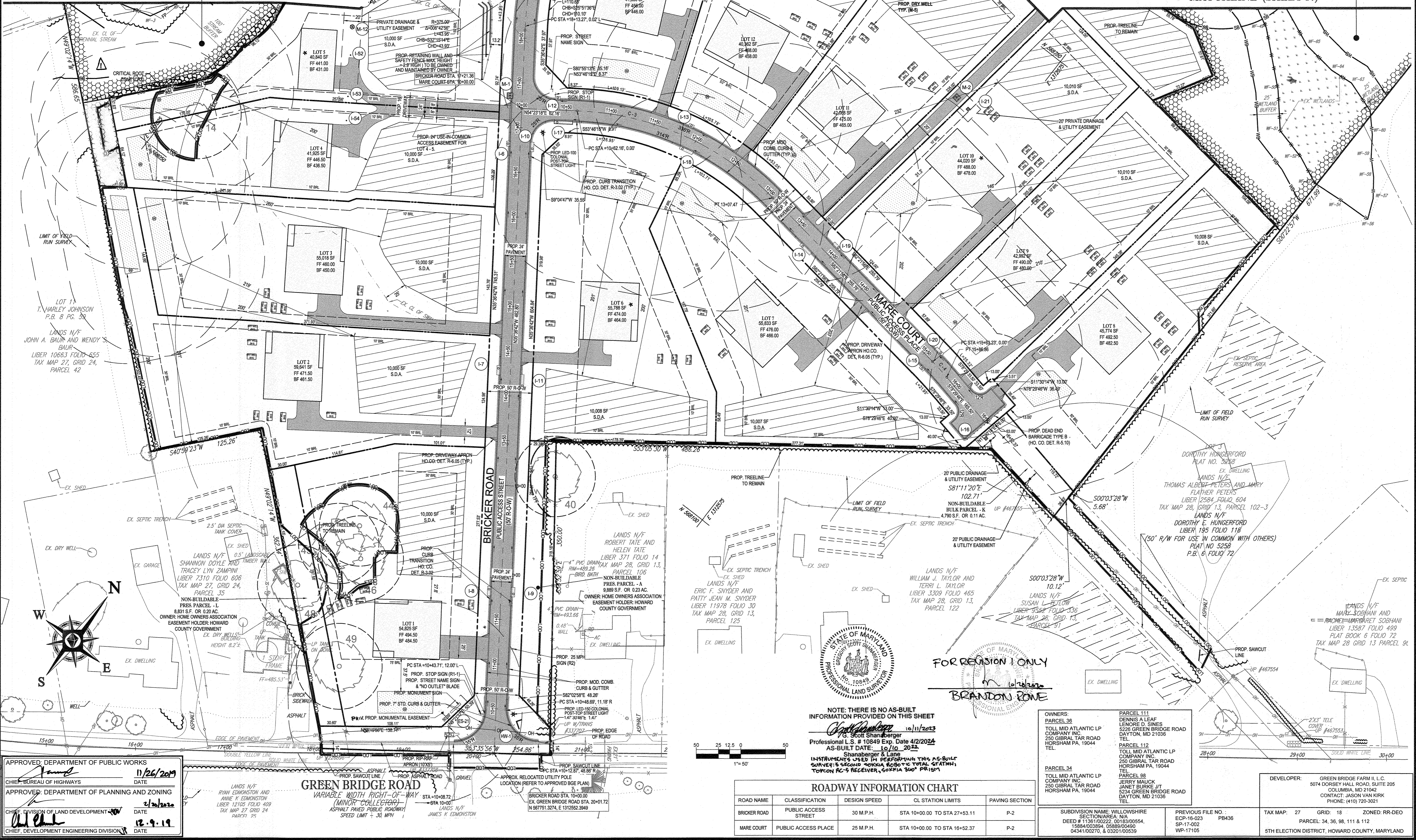
**FOREST CONSERVATION EASEMENT #4**

EXISTING FOREST AREA = 18.99 AC  
 NONCREDIT FOREST FLOODPLAIN = 4.31 AC  
 CREDITED FOREST = 14.68 AC  
 REFORESTATION = 4.34 AC  
 EASEMENT AREA = 23.33 AC  
 CREDITED EASEMENT AREA = 19.02 AC

NOTE: ADDITIONAL 2 1/2" TRESS REQUIRED WITHIN 30' OF THE PROPERTY LINES OF LOTS 15 AND 18 AND PARCEL C.

MATCHLINE (SHEET 11)

MATCHLINE (SHEET 14)



**REVISIONS**

REV	DATE	COMMENT	BY
1	10/22/20	UPDATED PER #3	AWA

**APPROVED FOR CONSTRUCTION**

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL 811 (WV 1-800-245-4546) (PA 1-800-242-1776) (DC 1-800-557-3777) (VA 1-800-652-7001) (MD 1-800-257-7777) (DE 1-800-292-8555)

**APPROVED FOR CONSTRUCTION**

PROJECT No: MD142048  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD I.D.: SP2

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**

LOTS 1-15, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, F & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 24, PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7957  
 www.BohlerEngineering.com

**B.R. ROWE**

PROFESSIONAL ENGINEER  
 LICENSE NO. 100849  
 PROFESSIONAL CERTIFICATION  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND THAT I AM A duly licensed PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 100849, EXPIRES DATE: 7/31/21

**SHEET TITLE: SITE LAYOUT PLAN**

SHEET NUMBER: 10 OF 92

TAX MAP: 27, GRID 18, ZONED RR-DEO  
 PARCEL: 34, 36, 98, 111 & 112  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/10/20

INSTRUMENTS USED IN PREPARATION THIS AS-BUILT SURVEY: SECOND ORDER ROBOTIC TOTAL STATION, TOPCON PC-5 RECEIVER, SOKKIA SOKKIPRISM

**ROADWAY INFORMATION CHART**

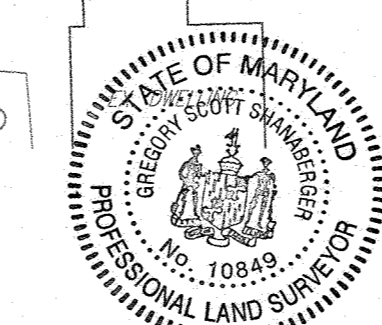
ROAD NAME	CLASSIFICATION	DESIGN SPEED	CL STATION LIMITS	PAVING SECTION
BRICKER ROAD	PUBLIC ACCESS STREET	30 M.P.H.	STA 10+00.00 TO STA 27+53.11	P-2
MARE COURT	PUBLIC ACCESS PLACE	25 M.P.H.	STA 10+00.00 TO STA 16+52.37	P-2

**OWNERS:**  
 PARCEL 38: DENNIS A LEAF, LENORE D SINES, 5232 GREEN BRIDGE ROAD, DAYTON, MD 21036  
 PARCEL 112: TOLL MID ATLANTIC LP COMPANY INC, 250 GIBRAL TAR ROAD, HORSHAM PA, 19044  
 PARCEL 34: TOLL MID ATLANTIC LP COMPANY INC, 250 GIBRAL TAR ROAD, HORSHAM PA, 19044  
 PARCEL 98: JERRY MAUCK, JANET BURKE, J/T, 5234 GREEN BRIDGE ROAD, DAYTON, MD 21036

**DEVELOPER:**  
 GREEN BRIDGE FARM II, L.C., 5074 DORSEY HILL ROAD, SUITE 205, COLUMBIA, MD 21046  
 CONTACT: JASON VAN KIRK, PHONE: (410) 720-3021

**SUBDIVISION NAME: WILLOWSHIRE**  
 SECTION/AREA: N/A  
 DEED # 1136100222, 0018300554, 15884003894, 0588900490, 0434100270, & 0320100539

**PREVIOUS FILE NO.:**  
 ECP-16-023 PB436  
 SP-17-002 WP-17105



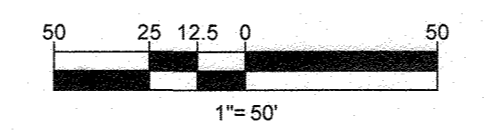
FOR REVISION 1 ONLY  
 BRANDON ROWE

**APPROVED: DEPARTMENT OF PUBLIC WORKS**  
 CHIEF - BUREAU OF HIGHWAYS  
 DATE: 11/26/2019

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 2/3/2020

**CHIEF, DEVELOPMENT ENGINEERING DIVISION**  
 DATE: 12-9-19

**GREEN BRIDGE ROAD**  
 VARIABLE WIDTH RIGHT-OF-WAY  
 (MINOR COLLECTOR)  
 ASPHALT PAVED PUBLIC ROADWAY  
 SPEED LIMIT = 30 MPH

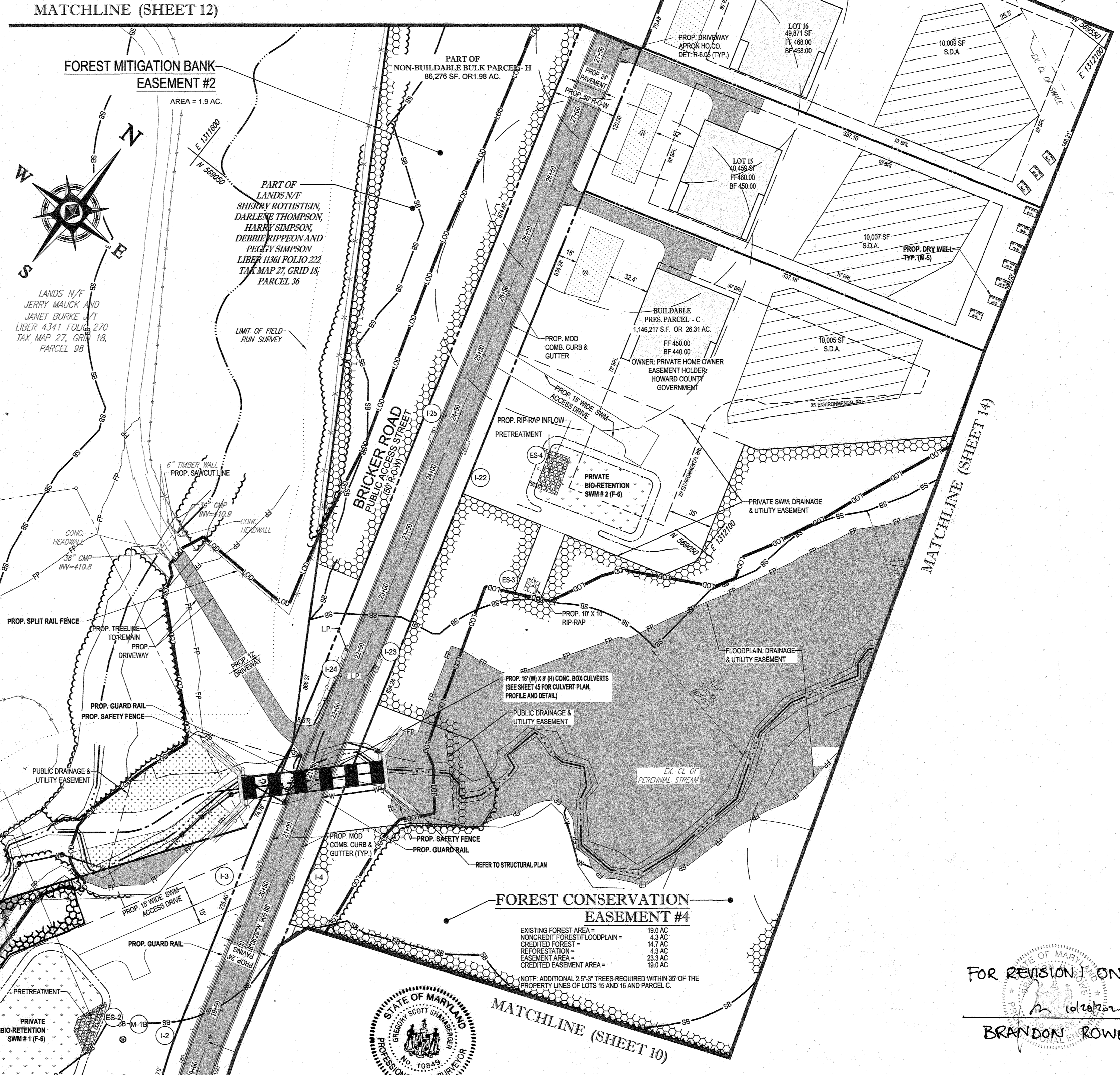
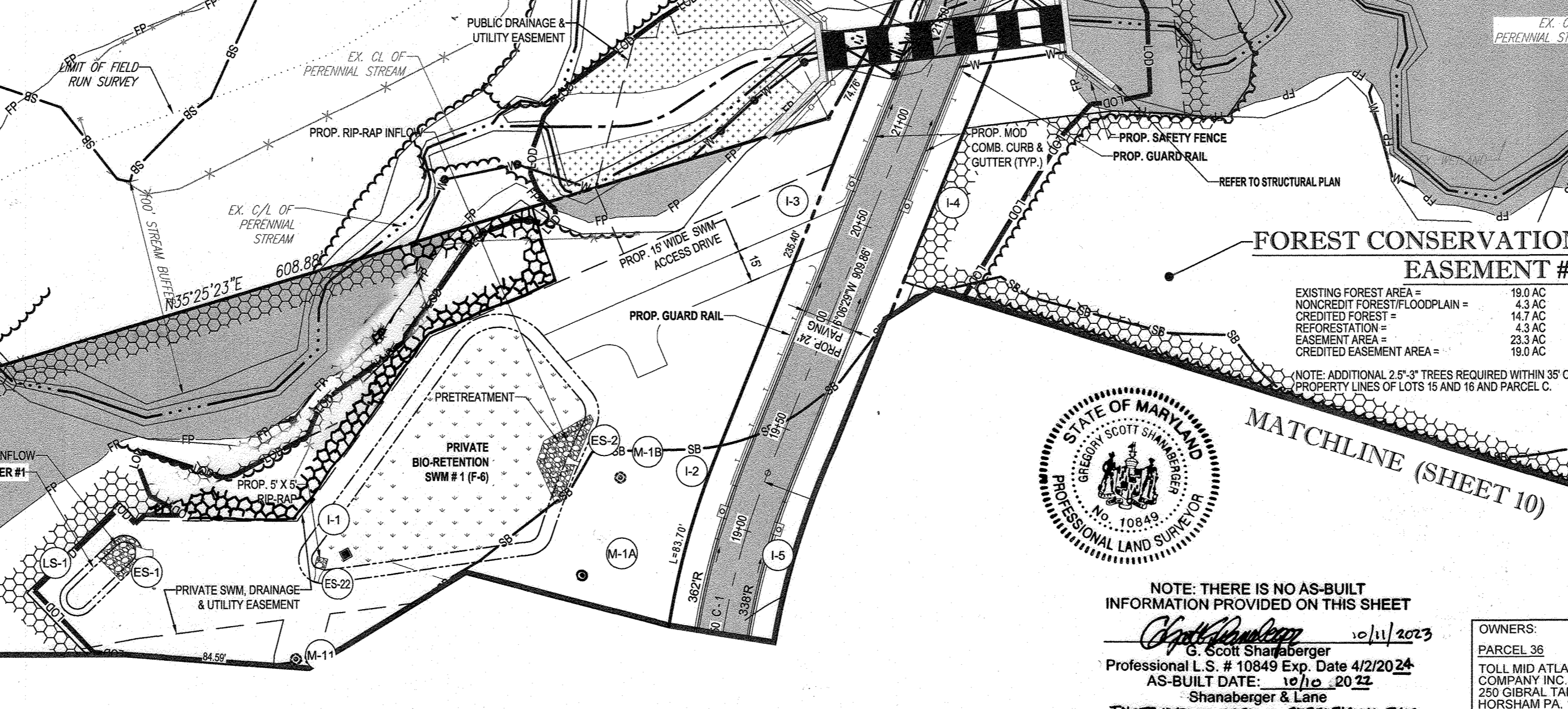
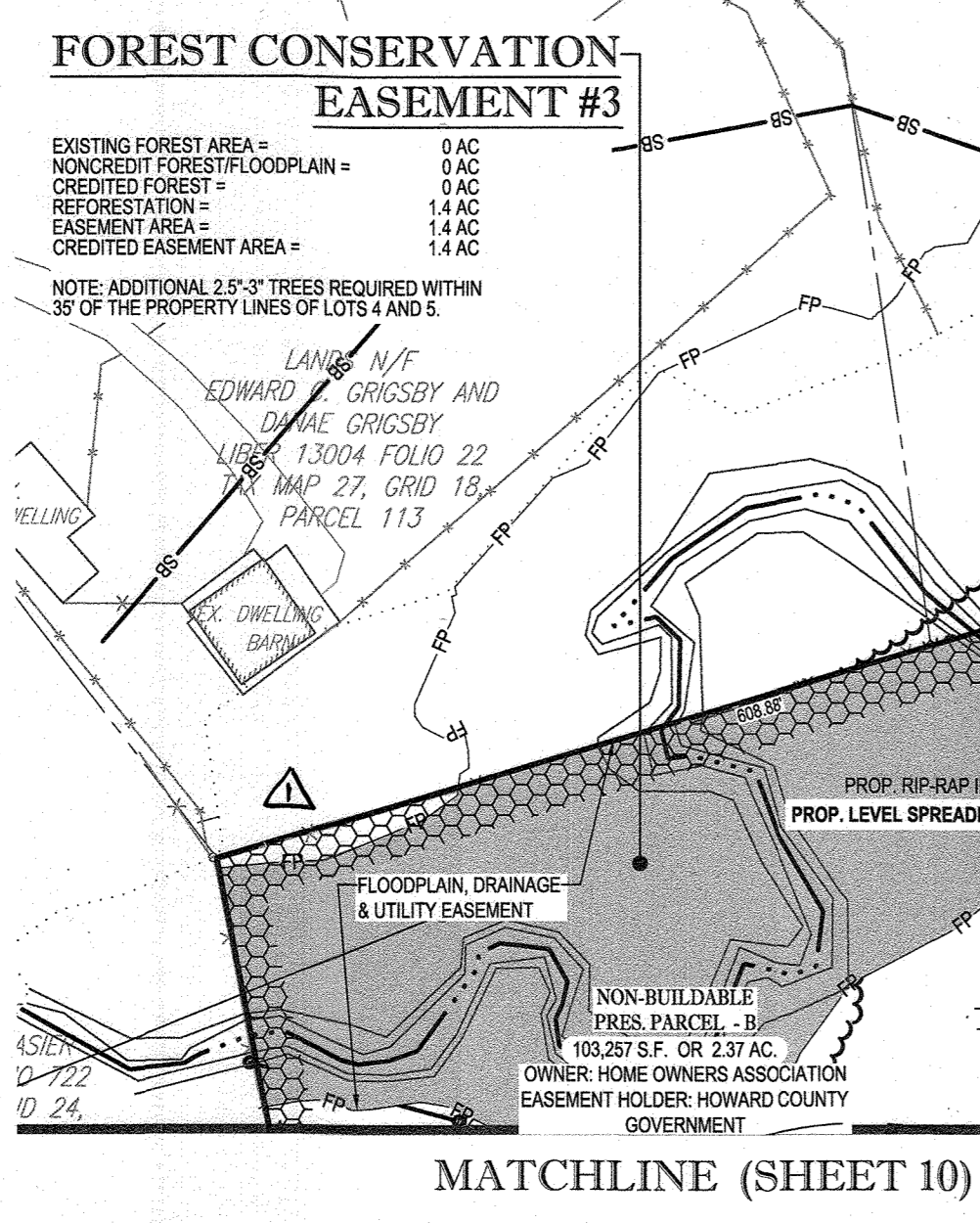


STANDARD DRAWING LEGEND		
FOR ENTIRE PLAN SET (NOT TO SCALE)		
EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
---	ON-SITE PROPERTY LINE / R.O.W. LINE	---
---	NEIGHBORING PROPERTY LINE / INTERIOR PARCEL LINE	---
---	EASEMENT LINE	---
---	SETBACK LINE	---
---	CONCRETE CURB & GUTTER	CURB AND GUTTER
---		DEPRESSED CURB AND GUTTER
⊙	TYPICAL LIGHT	⊙
⊙	TYPICAL SIGN	⊙
⊙	HYDRANT	⊙
⊙	SANITARY MANHOLE	⊙
⊙	SANITARY TERMINAL	⊙
⊙	STORM MANHOLE	⊙
⊙	WATER VALVE	⊙
⊙	TYPICAL END SECTION	⊙
⊙	CLEAN OUT	⊙
EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
---	YARD/OVERFLOW INLET	---
---	SEPTIC EASEMENT RESERVE AREA	---
---	WETLAND BUFFER	---
---	STREAM BUFFER	---
---	TREELINE	---
---	FULL DEPTH PAVEMENT	---
---	PERENNIAL STREAM	---
---	INTERMITTENT STREAM	---
---	BIORETENTION FACILITY / SUBMERGED GRAVEL WETLAND	---
---	WELL AREA	---
---	LIMIT OF FIELD RUN SURVEY	---
---	FOREST CONSERVATION EASEMENT	---
---	WETLAND LIMITS	---
---	FLOODPLAINS LIMITS	---

ROADWAY INFORMATION CHART				
ROAD NAME	CLASSIFICATION	DESIGN SPEED	CL. STATION LIMITS	PAVING SECTION
BRICKER ROAD	PUBLIC ACCESS STREET	30 M.P.H.	STA 10+00.00 TO STA 27+53.11	P-2

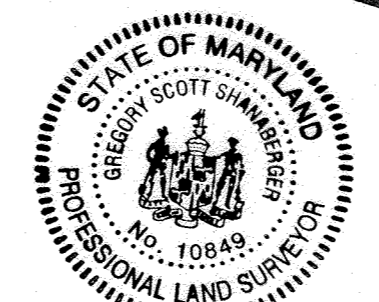
CURVE TABLE					
CURVE #	RADIUS	LENGTH	CHORD BEARING	CHORD	TANGENT
C - 1	348.188	119.146	N25°51'36"W	118.57	019°36'21"
C - 2	740.000	415.592	N00°01'09"W	410.15	032°10'40"
C - 3	325.000	245.305	N76°00'41"E	239.52	043°14'46"
C - 4	350.000	23.636	S80°25'51"E	23.63	003°52'09"



APPROVED: DEPARTMENT OF PUBLIC WORKS  
 Chief, Bureau of Highways  
 DATE: 11/24/2019

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Chief, Division of Land Development  
 DATE: 2/6/2020

Chief, Development Engineering Division  
 DATE: 12.9.19



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

G. Scott Shanaberger  
 Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/10/2022  
 Shanaberger & Lane

INSTRUMENTS USED IN PREPARING THIS AS-BUILT SURVEY: S-5204P-3-2014, L-1, ROBOTIC TOTAL STATION, TOPCON RC-5 RECEIVER, GEOKA 2000 PRISM

50 25 12.5 0 50  
 1" = 50'

OWNERS:	PARCEL 34	PARCEL 112
PARCEL 36 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044 TEL: 800.451.1000	TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044 TEL: 800.451.1000	TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044 TEL: 800.451.1000
PARCEL 111 JERRY MAUCK LEONORE D. SINES 5226 GREEN BRIDGE ROAD DAYTON, MD 21038 TEL: 410.221.7777	PARCEL 98 JERRY MAUCK JANET BURKE JIT 5224 GREEN BRIDGE ROAD DAYTON, MD 21036 TEL: 410.221.7777	DEVELOPER: GREEN BRIDGE FARM II, L.C. 5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTACT: JASON VAN KIRK PHONE: (410) 720-3021
SUBDIVISION NAME: WILLOWSHIRE SECTION/AREA: N/A DEED # 11361/00222, 01/13/00554, 15584/003894, 05889/00490 04341/00270, & 03201/00559	PREVIOUS FILE NO.: ECP-16-023 PB436 SP-17-002 WP-17105	TAX MAP: 27 GRID: 18 ZONED: RR-DEO PARCEL: 34, 36, 98, 111 & 112 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
 WARRHEN, NJ

OFFICES:  
 ASHBOURGH, VA  
 ALBANY, NY  
 CHARLOTTE, NC  
 CENTER VALLEY, PA  
 TAMPA, FL

SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

CIVIL & CONSULTING ENGINEERS  
 ENVIRONMENTAL ENGINEERS  
 GEOTECHNICAL ENGINEERS  
 SURVEYING ENGINEERS  
 TRAFFIC ENGINEERS  
 WATER RESOURCES ENGINEERS

REVISIONS			
REV	DATE	COMMENT	BY
1	10/21/20	UPDATED PER #3 DMP	BR

**APPROVED FOR CONSTRUCTION**

PROJECT NO.: MD142048  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD I.D.: SP3

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, P & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B.R. ROWE**

PROFESSIONAL ENGINEER  
 MARYLAND LICENSE NO. 8008  
 PROFESSIONAL CERTIFICATION  
 LANDSCAPE ARCHITECTURE  
 LICENSE NO. 793021

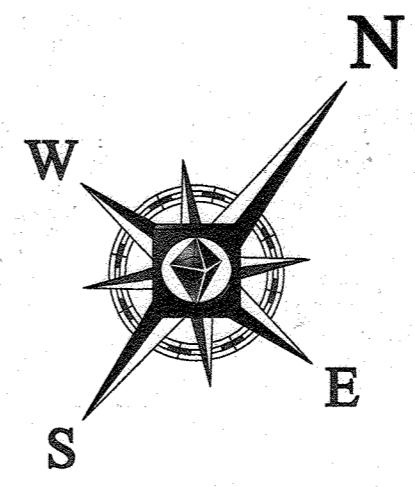
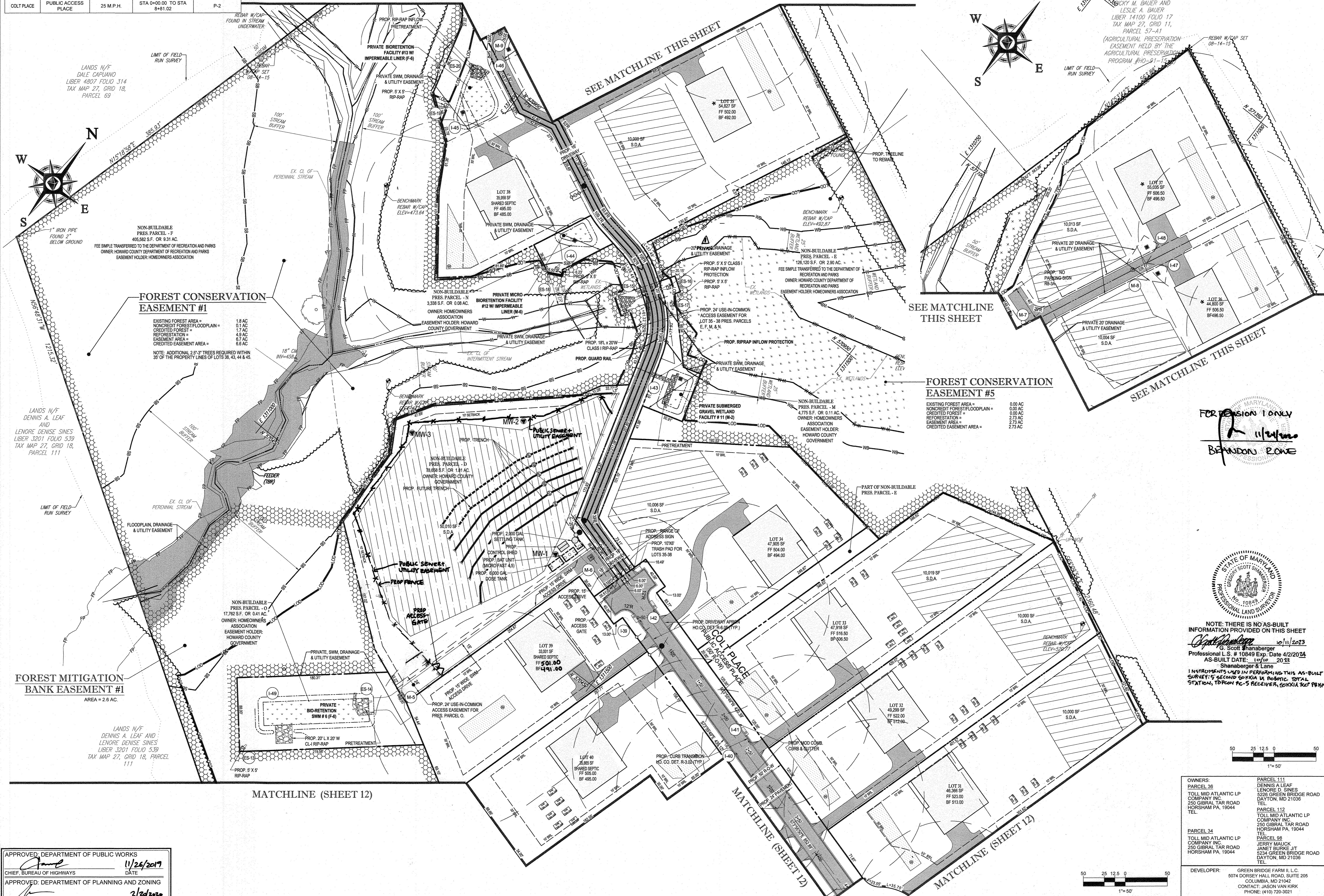
**SITE LAYOUT PLAN**

SHEET NUMBER:  
**11 OF 92**



ROADWAY INFORMATION CHART				
ROAD NAME	CLASSIFICATION	DESIGN SPEED	CL. STATION LIMITS	PAVING SECTION
COLT PLACE	PUBLIC ACCESS PLACE	25 M.P.H.	STA 0+00.00 TO STA 8+81.02	P-2

SEE MATCHLINE THIS SHEET



BAUER PROPERTY  
 LANDS N/F  
 DICKY M. BAUER AND  
 LESLIE A. BAUER  
 LIBER 14100 FOLIO 17  
 TAX MAP 27, GRID 11,  
 PARCEL 57-A1  
 (AGRICULTURAL PRESERVATION  
 EASEMENT HELD BY THE  
 AGRICULTURAL PRESERVATION  
 PROGRAM #HO-91-15)

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
 WARREN, NJ

CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

OFFICES:  
 BOSTON, MA  
 CHICAGO, IL  
 COLUMBIA, MD  
 FORT LAUDERDALE, FL  
 HONOLULU, HI  
 PHILADELPHIA, PA  
 TAMPA, FL

REVISIONS			
REV	DATE	COMMENT	BY
1	10/22/19	Revised Drive Private Per Deo Report	CMB

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EDUCATORS, DESIGNERS, OR ANY PERSON PREPARING TO RESTORE THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL 811

(MD 1-800-245-4548) (PA 1-800-242-1778) (DC 1-800-257-7777) (VA 1-800-552-7001) (MD 1-800-257-7777) (DE 1-800-382-8888)

**APPROVED FOR CONSTRUCTION**

PROJECT NO.: MD142348  
 DRAWN BY: BRR  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD I.D.: SP3

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, P & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B.R. ROWE**

PROFESSIONAL ENGINEER  
 PROFESSIONAL CERTIFICATION  
 LICENSE NO. 28628, EXPIRES 12/31/2021

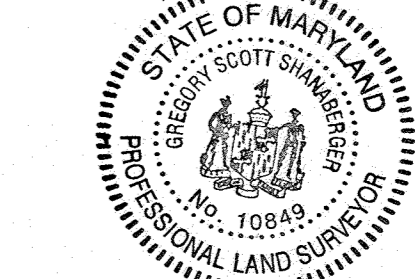
SHEET TITLE:  
**SITE LAYOUT PLAN**

SHEET NUMBER:  
**13 OF 92**

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 DATE: 11/26/2019

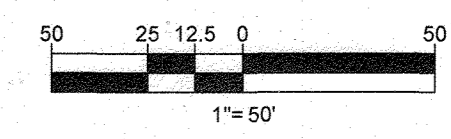
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 DATE: 12-9-19

SUBDIVISION NAME: WILLOWSHIRE SECTION AREA: N/A DEED # 11361/00222, 00183/00554, 15884/00384, 05889/00490 0434/100270, & 03201/00539	PREVIOUS FILE NO.: ECP-16-023 PB436 SP-17-002 WP-17105	TAX MAP: 27 GRID: 18 ZONED: RR-DEO PARCEL: 34, 36, 98, 111 & 112 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
--	---	---



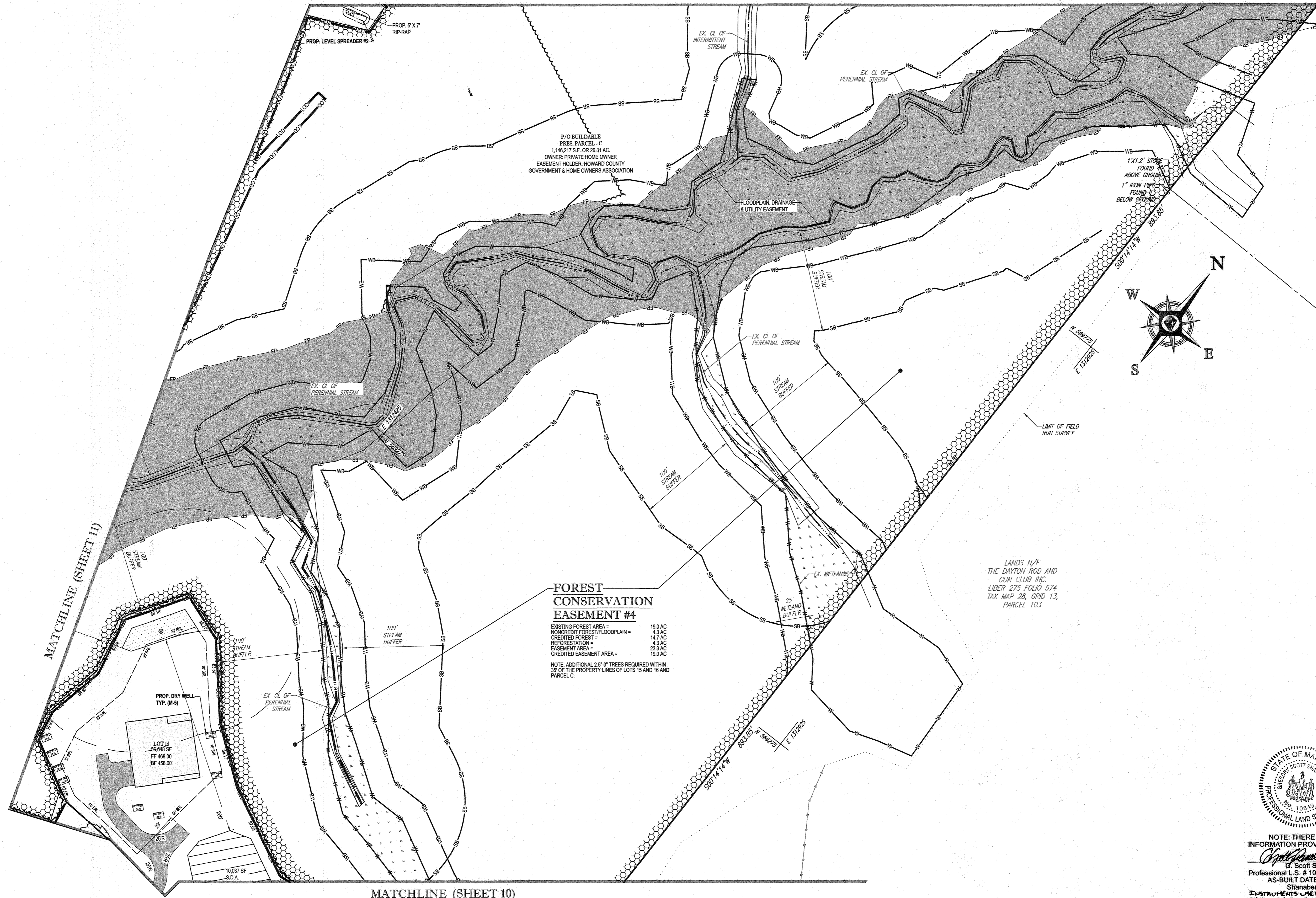
NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

*G. Scott Shanaberger* 10/11/2023  
 G. Scott Shanaberger  
 Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/10/2022  
 Shanaberger & Lane



11/26/2019 10:58:00 AM 250% PLAN ROAD CONSTRUCTION PLAN 4563232323 PRINTED BY: ADAMBA 13:19 8/24 M UST SHED BY ADAMBA

MATCHLINE (SHEET 12)



**FOREST CONSERVATION EASEMENT #4**

EXISTING FOREST AREA *	19.0 AC
NON-CREDIT FOREST FLOODPLAIN *	43.4 AC
CREDITED FOREST *	14.7 AC
REFORESTATION *	43.4 AC
EASEMENT AREA *	23.8 AC
CREDITED EASEMENT AREA *	19.0 AC

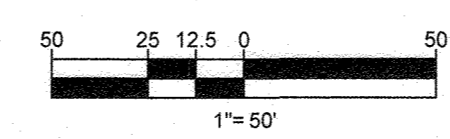
NOTE: ADDITIONAL 25'-0" TREES REQUIRED WITHIN 50' OF THE PROPERTY LINES OF LOTS 15 AND 16 AND PARCEL C.

LANDS N/F THE DAYTON ROAD AND GUN CLUB INC. LIBER 275 FOLD 574 TAX MAP 26, GRID 13, PARCEL 103

MATCHLINE (SHEET 11)

MATCHLINE (SHEET 10)

APPROVED DEPARTMENT OF PUBLIC WORKS	11/26/2019
CHIEF, BUREAU OF HIGHWAYS	DATE
APPROVED DEPARTMENT OF PLANNING AND ZONING	2/26/2020
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
12-9-19	DATE



OWNERS: PARCEL 36 TOLL MID ATLANTIC LP 250 GIBRAL TARR ROAD HORSHAM PA, 19044 TEL: PARCEL 111 DENNIS A LEAF LENORE D SINES 5226 GREEN BRIDGE ROAD DAYTON, MD 21036 TEL: PARCEL 112 TOLL MID ATLANTIC LP 250 GIBRAL TARR ROAD HORSHAM PA, 19044 TEL: PARCEL 88 JERRY MAJICK JANET BURKE J/T 5234 GREEN BRIDGE ROAD DAYTON, MD 21036 TEL:	DEVELOPER: GREEN BRIDGE FARM II, L.C. 5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTACT: JASON VAN KIRK PHONE: (410) 720-3021
SUBDIVISION NAME: WILLOWSHIRE SECTION AREA: N/A DEED # 11361/00222 00183/00554, 15884/003884, 05889/00490 04541/00270, & 03201/00539	PREVIOUS FILE NO.: ECP-16-023 PB436 SP-17-002 WP-17105
TAX MAP: 27 PARCEL: 34, 36, 98, 111 & 112 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND	



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
 G. Scott Shanberger  
 Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/16/2022  
 Shanberger & Lane  
 INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: SPECTRA S10 ROBOTIC TOTAL STATION, SPECTRA M5 RECEIVER, SOKKIA 300 PRIM

REVISIONS

REV	DATE	COMMENT	BY

APPROVED FOR CONSTRUCTION

PROJECT NO.: MD142048  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD I.D.: SP3

FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

BOHLER ENGINEERING  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7500  
 Fax: (410) 821-7387  
 www.BohlerEngineering.com

B. B. ROWE  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 10849  
 EXP. DATE: 4/2/2024

SHEET TITLE:  
**SITE LAYOUT PLAN**

SHEET NUMBER:  
**14 OF 92**

**BOHLER ENGINEERING**

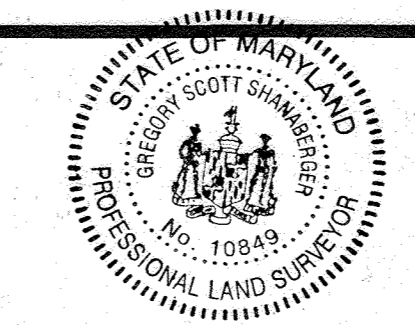
CORPORATE OFFICE:  
 WARREN, NJ

CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

OFFICES:  
 BOSTON, MA  
 CHICAGO, IL  
 CINCINNATI, OH  
 COLUMBIA, MD  
 FORT LAUDERDALE, FL  
 HOUSTON, TX  
 INDIANAPOLIS, IN  
 JACKSONVILLE, FL  
 KANSAS CITY, MO  
 LOS ANGELES, CA  
 MEMPHIS, TN  
 MIAMI, FL  
 MINNEAPOLIS, MN  
 NEW YORK, NY  
 OMAHA, NE  
 PHILADELPHIA, PA  
 RICHMOND, VA  
 ST. LOUIS, MO  
 TAMPA, FL

SOILS TABLE					
SOILS NAME	SOILS DESCRIPTION	HYDROLOGIC SOILS GROUP	HIGHLY ERODIBLE SOIL	K FACTOR	AREA - AC
Co	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	NO	0.32	3.88
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.28	16.53
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	11.63
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	YES	0.43	9.42
GmB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	9.49
GoB	GLENVILLE-CODORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	4.16
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	35.66
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	NO	0.28	9.08

ESD SUMMARY TABLE	
'SITE AREA'	64.77 AC.
ESDv	53,393 C.F. (REQUIRED), 92,579 C.F. (PROVIDED)
Rev	11,128 C.F. (REQUIRED), 11,166 C.F. (PROVIDED)
CPv	INCLUDED IN ESDv
OP10	NOT REQUIRED
OP100	NOT REQUIRED



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
 10/1/2023  
 G. Scott Shaberger  
 Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/1/2023  
 Shaberger & Lane  
 INSTRUMENTS USED IN PREPARING THIS AS-BUILT SHEET: 5 SECOND ANGLE PHOTO TOTAL STATION, TOPCON AC-S RECEIVER, SOHKA 360° PRISM

MATCHLINE (SHEET 16)

MATCHLINE (SHEET 19)



SEE SHEET 88 FOR DETAILS ON LOT SWM, GRADING AND HOUSE CONFIGURATIONS

OWNER: PARCEL 34 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044 TEL: (610) 821-7900 PARCEL 111 DENNIS A LEAF LAWRENCE D. SINES 5226 GREEN BRIDGE ROAD DAYTON, MD 21038 TEL: (410) 821-7987	DEVELOPER: ELM STREET DEVELOPMENT 6074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTACT: JASON VAN KIRK PHONE: (410) 720-3021
PREVIOUS FILE NO. ECP-16-023 SP-17-002 WP-17-105	TAX MAP: 27 GRID: 18 ZONED: RR-DEO PARCEL: 34, 36, 98, 111 & 112 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 1/26/2017  
 CHIEF: BUREAU OF HIGHWAYS  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF: DIVISION OF LAND DEVELOPMENT  
 DATE: 12.9.19  
 CHIEF: DEVELOPMENT ENGINEERING DIVISION

NOTE: ALL ROOF DRAINS WILL BE 6"  
 NOTE: HAZARD CLASS FOR ALL SWM FACILITIES IS "A"  
 DUE TO NO LIFE LOSS FOR FAILURE

**BOHLER ENGINEERING**  
 CORPORATE OFFICE: WARRREN, NJ  
 OFFICES: PHOENIX, AZ; TAMPA, FL; WASHINGTON, DC; STERLING, VA; FORT LAUDERDALE, FL; CHARLOTTE, NC; CHARLOTTE, NC; CHARLOTTE, NC; CHARLOTTE, NC  
 CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

REVISIONS			
REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATES IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE BY CALLING: (VA) 1-800-245-4545 (PA) 1-800-242-1776 (DC) 1-800-251-7777 (MD) 1-800-352-7001 (DE) 1-800-291-7777 (DE) 1-800-382-8888

APPROVED FOR CONSTRUCTION  
 PROJECT NO: MD142048  
 DRAWN BY: BRR  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD I.D.: GPS

FINAL ROAD CONSTRUCTION PLAN FOR  
**WILLOWSHIRE**  
 LOTS 1-15, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G, L, F & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE: 5232 GREEN BRIDGE ROAD, 5TH ELECTION DISTRICT, TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 1 BRADDOCK DRIVE, SUITE 102  
 GREENBELT, MARYLAND 20818  
 CONTACT: JASON VAN KIRK  
 PHONE: (410) 720-3021  
 LICENSE NO. 9804, EXPIRATION DATE: 10/31/2021

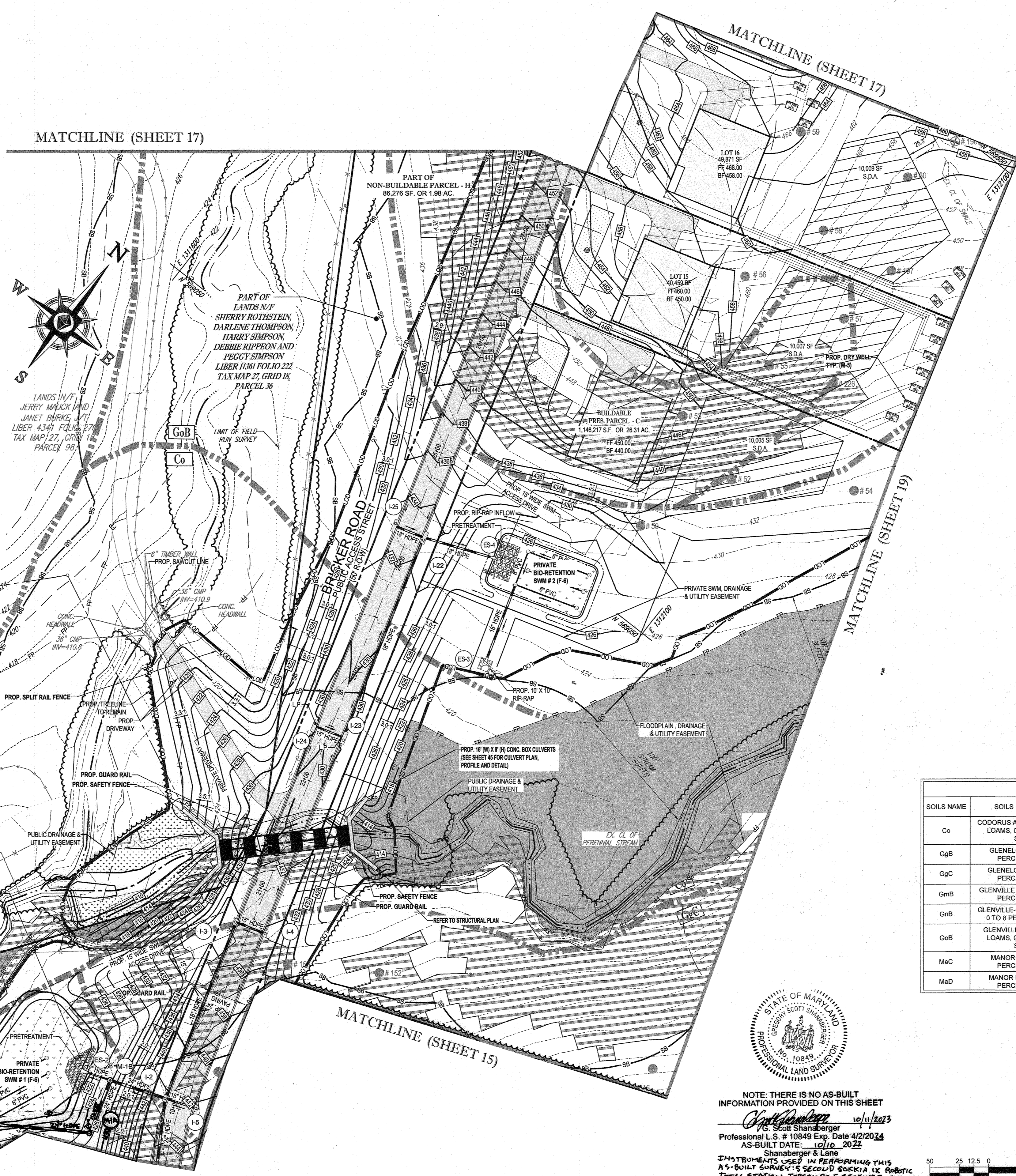
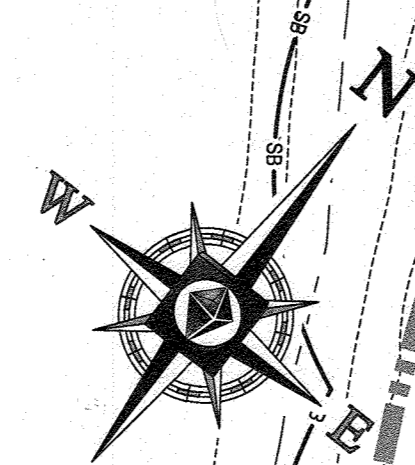
SHEET TITLE: GRADING AND STORMWATER MANAGEMENT PLAN  
 SHEET NUMBER: 15 OF 92

**STANDARD DRAWING LEGEND**

FOR ENTIRE PLAN SET  
(NOT TO SCALE)

EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
---	ONSITE PROPERTY LINE / R.O.W. LINE	---
---	NEIGHBORING PROPERTY LINE / INTERIOR PARCEL LINE	---
---	EASEMENT LINE	---
---	SETBACK LINE	---
-170-	CONTOUR LINE	---
---	UNDERGROUND WATER LINE	---
---	UNDERGROUND ELECTRIC LINE	---
---	UNDERGROUND GAS LINE	---
OH	OVERHEAD WIRE	OH
S	STORM SEWER	---
---	SANITARY SEWER MAIN	---
---	FORCE MAIN	FM
---	HYDRANT	---
⊙	SANITARY MANHOLE	⊙
⊙	STORM MANHOLE	⊙
---	LIMIT OF FIELD RUN SURVEY	---
---	YARD/OVERFLOW INLET	---
---	BIORETENTION FACILITY	---
WM	WATER METER	WM
WV	WATER VALVE	WV
---	TYPICAL END SECTION	---
⊕	BORING	⊕
---	SOIL STABILIZATION MATTING	---
---	STEEP SLOPES (>25%)	---
---	STEEP SLOPES (15%-25%)	---
---	FULL DEPTH PAVEMENT	---
---	CONCRETE PAVEMENT	---
---	TREELINE	---
---	WETLAND BUFFER	---
---	STREAM BUFFER	---
---	SEPTIC EASEMENT RESERVE AREA	---
---	WELL AREA	---
⊕	WELL	⊕
---	PERCOLATION HOLE (PASSED)	---
---	PERCOLATION HOLE (FAILED)	---
---	GEOTEXTILE STABILIZATION MATTING	---

MATCHLINE (SHEET 17)

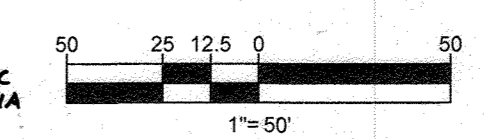


**SOILS TABLE**

SOILS NAME	SOILS DESCRIPTION	HYDROLOGIC SOILS GROUP	HIGHLY ERODIBLE SOIL	K FACTOR	AREA - AC.
Co	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	NO	0.32	3.88
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.28	16.53
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	11.63
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	YES	0.43	9.42
GmB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	9.49
GoB	GLENVILLE-CODORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	4.16
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	35.66
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	NO	0.28	9.09



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
 DATE: 10/11/2023  
 Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/10/2023  
 Shanabarger & Lane  
 INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: 5 SECOND SOKKIA IX ROBOTIC TOTAL STATION, TOPCON RC-5 RECEIVER, SOKKIA 360° PRISM



NOTE: ALL ROOF DRAINS WILL BE 6"  
 NOTE: HAZARD CLASS FOR ALL SWM FACILITIES IS "A" DUE TO NO LIFE LOSS FOR FAILURE.

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 DATE: 11/26/2021  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 DATE: 2/10/2020  
 DATE: 12-9-19

OWNERS: PARCEL 36 TOLL MID ATLANTIC LP COMPANY INC 250 GIBRAL TAR ROAD HORSHAM PA, 19044	PARCEL 34 TOLL MID ATLANTIC LP COMPANY INC 250 GIBRAL TAR ROAD HORSHAM PA, 19044	PARCEL 112 TOLL MID ATLANTIC LP COMPANY INC 250 GIBRAL TAR ROAD HORSHAM PA, 19044	SUBDIVISION NAME: WILLOWSHIRE SECTION/AREA: N/A DEED # 1136100222, 0018300554, 15884000894, 0588800490, 04341000270, & 0320100539	DEVELOPER: ELM STREET DEVELOPMENT 5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTACT: JASON VAN KIRK PHONE: (410) 720-3021
PARCEL 111 DENNIS A LEAF LENORE D. SINES 5226 GREEN BRIDGE ROAD DAYTON, MD 21036	PARCEL 98 JERRY MAUCK JANET BURKE JTT 5234 GREEN BRIDGE ROAD DAYTON, MD 21036	PREVIOUS FILE No.: ECP-16-023 SP-17-002 WP-17-105	TAX MAP: 27 GRID: 18 ZONED: RR-DEO PARCEL: 34, 36, 98, 111 & 112 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND	

**BOHLER ENGINEERING**  
 CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

CORPORATE OFFICE:  
 WARREN, NJ

OFFICES:  
 BOSTON, MA  
 ALBANY, NY  
 RICHMOND, VA  
 CENTER VALLEY, PA  
 TAMPA, FL  
 PHILADELPHIA, PA

**REVISIONS**

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE: CALL 811 (WV 1-800-245-4848) (PA 1-800-242-1778) (DC 1-800-257-7777) (VA 1-800-552-7201) (MD 1-800-257-7777) (DE 1-800-292-8555)

APPROVED FOR CONSTRUCTION

PROJECT No.: MD142048  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD I.D.: GP3

**FINIAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & I - T & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21046  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 PROFESSIONAL CERTIFICATION  
 I BRANCH OF ENGINEERING CENTER THAT THESE DOCUMENTS WERE PREPARED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 7868, EXPIRES/RENEW DATE: 7/20/23

**GRADING AND STORMWATER MANAGEMENT PLAN**  
 SHEET NUMBER:  
**16 OF 92**

MATCHLINE (SHEET 15)

MATCHLINE (SHEET 15)

MATCHLINE (SHEET 17)

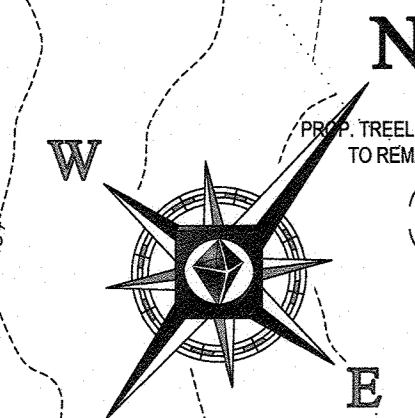


MATCH LINE (SHEET 18)



THE OAKS AT BRIDLE CREEK  
PLAT BOOK 199 PAGE 8

LANDS N/F  
JDRK, LLC  
LIBER 15496-0000-155  
TAX MAP 28, GRID 7,  
PARCEL 13-B



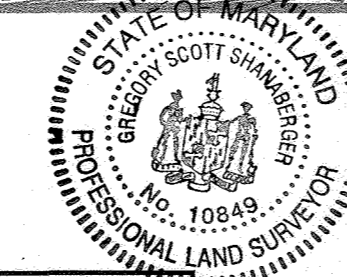
P/O  
NON-BUILDABLE  
PRES. PARCEL - F  
405,882 S.F. OR 9.31 AC.

LOT 7  
SIMPSON TRACT  
PLAT NO. 6874  
CLINTON B. SIMPSON, SR. AND  
KAREN L. SIMPSON  
LIBER 2528 FOLIO 654  
MAP 27, GRID 18, PARCEL 123

NON-BUILDABLE  
PRES. PARCEL - G  
69,295 S.F. OR 1.59 AC.

NON-BUILDABLE  
PRES. PARCEL - H  
86,276 S.F. OR 1.98 AC.

SOILS NAME	SOILS DESCRIPTION	HYDROLOGIC SOILS GROUP	HIGHLY ERODIBLE SOIL	K FACTOR	AREA - AC.
Co	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	NO	0.32	3.88
GpB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.28	16.53
GpC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	11.63
GnB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	YES	0.43	9.42
GnB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	9.49
GnB	GLENVILLE-CODORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	4.16
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	35.66
MnD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	NO	0.28	9.09



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

*Scott Shanabarger* 10/11/2023  
Professional L.S. # 10849 Exp. Date 4/2/2024  
AS-BUILT DATE: 10/10/2022

Shanabarger & Lane  
250 GIBRAL TARR ROAD  
HORSHAM PA 19044

INSTRUMENTS: USE OF PHOTOGRAMMETRY THIS AS-BUILT SURVEY IS SECOND SOURCE IX ROBOTIC TOTAL STATION TOPCON RC-5 RECEIVER, SOLERA SPP-PRISM

NOTE: ALL ROOF DRAINS WILL BE 6"

NOTE: HAZARD CLASS FOR ALL SWM FACILITIES IS "A" DUE TO NO LIFE LOSS FOR FAILURE.

1" = 50'

MATCH LINE (SHEET 19)

APPROVED: DEPARTMENT OF PUBLIC WORKS  
11/26/2019  
DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
2/2/2020  
DATE

12.9.19  
DATE

OWNERS:  
PARCEL 36  
DENNIS A LEAF  
LENORE D SINES  
5226 GREEN BRIDGE ROAD  
DAYTON, MD 21035  
TEL

PARCEL 112  
TOLL MID ATLANTIC LP  
COMPANY INC  
250 GIBRAL TARR ROAD  
HORSHAM PA, 19044  
TEL

PARCEL 98  
JERRY MAUCK  
JANET BURKE JT  
504 GREEN BRIDGE ROAD  
DAYTON, MD 21038  
TEL

DEVELOPER:  
ELM STREET DEVELOPMENT  
5074 DORSEY HALL ROAD, SUITE 205  
COLUMBIA, MD 21042  
CONTACT: JASON VAN KIRK  
PHONE: (410) 720-3021

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
PARCEL: 34, 36, 98, 111 & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SUBDIVISION NAME: WILLOWSHIRE  
SECTION/AREA: N/A  
DEED # 118100222, 0018000554,  
15884003894, 0588900480  
0434100270, & 0320100539

PREVIOUS FILE NO.:  
ECP-16-023  
SP-17-002  
WP-17-105

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
WARREN, NJ

CIVIL & CONSULTING ENGINEERS  
SURVEYORS  
PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

OFFICES:  
BOSTON, MA  
DENVER, CO  
FORT LAUDERDALE, FL  
HONOLULU, HI  
LOS ANGELES, CA  
PHILADELPHIA, PA  
PORTLAND, ME  
SAN FRANCISCO, CA  
WASHINGTON, DC  
WILMINGTON, DE

REVISIONS

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO PIERCE THE EARTH'S SURFACE ANYWHERE IN THE STATE IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE: CALL 811

(VA 1-800-245-4848) (PA 1-800-242-1776) (DC 1-800-257-7777) (MD 1-800-552-7070) (DE 1-800-291-7777) (SC 1-800-282-8889)

APPROVED FOR CONSTRUCTION

PROJECT NO.: MD142048  
DRAWN BY: BRR  
DATE: 08/26/19  
SCALE: 1" = 50'  
CAD ID: GPS

**FINAN ROAD CONSTRUCTION PLAN**

FOR

**WILLOWSHIRE**

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD,  
SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7500  
Fax: (410) 821-7367  
www.BohlerEngineering.com

**B.R. ROWE**

PROFESSIONAL ENGINEER  
1949

PROFESSIONAL CERTIFICATION  
I BRANCH (P) ENGINEER, REGISTERED IN THESE DOCUMENTS AS A PROFESSIONAL ENGINEER AND THAT I AM A QUALIFIED PROFESSIONAL ENGINEER UNDER THE PROVISIONS OF THE PROFESSIONAL ENGINEERS ACT OF 1976, CHAPTER 11, TITLE 17, SUBTITLE 10, OF THE MARYLAND CODE, AND THAT I AM CURRENTLY LICENSED IN THE STATE OF MARYLAND UNDER LICENSE NO. 8682, EXPIRES ON 07/31/2021.

SHEET TITLE:  
**GRADING AND STORMWATER MANAGEMENT PLAN**

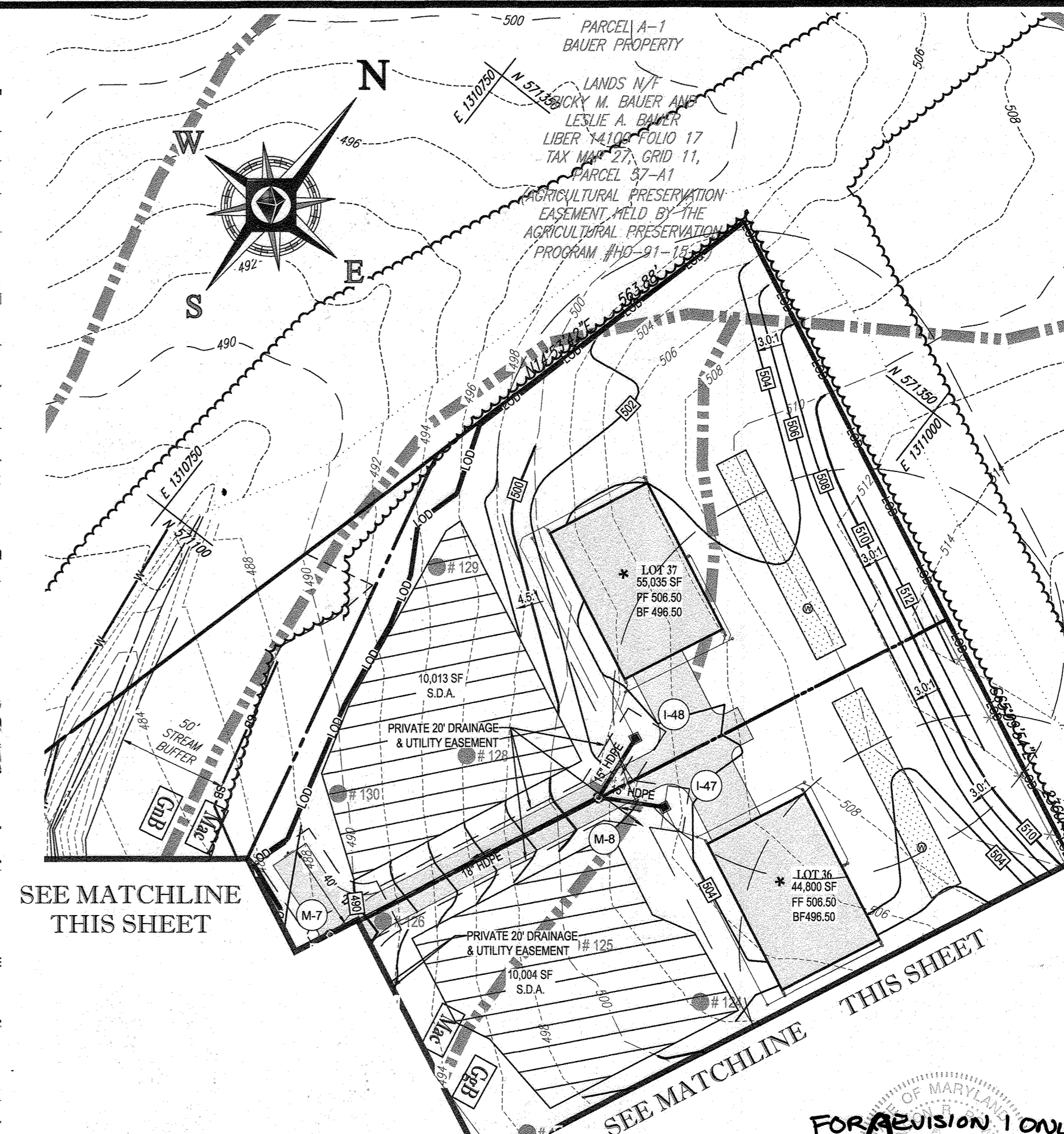
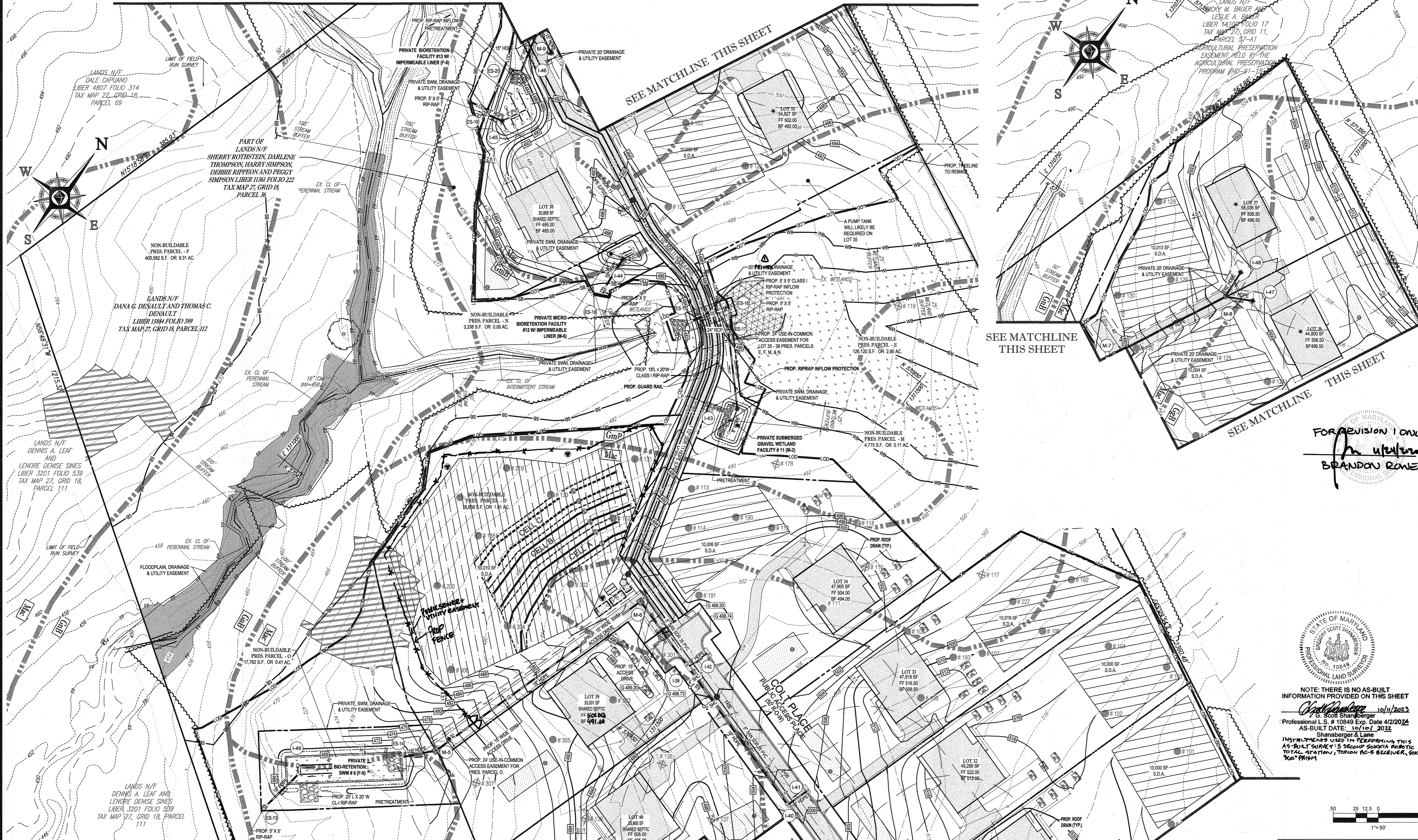
SHEET NUMBER:  
**17 OF 92**

SEE MATCHLINE THIS SHEET

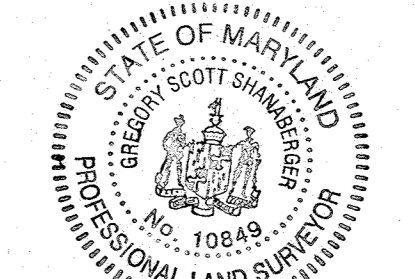
SEE MATCHLINE THIS SHEET

SEE MATCHLINE THIS SHEET

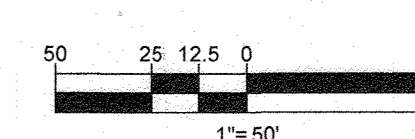
SEE MATCHLINE THIS SHEET



FOR REVISION 1 ONLY  
*Brandon Rowe*  
 BRANDON ROWE



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
 G. Scott Shanberger  
 Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/1/2023  
 Shanberger & Lane  
 INSTRUCTIONS USED IN PREPARING THIS AS-BUILT SURVEY: 1.5 SECOND SCHEMATIC REPRESENTATION TOTAL STATION; TOPCON AG-5 RECEIVER; SOKKIA 30A PRISM



NOTE: ALL ROOF DRAINS WILL BE 6"  
 NOTE: HAZARD CLASS FOR ALL SWM FACILITIES IS "A" DUE TO NO LIFE LOSS FOR FAILURE.

MATCHLINE (SHEET 16)

SOILS NAME	SOILS DESCRIPTION	HYDROLOGIC SOILS GROUP	HIGHLY ERODIBLE SOIL	K FACTOR	AREA - AC.
Co	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	NO	0.32	3.88
GgB	GLENELG LOAM 3 TO 8 PERCENT SLOPES	B	NO	0.28	16.53
GgC	GLENELG LOAM 8 TO 15 PERCENT SLOPES	B	NO	0.28	11.63
GmB	GLENVILLE SILT LOAM 3 TO 8 PERCENT SLOPES	C	YES	0.43	9.42
GmB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	9.49
GgB	GLENVILLE-CODORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	4.16
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	35.66
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	NO	0.28	9.09

APPROVED DEPARTMENT OF PUBLIC WORKS  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE: 11/24/2019

APPROVED DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 2/20/2020

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 12-9-19

SUBDIVISION NAME: WILLOWSHIRE  
 SECTION/AREA: NA  
 DEED #: 1196100222, 0018300554, 15884002884, 0588800490, 0434100270, & 0320100539

PREVIOUS FILE NO.:  
 ECP-16-023 PB436  
 SP-17-002  
 WP-17105

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
 PARCEL: 34, 36, 98, 111 & 112  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

CORPORATE OFFICE:  
 WARREN, NJ

OFFICES:  
 BOSTON, MA  
 BIRMINGHAM, AL  
 CHICAGO, IL  
 COLUMBIA, MD  
 FORT LAUDERDALE, FL  
 HONOLULU, HI  
 KANSAS CITY, MO  
 LOS ANGELES, CA  
 MIAMI, FL  
 PHILADELPHIA, PA  
 RICHMOND, VA  
 TAMPA, FL

REVISIONS

REV	DATE	COMMENT	BY
1	10/1/2023	REVISE DFM TO COMPLY WITH PRIVATE PARCEL REQUIREMENTS	BR

APPROVED FOR CONSTRUCTION

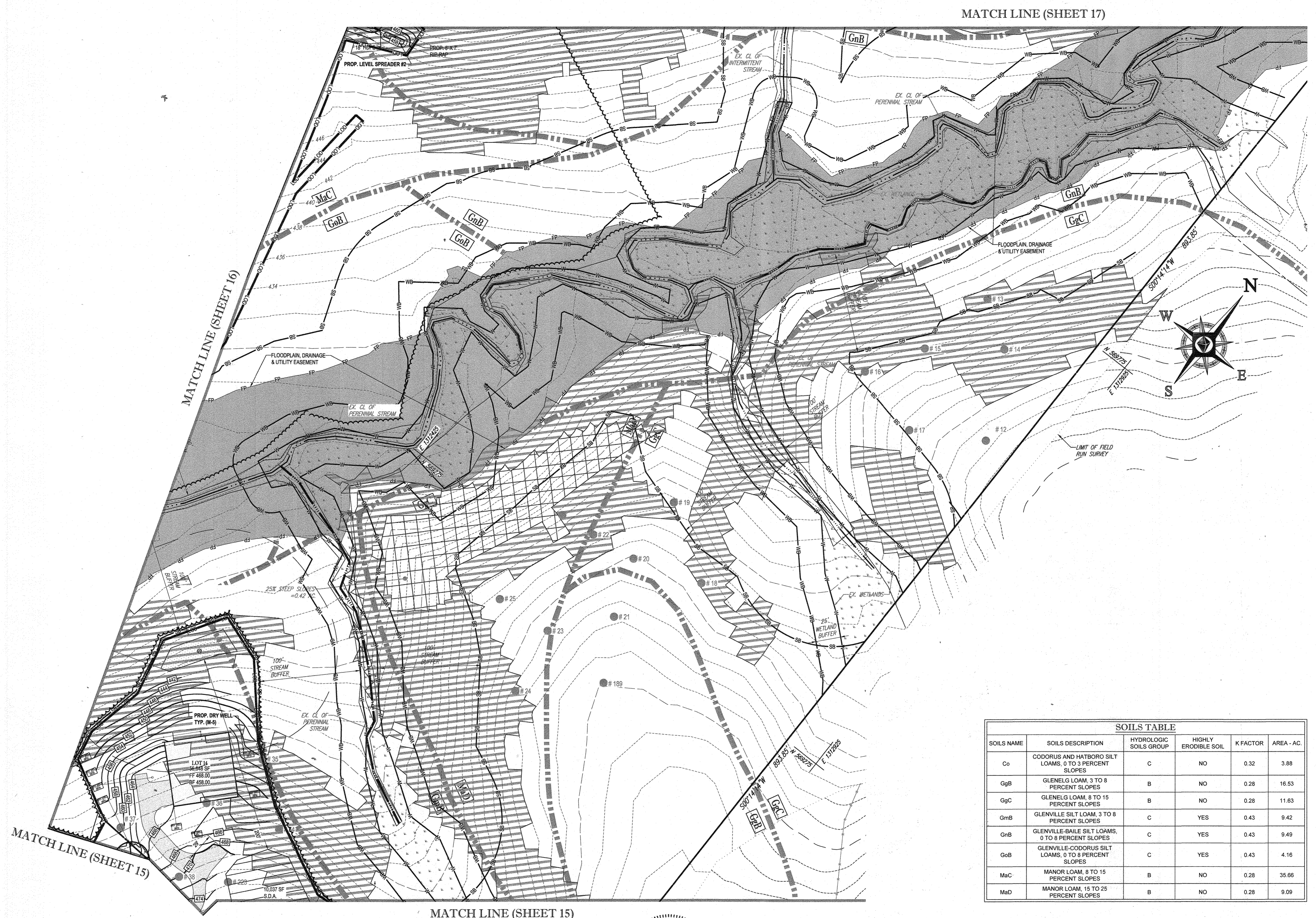
PROJECT NO.: MD142048  
 DRAWN BY: BRR  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD ID: GRS

FINAL ROAD CONSTRUCTION PLAN FOR  
**WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21204  
 Phone: (410) 821-7900  
 Fax: (410) 821-7907  
 www.BohlerEngineering.com

**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 10849

SHEET TITLE:  
**GRADING AND STORMWATER MANAGEMENT PLAN**  
 SHEET NUMBER:  
**18 OF 92**



MATCH LINE (SHEET 17)

MATCH LINE (SHEET 16)

MATCH LINE (SHEET 15)

MATCH LINE (SHEET 15)

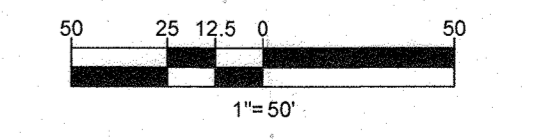
SOILS TABLE					
SOILS NAME	SOILS DESCRIPTION	HYDROLOGIC SOILS GROUP	HIGHLY ERODIBLE SOIL	K FACTOR	AREA - AC.
Co	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	NO	0.32	3.88
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.28	16.53
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	11.63
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	YES	0.43	9.42
GnB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	9.49
GsB	GLENVILLE-CODORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	4.16
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	35.96
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	NO	0.28	9.09

NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
*Scott Shanberger*  
 Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/10/2022  
 Shanberger & Lane  
 INSTRUMENTS USED IN PREPARING THIS AS-BUILT SURVEY'S SURVEY CONTROL STATIONS, TOPGRAPHIC REVISIONS, SCALES, ETC. PER PLAN



NOTE: ALL ROOF DRAINS WILL BE 6"  
 NOTE: HAZARD CLASS FOR ALL SWM FACILITIES IS "A" DUE TO NO LIFE LOSS FOR FAILURE.

OWNERS:  
 PARCEL 34 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044  
 PARCEL 112 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044  
 PARCEL 111 DENNIS A LEAF JERRY MAUCK JANEY BURKE JTT 5226 GREEN BRIDGE ROAD DAYTON, MD 21036  
 PARCEL 98 LENOIRE D. SINES 5226 GREEN BRIDGE ROAD DAYTON, MD 21036  
 SUBDIVISION NAME: WILLOWSHIRE SECTION/AREA: N/A DEED # 11361/00222, 00183/00554, 15884/00384, 05885/00490, 0434/100270, & 03201/00539  
 PREVIOUS FILE NO.: ECP-16-023 PB436 SP-17-002 WP-17105  
 TAX MAP: 27 GRID: 18 ZONED: RR-DEO PARCEL: 34, 36, 98, 111 & 112 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND



APPROVED: DEPARTMENT OF PUBLIC WORKS  
*[Signature]* 11/24/2019  
 CHIEF, BUREAU OF HIGHWAYS DATE  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*[Signature]* 2/16/2020  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 12-9-19 DATE

**\*\*SEE SHEET 89 FOR DETAILS ON LOT SWM, GRADING AND HOUSE CONFIGURATIONS\*\***

**BOHLER ENGINEERING**  
 CORPORATE OFFICE: WARREN, NJ  
 OFFICES: WASHINGTON, DC; WASHINGTON, MD; WASHINGTON, VA; FORT LAUDERDALE, FL; PHILADELPHIA, PA  
 SURVEYORS: ALBANY, NY; ALBANY, NY; ALBANY, NY  
 PROJECT MANAGERS: ALBANY, NY; ALBANY, NY; ALBANY, NY  
 ENVIRONMENTAL CONSULTANTS: ALBANY, NY; ALBANY, NY; ALBANY, NY  
 LANDSCAPE ARCHITECTS: ALBANY, NY; ALBANY, NY; ALBANY, NY

REVISIONS			
REV	DATE	COMMENT	BY

**APPROVED FOR CONSTRUCTION**  
 PROJECT No: MD142046  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD I.D.: GPS

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE: 5232 GREEN BRIDGE ROAD, 5TH ELECTION DISTRICT, TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 PROFESSIONAL CERTIFICATION  
 I, BRADLEY B. ROWE, 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. 9868, EXPIRATION DATE: 7/31/2021

SHEET TITLE: **GRADING AND STORMWATER MANAGEMENT PLAN**  
 SHEET NUMBER: **19 OF 92**





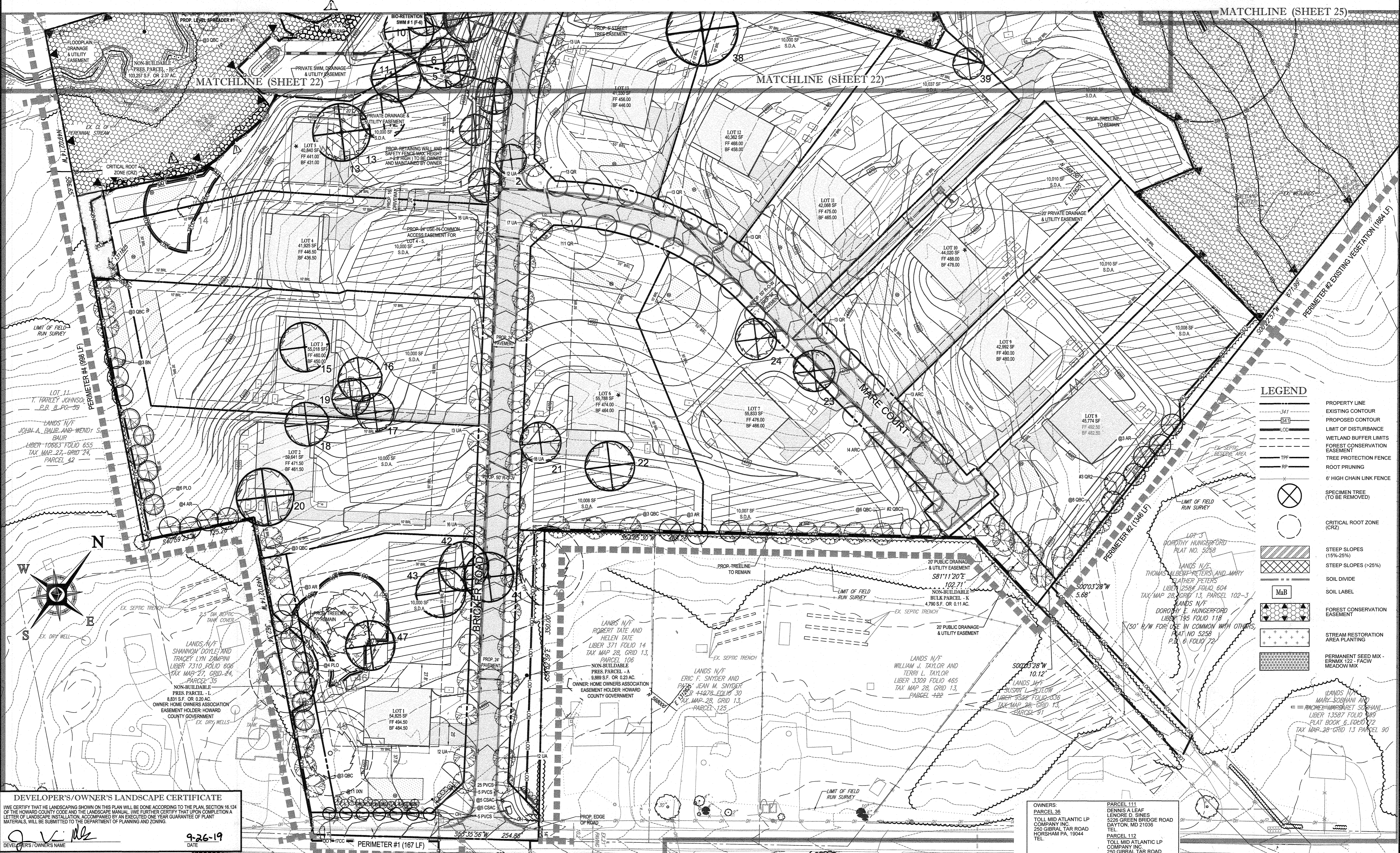
NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

Professional L.S. # 10849 Exp. Date 4/2/2024  
AS-BUILT DATE: 10/10/2021

Shanabarger & Lane  
INSTRUMENT USED IN THIS SURVEY: THIS AS-BUILT SURVEY: 5 SECOND SOKKIA IX ROBATIC TOTAL STATION, TOPCON RC-5 RECEIVER, SOKKIA 3600 PRISM

FOR REVISION 1 ONLY

Mr. Brandon Rone  
BRANDON RONE



MATCHLINE (SHEET 25)

MATCHLINE (SHEET 22)

MATCHLINE (SHEET 22)

**LEGEND**

- 3/4" --- PROPERTY LINE
- 3/4" --- EXISTING CONTOUR
- 3/4" --- PROPOSED CONTOUR
- 3/4" --- LIMIT OF DISTURBANCE
- 3/4" --- WETLAND BUFFER LIMITS
- 3/4" --- FOREST CONSERVATION EASEMENT
- 3/4" --- TREE PROTECTION FENCE
- 3/4" --- ROOT PRUNING
- 3/4" --- 6' HIGH CHAIN LINK FENCE
- 3/4" --- SPECIMEN TREE (TO BE REMOVED)
- 3/4" --- CRITICAL ROOT ZONE (CRZ)
- 3/4" --- STEEP SLOPES (15%-25%)
- 3/4" --- STEEP SLOPES (>25%)
- 3/4" --- SOIL LABEL
- 3/4" --- SOIL LIME
- 3/4" --- FOREST CONSERVATION EASEMENT
- 3/4" --- STREAM RESTORATION AREA PLANTING
- 3/4" --- PERMANENT SEED MIX - CERNIA 122 - FACW HEADQUARTERS

**DEVELOPER'S/OWNER'S LANDSCAPE CERTIFICATE**

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

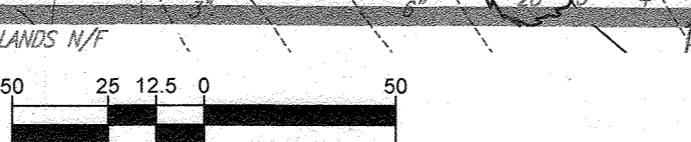
DATE: 9-26-19

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

DATE: 12-9-19

DATE: 2/20/2020

**GREEN BRIDGE ROAD**  
VARIABLE WIDTH RIGHT-OF-WAY  
(MINOR COLLECTOR)



**OWNERS:**

PARCEL 36  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TAR ROAD  
HORSHAM PA, 19044  
TEL.

PARCEL 34  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TAR ROAD  
HORSHAM PA, 19044  
TEL.

PARCEL 111  
DIANNA A LEAF  
LENORE D. SINES  
5226 GREEN BRIDGE ROAD  
DAYTON, MD 21039  
TEL.

PARCEL 112  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TAR ROAD  
HORSHAM PA, 19044  
TEL.

PARCEL 98  
JERRY MAUCK  
JANET BURKE, JT  
5234 GREEN BRIDGE ROAD  
DAYTON, MD 21036  
PHONE: (410) 720-3021

**DEVELOPER:** GREEN BRIDGE FARM II, L.C.  
5074 DORSEY HALL ROAD, SUITE 205  
COLUMBIA, MD 21042  
CONTACT: JASON VAN KIRK  
PHONE: (410) 720-3021

SUBDIVISION NAME: WILLOWSHIRE  
SECTION/AREA: N/A  
DEED # 1136100222, 013100554,  
15884003894, 0568900480  
0434100270, & 0320100539

PREVIOUS FILE NO.:  
EOP-16-023 PB436  
SP-17-002  
WP-17105

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
PARCEL: 34, 36, 98, 111 & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
WARREN, NJ

OFFICES:  
BOSTON, MA  
ALBANY, NY  
BIRMINGHAM, AL  
COLUMBIA, MD  
COLUMBIA, SC  
FORT LAUDERDALE, FL  
FORT MYERS, FL  
INDIANAPOLIS, IN  
JACKSONVILLE, FL  
MEMPHIS, TN  
MIAMI, FL  
PHILADELPHIA, PA  
PORTLAND, ME  
SAN ANTONIO, TX  
TAMPA, FL  
WASHINGTON, DC

CIVIL & CONSULTING ENGINEERS  
SURVEYORS  
PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

**REVISIONS**

REV	DATE	COMMENT	BY
1	10/22/20	UPDATED #38 CRZ	BR

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE: IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE. CALL 811 (MW 1-800-245-6848) (PA 1-800-242-1776) (DC 1-800-227-7777) (VA 1-800-452-7071) (MD 1-800-257-7777) (DE 1-800-332-8555)

**APPROVED FOR CONSTRUCTION**

PROJECT NO.: MD142048  
DRAWN BY: BRR  
CHECKED BY: BRR  
DATE: 08/26/19  
SCALE: 1" = 50'  
CAD ID.: L53

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD,  
SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7900  
Fax: (410) 821-7987  
www.BohlerEngineering.com

**E.R. McWILLIAMS**

REGISTERED PROFESSIONAL ARCHITECT

PROJECT NO. 19-001  
L E R C R M  
I AM A REGISTERED PROFESSIONAL ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 3891, EXPIRES DATE: 9/2022

SHEET TITLE:  
**LANDSCAPE PLAN**

SHEET NUMBER:  
**21 OF 92**

FOR REVISION ONLY  
10/10/2020  
BRANDON ROWE  
REGISTERED PROFESSIONAL ENGINEER

- LEGEND**
- PROPERTY LINE
  - - - EXISTING CONTOUR
  - - - PROPOSED CONTOUR
  - LIMIT OF DISTURBANCE
  - WETLAND BUFFER LIMITS
  - FOREST CONSERVATION EASEMENT
  - TPF TREE PROTECTION FENCE
  - RP ROOT PRUNING
  - 6' HIGH CHAIN LINK FENCE
  - ⊗ SPECIMEN TREE (TO BE REMOVED)
  - CRITICAL ROOT ZONE (CRZ)
  - ▨ STEEP SLOPES (15%-25%)
  - ▩ STEEP SLOPES (>25%)
  - SOIL DIVIDE
  - MaB SOIL LABEL
  - FOREST CONSERVATION EASEMENT
  - STREAM RESTORATION AREA PLANTING
  - ▨ PERMANENT SEED MIX - ERMIX 122 - FACW MEADOW MIX

**DEVELOPER'S/OWNER'S LANDSCAPE CERTIFICATE**

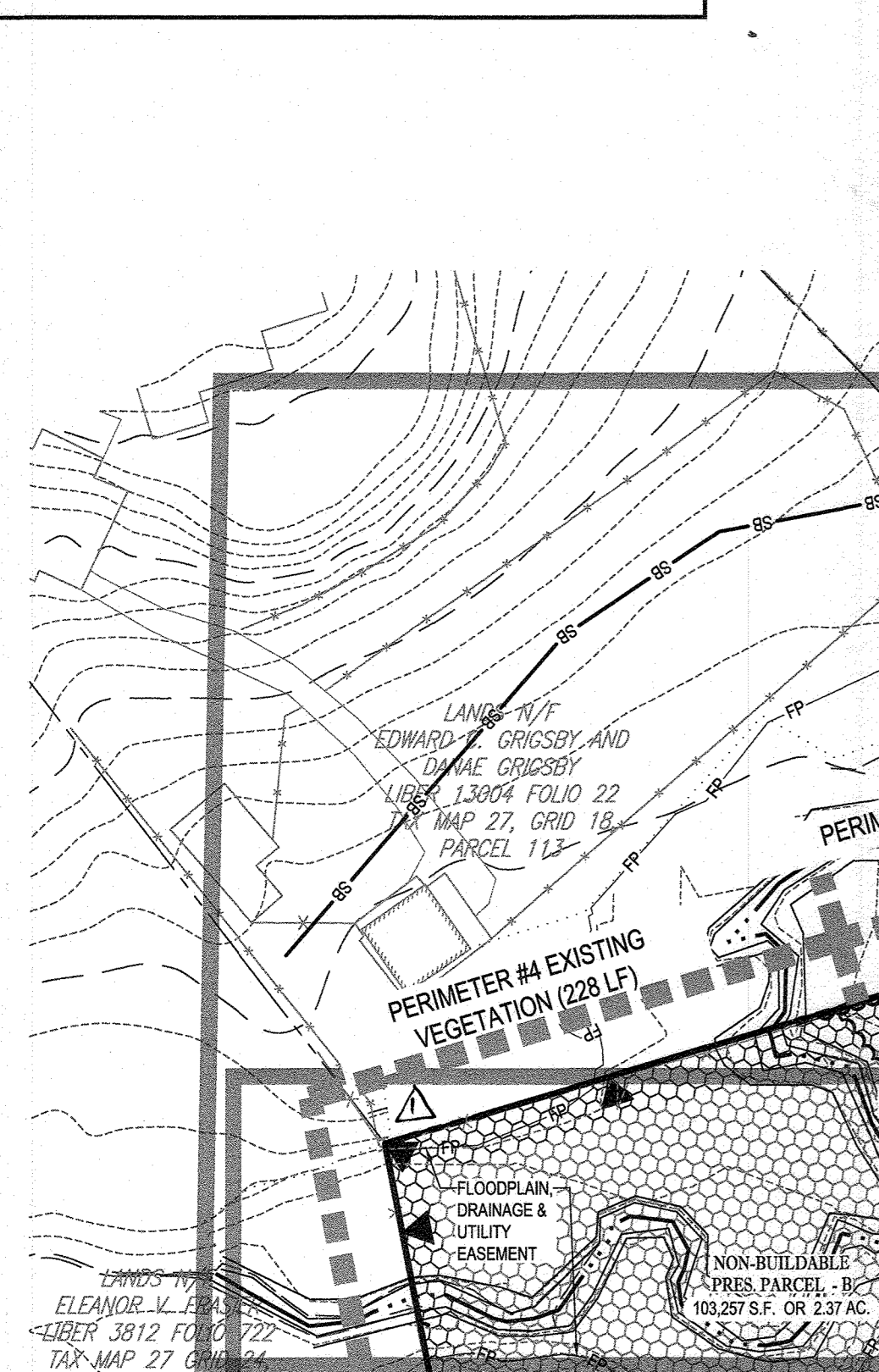
WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 18.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. WE FURTHER CERTIFY THAT UPON COMPLETION A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

DEVELOPER'S/OWNER'S NAME: *Jerry Mauck and Janet Burke* DATE: 9-26-19

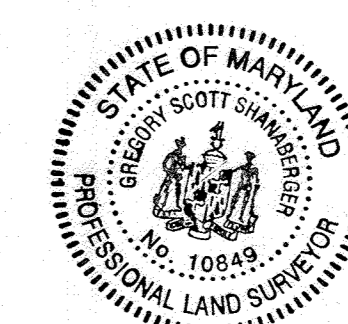
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DEVELOPMENT ENGINEERING DIVISION: *Scott Shauberg* DATE: 12-9-19

CHIEF, DIVISION OF LAND DEVELOPMENT: *Mark* DATE: 2/20/2020

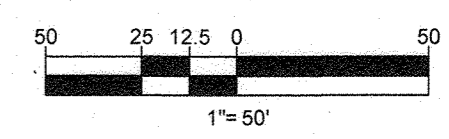
DIRECTOR: \_\_\_\_\_ DATE: \_\_\_\_\_



MATCHLINE (SHEET 25)



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
Professional L.S. # 10849 Exp. Date 4/2/2024  
AS-BUILT DATE: 10/10/2022  
Shanaberg & Lane  
INSTRUMENTS USE OF INTERFERING THIS AS-BUILT SURVEY: SMOGIA & SCHOEN 1X SURVEY TOTAL STATION, TORONY PG-5 RECEIVER, SMOGIA SCOT PRISM



<b>OWNERS:</b> PARCEL 36 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAR ROAD HORSHAM PA, 19044 TEL.	<b>PARCEL 111</b> DENNIS A LEAF LENORE D. SINES 5226 GREEN BRIDGE ROAD DAYTON, MD 21039 TEL.
<b>PARCEL 34</b> TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAR ROAD HORSHAM PA, 19044	<b>PARCEL 112</b> TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAR ROAD HORSHAM PA, 19044 TEL.
<b>DEVELOPER:</b> GREEN BRIDGE FARM II, L.C. 5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTACT: JASON VAN KIRK PHONE: (410) 720-3021	<b>PARCEL 98</b> JERRY MAUCK JANET BURKE JT 5234 GREEN BRIDGE ROAD DAYTON, MD 21036 TEL.

SUBDIVISION NAME: WILLOWSHIRE  
SECTION/AREA: N/A  
DEED # 11381/00222, 00183/00554,  
15884/003894, 05889/00490  
04341/00270, & 03201/00539

PREVIOUS FILE NO.:  
ECP-16-023 PB436  
SP-17-002  
WP-17-105

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
PARCEL: 34, 36, 98, 111 & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
WARREN, NJ

OFFICES:  
BOULDER, CO  
ALBANY, NY  
CALICANT, NY  
CENTRAL VALLEY, CA  
FORT LAUDERDALE, FL  
PHILADELPHIA, PA

SUBSIDIARIES:  
PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

CIVIL & CONSULTING ENGINEERS

**REVISIONS**

REV	DATE	COMMENT	BY
1	10/10/20	UPDATED PERMITS	BR

APPROVED FOR CONSTRUCTION

PROJECT No: MD142019  
DRAWN BY: AVG  
CHECKED BY: BRB  
DATE: 08/26/19  
SCALE: 1" = 50'  
CAD I.D.: LSS

**FINAL ROAD CONSTRUCTION PLAN**  
FOR  
**WILLOWSHIRE**  
LOTS 1-15, BUILDABLE PRESERVATION PARCEL C  
NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & I, P & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

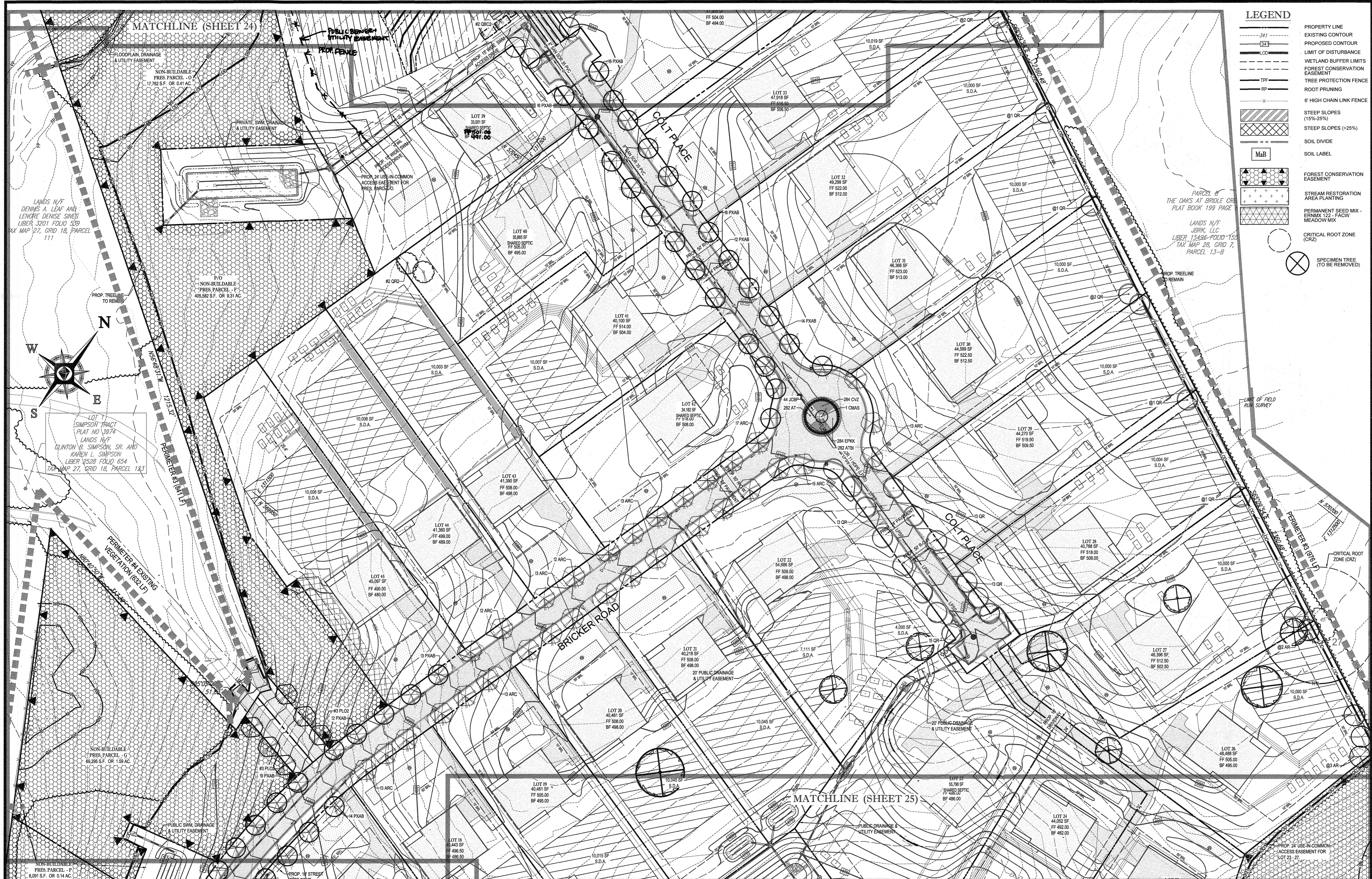
**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD,  
SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7600  
Fax: (410) 821-7687  
www.BohlerEngineering.com

**E.R. McWILLIAMS**

REGISTERED PROFESSIONAL ARCHITECT  
PROJ. NO. 19-001  
I, ERIC R. McWILLIAMS, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME, AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 3893, EXPIRATION DATE: 09/20/20

**LANDSCAPE PLAN**  
SHEET NUMBER:  
**22 OF 92**



**LEGEND**

- PROPERTY LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- LIMIT OF DISTURBANCE
- WETLAND BUFFER LIMITS
- FOREST CONSERVATION EASEMENT
- TREE PROTECTION FENCE
- ROOT PRUNING
- 6' HIGH CHAIN LINK FENCE
- STEEP SLOPES (15%-25%)
- STEEP SLOPES (>25%)
- SOIL DIVIDE
- SOIL LABEL
- FOREST CONSERVATION EASEMENT
- STREAM RESTORATION AREA PLANTING
- PERMANENT SEED MIX - ERMIX 122 - FACW MEADOW MIX
- CRITICAL ROOT ZONE (CRZ)
- SPECIMEN TREE (TO BE REMOVED)

**BOHLER ENGINEERING**

CORPORATE OFFICE: WARREN NJ

OFFICES: WARREN NJ, FORT LAUDERDALE FL, FORT MYERS FL, TAMPA FL, JACKSONVILLE FL, MIAMI FL, ORLANDO FL, WEST PALM BEACH FL, DAYTON OH, COLUMBIA MD, CHARLOTTE NC, CHICAGO IL, DENVER CO, HOUSTON TX, LOS ANGELES CA, NEW YORK NY, PHILADELPHIA PA, PITTSBURGH PA, RICHMOND VA, WASHINGTON DC

PROJECT MANAGERS: JASON VAN KIRK, JERRY MAUCK, JAMET BURKE, JIT

LANDSCAPE ARCHITECTS: JERRY MAUCK, JAMET BURKE, JIT

CIVIL & CONSULTING ENGINEERS: SURVEYORS, ENVIRONMENTAL CONSULTANTS, LANDSCAPE ARCHITECTS

**REVISIONS**

REV	DATE	COMMENT	BY

**APPROVED FOR CONSTRUCTION**

PROJECT No: MD142048  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD I.D.: LS3

**FINAL ROAD CONSTRUCTION PLAN**

FOR

**WILLOWSHIRE**

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**E.R. McWILLIAMS**

REGISTERED PROFESSIONAL LANDSCAPE ARCHITECT

STATE OF MARYLAND

PROFESSIONAL LICENSE NO. 103849

DATE: 10/17/2022

AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 103849, EXPIRES DATE: 10/01/2023

**LANDSCAPE PLAN**

SHEET NUMBER: **23 OF 92**

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 12.9.19 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF LAND DEVELOPMENT

**DEVELOPER'S/OWNER'S LANDSCAPE CERTIFICATE**

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

*[Signature]* DATE: 9-26-19

DEVELOPER'S/OWNER'S NAME: GREEN BRIDGE FARM II, L.C.

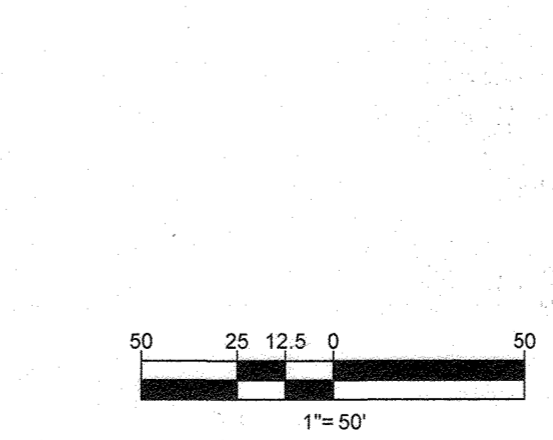
**STATE OF MARYLAND**

NOTARY PUBLIC

*[Signature]* DATE: 10/17/2022

G. Scott Shanabarger  
 Professional L.S. # 103849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/17/2022  
 Shanabarger & Laho

INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: S&B SURVEYING, L.L.C. ROBOTIC TOTAL STATION, TOPCON AC-S RECEIVER, TRIMBLE 360 PRISM



**OWNERS:**

PARCEL 36  
 TOLL MID ATLANTIC LP COMPANY INC.  
 250 GIBRAL TAR ROAD  
 HORSHAM PA, 19044  
 TEL: 610-398-5500

PARCEL 111  
 DENNIS A LEAF  
 LENORE D SINES  
 5232 GREEN BRIDGE ROAD  
 DAYTON, MD 21036  
 TEL: 410-220-8000

PARCEL 112  
 TOLL MID ATLANTIC LP COMPANY INC.  
 250 GIBRAL TAR ROAD  
 HORSHAM PA, 19044  
 TEL: 610-398-5500

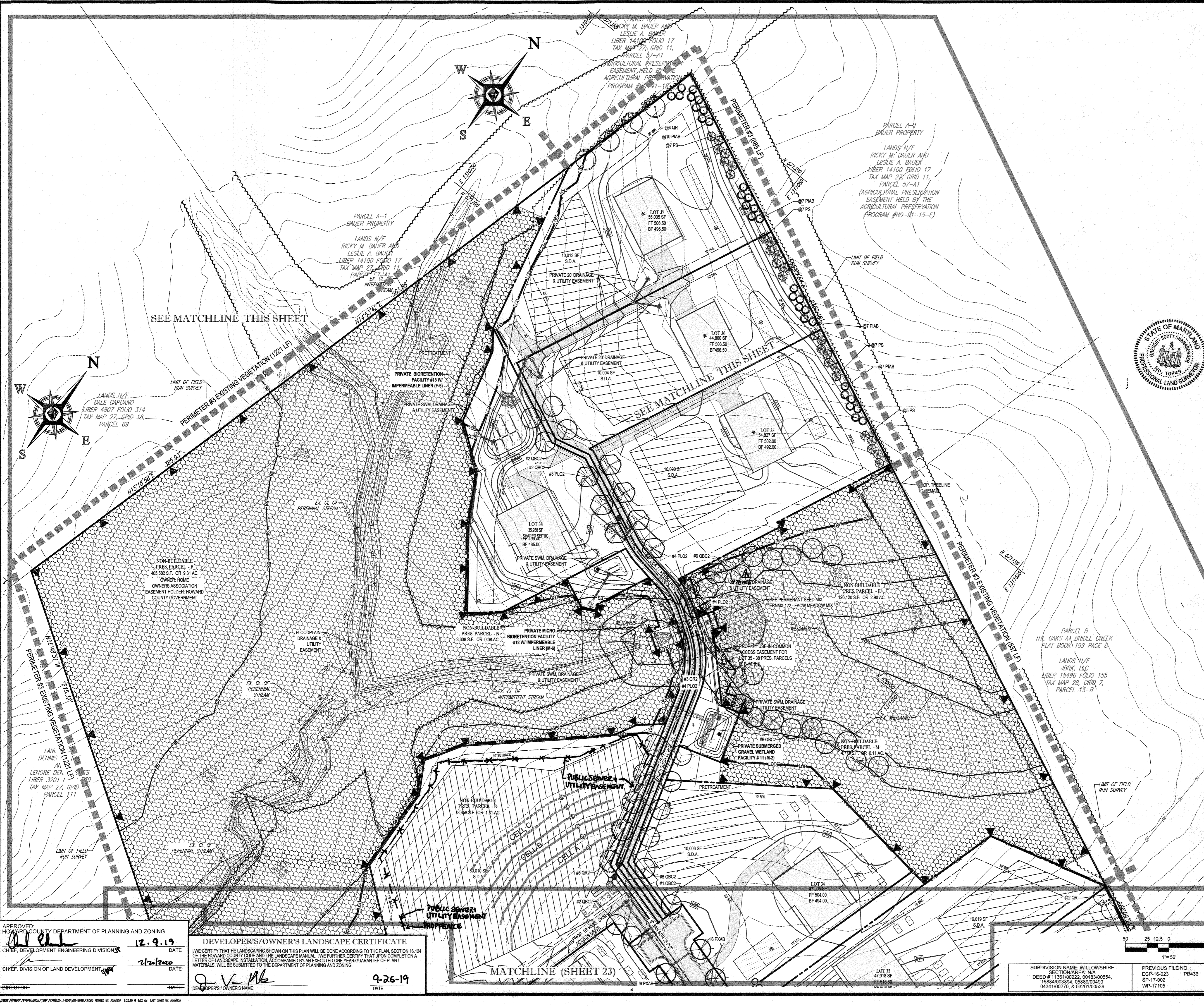
PARCEL 98  
 JERRY MAUCK  
 JAMET BURKE, JIT  
 5232 GREEN BRIDGE ROAD  
 DAYTON, MD 21036  
 TEL: 410-220-8000

SUBDIVISION NAME: WILLOWSHIRE  
 SECTION/AREA: N/A  
 DEED # 11381/00222, 00163/00554, 15884/003894, 05889/00490  
 04341/00270, & 03201/00539

PREVIOUS FILE NO.: ECP-16-023 PB436  
 SP-17-002 WP-17105

**DEVELOPER:** GREEN BRIDGE FARM II, L.C.  
 6074 DORSEY HALL ROAD, SUITE 205  
 COLUMBIA, MD 21042  
 CONTACT: JASON VAN KIRK  
 PHONE: (410) 720-3021

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
 PARCEL: 34, 36, 98, 111 & 112  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND



FOR REVISION ONLY  
*Brandon Rowe*  
 BRANDON ROWE  
 PROFESSIONAL ENGINEER



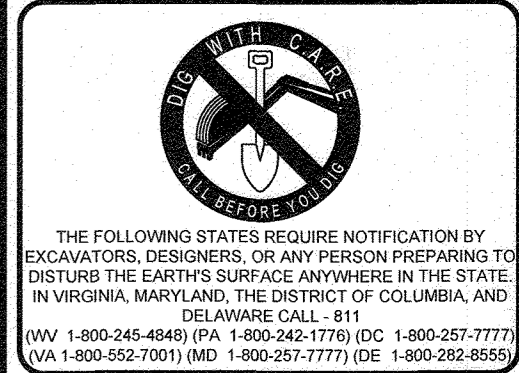
NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
*Brandon Rowe* 10/14/2023  
 G. Scott Shanberger  
 Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/10/2023  
 Shanberger & Lane  
 INSTRUMENT NO. 282714 EXEMPT THIS AS-BUILT SURVEY: 5 SECOND SINK IN 1X PUBLIC TOTAL STATION, TERON RC-5 RECEIVER, SAKKA 300° PRISM

**LEGEND**

- PROPERTY LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- LIMIT OF DISTURBANCE
- WETLAND BUFFER LIMITS
- FOREST CONSERVATION EASEMENT
- TREE PROTECTION FENCE
- ROOT PRUNING
- 6" HIGH CHAIN LINK FENCE
- SPECIMEN TREE (TO BE REMOVED)
- CRITICAL ROOT ZONE (CRZ)
- STEEP SLOPES (15%-25%)
- STEEP SLOPES (>25%)
- SOIL DIVIDE
- SOIL LABEL
- FOREST CONSERVATION EASEMENT
- STREAM RESTORATION AREA PLANTING
- PERMANENT SEED MIX - ERMIX 122 - FACW MEADOW MIX

**REVISIONS**

REV	DATE	COMMENT	BY
1	10/14/2023	REVISED DRAINAGE PER PERMITS	BR



**APPROVED FOR CONSTRUCTION**

PROJECT NO: MD142016  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD I.D.: LSS

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, F & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE: 5232 GREEN BRIDGE ROAD, 5TH ELECTION DISTRICT, TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7957  
 www.BohlerEngineering.com

**E.R. McWILLIAMS**  
 REGISTERED PROFESSIONAL ARCHITECT  
 PROJECT NO. 2023-01  
 I, E.R. McWilliams, do hereby certify that I am the author of the design and construction documents herein and that I am a duly licensed professional architect under the laws of the State of Maryland. LICENSE NO. 3052, EXPIRES DATE: 09/30/26

**LANDSCAPE PLAN**  
 SHEET NUMBER: **24 OF 92**

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 12-9-19  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 2/20/2020

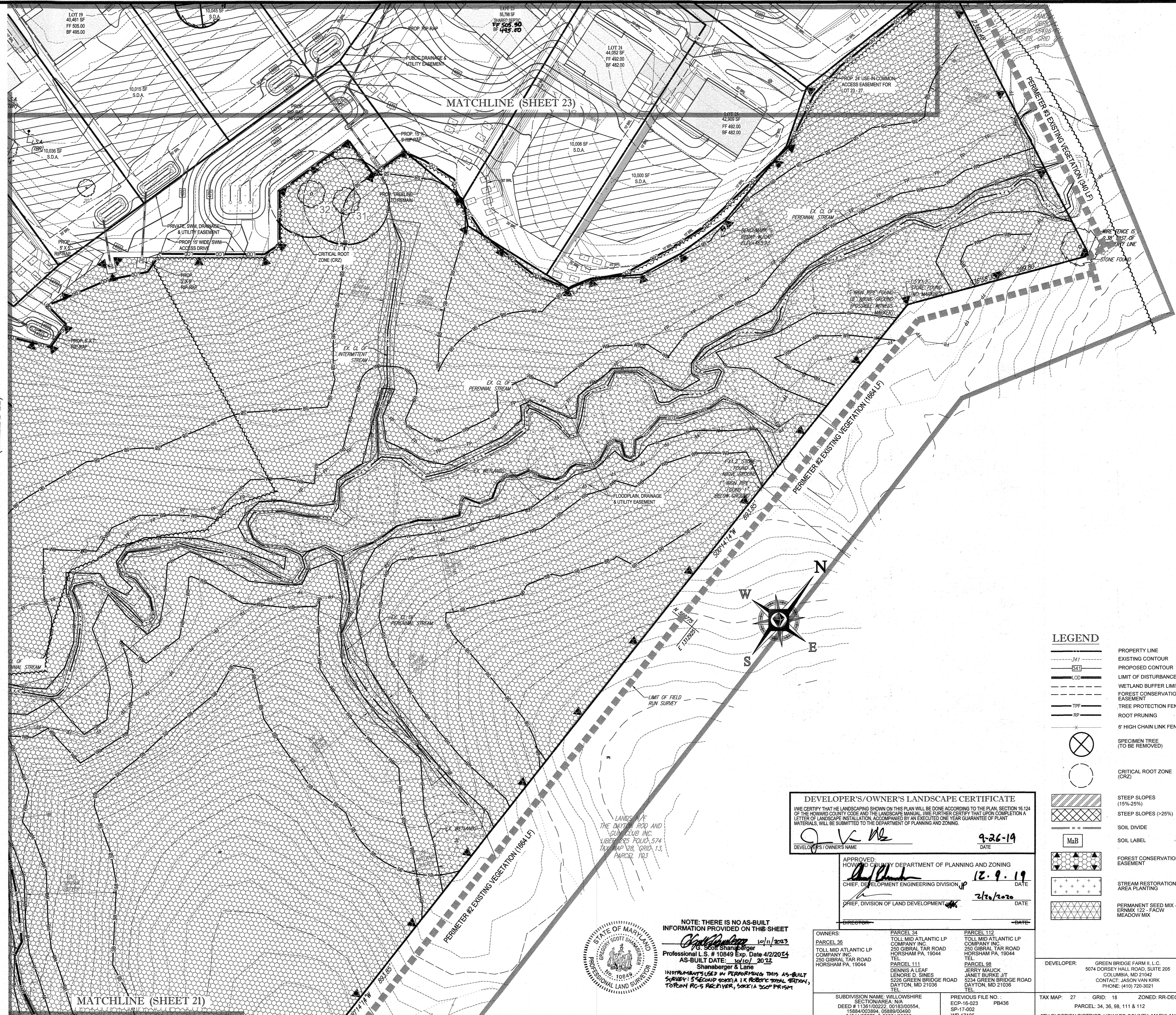
**DEVELOPER'S/OWNER'S LANDSCAPE CERTIFICATE**  
 I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE-YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.  
 DEVELOPER'S/OWNER'S NAME: *Q.V. Mc*  
 DATE: 9-26-19

MATCHLINE (SHEET 23)  
 MATCHLINE THIS SHEET

SUBDIVISION NAME: WILLOWSHIRE  
 SECTION: AREA: N/A  
 DEED # 1136100222, 0018300554, 15884003894, 0588900490, 0434100270, & 0320100539  
 PREVIOUS FILE NO.: ECP-16-023 PB436  
 SP-17-002 WF-17105  
 TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
 PARCEL: 34, 36, 98, 111 & 112  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

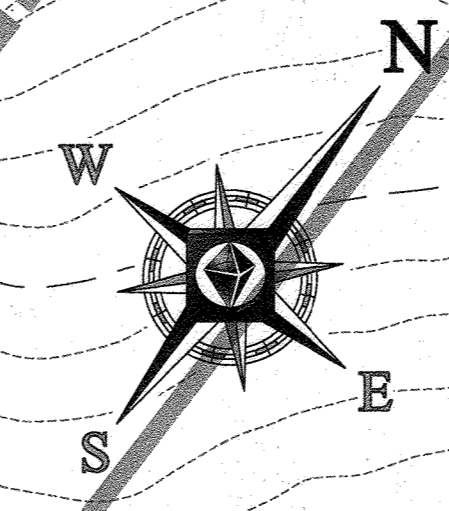


MATCHLINE (SHEET 22)



MATCHLINE (SHEET 23)

MATCHLINE (SHEET 21)



**LEGEND**

	PROPERTY LINE
	EXISTING CONTOUR
	PROPOSED CONTOUR
	LIMIT OF DISTURBANCE
	WETLAND BUFFER LIMITS
	FOREST CONSERVATION EASEMENT
	TREE PROTECTION FENCE
	ROOT PRUNING
	6' HIGH CHAIN LINK FENCE
	SPECIMEN TREE (TO BE REMOVED)
	CRITICAL ROOT ZONE (CRZ)
	STEEP SLOPES (15%-25%)
	STEEP SLOPES (>25%)
	SOIL DIVIDE
	SOIL LABEL
	FOREST CONSERVATION EASEMENT
	STREAM RESTORATION AREA PLANTING
	PERMANENT SEED MIX - ERNMIX 122 - FACW MEADOW MIX

**DEVELOPER'S/OWNER'S LANDSCAPE CERTIFICATE**

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

*[Signature]* **9-26-19**  
 DEVELOPER'S/OWNER'S NAME DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* **12-9-19**  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* **2/26/2020**  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

OWNERS:	PARCEL 34 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044 TEL: [ ]	PARCEL 112 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044 TEL: [ ]
PARCEL 36 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044 TEL: [ ]	PARCEL 111 DENNIS A LEAF LENORE D. SINES 5228 GREEN BRIDGE ROAD DAYTON, MD 21036 TEL: [ ]	PARCEL 98 JERRY MAUCK JANET BURKE-JIT 5224 GREEN BRIDGE ROAD DAYTON, MD 21036 TEL: [ ]
SUBDIVISION NAME: WILLOWSHIRE SECTION/AREA: N/A DEED # 1138100222, 0018300554, 15884003894, 05888004990 0434100270, & 0320100539		PREVIOUS FILE NO.: ECP-16-023 PB436 SP-17-002 WP-17105
DEVELOPER: GREEN BRIDGE FARM II, L.C. 5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTACT: JASON VAN KIRK PHONE: (410) 720-3021		
TAX MAP: 27 GRID: 18 ZONED: RR-DEO PARCEL 34, 36, 98, 111 & 112 6TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND		



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

*[Signature]* 10/11/2023  
 Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/10/2023  
 Shamberger & Lane  
 INSTRUMENTS USED IN PREPARATION OF THIS AS-BUILT SURVEY: 5 SECOND SOKKIA I X ROBERT TOTAL STATION, TOPCON RC-5 RECEIVER, SOKKIA SCOP PRISM

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
 WARRREN NJ

CIVIL & CONSULTING ENGINEERS

SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

OFFICES:  
 BOWNE MD  
 TOWSON MD  
 FORT LAUDERDALE FL  
 WASHINGTON VA  
 CHARLOTTE NC  
 CHICAGO IL  
 DALLAS TX  
 DENVER CO  
 FORT WORTH TX  
 HOUSTON TX  
 LOS ANGELES CA  
 MIAMI FL  
 MINNEAPOLIS MN  
 NEW YORK NY  
 PHOENIX AZ  
 RICHMOND VA  
 TAMPA FL  
 WASHINGTON DC

**REVISIONS**

REV	DATE	COMMENT	BY

**APPROVED FOR CONSTRUCTION**

PROJECT No: MD142262  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD I.D.: L53

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD,  
 SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**E.R. McWILLIAMS**

REGISTERED LANDSCAPE ARCHITECT  
 PROFESSIONAL SEAL

I, ERIC R. McWILLIAMS, CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME, AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 2651, EXPIRATION DATE: 09/2020

**LANDSCAPE PLAN**

SHEET TITLE:  
**25 OF 92**

LANDSCAPE SPECIFICATIONS

1. SCOPE OF WORK: THE LANDSCAPE CONTRACTOR SHALL BE REQUIRED TO PERFORM ALL CLEARING, FINISHED GRADING, SOIL PREPARATION, PERMANENT SEEDING OR SOODING, PLANTING AND MULCHING INCLUDING ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT NECESSARY FOR THE COMPLETION OF THIS PROJECT, UNLESS OTHERWISE CONTRACTED BY THE GENERAL CONTRACTOR.

2. MATERIALS: A. GENERAL - ALL HARDSCAPE MATERIALS SHALL MEET OR EXCEED SPECIFICATIONS AS OUTLINED IN THE STATE DEPARTMENT OF TRANSPORTATION'S SPECIFICATIONS. B. TOPSOIL - NATURAL, FRIABLE, LOAMY SILT SOIL HAVING AN ORGANIC CONTENT NOT LESS THAN 5%, A PH RANGE BETWEEN 4.5-7.0. IT SHALL BE FREE OF DEBRIS, ROCKS LARGER THAN ONE INCH (1"), WOOD, ROOTS, VEGETABLE MATTER AND CLAY CLOS.

C. LAWN - ALL DISTURBED AREAS ARE TO BE TREATED WITH A MINIMUM SIX INCH (6") THICK LAYER OF TOPSOIL OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, AND SEEDED OR SOODIED IN ACCORDANCE WITH THE PERMANENT STABILIZATION METHODS INDICATED WITHIN THE SOIL EROSION AND SEDIMENT CONTROL NOTES. 1. LAWY SEED MIXTURE SHALL BE FRESH, CLEAN NEW CROP SEED. 2. SOD SHALL BE STRONGLY ROOTED, WEED AND DISEASE/FEST FREE WITH A UNIFORM THICKNESS. 1.2. SOD INSTALLED ON SLOPES GREATER THAN 4:1 SHALL BE PEGGED TO HOLD SOD IN PLACE.

D. MULCH - THE MULCH AROUND THE PERIMETER OF THE BUILDING SHALL BE A 3" LAYER OF DOUBLE SHREDDED BLACK CEDAR MULCH ONLY. ON ALL OTHER AREAS SHALL BE MULCHED WITH A 3" LAYER OF DOUBLE SHREDDED DARK BROWN HARDWOOD BARK MULCH, UNLESS OTHERWISE STATED ON THE LANDSCAPE PLAN.

E. FERTILIZER 1.1. FERTILIZER SHALL BE DELIVERED TO THE SITE MIXED AS SPECIFIED IN THE ORIGINAL UNOPENED STANDARD BAGS SHOWING WEIGHT, ANALYSIS AND NAME OF MANUFACTURER. FERTILIZER SHALL BE STORED IN A WEATHERPROOF PLACE SO THAT IT CAN BE KEPT DRY PRIOR TO USE. 1.2. FOR THE PURPOSE OF BIDDING, ASSUME THAT FERTILIZER SHALL BE 10% NITROGEN, 8% PHOSPHORUS AND 4% POTASSIUM BY WEIGHT. A FERTILIZER SHALL NOT BE SELECTED WITHOUT A SOIL TEST PERFORMED BY A CERTIFIED SOIL LABORATORY.

F. PLANT MATERIAL 1.1. ALL PLANTS SHALL IN ALL CASES CONFORM TO THE REQUIREMENTS OF THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1), LATEST EDITION, AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION. 1.2. IN ALL CASES, BOTANICAL NAMES SHALL TAKE PRECEDENCE OVER COMMON NAMES FOR ANY AND ALL PLANT MATERIAL.

1.3. PLANTS SHALL BE LEGIBLY TAGGED WITH THE PROPER NAME AND SIZE. TAGS ARE TO REMAIN ON AT LEAST ONE PLANT OF EACH SPECIES FOR VERIFICATION PURPOSES DURING THE FINAL INSPECTION. 1.4. TREES WITH ABRASION OF THE BARK, SUN SCALDS, DISFIGURATION OR FRESH CUTS OF LIMBS OVER 1/4", WHICH HAVE NOT BEEN COMPLETELY CALLEDUS, SHALL BE REJECTED. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES.

1.5. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH; WELL DEVELOPED BRANCHES, DENSELY FOLIATED, VIGOROUS ROOT SYSTEMS AND BE FREE OF DISEASE, INSECTS, PESTS, EGGS OR LARVAE. 1.6. CALIPER MEASUREMENTS OF NURSERY GROWN TREES SHALL BE TAKEN AT A POINT ON THE TRUNK SIX INCHES (6") ABOVE THE NATURAL GRADE FOR TREES UP TO AND INCLUDING A FOUR INCH (4") CALIPER SIZE. IF THE CALIPER AT SIX INCHES (6") ABOVE THE GROUND EXCEEDS FOUR INCHES (4") IN CALIPER, THE CALIPER SHOULD BE MEASURED AT A POINT 1/2" ABOVE THE NATURAL GRADE.

1.7. SHRUBS SHALL BE MEASURED TO THE AVERAGE HEIGHT OR SPREAD OF THE SHRUB, AND NOT TO THE LONGEST BRANCH. 1.8. TREES AND SHRUBS SHALL BE HANDLED WITH CARE BY THE ROOT BALL.

3. GENERAL WORK PROCEDURES A. CONTRACTOR TO UTILIZE WORKMANLIKE INDUSTRY STANDARDS IN PERFORMING ALL LANDSCAPE CONSTRUCTION. THE SITE IS TO BE LEFT IN A CLEAN STATE AT THE END OF EACH WORKDAY. ALL DEBRIS, MATERIALS AND TOOLS SHALL BE PROPERLY STORED, STOCKPILED OR DISPOSED OF.

B. WASTE MATERIALS AND DEBRIS SHALL BE COMPLETELY DISPOSED OF AT THE CONTRACTOR'S EXPENSE. DEBRIS SHALL NOT BE BURIED, INCLUDING ORGANIC MATERIALS, BUT SHALL BE REMOVED COMPLETELY FROM THE SITE.

4. SITE PREPARATIONS A. BEFORE AND DURING PRELIMINARY GRADING AND FINISHED GRADING, ALL WEEDS AND GRASSES SHALL BE DUG OUT BY THE ROOTS AND DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES OUTLINED HEREIN. B. ALL EXISTING TREES TO REMAIN SHALL BE PRUNED TO REMOVE ANY DAMAGED BRANCHES. THE ENTIRE LIMB OF ANY DAMAGED BRANCH SHALL BE CUT OFF AT THE TRUNK. CONTRACTOR SHALL ENSURE THAT CUTS ARE SMOOTH AND STRAIGHT. ANY EXPOSED ROOTS SHALL BE CUT BACK WITH CLEAN, SHARP TOOLS AND TOPSOIL SHALL BE PLACED AROUND THE REMAINING ROOTS. EXISTING TREES SHALL BE MONITORED ON A REGULAR BASIS FOR ADDITIONAL ROOT OR BRANCH DAMAGE AS A RESULT OF CONSTRUCTION. ROOTS SHALL NOT BE LEFT EXPOSED FOR MORE THAN ONE (1) DAY. CONTRACTOR SHALL WATER EXISTING TREES AS NEEDED TO PREVENT SHOCK OR DECLINE.

C. CONTRACTOR SHALL ARRANGE TO HAVE A UTILITY STAKE-OUT TO LOCATE ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF ANY LANDSCAPE MATERIAL. UTILITY COMPANIES SHALL BE CONTACTED THREE (3) DAYS PRIOR TO THE BEGINNING OF WORK.

5. TREE PROTECTION A. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES TO REMAIN. A TREE PROTECTION ZONE SHALL BE ESTABLISHED AT THE DRIP LINE OR 15 FEET FROM THE TRUNK OR AT THE LIMIT OF CONSTRUCTION DISTURBANCE, WHICHEVER IS GREATER. LOCAL STANDARDS THAT MAY REQUIRE A MORE STRICT TREE PROTECTION ZONE SHALL BE HONORED.

B. A FORTY-EIGHT INCH (48") HIGH WOODEN SNOW FENCE OR ORANGE COLORED HIGH-DENSITY "VISH-FENCE" OR APPROVED EQUIVALENT MOUNTED ON STEEL POSTS SHALL BE PLACED ALONG THE BOUNDARY OF THE TREE PROTECTION ZONE. POSTS SHALL BE LOCATED AT A MAXIMUM OF EIGHT FEET (8") ON CENTER OR AS INDICATED WITHIN THE TREE PROTECTION DETAIL.

C. WHEN THE TREE PROTECTION FENCING HAS BEEN INSTALLED, IT SHALL BE INSPECTED BY THE APPROVING AGENCY PRIOR TO DEMOLITION, TREE CLEARING OR ANY OTHER CONSTRUCTION. THE FENCING ALONG THE TREE PROTECTION ZONE SHALL BE REGULARLY INSPECTED BY THE LANDSCAPE CONTRACTOR AND MAINTAINED UNTIL ALL CONSTRUCTION ACTIVITY HAS BEEN COMPLETED.

D. AT NO TIME SHALL MACHINERY, DEBRIS, FALLEN TREES OR OTHER MATERIALS BE PLACED, STOCKPILED OR LEFT STANDING IN THE TREE PROTECTION ZONE.

6. SOIL MODIFICATIONS A. CONTRACTOR SHALL ATTAIN A SOIL TEST FOR ALL AREAS OF THE SITE PRIOR TO CONDUCTING ANY PLANTING. SOIL TESTS SHALL BE PERFORMED BY A CERTIFIED SOIL LABORATORY.

B. LANDSCAPE CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL. SOIL MODIFICATIONS, AS SPECIFIED HEREIN, MAY BE REQUIRED TO BE CONDUCTED BY THE LANDSCAPE CONTRACTOR DEPENDING ON SOIL CONDITIONS.

C. THE FOLLOWING AMENDMENTS AND QUANTITIES ARE APPROXIMATE AND ARE FOR BIDDING PURPOSES ONLY. COMPOSITION OF AMENDMENTS SHOULD BE REVISED DEPENDING ON THE OUTCOME OF A TOPSOIL ANALYSIS PERFORMED BY A CERTIFIED SOIL LABORATORY.

1.1. TO INCREASE A SANDY SOIL'S ABILITY TO RETAIN WATER AND NUTRIENTS, THOROUGHLY TILL ORGANIC MATTER INTO THE TOP 6-12". USE COMPOSTED BARK, COMPOSTED LEAF MULCH OR PEAT MOSS. ALL PRODUCTS SHOULD BE COMPOSTED TO A DARK COLOR AND BE FREE OF PIECES WITH IDENTIFIABLE LEAF OR WOOD STRUCTURE. AVOID MATERIAL WITH A PH HIGHER THAN 7.5. 1.2. TO INCREASE DRAINAGE, MODIFY HEAVY CLAY OR SILT (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) AND/OR AGRICULTURAL GYPSUM. COARSE SAND MAY BE USED IF ENOUGH IS ADDED TO BRING THE SAND CONTENT TO MORE THAN 60% OF THE TOTAL MIX. SUBSURFACE DRAINAGE LINES MAY BE ADDED TO INCREASE DRAINAGE.

1.3. MODIFY EXTREMELY SANDY SOILS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX.

7. FINISHED GRADING A. UNLESS OTHERWISE CONTRACTED, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF TOPSOIL AND THE ESTABLISHMENT OF FINE-GRADING WITHIN THE DISTURBANCE AREA OF THE SITE.

B. LANDSCAPE CONTRACTOR SHALL VERIFY THAT SUBGRADE FOR INSTALLATION OF TOPSOIL HAS BEEN ESTABLISHED. THE SUBGRADE OF THE SITE MUST MEET THE FINISHED GRADE LESS THE REQUIRED TOPSOIL THICKNESS (1").

C. ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE AS DEPICTED WITHIN THIS SET OF CONSTRUCTION PLANS, UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER OR LANDSCAPE ARCHITECT.

D. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER IN AND AROUND THE PLANTING BEDS. STANDING WATER SHALL NOT BE PERMITTED IN PLANTING BEDS.

8. TOPSOILING A. CONTRACTOR SHALL PROVIDE A SIX INCH (6") THICK MINIMUM LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, IN ALL PLANTING AREAS. TOPSOIL SHOULD BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO ACHIEVE THE DESIRED COMPACTED THICKNESS.

B. ON-SITE TOPSOIL MAY BE USED TO SUPPLEMENT THE TOTAL AMOUNT REQUIRED. TOPSOIL FROM THE SITE MAY BE REJECTED IF IT HAS NOT BEEN PROPERLY REMOVED, STORED AND PROTECTED PRIOR TO CONSTRUCTION.

C. CONTRACTOR SHALL FURNISH TO THE APPROVING AGENCY AN ANALYSIS OF BOTH IMPORTED AND ON-SITE TOPSOIL TO BE UTILIZED IN ALL PLANTING AREAS. THE PH AND NUTRIENT LEVELS MAY BE ADJUSTED

THROUGH SOIL MODIFICATIONS AS NEEDED TO ACHIEVE THE REQUIRED LEVELS AS SPECIFIED IN THE MATERIALS SECTION ABOVE.

D. ALL PLANTING AND LAWN AREAS ARE TO BE CULTIVATED TO A DEPTH OF SIX INCHES (6"), ALL DEBRIS EXPOSED FROM EXCAVATION AND CULTIVATION SHALL BE DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES SECTION ABOVE. THE FOLLOWING SHALL BE TILLED INTO THE TOP FOUR INCHES (4") IN TWO DIRECTIONS (QUANTITIES BASED ON A 1,000 SQUARE FOOT AREA): 1.1. 20 POUNDS 'GROW-POWER' OR APPROVED EQUAL 1.2. 20 POUNDS NITRO-FORM (COURSE) 38-0-0 BLUE CHIP

E. THE SPREADING OF TOPSOIL SHALL NOT BE CONDUCTED UNDER MUDDY OR FROZEN CONDITIONS.

9. PLANTING A. INsofar THAT IT IS FEASIBLE, PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THAT THIS IS NOT POSSIBLE, LANDSCAPE CONTRACTOR SHALL PROTECT UNINSTALLED PLANT MATERIAL. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE DAY PERIOD AFTER DELIVERY. PLANTS THAT WILL NOT BE PLANTED FOR A PERIOD OF TIME GREATER THAN THREE DAYS SHALL BE HELED IN WITH TOPSOIL OR MULCH TO HELP PRESERVE ROOT MOISTURE.

B. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN TOPSOIL THAT IS IN A MUDDY OR FROZEN CONDITION.

C. ANY INJURED ROOTS OR BRANCHES SHALL BE PRUNED TO MAKE CLEAN-CUT ENDS PRIOR TO PLANTING. UTILIZING CLEAN, SHARP TOOLS. ONLY INJURED OR DISEASED BRANCHING SHALL BE REMOVED.

D. ALL PLANTING CONTAINERS AND NON-BIODEGRADABLE MATERIALS SHALL BE REMOVED FROM ROOT BALLS DURING PLANTING. NATURAL FIBER BURLAP MUST BE CUT FROM AROUND THE TRUNK OF THE TREE AND FOLDED DOWN AGAINST THE ROOT BALL PRIOR TO BACKFILLING.

E. POSITION TREES AND SHRUBS AT THEIR INTENDED LOCATIONS AS PER THE PLANS AND SECURE THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO EXCAVATING PITS, MAKING NECESSARY ADJUSTMENTS AS DIRECTED.

F. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, THE PROPOSED LANDSCAPE, AS SHOWN ON THE APPROVED LANDSCAPE PLAN, MUST BE INSTALLED, INSPECTED AND APPROVED BY THE APPROVING AGENCY. THE APPROVING AGENCY SHALL TAKE INTO ACCOUNT SEASONAL CONSIDERATIONS IN THIS REGARD AS FOLLOWS: THE PLANTING OF TREES, SHRUBS, VINES OR GROUND COVER SHALL OCCUR ONLY DURING THE FOLLOWING PLANTING SEASONS: 1.1. PLANTS: MARCH 15 TO DECEMBER 15 1.2. LAWN: MARCH 15 TO JUNE 15 OR SEPT. 1 TO DECEMBER 1

G. PLANTINGS REQUIRED FOR A CERTIFICATE OF OCCUPANCY SHALL BE PROVIDED DURING THE NEXT APPROPRIATE PERIOD AT THE MUNICIPALITY'S DISCRETION. CONTRACTOR SHOULD CONTACT APPROVING AGENCY FOR SEASONAL SUBSTITUTIONS.

H. FURTHERMORE, THE FOLLOWING TREE VARIETIES ARE USUALLY SUSCEPTIBLE TO WINTER DAMAGE. WITH TRANSPLANT SHOCK AND THE SEASONAL LACK OF NITROGEN AVAILABILITY, THE RISK OF PLANT DEATH IS GREATLY INCREASED. IT IS NOT RECOMMENDED THAT THESE SPECIES BE PLANTED DURING THE FALL PLANTING SEASON: ACER RUBRUM PLATANUS X ACERIFOLIA BETULA VARIETIES POPULUS VARIETIES CARRINUS VARIETIES PRUNUS VARIETIES CRATAEGUS VARIETIES PYRUS VARIETIES KOELREUTERIA QUERCUS VARIETIES LIQUIDAMBER STRACYPYLIFERA TILIA TOMENTOSA LIRIODENDRON TULIPIFERA ZELKOVA VARIETIES

I. PLANTING PITS SHALL BE DUG WITH LEVEL BOTTOMS, WITH THE WIDTH TWICE THE DIAMETER OF ROOT BALL. THE ROOT BALL SHALL REST ON UNDISTURBED GRADE. EACH PLANT PIT SHALL BE BACKFILLED IN LAYERS WITH THE FOLLOWING PREPARED SOIL MIXED THOROUGHLY: 1. PART PEAT MOSS 1. PART COMPOSTED COW MANURE BY VOLUME 3. PARTS TOPSOIL BY VOLUME

2. 21 GRAMS 'AGRIFORM' PLANTING TABLETS (OR APPROVED EQUAL) AS FOLLOWS: A) 2 TABLETS PER 1 GALLON PLANT B) 3 TABLETS PER 5 GALLON PLANT C) 4 TABLETS PER 15 GALLON PLANT D) LARGER PLANTS: 2 TABLETS PER 1/2" CALIPER OF TRUNK

J. FILL PREPARED SOIL AROUND BALL OF PLANT HALF-WAY AND INSERT PLANT TABLETS. COMPLETE BACKFILL AND WATER THOROUGHLY.

K. ALL PLANTS SHALL BE PLANTED SO THAT THE TOP OF THE ROOT BALL, THE POINT AT WHICH THE ROOT FLARE BEGINS, IS SET AT GROUND LEVEL AND IN THE CENTER OF THE PIT. NO SOIL IS TO BE PLACED DIRECTLY ON TOP OF THE ROOT BALL.

L. ALL PROPOSED TREES DIRECTLY ADJACENT TO WALKWAYS OR DRIVEWAYS SHALL BE PRUNED AND MAINTAINED TO A MINIMUM BRANCHING HEIGHT OF 7' FROM GRADE.

M. GROUND COVER AREAS SHALL RECEIVE A 1/2" LAYER OF HUMUS RAKED INTO THE TOP 1" OF PREPARED SOIL PRIOR TO PLANTING. ALL GROUND COVER AREAS SHALL BE WEEDED AND TREATED WITH A PRE-EMERGENT CHEMICAL AS PER MANUFACTURER'S RECOMMENDATION.

N. NO PLANT, EXCEPT GROUND COVERS, GRASSES OR VINES, SHALL BE PLANTED LESS THAN TWO FEET (2') FROM EXISTING STRUCTURES AND SIDEWALKS.

O. ALL PLANTING AREAS AND PLANTING PITS SHALL BE MULCHED AS SPECIFIED HEREIN TO FILL THE ENTIRE BED AREA OR SAUCER. NO MULCH IS TO TOUCH THE TRUNK OF THE TREE OR SHRUB.

P. ALL PLANTING AREAS SHALL BE WATERED IMMEDIATELY UPON INSTALLATION IN ACCORDANCE WITH THE WATERING SPECIFICATIONS AS LISTED HEREIN.

10. TRANSPLANTING (WHEN REQUIRED) A. ALL TRANSPLANTS SHALL BE DUG WITH INTACT ROOT BALLS CAPABLE OF SUSTAINING THE PLANT. B. IF PLANTS ARE TO BE STOCKPILED BEFORE REPLANTING, THEY SHALL BE HELED IN WITH MULCH OR SOIL, ADEQUATELY WATERED AND PROTECTED FROM EXTREME HEAT, SUN AND WIND.

C. PLANTS SHALL NOT BE DUG FOR TRANSPLANTING BETWEEN APRIL 10 AND JUNE 30. D. UPON REPLANTING, BACKFILL SOIL SHALL BE AMENDED WITH FERTILIZER AND ROOT GROWTH HORMONE. E. TRANSPLANTS SHALL BE GUARANTEED FOR THE LENGTH OF THE GUARANTEE PERIOD SPECIFIED HEREIN.

F. IF TRANSPLANTS DIE, SHRUBS AND TREES LESS THAN SIX INCHES (6") DBH SHALL BE REPLACED IN KIND. TREES GREATER THAN SIX INCHES (6") DBH MAY BE REQUIRED TO BE REPLACED IN ACCORDANCE WITH THE MUNICIPALITY'S TREE REPLACEMENT GUIDELINES.

11. WATERING A. NEW PLANTINGS OR LAWN AREAS SHALL BE ADEQUATELY IRRIGATED BEGINNING IMMEDIATELY AFTER PLANTING. WATER SHALL BE APPLIED TO EACH TREE AND SHRUB IN SUCH MANNER AS NOT TO DISTURB BACKFILL AND TO THE EXTENT THAT ALL MATERIALS IN THE PLANTING HOLE ARE THOROUGHLY SATURATED. WATERING SHALL CONTINUE AT LEAST UNTIL PLANTS ARE ESTABLISHED.

B. SITE OWNER SHALL PROVIDE WATER IF AVAILABLE ON SITE AT TIME OF PLANTING. IF WATER IS NOT AVAILABLE ON SITE, CONTRACTOR SHALL SUPPLY ALL NECESSARY WATER. THE USE OF WATERING BAGS IS RECOMMENDED FOR ALL NEWLY PLANTED TREES.

C. IF AN IRRIGATION SYSTEM HAS BEEN INSTALLED ON THE SITE, IT SHALL BE USED TO WATER PROPOSED PLANT MATERIAL, BUT ANY FAILURE OF THE SYSTEM DOES NOT ELIMINATE THE CONTRACTOR'S RESPONSIBILITY OF MAINTAINING THE DESIRED MOISTURE LEVEL FOR VIGOROUS, HEALTHY GROWTH.

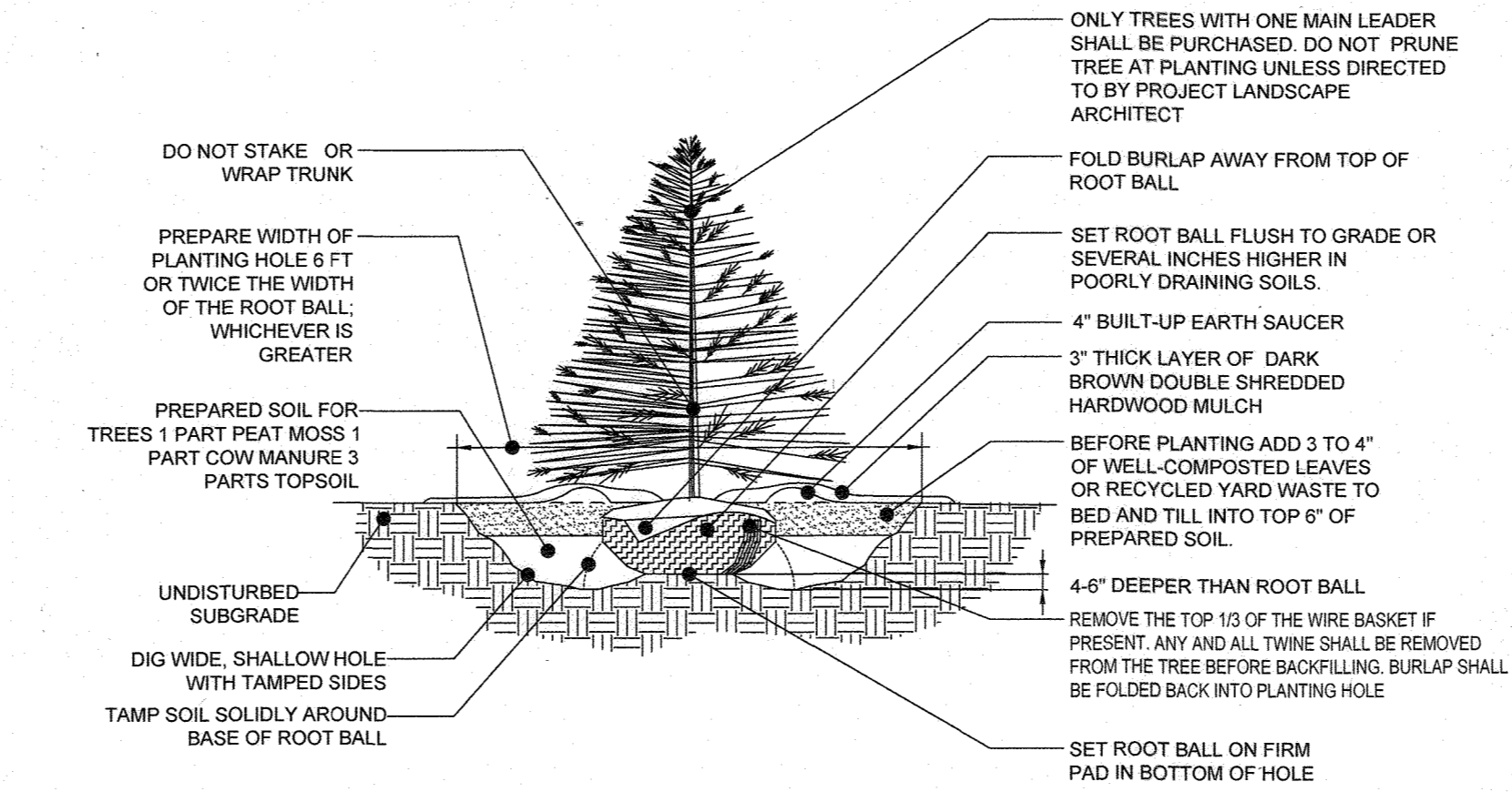
12. GUARANTEE A. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF ONE (1) YEAR FROM APPROVAL OF LANDSCAPE INSTALLATION BY THE APPROVING AGENCY. CONTRACTOR SHALL SUPPLY THE OWNER WITH A MAINTENANCE BOND FOR TEN PERCENT (10%) OF THE VALUE OF THE LANDSCAPE INSTALLATION WHICH WILL BE RELEASED AT THE CONCLUSION OF THE GUARANTEE PERIOD AND WHEN A FINAL INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.

B. ANY DEAD OR DYING PLANT MATERIAL SHALL BE REPLACED FOR THE LENGTH OF THE GUARANTEE PERIOD. REPLACEMENT OF PLANT MATERIAL SHALL BE CONDUCTED AT THE FIRST SUCCEEDING PLANTING SEASON. ANY DEBRIS SHALL BE DISPOSED OF OFF-SITE, WITHOUT EXCEPTION.

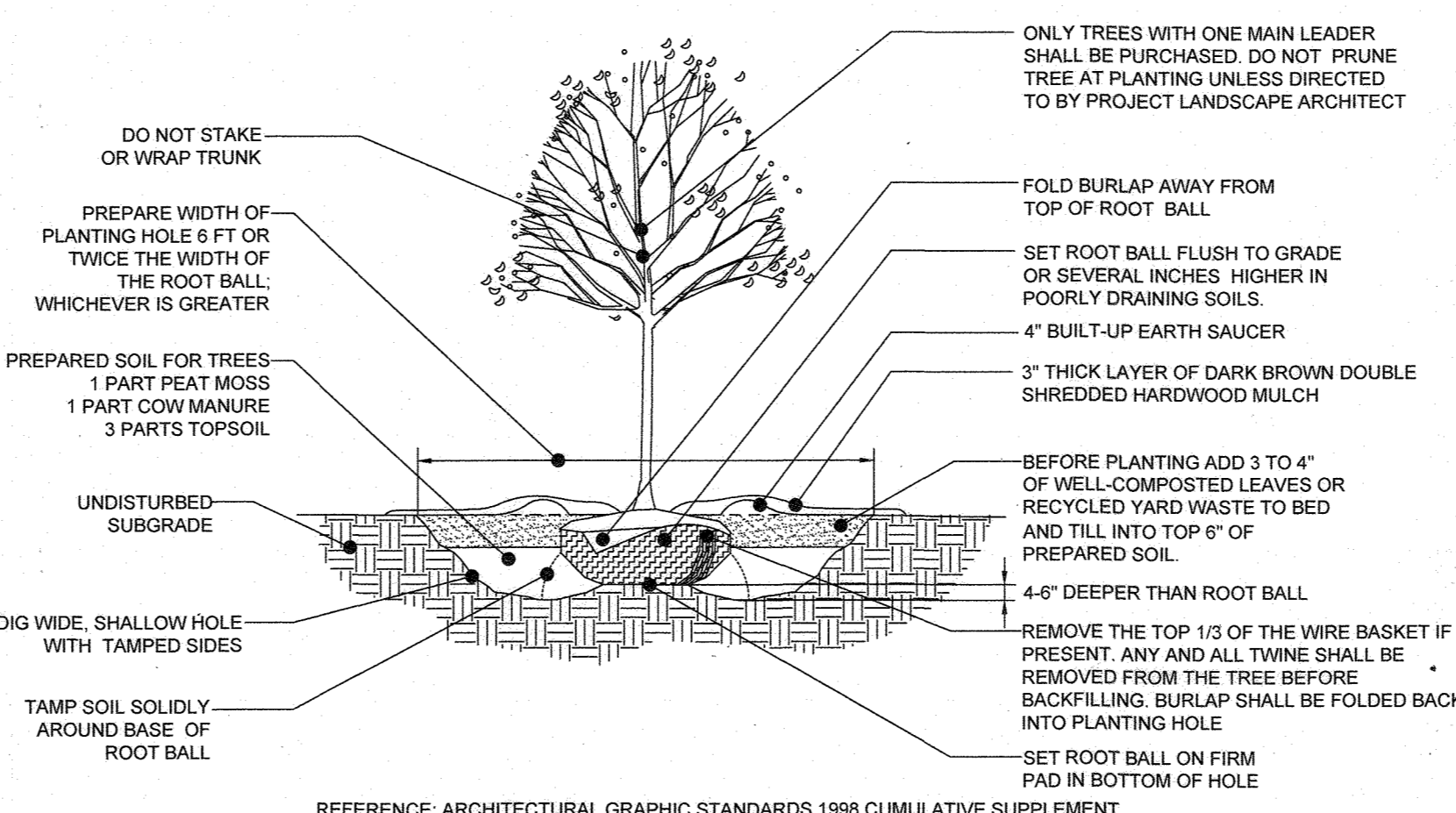
C. TREES AND SHRUBS SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION AND THROUGHOUT THE 90 DAY MAINTENANCE PERIOD AS SPECIFIED HEREIN. CULTIVATION, WEEDING, WATERING AND THE PREVENTATIVE TREATMENTS SHALL BE PERFORMED AS NECESSARY TO KEEP PLANT MATERIAL IN GOOD CONDITION AND FREE OF INSECTS AND DISEASE.

D. LAWNS SHALL BE MAINTAINED THROUGH WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING AND OTHER OPERATIONS SUCH AS ROLLING. REGARDING AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS.

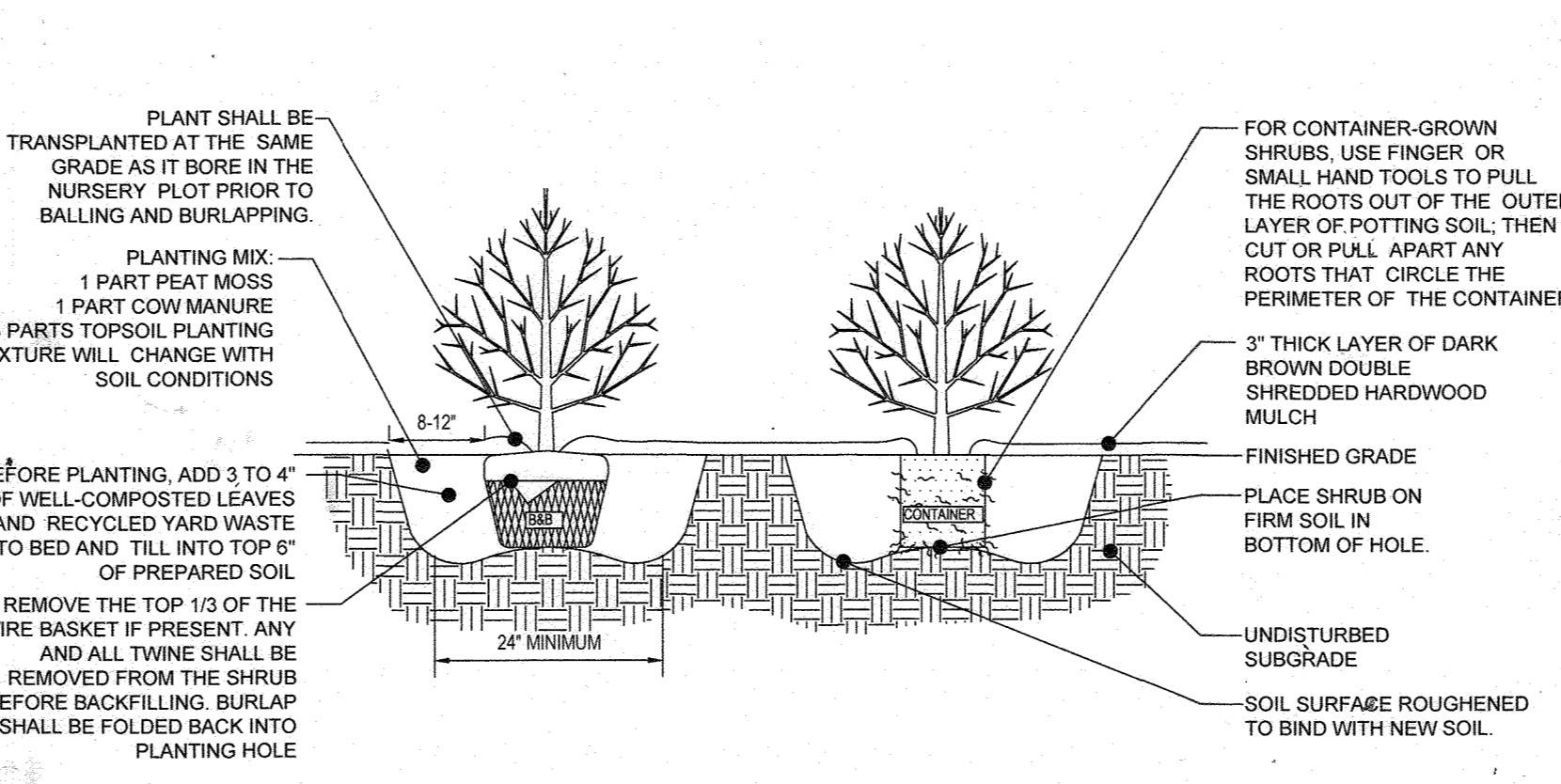
13. CLEANUP A. UPON THE COMPLETION OF ALL LANDSCAPE INSTALLATION AND BEFORE THE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL UNUSED MATERIALS, EQUIPMENT AND DEBRIS FROM THE SITE. ALL PAVED AREAS ARE TO BE CLEANED. B. THE SITE SHALL BE CLEANED AND LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.



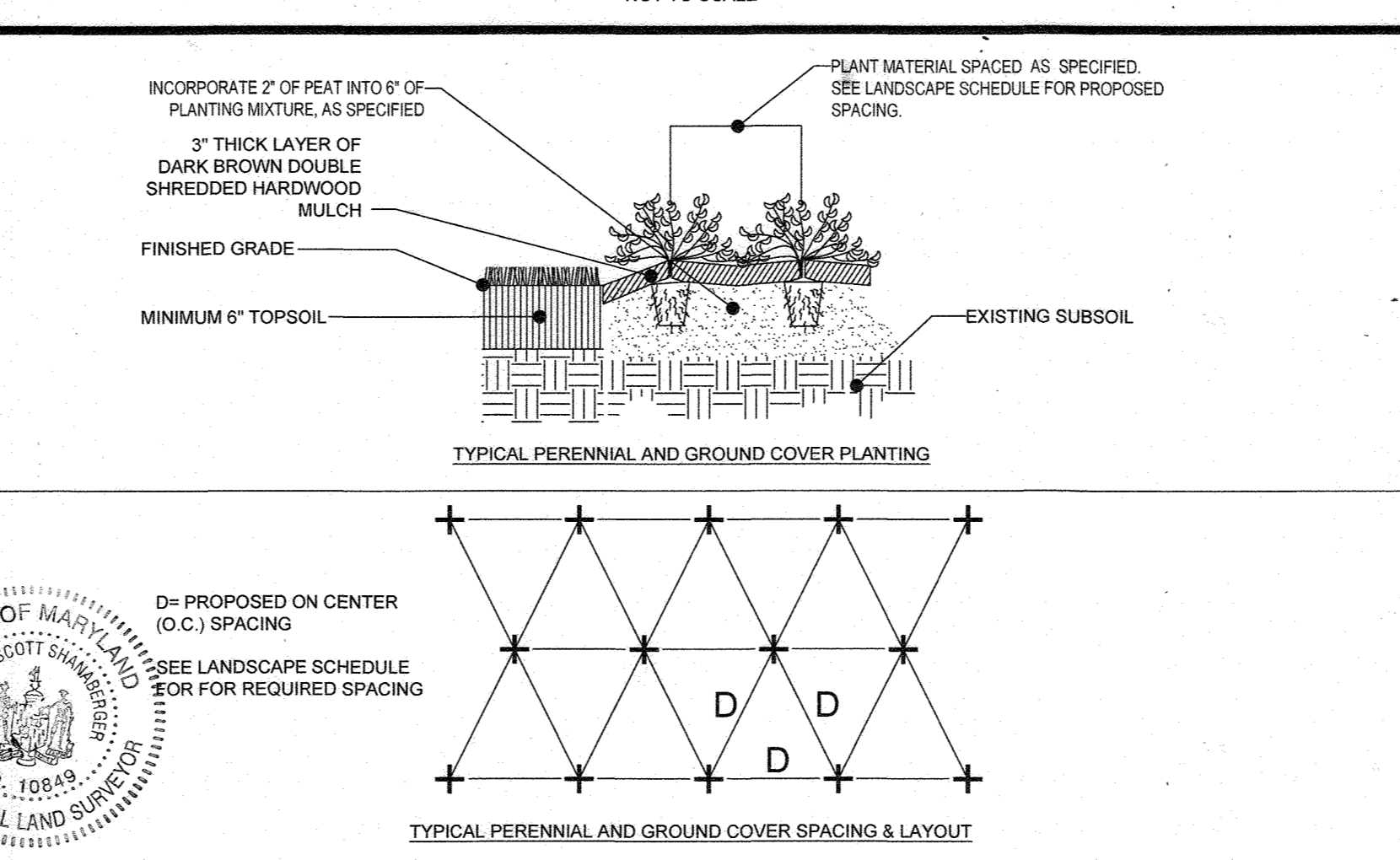
EVERGREEN TREE PLANTING DETAIL NOT TO SCALE



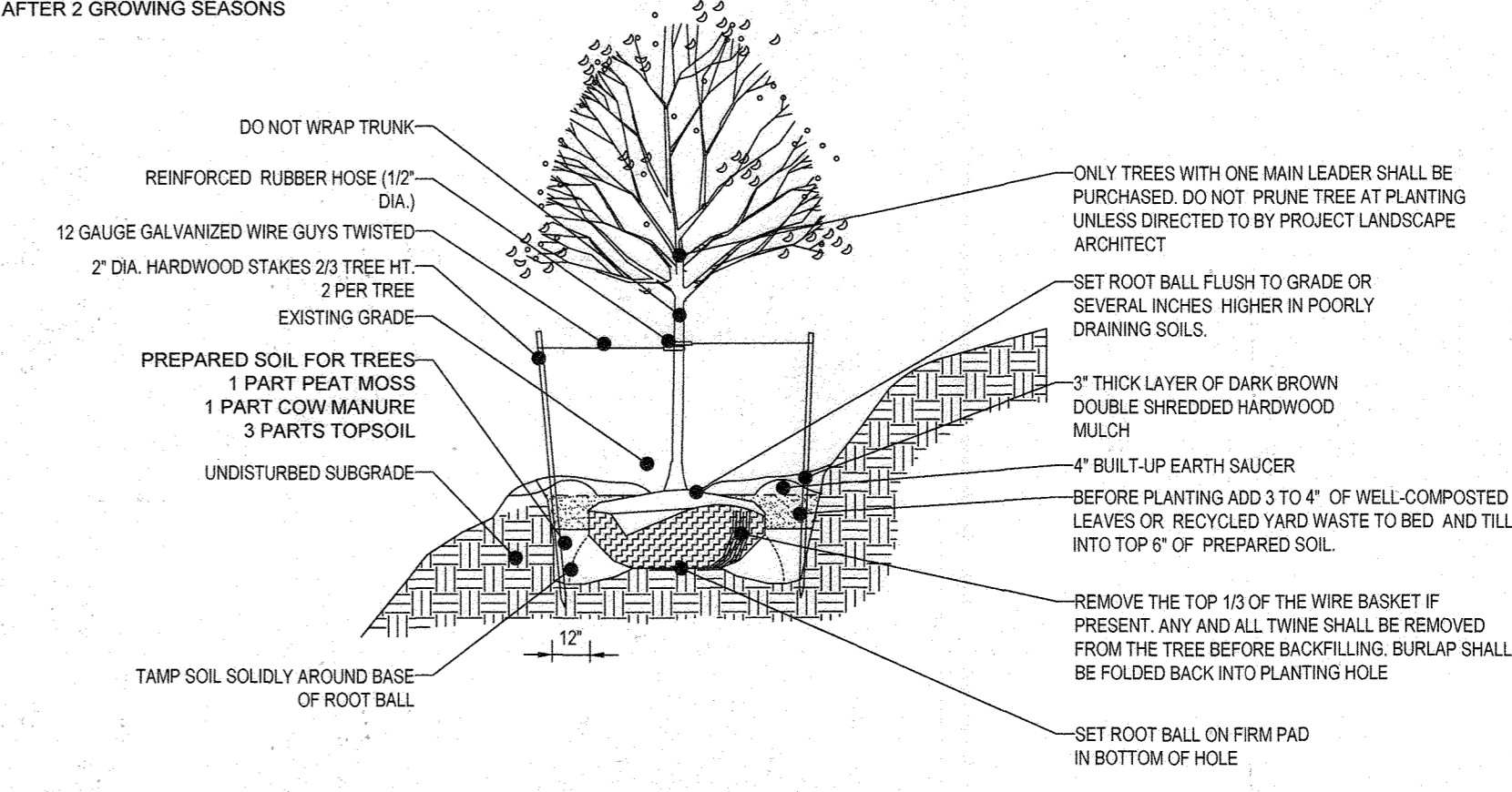
DECIDUOUS TREE PLANTING DETAIL NOT TO SCALE



DECIDUOUS AND EVERGREEN SHRUB PLANTING DETAIL NOT TO SCALE



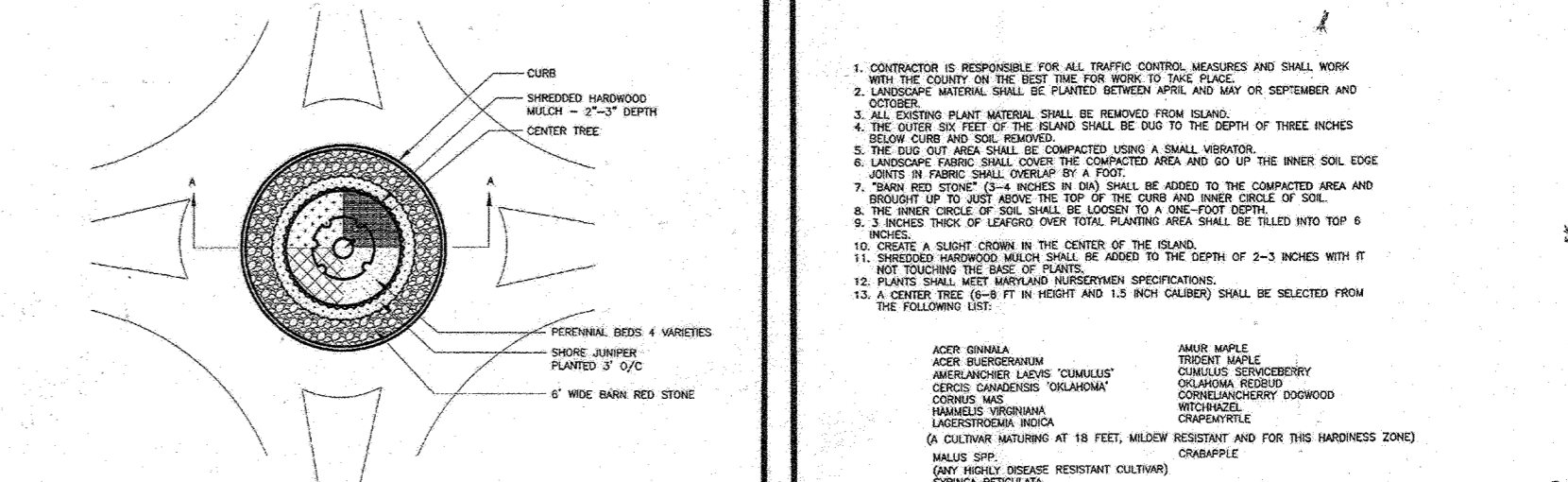
PERENNIAL/GROUND COVER PLANTING DETAIL NOT TO SCALE



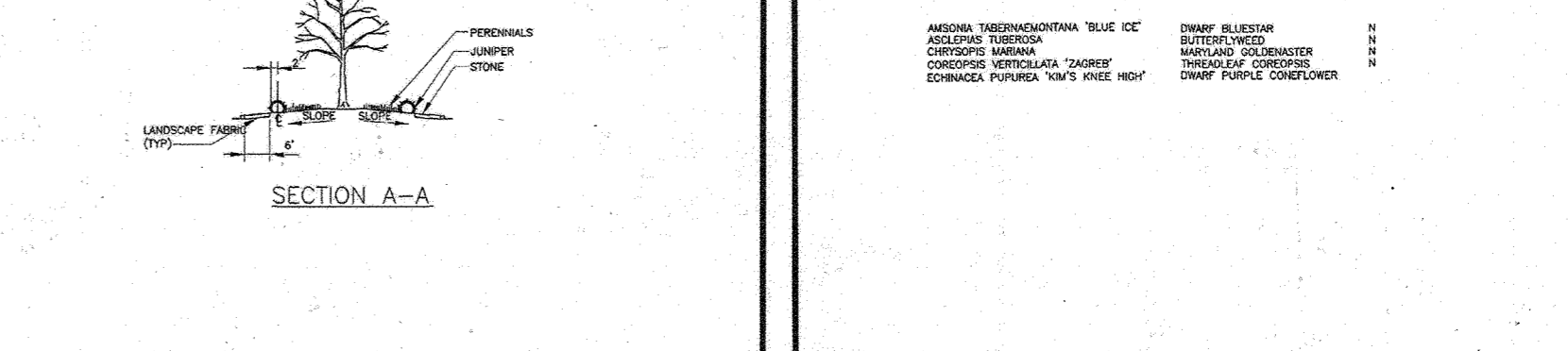
TREE PLANTING ON SLOPE DETAIL NOT TO SCALE

SEEDING SPECIFICATIONS table with columns for seed type and quantity per square foot.

OWNER MAINTENANCE RESPONSIBILITIES text detailing the contractor's obligations after project completion.



PLAN view diagram



SECTION A-A diagram

Project information table including owner details, parcel information, subdivision name, and contact information.

APPROVED: DEPARTMENT OF PUBLIC WORKS and DEPARTMENT OF PLANNING AND ZONING stamps.

DEVELOPER'S/OWNER'S LANDSCAPE CERTIFICATE form with signature and date.

NOTE: THERE IS NO AS-BUILT INFORMATION SHOWN ON THIS SHEET. Includes professional seal and date.

BOHLER ENGINEERING logo and contact information for various offices.

REVISIONS table with columns for revision number, date, comment, and by.

Professional Engineer seal for the State of Maryland.

APPROVED FOR CONSTRUCTION stamp with project details.

WILLOWSHIRE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G, L, P & NON-BUILDABLE BULK PARCELS H-K. Location of site and address.

BOHLER ENGINEERING logo and address information.

E.R. McWILLIAMS logo and professional seal.

LANDSCAPE NOTES AND DETAILS SHEET NUMBER: 26 OF 92.

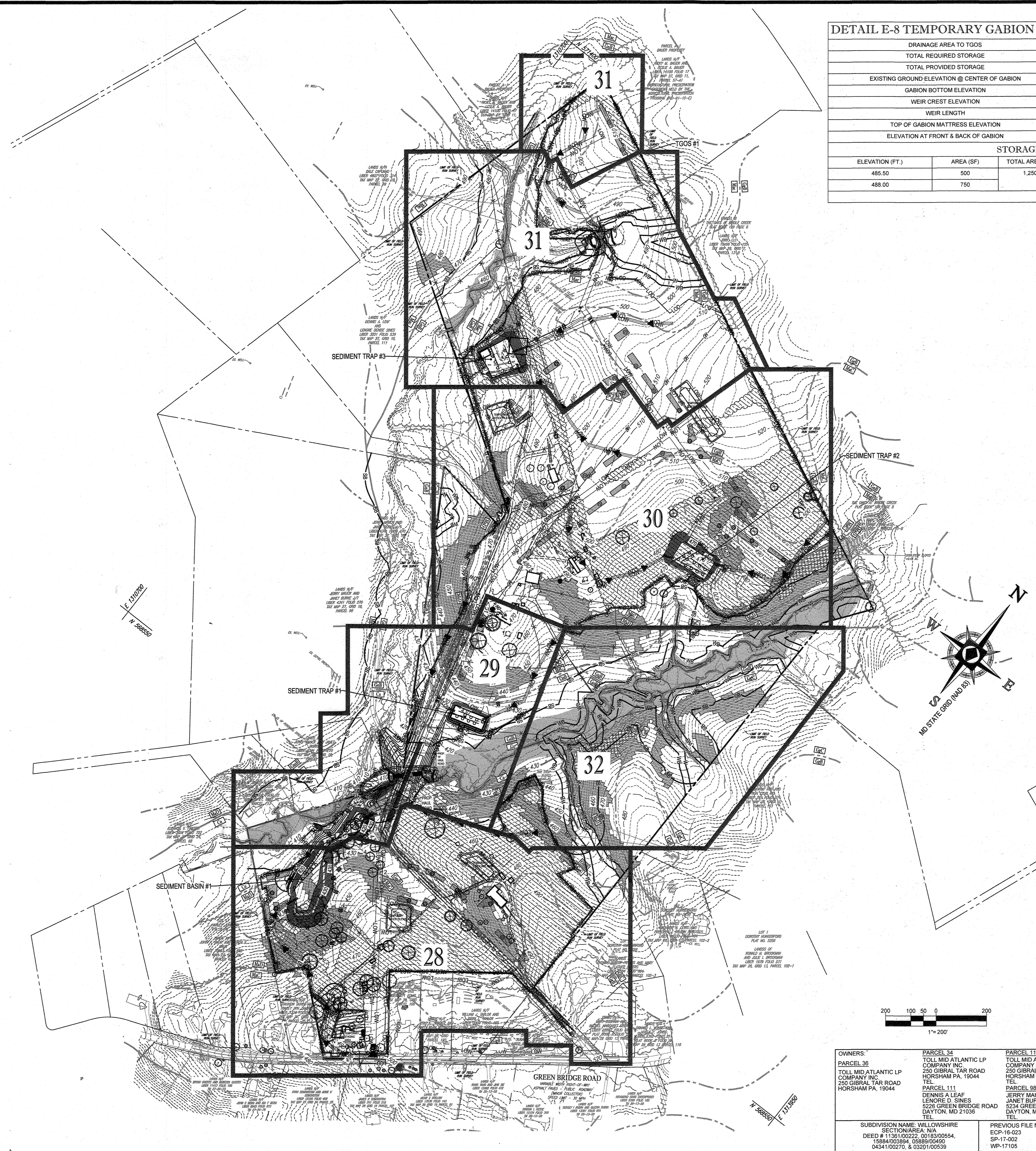
STANDARD DRAWING LEGEND		
FOR ENTIRE PLAN SET (NOT TO SCALE)		
EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
---	ONSITE PROPERTY LINE / R.O.W. LINE	---
---	NEIGHBORING PROPERTY LINE / INTERIOR PARCEL LINE	---
---	EASEMENT LINE	---
---	SETBACK LINE	---
---	CONCRETE CURB & GUTTER	---
---		DEPRESSED CURB AND GUTTER
⊕	TYPICAL LIGHT	⊕
⊕	TYPICAL SIGN	⊕
⊕	HYDRANT	⊕
⊕	SANITARY MANHOLE	⊕
⊕	SANITARY TERMINAL	⊕
⊕	STORM MANHOLE	⊕
⊕	WATER VALVE	⊕
⊕	TYPICAL END SECTION	⊕
⊕	CLEAN OUT	⊕
EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
▨	YARD/OVERFLOW INLET	▨
▨	SEPTIC DISPOSAL AREA	▨ PRIVATE ▨ SHARED
WB	WETLAND BUFFER	WB
SB	STREAM BUFFER	SB
---	TREELINE	---
---	PERENNIAL STREAM	---
---	INTERMITTENT STREAM	---
---	BIORETENTION FACILITY / SUBMERGED GRAVEL WETLAND	---
⊕	WELL AREA	⊕
---	LIMIT OF FIELD RUN SURVEY	---

SOILS TABLE					
SOILS NAME	SOILS DESCRIPTION	HYDROLOGIC SOILS GROUP	HIGHLY ERODIBLE SOIL	K FACTOR	AREA - AC.
Co	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	NO	0.32	3.88
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.28	16.53
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	11.63
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	YES	0.43	9.42
GnB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	9.49
GoB	GLENVILLE-CODORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	4.16
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	35.86
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	NO	0.28	9.09

**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF ENGINEER: *Brandon R. Rowe* DATE: 10/14/19

**DEVELOPER'S CERTIFICATE**  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONS INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF DEVELOPER: *Jason Van Kirk* DATE: 10-24-19

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL IN THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 APPROVED: DEPARTMENT OF PUBLIC WORKS DATE: 11/26/2019  
 CHIEF, BUREAU OF HIGHWAYS  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING DATE: 2/26/2020  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 12-9-19



DETAIL E-8 TEMPORARY GABION OUTLET STRUCTURE (1)			
DRAINAGE AREA TO TGOS	1.35	AREAS	
TOTAL PROVIDED STORAGE	1.35 X 1,800 = 2,430	CF	
TOTAL REQUIRED STORAGE	3,125	CF	
EXISTING GROUND ELEVATION @ CENTER OF GABION	485.50	FT	
GABION BOTTOM ELEVATION	468.25	FT	
WEIR CREST ELEVATION	488.00	FT	
WEIR LENGTH	6	FT	
TOP OF GABION MATTRESS ELEVATION	488.75	FT	
ELEVATION AT FRONT & BACK OF GABION	485.50	FT	
STORAGE VOLUME			
ELEVATION (FT.)	AREA (SF)	TOTAL AREA (SF)	DEPTH (FT.)
485.50	500	1,250	2.50
488.00	750		
			TOTAL STORAGE (CUBIC FT.)
			3,125

**BOHLER ENGINEERING**  
 CORPORATE OFFICE: WARREN, NJ  
 SURVEYORS: WARREN, NJ  
 PROJECT MANAGERS: WARREN, NJ  
 ENVIRONMENTAL CONSULTANTS: WARREN, NJ  
 LANDSCAPE ARCHITECTS: WARREN, NJ  
 CIVIL & CONSULTING ENGINEERS: WARREN, NJ

REVISIONS			
REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL 811  
 (WV 1-800-245-4848) (PA 1-800-242-1776) (DC 1-800-257-7777) (VA 1-800-552-7001) (MD 1-800-257-7777) (DE 1-800-288-8589)

APPROVED FOR CONSTRUCTION  
 PROJECT NO.: MD142048  
 DRAWN BY: BRR  
 CHECKED BY: BRR  
 DATE: 08/28/19  
 SCALE: 1" = 200'  
 CAD I.D.: QAS

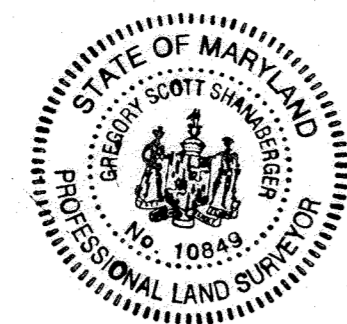
FINAL ROAD CONSTRUCTION PLAN FOR  
**WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL, C NON-BUILDABLE PRESERVATION PARCELS A, B, D, E - G & L - P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 1158 RAVENHURST LANE, SUITE 100  
 COLUMBIA, MD 21046  
 PHONE: (410) 720-3021

SHEET TITLE:  
**OVERALL PHASE I EROSION AND SEDIMENT CONTROL PLAN**  
 SHEET NUMBER:  
**27 OF 92**

OWNERS:  
 PARCEL 36: TOLL MID ATLANTIC LP COMPANY INC, 250 GIBRAL TARR ROAD, HORSHAM PA, 19044  
 PARCEL 34: TOLL MID ATLANTIC LP COMPANY INC, 250 GIBRAL TARR ROAD, HORSHAM PA, 19044  
 PARCEL 112: TOLL MID ATLANTIC LP COMPANY INC, 250 GIBRAL TARR ROAD, HORSHAM PA, 19044  
 PARCEL 98: DENNIS A LEAF, JERRY MAUCK, JANEY BURKE JT, 5232 GREEN BRIDGE ROAD, DAYTON, MD 21036  
 SUBDIVISION NAME: WILLOWSHIRE SECTION: AREA: N/A DEED #: 1150100222, 0018300554, 158847003894, 058889100490, 04341100270, & 03201100539  
 PREVIOUS FILE NO.: ECP-16-023 PB436 SP-17-002 WP-17108  
 NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
 DATE: 10/11/2019  
 PROFESSIONAL L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/10/2022  
 Shanaberger & Lane  
 1158 RAVENHURST LANE, SUITE 100, COLUMBIA, MD 21046  
 PHONE: (410) 720-3021  
 NOTE: ALL SEDIMENT BASINS MUST BE REMOVED A MAXIMUM OF THREE (3) YEARS FROM THE DATE OF HOWARD SCD SIGNATURE APPROVAL  
 DEVELOPER: GREEN BRIDGE FARM II, L.C., 6074 DORSEY HALL ROAD, SUITE 205, COLUMBIA, MD 21042  
 CONTRACT: JASON VAN KIRK  
 PHONE: (410) 720-3021  
 TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
 PARCEL: 34, 36, 98, 111 & 112  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

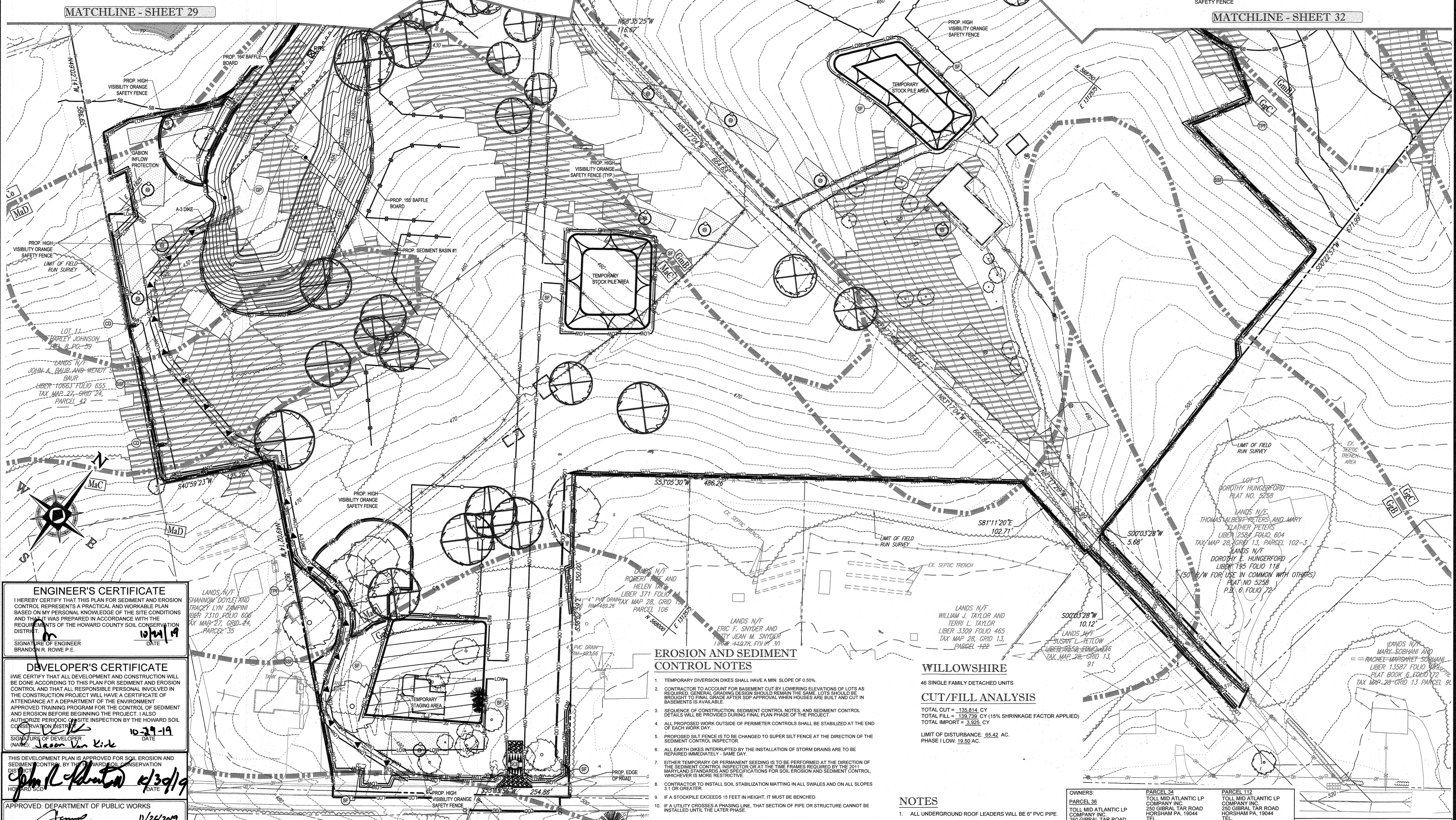
*Scott Shanberger* 4/11/2023  
Professional L.S. # 10849 Exp. Date 4/2/2024  
AS-BUILT DATE: 10/10/2023

Shanberger & Lerner  
INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: 5 SECOND SOKKIA IX ROBOTE TOTAL STATION, TOPCON RC-5 RECEIVER, SOKKIA 3000 PRISM

NOTE: ALL SEDIMENT BASINS MUST BE REMOVED A MAXIMUM OF THREE (3) YEARS FROM THE DATE OF HOWARD SCD SIGNATURE APPROVAL

**EROSION AND SEDIMENT CONTROL LEGEND**

	STABILIZED CONSTRUCTION ENTRANCE		RIPRAP STABILIZATION
	SILTY FENCE		GABION INFLOW PROTECTION
	DIVERSION DIKE		LIMIT OF WORK
	SUPER SILTY FENCE		LIMIT OF DISTURBANCE
	TREE PROTECTION FENCE		SPECIMEN TREE (TO BE REMOVED)
	STEEP SLOPES (15%-25%)		BAFFLE BOARD
	STEEP SLOPES (>25%)		REMOVABLE PUMPING STATION
	SOIL DIVIDE		CHECK DAM
	SOIL LABEL		
	HIGH VISIBILITY ORANGE SAFETY FENCE		
	TEMP. & HIGH CHAIN LINK SAFETY FENCE		



**EROSION AND SEDIMENT CONTROL NOTES**

- TEMPORARY DIVERSION DIKES SHALL HAVE A MIN. SLOPE OF 0.50%.
- CONTRACTOR TO ACCOUNT FOR BASEMENT CUT BY LOWERING ELEVATIONS OF LOTS AS REQUIRED. GENERAL GRADING DESIGN SHOULD REMAIN THE SAME. LOTS SHOULD BE BROUGHT TO FINAL GRADE AFTER SDP APPROVAL WHEN HOUSES ARE BUILT AND CUT IN BASEMENTS IS AVAILABLE.
- SEQUENCE OF CONSTRUCTION, SEDIMENT CONTROL NOTES, AND SEDIMENT CONTROL DETAILS WILL BE PROVIDED DURING FINAL PLAN PHASE OF THE PROJECT.
- ALL PROPOSED WORK OUTSIDE OF PERMETER CONTROLS SHALL BE STABILIZED AT THE END OF EACH WORK DAY.
- PROPOSED SILTY FENCE IS TO BE CHANGED TO SUPER SILTY FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
- ALL EARTH DIKES INTERRUPTED BY THE INSTALLATION OF STORM DRAINS ARE TO BE REPAIRED IMMEDIATELY - SAME DAY.
- EITHER TEMPORARY OR PERMANENT SEEDING IS TO BE PERFORMED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR AT THE TIME FRAMES REQUIRED BY THE 2017 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, WHICHEVER IS MORE RESTRICTIVE.
- CONTRACTOR TO INSTALL SOIL STABILIZATION MATTING IN ALL SWALES AND ON ALL SLOPES 3:1 OR GREATER.
- IF A STOCKPILE EXCEEDS 15 FEET IN HEIGHT, IT MUST BE BENCHED.
- IF A UTILITY CROSSES A PHASING LINE, THAT SECTION OF PIPE OR STRUCTURE CANNOT BE INSTALLED UNTIL THE LATER PHASE.

**WILLOWSHIRE**

46 SINGLE FAMILY DETACHED UNITS

**CUT/FILL ANALYSIS**

TOTAL CUT = 135,814 CY  
TOTAL FILL = 139,739 CY (15% SHRINKAGE FACTOR APPLIED)  
TOTAL IMPORT = 3,925 CY

LIMIT OF DISTURBANCE: 65.42 AC.  
PHASE I LOW: 19.50 AC.

**NOTES**

- ALL UNDERGROUND ROOF LEADERS WILL BE 6" PVC PIPE.
- ALL BIO-RETENTION FACILITIES LEADING TO THEIR OWN OUTFALL POINT WILL HAVE OUTFALL PIPES SIZED TO HANDLE THE 10-YR STORM EVENT.
- STORMWATER QUALITY MANAGEMENT WILL BE PROVIDED BY 4 MICRO-BIORETENTION, 1 SUBMERGED GRAVEL WETLANDS, FACILITIES AND 240 DRYWELLS.
- HAZARD CLASS FOR ALL SWM FACILITIES IS "A" DUE TO NO LIFE LOSS FOR FAILURE.

A MAXIMUM OF 20 ACRES OF ACTIVE DISTURBANCE AREA WITH AN ADDITIONAL 10 ACRES OF RECENTLY STABILIZED OR TRANSITIONAL AREA IS PERMITTED. NO MORE THAN 30 ACRES, CUMULATIVELY, MAY BE DISTURBED AT ANY GIVEN TIME.

HOUSES CANNOT BE CONSTRUCTED USING THESE PLANS.

<b>OWNERS:</b> PARCEL 36 TOLL MID ATLANTIC LP 250 GIBRAL TAR ROAD HORSHAM PA, 19044	<b>PARCEL 34</b> TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAR ROAD HORSHAM PA, 19044 TEL: PARCEL 111 DENNIS A LEAF LENORE D. SINES 5205 GREEN BRIDGE ROAD DAYTON, MD 21038 TE:	<b>PARCEL 112</b> TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAR ROAD HORSHAM PA, 19044 TEL: PARCEL 98 JERRY MAUCK JANET BURKE JT 5204 GREEN BRIDGE ROAD DAYTON, MD 21038 TE:	<b>DEVELOPER:</b> ELM STREET DEVELOPMENT 5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTACT: JASON VAN NIKK PHONE: (410) 720-3021
<b>SUBDIVISION NAME:</b> TBD <b>SECTION AREA:</b> N/A DEED # 1136100222, 0183800564, 1588400384, 0588800490 0434100270, & 0320100539	<b>PREVIOUS FILE No.:</b> ECP-16-023	<b>TAX MAP:</b> 27 GRID: 18 PARCEL: 34, 36, 98, 111 & 112 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND	<b>ZONED:</b> RR-DEO

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

*Brandon R. Romie*  
SIGNATURE OF ENGINEER  
BRANDON R. ROMIE P.E.  
DATE: 10/21/19

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

*Jason Van Kirk*  
SIGNATURE OF DEVELOPER  
(NAME) Jason Van Kirk  
DATE: 10/29/19

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

*John L. Stanton* 4/30/19  
HOWARD SCD

APPROVED: DEPARTMENT OF PUBLIC WORKS  
CHIEF, BUREAU OF HIGHWAYS  
DATE: 11/24/2019

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 2/6/2020

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 12-9-19

**BOHLER ENGINEERING**

CORPORATE OFFICE: WARRINGTON, VA  
SURVEYORS  
PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

OFFICES:  
SOUTHBOURNE, OH, USA  
TOWSON, MD  
FARMINGTON, CT  
CHAMFON, NY  
CENTREVILLE, VA  
FORT LAUDERDALE, FL  
FORT WORTH, TX  
HUNTSVILLE, AL

CIVIL & CONSULTING ENGINEERS

**REVISIONS**

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL 811

(WV 1-800-245-4848) (PA 1-800-942-1776) (DC 1-800-257-7777) (VA 1-800-552-7071) (MD 1-800-257-7777) (DE 1-800-284-8559)

**APPROVED FOR CONSTRUCTION**

PROJECT No.: MD142048  
DRAWN BY: AVG  
CHECKED BY: BRR  
DATE: 08/28/19  
SCALE: 1" = 50'  
CAD I.D.: ORJ

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & H & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

901 DULAMEY VALLEY ROAD, SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7900  
Fax: (410) 821-7987  
www.BohlerEngineering.com

**B.B. ROWE**

PROFESSIONAL ENGINEER  
(HOWARD COUNTY LICENSE NO. 4008)  
PROFESSIONAL CERTIFICATION  
I, BRANCOU B. ROWE, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 7966, EXPIRES 03/31/2021.

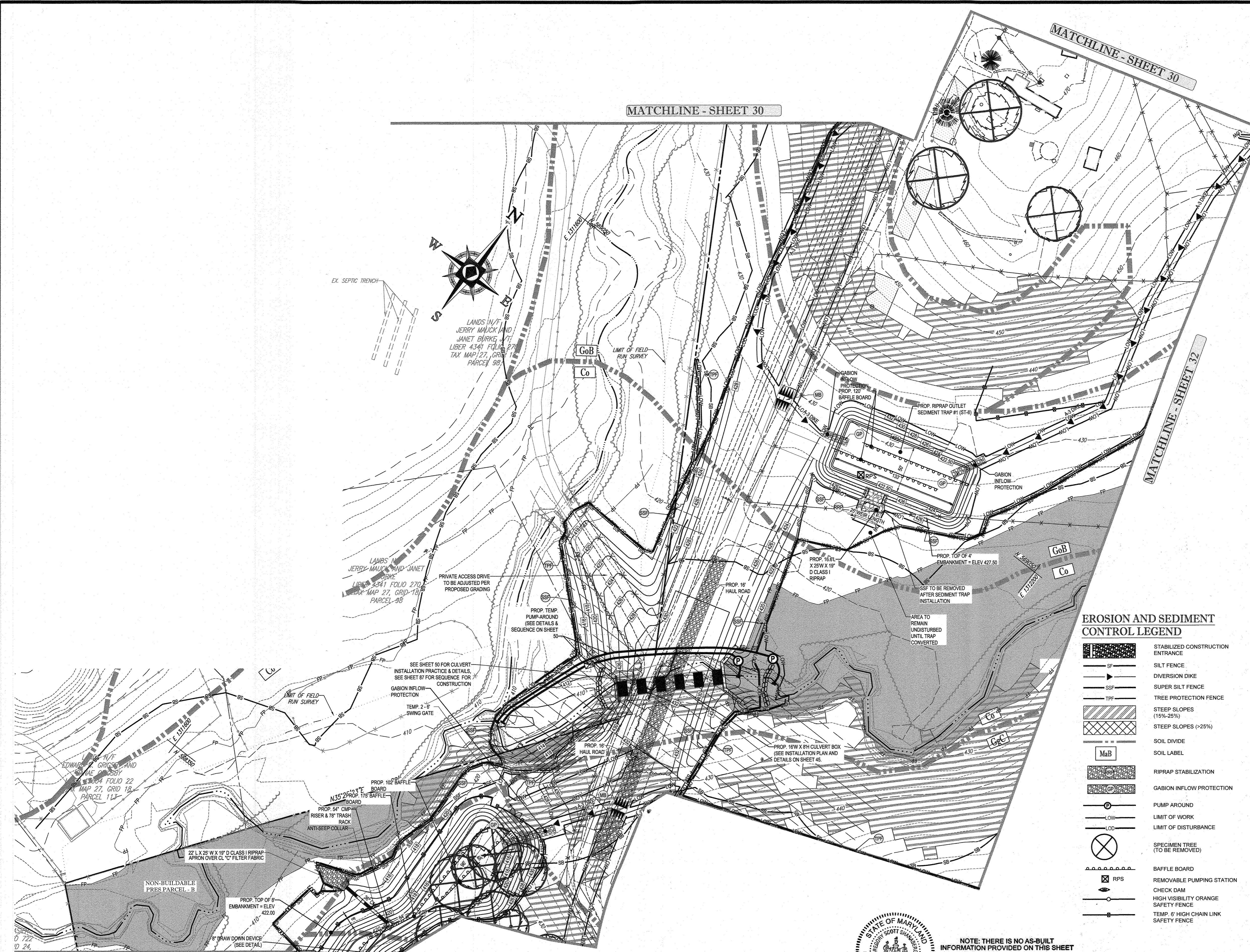
**PHASE I EROSION AND SEDIMENT CONTROL PLAN**

SHEET NUMBER:  
**28 OF 92**

MATCHLINE - SHEET 30

MATCHLINE - SHEET 30

MATCHLINE - SHEET 32



### SEQUENCE OF CONSTRUCTION

1. NOTIFY HOWARD COUNTY'S SEDIMENT CONTROL INSPECTOR AT 410-313-1855 AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION. (1 DAY)
2. THE GENERAL CONTRACTOR SHALL NOT COMMENCE ANY LAND DISTURBING ACTIVITIES PRIOR TO OBTAINING A GRADING PERMIT. (1 DAY)
3. THE CONTRACTOR SHALL HOLD A PRE-CONSTRUCTION MEETING WITH THE CONSTRUCTION MANAGER AND THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR PRIOR TO COMMENCING ANY LAND DISTURBING ACTIVITIES. NO CONSTRUCTION TO BEGIN UNTIL ALL MATERIALS NEEDED TO BUILD SEDIMENT TRAPS AND BASINS ARE ON SITE. (1 DAY)
4. ALL AREAS WHICH ARE TO BE DISTURBED SHALL BE CLEARLY MARKED IN THE FIELD PRIOR TO CONSTRUCTION. DISTURBED AREAS WITHIN THE SITE WHERE CONSTRUCTION ACTIVITY HAS CEASED SHALL BE PERMANENTLY OR TEMPORARILY STABILIZED WITHIN:
  - a. THREE (3) CALENDAR DAYS ON SLOPES GREATER THAN 3:1. ALL WATERWAYS AND TO THE SURFACE OF ALL PERIMETER CONTROLS.
  - b. SEVEN (7) CALENDAR DAYS ON ALL OTHER DISTURBED OR GRADED AREAS OF THE PROJECT.
5. INSTALL STABILIZED CONSTRUCTION ENTRANCE. CLEAR FOR AND INSTALL CONTRACTOR STAGING AREA. GRUBBLING SHALL OCCUR AND TEMPORARY STOCKPILE AREAS AS SHOWN ON THE PHASE I PLANS. ALL HARD SURFACE PUBLIC ROADS SHALL BE CLEANED AT THE END OF EACH WORK DAY. (1 WEEK)
6. CLEAR FOR AND INSTALL PERIMETER SUPER SILT FENCES, SILT FENCES, EARTH DIKES, SEDIMENT BASIN, SEDIMENT TRAPS, AND TEMPORARY GABION OUTLET STRUCTURE AS SHOWN ON THE PHASE I PLANS. INSTALL TREE PROTECTION MEASURES AND SPECIMEN TREE PROTECTION MEASURES ON SPECIMEN TREES 8\"/>
7. BASED ON FIELD CONDITIONS AND AT THE SEDIMENT INSPECTOR'S DISCRETION THE FOLLOWING STEPS CAN BE COMPLETED IN ANY ORDER DEEMED NECESSARY. NOTE: EACH LIMIT OF WORK AREA MUST BE LIMITED TO 20 ACRES OF ACTIVE DISTURBANCE WITH AN ADDITIONAL 10 ACRES OF RECENTLY STABILIZED AREA IS PERMITTED. (MONTHS)
  - A. UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB THE AREA IDENTIFIED ON THE PHASE II PLANS AS LOW-2A, 2B, AND 2C.
  - B. BEGIN ROUGH GRADING OF THE SITE TO PROPOSED SUBGRADE AS IDENTIFIED ON THE PHASE II PLANS AS LOW-2A, 2B, AND 2C. EACH LIMIT OF WORK AREA MUST BE LIMITED TO 20 ACRES OF ACTIVE DISTURBANCE WITH AN ADDITIONAL 10 ACRES OF RECENTLY STABILIZED AREA IS PERMITTED. IN AREAS WHERE EARTHWORK IS LIMITED TO ONE (1) FULL CONSTRUCTION SHALL GRADUALLY LOWER OR RAISE DIKES ALONG WITH PROPOSED GRADE TO ENSURE POSITIVE DRAINAGE AT ALL TIMES. ADJUST SUPER SILT FENCES, STOCKPILE AREAS, AND GRADING TO FIT INTO EXISTING SEDIMENT CONTROL.
  - C. CLEAR FOR AND BEGIN THE INSTALLATION OF THE CULVERT BY UTILIZING THE CULVERT SEQUENCE OF CONSTRUCTION AND CULVERT INSTALLATION DETAILS ON SHEET 45. MODIFY THE PRIVATE ACCESS DRIVE PER THE FINAL GRADES SHOWN ON THE PHASE I.
8. INSTALL UTILITIES AS SHOWN ON THE PHASE II PLANS AS LOW-2A, 2B, AND 2C. INSTALL INLET PROTECTIONS ON ALL PROPOSED INLETS IMMEDIATELY AFTER INSTALLATION. IN AREAS WHERE PIPES OUTLET TO AREAS OF FUTURE SWM FACILITIES, CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE FROM THE INSTALLED END SECTIONS. (2 MONTHS)
9. INSTALL PROPOSED ROAD BASE COURSE AND CURB AND GUTTER FOR SUBDIVISION ROADS AS SHOWN ON THE PHASE II PLANS. (1 MONTH)
10. WITH PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR, COMPLETE PHASE II GRADING AND CONSTRUCTION.
11. AS THE SITE IS BROUGHT UP TO FINAL GRADES, PERMANENTLY STABILIZE ALL DISTURBED AREAS EXCEPT FOR THE MICRO-BIORETENTION FACILITY AREAS WITHIN SEVEN (7) CALENDAR DAYS.
12. AS UPSTREAM DRAINAGE AREAS ARE STABILIZED, REMOVE SEDIMENT BASIN, TRAPS, AND TOGS. INSTALL SWM FACILITIES (UNDERDRAINS, STONE, MEDIA, LANDSCAPING), FLUSH STORM DRAIN SYSTEMS. STABILIZE ALL PROPOSED SLOPES. (1 MONTH)
13. INSTALL PERMANENT LANDSCAPING. (2 WEEKS)
14. AFTER ALL CONSTRUCTIONS HAS BEEN COMPLETED AND UPON APPROVAL FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL MEASURES.
15. NOTIFY HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS FOR FINAL INSPECTION OF THE COMPLETED PROJECT.

### NOTES

1. THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON ALL SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON, AFTER EACH RAINFALL AND ON A DAILY BASIS.
2. ALL OF THE PRIVATE ON-LOT FACILITIES WILL BE CONSTRUCTED AT THE SITE DEVELOPMENT PLAN STAGE.

### INTERNAL DIKE NOTE

CONTRACTOR TO PROVIDE ORANGE BLAZE FENCE ALONG ALL DIKES INTERNAL TO THE L.O.D. WITH INTERMITTENT MOUNTABLE BEAMS WHERE NEEDED FOR CONSTRUCTION TRAFFIC A MAXIMUM OF 20 ACRES OF ACTIVE DISTURBANCE AREA WITH AN ADDITIONAL 10 ACRES OF RECENTLY STABILIZED OR TRANSITIONAL AREA IS PERMITTED. NO MORE THAN 30 ACRES, CUMULATIVELY, MAY BE DISTURBED AT ANY GIVEN TIME.

### EROSION AND SEDIMENT CONTROL NOTES

1. TEMPORARY DIVERSION DIKES SHALL HAVE A MIN. SLOPE OF 0.50%.
2. CONTRACTOR TO ACCOUNT FOR BASEMENT CUT BY LOWERING ELEVATIONS OF LOTS AS REQUIRED. GENERAL GRADING SHOULD REMAIN THE SAME. LOTS SHOULD BE BROUGHT TO FINAL GRADE AFTER SDF APPROVAL WHEN HOUSES ARE BUILT AND CUT IN BASEMENTS IS AVAILABLE.
3. SEQUENCE OF CONSTRUCTION, SEDIMENT CONTROL NOTES, AND SEDIMENT CONTROL DETAILS WILL BE PROVIDED DURING FINAL PLAN PHASE OF THE PROJECT.
4. ALL PROPOSED WORK OUTSIDE OF PERIMETER CONTROLS SHALL BE STABILIZED AT THE END OF EACH WORK DAY.
5. PROPOSED SILT FENCE IS TO BE CHANGED TO SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
6. ALL EARTH DIKES INTERRUPTED BY THE INSTALLATION OF STORM DRAINS ARE TO BE REPAIRED IMMEDIATELY - SAME DAY.
7. EITHER TEMPORARY OR PERMANENT SEEDING IS TO BE PERFORMED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR AT THE TIME FRAMES REQUIRED BY THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, WHICHEVER IS MORE RESTRICTIVE.
8. CONTRACTOR TO INSTALL SOIL STABILIZATION MATTING IN ALL SWALES AND ON ALL SLOPES 3:1 OR GREATER.
9. IF A STOCKPILE EXCEEDS 15 FEET IN HEIGHT, IT MUST BE BENCHED.
10. IF A UTILITY CROSSES A PHASING LINE, THAT SECTION OF PIPE OR STRUCTURE CANNOT BE INSTALLED UNTIL THE LATER PHASE.

### WILLOWSHIRE

46 SINGLE FAMILY DETACHED UNITS

### CUT/FILL ANALYSIS

TOTAL CUT = 135,814 CY  
 TOTAL FILL = 139,239 CY (15% SHRINKAGE FACTOR APPLIED)  
 TOTAL IMPORT = 3,225 CY  
 LIMIT OF DISTURBANCE = 65.42 AC.  
 PHASE I LOW: 19.50 AC.

### NOTES

1. ALL UNDERGROUND ROOF LEADERS WILL BE 6\"/>
2. ALL BIO-RETENTION FACILITIES LEADING TO THEIR OWN OUTFALL POINT WILL HAVE OUTFALL PIPES SIZED TO HANDLE THE 10-YR STORM EVENT.
3. STORMWATER QUALITY MANAGEMENT WILL BE PROVIDED BY 6 BIORETENTION, 4 MICRO-BIOPRETENTION, 1 SUBMERGED GRAVEL WETLANDS, FACILITIES AND 240 DRYWELLS.
4. HAZARD CLASS FOR ALL SWM FACILITIES IS "A" DUE TO NO LIFE LOSS FOR FAILURE.

**NOTE: ALL SEDIMENT BASINS MUST BE REMOVED A MAXIMUM OF THREE (3) YEARS FROM THE DATE OF HOWARD SCD SIGNATURE APPROVAL**

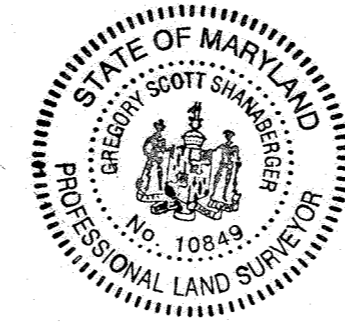
### EROSION AND SEDIMENT CONTROL LEGEND

- STABILIZED CONSTRUCTION ENTRANCE
- SILT FENCE
- DIVERSION DIKE
- SUPER SILT FENCE
- TREE PROTECTION FENCE
- STEEP SLOPES (15%-25%)
- STEEP SLOPES (>25%)
- SOIL DIVIDE
- SOIL LABEL
- RIPRAP STABILIZATION
- GABION INFLOW PROTECTION
- PUMP AROUND
- LIMIT OF WORK
- LIMIT OF DISTURBANCE
- SPECIMEN TREE (TO BE REMOVED)
- BAFFLE BOARD
- REMOVABLE PUMPING STATION
- CHECK DAM
- HIGH VISIBILITY ORANGE SAFETY FENCE
- TEMP. 6\"/>

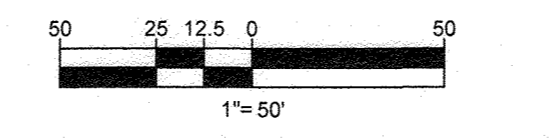
**NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET**

Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/19/2023  
 Signature of Engineer: Scott Shagaberger

**NOTE: ALL SEDIMENT BASINS MUST BE REMOVED A MAXIMUM OF THREE (3) YEARS FROM THE DATE OF HOWARD SCD SIGNATURE APPROVAL**



OWNERS:  
 PARCEL 36 TOLL MID ATLANTIC LP COMPANY INC.  
 250 GIBRAL TARR ROAD HORSHAM PA, 19044  
 PARCEL 34 TOLL MID ATLANTIC LP COMPANY INC.  
 250 GIBRAL TARR ROAD HORSHAM PA, 19044  
 PARCEL 112 TOLL MID ATLANTIC LP COMPANY INC.  
 250 GIBRAL TARR ROAD HORSHAM PA, 19044  
 PARCEL 111 DENNIS A LEAF LENOIRE D. SINES 2203 GREEN BRIDGE ROAD DAYTON, MD 21038  
 SUBDIVISION NAME: WILLOWSHIRE  
 SECTION AREA: N/A  
 DEED # 1136100222, 0018300554, 158840303894, 0588900490, 0434100270, & 0320100539  
 PREVIOUS FILE NO.: ECP-16-023 PB438  
 SP-17-002  
 WP-17105



MATCHLINE - SHEET 28

**APPROVED: DEPARTMENT OF PUBLIC WORKS**  
 Chief: Bureau of Highways  
 Date: 11/26/2019

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**  
 Chief: Division of Land Development  
 Date: 12-9-19

**DEVELOPER'S CERTIFICATE**  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONAL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 Signature of Developer: Jason Van Kirk  
 Date: 10-24-19

**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 Signature of Engineer: Brandon R. Rowe P.E.  
 Date: 10/24/19

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 Signature of District Director: [Signature]  
 Date: 10/30/19

**BOHLER ENGINEERING**  
 CORPORATE OFFICE: WARRINGTON, VA  
 OFFICES: ROANOK, VA; FORT LAUDERDALE, FL; WASHINGTON, VA; CHARLOTTE, NC; GREEN VALLEY, PA; ALBANY, NY; SOUTH BOROUGHS, MA; SOUTHWESTON, MD  
 PROJECT MANAGERS: ENVIRONMENTAL CONSULTANTS; LANDSCAPE ARCHITECTS  
 SURVEYORS; CIVIL & CONSULTING ENGINEERS

REVISIONS			
REV	DATE	COMMENT	BY

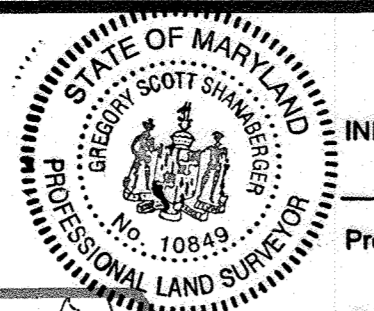
**APPROVED FOR CONSTRUCTION**  
 PROJECT NO.: MD142008  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD I.D.: OAZ

**WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL, C NON-BUILDABLE PRESERVATION PARCELS A, B, D, E - G & L - P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE: 5232 GREEN BRIDGE ROAD 5TH ELECTION DISTRICT TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7500  
 Fax: (410) 821-7597  
 www.BohlerEngineering.com

**B.P. ROWE**  
 PROFESSIONAL ENGINEER  
 MARYLAND LICENSE # 4699  
 PROFESSIONAL CERTIFICATION  
 I, BRANDON R. ROWE 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. 7866. EXPIRES 03/01/2025

**PHASE I EROSION AND SEDIMENT CONTROL PLAN**  
 SHEET NUMBER: 29 OF 92  
 SHEET TITLE:  
 DEVELOPER: GREEN BRIDGE FARM II, L.C.  
 5074 DORSEY HILL ROAD, SUITE 205  
 COLUMBIA, MD 21042  
 CONTACT: JASON VAN KIRK  
 PHONE: (410) 720-3021  
 TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
 PARCEL: 34, 36, 98, 111 & 112  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
 AS-BUILT DATE: 04/14/2023  
 G. Scott Shanaberger  
 Professional L.S. # 10849 Exp. Date 4/2/2024  
 SHANABERGER & LANE  
 INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: 5 SECOND SOKKIA IX 400 TOTAL STATION, TOPCON RG-5 RECEIVER, SOKKIA 300 PRISM

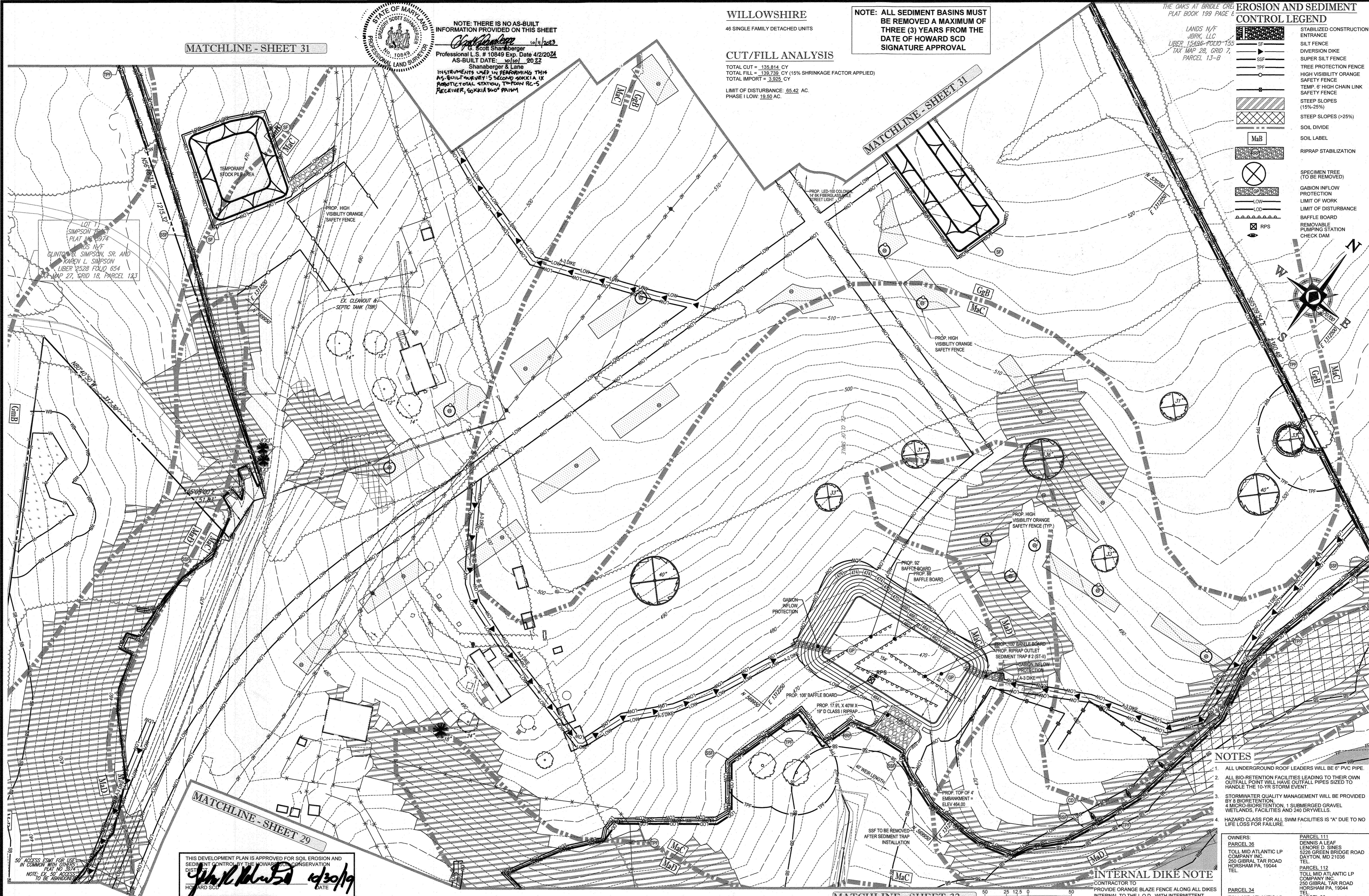
WILLOWSHIRE  
 48 SINGLE FAMILY DETACHED UNITS

**CUT/FILL ANALYSIS**  
 TOTAL CUT = 135,814 CY  
 TOTAL FILL = 139,739 CY (15% SHRINKAGE FACTOR APPLIED)  
 TOTAL IMPORT = 3,925 CY  
 LIMIT OF DISTURBANCE: 65.42 AC  
 PHASE I LOW: 19.80 AC

NOTE: ALL SEDIMENT BASINS MUST BE REMOVED A MAXIMUM OF THREE (3) YEARS FROM THE DATE OF HOWARD SCD SIGNATURE APPROVAL

EROSION AND SEDIMENT CONTROL LEGEND

- STABILIZED CONSTRUCTION
- ENTRANCE
- SLOPE PROTECTION
- SAFETY FENCE
- HIGH VISIBILITY ORANGE SAFETY FENCE
- TEMP. HIGH CHAIN LINK SAFETY FENCE
- STEEP SLOPES (15%-25%)
- STEEP SLOPES (>25%)
- SOIL DIVIDE
- SOIL LABEL
- RIPRAP STABILIZATION
- SPECIMEN TREE (TO BE REMOVED)
- GABION INFLOW PROTECTION
- LIMIT OF WORK
- BAFFLE BOARD
- REMOVABLE PUMPING STATION
- CHECK DAM



- NOTES**
- ALL UNDERGROUND ROOF LEADERS WILL BE 8" PVC PIPE
  - ALL BIO-RETENTION FACILITIES LEADING TO THEIR OWN OUTFALL POINT WILL HAVE OUTFALL PIPES SIZED TO HANDLE THE 10-YR STORM EVENT.
  - STORMWATER QUALITY MANAGEMENT WILL BE PROVIDED BY 2 BIORETENTION, 4 MICRO-BIORETENTION, 1 SUBMERGED GRAVEL WETLANDS, FACILITIES AND 240 DRYWELLS.
  - HAZARD CLASS FOR ALL SWM FACILITIES IS "A" DUE TO NO LIFE LOSS FOR FAILURE.

**DEVELOPER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 DATE: 12-9-19  
 SIGNATURE OF DEVELOPER: Jason Van Kirk

**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 DATE: 10/21/19  
 SIGNATURE OF ENGINEER: BRANDON R. ROWE P.E.

- EROSION AND SEDIMENT CONTROL NOTES**
- TEMPORARY DIVERSION DIKES SHALL HAVE A MIN. SLOPE OF 0.50%.
  - CONTRACTOR TO ACCOUNT FOR BASEMENT CUT BY LOWERING ELEVATIONS OF LOTS AS REQUIRED. GENERAL GRADING DESIGN SHOULD REMAIN THE SAME. LOTS SHOULD BE BROUGHT TO FINL GRADE AFTER SCD APPROVAL WHEN HOUSES ARE BUILT AND CUT IN BASEMENTS IS AVAILABLE.
  - SEQUENCE OF CONSTRUCTION, SEDIMENT CONTROL NOTES, AND SEDIMENT CONTROL DETAILS WILL BE PROVIDED DURING FINAL PLAN PHASE OF THE PROJECT.
  - ALL PROPOSED WORK OUTSIDE OF PERIMETER CONTROLS SHALL BE STABILIZED AT THE END OF EACH WORK DAY.
  - PROPOSED SILT FENCE IS TO BE CHANGED TO SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
  - ALL EARTHWORK INTERRUPTED BY THE INSTALLATION OF STORM DRAINS ARE TO BE REPAIRED IMMEDIATELY - SAME DAY.
  - SEEDING AND PERMANENT SEEDING IS TO BE PERFORMED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR AT THE TIME FRAMES REQUIRED BY THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, WHICHEVER IS MORE RESTRICTIVE.
  - CONTRACTOR TO INSTALL SOIL STABILIZATION MATTING IN ALL SWALES AND ON ALL SLOPES 3:1 OR GREATER.
  - IF A STUCCO EXCEEDS 15 FEET IN HEIGHT, IT MUST BE BENCHED.
  - IF A STUCCO EXCEEDS 15 FEET IN HEIGHT, THAT SECTION OF PIPE OR STRUCTURE CANNOT BE INSTALLED UNTIL THE LATER PHASE.

**INTERNAL DIKE NOTE**  
 CONTRACTOR TO PROVIDE ORANGE BLAZE FENCE ALONG ALL DIKES INTERNAL TO THE L.O.D., WITH INTERMITTENT MOUNTABLE BERMS WHERE NEEDED FOR CONSTRUCTION TRAFFIC.

A MAXIMUM OF 20 ACRES OF ACTIVE DISTURBANCE AREA WITH AN ADDITIONAL 10 ACRES OF RECENTLY STABILIZED OR TRANSITIONAL AREA IS PERMITTED, NO MORE THAN 30 ACRES, CUMULATIVELY, MAY BE DISTURBED AT ANY GIVEN TIME.

HOUSES CANNOT BE CONSTRUCTED USING THESE PLANS.

SUBDIVISION NAME: WILLOWSHIRE	PREVIOUS FILE NO.:
SECTION/AREA: N/A	ECP-16-023 PB436
DEED #: 1130100222, 0010300554, 15884003894, 05889004590, 04341002270, & 0320100539	SP-17-002 WP-17105

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
 PARCEL: 34, 36, 98, 111 & 112  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 DATE: 11/26/2019  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 DATE: 2/6/2020  
 12-9-19

**BOHLER ENGINEERING**

CORPORATE OFFICE: WARRICK, IN  
 SURVEYORS: WARRICK, IN; SOUTH BEND, IN  
 PROJECT MANAGERS: ALABAMA, AL; ARIZONA, AZ; ARKANSAS, AR; CALIFORNIA, CA; COLORADO, CO; CONNECTICUT, CT; DELAWARE, DE; DISTRICT OF COLUMBIA, DC; FLORIDA, FL; GEORGIA, GA; ILLINOIS, IL; IOWA, IA; KANSAS, KS; KENTUCKY, KY; LOUISIANA, LA; MARYLAND, MD; MASSACHUSETTS, MA; MICHIGAN, MI; MINNESOTA, MN; MISSISSIPPI, MS; MISSOURI, MO; MONTANA, MT; NEBRASKA, NE; NEVADA, NV; NEW HAMPSHIRE, NH; NEW JERSEY, NJ; NEW YORK, NY; NORTH CAROLINA, NC; NORTH DAKOTA, ND; OHIO, OH; OKLAHOMA, OK; OREGON, OR; PENNSYLVANIA, PA; RHODE ISLAND, RI; SOUTH CAROLINA, SC; TEXAS, TX; UTAH, UT; VERMONT, VT; VIRGINIA, VA; WASHINGTON, WA; WEST VIRGINIA, WV; WISCONSIN, WI; WYOMING, WY.

REV	DATE	COMMENT	BY

**APPROVED FOR CONSTRUCTION**

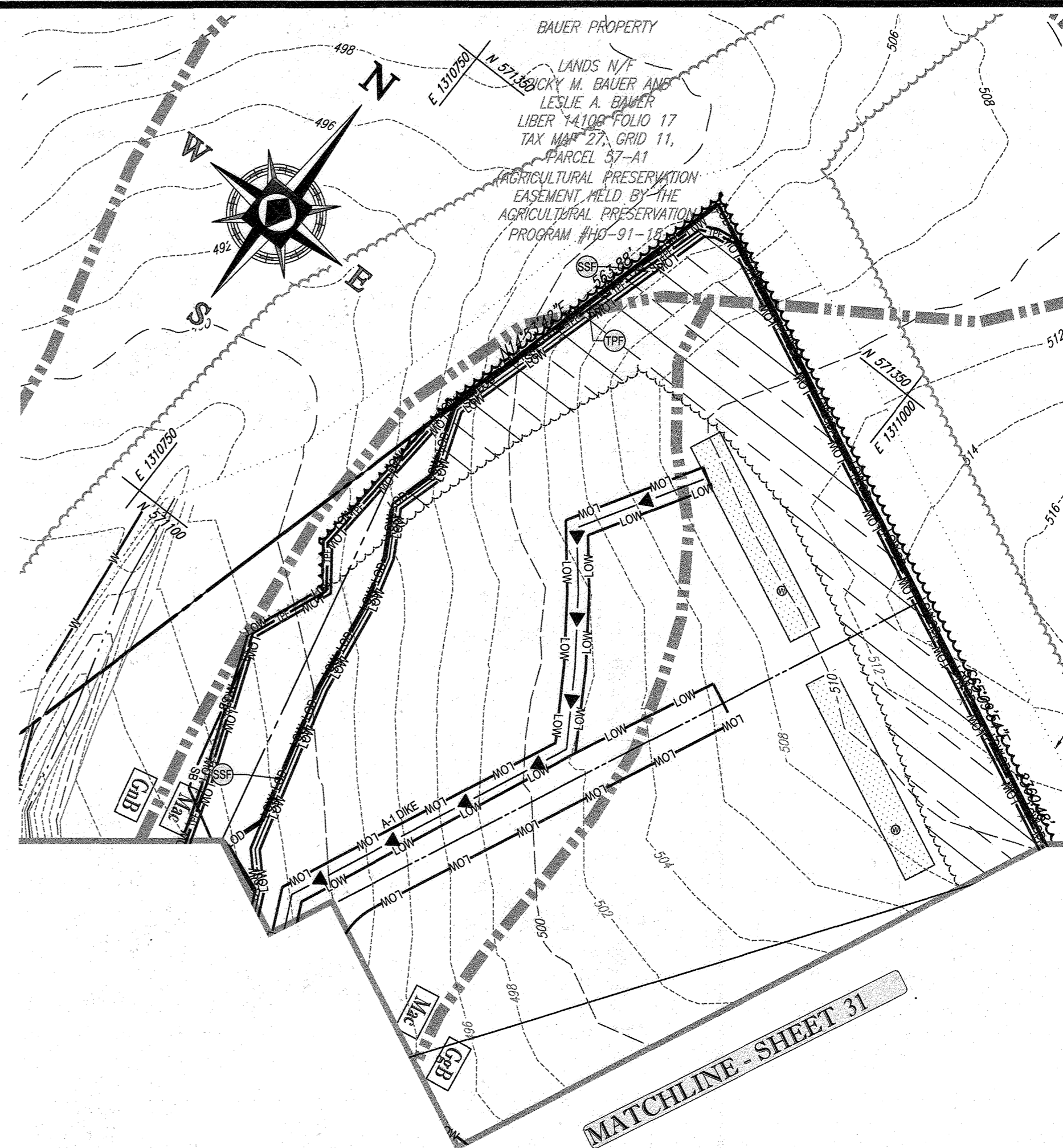
PROJECT NO: MD142668  
 DRAWN BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD I.D.: OLS

**FINAL ROAD CONSTRUCTION PLAN**  
 FOR  
**WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C  
 NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, P &  
 NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7600  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B. ROWE**  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 13068  
 I BRANSON ROWE 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. 13068, EXP. DATE 12/31/2021.

SHEET TITLE:  
**PHASE I EROSION AND SEDIMENT CONTROL PLAN**  
 SHEET NUMBER:  
**30 OF 92**



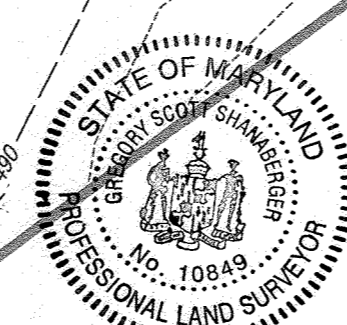
EROSION AND SEDIMENT CONTROL LEGEND

- STABILIZED CONSTRUCTION ENTRANCE
- SILT FENCE
- DIVERSION DIKE
- SUPER SILT FENCE
- TREE PROTECTION FENCE
- STEEP SLOPES (15%-25%)
- STEEP SLOPES (>25%)
- SOIL DIVIDE
- SOIL LABEL
- RIPRAP STABILIZATION
- SPECIMEN TREE (TO BE REMOVED)
- GABION INFLOW PROTECTION
- LIMIT OF WORK
- LIMIT OF DISTURBANCE
- BAFFLE BOARD
- REMOVABLE PUMPING STATION
- CHECK DAM
- HIGH VISIBILITY ORANGE SAFETY FENCE
- TEMP. 6' HIGH CHAIN LINK SAFETY FENCE

NOTE: ALL SEDIMENT BASINS MUST BE REMOVED A MAXIMUM OF THREE (3) YEARS FROM THE DATE OF HOWARD SCD SIGNATURE APPROVAL

MATCHLINE - SHEET 30

NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
Scott Shanaberger 10/11/2023  
Professional L.S. # 10849 Exp. Date 4/2/2024  
AS-BUILT DATE: 10/11/2023  
Shanaberger & Lano  
INSTRUMENTS USED IN PREPARING THIS AS-BUILT SURVEY: SENSITIVE ELECTRONIC TOTAL STATION, TOPCON RC-5 RECEIVER, SOKKIA SP07 PRISM



ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
SIGNATURE OF ENGINEER: BRANDON R. ROWE P.E.  
DATE: 10/21/19

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
HOWARD SCD  
John K. Roberts 10/30/19

DEVELOPER'S CERTIFICATE

I WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONAL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
SIGNATURE OF DEVELOPER: Jason Van Kirk  
DATE: 10-24-19

APPROVED: DEPARTMENT OF PUBLIC WORKS  
4/26/2019  
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
2/26/2020  
12-9-19

EROSION AND SEDIMENT CONTROL NOTES

- TEMPORARY DIVERSION DIKES SHALL HAVE A MIN. SLOPE OF 0.50%.
- CONTRACTOR TO ACCOUNT FOR BASEMENT CUT BY LOWERING ELEVATIONS OF LOTS AS REQUIRED. GENERAL GRADING DESIGN SHOULD REMAIN THE SAME. LOTS SHOULD BE BROUGHT TO FINAL GRADE AFTER SCD APPROVAL WHEN HOUSES ARE BUILT AND CUT IN BASEMENTS IS AVAILABLE.
- SEQUENCE OF CONSTRUCTION, SEDIMENT CONTROL NOTES, AND SEDIMENT CONTROL DETAILS WILL BE PROVIDED DURING FINAL PLAN PHASE OF THE PROJECT.
- ALL PROPOSED WORK OUTSIDE OF PERIMETER CONTROLS SHALL BE STABILIZED AT THE END OF EACH WORK DAY.
- PROPOSED SILT FENCE IS TO BE CHANGED TO SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
- ALL EARTH DIKES INTERRUPTED BY THE INSTALLATION OF STORM DRAINS ARE TO BE REPAIRED IMMEDIATELY - SAME DAY.
- EITHER TEMPORARY OR PERMANENT SEEDING IS TO BE PERFORMED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR AT THE TIME FRAMES REQUIRING BY THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, WHICHEVER IS MORE RESTRICTIVE.
- CONTRACTOR TO INSTALL SOIL STABILIZATION MATTING IN ALL SWALES AND ON ALL SLOPES 3:1 OR GREATER.
- IF A STOCKPILE EXCEEDS 15 FEET IN HEIGHT, IT MUST BE BENCHED.
- IF A UTILITY CROSSES A PHASING LINE, THAT SECTION OF PIPE OR STRUCTURE CANNOT BE INSTALLED UNTIL THE LATER PHASE.

WILLOWSHIRE

46 SINGLE FAMILY DETACHED UNITS

CUT/FILL ANALYSIS

TOTAL CUT = 135,814 CY  
TOTAL FILL = 139,735 CY (15% SHRINKAGE FACTOR APPLIED)  
TOTAL IMPORT = 3,921 CY  
LIMIT OF DISTURBANCE: 65.42 AC.  
PHASE I LOW: 19.93 AC.

NOTES

- ALL UNDERGROUND ROOF LEADERS WILL BE 6" PVC PIPE.
- ALL BIO-RETENTION FACILITIES LEADING TO THEIR OWN OUTFALL POINT WILL HAVE OUTFALL PIPES SIZED TO HANDLE THE 10-YR STORM EVENT.
- STORMWATER QUALITY MANAGEMENT WILL BE PROVIDED BY 3 BIORETENTION, 1 SUBMERGED GRAVEL WETLANDS, FACILITIES AND 240 DRYWELLS.
- HAZARD CLASS FOR ALL SWM FACILITIES IS "A" DUE TO NO LIFE LOSS FOR FAILURE.

INTERNAL DIKE NOTE

CONTRACTOR TO PROVIDE ORANGE BLAZE FENCE ALONG ALL DIKES INTERNAL TO THE L.O.D. WITH INTERMITTENT MOUNTABLE BERMS WHERE NEEDED FOR CONSTRUCTION TRAFFIC.

A MAXIMUM OF 20 ACRES OF ACTIVE DISTURBANCE AREA WITH AN ADDITIONAL 10 ACRES OF RECENTLY STABILIZED OR TRANSITIONAL AREA IS PERMITTED, NO MORE THAN 30 ACRES, CUMULATIVELY, MAY BE DISTURBED AT ANY GIVEN TIME.  
HOUSES CANNOT BE CONSTRUCTED USING THESE PLANS.

SUBDIVISION NAME: WILLOWSHIRE  
SECTION/AREA: N/A  
DEED # 1136100222 0016300554  
15884003894 0588800490  
0434100270, & 0320100539  
PREVIOUS FILE NO.:  
ECP-16-023 P8436  
SP-17-002  
WP-17103  
TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
PARCEL: 34, 36, 98, 111, & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

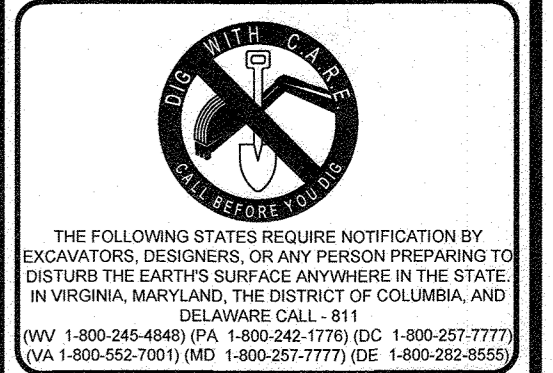
CIVIL & CONSULTING ENGINEERS  
WARREN NJ

OFFICES:  
 SCOTSDALE, OH  
 ALBANY, NY  
 CHICAGO, IL  
 CHICAGO, PA  
 GAITHERSBURG, MD  
 FORT LAUDERDALE, FL  
 FORT WASHINGTON, PA

SERVICES:  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

REVISIONS

REV	DATE	COMMENT	BY



APPROVED FOR CONSTRUCTION

PROJECT No: MD142003  
DRAWN BY: BRB  
CHECKED BY: BRR  
DATE: 08/26/19  
SCALE: 1" = 50'  
CAP I.D.: QA3

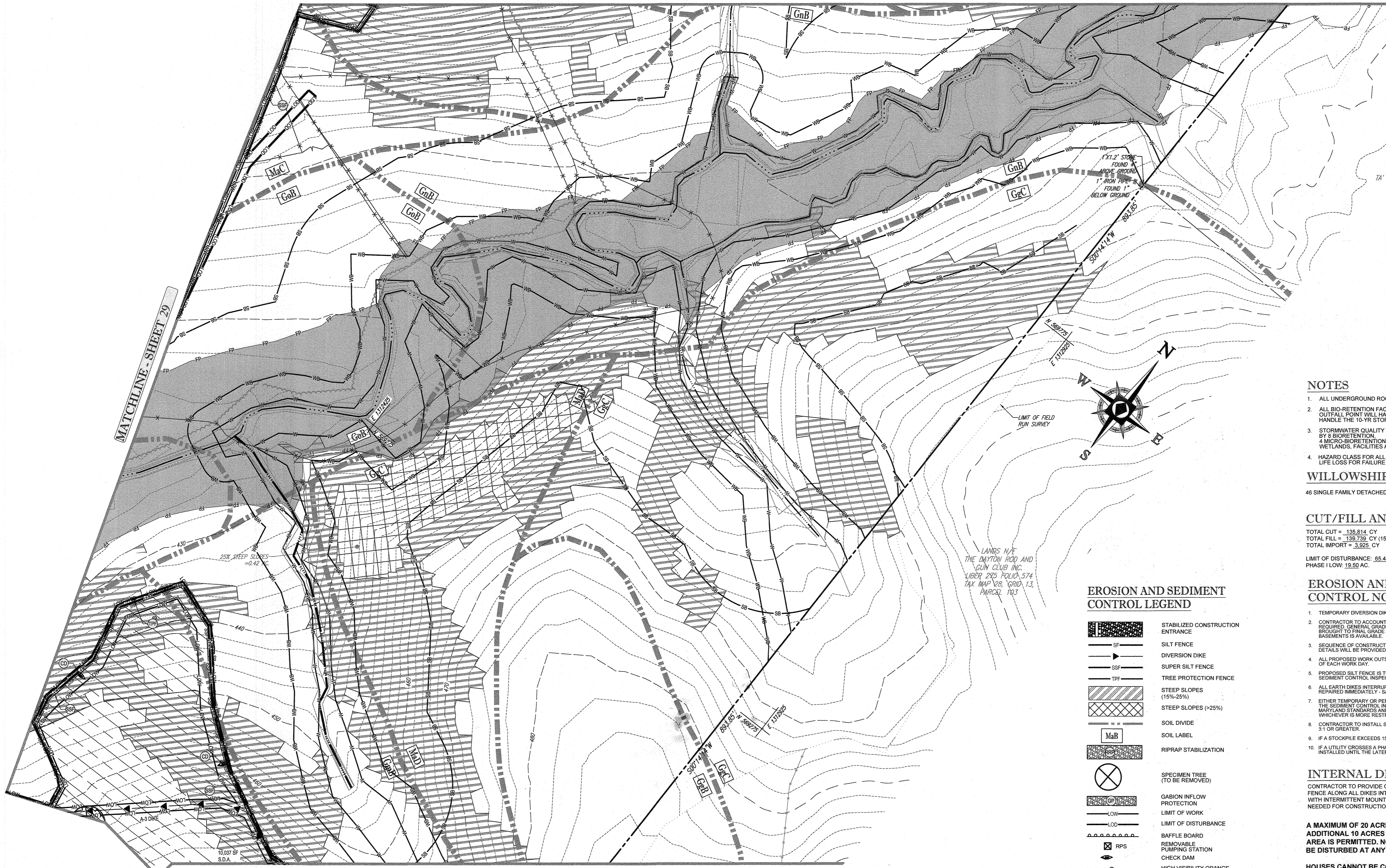
PROJECT:  
**FINAL ROAD CONSTRUCTION PLAN**  
FOR  
**WILLOWSHIRE**  
LOTS 1-45, BUILDABLE PRESERVATION PARCEL, C NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & I, P & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

801 DULANEY VALLEY ROAD,  
SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7600  
Fax: (410) 821-7987  
www.BohlerEngineering.com

**B.R. ROWE**  
PROFESSIONAL ENGINEER  
M.D. 10849  
PROFESSIONAL CERTIFICATION  
I, BRANDON R. ROWE, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR SUPERVISED BY ME AND THAT I AM A QUALIFIED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 10849, EXPIRES DATE: 7/30/21

SHEET TITLE:  
**PHASE I EROSION AND SEDIMENT CONTROL PLAN**  
SHEET NUMBER:  
**31 OF 92**



**BOHLER ENGINEERING**

CORPORATE OFFICE: WARREN, NJ

OFFICES:

- PROVIDENCE, RI
- ALBANY, NY
- CHICAGO, IL
- CINCINNATI, OH
- DAYTON, OH
- GREENSBORO, NC
- INDIANAPOLIS, IN
- PHILADELPHIA, PA
- STERLING, VA
- TOWSON, MD
- WASHINGTON, DC
- WILMINGTON, DE

CIVIL & CONSULTING ENGINEERS

SURVEYORS

PROJECT MANAGERS

ENVIRONMENTAL CONSULTANTS

LANDSCAPE ARCHITECTS

**REVISIONS**

REV	DATE	COMMENT	BY

**APPROVED FOR CONSTRUCTION**

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL:

MD 1-800-245-4545 (PA 1-800-245-1776) DC 1-800-257-7777 VA 1-800-552-7001 (MD 1-800-427-7777) DE 1-800-292-2655

**NOTES**

- ALL UNDERGROUND ROOF LEADERS WILL BE 6" PVC PIPE.
- ALL BIO-RETENTION FACILITIES LEADING TO THEIR OWN OUTFALL POINT WILL HAVE OUTFALL PIPES SIZED TO HANDLE THE 10-YR STORM EVENT.
- STORMWATER QUALITY MANAGEMENT WILL BE PROVIDED BY 3 BIO-RETENTION, 1 SUBMERGED GRAVEL WETLANDS, FACILITIES AND 240 DRYWELLS.
- HAZARD CLASS FOR ALL SWM FACILITIES IS "A" DUE TO NO LIFE LOSS FOR FAILURE.

**WILLOWSHIRE**

46 SINGLE FAMILY DETACHED UNITS

**CUT/FILL ANALYSIS**

TOTAL CUT = 135,814 CY  
 TOTAL FILL = 139,739 CY (15% SHRINKAGE FACTOR APPLIED)  
 TOTAL IMPORT = 3,925 CY

LIMIT OF DISTURBANCE: 65.42 AC.  
 PHASE I LOW: 19.50 AC.

**EROSION AND SEDIMENT CONTROL NOTES**

- TEMPORARY DIVERSION DIKES SHALL HAVE A MIN. SLOPE OF 0.50%.
- CONTRACTOR TO ACCOUNT FOR BASEMENT CUT BY LOWERING ELEVATIONS OF LOTS AS REQUIRED. GENERAL GRADING DESIGN SHOULD REMAIN THE SAME. LOTS SHOULD BE BROUGHT TO FINAL GRADE AFTER SDP APPROVAL WHEN HOUSES ARE BUILT AND CUT IN BASEMENTS IS AVAILABLE.
- SEQUENCE OF CONSTRUCTION, SEDIMENT CONTROL, NOTES, AND SEDIMENT CONTROL DETAILS WILL BE PROVIDED DURING FINAL PLAN PHASE OF THE PROJECT.
- ALL PROPOSED WORK OUTSIDE OF PERIMETER CONTROLS SHALL BE STABILIZED AT THE END OF EACH WORK DAY.
- PROPOSED SILT FENCE IS TO BE CHANGED TO SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
- ALL EARTH DIKES INTERRUPTED BY THE INSTALLATION OF STORM GRAINS ARE TO BE REPAIRED IMMEDIATELY - SAME DAY.
- EITHER TEMPORARY OR PERMANENT SEEDING IS TO BE PERFORMED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR AT THE TIME FRAMES REQUIRED BY THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, WHICHEVER IS MORE RESTRICTIVE.
- CONTRACTOR TO INSTALL SOIL STABILIZATION MATTING IN ALL SWALES AND ON ALL SLOPES 3:1 OR GREATER.
- IF A STOCKPILE EXCEEDS 15 FEET IN HEIGHT, IT MUST BE BENCHED.
- IF A UTILITY CROSSES A PHASING LINE, THAT SECTION OF PIPE OR STRUCTURE CANNOT BE INSTALLED UNTIL THE LATER PHASE.

**EROSION AND SEDIMENT CONTROL LEGEND**

- STABILIZED CONSTRUCTION ENTRANCE
- SILT FENCE
- DIVERSION DIKE
- SUPER SILT FENCE
- TREE PROTECTION FENCE
- STEEP SLOPES (15%-25%)
- STEEP SLOPES (>25%)
- SOIL DIVIDE
- SOIL LABEL
- RIPRAP STABILIZATION
- SPECIMEN TREE (TO BE REMOVED)
- GABION INFLOW PROTECTION
- LIMIT OF WORK
- LIMIT OF DISTURBANCE
- BAFFLE BOARD
- REMOVABLE PUMPING STATION
- CHECK DAM
- HIGH VISIBILITY ORANGE SAFETY FENCE
- TEMP. HIGH CHAIN LINK SAFETY FENCE

**INTERNAL DIKE NOTE**

CONTRACTOR TO PROVIDE ORANGE BLAZE FENCE ALONG ALL DIKES INTERNAL TO THE L.O.D. WITH INTERMITTENT MOUNTABLE BERMS WHERE NEEDED FOR CONSTRUCTION TRAFFIC.

A MAXIMUM OF 20 ACRES OF ACTIVE DISTURBANCE AREA WITH AN ADDITIONAL 10 ACRES OF RECENTLY STABILIZED OR TRANSITIONAL AREA IS PERMITTED. NO MORE THAN 30 ACRES, CUMULATIVELY, MAY BE DISTURBED AT ANY GIVEN TIME.

HOUSES CANNOT BE CONSTRUCTED USING THESE PLANS.

**NOTE: ALL SEDIMENT BASINS MUST BE REMOVED A MAXIMUM OF THREE (3) YEARS FROM THE DATE OF HOWARD SCD SIGNATURE APPROVAL**

APPROVED: DEPARTMENT OF PUBLIC WORKS

CHIEF, BUREAU OF HIGHWAYS

DATE: 11/26/2019

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DIVISION OF LAND DEVELOPMENT

DATE: 12-9-19

**DEVELOPER'S CERTIFICATE**

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

SIGNATURE OF DEVELOPER: Jason Van Kise

DATE: 10-24-19

**ENGINEER'S CERTIFICATE**

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

SIGNATURE OF ENGINEER: Brandon R. Rowe P.E.

DATE: 10/21/19

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

SIGNATURE: John K. Roberts

DATE: 10/30/19

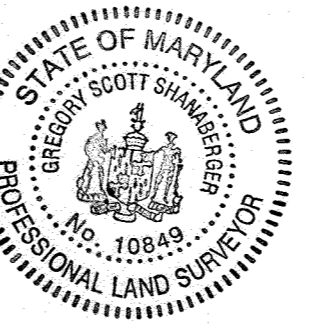
**NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET**

Professional L.S. # 10849 Exp. Date 4/2/2024

AS-BUILT DATE: 10/10/2023

Shanberger & Lane

INSTRUMENTS USED IN PREPARING THIS AS-BUILT SURVEY: 5 SECOND SOKKIA IX ROBOTIC TOTAL STATION, TOPCON PC-5 RECEIVER, SOKKIA 300 PRISM



OWNERS:	PARCEL 34	PARCEL 112
TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAY ROAD HORSHAM PA, 19044	TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAY ROAD HORSHAM PA, 19044	TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAY ROAD HORSHAM PA, 19044
TEL: 610-261-1111	TEL: 610-261-1111	TEL: 610-261-1111
FAX: 610-261-1112	FAX: 610-261-1112	FAX: 610-261-1112
DEVELOPER: <td>GREEN BRIDGE FARM II, L.C. <td>5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTACT: JASON VAN KIRK PHONE: (410) 720-3021</td> </td>	GREEN BRIDGE FARM II, L.C. <td>5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTACT: JASON VAN KIRK PHONE: (410) 720-3021</td>	5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTACT: JASON VAN KIRK PHONE: (410) 720-3021

TAX MAP:	GRID:	SECTION:	DEED:
27	18	11D	RR-DEO
PARCEL: 34, 36, 98, 111 & 112			
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND			

**APPROVED FOR CONSTRUCTION**

PROJECT No.: MD142046

DRAWN BY: AVG

CHECKED BY: BRR

DATE: 08/26/19

SCALE: 1" = 50'

CAD I.D.: Q83

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & I - F & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE

5232 GREEN BRIDGE ROAD

5TH ELECTION DISTRICT

TAX MAP 27, GRID 18,

PARCELS 34, 36, 98, 111, & 112

HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD, SUITE 801

TOWSON, MARYLAND 21204

Phone: (410) 821-7900

Fax: (410) 821-7987

www.BohlerEngineering.com

**B.B. ROWE**

PROFESSIONAL ENGINEER

HOWARD COUNTY, MARYLAND

PROFESSIONAL CERTIFICATE

I, BRADLEY ROWE, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR SUPERVISED BY ME, AND THAT I AM A QUALIFIED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 79688, EXPIRES DATE: 7/30/2021

SHEET TITLE:

**PHASE I EROSION AND SEDIMENT CONTROL PLAN**

SHEET NUMBER:

**32 OF 92**



STANDARD DRAWING LEGEND		
FOR ENTIRE PLAN SET (NOT TO SCALE)		
EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
---	ONSITE PROPERTY LINE / R.O.W. LINE	---
---	NEIGHBORING PROPERTY LINE / INTERIOR PARCEL LINE	---
---	EASEMENT LINE	---
---	SETBACK LINE	---
---	CONCRETE CURB & GUTTER	---
---		DEPRESSED CURB AND GUTTER
○	TYPICAL LIGHT	○
▽	TYPICAL SIGN	▽
○	HYDRANT	○
○	SANITARY MANHOLE	○
○	SANITARY TERMINAL	○
○	STORM MANHOLE	○
○	WATER VALVE	○
▽	TYPICAL END SECTION	▽
○	CLEAN OUT	○
---	EXISTING NOTE	---
---	TYPICAL NOTE TEXT	---
---	YARD/OVERFLOW INLET	---
---	SEPTIC DISPOSAL AREA	---
---	WETLAND BUFFER	---
---	STREAM BUFFER	---
---	TREELINE	---
---	PERENNIAL STREAM	---
---	INTERMITTENT STREAM	---
---	BIORETENTION FACILITY / SUBMERGED GRAVEL WETLAND	---
---	WELL AREA	---
---	LIMIT OF FIELD RUN SURVEY	---

SOILS TABLE						
SOILS NAME	SOILS DESCRIPTION	HYDROLOGIC SOILS GROUP	HIGHLY ERODIBLE SOIL	K FACTOR	AREA - AC.	
Cc	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	NO	0.32	3.88	
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.28	16.53	
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	11.63	
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	YES	0.43	9.42	
GnB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	9.49	
GcB	GLENVILLE-CODORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	4.16	
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	35.66	
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	NO	0.28	9.09	

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

Signature of Engineer: *Brandon R. Rowe* DATE: 10/24/19

**DEVELOPER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONAL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

Signature of Developer: *Jason Van Kirk* DATE: 10-24-19

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

Signature of Howard County: *John L. Roberts* DATE: 10/25/19

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 Signature: *June* DATE: 11/26/2019  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 Signature: *John* DATE: 2/26/2020  
 CHIEF, DIVISION OF LAND DEVELOPMENT

Signature: *John* DATE: 12-9-19  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION



EROSION AND SEDIMENT CONTROL LEGEND	
[Symbol]	STABILIZED CONSTRUCTION ENTRANCE
[Symbol]	SILT FENCE
[Symbol]	DIVERSION DIKE
[Symbol]	SUPER SILT FENCE
[Symbol]	TREE PROTECTION FENCE
[Symbol]	STEEP SLOPES (15%-25%)
[Symbol]	STEEP SLOPES (>25%)
[Symbol]	SOIL DIVIDE
[Symbol]	SOIL LABEL
[Symbol]	RIPPRAP STABILIZATION
[Symbol]	SPECIMEN TREE (TO BE REMOVED)
[Symbol]	GABION INFLOW PROTECTION
[Symbol]	LIMIT OF WORK
[Symbol]	LIMIT OF DISTURBANCE
[Symbol]	BAFFLE BOARD
[Symbol]	REMOVABLE PUMPING STATION
[Symbol]	CHECK DAM
[Symbol]	DRAINAGE AREA LINE

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
 WARREN, NJ

OFFICES:  
 BOSTON, MA  
 CHICAGO, IL  
 COLUMBIA, MD  
 FORT LAUDERDALE, FL  
 HANOVER, PA  
 PHILADELPHIA, PA

CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

REVISIONS			
REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL:

(VA) 1-800-245-4646 (PA) 1-800-242-1776 (DC) 1-800-257-7777 (VA) 1-800-652-7071 (MD) 1-800-257-7777 (DE) 1-800-362-8669

**APPROVED FOR CONSTRUCTION**

PROJECT No.: MD142048  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 200'  
 CAD ID: QA3

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E - G & L - P & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B.B. ROWE**

PROFESSIONAL ENGINEER  
 LICENSE NO. 792021  
 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. 7668, EXPIRATION DATE: 7/30/21

SHEET TITLE:  
**PHASE I EROSION AND SEDIMENT CONTROL DRAINAGE AREAS**

SHEET NUMBER:  
**33 OF 92**

OWNERS: PARCEL 36 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAR ROAD HORSHAM PA, 19044	PARCEL 34 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAR ROAD HORSHAM PA, 19044	PARCEL 112 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAR ROAD HORSHAM PA, 19044
PARCEL 111 DENNIS A LEAF LENORE D SINES 5225 GREEN BRIDGE ROAD DAYTON, MD 21036	PARCEL 98 JERRY MAJCK JANET BURKE JIT 5224 GREEN BRIDGE ROAD DAYTON, MD 21036	
SUBDIVISION NAME: WILLOWSHIRE SECTION AREA: N/A DEED # 1136100222, 0018300554, 15884002884, 0588900490, 0434100270, & 0320100559	PREVIOUS FILE NO.: ECP-16-023 PB436 SP-17-002 WP-17105	TAX MAP: 27 GRID 18 ZONED: RR-DEO PARCEL: 34, 36, 98, 111 & 112 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

*Scott Shanberger* 10/11/2022  
 Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/11/2022  
 Shanberger & Lane  
 INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: 5 SECOND ANGLE 1X ROBOTIC TOTAL STATION, TRIPOLI PC-5 RECEIVER, SOKKIA 300P PRISM

NOTE: ALL SEDIMENT BASINS MUST BE REMOVED A MAXIMUM OF THREE (3) YEARS FROM THE DATE OF HOWARD SCD SIGNATURE APPROVAL

### STANDARD DRAWING LEGEND

FOR ENTIRE PLAN SET (NOT TO SCALE)

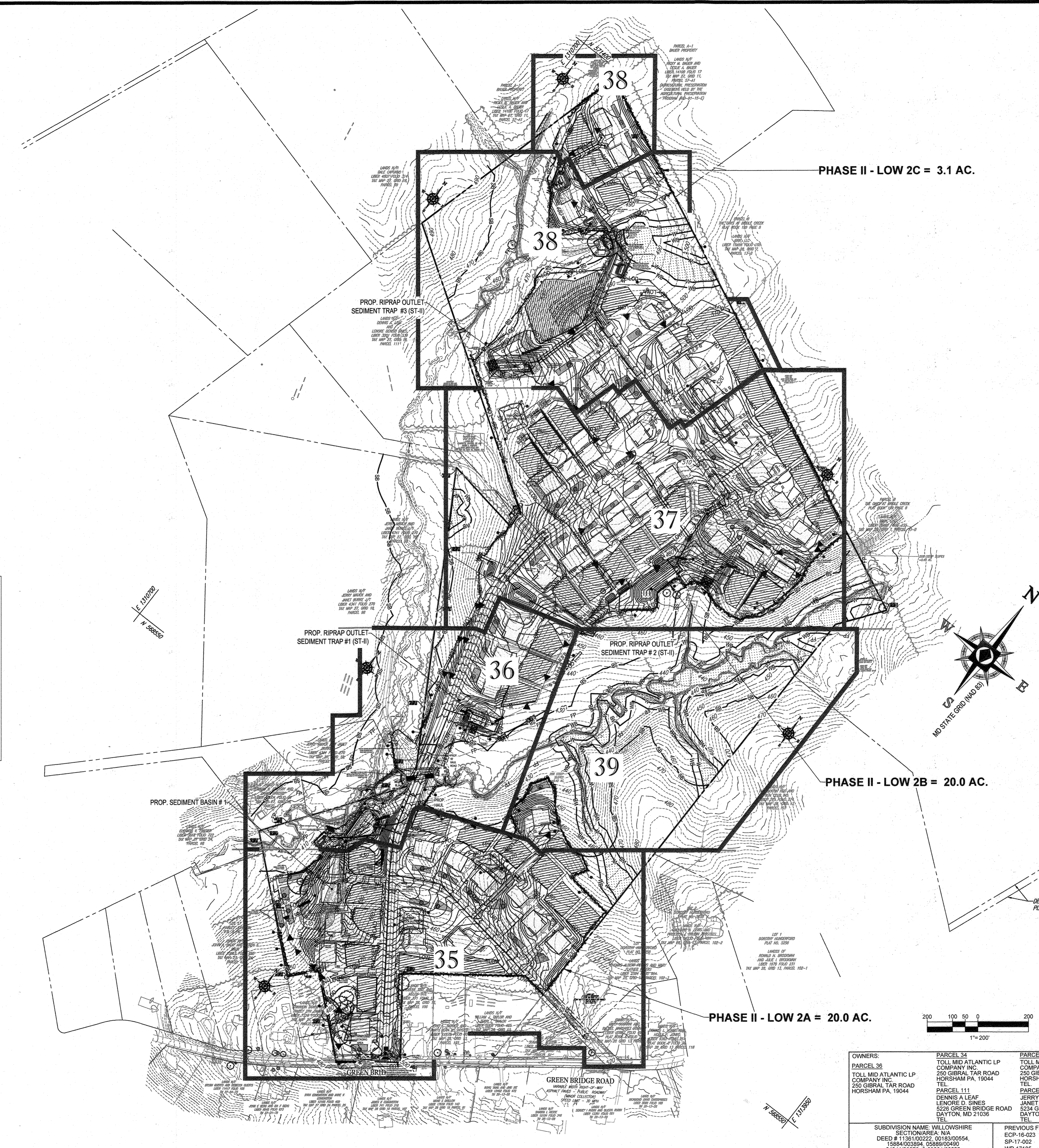
EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
	ONSITE PROPERTY LINE / P.O.W. LINE	---
	NEIGHBORING PROPERTY LINE / INTERIOR PARCEL LINE	---
	EASEMENT LINE	---
	SETBACK LINE	---
	CONCRETE CURB & GUTTER	CURB AND GUTTER
		DEPRESSED CURB AND GUTTER
	TYPICAL LIGHT	⊙
	TYPICAL SIGN	⊚
	HYDRANT	⊕
	SANITARY MANHOLE	⊙
	SANITARY TERMINAL	⊙
	STORM MANHOLE	⊙
	WATER VALVE	⊙
	TYPICAL END SECTION	⊚
	CLEAN OUT	⊙
	EXISTING NOTE	TYPICAL NOTE TEXT
	YARD/OVERFLOW INLET	⊚
	SEPTIC DISPOSAL AREA	PRIVATE SHARED
	WETLAND BUFFER	WB
	STREAM BUFFER	WB
	TREELINE	-----
	PERENNIAL STREAM	-----
	INTERMITTENT STREAM	-----
	BIORETENTION FACILITY / SUBMERGED GRAVEL WETLAND	⊚
	WELL AREA	⊙
	LIMIT OF FIELD RUN SURVEY	-----

SOILS NAME	SOILS DESCRIPTION	HYDROLOGIC SOILS GROUP	HIGHLY ERODIBLE SOIL	K FACTOR	AREA - AC.
Cc	CODORUS AND HARBOR SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	NO	0.32	3.88
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.28	16.53
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	11.63
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	YES	0.43	9.42
GnB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	9.49
Gob	GLENVILLE-CODORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	4.16
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	35.66
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	NO	0.28	9.09

**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT I WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF ENGINEER: BRANDON R. ROWE P.E. DATE: 10/11/19

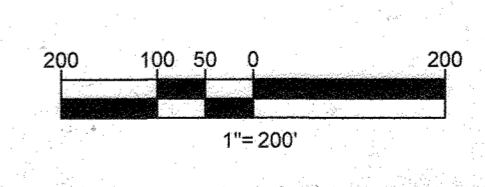
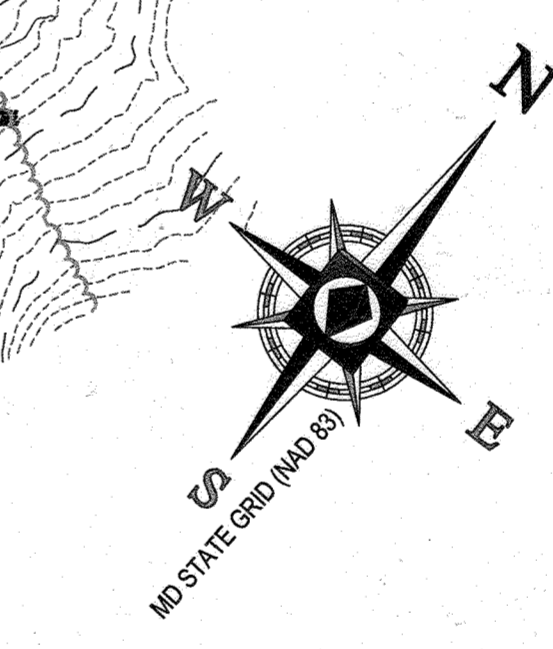
**DEVELOPER'S CERTIFICATE**  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONS INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF DEVELOPER: Jason Van Kirk DATE: 10-24-19

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL, THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 APPROVED: DEPARTMENT OF PUBLIC WORKS DATE: 11/26/2019  
 CHIEF, BUREAU OF HIGHWAYS  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING DATE: 2/6/2020  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 APPROVED: DEPARTMENT OF PUBLIC WORKS DATE: 12-9-19  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION



**LEGEND:**

[Symbol]	STABILIZED CONSTRUCTION ENTRANCE
[Symbol]	SILT FENCE
[Symbol]	DIVERSION DIKE
[Symbol]	SUPER SILT FENCE
[Symbol]	TREE PROTECTION FENCE
[Symbol]	STEEP SLOPES (15%-25%)
[Symbol]	STEEP SLOPES (>25%)
[Symbol]	LIMIT OF WORK
[Symbol]	LIMIT OF DISTURBANCE
[Symbol]	BAFFLE BOARD



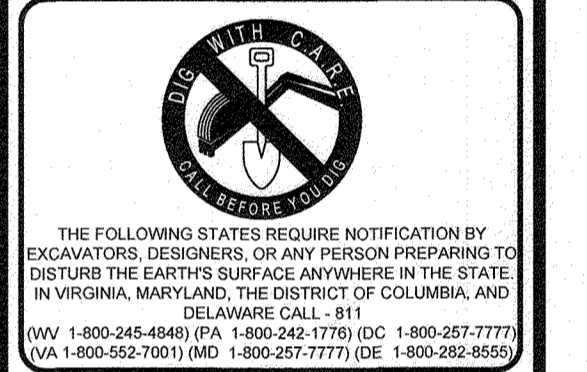
**REVISIONS**

REV	DATE	COMMENT	BY

**BOHLER ENGINEERING**  
 CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

CORPORATE OFFICE:  
 WARRREN, NJ

OFFICES:  
 BOSTON, MA  
 ALBANY, NY  
 CHAMONT, PA  
 CENTER VALLEY, PA  
 COLLEGE PARK, MD  
 FORT LAUDERDALE, FL  
 PHILADELPHIA, PA



**APPROVED FOR CONSTRUCTION**

PROJECT NO.: MD142048  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1\"/>

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE:  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21204  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 BRANDON R. ROWE, LICENSE NO. 10849  
 REGISTERED PROFESSIONAL ENGINEER  
 LICENSED UNDER THE STATE OF MARYLAND  
 LICENSE NO. 7608, EXPIRATION DATE: 7/30/21

NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET.  
 Signature of G. Scott Shanberger, dated 10/11/2019.  
 Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/11/2019  
 Shanberger & Lano  
 INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: SECOND SOURCE LX ROBOTIC TOTAL STATION, TOPCON AC-S 9S RECEIVER, SOKKIA SCO P1314

NOTE: ALL SEDIMENT BASINS MUST BE REMOVED A MAXIMUM OF THREE (3) YEARS FROM THE DATE OF HOWARD SCD SIGNATURE APPROVAL.

DEVELOPER: GREEN BRIDGE FARM II, L.C.  
 5074 DORSEY HALL ROAD, SUITE 205  
 COLUMBIA, MD 21042  
 CONTACT: JASON VAN KIRK  
 PHONE: (410) 720-3021

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
 PARCEL: 34, 36, 98, 111 & 112  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**OVERALL PHASE II EROSION AND SEDIMENT CONTROL PLAN**  
 SHEET NUMBER: 34 OF 92

**EROSION AND SEDIMENT CONTROL LEGEND**

- STABILIZED CONSTRUCTION ENTRANCE
- TREE PROTECTION FENCE
- STEEP SLOPES (15%-25%)
- STEEP SLOPES (>25%)
- SOIL DIVIDE
- SOIL LABEL
- AT GRADE INLET PROTECTION
- SIFT/FENCE INLET PROTECTION TYPE 'A' OR 'B'
- CURB INLET PROTECTION
- RIPRAP STABILIZATION
- SPECIMEN TREE (TO BE REMOVED)
- GEOTEXTILE STABILIZATION MATTING
- AREAS OF SAME DAY STABILIZATION
- LIMIT OF DISTURBANCE
- LIMIT OF WORK
- SILT FENCE
- A-2 EARTH DIKE
- SUPER SILT FENCE
- TREE PROTECTION FENCE
- HIGH VISIBILITY ORANGE SAFETY FENCE
- TEMP. 6' HIGH CHAIN LINK SAFETY FENCE



**NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET**  
 Scott Shanabarger  
 Professional L.S. # 10849 Exp. Date 12/2024  
 AS-BUILT DATE: 10/17/2023  
 Shanabarger & Lurie  
 REGISTERED PROFESSIONAL ENGINEERS  
 2000 W. GREEN BRIDGE ROAD, SUITE 205  
 COLUMBIA, MD 21042  
 TEL: (410) 720-3021

**INLET PROTECTION NOTE**

- THE CONTRACTOR IS REQUIRED TO INSTALL INLET PROTECTION ON ALL STORM DRAIN INLETS WITH THE EXCEPTION OF THE FOLLOWING:
- ANY INLET DIRECTLY OUTFALLING INTO A SEDIMENT TRAPPING DEVICE
  - INLETS ON PRIVATE OR PUBLIC ROAD OPEN TO THE PUBLIC
- ALL INLET PROTECTION WILL BE INSTALLED AS DIRECTED BY THE INSPECTOR IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. PAGE 23 OF THE MANUAL. ANY INLET PROTECTION DEVICES WILL REQUIRE APPROVAL FROM THE INSPECTOR.

**NOTE: ALL SEDIMENT BASINS MUST BE REMOVED A MAXIMUM OF THREE (3) YEARS FROM THE DATE OF HOWARD SCD SIGNATURE APPROVAL**

**EROSION AND SEDIMENT CONTROL UTILITY INSTALLATION NOTES:**

- CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE OF) TRENCH.
  - PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
  - ANY SEDIMENT CONTROL'S DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.
  - THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PROTECT PEDESTRIANS AT ALL TIMES DURING UNDERGROUND UTILITY CONSTRUCTION.
- A MAXIMUM OF 20 ACRES OF ACTIVE DISTURBANCE AREA WITH AN ADDITIONAL 10 ACRES OF RECENTLY STABILIZED OR TRANSITIONAL AREA IS PERMITTED. NO MORE THAN 30 ACRES, CUMULATIVELY, MAY BE DISTURBED AT ANY GIVEN TIME.**
- HOUSES CANNOT BE CONSTRUCTED USING THESE PLANS.**

MATCHLINE - SHEET 36

MATCHLINE - SHEET 37



**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF ENGINEER: *Scott Shanabarger*  
 DATE: 10/17/23

**DEVELOPER'S CERTIFICATE**  
 I WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONAL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF DEVELOPER: *Jason Van Kirk*  
 DATE: 10/24/19

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 HOWARD SCD: *John K. Robertson* 10/30/19  
 APPROVED: DEPARTMENT OF PUBLIC WORKS 11/26/2019  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING 12/9/19  
 DATE: 12.9.19

**EROSION AND SEDIMENT CONTROL NOTES**

- TEMPORARY DIVERSION DIKES SHALL HAVE A MIN. SLOPE OF 0.50%.
- CONTRACTOR TO ACCOUNT FOR BASEMENT CUT BY LOWERING ELEVATIONS OF LOTS AS REQUIRED. GENERAL GRADING DESIGN SHOULD REMAIN THE SAME. LOTS SHOULD BE BROUGHT TO FINAL GRADE AFTER SDP APPROVAL WHEN HOUSES ARE BUILT AND CUT IN BASEMENTS IS AVAILABLE.
- SEQUENCE OF CONSTRUCTION, SEDIMENT CONTROL NOTES, AND SEDIMENT CONTROL DETAILS WILL BE PROVIDED DURING FINAL PLAN PHASE OF THE PROJECT.
- ALL PROPOSED WORK OUTSIDE OF PERIMETER CONTROLS SHALL BE STABILIZED AT THE END OF EACH WORK DAY.
- PROPOSED SILT FENCE IS TO BE CHANGED TO SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
- ALL EARTH DIKES INTERRUPTED BY THE INSTALLATION OF STORM DRAINS ARE TO BE REPAIRED IMMEDIATELY - SAME DAY.
- EITHER TEMPORARY OR PERMANENT SEEDING IS TO BE PERFORMED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR AT THE TIME FRAMES REQUIRED BY THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, WHICH IS MORE RESTRICTIVE.
- CONTRACTOR TO INSTALL SOIL STABILIZATION MATTING IN ALL SWALES AND ON ALL SLOPES 3:1 OR GREATER.
- IF A STOCKPILE EXCEEDS 15 FEET IN HEIGHT, IT MUST BE BENCHED.
- IF A UTILITY CROSSES A PHASING LINE, THAT SECTION OF PIPE OR STRUCTURE CANNOT BE INSTALLED UNTIL THE LATER PHASE.

**CUT/FILL ANALYSIS**

TOTAL CUT = 138,814 CY  
 TOTAL FILL = 139,739 CY (15% SHRINKAGE FACTOR APPLIED)  
 TOTAL IMPORT = 3,925 CY

LIMIT OF DISTURBANCE: 65.42 AC  
 PHASE II LIMIT OF WORK: AREA 2A = 20.00 AC  
 PHASE II LIMIT OF WORK: AREA 2B = 20.00 AC  
 PHASE II LIMIT OF WORK: AREA 2C = 3.10 AC.

**NOTES**

- ALL UNDERGROUND ROOF LEADERS WILL BE 6" PVC PIPE.
- ALL BIO-RETENTION FACILITIES LEADING TO THEIR OWN OUTFALL POINT WILL HAVE OUTFALL PIPES SIZED TO HANDLE THE 10-YR STORM EVENT.
- STORMWATER QUALITY MANAGEMENT WILL BE PROVIDED BY 8 BIORETENTION, 4 MICRO-BIORETENTION, 1 SUBMERGED GRAVEL WETLANDS, FACILITIES AND 240 DRYWELLS.
- HAZARD CLASS FOR ALL SWM FACILITIES IS "A" DUE TO NO LIFE LOSS FOR FAILURE.

**OWNERS:**  
 PARCEL 36: TOLL MID ATLANTIC LP COMPANY INC, 250 GIBRAL TARR ROAD, HORSHAM PA, 19044  
 PARCEL 34: TOLL MID ATLANTIC LP COMPANY INC, 250 GIBRAL TARR ROAD, HORSHAM PA, 19044  
 PARCEL 111: DENNIS A LEAF, LENORE D SINES, 5226 GREEN BRIDGE ROAD, DAYTON, MD 21036  
 PARCEL 112: TOLL MID ATLANTIC LP COMPANY INC, 250 GIBRAL TARR ROAD, HORSHAM PA, 19044  
 PARCEL 98: JERRY MAUCK, JANEY BURKE, 5226 GREEN BRIDGE ROAD, DAYTON, MD 21036

**SUBDIVISION NAME:** WILLOWSHIRE  
 SECTION AREA: N/A  
 DEED #: 136100222, 0018300554, 15884002884, 0588900490, 0434100270, & 0320100539

**PREVIOUS FILE NO.:**  
 ECP-16-023 PB436  
 SP-17-002  
 WP-17105

**TAX MAP:** 27 GRID: 18 ZONED: RR-DEO  
 PARCEL: 34, 36, 98, 111 & 112  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

CORPORATE OFFICE:  
 WARREN, NJ  
 OFFICES:  
 BOSTON, MA  
 CHICAGO, IL  
 COLUMBIA, MD  
 DENVER, CO  
 HOUSTON, TX  
 KANSAS CITY, MO  
 LOS ANGELES, CA  
 MEMPHIS, TN  
 MIAMI, FL  
 PHILADELPHIA, PA  
 RICHMOND, VA  
 ST. LOUIS, MO  
 TAMPA, FL

**REVISIONS**

REV	DATE	COMMENT	BY

**APPROVED FOR CONSTRUCTION**

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL 811  
 (VA 1-800-245-4848) (PA 1-800-242-1776) (DC 1-800-257-7777) (MD 1-800-552-7001) (DE 1-800-257-7777) (DE 1-800-282-6699)

PROJECT NO.: MD142348  
 DRAWN BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD I.D.: OES

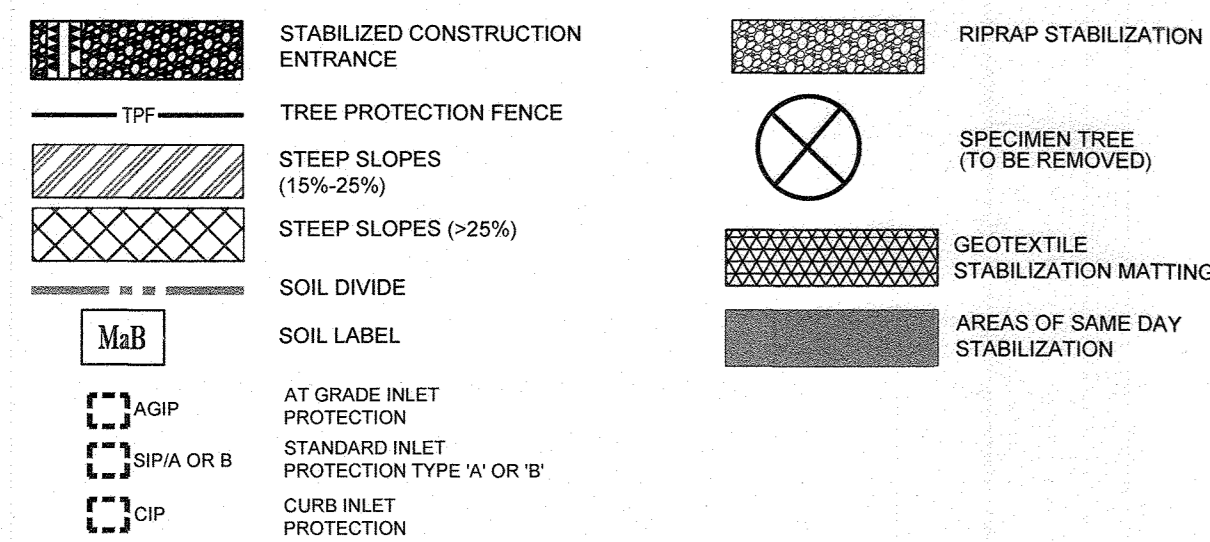
**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
 LOTS 1-15, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE: 5232 GREEN BRIDGE ROAD, 5TH ELECTION DISTRICT, TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B.B. ROWE**  
 PROFESSIONAL ENGINEER  
 1 BRANDY BOWNE HERBERT DRIVE  
 UNDER THE ARCHES OF THE STATE OF MARYLAND  
 LICENSE NO. 4668, EXPIRES 12/31/2021

**PHASE II EROSION AND SEDIMENT CONTROL PLAN**  
 SHEET NUMBER: 35 OF 92

### EROSION AND SEDIMENT CONTROL LEGEND



### EROSION AND SEDIMENT CONTROL NOTES

- TEMPORARY DIVERSION DIKES SHALL HAVE A MIN. SLOPE OF 0.00%.
- CONTRACTOR TO ACCOUNT FOR BASEMENT CUT BY LOWERING ELEVATIONS OF LOTS AS REQUIRED. GENERAL GRADING DESIGN SHOULD REMAIN THE SAME. LOTS SHOULD BE BROUGHT TO FINAL GRADE AFTER SDP APPROVAL WHEN HOUSES ARE BUILT AND CUT IN BASEMENTS IS AVAILABLE.
- SEQUENCE OF CONSTRUCTION, SEDIMENT CONTROL NOTES, AND SEDIMENT CONTROL DETAILS WILL BE PROVIDED DURING FINAL PLAN PHASE OF THE PROJECT.
- ALL PROPOSED WORK OUTSIDE OF PERIMETER CONTROLS SHALL BE STABILIZED AT THE END OF EACH WORK DAY.
- PROPOSED SILT FENCE IS TO BE CHANGED TO SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
- ALL EARTH DIKES INTERRUPTED BY THE INSTALLATION OF STORM DRAINS ARE TO BE REPAIRED IMMEDIATELY - SAME DAY.
- EITHER TEMPORARY OR PERMANENT SEEDING IS TO BE PERFORMED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR AT THE TIME FRAMES REQUIRED BY THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, WHICHEVER IS MORE RESTRICTIVE.
- CONTRACTOR TO INSTALL SOIL STABILIZATION MATTING IN ALL SWALES AND ON ALL SLOPES 5:1 OR GREATER.
- IF A STOCKPILE EXCEEDS 15 FEET IN HEIGHT, IT MUST BE BENCHED.
- IF A UTILITY CROSSES A PHASING LINE, THAT SECTION OF PIPE OR STRUCTURE CANNOT BE INSTALLED UNTIL THE LATER PHASE.

### WILLOWSHIRE

46 SINGLE FAMILY DETACHED UNITS

### CUT/FILL ANALYSIS

TOTAL CUT = 139,814 CY  
 TOTAL FILL = 139,738 CY (16% SHRINKAGE FACTOR APPLIED)  
 TOTAL IMPORT = 3,925 CY

LIMIT OF DISTURBANCE: 85.42 AC  
 PHASE II LIMIT OF WORK: AREA 2A = 20.00 AC  
 PHASE II LIMIT OF WORK: AREA 2B = 20.00 AC  
 PHASE II LIMIT OF WORK: AREA 2C = 3.10 AC

### NOTES

- ALL UNDERGROUND ROOF LEADERS WILL BE 6" PVC PIPE.
- ALL BIO-RETENTION FACILITIES LEADING TO THEIR OWN OUTFALL POINT WILL HAVE OUTFALL PIPES SIZED TO HANDLE THE 10-YR STORM EVENT.
- STORMWATER QUALITY MANAGEMENT WILL BE PROVIDED BY 8 MICRO-BIORETENTION, 1 SUBMERGED GRAVEL WETLANDS, FACILITIES AND 240 DRYWELLS.
- HAZARD CLASS FOR ALL SWM FACILITIES IS "A" DUE TO NO LIFE LOSS FOR FAILURE.

### INLET PROTECTION NOTE

THE CONTRACTOR IS REQUIRED TO INSTALL INLET PROTECTION ON ALL STORM DRAIN INLETS WITH THE EXCEPTION OF THE FOLLOWING:  
 1) ANY INLET DIRECTLY OUTFALLING INTO A SEDIMENT TRAPPING DEVICE.  
 2) INLETS ON PRIVATE OR PUBLIC ROAD OPEN TO THE PUBLIC.  
 ALL INLET PROTECTION WILL BE INSTALLED AS DIRECTED BY THE INSPECTOR IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, PAGE E-23. THE REMOVAL OF ANY INLET PROTECTION DEVICES WILL REQUIRE APPROVAL FROM THE INSPECTOR.

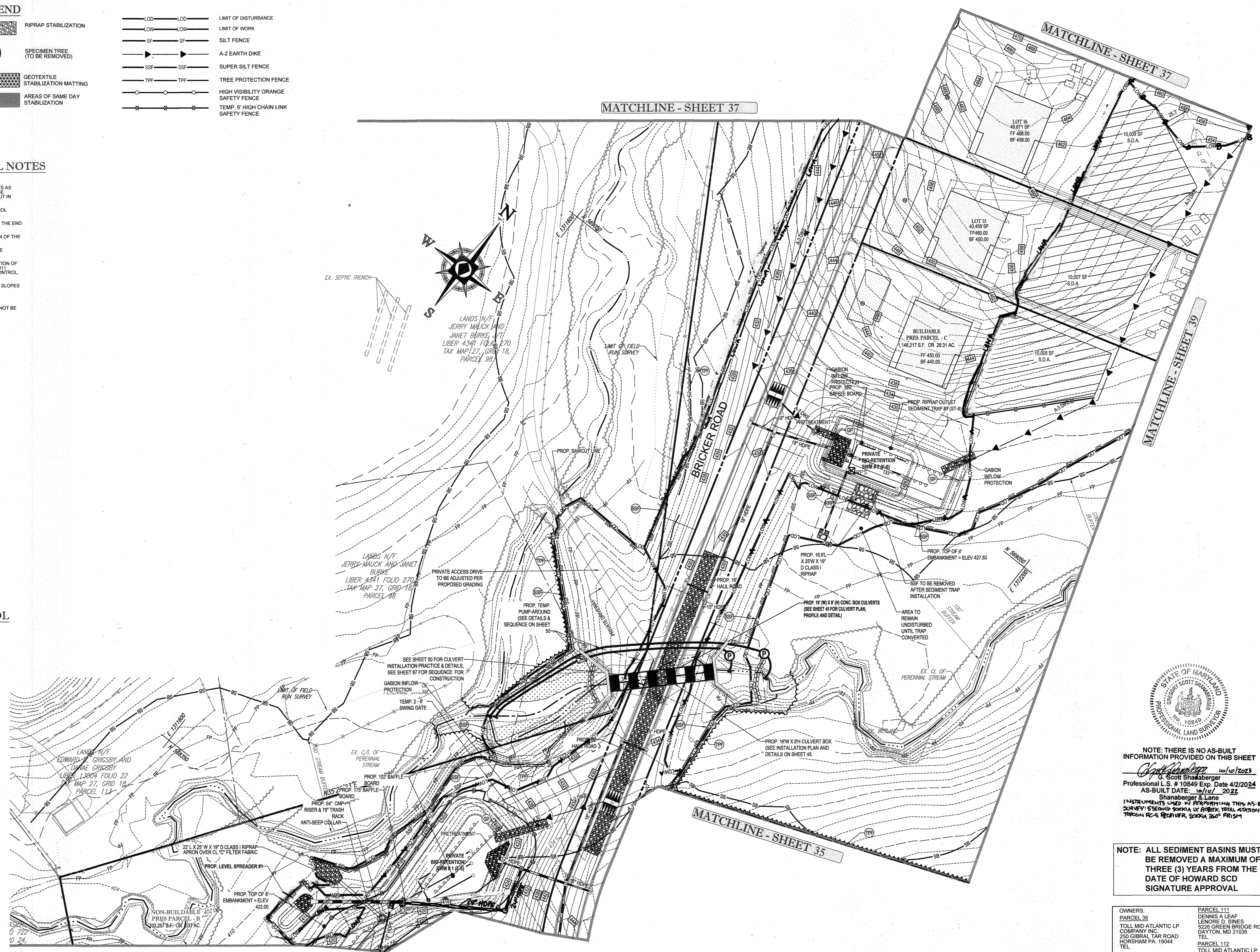
### EROSION AND SEDIMENT CONTROL UTILITY INSTALLATION NOTES:

- CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE) OF TRENCH.
- PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
- ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.
- THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PROTECT PEDESTRIANS AT ALL TIMES DURING UNDERGROUND UTILITY CONSTRUCTION.

**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF ENGINEER: BRANFON R. ROWE, P.E.  
 DATE: 10/21/19

**DEVELOPER'S CERTIFICATE**  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONAL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF DEVELOPER: Jason Van Kirk  
 DATE: 10-24-19

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 SIGNATURE: [Signature]  
 DATE: 11/26/2019  
 CHIEF, BUREAU OF HIGHWAYS  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 SIGNATURE: [Signature]  
 DATE: 12-9-19  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET.  
 Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/17/2021  
 Shanabarger & Lane  
 SURVEY & ENGINEERING  
 1500 RICHMOND AVE., SUITE 200, PISCATAWAY, NJ 08854  
 TEL: (908) 942-7000

NOTE: ALL SEDIMENT BASINS MUST BE REMOVED A MAXIMUM OF THREE (3) YEARS FROM THE DATE OF HOWARD SCD SIGNATURE APPROVAL.

OWNERS:  
 PARCEL 38: TOLL MID ATLANTIC LP COMPANY INC.  
 PARCEL 111: DENNIS A. LEAF, LEMORE D. SINES  
 PARCEL 112: TOLL MID ATLANTIC LP COMPANY INC.  
 PARCEL 34: TOLL MID ATLANTIC LP COMPANY INC.  
 DEVELOPER: GREEN BRIDGE FARM II, L.C.  
 TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

A MAXIMUM OF 20 ACRES OF ACTIVE DISTURBANCE AREA WITH AN ADDITIONAL 10 ACRES OF RECENTLY STABILIZED OR TRANSITIONAL AREA IS PERMITTED. NO MORE THAN 30 ACRES, CUMULATIVELY, MAY BE DISTURBED AT ANY GIVEN TIME.  
 HOUSES CANNOT BE CONSTRUCTED USING THESE PLANS.

SUBDIVISION NAME: WILLOWSHIRE  
 SECTION/AREA: N/A  
 DEED # 1136100222, 018300554, 1588400384, 0588900490, 0434100270, & 03201100539  
 PREVIOUS FILE NO.: ECP-16-023 PB436  
 SP-17-002  
 WP-17105

**BOHLER ENGINEERING**  
 CORPORATION OFFICE: WARREN, NJ  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS  
 CIVIL & CONSULTING ENGINEERS

REVISIONS			
REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATES OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE: 4811  
 (WV 1-800-245-4648) (PA 1-800-242-1776) (DC 1-800-257-7777) (VA 1-800-692-7021) (MD 1-800-251-7777) (DE 1-800-382-8889)

APPROVED FOR CONSTRUCTION  
 PROJECT No.: MD1403848  
 DRAWN BY: BRR  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD I.D.: OBS

FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE: 5232 GREEN BRIDGE ROAD, 5TH ELECTION DISTRICT, TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 1 BRADDOCK ROAD, HOWARD COUNTY, MARYLAND  
 I, BRANFON R. ROWE, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A QUALIFIED REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 9664 EXPIRATION DATE: 7/3/2021

PHASE II EROSION AND SEDIMENT CONTROL PLAN  
 SHEET NUMBER: 36 OF 92

A MAXIMUM OF 20 ACRES OF ACTIVE DISTURBANCE AREA WITH AN ADDITIONAL 10 ACRES OF RECENTLY STABILIZED OR TRANSITIONAL AREA IS PERMITTED. NO MORE THAN 30 ACRES, CUMULATIVELY, MAY BE DISTURBED AT ANY GIVEN TIME.

**NOTE: ALL SEDIMENT BASINS MUST BE REMOVED A MAXIMUM OF THREE (3) YEARS FROM THE DATE OF HOWARD SCD SIGNATURE APPROVAL.**

**INLET PROTECTION NOTE**  
 THE CONTRACTOR IS REQUIRED TO INSTALL INLET PROTECTION ON ALL STORM DRAIN INLETS WITH THE EXCEPTION OF THE FOLLOWING:  
 1) ANY INLET DIRECTLY OUTFALLING INTO A SEDIMENT TRAPPING DEVICE.  
 2) INLETS ON PRIVATE OR PUBLIC ROAD OPEN TO THE PUBLIC.  
 ALL INLET PROTECTION WILL BE INSTALLED AS DIRECTED BY THE INSPECTOR IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, FIGURE 2.3. THE REMOVAL OF ANY INLET PROTECTION DEVICES WILL REQUIRE APPROVAL FROM THE INSPECTOR.

**EROSION AND SEDIMENT CONTROL UTILITY INSTALLATION NOTES:**  
 1. CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE OF) TRENCH.  
 2. PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.  
 3. ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.  
 4. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PROTECT PEDESTRIANS AT ALL TIMES DURING UNDERGROUND UTILITY CONSTRUCTION.

LANDS N/F  
 JERR, LLC  
 LIBER 15466-0100-155  
 TAX MAP 28, GRID 7,  
 PARCEL 13-B

**EROSION AND SEDIMENT CONTROL LEGEND**

- STABILIZED CONSTRUCTION ENTRANCE
- TREE PROTECTION FENCE
- STEEP SLOPES (15%-25%)
- STEEP SLOPES (>25%)
- SOIL DIVIDE
- SOIL LABEL
- AT GRADE INLET PROTECTION
- STANDARD INLET PROTECTION TYPE 'A' OR 'B'
- CURB INLET PROTECTION
- RIPRAP STABILIZATION
- SPECIMEN TREE (TO BE REMOVED)
- GEOTEXTILE STABILIZATION MATTING
- AREAS OF SAME DAY STABILIZATION
- LIMIT OF DISTURBANCE
- LIMIT OF WORK
- SILT FENCE
- A-2 EARTH DIKE
- SUPER SILT FENCE
- TREE PROTECTION FENCE
- HIGH VISIBILITY ORANGE SAFETY FENCE
- TEMP. 6' HIGH CHAIN LINK SAFETY FENCE

**BOHLER ENGINEERING**  
 CORPORATE OFFICE:  
 WARREN, NJ  
 OFFICES:  
 BOWLING GREEN, OH  
 SOUTH BEND, IN  
 STERLING, VA  
 ROCKFORD, MA  
 CENTER VALLEY, PA  
 PHILADELPHIA, PA  
 CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

**REVISIONS**

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA AND DELAWARE CALL 811  
 (MD) 1-800-245-4849 (PA) 1-800-242-1776 (DC) 1-800-287-7777 (VA) 1-800-652-7071 (MD) 1-800-291-7777 (DE) 1-800-392-8699

**APPROVED FOR CONSTRUCTION**

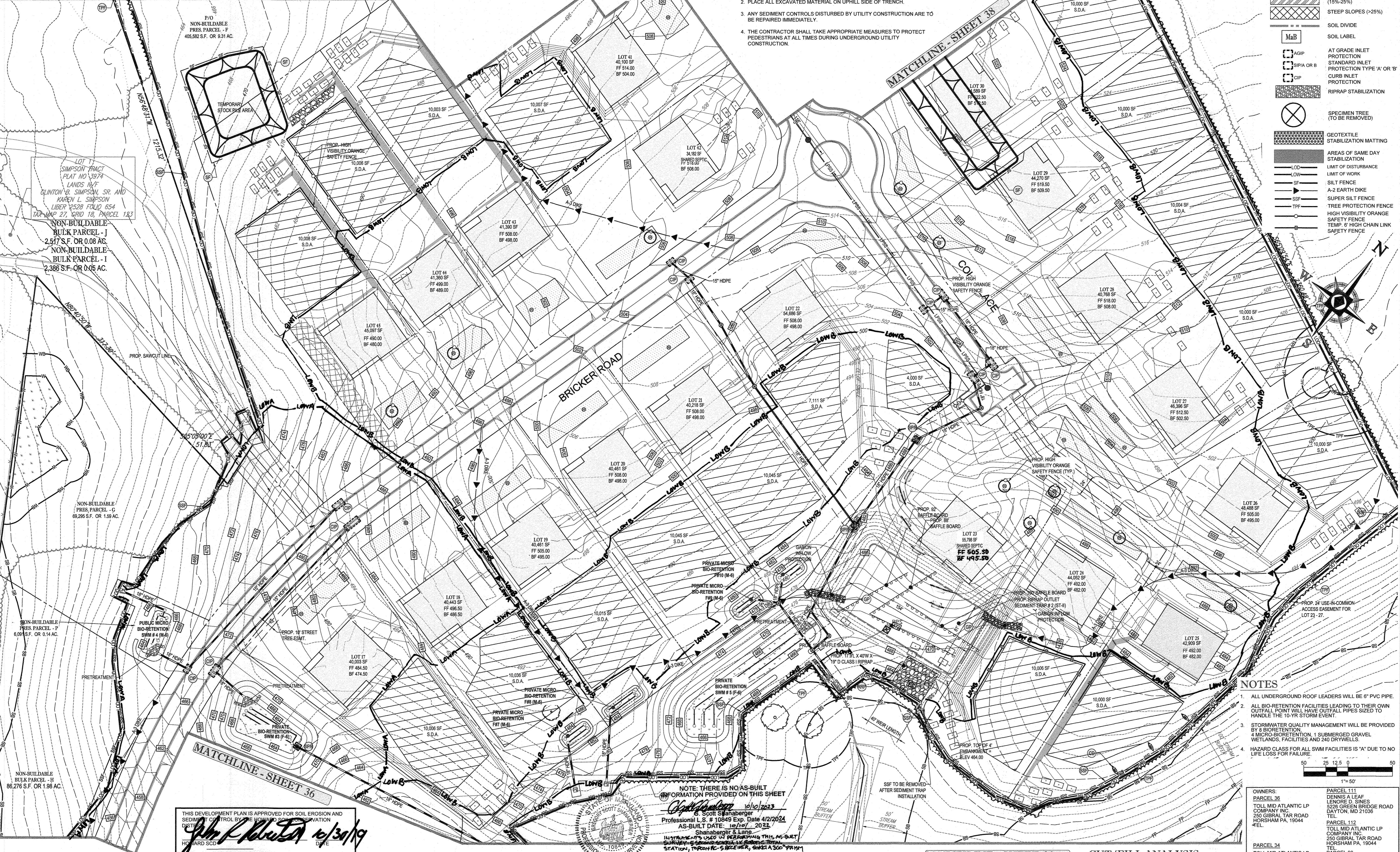
PROJECT NO: MD142048  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/28/19  
 SCALE: 1" = 50'  
 CAD ID: CB3

**FINAL ROAD CONSTRUCTION PLAN**  
 FOR  
**WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD,  
 SUITE 801  
 TOWSON, MARYLAND 21204  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 MARYLAND LICENSE NO. 10001  
 PROFESSIONAL CERTIFICATION  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR SUPERVISED BY ME, AND THAT I AM A QUALIFIED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 10001, EXPIRES 08/31/2021

**PHASE II EROSION AND SEDIMENT CONTROL PLAN**  
 SHEET NUMBER:  
**37 OF 92**



**APPROVED: DEPARTMENT OF PUBLIC WORKS**  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE: 11/26/2019

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 12/9/19

**APPROVED: DEPARTMENT OF ENVIRONMENTAL & NATURAL RESOURCES**  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 12/9/19

**DEVELOPER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONAL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY CONSERVATION DISTRICT.  
 SIGNATURE OF DEVELOPER: Jason Van Kirk  
 DATE: 10/24/19

**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF ENGINEER: Brandon R. Rowe, P.E.  
 DATE: 10/24/19

**EROSION AND SEDIMENT CONTROL NOTES**

- TEMPORARY DIVERSION DIKES SHALL HAVE A MIN. SLOPE OF 0.50%.
- CONTRACTOR TO ACCOUNT FOR BASEMENT CUT BY LOWERING ELEVATIONS OF LOTS AS REQUIRED. GENERAL GRADING DESIGN SHOULD REMAIN THE SAME. LOTS SHOULD BE BROUGHT TO FINAL GRADE AFTER SDP APPROVAL WHEN HOUSES ARE BUILT AND CUT IN BASEMENTS IS AVAILABLE.
- SEQUENCE OF CONSTRUCTION, SEDIMENT CONTROL NOTES, AND SEDIMENT CONTROL DETAILS WILL BE PROVIDED DURING FINAL PLAN PHASE OF THE PROJECT.
- ALL PROPOSED WORK OUTSIDE OF PERIMETER CONTROLS SHALL BE STABILIZED AT THE END OF EACH WORK DAY.
- PROPOSED SILT FENCE IS TO BE CHANGED TO SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
- ALL EARTH DIKES INTERRUPTED BY THE INSTALLATION OF STORM DRAINS ARE TO BE REPAIRED IMMEDIATELY - SAME DAY.
- EITHER TEMPORARY OR PERMANENT SEEDING IS TO BE PERFORMED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR AT THE TIME FRAMES REQUIRED BY THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, WHICHEVER IS MORE RESTRICTIVE.
- CONTRACTOR TO INSTALL SOIL STABILIZATION MATTING IN ALL SWALES AND ON ALL SLOPES 3:1 OR GREATER.
- IF A STOCKPILE EXCEEDS 16 FEET IN HEIGHT, IT MUST BE BENCHED.
- IF A UTILITY CROSSES A PAVING LINE, THAT SECTION OF PIPE OR STRUCTURE CANNOT BE INSTALLED UNTIL THE LATER PHASE.

**WILLOWSHIRE**  
 46 SINGLE FAMILY DETACHED UNITS

**CUT/FILL ANALYSIS**  
 TOTAL CUT = 135,814 CY  
 TOTAL FILL = 138,730 CY (15% SHRINKAGE FACTOR APPLIED)  
 NET IMPORT = 3,925 CY

LIMIT OF DISTURBANCE: 85.42 AC  
 PHASE II LIMIT OF WORK AREA 2A = 20.00 AC  
 PHASE II LIMIT OF WORK AREA 2B = 20.00 AC  
 PHASE II LIMIT OF WORK AREA 2C = 3.10 AC

**NOTES**

- ALL UNDERGROUND ROOF LEADERS WILL BE 6" PVC PIPE.
- ALL BIO-RETENTION FACILITIES LEADING TO THEIR OWN OUTFALL POINT WILL HAVE OUTFALL PIPES SIZED TO HANDLE THE 10-YR STORM EVENT.
- STORMWATER QUALITY MANAGEMENT WILL BE PROVIDED BY 8 BIO-RETENTION, 4 MICRO-BIORETENTION, 1 SUBMERGED GRAVEL WETLANDS, FACILITIES AND 240 DRYWELLS.
- HAZARD CLASS FOR ALL SWM FACILITIES IS "A" DUE TO NO LIFE LOSS FOR FAILURE.

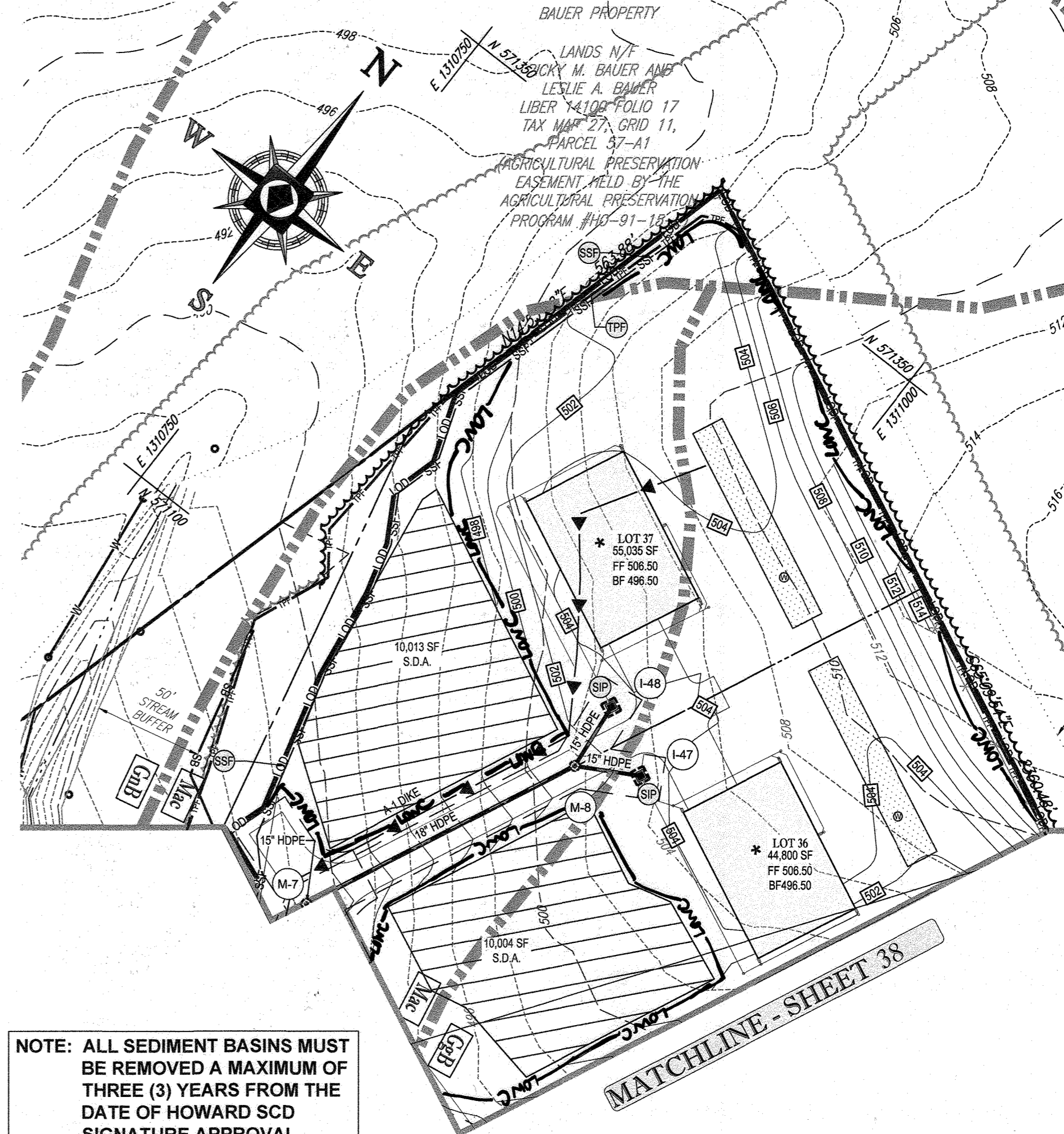
**OWNERS:**  
 PARCEL 36: TOLL MID ATLANTIC LP COMPANY INC, 250 GIBRAL TAP ROAD, HORSHAM PA, 19044  
 PARCEL 34: TOLL MID ATLANTIC LP COMPANY INC, 250 GIBRAL TAP ROAD, HORSHAM PA, 19044  
 PARCEL 111: DENNIS A LEAF, 5232 GREEN BRIDGE ROAD, DAYTON, MD 21038  
 PARCEL 112: TOLL MID ATLANTIC LP COMPANY INC, 250 GIBRAL TAP ROAD, HORSHAM PA, 19044  
 PARCEL 98: JERRY MAUCK, JANET BURKE, JTT, 5234 GREEN BRIDGE ROAD, DAYTON, MD 21038

**DEVELOPER:** GREEN BRIDGE FARM II, L.C., 5074 DORSEY HALL ROAD, SUITE 205, COLUMBIA, MD 21042  
 CONTACT: JASON VAN KIRK, PHONE: (410) 720-3021

**TAX MAP:** 27, **GRID:** 18, **ZONED:** RR-DEO  
**PARCEL:** 34, 36, 98, 111 & 112  
**5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND**

NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

Professional L.S. # 10849 Exp. Date 4/2/2024 AS-BUILT DATE: 10/12/2022



NOTE: ALL SEDIMENT BASINS MUST BE REMOVED A MAXIMUM OF THREE (3) YEARS FROM THE DATE OF HOWARD SCD SIGNATURE APPROVAL

INLET PROTECTION NOTE

THE CONTRACTOR IS REQUIRED TO INSTALL INLET PROTECTION ON ALL STORM DRAIN INLETS WITH THE EXCEPTION OF THE FOLLOWING:

EROSION AND SEDIMENT CONTROL NOTES

- 1. TEMPORARY DIVERSION DIKES SHALL HAVE A MIN SLOPE OF 0.50%
2. CONTRACTOR TO ACCOUNT FOR BASEMENT CUT BY LOWERING ELEVATIONS OF LOTS AS REQUIRED...

WILLOWSHIRE

48 SINGLE FAMILY DETACHED UNITS

CUT/FILL ANALYSIS

TOTAL CUT = 135,814 CY
TOTAL FILL = 139,738 CY (15% SHRINKAGE FACTOR APPLIED)
TOTAL IMPORT = 3,925 CY

NOTES

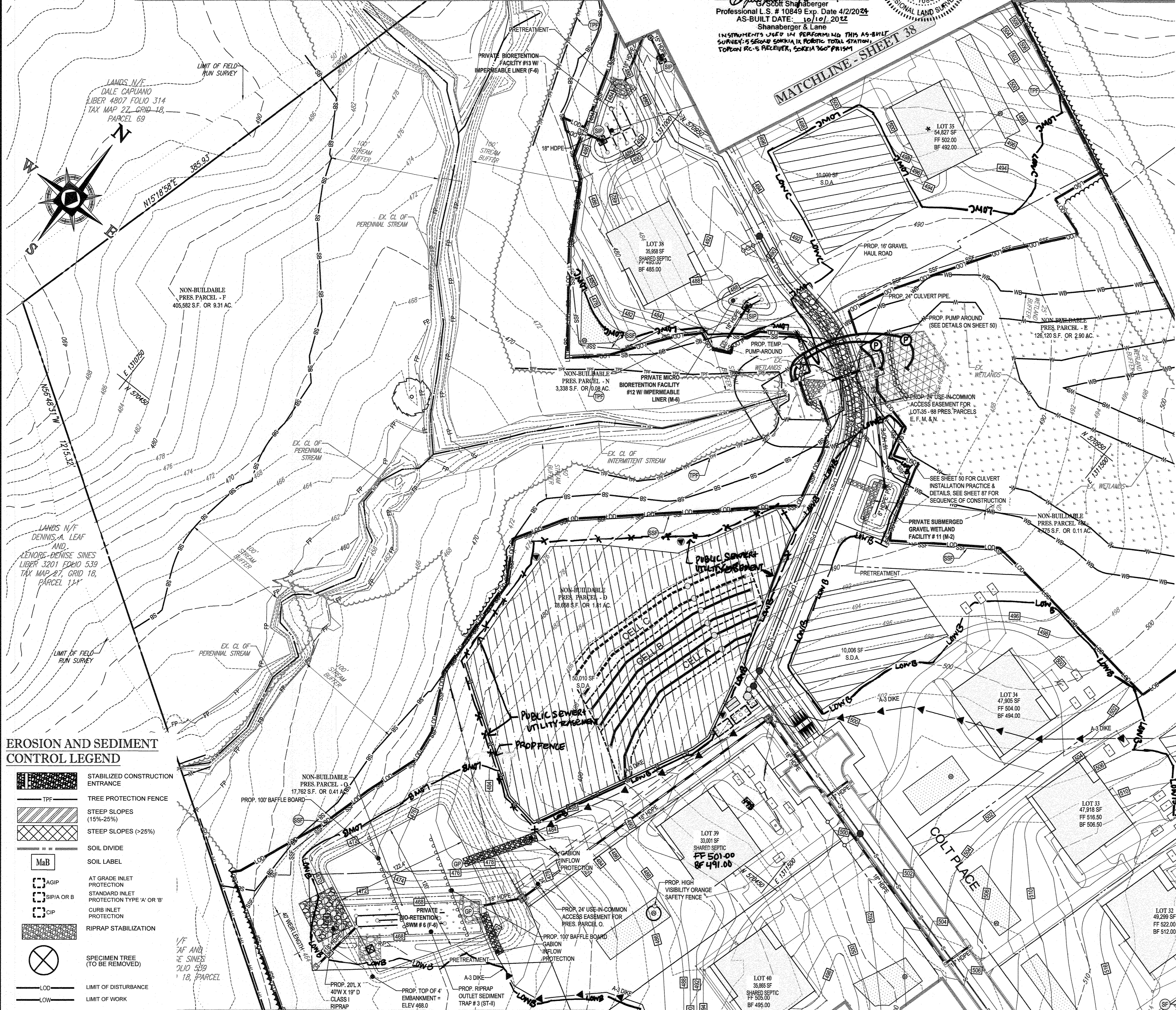
- 1. ALL UNDERGROUND ROOF LEADERS WILL BE 6" PVC PIPE
2. ALL BIO-RETENTION FACILITIES LEADING TO THEIR OWN OUTFALL POINT WILL HAVE OUTFALL PIPES SIZED TO HANDLE THE 10-YR STORM EVENT...

A MAXIMUM OF 20 ACRES OF ACTIVE DISTURBANCE AREA WITH AN ADDITIONAL 10 ACRES OF RECENTLY STABILIZED OR TRANSITIONAL AREA IS PERMITTED. NO MORE THAN 30 ACRES, CUMULATIVELY, MAY BE DISTURBED AT ANY GIVEN TIME.

HOUSES CANNOT BE CONSTRUCTED USING THESE PLANS.

SUBDIVISION NAME: WILLOWSHIRE
SECTION AREA: N/A
DEED # 1136100222, 0018300554, 15884100384, 0588900490, 0434100270, & 0320100539

OWNERS: PARCEL 35 TOLL MID ATLANTIC LP COMPANY INC.
PARCEL 34 TOLL MID ATLANTIC LP COMPANY INC.
PARCEL 111 DENNIS A LEAF LENOIRE D SINES
PARCEL 112 TOLL MID ATLANTIC LP COMPANY INC.
PARCEL 98 JERRY MAUCK JANET BURKE JT



EROSION AND SEDIMENT CONTROL LEGEND

- STABILIZED CONSTRUCTION ENTRANCE
TREE PROTECTION FENCE
STEEP SLOPES (15%-20%)
SOIL DIVIDE
SOIL LABEL
AT GRADE INLET PROTECTION

EROSION AND SEDIMENT CONTROL UTILITY INSTALLATION NOTES:

- 1. CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE OF) TRENCH.
2. PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEVELOPER'S CERTIFICATE
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL...

ENGINEER'S CERTIFICATE
I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS...

APPROVED: DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS
APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT

BOHLER ENGINEERING logo and contact information including corporate office, project managers, and environmental consultants.

REVISIONS table with columns for REV, DATE, COMMENT, and BY.

Professional Engineer Seal for Brandon R. Rowe, State of Maryland, License No. 10849.

APPROVED FOR CONSTRUCTION stamp with project details.

WILLOWSHIRE project details including address, site location, and parcel information.

BOHLER ENGINEERING logo and address information.

Professional Engineer Seal for Brandon R. Rowe, State of Maryland, License No. 10849.

PHASE II EROSION AND SEDIMENT CONTROL PLAN SHEET 38 OF 92.

**NOTES**

1. ALL UNDERGROUND ROOF LEADERS WILL BE 6" PVC PIPE
2. ALL BIO-RETENTION FACILITIES LEADING TO THEIR OWN OUTFALL POINT WILL HAVE OUTFALL PIPES SIZED TO HANDLE THE 10-YR STORM EVENT.
3. STORMWATER QUALITY MANAGEMENT WILL BE PROVIDED BY 8 BIORETENTION, 4 MICRO-BIORETENTION, 1 SUBMERGED GRAVEL WETLANDS, FACILITIES AND 240 DRYWELLS.
4. HAZARD CLASS FOR ALL SWM FACILITIES IS "A" DUE TO NO LIFE LOSS FOR FAILURE.

**WILLOWSHIRE**

46 SINGLE FAMILY DETACHED UNITS

**CUT/FILL ANALYSIS**

TOTAL CUT = 135,814 CY  
 TOTAL FILL = 139,738 CY (15% SHRINKAGE FACTOR APPLIED)  
 TOTAL IMPORT = 3,925 CY

LIMIT OF DISTURBANCE: 65.42 AC  
 PHASE II LIMIT OF WORK: AREA 2A = 20.00 AC  
 PHASE II LIMIT OF WORK: AREA 2B = 20.00 AC  
 PHASE II LIMIT OF WORK: AREA 2C = 3.10 AC

**EROSION AND SEDIMENT CONTROL NOTES**

1. TEMPORARY DIVERSION DIKES SHALL HAVE A MIN. SLOPE OF 0.50%.
2. CONTRACTOR TO ACCOUNT FOR BASEMENT CUT BY LOWERING ELEVATIONS OF LOTS AS REQUIRED. GENERAL GRADING DESIGN SHOULD REMAIN THE SAME. LOTS SHOULD BE BROUGHT TO FINAL GRADE AFTER SDP APPROVAL WHEN HOUSES ARE BUILT AND CUT IN BASEMENTS IS AVAILABLE.
3. SEQUENCE OF CONSTRUCTION, SEDIMENT CONTROL NOTES, AND SEDIMENT CONTROL DETAILS WILL BE PROVIDED DURING FINAL PLAN PHASE OF THE PROJECT.
4. ALL PROPOSED WORK OUTSIDE OF PERIMETER CONTROLS SHALL BE STABILIZED AT THE END OF EACH WORK DAY.
5. PROPOSED SILT FENCE IS TO BE CHANGED TO SUPER SILT FENCE AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
6. ALL EARTH DIKES INTERRUPTED BY THE INSTALLATION OF STORM DRAINS ARE TO BE REPAIRED IMMEDIATELY - SAME DAY.
7. EITHER TEMPORARY OR PERMANENT SEEDING IS TO BE PERFORMED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR AT THE TIME FRAMES REQUIRED BY THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, WHICHEVER IS MORE RESTRICTIVE.
8. CONTRACTOR TO INSTALL SOIL STABILIZATION MATTING IN ALL SWALES AND ON ALL SLOPES 3:1 OR GREATER.
9. IF A STOCKPILE EXCEEDS 15 FEET IN HEIGHT, IT MUST BE BENCHED.
10. IF A UTILITY CROSSES A PHASING LINE, THAT SECTION OF PIPE OR STRUCTURE CANNOT BE INSTALLED UNTIL THE LATER PHASE.

**INLET PROTECTION NOTE**

THE CONTRACTOR IS REQUIRED TO INSTALL INLET PROTECTION ON ALL STORM DRAIN INLETS WITH THE EXCEPTION OF THE FOLLOWING:

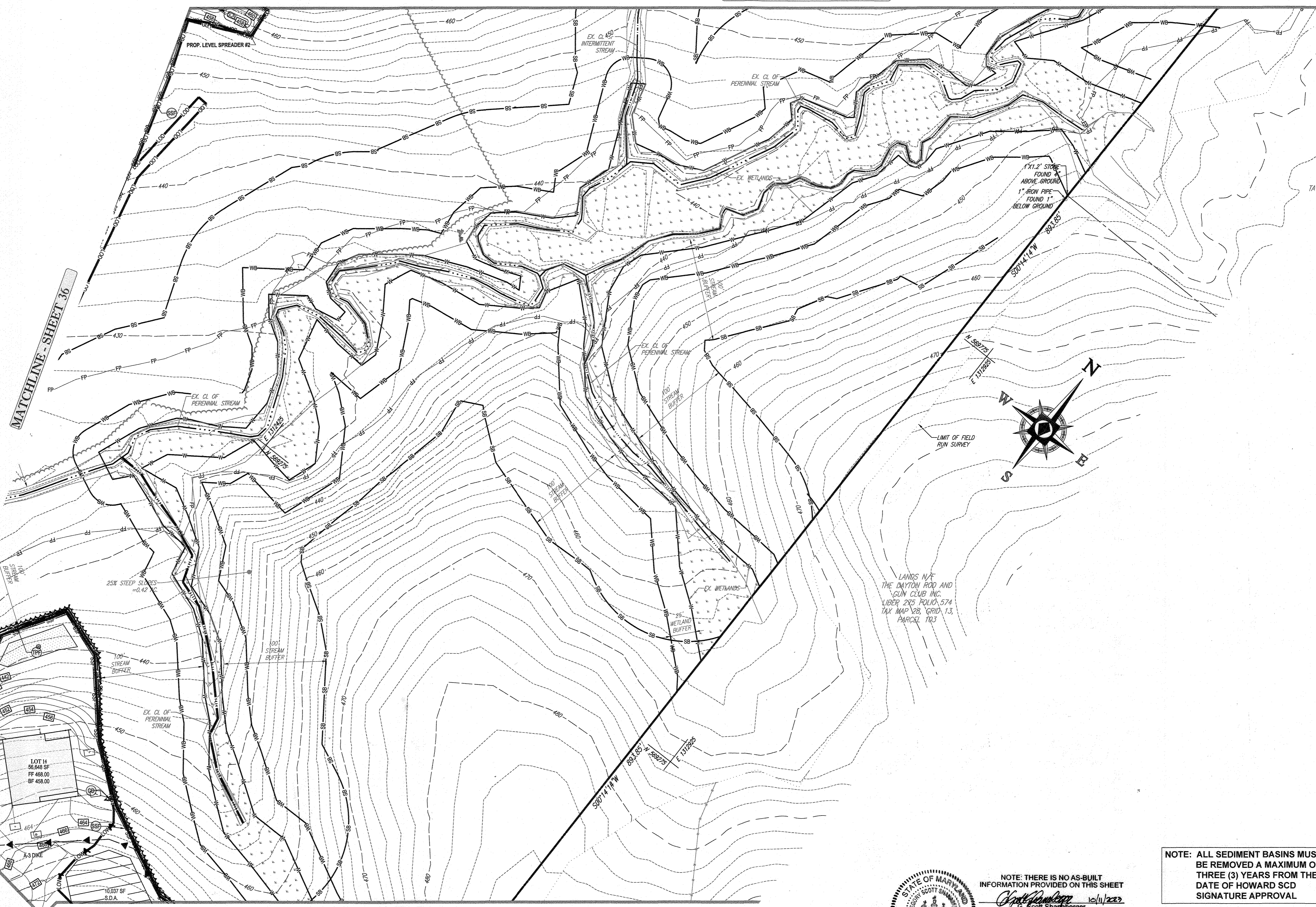
- 1) ANY INLET DIRECTLY OUTFALLING INTO A SEDIMENT TRAPPING DEVICE.
- 2) INLETS ON PRIVATE OR PUBLIC ROAD OPEN TO THE PUBLIC.

ALL INLET PROTECTION WILL BE INSTALLED AS DIRECTED BY THE INSPECTOR IN ACCORDANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, PAGE E.25. THE REMOVAL OF ANY INLET PROTECTION DEVICES WILL REQUIRE APPROVAL FROM THE INSPECTOR.

**EROSION AND SEDIMENT CONTROL UTILITY INSTALLATION NOTES:**

1. CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE OF) TRENCH.
2. PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
3. ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.
4. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PROTECT PEDESTRIANS AT ALL TIMES DURING UNDERGROUND UTILITY CONSTRUCTION.

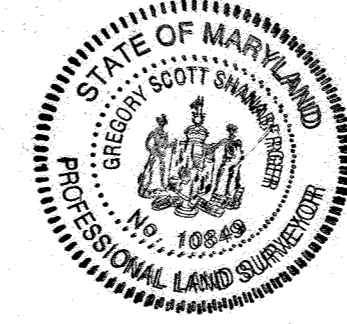
MATCHLINE - SHEET 37



MATCHLINE - SHEET 35

**EROSION AND SEDIMENT CONTROL LEGEND**

	STABILIZED CONSTRUCTION ENTRANCE		RIPRAP STABILIZATION		LIMIT OF DISTURBANCE
	TREE PROTECTION FENCE		SPECIMEN TREE (TO BE REMOVED)		LIMIT OF WORK
	STEEP SLOPES (15%-25%)		GEOTEXTILE STABILIZATION MATTING		SILT FENCE
	STEEP SLOPES (>25%)		AREAS OF SAME DAY STABILIZATION		A-2 EARTH DIKE
	SOIL DIVIDE		SUPER SILT FENCE		TREE PROTECTION FENCE
	SOIL LABEL		HIGH VISIBILITY ORANGE SAFETY FENCE		TEMP. 6' HIGH CHAIN LINK SAFETY FENCE
	AT GRADE INLET PROTECTION				
	STANDARD INLET PROTECTION TYPE 'A' OR 'B'				
	CURB INLET PROTECTION				



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
 G. Scott Shanaberger  
 Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/16/2025  
 Shanaberger & Lane  
 INSTRUMENTS USED IN PREPARING THIS AS-BUILT SURVEY: SPECTRUM 12. POINTING TORCH, DISTOM 2, TORON PC-5 RECEIVER, SOKKIA 360° PRISM

NOTE: ALL SEDIMENT BASINS MUST BE REMOVED A MAXIMUM OF THREE (3) YEARS FROM THE DATE OF HOWARD SCD SIGNATURE APPROVAL

A MAXIMUM OF 20 ACRES OF ACTIVE DISTURBANCE AREA WITH AN ADDITIONAL 10 ACRES OF RECENTLY STABILIZED OR TRANSITIONAL AREA IS PERMITTED. NO MORE THAN 30 ACRES, CUMULATIVELY, MAY BE DISTURBED AT ANY GIVEN TIME.  
 HOUSES CANNOT BE CONSTRUCTED USING THESE PLANS.

SUBDIVISION NAME: WILLOWSHIRE SECTION/AREA: N/A DEED # 1136100222, 0018300554, 15884100394, 05889100490 04341100270, & 03201100539	PREVIOUS FILE NO.: ECP-16-023 PB436 SP-17-002 WP-17106
--	---

<b>OWNERS:</b> PARCEL 36 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAR ROAD HORSHAM PA, 19044 TEL.	PARCEL 111 DENNIS A LEAF LENORE D. SINES 5226 GREEN BRIDGE ROAD DAYTON, MD 21039 TEL.
PARCEL 34 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAR ROAD HORSHAM PA, 19044 TEL.	PARCEL 112 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAR ROAD HORSHAM PA, 19044 TEL.
PARCEL 98 JERRY MAUCK JANET BURKE JT 5234 GREEN BRIDGE ROAD DAYTON, MD 21039 TEL.	
<b>DEVELOPER:</b> GREEN BRIDGE FARM II, L.C. 5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21046 CONTACT: JASON VAN KIRK PHONE: (410) 720-3021	

**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT  
 SIGNATURE OF ENGINEER: BRANSON R. ROWE, P.E.  
 DATE: 10/16/19

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL FOR THE HOWARD COUNTY SOIL CONSERVATION DISTRICT  
 SIGNATURE OF DISTRICT: *J. K. Roberts*  
 DATE: 10/16/19

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 DATE: 11/26/2019  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 DATE: 2/20/2020  
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF ENGINEERING DIVISION  
 DATE: 12-9-19  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

**DEVELOPER'S CERTIFICATE**  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONAL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF DEVELOPER: Jason Van Kirk  
 DATE: 10-24-19

**BOHLER ENGINEERING**  
 CORPORATE OFFICE: WARREN, NJ  
 OFFICES:  
 BOSTON, MA  
 ALBANY, NY  
 CHARLOTTE, NC  
 CHARLOTTE, VA  
 CENTER VALLEY, PA  
 TAMPA, FL  
 PHILADELPHIA, PA

CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE: IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE. CALL 811 (WV 1-800-245-4848) (PA 1-800-242-1776) (DC 1-800-557-7777) (VA 1-800-552-7001) (MD 1-800-257-7777) (DE 1-800-392-8999)

APPROVED FOR CONSTRUCTION

PROJECT No: MD142036  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 50'  
 CAD I.D.: ORS

PROJECT:  
**FINLAND ROAD CONSTRUCTION PLAN**  
 FOR  
**WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E - G & L - F & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21204  
 Phone: (410) 821-7600  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 10849  
 PROFESSIONAL CERTIFICATION  
 I, BRANSON R. ROWE, 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. 10849, EXPIRATION DATE: 7/31/2021

SHEET TITLE:  
**PHASE II EROSION AND SEDIMENT CONTROL PLAN**  
 SHEET NUMBER:  
**39 OF 92**

**EROSION AND SEDIMENT CONTROL LEGEND**

- STABILIZED CONSTRUCTION ENTRANCE
- TREE PROTECTION FENCE
- STEEP SLOPES (15%-25%)
- STEEP SLOPES (>25%)
- SOIL DIVIDE
- SOIL LABEL
- AT GRADE INLET PROTECTION
- STANDARD INLET PROTECTION TYPE 'A' OR 'B'
- CURB INLET PROTECTION
- RIPRAP STABILIZATION
- SPECIMEN TREE (TO BE REMOVED)
- GEOTEXTILE STABILIZATION MATTING
- AREAS OF SAME DAY STABILIZATION
- LIMIT OF DISTURBANCE
- LIMIT OF WORK
- SILT FENCE
- A-2 EARTH DIKE
- SUPER SILT FENCE
- TREE PROTECTION FENCE
- DRAINAGE DIVIDE
- SEPTIC DISPOSAL AREA

SOILS TABLE					
SOILS NAME	SOILS DESCRIPTION	HYDROLOGIC SOILS GROUP	HIGHLY ERODIBLE SOIL	K FACTOR	AREA - AC.
Co	ODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	NO	0.32	3.88
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.28	16.53
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	11.63
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	YES	0.43	9.42
GmB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	9.49
GoB	GLENVILLE-ODORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	4.16
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	35.66
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	NO	0.28	9.09

**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT I WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF ENGINEER: *Brandon R. Rowe* DATE: 11/24/19  
 BRANDON R. ROWE P.E.

**DEVELOPER'S CERTIFICATE**  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONS INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF DEVELOPER: *Jason Van Kirk* DATE: 10-24-19  
 JASON VAN KIRK

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 APPROVED: DEPARTMENT OF PUBLIC WORKS  
 CHIEF, BUREAU OF HIGHWAYS: *James* DATE: 11/26/2019  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DIVISION OF LAND DEVELOPMENT: *Michael* DATE: 2/20/2020  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: *David* DATE: 12-9-19



OWNERS:  
 PARCEL 36: TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044  
 PARCEL 34: TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044  
 PARCEL 112: TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044  
 PARCEL 111: DENNIS A LEAF LENDRE D SINES 5208 GREEN BRIDGE ROAD DAYTON, MD 21038  
 PARCEL 98: JERRY MAUCK JANET BURKE JT 5234 GREEN BRIDGE ROAD DAYTON, MD 21038  
 SUBDIVISION NAME: WILLOWSHIRE SECTION: AREA: N/A DEED #: 1136100222, 0018300554, 15884003894, 0588800490, 0434100270, & 0320100539  
 PREVIOUS FILE NO.: ECP-16-023 SP-17-002 WP-17105  
 TAX MAP: 27 GRID: 18 ZONED: RR-DEO PARCEL: 34, 36, 98, 111 & 112 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
 Professional L.S. # 10849 Exp. Date 4/2/2024 AS-BUILT DATE: 10/10/2022  
 Shanabarger & Lane  
 INSTRUMENTS USED IN PREPARING THIS AS-BUILT SURVEY: 5 SECOND GRADE 1/4 INCH TOTAL STATION, TOPCON PC-5 RECEIVER, SOKKIA 300 PRISM  
 NOTE: ALL SEDIMENT BASINS MUST BE REMOVED A MAXIMUM OF THREE (3) YEARS FROM THE DATE OF HOWARD SCD SIGNATURE APPROVAL

**BOHLER ENGINEERING**  
 CORPORATE OFFICE: WARREN, NJ  
 OFFICES: SOUTH BRIDGE, MA; TOWSON, MD; FORT LAUDERDALE, FL; ALBANY, NY; CHAMONT, PA; GAITHERSBURG, MD; GREEN VALLEY, VA; WARRINGTON, VA  
 SURVEYORS; PROJECT MANAGERS; ENVIRONMENTAL CONSULTANTS; LANDSCAPE ARCHITECTS  
 CIVIL & CONSULTING ENGINEERS

**REVISIONS**

REV#	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO ALTER THE EARTH'S SURFACE ANYWHERE IN THE STATE IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE: CALL (1-800-345-4848) (PA 1-800-242-1778) (DC 1-800-257-7777) (VA 1-800-552-7001) (MD 1-800-257-7777) (DE 1-800-293-8555)

**NOT APPROVED FOR CONSTRUCTION**  
 PROJECT NO.: MD142008 AVG  
 DRAWN BY: BRB  
 CHECKED BY: BRB  
 DATE: 08/28/19  
 SCALE: 1" = 200'  
 CAD I.D.: OSJ

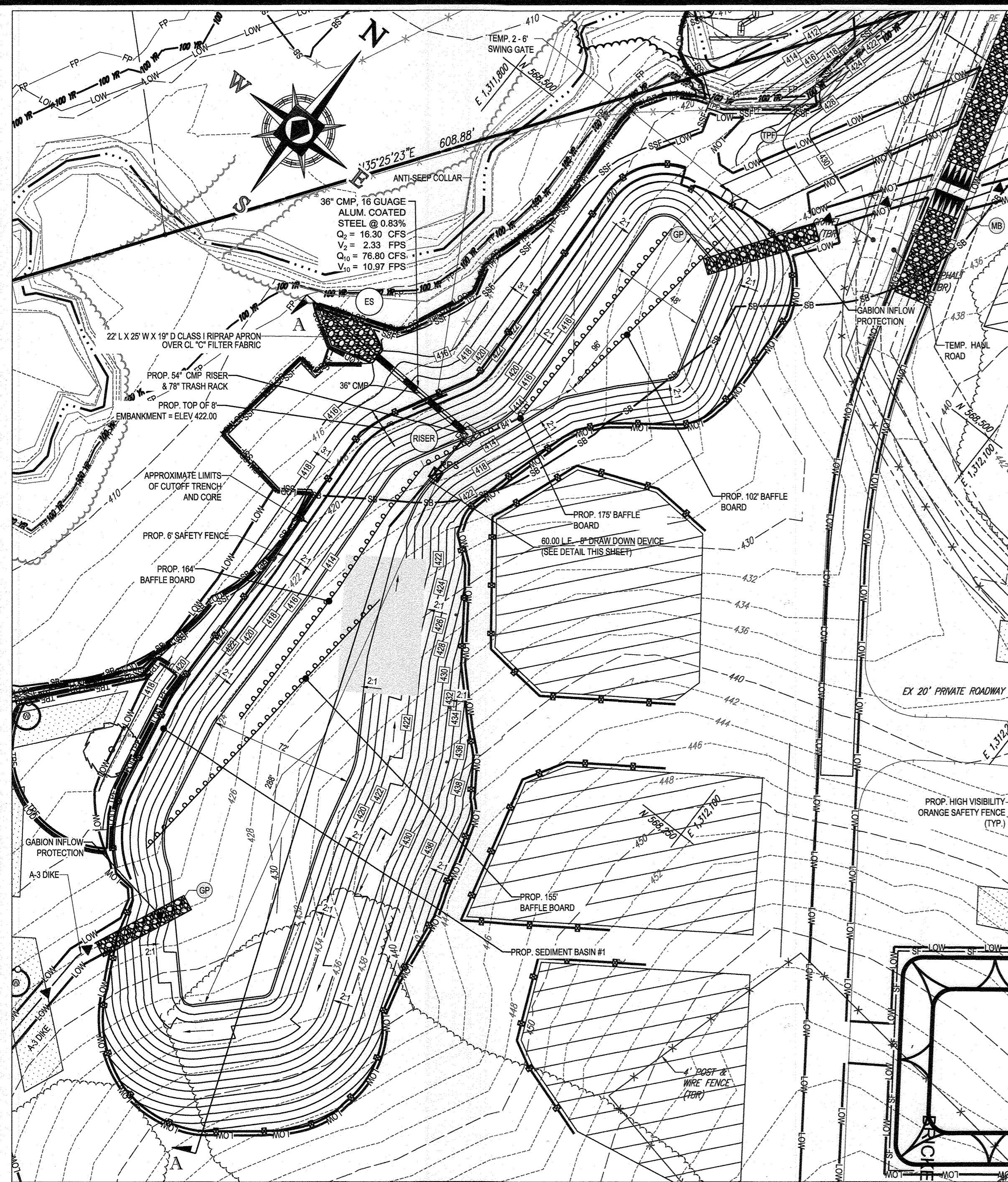
**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE: 5232 GREEN BRIDGE ROAD 5TH ELECTION DISTRICT TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7600  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 I BRANCON R. ROWE HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR SUPERVISED BY ME AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 9866, EXPIRES 12/31/2021

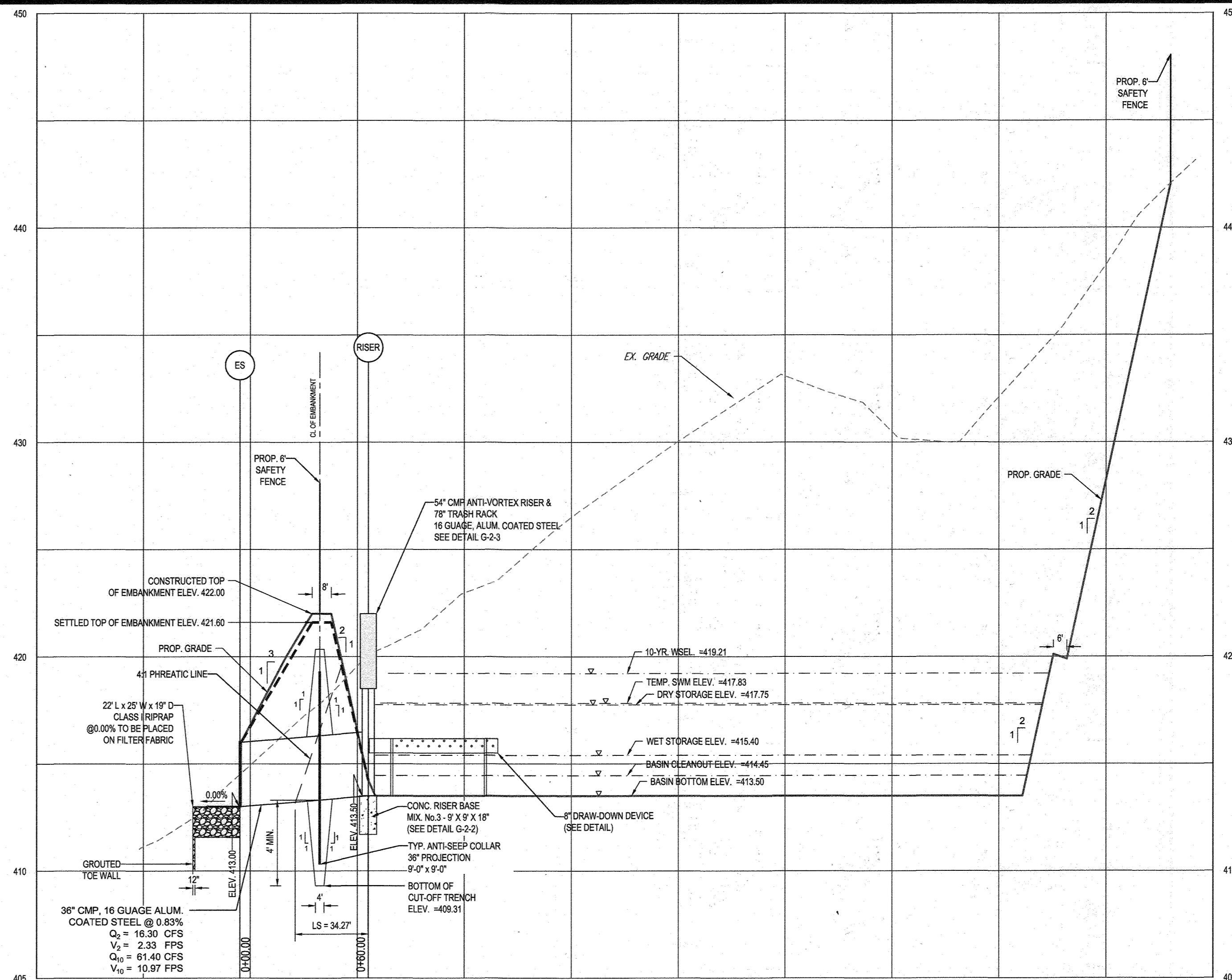
SHEET TITLE:  
**PHASE II EROSION AND SEDIMENT CONTROL DRAINAGE AREAS**  
 SHEET NUMBER:  
**40 OF 92**





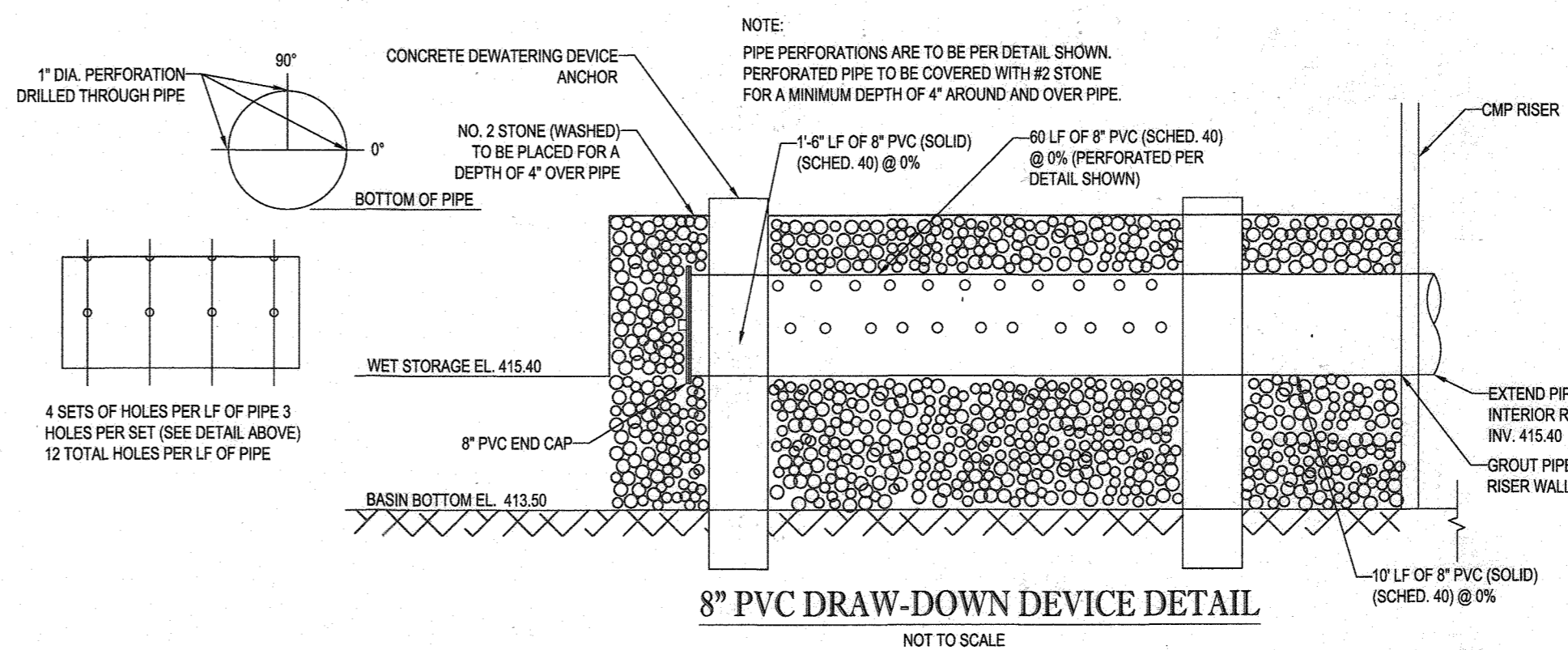
TEMPORARY SEDIMENT BASIN SPILLWAY - PLAN

SCALE: 1" = 40'



TEMPORARY SEDIMENT BASIN SPILLWAY - SECTION A-A

SCALE: 1" = 40' HORIZONTAL  
1" = 4' VERTICAL

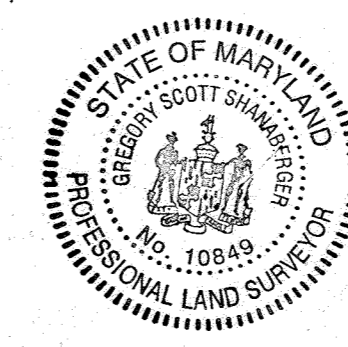


8" PVC DRAW-DOWN DEVICE DETAIL

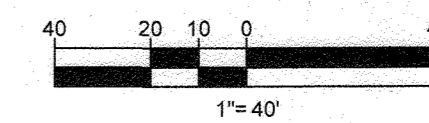
NOT TO SCALE

PIPE OUTLET SEDIMENT BASIN, BASIN NO. 1	
DRAINAGE AREA - INITIAL	21.00 Acres ±
DRAINAGE AREA - INTERIM	21.00 Acres ±
DRAINAGE AREA - FINAL	21.00 Acres ±
TOTAL STORAGE REQUIRED	75,600 Ft <sup>3</sup> ±
TOTAL STORAGE PROVIDED	99,076 Ft <sup>3</sup> ±
WET STORAGE REQUIRED	37,800 Ft <sup>3</sup> ±
WET STORAGE PROVIDED	39,949 Ft <sup>3</sup> ±
DRY STORAGE REQUIRED	37,800 Ft <sup>3</sup> ±
DRY STORAGE PROVIDED	59,127 Ft <sup>3</sup> ±
BASIN BOTTOM ELEVATION	413.50
BASIN BOTTOM DIMENSIONS	Varies - See Plans
RISER CREST ELEVATION	417.75
OUTLET ELEVATION	415.40
CLEANOUT ELEVATION	414.45
TOP OF EMBANKMENT ELEV.	422.00
SIDE SLOPE	2:1
EMBANKMENT TOP WIDTH	8'
PRINCIPAL SPILLWAY MATERIAL	CMP
RISER DIAMETER	54 in.
BARREL DIAMETER	36 in.
TRASH RACK DIAMETER	78 in.
TRASH RACK HEIGHT	33 in.
ANTI-SLEEP COLLAR DIMENSIONS	9'x9'
OUTLET PROTECTION - LENGTH	22'
OUTLET PROTECTION - WIDTH	25'
OUTLET PROTECTION - DEPTH	19"

NOTE: ALL SEDIMENT BASINS MUST BE REMOVED A MAXIMUM OF THREE (3) YEARS FROM THE DATE OF HOWARD SCD SIGNATURE APPROVAL



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
*Scott Shansberger* 10/11/2023  
 Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/10/2023  
 Shansberger & Lane  
 INSTRUMENT'S USE ONLY. PERFORMING THIS AS-BUILT SURVEY IS SECOND TO THE L.S. PROFESSIONAL ENGINEER'S DUTY TO THE PUBLIC. TORONTO'S PREVIOUS SURVEY 2007 PRISM



SUBDIVISION NAME: WILLOWSHIRE  
 SECTION AREA: N/A  
 DEED # 11361/00222, 0183/00554,  
 15884/003894, 05889/00480  
 0434/100270, & 03201/00559

PREVIOUS FILE NO.:  
 ECP-16-023 PB436  
 SP-17-002  
 WP-17105

OWNERS:  
 PARCEL 38  
 TOLL MID ATLANTIC LP COMPANY INC.  
 250 GIBRAL TARR ROAD  
 HORSHAM PA, 19044  
 TEL.  
 PARCEL 111  
 DENNIS A LEAF  
 LENORE D. SINES  
 5226 GREEN BRIDGE ROAD  
 DAYTON, MD 21038  
 TEL.  
 PARCEL 112  
 TOLL MID ATLANTIC LP COMPANY INC.  
 250 GIBRAL TARR ROAD  
 HORSHAM PA, 19044  
 TEL.  
 PARCEL 34  
 TOLL MID ATLANTIC LP COMPANY INC.  
 250 GIBRAL TARR ROAD  
 HORSHAM PA, 19044  
 TEL.  
 PARCEL 98  
 JERRY MAUCK  
 JANET BURKE JT  
 5234 GREEN BRIDGE ROAD  
 DAYTON, MD 21038  
 TEL.  
 DEVELOPER:  
 GREEN BRIDGE FARM II, L.C.  
 5074 DORSEY HALL ROAD, SUITE 205  
 COLUMBIA, MD 21042  
 CONTACT: JASON VAN KIRK  
 PHONE: (410) 720-3021  
 TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
 PARCEL: 34, 36, 98, 111, & 112  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**ENGINEER'S CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF ENGINEER: *BRANDON R. ROWE, P.E.* DATE: 10/11/23

**DEVELOPER'S CERTIFICATE**  
 I HAVE HEREBY CERTIFIED THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC CONSULTATION WITH THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF DEVELOPER: *John K. Roberts* DATE: 9-26-19

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 HOWARD SCD: *John K. Roberts* DATE: 10/30/19

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 CHIEF, BUREAU OF HIGHWAYS: *James* DATE: 11/26/2019  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DIVISION OF LAND DEVELOPMENT: *John* DATE: 2/20/2020  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: *John* DATE: 12-9-19

**BOHLER ENGINEERING**  
 CORPORATE OFFICE: WARRREN, NJ  
 OFFICES:  
 SOUTHBRIDGE, MA  
 ALBANY, NY  
 CENTER VALLEY, PA  
 CHAMONT, PA  
 HANOVER, PA  
 HAZEL, PA  
 PHILADELPHIA, PA  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS  
 CIVIL & CONSULTING ENGINEERS

**REVISIONS**

REV	DATE	COMMENT	BY

**BOHLER ENGINEERING**  
 THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE: CALL 811  
 (MD) 1-800-245-4846 (PA) 1-800-242-1776 (DC) 1-800-257-7777 (VA) 1-800-952-7001 (MD) 1-800-257-7777 (DE) 1-800-382-8559

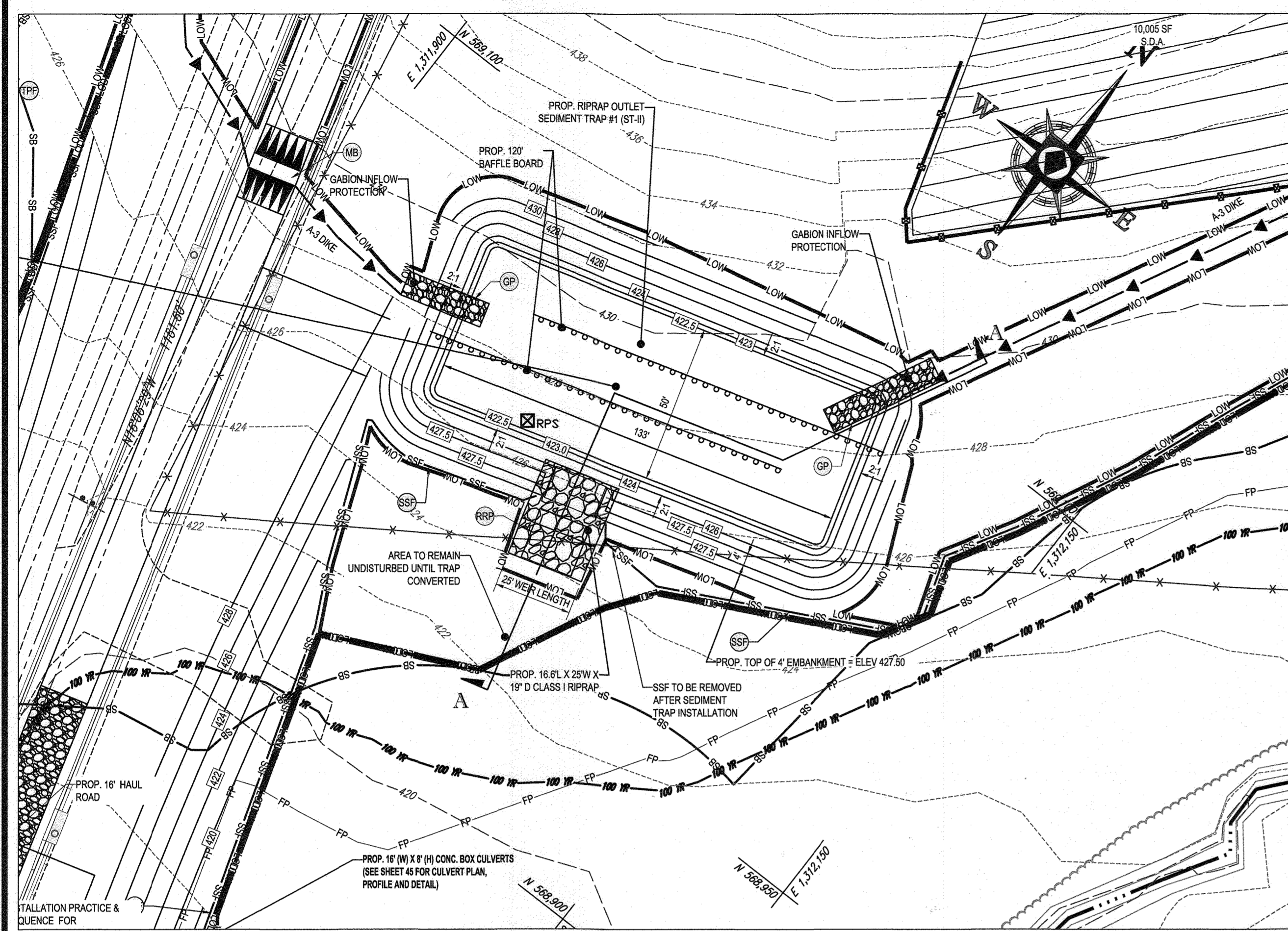
**NOT APPROVED FOR CONSTRUCTION**  
 PROJECT No: MD142048  
 DRAWN BY: BRR  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: AS SHOWN  
 CAD I.D.: QM3

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

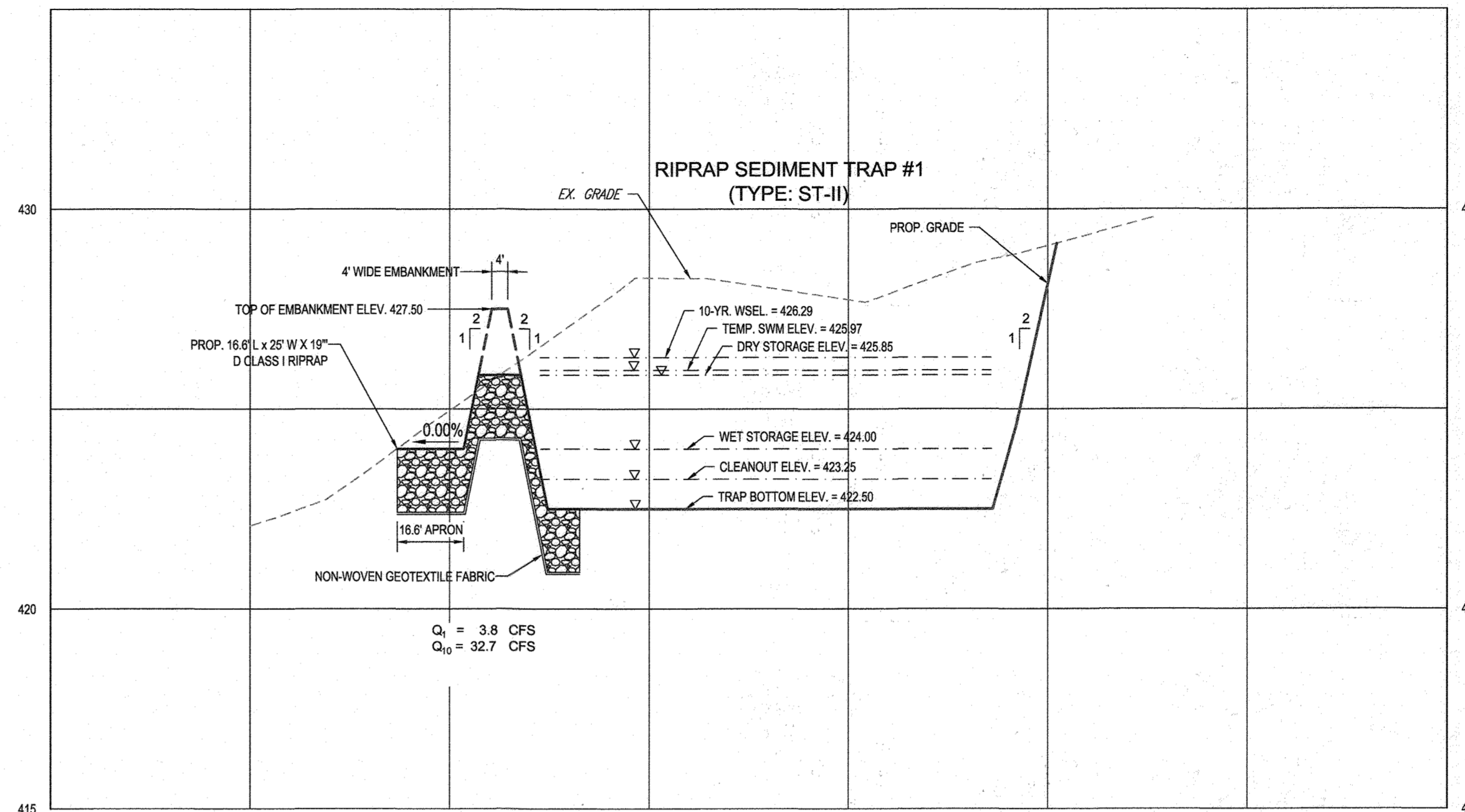
**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21204  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B. B. ROWE**  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 78804 EXPIRES 03/31/2021  
 PROFESSIONAL CERTIFICATION  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME AND THAT I AM A QUALIFIED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 78804 EXPIRES 03/31/2021

SHEET TITLE:  
**EROSION & SEDIMENT CONTROL - PHASE I SEDIMENT BASIN #1 PLAN, SECTION & DETAILS**  
 SHEET NUMBER:  
**41 OF 92**



RIPRAP OUTLET SEDIMENT TRAP #1 - PLAN  
SCALE: 1" = 30'



RIPRAP OUTLET SEDIMENT TRAP #1 - SECTION A-A  
SCALE: 1" = 30' HORIZONTAL  
1" = 3' VERTICAL

DETAIL G-1-2 STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II  
STANDARD SYMBOL ST-II

STONE/RIPRAP SEDIMENT TRAP ST-II, TRAP NO. 1		
DRAINAGE AREA - INTIAL	6	ACRES
DRAINAGE AREA - INTERIM	6	ACRES
DRAINAGE AREA - FINAL	6	ACRES
TOTAL STORAGE REQUIRED	21,600	CF
TOTAL STORAGE PROVIDED	27,267	CF
WET STORAGE REQUIRED	10,800	CF
WET STORAGE PROVIDED	11,141	CF
DRY STORAGE REQUIRED	10,800	CF
DRY STORAGE PROVIDED	16,126	CF
EXISTING GROUND ELEVATION AT OUTLET (WET STORAGE ELEVATION)	424	FT
TRAP BOTTOM ELEVATION	422.50	FT
TRAP BOTTOM DIMENSIONS	133 X 50	FT X FT
WEIR LENGTH	25	FT
WEIR CREST (DRY STORAGE) ELEVATION	425.85	FT
CLEANOUT ELEVATION	423.25	FT
TOP OF EMBANKMENT ELEVATION	427.50	FT
SIDE SLOPE	2:1	H:V RATIO
EMBANKMENT TOP WIDTH	4.0	FT
OUTLET PROTECTION - LENGTH	20.0	FT
OUTLET PROTECTION - DEPTH	19	IN

**Baffle Board Design**  
(See Detail G-2-4)

- A = surface area at wet storage elevation = 7993 sf
- Effective width,  $W_e = (A/2)^{1/2} = 63$  ft
- Flow length from inflow point to outlet = 120 ft
- If line 42 is less than  $W_e \times 2$ , provide baffle boards to lengthen flow path.
- Effective flow length,  $L_e = L_1 + L_2 + L_3 = 240$  ft must be  $\geq W_e \times 2 = 126$  ft

**TRAP #1 TEMPORARY STORMWATER MANAGEMENT**

TEMP. SWM FOR 1 YR. STORM	$Q_{PRE} = 5.22$ CFS
	$Q_{POST} = 3.80$ CFS

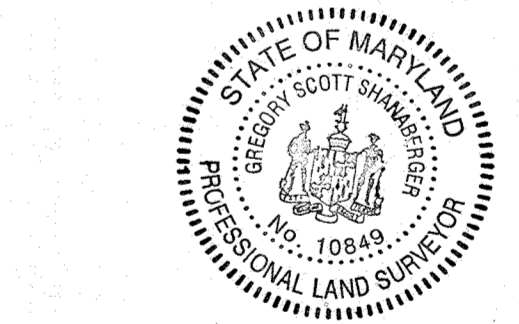
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL  
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**ENGINEER'S CERTIFICATE**  
I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
SIGNATURE OF ENGINEER: BRANDON R. ROWE, P.E.  
DATE: 10/2/19

**DEVELOPER'S CERTIFICATE**  
I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.  
SIGNATURE OF DEVELOPER: [Signature]  
DATE: 9-26-19

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
[Signature]  
DATE: 10/30/19

APPROVED: DEPARTMENT OF PUBLIC WORKS  
CHIEF, BUREAU OF HIGHWAYS DATE: 11/24/2019  
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 2/20/2020  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 12-9-19



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET.  
G. Scott Shanaberger 12/11/2023  
Professional L.S. # 10849 Exp. Date 4/2/2024  
AS-BUILT DATE: 10/10/2023  
Shanaberger & Lane  
INSTRUMENTS USED IN PREPARING THIS AS-BUILT SURVEY: 5 SECOND SHELBY W. BENTON TOTAL STATION, TOPCON AC-5 RECEIVER, SOKKIA Z60 PRISM

OWNERS:  
PARCEL 38  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TARR ROAD  
HORSHAM PA, 19044  
TEL.  
PARCEL 34  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TARR ROAD  
HORSHAM PA, 19044  
TEL.  
DEVELOPER:  
ELM STREET DEVELOPMENT  
5074 DORSEY HALL ROAD, SUITE 205  
COLUMBIA, MD 21046  
CONTACT: JASON VAN KIRK  
PHONE: (410) 720-3021

PARCEL 111  
DENNIS A LEAF  
LENORE D. SINES  
5225 GREEN BRIDGE ROAD  
DAYTON, MD 21029  
TEL.  
PARCEL 112  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TARR ROAD  
HORSHAM PA, 19044  
TEL.  
PARCEL 98  
JERRY MAUCK  
JANET BURKE JT  
5234 GREEN BRIDGE ROAD  
DAYTON, MD 21036  
TEL.

SUBDIVISION NAME: TBD  
SECTION/AREA: N/A  
DEED # 1136100222-018300554,  
15884003894, 0588900490  
0434100270, & 0320100539

PREVIOUS FILE NO.:  
ECP-16-023

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
PARCEL: 34, 36, 98, 111 & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
CORPORATE OFFICE: WARREN NJ  
OFFICES: BOWEN MD, TOWSON MD, ALBANY NY, WESTPORT NY, CENTER VALLEY PA, CHANTON PA, WASHINGTON VA, FORT LAUDERDALE FL, FORT MYERS FL, JACKSONVILLE FL, MIAMI FL, ORLANDO FL, TAMPA FL, WINTER GARDEN FL  
SERVICES: SURVEYORS, CIVIL & CONSULTING ENGINEERS, PROJECT MANAGERS, ENVIRONMENTAL CONSULTANTS, LANDSCAPE ARCHITECTS

**REVISIONS**

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO RESTORE THE EARTH'S SURFACE ANYWHERE IN THE STATES OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL: 811  
(WV 1-800-245-4548) (PA 1-800-242-1776) (DC 1-800-257-3777) (VA 1-800-552-7021) (MD 1-800-257-7777) (DE 1-800-382-9666)

APPROVED FOR CONSTRUCTION  
PROJECT No.: MD142046  
DRAWN BY: AVG  
CHECKED BY: BRB  
DATE: 08/26/19  
SCALE: AS SHOWN  
CAD I.D.: ONJ

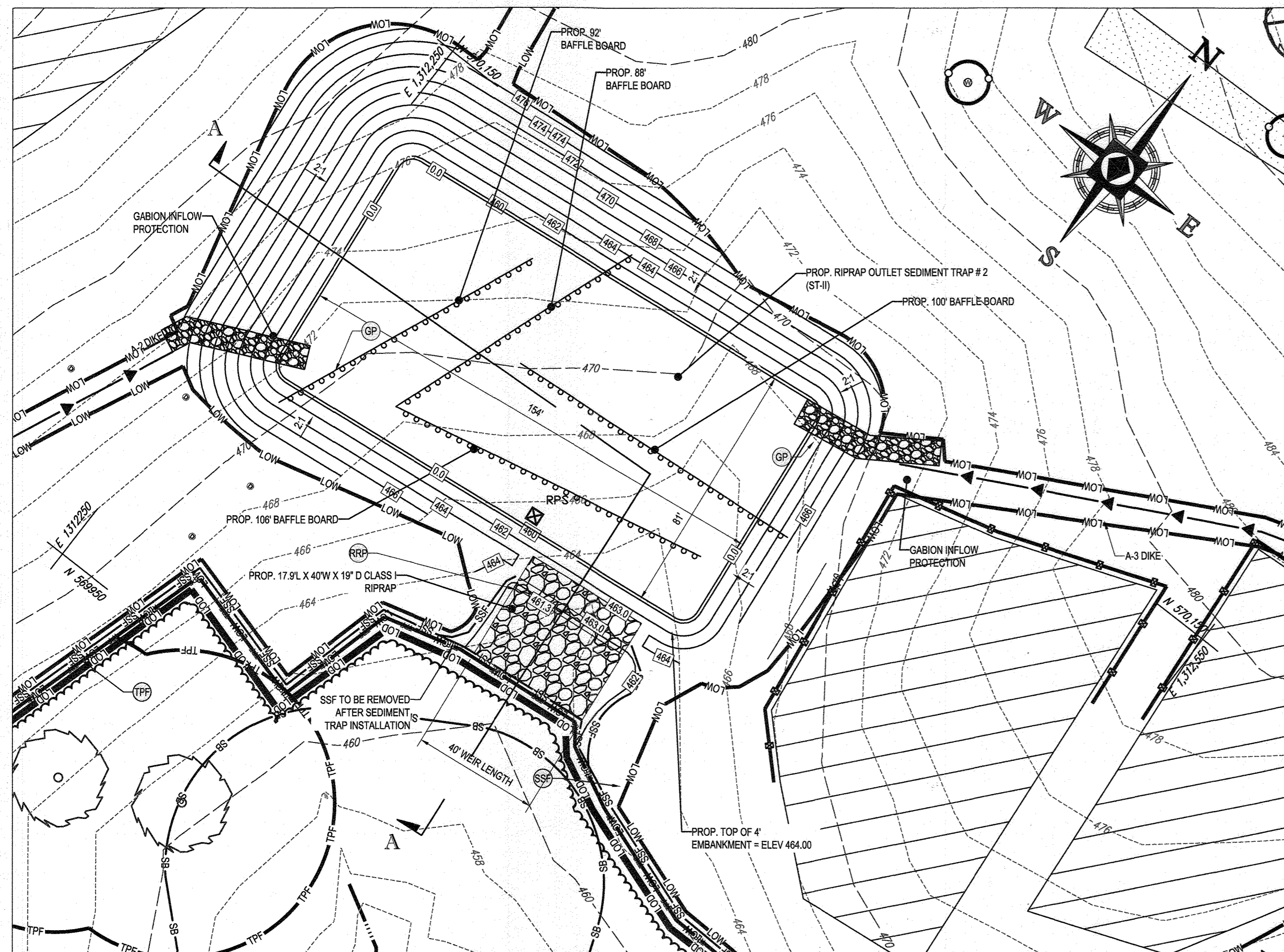
**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & I, P & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
901 DULANEY VALLEY ROAD, SUITE 801  
TOWSON, MARYLAND 21284  
PHONE: (410) 821-7900  
FAX: (410) 821-7987  
www.BohlerEngineering.com

**B. R. ROWE**  
PROFESSIONAL ENGINEER  
MARYLAND LICENSE NO. 40662  
PROFESSIONAL CERTIFICATION  
I BRANDED THESE DOCUMENTS AS PREPARED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 40662 EXPIRES 03/31/2021

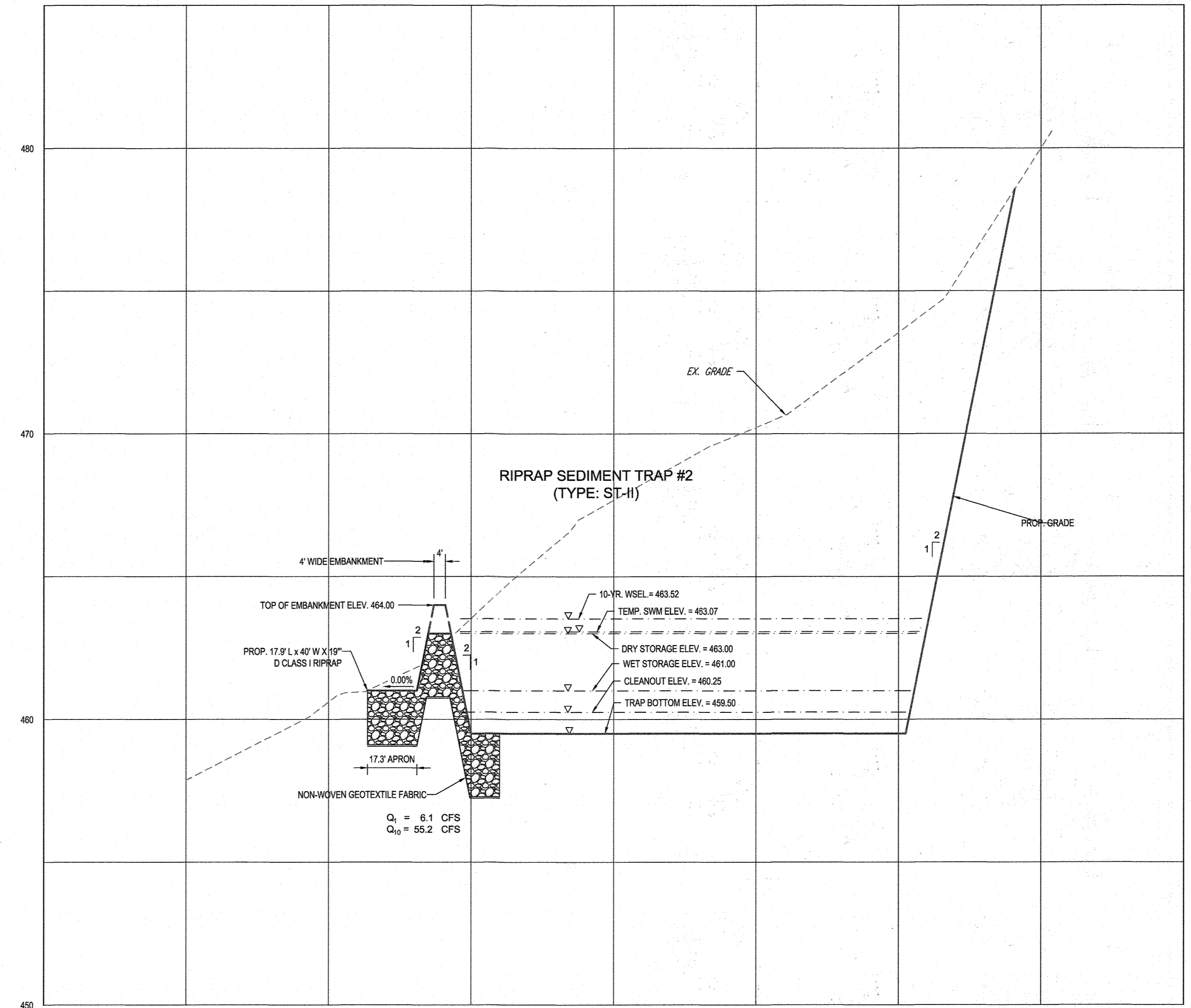
SHEET TITLE:  
**EROSION & SEDIMENT CONTROL - PHASE I SEDIMENT TRAP #1 PLAN, SECTION & DETAILS**  
SHEET NUMBER:  
**42 OF 92**

15/10/2019 09:00:00 AM 250 GIBRAL TARR ROAD CONSTRUCTION PLAN/NO. 42 OF 92 P. 42 OF 92 (REV. 04/19) (REV. 04/19)



RIPRAP OUTLET SEDIMENT TRAP #2 - PLAN

SCALE: 1" = 30'



RIPRAP OUTLET SEDIMENT TRAP #2 - SECTION A-A

SCALE: 1" = 30' HORIZONTAL  
1" = 3' VERTICAL

DETAIL G-1-2 STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II

STONE/RIPRAP SEDIMENT TRAP ST-II, TRAP NO. 2		
DRAINAGE AREA - INTIAL	10.0	ACRES
DRAINAGE AREA - INTERIM	10.0	ACRES
DRAINAGE AREA - FINAL	10.0	ACRES
TOTAL STORAGE REQUIRED	36,000	CF
TOTAL STORAGE PROVIDED	48,924	CF
WET STORAGE REQUIRED	18,000	CF
WET STORAGE PROVIDED	19,517	CF
DRY STORAGE REQUIRED	18,000	CF
DRY STORAGE PROVIDED	29,407	CF
EXISTING GROUND ELEVATION AT OUTLET (WET STORAGE ELEVATION)	461.00	FT
TRAP BOTTOM ELEVATION	459.50	FT
TRAP BOTTOM DIMENSIONS	154 x 81	FT X FT
WEIR LENGTH	40	FT
WEIR CREST (DRY STORAGE) ELEVATION	463.00	FT
CLEANOUT ELEVATION	460.25	FT
TOP OF EMBANKMENT ELEVATION	464.00	FT
SIDE SLOPE	2:1	H:V RATIO
EMBANKMENT TOP WIDTH	4	FT
OUTLET PROTECTION - LENGTH	17.9	FT
OUTLET PROTECTION - DEPTH	19	IN

Baffle Board Design (See Detail G-2-4)	
1. A = surface area at wet storage elevation	13717 sf
2. Effective width, $W_e = (A/2)^{1/2}$	83 ft
3. Flow length from inflow point to outlet =	110 ft
4. If line 42 is less than $W_e \times 2$ , provide baffle boards to lengthen flow path.	
5. Effective flow length, $L_e = L_1 + L_2 + L_3$ must be $\geq W_e \times 2 =$	166 ft

TRAP #2 TEMPORARY STORMWATER MANAGEMENT	
TEMP. SWM FOR 1 YR. STORM	$Q_{avg} = 11.53$ CFS $Q_{peak} = 6.1$ CFS

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

SIGNATURE OF ENGINEER: *Brandon R. Rowe* DATE: 10/17/19  
BRANDON R. ROWE, P.E.

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

SIGNATURE OF DEVELOPER: *John R. Rowe* DATE: 9-26-19  
HOWARD SOIL CONSERVATION DISTRICT

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

APPROVED: *John R. Rowe* DATE: 10/30/19  
HOWARD SOIL CONSERVATION DISTRICT

APPROVED: DEPARTMENT OF PUBLIC WORKS  
CHIEF, BUREAU OF HIGHWAYS DATE: 11/26/2019

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 2/26/2020

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 12-9-19



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
Professional L.S. # 10849 Exp. Date 4/2/2024  
AS-BUILT DATE: 10/17/2023  
Shanabarger & Lane  
145 INSTRUMENTS LAND IN PROGRESSING THIS AS-BUILT SURVEY. 5 SECOND SURVEY. IN PROGRESS. TOTAL STATION, TOPCON PC-5 RECEIVER, SOKKIA 3000 PRISM

OWNERS:  
PARCEL 36  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TARR ROAD  
HORSHAM PA, 19044  
TEL.  
PARCEL 111  
DENNIS A LEAF  
LENORE D. SINES  
5226 GREEN BRIDGE ROAD  
DAYTON, MD 21035  
TEL.  
PARCEL 112  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TARR ROAD  
HORSHAM PA, 19044  
TEL.  
PARCEL 34  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TARR ROAD  
HORSHAM PA, 19044  
TEL.  
PARCEL 98  
JERRY MAUCK  
JANET BURKE JT  
5234 GREEN BRIDGE ROAD  
DAYTON, MD 21036  
TEL.  
DEVELOPER:  
GREEN BRIDGE FARM II, L.C.  
5074 DORSEY HALL ROAD, SUITE 205  
COLUMBIA, MD 21042  
CONTACT: JASON VAN KIRK  
PHONE: (410) 720-3021  
TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
PARCEL: 34, 36, 98, 111 & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

SUBDIVISION NAME: WILLOWSHIRE  
SECTION/AREA: N/A  
DEED # 1136100222-0118300554,  
158841003894, 05889100490  
0434100270, & 03201100539

PREVIOUS FILE NO.:  
ECP-16-023 PB436  
SP-17-002  
WP-17108

**BOHLER ENGINEERING**  
CORPORATE OFFICE: WARRREN NJ  
OFFICES:  
BOSTON MA  
CHICAGO IL  
COLUMBIA MD  
DENVER CO  
FORT LAUDERDALE FL  
FORT MYERS FL  
FORT WORTH TX  
HARTFORD CT  
HOUSTON TX  
LOS ANGELES CA  
MEMPHIS TN  
MIAMI FL  
MINNEAPOLIS MN  
NEW YORK NY  
PHILADELPHIA PA  
PHOENIX AZ  
PORTLAND OR  
SAN ANTONIO TX  
SAN FRANCISCO CA  
WASHINGTON DC  
WICHITA KS

CIVIL & CONSULTING ENGINEERS  
SURVEYORS  
PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

**REVISIONS**

REV	DATE	COMMENT	BY

**APPROVED FOR CONSTRUCTION**

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL 811  
(WV 1-800-245-4848) (PA 1-800-242-1776) (DC 1-800-257-3777) (VA 1-800-552-7001) (MD 1-800-257-7777) (DE 1-800-282-2822)

PROJECT No: MD142386  
DRAWN BY: AVG  
CHECKED BY: BRR  
DATE: 08/26/19  
SCALE: AS SHOWN  
CAD I.D.: OMS

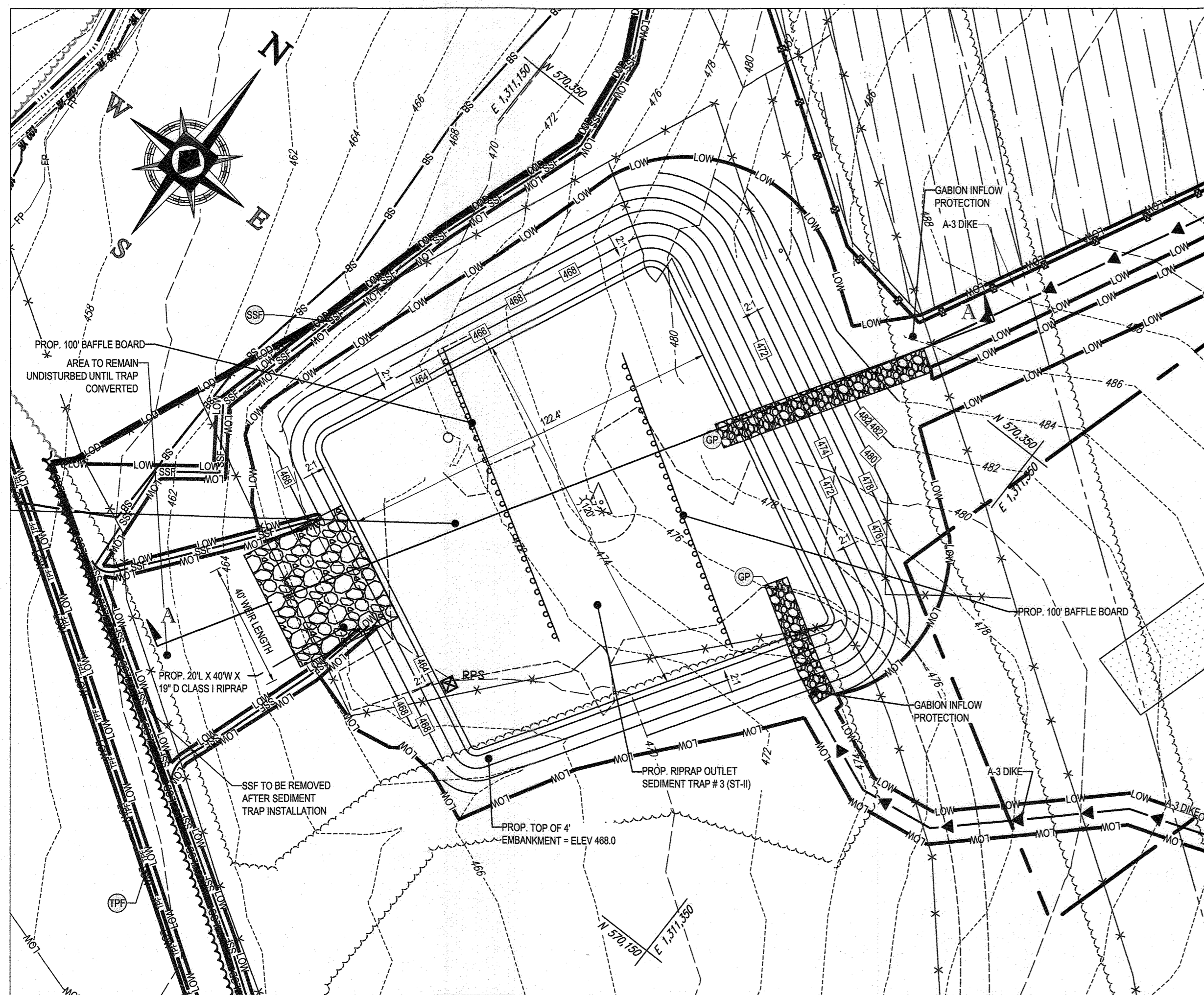
**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - F & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
901 DULANEY VALLEY ROAD, SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7800  
Fax: (410) 821-7887  
www.BohlerEngineering.com

**B.R. ROWE**  
PROFESSIONAL ENGINEER  
PROFESSIONAL CERTIFICATION  
I, BRANDON R. ROWE, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 9668, EXPIRES 03/01/2021

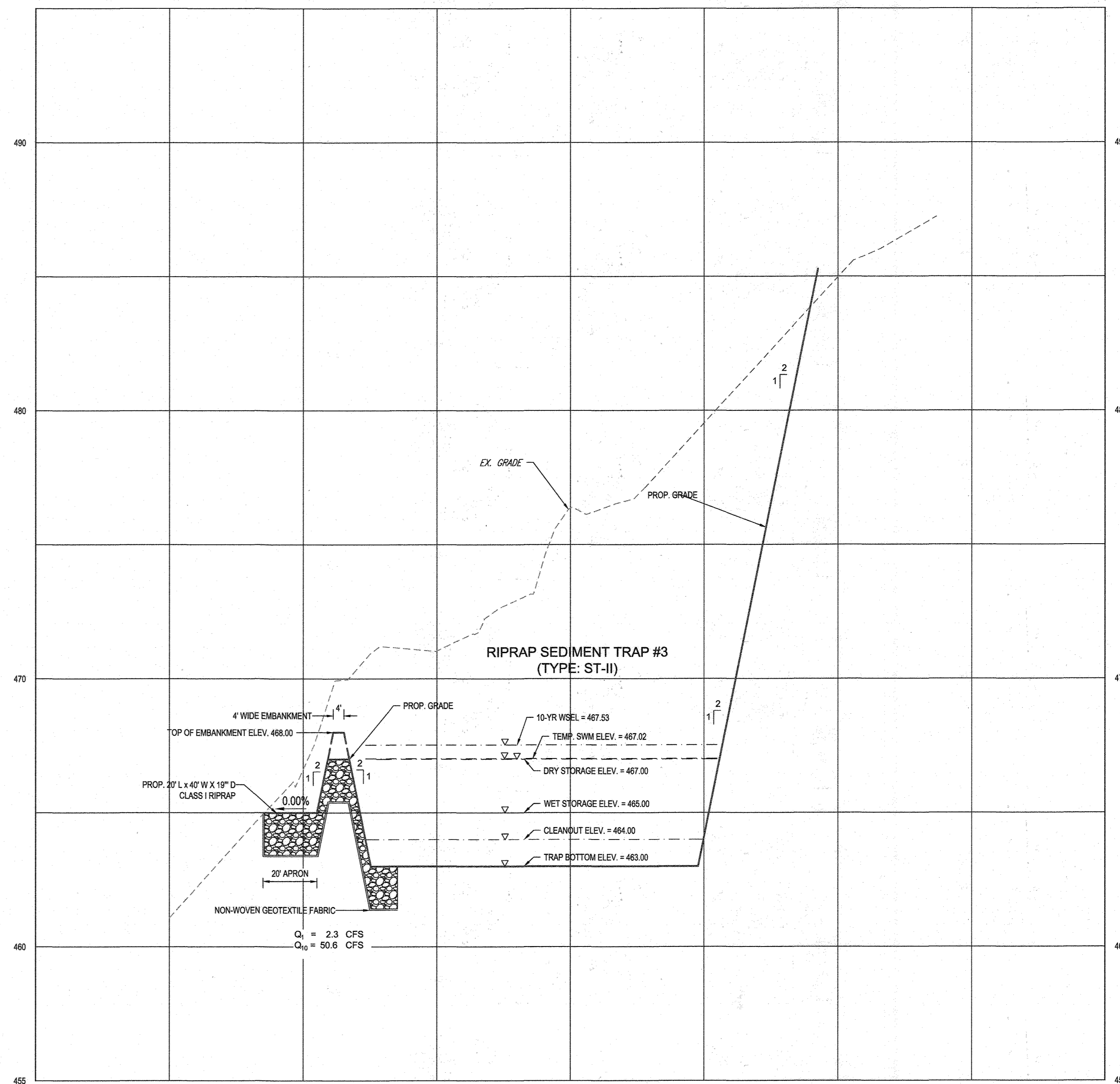
SHEET TITLE:  
**EROSION & SEDIMENT CONTROL - PHASE I SEDIMENT TRAP #2 PLAN, SECTION A-A & DETAILS**  
SHEET NUMBER:  
**43 OF 92**

15/10/2019 10:00:00 AM 15/10/2019 10:00:00 AM 15/10/2019 10:00:00 AM 15/10/2019 10:00:00 AM 15/10/2019 10:00:00 AM 15/10/2019 10:00:00 AM 15/10/2019 10:00:00 AM 15/10/2019 10:00:00 AM 15/10/2019 10:00:00 AM 15/10/2019 10:00:00 AM



RIPRAP OUTLET SEDIMENT TRAP # 3 - PLAN

SCALE: 1" = 30'



RIPRAP OUTLET SEDIMENT TRAP #3 - SECTION A-A

SCALE: 1" = 30' HORIZONTAL  
1" = 3' VERTICAL

DETAIL G-1-2 STONE/RIPRAP OUTLET SEDIMENT TRAP ST-II			STANDARD SYMBOL
			ST-II
STONE/RIPRAP SEDIMENT TRAP ST-II, TRAP NO. 3			
DRAINAGE AREA - INTIAL	10.0	ACRES	
DRAINAGE AREA - INTERIM	10.0	ACRES	
DRAINAGE AREA - FINAL	10.0	ACRES	
TOTAL STORAGE REQUIRED	36,000	CF	
TOTAL STORAGE PROVIDED	65,961	CF	
WET STORAGE REQUIRED	18,000	CF	
WET STORAGE PROVIDED	30,961	CF	
DRY STORAGE REQUIRED	18,000	CF	
DRY STORAGE PROVIDED	35,000	CF	
EXISTING GROUND ELEVATION AT OUTLET (WET STORAGE ELEVATION)	465.00	FT	
TRAP BOTTOM ELEVATION	463	FT	
TRAP BOTTOM DIMENSIONS	132.5 x 110	FT X FT	
WEIR LENGTH	40	FT	
WEIR CREST (DRY STORAGE) ELEVATION	467.00	FT	
CLEANOUT ELEVATION	464.00	FT	
TOP OF EMBANKMENT ELEVATION	468.00	FT	
SIDE SLOPE	2:1	H:V RATIO	
EMBANKMENT TOP WIDTH	4.0	FT	
OUTLET PROTECTION - LENGTH	20.0	FT	
OUTLET PROTECTION - DEPTH	19.0	IN	

Baffle Board Design (See Detail G-2-4)	
1. A = surface area at wet storage elevation	16472 sf
2. Effective width $W_e = (A/2)^{0.5}$	91 ft
3. Flow length from inflow point to outlet =	160 ft
4. If line 42 is less than $W_e \times 2$ , provide baffle boards to lengthen flow path.	
5. Effective flow length, $L_e = L_1 + L_2 + L_3 =$	320 ft must be $\geq W_e \times 2 = 182$ ft

TRAP #2 TEMPORARY STORMWATER MANAGEMENT	
TEMP. SWM FOR 1 YR. STORM	Q <sub>PRE</sub> = 13.09 CFS Q <sub>POST</sub> = 2.3 CFS

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

10/18  
SIGNATURE OF ENGINEER: BRANDON R. ROWE, P.E.  
DATE

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

9-26-19  
SIGNATURE OF DEVELOPER: [Signature]  
DATE

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

11/26/2019  
APPROVED: DEPARTMENT OF PUBLIC WORKS  
CHIEF, BUREAU OF HIGHWAYS DATE

12-9-19  
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

12-9-19  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

Professional L.S. # 10849 Exp. Date 4/2/2024  
AS-BUILT DATE: 10/1/2019  
Shanaberger & Lane  
INSTRUMENTS USED IN PREPARING THIS AS-BUILT SURVEY: 5 SECOND TRIANGULATION TOTAL STATION, TORCHIC-5 RECEIVER, SOECIA 500 PRISM

OWNERS: PARCEL 36 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAP ROAD HORSHAM PA, 19044 TEL	PARCEL 111 DENNIS A LEAF LENORE D. SINES 5226 GREEN BRIDGE ROAD DAYTON, MD 21038 TEL
PARCEL 34 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAP ROAD HORSHAM PA, 19044 TEL	PARCEL 112 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAP ROAD HORSHAM PA, 19044 TEL
PARCEL 98 JERRY MAJUCK JANET BURKE JTT 5234 GREEN BRIDGE ROAD DAYTON, MD 21038 TEL	
DEVELOPER: GREEN BRIDGE FARM II, L.C. 5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTACT: JASON VAN KIRK PHONE: (410) 720-3021	

SUBDIVISION NAME: WILLOWSHIRE  
SECTION/AREA: NA  
DEED # 1136100222, 0018300554,  
15884002894, 0588900490  
04341002070, & 0320100539

PREVIOUS FILE NO.:  
ECP-16-023 PB436  
SP-17-002  
WP-17105

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
PARCEL: 34, 36, 98, 111 & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
WARREN, NJ

CIVIL & CONSULTING ENGINEERS  
SURVEYORS  
PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

OFFICES:  
BOSTON, MA  
BIRMINGHAM, AL  
CHICAGO, IL  
COLUMBIA, MD  
DENVER, CO  
FORT LAUDERDALE, FL  
FORT MYERS, FL  
FORT WORTH, TX  
HOUSTON, TX  
INDIANAPOLIS, IN  
JACKSONVILLE, FL  
MEMPHIS, TN  
MIAMI, FL  
MINNEAPOLIS, MN  
NEW YORK, NY  
PHILADELPHIA, PA  
PORTLAND, ME  
SAN ANTONIO, TX  
SAN FRANCISCO, CA  
WASHINGTON, DC

REVISIONS			
REV	DATE	COMMENT	BY

**THE STATE OF MARYLAND**

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL: 811  
(MD) 1-800-345-4848 (PA) 1-800-242-3778 (DC) 1-800-257-7777 (VA) 1-800-552-7071 (MD) 1-800-257-7777 (DE) 1-800-392-8249

**APPROVED FOR CONSTRUCTION**

PROJECT NO.: MD142640  
DRAWN BY: AVG  
CHECKED BY: BRR  
DATE: 08/26/19  
SCALE: AS SHOWN  
CAD ID: ONS

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E - G & L - P & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD, SUITE 801  
TOWSON, MARYLAND 21204  
Phone: (410) 821-7900  
Fax: (410) 821-7907  
www.BohlerEngineering.com

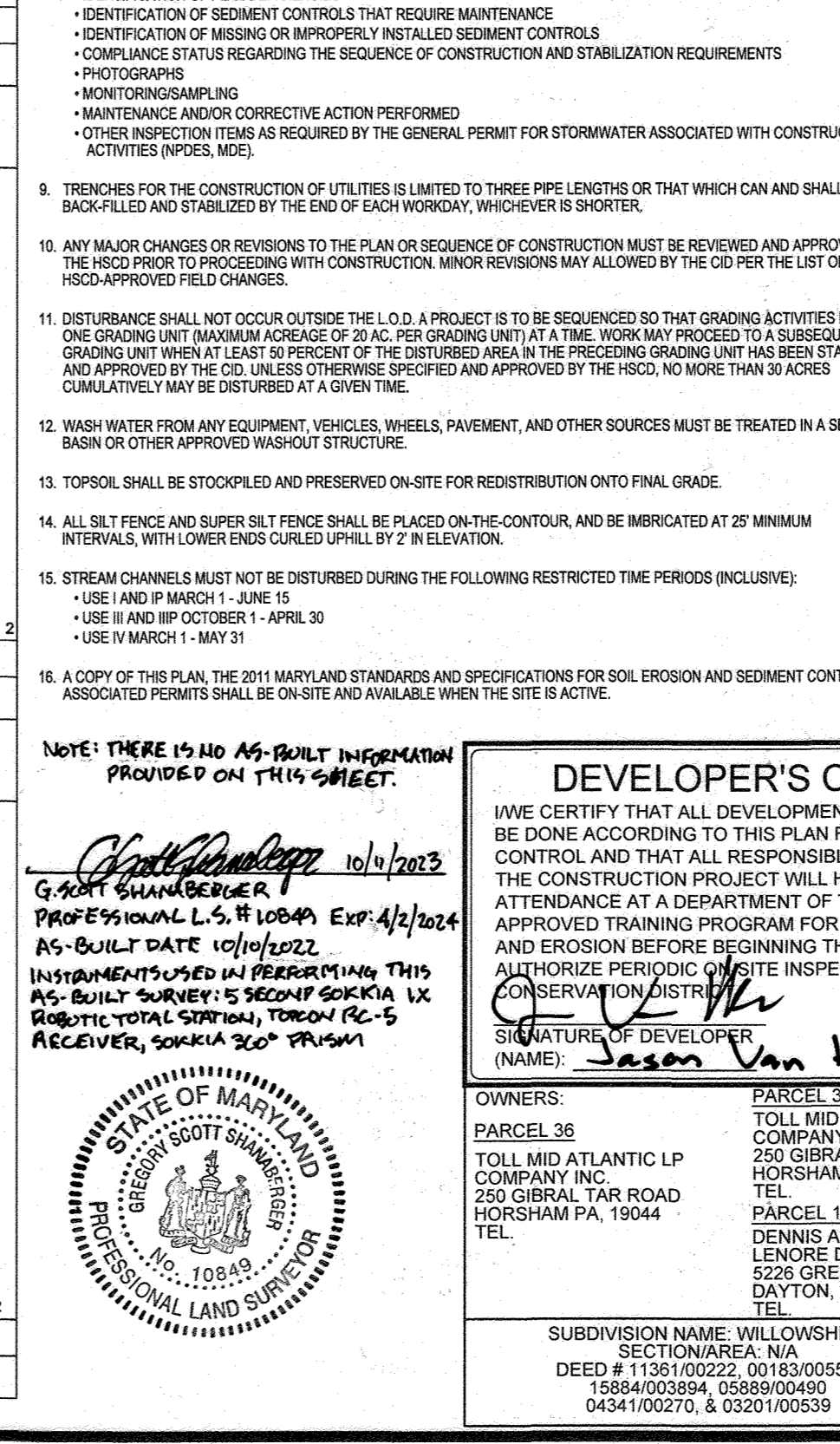
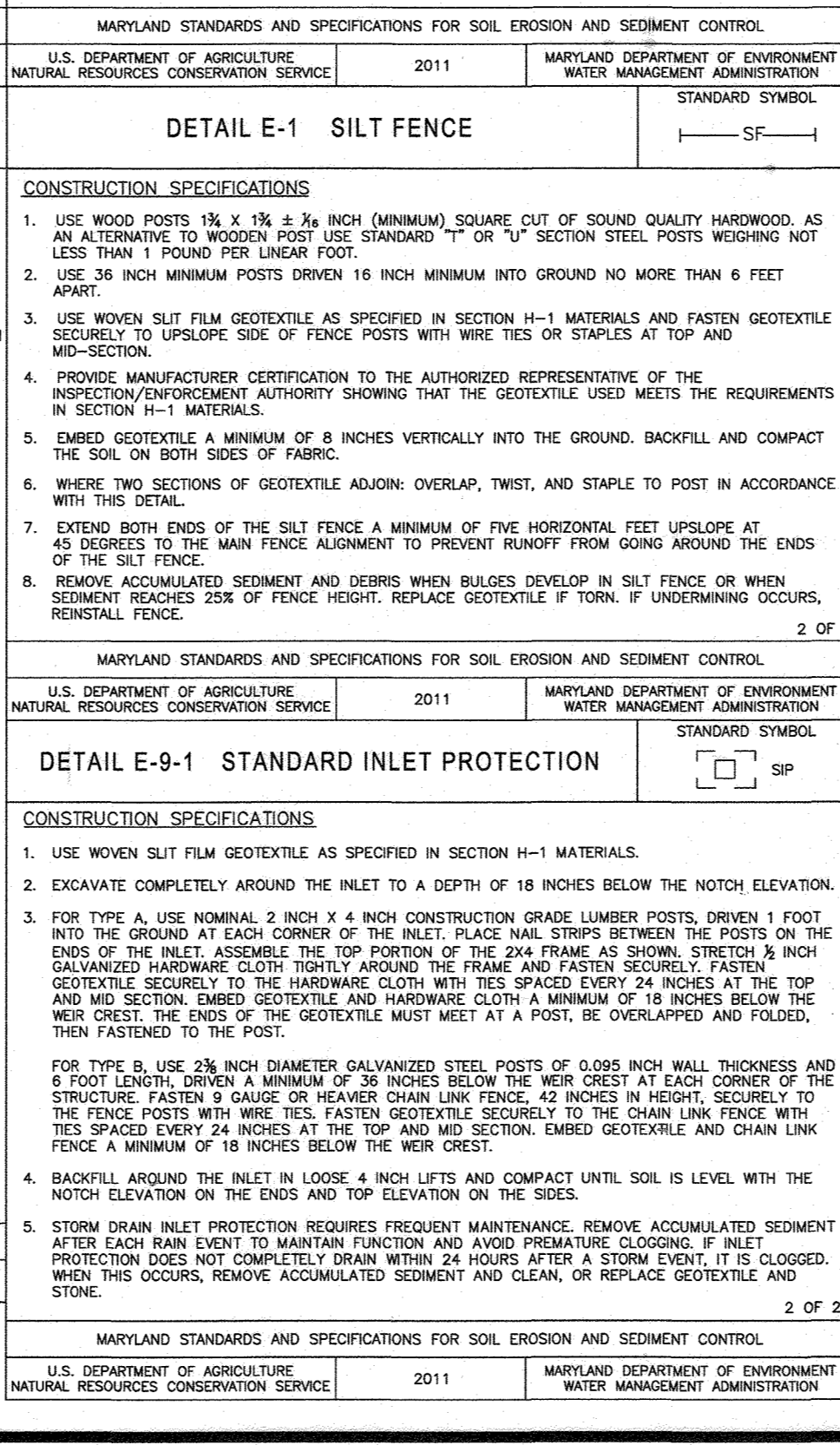
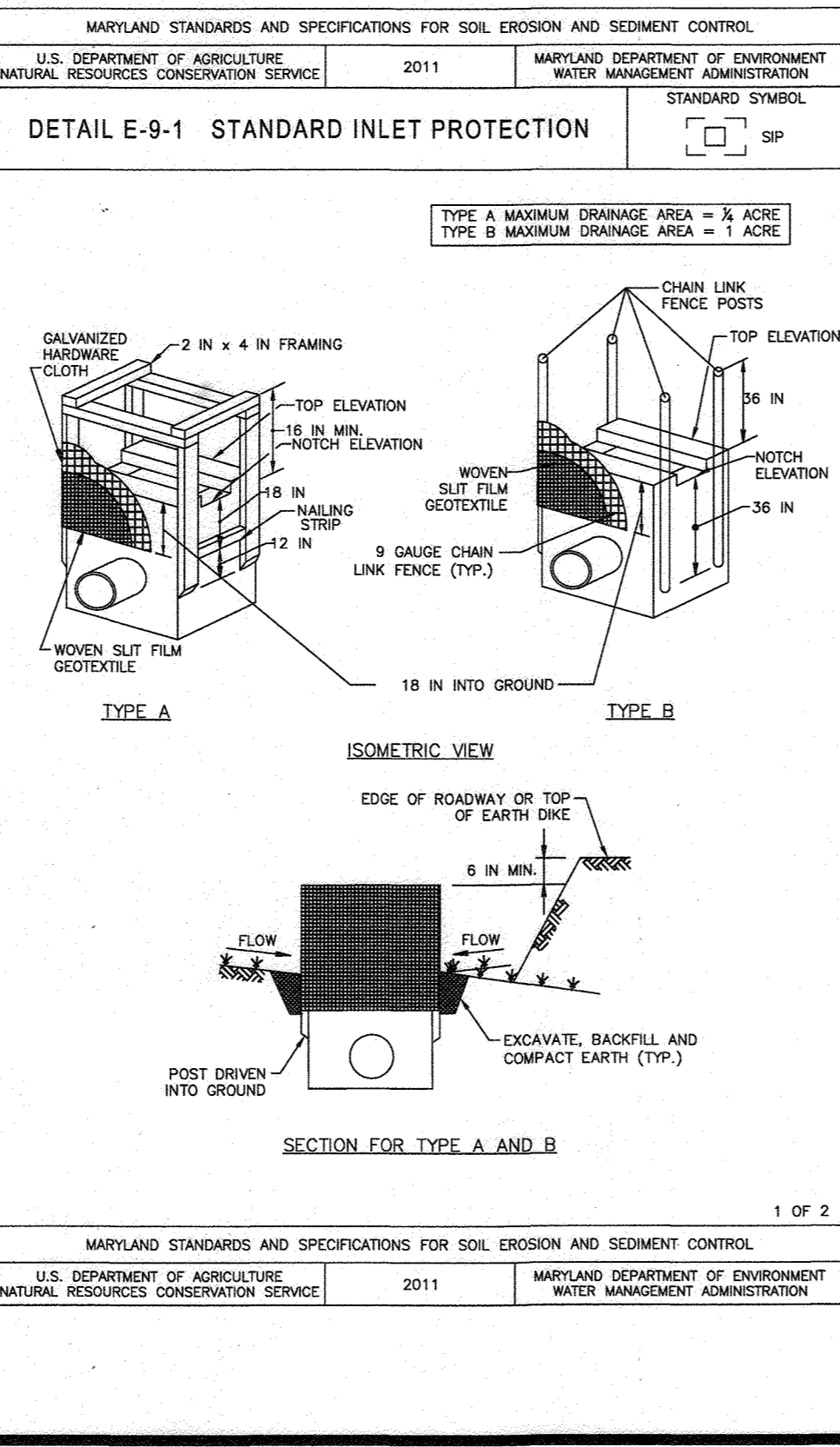
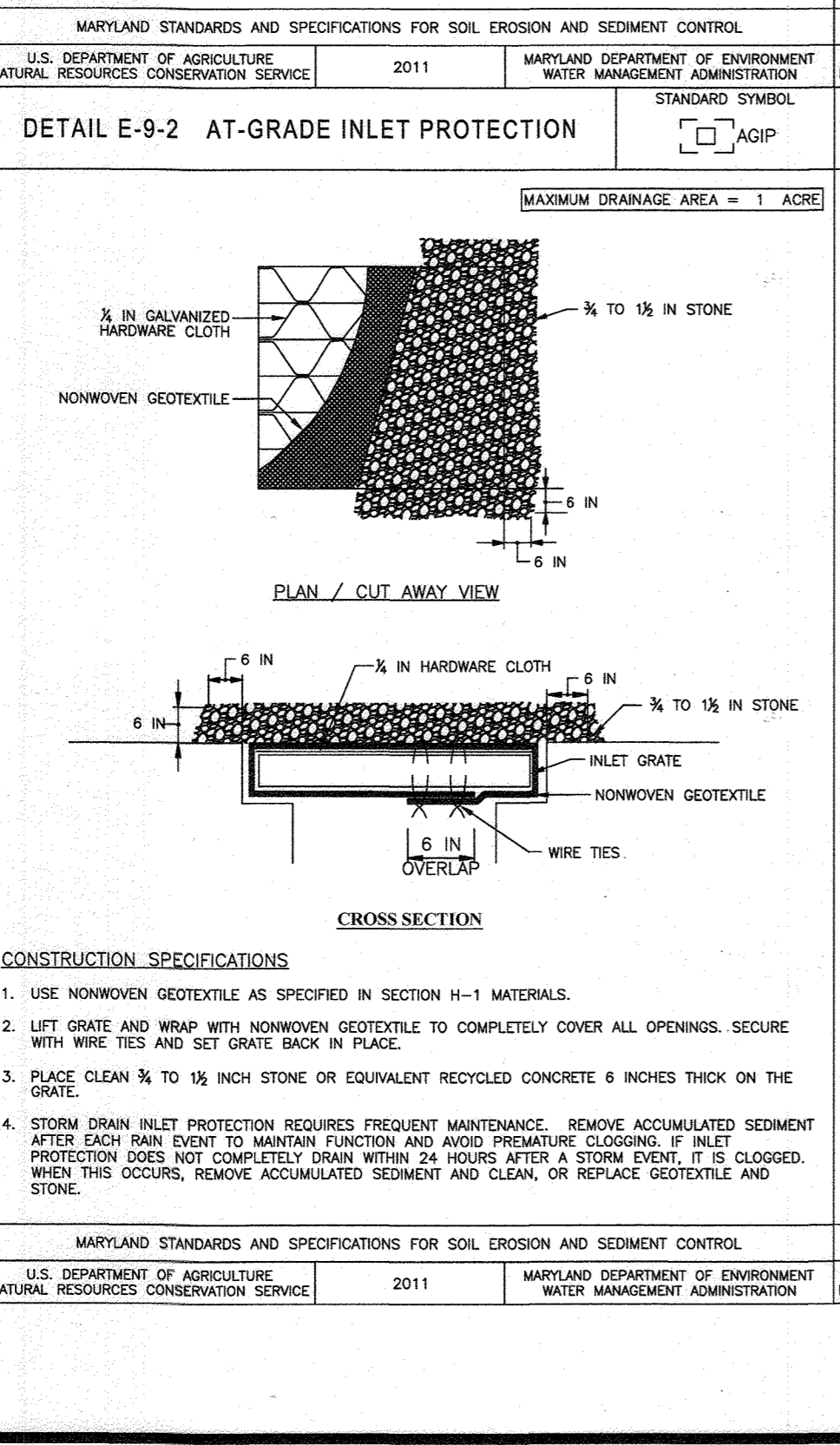
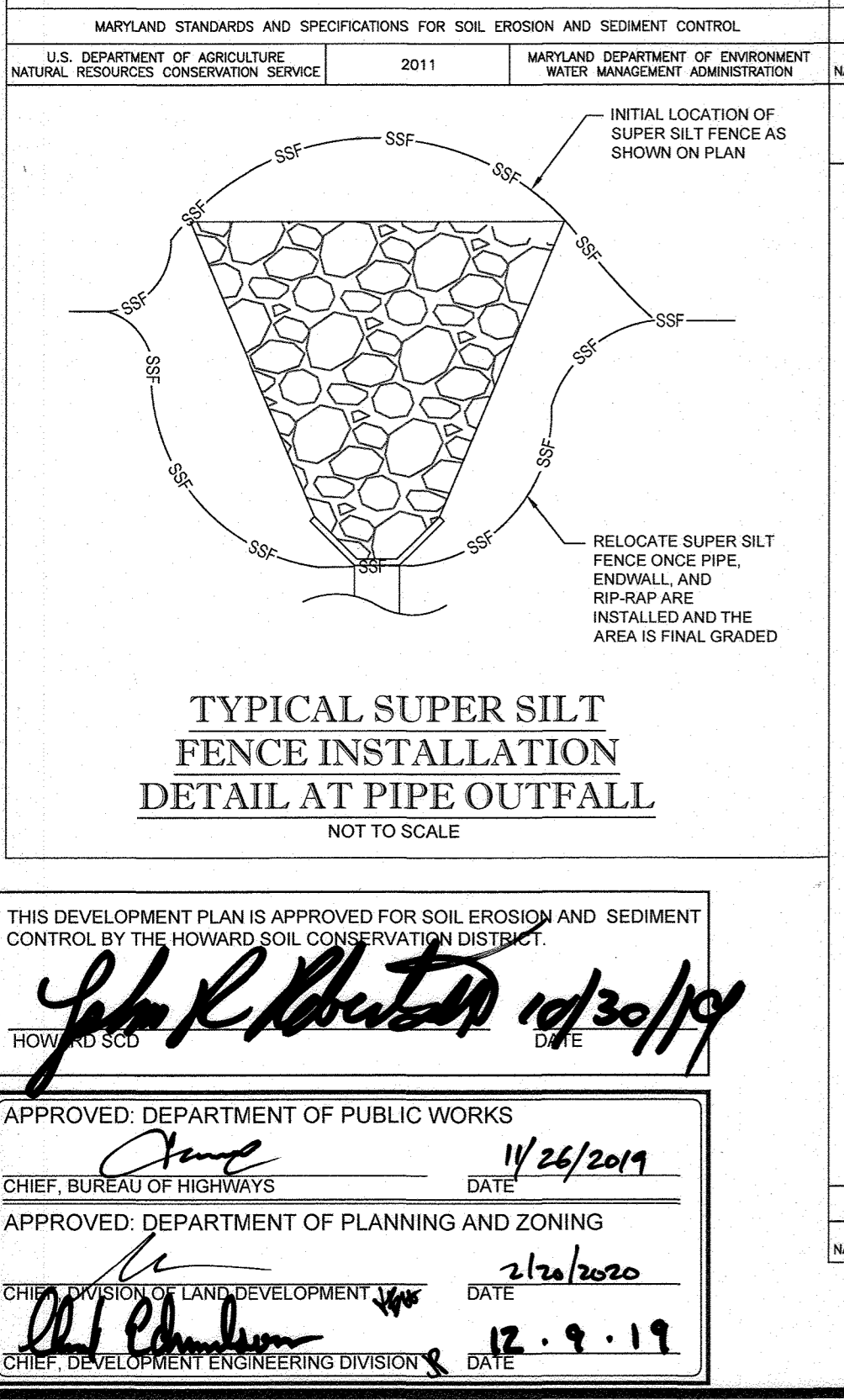
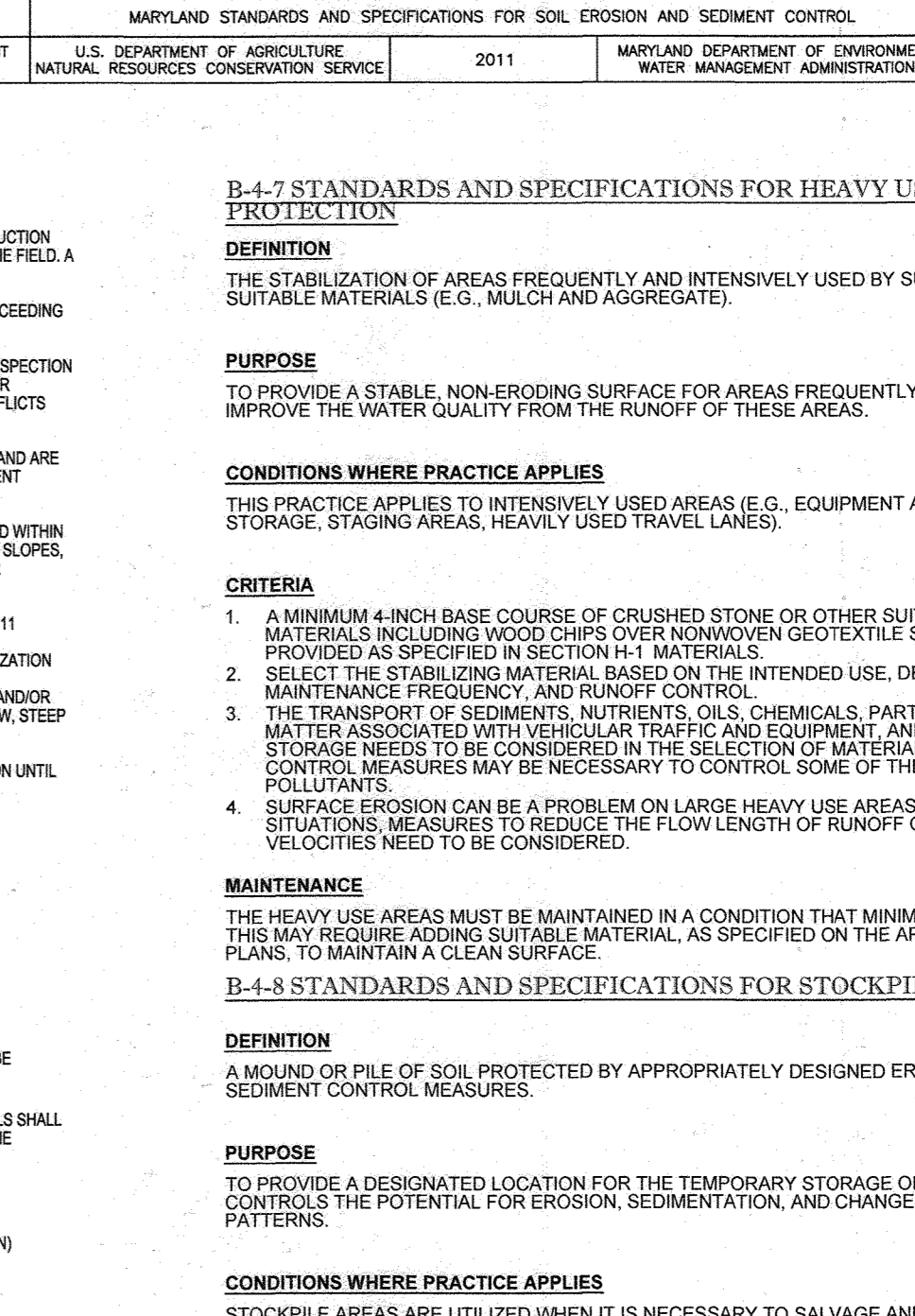
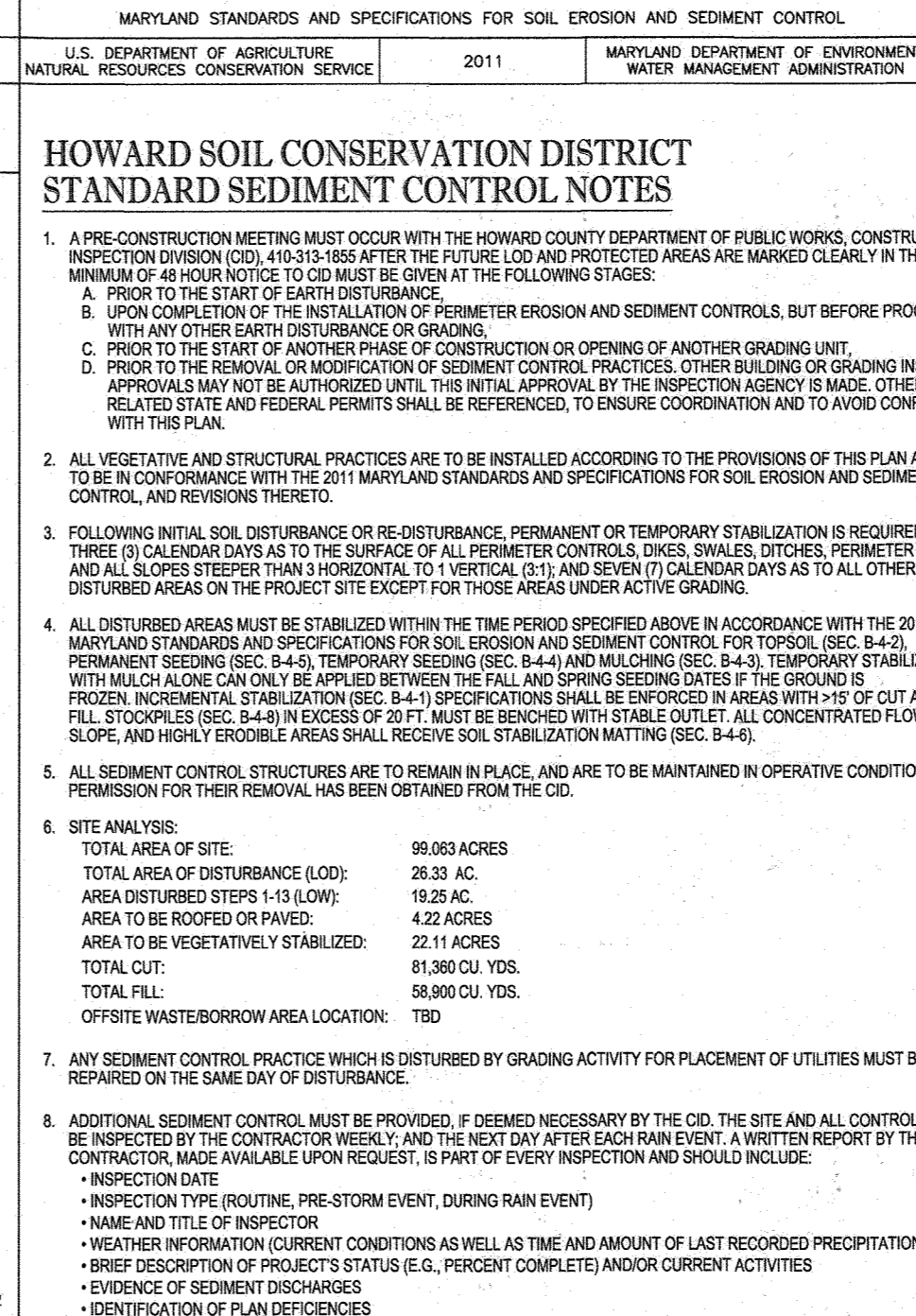
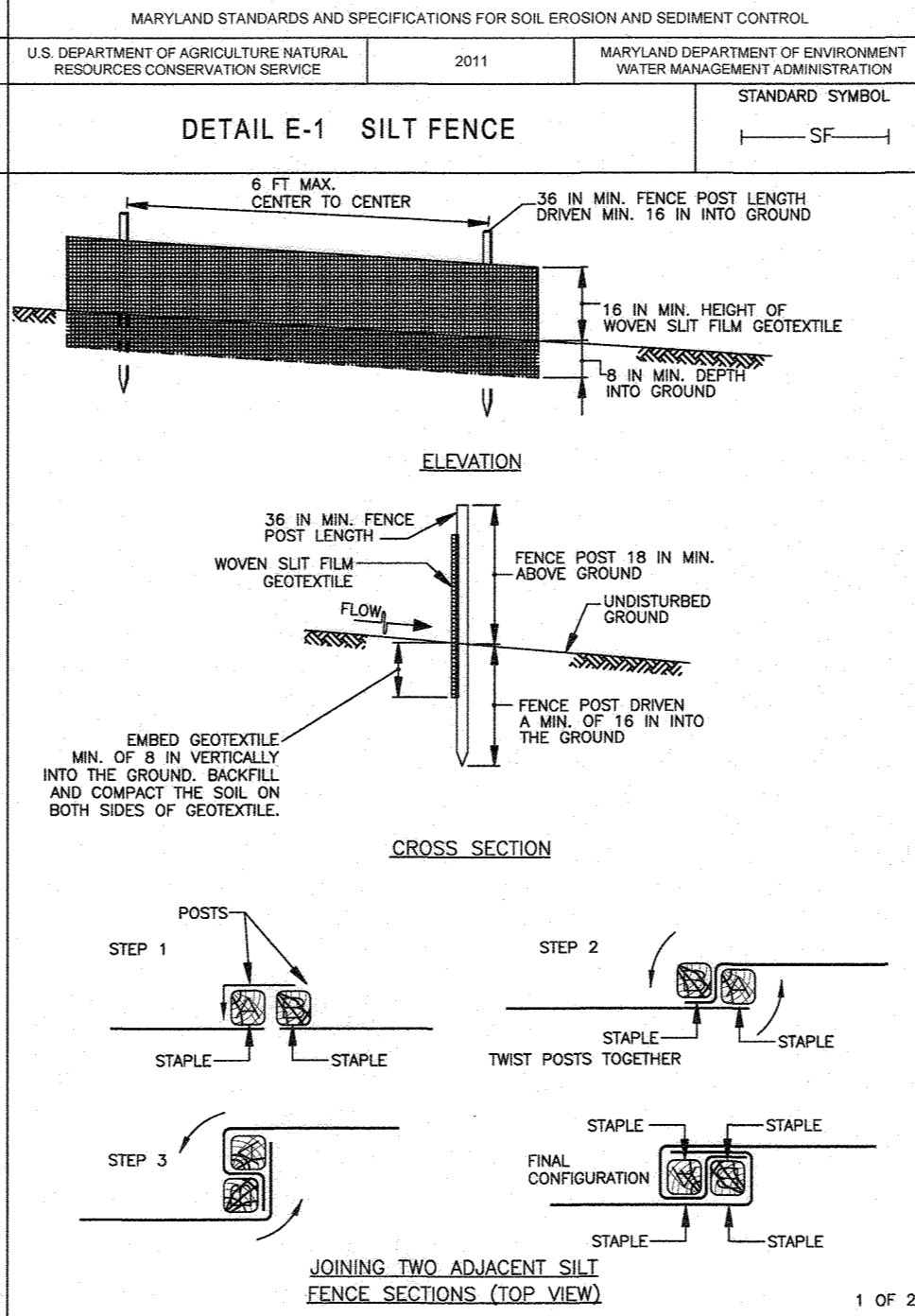
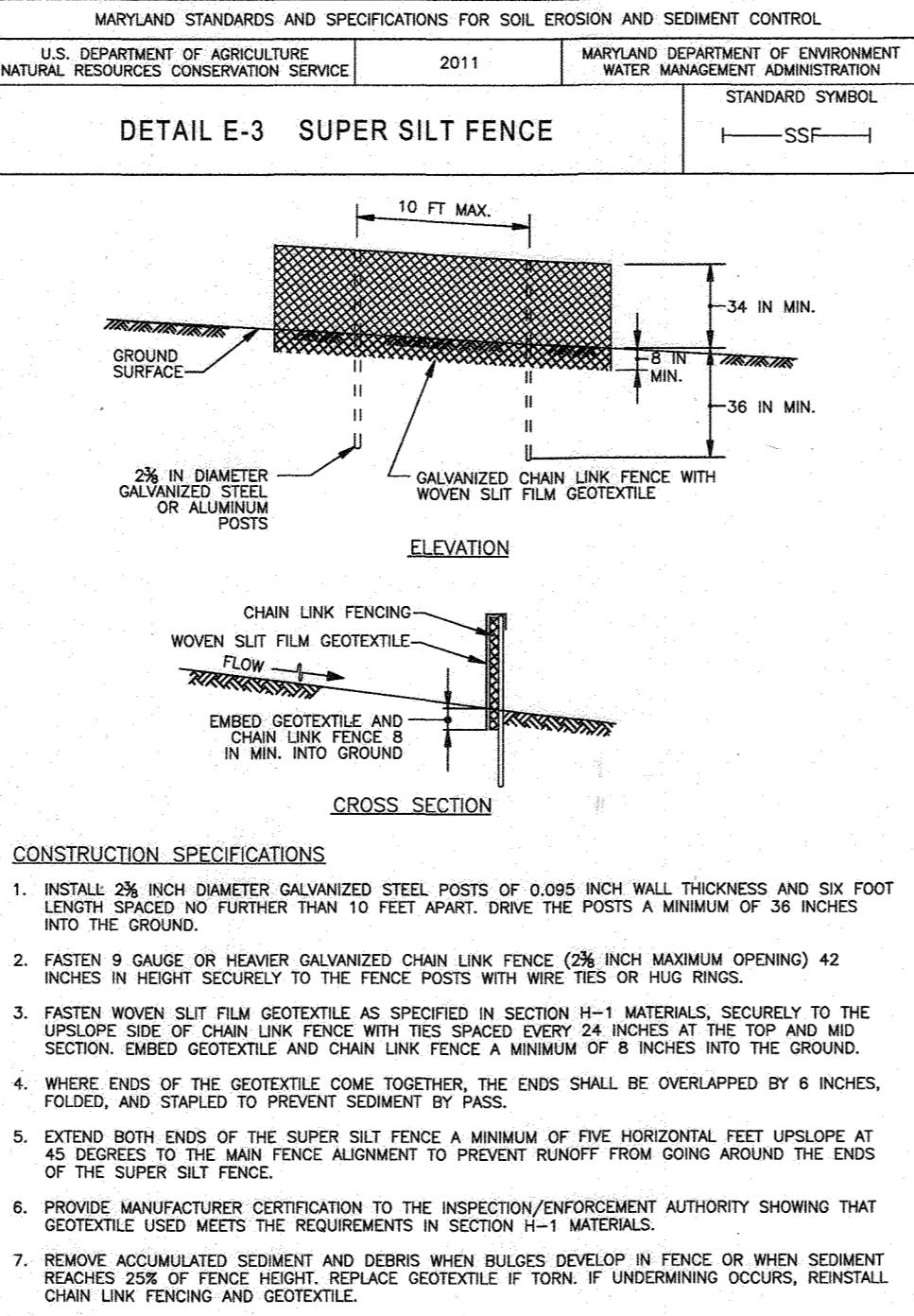
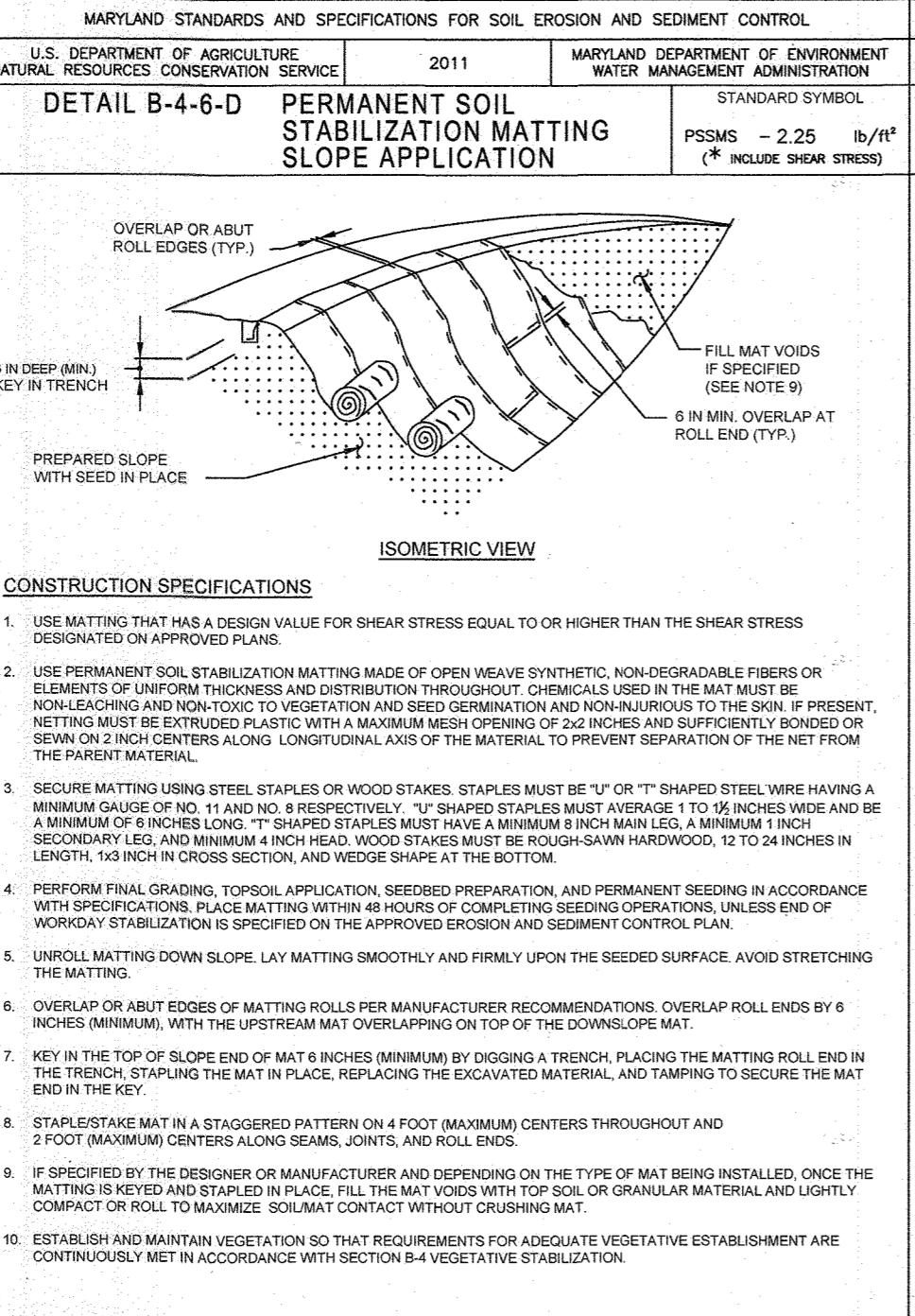
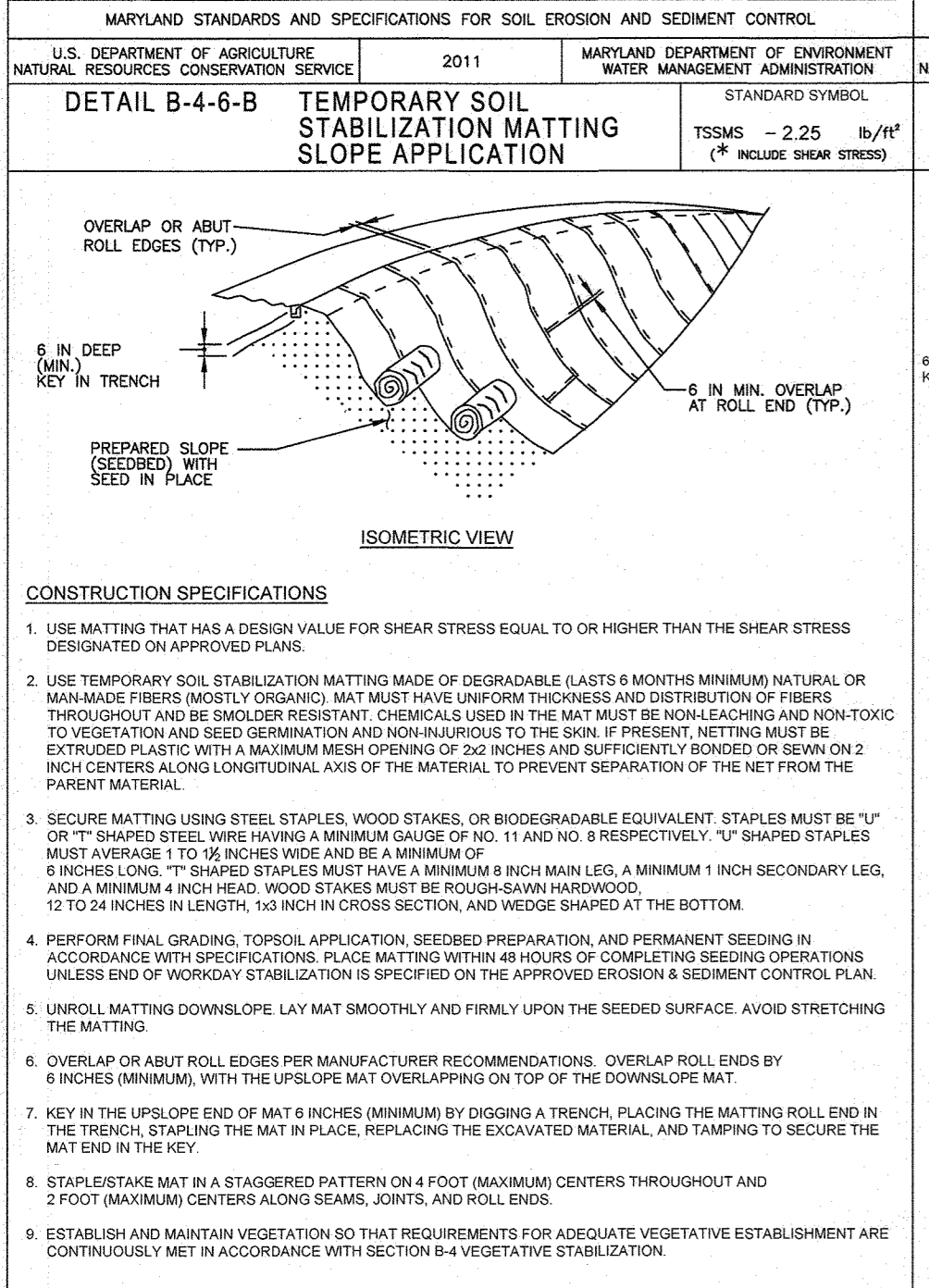
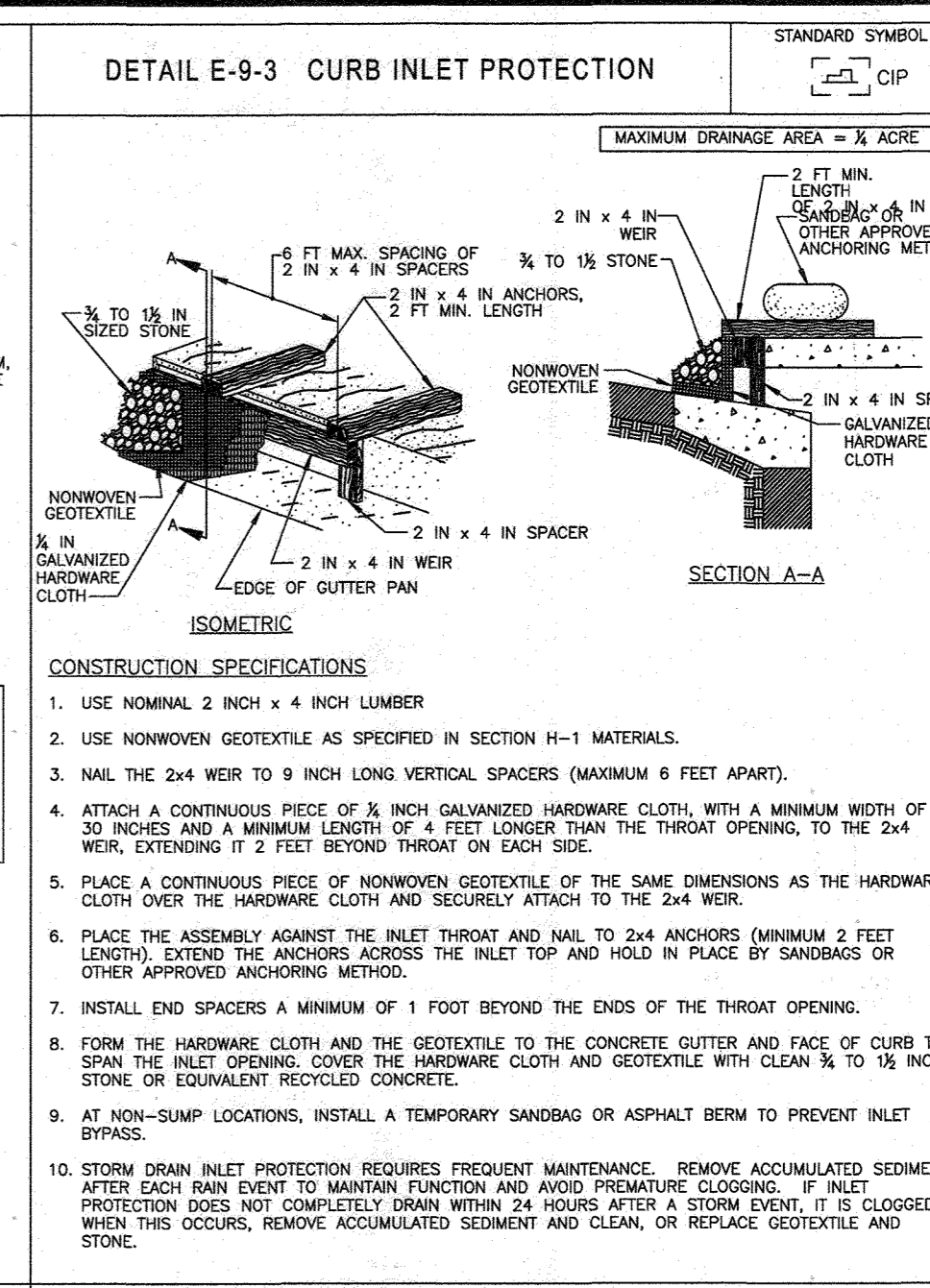
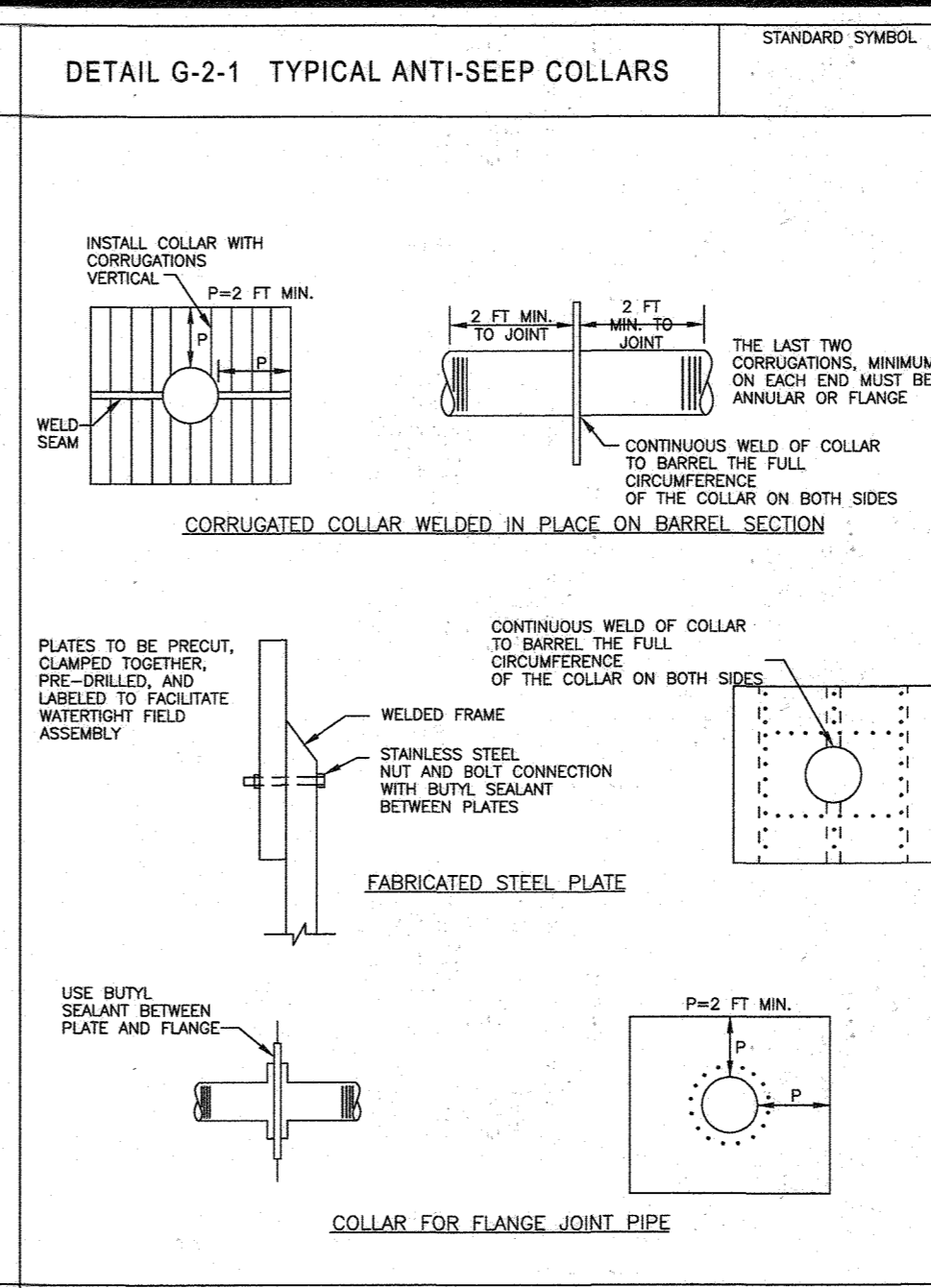
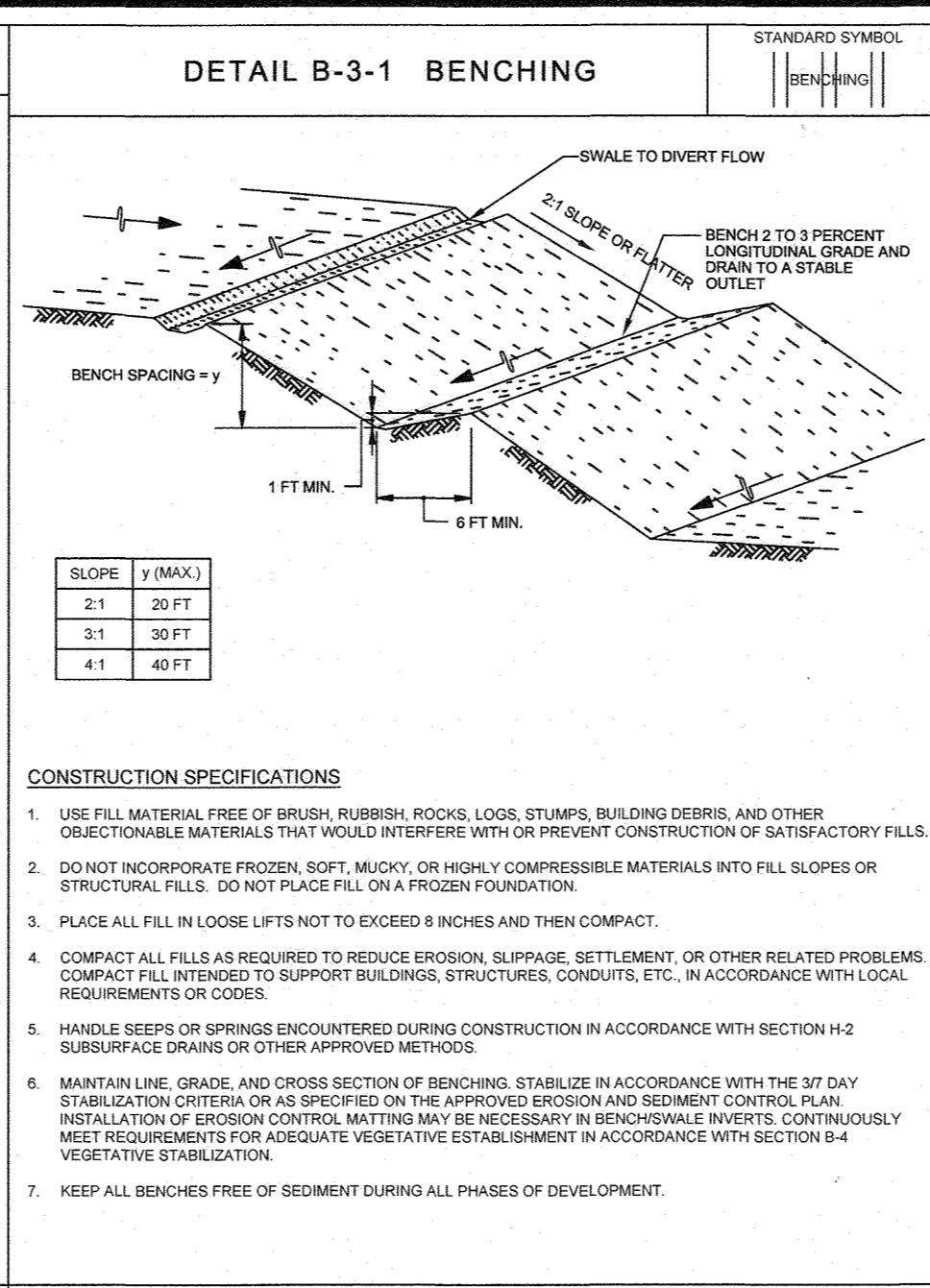
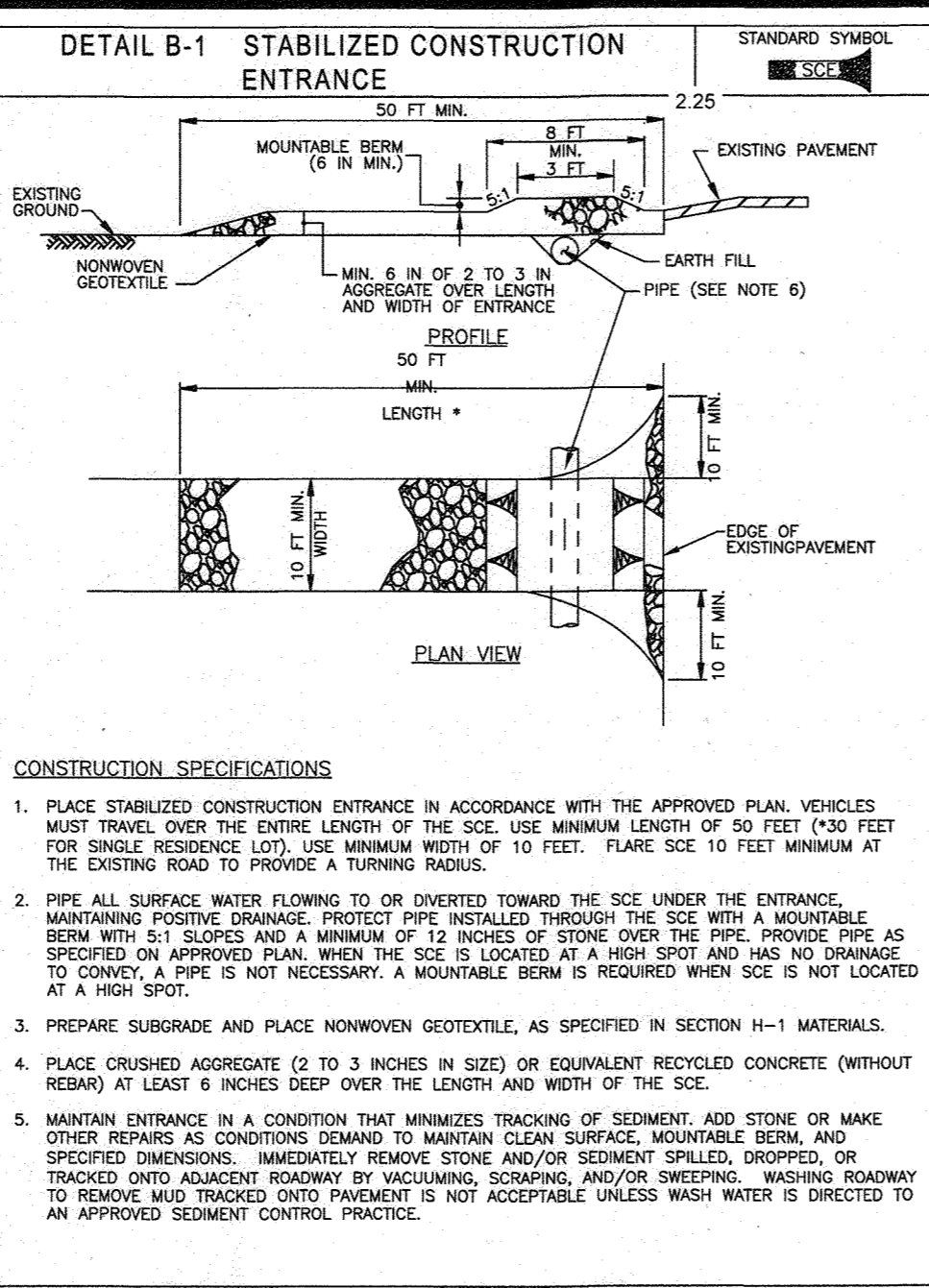
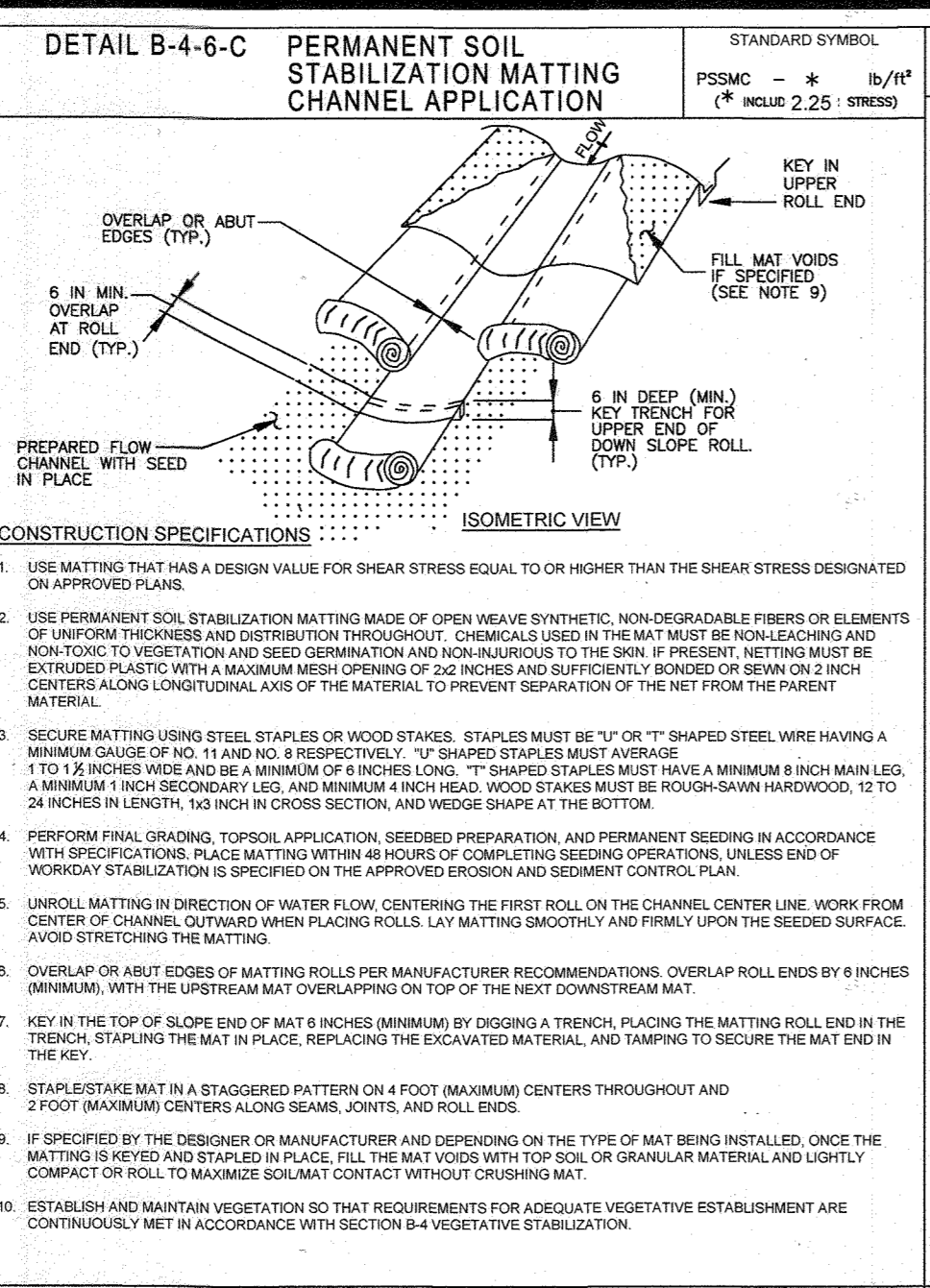
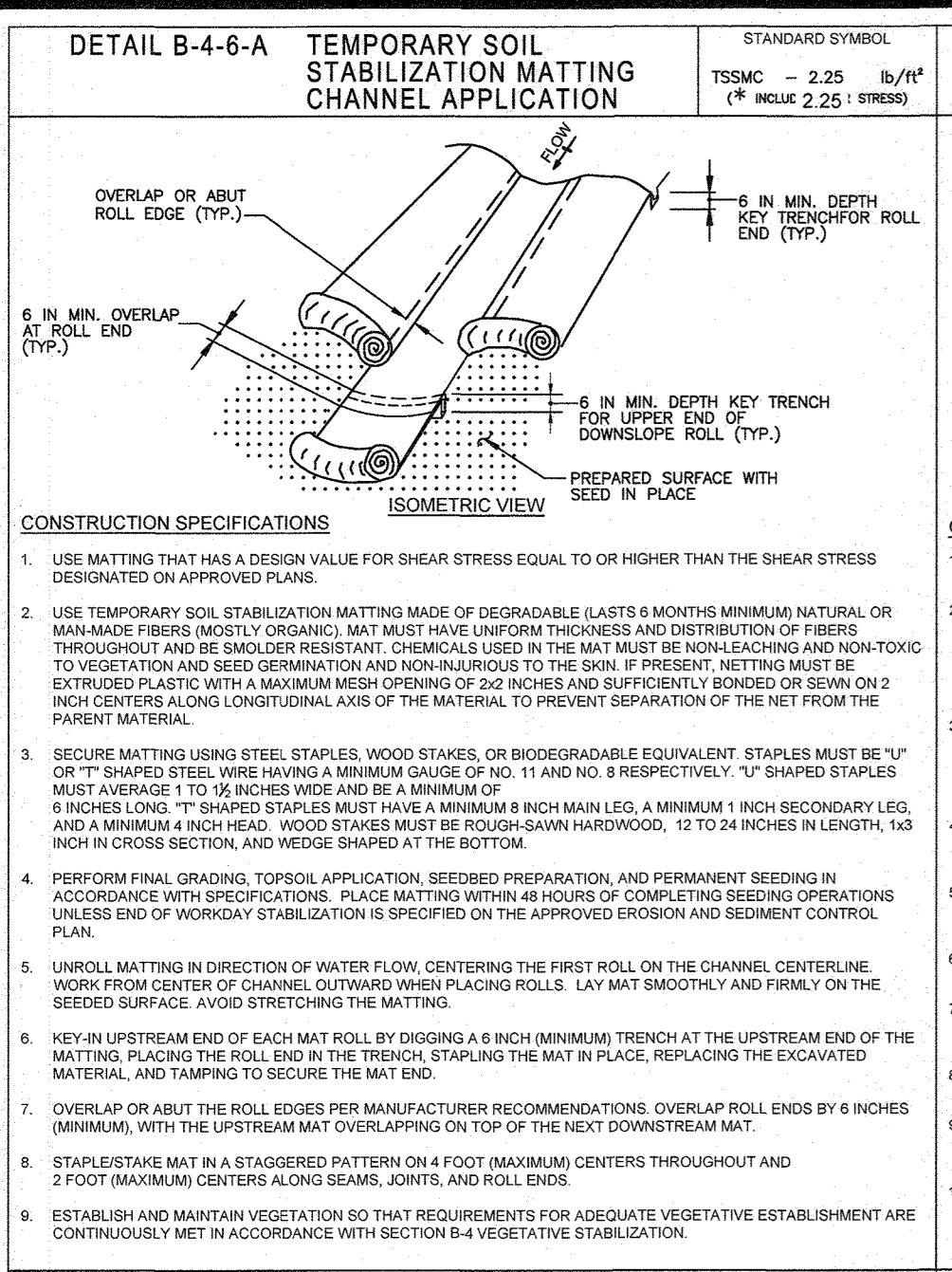
**B. R. ROWE**

PROFESSIONAL ENGINEER  
LICENSE NO. 9688, EXPIRES 12/31/2021

SHEET TITLE:  
**EROSION & SEDIMENT CONTROL - PHASE I SEDIMENT TRAP #3 PLAN, SECTION & DETAILS**

SHEET NUMBER:  
**44 OF 92**





**BOHLER ENGINEERING**  
CORPORATE OFFICE: WARREN, NJ  
PROJECT MANAGERS: JASON VAN KILDE, BRANDON R. ROWE  
SURVEYORS: JASON VAN KILDE, BRANDON R. ROWE  
ENVIRONMENTAL CONSULTANTS: JASON VAN KILDE, BRANDON R. ROWE  
LANDSCAPE ARCHITECTS: JASON VAN KILDE, BRANDON R. ROWE

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, OR DELAWARE: CALL: 811 (VA 1-800-245-4848) (MD 1-800-344-3770) (DC 1-800-251-7777) (VA 1-800-552-7001) (MD 1-800-251-7777) (DE 1-800-282-8559)

**NOT APPROVED FOR CONSTRUCTION**

PROJECT NO.: MD142048  
DRAWN BY: AVG  
CHECKED BY: BRR  
DATE: 08/20/19  
SCALE: AS SHOWN  
CAD ID: SD3

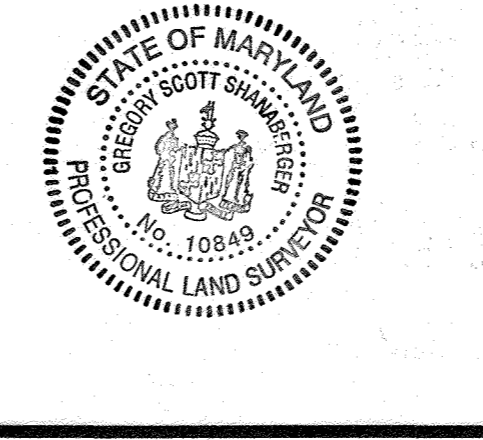
**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE: 5232 GREEN BRIDGE ROAD, 5TH ELECTION DISTRICT, TAX MAP 27, GRID 18  
PARCELS 34, 36, 98, 111 & 112, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
901 DULANEY VALLEY ROAD, SUITE 80  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7900  
Fax: (410) 821-7987  
www.BohlerEngineering.com

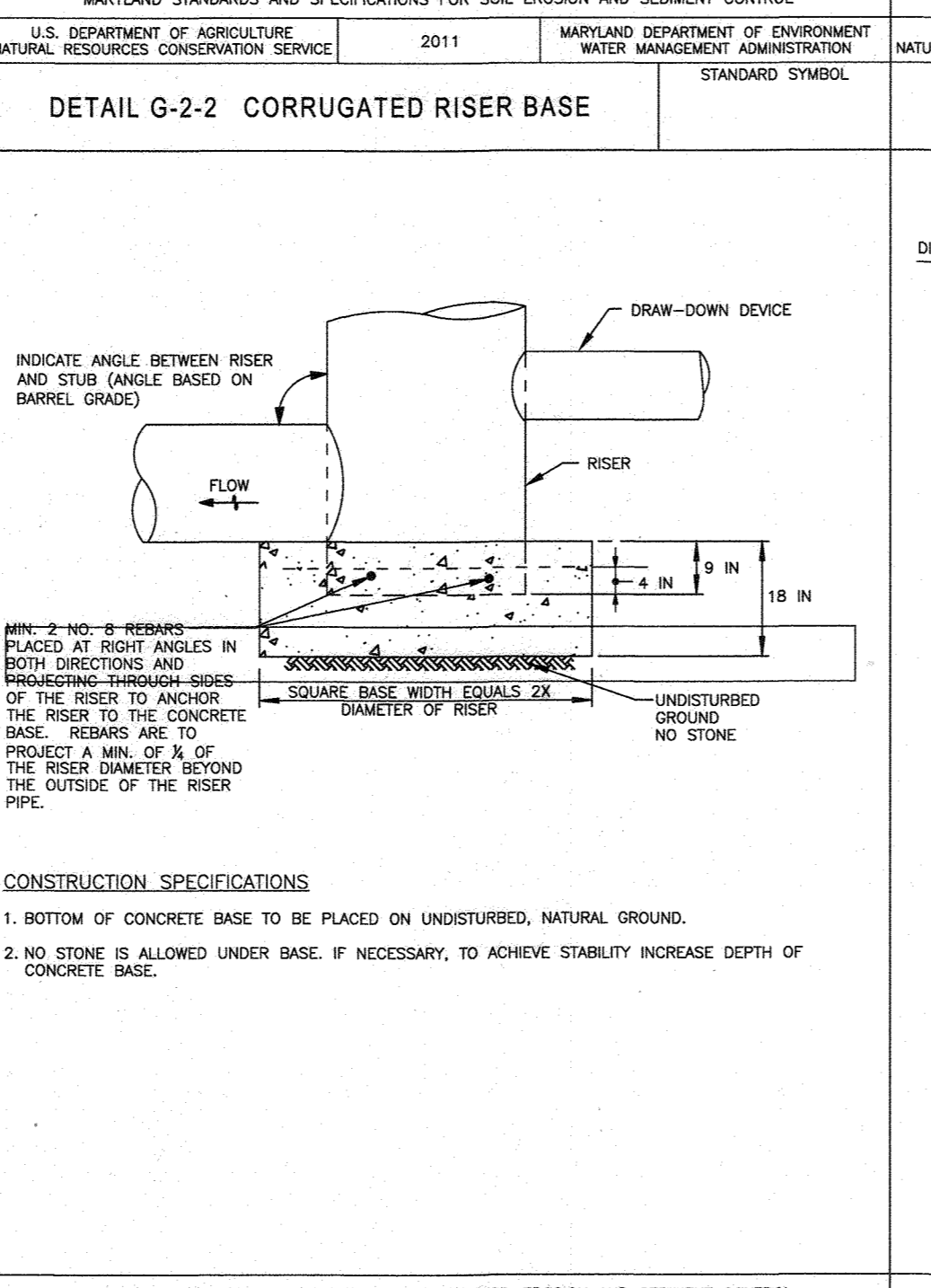
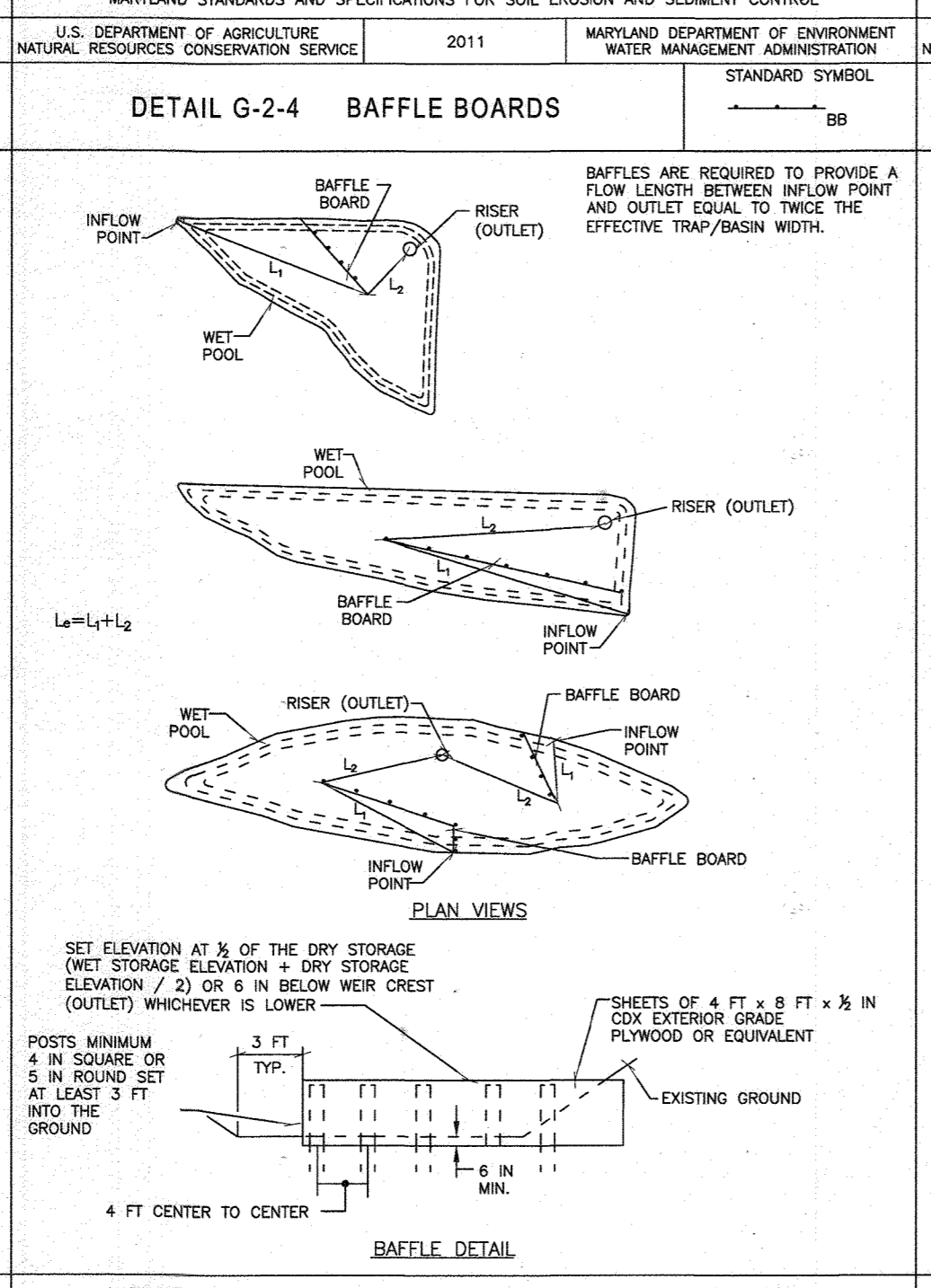
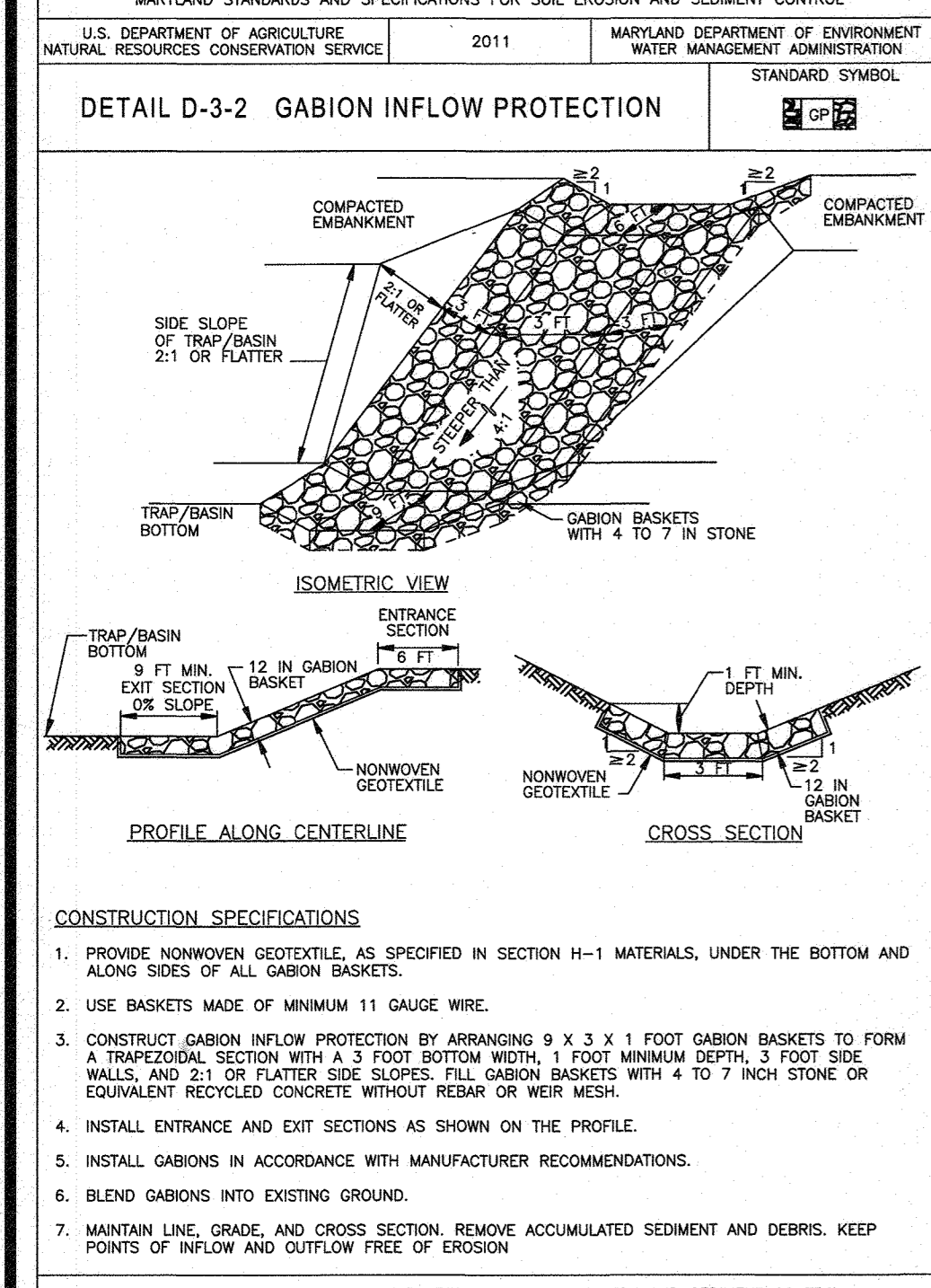
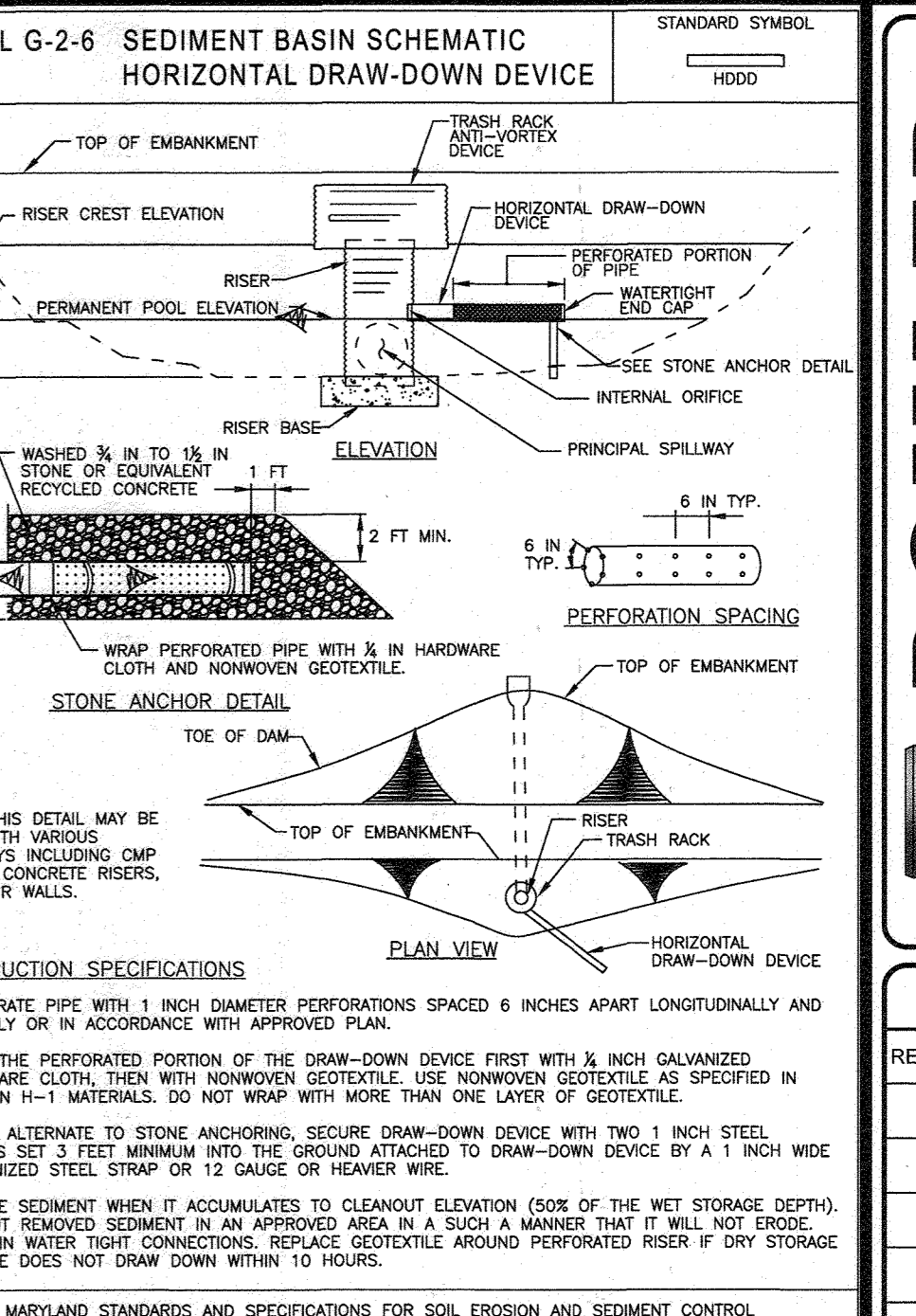
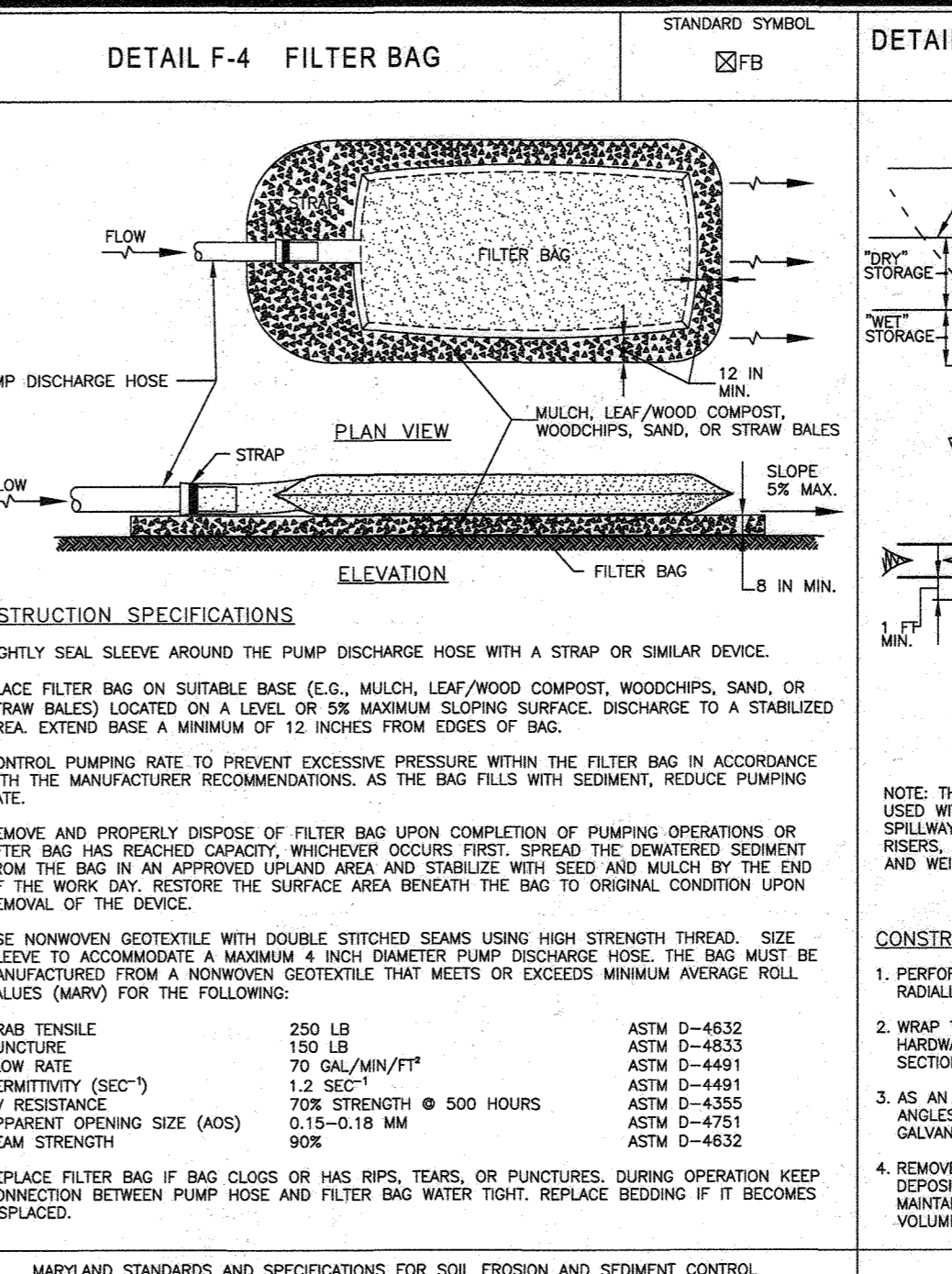
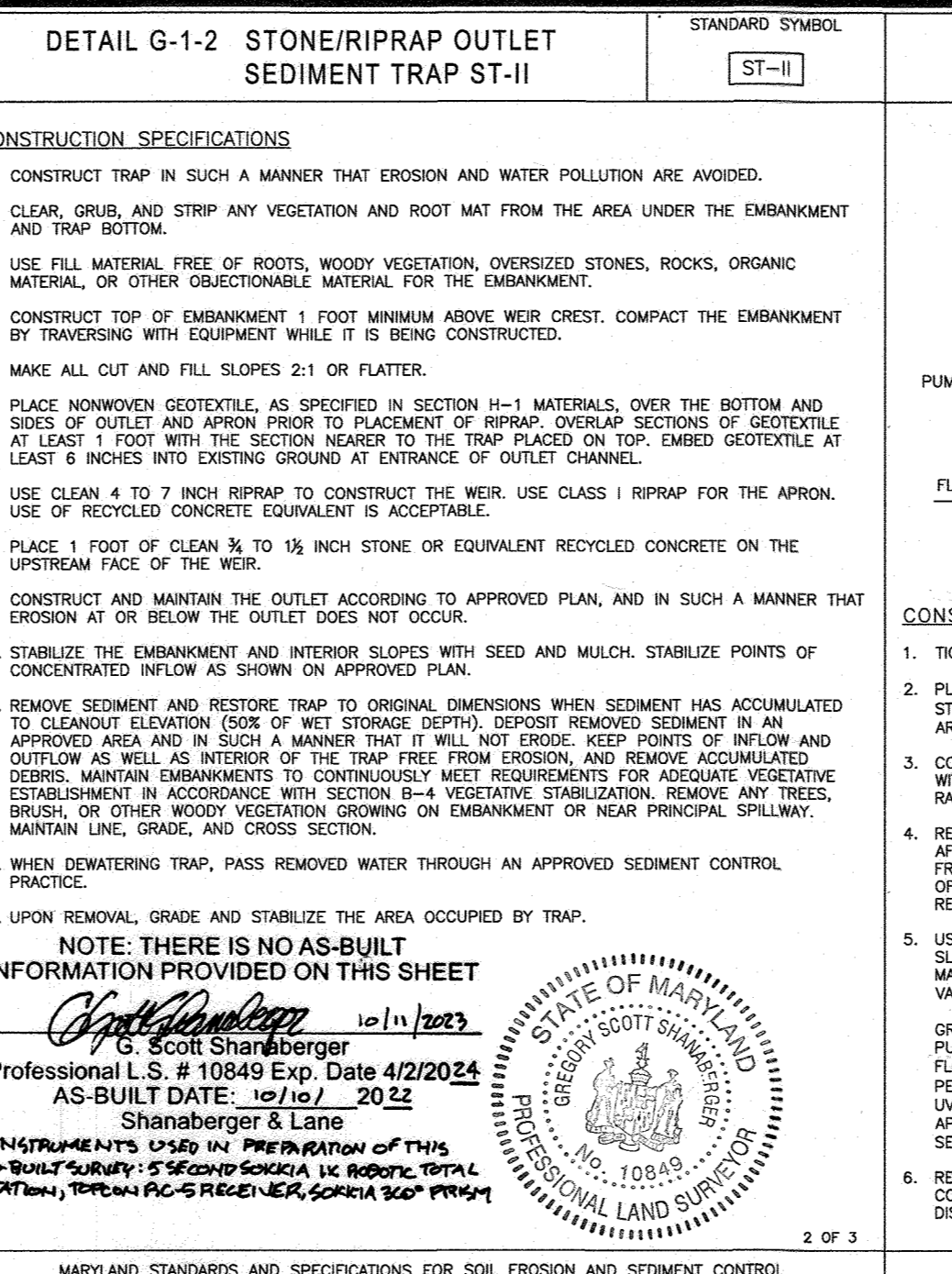
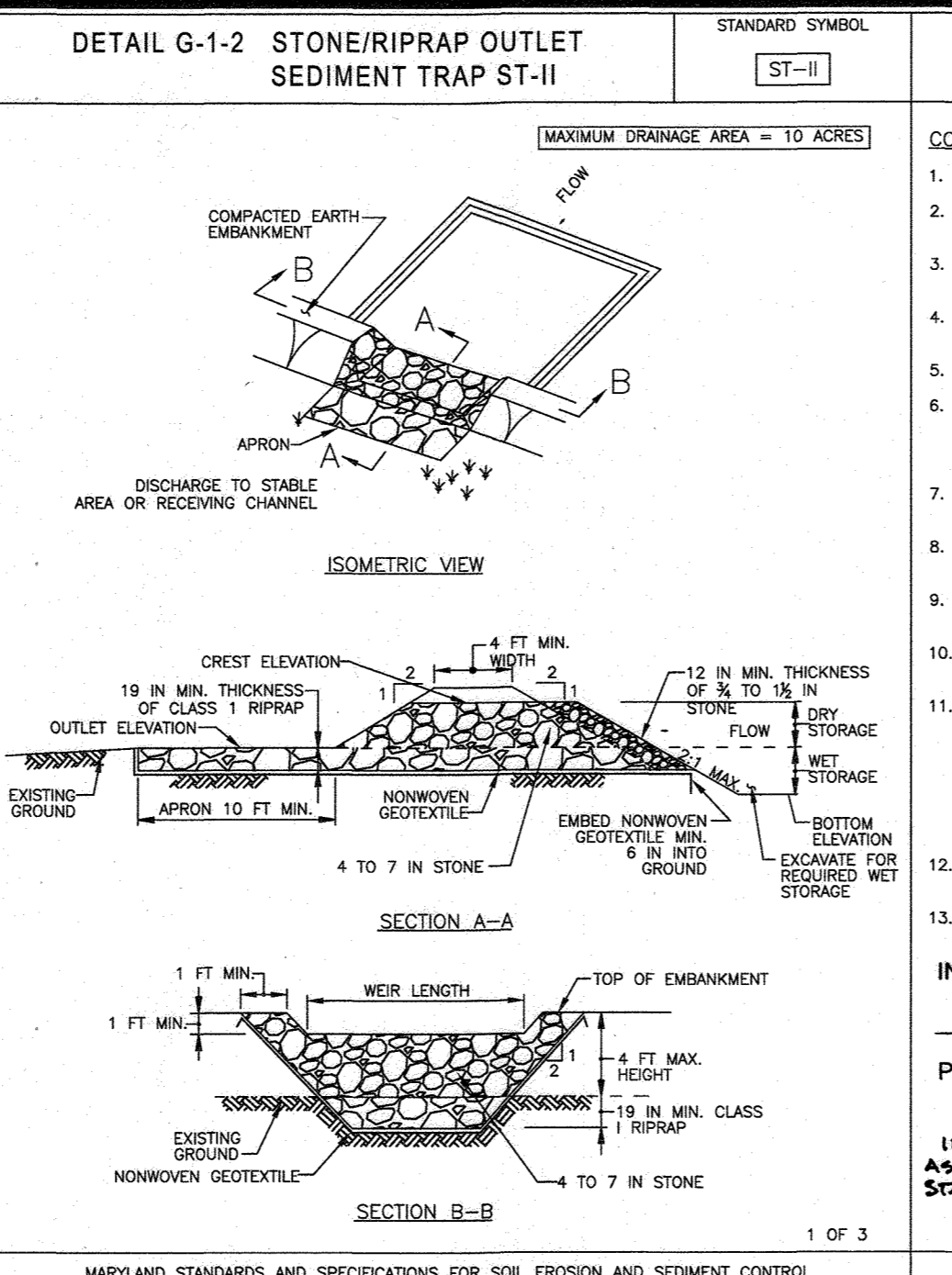
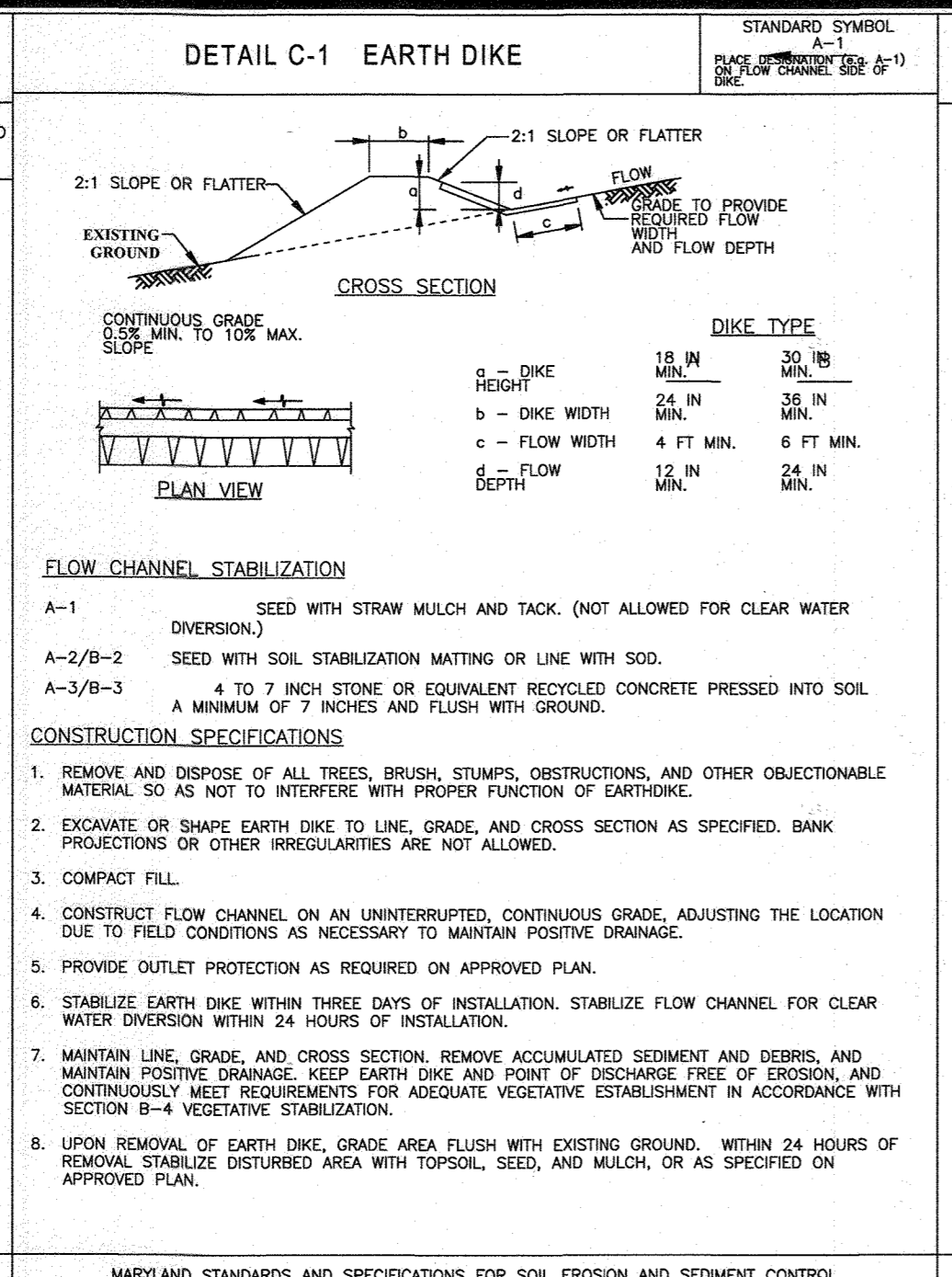
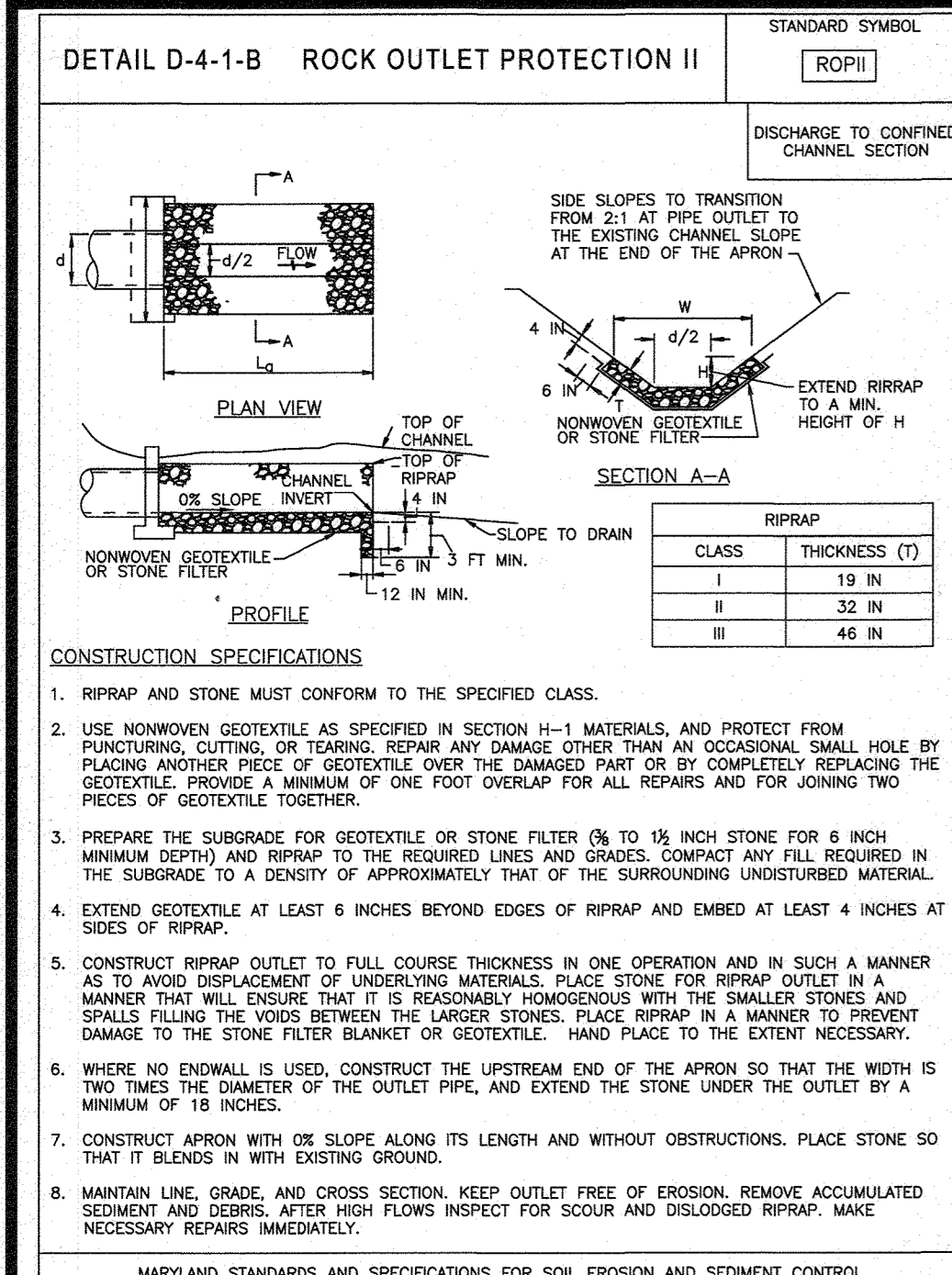
**B.R. ROWE**  
PROFESSIONAL ENGINEER  
I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
DATE: 10/24/19  
SIGNATURE OF ENGINEER: BRANDON R. ROWE P.E.

**DEVELOPER'S CERTIFICATE**  
I WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL AND THAT ALL RESPONSIBLE PERSONAL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC VISUAL INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.  
SIGNATURE OF DEVELOPER: Jason Van Kilde  
DATE: 10-24-19

**ENGINEER'S CERTIFICATE**  
I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
DATE: 10/24/19  
SIGNATURE OF ENGINEER: BRANDON R. ROWE P.E.

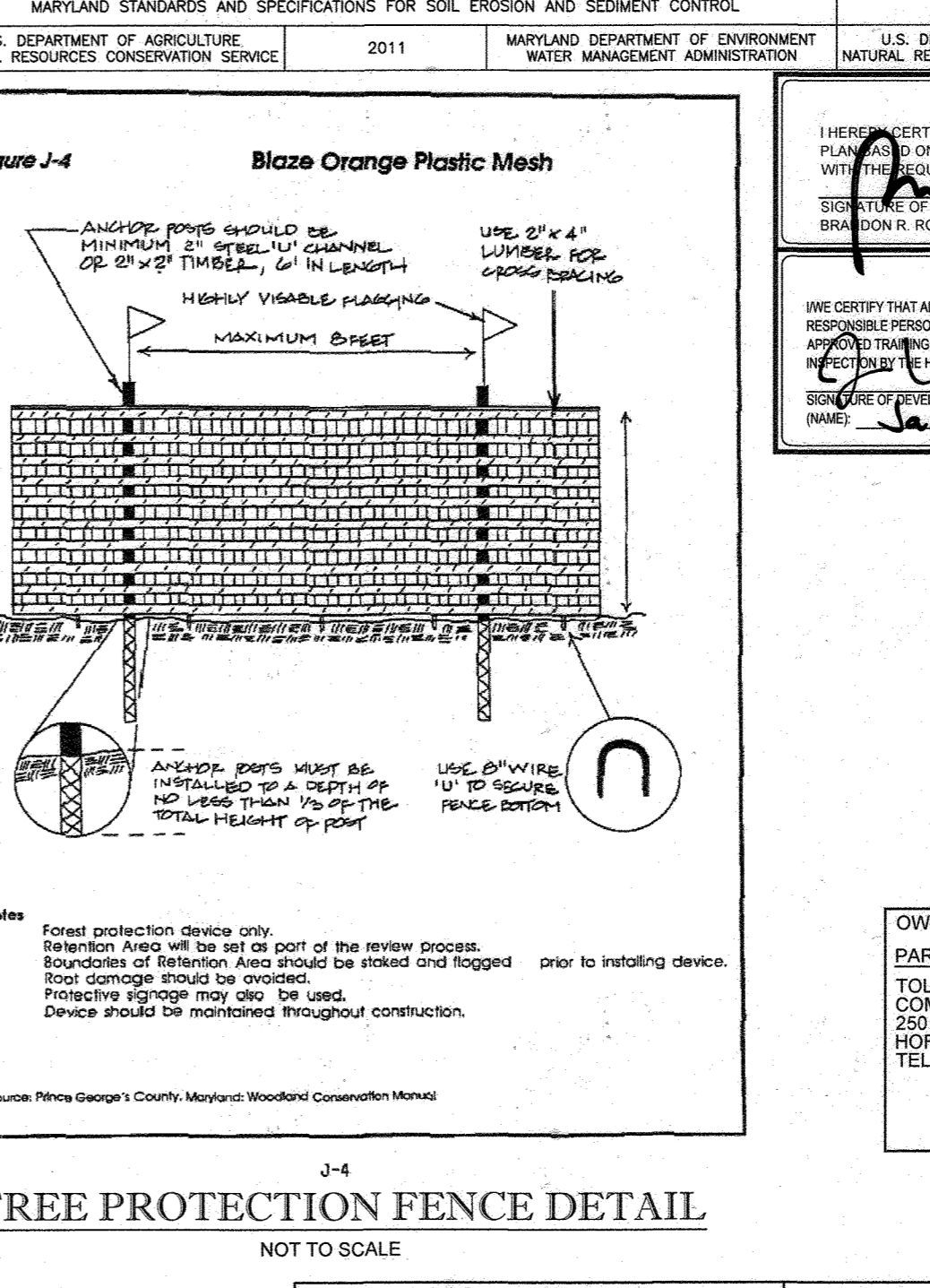
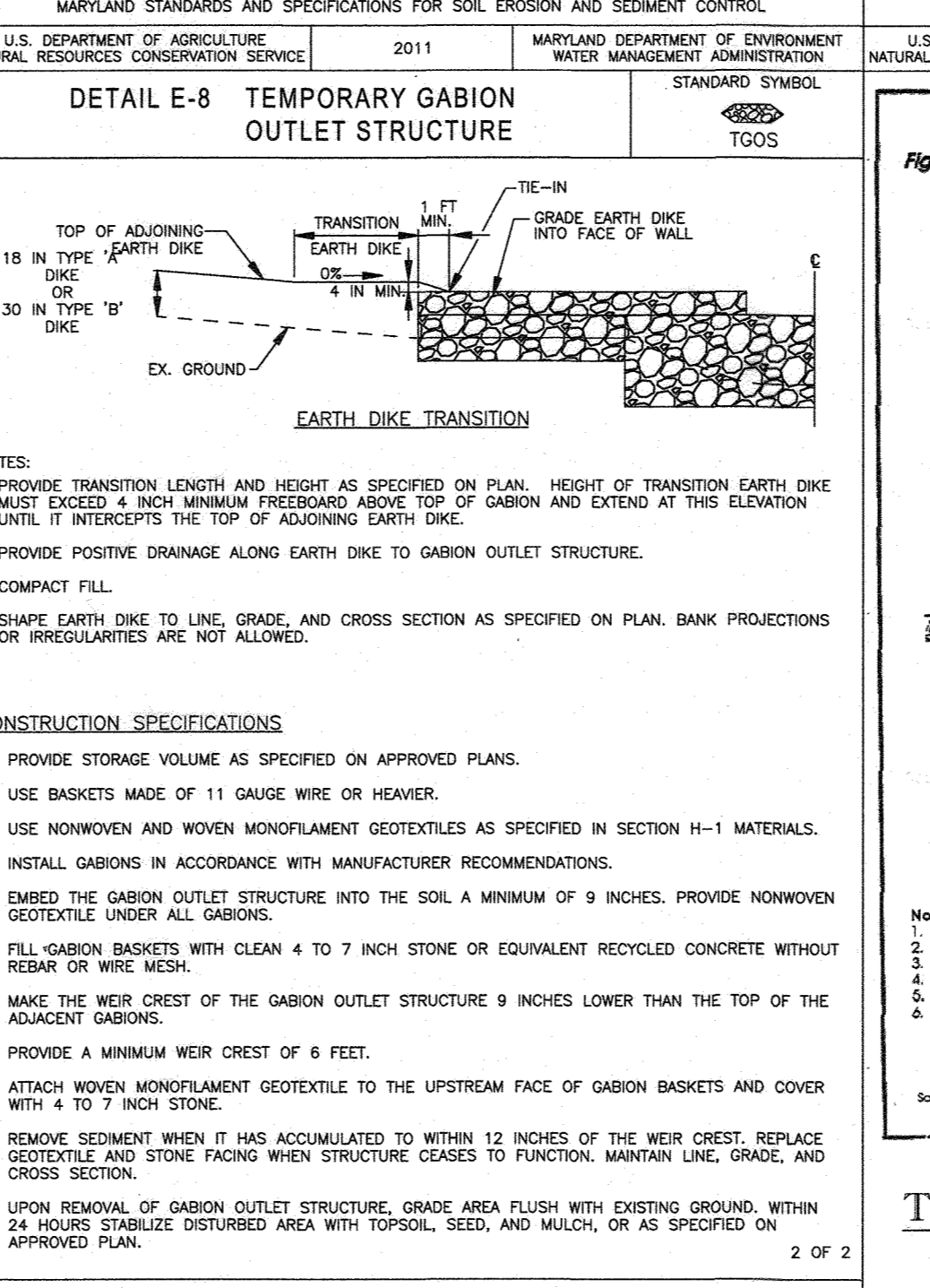
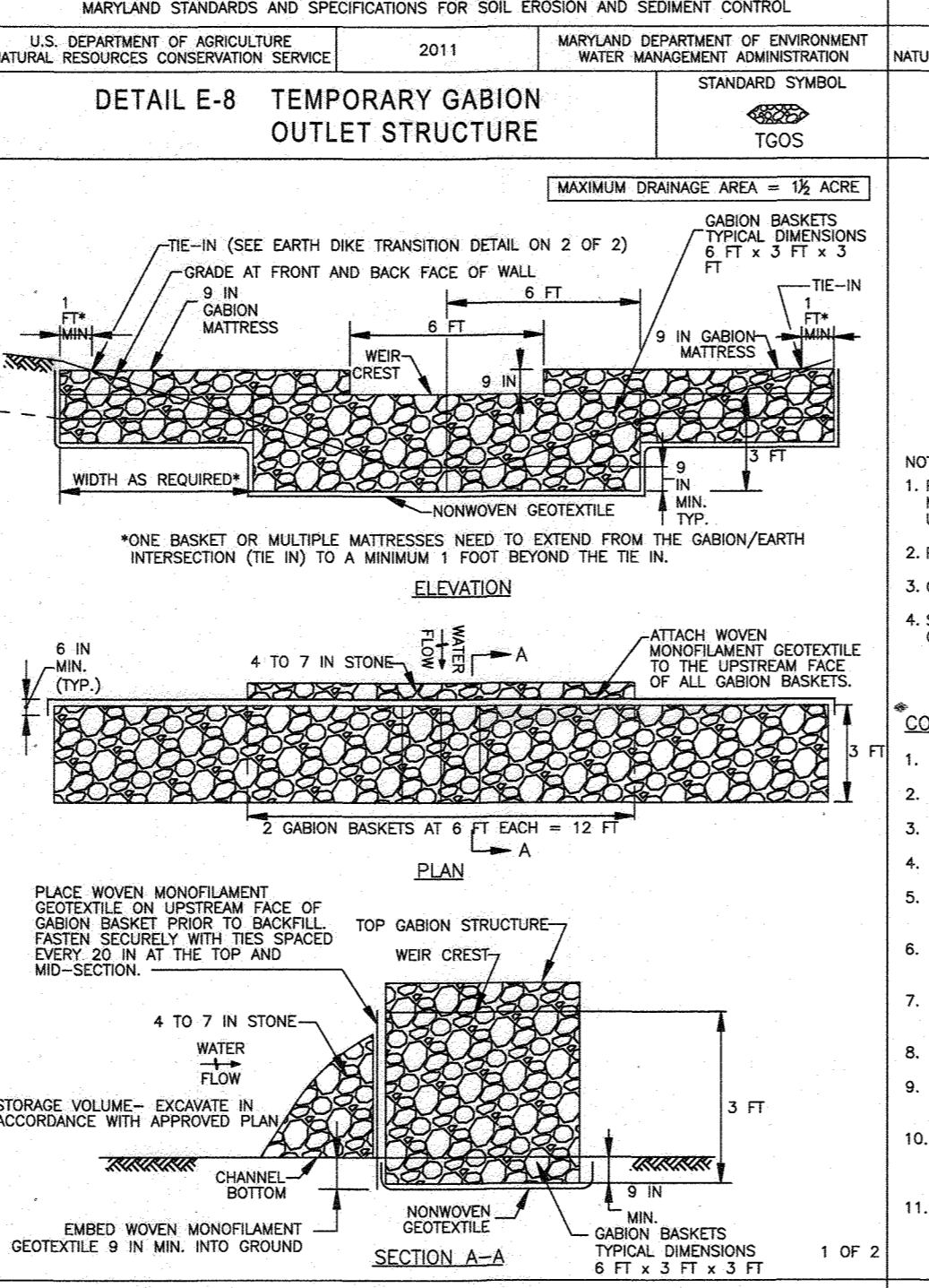
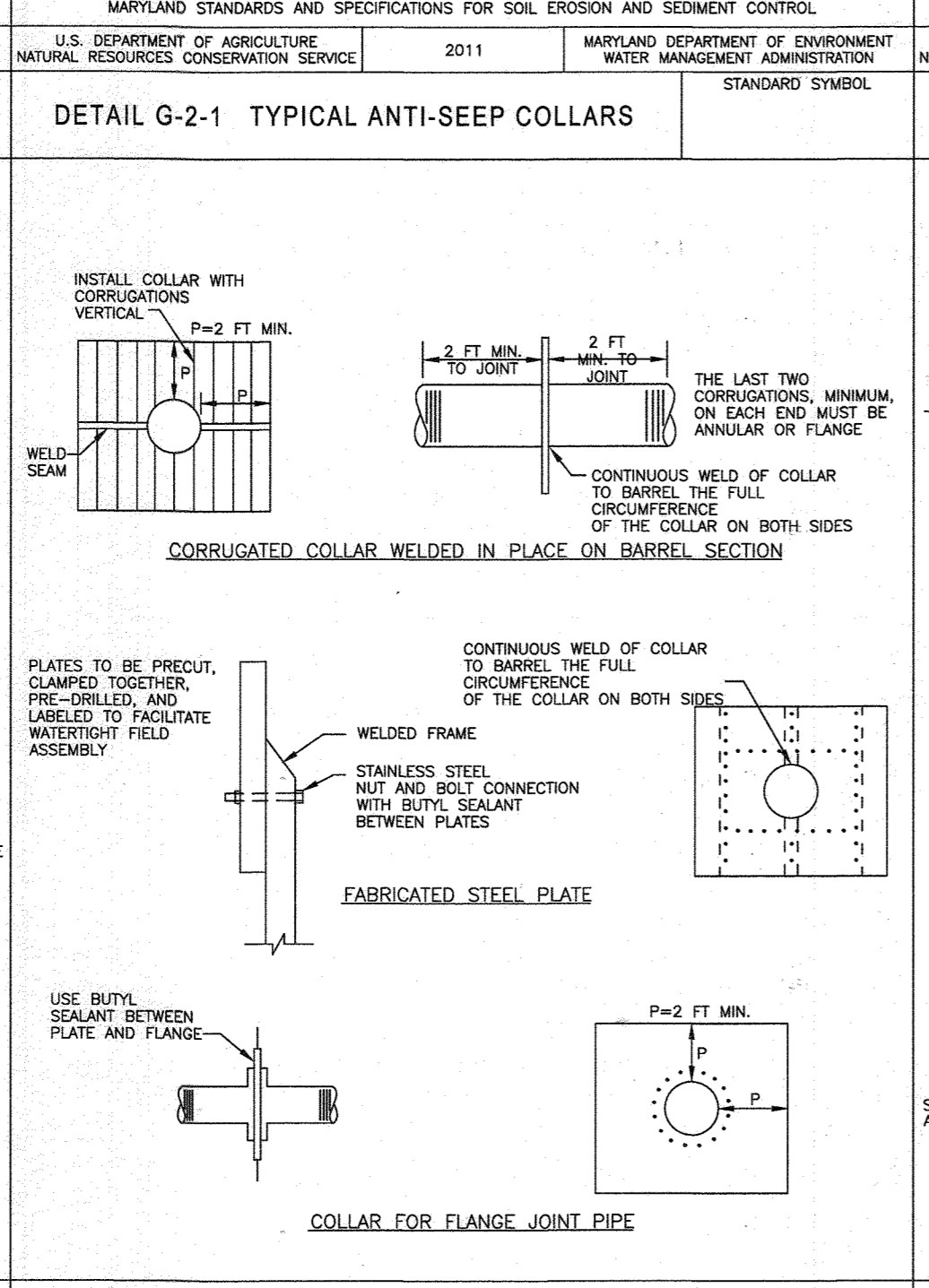
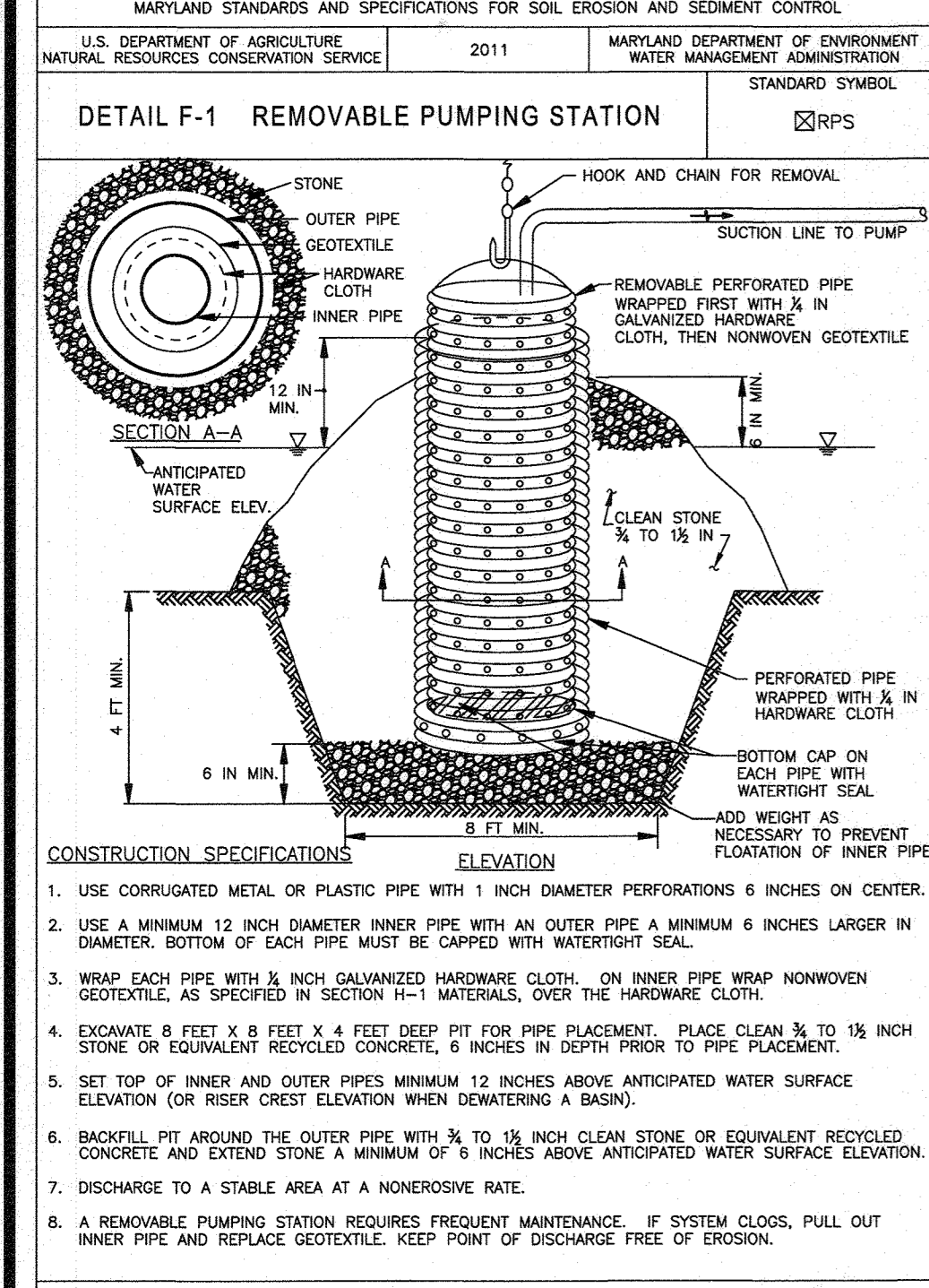
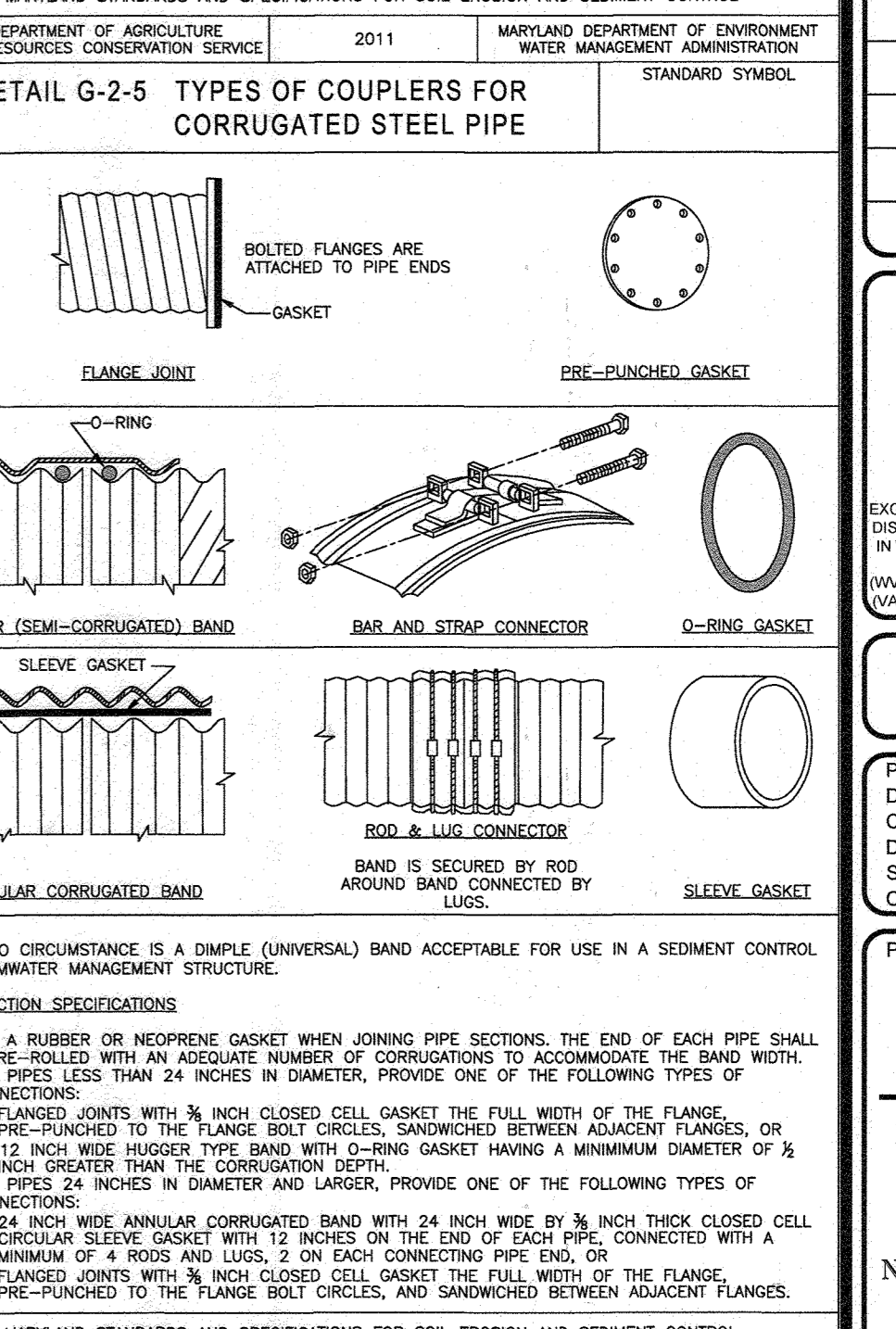
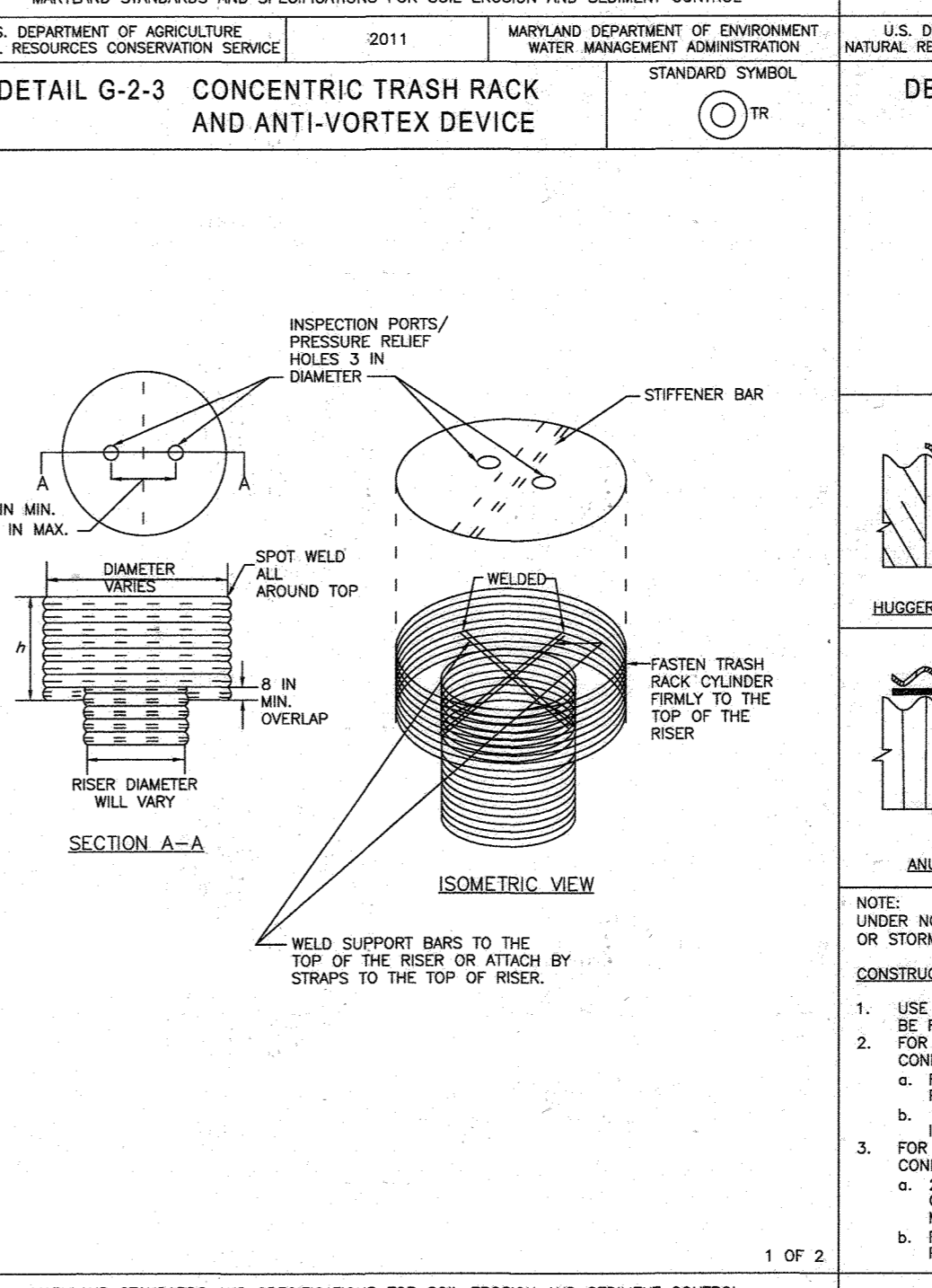






### DETAIL G-2-3 CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE

RISER DIAM. (IN)	RISER THICKNESS (IN)	MINIMUM TOP SUPPORT BAR THICKNESS (IN)	MINIMUM SIZE SUPPORT BAR	MINIMUM TOP STIFFENER THICKNESS (IN)
12	18	16	14	#6 REBAR
15	21	16	15	#6 REBAR
18	24	16	16	#6 REBAR
21	30	16	16	#6 REBAR
24	36	16	21	#8 REBAR
27	42	16	21	#8 REBAR
36	54	14	25	#8 REBAR
42	60	14	27	#8 REBAR
48	72	12	29	1 1/2 IN PIPE OR 1 1/2 x 1 1/2 x 1/8 ANGLE
54	78	12	33	1 1/2 IN PIPE OR 1 1/2 x 1 1/2 x 1/8 ANGLE
60	90	12	37	1 1/2 IN PIPE OR 1 1/2 x 1 1/2 x 1/8 ANGLE
66	96	10	41	2 IN PIPE OR 2 x 2 x 3/8 ANGLE
72	102	10	44	2 IN PIPE OR 2 x 2 x 3/8 ANGLE
78	114	10	47	2 IN PIPE OR 2 x 2 x 3/8 ANGLE
84	120	10	50	2 IN PIPE OR 2 x 2 x 3/8 ANGLE



### ENGINEER'S CERTIFICATE

I HEREBY CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN...

**DEVELOPER'S CERTIFICATE**

I WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE IN ACCORDANCE WITH THIS PLAN FOR SEDIMENT AND EROSION CONTROL...

**APPROVED: DEPARTMENT OF PUBLIC WORKS**

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**

**OWNERS:** PARCEL 36, PARCEL 34, PARCEL 112

**DEVELOPER:** GREEN BRIDGE FARM II, L.C.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
---	------	--

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
---	------	--

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
---	------	--

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
---	------	--

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
---	------	--

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
---	------	--

## BOHLER ENGINEERING

CIVIL & CONSULTING ENGINEERS

PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

OFFICES:  
WARREN, NJ  
ROCKVILLE, MD  
STURBRIDGE, MA  
WILKESVILLE, PA  
HARRISBURG, PA  
PHILADELPHIA, PA  
TAMPA, FL

### REVISIONS

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE OF MARYLAND, THE DISTRICT OF COLUMBIA, DELAWARE, CALL: 811 (MD 1-800-245-4649) (DC 1-800-542-1778) (DE 1-800-257-7777) (VA 1-800-552-7001) (MD 1-800-257-7777) (DE 1-800-282-8559)

### NOT APPROVED FOR CONSTRUCTION

PROJECT NO.: MD142048  
DRAWN BY: AVG  
CHECKED BY: ERR  
DATE: 08/28/19  
SCALE: AS SHOWN  
CAD ID: SD3

### FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, P & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE: 5232 GREEN BRIDGE ROAD 5TH ELECTION DISTRICT TAX MAP 27, GRID 18 PARCELS 34, 36, 98, 111 & 112 HOWARD COUNTY, MARYLAND

### BOHLER ENGINEERING

901 DALNEY VALLEY ROAD, SUITE 80  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7900  
Fax: (410) 821-7987  
www.BohlerEngineering.com

### B.B. ROWE

PROFESSIONAL ENGINEER  
PROJECT NO. 19-001  
DATE: 12.9.19

### EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

SHEET NUMBER: 48 OF 92



# STORMWATER MANAGEMENT CONSTRUCTION SPECIFICATIONS

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD FOR PRACTICE MD-3. ALL REFERENCES TO ASTM AND AASHTO SPECIFICATIONS APPLY TO THE MOST RECENT VERSION.

**SITE PREPARATION**  
AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL, ALL TREES, VEGETATION, ROOTS AND OTHER OBJECTS...  
AREAS TO BE COVERED BY THE RESERVOIR WILL BE CLEARED OF ALL TREES, BRUSH, LOGS, FENCES, RUBBISH AND OTHER OBJECTIONABLE MATERIAL...  
EARTH FILL  
MATERIAL - THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS...  
PLACEMENT - AREAS ON WHICH FILL IS TO BE PLACED SHALL BE SCARIFIED PRIOR TO PLACEMENT...

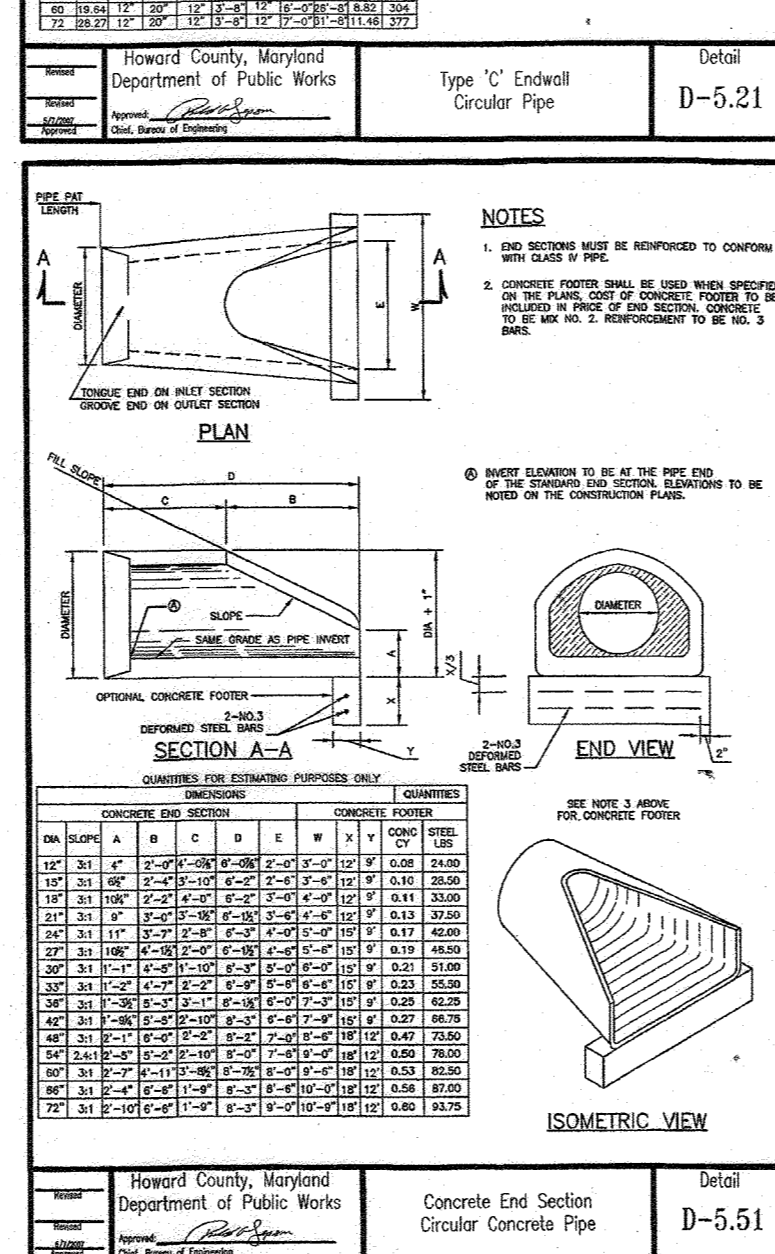
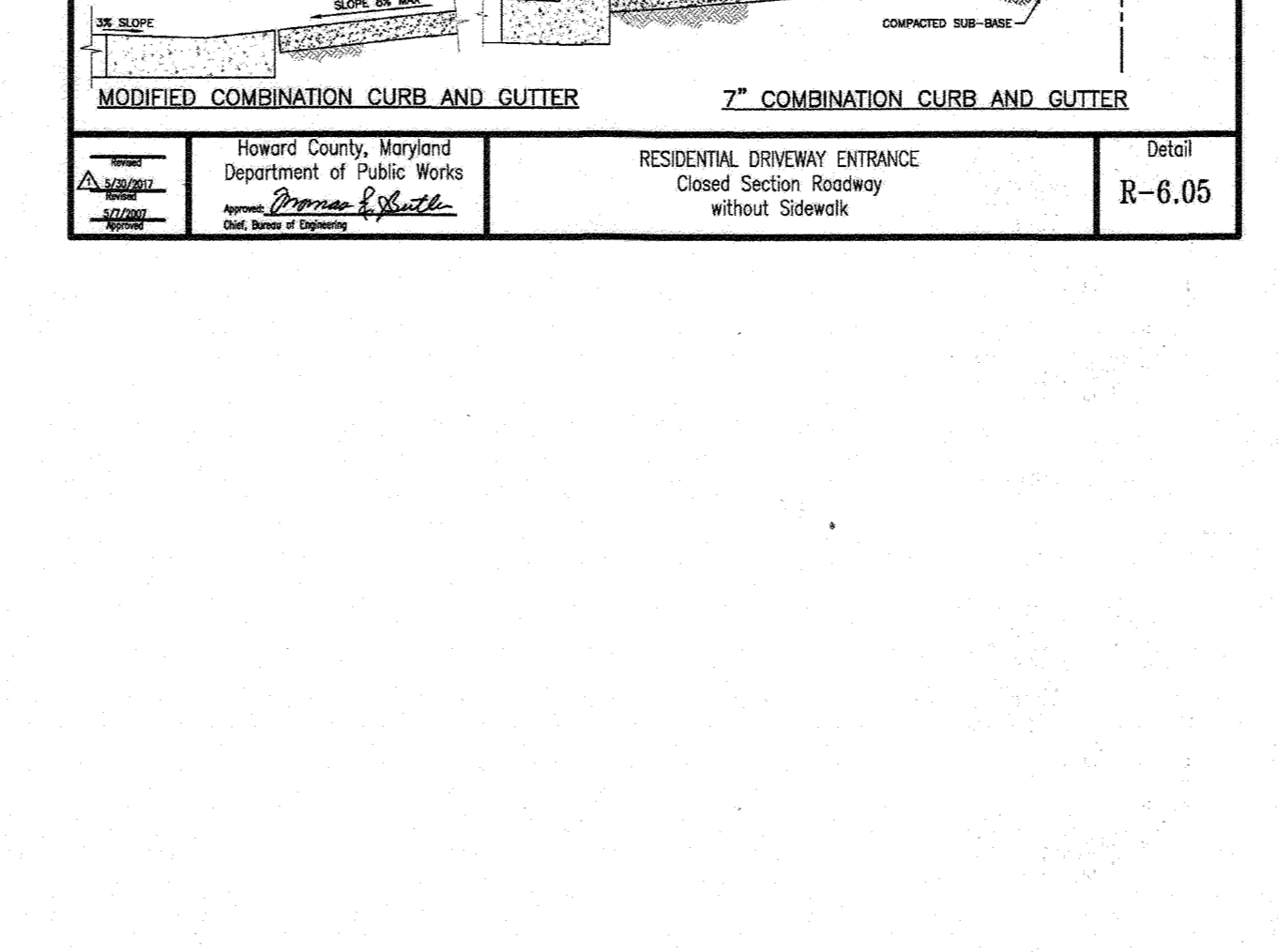
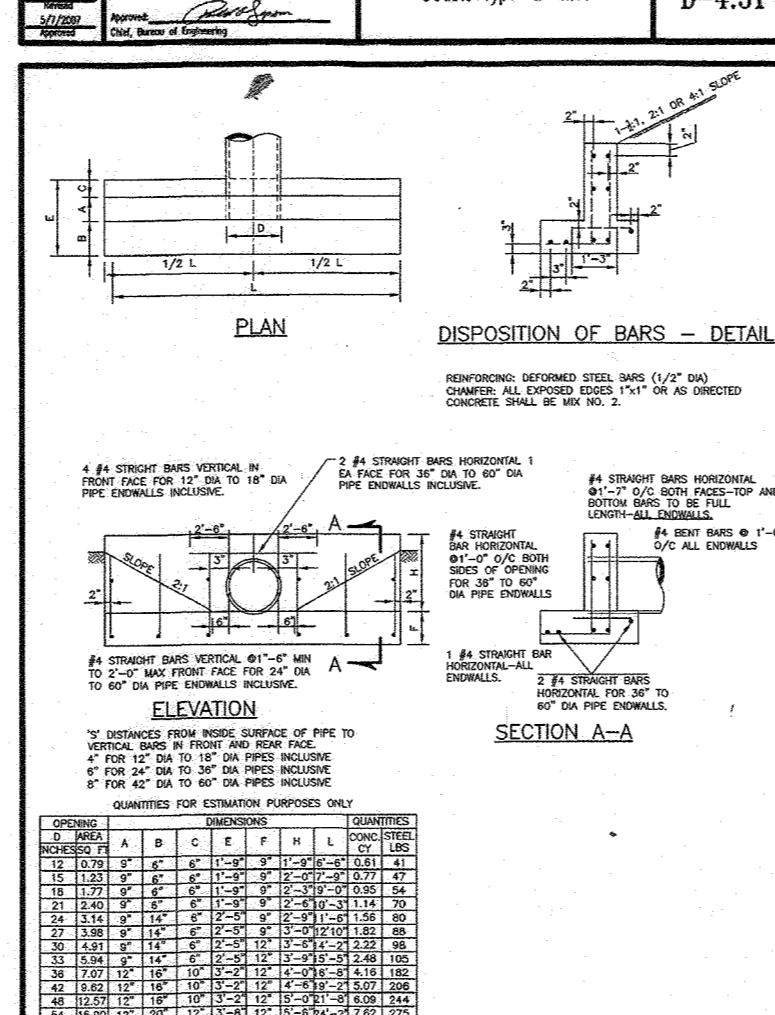
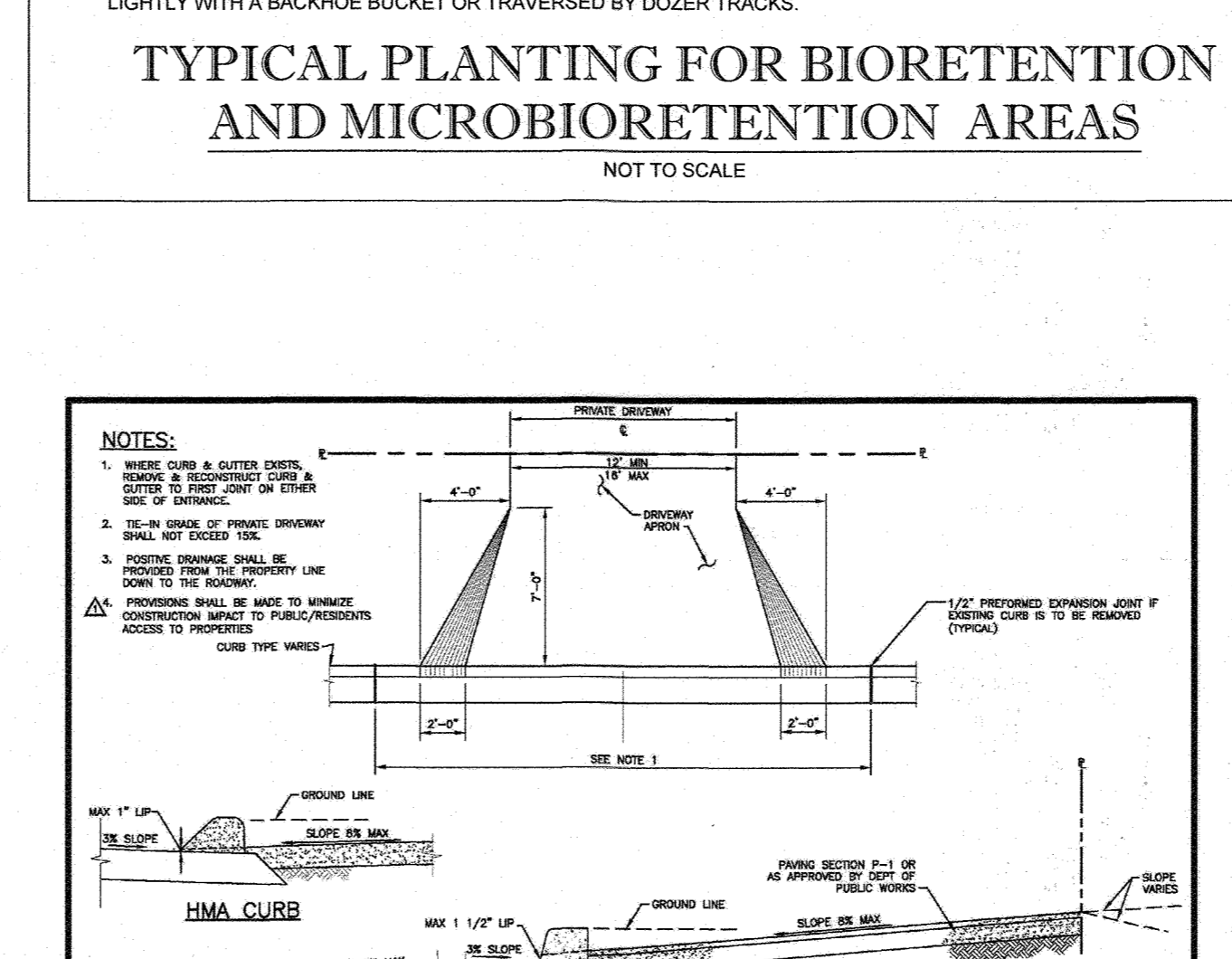
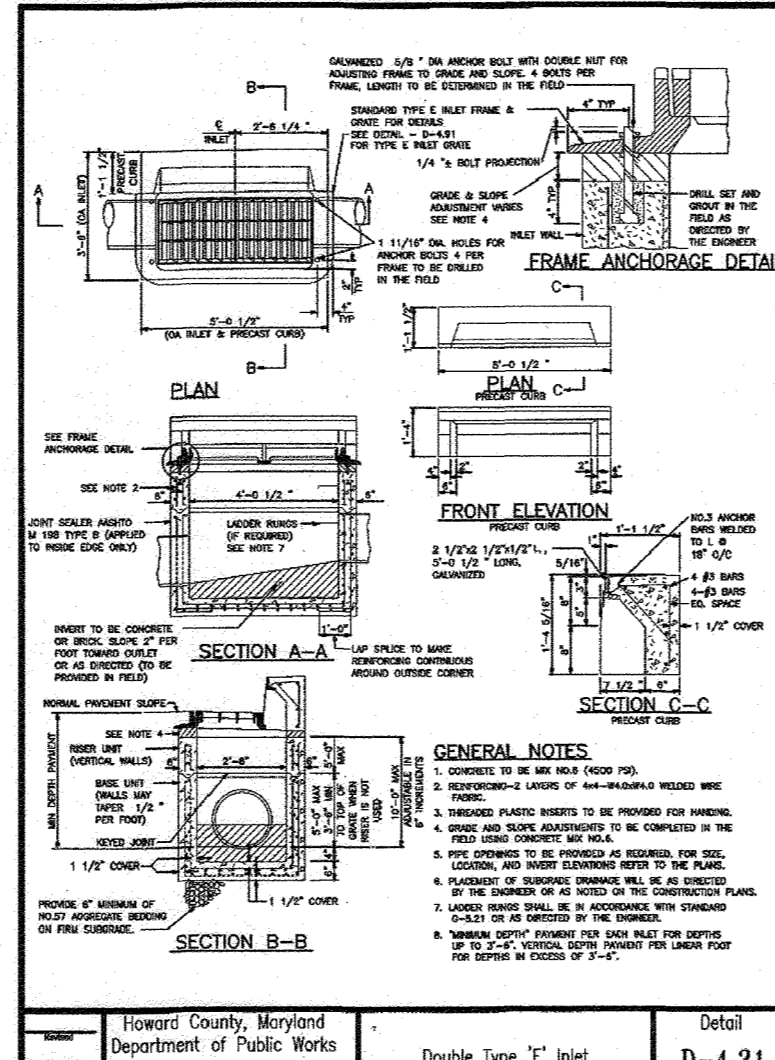
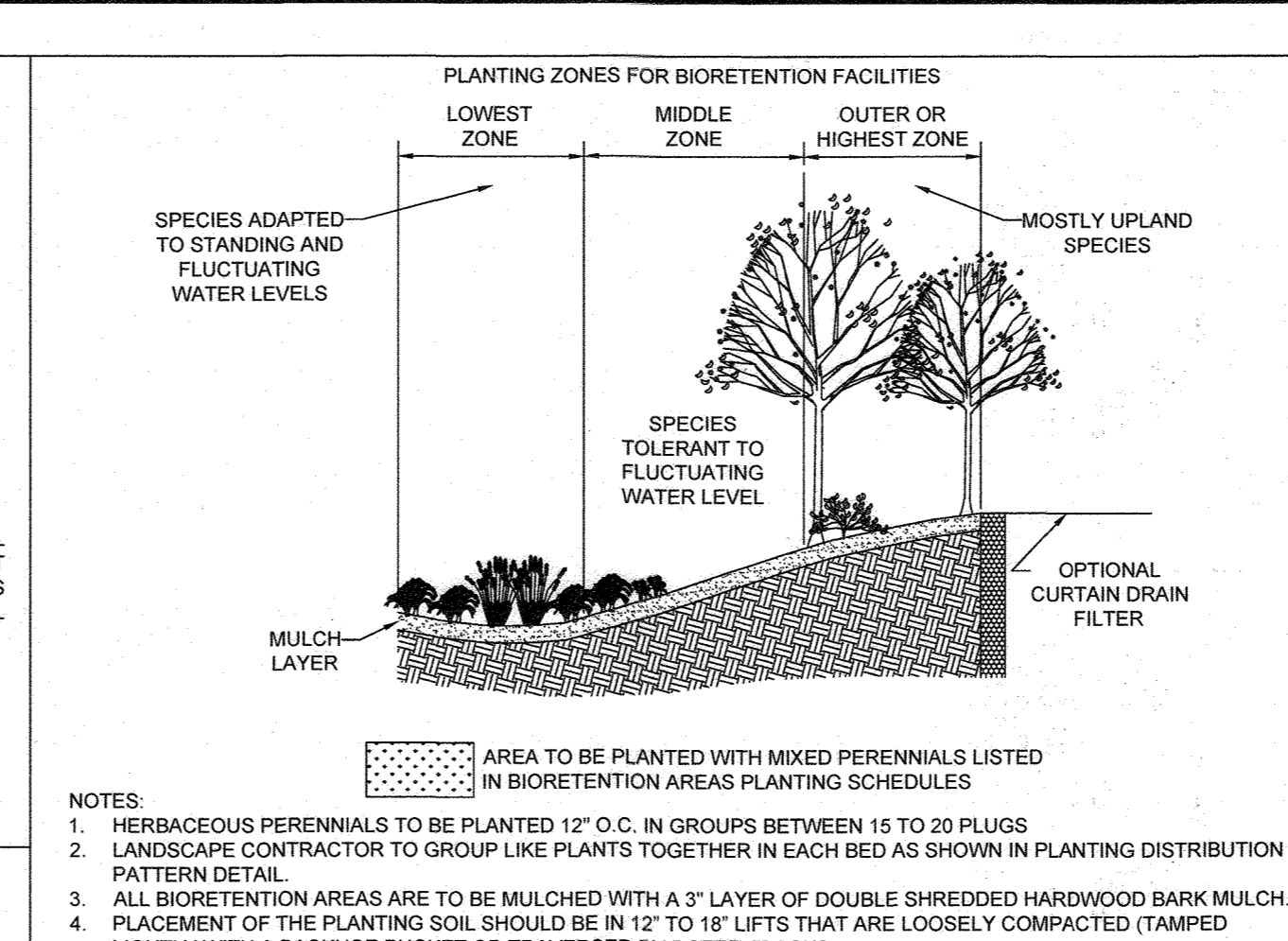
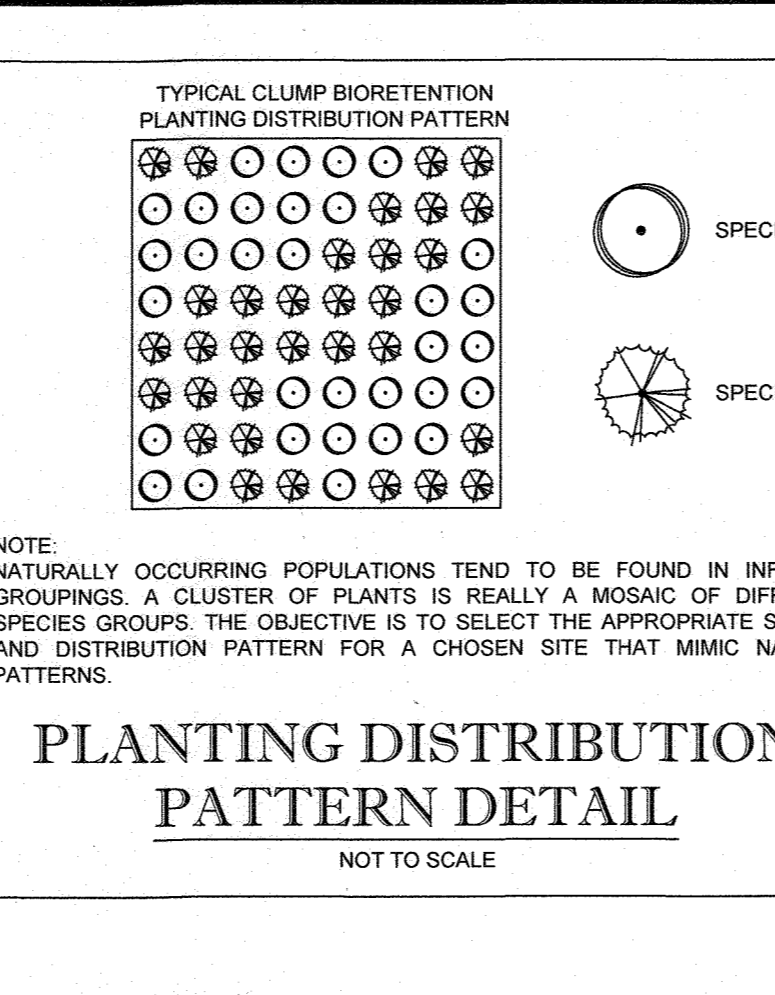
**PLASTIC PIPE**  
THE FOLLOWING CRITERIA SHALL APPLY FOR PLASTIC PIPE:  
1. MATERIALS - PVC PIPE SHALL BE PVC 1120 OR PVC 1220 CONFORMING TO ASTM D-1785 OR ASTM D-2241...  
2. JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATERTIGHT...  
3. BEDDING - THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH...  
4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL"...

**PIPE CONDUITS**  
ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.  
CORRUGATED METAL PIPE - ALL OF THE FOLLOWING CRITERIA SHALL APPLY FOR CORRUGATED METAL PIPE:  
1. MATERIALS - POLYMER COATED STEEL PIPE...  
2. COUPLING BANDS, ANTI-SEEP COLLARS, END SECTIONS, ETC...  
3. CONNECTIONS - ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATERTIGHT...

4. BEDDING - THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH...  
5. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL"...

**CONCRETE**  
CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION...  
CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION...  
ROCK RIPRAP  
ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION...  
STABILIZATION  
ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE...

**OPERATION AND MAINTENANCE**  
AN OPERATION AND MAINTENANCE PLAN IN ACCORDANCE WITH LOCAL OR STATE REGULATIONS WILL BE PREPARED FOR ALL PONDS...  
GENERAL NOTES  
1. BOTTOM AND WALLS SHALL BE W/ NO. 4 REBAR...  
2. REINFORCEMENT LAYERS OF ALL WALLS SHOULD HAVE MINIMUM 4" MIN. OVERLAP...  
3. ALL JOINTS SHALL BE REINFORCED WITH 4" MIN. OVERLAP...



**INFILTRATION AND FILTER SYSTEM CONSTRUCTION SPECIFICATIONS**  
INFILTRATION AND FILTER SYSTEMS EITHER TAKE ADVANTAGE OF EXISTING PERMEABLE SOILS OR CREATE A PERMEABLE MEDIUM SUCH AS SAND FOR WC1, AND RE V. IN SOME INSTANCES WHERE PERMEABILITY IS GREAT, THESE FACILITIES MAY BE USED FOR GP AS WELL...  
DESIGN CONSTRAINTS:  
• PLANTING BUFFER STRIPS OF AT LEAST 20 FEET WILL CAUSE SEDIMENTS TO SETTLE OUT BEFORE REACHING THE FACILITY...  
• TEST SOIL CONDITIONS TO DETERMINE IF SOIL AMENDMENTS ARE NECESSARY...

**TABLE 3.3 PLANTING SOIL CHARACTERISTICS**

PARAMETER	VALUE
PH RANGE	5.2 TO 7.00
ORGANIC MATTER	15 TO 4.00% (BY WEIGHT)
MAGNESIUM	35 LBS. PER ACRE MINIMUM
PHOSPHORUS (PHOSPHATE - P205)	75 LBS. PER ACRE MINIMUM
POTASSIUM (POTASH - 1/2K2O)	85 LBS. PER ACRE MINIMUM
SOLUBLE SALTS	500 PPM
CLAY	10 TO 25%
SILT	30 TO 55%
SAND	35 TO 60%

**MULCH LAYER**  
THE MULCH LAYER PLAYS AN IMPORTANT ROLE IN THE PERFORMANCE OF THE BIORETENTION SYSTEM...  
**PLANTING GUIDANCE**  
PLANTING GUIDANCE SHOULD BE BASED ON THE GOAL OF SIMULATING A TERRESTRIAL FORESTED COMMUNITY OF NATIVE SPECIES...  
**THE PROPER SELECTION AND INSTALLATION OF PLANT MATERIALS IS KEY TO A SUCCESSFUL SYSTEM...**

**BOHLER ENGINEERING**  
CORPORATE OFFICE: WARREN, NJ  
PROJECT MANAGERS: SOUTHBRIDGE MA, FARMINGTON CT, GAITHERSBURG MD, CHARLOTTE NC, WASHINGTON VA, TAMPA FL, PALM BEACH FL  
SURVEYORS: CIVIL & CONSULTING ENGINEERS  
ENVIRONMENTAL CONSULTANTS: LANDSCAPE ARCHITECTS

**REVISIONS**

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISURB THE EARTH'S SURFACE ANYWHERE IN THE STATE IN VIRGINIA, MARYLAND, AND THE DISTRICT OF COLUMBIA...  
DELAWARE CALL: 811  
M.D. CALL: 1-800-552-7000 (TOLL FREE)  
DISTRICT OF COLUMBIA CALL: 1-800-552-7000 (TOLL FREE)

**NOT APPROVED FOR CONSTRUCTION**

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, P & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE: 5232 GREEN BRIDGE ROAD 5TH ELECTION DISTRICT TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
901 DULANEY VALLEY ROAD, TOWSON, MARYLAND 21284  
Phone: (410) 821-7900 Fax: (410) 821-7987 www.BohlerEngineering.com

**B. B. ROWE**  
PROFESSIONAL ENGINEER  
STATE OF MARYLAND PROFESSIONAL LAND SURVEYOR  
1878  
NOTARIAL PUBLIC

APPROVED: DEPARTMENT OF PUBLIC WORKS  
DATE: 11/26/2019  
CHIEF, BUREAU OF HIGHWAYS  
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
DATE: 12/10/2020  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 12-9-19  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

OWNERS: PARCEL 34, PARCEL 36, PARCEL 111, PARCEL 112  
DEVELOPER: GREEN BRIDGE FARM II, L.C.  
SHEET TITLE: STORMWATER MANAGEMENT AND STORM DRAIN NOTES AND DETAILS  
SHEET NUMBER: 49 OF 92

**STORMWATER MANAGEMENT AND STORM DRAIN NOTES AND DETAILS**  
SHEET NUMBER: 49 OF 92

MGWC 1.3: SANDBAGSTONE CHANNEL DIVERSION

Temporary measure for dewatering in-channel construction sites

DESCRIPTION
The work should consist of installing sandbag or stone flow diversions for the purpose of erosion control when construction activities occur within the stream channel.

EFFECTIVE USES & LIMITATIONS
Diversions are used to isolate work areas from flow during the construction of in-stream projects. Diversions which have an insufficient flow capacity can fail and severely erode the disturbed channel section under construction.

MATERIAL SPECIFICATIONS
Materials for sandbag and stone stream diversions should meet the following requirements:

- Riprap: Riprap should be washed and have a minimum diameter of 6 inches (15 centimeters).
Sandbags: Sandbags should consist of materials which are resistant to ultra-violet radiation, tearing, and puncture and should be woven tightly enough to prevent leakage of the fill material (i.e., sand, fine gravel, etc.).
Sheeting: Sheeting should consist of polyethylene or other materials which are impervious and resistant to puncture and tearing.

INSTALLATION GUIDELINES
All erosion and sediment control devices, including dewatering basins, should be implemented as the first order of business according to a plan approved by the WMA or local authority. Installation should proceed from upstream to downstream during periods of low flow.

Sandbag/stone diversions can be used independently or as components of other stream diversion techniques. Installation of this measure should follow (refer to Detail 1.5).

- 1. The diversion structure should be installed from upstream to downstream.
2. The height of the sandbag/stone diversion should be a function of the duration of the project in the stream reach.
3. All excavated material should be deposited and stabilized in an approved area outside the 100-year floodplain unless otherwise authorized by the WMA.
4. Sediment-laden water from the construction area should be pumped to a dewatering basin.

MGWC 1.5: SANDBAGSTONE CHANNEL DIVERSION

DESCRIPTION
The work should consist of installing sandbag or stone flow diversions for the purpose of erosion control when construction activities occur within the stream channel.

EFFECTIVE USES & LIMITATIONS
Diversions are used to isolate work areas from flow during the construction of in-stream projects. Diversions which have an insufficient flow capacity can fail and severely erode the disturbed channel section under construction.

MATERIAL SPECIFICATIONS
Materials for sandbag and stone stream diversions should meet the following requirements:

- Riprap: Riprap should be washed and have a minimum diameter of 6 inches (15 centimeters).
Sandbags: Sandbags should consist of materials which are resistant to ultra-violet radiation, tearing, and puncture and should be woven tightly enough to prevent leakage of the fill material (i.e., sand, fine gravel, etc.).
Sheeting: Sheeting should consist of polyethylene or other materials which are impervious and resistant to puncture and tearing.

INSTALLATION GUIDELINES
All erosion and sediment control devices, including dewatering basins, should be implemented as the first order of business according to a plan approved by the WMA or local authority. Installation should proceed from upstream to downstream during periods of low flow.

Sandbag/stone diversions can be used independently or as components of other stream diversion techniques. Installation of this measure should follow (refer to Detail 1.5).

- 1. The diversion structure should be installed from upstream to downstream.
2. The height of the sandbag/stone diversion should be a function of the duration of the project in the stream reach.
3. All excavated material should be deposited and stabilized in an approved area outside the 100-year floodplain unless otherwise authorized by the WMA.
4. Sediment-laden water from the construction area should be pumped to a dewatering basin.

MGWC 1.2: PUMP-AROUND PRACTICE

Temporary measure for dewatering in-channel construction sites

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

EFFECTIVE USES & LIMITATIONS
Construction activities including the installation of erosion and sediment control measures should not begin until all necessary easements and/or rights-of-way have been acquired. All existing utilities should be marked in the field prior to construction.

MATERIAL SPECIFICATIONS
Materials for sandbag and stone stream diversions should meet the following requirements:

- Riprap: Riprap should be washed and have a minimum diameter of 6 inches (15 centimeters).
Sandbags: Sandbags should consist of materials which are resistant to ultra-violet radiation, tearing, and puncture and should be woven tightly enough to prevent leakage of the fill material (i.e., sand, fine gravel, etc.).
Sheeting: Sheeting should consist of polyethylene or other materials which are impervious and resistant to puncture and tearing.

INSTALLATION GUIDELINES
All erosion and sediment control devices, including dewatering basins, should be implemented as the first order of business according to a plan approved by the WMA or local authority. Installation should proceed from upstream to downstream during periods of low flow.

Sandbag/stone diversions can be used independently or as components of other stream diversion techniques. Installation of this measure should follow (refer to Detail 1.5).

- 1. The diversion structure should be installed from upstream to downstream.
2. The height of the sandbag/stone diversion should be a function of the duration of the project in the stream reach.
3. All excavated material should be deposited and stabilized in an approved area outside the 100-year floodplain unless otherwise authorized by the WMA.
4. Sediment-laden water from the construction area should be pumped to a dewatering basin.

MGWC 1.2: PUMP-AROUND PRACTICE

Temporary measure for dewatering in-channel construction sites

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

EFFECTIVE USES & LIMITATIONS
Construction activities including the installation of erosion and sediment control measures should not begin until all necessary easements and/or rights-of-way have been acquired. All existing utilities should be marked in the field prior to construction.

MATERIAL SPECIFICATIONS
Materials for sandbag and stone stream diversions should meet the following requirements:

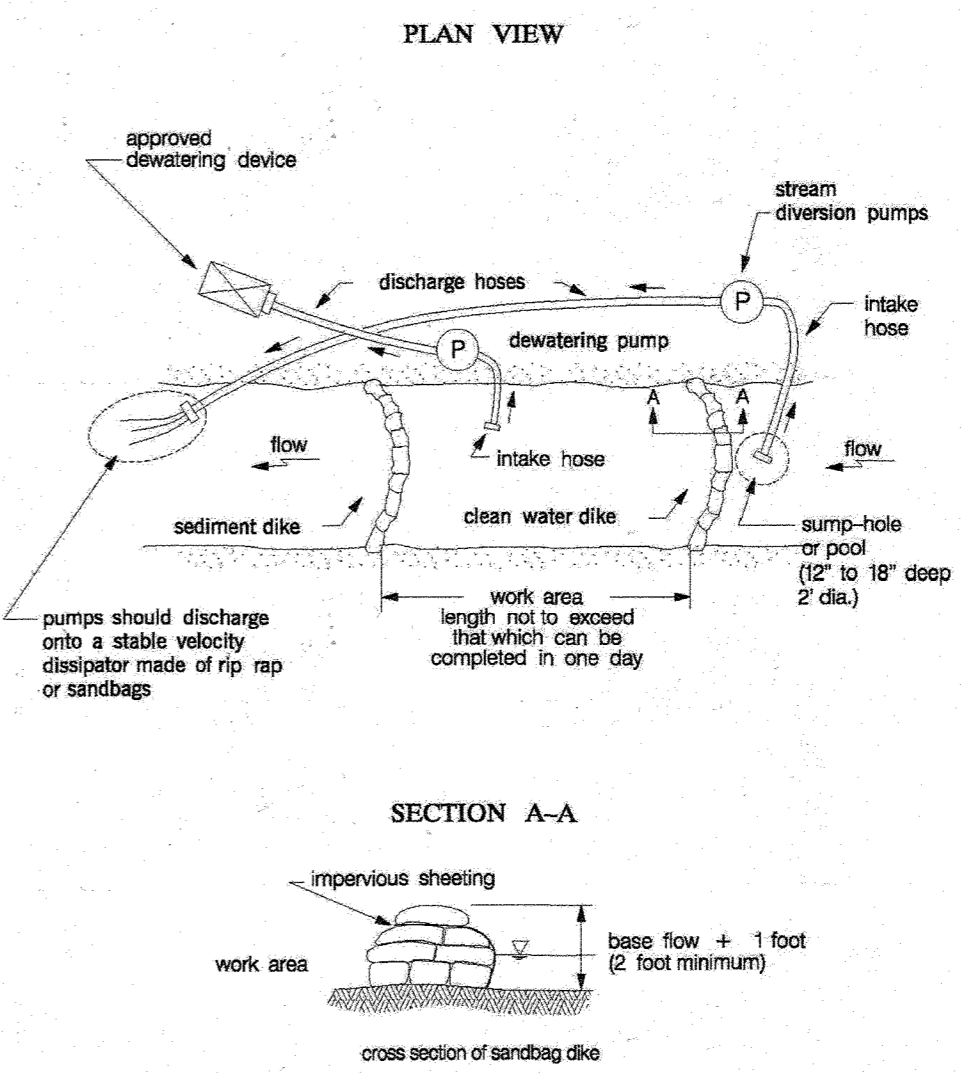
- Riprap: Riprap should be washed and have a minimum diameter of 6 inches (15 centimeters).
Sandbags: Sandbags should consist of materials which are resistant to ultra-violet radiation, tearing, and puncture and should be woven tightly enough to prevent leakage of the fill material (i.e., sand, fine gravel, etc.).
Sheeting: Sheeting should consist of polyethylene or other materials which are impervious and resistant to puncture and tearing.

INSTALLATION GUIDELINES
All erosion and sediment control devices, including dewatering basins, should be implemented as the first order of business according to a plan approved by the WMA or local authority. Installation should proceed from upstream to downstream during periods of low flow.

Sandbag/stone diversions can be used independently or as components of other stream diversion techniques. Installation of this measure should follow (refer to Detail 1.5).

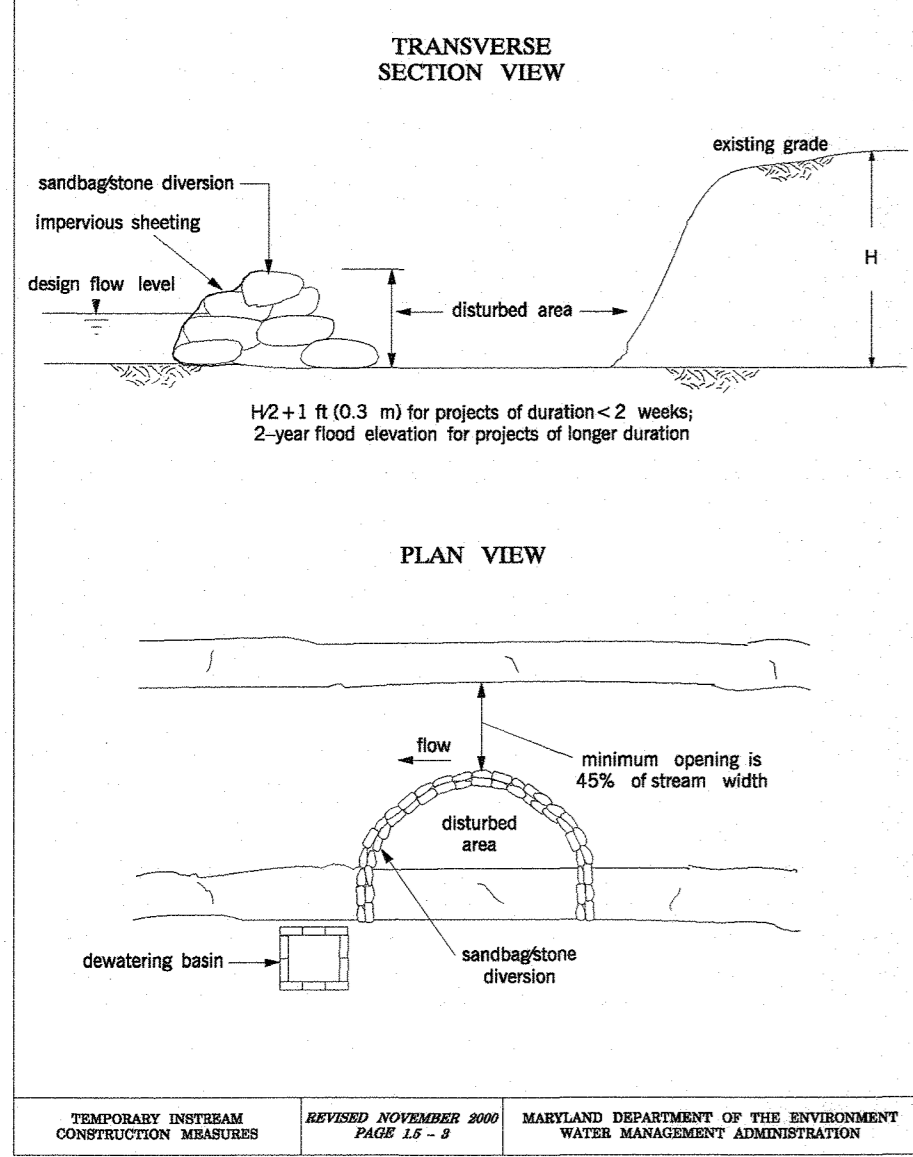
- 1. The diversion structure should be installed from upstream to downstream.
2. The height of the sandbag/stone diversion should be a function of the duration of the project in the stream reach.
3. All excavated material should be deposited and stabilized in an approved area outside the 100-year floodplain unless otherwise authorized by the WMA.
4. Sediment-laden water from the construction area should be pumped to a dewatering basin.

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



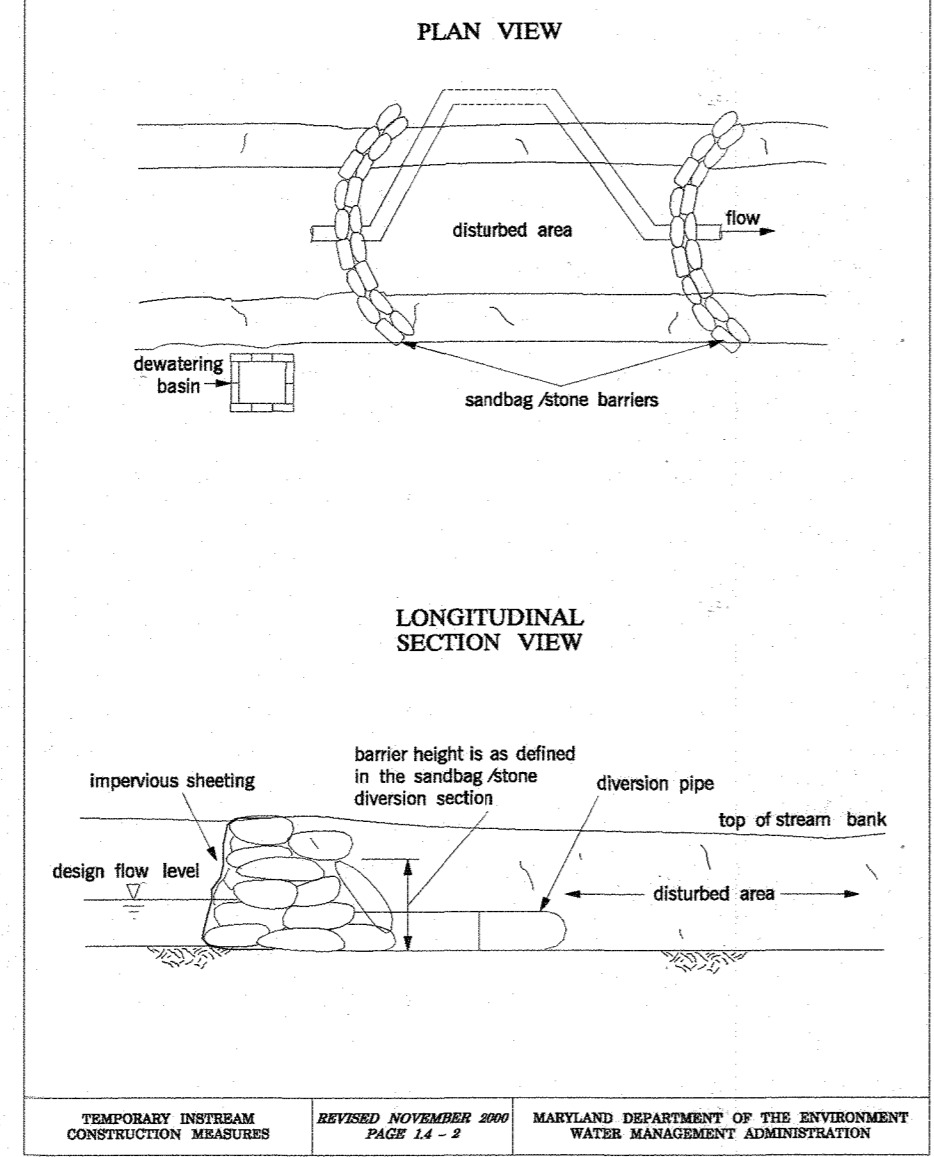
TEMPORARY INSTREAM CONSTRUCTION MEASURES, REVISIONS, MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Maryland's Guidelines To Waterway Construction
DETAIL 1.5: SANDBAGSTONE DIVERSION



TEMPORARY INSTREAM CONSTRUCTION MEASURES, REVISIONS, MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Maryland's Guidelines To Waterway Construction
DETAIL 1.4: DIVERSION PIPE



TEMPORARY INSTREAM CONSTRUCTION MEASURES, REVISIONS, MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MGWC 4.3: CULVERT INSTALLATION

Proposed installation sequence for culverts

DESCRIPTION
The following is a typical installation sequence for culverts which details the minimum requirements to be incorporated into the project.

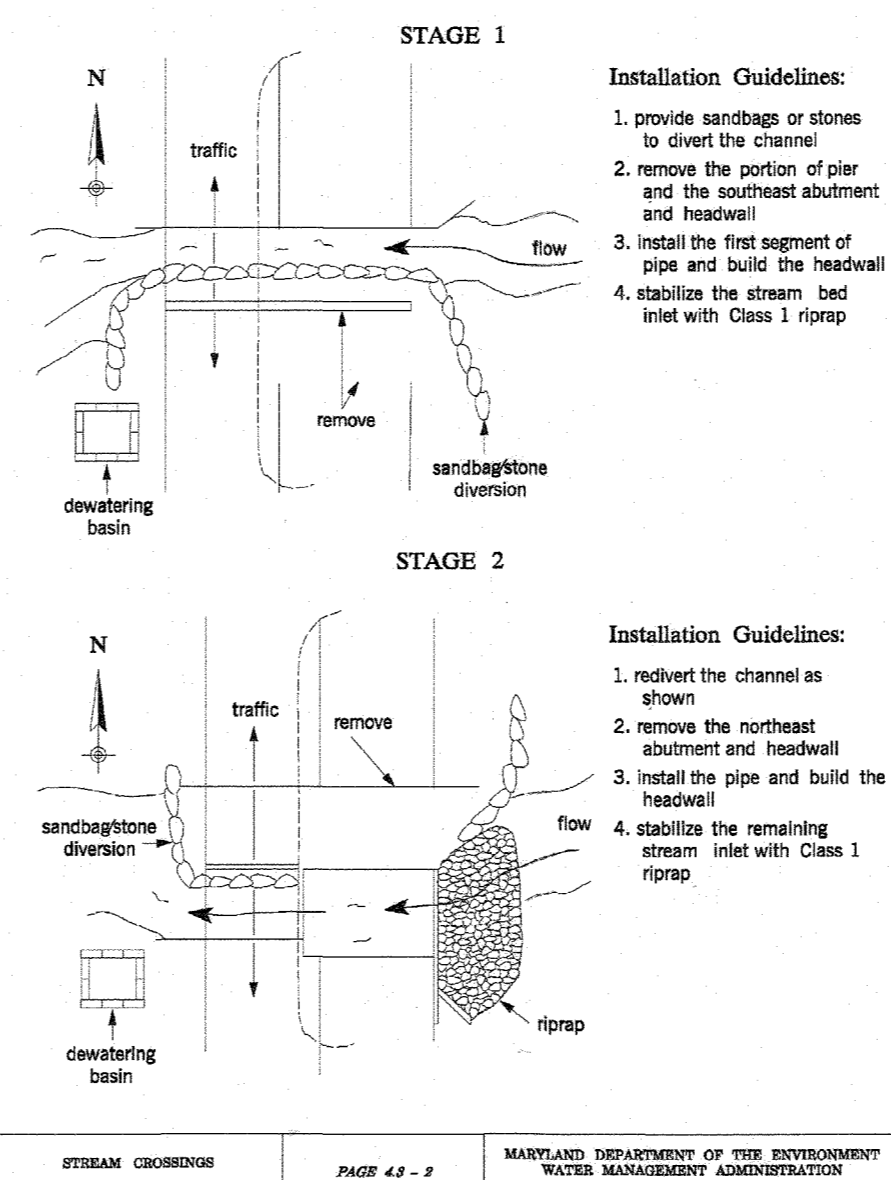
EFFECTIVE USES & LIMITATIONS
This method has been chosen in order to illustrate a general sequence of construction and is not suitable for all projects.

CONSTRUCTION SEQUENCE
All erosion and sediment control devices, including dewatering basins, should be implemented as the first order of business according to a plan approved by the WMA or local authority.

- 1. A diversion pipe as shown in MGWC 1.4, Diversion Pipe or other measure should be installed and a sandbag or stone barrier as shown in MGWC 1.3, Sandbag/Stone Diversion should be constructed according to specifications to divert the stream flow into the diversion.
2. Culverts should be installed such that the following requirements are met.
3. The culvert slope should match the attached slope while not exceeding 3%.
4. For non-depressed culverts, the total height should not exceed 12 inches (12 centimeters), and concrete spans should be avoided whenever possible.

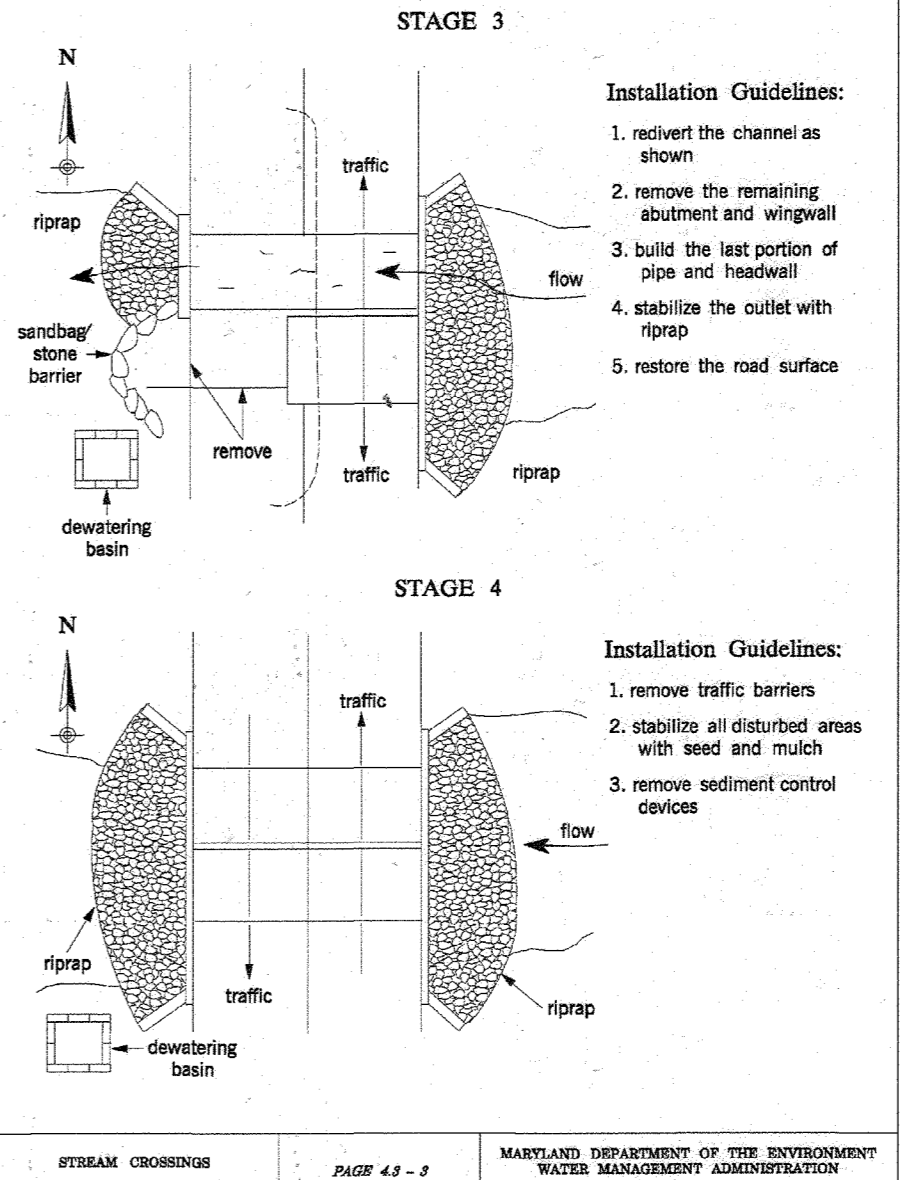
TEMPORARY INSTREAM CONSTRUCTION MEASURES, REVISIONS, MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Maryland's Guidelines To Waterway Construction
DETAIL 4.3: CULVERT INSTALLATION-STAGES 1&2



TEMPORARY INSTREAM CONSTRUCTION MEASURES, REVISIONS, MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

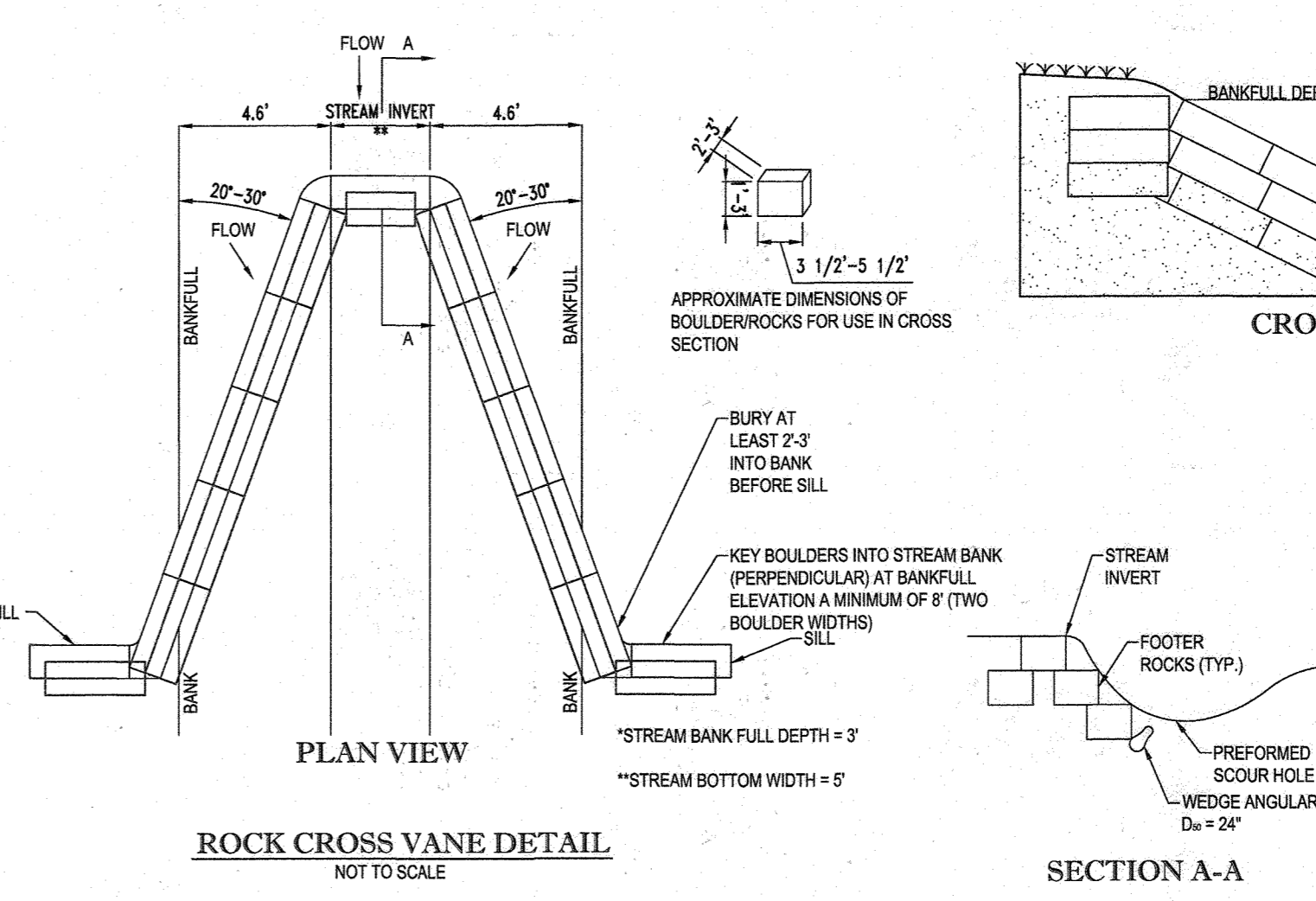
Maryland's Guidelines To Waterway Construction
DETAIL 4.3: CULVERT INSTALLATION-STAGES 3&4



TEMPORARY INSTREAM CONSTRUCTION MEASURES, REVISIONS, MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

ROCK VANE INSTALLATION GUIDELINES

- 1. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED PER THE APPROVED PLANS PRIOR TO INSTALLATION OF THE ROCK VANES.
2. MAINTAIN FUNCTIONALITY OF THE EXISTING STREAM DURING CONSTRUCTION OF THE RELOCATED STREAM AND ROCK VANES.
3. SHAPE AND ORIENTATION: VANES SHOULD BE ANGLED 20 TO 30 DEGREES FROM UPSTREAM BANK.
4. HEIGHT: THE BANK-END OF THE VANE SHOULD BE AT THE BANKFULL ELEVATION AND THE TIP OF VANE SHOULD BE PARTIALLY EMBEDDED IN THE STREAMBED SUCH THAT IT IS SUBMERGED EVEN DURING LOW FLOWS.



TEMPORARY INSTREAM CONSTRUCTION MEASURES, REVISIONS, MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

APPROVED: DEPARTMENT OF PUBLIC WORKS
CHIEF, BUREAU OF HIGHWAYS
APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT
CHIEF, DEVELOPING ENGINEERING DIVISION

APPROVED: DEPARTMENT OF THE ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET
Professional L.S.# 10849 Exp. Date 4/12/2024
AS-BUILT DATE: 10/11/2023
Shanberger & Lane
INSTRUMENTS USED IN PREPARING THIS AS-BUILT SURVEY: LEICA DISTO TOTAL STATION, LEICA LEVEL, SOKKIA 360° PRISM

OWNERS:
PARCEL 38 TOLL MID ATLANTIC LP COMPANY INC
250 GIBRAL TAR ROAD HORSHAM PA, 19044
TEL: 215 261 2600
FAX: 215 261 2601
PARCEL 111 DENNIS A LEAF LENORE D SINES 5225 GREEN BRIDGE ROAD DAYTON, MD 21036 TEL: 410 821 7900

DEVELOPER: GREEN BRIDGE FARM II, L.C.
5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042
CONTACT: JASON VAN KIRK PHONE: (410) 212-3021
SUBDIVISION NAME: WILLOWSHIRE SECTION: AREA 1, N/A DEED # 11361400222, 0018300554, 0584002854, 05858100490, 0434100270, & 0320100539
PREVIOUS FILE NO.: ECP-18-023 PB436 SP-17-002 WP-17105
TAX MAP: 27 GRID: 18 ZONED: RR-DEO PARCEL: 34, 36, 98, 111 & 112 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

BOHLER ENGINEERING logo and contact information including office locations and project managers.

Table with 5 columns: REV, DATE, COMMENT, BY. Multiple empty rows for revision tracking.

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE. CALL 811.
1-800-245-4640 (MD) 1-800-245-3778 (DC) 1-800-251-7777 (VA) 1-800-552-7001 (MD) 1-800-251-3777 (DE) 1-800-282-8550

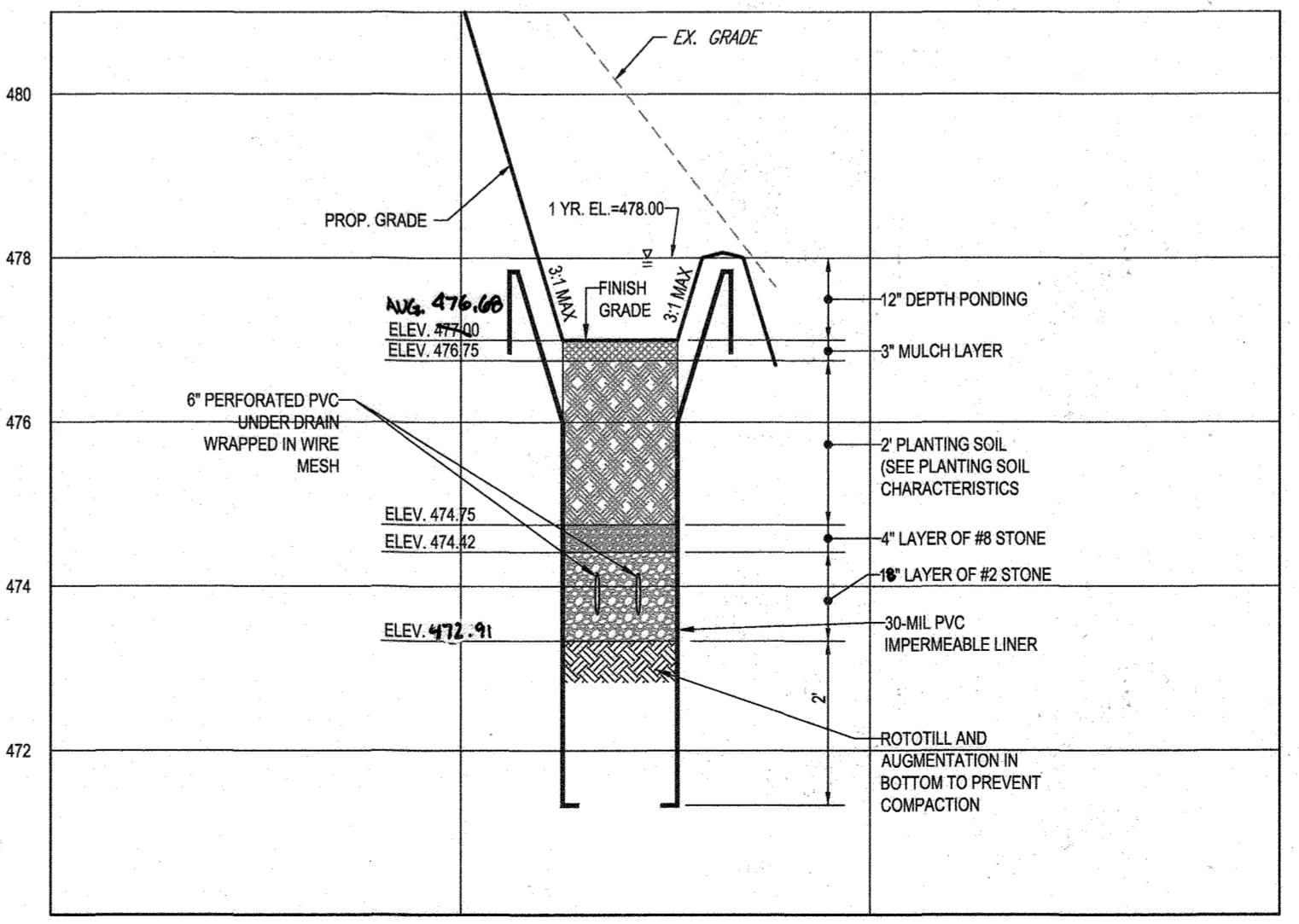
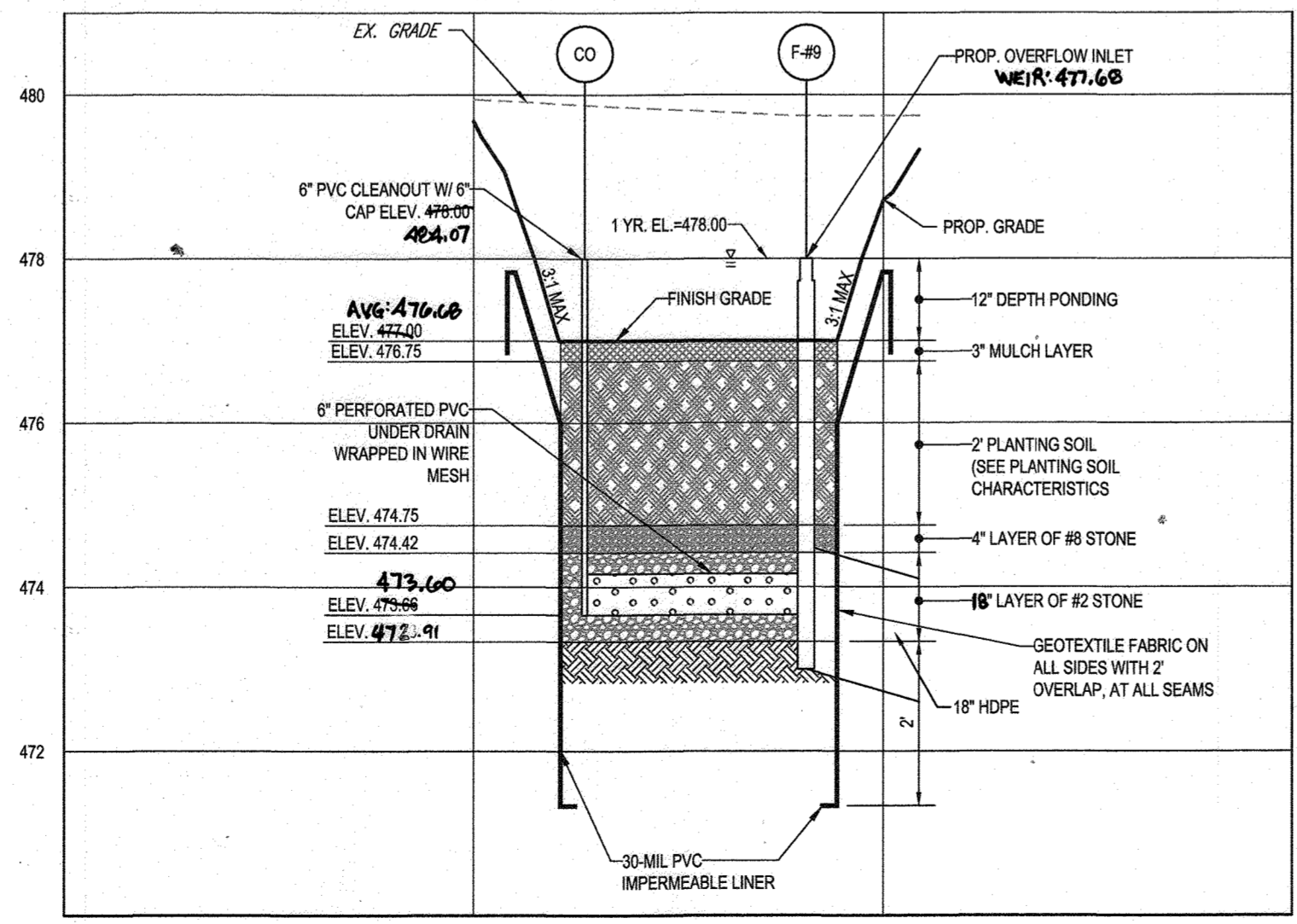
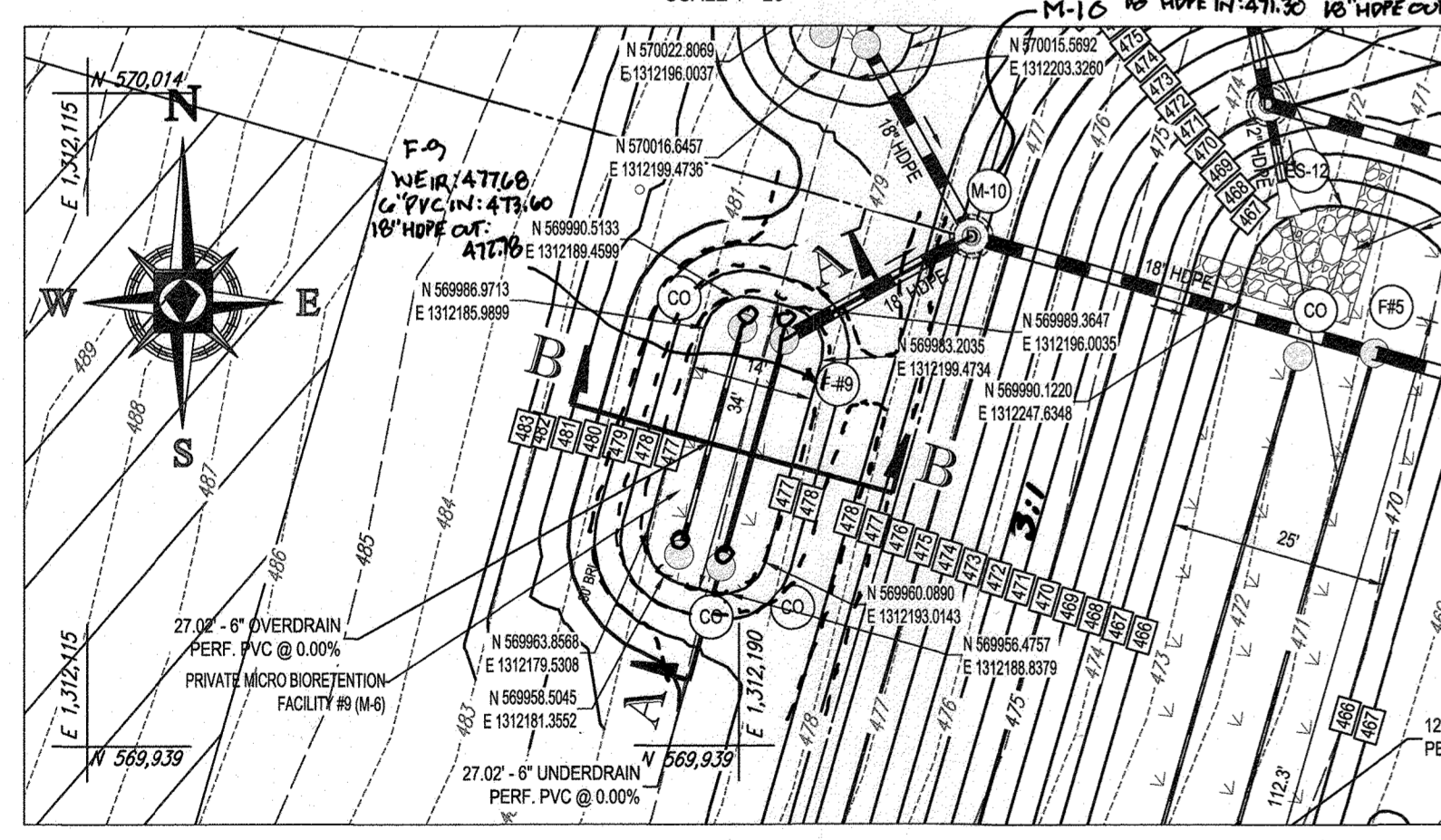
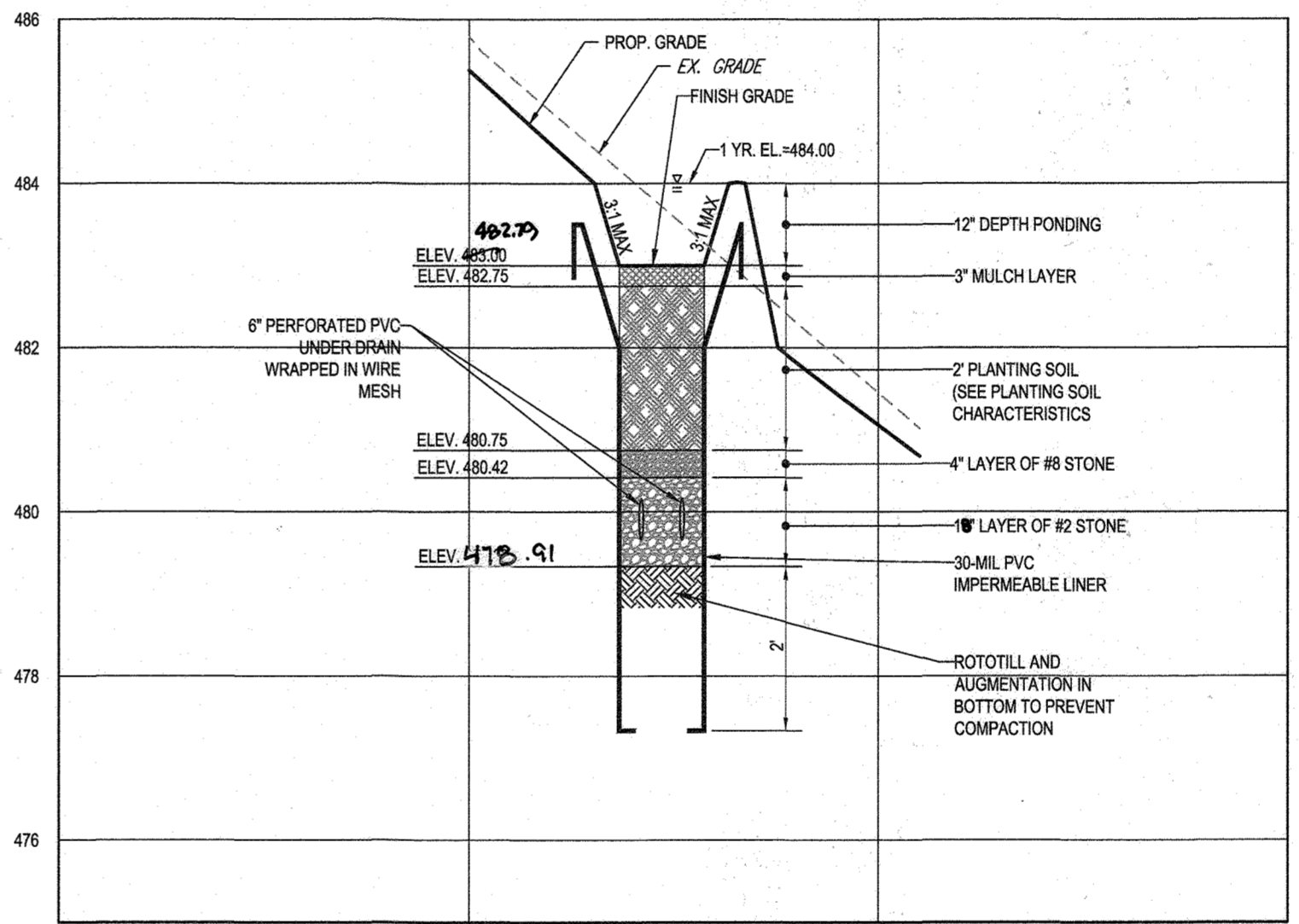
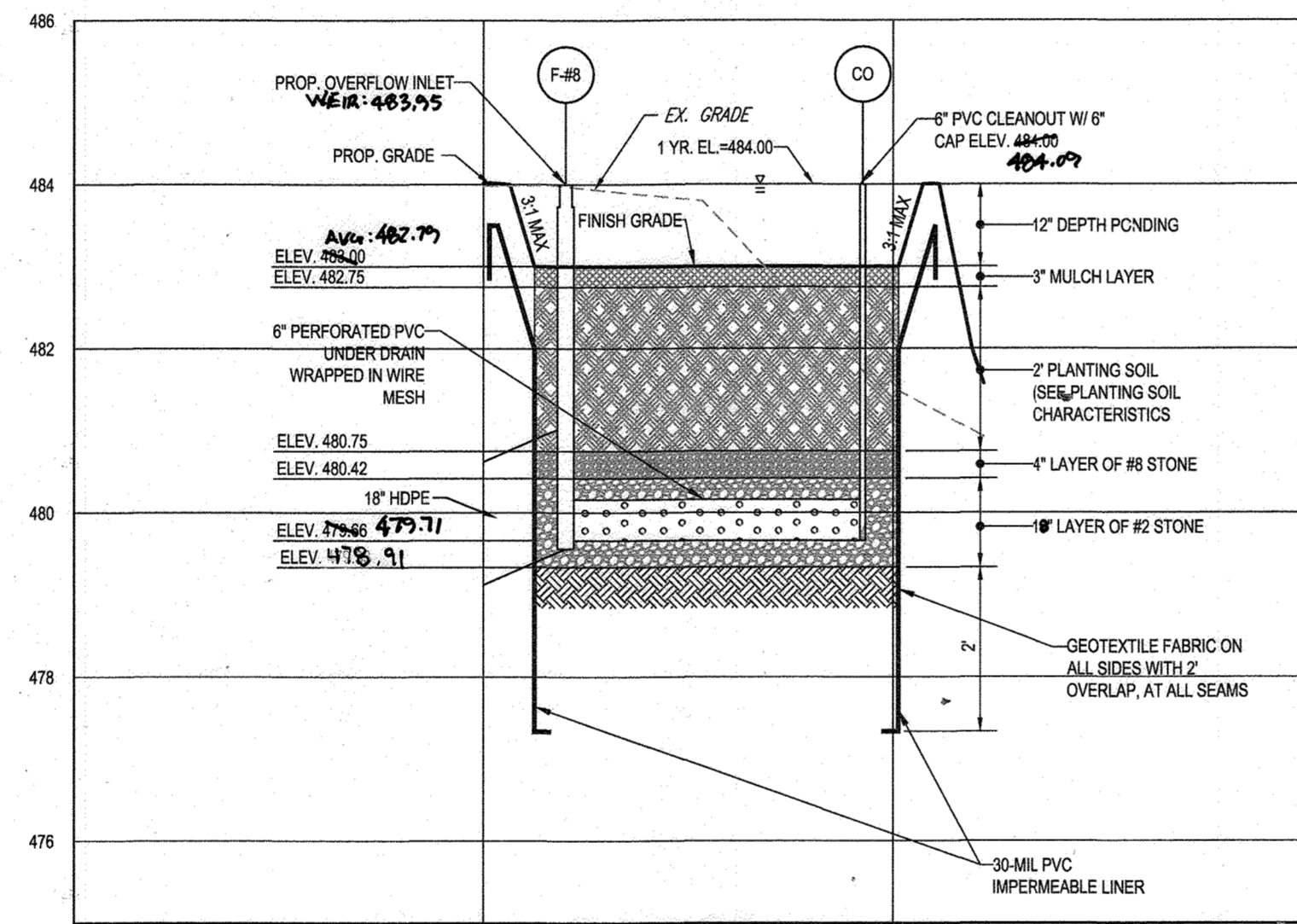
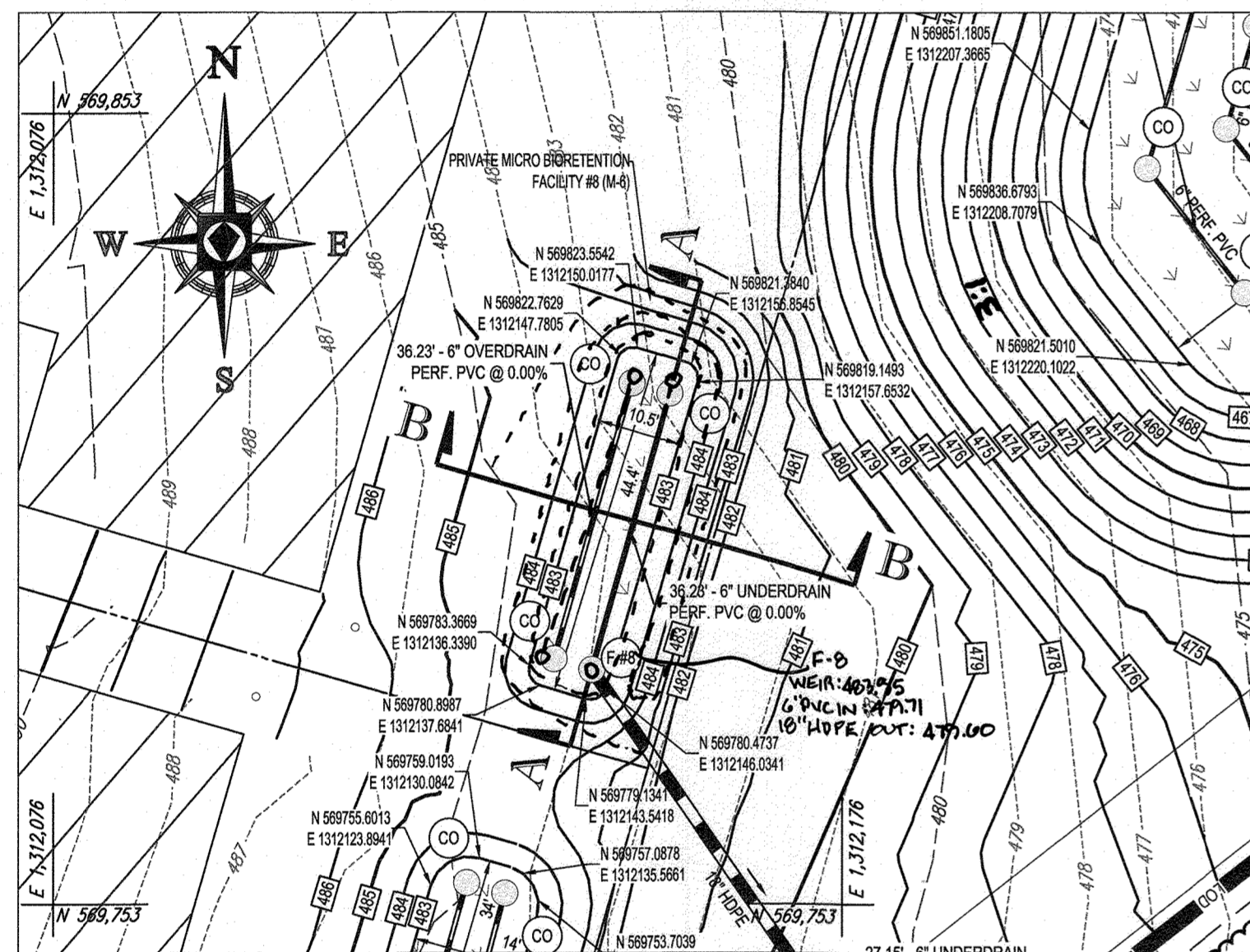
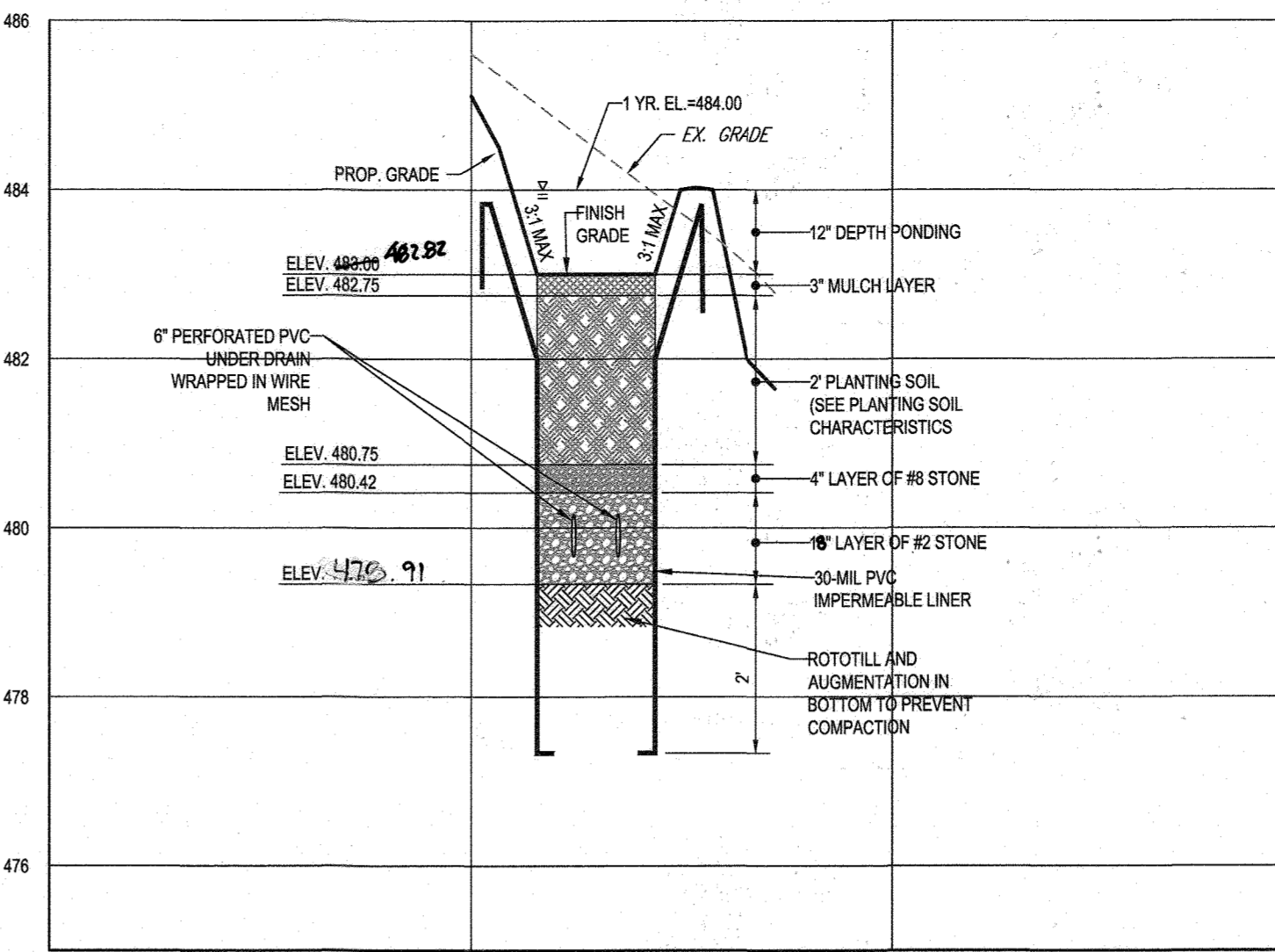
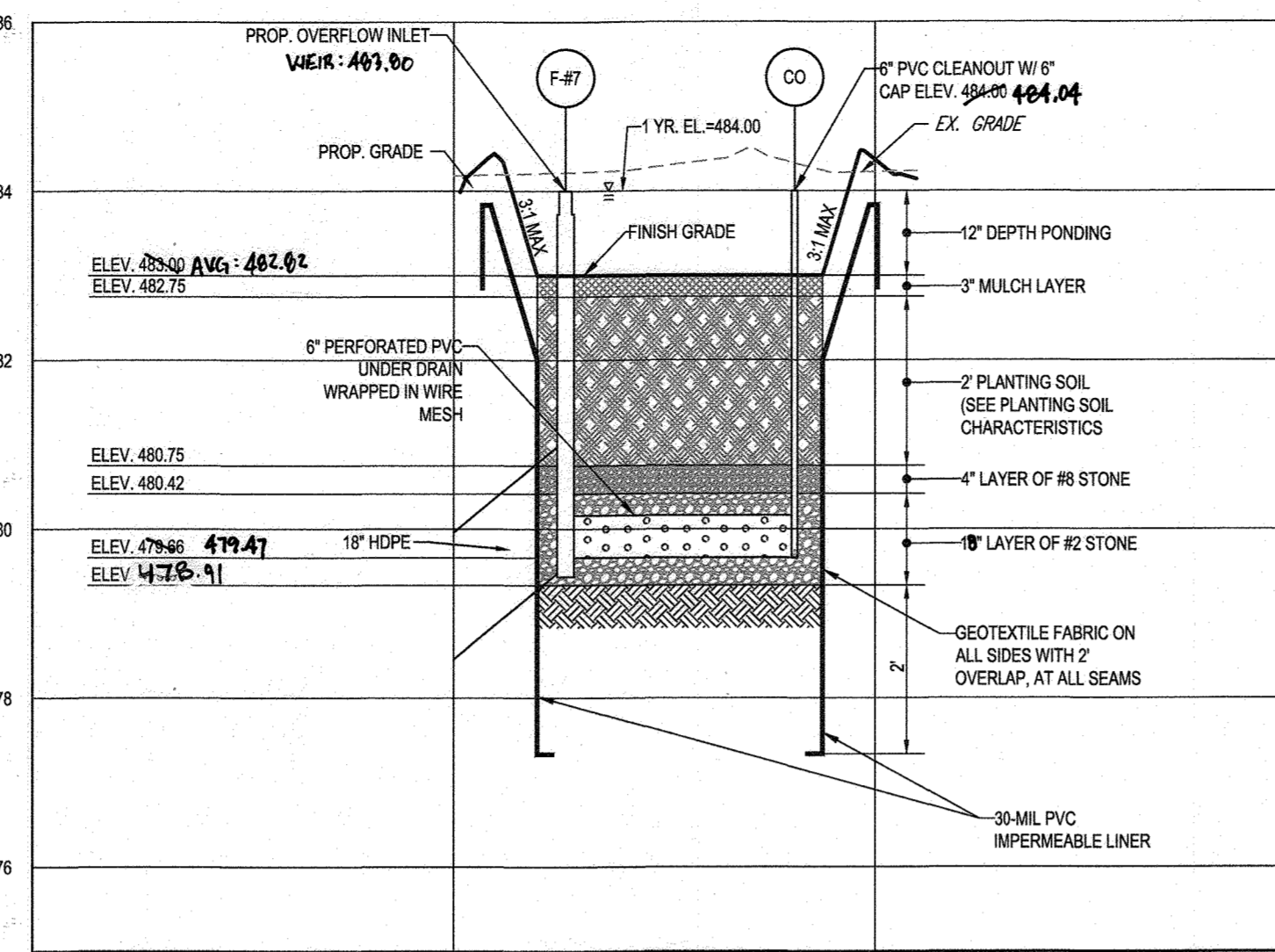
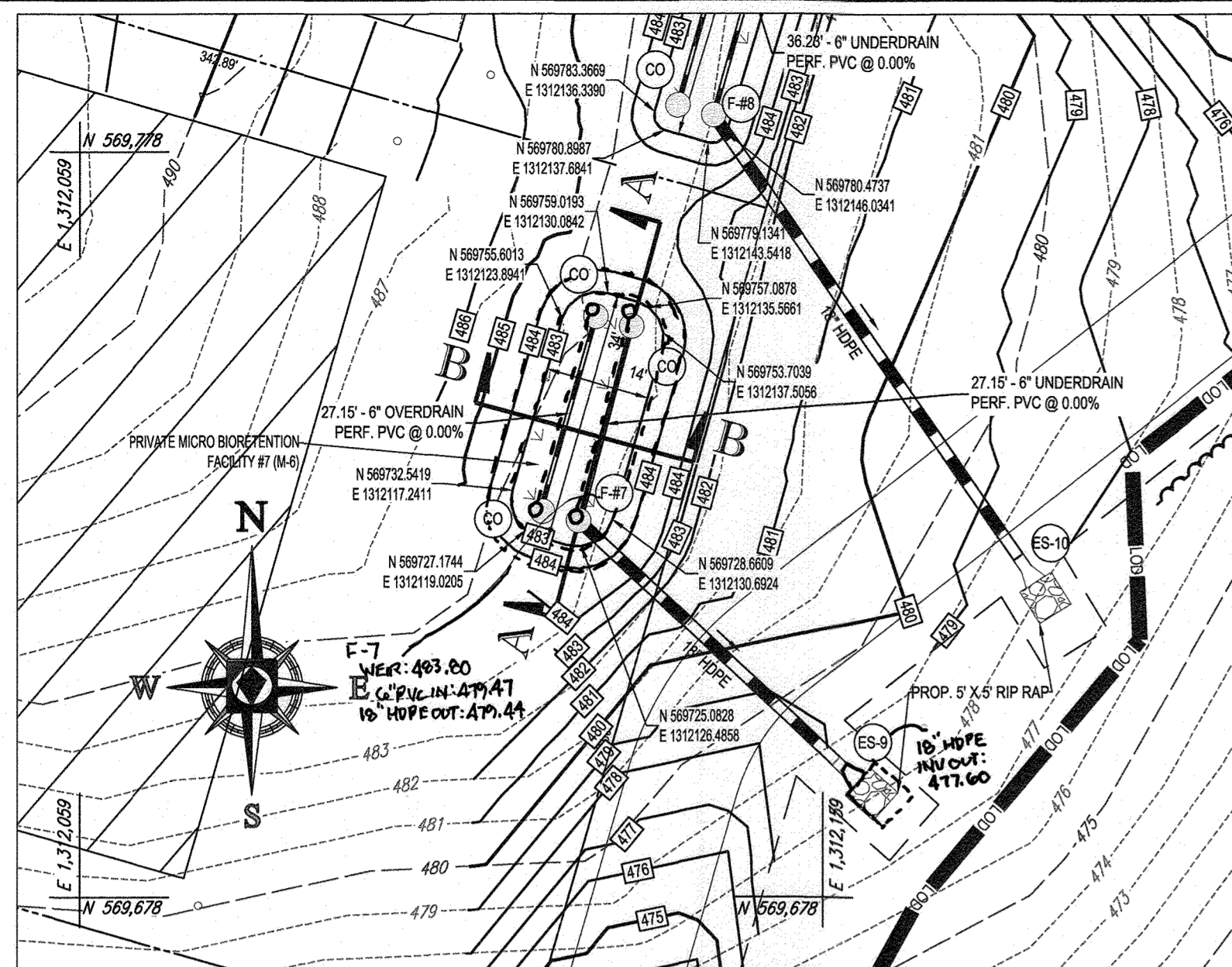
NOT APPROVED FOR CONSTRUCTION
PROJECT NO.: MD142048
SUITE 801
DRAWN BY: AVG
CHECKED BY: BRR
DATE: 08/28/19
SCALE: AS SHOWN
CAD I.D.: SD3

FINAL ROAD CONSTRUCTION PLAN
FOR WILLOWSHIRE
LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E - G & L - P & NON-BUILDABLE BULK PARCELS H-K
LOCATION OF SITE: 5232 GREEN BRIDGE ROAD 5TH ELECTION DISTRICT TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112 HOWARD COUNTY, MARYLAND

BOHLER ENGINEERING logo and address: 901 DULANEY VALLEY ROAD, SUITE 801, TOWNSON, MARYLAND 21204. Phone: (410) 821-7900. Fax: (410) 821-7987.

B.B. ROWE logo and professional engineer information: PROFESSIONAL ENGINEER, LICENSE NO. 46008, STATE OF MARYLAND, PROFESSIONAL CERTIFICATE NO. 1. BRANDON ROWE HENRY 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. 46008, EXPIRES DATE: 7/31/2021

SHEET TITLE: PHASE I EROSION AND SEDIMENT CONTROL DETAILS
SHEET NUMBER: 50 OF 92



APPROVED: DEPARTMENT OF PUBLIC WORKS  
 DATE: 11/26/2019  
 CHIEF, BUREAU OF HIGHWAYS  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 DATE: 2/20/2020  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 12.9.19  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

DEVELOPER: GREEN BRIDGE FARM II, L.C.  
 5074 DORSEY HALL ROAD, SUITE 205  
 COLUMBIA, MD 21042  
 CONTACT: JASON VAN KIRK  
 PHONE: (410) 720-3021

PREVIOUS FILE NO.: ECP-16-023 P8436  
 SP-17-002 WP-17105

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
 PARCEL: 34, 36, 98, 111 & 112  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 CORPORATE OFFICE: WARREN, NJ  
 SURVEYORS: SOUTH BRIDGE, VA; ALBANY, NY; CALVERTON, VA; CHATEAU VALLEY, PA  
 PROJECT MANAGERS: ENVIRONMENTAL CONSULTANTS: LANDSCAPE ARCHITECTS

REV	DATE	COMMENT	BY

**APPROVED FOR CONSTRUCTION**

PROJECT NO.: MD142203  
 DRAWN BY: BRR  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: AS SHOWN  
 CAD I.D.: SMC

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL, C NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & I, P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE: 5232 GREEN BRIDGE ROAD, 5TH ELECTION DISTRICT, TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 801 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7500  
 Fax: (410) 821-7581  
 www.BohlerEngineering.com

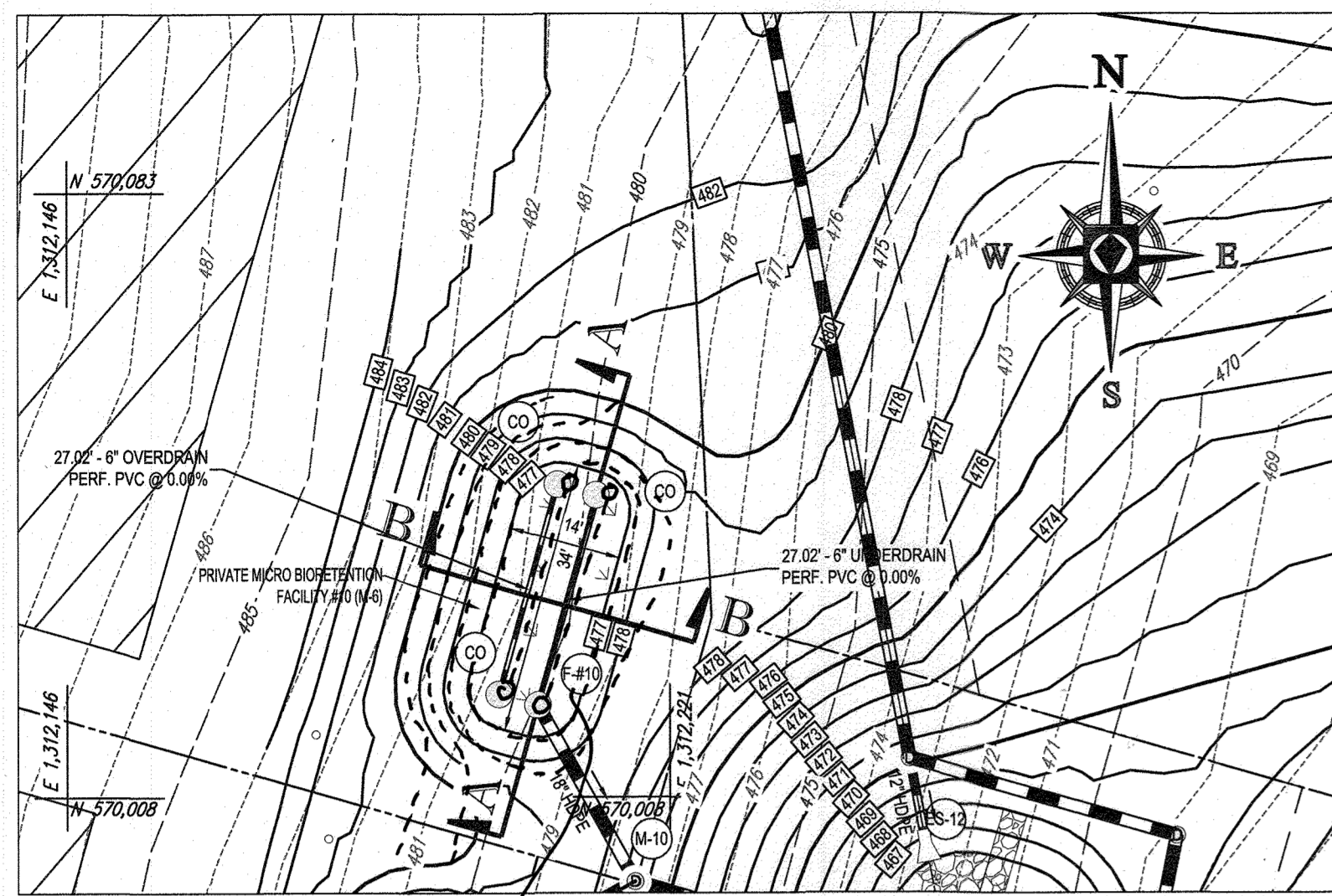
**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 SHANABERGER & LANE  
 PROFESSIONAL LAND SURVEYOR #10849  
 LICENSE EXPIRATION DATE 4/2/2024  
 AS-BUILT SURVEY DATE: 10/11/2023



**AS-BUILT CERTIFICATION**  
 I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS.  
 SCOTT SHANABERGER  
 PROFESSIONAL LAND SURVEYOR #10849  
 LICENSE EXPIRATION DATE 4/2/2024  
 AS-BUILT SURVEY DATE: 10/11/2023  
 INSTRUMENTS USED IN PREPARATION OF THIS AS-BUILT SURVEY: S SECOND SOKKIA IX ROBOTIC TOTAL STATION, TOPCON RC-5 RECEIVER, SOKKIA 300 PRISM

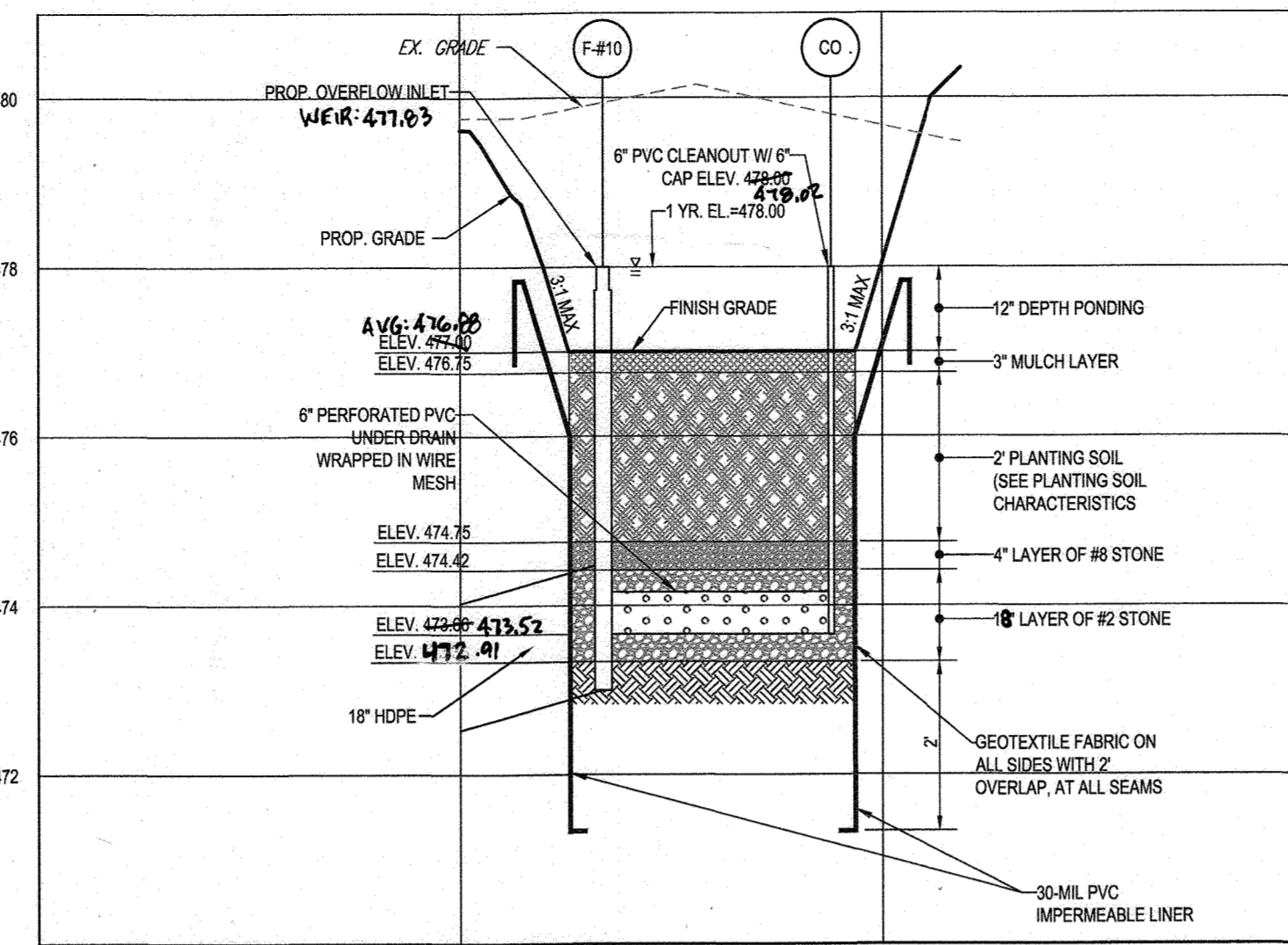
SHEET TITLE: **SWM NOTES AND DETAILS**  
 SHEET NUMBER: **51 OF 92**

11/26/2019 10:00 AM SECTION: ROAD CONSTRUCTION PLAN/HIGHWAYS PRINTED BY: JGARDNER 8.25 X 11 @ 1/8" PER INCH (NOT SCALED) BY: JGARDNER

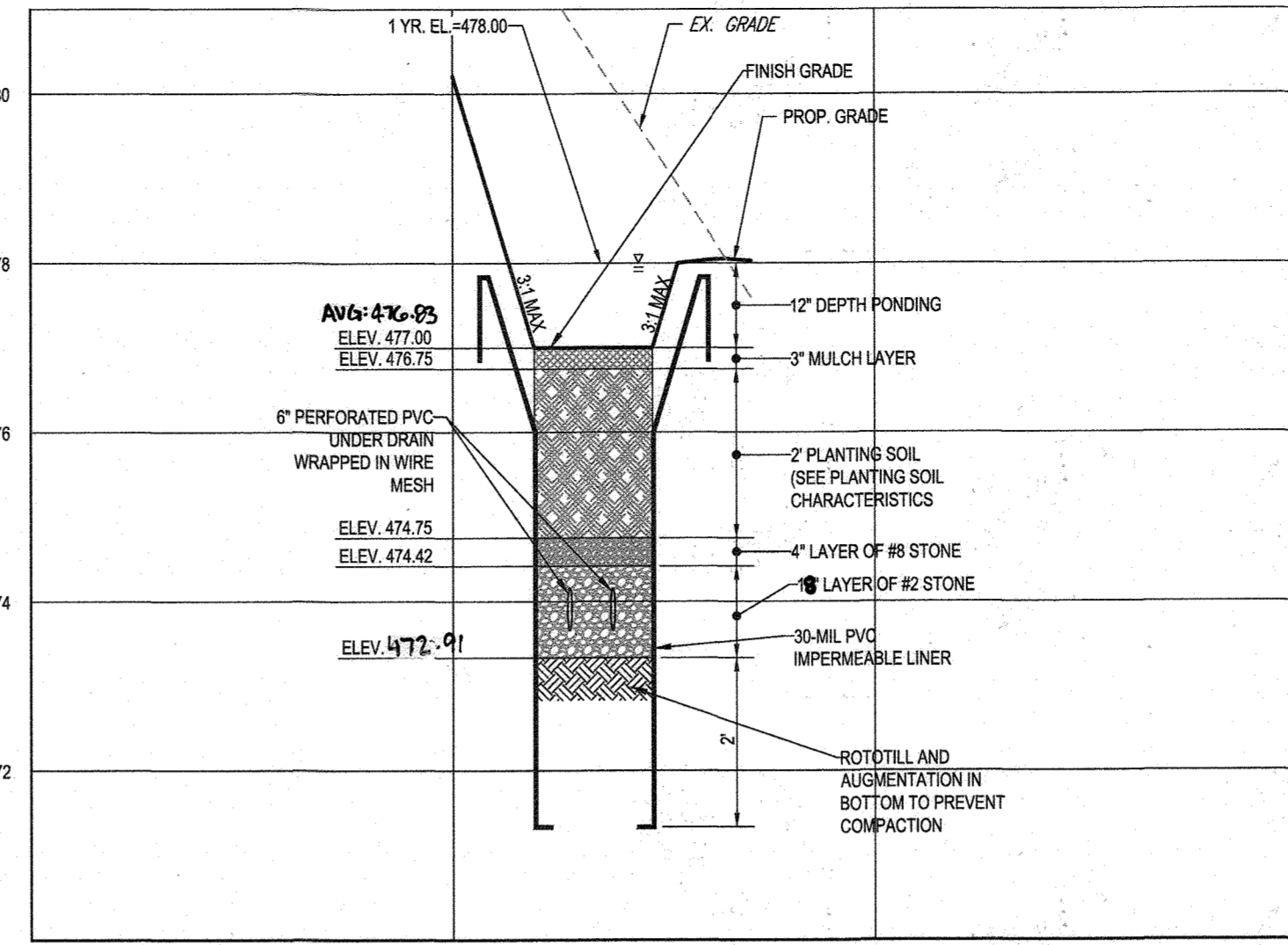


MICRO-BIORETENTION (M-6) FACILITY #10 PLAN VIEW

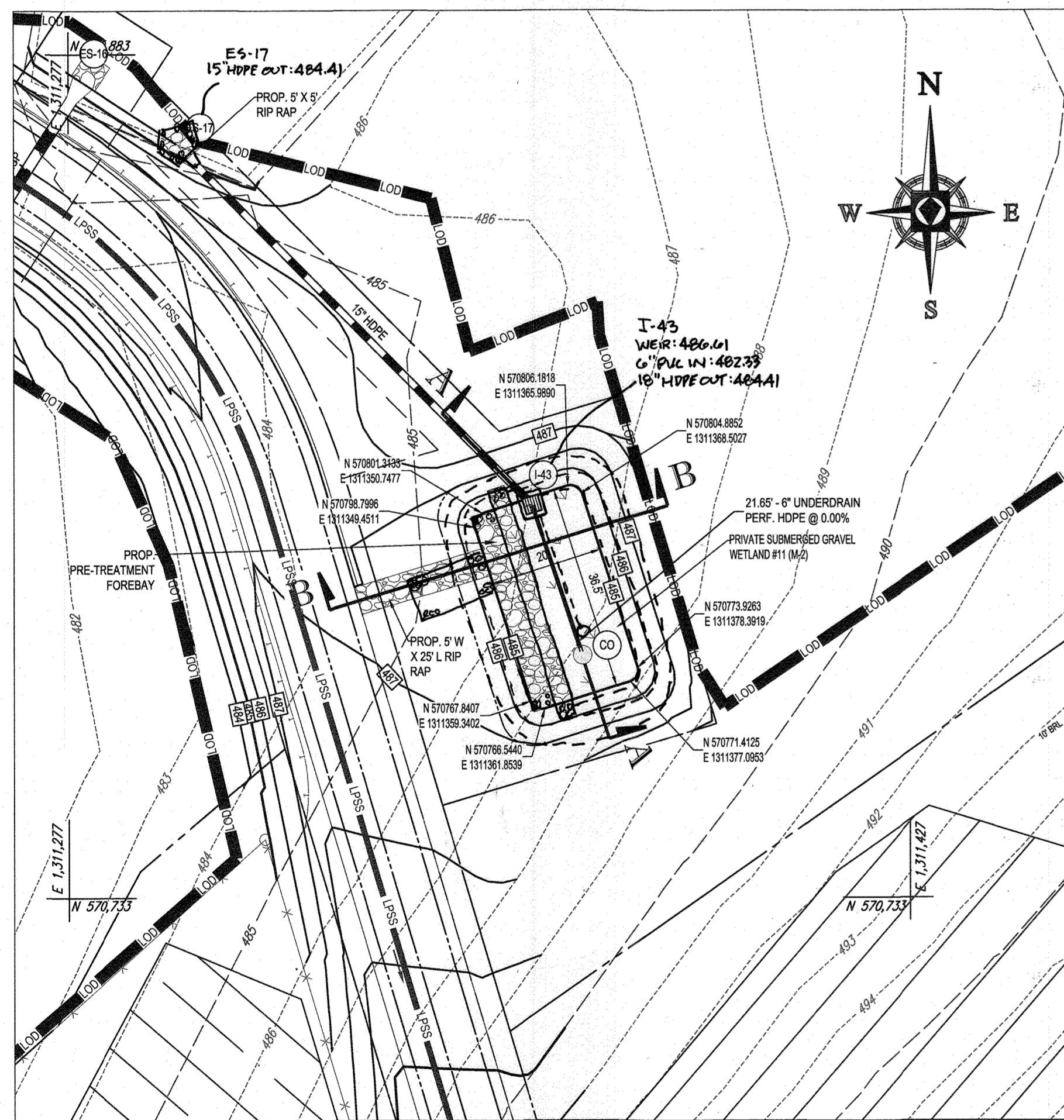
F-10  
WEIR: 471.83  
6" PVC UNDERDRAIN: 473.52  
18" HDPE OUT: 472.91



MICRO-BIORETENTION (M-6) FACILITY #10 - SECTION A-A  
SCALE: 1"=20' HORIZONTAL  
1"=2' VERTICAL

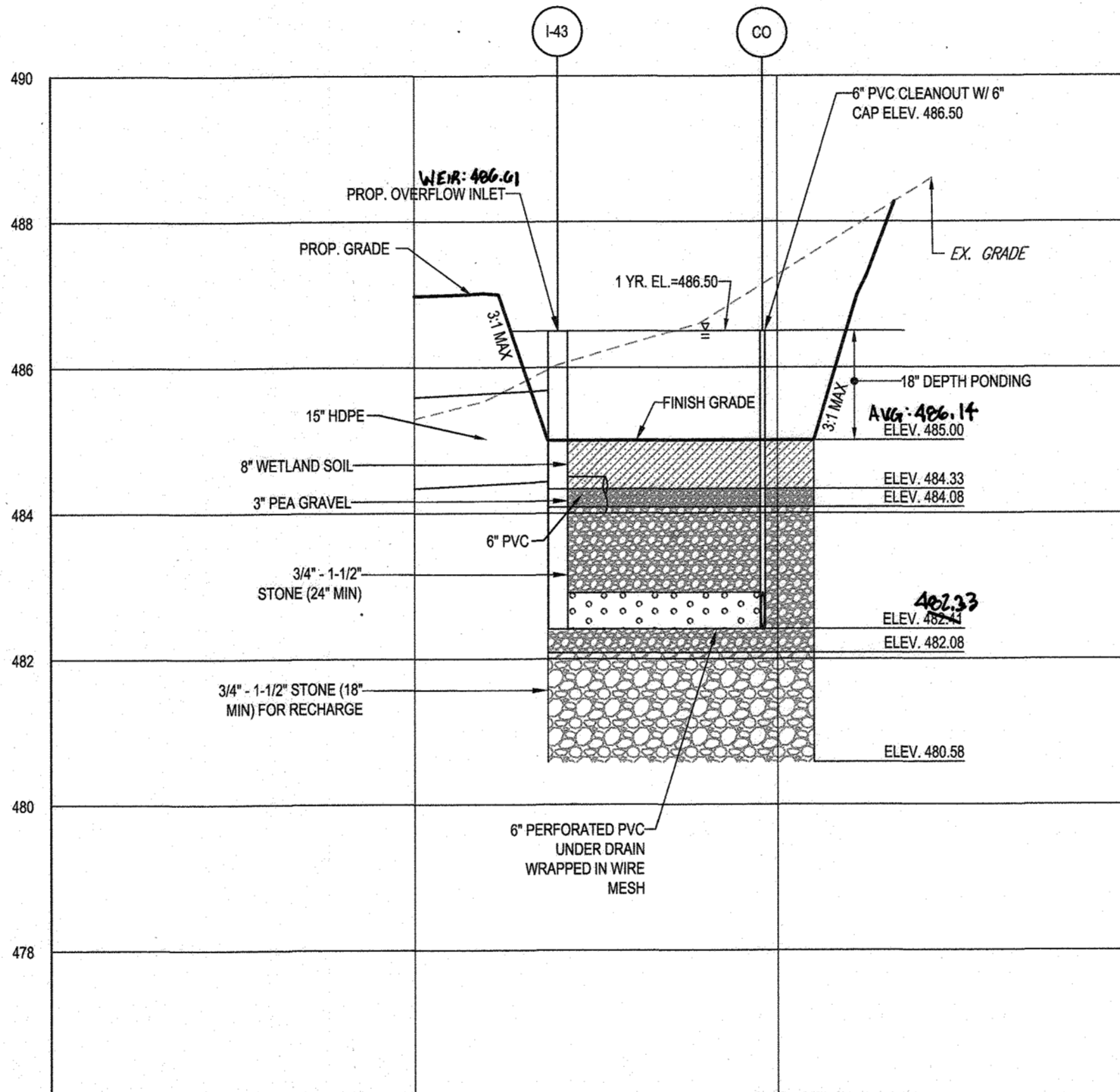


MICRO-BIORETENTION (M-6) FACILITY #10 - SECTION B-B  
SCALE: 1"=20' HORIZONTAL  
1"=2' VERTICAL

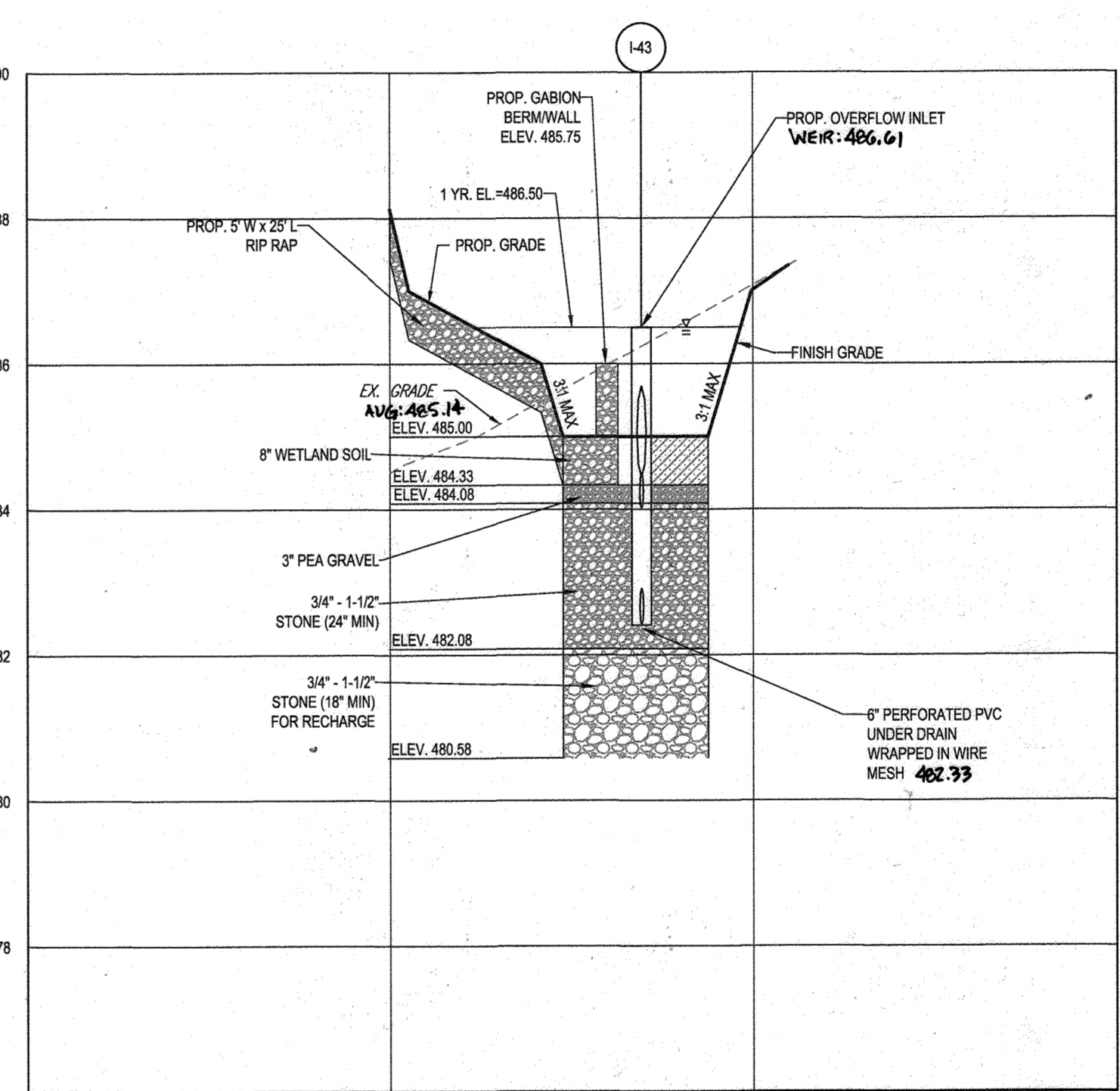


SUBMERGED GRAVEL WETLAND FACILITY #11 PLAN VIEW

SCALE 1"=20'



SUBMERGED GRAVEL WETLAND (M-2) FACILITY #11 - SECTION A-A  
SCALE: 1"=20' HORIZONTAL  
1"=2' VERTICAL



SUBMERGED GRAVEL WETLAND (M-2) FACILITY #11 - SECTION B-B  
SCALE: 1"=20' HORIZONTAL  
1"=2' VERTICAL

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
WARREN, NJ

CIVIL & CONSULTING ENGINEERS  
SURVEYORS

PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

OFFICES:  
BOULDER, CO  
COLUMBIA, MD  
FARMINGTON, CT  
FORT LAUDERDALE, FL  
HARTFORD, CT  
LANSING, MI  
PITTSBURGH, PA  
ROCKY HILL, CT  
STERLING, VA  
TOWSON, MD  
WILMINGTON, DE

REVISIONS			
REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EDUCATORS, DESIGNERS, OR ANY PERSON PREPARING TO VISIT THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL: 811  
(WV - 1-800-245-4544) (PA - 1-800-242-1779) (DC - 1-800-257-7777) (VA - 1-800-625-7001) (MD - 1-800-257-7777) (DE - 1-800-285-6555)

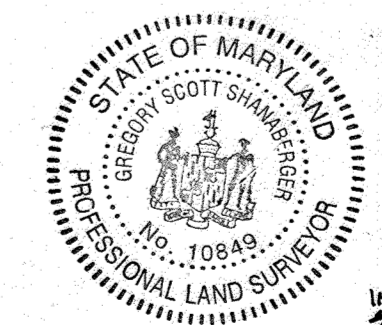
**APPROVED FOR CONSTRUCTION**

PROJECT NO.: MD142048  
DRAWN BY: AVG  
CHECKED BY: BRR  
DATE: 05/25/19  
SCALE: AS SHOWN  
CAD ID: SM3

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E - G & L - P & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
901 DULANEY VALLEY ROAD,  
SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7300  
Fax: (410) 821-7987  
www.BohlerEngineering.com

**B.R. ROWE**  
PROFESSIONAL ENGINEER  
PROFESSIONAL CERTIFICATION  
I BRANDED (NONE) HEREIN, ZEPHYRUS, ONLY THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A QUALIFIED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE NO. 76628, EXPIRATION DATE: 7/30/21



AS-BUILT CERTIFICATION  
HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS  
SCOTT SHANABERGER  
SHANABERGER & LANE  
PROFESSIONAL LAND SURVEYOR #10849  
COLUMBIA, MD 21042  
LICENSE EXPIRATION DATE: 4/22/2024  
AS-BUILT SURVEY DATE: 12/01/2022  
SURVEYED SECOND SOKKIA 1X ROBOTE TOTAL STATION, TOPCON PC-5 RECEIVER, SOKKIA 300 PRISM

APPROVED: DEPARTMENT OF PUBLIC WORKS  
CHIEF, BUREAU OF HIGHWAYS  
DATE: 11/26/2019

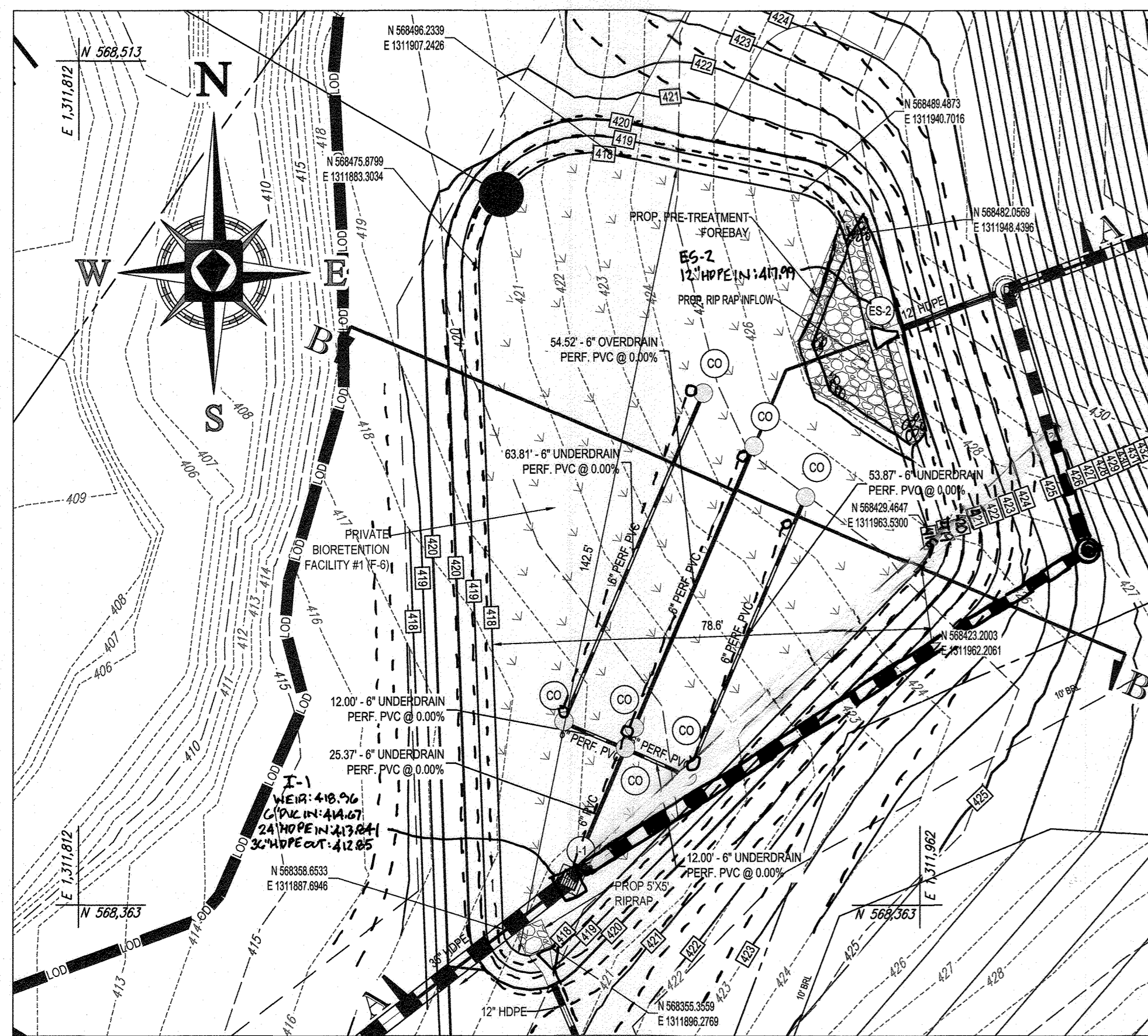
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 2/26/2020

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 12.9.19

SUBDIVISION NAME: WILLOWSHIRE SECTION/AREA: NA DEED # 1135103222, 0318300554, 1588400384, 0588900490 0434100270, & 0329100539	PREVIOUS FILE NO.: ECP-16-023 PB436 SP-17-002 WP-17105	TAX MAP: 27 GRID: 18 ZONED: RR-DEO PARCEL: 34, 36, 98, 111 & 112 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
---	---	---

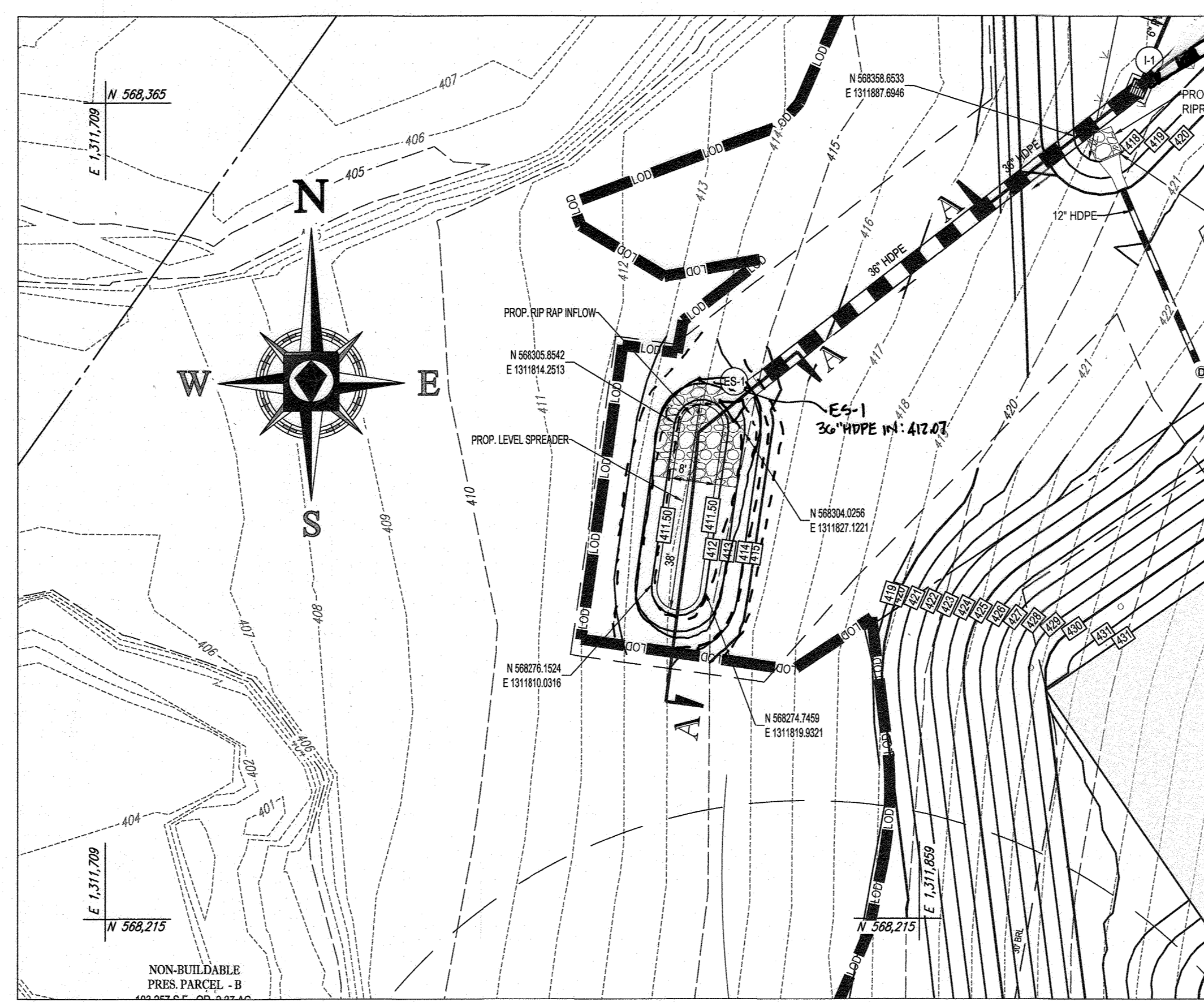
SHEET TITLE:  
**SWM NOTES AND DETAILS**

SHEET NUMBER:  
**52 OF 92**



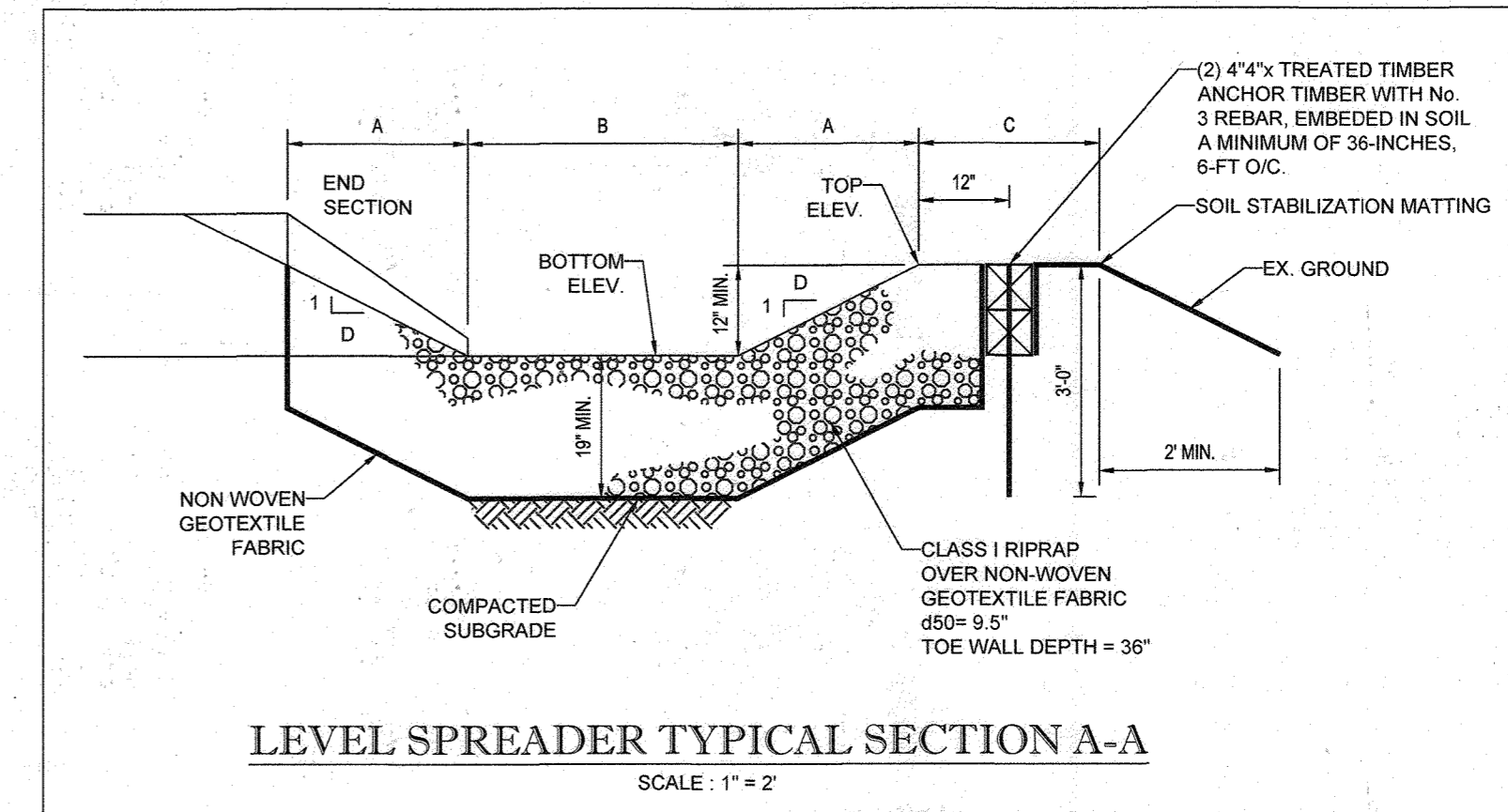
BIORETENTION (F-6) FACILITY #1 PLAN VIEW

SCALE 1"=20'



LEVEL SPREADER FACILITY PLAN VIEW

SCALE 1"=20'

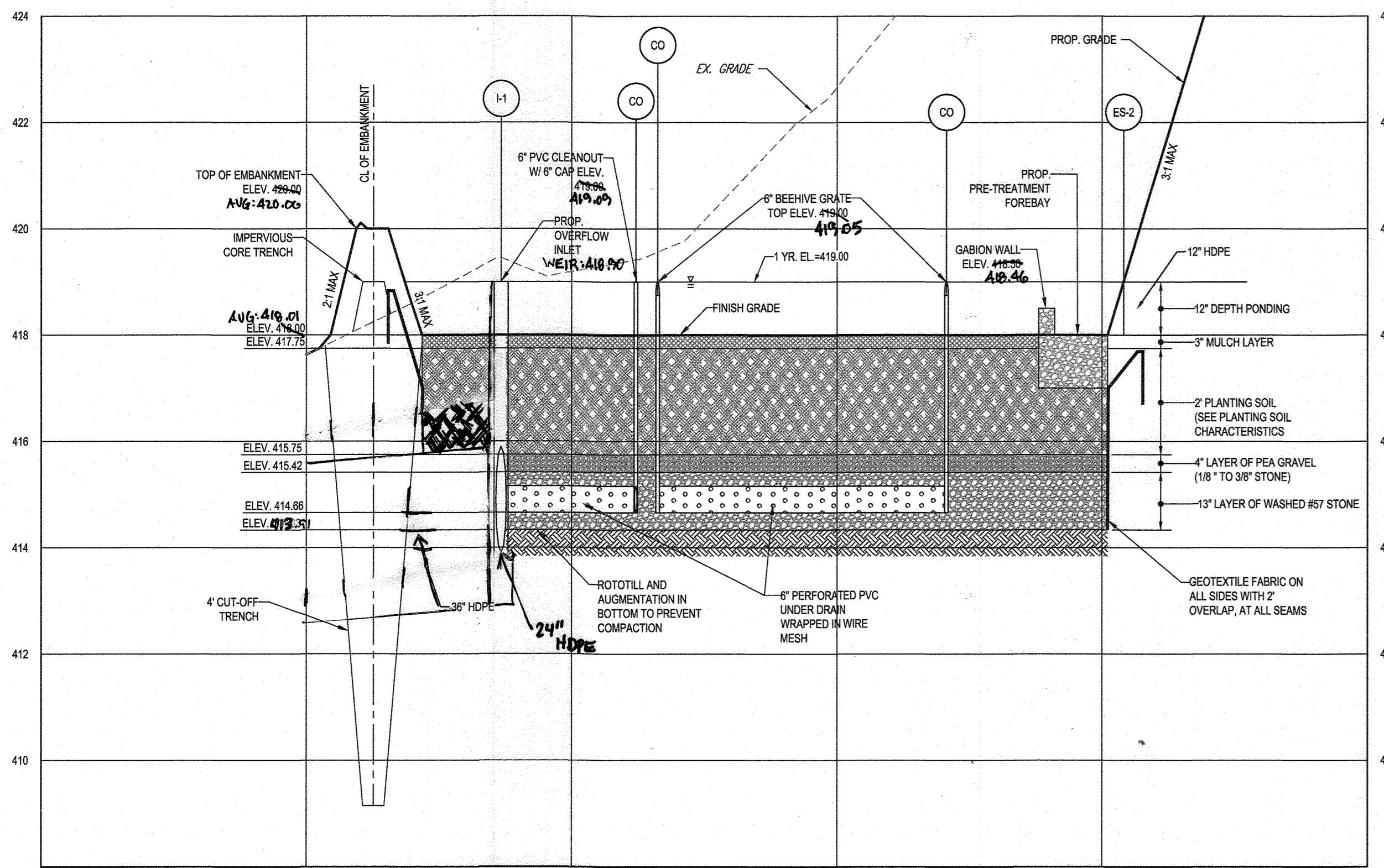


LEVEL SPREADER TYPICAL SECTION A-A

DIMENSION CHART

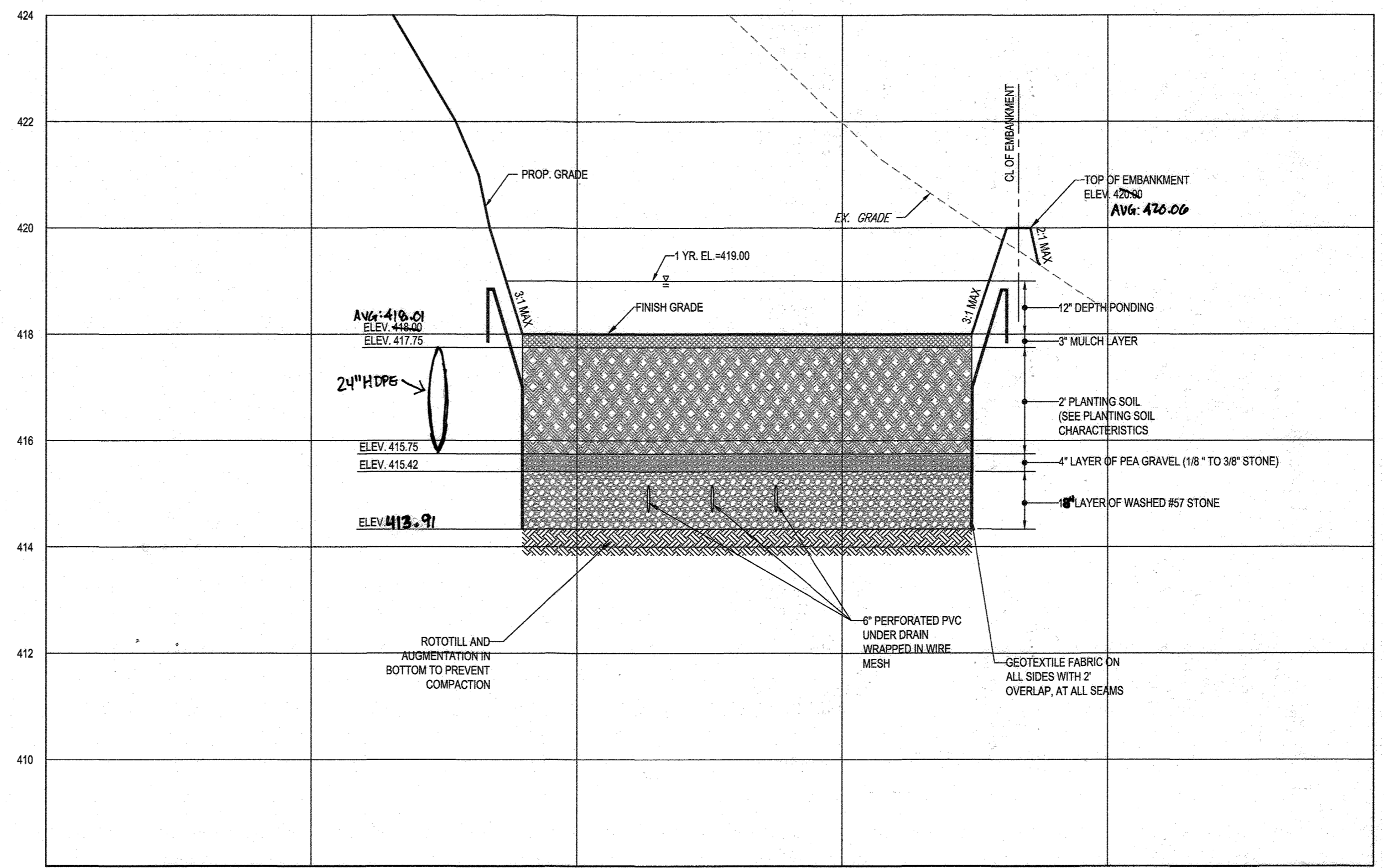
LEVEL SPREADER NO.	A	B	C	D	BOTTOM ELEV.	TOP ELEV.
1	5'0"	3'0"	4'0" MIN.	2'0"	416.6	418.0

AVG: 410.57 AVG: 413.12



BIO-RETENTION (F-6) FACILITY #1 - SECTION A-A

SCALE: 1"=20' HORIZONTAL  
1"=2' VERTICAL



BIO-RETENTION (F-6) FACILITY #1 - SECTION B-B

SCALE: 1"=20' HORIZONTAL  
1"=2' VERTICAL

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 APPROVED: DEPARTMENT OF LAND DEVELOPMENT  
 APPROVED: DEVELOPMENT ENGINEERING DIVISION



AS-BUILT CERTIFICATION  
 I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS.  
 SCOTT SHANASBERGER  
 SHANASBERGER & LANE  
 PROFESSIONAL LAND SURVEYOR #10849  
 LICENSE EXPIRATION DATE 4/2/2024  
 AS-BUILT SURVEY DATE 12/10/2023  
 INSTRUMENTS USED IN PREPARING THIS AS-BUILT SURVEY: 5 SECOND SOKKIA IX 400TS TOTAL STATION; TOPCON PC-5 RECEIVER; SOKKIA 300 PRISM

SUBDIVISION NAME: WILLOWSHIRE SECTION AREA: N/A DEED # F1361/00222-00183/00554 15884/003894-05889/00490 04341/00270-03201/00539	PREVIOUS FILE NO.: ECP-16-023 PB436 SP-17-002 WP-17105	TAX MAP: 27 GRID: 18 ZONED: RR-DEO PARCEL: 34, 36, 98, 111 & 112 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
---	---	---

**BOHLER ENGINEERING**  
 CORPORATE OFFICE: WARREN, NJ  
 OFFICES: WASHINGTON, DC; WASHINGTON, MD; WASHINGTON, VA; FORT LAUDERDALE, FL; PHILADELPHIA, PA  
 SERVICES: CIVIL & CONSULTING ENGINEERS; SURVEYORS; PROJECT MANAGERS; ENVIRONMENTAL CONSULTANTS; LANDSCAPE ARCHITECTS

REVISIONS

REV	DATE	COMMENT	BY

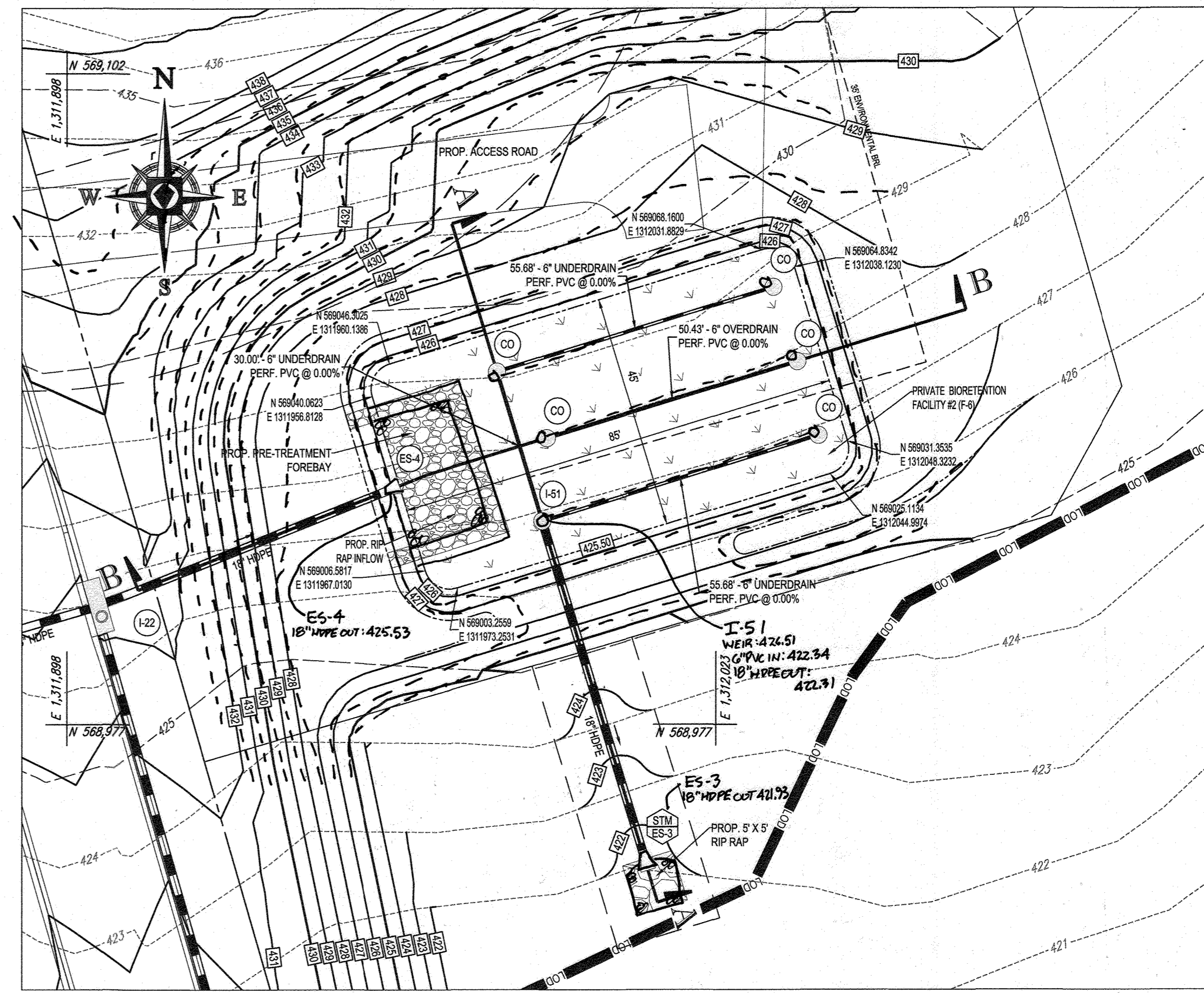
APPROVED FOR CONSTRUCTION  
 PROJECT NO: MD142046  
 DRAWN BY: BRR  
 DATE: 08/26/19  
 SCALE: AS SHOWN  
 CAD I.D.: SMS

FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE: 5232 GREEN BRIDGE ROAD, 5TH ELECTION DISTRICT, TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112, HOWARD COUNTY, MARYLAND

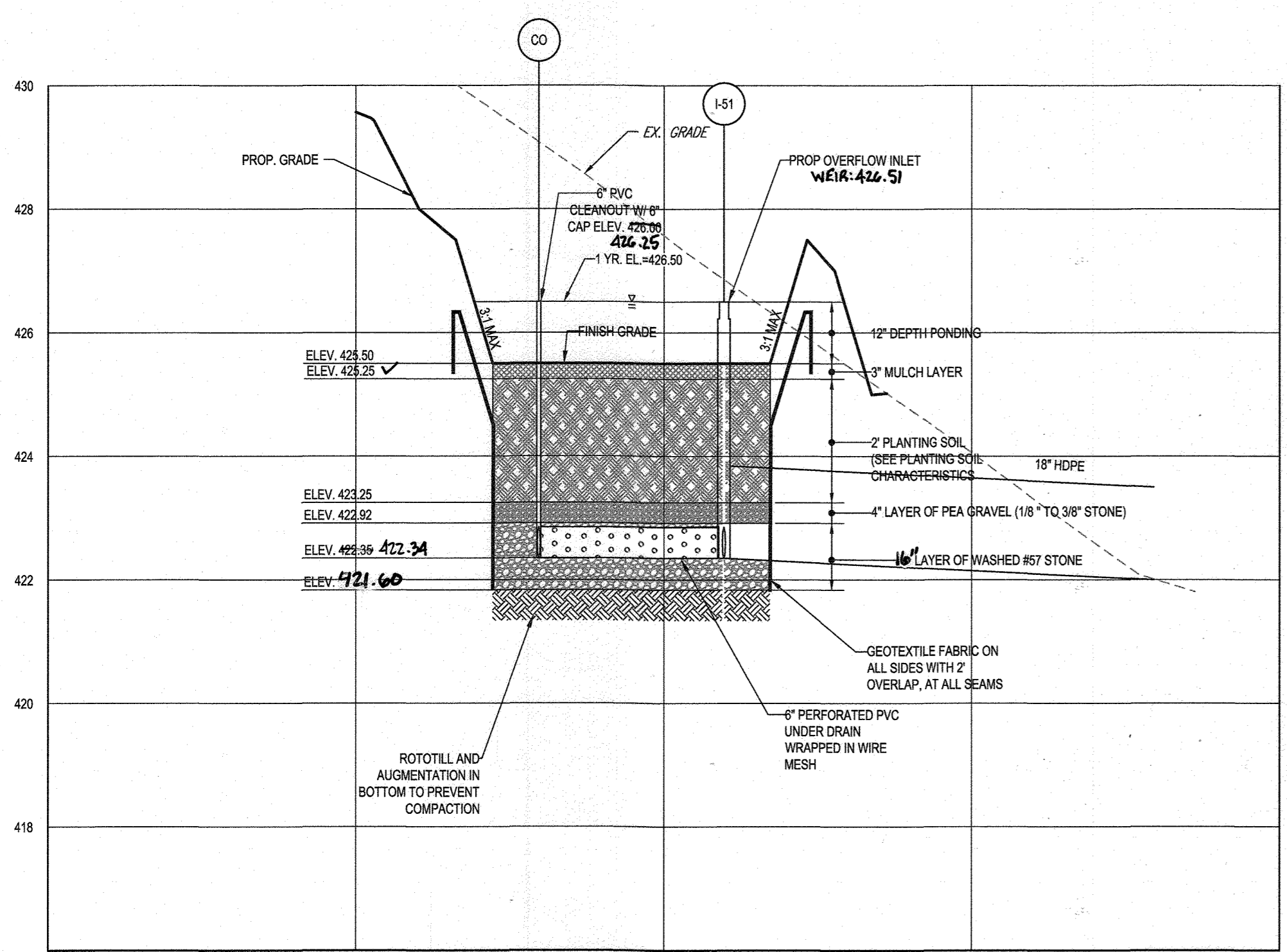
**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21204  
 Phone: (410) 821-7500  
 Fax: (410) 821-7387  
 www.BohlerEngineering.com

**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 9662, EXPIRES 12/31/2021

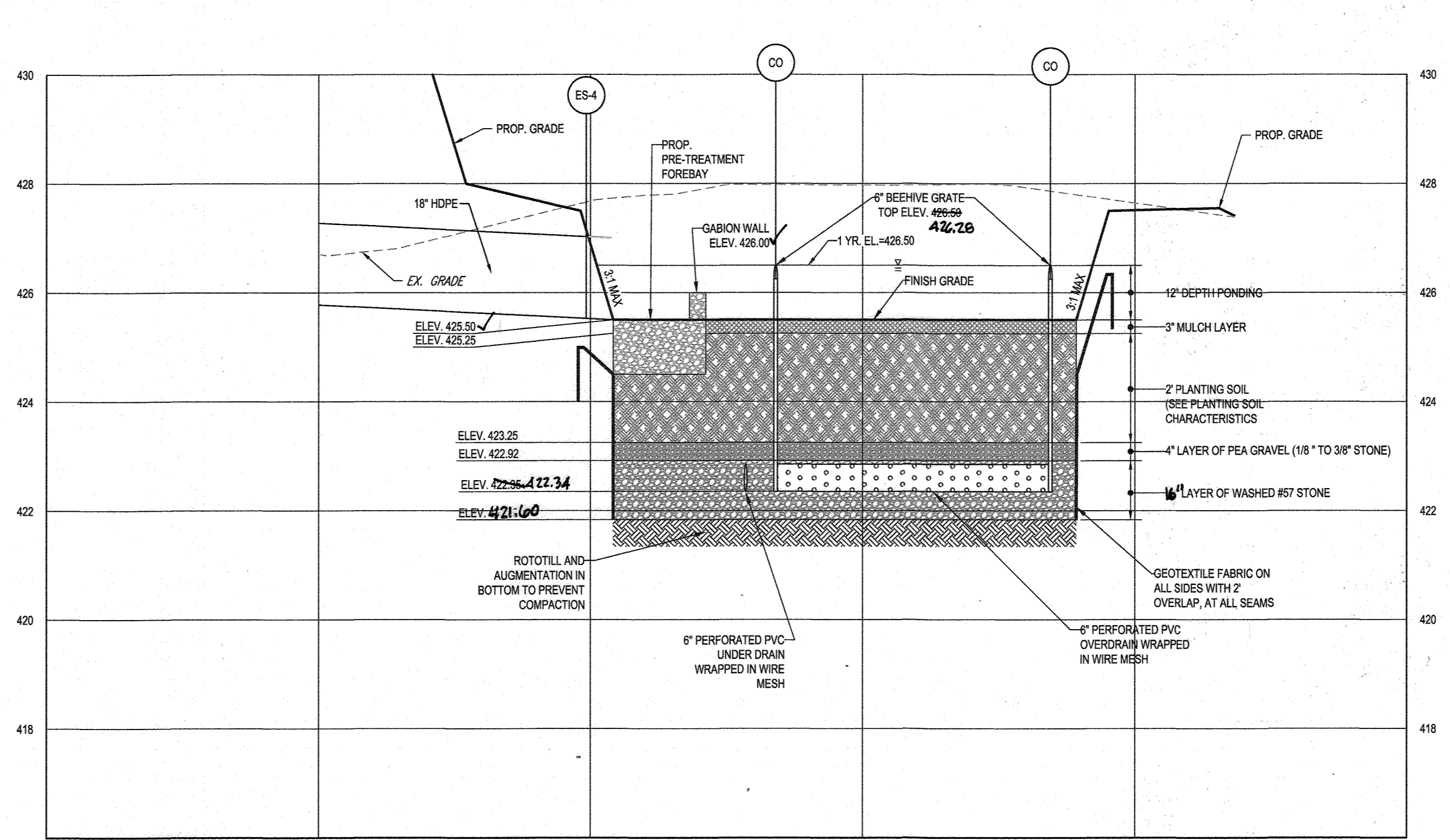
SHEET TITLE: SWM NOTES AND DETAILS  
 SHEET NUMBER: 53 OF 92



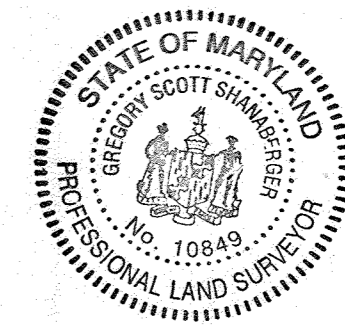
BIORETENTION (F-6) FACILITY #2 PLAN VIEW  
SCALE 1"=20'



BIO-RETENTION (F-6) FACILITY #2 - SECTION A-A  
SCALE: 1"=20' HORIZONTAL  
1"=2' VERTICAL



BIO-RETENTION (F-6) FACILITY #2 - SECTION B-B  
SCALE: 1"=20' HORIZONTAL  
1"=2' VERTICAL



AS-BUILT CERTIFICATION  
I HEREBY CERTIFY, BY SEAL, THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS.  
DATE: 12/11/2023  
PROFESSIONAL LAND SURVEYOR #10849  
LICENSE EXPIRATION DATE: 4/22/2024  
AS-BUILT SURVEY DATE: 12/11/2023  
INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: SOKKIA TOTAL STATION, TOPCON 5 RECEIVER, SOKKIA 360 PRISM

**BOHLER ENGINEERING**  
CORPORATE OFFICE: WARREN, NJ  
OFFICES: BOSTON, MA; CHICAGO, IL; COLUMBIA, MD; FORT LAUDERDALE, FL; HOUSTON, TX; NEW YORK, NY; PHILADELPHIA, PA; RICHMOND, VA; TAMPA, FL; WASHINGTON, DC  
CIVIL & CONSULTING ENGINEERS  
SURVEYORS  
PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE: IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL: 811  
(WV 1-800-245-4545) (PA 1-800-242-1776) (DC 1-800-257-3777) (VA 1-800-352-7001) (MD 1-800-257-7777) (DE 1-800-333-3555)

**NOT APPROVED FOR CONSTRUCTION**  
PROJECT No: MD142046  
DRAWN BY: AVG  
CHECKED BY: BRR  
DATE: 08/26/19  
SCALE: AS SHOWN  
CAP I.D.: SM3

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, F & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE: 5232 GREEN BRIDGE ROAD, 5TH ELECTION DISTRICT, TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
901 DULANEY VALLEY ROAD, SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7900  
Fax: (410) 821-7957  
www.BohlerEngineering.com

**B.R. ROWE**  
PROFESSIONAL ENGINEER  
MARYLAND LICENSE NO. 4988  
PROFESSIONAL CERTIFICATION  
LIBRARIAN: JAMES HENRY GERTY THAT THESE DOCUMENTS ARE PREPARED AND APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE NO. 4988, EXPIRATION DATE: 7/31/2021

SHEET TITLE:  
**SWM NOTES AND DETAILS**  
SHEET NUMBER:  
**54 OF 92**

APPROVED: DEPARTMENT OF PUBLIC WORKS  
DATE: 11/26/2019  
CHIEF, BUREAU OF HIGHWAYS  
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
DATE: 2/20/2020  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 12.9.19  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

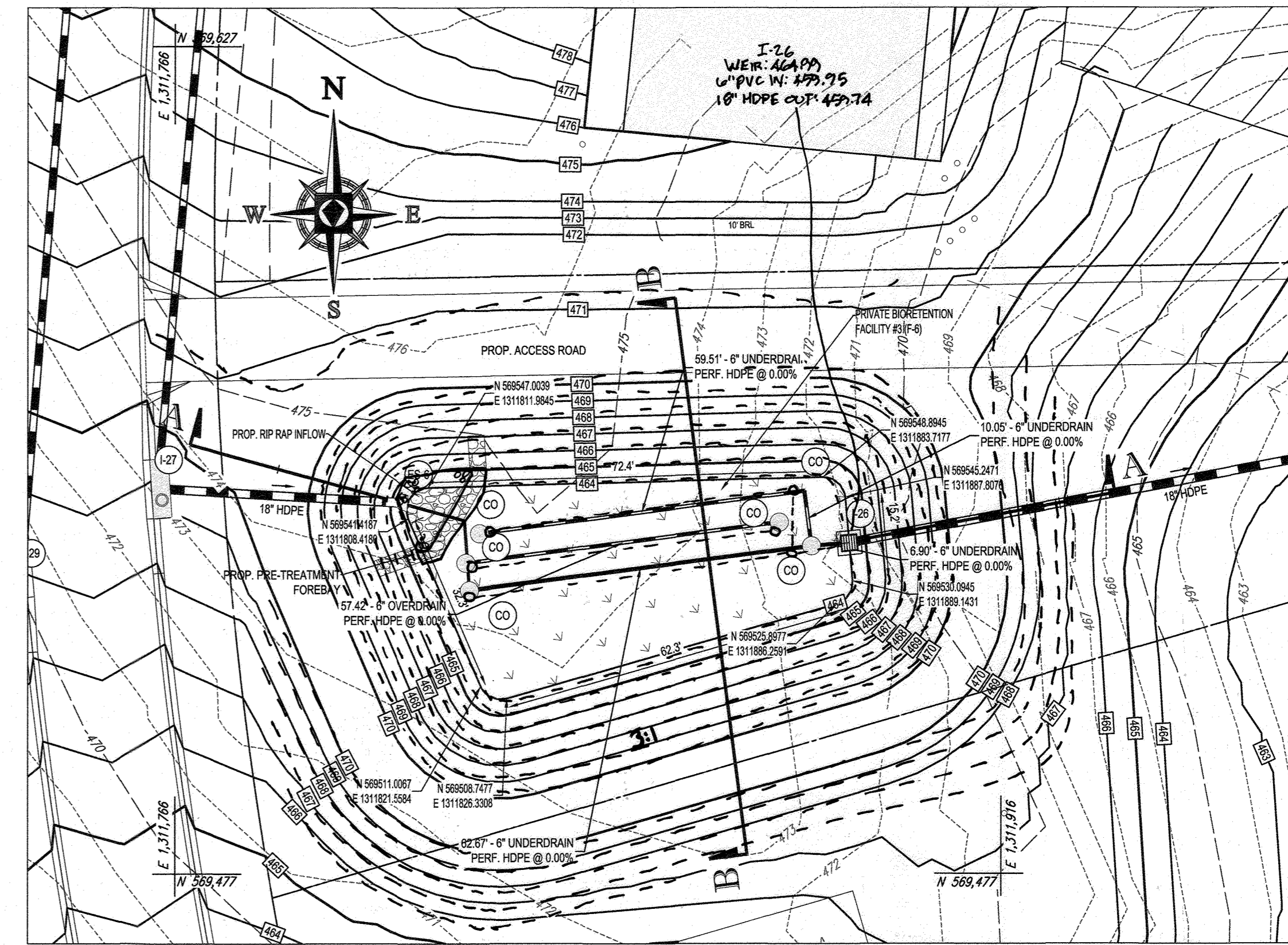
DEVELOPER: GREEN BRIDGE FARM II, L.C.  
5074 DORSEY HALL ROAD, SUITE 205  
COLUMBIA, MD 21042  
CONTACT: JASON VAN KIRK  
PHONE: (410) 720-3021

SUBDIVISION NAME: WILLOWSHIRE  
SECTION/AREA: N/A  
DEED # 1130100222, 0118300554,  
158841003894, 05889100490  
0434100270, & 03201100539

PREVIOUS FILE NO.:  
ECP-16-023 PB436  
SP-17-002  
WP-17105

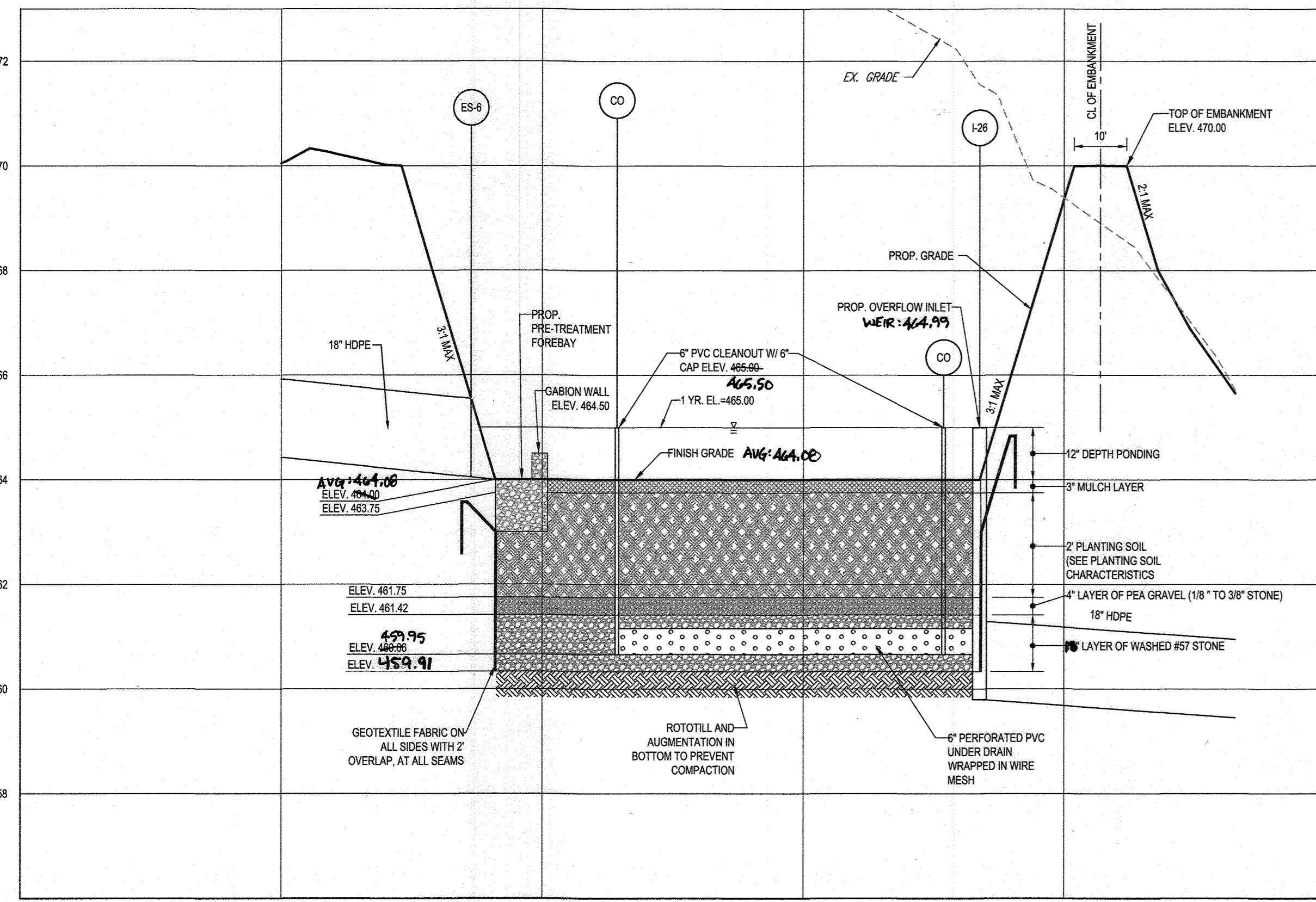
TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
PARCEL: 34, 36, 98, 111 & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

W:\142046\CONSTRUCTION\PLAN SET\FINAL ROAD CONSTRUCTION PLAN\142046.DWG PRINTED BY: JAVAN 8/27/19 @ 9:51 PM. (NOT SAVED BY: JAVAN)

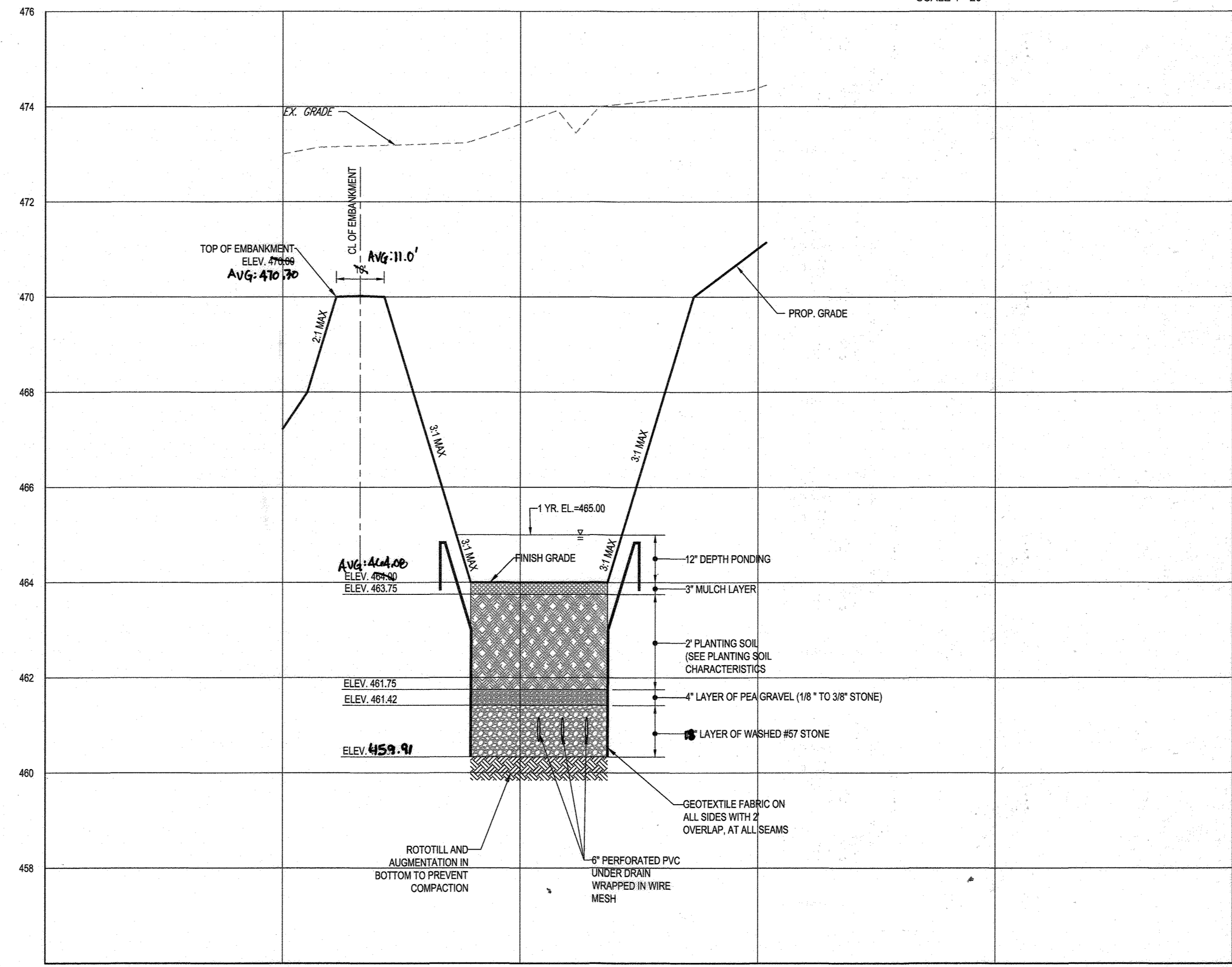


BIORETENTION (F-6) FACILITY #3 PLAN VIEW

SCALE 1"=20'



BIO-RETENTION (F-6) FACILITY #3 - SECTION A-A  
SCALE: 1"=20' HORIZONTAL  
1"=2' VERTICAL



BIO-RETENTION (F-6) FACILITY #3 - SECTION B-B  
SCALE: 1"=20' HORIZONTAL  
1"=2' VERTICAL

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 CHIEF, BUREAU OF HIGHWAYS DATE 11/26/2019  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE 2/20/2020  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE 12-9-19

SUBDIVISION NAME: WILLOWSHIRE  
 SECTION/AREA: N/A  
 DEED #: 1136100222, 0018300554,  
 15884003894, 0588900490  
 0434100270, & 0320100539

PREVIOUS FILE NO.:  
 ECP-16-023 PB436  
 SP-17-002  
 WP-17108

DEVELOPER: GREEN BRIDGE FARM II, L.C.  
 5074 DORSEY HALL ROAD, SUITE 205  
 COLUMBIA, MD 21042  
 CONTACT: JASON VAN KURK  
 PHONE: (410) 720-3021

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
 PARCEL: 34, 36, 98, 111 & 112  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
 WARREN, NJ

OFFICES:  
 BOULDER, CO  
 CHICAGO, IL  
 COLUMBIA, MD  
 FORT LAUDERDALE, FL  
 HARTFORD, CT  
 HOUSTON, TX  
 KANSAS CITY, MO  
 LOS ANGELES, CA  
 NEW YORK, NY  
 PHILADELPHIA, PA  
 RICHMOND, VA  
 TAMPA, FL  
 WASHINGTON, DC

CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

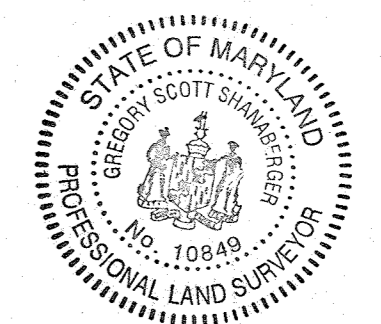
REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE: IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE. CALL 811 (WV 1-800-245-4848) (PA 1-800-242-1776) (DC 1-800-257-3777) (VA 1-800-552-7001) (MD 1-800-257-7777) (DE 1-800-282-8555)

APPROVED FOR CONSTRUCTION

PROJECT No. MD142036  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: AS SHOWN  
 CAD I.D.: SWS

FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & I, P & NON-BUILDABLE BULK PARCELS H-K. LOCATION OF SITE: 5232 GREEN BRIDGE ROAD, 5TH ELECTION DISTRICT, TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112, HOWARD COUNTY, MARYLAND.



AS-BUILT CERTIFICATION  
 I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS.  
 SCOTT SHANABERGER  
 SHANABERGER & LANE  
 PROFESSIONAL LAND SURVEYOR #10949  
 LICENSE EXPIRATION DATE 4/2/2024  
 REBUILT SURVEY DATE 10/10/2022

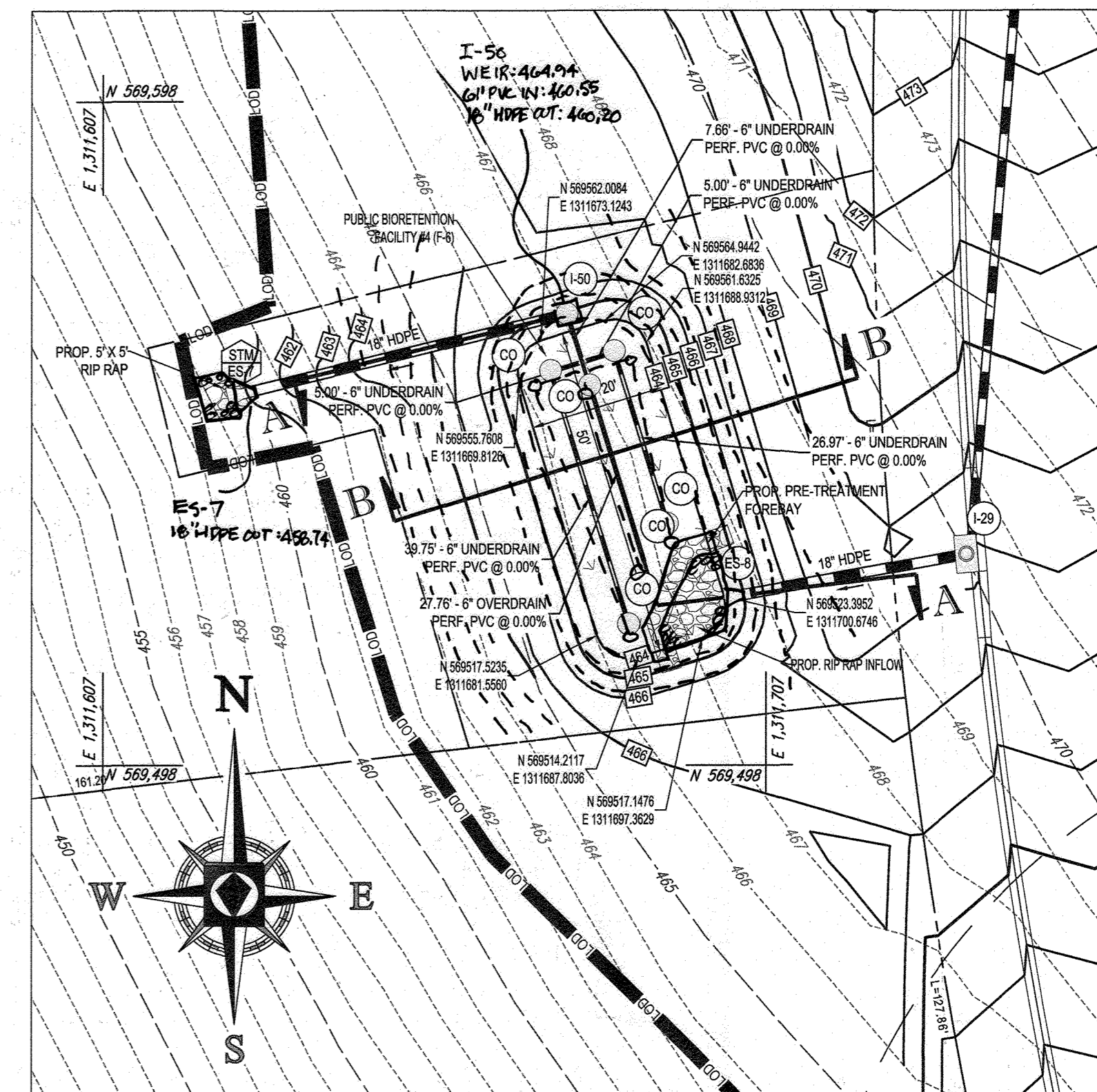
INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: 5" SECOND ORDER KOKKA IX TOTAL STATION; TOPCON RC-5 RECEIVER; SOKKIA 300P PRISM

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

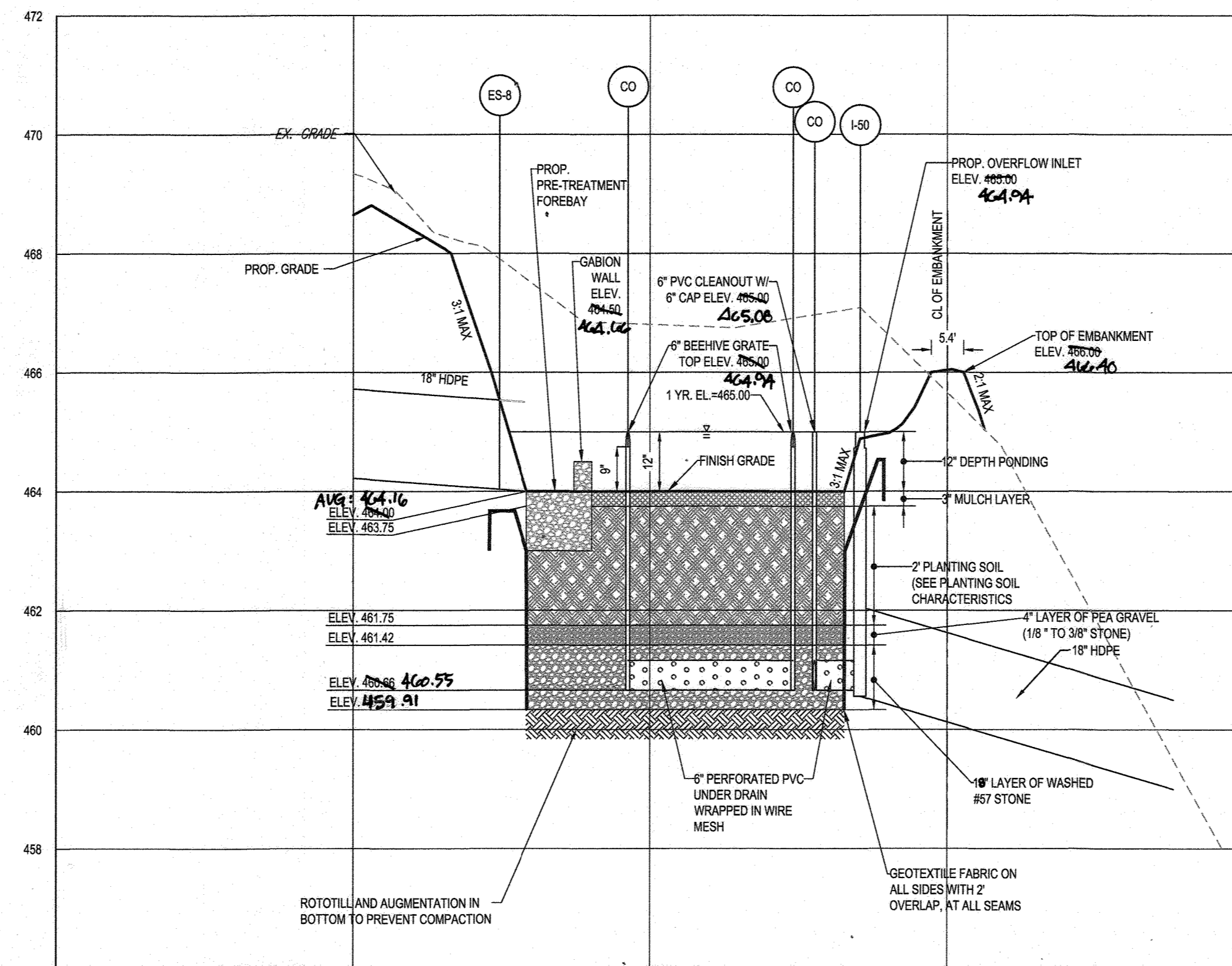
**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 PROFESSIONAL CERTIFICATION  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A QUALIFIED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 9666, EXPIRATION DATE: 7/3/2021

SHEET TITLE:  
**SWM NOTES AND DETAILS**

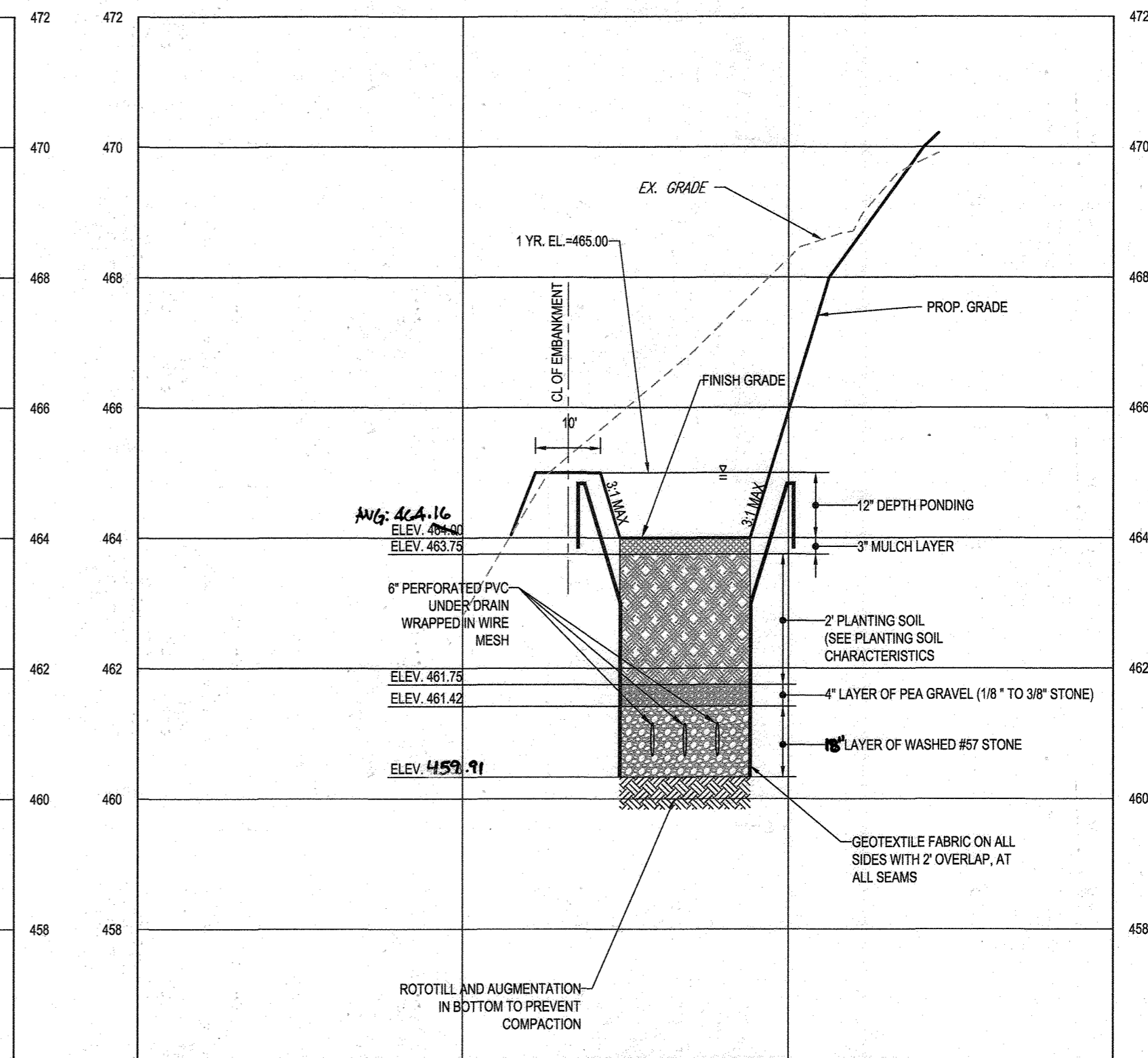
SHEET NUMBER:  
**55 OF 92**



BIORETENTION (F-6) FACILITY #4 PLAN VIEW  
SCALE 1"=20'

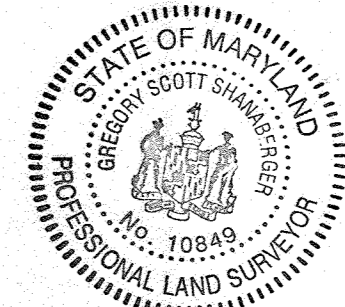


BIO-RETENTION (F-6) FACILITY #4 - SECTION A-A  
SCALE: 1"=20' HORIZONTAL  
1"=2' VERTICAL



BIO-RETENTION (F-6) FACILITY #4 - SECTION B-B  
SCALE: 1"=20' HORIZONTAL  
1"=2' VERTICAL

AS-BUILT CERTIFICATION  
I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN AND MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS.  
SCOTT SHANBERGER  
PROFESSIONAL LAND SURVEYOR #10849  
LICENSE EXPIRATION DATE 4/22/2024  
AS-BUILT SURVEY DATE 10/11/2023  
INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: 5 SECOND SOKKIA IX ROBOTIC TOTAL STATION, TOPCON AC-S RECEIVER, SOKKIA 3600 PC15M1



APPROVED: DEPARTMENT OF PUBLIC WORKS  
DATE 11/26/2019  
CHIEF, BUREAU OF HIGHWAYS  
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
DATE 12/26/2020  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE 12-9-19  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

DEVELOPER: GREEN BRIDGE FARM II, L.C.  
5074 DORSEY HALL ROAD, SUITE 205  
COLUMBIA, MD 21042  
CONTACT: JASON VAN KIRK  
PHONE: (410) 720-3021  
SUBDIVISION NAME: WILLOWSHIRE  
SECTION AREA: N/A  
DEED # 11361/00222, 00183/00554,  
15884/00384, 05889/00490  
04341/00270, & 03201/00539  
PREVIOUS FILE NO.:  
ECP-16-023 PB436  
SP-17-002  
WP-17105  
TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
PARCEL: 34, 36, 98, 111, & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
CORPORATE OFFICE: WARREN, NJ  
OFFICES:  
BOSTON, MA  
BIRMINGHAM, AL  
CHICAGO, IL  
COLUMBIA, MD  
DENVER, CO  
FORT LAUDERDALE, FL  
HOUSTON, TX  
LOS ANGELES, CA  
MEMPHIS, TN  
NEW YORK, NY  
PHILADELPHIA, PA  
PHOENIX, AZ  
SAN ANTONIO, TX  
WASHINGTON, DC  
WICHITA, KS

CIVIL & CONSULTING ENGINEERS  
SURVEYORS  
PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

REV	DATE	COMMENT	BY

**THE ENGINEERING PROFESSIONAL BOARD**  
THE FOLLOWING STATES REQUIRE NOTIFICATION BY EDUCATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL 811  
(WV 1-800-245-4848) (PA 1-800-242-1770) (DC 1-800-287-7777) (VA 1-800-552-7021) (MD 1-800-257-7777) (DE 1-800-382-8889)

**APPROVED FOR CONSTRUCTION**  
PROJECT NO: MD142348  
DRAWN BY: AVG  
CHECKED BY: BRR  
DATE: 08/26/19  
SCALE: AS SHOWN  
CAD I.D.: SMS

**FINAL ROAD CONSTRUCTION PLAN**  
FOR  
**WILLOWSHIRE**  
LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, P & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

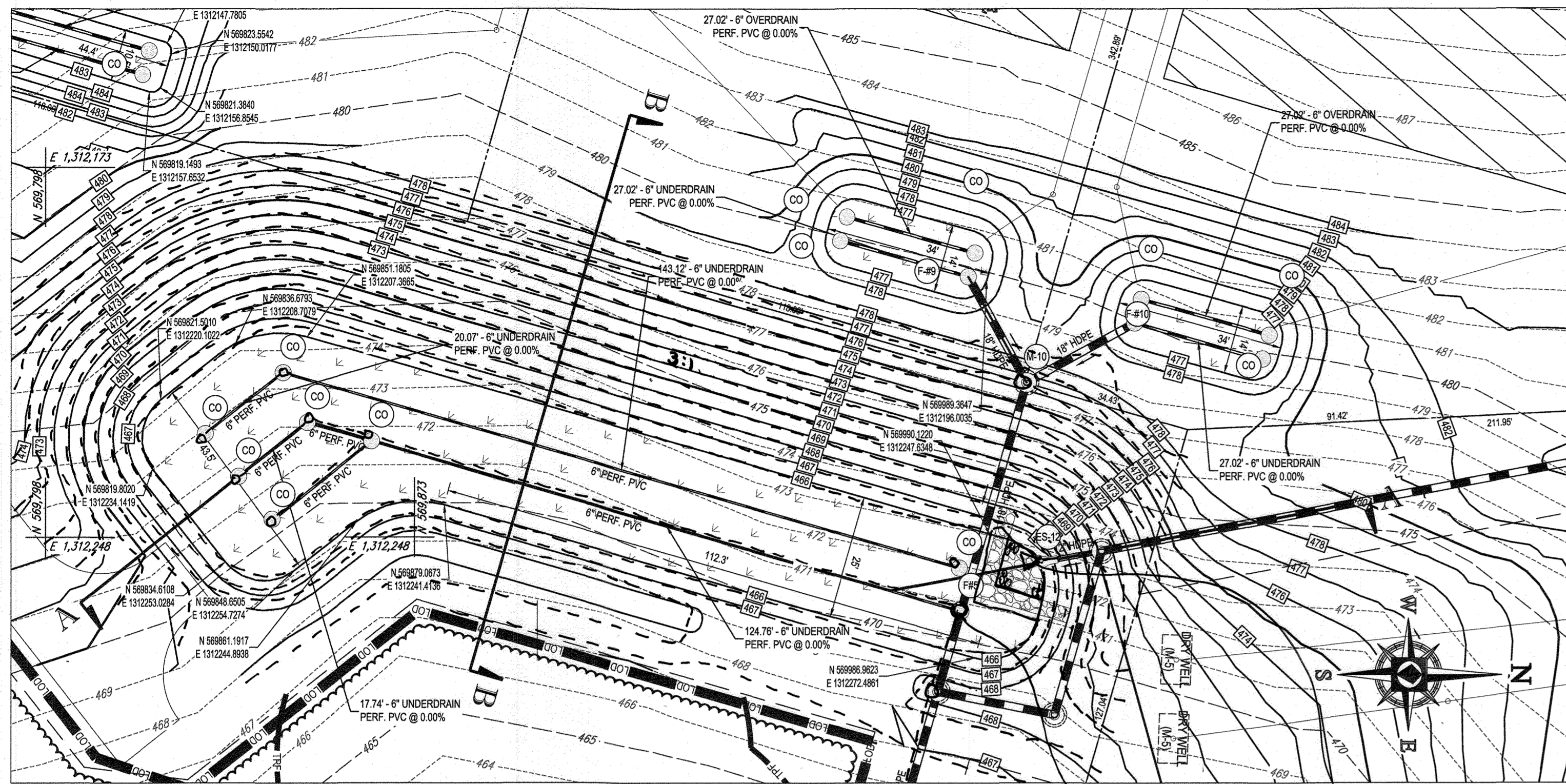
**BOHLER ENGINEERING**  
901 DULANEY VALLEY ROAD,  
SUITE 801  
TOWSON, MARYLAND 21204  
Phone: (410) 821-7500  
Fax: (410) 821-7587  
www.BohlerEngineering.com

**B.R. ROWE**  
PROFESSIONAL ENGINEER  
LICENSE NO. 10849  
PROFESSIONAL CERTIFICATION  
I, BRANDON B. ROWE, 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. 10849 EXPIRATION DATE: 7/3/2021

SHEET TITLE:  
**SWM NOTES AND DETAILS**  
SHEET NUMBER:  
**56 OF 92**

15/04/2020 09:00:00 AM SECTION ROAD CONSTRUCTION PLAN/04/26/2020 PRINTED BY: AGARDA, 8:27:19 AM, 4/21 PM, 10/11/2023



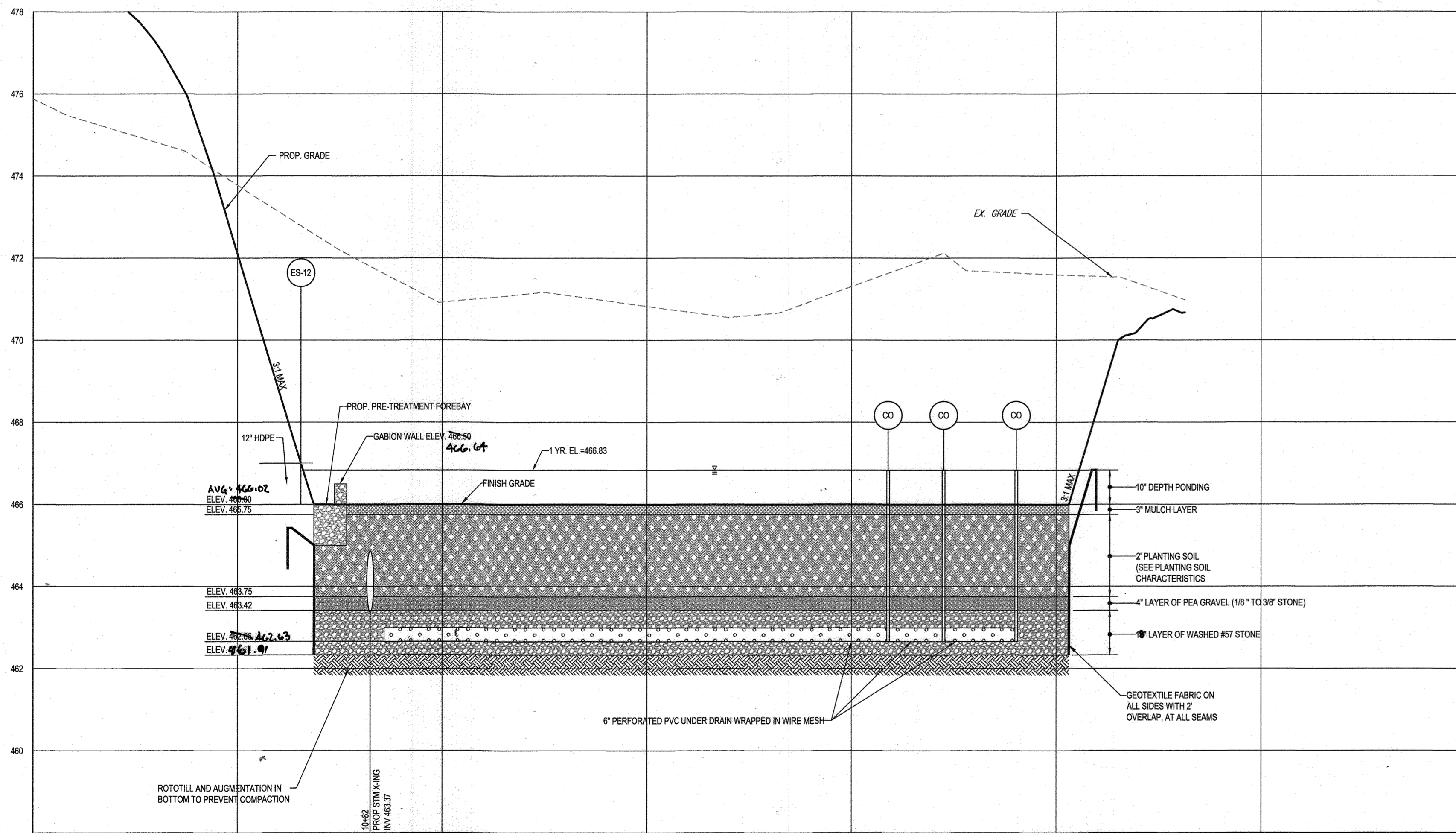


BIORETENTION (F-6) FACILITY #5 PLAN VIEW

SCALE 1"=20'

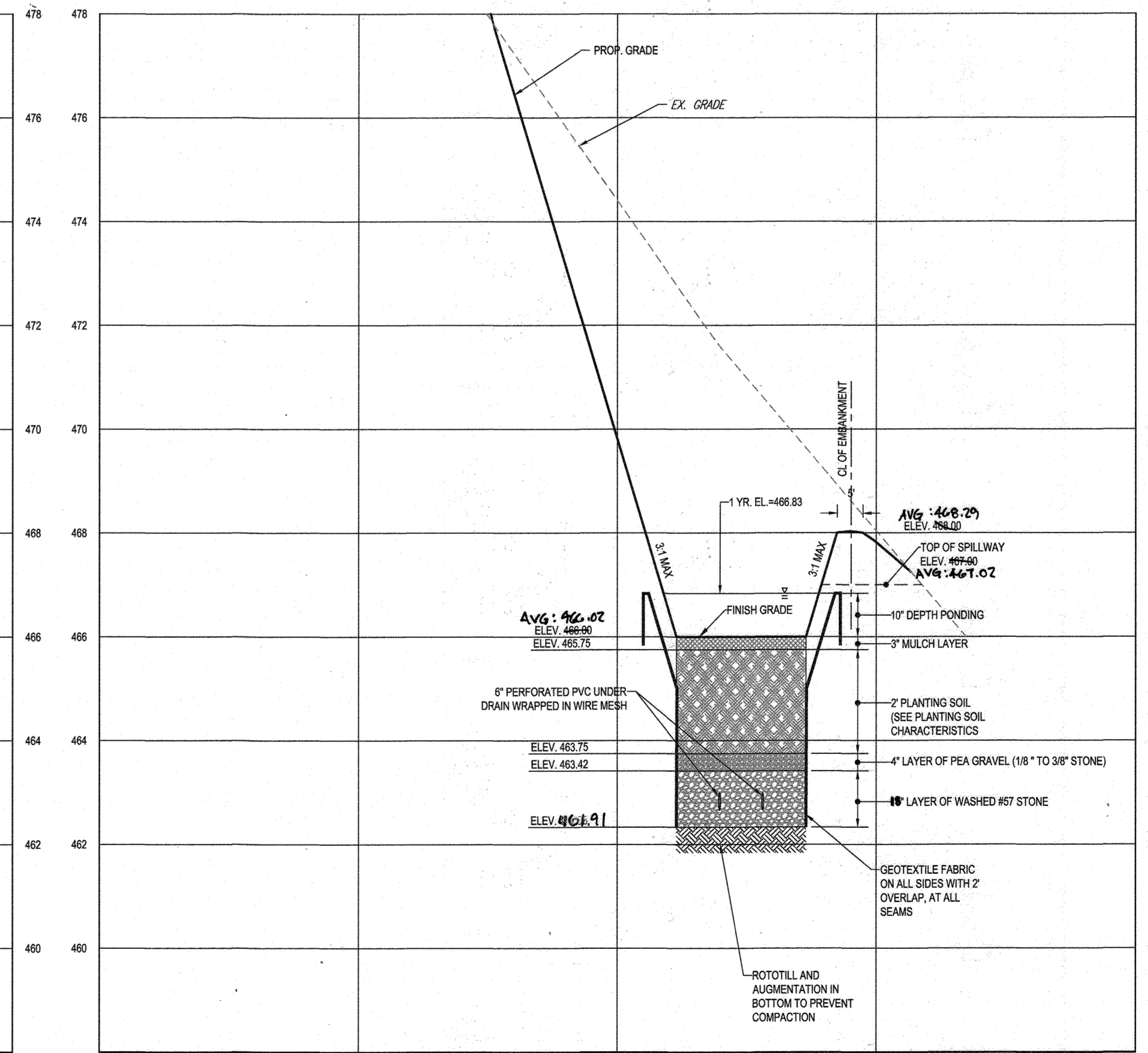
I-5  
WIER: 466.96  
6" PVC IN: 462.67  
16" HDPE IN: 463.33  
18" HDPE OUT: 462.67

ES-12  
12" HDPE OUT: 465.92



BIO-RETENTION (F-6) FACILITY #5 - SECTION A-A

SCALE: 1"=20' HORIZONTAL  
1"=2' VERTICAL



BIORETENTION (F-6) FACILITY #5 - SECTION B-B

SCALE: 1"=20' HORIZONTAL  
1"=2' VERTICAL

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 DATE: 11/26/2019  
 CHIEF, BUREAU OF HIGHWAYS  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 DATE: 2/20/2020  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 12.9.19  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION



AS-BUILT CERTIFICATION  
 I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED DESIGN AND SPECIFICATIONS.  
 DATE: 11/26/2019  
 B. SCOTT SHANBERGER  
 SHANBERGER & LANE  
 PROFESSIONAL LAND SURVEYOR #10849  
 LICENSE EXPIRATION DATE: 4/2/2024  
 RE-BUILT SURVEY DATE: 10/10/2023  
 INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: 5 SECOND GNSS Ix TOPTAC TOTAL STATION, TOPCON AC-S RECEIVER, SOKKIA 300 PRISM

SUBDIVISION NAME: WILLOWSHIRE  
 SECTION/AREA: N/A  
 DEED #: 1136100222, 018300554,  
 15884003894, 0588900490  
 0434100270, & 0320100539

PREVIOUS FILE NO.:  
 ECP-16-023 PB436  
 SP-17-002  
 WP-17105

DEVELOPER: GREEN BRIDGE FARM II, L.C.  
 6074 DORSEY HALL ROAD, SUITE 205  
 COLUMBIA, MD 21042  
 CONTACT: JASON VAN KIRK  
 PHONE: (410) 720-3021

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
 PARCEL: 34, 36, 98, 111 & 112  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
 WARRREN, NJ

OFFICES:  
 BOSTON, MA  
 ALBANY, NY  
 CENTRAL VALLEY, CA  
 CENTRAL VALLEY, PA  
 FORT LAUDERDALE, FL  
 PHILADELPHIA, PA

CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATES OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL: 811  
 (WV 1-800-245-4545) (PA 1-800-242-1776) (DC 1-800-257-3777) (VA 1-800-852-7001) (MD 1-800-257-3777) (DE 1-800-293-8569)

APPROVED FOR CONSTRUCTION

PROJECT No: MD142046  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: AS SHOWN  
 CAD I.D.: SM

FINAL ROAD CONSTRUCTION PLAN FOR  
**WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, F & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

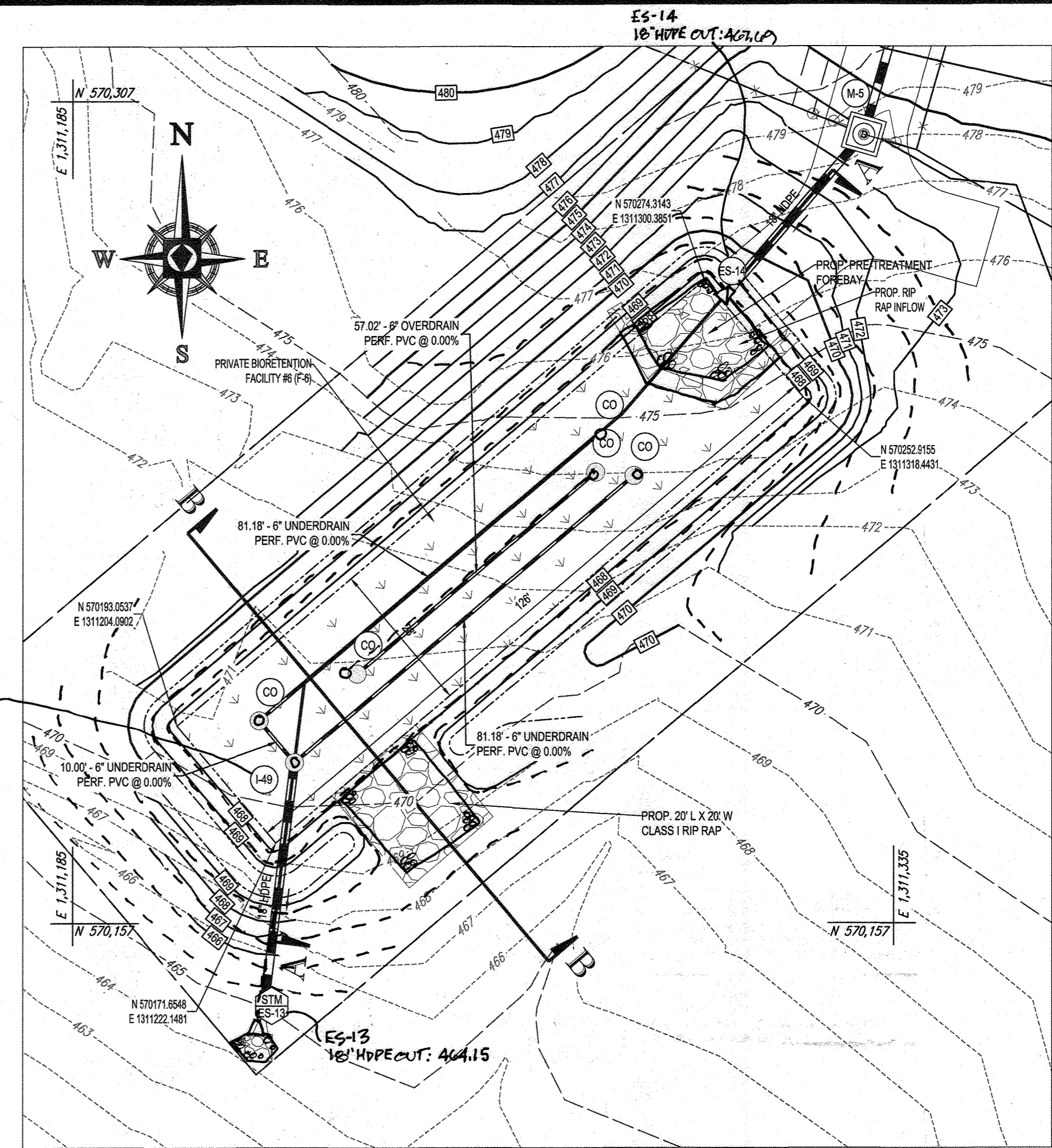
**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 PROFESSIONAL CERTIFICATION  
 I, BRADLEY ROWE, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A (S) LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 9884, EXPIRATION DATE: 7/31/2021

SHEET TITLE:  
**SWM NOTES AND DETAILS**

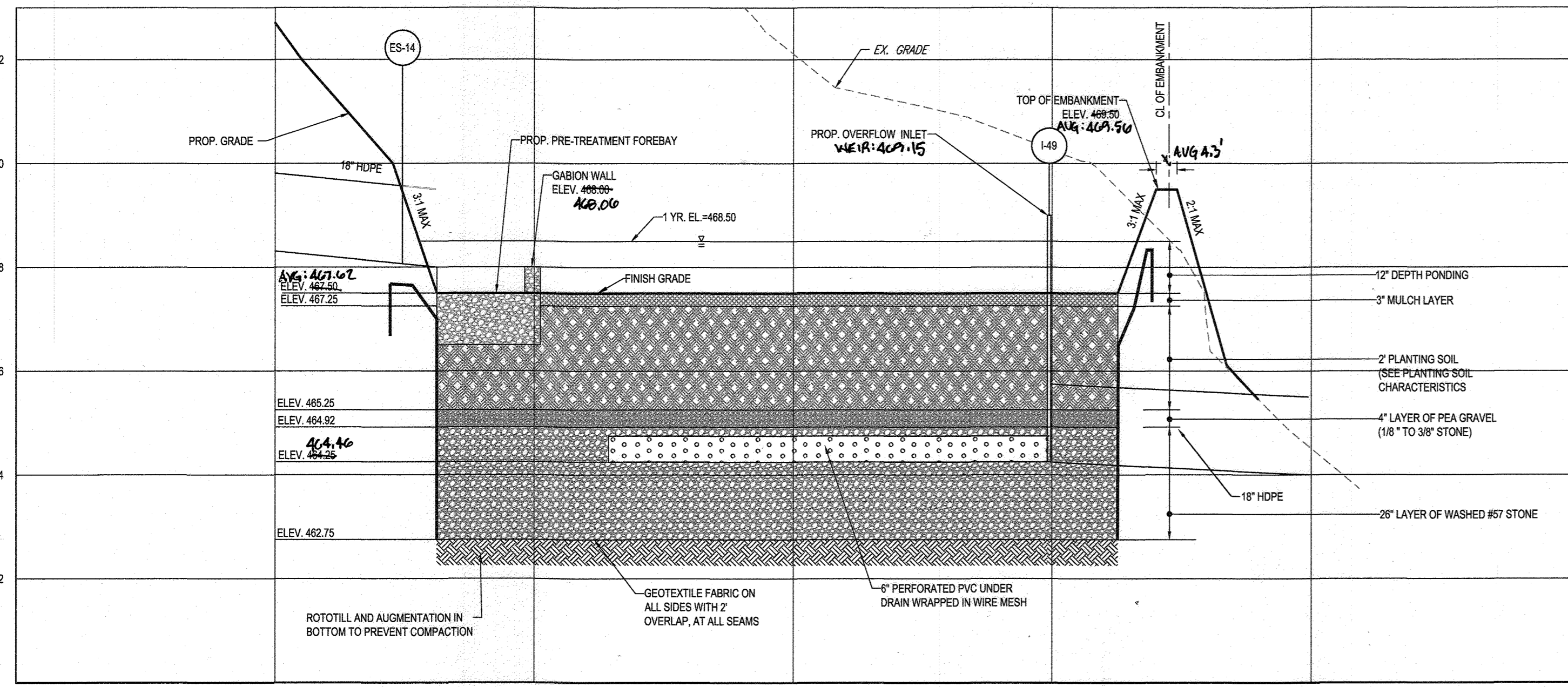
SHEET NUMBER:  
**57 OF 92**



BIORETENTION (F-6) FACILITY #6 PLAN VIEW

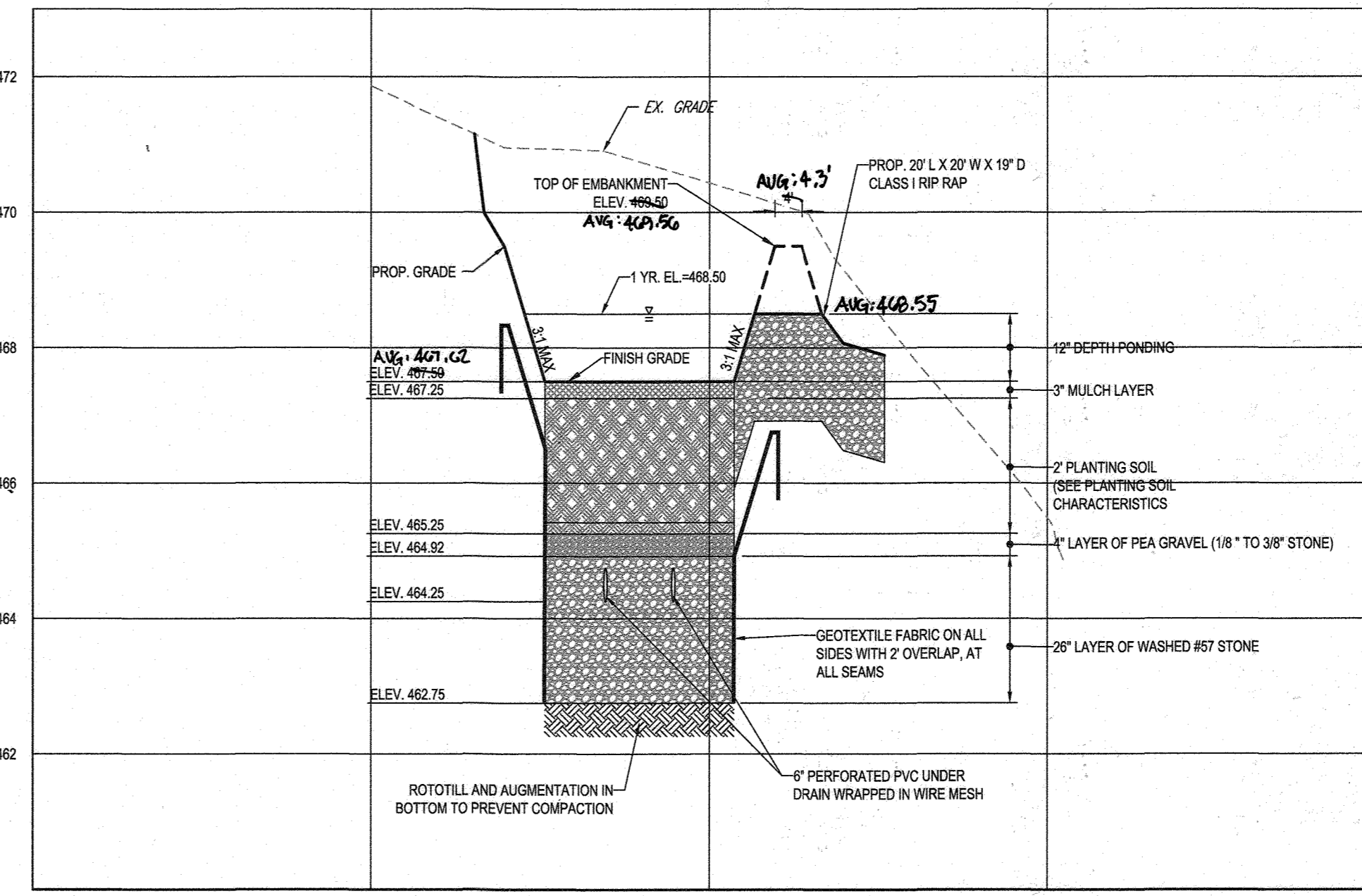
SCALE 1"=20'

1-A9  
WEIR: 409.15  
C' P.C. 10: 409.46  
10' HOPE DUT: 409.45



BIORETENTION (F-6) FACILITY #6 - SECTION A-A

SCALE: 1"=20' HORIZONTAL  
1"=2' VERTICAL



BIORETENTION (F-6) FACILITY #6 - SECTION B-B

SCALE: 1"=20' HORIZONTAL  
1"=2' VERTICAL



AS-BUILT CERTIFICATION  
I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED AS-BUILT SPECIFICATIONS.  
G. SCOTT SHANABARGER  
SHANABARGER & LANE  
PROFESSIONAL LAND SURVEYOR #10949  
LICENSE EXPIRATION DATE 4/2/2024  
AS-BUILT SURVEY DATE 11/10/23  
INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: 5 SECOND SOECIA ROBOTIC TOTAL STATION, TOPCON AC-5 RECEIVER, SOECIA 360° PRISM

**BOHLER ENGINEERING**  
CORPORATE OFFICE: WARREN, NJ  
OFFICES: WARREN, NJ; SOUTH BRIDGE, MA; ALBANY, NY; CENTER VALLEY, PA; PHILADELPHIA, PA  
CIVIL & CONSULTING ENGINEERS  
SURVEYORS  
PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE: IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL 811  
(WV 1-800-245-4548) (PA 1-800-242-1776) (DC 1-800-257-3777) (VA 1-800-352-7001) (MD 1-800-257-7777) (DE 1-800-282-9555)

APPROVED FOR CONSTRUCTION  
PROJECT No: MD142046  
DRAWN BY: AVG  
CHECKED BY: BRR  
DATE: 08/26/19  
SCALE: AS SHOWN  
CAD I.D.: SM

FINAL ROAD CONSTRUCTION PLAN FOR  
**WILLOWSHIRE**  
LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & I, F & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
901 DULANEY VALLEY ROAD, SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7900  
Fax: (410) 821-7957  
www.BohlerEngineering.com

**B.R. ROWE**  
PROFESSIONAL ENGINEERS  
PROFESSIONAL CERTIFICATION  
I BRING YOU THESE DRAWINGS PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE NO. 9884, EXPIRATION DATE: 7/31/2021

APPROVED: DEPARTMENT OF PUBLIC WORKS  
11/26/2019  
CHIEF, BUREAU OF HIGHWAYS  
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
2/20/2020  
CHIEF, DIVISION OF LAND DEVELOPMENT  
12.9.19  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

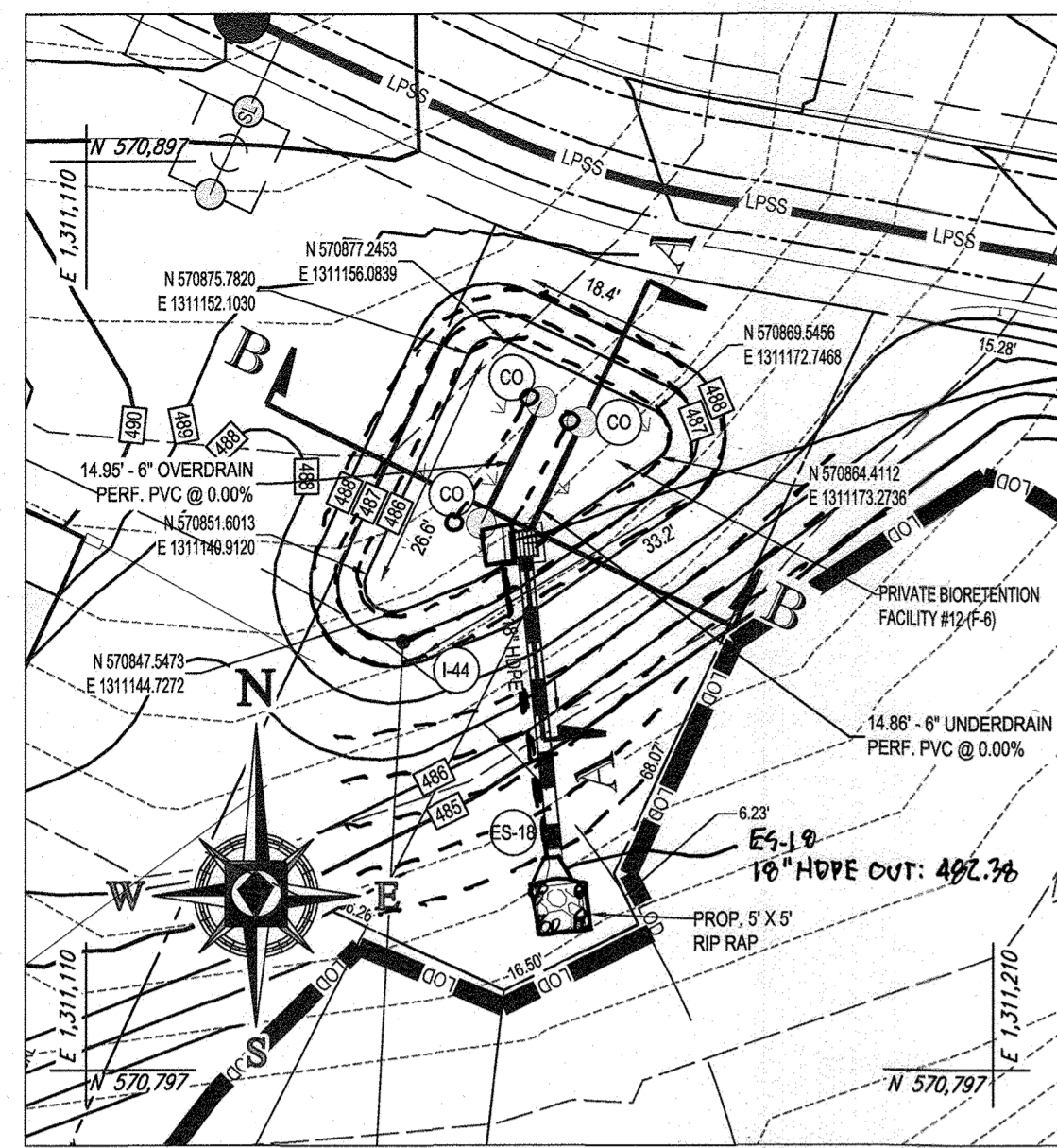
DEVELOPER: GREEN BRIDGE FARM II, L.C.  
5074 DORSEY HALL ROAD, SUITE 205  
COLUMBIA, MD 21042  
CONTACT: JASON VAN KIRK  
PHONE: (410) 720-3021

SUBDIVISION NAME: WILLOWSHIRE  
SECTION/AREA: N/A  
DEED #: 1136100222, 0018300554,  
1588400384, 0588900490  
0434100270, & 0320100539

PREVIOUS FILE NO.:  
ECP-16-023 PB436  
SP-17-002  
WP-17105

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
PARCEL: 34, 36, 98, 111 & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

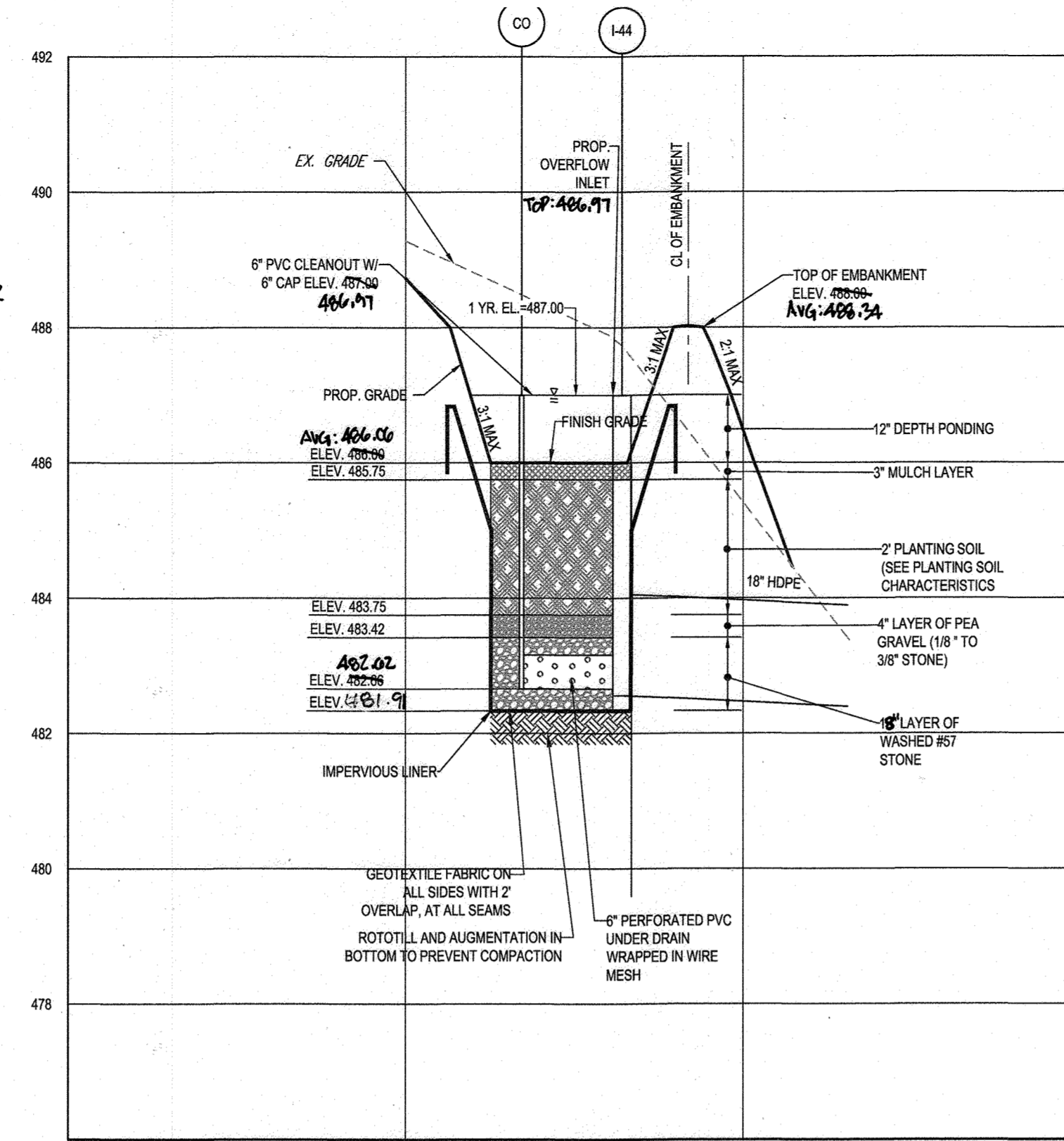
SHEET TITLE:  
**SWM NOTES AND DETAILS**  
SHEET NUMBER:  
**58 OF 92**



L-44  
VIEW: 466.97  
6\"/>

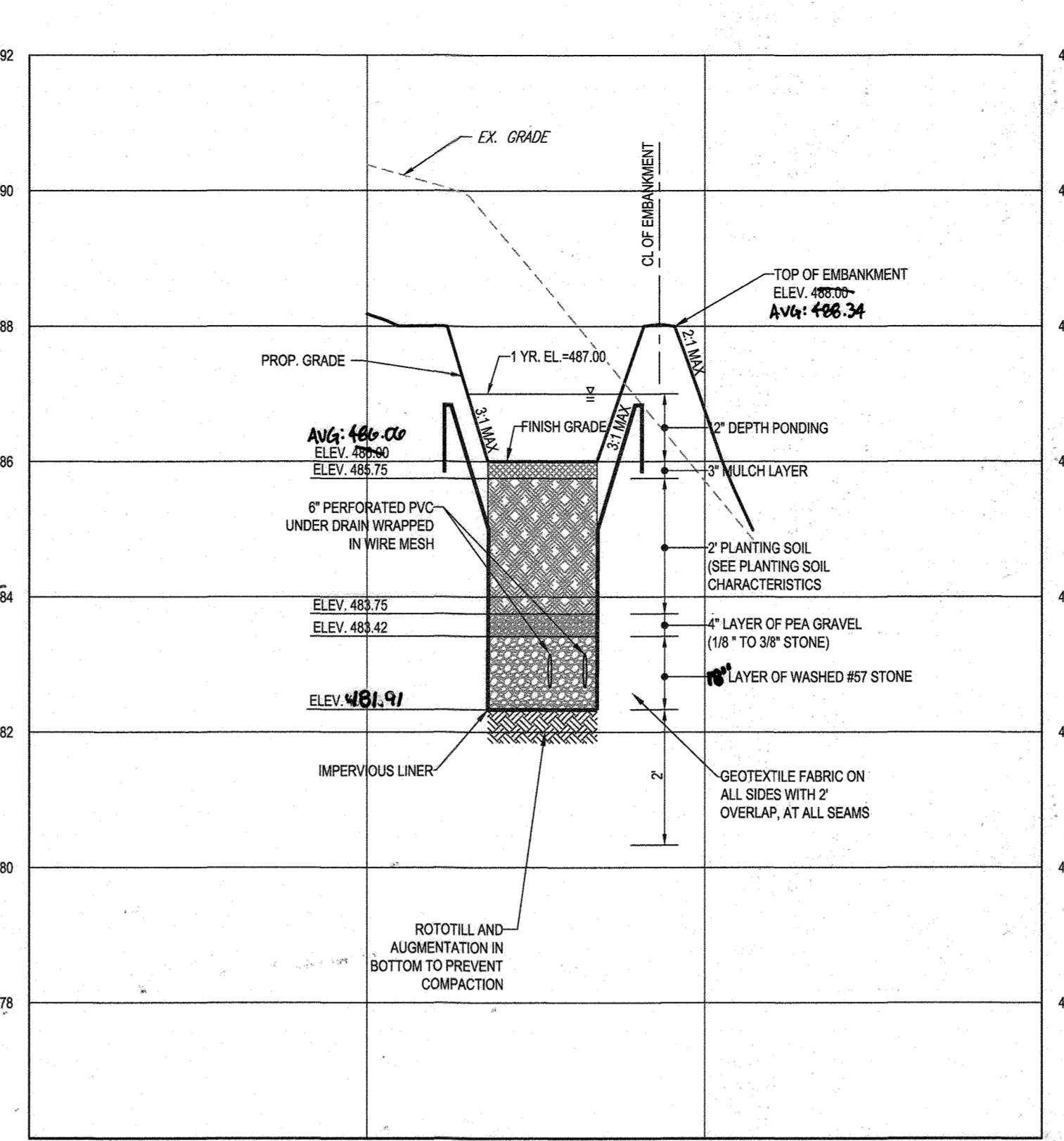
MICRO-BIORETENTION (F-6) FACILITY #12 PLAN VIEW

SCALE 1"=20'



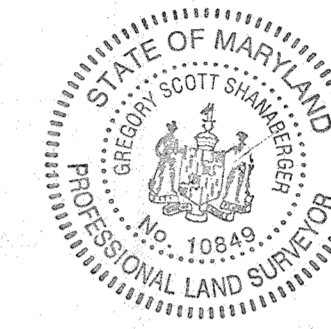
MICRO-BIORETENTION (F-6) FACILITY #12 - SECTION A-A

SCALE: 1"=20' HORIZONTAL  
1"=2' VERTICAL



MICRO-BIORETENTION (F-6) FACILITY #12 - SECTION B-B

SCALE: 1"=20' HORIZONTAL  
1"=2' VERTICAL



AS-BUILT CERTIFICATION  
I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS.  
SCOTT SHANABERGER  
SHANABERGER & LANE  
PROFESSIONAL LAND SURVEYOR #10849  
LICENSE EXPIRATION DATE 4/2/2024  
AS-BUILT SURVEY DATE: 10/11/2023  
INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: 5 SECOND EDMI 1X ROBOTIC TOTAL STATION, TOPCON RC-5 RECEIVER, SOKKIA 500 PRISM

REV	DATE	COMMENT	BY

APPROVED FOR CONSTRUCTION  
PROJECT No: MD142046  
DRAWN BY: AVG  
CHECKED BY: BRR  
DATE: 08/26/19  
SCALE: AS SHOWN  
CAD I.D.: SM3

APPROVED FOR CONSTRUCTION

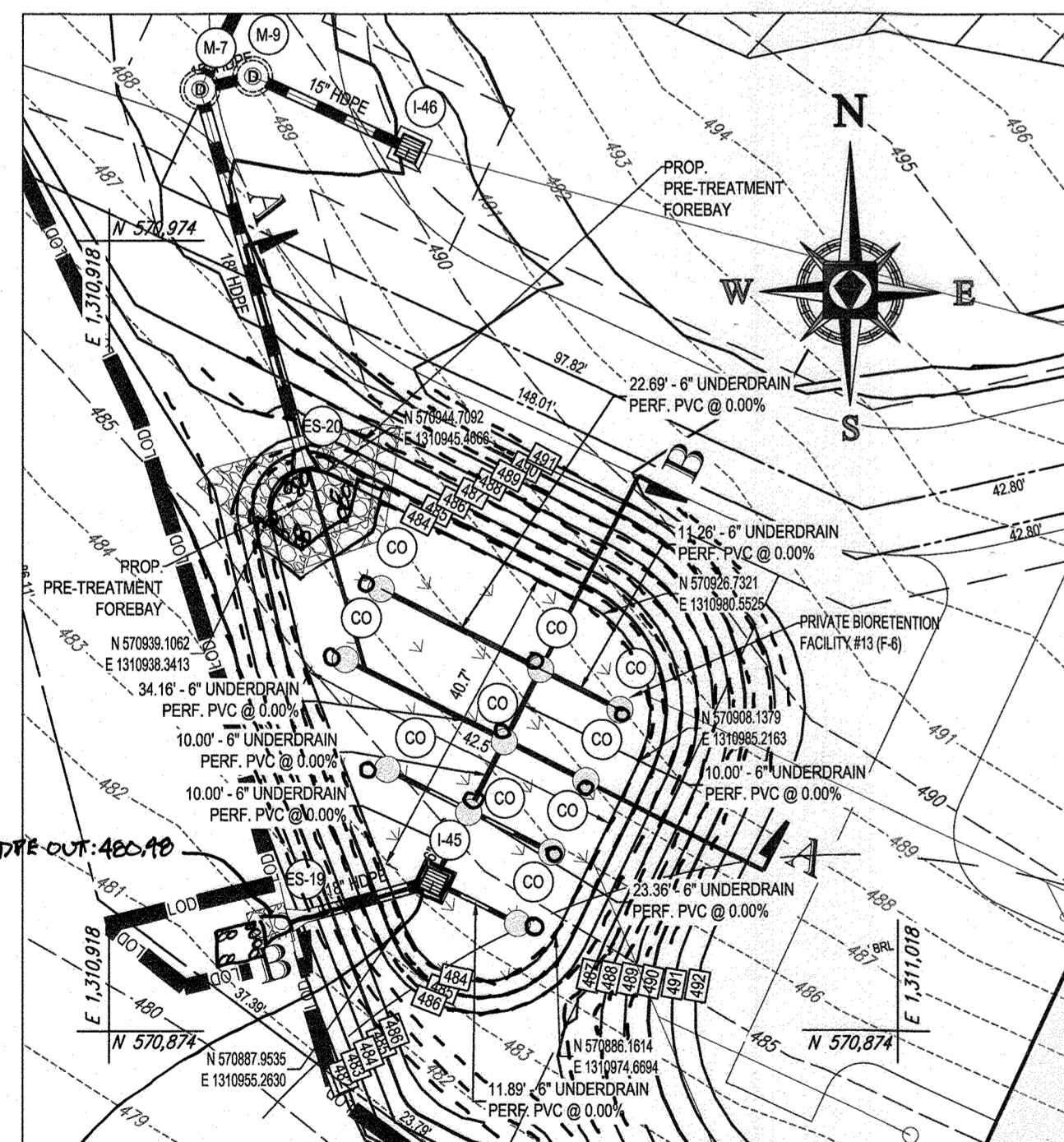
PROJECT: MD142046  
DRAWN BY: AVG  
CHECKED BY: BRR  
DATE: 08/26/19  
SCALE: AS SHOWN  
CAD I.D.: SM3

FINAL ROAD CONSTRUCTION PLAN FOR  
WILLOWSHIRE  
LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

BOHLER ENGINEERING  
901 DULANEY VALLEY ROAD, SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7900  
Fax: (410) 821-7987  
www.BohlerEngineering.com

B.R. ROWE  
PROFESSIONAL ENGINEER  
PROFESSIONAL CERTIFICATION  
I BRONX, N.Y. 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. 9804, EXPIRATION DATE: 7/3/2021

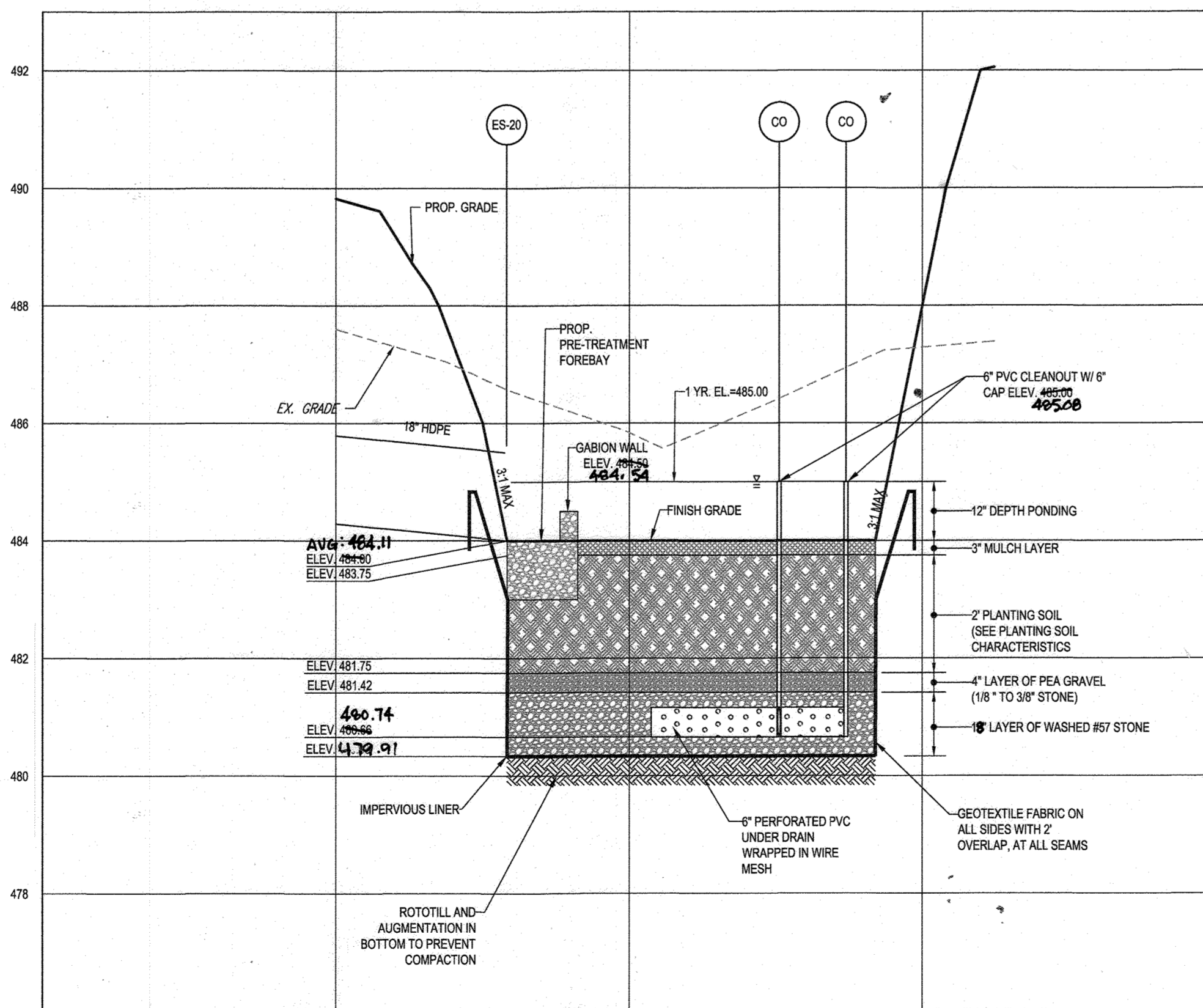
SHEET TITLE:  
SWM NOTES AND DETAILS  
SHEET NUMBER:  
59 OF 92



Es-19  
16\"/>

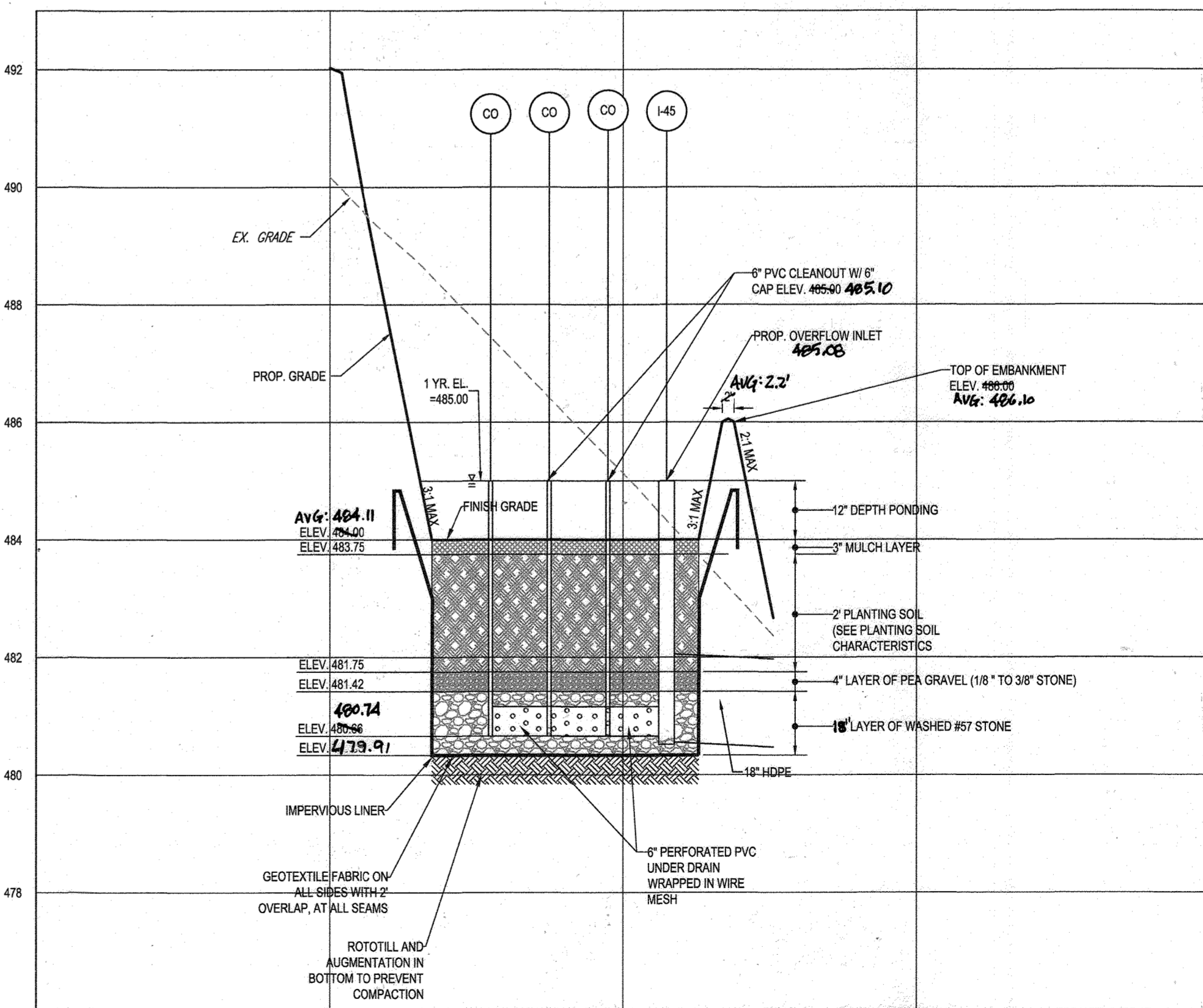
BIORETENTION (F-6) FACILITY #13 PLAN VIEW

SCALE 1"=20'



BIO-RETENTION (F-6) FACILITY #13 - SECTION A-A

SCALE: 1"=20' HORIZONTAL  
1"=2' VERTICAL



BIO-RETENTION (F-6) FACILITY #13 - SECTION B-B

SCALE: 1"=20' HORIZONTAL  
1"=2' VERTICAL

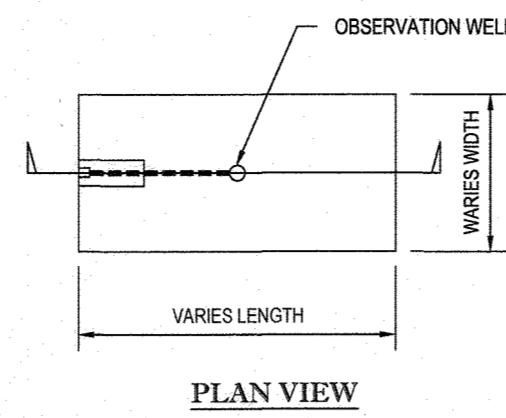
APPROVED: DEPARTMENT OF PUBLIC WORKS  
DATE: 11/26/2019  
CHIEF, BUREAU OF HIGHWAYS  
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
DATE: 2/20/2020  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 12.9.19  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

DEVELOPER: GREEN BRIDGE FARM II, L.C.  
5074 DORSEY HALL ROAD, SUITE 205  
COLUMBIA, MD 21042  
CONTACT: JASON VAN KIRK  
PHONE: (410) 720-3021

SUBDIVISION NAME: WILLOWSHIRE  
SECTION AREA: N/A  
DEED # 1136100222, 018300554,  
158841003894, 05889100490  
0434100270, & 03201100539

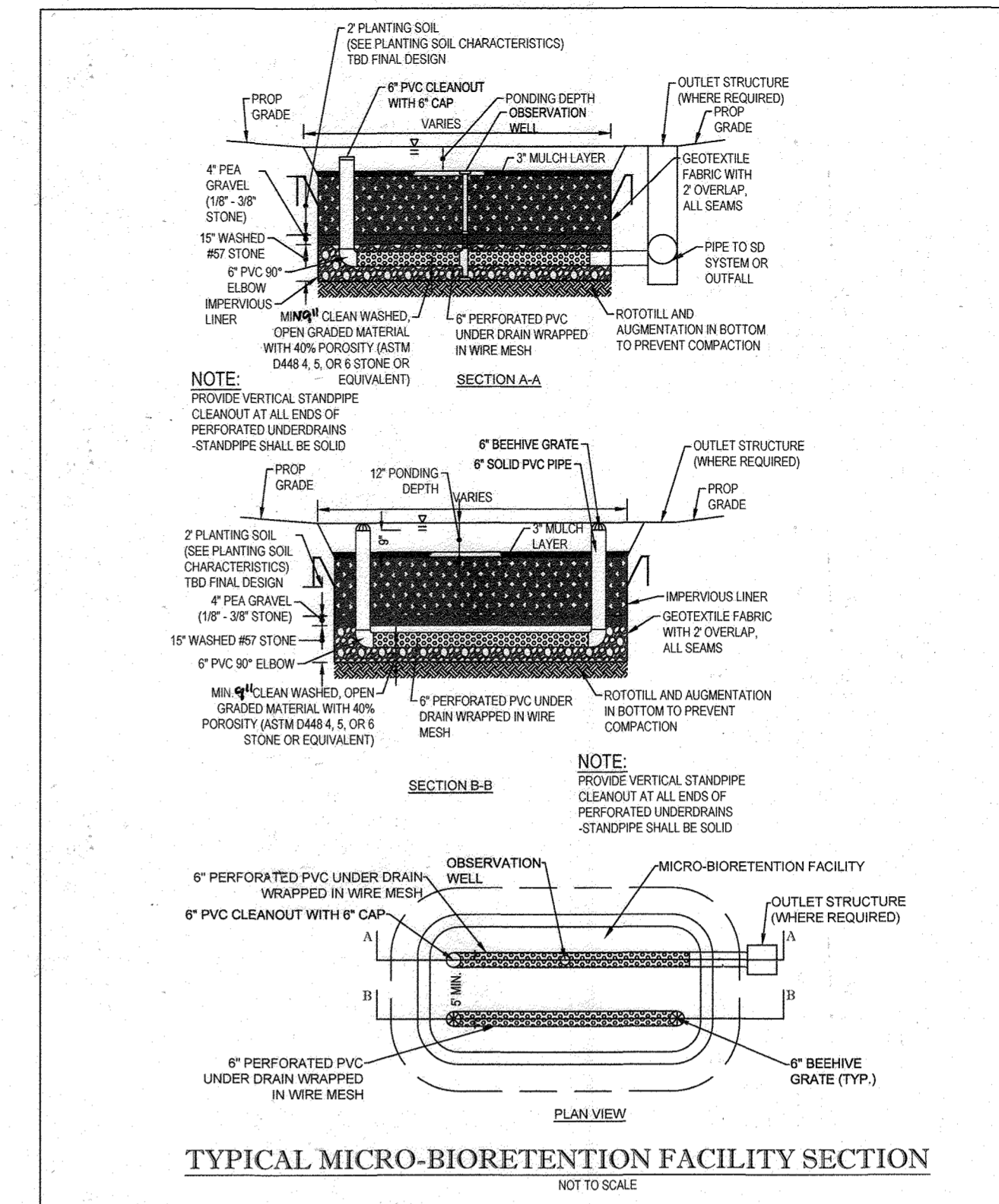
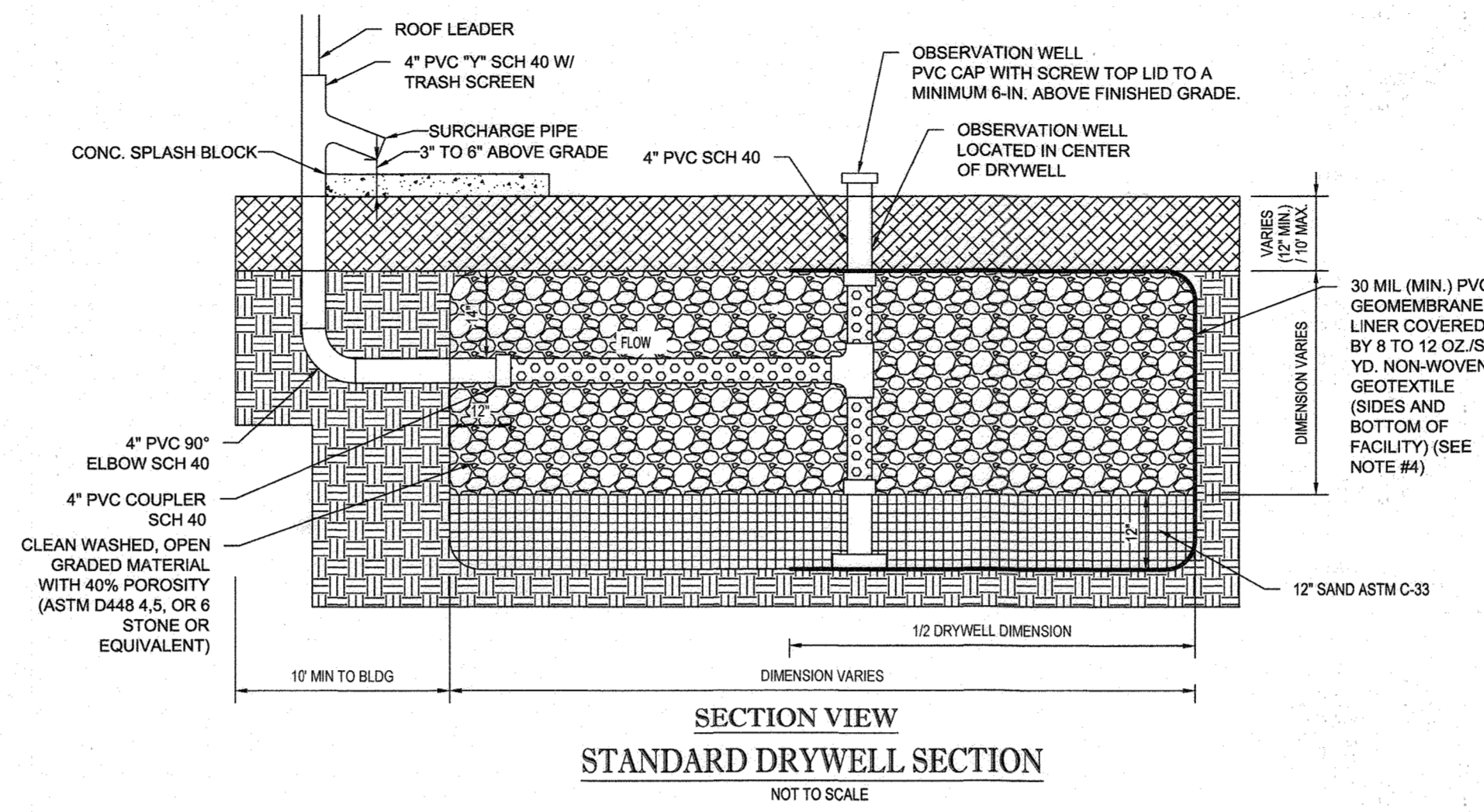
PREVIOUS FILE NO.:  
ECP-16-023 PB436  
SP-17-002  
WP-17105

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
PARCEL: 34, 36, 98, 111 & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND



**NOTES:**

1. FROM THE DOWNSPOUT TO THE DRYWELL THE DRAIN PIPE MUST BE AT LEAST 6" BELOW GRADE.
2. NONWOVEN GEOTEXTILE FABRIC TO BE INSTALLED ON TOP AND SIDES ONLY. THESE GEOTEXTILES ARE AVAILABLE IN FINKSBURG @ ES&G DISTRIBUTORS 2801 EMORY RD, BLDG 8, 866-744-5001, ANY EQUIVALENT GEOTEXTILE IS ACCEPTABLE.
3. DRYWELL BOTTOM TO BE INSTALLED AS LEVEL AS POSSIBLE AND IN UNDISTURBED SOILS.
4. WHEN TOP OF DRYWELL IS PLACED IN FILL WITHIN 10% OF SLOPES 15% OR GREATER, AN IMPERMEABLE LINER SHALL BE PROVIDED ON THE STEEP SLOPE SIDE OF THE FACILITY AS SHOWN ABOVE.
5. ALL ROOF DRAINS LEADING TO A DRYWELL FACILITY SHALL HAVE A GUTTER DRAIN FILTER.
6. CONSTRUCTION OF A DRYWELL SHALL BE PERFORMED WITH A LIGHTWEIGHT WIDE-TRACKED EQUIPMENT TO MINIMIZE DISTURBANCE AND COMPACTION.



**BOHLER ENGINEERING**

CORPORATE OFFICE:  
WARREN, NJ

PROJECT MANAGERS:  
SURVEYORS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

OFFICES:  
BOWIE, MD  
STURBRIDGE, MA  
STURBRIDGE, MA  
ROCKFORD, ILL.  
CHALFONT, PA  
TAMPA, FL  
PHILADELPHIA, PA  
PHILADELPHIA, PA

**REVISIONS**

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL: 811

VA 1-800-245-4568 (PA 1-800-242-3778) (DC 1-800-252-7777) (MD 1-800-552-7001) (DE 1-800-257-3777) (DE 1-800-282-8559)

**APPROVED FOR CONSTRUCTION**

PROJECT No.: MD142048  
DRAWN BY: AVG  
CHECKED BY: BRR  
DATE: 08/28/19  
SCALE: AS SHOWN  
CAD I.D.: SDJ

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

SUITE 801  
901 DULANEY VALLEY ROAD,  
TOWSON, MARYLAND 21204  
Phone: (410) 821-7900  
Fax: (410) 821-7987  
www.BohlerEngineering.com

**B.R. ROWE**

PROFESSIONAL ENGINEER  
MARYLAND LICENSE NO. 4099

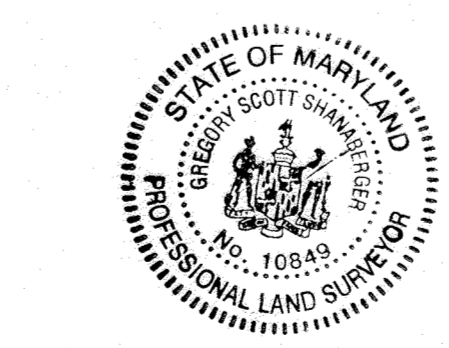
PROFESSIONAL CERTIFICATION  
I, BRANDON B. ROWE, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 4099, EXPIRATION DATE: 7/31/2021

SHEET TITLE:  
**SWM NOTES AND DETAILS**

SHEET NUMBER:  
**60 OF 92**

**Table B.4 Materials Specifications for Micro-Bioretention, Rain Gardens & Landscape Infiltration.**

Material	Specification	Size	Notes
Plantings	see Appendix A, Table A-4	n/a	Plantings are site-specific
	Planting soil	loamy sand (90 - 65%) & compost (35 - 40%) or sandy loam (30%), coarse sand (30%) & compost (50%)	USDA soil types loamy sand or sandy loam; clay content < 5%
Organic content	Min. 10% by dry weight (ASTM D 2974)		
Mulch	shredded hardwood		aged 6 months, minimum; no pine or wood chips
Pre-paved drainage	see general, ASTM D-448	NO. 8 OR NO. 9 (1/8" TO 3/8")	
Curbs	ornamental stone, washed cobbles	stone: 2" to 5"	
Geotextile	AASHTO M-43	NO. 51 OR NO. 6 AGGREGATE (53" to 3/4")	PE Type 1 nonwoven
Gravel (underdrains and infiltration basins)			
Underdrain piping	F 75S, Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR 35	Slotted or perforated pipe; 3/8" perf. @ 6" on center, 4 holes per row; minimum of 2" of gravel over pipes; not necessary; underdrain pipes. Perforated pipe shall be wrapped with 1/2-inch polyethylene membrane cloth.
Pre-cast in-place concrete (if required)	MSEA Mix No. 3, F, = 3500 psi @ 28 days, nominal weight, air-entrained, reducing to meet ASTM C615-00	n/a	4-week testing of precast-in-place concrete required; 28 day strength and slump test; all concrete design (cast-in-place or pre-cast) not using previously approved forms or local standards requires design drawings sealed and approved by a professional structural engineer licensed in the State of Maryland; design to include meeting ACI Code 309.3R-00; vertical loading (H-10 or H-20); allowable horizontal loading (based on soil retention); and analysis of potential cracking.
Sand	AASHTO M-6 or ASTM C-33	0.075" to 0.04"	Sand substitutions such as Dolomite and Gypstone (AASHTO) #10 are not acceptable. No calcium carbonate or dolomitic sand substitutions are acceptable. No "rock dust" can be used for sand.

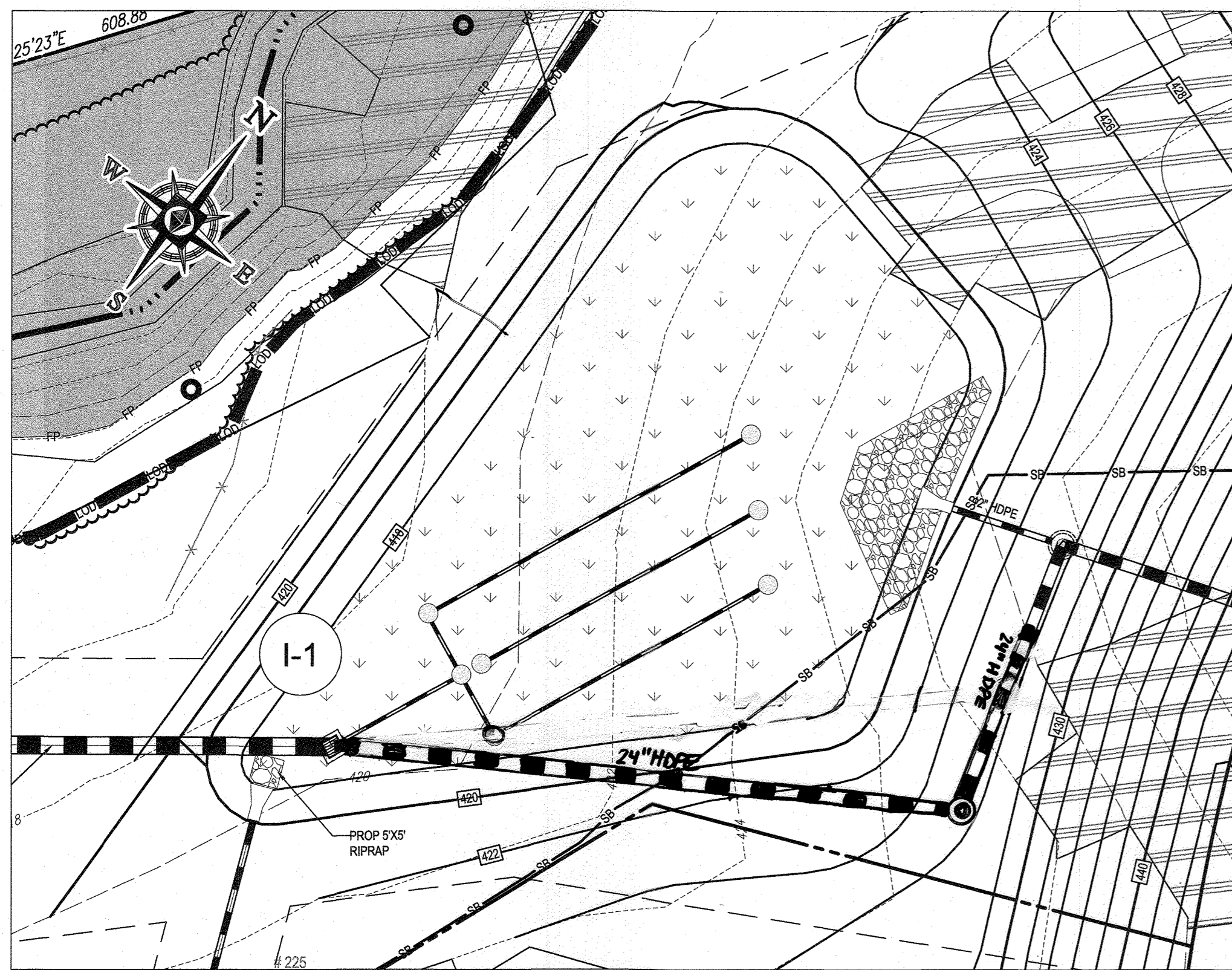


**AS-BUILT CERTIFICATION**  
HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS  
BRANDON B. ROWE  
11/11/2023  
LICENSED PROFESSIONAL LAND SURVEYOR  
SHANABERGER & LANE  
PROFESSIONAL LAND SURVEYOR #10849  
LICENSE EXPIRATION DATE 4/2/2024  
AS-BUILT SURVEY DATE 10/10/2022  
INSTRUMENTS USED IN PREPARING THIS AS-BUILT SURVEY: 5 SECOND SOKKIA IX ROBOTIC TOTAL STATION, TOPCON RC-5 RECEIVER, SOKKIA 300 PRISM

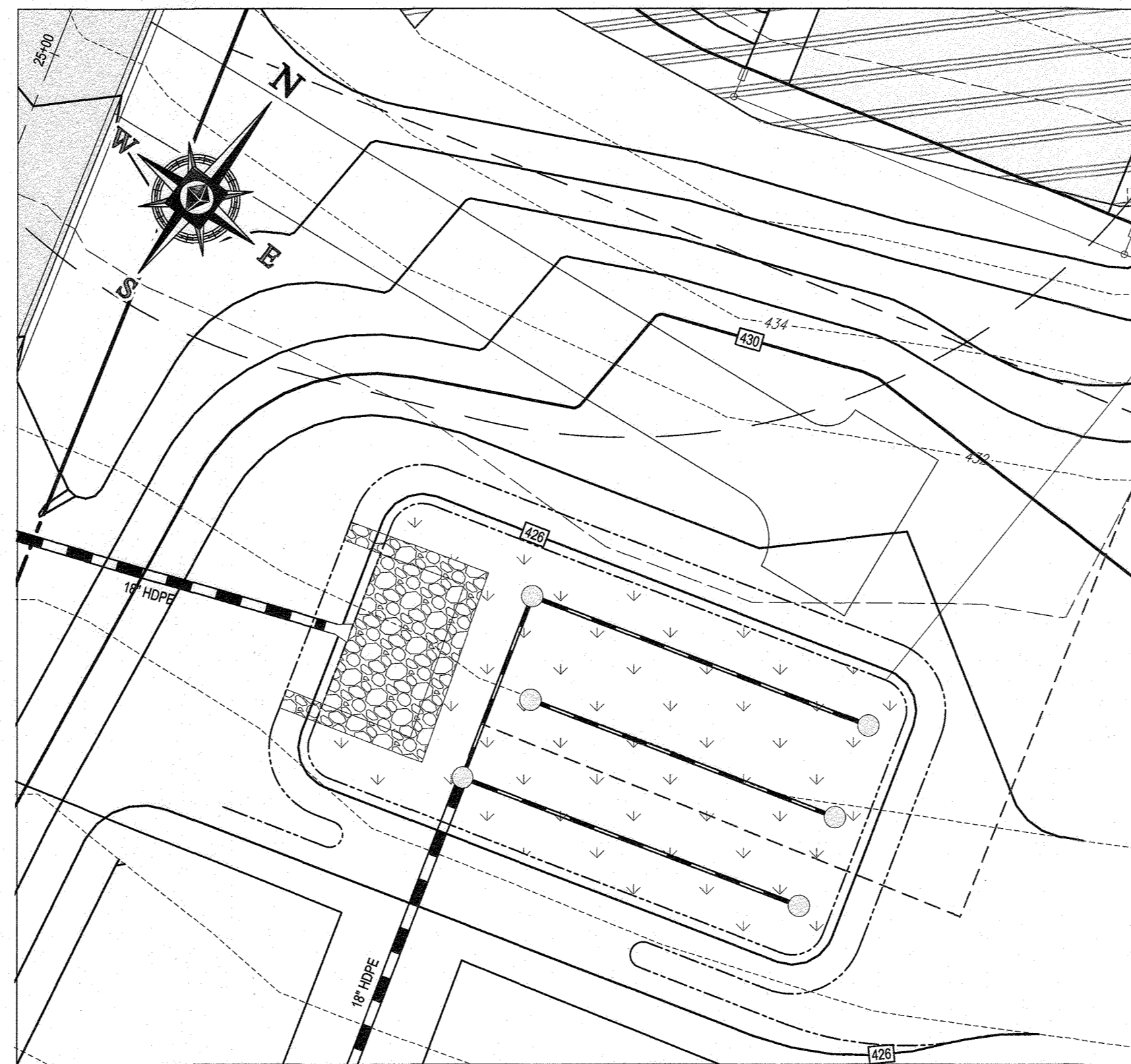
OWNERS	PARCEL 34	PARCEL 112
PARCEL 36 TOLL MID ATLANTIC LP COMPANY INC 250 GIBRAL TAY ROAD HORSHAM PA, 19044 TEL	TOLL MID ATLANTIC LP COMPANY INC 250 GIBRAL TAY ROAD HORSHAM PA, 19044 TEL	TOLL MID ATLANTIC LP COMPANY INC 250 GIBRAL TAY ROAD HORSHAM PA, 19044 TEL
PARCEL 111 DENNIS A LEAF JANET BURKE JT 5232 GREEN BRIDGE ROAD DAYTON, MD 21038 TEL	PARCEL 98 JERRY MAULICK JANET BURKE JT 5232 GREEN BRIDGE ROAD DAYTON, MD 21038 TEL	PARCEL 112 JERRY MAULICK JANET BURKE JT 5232 GREEN BRIDGE ROAD DAYTON, MD 21038 TEL
SUBDIVISION NAME: WILLOWSHIRE SECTION: A, N/A DEED # 11361/00222, 20183/00554, 15804/00354, 05639/0490 04341/00270, & 03201/00539	PREVIOUS FILE NO.: ECP-19-023 SP-17-002 WP-17105	PB436
DEVELOPER: GREEN BRIDGE FARM II, L.C. 5074 DORSEY HILL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTACT: JASON VAN KIRK PHONE: (410) 720-3021	TAX MAP: 27 GRID: 18 ZONED: RR-DEO	PARCEL: 34, 36, 98, 111 & 112 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

APPROVED, DEPARTMENT OF PUBLIC WORKS  
1/26/2019  
CHIEF, BUREAU OF HIGHWAYS  
APPROVED, DEPARTMENT OF PLANNING AND ZONING  
2/20/2020  
CHIEF, DIVISION OF LAND DEVELOPMENT  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
12.9.19

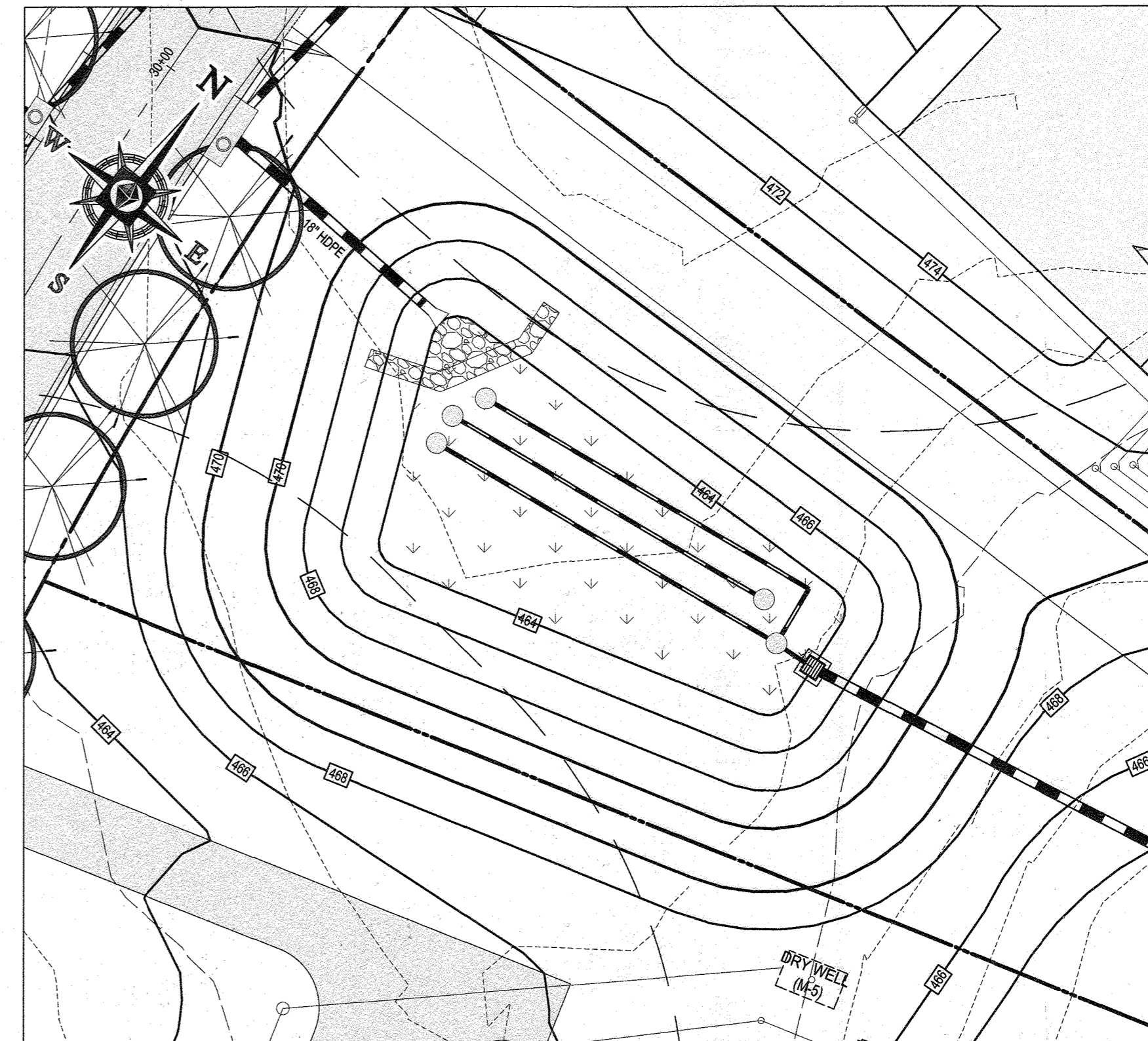




**BIORETENTION FACILITY #1**  
SCALE: 1" = 20'

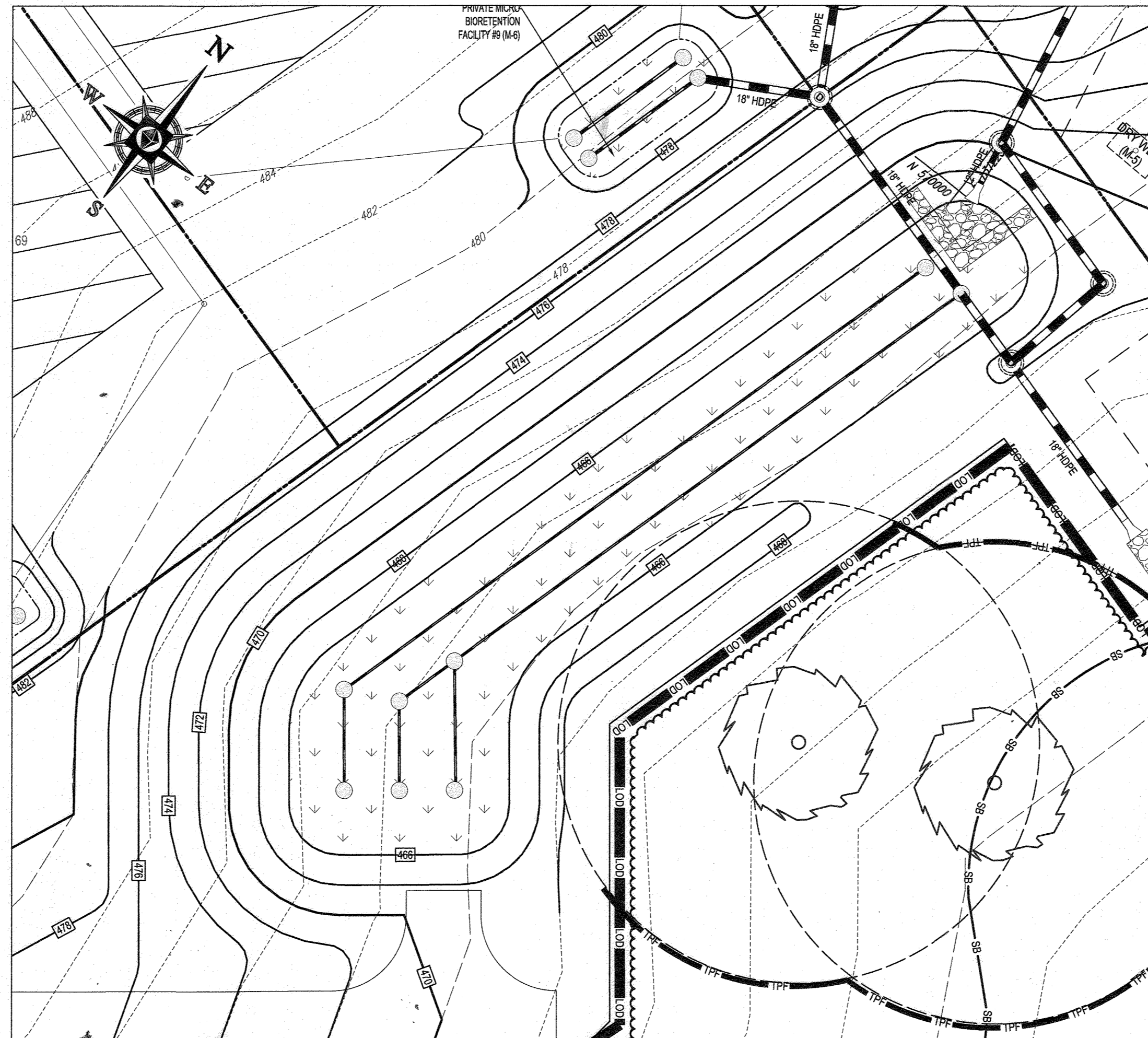


**BIORETENTION FACILITY #2**  
SCALE: 1" = 20'

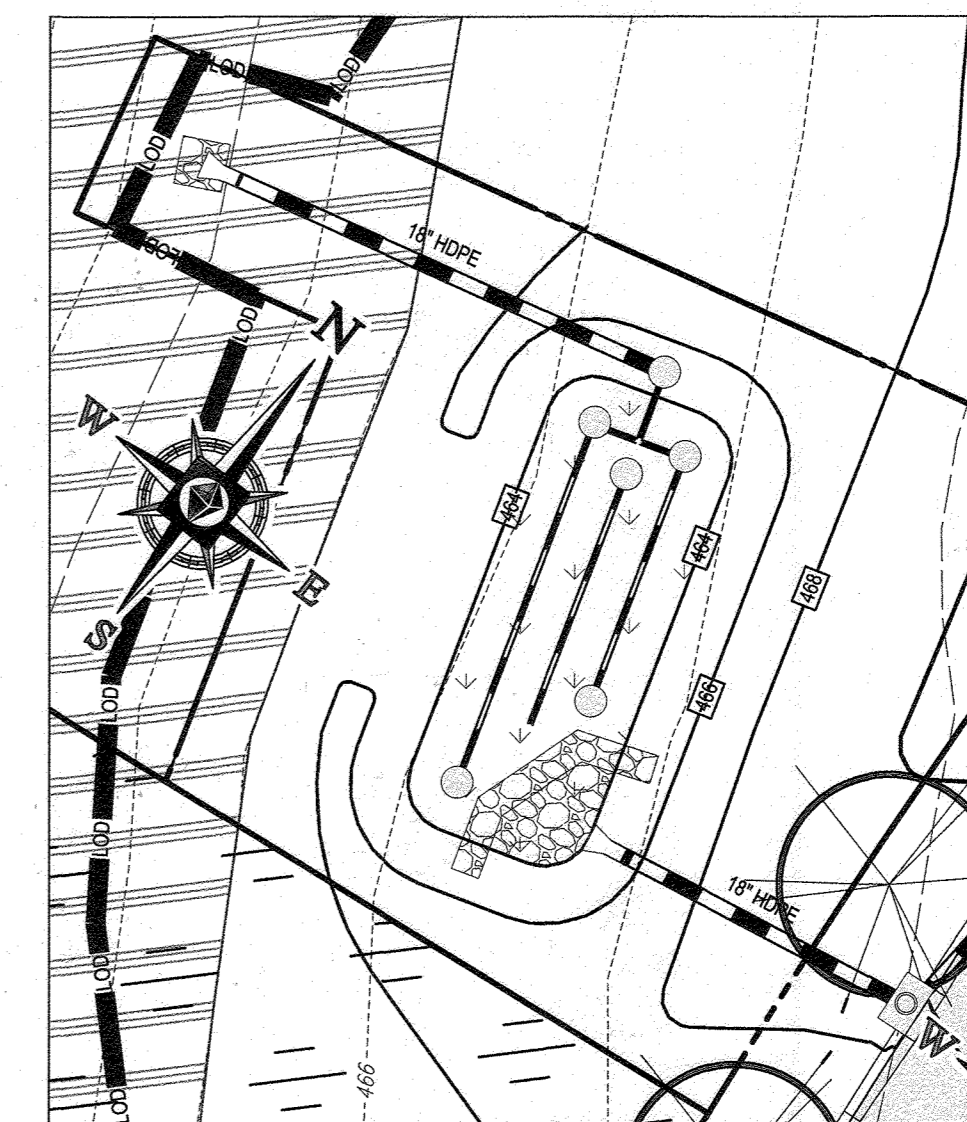


**BIORETENTION FACILITY #3**  
SCALE: 1" = 20'

BIORETENTION AREAS PLANTING SCHEDULE										
BOTANICAL NAME	COMMON NAME	TYPE	SPACING	SIZE	FACILITY					TOTAL
					FACILITY 1 (7,790 S.F.)	FACILITY 2 (3,800 S.F.)	FACILITY 3 (2,310 S.F.)	FACILITY 4 (1,000 S.F.)	FACILITY 5 (5,250 S.F.)	
CORNUS AMOMUM	SILKY DOGWOOD	SHRUB	30' O.C.	1 GAL. CONT.	145	70	44	18	97	374
ITEA VIRGINICA 'HENRY'S GARNET'	GARNET SWEETSPIRE	SHRUB	30' O.C.	1 GAL. CONT.	145	70	44	18	97	374
SYMPHYOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	PERENNIAL	12" O.C.	PLUG	900	440	270	110	665	2325
RUDBECKIA FULGIDA 'GOLDSTURM'	BLACK-EYED SUSAN	PERENNIAL	12" O.C.	PLUG	900	440	270	110	665	2325
ANDROPOGON SCOPARIUS	LITTLE BLUESTEM	GRASS	12" O.C.	PLUG	1800	880	540	220	1210	4650
PANICUM VIRGATUM	SWITCH GRASS	GRASS	12" O.C.	PLUG	1800	880	540	220	1210	4650
JUNCUS EFFUSUS	SMOOTH RUSH	GRASS	12" O.C.	PLUG	1800	880	540	220	1210	4650



**BIORETENTION FACILITY #4**  
SCALE: 1" = 20'

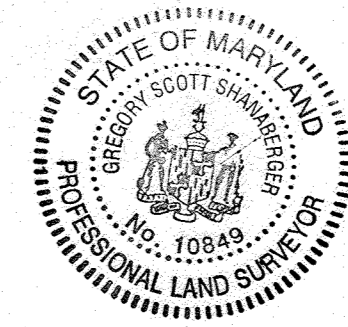


**BIORETENTION FACILITY #5**  
SCALE: 1" = 20'

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 11/26/2019  
 CHIEF, BUREAU OF HIGHWAYS  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 12/9/2019  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

**DEVELOPER'S/OWNER'S LANDSCAPE CERTIFICATE**  
 I HEREBY CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 18.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. I WILL FURTHER CERTIFY THAT UPON COMPLETION A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.  
 DEVELOPER'S/OWNER'S NAME: [Signature]  
 DATE: 9-26-19

OWNERS:  
 TOLL MID ATLANTIC LP COMPANY INC.  
 250 GIBRAL TARR ROAD, HORSHAM PA, 19044  
 PARCEL 112 TOLL MID ATLANTIC LP COMPANY INC.  
 250 GIBRAL TARR ROAD, HORSHAM PA, 19044  
 PARCEL 98 DENNIS A LEAF JERRY MAUCK JANE BURKE JT 5228 GREEN BRIDGE ROAD DAYTON, MD 21036  
 SUBDIVISION NAME: WILLOWSHIRE SECTION/AREA: N/A DEED #: 1135100222-0018300554, 15884003894, 05889000490, 0434100270, & 0320100539  
 PREVIOUS FILE NO.: ECP-16-023 PB436 SP-17-002 WP-17105  
 DEVELOPER: GREEN BRIDGE FARM II, L.C. 5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTRACT: JASON VAN KIRK PHONE: (410) 720-3021  
 TAX MAP: 27 GRID: 18 ZONED: RR-DEO PARCEL: 34, 36, 98, 111 & 112 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND



**AS-BUILT CERTIFICATION**  
 I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN AND SPECIFICATIONS APPROVED PLANS AND SPECIFICATIONS 10/11/2023 BY SCOTT SHANABERGER  
 SHANABERGER & LANE  
 PROFESSIONAL LAND SURVEYOR #10849  
 LICENSE EXPIRATION DATE 4/2/2024  
 AS-BUILT SURVEY DATE 10/10/2022  
 INSTRUMENTS USED IN THIS AS-BUILT SURVEY: SOKKIA 5 SECOND IR REFLECTIC TOTAL STATION, TOPCON AC-5 RECEIVER, SOKKIA 300 PRISM

**BOHLER ENGINEERING**  
 CORPORATE OFFICE: WARRREN, NJ  
 OFFICES: SOUTH BRIDGE, MA; TOWSON, MD; STERLING, VA; FORT LAUDERDALE, FL; PHILADELPHIA, PA  
 SURVEYORS; PROJECT MANAGERS; ENVIRONMENTAL CONSULTANTS; LANDSCAPE ARCHITECTS  
 CIVIL & CONSULTING ENGINEERS

**REVISIONS**

REV	DATE	COMMENT	BY

**APPROVED FOR CONSTRUCTION**  
 PROJECT No. MD142016  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 20'  
 CAD I.D.: SW2

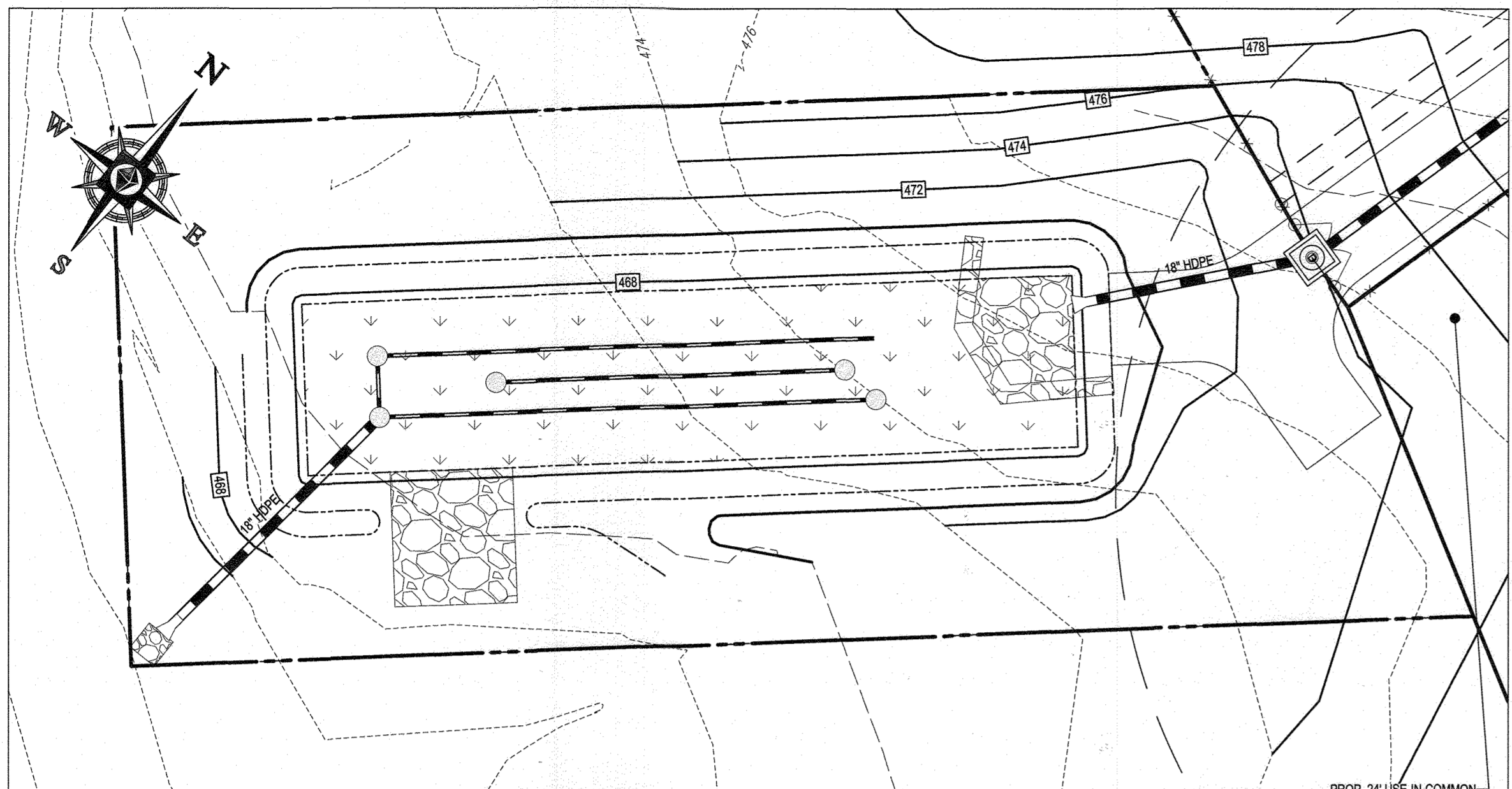
**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE: 5232 GREEN BRIDGE ROAD, 5TH ELECTION DISTRICT, TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21204  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

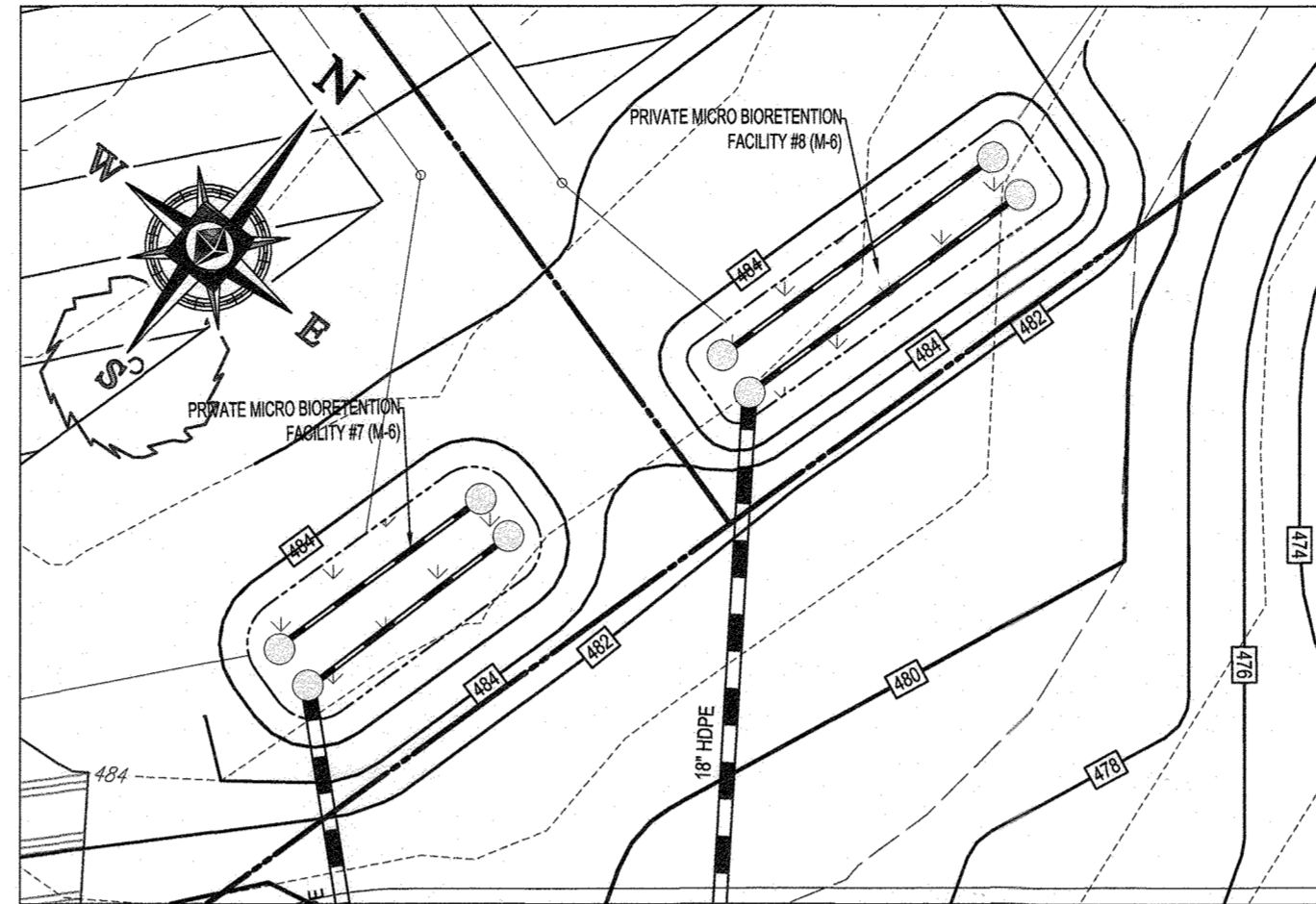
**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 10849  
 STATE OF MARYLAND  
 LICENSE EXPIRATION DATE 4/2/2024

**SWM LANDSCAPE PLAN**  
 SHEET NUMBER: 62 OF 92

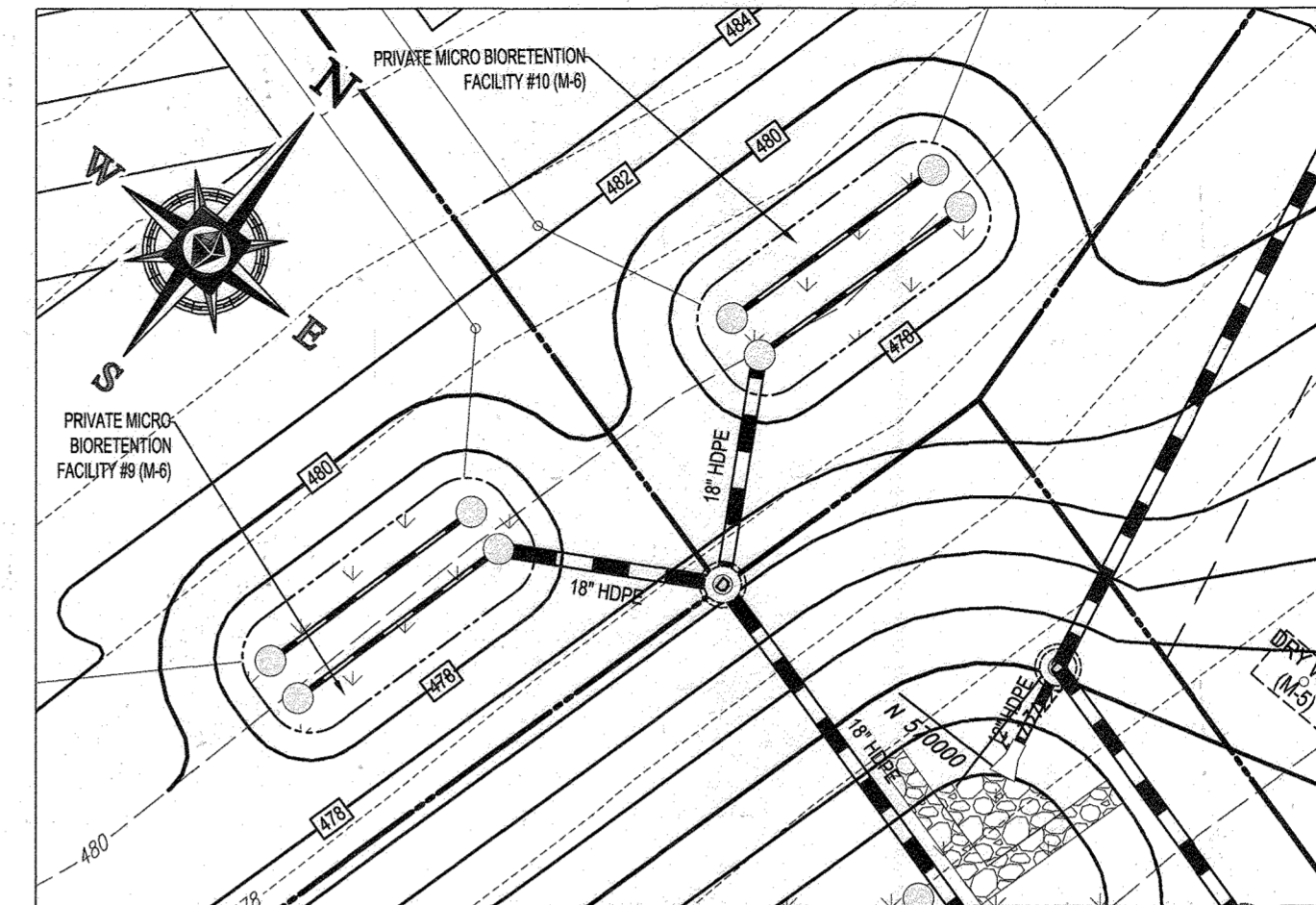
W:\142016\CONSTRUCTION\PLAN SET\FINAL ROAD CONSTRUCTION PLAN\142016-08-26-19.DWG PRINTED BY: ANANDA, 8/27/19 @ 4:35 PM. LAST SAVED BY: ANANDA



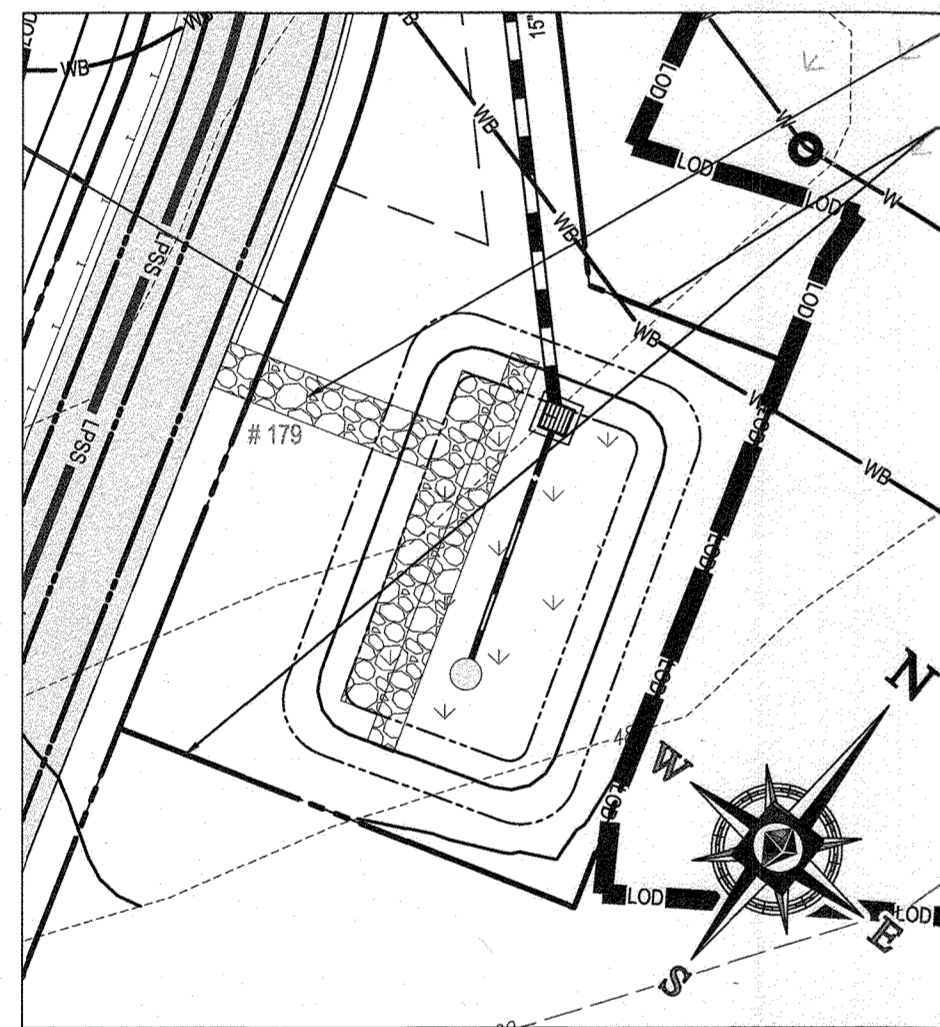
**BIORETENTION FACILITY #6**  
SCALE: 1" = 20'



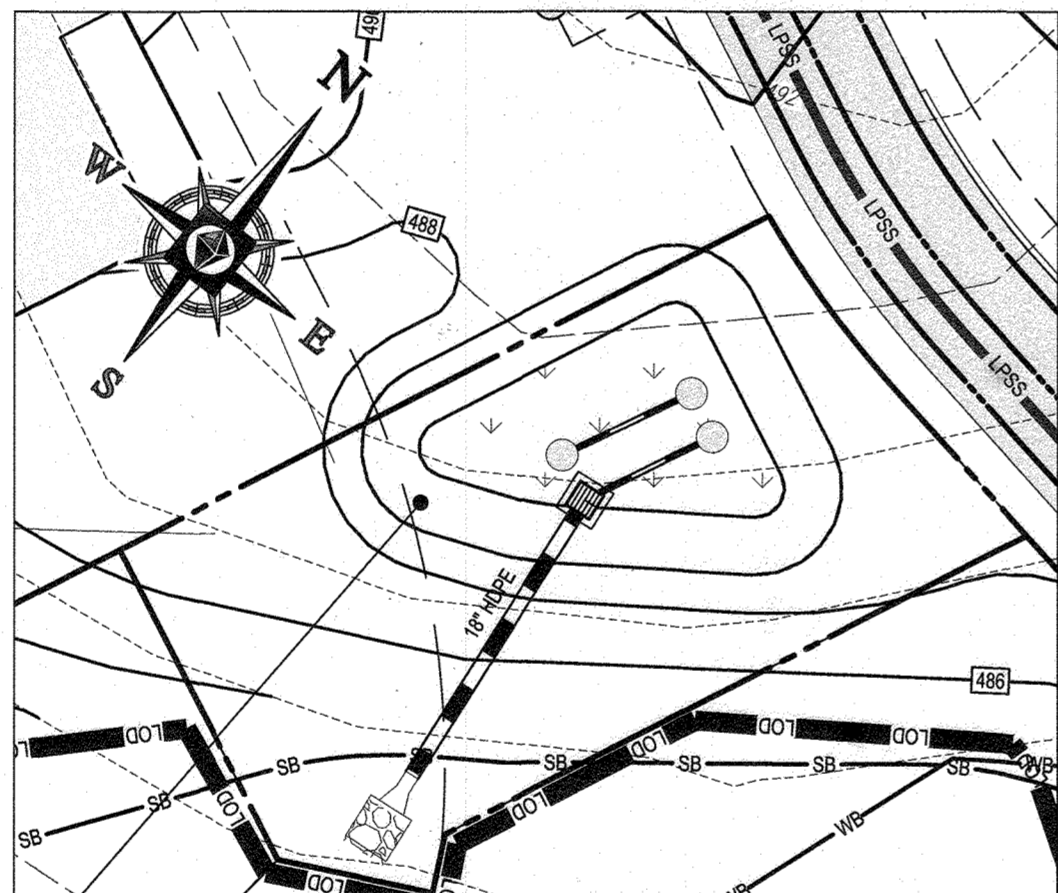
**MICRO-BIORETENTION FACILITY #7 & #8**  
SCALE: 1" = 20'



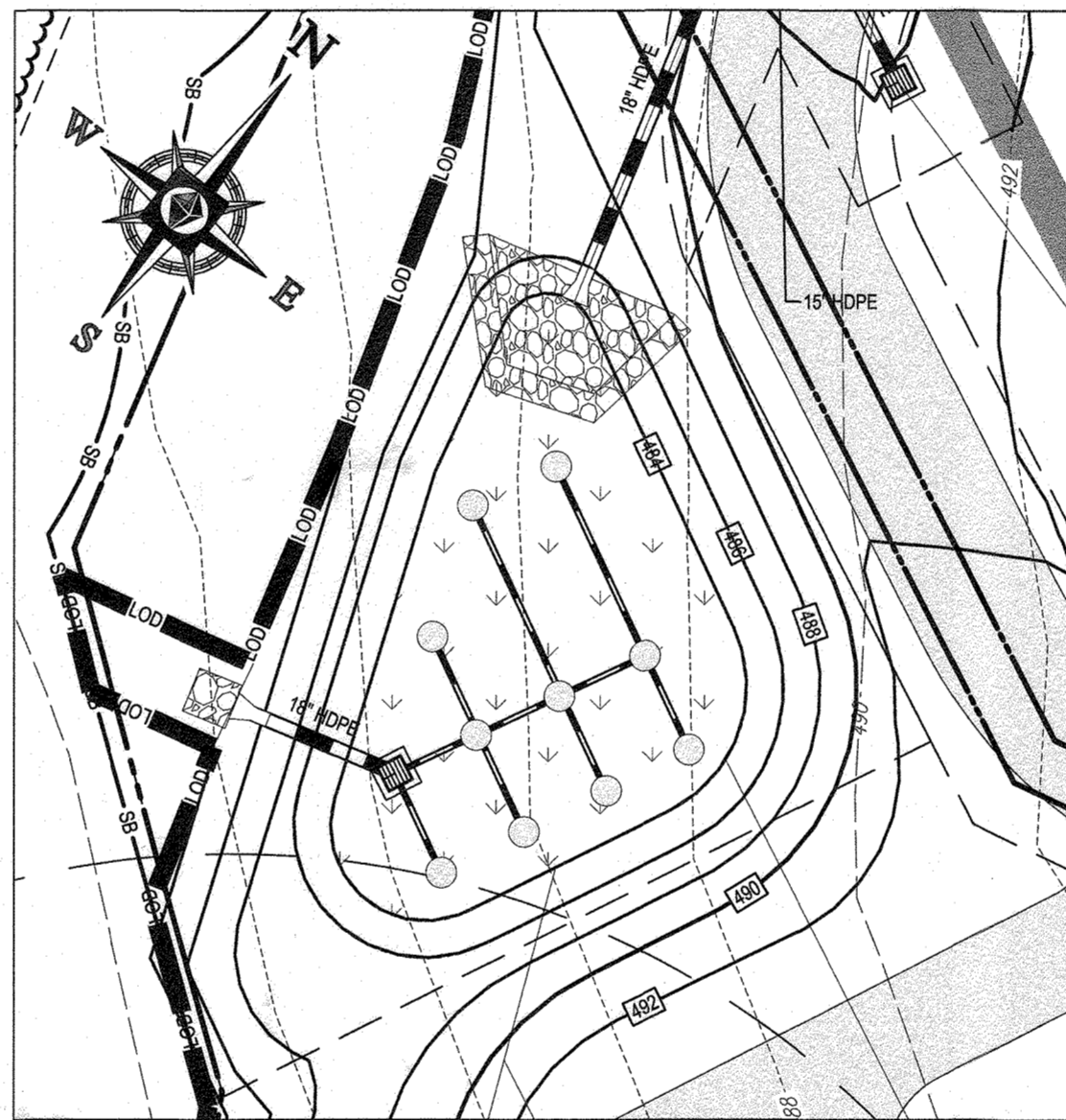
**MICRO-BIORETENTION FACILITY #9 & #10**  
SCALE: 1" = 20'



**SUBMERGED GRAVEL WETLAND FACILITY #1**  
SCALE: 1" = 20'



**BIORETENTION FACILITY #12**  
SCALE: 1" = 20'



**BIORETENTION FACILITY #13**  
SCALE: 1" = 20'

**BIORETENTION AREAS PLANTING SCHEDULE**

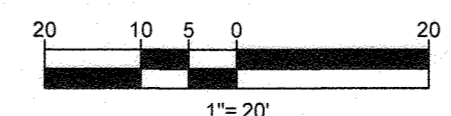
SPECIES		TYPE	SPACING	SIZE	FACILITY 6 (3,125 S.F.)	FACILITY 7 (476 S.F.)	FACILITY 8 (462 S.F.)	FACILITY 1 SUBMERGED WETLAND (725 S.F.)	MICRO-BIO FACILITY 9 (476 S.F.)	MICRO-BIO FACILITY 10 (476 S.F.)	MICRO-BIO FACILITY 12 (525 S.F.)	MICRO-BIO FACILITY 13 (1,892 S.F.)	TOTAL
BOTANICAL NAME	COMMON NAME												
CORNUS AMOMUM	SILKY DOGWOOD	SHRUB	30' O.C.	1 GAL. CONT.	57	9	9	26	9	9	10	35	164
ITEA VIRGINICA 'HENRY'S GARNET'	GARNET SWEETSPIRE	SHRUB	30' O.C.	1 GAL. CONT.	57	9	9	26	9	9	10	35	164
SYMPHYOTRICHUM NOVAE-ANGLIAE	NEW ENGLAND ASTER	PERENNIAL	12" O.C.	PLUG	344	53	51	168	53	53	58	209	989
RUDEBECKIA FULGIDA 'GOLDSTURM'	BLACK-EYED SUSAN	PERENNIAL	12" O.C.	PLUG	344	53	51	0	53	53	58	209	821
ANDROPOGON SCOPARIUS	LITTLE BLUESTEM	GRASS	12" O.C.	PLUG	688	105	102	0	105	105	116	417	1638
PANICUM VIRGATUM	SWITCH GRASS	GRASS	12" O.C.	PLUG	688	105	102	168	105	105	116	417	1806
JUNCUS EFFUSUS	SMOOTH RUSH	GRASS	12" O.C.	PLUG	688	105	102	168	105	105	116	417	1806

APPROVED DEPARTMENT OF PUBLIC WORKS  
11/24/2019  
CHIEF, BUREAU OF HIGHWAYS

APPROVED DEPARTMENT OF PLANNING AND ZONING  
2/26/2020  
CHIEF, DIVISION OF LAND DEVELOPMENT

12-9-19  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

**DEVELOPER'S/OWNER'S LANDSCAPE CERTIFICATE**  
I HEREBY CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. I WE FURTHER CERTIFY THAT UPON COMPLETION A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.  
DATE: 9-26-19



OWNERS:  
PARCEL 36  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TAY ROAD  
HORSHAM PA, 19044

PARCEL 34  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TAY ROAD  
HORSHAM PA, 19044

PARCEL 111  
DENNIS A LEAF  
LENORE D. SINES  
5228 GREEN BRIDGE ROAD  
DAYTON, MD 21038

PARCEL 112  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TAY ROAD  
HORSHAM PA, 19044

PARCEL 98  
JERRY MAUCK  
JANET BURKE JT  
5234 GREEN BRIDGE ROAD  
DAYTON, MD 21038

SUBDIVISION NAME: WILLOWSHIRE  
SECTION AREA: N/A  
DEED #: 1136100222, 0018300554,  
15884003894, 0588800490,  
0434100270, & 0320100539

PREVIOUS FILE NO.:  
ECP-16-023 PB436  
SP-17-002  
WP-17105

DEVELOPER:  
GREEN BRIDGE FARM II, L.C.  
5074 DORSEY HALL ROAD, SUITE 205  
COLUMBIA, MD 21042  
CONTACT: JASON VAN KIRK  
PHONE: (410) 720-3021

TAX MAP: 27 GRID: 18 ZONED: RR-OEO  
PARCEL: 34, 36, 98, 111 & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND



**AS-BUILT CERTIFICATION**  
I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS.  
SHANBERGER & LANE  
PROFESSIONAL LAND SURVEYOR #15849  
LICENSE EXPIRATION DATE 4/2/2024  
AS-BUILT SURVEY DATE 12/10/2022  
INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: TOPCON PC-5 RECEIVER, 5" SUBCANTONIKKA 1X PC500C TOTAL STATION, SICKIA 30C PRISM

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
WARREN, NJ

OFFICES:  
BOWNE, MD  
TOWSON, MD  
FORT LAUDERDALE, FL  
WARRINGTON, VA  
CHATEAULI, VA  
GRIFFIN, VA  
CRAIGSVILLE, VA

SURVEYORS:  
CIVIL & CONSULTING ENGINEERS

PROJECT MANAGERS:  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

**REVISIONS**

REV.	DATE	COMMENT	BY

**APPROVED FOR CONSTRUCTION**

PROJECT NO: MD142008  
DRAWN BY: BRB  
DATE: 08/28/19  
SCALE: 1" = 20'  
CAD I.D.: SHG

**FINAL ROAD CONSTRUCTION PLAN**  
FOR  
**WILLOWSHIRE**  
LOTS 1-45, BUILDABLE PRESERVATION PARCEL, C NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

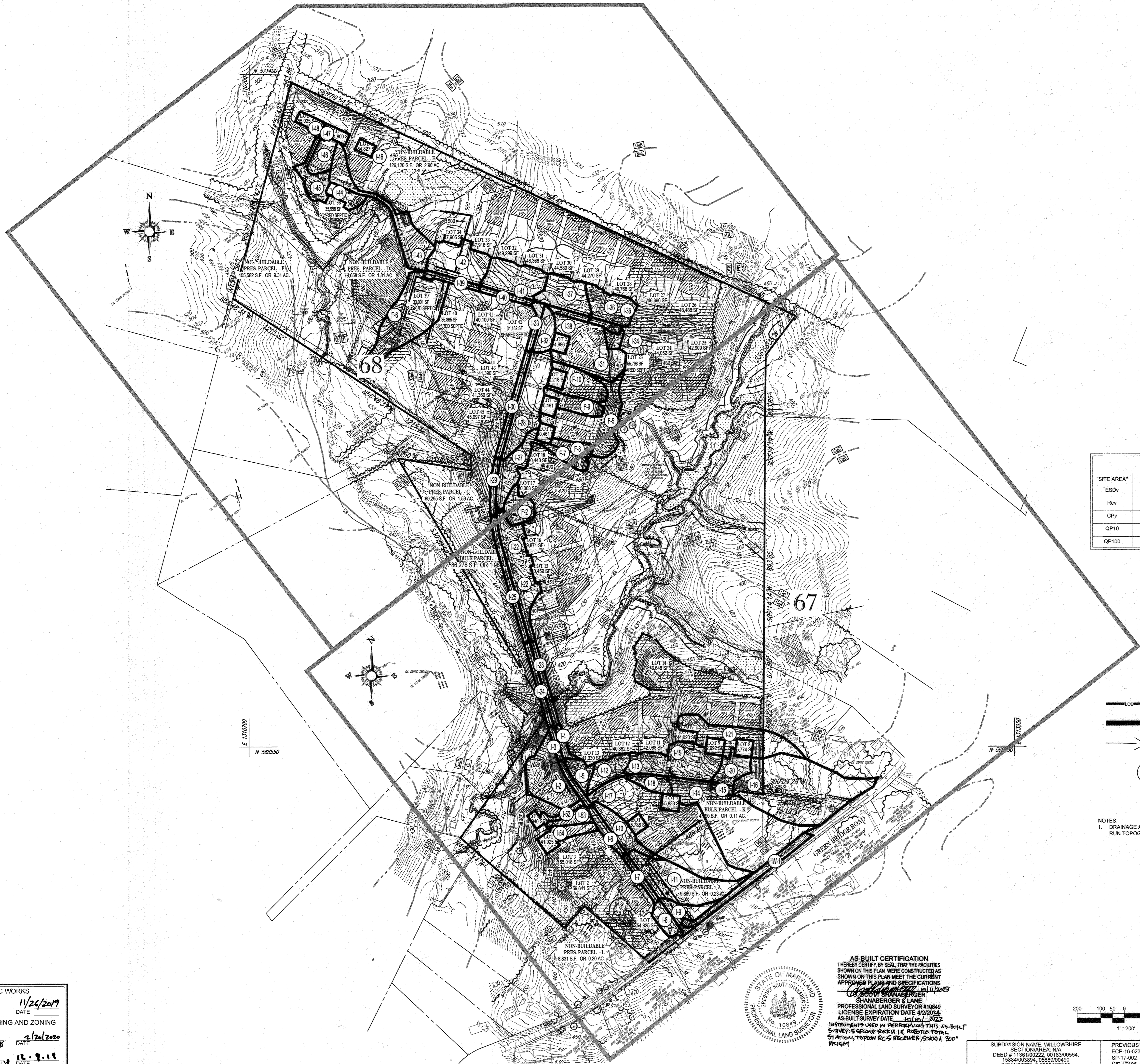
**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD,  
SUITE 801  
TOWSON, MARYLAND 21204  
Phone: (410) 821-7900  
Fax: (410) 821-7987  
www.BohlerEngineering.com

**B.P. ROWE**  
PROFESSIONAL ENGINEER  
LICENSE NO. 10849  
STATE OF MARYLAND

**SWM LANDSCAPE PLAN**

SHEET NUMBER:  
**63 OF 92**

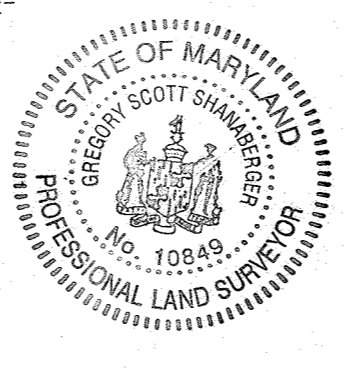


ESD SUMMARY TABLE	
'SITE AREA'	64.77 AC
ESDv	53,393 C.F. (REQUIRED), 92,579 C.F. (PROVIDED)
Rev	11,128 C.F. (REQUIRED), 11,166 C.F. (PROVIDED)
CPv	INCLUDED IN ESDv
QP10	NOT REQUIRED
QP100	NOT REQUIRED

LEGEND	
	LIMIT OF DISTURBANCE
	DRAINAGE AREA DIVIDE
	TC PATH
	DRAINAGE AREA DESIGNATION

NOTES:  
 1. DRAINAGE AREA INFORMATION SHOWN HEREON IS PRIMARILY BASED OFF OF FIELD RUN TOPOGRAPHY PREPARED BY BOHLER ENGINEERING DATED AUGUST, 25, 2015.

AS-BUILT CERTIFICATION  
 I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS.  
 JERRY MALICK  
 SHANABERGER & LANE  
 PROFESSIONAL LAND SURVEYOR #10849  
 LICENSE EXPIRATION DATE 4/2/2024  
 AS-BUILT SURVEY DATE 10/10/2022  
 INSTRUMENT USED IN PERFORMING THIS AS-BUILT SURVEY: 5 SECOND GUNDA 12, ROBTRIC TOTAL STATION, TOPCON RC-5 RECEIVER, 2000A 300 PRISM



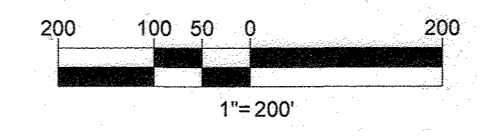
OWNERS:  
 PARCEL 36  
 TOLL MID ATLANTIC LP COMPANY INC.  
 250 GIBRAL TAR ROAD  
 HORSHAM PA, 19044  
 TEL:  
 PARCEL 34  
 TOLL MID ATLANTIC LP COMPANY INC.  
 250 GIBRAL TAR ROAD  
 HORSHAM PA, 19044  
 TEL:  
 DEVELOPER:  
 GREEN BRIDGE FARM II, L.C.  
 5074 DORSEY HALL ROAD, SUITE 205  
 COLUMBIA, MD 21042  
 CONTACT: JASON VAN KIRK  
 PHONE: (410) 720-3021

PARCEL 111  
 DENNIS A LEAF  
 LENORE D SINES  
 5226 GREEN BRIDGE ROAD  
 DAYTON, MD 21036  
 TEL:  
 PARCEL 112  
 TOLL MID ATLANTIC LP COMPANY INC.  
 250 GIBRAL TAR ROAD  
 HORSHAM PA, 19044  
 TEL:  
 PARCEL 98  
 JERRY MALICK  
 JANET BURKE J/T  
 5234 GREEN BRIDGE ROAD  
 DAYTON, MD 21036  
 TEL:

SUBDIVISION NAME: WILLOWSHIRE SECTION/AREA: N/A  
 DEED # 1136180222, 8018300554, 1868400384, 0558910480  
 04341/00270, & 03201/00539

PREVIOUS FILE NO.: ECP-16-023 PB436  
 SP-17-002 WP-17105

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
 PARCEL: 34, 36, 98, 111 & 112  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND



APPROVED: DEPARTMENT OF PUBLIC WORKS  
 DATE: 11/24/2017  
 CHIEF, BUREAU OF HIGHWAYS  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 DATE: 2/20/2020  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 12-9-11  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

**BOHLER ENGINEERING**  
 CIVIL & CONSULTING ENGINEERS SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

CONSTATE OFFICE: WARREN, NJ  
 OFFICES:  
 SOUTHBOROUGH, MA  
 TITUSVILLE, VA  
 ROSELAND, NJ  
 CHALFONT, PA  
 TAMPA, FL

BOHLER ENGINEERING, INC. IS AN EQUAL OPPORTUNITY EMPLOYER. MINORITIES AND WOMEN ARE ENCOURAGED TO APPLY. THE INFORMATION ON THIS PLAN WAS PREPARED BY THE LAND SURVEYOR AND IS BASED ON FIELD RUN TOPOGRAPHY AND AERIAL PHOTOGRAPHS. THE USER OF THIS PLAN SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION SHOWN HEREON.

REVISIONS			
REV	DATE	COMMENT	BY

**APPROVED FOR CONSTRUCTION**

PROJECT No.: MD142048  
 DRAWN BY: AVG  
 CHECKED BY: BRM  
 DATE: 08/28/19  
 SCALE: AS SHOWN  
 CAD I.D.: HP3

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E - G & L - P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWNSON, MARYLAND 21204  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 10000, EXPIRES 7/31/2021

SHEET TITLE:  
**OVERALL STORMDRAIN DRAINAGE AREA MAP**  
 SHEET NUMBER:  
**64 OF 92**



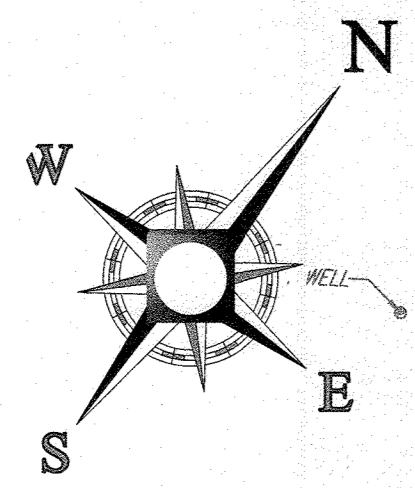
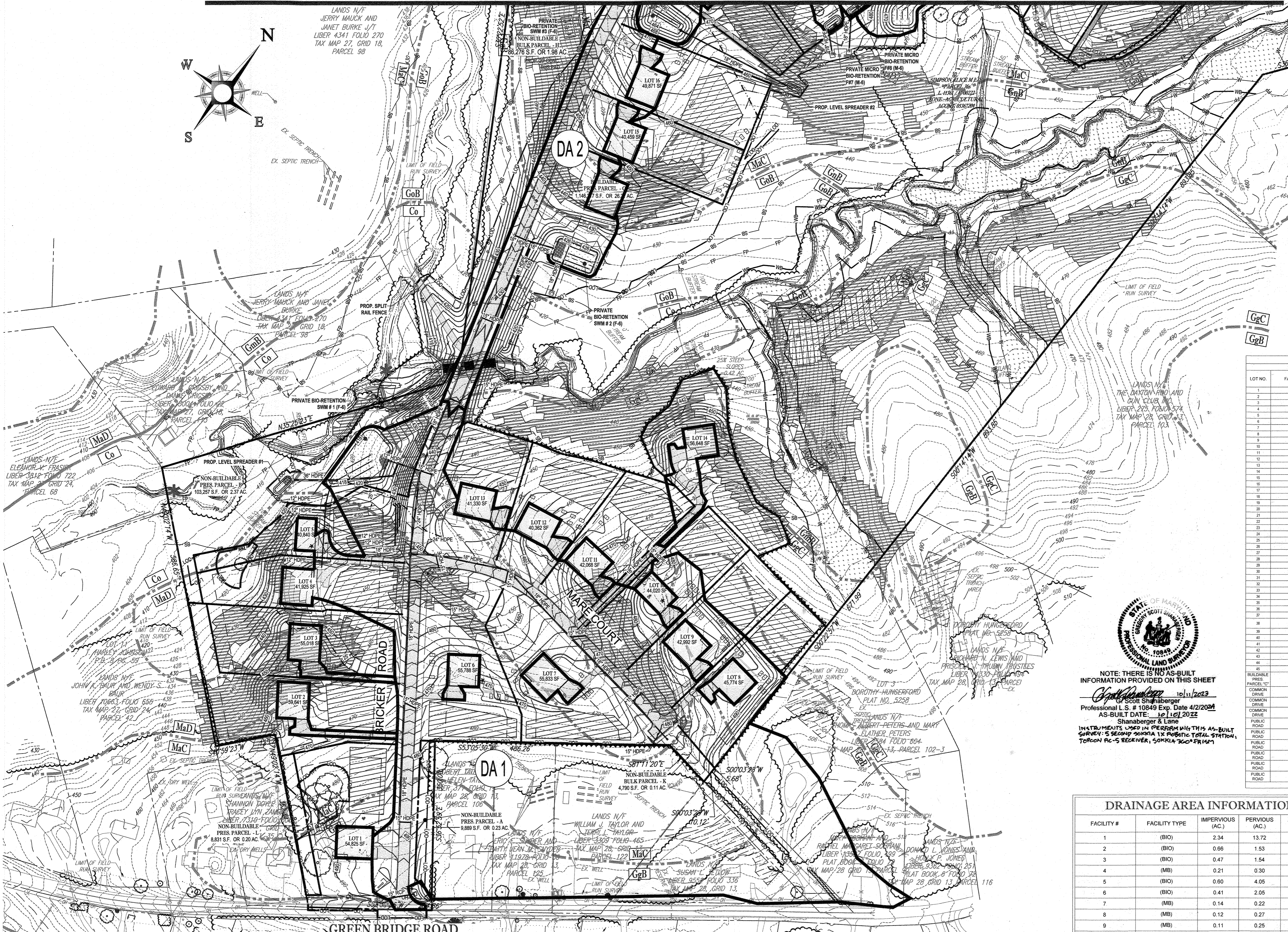
MATCHLINE (SHEET 66)

MATCHLINE (SHEET 66)

LEGEND

- LIMIT OF DISTURBANCE
DRAINAGE AREA DIVIDE
STEEP SLOPES 15-25%
STEEP SLOPES >25%
DRAINAGE AREA DESIGNATION

NOTES:
1. DRAINAGE AREA INFORMATION SHOWN HEREON IS PRIMARILY BASED OFF OF FIELD RUN TOPOGRAPHY PREPARED BY BOHLER ENGINEERING DATED AUGUST, 25, 2015.



STORMWATER MANAGEMENT PRACTICES table with columns: LOT NO., FACILITY NO., PERMEABLE PAVING, ESD FACILITY TYPE, TOTAL AREA, REQUIRE, PROVIDED.



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET.
Professional S.S. Scott Shanabarger
Professional S.S. # 10849 Exp. Date 4/2/2024
AS-BUILT DATE: 10/12/2022
Shanabarger & Lane

DRAINAGE AREA INFORMATION table with columns: FACILITY #, FACILITY TYPE, IMPERVIOUS (AC.), PERVIOUS (AC.), TOTAL (AC.).

OWNERS:
PARCEL 36: TOLL MID ATLANTIC LP COMPANY INC.
PARCEL 34: TOLL MID ATLANTIC LP COMPANY INC.
DEVELOPER: GREEN BRIDGE FARM II, L.C.

APPROVED: DEPARTMENT OF PUBLIC WORKS
APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DIVISION OF LAND DEVELOPMENT

TAX MAP: 27 GRID: 18 ZONED: RR-DEO
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

BOHLER ENGINEERING logo and contact information.

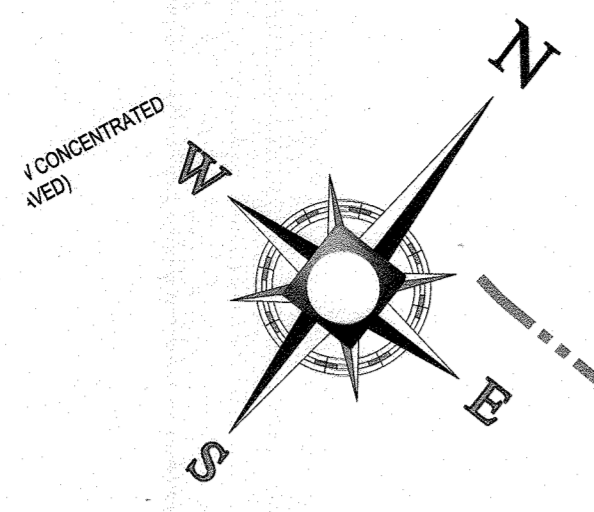
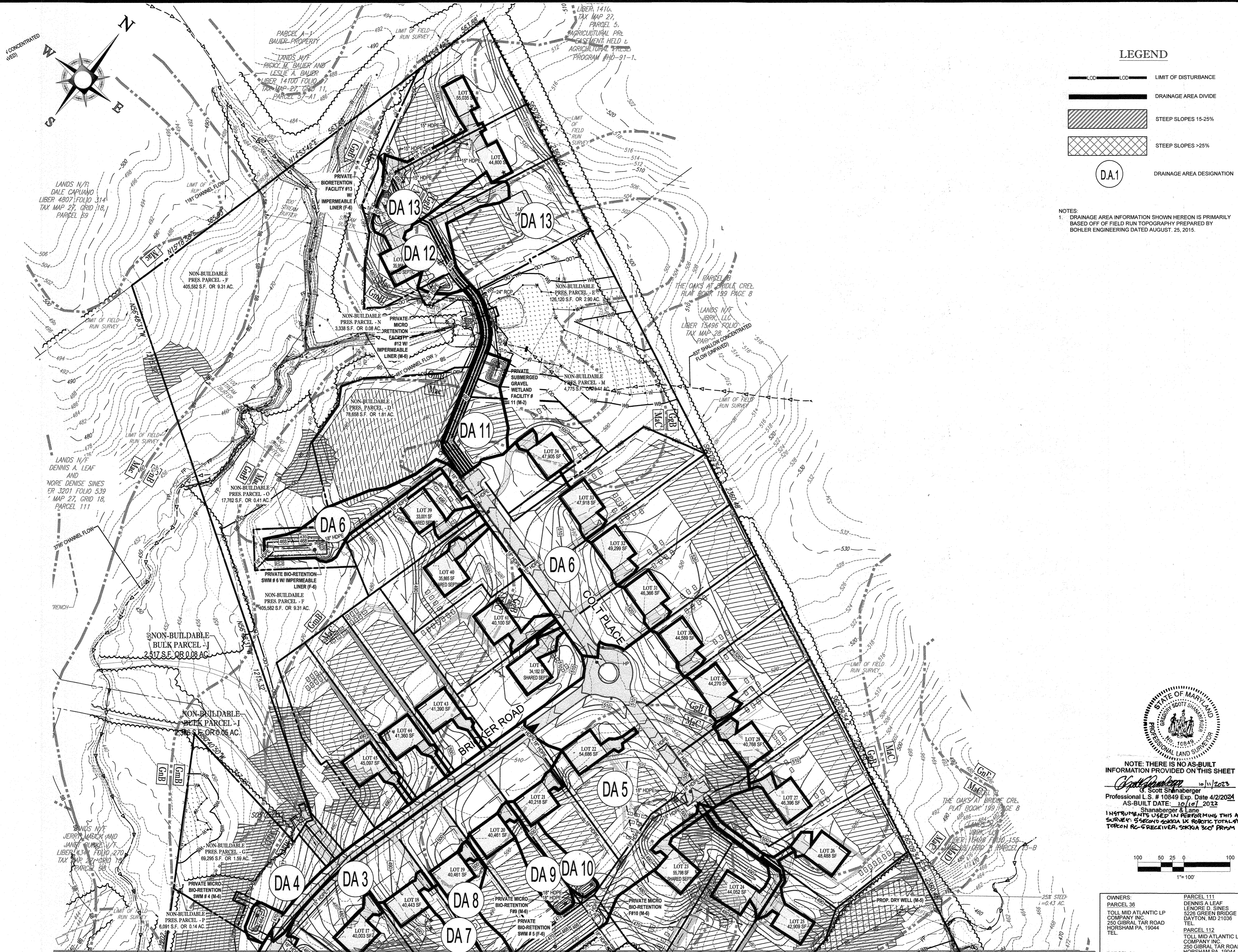
REVISIONS table with columns: REV, DATE, COMMENT, BY.

APPROVED FOR CONSTRUCTION stamp and project information.

FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE project details.

BOHLER ENGINEERING logo and contact information.

PROPOSED SWM DRAINAGE AREA MAP SHEET 65 OF 92.



**LEGEND**

- LIMIT OF DISTURBANCE
- DRAINAGE AREA DIVIDE
- STEEP SLOPES 15-25%
- STEEP SLOPES >25%
- DA1 DRAINAGE AREA DESIGNATION

NOTES:  
 1. DRAINAGE AREA INFORMATION SHOWN HEREON IS PRIMARILY BASED OFF OF FIELD RUN TOPOGRAPHY PREPARED BY BOHLER ENGINEERING DATED AUGUST, 25, 2015.

**BOHLER ENGINEERING**  
 CORPORATE OFFICE:  
 WARREN, NJ  
 OFFICES:  
 BRIDGEVILLE, PA  
 ALBANY, NY  
 BOWLING GREEN, OH  
 CENTERVILLE, PA  
 TOWSON, MD  
 STERLING, VA  
 FORT LAUDERDALE, FL  
 TAMPA, FL  
 PHILADELPHIA, PA

CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

REVISIONS			
REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATES IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE: CHL-811 (MD) 1-800-245-4545 (PA) 1-800-242-1773 (DC) 1-800-287-7777 (VA) 1-800-452-7001 (MD) 1-800-257-1773 (DE) 1-800-292-8559

**APPROVED FOR CONSTRUCTION**

PROJECT No.: MD142046  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: 1" = 100'  
 CAD I.D.: HP3

**FINAL ROAD CONSTRUCTION PLAN FOR**

**WILLOWSHIRE**

LOTS 1-4S, BUILDABLE PRESERVATION PARCEL C,  
 NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD,  
 SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
[www.BohlerEngineering.com](http://www.BohlerEngineering.com)

**B.R. ROWE**

PROFESSIONAL ENGINEER  
 MARYLAND LICENSE NO. 8288  
 LICENSE NO. 78608, EXPIRES 12/31/2021

SHEET TITLE:

**PROPOSED SWM DRAINAGE AREA MAP**

SHEET NUMBER:

**66 OF 92**

APPROVED: DEPARTMENT OF PUBLIC WORKS  
  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE: 11/26/2019

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 2/20/2020

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 12-9-19

NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
 Scott Shansberger  
 Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/17/2023  
 Shansberger & Lane  
 INSTRUMENT DATED 1/11/2019 FOR THE PROPOSED SWM FACILITY, 5232 GREEN BRIDGE ROAD, 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND. TORCH PC-S RECIPIER, SOKKA 360° PRISM.

<b>OWNERS:</b> PARCEL 98 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044 TEL.	<b>PARCEL 111:</b> DENNIS A LEAF LENORE D. SINES 5232 GREEN BRIDGE ROAD DAYTON, MD 21038 TEL.
<b>PARCEL 34:</b> TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044 TEL.	<b>PARCEL 98:</b> JERRY MAUCK JANET BURKE, JT 5234 GREEN BRIDGE ROAD DAYTON, MD 21038 TEL.
<b>DEVELOPER:</b> GREEN BRIDGE FARM II, L.C. 6074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTACT: JASON VAN KIRK PHONE: (410) 720-3021	<b>OWNER'S:</b> PARCEL 111 DENNIS A LEAF LENORE D. SINES 5232 GREEN BRIDGE ROAD DAYTON, MD 21038 TEL.

SUBDIVISION NAME: WILLOWSHIRE SECTION: A, B, C DEED # 11361100222, 0018300554, 15884002894, 0588900490, 04541100270, & 03201100539	PREVIOUS FILE NO.: ECP-18-023 PB436 SP-17-002 WP-17105	TAX MAP: 27 GRID: 18 ZONED: RR-DEO PARCEL: 34, 36, 98, 111 & 112 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND
---	--	---

MATCHLINE (SHEET 68)

MATCHLINE (SHEET 68)

21036

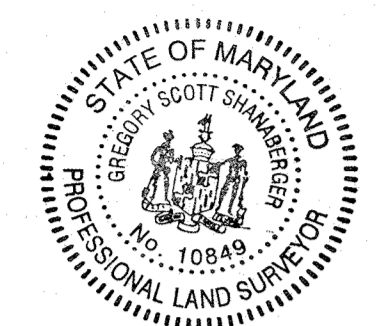
SITE

LOCATION MAP  
COPYRIGHT ADC THE MAP PEOPLE  
PERMIT USE NO. 20602153-5  
SCALE: 1"=2000'

LEGEND

- LIMIT OF DISTURBANCE
- DRAINAGE AREA DIVIDE
- DA.1 DRAINAGE AREA DESIGNATION

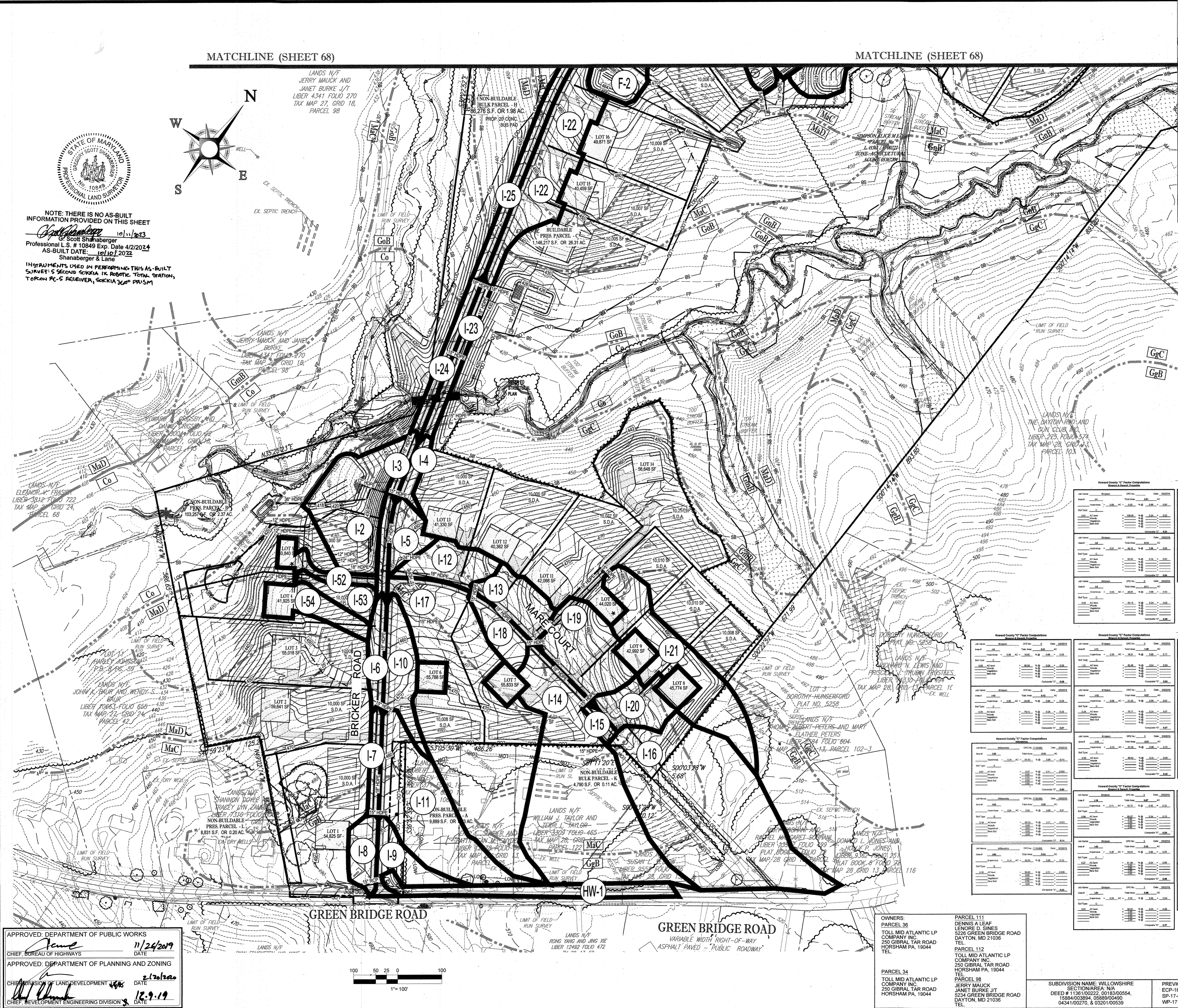
NOTES:  
1. DRAINAGE AREA INFORMATION SHOWN HEREON IS PRIMARILY BASED OFF OF FIELD RUN TOPOGRAPHY PREPARED BY BOHLER ENGINEERING DATED AUGUST 25, 2015.



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

10/11/2023  
G. Scott Shanaberger  
Professional L.S. # 10849 Exp. Date 4/2/2024  
AS-BUILT DATE: 10/11/2022  
Shanaberger & Lang

INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: 5 SECOND SOKKIA IX ROBotic TOTAL STATION, TOPCON PC-S RECEIVER, SOKKIA 360P PRISM



Parcel No.	Area (sq. ft.)	Area (sq. ft.)	Area (sq. ft.)	Area (sq. ft.)
Parcel 1	10,000	10,000	10,000	10,000
Parcel 2	10,000	10,000	10,000	10,000
Parcel 3	10,000	10,000	10,000	10,000
Parcel 4	10,000	10,000	10,000	10,000
Parcel 5	10,000	10,000	10,000	10,000
Parcel 6	10,000	10,000	10,000	10,000
Parcel 7	10,000	10,000	10,000	10,000
Parcel 8	10,000	10,000	10,000	10,000
Parcel 9	10,000	10,000	10,000	10,000
Parcel 10	10,000	10,000	10,000	10,000
Parcel 11	10,000	10,000	10,000	10,000
Parcel 12	10,000	10,000	10,000	10,000
Parcel 13	10,000	10,000	10,000	10,000
Parcel 14	10,000	10,000	10,000	10,000
Parcel 15	10,000	10,000	10,000	10,000
Parcel 16	10,000	10,000	10,000	10,000
Parcel 17	10,000	10,000	10,000	10,000
Parcel 18	10,000	10,000	10,000	10,000
Parcel 19	10,000	10,000	10,000	10,000
Parcel 20	10,000	10,000	10,000	10,000
Parcel 21	10,000	10,000	10,000	10,000

Parcel No.	Area (sq. ft.)	Area (sq. ft.)	Area (sq. ft.)	Area (sq. ft.)
Parcel 1	10,000	10,000	10,000	10,000
Parcel 2	10,000	10,000	10,000	10,000
Parcel 3	10,000	10,000	10,000	10,000
Parcel 4	10,000	10,000	10,000	10,000
Parcel 5	10,000	10,000	10,000	10,000
Parcel 6	10,000	10,000	10,000	10,000
Parcel 7	10,000	10,000	10,000	10,000
Parcel 8	10,000	10,000	10,000	10,000
Parcel 9	10,000	10,000	10,000	10,000
Parcel 10	10,000	10,000	10,000	10,000
Parcel 11	10,000	10,000	10,000	10,000
Parcel 12	10,000	10,000	10,000	10,000
Parcel 13	10,000	10,000	10,000	10,000
Parcel 14	10,000	10,000	10,000	10,000
Parcel 15	10,000	10,000	10,000	10,000
Parcel 16	10,000	10,000	10,000	10,000
Parcel 17	10,000	10,000	10,000	10,000
Parcel 18	10,000	10,000	10,000	10,000
Parcel 19	10,000	10,000	10,000	10,000
Parcel 20	10,000	10,000	10,000	10,000
Parcel 21	10,000	10,000	10,000	10,000

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
1100 N. MARKET ST., SUITE 200  
PHILADELPHIA, PA 19107

SUBOFFICES:  
BOWEN, MD  
TOWSON, MD  
WASHINGTON, VA  
CHALFONT, PA  
TAMPA, FL  
PHILADELPHIA, PA

SERVICES:  
SURVEYORS  
PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

REVISIONS

REV	DATE	COMMENT	BY

**APPROVED FOR CONSTRUCTION**

PROJECT NO.: MD142048  
DRAWN BY: AVG  
CHECKED BY: BRR  
DATE: 08/25/19  
SCALE: AS SHOWN  
CAD I.D.: HP3

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE:  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111 & 112  
HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

801 DULANEY VALLEY ROAD, SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7900  
Fax: (410) 821-7987  
www.BohlerEngineering.com

**B.R. ROWE**

PROFESSIONAL ENGINEER  
MARYLAND LICENSE NO. 4088  
PROFESSIONAL CERTIFICATION  
I, BRANDON R. ROWE, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A QUALIFIED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE NO. 1988R, EXPIRES/RENEW DATE: 7/31/2021

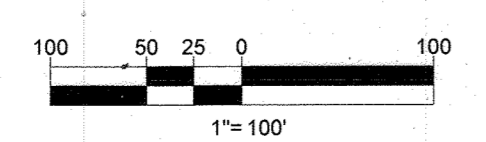
SHEET TITLE:  
**PROPOSED STORMDRAIN DRAINAGE AREA MAP**

SHEET NUMBER:  
**67 OF 92**

APPROVED: DEPARTMENT OF PUBLIC WORKS  
11/24/2019  
DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
2/26/2020  
DATE

12/9/19  
DATE



OWNERS:  
PARCEL 36  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TARR ROAD  
HORSHAM PA, 19044  
TEL

PARCEL 34  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TARR ROAD  
HORSHAM PA, 19044  
TEL

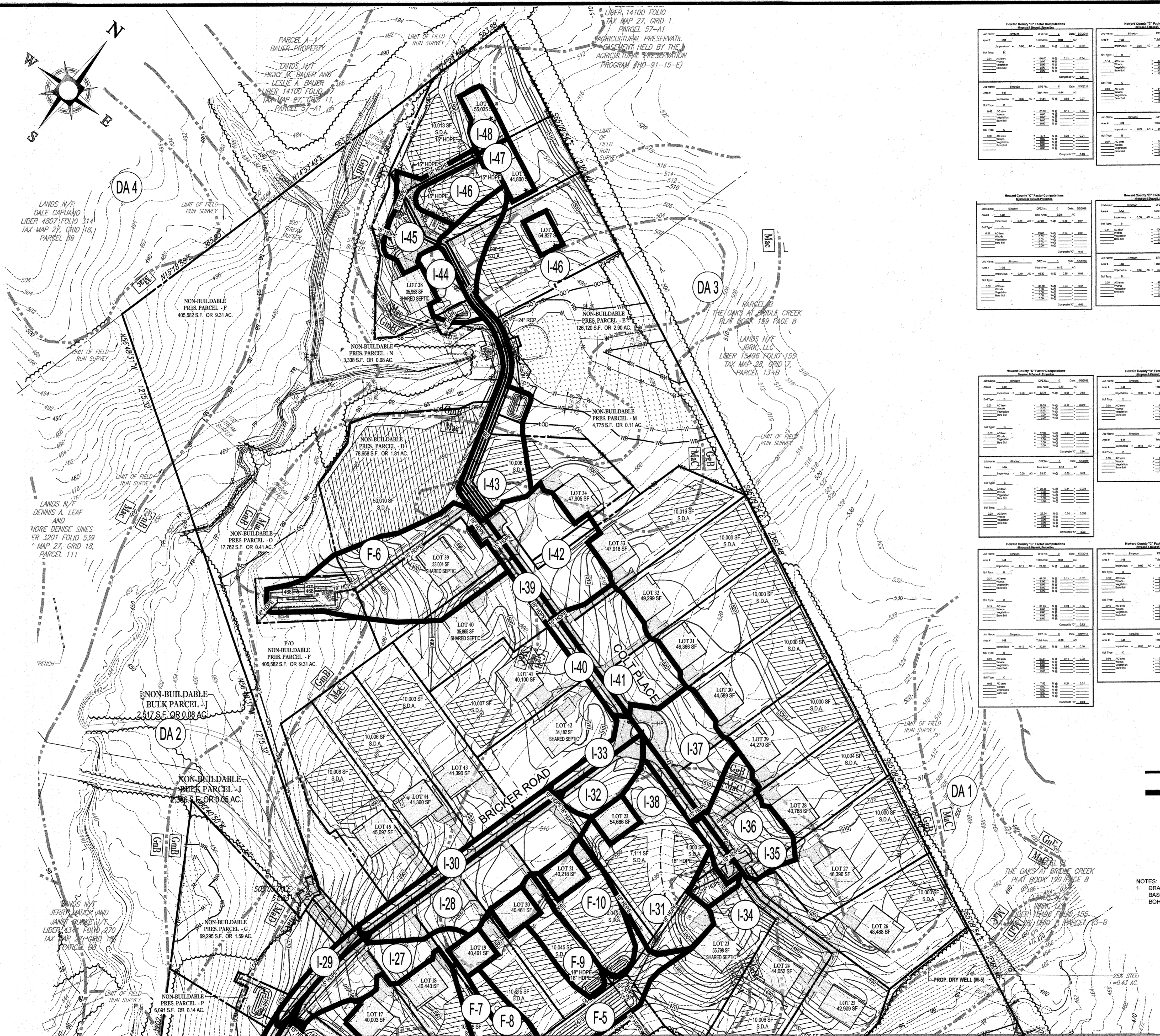
PARCEL 98  
JERRY MAUCK  
JANET BURKE JT  
5232 GREEN BRIDGE ROAD  
DAYTON, MD 21036  
TEL

SUBDIVISION NAME: WILLOWSHIRE  
EOP: 16-023  
DEED # 1136100222, 0018500554,  
15884000584, 0588900400  
0434100270, & 0320100539

PREVIOUS FILE NO.  
EOP: 16-023  
SP-17-002  
WP-1705

DEVELOPER:  
GREEN BRIDGE FARM II, L.C.  
5074 DORSEY HALL ROAD, SUITE 205  
COLUMBIA, MD 21042  
CONTACT: JASON VAN KIRK  
PHONE: (410) 720-3021

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
PARCEL: 34, 36, 98, 111 & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND



MATCHLINE (SHEET 67)

MATCHLINE (SHEET 67)

Job No.	Station	OPC No.	Date	Comments
1001	1+00	1001	10/1/2022	AS-BUILT
1002	1+00	1002	10/1/2022	AS-BUILT
1003	1+00	1003	10/1/2022	AS-BUILT
1004	1+00	1004	10/1/2022	AS-BUILT
1005	1+00	1005	10/1/2022	AS-BUILT
1006	1+00	1006	10/1/2022	AS-BUILT
1007	1+00	1007	10/1/2022	AS-BUILT
1008	1+00	1008	10/1/2022	AS-BUILT
1009	1+00	1009	10/1/2022	AS-BUILT
1010	1+00	1010	10/1/2022	AS-BUILT

Job No.	Station	OPC No.	Date	Comments
1011	1+00	1011	10/1/2022	AS-BUILT
1012	1+00	1012	10/1/2022	AS-BUILT
1013	1+00	1013	10/1/2022	AS-BUILT
1014	1+00	1014	10/1/2022	AS-BUILT
1015	1+00	1015	10/1/2022	AS-BUILT
1016	1+00	1016	10/1/2022	AS-BUILT
1017	1+00	1017	10/1/2022	AS-BUILT
1018	1+00	1018	10/1/2022	AS-BUILT
1019	1+00	1019	10/1/2022	AS-BUILT
1020	1+00	1020	10/1/2022	AS-BUILT

Job No.	Station	OPC No.	Date	Comments
1021	1+00	1021	10/1/2022	AS-BUILT
1022	1+00	1022	10/1/2022	AS-BUILT
1023	1+00	1023	10/1/2022	AS-BUILT
1024	1+00	1024	10/1/2022	AS-BUILT
1025	1+00	1025	10/1/2022	AS-BUILT
1026	1+00	1026	10/1/2022	AS-BUILT
1027	1+00	1027	10/1/2022	AS-BUILT
1028	1+00	1028	10/1/2022	AS-BUILT
1029	1+00	1029	10/1/2022	AS-BUILT
1030	1+00	1030	10/1/2022	AS-BUILT

Job No.	Station	OPC No.	Date	Comments
1031	1+00	1031	10/1/2022	AS-BUILT
1032	1+00	1032	10/1/2022	AS-BUILT
1033	1+00	1033	10/1/2022	AS-BUILT
1034	1+00	1034	10/1/2022	AS-BUILT
1035	1+00	1035	10/1/2022	AS-BUILT
1036	1+00	1036	10/1/2022	AS-BUILT
1037	1+00	1037	10/1/2022	AS-BUILT
1038	1+00	1038	10/1/2022	AS-BUILT
1039	1+00	1039	10/1/2022	AS-BUILT
1040	1+00	1040	10/1/2022	AS-BUILT

Job No.	Station	OPC No.	Date	Comments
1041	1+00	1041	10/1/2022	AS-BUILT
1042	1+00	1042	10/1/2022	AS-BUILT
1043	1+00	1043	10/1/2022	AS-BUILT
1044	1+00	1044	10/1/2022	AS-BUILT
1045	1+00	1045	10/1/2022	AS-BUILT
1046	1+00	1046	10/1/2022	AS-BUILT
1047	1+00	1047	10/1/2022	AS-BUILT
1048	1+00	1048	10/1/2022	AS-BUILT
1049	1+00	1049	10/1/2022	AS-BUILT
1050	1+00	1050	10/1/2022	AS-BUILT

**LEGEND**

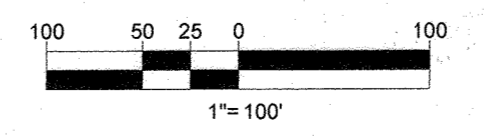
- 0.00 — 0.00 — LIMIT OF DISTURBANCE
- — — DRAINAGE AREA DIVIDE
- ② DRAINAGE AREA DESIGNATION

NOTES:  
1. DRAINAGE AREA INFORMATION SHOWN HEREON IS PRIMARILY BASED OFF OF FIELD RUN TOPOGRAPHY PREPARED BY BOHLER ENGINEERING DATED AUGUST 25, 2015.

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE: 11/24/2019  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 2/20/2020  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 12-9-19



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
 PROFESSIONAL L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/12/2022  
 INSTRUMENTS USED IN PREPARING THIS AS-BUILT SURVEY: 5 SECOND GNSS ROBOTIC TOTAL STATION, TORCON RC-5 RECEIVER, SOKKIA 3000 PRISM



SUBDIVISION NAME: WILLOWSHIRE  
 DEED # 1136100222, 0018300554,  
 1588400359, 0358900490  
 0434100270, & 0320100539

PREVIOUS FILE NO.:  
 ECPA-16-023 PB436  
 SP-17-002  
 WP-17105

OWNERS:  
 PARCEL 26  
 TOLL MID ATLANTIC LP COMPANY INC.  
 250 GIBRAL TAR ROAD  
 HORSHAM PA, 19044  
 TEL:  
 PARCEL 111  
 DENNIS A LEAF  
 LENOIR D SINES  
 5226 GREEN BRIDGE ROAD  
 DAYTON, MD 21035  
 TEL:  
 PARCEL 112  
 TOLL MID ATLANTIC LP COMPANY INC.  
 250 GIBRAL TAR ROAD  
 HORSHAM PA, 19044  
 TEL:  
 PARCEL 34  
 TOLL MID ATLANTIC LP COMPANY INC.  
 250 GIBRAL TAR ROAD  
 HORSHAM PA, 19044  
 TEL:  
 PARCEL 38  
 JERRY MAUCK  
 JANET BURKE JT  
 5224 GREEN BRIDGE ROAD  
 DAYTON, MD 21036  
 TEL:  
 DEVELOPER:  
 GREEN BRIDGE FARM I, L.C.  
 5074 DORSEY HALL ROAD, SUITE 205  
 COLUMBIA, MD 21042  
 CONTACT: JASON VAN KIRK  
 PHONE: (410) 725-3921

**BOHLER ENGINEERING**  
 CORPORATE OFFICE:  
 WARREN, NJ  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS  
 CIVIL & CONSULTING ENGINEERS  
 OFFICES:  
 BOWEN, MD  
 TORON, MD  
 WASHINGTON, VA  
 CHALFONT, PA  
 CLUMBER VALLEY, PA  
 FORT LAUDERDALE, FL  
 HUNTSVILLE, AL

**REVISIONS**

REV	DATE	COMMENT	BY

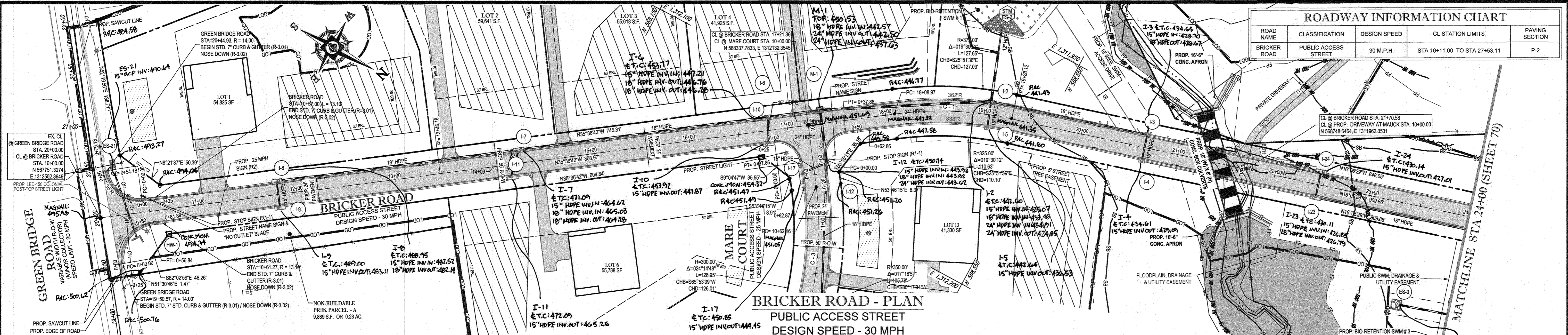
**APPROVED FOR CONSTRUCTION**  
 PROJECT No.: MD142046  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: AS SHOWN  
 CAD I.D.: HP3

**FINAL ROAD CONSTRUCTION PLAN FOR**  
**WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 901  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 36688, EXPIRES 12/31/2025

**PROPOSED STORMDRAIN DRAINAGE AREA MAP**  
 SHEET NUMBER:  
**68 OF 92**

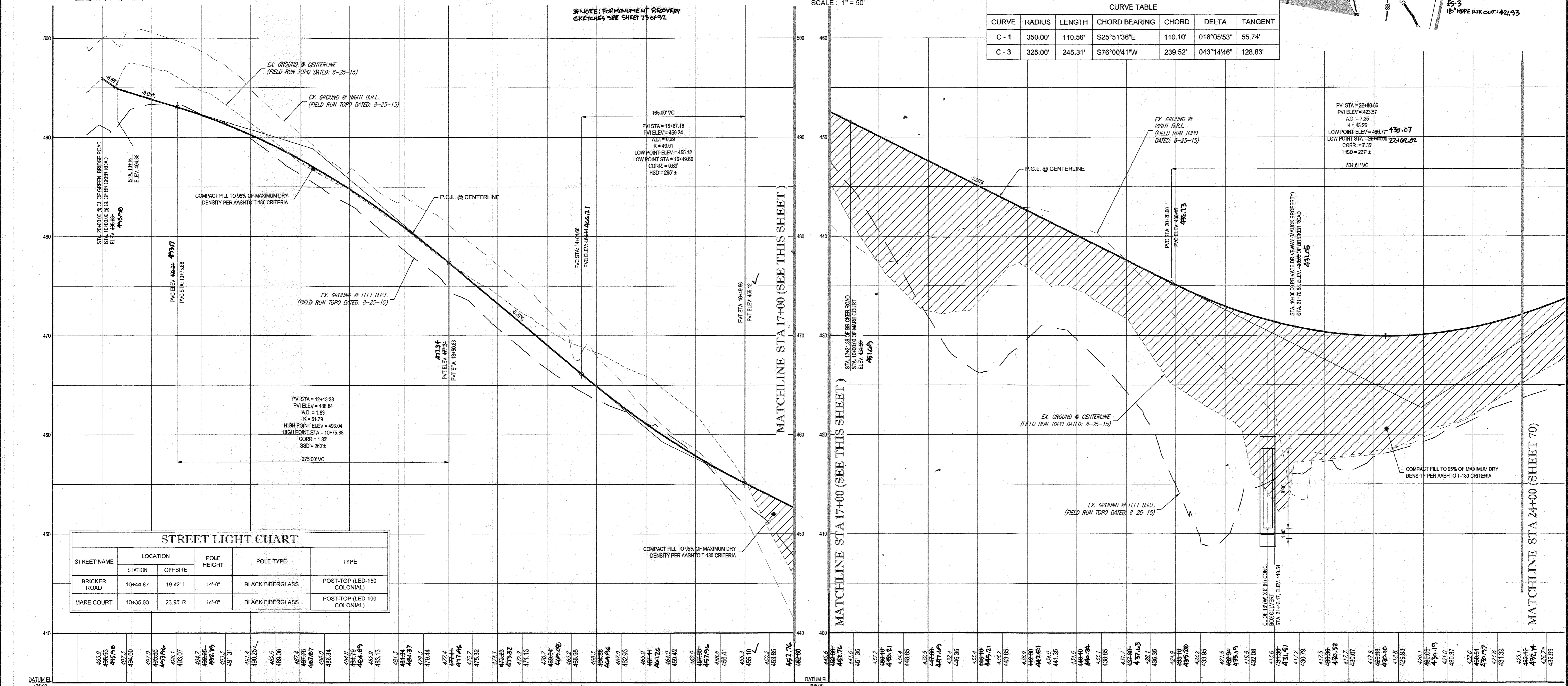


### ROADWAY INFORMATION CHART

ROAD NAME	CLASSIFICATION	DESIGN SPEED	CL STATION LIMITS	PAVING SECTION
BRICKER ROAD	PUBLIC ACCESS STREET	30 M.P.H.	STA 10+11.00 TO STA 27+53.11	P-2

### CURVE TABLE

CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C-1	350.00'	110.56'	S25°51'36"E	110.10'	018°05'53"	55.74'
C-3	325.00'	245.31'	S76°00'41"W	239.52'	043°14'46"	128.83'



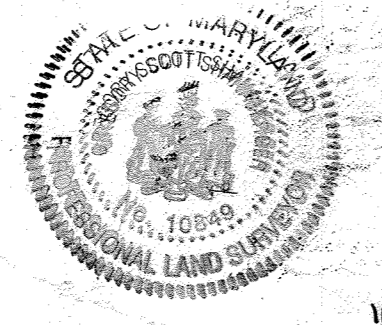
### STREET LIGHT CHART

STREET NAME	LOCATION		POLE HEIGHT	POLE TYPE	TYPE
	STATION	OFFSITE			
BRICKER ROAD	10+44.87	19.42' L	14'-0"	BLACK FIBERGLASS	POST-TOP (LED-150 COLONIAL)
MARE COURT	10+35.03	23.95' R	14'-0"	BLACK FIBERGLASS	POST-TOP (LED-100 COLONIAL)

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE: 1/26/2019

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 2/20/2020

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 12-9-19



AS-BUILT CERTIFICATION  
 HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED STANDARDS AND SPECIFICATIONS.  
 SCOTT SHANBERGER  
 PROFESSIONAL LAND SURVEYOR #18849  
 LICENSE EXPIRATION DATE 4/2/2024  
 AS-BUILT SURVEY DATE 12/10/19, 03/22

### BRICKER ROAD - PROFILE

#### PUBLIC ACCESS STREET DESIGN SPEED - 30 MPH

SCALE: 1" = 50' HOR  
 1" = 5' VER

OWNERS:  
 PARCEL 36  
 TOLL MID ATLANTIC LP COMPANY INC  
 250 GIBRAL TAR ROAD  
 HORSHAM PA, 19044

PARCEL 34  
 TOLL MID ATLANTIC LP COMPANY INC  
 250 GIBRAL TAR ROAD  
 HORSHAM PA, 19044

PARCEL 112  
 TOLL MID ATLANTIC LP COMPANY INC  
 250 GIBRAL TAR ROAD  
 HORSHAM PA, 19044

PARCEL 98  
 JERRY MAUCK  
 JANE BURKE JTT  
 5234 GREEN BRIDGE ROAD  
 DAYTON, MD 21035

DEVELOPER:  
 GREEN BRIDGE FARM II, L.C.  
 5074 DORSEY HALL ROAD, SUITE 205  
 COLUMBIA, MD 21046  
 CONTACT: JASON VAN KIRK  
 PHONE: (410) 720-3021

PREVIOUS FILE NO.:  
 ECP-16-023 PB436  
 SP-17-002  
 WP-17105

TAX MAP: 27  
 PARCEL: 18  
 ZONED: RR-DEO  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

## BOHLER ENGINEERING

CORPORATE OFFICE:  
 WARREN NJ

OFFICES:  
 BOSTON MA  
 TOWSON MD  
 STERLING VA  
 CENTER VALLEY PA  
 PHILADELPHIA PA

CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

### REVISIONS

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE, IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL 811 (MW 1-800-245-4546) (PA 1-800-242-1776) (DC 1-800-257-3777) (VA 1-800-652-7001) (MD 1-800-257-3777) (DE 1-800-362-8888)

APPROVED FOR CONSTRUCTION

PROJECT NO: MD142046  
 DRAWN BY: BRR  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: AS SHOWN  
 CAD I.D.: BRS

### FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, F & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

## BOHLER ENGINEERING

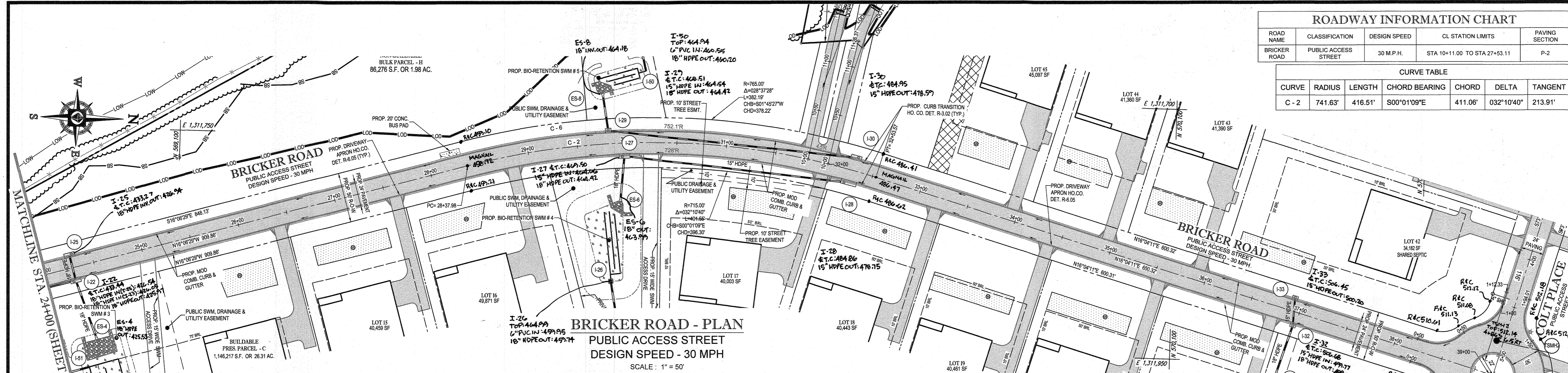
901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7997  
 www.BohlerEngineering.com

## B.R. ROWE

PROFESSIONAL ENGINEER  
 LICENSE NO. 13600  
 PROFESSIONAL CERTIFICATION  
 I, B.R. ROWE, 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. 98884, EXPIRATION DATE: 7/3/2021

SHEET TITLE:  
**ROAD PLAN AND PROFILE**

SHEET NUMBER:  
**69 OF 92**

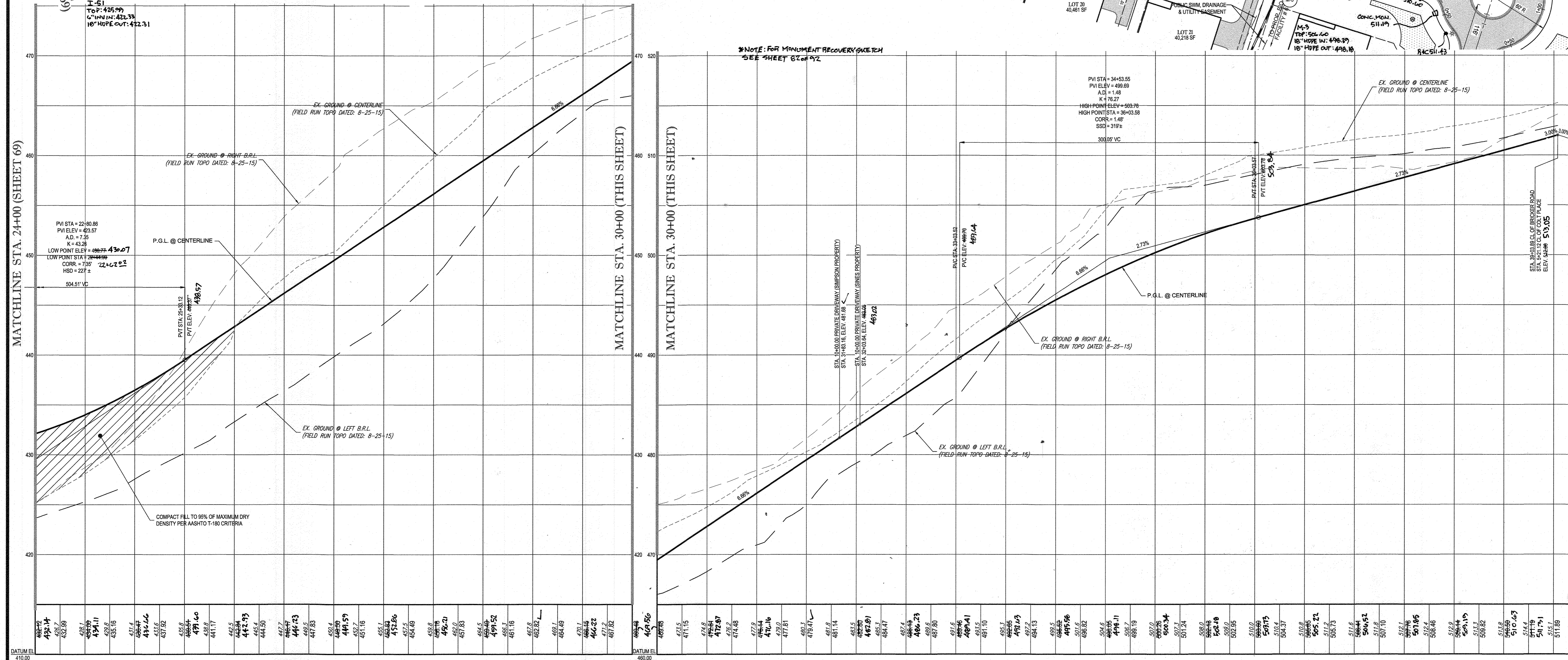


ROADWAY INFORMATION CHART						
ROAD NAME	CLASSIFICATION	DESIGN SPEED	CL STATION LIMITS		PAVING SECTION	
BRICKER ROAD	PUBLIC ACCESS STREET	30 M.P.H.	STA 10+11.00 TO STA 27+53.11		P-2	

CURVE TABLE						
CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C-2	741.63'	416.51'	S00°01'09"E	411.06'	032°10'40"	213.91'

**BRICKER ROAD - PLAN**  
PUBLIC ACCESS STREET  
DESIGN SPEED - 30 MPH  
SCALE: 1" = 50'



**BRICKER ROAD - PROFILE**  
PUBLIC ACCESS STREET  
DESIGN SPEED - 30 MPH  
SCALE: 1" = 50' HOR.  
1" = 5' VER.

APPROVED: DEPARTMENT OF PUBLIC WORKS  
CHIEF: BUREAU OF HIGHWAYS  
DATE: 11/24/2019

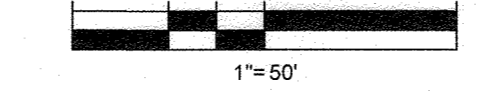
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
CHIEF: DIVISION OF LAND DEVELOPMENT  
DATE: 2/26/2020

CHIEF: DEVELOPMENT ENGINEERING DIVISION  
DATE: 12-9-19



**AS-BUILT CERTIFICATION**  
I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED DIMENSIONS AND SPECIFICATIONS.

SCOTT SHANABERGER  
SHANABERGER & LANE  
PROFESSIONAL LAND SURVEYOR #10849  
LICENSE EXPIRATION DATE 4/2/2024  
AS-BUILT SURVEY DATE 12/11/2019  
INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY:  
5 SECOND GOKRA 1K ROBOTIC TOTAL STATION, TOPCON PC-5 RECEIVER, SOCRATA 300 PRISM



**OWNERS:**  
PARCEL 36  
TOLL MID ATLANTIC LP COMPANY INC  
250 GIBRAL TAR ROAD  
HORSHAM PA, 19044  
TEL: 484.47

PARCEL 34  
TOLL MID ATLANTIC LP COMPANY INC  
250 GIBRAL TAR ROAD  
HORSHAM PA, 19044  
TEL: 484.47

PARCEL 112  
TOLL MID ATLANTIC LP COMPANY INC  
250 GIBRAL TAR ROAD  
HORSHAM PA, 19044  
TEL: 484.47

PARCEL 111  
DENNIS A LEAF  
LENORE D. SINES  
5225 GREEN BRIDGE ROAD  
DAYTON, MD 21035  
TEL: 410.271.1100

**SUBDIVISION NAME:** WILLOWSHIRE  
SECTION/AREA: N/A  
DEED # 1136100222, 0018300554,  
15884003894, 05889004890  
0434100270, & 03201100539

**PREVIOUS FILE NO.:**  
ECP-16-023 PB436  
SP-17-002  
WP-17106

**DEVELOPER:** GREEN BRIDGE FARM II, L.C.  
6074 DORSEY HALL ROAD, SUITE 205  
COLUMBIA, MD 21046  
CONTACT: JASON VAN KIRK  
PHONE: (410) 720-3021

**TAX MAP:** 27 **GRID:** 18 **ZONED:** RR-DEO  
PARCEL: 34, 36, 98, 111 & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

CORPORATE OFFICE: WARRINGTON, VA  
OFFICES: ROANOK, VA; TOWSON, MD; WASHINGTON, VA; FORT LAUDERDALE, FL; PHILADELPHIA, PA

CIVIL & CONSULTING ENGINEERS  
SURVEYORS  
PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

REVISIONS			
REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL: 811  
(VA 1-800-245-4848) (PA 1-800-242-1776) (DC 1-800-257-3777) (VA 1-800-552-7001) (MD 1-800-257-3777) (DE 1-800-333-8888)

**APPROVED FOR CONSTRUCTION**

PROJECT No: MD1423046  
DRAWN BY: BRR  
DATE: 08/26/19  
SCALE: AS SHOWN  
CAD I.D.: PPS

**FINAL ROAD CONSTRUCTION PLAN**  
FOR  
**WILLOWSHIRE**  
LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E - G & L - F & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

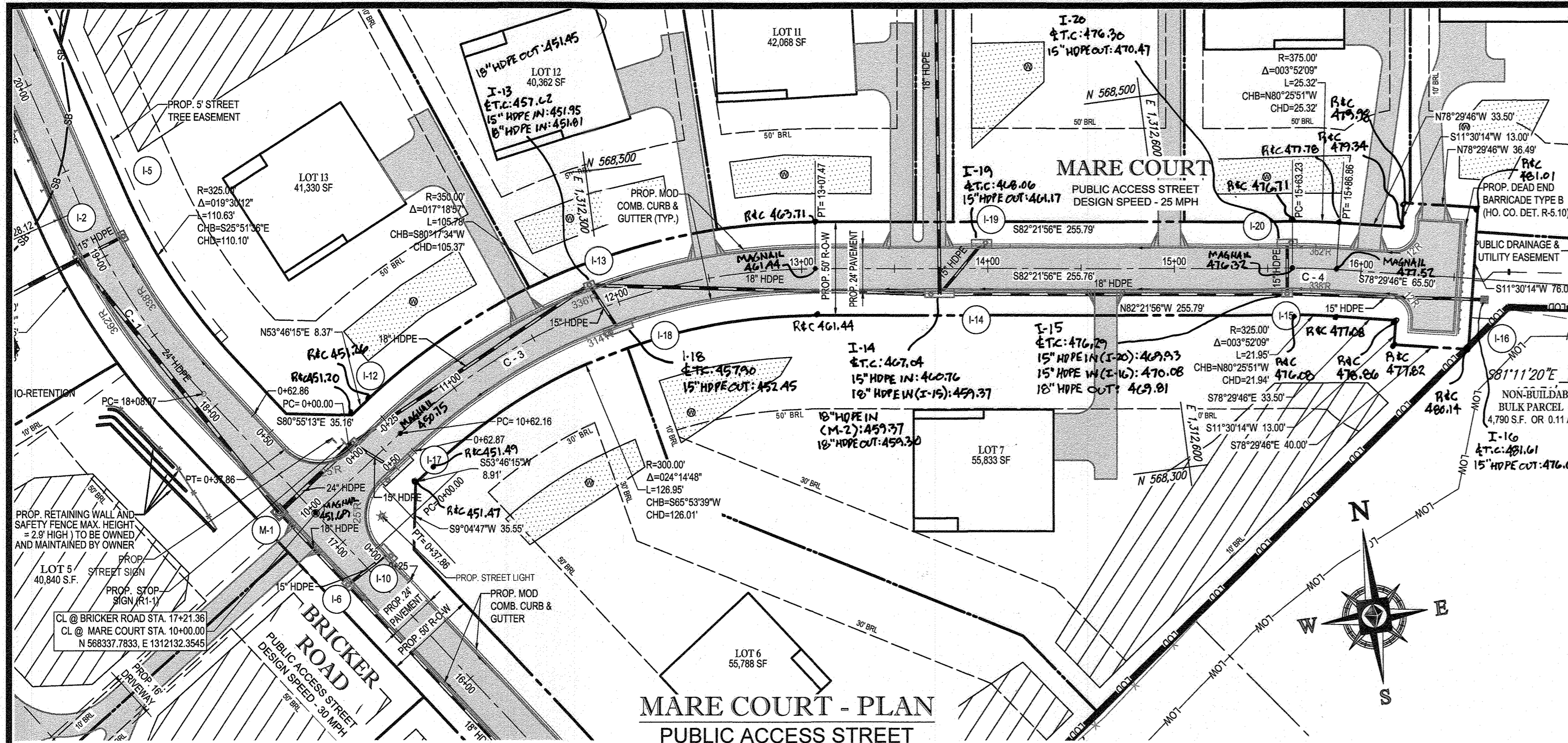
**BOHLER ENGINEERING**  
901 DULANEY VALLEY ROAD, SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7800  
Fax: (410) 821-7887  
www.BohlerEngineering.com

**B.R. ROWE**  
PROFESSIONAL ENGINEER  
PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME, AND THAT I AM A duly licensed PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE NO. 9666, EXPIRES ON DATE: 7/3/2021

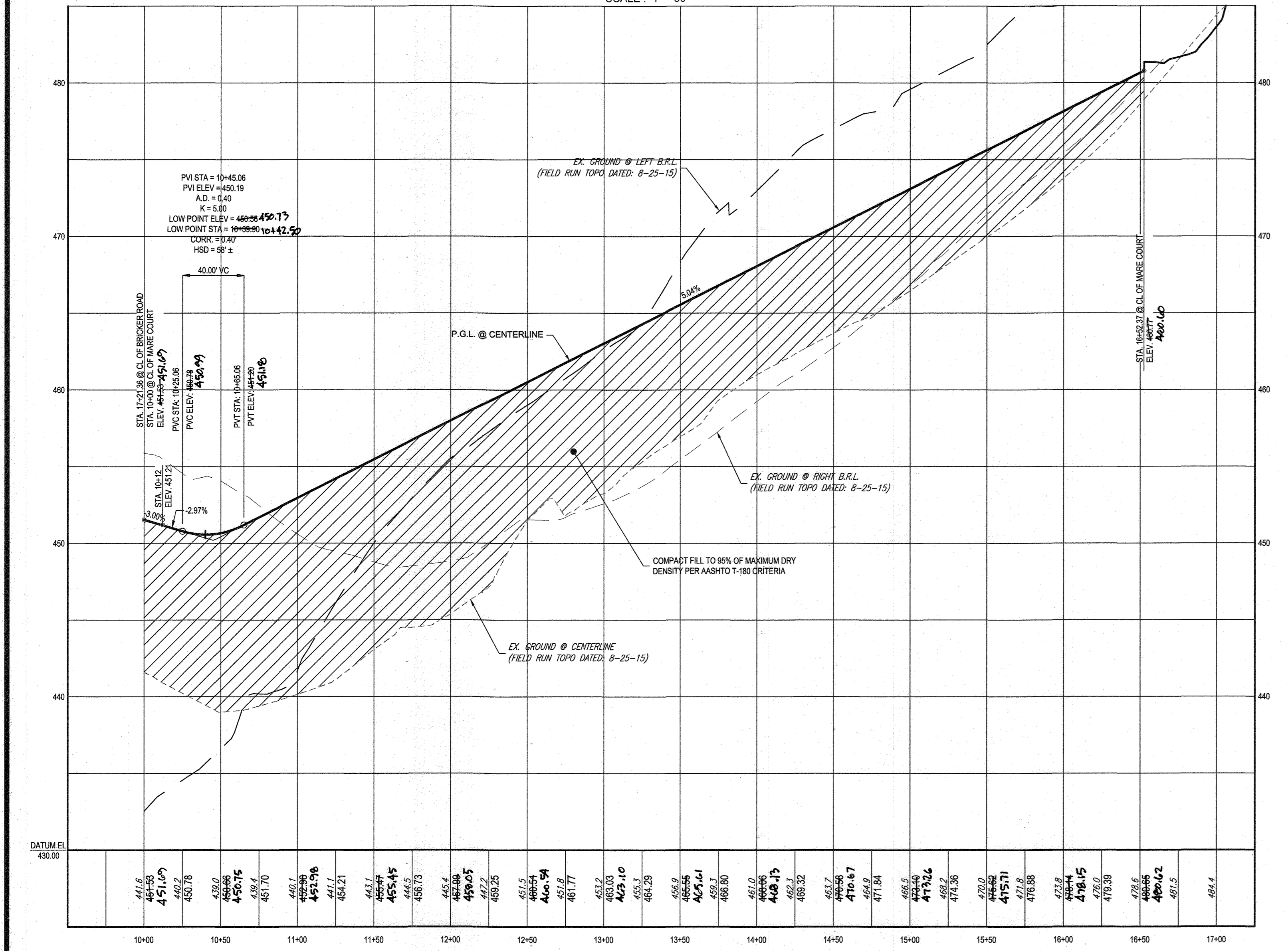
SHEET TITLE:  
**ROAD PLAN AND PROFILE**

SHEET NUMBER:  
**70 OF 92**

\\p010402\shared\p010402\p010402\ROAD CONSTRUCTION PLAN\010402\PRINTED BY: JONAS, 8/21/19 @ 4:38 PM. LAST SAVED BY: JONAS

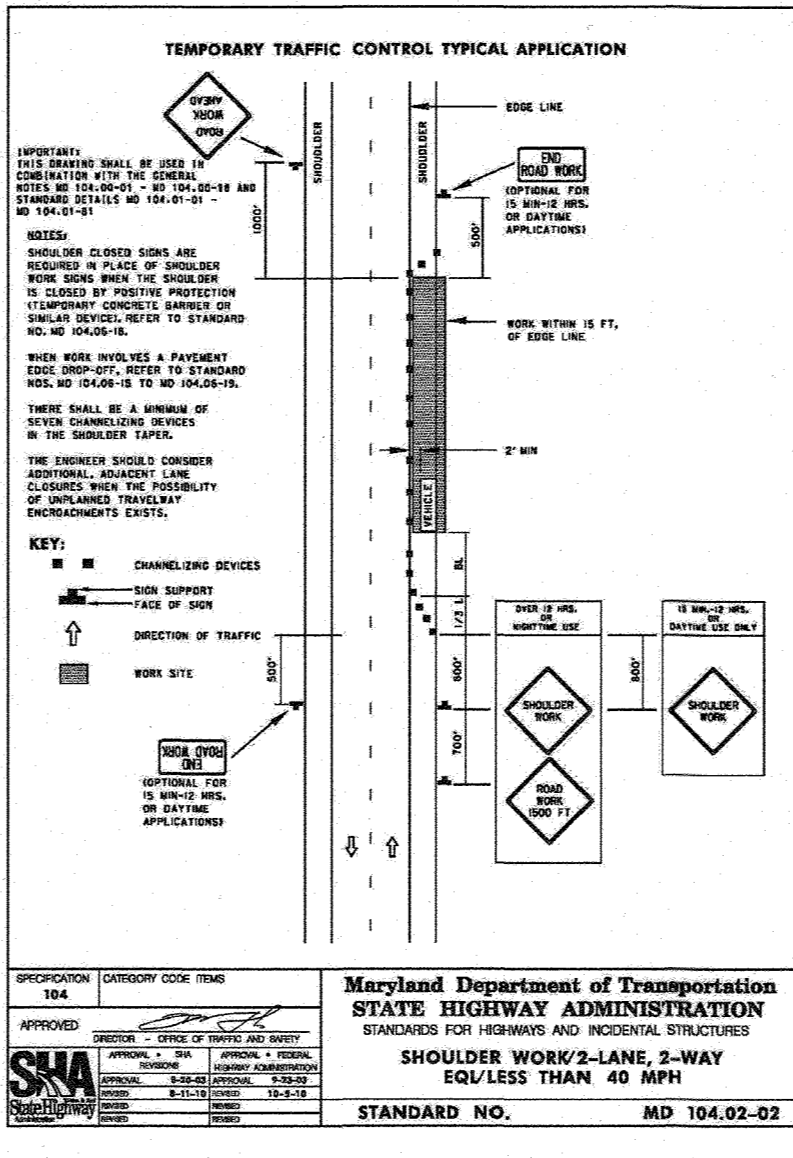


**MARE COURT - PLAN**  
PUBLIC ACCESS STREET  
DESIGN SPEED - 30 MPH  
SCALE: 1" = 50'

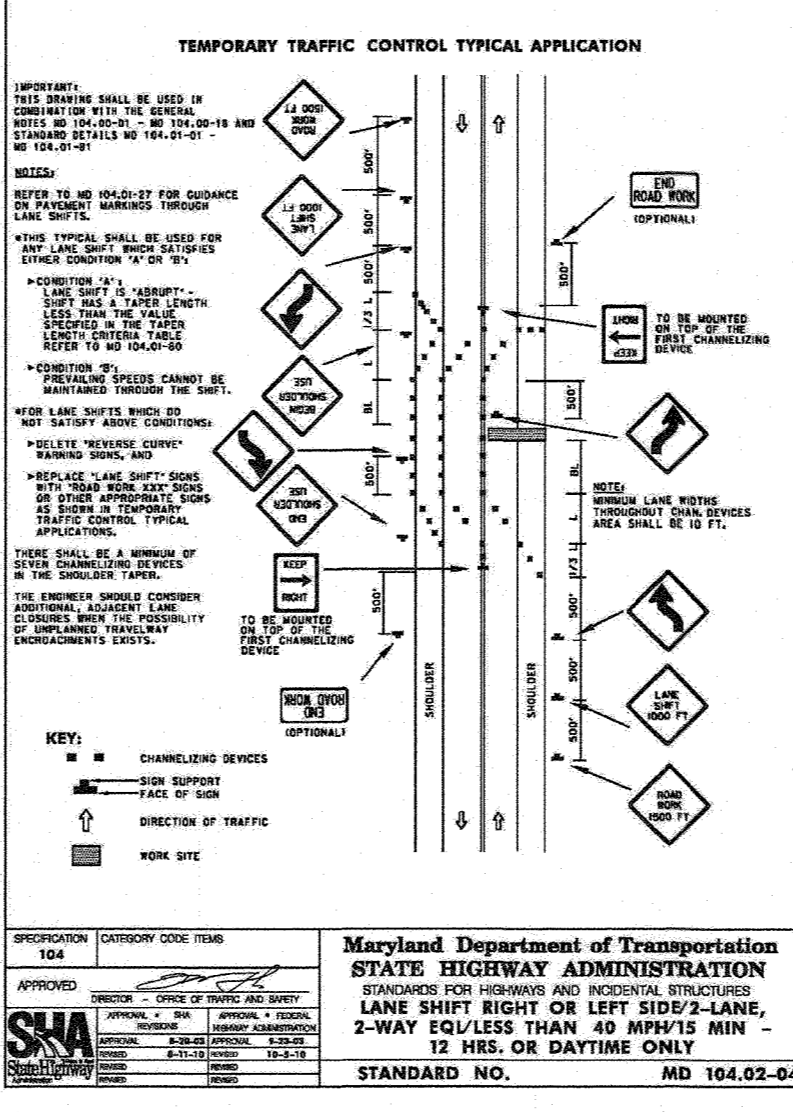


**MARE COURT - PROFILE**  
PUBLIC ACCESS PLACE  
DESIGN SPEED - 25 MPH  
SCALE: 1" = 50' HOR.  
1" = 5' VER.

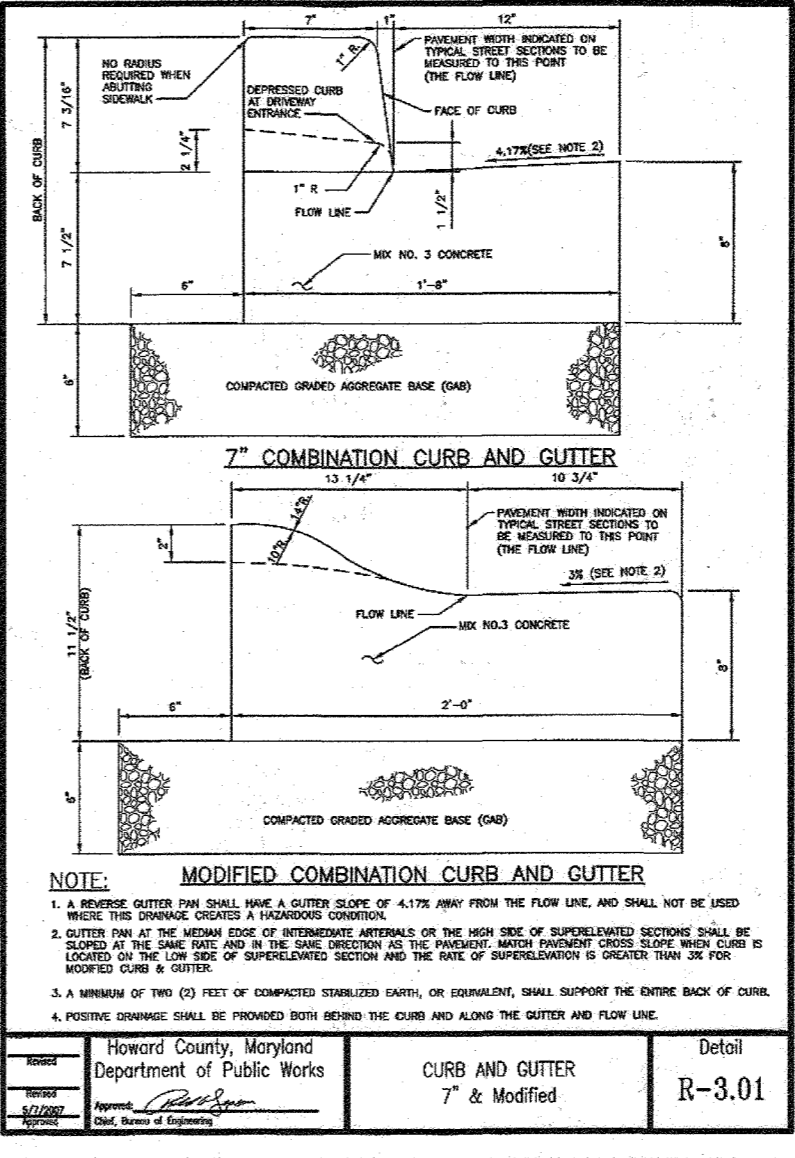
APPROVED, DEPARTMENT OF PUBLIC WORKS  
CHIEF, BUREAU OF HIGHWAYS  
DATE: 11/24/2019  
APPROVED, DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 12/10/2020  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 12-9-19



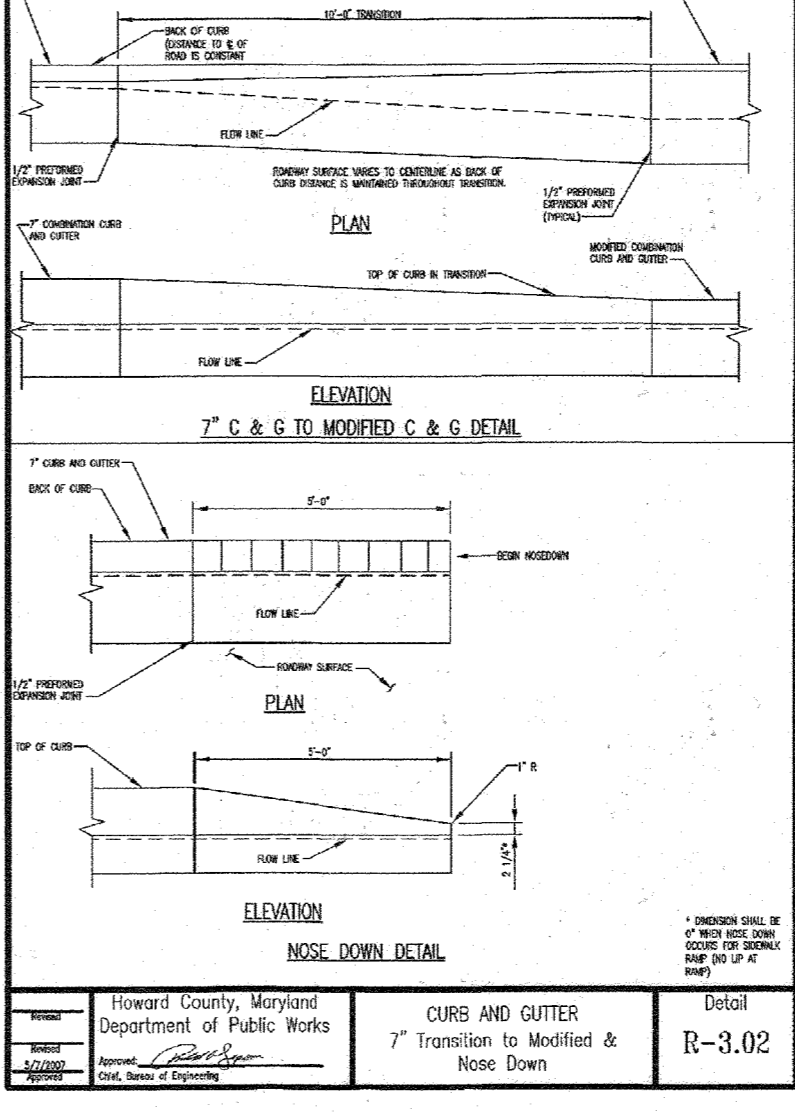
TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION  
Maryland Department of Transportation  
STATE HIGHWAY ADMINISTRATION  
STANDARD NO. MD 104.02-02



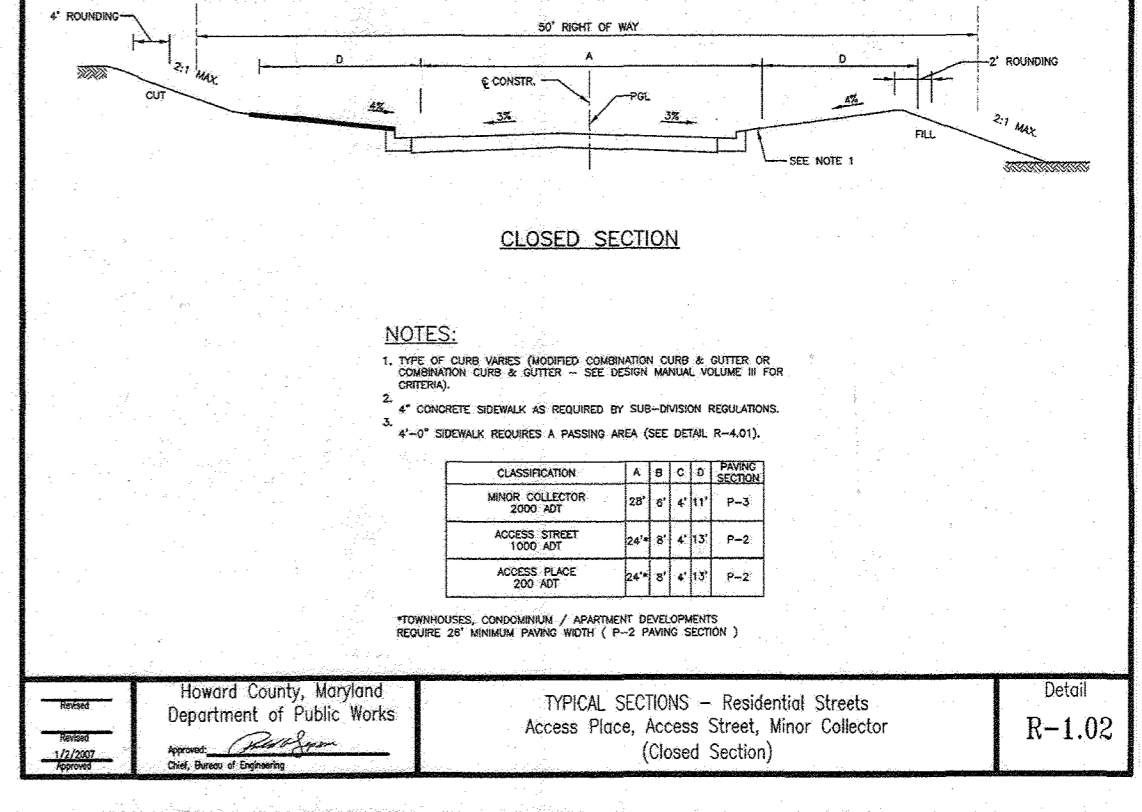
TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION  
Maryland Department of Transportation  
STATE HIGHWAY ADMINISTRATION  
STANDARD NO. MD 104.02-04



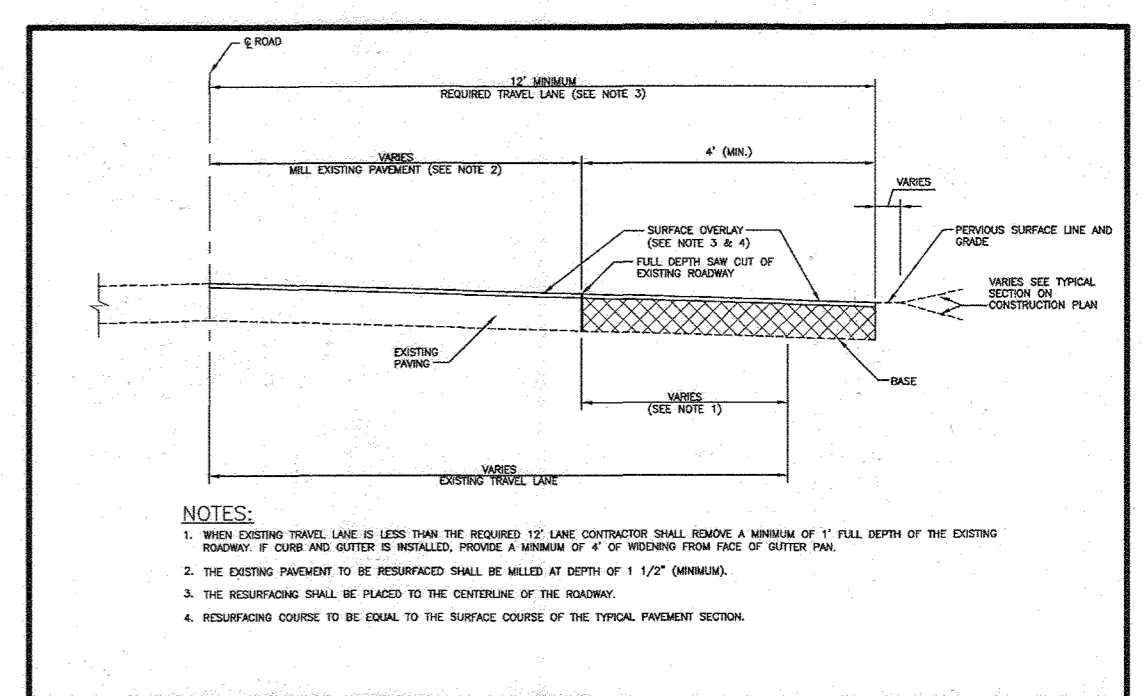
7" COMBINATION CURB AND GUTTER  
Howard County, Maryland  
Department of Public Works  
STANDARD NO. MD 104.02-03



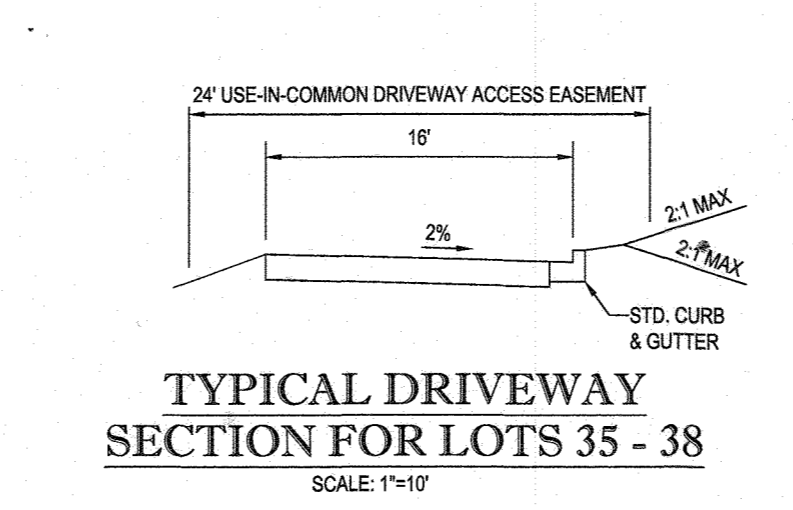
7" C & G TO MODIFIED C & G DETAIL  
Howard County, Maryland  
Department of Public Works  
STANDARD NO. MD 104.02-04



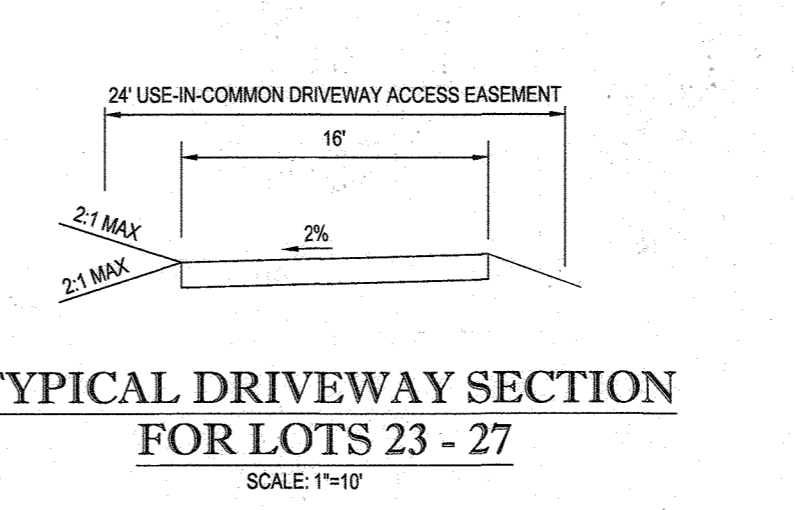
SECTION NUMBER	ROAD AND STREET CLASSIFICATION	PAVEMENT MATERIAL, FINISHES	3\"/>
P-1	RESIDENTIAL STREET	1.5\"/>	
P-2	RESIDENTIAL STREET	1.5\"/>	
P-3	RESIDENTIAL STREET	1.5\"/>	
P-4	RESIDENTIAL STREET	1.5\"/>	



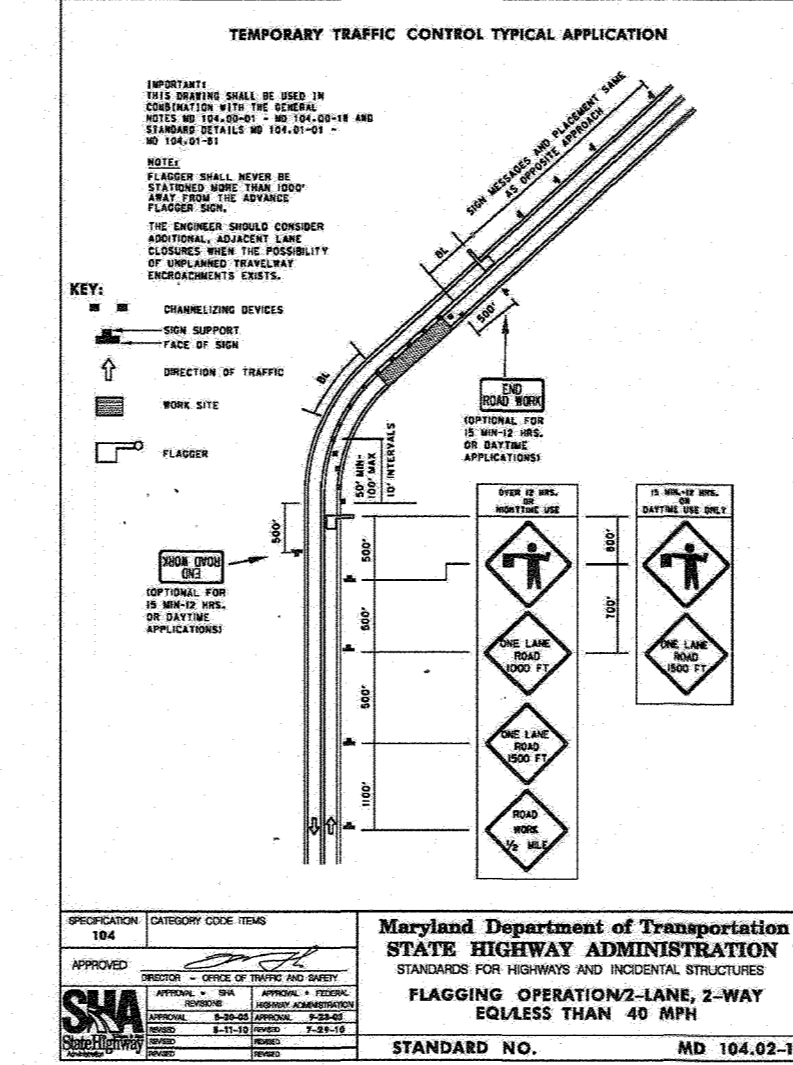
PAVING SECTIONS P-1 to P-4  
Howard County, Maryland  
Department of Public Works  
STANDARD NO. MD 104.02-03



TYPICAL DRIVEWAY SECTION FOR LOTS 35 - 38  
SCALE: 1" = 10'



TYPICAL DRIVEWAY SECTION FOR LOTS 23 - 27  
SCALE: 1" = 10'

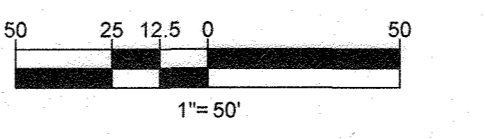


TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION  
Maryland Department of Transportation  
STATE HIGHWAY ADMINISTRATION  
STANDARD NO. MD 104.02-03

STREET NAME	LOCATION		POLE HEIGHT	POLE TYPE	TYPE
	STATION	OFFSITE			
MARE COURT	10+35.03	23.95 R	14'-0"	BLACK FIBERGLASS	POST-TOP (LED-100 COLONIAL)

ROAD NAME	CLASSIFICATION	DESIGN SPEED	CL STATION LIMITS	PAVING SECTION
MARE COURT	PUBLIC ACCESS PLACE	25 M.P.H.	STA 10+00.00 TO STA 16+52.37	P-2

CURVE	RADIUS	LENGTH	CHORD BEARING	CHORD	DELTA	TANGENT
C-1	350.0'	110.56'	S25°51'36"E	110.10'	018°05'53"	55.74'
C-3	325.0'	245.31'	S76°00'41"W	239.52'	043°14'46"	128.83'
C-4	350.0'	23.64'	N80°25'51"W	23.63'	003°52'09"	11.82'



OWNERS:  
PARCEL 36  
TOLL MID ATLANTIC LP  
250 GIBRAL TARR ROAD  
HORSHAM PA, 19044  
TEL: (410) 221-1000

PARCEL 34  
TOLL MID ATLANTIC LP  
250 GIBRAL TARR ROAD  
HORSHAM PA, 19044  
TEL: (410) 221-1000

PARCEL 112  
TOLL MID ATLANTIC LP  
250 GIBRAL TARR ROAD  
HORSHAM PA, 19044  
TEL: (410) 221-1000

PARCEL 98  
JERRY MAUCK  
JANET BURKE JIT  
5204 GREEN BRIDGE ROAD  
DAYTON, MD 21035  
TEL: (410) 720-3021

DEVELOPER:  
GREEN BRIDGE FARM II, L.C.  
5074 DORSEY HALL ROAD, SUITE 205  
COLUMBIA, MD 21042  
CONTACT: JASON VAN NERK  
PHONE: (410) 720-3021

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
CORPORATE OFFICE: WARREN, NJ  
SURVEYORS  
PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS  
BOWIE, MD  
ROCKVILLE, MD  
ROCKY HILL, CT  
STERLING, VA  
CENTREVILLE, VA  
FORT LAUDERDALE, FL  
PHILADELPHIA, PA

**REVISIONS**

REV	DATE	COMMENT	BY

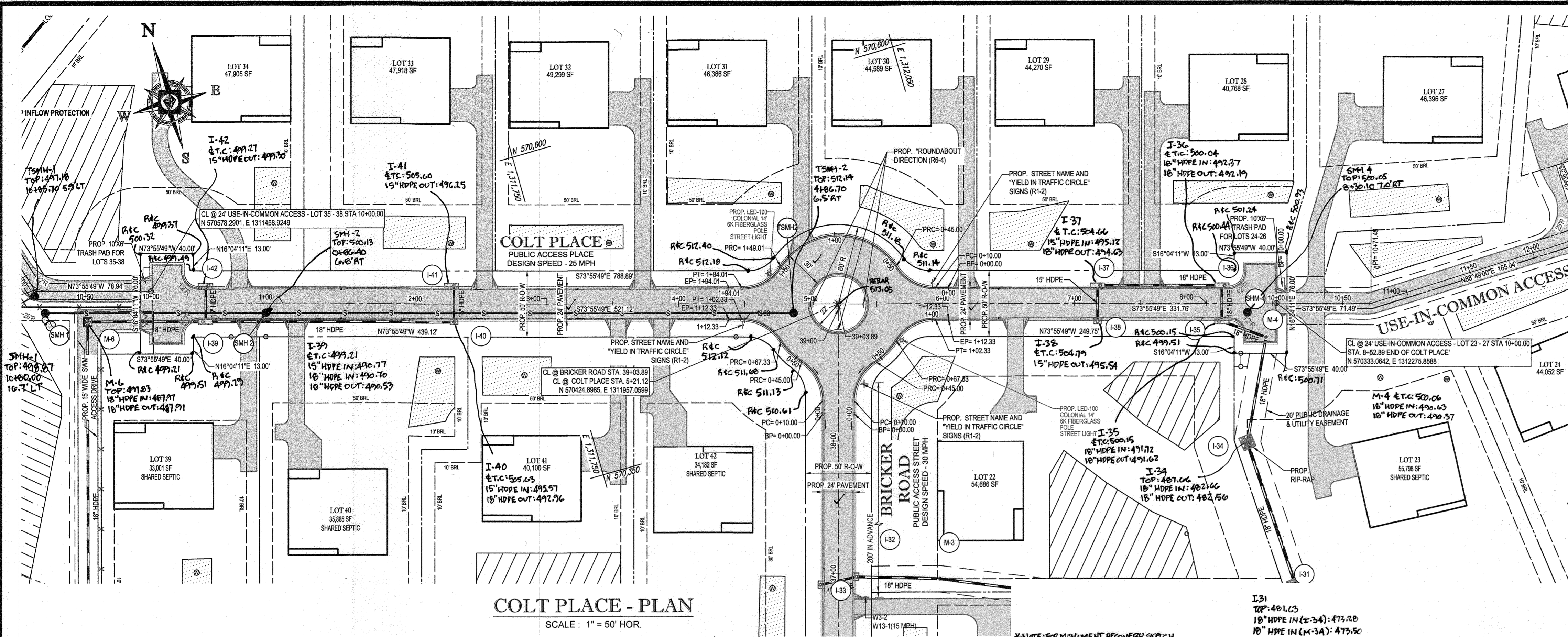
**APPROVED FOR CONSTRUCTION**  
PROJECT NO: MD142548  
DRAWN BY: AVG  
CHECKED BY: BRR  
DATE: 08/26/19  
SCALE: AS SHOWN  
CAD: J.D.  
FPS

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

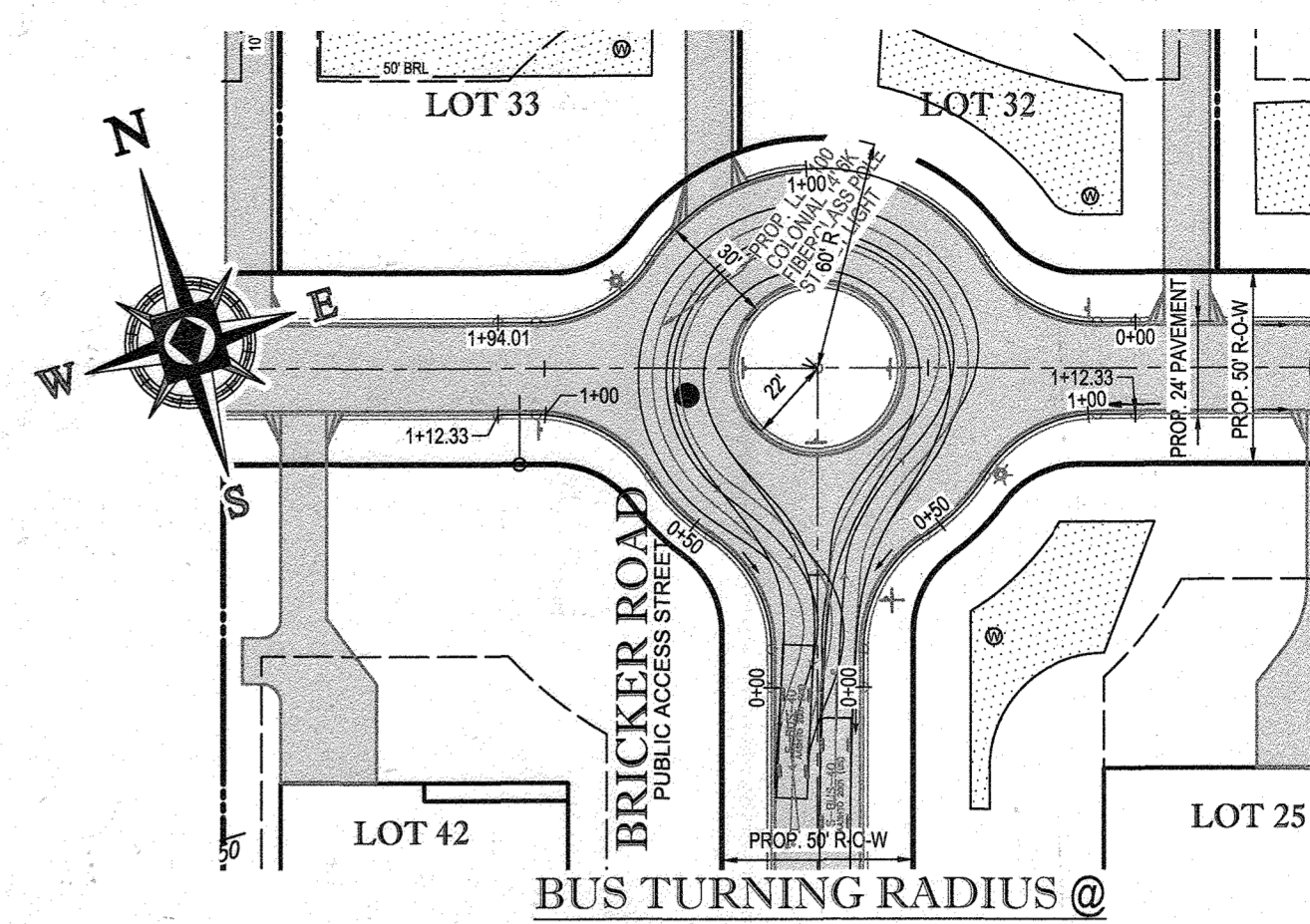
**BOHLER ENGINEERING**  
901 DULANEY VALLEY ROAD, SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7900  
Fax: (410) 821-7907  
www.BohlerEngineering.com

**B.R. ROWE**  
PROFESSIONAL ENGINEER  
1 BRANDYwine DRIVE, GREENBELT, MD 20814  
PROFESSIONAL CERTIFICATION DOCUMENT PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 9888, EXPIRES 03/31/2021

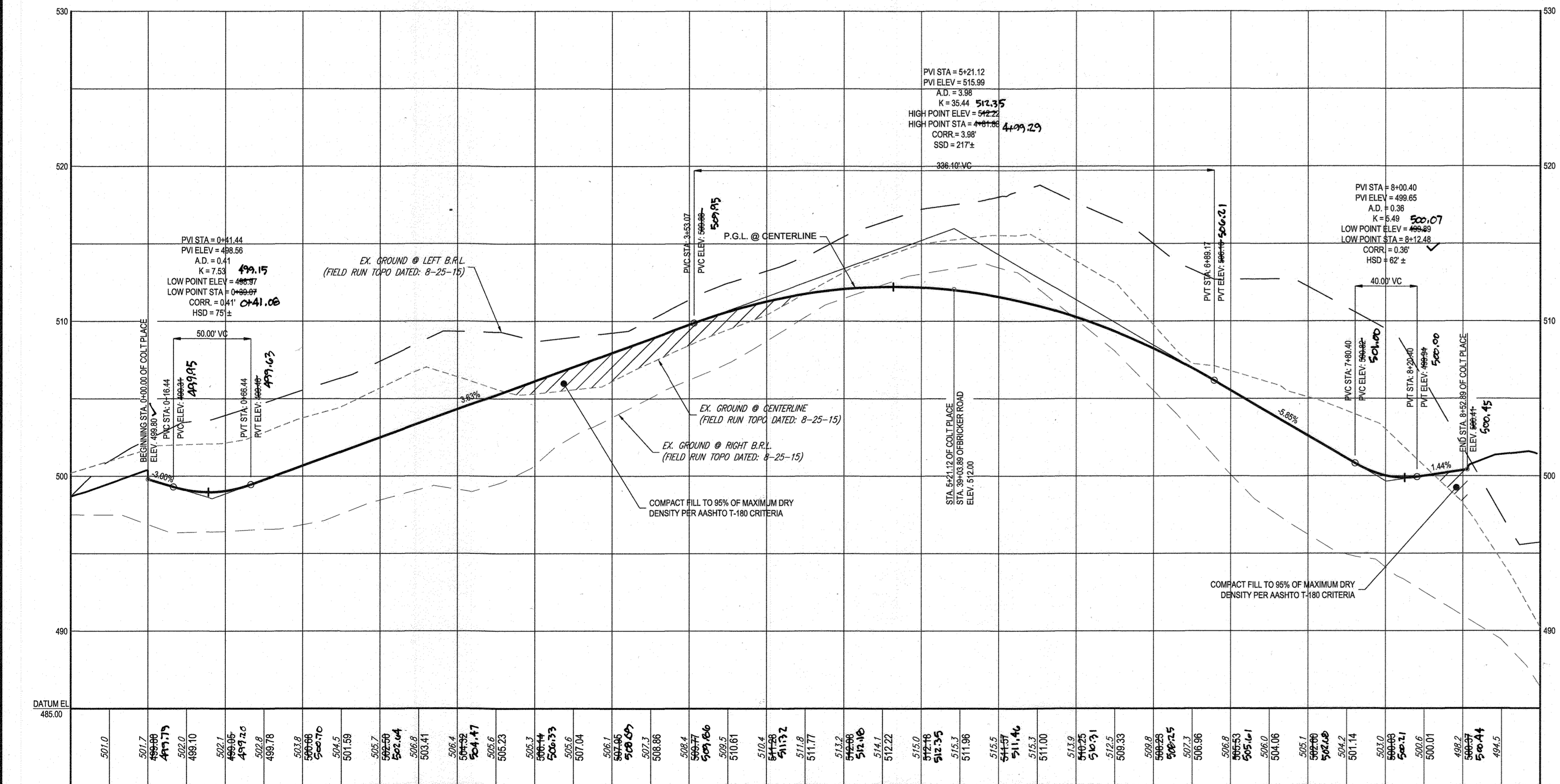
**ROAD PLAN AND PROFILE**  
SHEET NUMBER: 71 OF 92



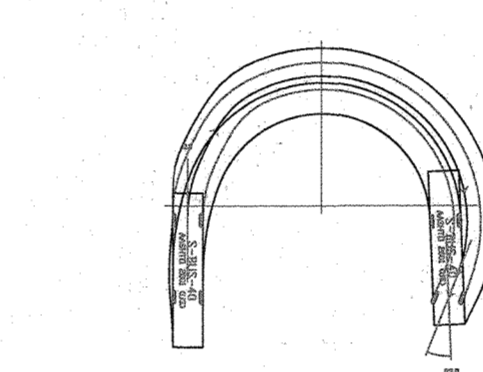
**COLT PLACE - PLAN**  
SCALE: 1" = 50' HOR.



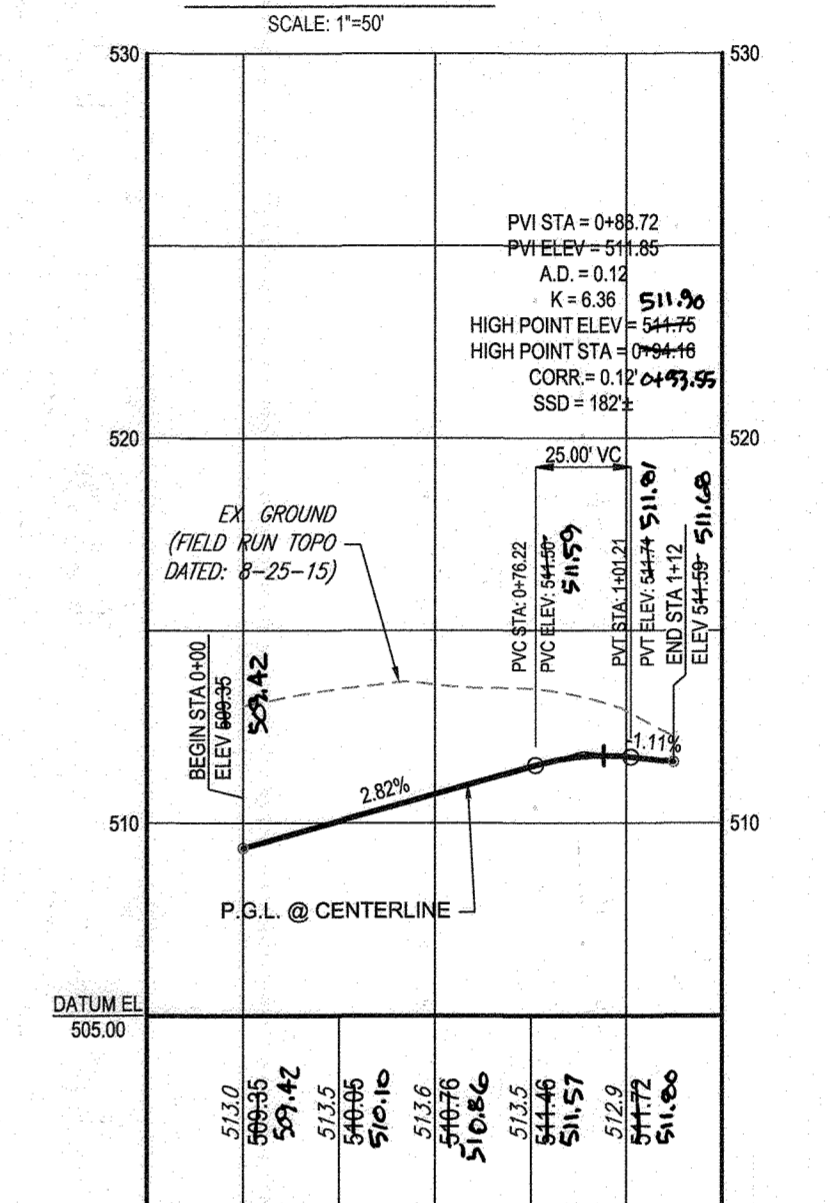
**BUS TURNING RADIUS @ BRICKER ROAD & COLT PLACE**  
SCALE: 1" = 50'



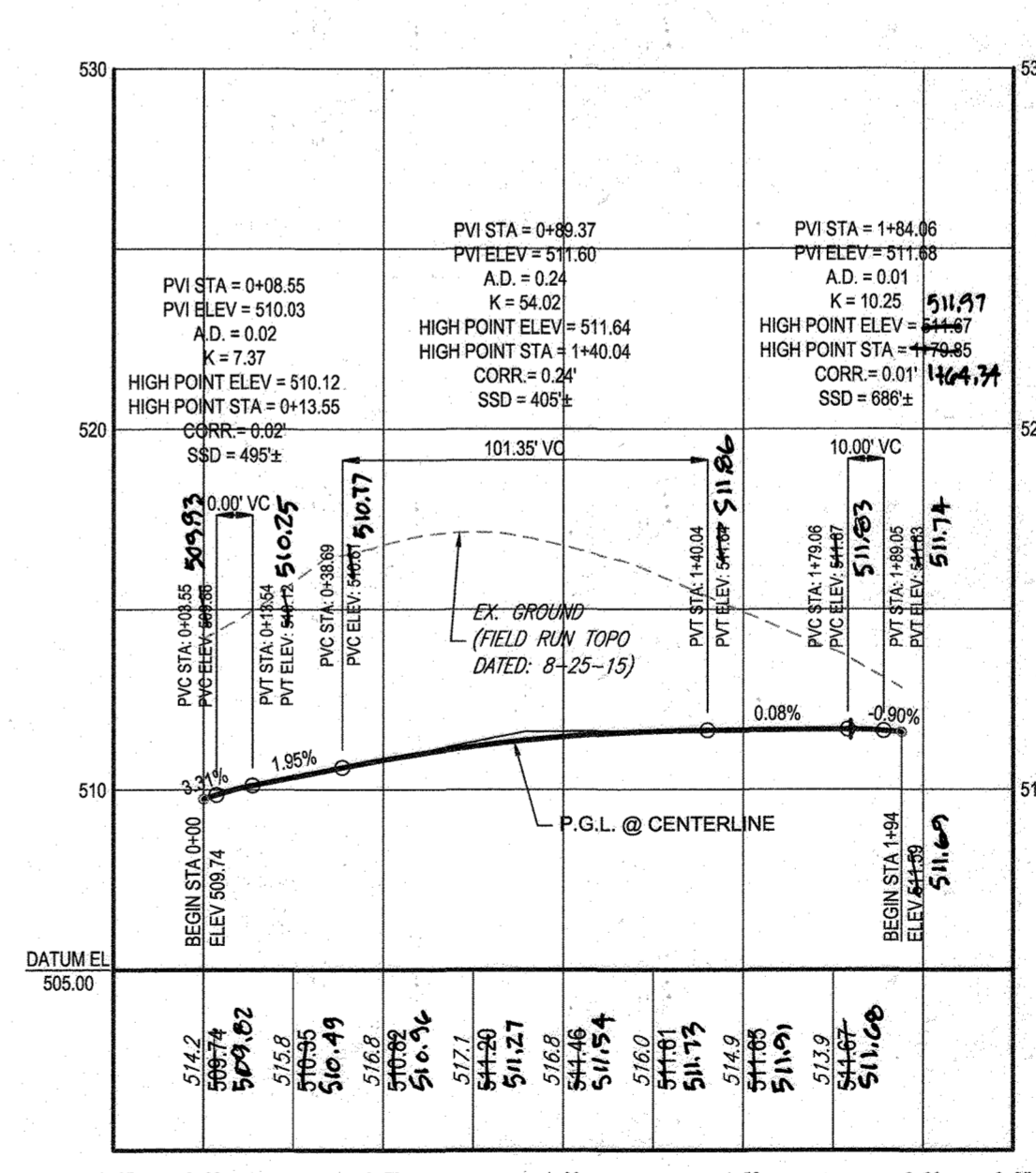
**COLT PLACE - PROFILE**  
PUBLIC ACCESS PLACE  
DESIGN SPEED - 25 MPH  
SCALE: 1" = 50' HOR.  
1" = 5' VER.



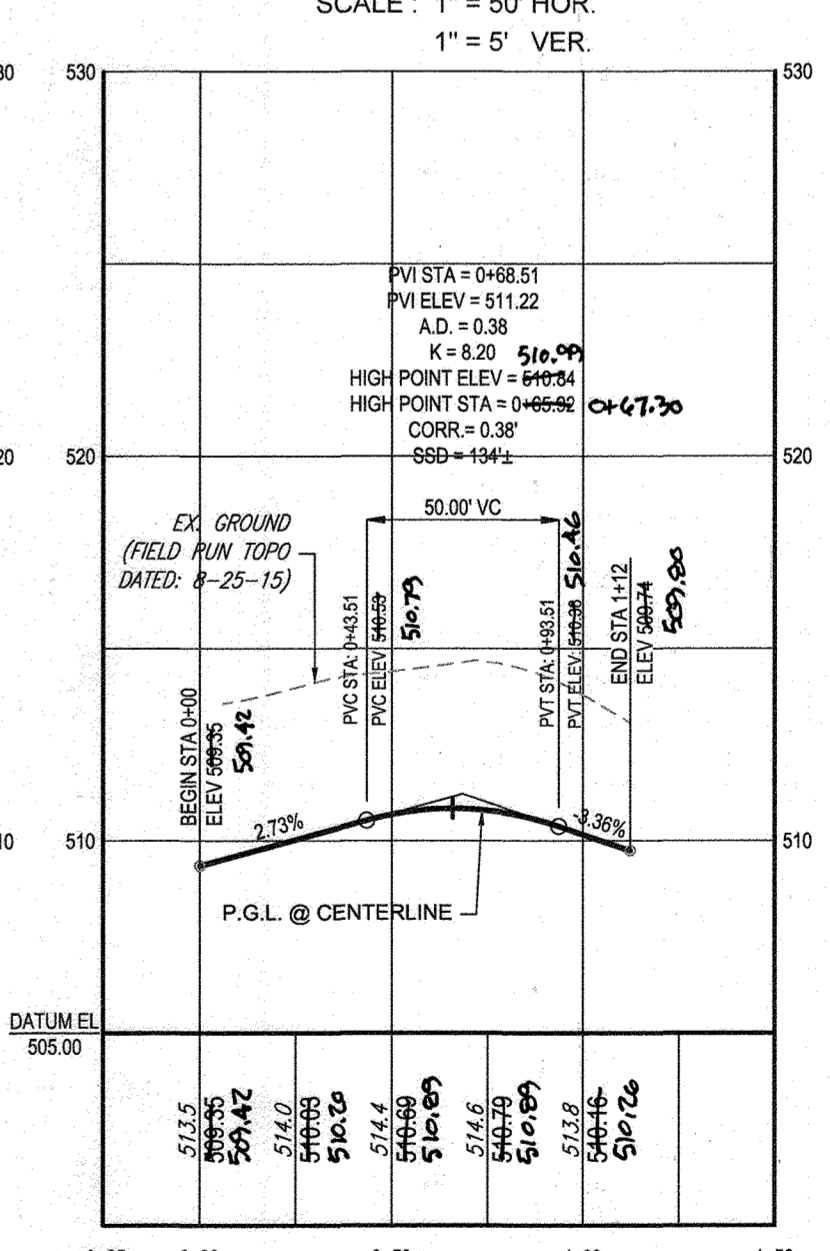
**BUS TURNING TEMPLATE**  
SCALE: 1" = 50'



**SW - QUADRANT - FILLET PROFILE**  
SCALE: 1" = 50' HOR.  
1" = 5' VER.



**NE - QUADRANT - FILLET PROFILE**  
SCALE: 1" = 50' HOR.  
1" = 5' VER.



**SE - QUADRANT - FILLET PROFILE**  
SCALE: 1" = 50' HOR.  
1" = 5' VER.

ROADWAY INFORMATION CHART				
ROAD NAME	CLASSIFICATION	DESIGN SPEED	CL STATION LIMITS	PAVING SECTION
COLT PLACE	PUBLIC ACCESS PLACE	25 M.P.H.	STA 0+00.00 TO STA 8+52.89	P-2

OWNERS:	PARCEL 34	PARCEL 112
TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044	TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044	TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044
TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044	JERRY MAUCK DENNIS A LEAF LEONORE D. SINES 5225 GREEN BRIDGE ROAD DAYTON, MD 21036	JANET BURKE JTT 5224 GREEN BRIDGE ROAD DAYTON, MD 21036

DEVELOPER:	GREEN BRIDGE FARM II, L.C. 5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042
CONTACT:	JASON VAN KIRK DAYTON, MD 21036 PHONE: (410) 720-3021
TAX MAP:	27 GRID: 18 ZONED: RR-DEO
PARCEL:	34, 36, 98, 111 & 112
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND	

APPROVED: DEPARTMENT OF PUBLIC WORKS  
DATE: 11/26/2019  
CHIEF, BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
DATE: 2/26/2020  
CHIEF, DIVISION OF LAND DEVELOPMENT

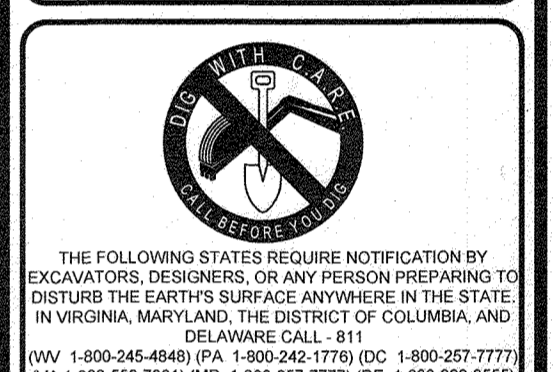
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 12-9-19



AS-BUILT CERTIFICATION  
I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS.  
DATE: 11/11/2023  
JASON VAN KIRK  
SHANABERGER & LANE  
PROFESSIONAL LAND SURVEYOR #10849  
LICENSE EXPIRATION DATE: 4/22/2024  
AS-BUILT SURVEY DATE: 10/10/2022

**BOHLER ENGINEERING**  
CORPORATE OFFICE: WARREN, NJ  
OFFICE: WARREN, NJ  
PROJECT MANAGERS: WARREN, NJ  
ENVIRONMENTAL CONSULTANTS: WARREN, NJ  
LANDSCAPE ARCHITECTS: WARREN, NJ  
CIVIL & CONSULTING ENGINEERS: WARREN, NJ  
SURVEYORS: WARREN, NJ

REVISIONS			
REV	DATE	COMMENT	BY



APPROVED FOR CONSTRUCTION  
PROJECT NO: MD142048  
DRAWN BY: BRR  
CHECKED BY: BRR  
DATE: 08/29/19  
SCALE: AS SHOWN  
CAD I.D.: FPS

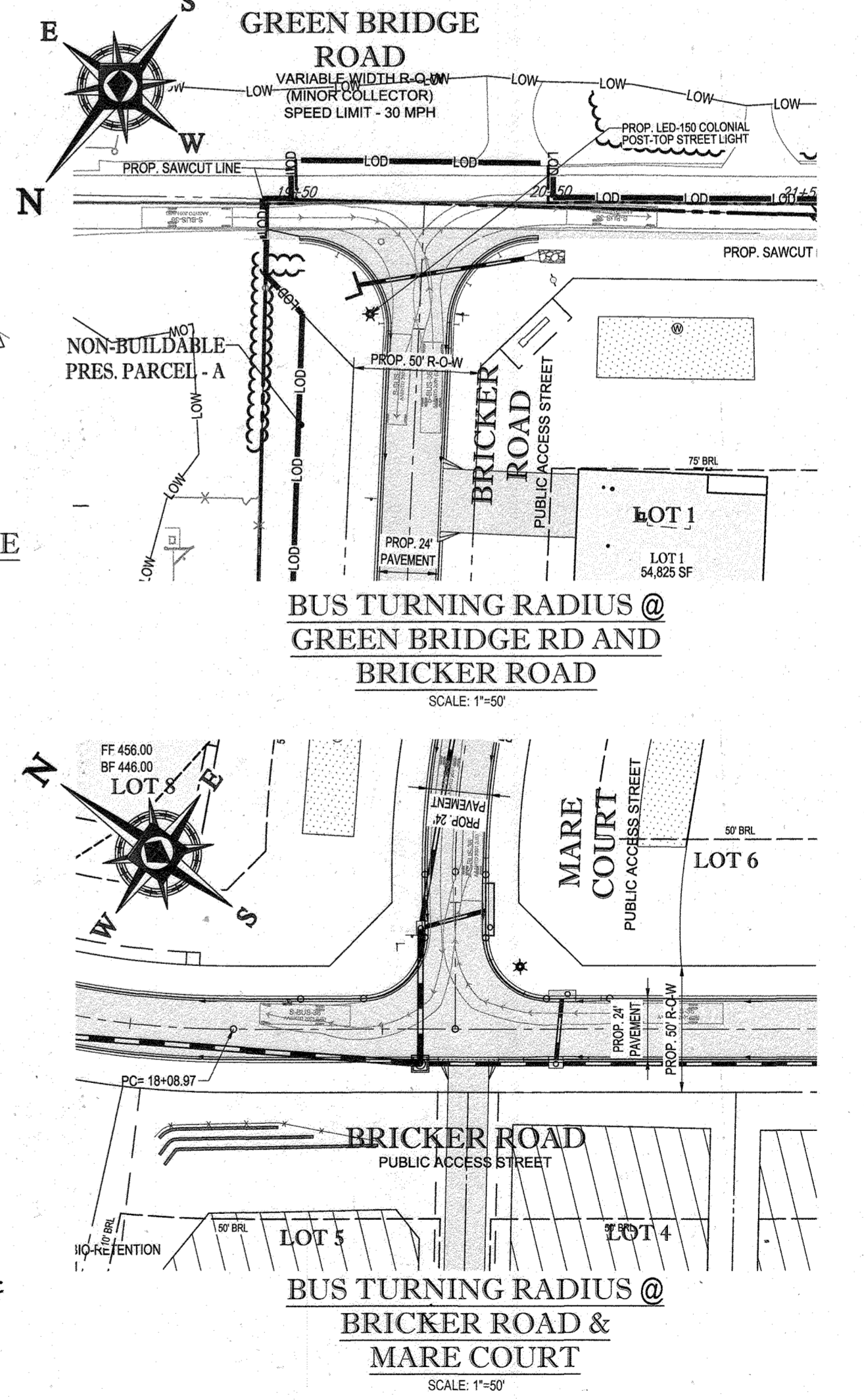
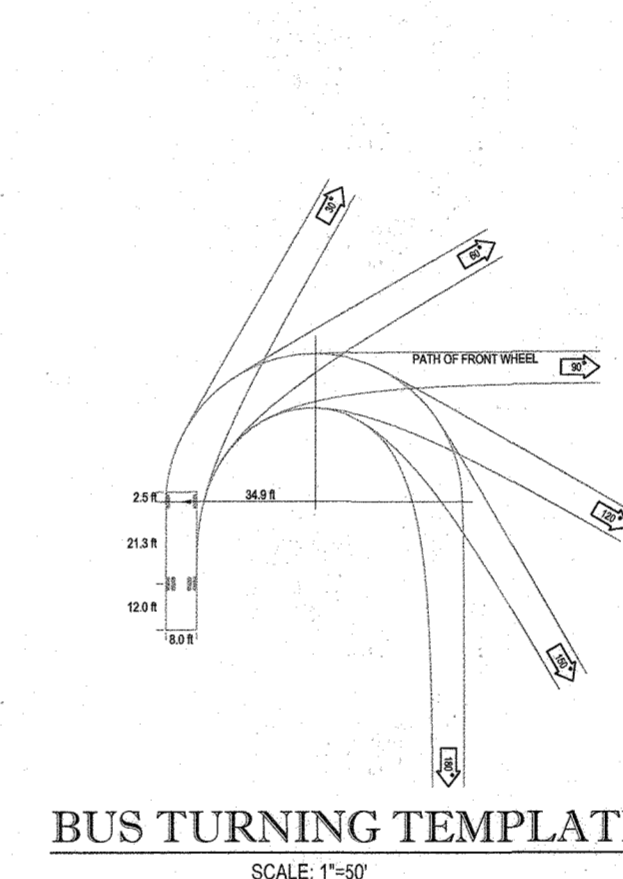
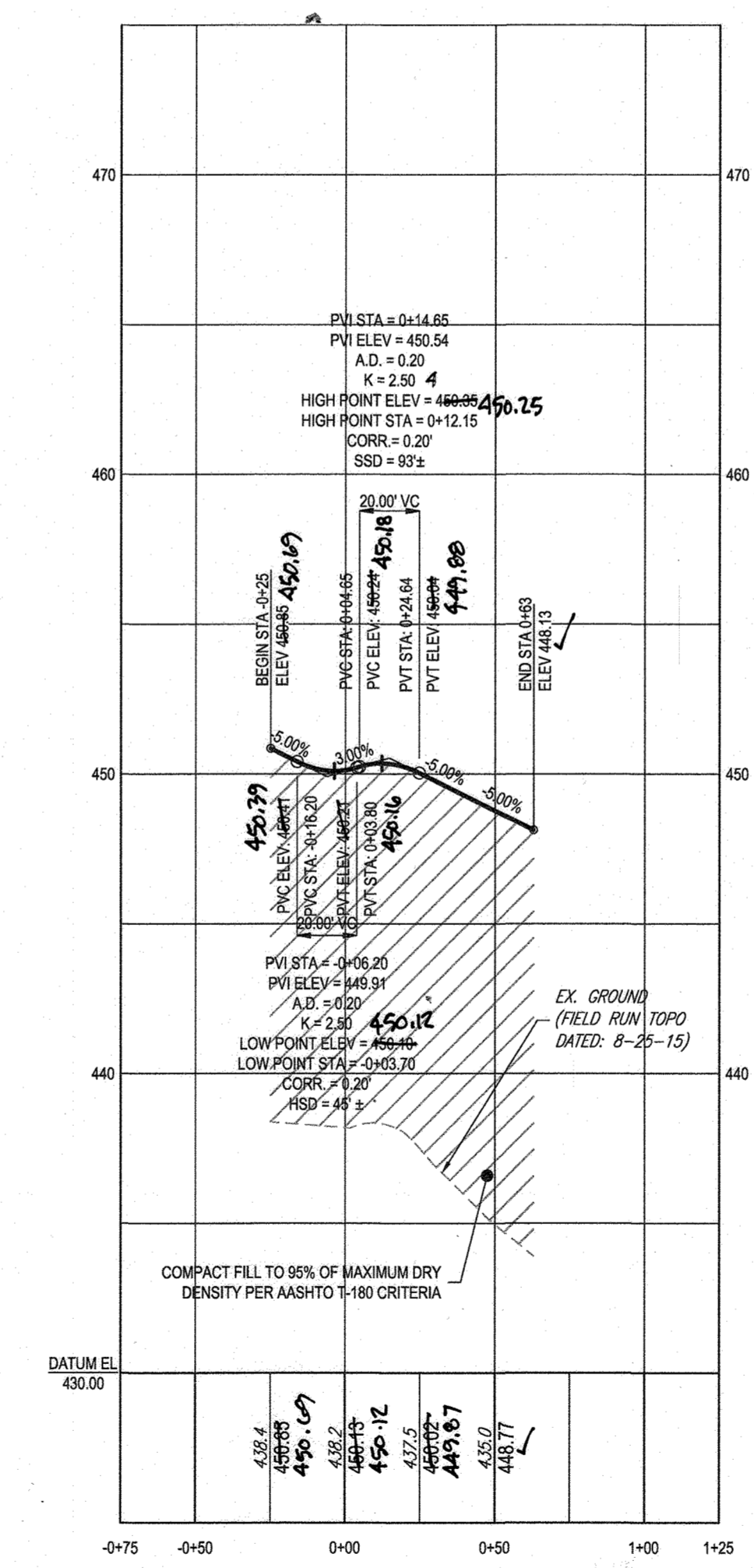
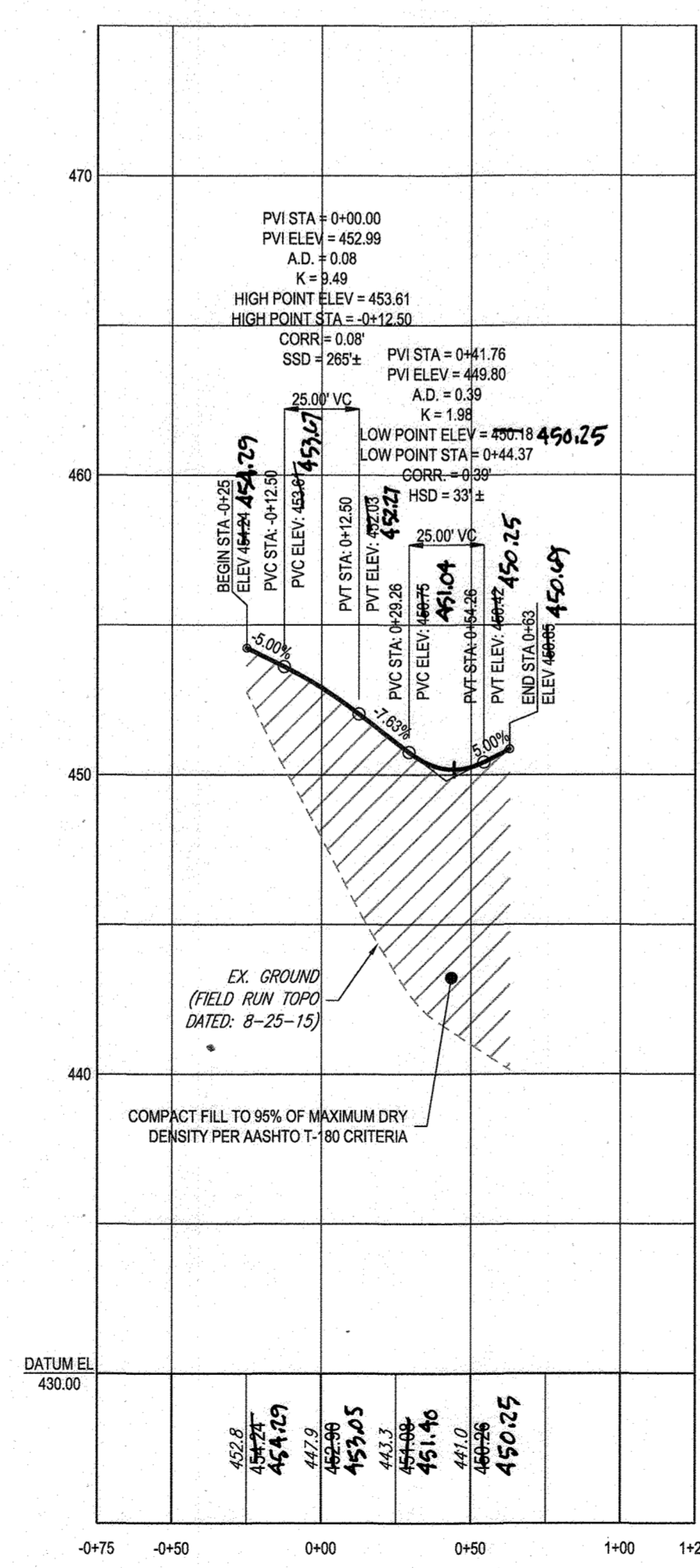
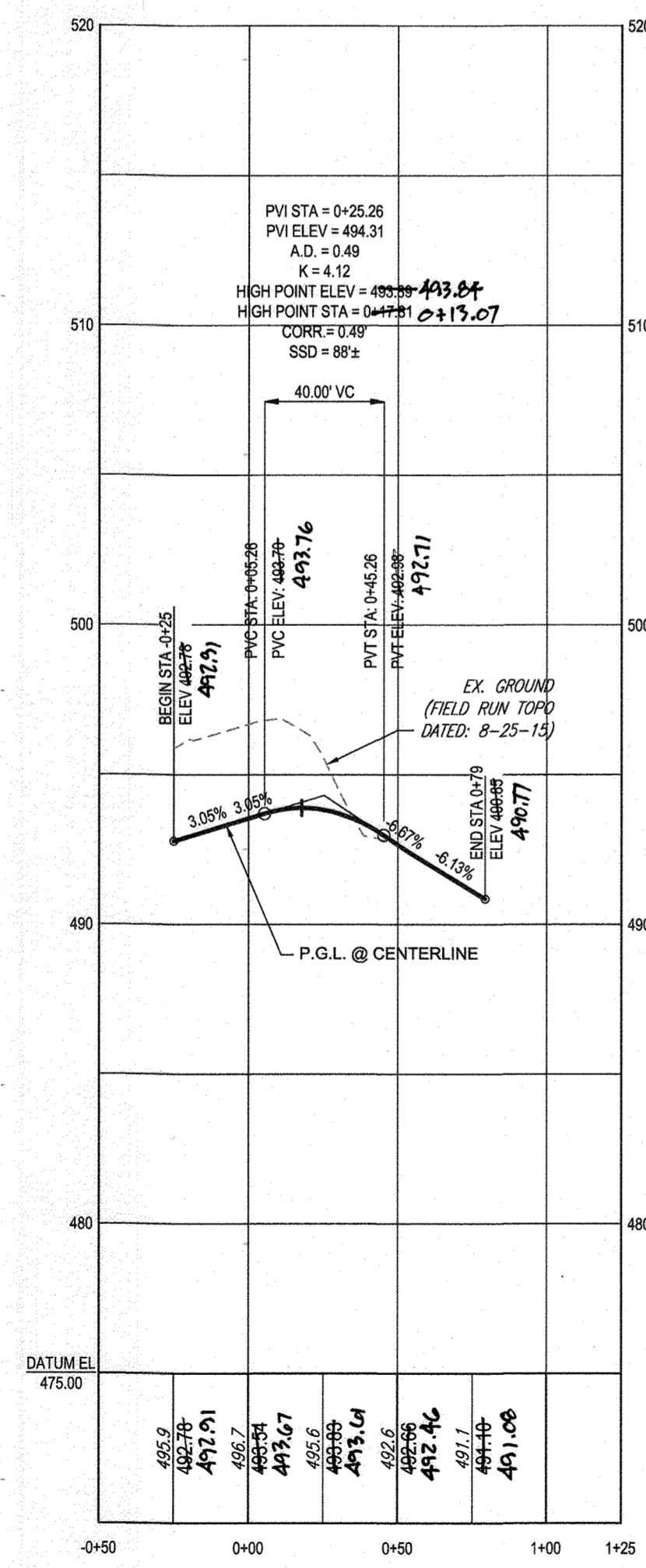
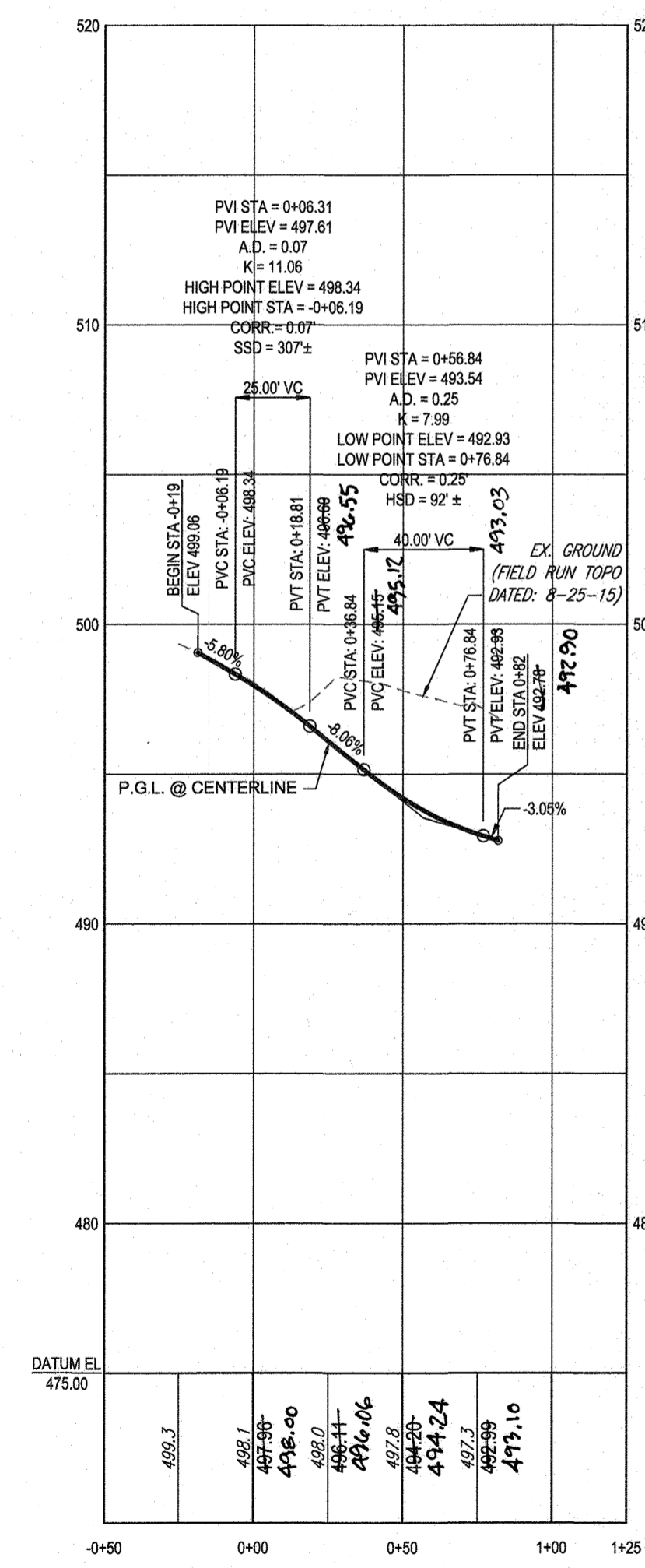
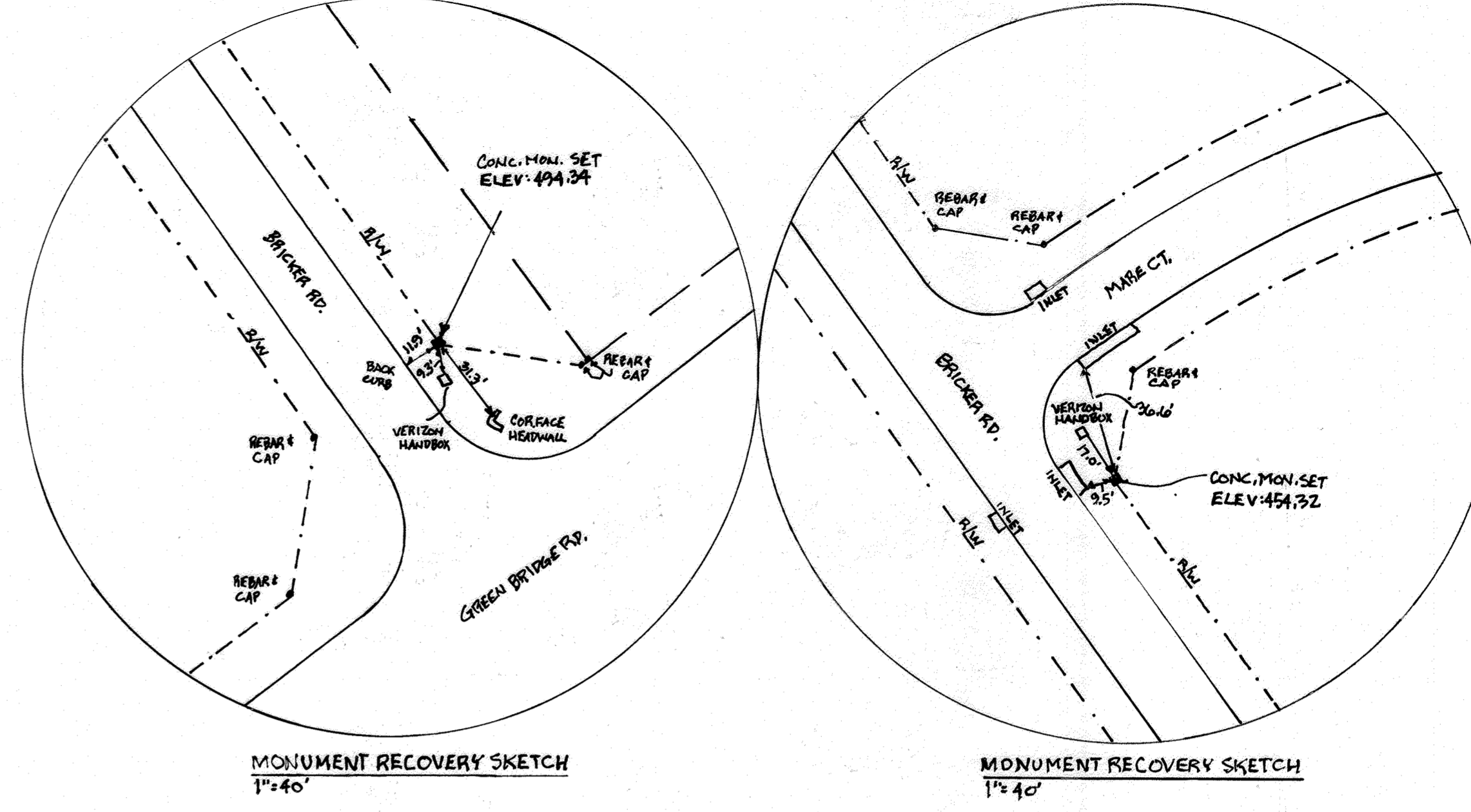
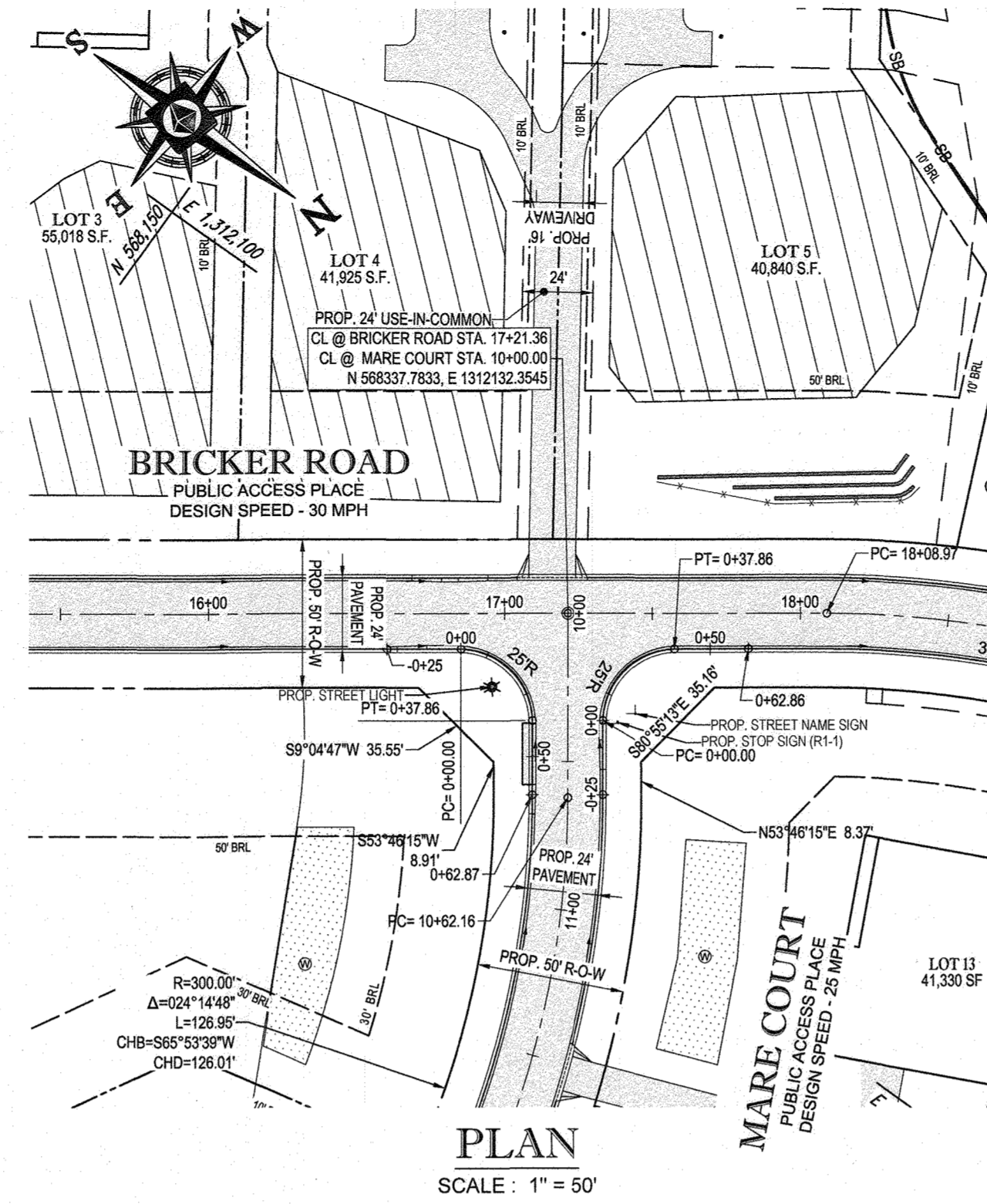
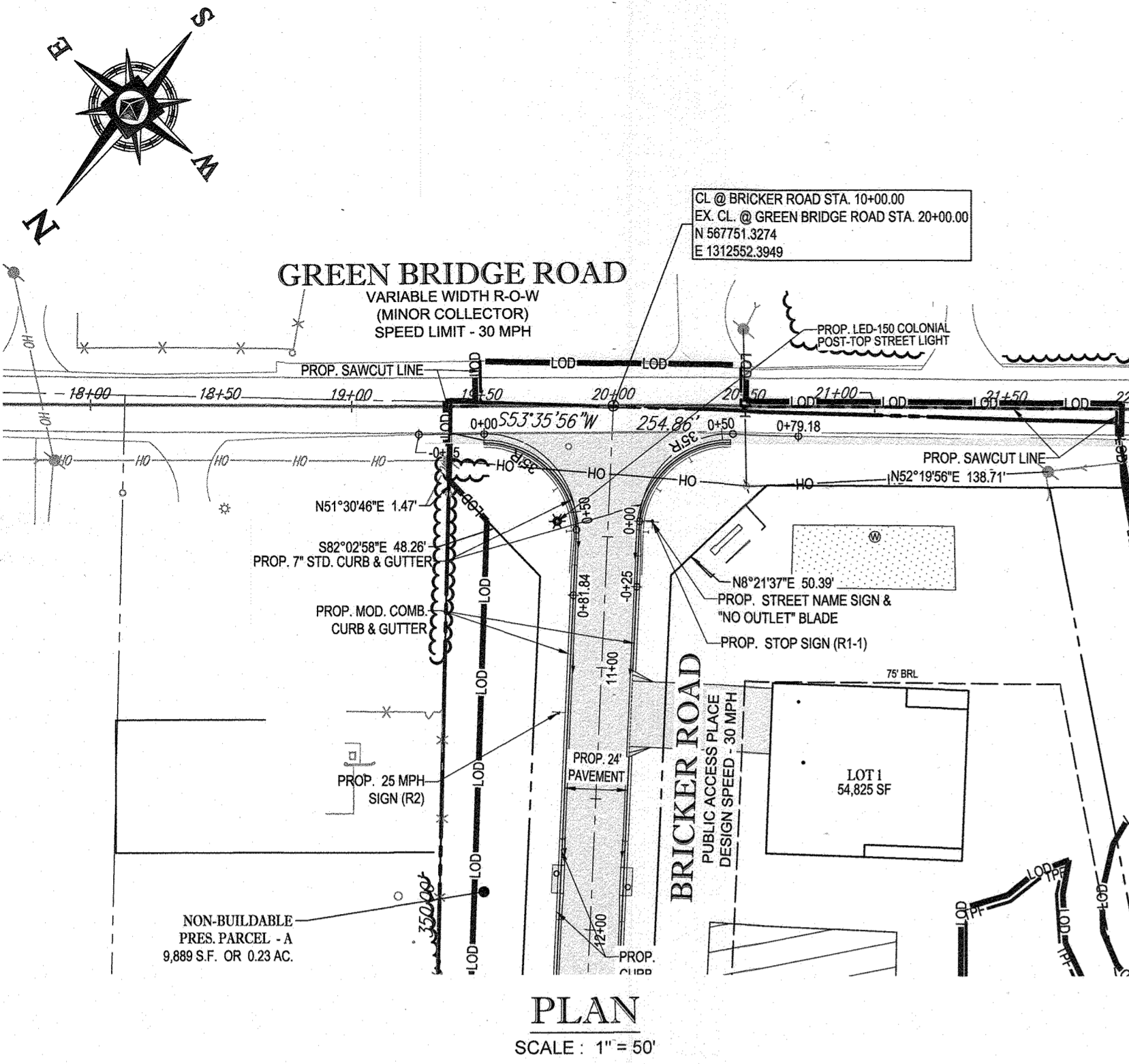
**FINAL ROAD CONSTRUCTION PLAN**  
FOR  
**WILLOWSHIRE**  
LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, P & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
901 DULANEY VALLEY ROAD, SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7900  
Fax: (410) 821-7987  
www.BohlerEngineering.com

**B.R. ROWE**  
PROFESSIONAL ENGINEER  
LICENSE NO. 10849  
PROFESSIONAL CERTIFICATION  
I, JASON VAN KIRK, HEREBY CERTIFY THAT THE DOCUMENTS PREPARED OR APPROVED BY ME AND THAT I AM A QUALIFIED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE NO. 10849 EXPIRES DATE: 7/31/2021

SHEET TITLE:  
**ROAD PLAN AND PROFILE**  
SHEET NUMBER:  
**72 OF 92**





**CURB RETURN TO BRICKER ROAD**  
SCALE: 1" = 50' HORIZONTAL  
1" = 5' VERTICAL

**CURB RETURN TO GREEN BRIDGE RD**  
SCALE: 1" = 50' HORIZONTAL  
1" = 5' VERTICAL

**CURB RETURN TO MARE COURT**  
SCALE: 1" = 50' HORIZONTAL  
1" = 5' VERTICAL

**CURB RETURN TO BRICKER RD**  
SCALE: 1" = 50' HORIZONTAL  
1" = 5' VERTICAL



AS-BUILT CERTIFICATION  
I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS.  
DATE: 10/11/2023  
JASON VAN KIRK  
PROFESSIONAL LAND SURVEYOR #10349  
LICENSE EXPIRATION DATE 4/27/2026  
AS-BUILT SURVEY DATE 10/11/2023  
THE INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: 5 SECOND SOKKIA IX ROBOTIC TOTAL STATION, TOPCON PC-5 RECEIVER, SOKKIA SC60 PRISM

APPROVED: DEPARTMENT OF PUBLIC WORKS  
CHIEF, BUREAU OF HIGHWAYS  
DATE: 11/26/2019

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 2/26/2020

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 12.9.19

OWNERS:  
PARCEL 34: TOLL MID ATLANTIC LP COMPANY INC, 250 GIBRAL TARR ROAD, HORSHAM PA, 19044  
PARCEL 112: TOLL MID ATLANTIC LP COMPANY INC, 250 GIBRAL TARR ROAD, HORSHAM PA, 19044  
PARCEL 111: DENNIS A LEAF, JERRY MAUCK, LENDRE D SINES, 5226 GREEN BRIDGE ROAD, DAYTON, MD 21038  
PARCEL 88: JERRY MAUCK, JANET BURKE JT, 5226 GREEN BRIDGE ROAD, DAYTON, MD 21038

DEVELOPER: GREEN BRIDGE FARM II, L.C., 5074 DORSEY HALL ROAD, SUITE 205, COLUMBIA, MD 21042  
CONTACT: JASON VAN KIRK, PHONE: (410) 720-3021

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
PARCEL: 34, 36, 98, 111, & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
CORPORATE OFFICE: WARREN, NJ  
OFFICES: BOSTON, MA; CHICAGO, IL; COLUMBIA, MD; FORT LAUDERDALE, FL; HOUSTON, TX; PHILADELPHIA, PA; RICHMOND, VA; STERLING, VA; WASHINGTON, DC

CIVIL & CONSULTING ENGINEERS  
SURVEYORS  
PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CAL# 911  
(VA 1-800-245-4848) (PA 1-800-242-1776) (DC 1-800-257-7777) (VA 1-800-552-7001) (MD 1-800-227-7777) (DE 1-800-292-8555)

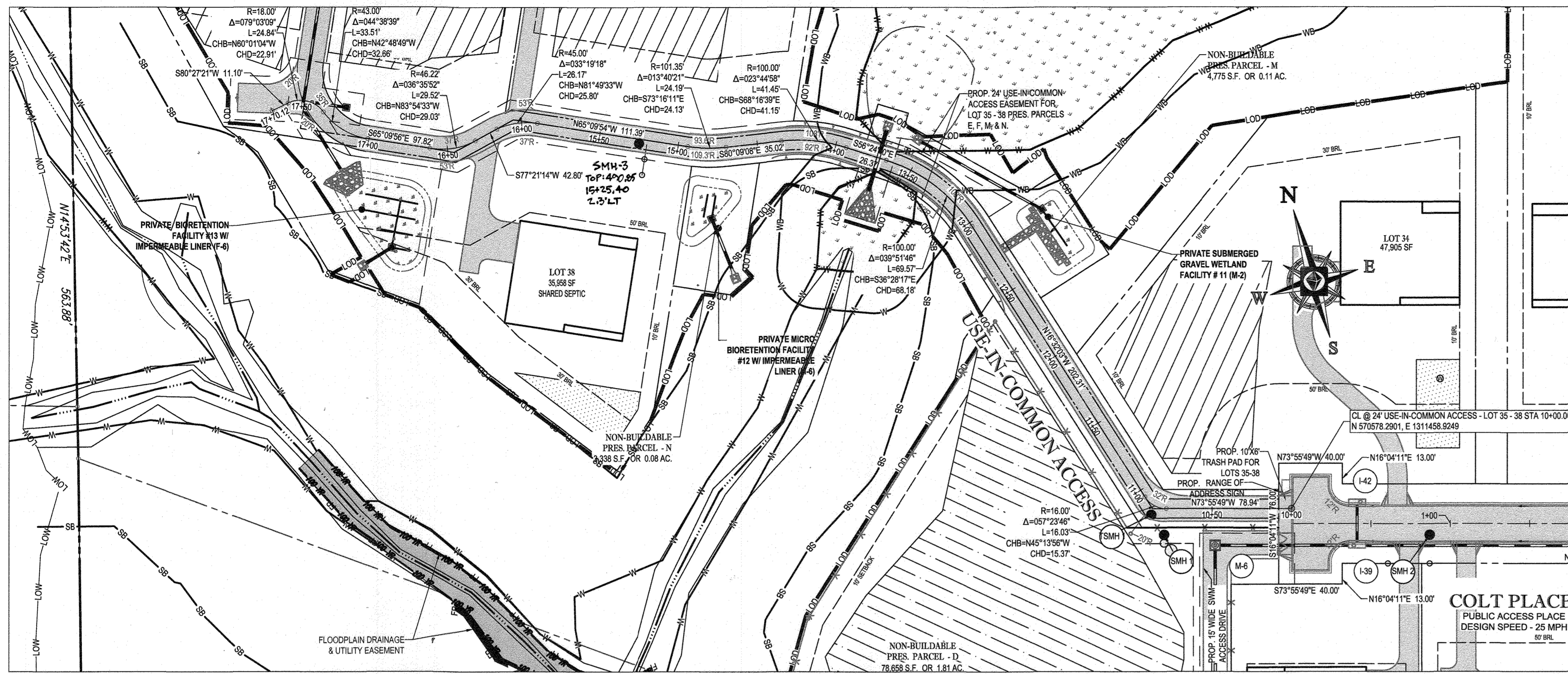
APPROVED FOR CONSTRUCTION  
PROJECT No: MD142016  
DRAWN BY: AVG  
CHECKED BY: BRR  
DATE: 08/26/19  
SCALE: AS SHOWN  
CAD I.D.: P23

**FINAL ROAD CONSTRUCTION PLAN**  
FOR  
**WILLOWSHIRE**  
LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, P & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

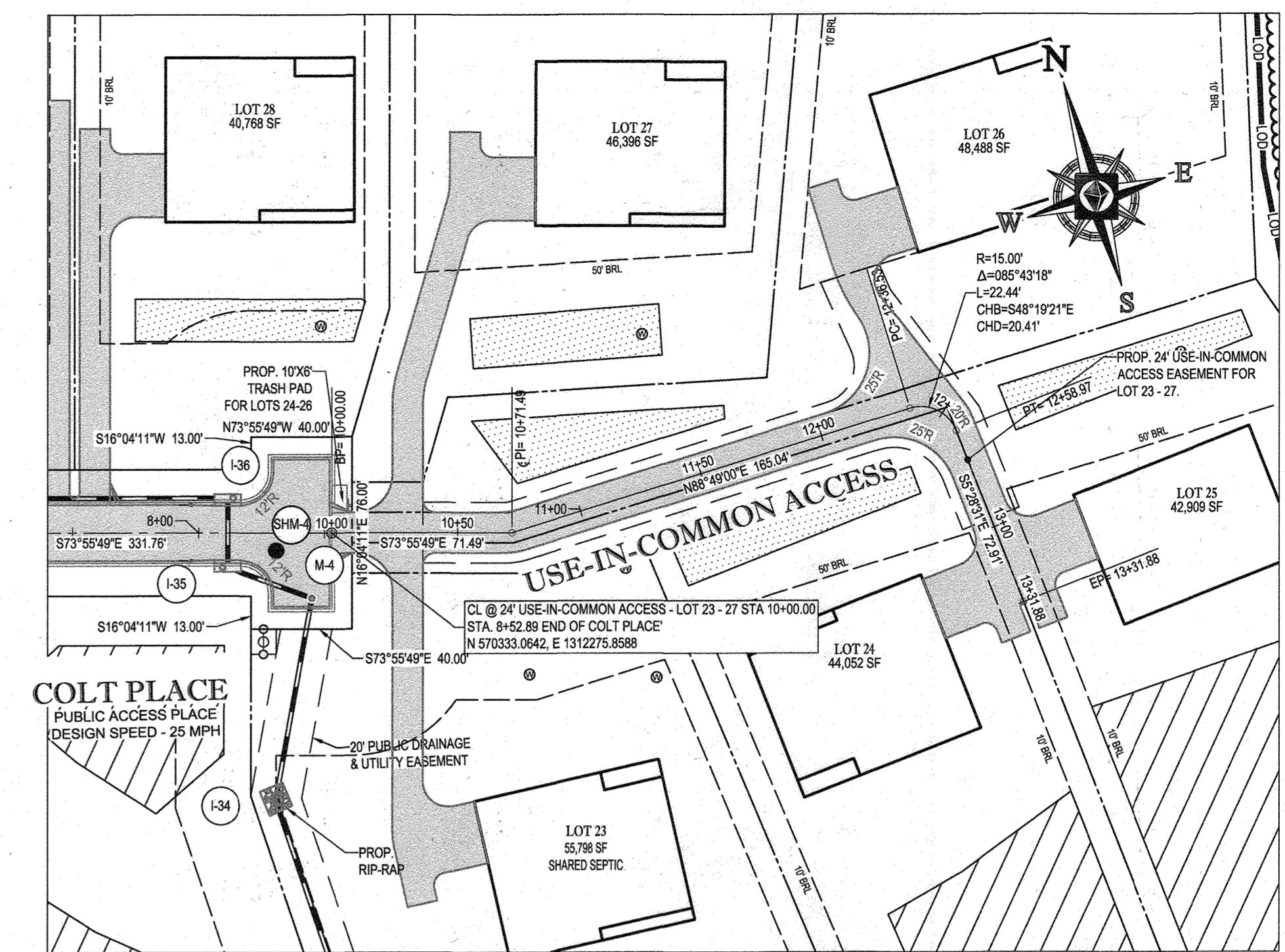
**BOHLER ENGINEERING**  
901 DULANEY VALLEY ROAD, SUITE 801  
TOWSON, MARYLAND 21204  
Phone: (410) 821-7900  
Fax: (410) 821-7987  
www.BohlerEngineering.com

**B.R. ROWE**  
PROFESSIONAL ENGINEER  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A QUALIFIED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE NO. 78666, EXPIRES 03/31/2025

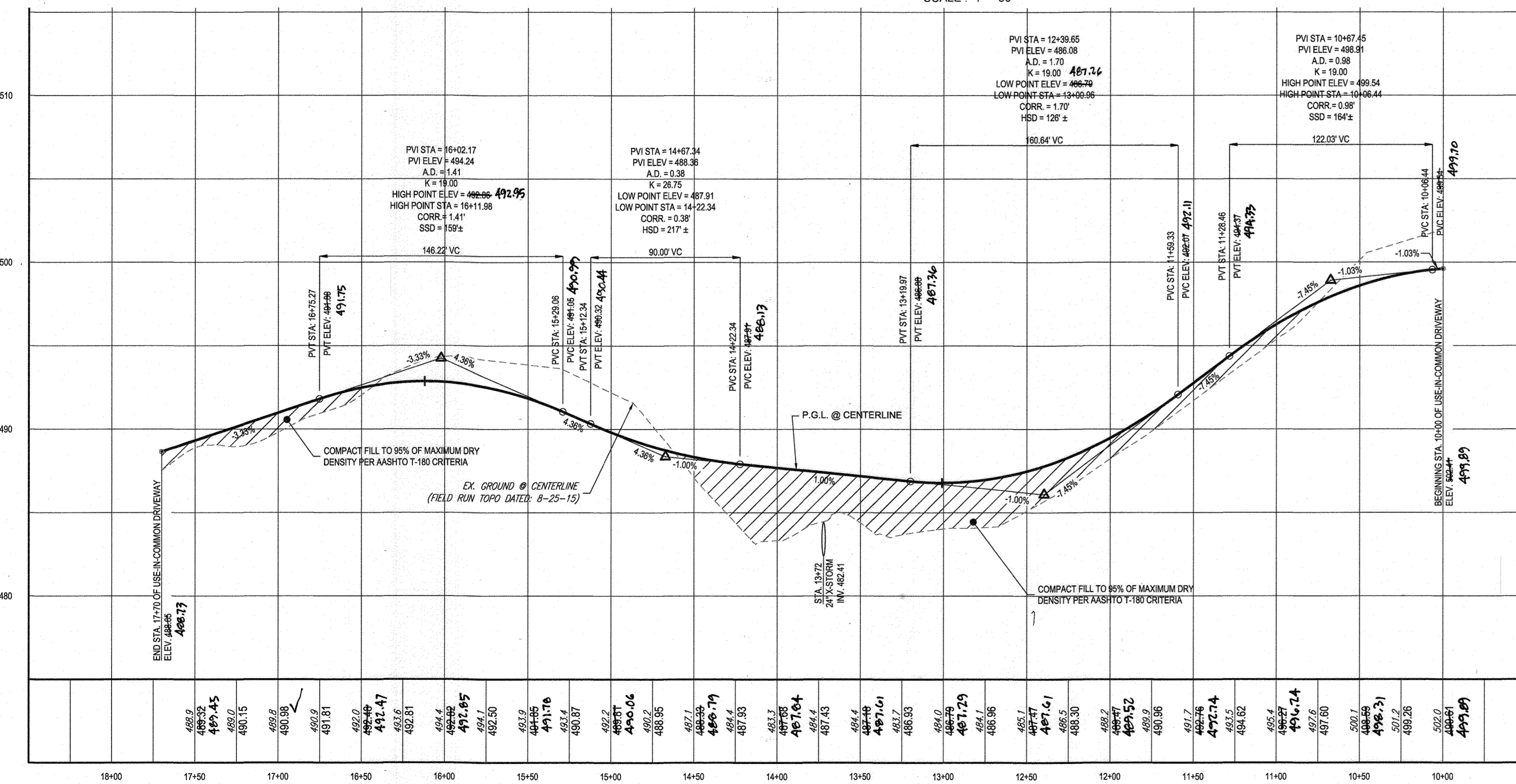
SHEET TITLE:  
**ROAD PLAN AND PROFILE**  
SHEET NUMBER:  
**73 OF 92**



PLAN  
SCALE: 1" = 50'

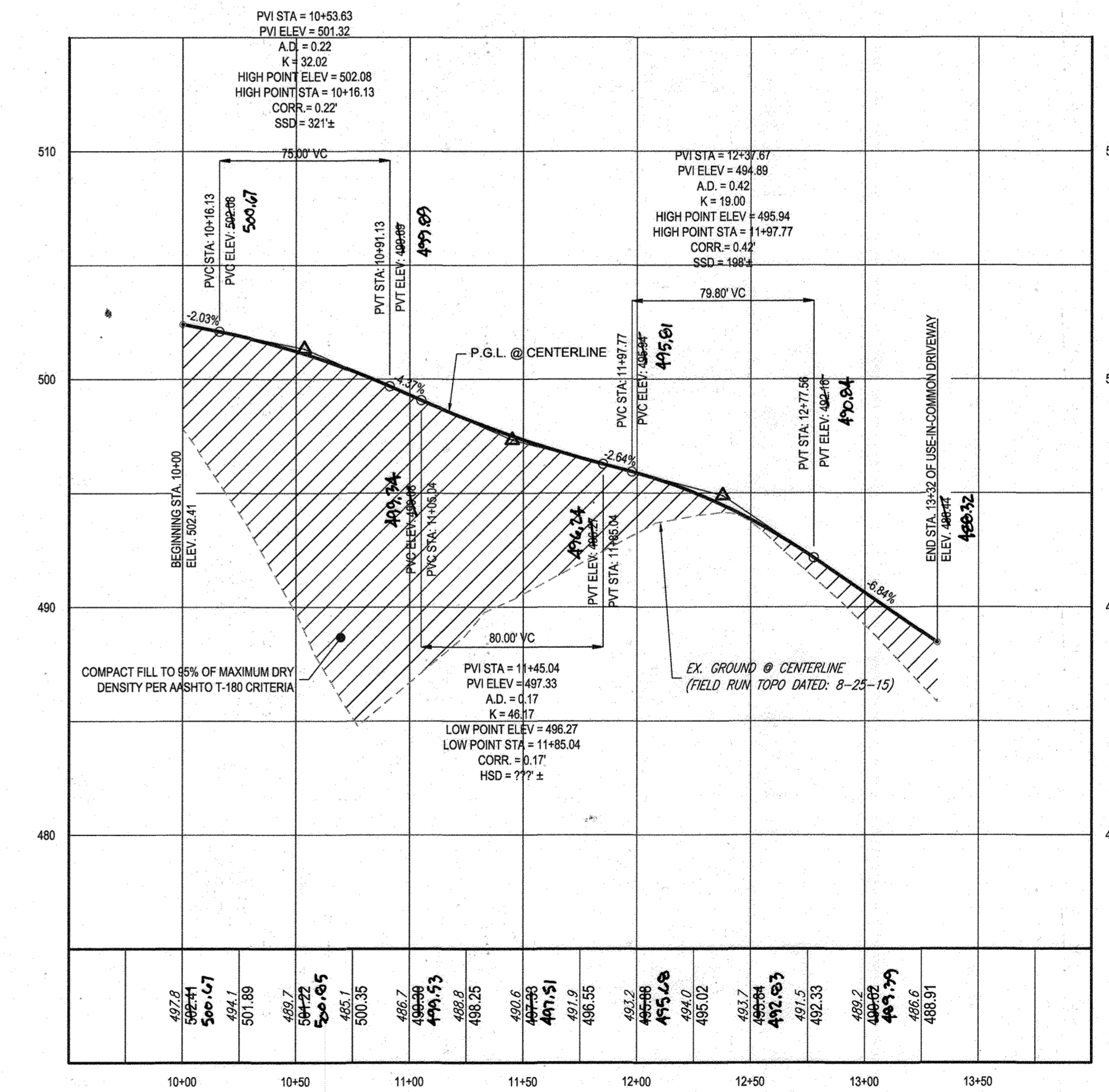


PLAN  
SCALE: 1" = 50'



24' USE-IN-COMMON ACCESS - LOT 35 - 38

SCALE: 1" = 50' HORIZONTAL  
1" = 5' VERTICAL



24' USE-IN-COMMON ACCESS - LOT 23 - 27

SCALE: 1" = 50' HORIZONTAL  
1" = 5' VERTICAL

APPROVED: DEPARTMENT OF PUBLIC WORKS  
CHIEF, BUREAU OF HIGHWAYS  
DATE: 11/26/2019

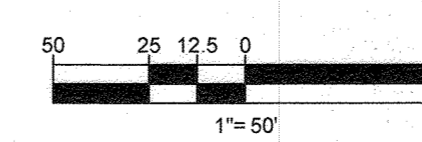
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 2/26/2020

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 12-9-19



AS-BUILT CERTIFICATION  
HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS  
DATE: 10/11/2023  
ROBERT SHANABERGER  
SHANABERGER & LANE  
PROFESSIONAL LAND SURVEYOR #10849  
LICENSE EXPIRATION DATE 4/2/2024  
AS-BUILT SURVEY DATE 10/11/2022

INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: 5 SECOND SINE BAR IN ROBOTIC TOTAL STATION, TOPCON RC-5 RECEIVER, GARMIN GPS FROM



OWNERS:  
PARCEL 36: TOLL MID ATLANTIC LP COMPANY INC., 250 GIBRAL TARR ROAD, HORSHAM PA, 19044  
PARCEL 111: DENNIS A LEAF, LENORE D SINES, 5228 GREEN BRIDGE ROAD, DAYTON, MD 21036  
PARCEL 112: TOLL MID ATLANTIC LP COMPANY INC., 250 GIBRAL TARR ROAD, HORSHAM PA, 19044  
PARCEL 98: JERRY MAUCK, JANET BURKE JTT, 5228 GREEN BRIDGE ROAD, DAYTON, MD 21036

DEVELOPER: GREEN BRIDGE FARM II, L.C., 5074 DORSEY HALL ROAD, SUITE 205, COLUMBIA, MD 21042  
CONTACT: JASON VAN KIRK, PHONE: (410) 720-3021

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
PARCEL: 34, 36, 98, 111 & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
CORPORATE OFFICE: WARREN NJ  
OFFICES: BOSTON MA, CHICAGO IL, CINCINNATI OH, COLUMBIA MD, FORT LAUDERDALE FL, PHILADELPHIA PA, TAMPA FL  
CIVIL & CONSULTING ENGINEERS  
SURVEYORS  
PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE: CH 11-111  
(MV 1-800-245-4546) (PA 1-800-242-1776) (DC 1-800-287-7777) (VA 1-800-852-7001) (MD 1-800-251-7777) (DE 1-800-392-8888)

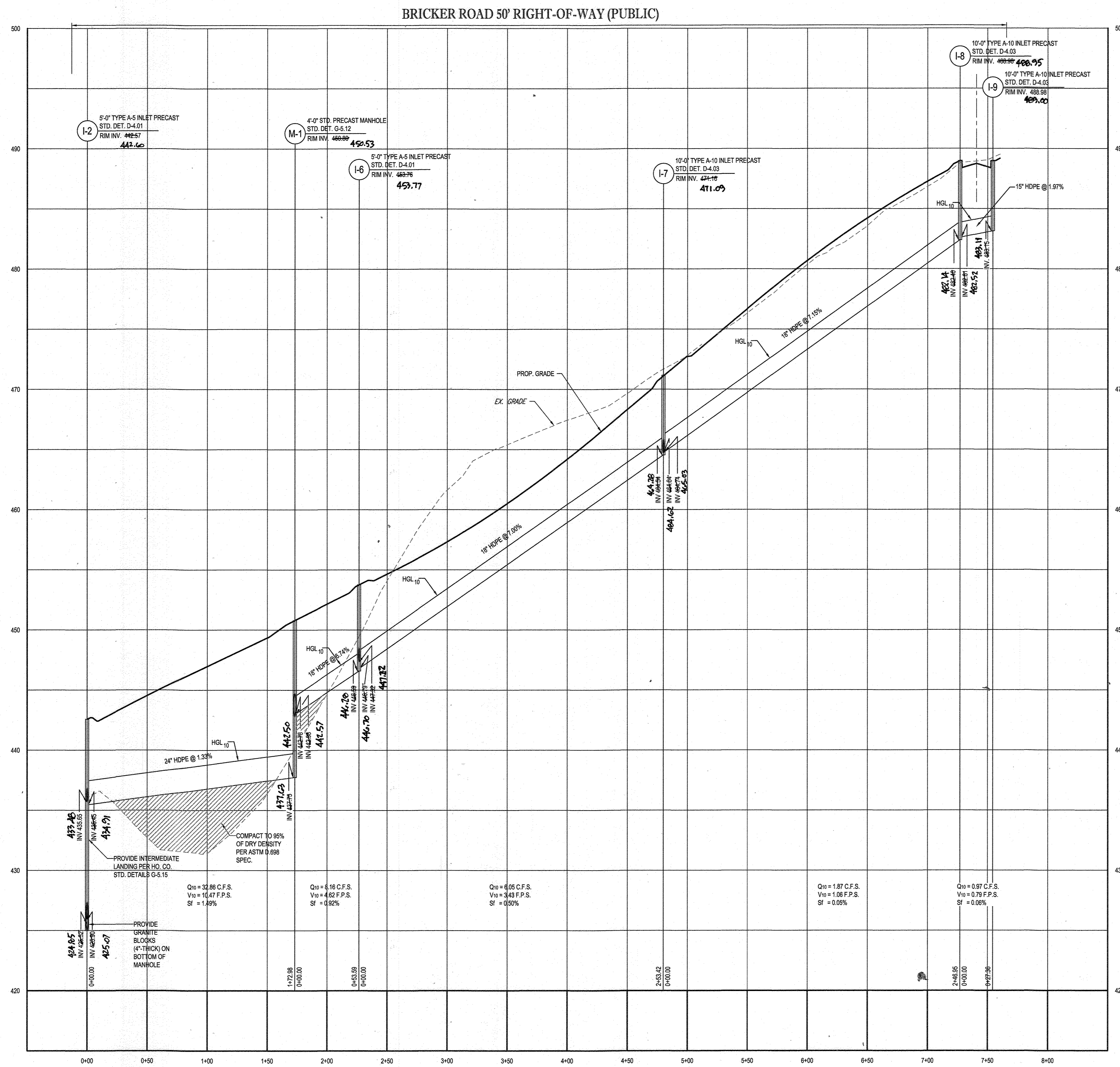
APPROVED FOR CONSTRUCTION  
PROJECT No: MD142040  
DRAWN BY: AVG  
CHECKED BY: BRR  
DATE: 08/26/19  
SCALE: AS SHOWN  
CAD I.D.: RPS

FINAL ROAD CONSTRUCTION PLAN FOR  
**WILLOWSHIRE**  
LOTS 1-45, BUILDABLE PRESERVATION PARCEL G, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, P & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE: 5232 GREEN BRIDGE ROAD, 5TH ELECTION DISTRICT, TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112, HOWARD COUNTY, MARYLAND

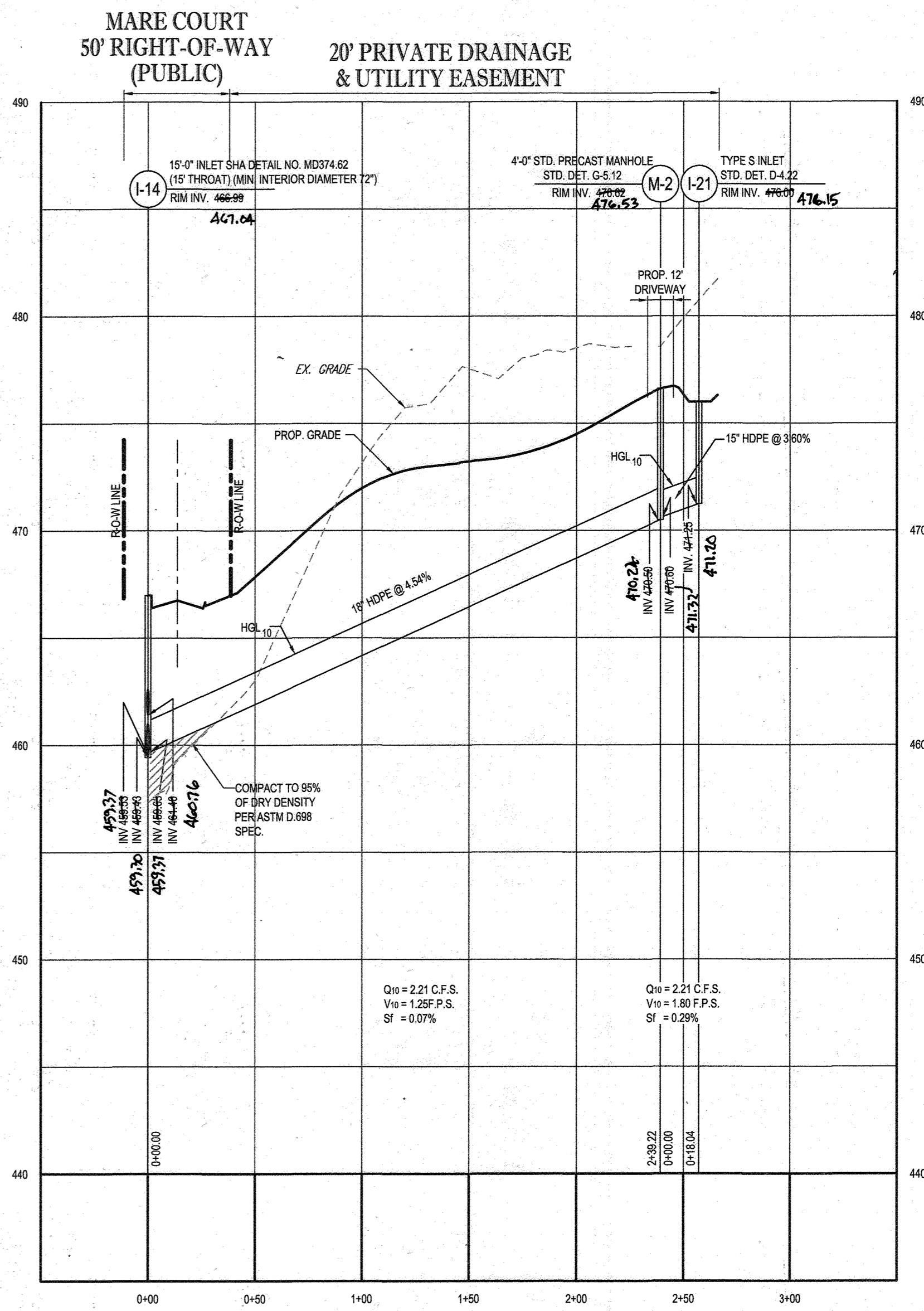
**BOHLER ENGINEERING**  
901 DULANEY VALLEY ROAD, SUITE 801  
TOWSON, MARYLAND 21286  
Phone: (410) 821-7900  
Fax: (410) 821-7987  
www.BohlerEngineering.com

**B.R. ROWE**  
PROFESSIONAL ENGINEER  
PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE NO. 98684 EXPIRATION DATE: 7/3/2021

SHEET TITLE:  
**USE-IN-COMMON DRIVEWAY PROFILES**  
SHEET NUMBER:  
**74 OF 92**

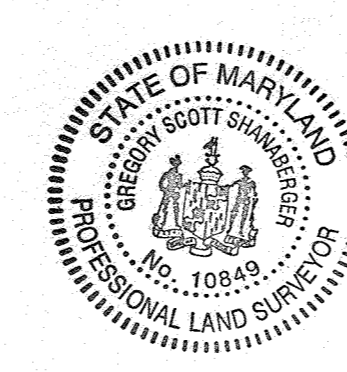


PROPOSED STORM DRAIN - I-2 TO I-9  
SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



PROPOSED STORM DRAIN - I-14 TO I-21  
SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 DATE: 11/26/2019  
 CHIEF, BUREAU OF HIGHWAYS  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 DATE: 2/20/2020  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 12-9-19  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION



AS-BUILT CERTIFICATION  
 I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS  
 SCOTT SHANABERGER  
 SHANABERGER & LANE  
 PROFESSIONAL LAND SURVEYOR #10849  
 LICENSE EXPIRATION DATE 4/2/2024  
 AS-BUILT SURVEY DATE 12/12/2023  
 INSTRUMENT USED IN PERFORMING THIS AS-BUILT SURVEY: 5 SECOND SOKKIA 1X ROBOTIC TOTAL STATION, TOPCON PC-5 RECEIVER, SOKKIA 500P PRISM

OWNERS:  
 PARCEL 36  
 TOLL MID ATLANTIC LP COMPANY INC.  
 250 GIBRAL TAR ROAD  
 HORSHAM PA, 19044  
 TEL.  
 PARCEL 111  
 DENNIS A LEAF  
 LENORE D SINES  
 5225 GREEN BRIDGE ROAD  
 DAYTON, MD 21036  
 TEL.  
 PARCEL 112  
 TOLL MID ATLANTIC LP COMPANY INC.  
 250 GIBRAL TAR ROAD  
 HORSHAM PA, 19044  
 TEL.  
 PARCEL 98  
 JERRY MALICK  
 JANET BURKE J/T  
 5234 GREEN BRIDGE ROAD  
 DAYTON, MD 21036  
 TEL.

SUBDIVISION NAME: WILLOWSHIRE  
 SECTION AREA: N/A  
 DEED # 11361/00222, 00183/00554,  
 15884/003894, 05889/00490  
 04341/00270, & 03201/00539  
 PREVIOUS FILE NO.:  
 ECP-16-023 PB436  
 SP-17-002  
 WP-17105

DEVELOPER: GREEN BRIDGE FARM II L.C.  
 5074 DORSEY HALL ROAD, SUITE 205  
 COLUMBIA, MD 21042  
 CONTACT: JASON VAN KIRK  
 PHONE: (410) 720-3021  
 TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
 PARCEL: 34, 36, 98, 111 & 112  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 CORPORATE OFFICE: WARREN, NJ  
 OFFICES:  
 BOSTON, MA  
 CHICAGO, IL  
 CINCINNATI, OH  
 COLUMBIA, MD  
 DENVER, CO  
 FORT LAUDERDALE, FL  
 HOUSTON, TX  
 INDIANAPOLIS, IN  
 JACKSONVILLE, FL  
 MIAMI, FL  
 PHILADELPHIA, PA  
 RICHMOND, VA  
 TAMPA, FL  
 WASHINGTON, DC  
 WILMINGTON, DE

CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL 811  
 (WV 1-800-245-4548) (PA 1-800-242-1776) (DC 1-800-251-7777) (VA 1-800-552-7001) (MD 1-800-251-7777) (DE 1-800-382-6659)

APPROVED FOR CONSTRUCTION  
 PROJECT No: MD142048  
 DRAWN BY: BRR  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: AS SHOWN  
 CAD I.D.: SP3

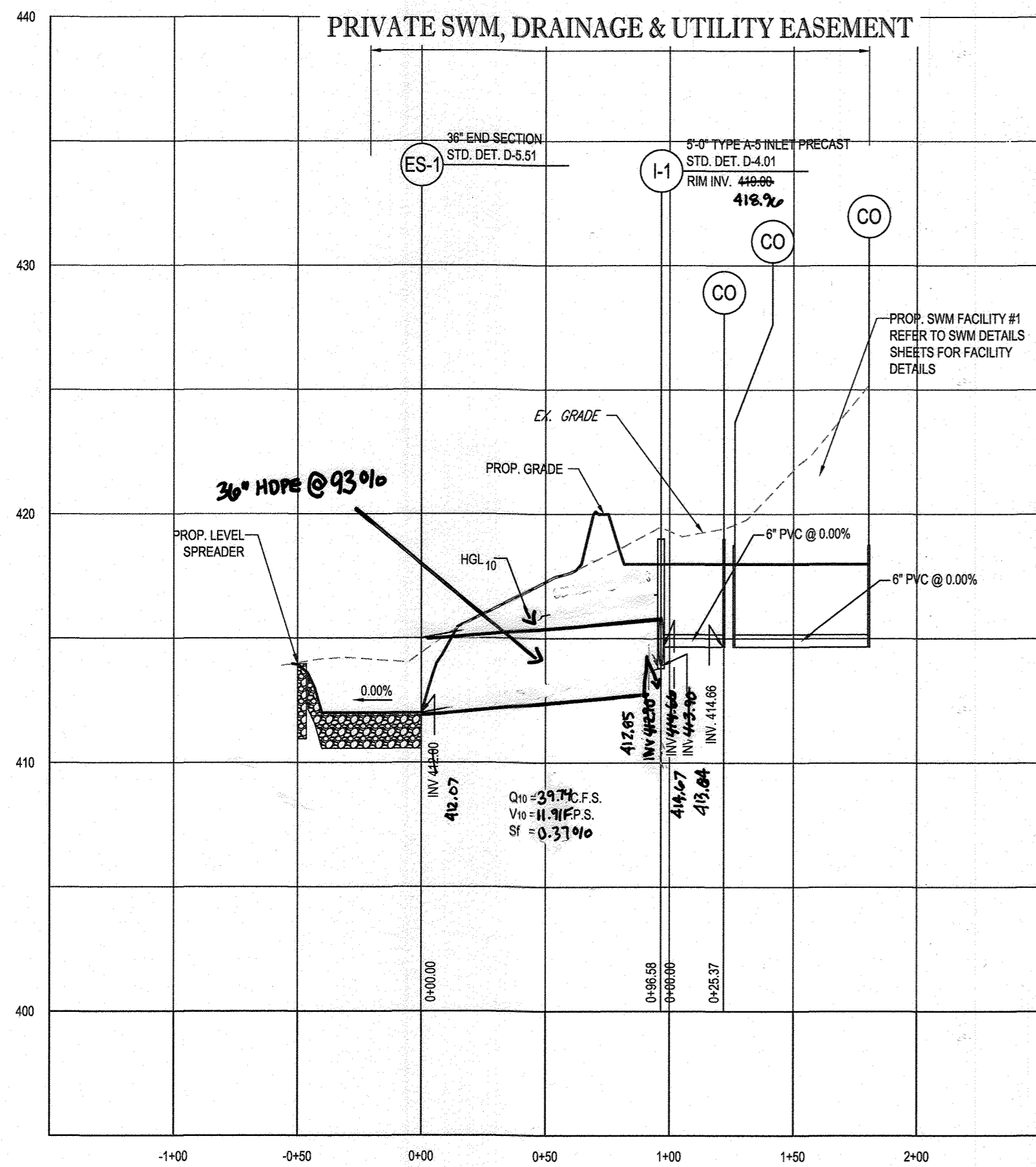
FINAL ROAD CONSTRUCTION PLAN FOR  
 WILLOWSHIRE  
 PRESERVATION PARCEL C  
 NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE  
 5232 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD,  
 SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

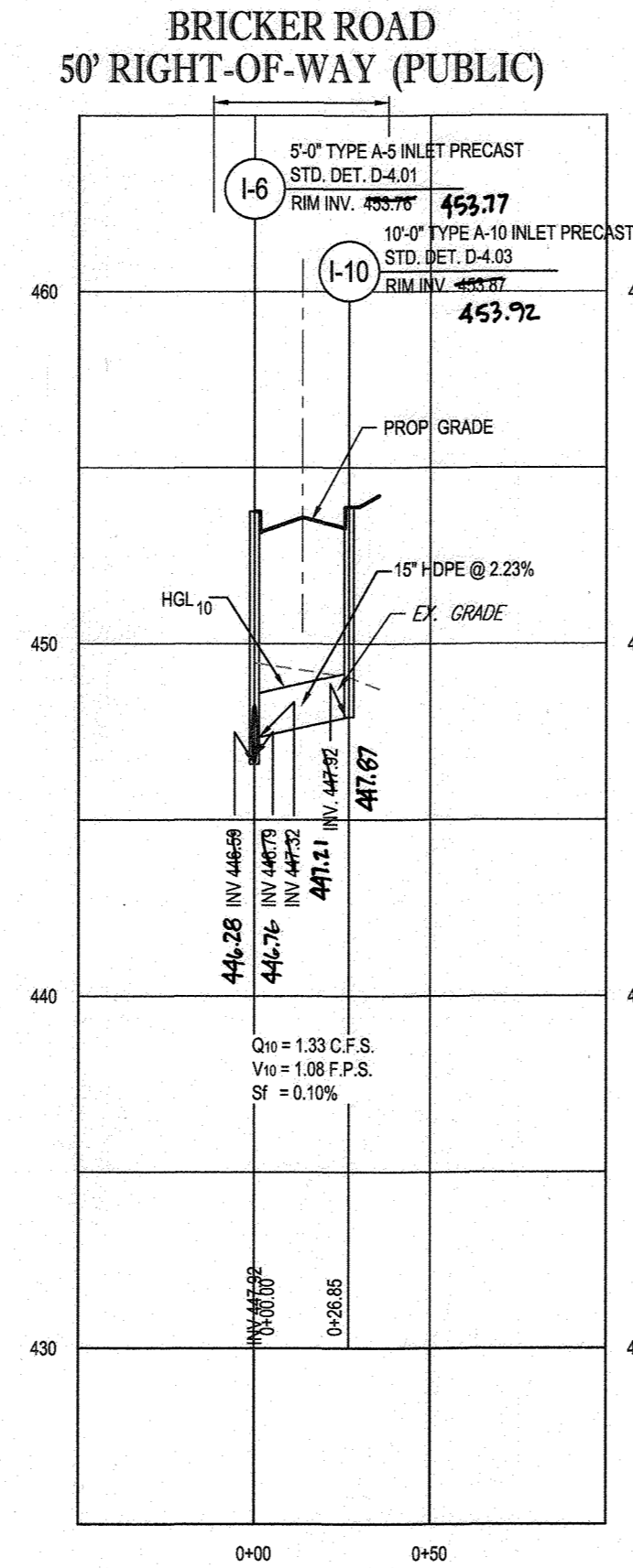
**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 4800  
 PROFESSIONAL CERTIFICATION  
 I, BRADLEY W. ROWE, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR SUPERVISED BY ME, AND THAT I AM A duly LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
 LICENSE NO. 8668, EXPIRATION DATE: 7/3/2021

SHEET TITLE:  
**STORM DRAIN PROFILES**  
 SHEET NUMBER:  
**75 OF 92**

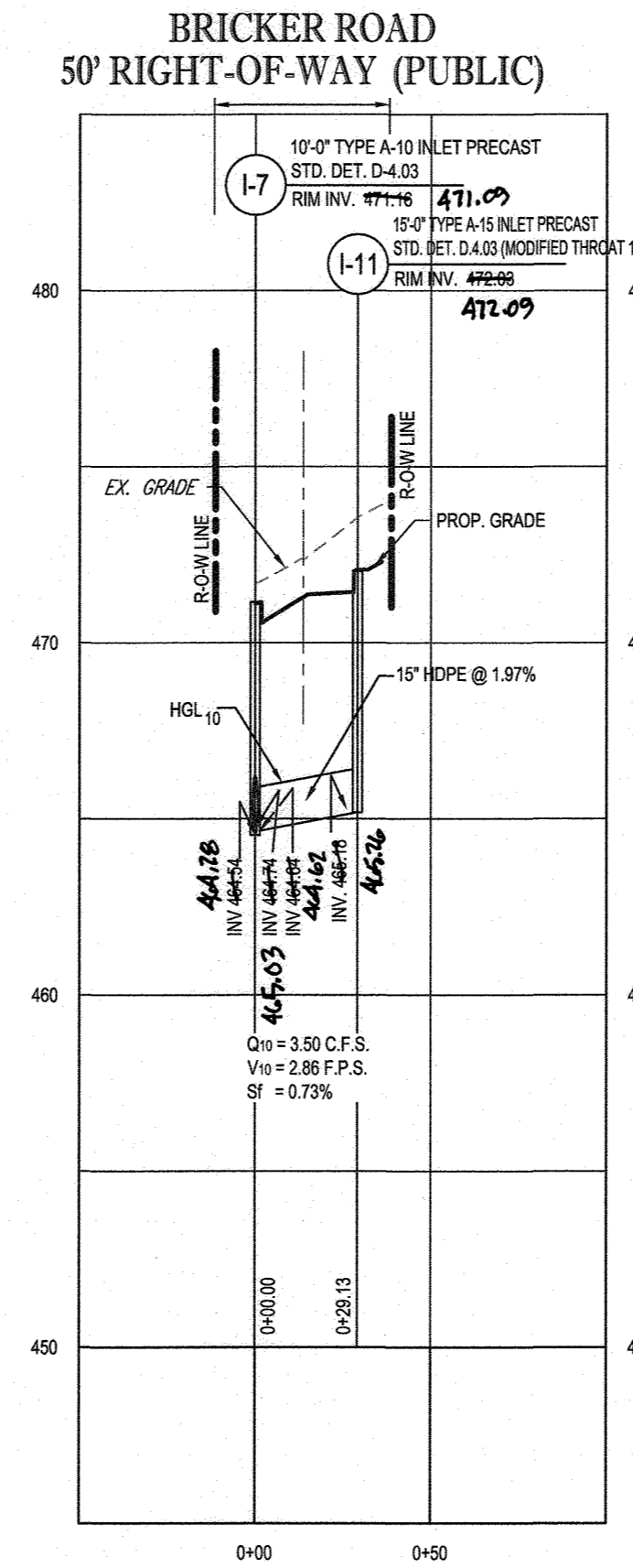




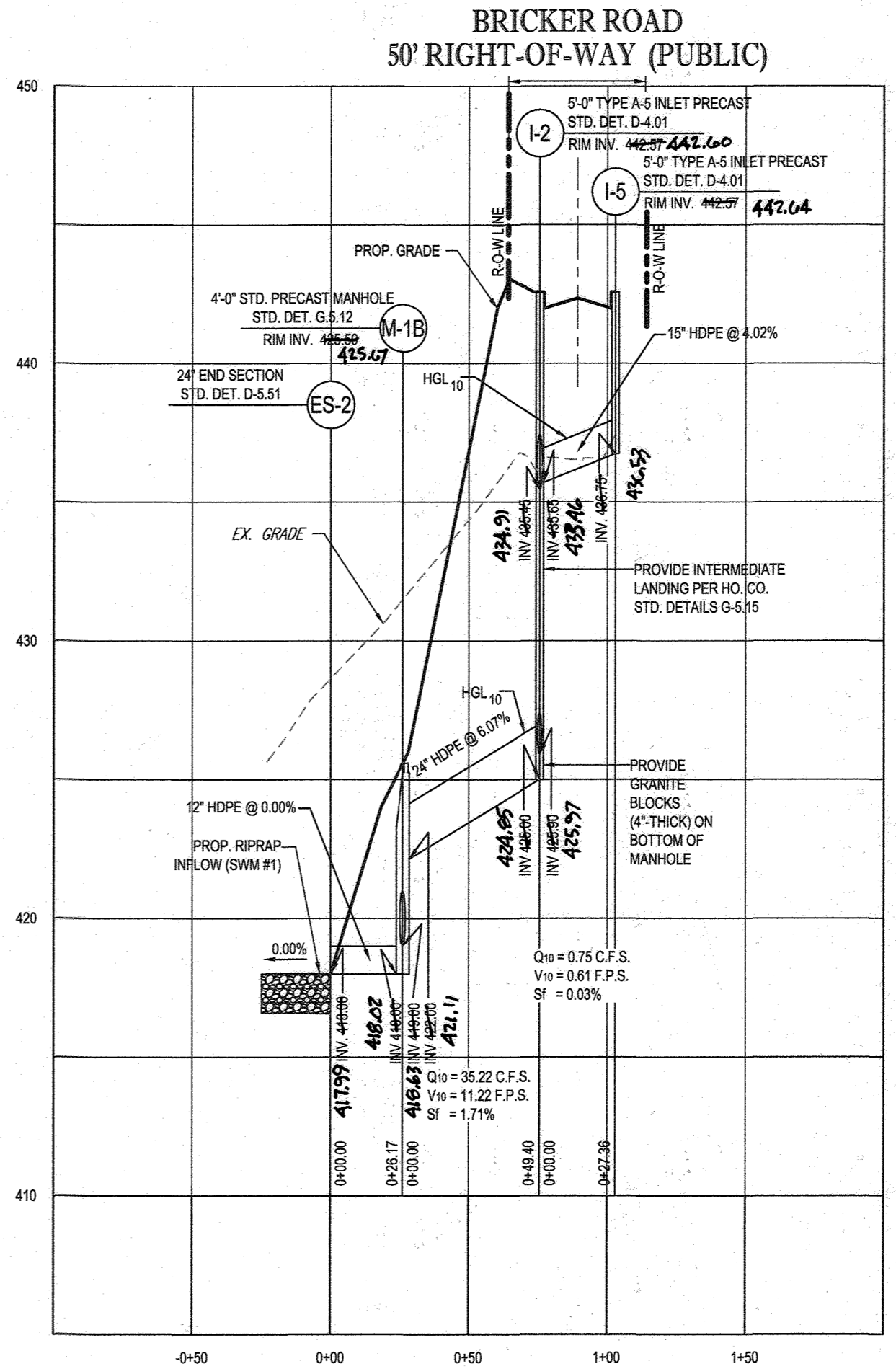
PROPOSED STORM DRAIN - ES-1 TO SWM FACILITY #1  
SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



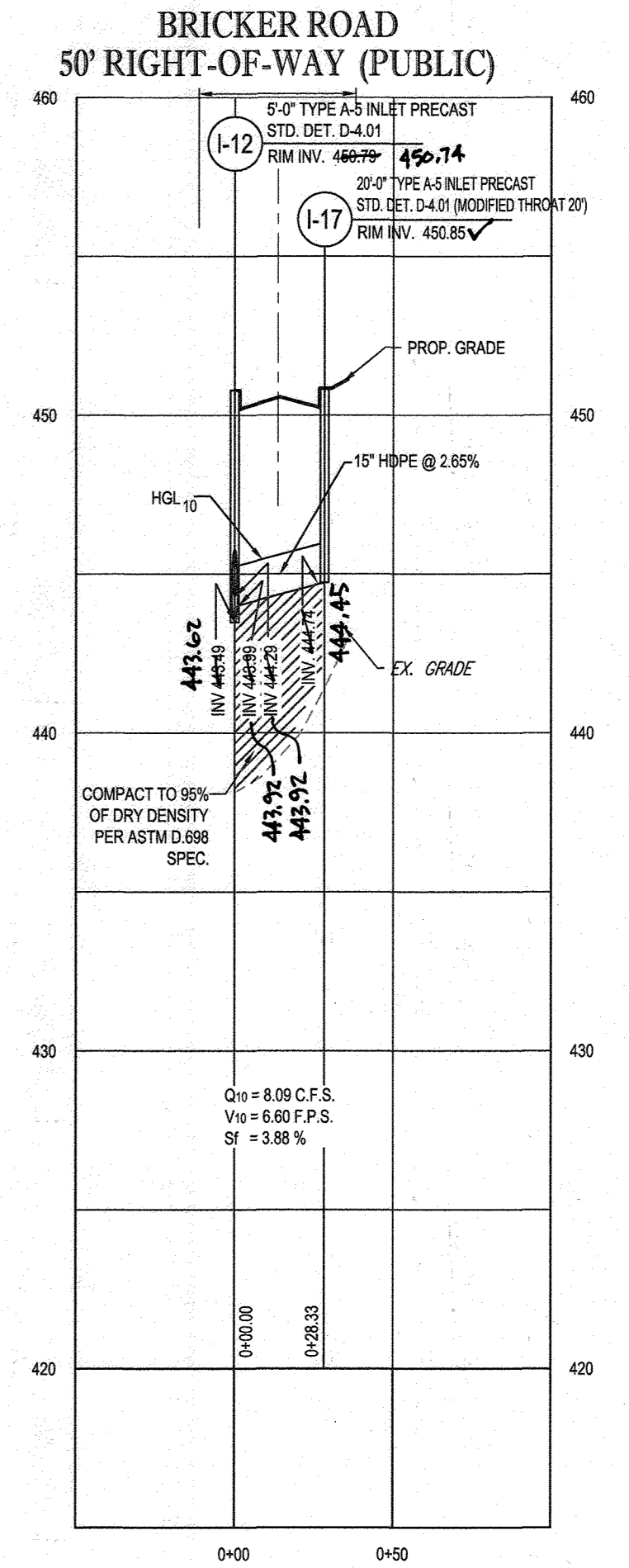
PROPOSED STORM DRAIN - I-6 TO I-10  
SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



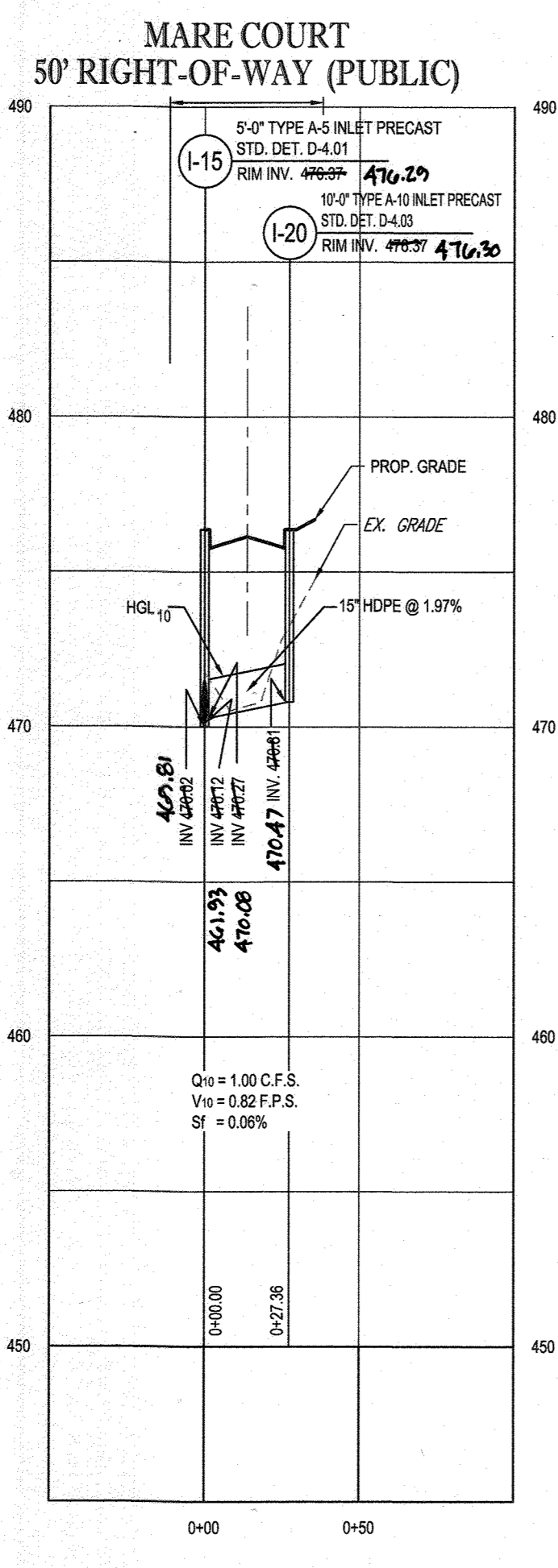
PROPOSED STORM DRAIN - I-7 TO I-11  
SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



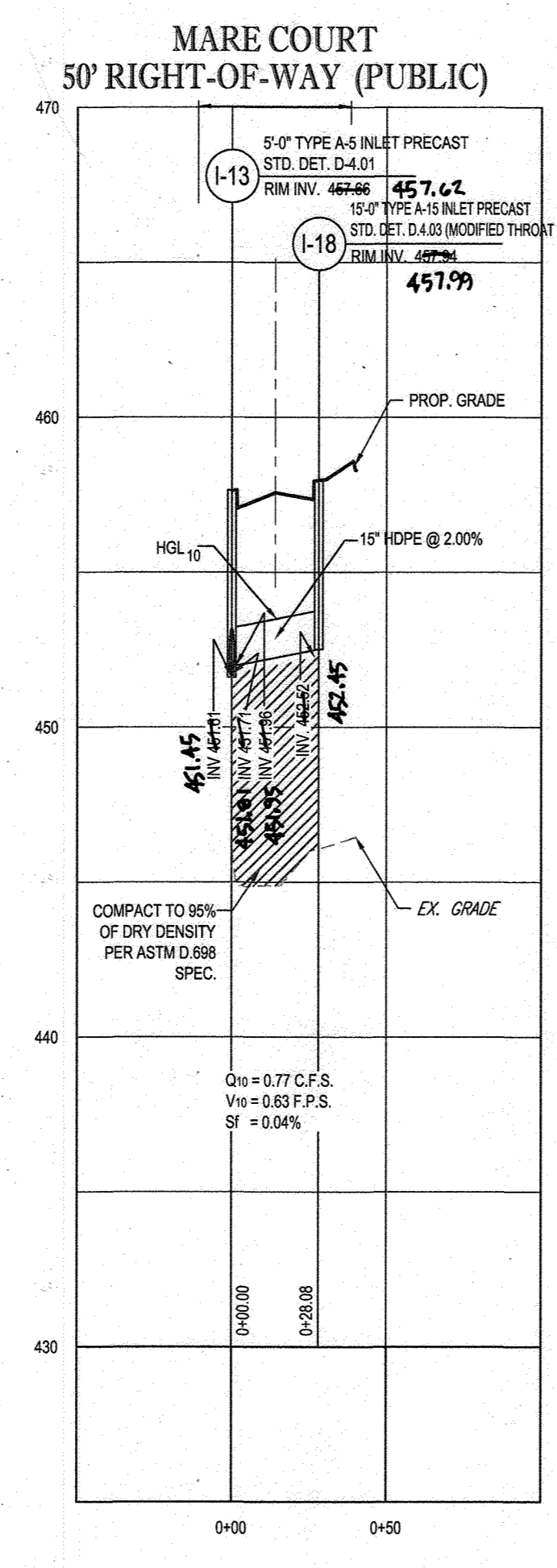
PROPOSED STORM DRAIN - ES-2 TO I-5  
SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



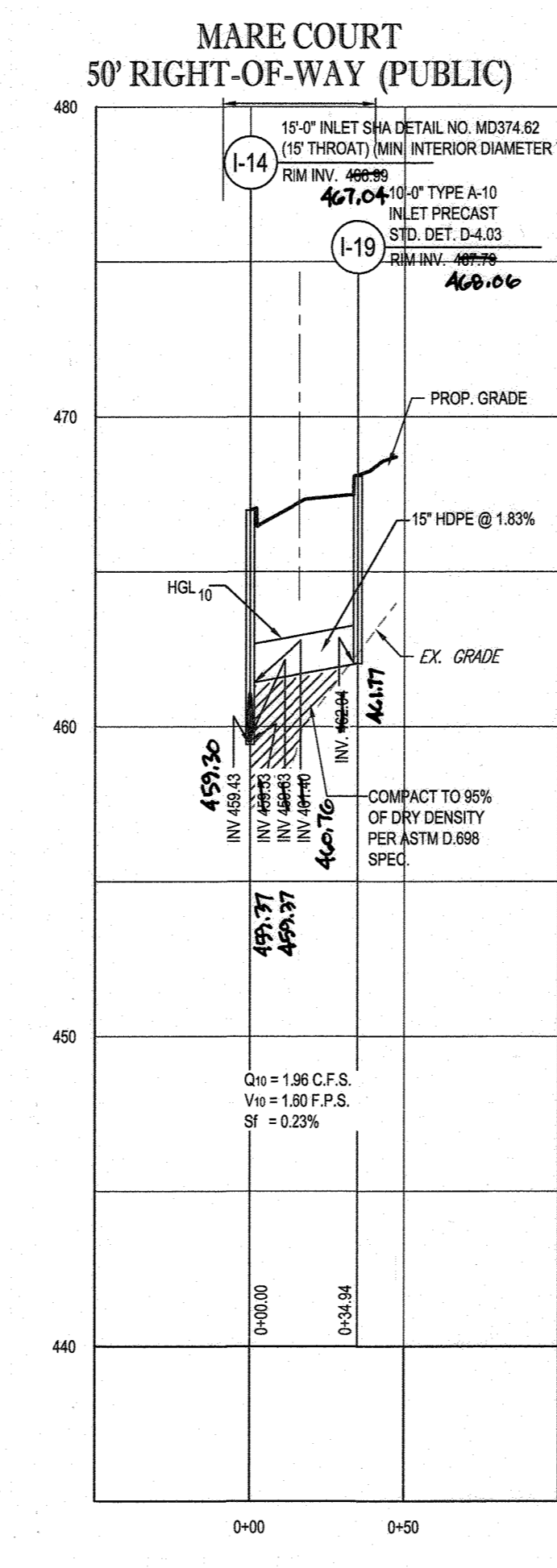
PROPOSED STORM DRAIN - I-12 TO I-17  
SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



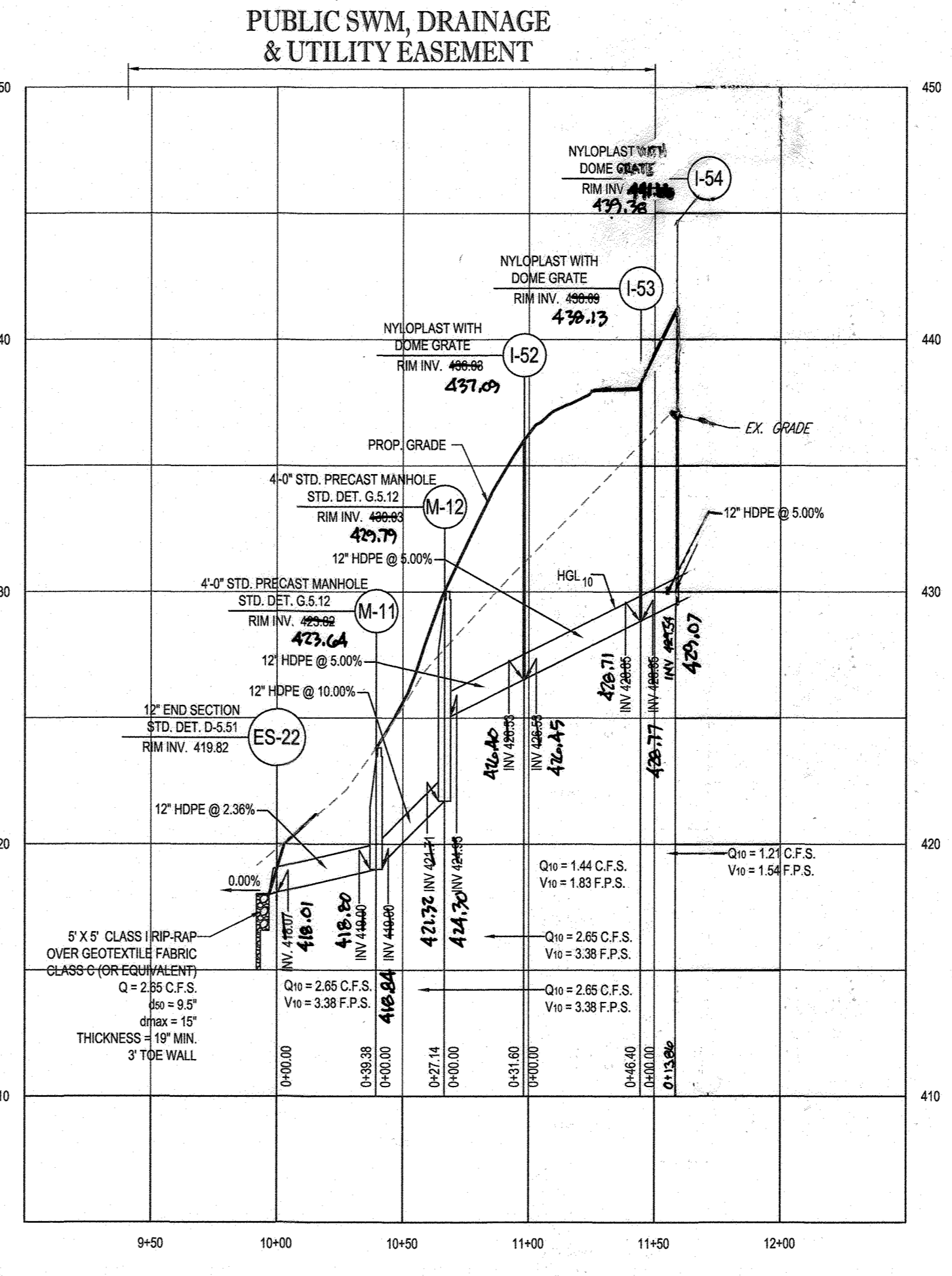
PROPOSED STORM DRAIN - I-15 TO I-20  
SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



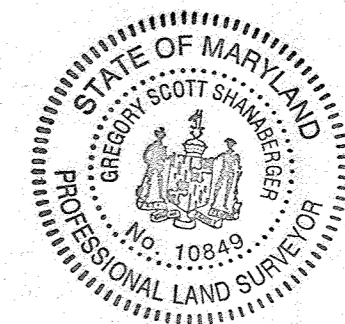
PROPOSED STORM DRAIN - I-13 TO I-18  
SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



PROPOSED STORM DRAIN - I-14 TO I-19  
SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



PROPOSED STORM DRAIN - ES-22 TO I-54  
SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



AS-BUILT CERTIFICATION  
I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED AS-BUILT SPECIFICATIONS  
SCOTT SHANABERGER  
SHANABERGER & LANE  
PROFESSIONAL LAND SURVEYOR #10849  
LICENSE EXPIRATION DATE 12/2024  
AS-BUILT SURVEY DATE 10/19/2022  
INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: 5 SECOND SOKKA 1X ROBOTE TOTAL STATION, TOPCON RC-5 RECEIVER, SOKKIA 300' PRISM

OWNERS:  
PARCEL 38  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TARR ROAD  
HORSHAM PA, 19044  
TEL.  
PARCEL 34  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TARR ROAD  
HORSHAM PA, 19044  
TEL.  
PARCEL 98  
JERRY MAUCK  
JANET BURKE JT  
5226 GREEN BRIDGE ROAD  
DAYTON, MD 21038  
TEL.  
DEVELOPER:  
GREEN BRIDGE FARM II, L.C.  
5074 DORSEY HALL ROAD, SUITE 205  
COLUMBIA, MD 21042  
CONTACT: JASON VAN KIRK  
PHONE: (410) 720-3021  
PARCEL 111  
DENNIS A LEAF  
LENORE D. SINES  
5226 GREEN BRIDGE ROAD  
DAYTON, MD 21038  
TEL.  
PARCEL 112  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TARR ROAD  
HORSHAM PA, 19044  
TEL.  
PARCEL 98  
JERRY MAUCK  
JANET BURKE JT  
5226 GREEN BRIDGE ROAD  
DAYTON, MD 21038  
TEL.  
TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
PARCEL: 34, 36, 98, 111 & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

APPROVED: DEPARTMENT OF PUBLIC WORKS  
CHIEF: BUREAU OF HIGHWAYS  
DATE: 11/26/2019  
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
CHIEF: DIVISION OF LAND DEVELOPMENT  
DATE: 2/26/2020  
CHIEF: DEVELOPMENT ENGINEERING DIVISION  
DATE: 12-9-19

**BOHLER ENGINEERING**  
CORPORATE OFFICE: WARREN, NJ  
CIVIL & CONSULTING ENGINEERS  
SURVEYORS  
PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS  
OFFICES:  
BOSTON, MA  
NEW YORK, NY  
ALBANY, NY  
RICHMOND, VA  
STERLING, VA  
FORT LAUDERDALE, FL  
PHILADELPHIA, PA  
PHOENIX, AZ  
SAN ANTONIO, TX  
TAMPA, FL

REVISIONS

REV	DATE	COMMENT	BY
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE: CALL 811  
(WV 1-800-245-4848) (PA 1-800-242-1776) (DC 1-800-257-7777) (VA 1-800-552-7001) (MD 1-800-257-7777) (DE 1-800-282-8555)

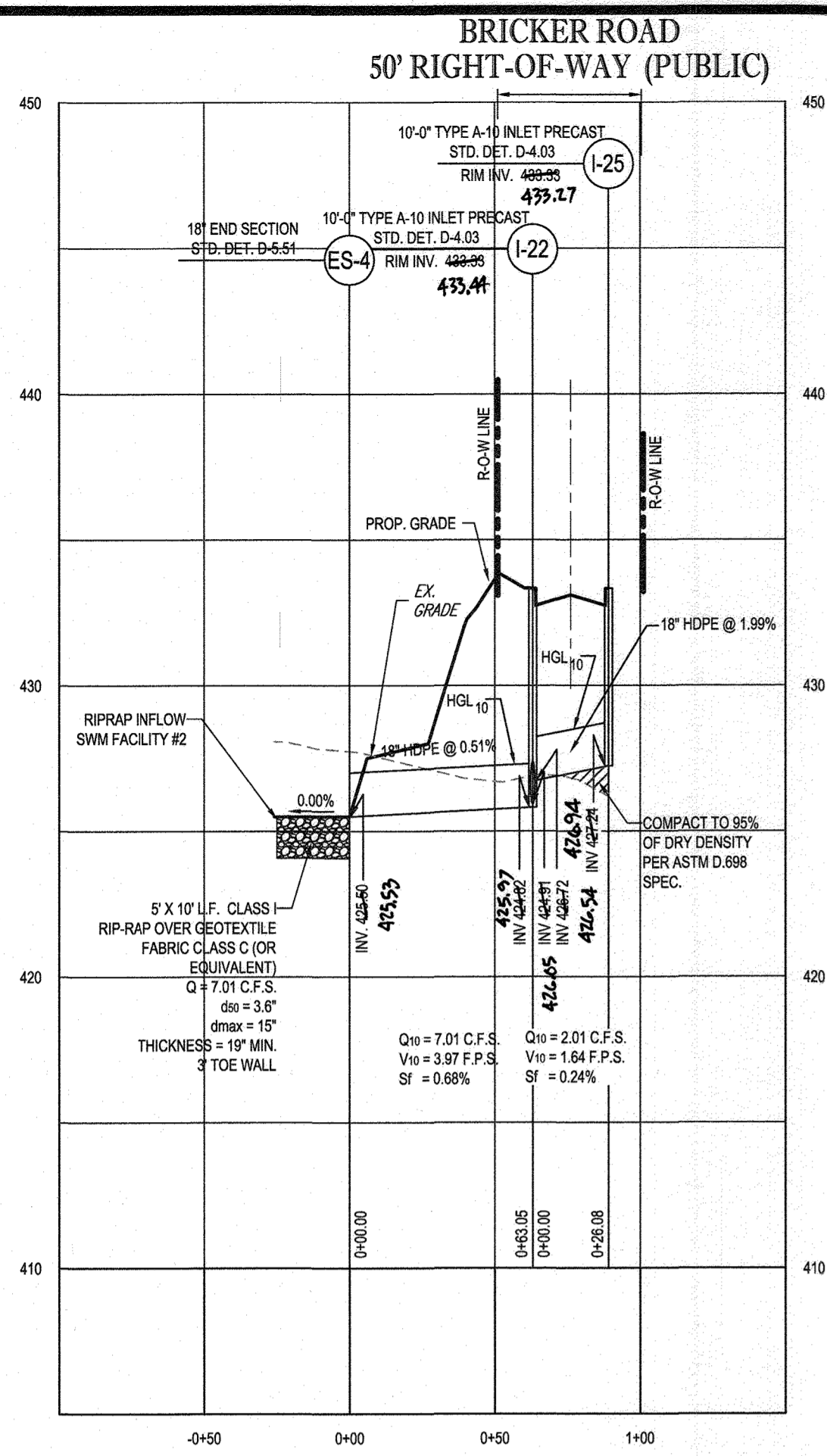
APPROVED FOR CONSTRUCTION  
PROJECT No.: MD142046  
DRAWN BY: AVG  
CHECKED BY: BRR  
DATE: 08/26/19  
SCALE: AS SHOWN  
CAD I.D.: S23

FINAL ROAD CONSTRUCTION PLAN FOR  
**WILLOWSHIRE**  
LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & I - P & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
901 DULANEY VALLEY ROAD, SUITE 801  
TOWSON, MARYLAND 21204  
Phone: (410) 821-7900  
Fax: (410) 821-7987  
www.BohlerEngineering.com

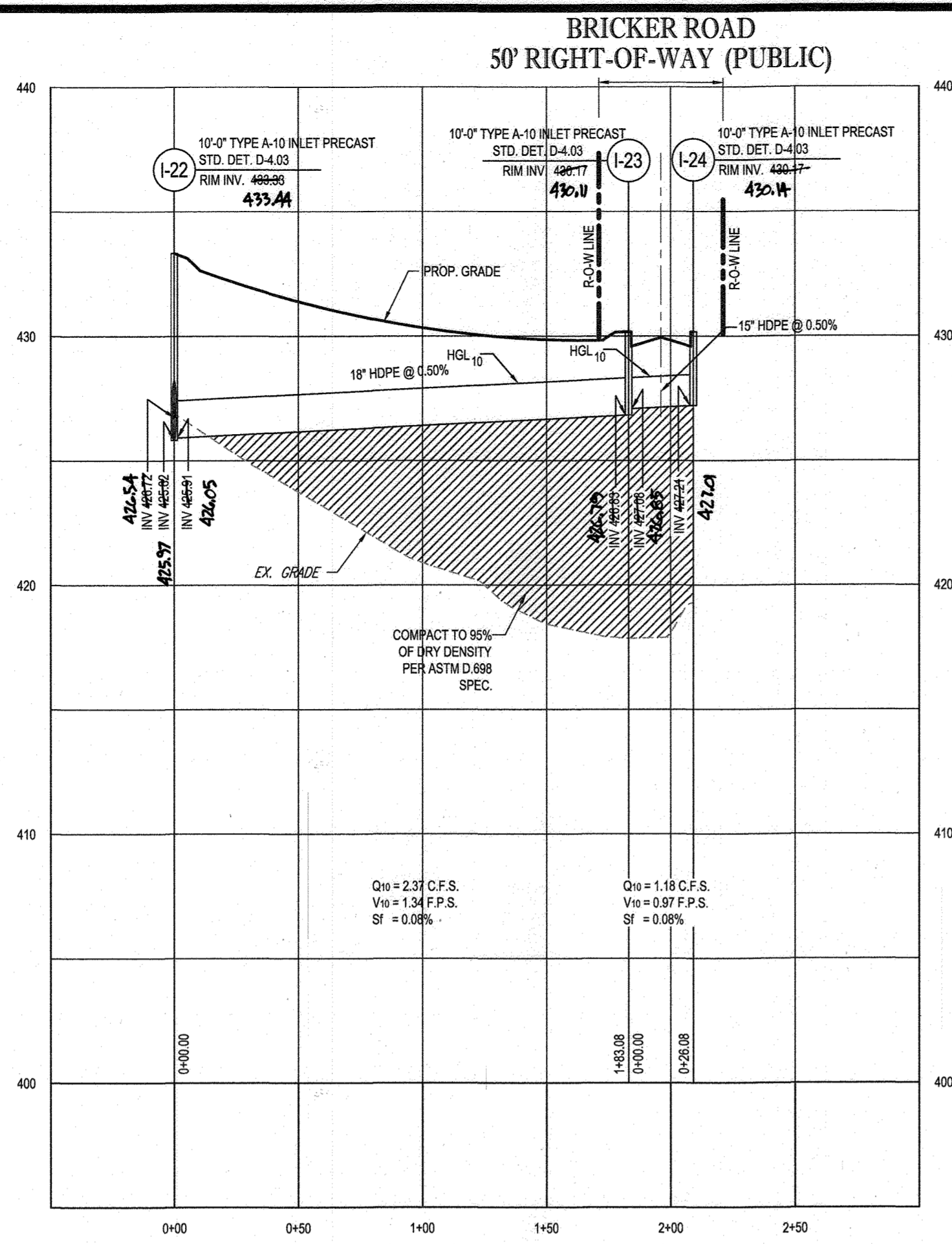
**B.P. ROWE**  
PROFESSIONAL ENGINEER  
PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A QUALIFIED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 7866, EXPIRES 07/01/2025

SHEET TITLE:  
**STORM DRAIN PROFILES**  
SHEET NUMBER:  
**77 OF 92**



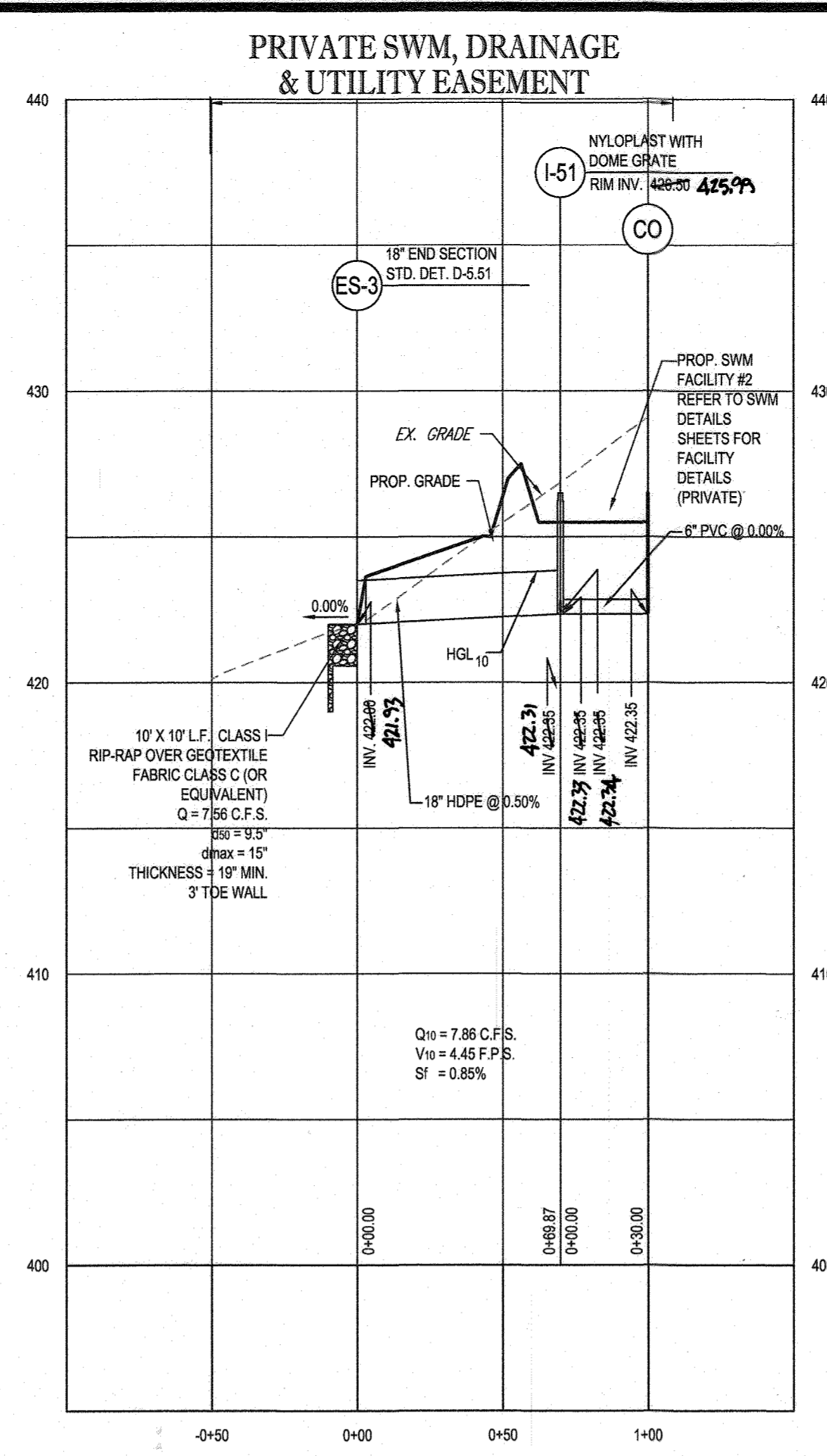
PROPOSED STORM DRAIN - ES-4 TO I-25

SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



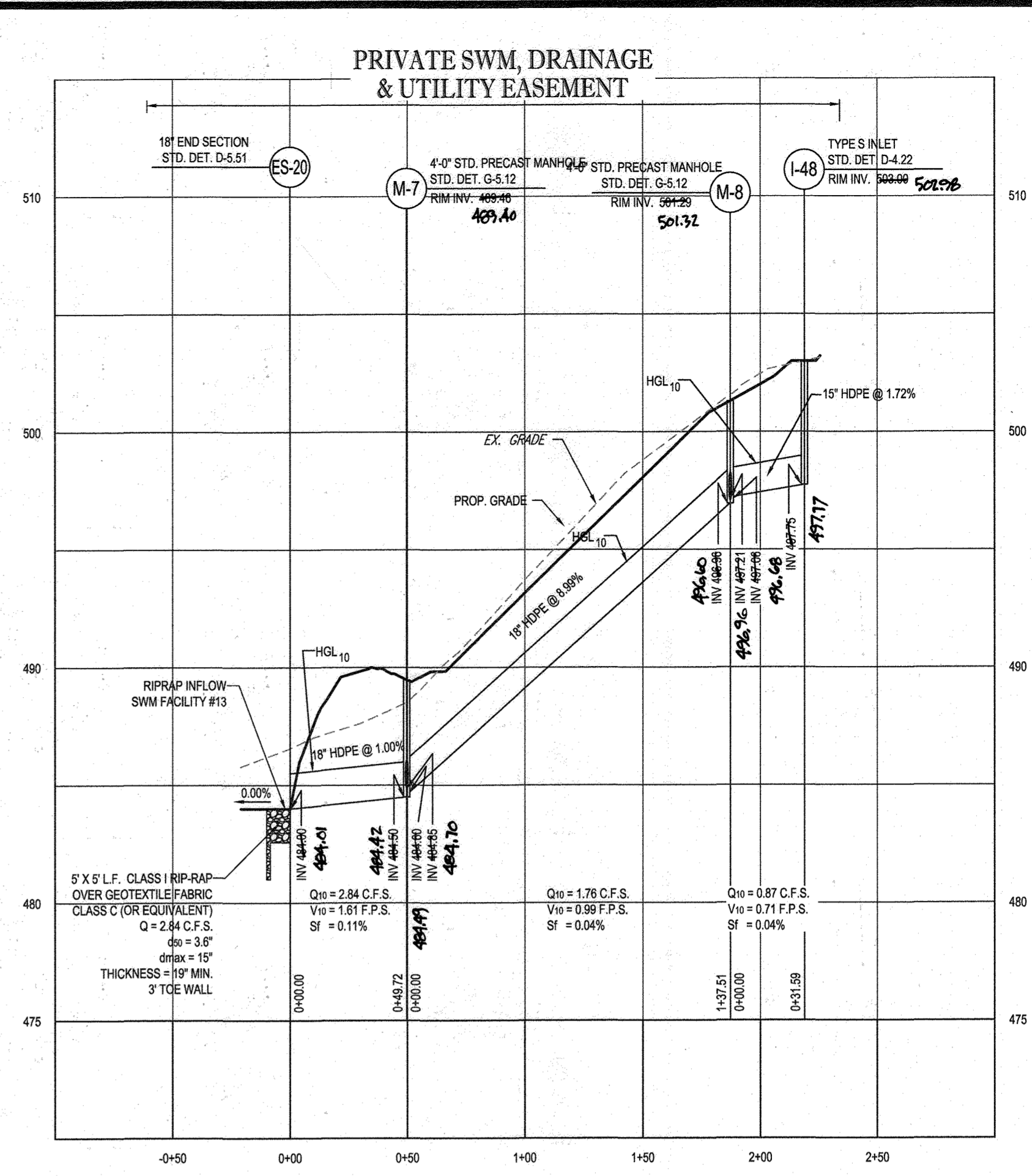
PROPOSED STORM DRAIN - I-22 TO I-24

SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



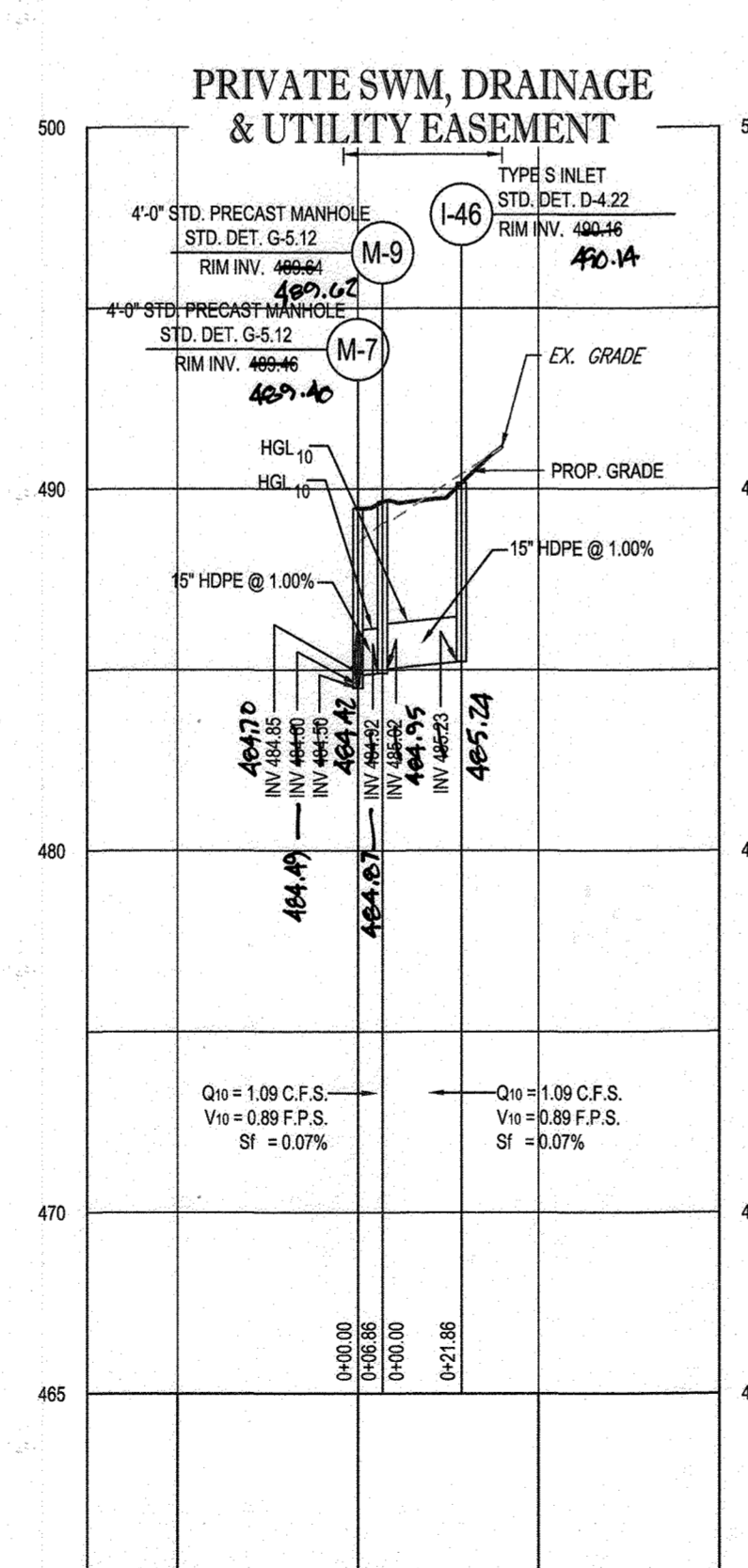
PROPOSED STORM DRAIN - ES-3 TO SWM #2

SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



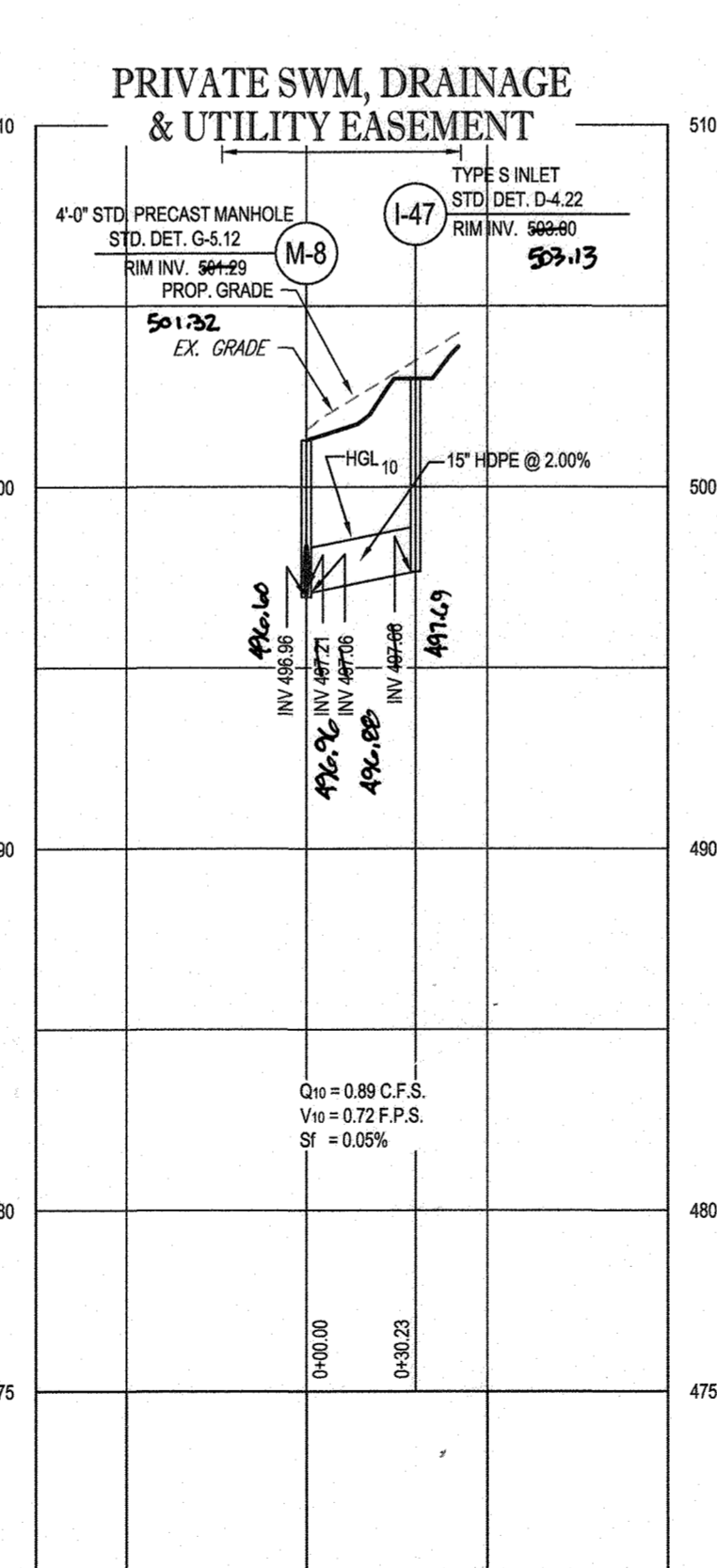
PROPOSED STORM DRAIN - ES-20 TO I-48

SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



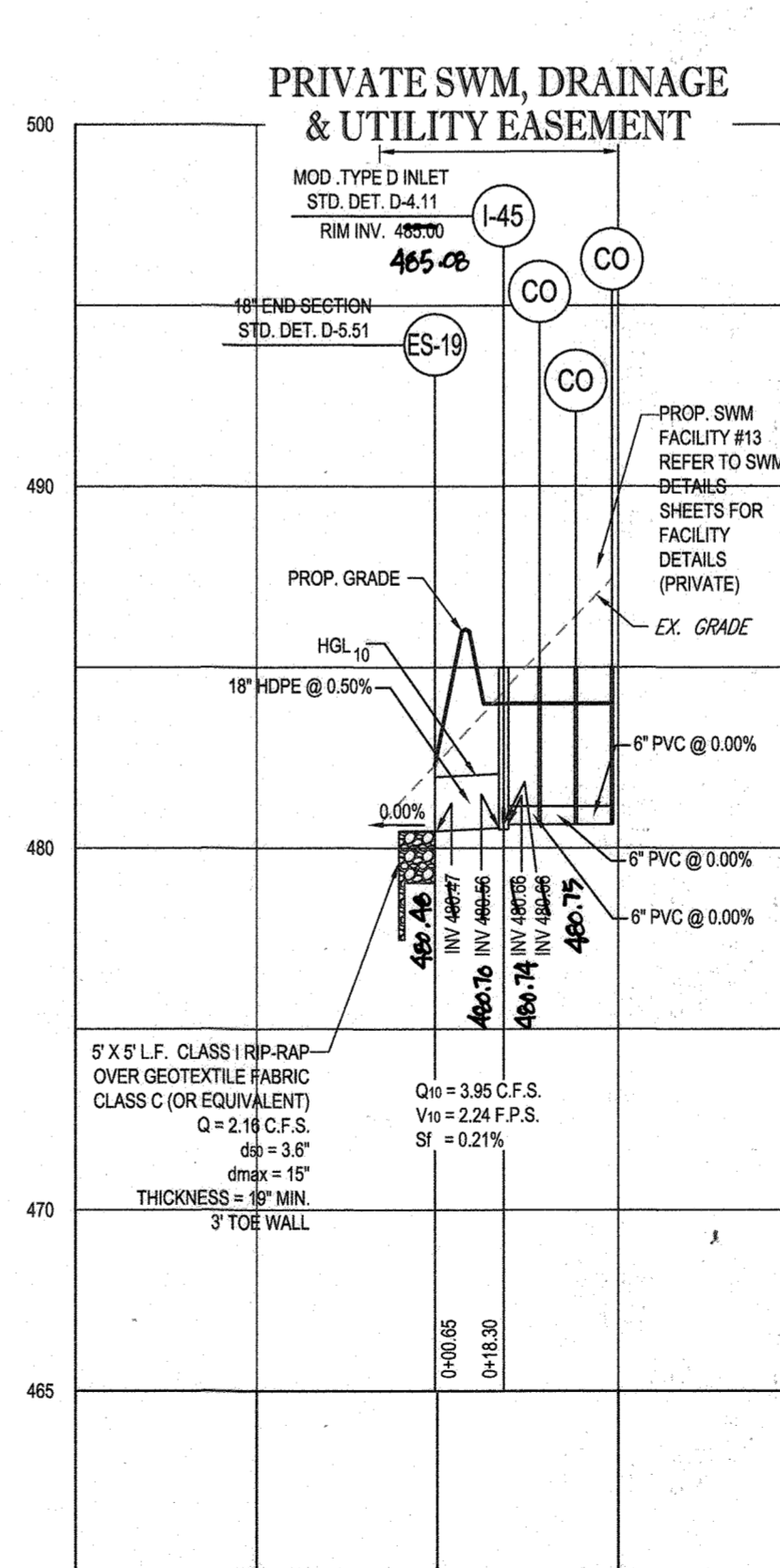
PROPOSED STORM DRAIN - M-7 TO I-46

SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



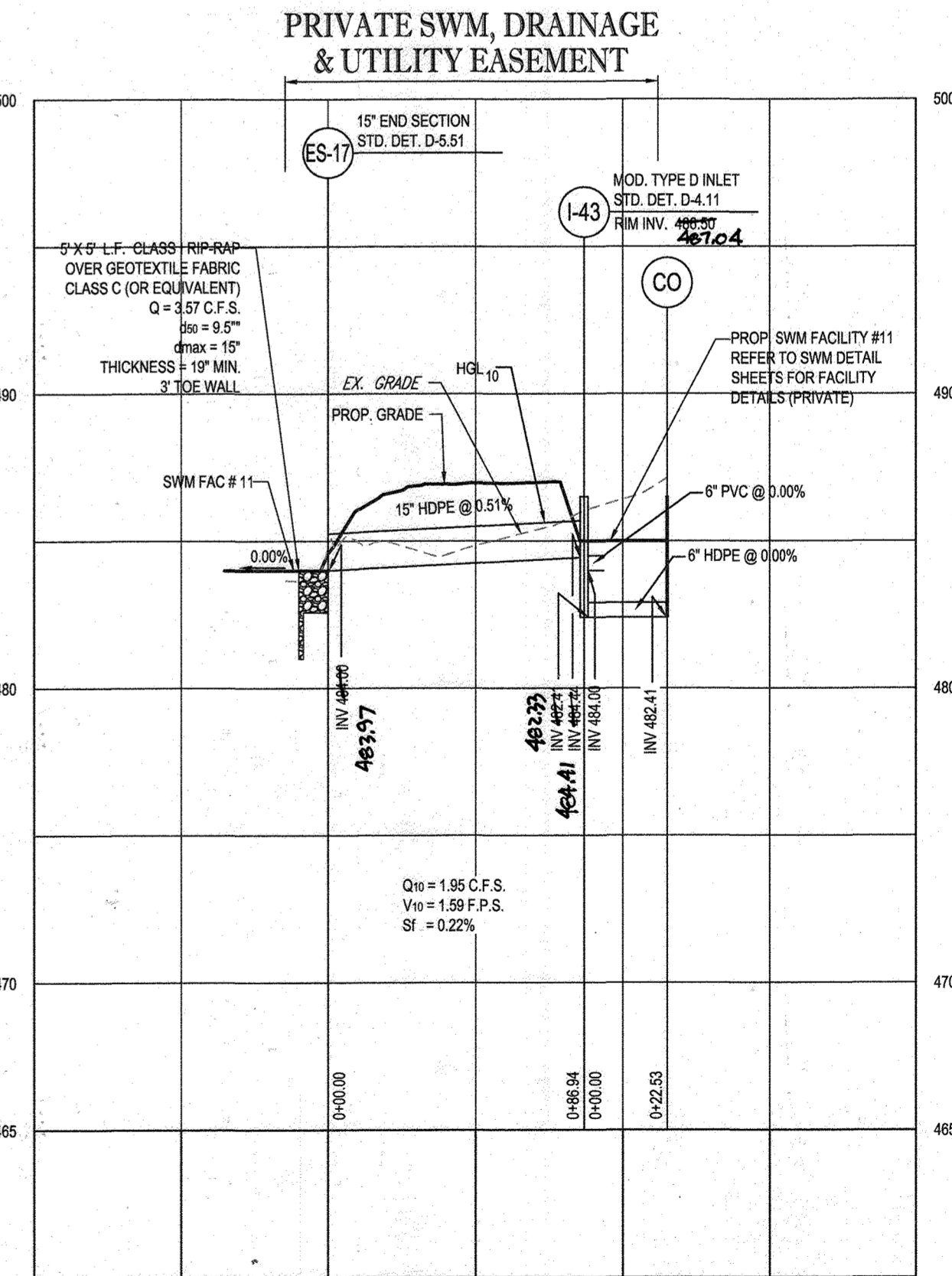
PROPOSED STORM DRAIN - M-8 TO I-47

SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



PROPOSED STORM DRAIN - ES-19 TO SWM #13

SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



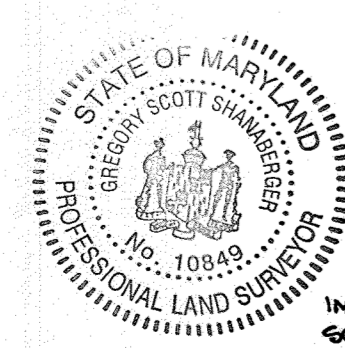
PROPOSED STORM DRAIN - ES-17 TO SWM #11

SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL

APPROVED: DEPARTMENT OF PUBLIC WORKS  
CHIEF, BUREAU OF HIGHWAYS  
DATE: 11/26/2019

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 2/20/2020

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 12.9.19



AS-BUILT CERTIFICATION  
I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS  
APPROVED BY: SHANNON & LANE  
DATE: 10/12/2023

PROFESSIONAL LAND SURVEYOR #10849  
LICENSE EXPIRATION DATE 12/2024  
AS-BUILT SURVEY DATE: 10/12/2023

INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: SICKIA 1X ROBOTIC TOTAL STATION, TOPCON RC-5 RECEIVER, SICKIA 300P PRISM

OWNERS:  
PARCEL 36  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TAR ROAD  
HORSHAM PA, 19044  
TEL.

PARCEL 34  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TAR ROAD  
HORSHAM PA, 19044  
TEL.

PARCEL 111  
DENNIS A LEAF  
LENORE D SINES  
5226 GREEN BRIDGE ROAD  
DAYTON, MD 21038  
TEL.

PARCEL 112  
TOLL MID ATLANTIC LP COMPANY INC.  
250 GIBRAL TAR ROAD  
HORSHAM PA, 19044  
TEL.

PARCEL 98  
JERRY MAUCK  
JANET BURKE JT  
5234 GREEN BRIDGE ROAD  
DAYTON, MD 21038  
TEL.

DEVELOPER: GREEN BRIDGE FARM II, L.C.  
5074 DORSEY HALL ROAD, SUITE 205  
COLUMBIA, MD 21042  
CONTACT: JASON VAN KIRK  
PHONE: (410) 720-3021

SECTION AREA: N/A  
DEED #: 11361/00222, 00183/00554,  
15884/00384, 05889/00490  
0434/00270, & 03201/00539

PREVIOUS FILE NO.:  
EC-16-023 PB436  
SP-17-002  
WP-17-005

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
PARCEL: 34, 36, 98, 111 & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
WARREN, NJ

OFFICES:  
ANN ARBOR, MI  
ATLANTA, GA  
BALTIMORE, MD  
BOSTON, MA  
DENVER, CO  
FORT LAUDERDALE, FL  
FORT MYERS, FL  
HONOLULU, HI  
INDIANAPOLIS, IN  
LOS ANGELES, CA  
MIAMI, FL  
MINNEAPOLIS, MN  
NEW YORK, NY  
PHILADELPHIA, PA  
PORTLAND, ME  
SAN ANTONIO, TX  
WASHINGTON, DC

CIVIL & CONSULTING ENGINEERS  
SURVEYORS  
PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EDUCATORS, DESIGNERS, OR ANY PERSON PREPARING TO EXERCISE THE RIGHTS SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE: 1811

(WV 1-800-245-4848) (PA 1-800-242-1778) (DC 1-800-257-7777) (VA 1-800-623-7070) (MD 1-800-257-7777) (DE 1-800-383-6559)

APPROVED FOR CONSTRUCTION

PROJECT No: MD142048  
DRAWN BY: AVG  
CHECKED BY: BRR  
DATE: 08/26/19  
SCALE: AS SHOWN  
CAD I.D.: SP3

FINAL ROAD CONSTRUCTION PLAN FOR

**WILLOWSHIRE**

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E - G & L - P & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD,  
SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7900  
Fax: (410) 821-7987  
www.BohlerEngineering.com

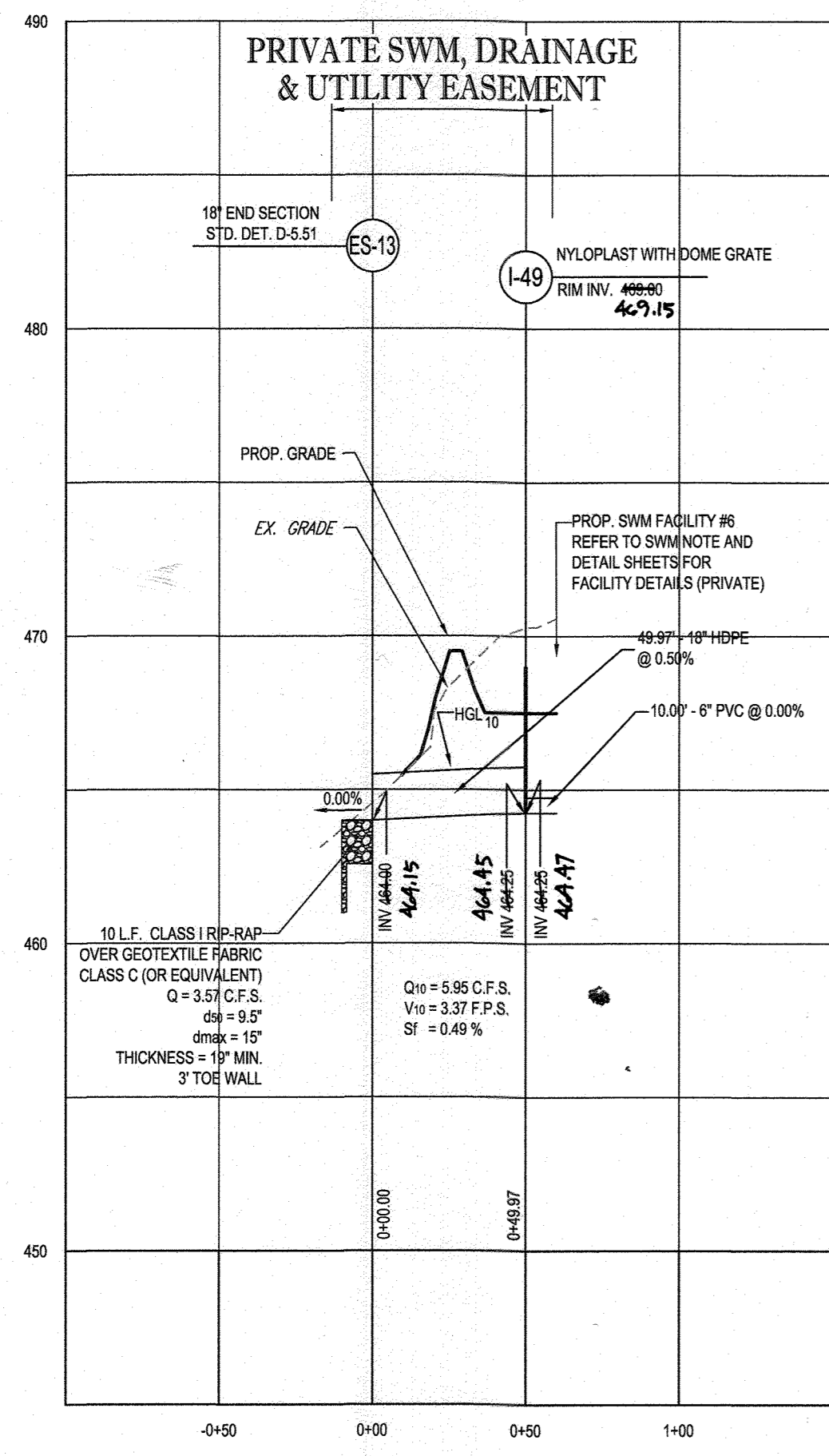
**B.R. ROWE**

PROFESSIONAL ENGINEER  
MARYLAND LICENSE # 6082 C

PROFESSIONAL CERTIFICATION  
I, BRUCE ROWE, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR SUPERVISED BY ME, AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE NO. 6082 C, EXPIRES 03/31/2021

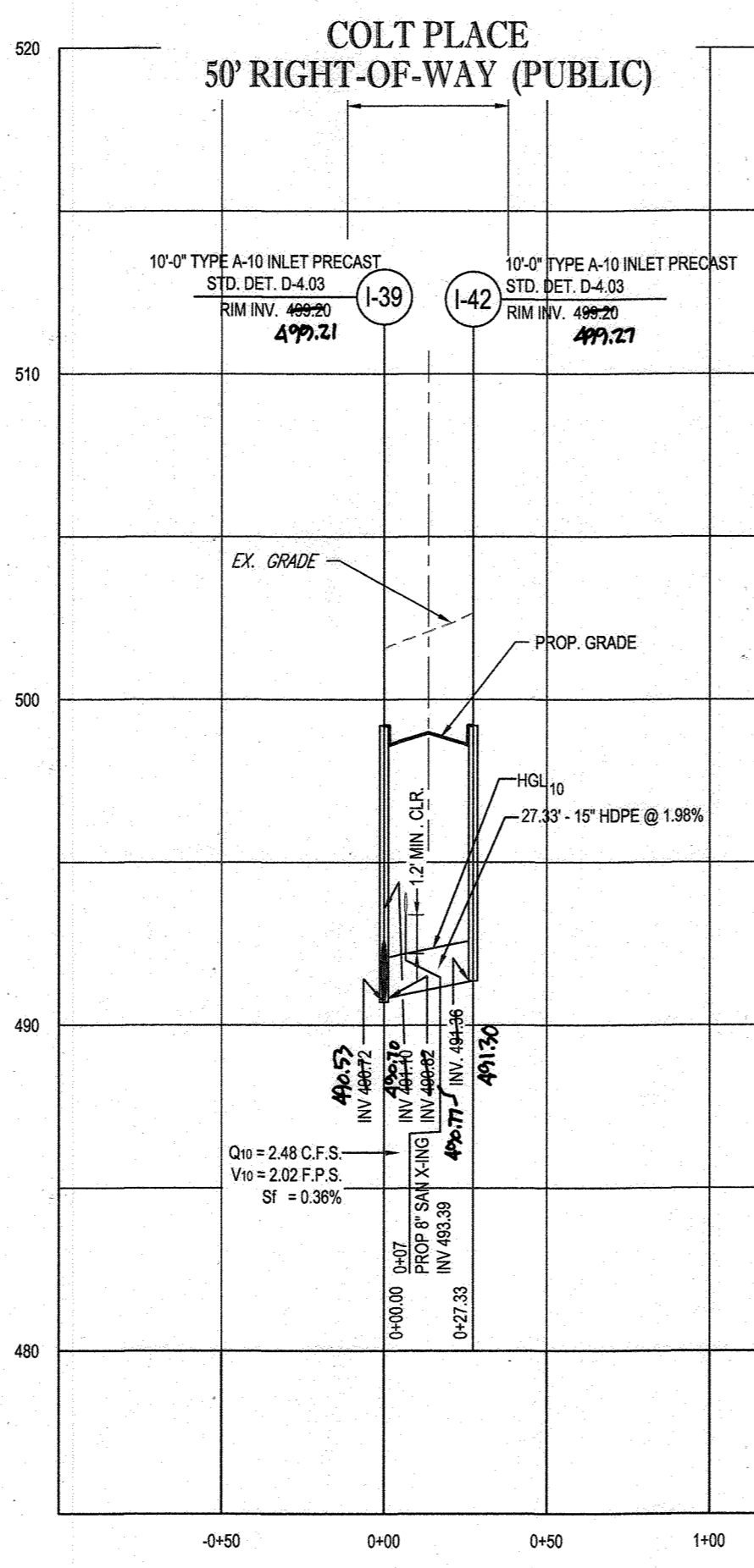
SHEET TITLE:  
**STORM DRAIN PROFILES**

SHEET NUMBER:  
**78 OF 92**



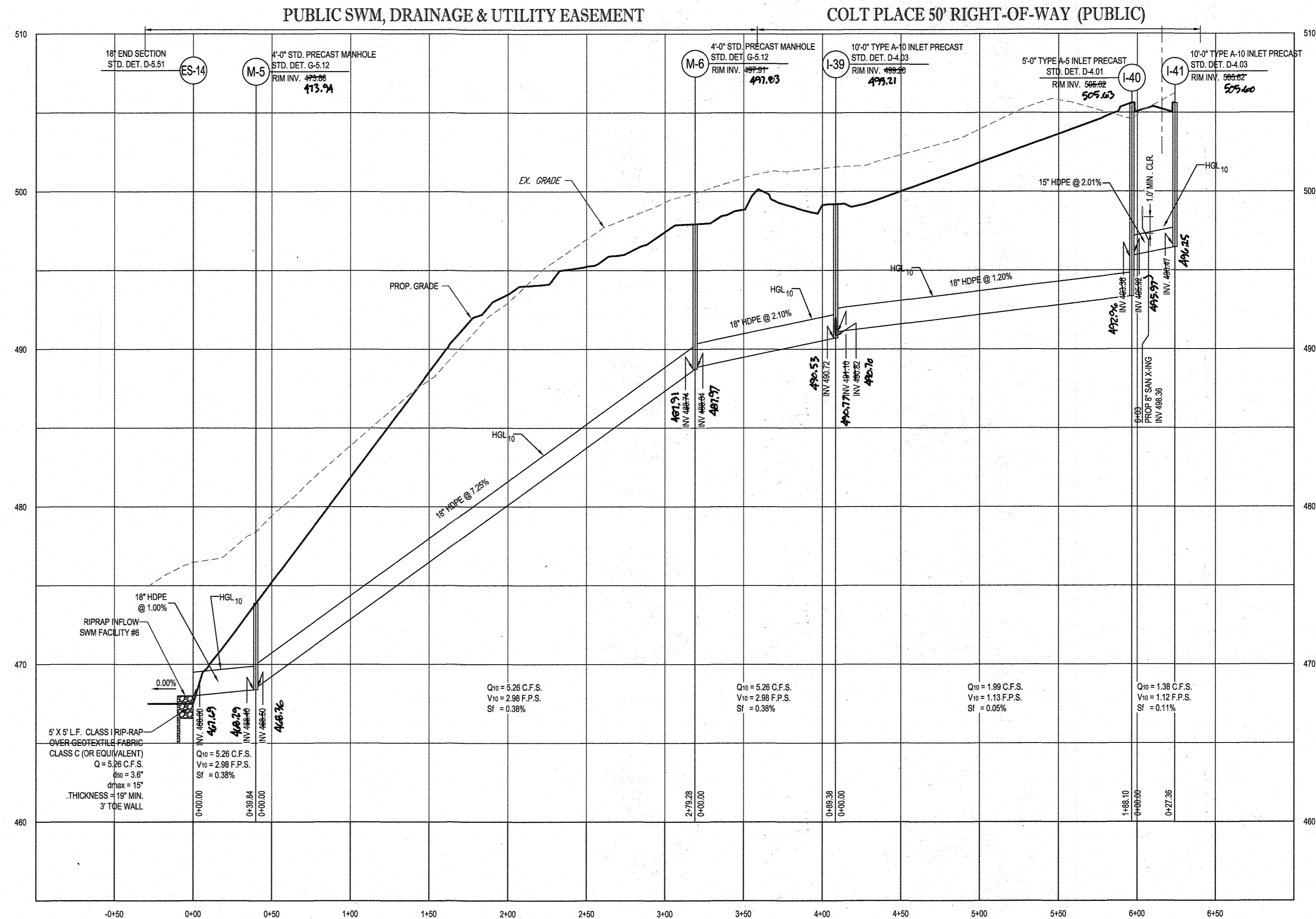
PROPOSED STORM DRAIN - ES-13 TO I-49

SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



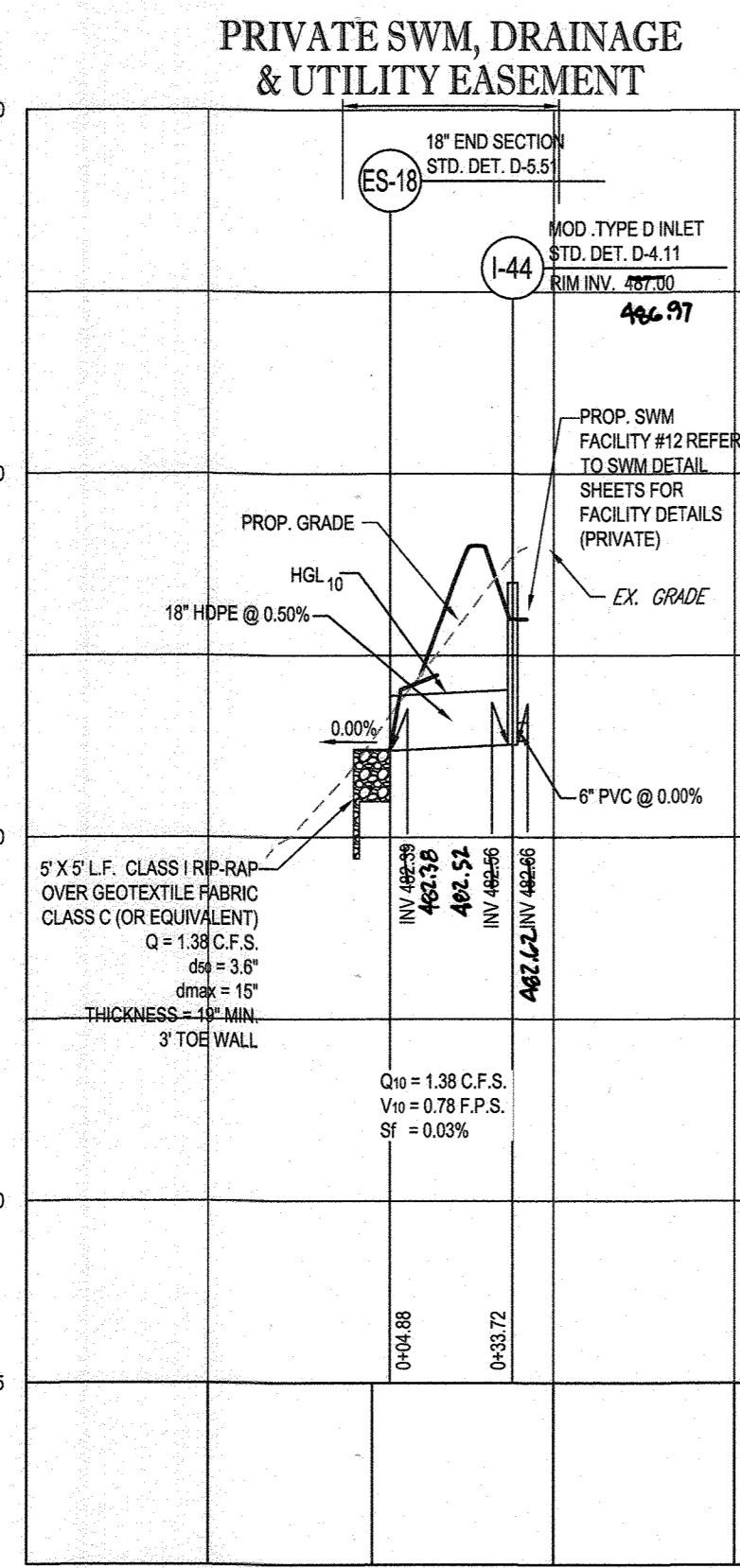
PROPOSED STORM DRAIN - I-39 TO I-42

SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



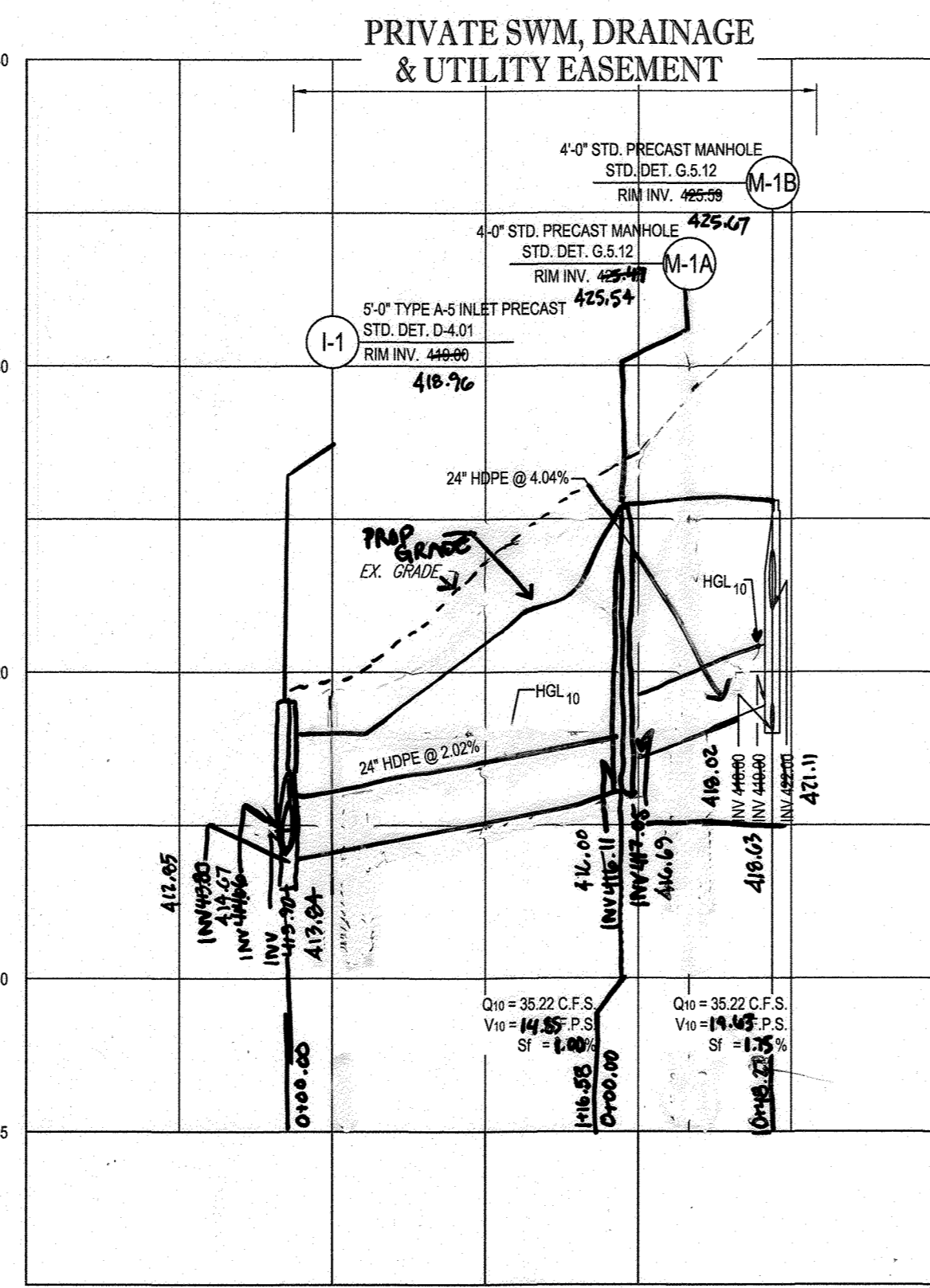
PROPOSED STORM DRAIN - ES-14 TO I-41

SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



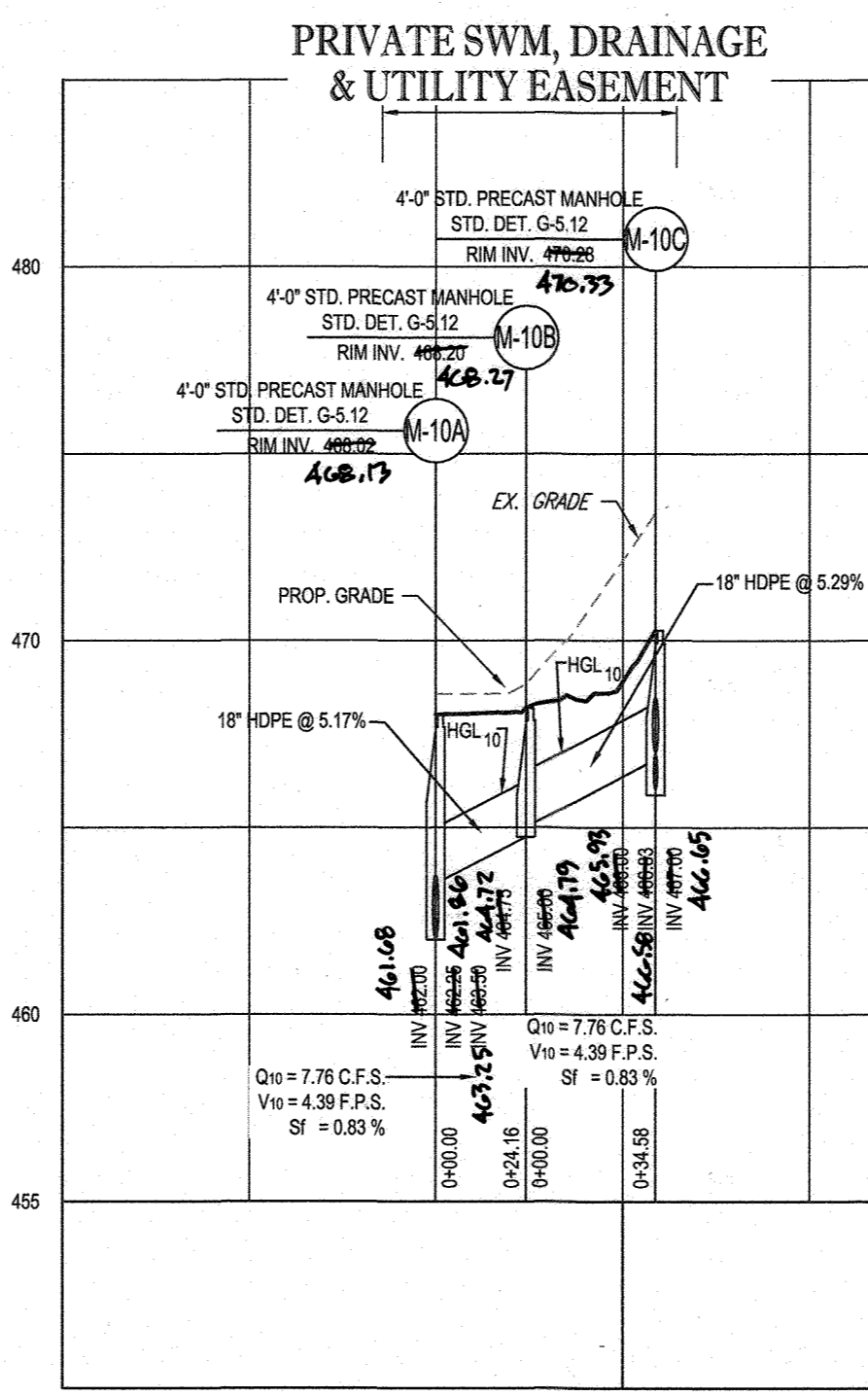
PROPOSED STORM DRAIN - ES-18 TO I-44

SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



PROPOSED STORM DRAIN - I-1 TO M-1B

SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL

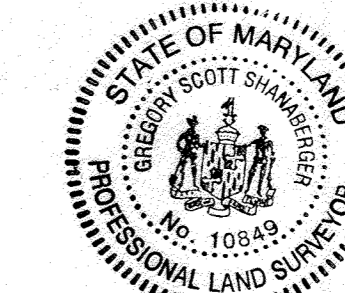


PROPOSED STORM DRAIN - M-10A TO M-10C

SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL

APPROVED: DEPARTMENT OF PUBLIC WORKS  
DATE: 11/26/2019  
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
DATE: 2/20/2020  
DATE: 12-9-19

OWNERS:  
PARCEL 34: TOLL MID ATLANTIC LP COMPANY INC.  
PARCEL 36: TOLL MID ATLANTIC LP COMPANY INC.  
PARCEL 111: DENNIS A LEAF JERRY MAUCK LENOIRE D SINES  
PARCEL 112: TOLL MID ATLANTIC LP COMPANY INC.  
PARCEL 98: JERRY MAUCK JANET BURKE JTT  
DEVELOPER: ELM STREET DEVELOPMENT  
TAX MAP: 27 GRID: 18 ZONING: RR-DEO  
PARCEL: 34, 36, 98, 111 & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND



AS-BUILT CERTIFICATION  
I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED PLANNING REGULATIONS  
G. SCOTT SHANABERGER  
SHANABERGER & LANE  
PROFESSIONAL LAND SURVEYOR #11849  
LICENSE EXPIRATION DATE 4/2/2024  
AS-BUILT SURVEY DATE: 12/12/2023  
INSTRUMENTS USED IN PREPARING THIS AS-BUILT SURVEY: 5 SECOND GENCO 1X ROBOTIC TOTAL STATION, TOPCON RC-5 RECEIVER, SOKKIA 3600 PRISM

## BOHLER ENGINEERING

CORPORATE OFFICE:  
WARREN NJ

OFFICES:  
BOSTON MA  
TOWSON MD  
STERLING VA  
CENTER VALLEY PA  
DIACON VA  
FORT LAUDERDALE FL  
TAMPA FL  
PHILADELPHIA PA

CIVIL & CONSULTING ENGINEERS  
SURVEYORS  
PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY ENGINEERS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE: IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL 811  
(VA 1-800-245-4848) (PA 1-800-242-1776) (DC 1-800-257-3777) (MD 1-800-652-7001) (DE 1-800-257-7777) (OR 1-800-252-8849)

**APPROVED FOR CONSTRUCTION**

PROJECT NO: MD142046  
DRAWN BY: BRR  
CHECKED BY: BRR  
DATE: 08/26/19  
SCALE: AS SHOWN  
CAD I.D.: SP3

**FINAL ROAD CONSTRUCTION PLAN FOR**

### WILLOWSHIRE

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E - G & L - P & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

## BOHLER ENGINEERING

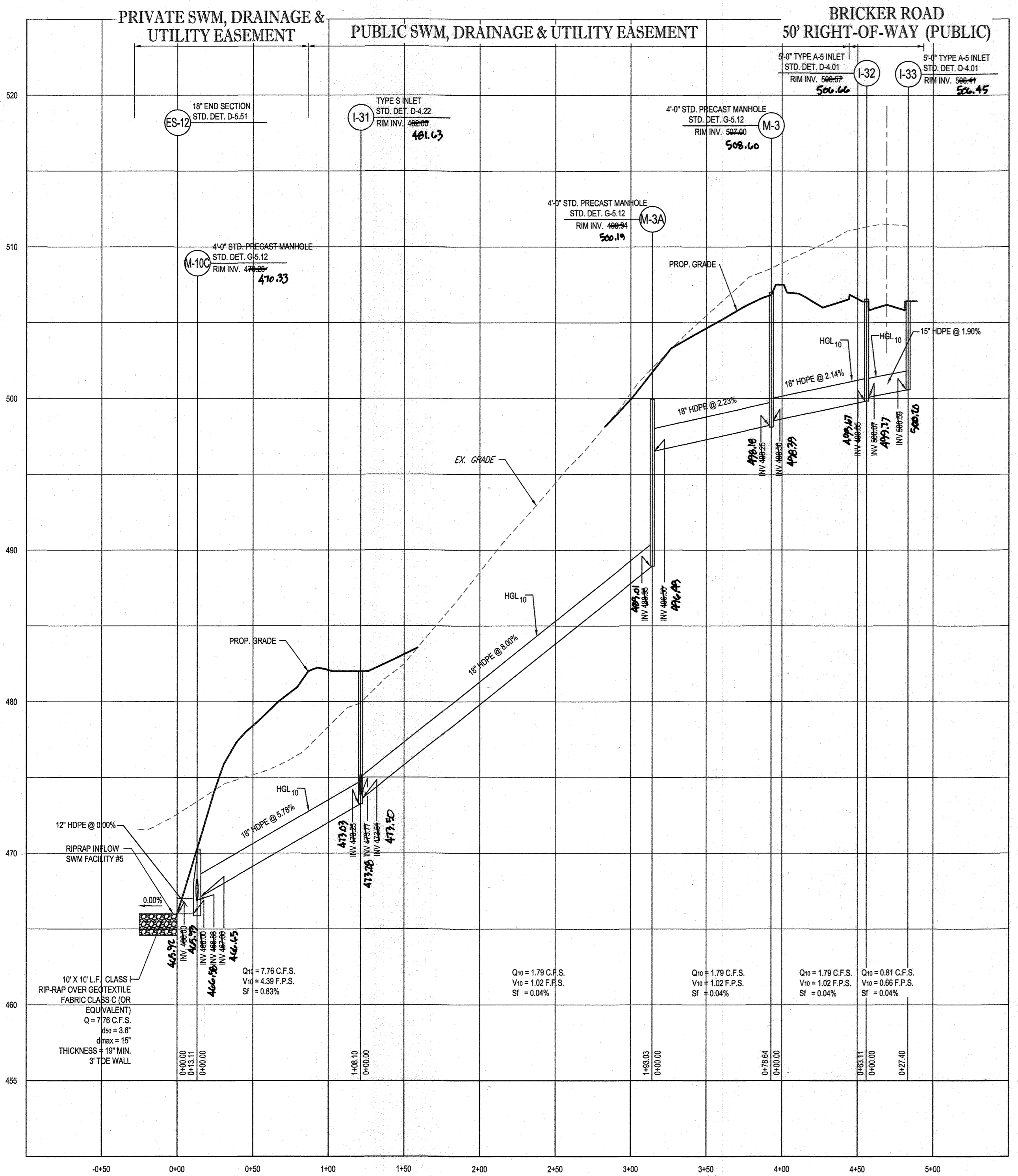
901 DULANEY VALLEY ROAD,  
SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7900  
Fax: (410) 821-7957  
www.BohlerEngineering.com

## B.P. ROWE

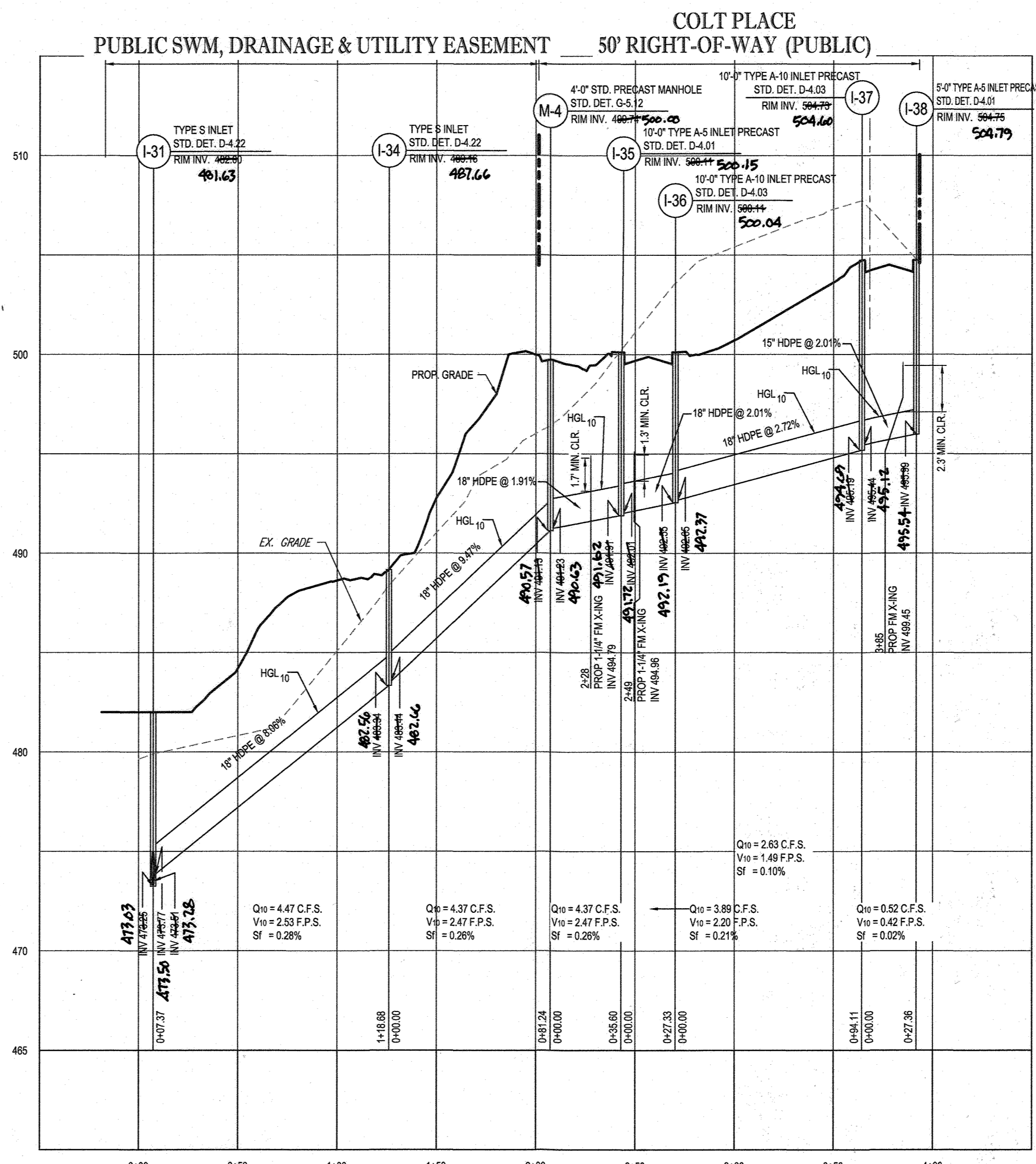
PROFESSIONAL ENGINEER  
PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY BY SEAL THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE NO. 9884 EXPIRATION DATE: 7/31/2021

SHEET TITLE:  
**STORM DRAIN PROFILES**

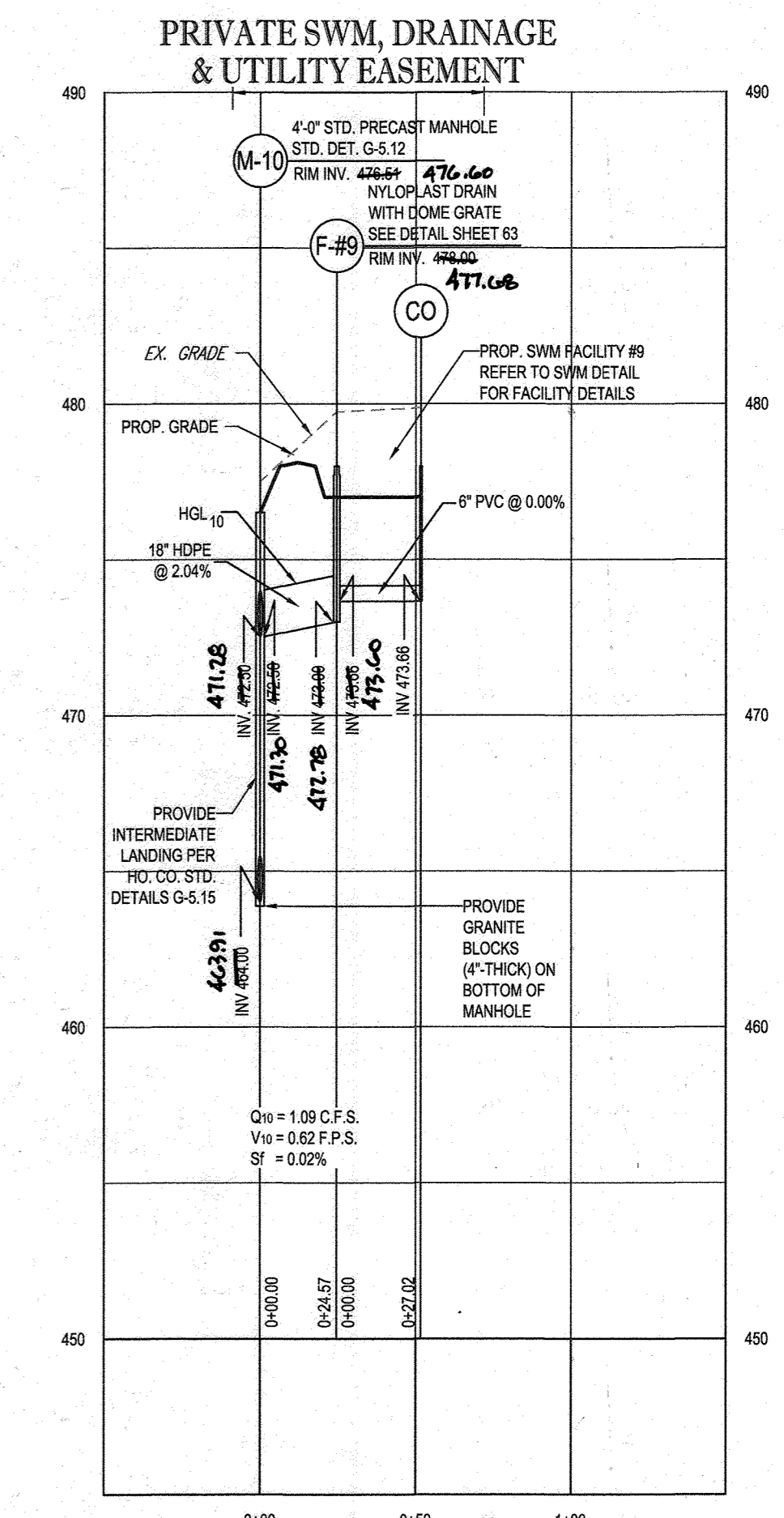
SHEET NUMBER:  
**79 OF 92**



PROPOSED STORM DRAIN - ES-12 TO I-33  
SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



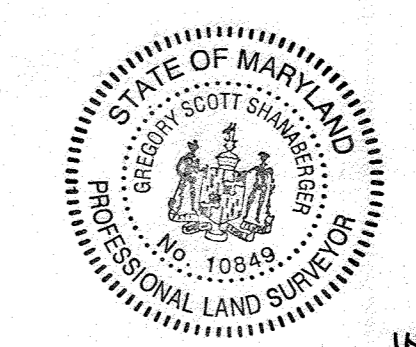
PROPOSED STORM DRAIN - I-31 TO I-38  
SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL



PROPOSED STORM DRAIN - M-10 TO SWM #19  
SCALE: 1"=50' HORIZONTAL  
1"=5' VERTICAL

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 DATE: 11/26/2019  
 CHIEF, BUREAU OF HIGHWAYS  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 DATE: 2/20/2020  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 12.9.19  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

OWNERS:  
 PARCEL 34: TOLL MID ATLANTIC LP COMPANY INC.  
 PARCEL 112: TOLL MID ATLANTIC LP COMPANY INC.  
 DEVELOPER: GREEN BRIDGE FARM II, L.C.  
 SUBDIVISION NAME: WILLOWSHIRE  
 PREVIOUS FILE NO.: ECP-16-023 PB436  
 TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND



AS-BUILT CERTIFICATION  
 I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN AND MEET THE CURRENT APPROVED PLANS AND SPECIFICATIONS.  
 SCOTT SHANABERGER  
 SHANABERGER & LANE  
 PROFESSIONAL LAND SURVEYOR #10849  
 LICENSE EXPIRATION DATE: 4/22/2024  
 AS-BUILT SURVEY DATE: 12/10/2019

**BOHLER ENGINEERING**  
 CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

CORPORATE OFFICE: WARREN, NJ  
 OFFICES: BOULDER, CO; BOSTON, MA; CHICAGO, IL; COLUMBIA, MD; FORT LAUDERDALE, FL; HOUSTON, TX; PHILADELPHIA, PA; RICHMOND, VA; WASHINGTON, DC

REV	DATE	COMMENT	BY

APPROVED FOR CONSTRUCTION  
 PROJECT No: MD142036  
 DRAWN BY: BRR  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: AS SHOWN  
 CAD I.D.: SP2

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & I, P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE: 5232 GREEN BRIDGE ROAD, 5TH ELECTION DISTRICT, TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112, HOWARD COUNTY, MARYLAND

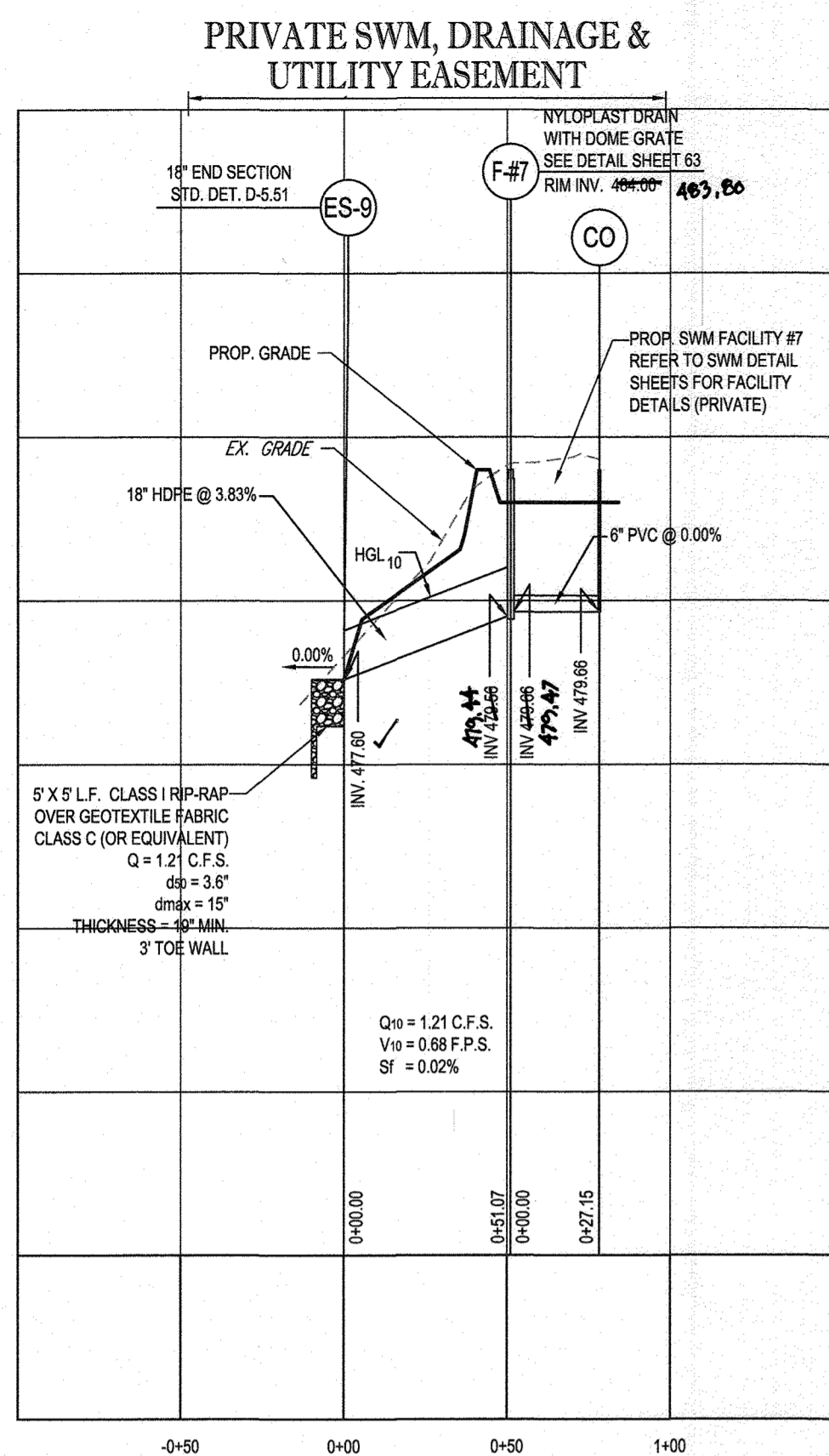
**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7957  
 www.BohlerEngineering.com

**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME, AND THAT I AM A QUALIFIED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
 LICENSE NO. 9866, EXPIRES 03/31/2021

SHEET TITLE:  
**STORM DRAIN PROFILES**  
 SHEET NUMBER:  
**80 OF 92**

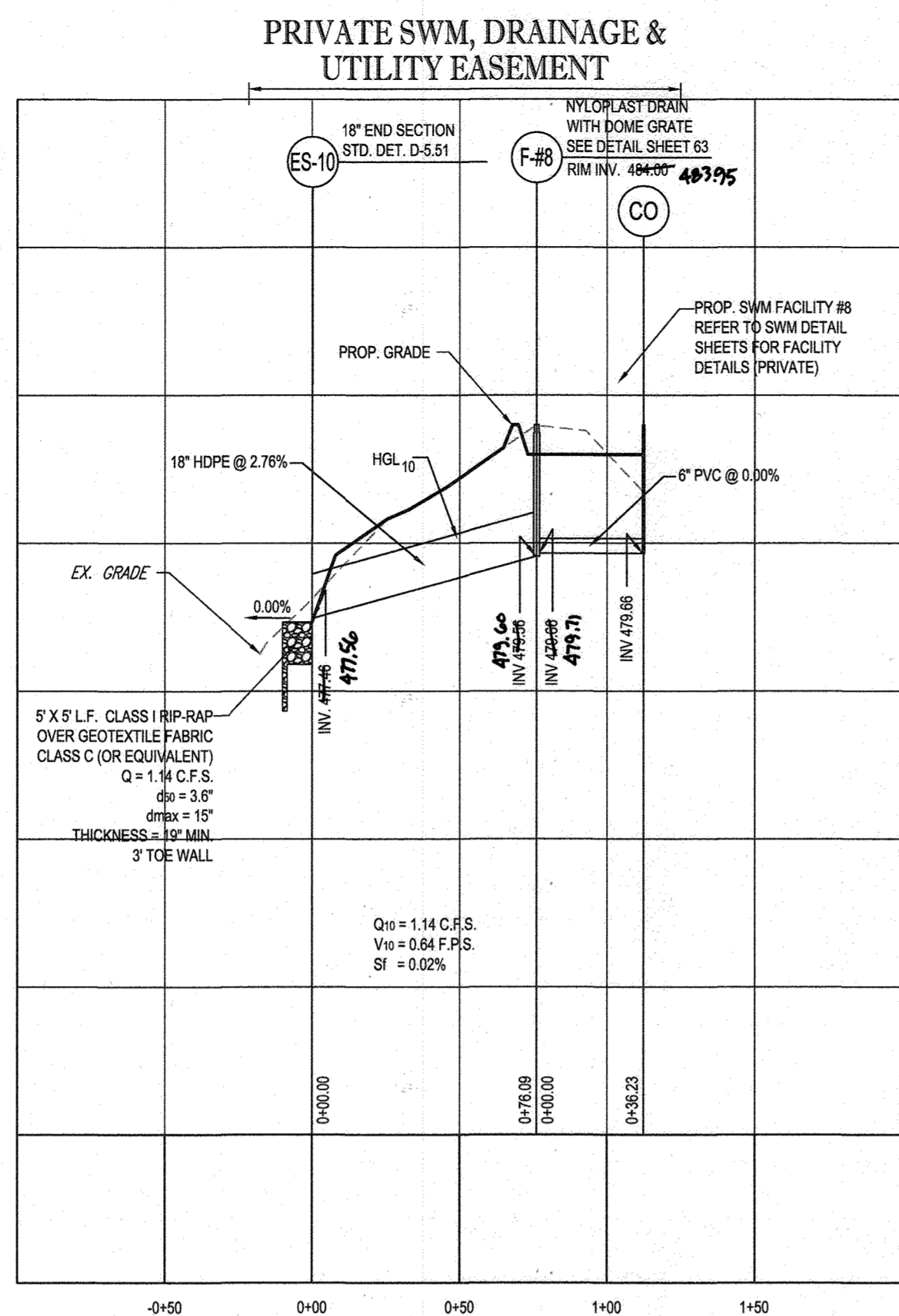
W:\191405\HOWARD\191405\PLAN\ROAD CONSTRUCTION PLAN\191405\PRINTED BY: JAGMGA, 8/27/18 @ 4:44 PM, (NOT SAVED BY: JAGMGA)





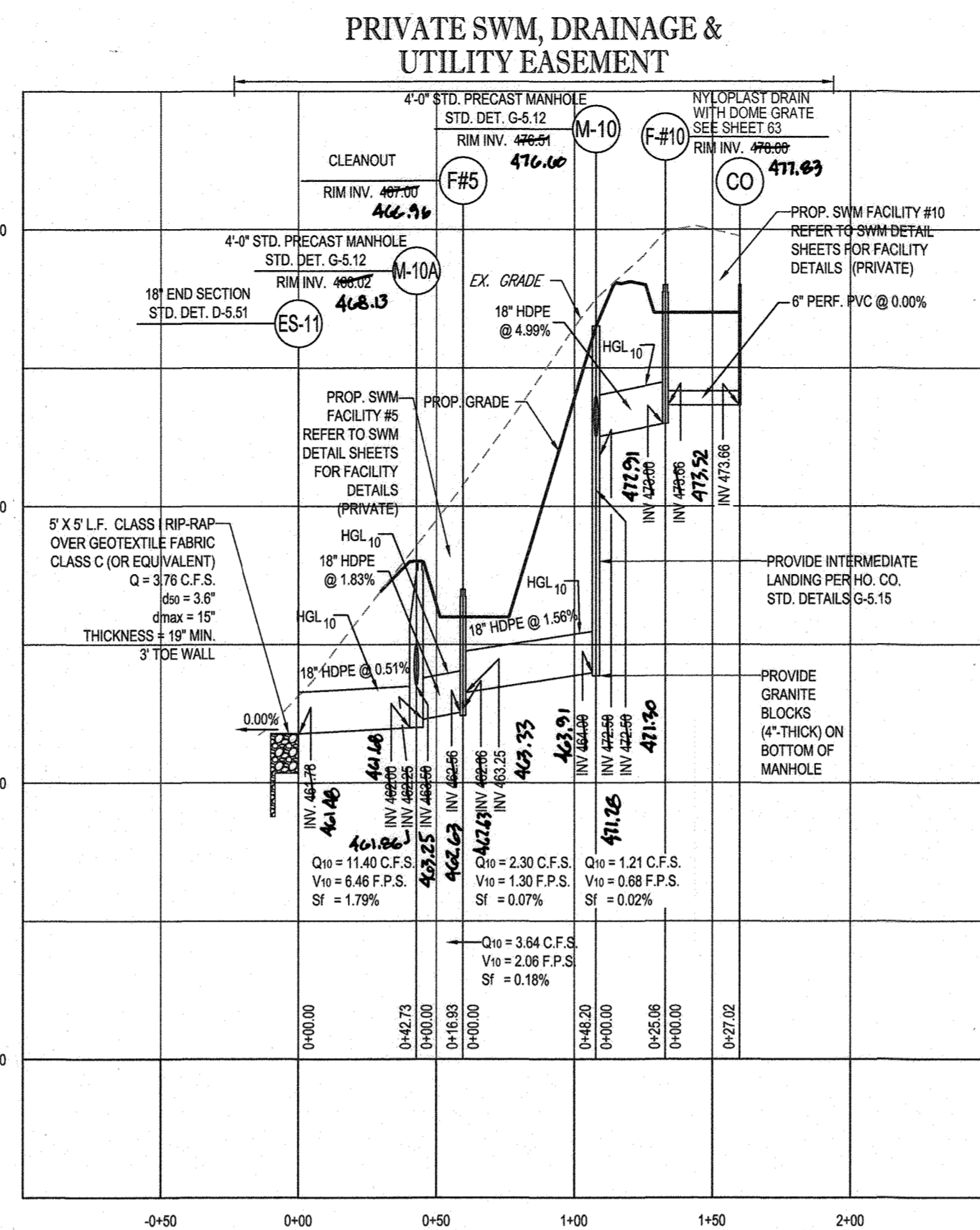
PROPOSED STORM DRAIN - ES-9 TO SWM #7

SCALE: 1" = 50' HORIZONTAL  
1" = 5' VERTICAL



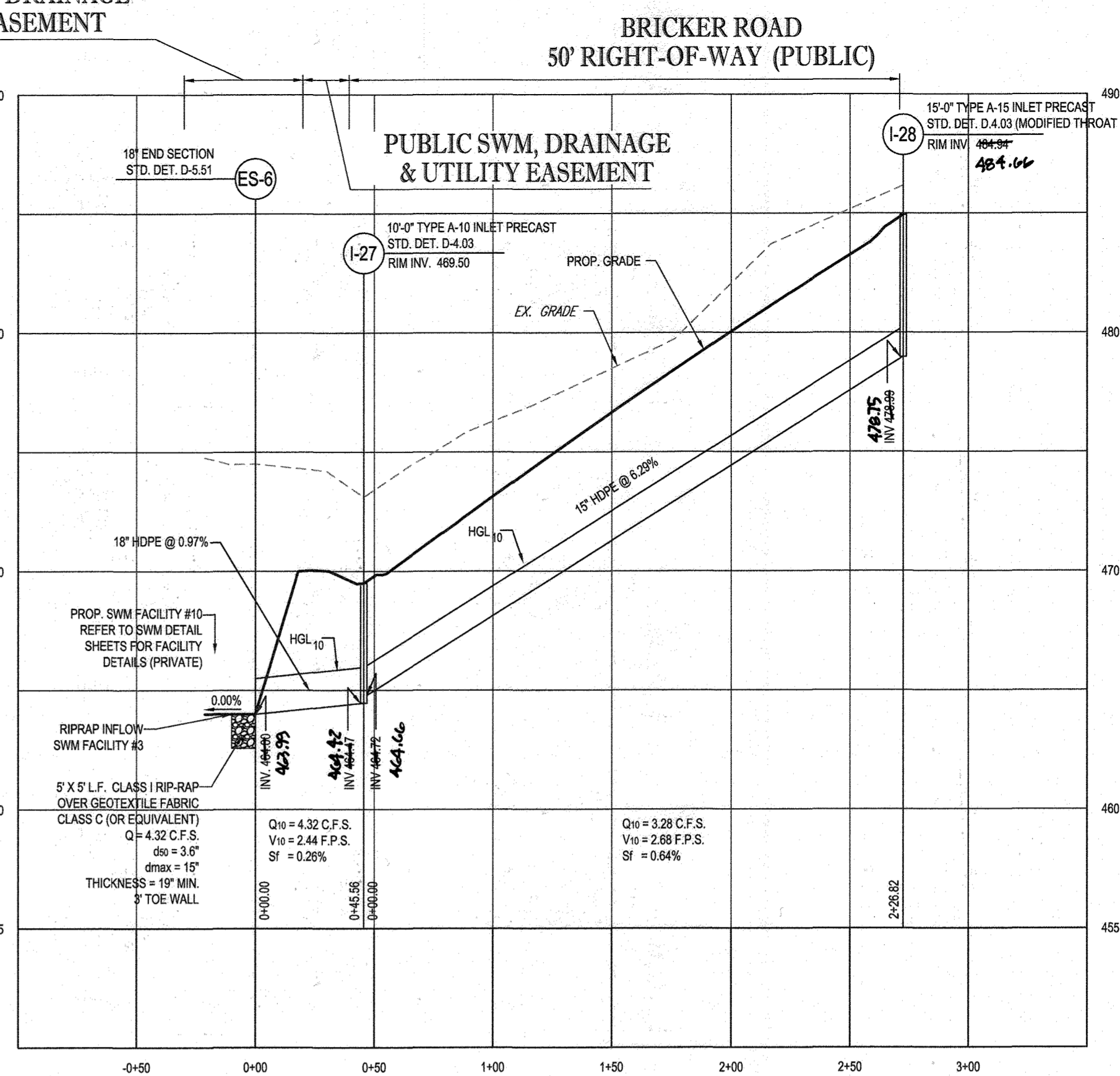
PROPOSED STORM DRAIN - ES-10 TO SWM #8

SCALE: 1" = 50' HORIZONTAL  
1" = 5' VERTICAL



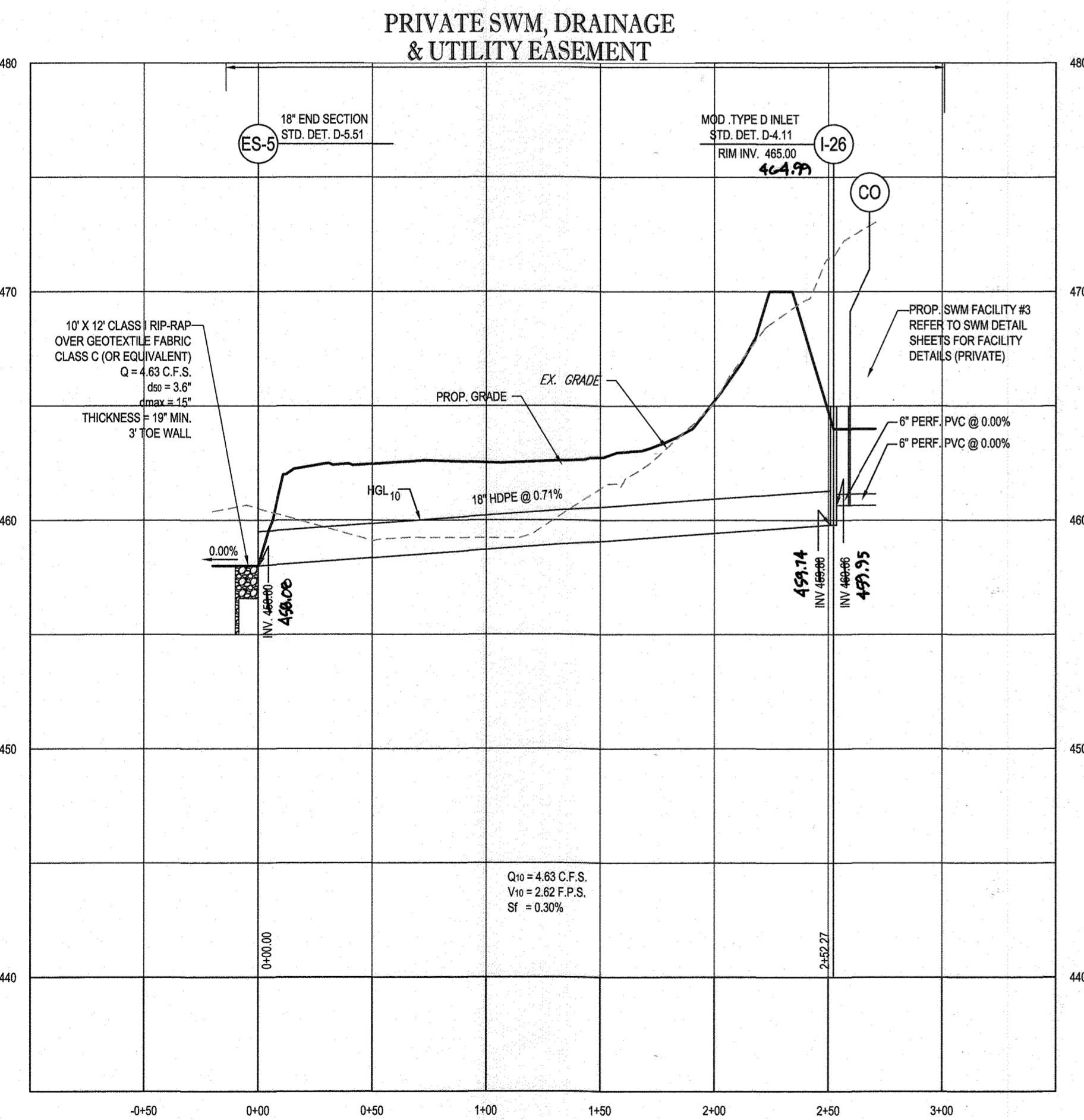
PROPOSED STORM DRAIN - ES-11 TO SWM #10

SCALE: 1" = 50' HORIZONTAL  
1" = 5' VERTICAL



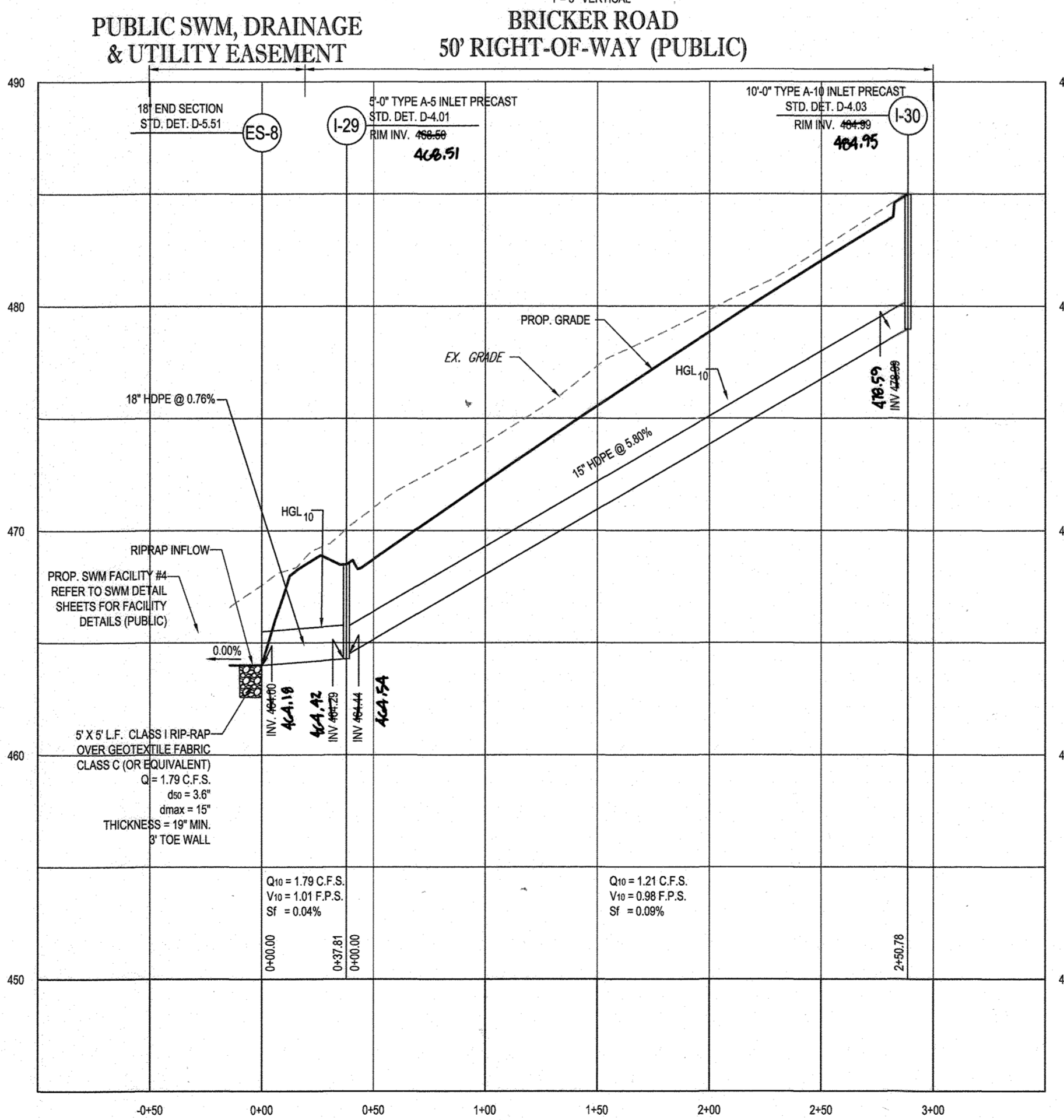
PROPOSED STORM DRAIN - ES-6 TO I-28

SCALE: 1" = 50' HORIZONTAL  
1" = 5' VERTICAL



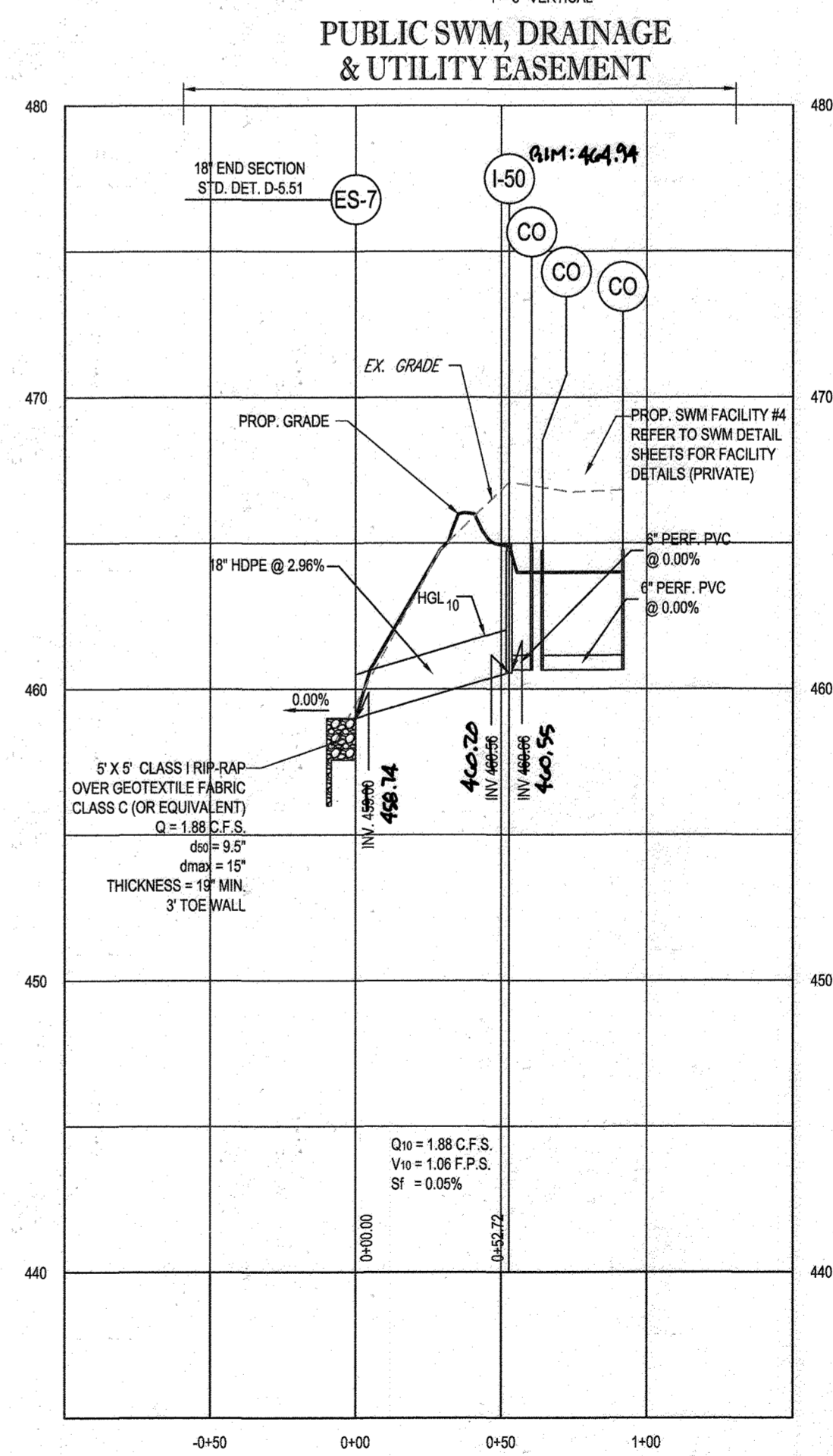
PROPOSED STORM DRAIN - ES-5 TO SWM #3

SCALE: 1" = 50' HORIZONTAL  
1" = 5' VERTICAL



PROPOSED STORM DRAIN - ES-8 TO I-30

SCALE: 1" = 50' HORIZONTAL  
1" = 5' VERTICAL



PROPOSED STORM DRAIN - ES-7 TO SWM #4

SCALE: 1" = 50' HORIZONTAL  
1" = 5' VERTICAL

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 DATE: 11/26/2019  
 CHIEF, BUREAU OF HIGHWAYS  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 DATE: 2/20/2020  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 12-9-19  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

OWNERS:  
 PARCEL 34: TOLL MID ATLANTIC LP COMPANY INC.  
 PARCEL 112: TOLL MID ATLANTIC LP COMPANY INC.  
 PARCEL 111: DENNIS A LEAF, LENORE D. SINES  
 PARCEL 98: JERRY MAUCK, JANET BURKE-JT

SUBDIVISION NAME: WILLOWSHIRE  
 SECTION/AREA: N/A  
 DEED #: 1135100222, 0018300554, 15884003894, 0588900490, 04341000270, & 03201100539

PREVIOUS FILE NO.: ECP-16-023 PB436  
 SP-17-002 WP-17105

DEVELOPER: GREEN BRIDGE FARM II, L.C.  
 5074 DORSEY HALL ROAD, SUITE 205  
 COLUMBIA, MD 21042  
 CONTACT: JASON VAN KIRK  
 PHONE: (410) 720-3021

AS-BUILT CERTIFICATION  
 I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN AND MEET THE CURRENT REQUIREMENTS OF THE MARYLAND PROFESSIONAL LAND SURVEYING BOARD.  
 JERRY SHANBERGER  
 JERRY MAUCK & LANE  
 PROFESSIONAL LAND SURVEYOR #10849  
 LICENSE EXPIRATION DATE 4/2/2024  
 AS-BUILT SURVEY DATE 10/15/2023

**BOHLER ENGINEERING**  
 CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

REV	DATE	COMMENT	BY

**BOHLER ENGINEERING**  
 THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE: ALABAMA, ARIZONA, ARKANSAS, CALIFORNIA, CONNECTICUT, DELAWARE, FLORIDA, GEORGIA, ILLINOIS, INDIANA, IOWA, KANSAS, KY, LA, LOUISIANA, MAINE, MARYLAND, MASSACHUSETTS, MICHIGAN, MINN. MISSISSIPPI, MISSOURI, MONT. NEBRASKA, NEVADA, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, N.C., NORTH CAROLINA, NORTH DAKOTA, OHIO, OKLAHOMA, PENN., PENNSYLVANIA, RHODE ISLAND, SOUTH CAROLINA, SOUTH DAKOTA, TENN., TEXAS, VIRGINIA, WISCONSIN, WYOMING.

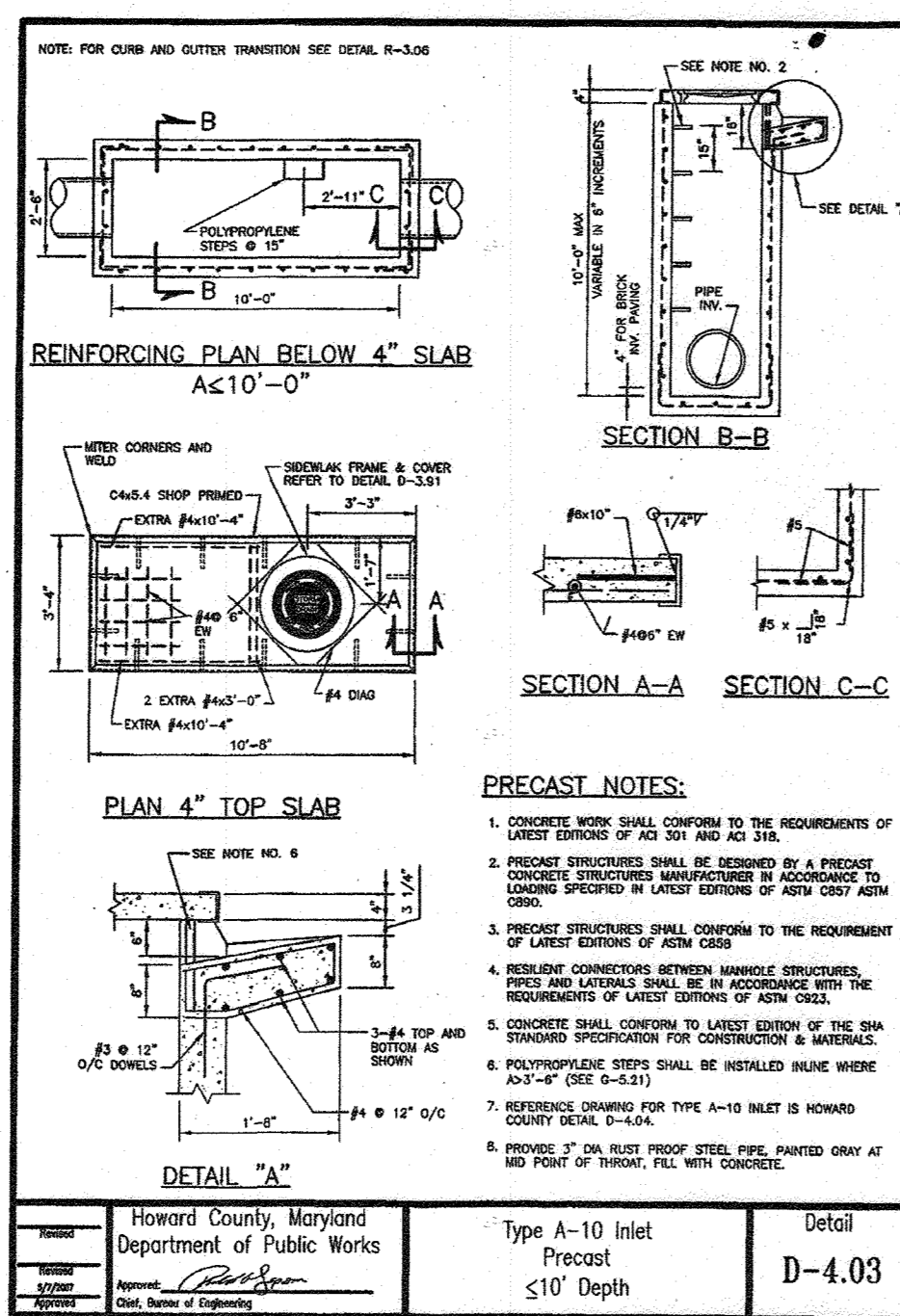
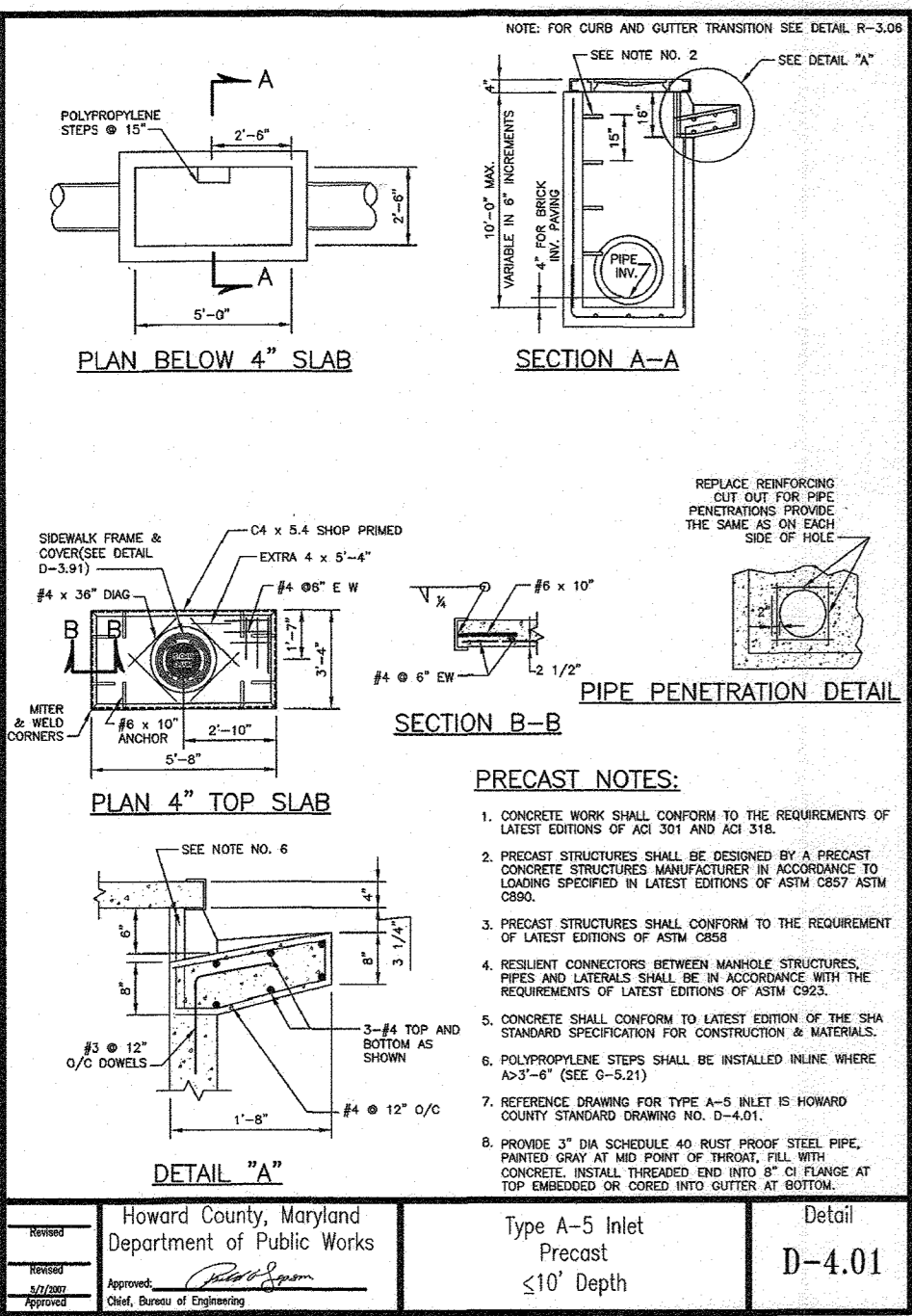
APPROVED FOR CONSTRUCTION  
 PROJECT No: MD142046  
 DRAWN BY: AVG  
 CHECKED BY: BRR  
 DATE: 08/26/19  
 SCALE: AS SHOWN  
 CAD I.D.: SP3

FINAL ROAD CONSTRUCTION PLAN FOR  
**WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E - G & L - P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE: 5232 GREEN BRIDGE ROAD, 5TH ELECTION DISTRICT, TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7907  
 www.BohlerEngineering.com

**B. B. ROWE**  
 PROFESSIONAL ENGINEER  
 1800 W. WASHINGTON BLVD., SUITE 100  
 DAYTON, OHIO 45424  
 LICENSE NO. 96886, EXPIRES 11/20/21

SHEET TITLE: **STORM DRAIN PROFILES**  
 SHEET NUMBER: **81 OF 92**



\*PRECAST STRUCTURE FABRICATOR SHALL PROVIDE SHOP DRAWINGS FOR HOWARD COUNTY APPROVAL OF ALL INLETS.
1) WITH DEPTHS GREATER THAN TEN (10) FT. PER THE REFERENCED COUNTY STANDARD DETAIL
2) FOR THOSE INLETS REQUIRING GREATER WIDTHS THAN THE STANDARD TO ACCOMMODATE STORM DRAIN PIPE DIAMETERS
3) FOR MODIFIED THROAT OPENINGS OF 15\"/>

\*PRECAST STRUCTURE FABRICATOR SHALL PROVIDE SHOP DRAWINGS FOR HOWARD COUNTY APPROVAL OF ALL INLETS.
1) WITH DEPTHS GREATER THAN TEN (10) FT. PER THE REFERENCED COUNTY STANDARD DETAIL
2) FOR THOSE INLETS REQUIRING GREATER WIDTHS THAN THE STANDARD TO ACCOMMODATE STORM DRAIN PIPE DIAMETERS
3) FOR MODIFIED THROAT OPENINGS OF 15\"/>

STORM DRAIN STRUCTURE SCHEDULE

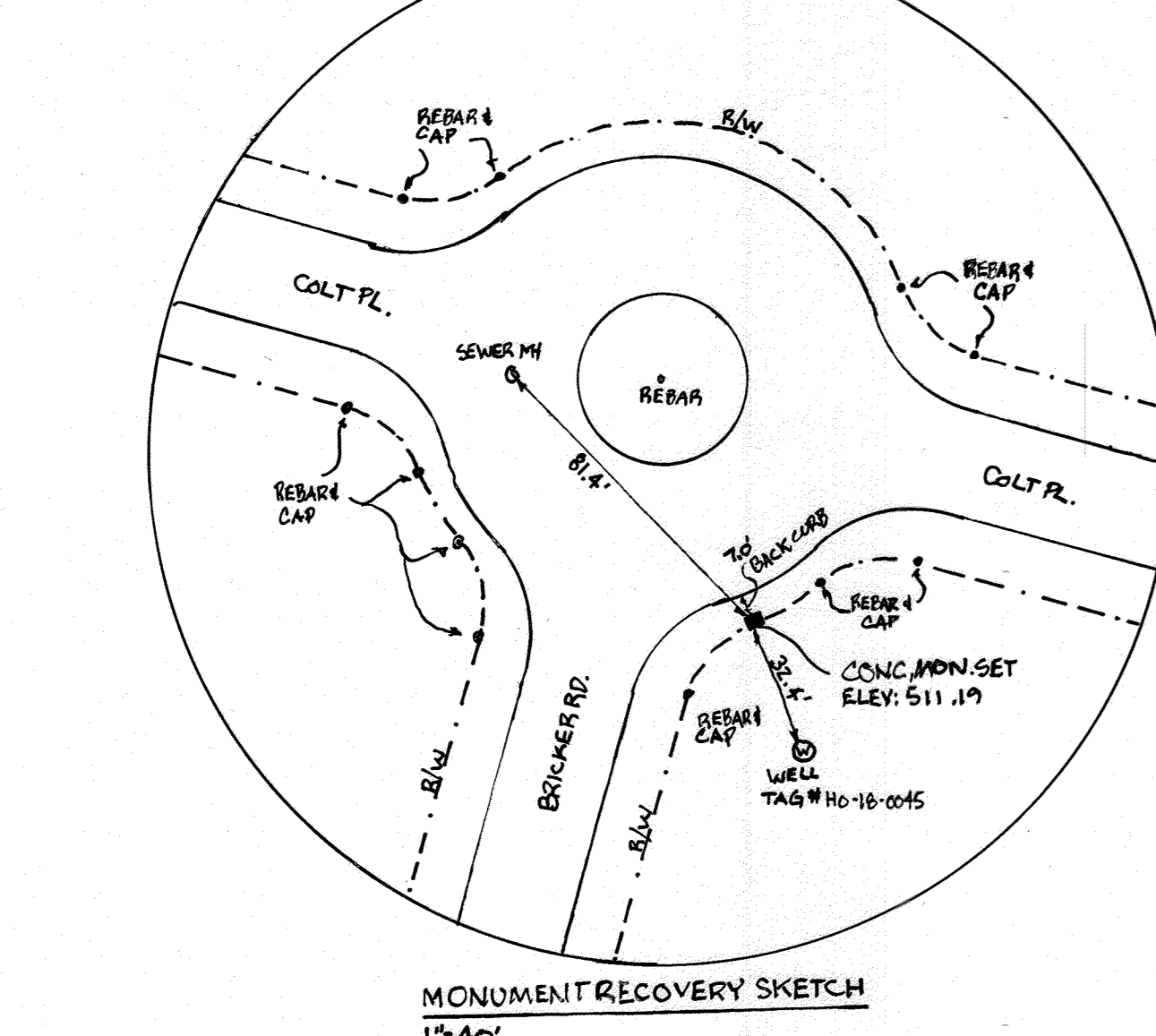
Table with columns: NAME, TYPE, RIM ELEV. (FT.), INVERTS, COMMENTS. Lists various storm drain structures (ES-1 to ES-22, F-47 to F-85, HW-1 to HW-4, M-1 to M-12) with their respective elevations and details.

STORM DRAIN STRUCTURE SCHEDULE

Table with columns: NAME, TYPE, RIM ELEV. (FT.), INVERTS, COMMENTS. Lists various storm drain structures (M-12 to M-100C, M-101 to M-102, M-103 to M-104, M-105 to M-106, M-107 to M-108, M-109 to M-110, M-111 to M-112) with their respective elevations and details.

STORM DRAIN PIPE SCHEDULE

Table with columns: FROM, TO, LOWER ELEVATION, UPPER ELEVATION, PIPE LENGTH, SLOPE (%), DIAMETER (IN.), MATERIAL, COMMENTS. Lists pipe segments with start/end elevations, lengths, and materials.



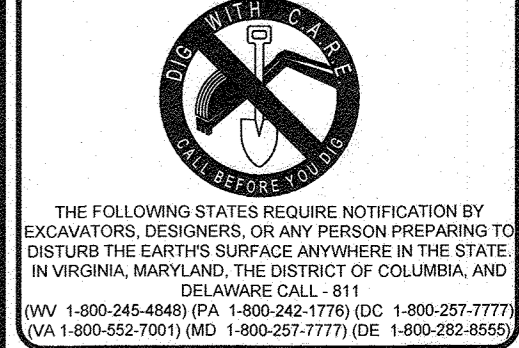
AS-BUILT CERTIFICATION
I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN IN ACCORDANCE WITH THE CURRENT APPROVED PLANS AND SPECIFICATIONS.
DATE: 12/23/2019
PROFESSIONAL LAND SURVEYOR
SHANBERGER & LANE
PROFESSIONAL LAND SURVEYOR #10649
LICENSE EXPIRATION DATE 4/22/2024
AS-BUILT SURVEY DATE: 10/01/2019

STORM DRAIN PIPE - LENGTH table with columns: PIPE SIZE, TYPE, LENGTH, PUBLIC OR PRIVATE. Lists pipe sizes (12\", 15\", 18\", 24\", 36\") and their lengths for different types (HDPE, RCP CL V, CMP).

OWNERS: PARCEL 36, PARCEL 111, PARCEL 112, PARCEL 98. APPROVED: DEPARTMENT OF PUBLIC WORKS, DEPARTMENT OF PLANNING AND ZONING, CHIEF OF ENGINEERING DIVISION. DATE: 11/26/2019, 2/20/2020, 12-9-19.

BOHLER ENGINEERING logo and contact information including corporate office, offices in various states, project managers, and environmental consultants.

REVISIONS table with columns: REV, DATE, COMMENT, BY. Shows a list of revisions to the drawing.



APPROVED FOR CONSTRUCTION. PROJECT No: MD142046. DRAWN BY: BRR. CHECKED BY: BRR. DATE: 08/26/19. SCALE: N/A. CAP I.D.: SP3.

FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE. LOTS 1-45, BUILDABLE PRESERVATION PARCEL C. NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & I, P & NON-BUILDABLE BULK PARCELS H-K. LOCATION OF SITE: 5232 GREEN BRIDGE ROAD, 5TH ELECTION DISTRICT, TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112 HOWARD COUNTY, MARYLAND.

BOHLER ENGINEERING logo and address: 901 DULANEY VALLEY ROAD, SUITE 801, TOWSON, MARYLAND 21284. Phone: (410) 821-7800. Fax: (410) 821-7887. www.BohlerEngineering.com

B.R. ROWE logo and contact information: B. Rowe, Professional Engineer, License No. 10264, State of Maryland. Address: 11501 Old Mill Road, Columbia, MD 21044. Phone: (410) 726-1111.

STORM DRAIN PROFILES SHEET NUMBER: 82 OF 92. DEVELOPER: GREEN BRIDGE FARM II, L.C. 5074 DORSEY HALL ROAD, SUITE 205, COLUMBIA, MD 21046. CONTACT: JASON VAN KIRK, PHONE: (410) 720-3021. TAX MAP: 27 GRID: 18 ZONED: RR-DEO PARCEL: 34, 36, 98, 111 & 112 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND.

### FOREST CONSERVATION SEQUENCE OF CONSTRUCTION

1. THE FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH SECTION 15.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT WAS FULFILLED BY PROVIDING A TOTAL OF 31.3 AC. WHICH WAS SATISFIED BY PROVIDING 17.4 AC. OF RETENTION AND 13.9 AC. OF AFFORESTATION SURETY IN THE AMOUNT OF \$302,742.00 WILL BE POSTED WITH THE DEVELOPER'S AGREEMENT F-18-086.
2. THIS PLAN COMPLIES WITH SECTION 15.1210 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT BY PROVIDING 4.5 ACRES OF AFFORESTATION SURETY IN A FOREST BANK ON SITE. SURETY FOR THE FOREST BANK IN THE AMOUNT OF \$78,010.00 WILL BE POSTED WITH THE DEVELOPER'S AGREEMENT F-18-086.

### FOREST CONSERVATION EASEMENT #5

EXISTING FOREST AREA = 0.0 AC  
 NON-CREDIT FOREST/FLOODPLAIN = 0.0 AC  
 CREDITED FOREST = 0.0 AC  
 REFORESTATION EASEMENT AREA = 2.7 AC  
 CREDITED EASEMENT AREA = 2.7 AC

### SITE AREA COMPUTATIONS

GROSS TRACT AREA = 99.95 AC  
 100 YEAR FLOODPLAIN = 7.09 AC  
 NET TRACT AREA = 92.86 AC  
 ZONING = RR-DEO

### FORESTED FLOODPLAIN

FOREST = 4.7 AC

### FOREST CLEARING

FOREST TO BE CLEARED = 15.0 AC. (INCLUDES 0.1 AC. WITHIN FLOODPLAIN)

### FOREST CONSERVATION EASEMENT AREA TABULATION

EASEMENT	GROSS FOREST AREA (AC)	FOREST AREA NON-CREDITED FOR FOREST LESS THAN 10,000 S.F. (AC)	FOREST AREA NON-CREDITED (100 YEAR FLOODPLAIN) (AC)	NET FOREST (RETAINED) (CREDITED) (AC)	PLANTED AREA (REFORESTATION) (CREDITED) (AC)	REFOREST AREA FOR BANK	CREDITED EASEMENT AREA (AC)	TOTAL EASEMENT AREA (AC)
FCE #1	1.8	0.0	0.1	1.7	4.9	0.0	6.6	6.7
FCE #2	1.0	0.0	0.0	1.0	0.6	0.0	1.6	1.6
FCE #3	0.0	0.0	0.0	0.0	1.4	0.0	1.4	1.4
FCE #4	19.0	0.0	4.3	14.7	4.3	0.0	19.0	23.3
FCE #5	0.0	0.0	0.0	0.0	2.7	0.0	2.7	2.7
FMBE #1	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0
FMBE #2	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0
TOTAL	21.8	0.0	4.4	17.4	13.9	4.5	31.3	35.7

### FOREST CONSERVATION NARRATIVE:

THIS FOREST CONSERVATION PLAN PROPOSES THE REMOVAL OF 15.0 ACRES OF FOREST FROM THE PROPOSED LIMIT OF DISTURBANCE. THIS FOREST CLEARING IS UNAVOIDABLE WITH THE SUBDIVISION OF THE PROPERTY. THIS PROJECT IS ZONED RR-DEO WHICH ENCOURAGES A DEVELOPMENT OF THIS DENSITY. THE PROPOSED CLEARING WILL NOT IMPACT HIGH PRIORITY FOREST OR FOREST AREAS. THE PROPOSED RETENTION IS LOCATED WITHIN ENVIRONMENTALLY SENSITIVE AREAS. THIS STAND INCLUDES STEEP SLOPES, STREAM BUFFERS AND MULTIPLE SPECIMEN TREES. FOR THESE REASONS THE FOREST RETENTION AREA IS CONSIDERED THE HIGHEST PRIORITY FOR RETENTION WITHIN THE FOREST STAND DELINEATION.

### FOREST STAND / VEGETATIVE COVER

KEY	COMMUNITY TYPE	ACREAGE	DOMINANT VEGETATION	GENERAL CONDITION
1	MATURE MIXED HARDWOODS	26.2 AC	BLACK OAK	FAIR
2	TULIP POPLAR MONOCULTURE	10.9 AC	TULIP POPLAR	FAIR

### FOREST CONSERVATION EASEMENT #1

EXISTING FOREST AREA = 1.8 AC  
 NON-CREDIT FOREST/FLOODPLAIN = 0.1 AC  
 CREDITED FOREST = 1.7 AC  
 REFORESTATION = 4.9 AC  
 EASEMENT AREA = 6.7 AC  
 CREDITED EASEMENT AREA = 6.6 AC

NOTE: ADDITIONAL 2.5"-3" TREES REQUIRED WITHIN 35' OF THE PROPERTY LINES OF LOTS 38, 43, 44 & 45.

### FOREST MITIGATION BANK EASEMENT #1

AREA = 2.6 AC.

### FOREST CONSERVATION EASEMENT #2

EXISTING FOREST AREA = 1.0 AC  
 NON-CREDIT FOREST/FLOODPLAIN = 1.0 AC  
 CREDITED FOREST = 1.0 AC  
 REFORESTATION = 1.6 AC  
 EASEMENT AREA = 1.6 AC  
 CREDITED EASEMENT AREA = 1.6 AC

### FOREST MITIGATION BANK EASEMENT #2

AREA = 1.9 AC.

### FCE/BANK SALES ACREAGE CHART (4.5 AC)

SALE	F/C OBLIGATION	PROJECT NAME	HOWARD CO. FILE No.	REMAINING ACREAGE
1	4.5 ACRES	BETHANY GLAY	F-23-093	3.0 AC
2	0.1 ACRES	EIKRIDGE RUN	SDO-23-006	0.0000

### WETLAND DATA

WETLAND SYSTEM	COWARDIN CLASSIFICATION	DOMINANT VEGETATION
WDS 1	PF01B	CINNAMON FERN, SKINK CABBAGE, JEWELLWEED
WDS 2	PF01B	CINNAMON FERN, <i>Microrhiza</i>
WDS 3	(PRE)LA/B, POW	REED CANARY GRASS, SENSITIVE FERN, POND LILY
WDS 4	PF01B	RED MAPLE, SPICEBUSH, WINTERBERRY
ODS 1	R4	MIXED OAK, RED MAPLE
ODS 2	PF01B	MIXED OAK, RED MAPLE

### FOREST CONSERVATION EASEMENT #3

EXISTING FOREST AREA = 0.0 AC  
 NON-CREDIT FOREST/FLOODPLAIN = 0.0 AC  
 CREDITED FOREST = 0.0 AC  
 REFORESTATION = 1.4 AC  
 EASEMENT AREA = 1.4 AC  
 CREDITED EASEMENT AREA = 1.4 AC

NOTE: ADDITIONAL 2.5"-3" TREES REQUIRED WITHIN 35' OF THE PROPERTY LINES OF LOTS 4 AND 5.

APPROVED DEPARTMENT OF PUBLIC WORKS  
 DATE 11/26/2019  
 CHIEF, BUREAU OF HIGHWAYS

APPROVED DEPARTMENT OF PLANNING AND ZONING  
 DATE 12/20/2020  
 CHIEF, DIVISION OF LAND DEVELOPMENT

DATE 12-9-19  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

### LEGEND

- PROPERTY LINE
- WETLAND BUFFER LIMITS
- LIMIT OF DISTURBANCE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- TREE PROTECTION FENCE
- FOREST CONSERVATION EASEMENT
- REFORESTATION AREA
- FOREST RETENTION AREA
- WETLANDS
- 100 YR. FLOODPLAIN
- FOREST CONSERVATION SIGNAGE
- SPECIMEN TREES
- WETLAND BOUNDARY
- 25-FOOT WETLAND BUFFER
- 100-FOOT STREAM BUFFER
- SOILS BOUNDARY
- EXISTING TREE LINE
- STEEP SLOPES 15-24.99%
- STEEP SLOPES 25% +
- SPECIMEN TREE (TO BE REMOVED)
- AREA OF FOREST MITIGATION BANK

### SPECIMEN TREES

ID #	SPECIES NAME	SIZE	CONDITION	SPECIMEN TREES TO REMAIN
1	TULIP POPLAR	34"	GOOD	NO
2	TULIP POPLAR	32"	GOOD	NO
3	TULIP POPLAR	38"	POOR	NO
4	TULIP POPLAR	31"	GOOD	NO
5	TULIP POPLAR	31"	POOR	NO
6	TULIP POPLAR	33"	FAIR	NO
7	TULIP POPLAR	40"	F. GOOD	NO
8	TULIP POPLAR	38"	POOR	NO
9	TULIP POPLAR	31"	GOOD	NO
10	TULIP POPLAR	33"	GOOD	NO
11	TULIP POPLAR	38"	GOOD	NO
12	TULIP POPLAR	36"	GOOD	NO
13	TULIP POPLAR	54"	F. GOOD	NO
14	BLACK OAK	33"	GOOD	YES
15	TULIP POPLAR	33"	F. GOOD	NO
16	TULIP POPLAR	48"	F. GOOD	NO
17	BLACK OAK	34"	POOR	NO
18	WHITE OAK	32"	F. GOOD	NO
19	NORTHERN RED OAK	33"	GOOD	NO
20	RED OAK	31"	F. GOOD	NO
21	BLACK OAK	32"	V. POOR	NO
22	NORTHERN RED OAK	31"	V. POOR	NO
23	TULIP POPLAR	31"	GOOD	NO
24	TULIP POPLAR	30"	F. GOOD	NO
25	TULIP POPLAR	31"	GOOD	NO
26	TULIP POPLAR	33"	GOOD	NO
27	SYCAMORE	45"	FAIR	YES
28	TULIP POPLAR	40"	GOOD	NO
29	TULIP POPLAR	33"	GOOD	NO
30	TULIP POPLAR	36"	GOOD	NO
31	TULIP POPLAR	32"	GOOD	YES
32	TULIP POPLAR	32"	GOOD	YES
33	TULIP POPLAR	31"	GOOD	NO
34	TULIP POPLAR	33"	GOOD	NO
35	TULIP POPLAR	40"	GOOD	NO
36	UNCONFIRMED	40"	GOOD	NO
37	NORTHERN RED OAK	34"	GOOD	NO
38	WHITE OAK	52"	GOOD SPLIT ABOVE DBH	NO
39	SOUTHERN RED OAK	31"	GOOD	NO
40	WHITE OAK	30"	GOOD	YES
41	NORTHERN RED OAK	31"	GOOD HEALTHY, IMBALANCED CROWN	NO
42	WHITE OAK	30"	GOOD	NO
43	BLACK OAK	31"	GOOD	NO
44	NORTHERN RED OAK	30"	GOOD	YES
45	WHITE OAK	30"	POOR	YES
46	NORTHERN RED OAK	32"	FAIR POOR	YES
47	SOUTHERN RED OAK	32"	GOOD	NO
48	WHITE OAK	32"	GOOD	YES
49	NORTHERN RED OAK	32"	GOOD	YES
50	RED MAPLE	40"	GOOD	NO

### FOREST BANK PLANTING SCHEDULE

AGE	QTY	SPECIES	SIZE	SINKING	TOTAL FCU UNITS
15'	114	ACER RUBRUM - RED MAPLE	4" X 6"	11"	270
15'	114	PLATANUS OCCIDENTALIS - AMERICAN SYCAMORE	4" X 6"	11"	270
15'	114	QUERCUS RUBRA - RED OAK	4" X 6"	11"	270
15'	114	LIRIODENDRON TULIPERA - TULIP POPLAR	4" X 6"	11"	270
15'	114	CERCIS CANADENSIS - EASTERN REDBUD	4" X 6"	11"	270
15'	114	AMELANCHIER CANADENSIS - SERVICEBERRY	4" X 6"	11"	270
TOTAL	672				1620

### REFORESTATION PLANTING SCHEDULE

AGE	QTY	SPECIES	SIZE	SINKING	TOTAL FCU UNITS
24'	36	ACER RUBRUM - RED MAPLE	6" X 8"	11" OC.	804
24'	36	PLATANUS OCCIDENTALIS - AMERICAN SYCAMORE	6" X 8"	11" OC.	804
24'	36	QUERCUS RUBRA - RED OAK	6" X 8"	11" OC.	804
24'	36	LIRIODENDRON TULIPERA - TULIP POPLAR	6" X 8"	11" OC.	804
24'	36	CERCIS CANADENSIS - EASTERN REDBUD	6" X 8"	11" OC.	804
24'	36	AMELANCHIER CANADENSIS - SERVICEBERRY	6" X 8"	11" OC.	804
TOTAL	216				1620

### VICINITY MAP

COPYRIGHT ADC THE MAP PEOPLE  
 PERMIT USE NO. 20602153-5  
 SCALE: 1"=2000'  
 ADC MAP COORDINATES: 30IC5

### FOREST CONSERVATION WORKSHEET

VERSION 1.0

### NET TRACT AREA:

A. Total tract area	99.95
B. Area within 100 year floodplain	7.09
C. Area to remain in agricultural production	0.00
D. Net tract area	92.9

### LAND USE CATEGORY:

AREA	MDR	IDA	HDR	MPD	CA
0	1	0	0	0	0

### EXISTING FOREST COVER:

G. Existing forest cover (excluding floodplain)	32.4
H. Area of forest above afforestation threshold	13.8
I. Area of forest above conservation threshold	9.2

### BREAK EVEN POINT:

J. Forest retention above threshold with no mitigation	25.1
K. Clearing permitted without mitigation	7.3

### PROPOSED FOREST CLEARING:

L. Total area of forest to be cleared	15.0
M. Total area of forest to be retained	17.4

### PLANTING REQUIREMENTS:

N. Reforestation for clearing above conservation threshold	2.3
P. Reforestation for clearing below conservation threshold	11.6
Q. Credit for retention above conservation threshold	0.0
R. Total reforestation required	13.9
S. Total afforestation required	0.0
T. Total reforestation and afforestation required	13.9

### NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

Professional S.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: Jellie 20 22  
 Shanaberger & Lamb  
 IMPROVEMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: 5 SECOND ORDER 1/4" = 100' TOTAL SPATIAL TOLERANCE: 1/4" = 100' PER POINT  
 SURVEY: 5 SECOND ORDER, 1/4" = 100' TOTAL SPATIAL TOLERANCE: 1/4" = 100' PER POINT

### SOILS TABLE

SOILS NAME	SOILS DESCRIPTION	HYDROLOGIC SOILS GROUP	HIGHLY ERODIBLE SOIL	K FACTOR
Co	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	NO	0.32
OgB	GLENVILLE LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.28
OgC	GLENVILLE LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	YES	0.43
GmB	GLENVILLE-SAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43
OgB	GLENVILLE-CODORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	NO	0.28

OWNERS:  
 PARCEL 36  
 TOLL MID ATLANTIC LP COMPANY INC.  
 250 GIBRAL TARR ROAD  
 HORSHAM PA, 19044  
 TEL: 610-821-7900

PARCEL 37  
 TOLL MID ATLANTIC LP COMPANY INC.  
 250 GIBRAL TARR ROAD  
 HORSHAM PA, 19044  
 TEL: 610-821-7900

PARCEL 111  
 DENNIS A LEAF  
 LENORE D. SINES  
 5228 GREEN BRIDGE ROAD  
 DAYTON, MD 21036  
 TEL: 410-821-7900

DEVELOPER:  
 GREEN BRIDGE FARM II, L.C.  
 6074 DORSEY HALL ROAD, SUITE 205  
 COLUMBIA, MD 21042  
 CONTACT: JASON VAN KIRK  
 PHONE: (410) 720-3021

TAX MAP: 27 GRID: 18  
 PARCEL 34, 36, 98, 111 & 112  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

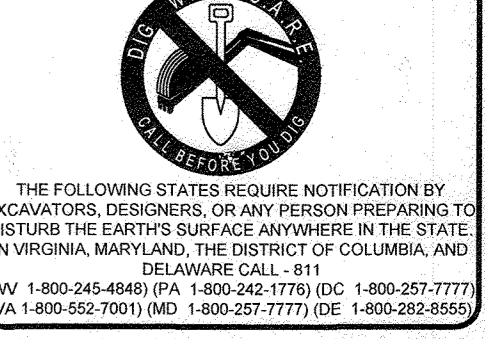
CORPORATE OFFICE:  
 WARREN, NJ

SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

OTHER OFFICES:  
 SOUTHBRIDGE, MA  
 ALBANY, NY  
 CARROLLTON, VA  
 FORT LAUDERDALE, FL  
 GREENVILLE, SC  
 HANOVER, NH  
 HARTFORD, CT  
 HILLSBORO, NJ  
 LITTLE ROCK, AR  
 MOBILE, AL  
 PORTLAND, ME  
 RICHMOND, VA  
 TAMPA, FL  
 WEST VALLEY, PA

### REVISIONS

REV	DATE	COMMENT	BY
1	10/21/20	UPDATED FCE	AW
2	11/17/22	REVISED PER FOREST BANK	JWC



### APPROVED FOR CONSTRUCTION

PROJECT No.: MD142048  
 DRAWN BY: AVG  
 CHECKED BY: BRB  
 DATE: 08-27-2019  
 SCALE: AS SHOWN  
 CAD I.D.: FCS

### FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E - G & L - P & NON-BUILDABLE PARCELS H-K  
 LOCATION OF SITE  
 5323 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18,  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

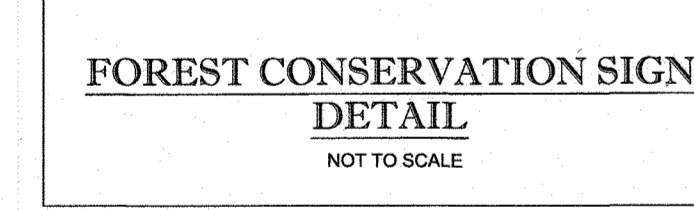
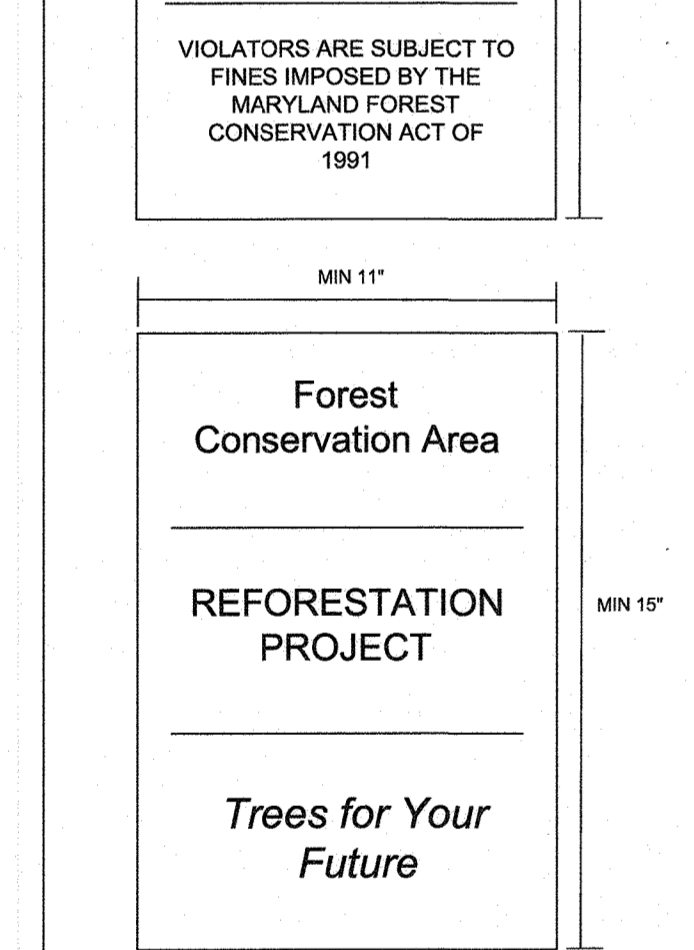
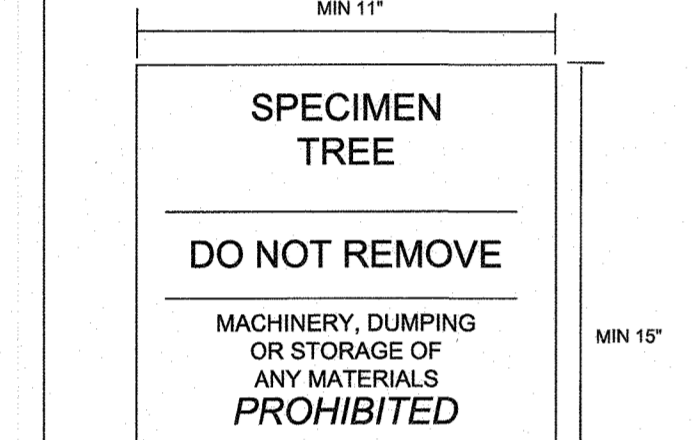
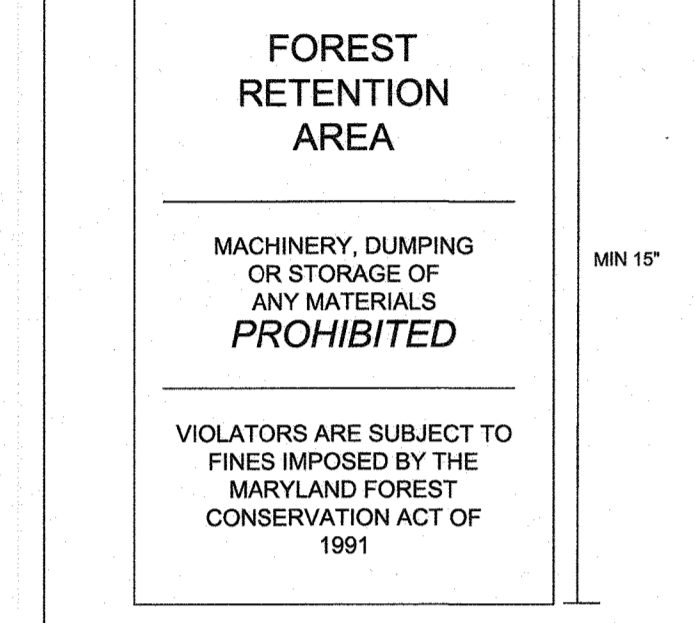
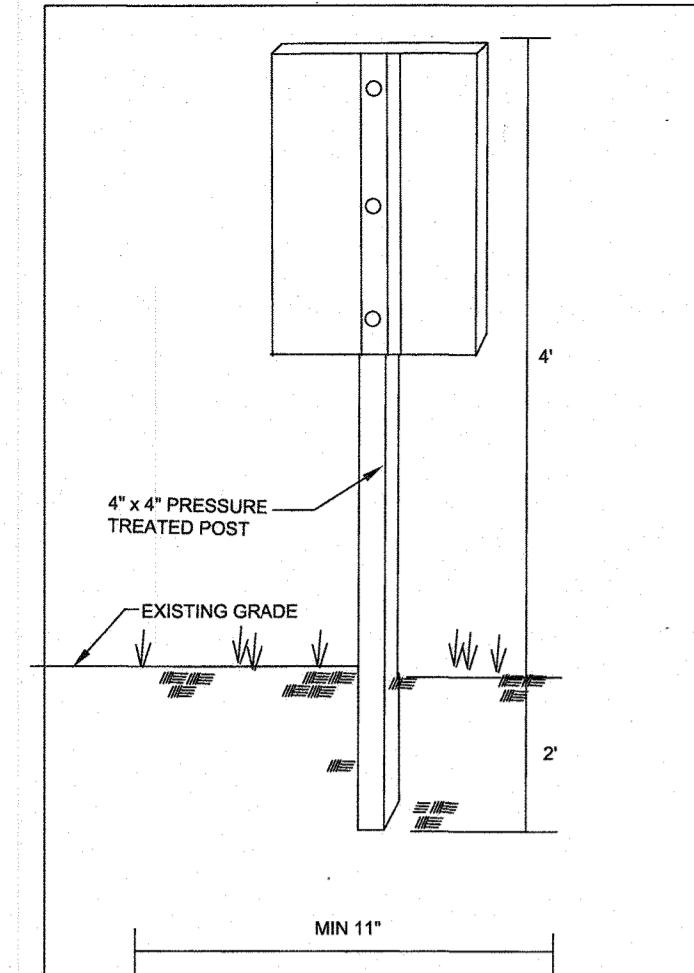
**E.R. McWILLIAMS**

REGISTERED LANDSCAPE ARCHITECT  
 LICENSE NO. 10849  
 STATE OF MARYLAND

### FOREST MITIGATION BANK AND FOREST CONSERVATION PLAN

SHEET NUMBER:  
**83 OF 92**

**FOREST CONSERVATION SPECIFICATIONS**



**9. PLANTING**

A. INSURE THAT IT IS FEASIBLE...  
B. PLANTING OPERATIONS SHALL BE PERFORMED...  
C. ANY INJURED ROOTS OR BRANCHES...  
D. ALL PLANTING CONTAINERS...  
E. POSITION TREES AND SHRUBS...  
F. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY...  
G. PLANTINGS REQUIRED FOR A CERTIFICATE OF OCCUPANCY...  
H. FURTHERMORE, THE FOLLOWING TREE VARIETIES...  
I. PLANTING PITS SHALL BE DUG WITH LEVEL BOTTOMS...  
J. FILL PREPARED SOIL AROUND BALL OF PLANT...  
K. ALL PLANTS SHALL BE PLANTED SO THAT THE TOP OF THE ROOT BALL...  
L. ALL PROPOSED TREES DIRECTLY ADJACENT TO WALKWAYS...  
M. GROUND COVER AREAS SHALL RECEIVE A 1/2" LAYER OF HUMUS...  
N. NO PLANT, EXCEPT GROUND COVERS, GRASSES OR VINES...  
O. ALL PLANTING AREAS AND PLANTING PITS SHALL BE MULCHED...  
P. ALL PLANTING AREAS SHALL BE WATERED IMMEDIATELY...

**10. TRANSPLANTING (WHEN REQUIRED)**

A. ALL TRANSPLANTS SHALL BE DUG WITH INTACT ROOT BALLS...  
B. IF PLANTS ARE TO BE STOCKPILED BEFORE REPLANTING...  
C. PLANTS SHALL NOT BE DUG FOR TRANSPLANTING BETWEEN APRIL 10...  
D. UPON REPLANTING, BACKFILL SOIL SHALL BE AMENDED...  
E. TRANSPLANTS SHALL BE GUARANTEED FOR THE LENGTH OF THE...  
F. IF TRANSPLANTS DIE, SHRUBS AND TREES LESS THAN SIX INCHES...

**11. WATERING**

A. NEW PLANTINGS OR LAWN AREAS SHALL BE ADEQUATELY IRRIGATED...  
B. SITE OWNER SHALL PROVIDE WATER IF AVAILABLE ON SITE...  
C. IF AN IRRIGATION SYSTEM HAS BEEN INSTALLED ON THE SITE...

**12. GUARANTEE**

A. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANTS...  
B. ANY DEAD OR DYING PLANT MATERIAL SHALL BE REPLACED...  
C. TREES AND SHRUBS SHALL BE MAINTAINED BY THE CONTRACTOR...  
D. LAWNS SHALL BE MAINTAINED THROUGH WATERING, FERTILIZING...

**13. CLEANUP**

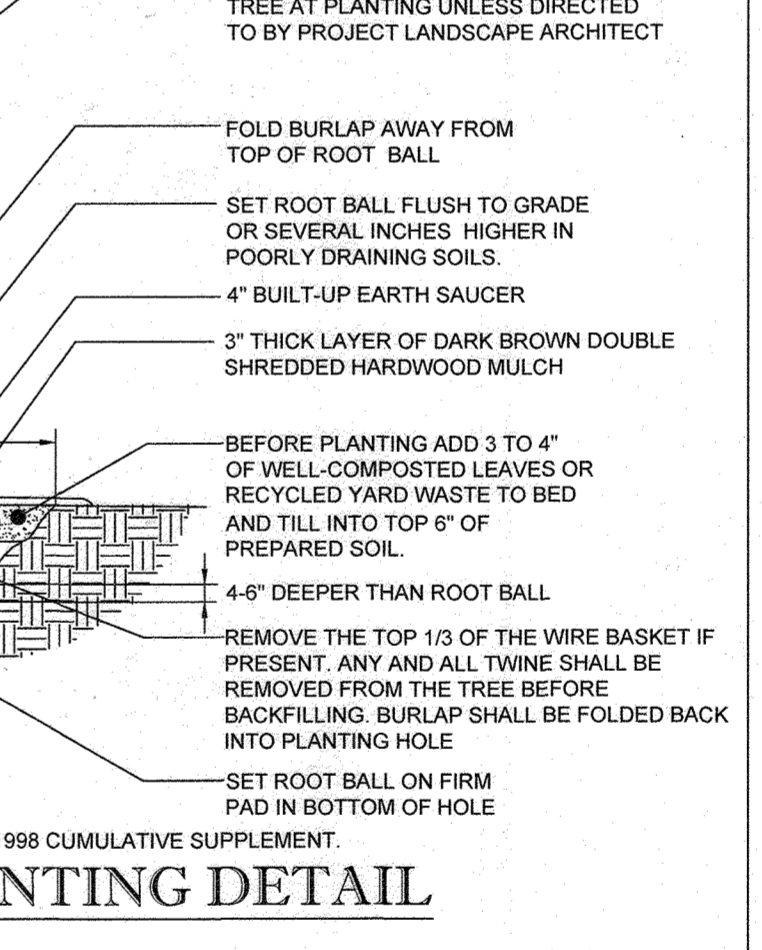
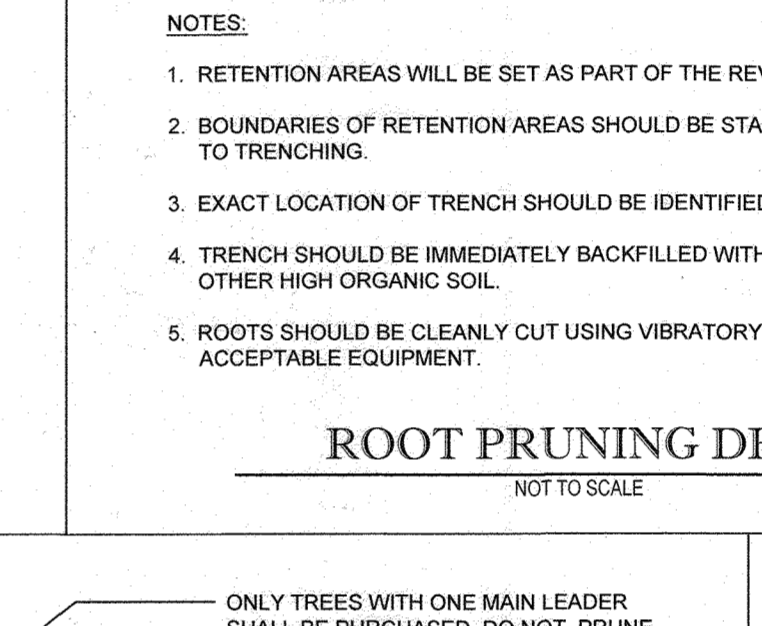
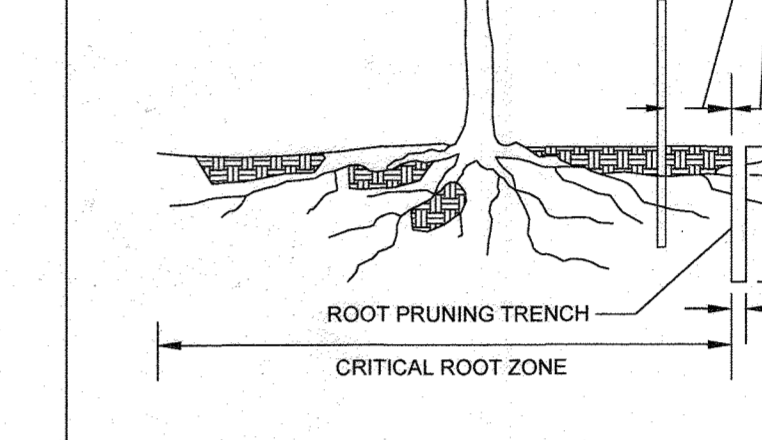
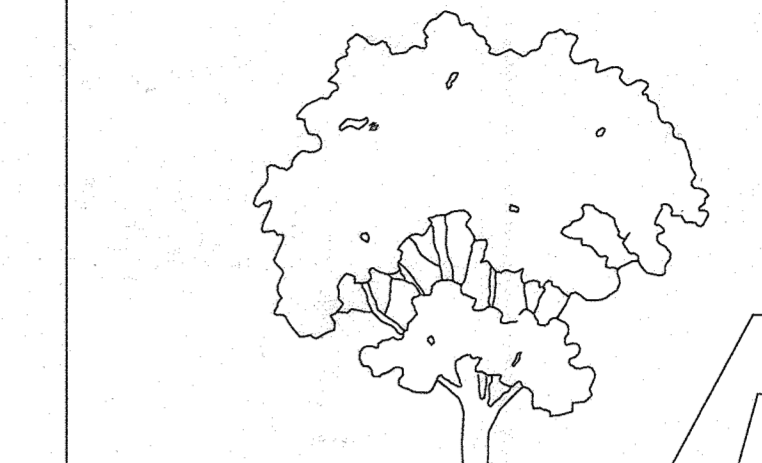
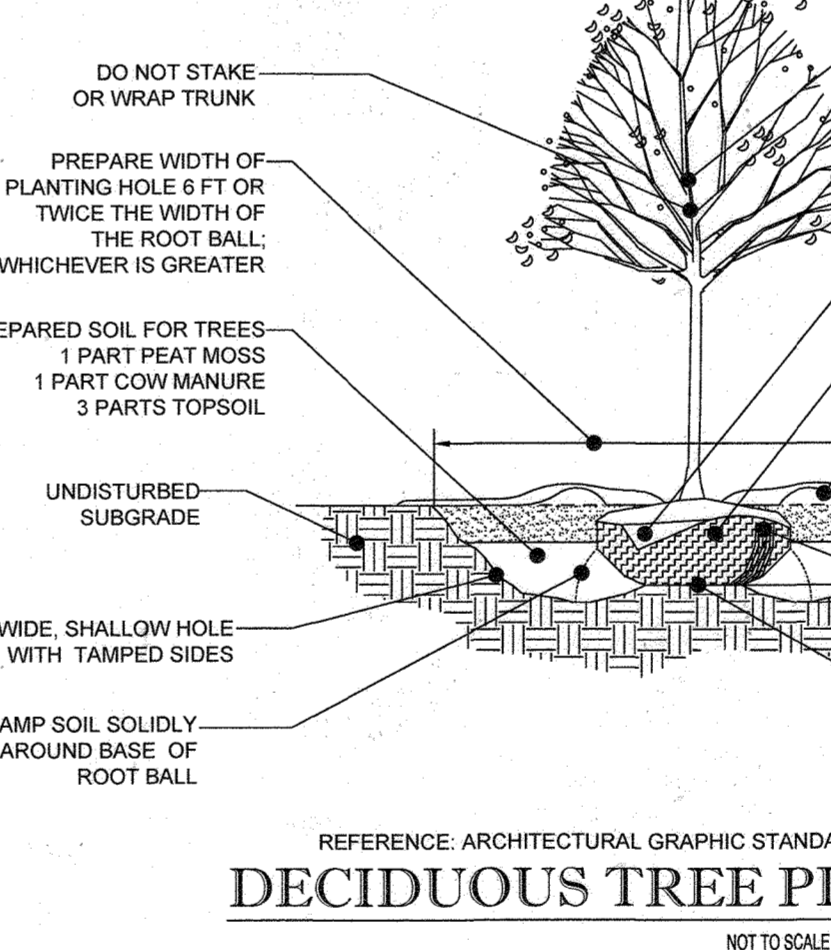
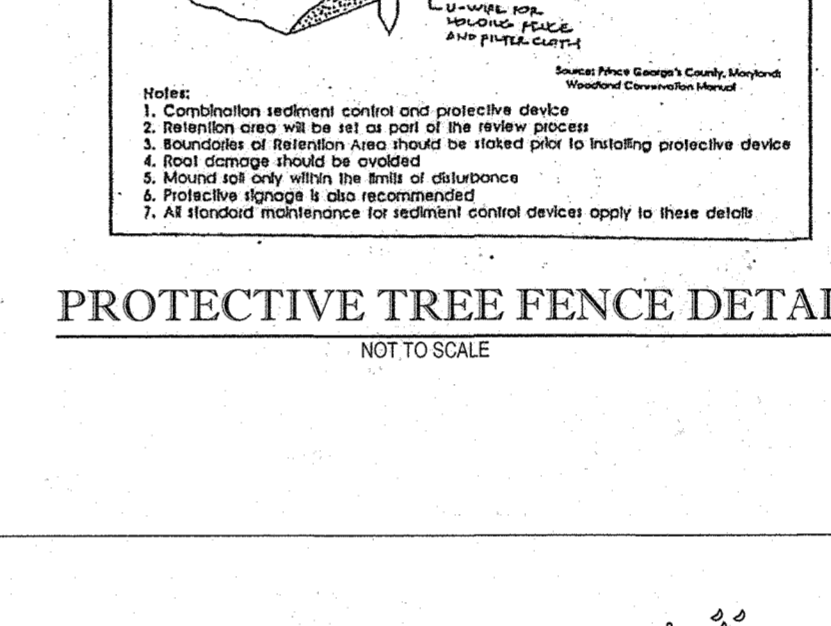
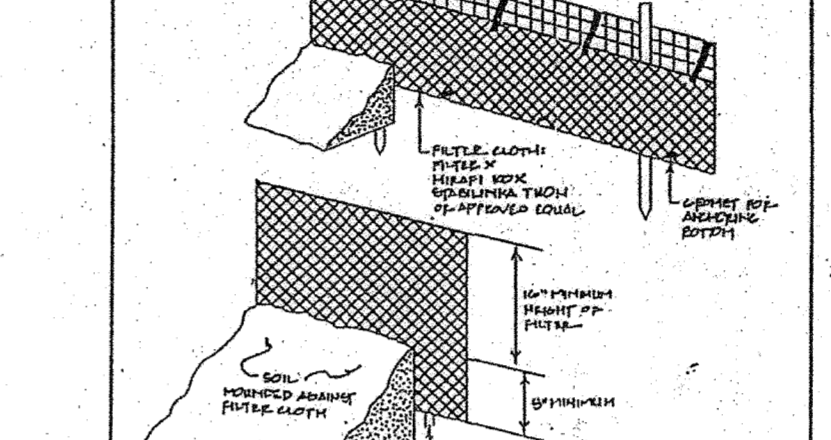
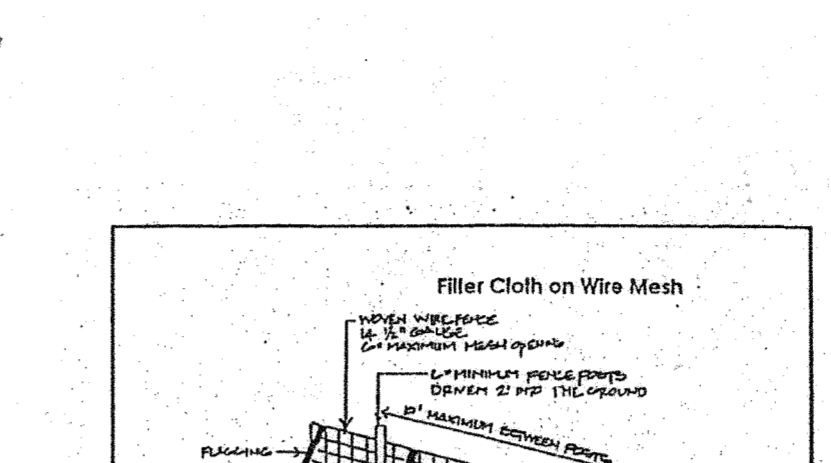
A. UPON THE COMPLETION OF ALL LANDSCAPE INSTALLATION...  
B. THE SITE SHALL BE CLEANED AND LEFT IN A NEAT AND ACCEPTABLE...

**REFORESTATION PLAN**

THE REFORESTATION AREA WILL BE PLACED INTO A FOREST CONSERVATION EASEMENT.  
A. PLANTING PLAN AND METHODS  
B. PLANTING AND SOIL SPECIFICATIONS  
C. MAINTENANCE OF PLANTINGS  
D. GUARANTEE REQUIREMENTS  
E. SECURITY FOR REFORESTATION  
F. POST-CONSTRUCTION MANAGEMENT PLAN  
G. PLANTING/SOIL SPECIFICATIONS  
H. MAINTENANCE OF PLANTINGS  
I. GUARANTEE REQUIREMENTS

**FCP NOTES**

- 1. ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS...
- 2. FORESTED AREAS OCCURRING OUTSIDE OF THE FCE SHALL NOT BE CONSIDERED PART OF THE FCE...
- 3. LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMIT OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER.
- 4. THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT...
- 5. NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS.
- 6. TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION...
- 7. PERMANENT SIGNAGE WILL BE POSTED AT A 50-100 FOOT INTERVALS ALONG ALL FCE LIMITS.
- 8. EXISTING FOREST CALCULATIONS DIFFER BETWEEN THE APPROVED FOREST STAND DELINEATION AND THE FOREST CONSERVATION PLAN...



APPROVED DEPARTMENT OF PUBLIC WORKS

DATE: 11/26/2019

APPROVED DEPARTMENT OF PLANNING AND ZONING

DATE: 12-9-19

**NOTES:**

- 1. Retention Areas will be set as part of the review process.
- 2. Boundaries of Retention Areas/Critical Root Zones should be marked with signage prior to construction.
- 3. Signs should be placed at edge or 1-foot outside the Critical Root Zone.
- 4. Signs should be placed around each specimen tree as indicated on the plan.

NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

Professional S.E. Scott Shanberger

AS-BUILT DATE: 10/10/2024



OWNERS:	PARCEL 36 TOLL MIDDLE ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044 TEL:	PARCEL 111 DENNIS A LEAF LENORE D SIMES 5226 GREEN BRIDGE ROAD DAYTON, MD 21039 TEL:
DEVELOPER:	GREEN BRIDGE FARM II, L.C. 5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTACT: JASON VAN KIRK PHONE: (410) 720-3201	PARCEL 112 TOLL MIDDLE ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044 TEL:
	PARCEL 34 TOLL MIDDLE ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044 TEL:	PARCEL 98 JERRY MAULK JANET MAULK 5234 GREEN BRIDGE ROAD DAYTON, MD 21039 TEL:

BOHLER ENGINEERING  
CORPORATE OFFICE: WARRICK, NJ  
SURVEYORS  
PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

REVISIONS

REV	DATE	COMMENT	BY

E.R. McWilliams  
REGISTERED PROFESSIONAL ARCHITECT  
LICENSE NO. 9866 EXPIRES 03/31/2026

APPROVED FOR CONSTRUCTION

PROJECT NO: MD142249  
DRAWN BY: AVG  
CHECKED BY: BRR  
DATE: 08-27-2019  
SCALE: AS SHOWN  
CAD ID: EDC

FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

BOHLER ENGINEERING  
901 DULANEY VALLEY ROAD, SUITE 801  
TOWSON, MARYLAND 21204  
Phone: (410) 821-7900  
Fax: (410) 821-7901  
www.BohlerEngineering.com

E.R. McWilliams  
REGISTERED PROFESSIONAL ARCHITECT  
LICENSE NO. 9866 EXPIRES 03/31/2026

FOREST CONSERVATION NOTES AND DETAILS

84 OF 92

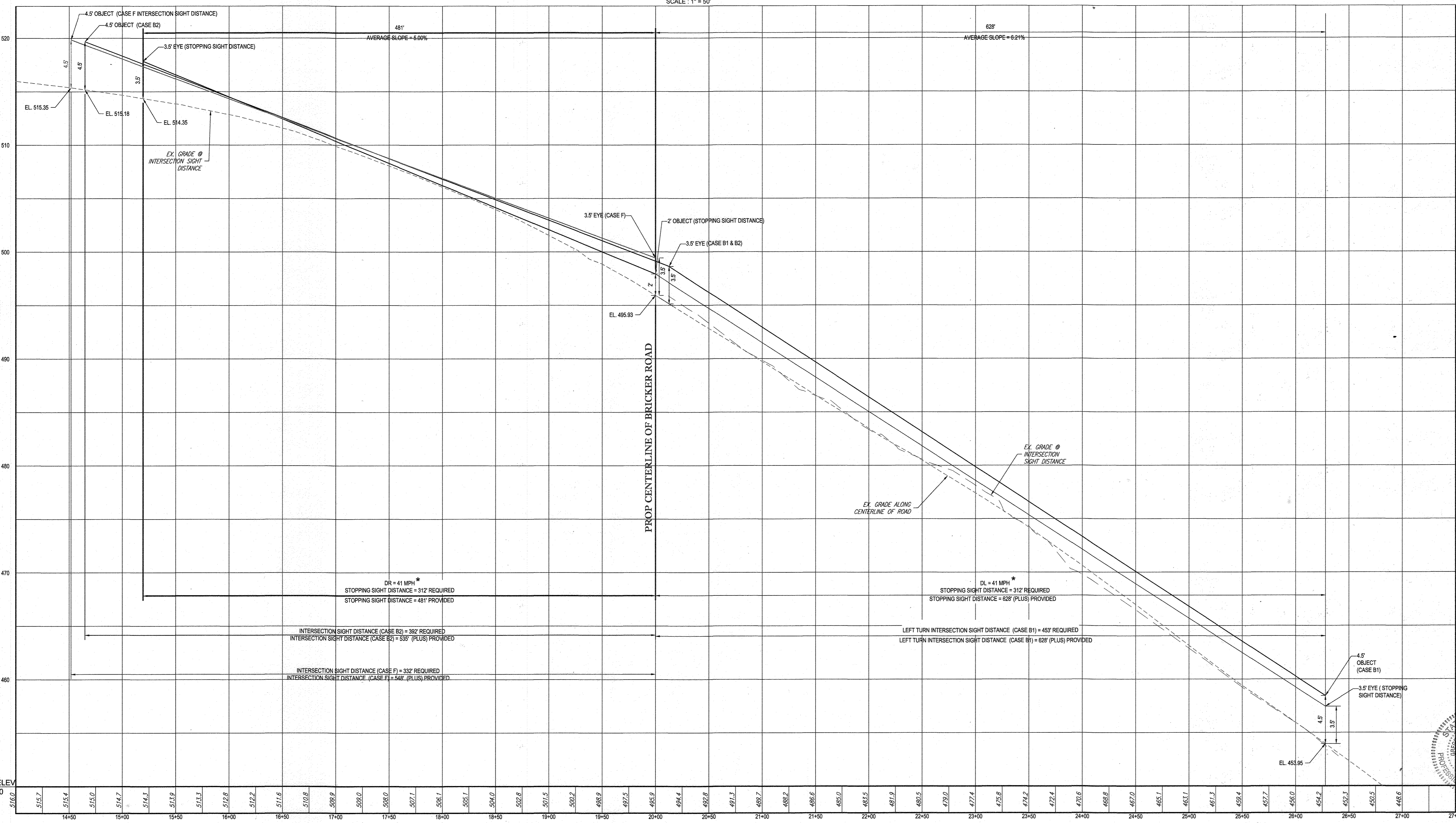
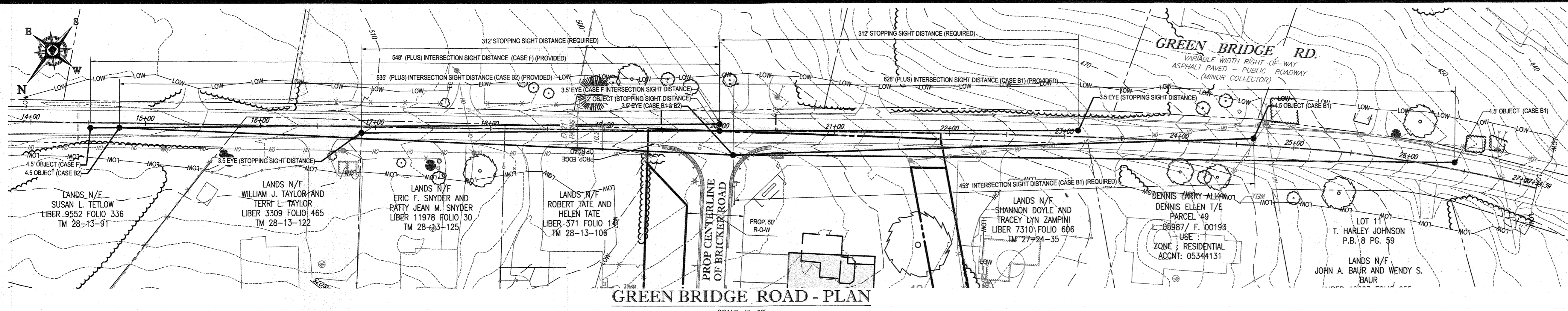
PLANTING DISTRIBUTION PATTERN DETAIL

NOT TO SCALE

DEED: 0431/00270, 0588/00490, 0589/00490, 0590/00490, 0591/00490, 0592/00490

OWNER:	PARCEL 36 TOLL MIDDLE ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044 TEL:	PARCEL 111 DENNIS A LEAF LENORE D SIMES 5226 GREEN BRIDGE ROAD DAYTON, MD 21039 TEL:
DEVELOPER:	GREEN BRIDGE FARM II, L.C. 5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTACT: JASON VAN KIRK PHONE: (410) 720-3201	PARCEL 112 TOLL MIDDLE ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044 TEL:
	PARCEL 34 TOLL MIDDLE ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044 TEL:	PARCEL 98 JERRY MAULK JANET MAULK 5234 GREEN BRIDGE ROAD DAYTON, MD 21039 TEL:

SUBDIVISION NAME: WILLOWSHIRE	PREVIOUS FILE NO.:	TAX MAP: 27	GRID: 18	ZONED: RR-DEO
SECTION AREA: N/A	ECP-16-023 PB436	PARCEL: 34, 36, 98, 111 & 112		
DEED: 0431/00270, 0588/00490, 0589/00490, 0590/00490, 0591/00490, 0592/00490	SP-17-002	5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND		
	WP-17105			



**BOHLER ENGINEERING**

Project: WILLOWSHIRE  
Location: Howard County, MD  
Road Name: Green Bridge Road  
Speed Limit: 30 mph

By: BRR  
Cred: JCV  
Date: 9/20/2018  
Job#: MD142648

**SIGHT DISTANCE ANALYSIS**

V <sub>major</sub>	= 41	(Design Speed, mph - Major Road)
V <sub>minor</sub>	= 41	(Design Speed, mph)
a	= 11.2	(Deceleration Rate, ft/s²) (Std decel rate for Passenger Cars = 11.2 sec)
G <sub>1</sub>	= 5.0	(Road Grade % - To Right (for left turn))
G <sub>2</sub>	= 6.2	(Road Grade % - To Left (for right turn))
t <sub>g(Case B1)</sub>	= 7.5	- Single Unit Truck = 9.5 sec - Combination truck = 11.5 sec
t <sub>g(Case B2)</sub>	= 6.5	- Passenger Car = 6.5 sec - Single Unit Truck = 8.5 sec - Combination truck = 10.5 sec
t <sub>g(Case F)</sub>	= 5.5	- Passenger Car = 5.5 sec - Single Unit Truck = 6.5 sec - Combination truck = 7.5 sec
t <sub>b</sub>	= 2.5	Brake Reaction Time, seconds
BRT	=	Distance traveled during braking reaction time
BDG	=	Distance traveled during braking (braking to a stopped position)

**REVISIONS**

REV	DATE	COMMENT	BY

**APPROVED FOR CONSTRUCTION**

PROJECT NO: MD142648  
DRAWN BY: BRR  
CHECKED BY: BRR  
DATE: 08/26/19  
SCALE: AS SHOWN  
CAD I.D.: SB3

**SIGHT DISTANCE FOR WILLOWSHIRE**

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD, SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7900  
Fax: (410) 821-7987  
www.BohlerEngineering.com

**B.R. ROWE**

PROFESSIONAL ENGINEER  
MARYLAND LICENSE NO. 9808

PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM, DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE NO. 9808, EXPIRATION DATE: 7/31/2021

**SIGHT DISTANCE ANALYSIS**

SHEET NUMBER: 85 OF 92

APPROVED: DEPARTMENT OF PUBLIC WORKS  
CHIEF, BUREAU OF HIGHWAYS  
DATE: 11/26/2019

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 2/20/2020

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 12-9-19

**GREEN BRIDGE ROAD SIGHT DISTANCE - PROFILE**

SCALE: 1" = 50' HORIZONTAL  
1" = 5' VERTICAL

\* 41 MPH DESIGN SPEED BASED ON 85TH PERCENTILE SPEED CALCULATED BY TRAFFIC CONCEPTS, INC. ON JUNE 23, 2015 ALONG GREEN BRIDGE ROAD, NORTH OF TRIADELPHIA MILL ROAD.

OWNERS:  
PARCEL 36: TOLL MID ATLANTIC LP COMPANY INC, 250 GIBRAL TAR ROAD, HORSHAM PA, 19044  
PARCEL 34: TOLL MID ATLANTIC LP COMPANY INC, 250 GIBRAL TAR ROAD, HORSHAM PA, 19044  
PARCEL 112: TOLL MID ATLANTIC LP COMPANY INC, 250 GIBRAL TAR ROAD, HORSHAM PA, 19044  
PARCEL 98: JERRY MAUCK, JANET BURKE JT, 5234 GREEN BRIDGE ROAD, DAYTON, MD 21036  
PARCEL 111: DENNIS A LEAF, LENORE D. SINES, 5236 GREEN BRIDGE ROAD, DAYTON, MD 21036

SUBDIVISION NAME: WILLOWSHIRE  
SECTION/AREA: N/A  
DEED #: 1136100222, 0018300554, 15884003894, 0588900490, 0434100270, & 0320100539

PREVIOUS FILE NO.: ECP-16-023 PB436  
SP-17-002 WP-17105

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
WARREN, NJ

SURVEYORS:  
SOUTH BRITAIN, VA  
ALBANY, NY  
CHALFONT, PA  
PORT LAUREL, DE  
TOWSON, MD  
WARRINGTON, VA  
FORSYTH, NC  
DALLAS, TX

PROJECT MANAGERS:  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE: CALL 811

(WV 1-800-245-4848) (PA 1-800-242-1776) (DC 1-800-257-7777) (VA 1-800-952-7031) (MD 1-800-257-7777) (DE 1-800-368-6868)

**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD, SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7900  
Fax: (410) 821-7987  
www.BohlerEngineering.com

**B.R. ROWE**

PROFESSIONAL ENGINEER  
MARYLAND LICENSE NO. 9808

PROFESSIONAL CERTIFICATION  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM, DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.  
LICENSE NO. 9808, EXPIRATION DATE: 7/31/2021

**SIGHT DISTANCE ANALYSIS**

SHEET NUMBER: 85 OF 92

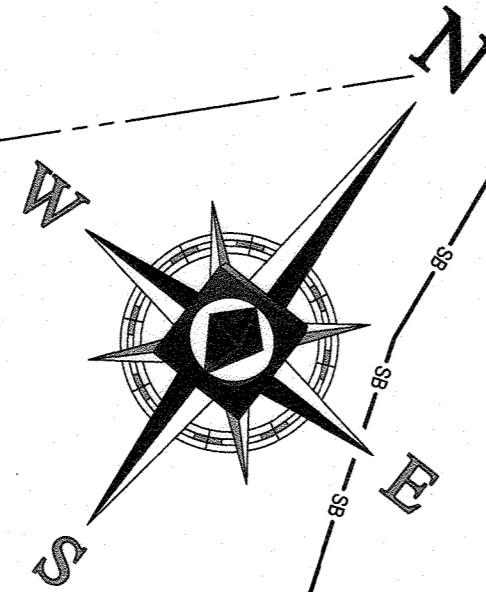
**SIGHT DISTANCE ANALYSIS**

SHEET NUMBER: 85 OF 92

**LEGEND:**

- ONSITE PROPERTY LINE / R.O.W. LINE
- NEIGHBORING PROPERTY LINE / INTERIOR PARCEL LINE
- 170-  
-169- CONTOUR LINE
- PERENNIAL STREAM
- INTERMITTENT STREAM
- WB----- WETLAND BUFFER
- WD----- WETLAND BUFFER
- STREAM BUFFER
- TREELINE
- FLOODPLAIN
- WETLANDS
- LIMIT OF DISTURBANCE
- ⊕ #B-2 BORING
- ⊗ SPECIMEN TREE PROPOSED TO BE REMOVED IN ACCORDANCE WITH THE CONDITIONS OF APPROVAL OF WP-17-105

LANDS N/F  
SHERRY MAUCK AND JANET  
BURKE  
LIBER 4341 FOLIO 270  
TAX MAP 27, GRID 18,  
PARCEL 98



HILLS-CARPINE  
ENGINEERING ASSOCIATES, INC.  
RECORD OF SOIL EXPLORATION

Station	Depth (ft)	Soil Description	Moisture (%)	Specific Gravity	Unit Weight (pcf)	Classification
11	0-12	...	...	...	...	...
12	0-12	...	...	...	...	...

HILLS-CARPINE  
ENGINEERING ASSOCIATES, INC.  
RECORD OF SOIL EXPLORATION

Station	Depth (ft)	Soil Description	Moisture (%)	Specific Gravity	Unit Weight (pcf)	Classification
13	0-12	...	...	...	...	...
14	0-12	...	...	...	...	...

HILLS-CARPINE  
ENGINEERING ASSOCIATES, INC.  
RECORD OF SOIL EXPLORATION

Station	Depth (ft)	Soil Description	Moisture (%)	Specific Gravity	Unit Weight (pcf)	Classification
15	0-12	...	...	...	...	...
16	0-12	...	...	...	...	...

HILLS-CARPINE  
ENGINEERING ASSOCIATES, INC.  
RECORD OF SOIL EXPLORATION

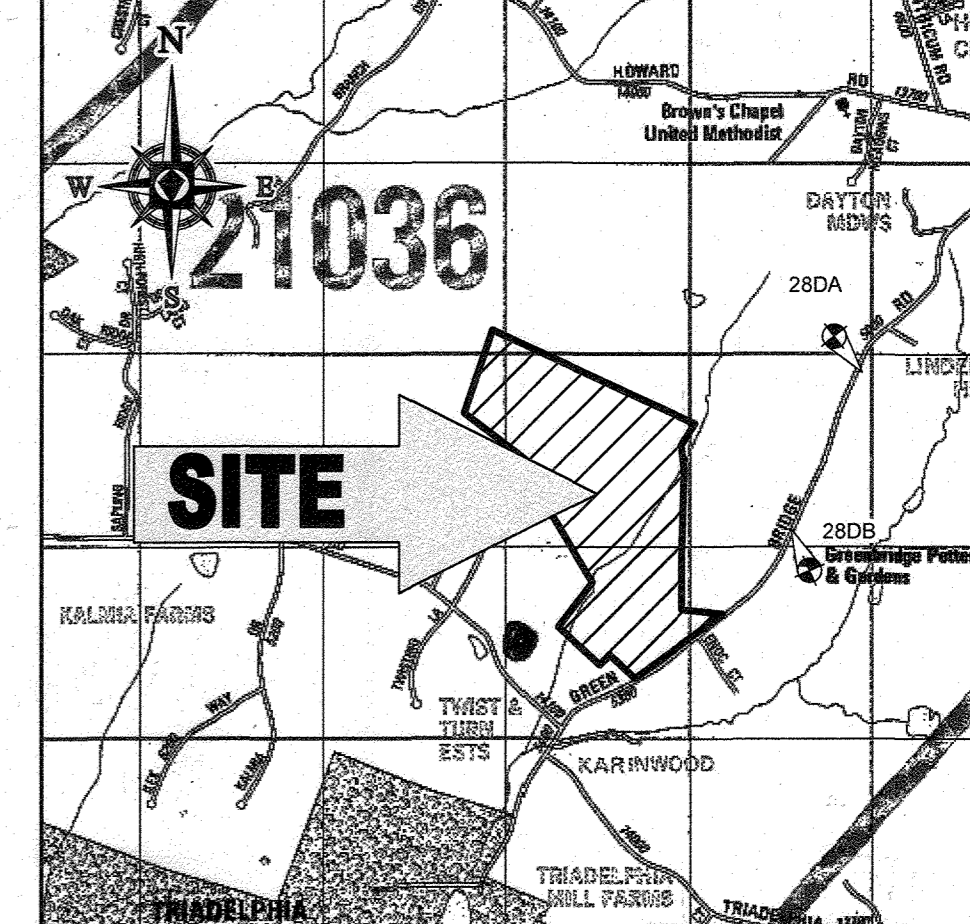
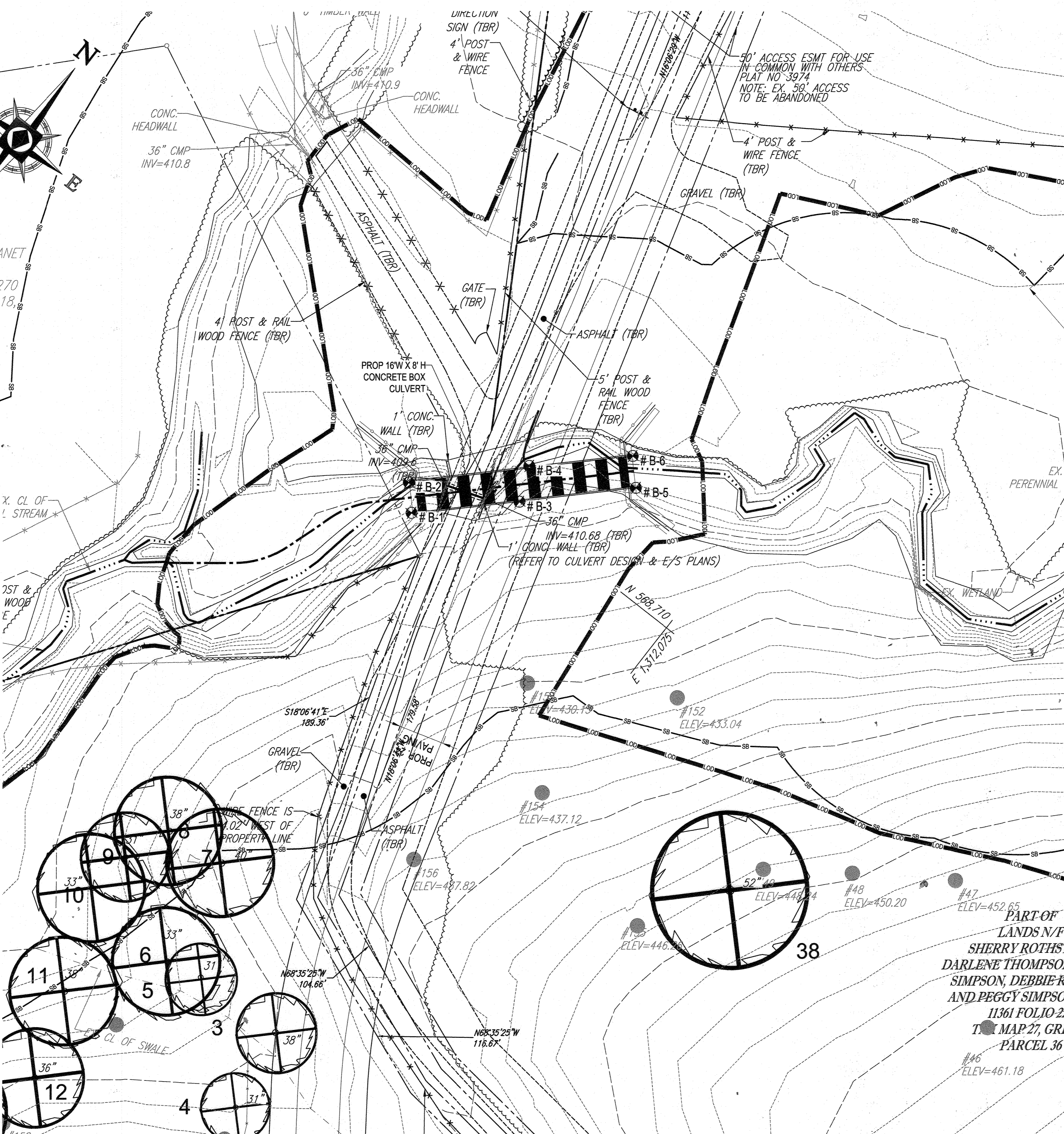
Station	Depth (ft)	Soil Description	Moisture (%)	Specific Gravity	Unit Weight (pcf)	Classification
17	0-12	...	...	...	...	...
18	0-12	...	...	...	...	...

HILLS-CARPINE  
ENGINEERING ASSOCIATES, INC.  
RECORD OF SOIL EXPLORATION

Station	Depth (ft)	Soil Description	Moisture (%)	Specific Gravity	Unit Weight (pcf)	Classification
19	0-12	...	...	...	...	...
20	0-12	...	...	...	...	...

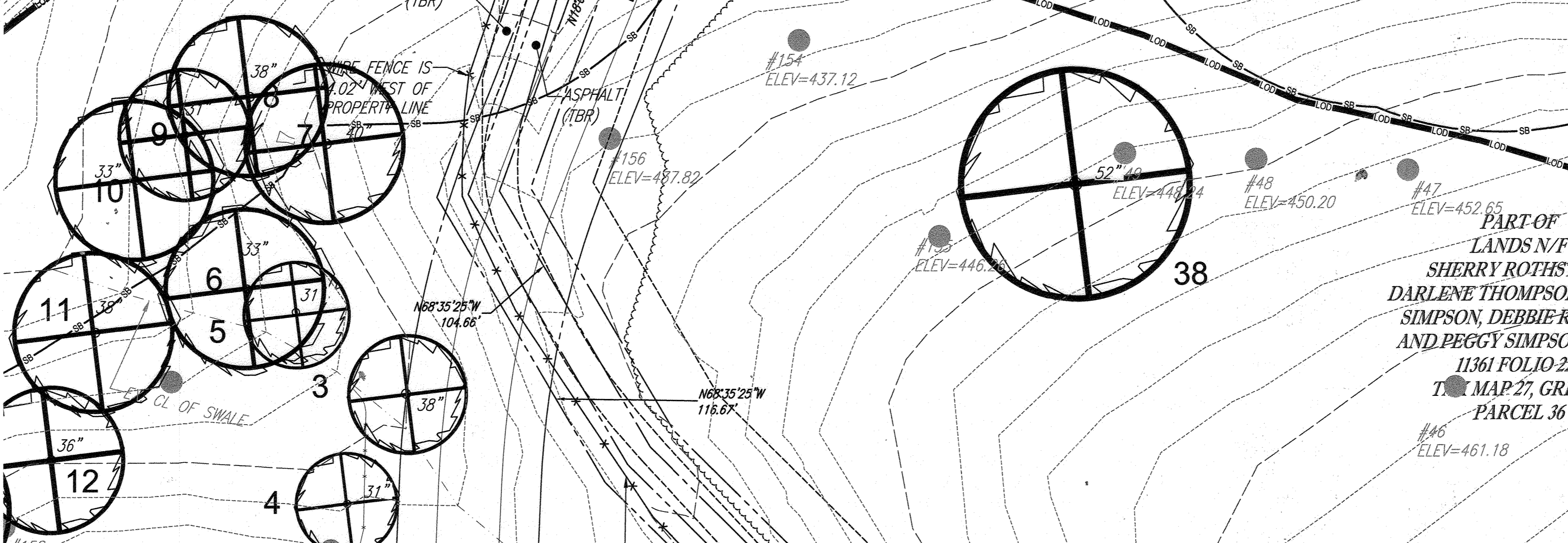
HILLS-CARPINE  
ENGINEERING ASSOCIATES, INC.  
RECORD OF SOIL EXPLORATION

Station	Depth (ft)	Soil Description	Moisture (%)	Specific Gravity	Unit Weight (pcf)	Classification
21	0-12	...	...	...	...	...
22	0-12	...	...	...	...	...



VICINITY MAP  
COPYRIGHT ADC THE MAP PEOPLE  
PERMIT USE NO. 20552153-5  
SCALE: 1"=2000'  
ADC MAP COORDINATES: 24/85

Point #	Raw Description	Elevation	Northing	Easting
1	B-1	412.88	568,675.38	1,311,933.83
2	B-2	408.89	568,686.88	1,311,922.97
3	B-3	415.79	568,714.37	1,311,974.57
4	B-4	412.36	568,732.17	1,311,967.16
5	B-5	414.60	568,757.30	1,312,017.86
6	B-6	415.27	568,769.25	1,312,006.38



BORING PLAN  
SCALE: 1" = 30'

APPROVED DEPARTMENT OF PUBLIC WORKS  
CHIEF, BUREAU OF HIGHWAYS  
DATE: 11/24/2019

APPROVED DEPARTMENT OF PLANNING AND ZONING  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 2/28/2020

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 12-9-19

OWNERS:  
PARCEL 94  
TOLL MID ATLANTIC LP  
COMPANY INC.  
250 GIBRAL TARI ROAD  
HORSHAM PA, 19044

PARCEL 112  
TOLL MID ATLANTIC LP  
COMPANY INC.  
250 GIBRAL TARI ROAD  
HORSHAM PA, 19044

PARCEL 111  
DENNIS A LEAF  
JERRY MAUCK  
JANET BURKE JT  
5208 GREEN BRIDGE ROAD  
DAYTON, MD 21036

PARCEL 98  
JERRY MAUCK  
JANET BURKE JT  
5208 GREEN BRIDGE ROAD  
DAYTON, MD 21036

DEVELOPER:  
GREEN BRIDGE FARM II, L.C.  
8074 DORSEY HALL ROAD, SUITE 205  
COLUMBIA, MD 21042  
CONTACT: JASON VAN KIRK  
PHONE: (410) 720-3021

SUBDIVISION NAME: WILLOWSHIRE  
SECTION: AREA A, N/A  
DEED # 1136100222, 0018300554,  
15884003894, 0588900490  
0434100270, & 0320100539

PREVIOUS FILE NO.:  
ECP-16-023 PB436  
SP-17-002  
WP-17105

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
PARCEL: 34, 36, 98, 111 & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

CORPORATE OFFICE:  
WARREN, NJ

OFFICES:  
BETHESDA, MD  
TOWSON, MD  
FARMERSVILLE, VA  
WASHINGTON, VA  
CHANTON, PA  
GREEN VALLEY, PA  
FORT LAUDERDALE, FL

CIVIL & CONSULTING ENGINEERS

SURVEYORS  
PROJECT MANAGERS  
ENVIRONMENTAL CONSULTANTS  
LANDSCAPE ARCHITECTS

REVISIONS

REV	DATE	COMMENT	BY

THE FOLLOWING STATES REQUIRE NOTIFICATION BY EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE IN VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE: CALL 811 (WV 1-800-245-4848) (PA 1-800-242-1776) (DC 1-800-257-3777) (VA 1-800-552-7001) (MD 1-800-257-3777) (DE 1-800-368-6666)

APPROVED FOR CONSTRUCTION

PROJECT NO: MD14204  
DRAWN BY: BRR  
CHECKED BY: BRR  
DATE: 08/26/19  
SCALE: 1" = 30'  
CAD I.D.: BP3

FINAL ROAD CONSTRUCTION PLAN FOR

WILLOWSHIRE  
LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, P & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**

901 DULANEY VALLEY ROAD, SUITE 801  
TOWSON, MARYLAND 21284  
Phone: (410) 821-7500  
Fax: (410) 821-7587  
www.BohlerEngineering.com

**B.R. ROWE**

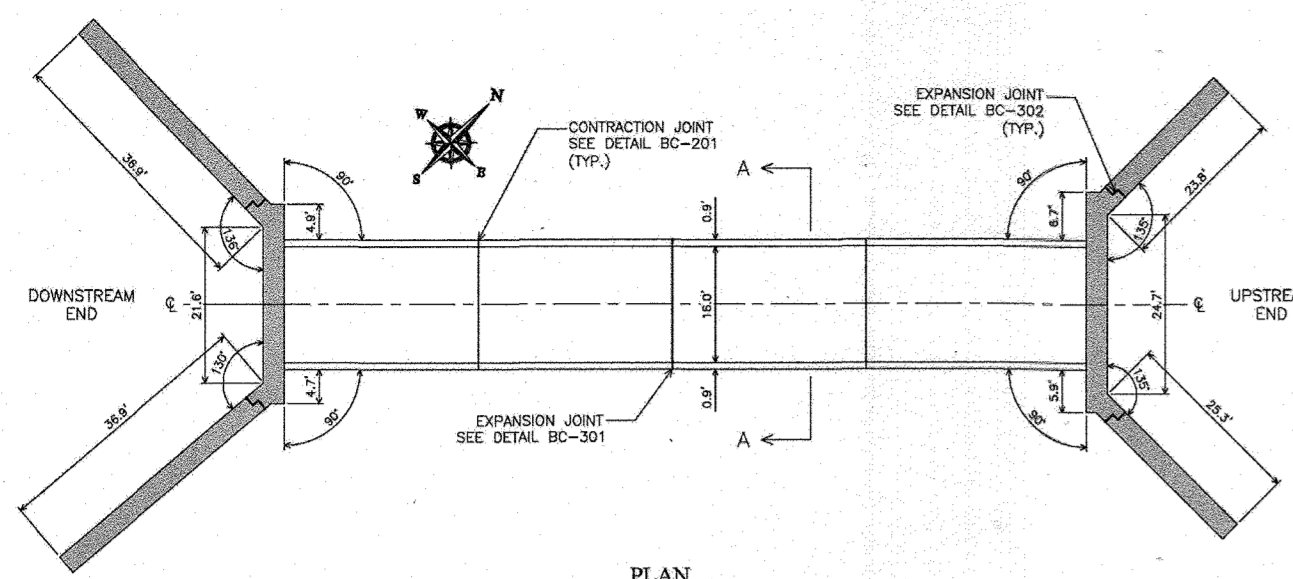
PROFESSIONAL ENGINEER  
LICENSE NO. 10849  
EXPIRES 12/31/2024

NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
10/11/2023  
G/ Scott Shanabarger  
Professional L.S. # 10849 Exp. Date 4/2/2024  
AS-BUILT DATE: 10/11/2023  
Shanabarger & Lane

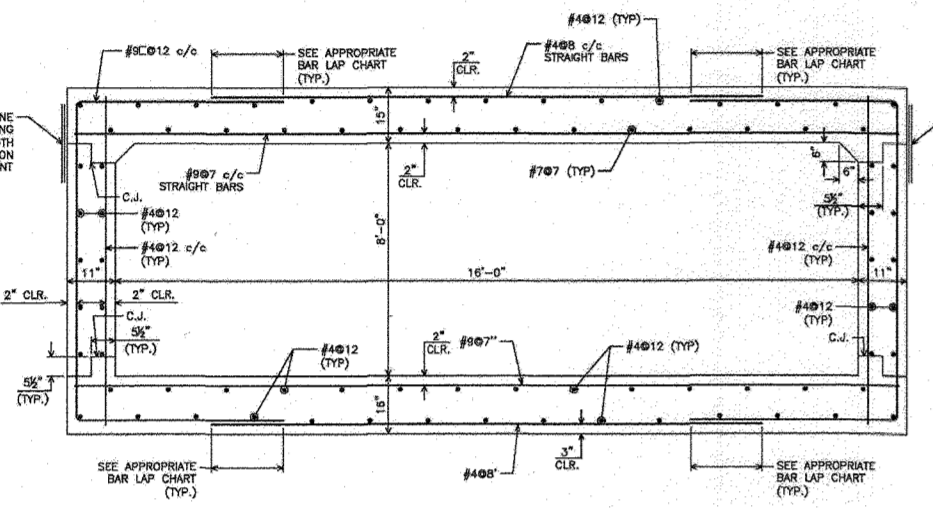
INSTRUMENTS USED IN PERFORMING THIS AS-BUILT SURVEY: 5 SECOND SOKKIA IX ROBOTIC TOTAL STATION, TOPCON PC-5 RECEIVER, SOKKIA SCOP PRISM

SHEET TITLE:  
**BORING PLAN & BORING LOGS**

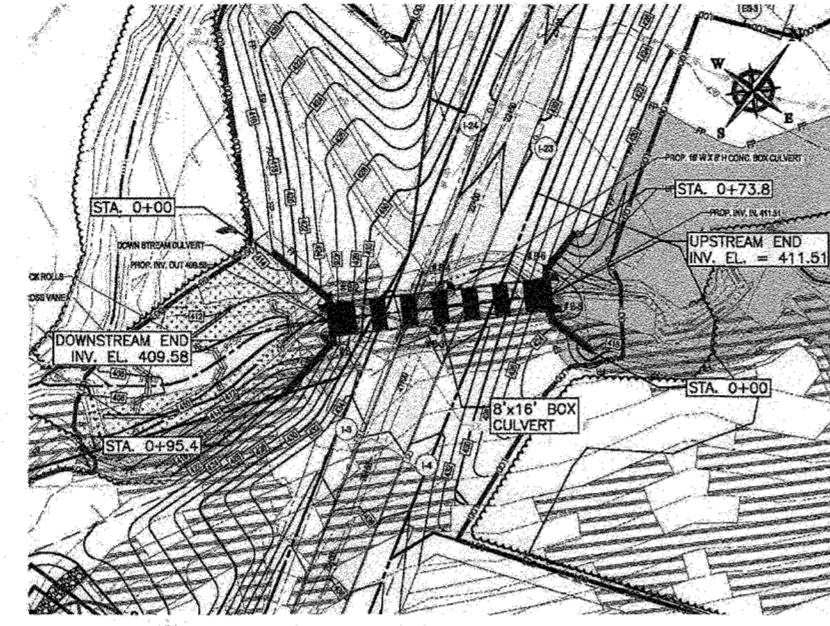
SHEET NUMBER:  
**86 OF 92**



PLAN SCALE 3/32" = 1'-0"



SECTION A-A



SITE PLAN SCALE 1/4" = 1'-0"

**GENERAL NOTES**

1. SEE SPECIFICATIONS AND ALL NOTES TO THESE DRAWINGS FOR MATERIALS AND CONSTRUCTION.

2. APPROXIMATE ELEVATIONS SHOWN ARE BASED ON THE 1985 DATUM.

3. CONCRETE DESIGN: 1800, 4.5 psi for No. 6 Reinforcing Steel Design & = 80.5 psi

4. MIX NO. 6 (4000 psi)

5. CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND ALL NOTES TO THESE DRAWINGS.

6. REINFORCING STEEL: CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND ALL NOTES TO THESE DRAWINGS.

7. DESIGN PARAMETERS: EARTH PRESSURE EVALUATED BASED ON COULTERS THEORY.

8. AREA OF EXISTING CHANNEL IS 4.5 SQ. FT. (1.31 SQ. M).

9. DESIGN FLOOD FLOW IS 100 CFS (3.54 M<sup>3</sup>/SEC).

10. DESIGN FLOOD VELOCITY IS 1.5 FT/SEC (0.46 M/SEC).

11. DESIGN FLOOD DEPTH IS 1.5 FT (0.46 M).

12. DESIGN FLOOD FORCE IS 1.5 KIP (6.7 KN).

13. DESIGN FLOOD MOMENT IS 1.5 KIP-FT (20.4 KJ).

14. DESIGN FLOOD TORQUE IS 1.5 KIP-FT (20.4 KJ).

15. DESIGN FLOOD POWER IS 1.5 KW (2.0 HP).

16. DESIGN FLOOD ENERGY IS 1.5 KIP-FT (20.4 KJ).

17. DESIGN FLOOD IMPACT IS 1.5 KIP (6.7 KN).

18. DESIGN FLOOD COLLISION IS 1.5 KIP (6.7 KN).

19. DESIGN FLOOD DEBRIS IS 1.5 KIP (6.7 KN).

20. DESIGN FLOOD LOGS IS 1.5 KIP (6.7 KN).

21. DESIGN FLOOD ROOTS IS 1.5 KIP (6.7 KN).

22. DESIGN FLOOD ROCKS IS 1.5 KIP (6.7 KN).

23. DESIGN FLOOD LIMBS IS 1.5 KIP (6.7 KN).

24. DESIGN FLOOD BRANCHES IS 1.5 KIP (6.7 KN).

25. DESIGN FLOOD TRUNKS IS 1.5 KIP (6.7 KN).

26. DESIGN FLOOD MAINS IS 1.5 KIP (6.7 KN).

27. DESIGN FLOOD HEADWORKS IS 1.5 KIP (6.7 KN).

28. DESIGN FLOOD TAILWORKS IS 1.5 KIP (6.7 KN).

29. DESIGN FLOOD WEIRWORKS IS 1.5 KIP (6.7 KN).

30. DESIGN FLOOD GATEWORKS IS 1.5 KIP (6.7 KN).

31. DESIGN FLOOD SLUICELOCKS IS 1.5 KIP (6.7 KN).

32. DESIGN FLOOD DAMS IS 1.5 KIP (6.7 KN).

33. DESIGN FLOOD BARRIERS IS 1.5 KIP (6.7 KN).

34. DESIGN FLOOD FLOODWALLS IS 1.5 KIP (6.7 KN).

35. DESIGN FLOOD FLOODGATES IS 1.5 KIP (6.7 KN).

36. DESIGN FLOOD FLOODWALLS WITH FLOODGATES IS 1.5 KIP (6.7 KN).

37. DESIGN FLOOD FLOODWALLS WITH SLUICELOCKS IS 1.5 KIP (6.7 KN).

38. DESIGN FLOOD FLOODWALLS WITH DAMS IS 1.5 KIP (6.7 KN).

39. DESIGN FLOOD FLOODWALLS WITH BARRIERS IS 1.5 KIP (6.7 KN).

40. DESIGN FLOOD FLOODWALLS WITH FLOODGATES AND SLUICELOCKS IS 1.5 KIP (6.7 KN).

41. DESIGN FLOOD FLOODWALLS WITH FLOODGATES AND DAMS IS 1.5 KIP (6.7 KN).

42. DESIGN FLOOD FLOODWALLS WITH FLOODGATES AND BARRIERS IS 1.5 KIP (6.7 KN).

43. DESIGN FLOOD FLOODWALLS WITH FLOODGATES AND FLOODGATES IS 1.5 KIP (6.7 KN).

44. DESIGN FLOOD FLOODWALLS WITH FLOODGATES AND SLUICELOCKS AND DAMS IS 1.5 KIP (6.7 KN).

45. DESIGN FLOOD FLOODWALLS WITH FLOODGATES AND SLUICELOCKS AND BARRIERS IS 1.5 KIP (6.7 KN).

46. DESIGN FLOOD FLOODWALLS WITH FLOODGATES AND DAMS AND BARRIERS IS 1.5 KIP (6.7 KN).

47. DESIGN FLOOD FLOODWALLS WITH FLOODGATES AND FLOODGATES AND SLUICELOCKS IS 1.5 KIP (6.7 KN).

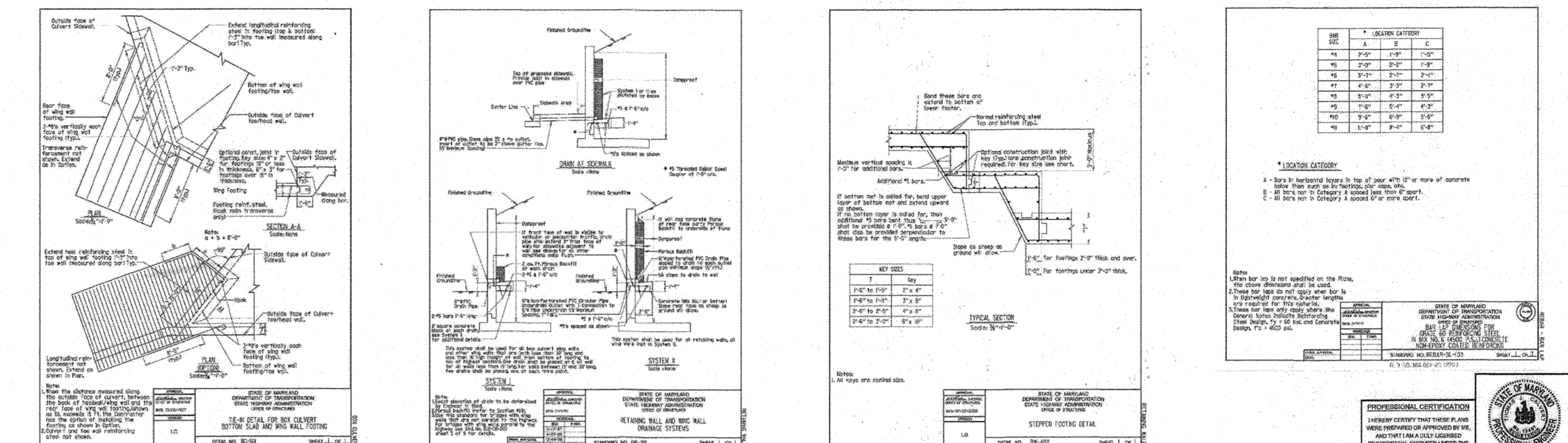
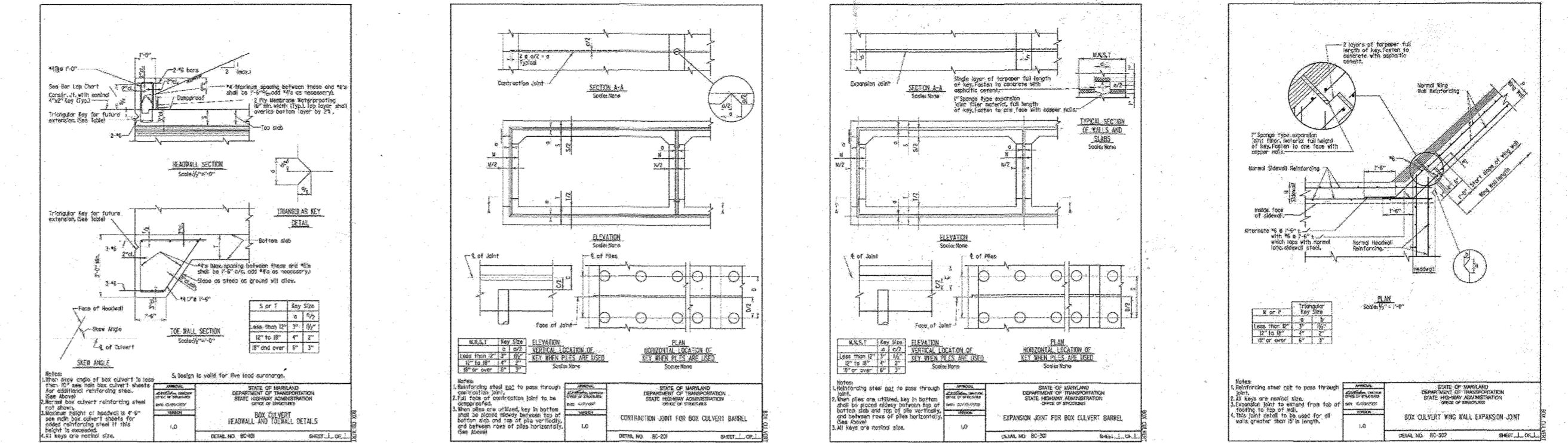
48. DESIGN FLOOD FLOODWALLS WITH FLOODGATES AND FLOODGATES AND DAMS IS 1.5 KIP (6.7 KN).

49. DESIGN FLOOD FLOODWALLS WITH FLOODGATES AND FLOODGATES AND BARRIERS IS 1.5 KIP (6.7 KN).

50. DESIGN FLOOD FLOODWALLS WITH FLOODGATES AND FLOODGATES AND FLOODGATES IS 1.5 KIP (6.7 KN).

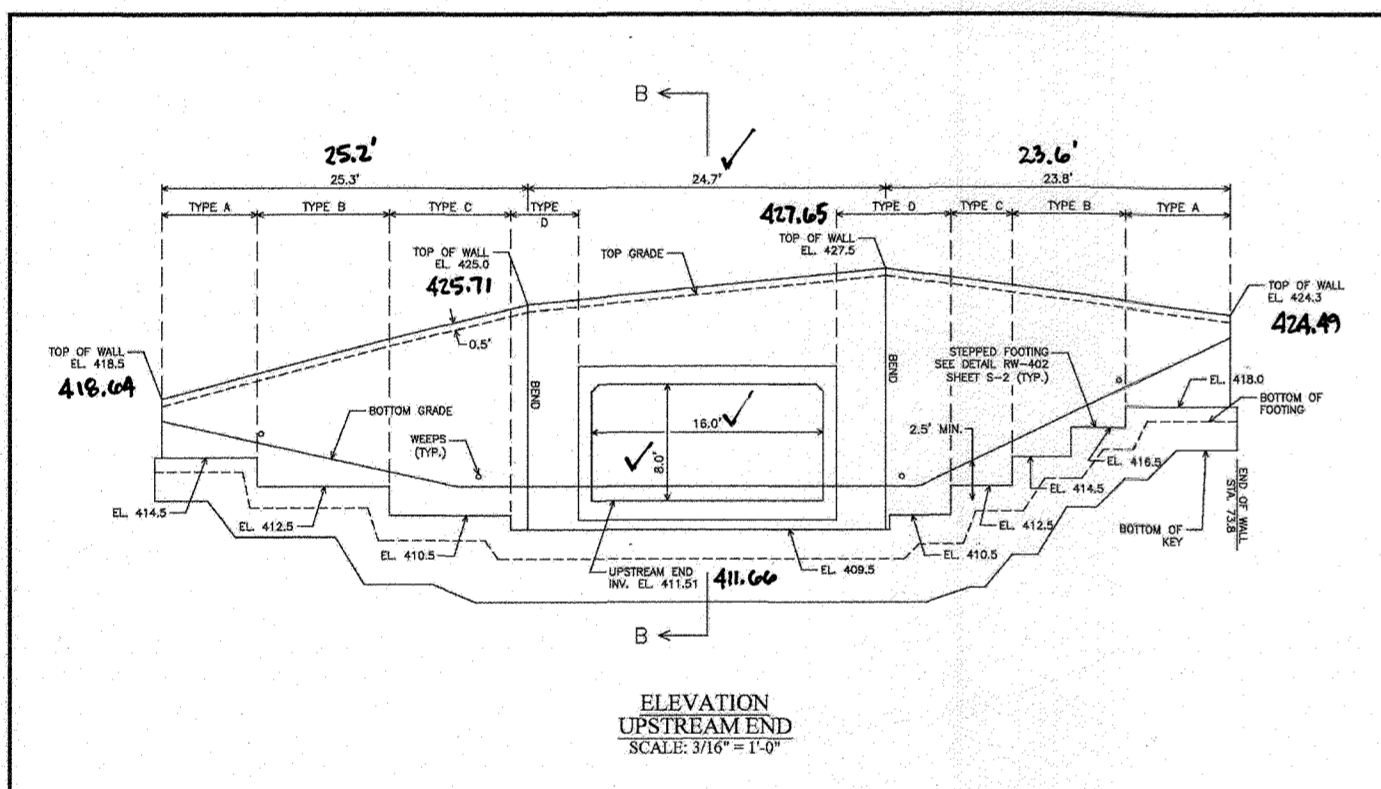
HILLIS-CARNES ENGINEERING ASSOCIATES  
 BOX CULVERT CONSTRUCTION DETAILS  
 SIMPSON & DENAULT PROPERTIES  
 5232 GREEN BRIDGE ROAD DAYTON, MARYLAND

REVISION NO.	DESCRIPTION	DATE	JOB NUMBER	DESIGNED BY	TIC
1	AS SHOWN	02/26/19	17784A	AM	TIC

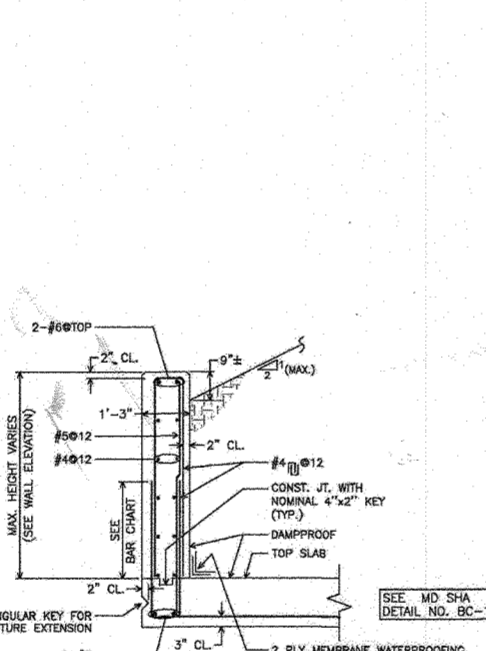


HILLIS-CARNES ENGINEERING ASSOCIATES  
 BOX CULVERT - MARYLAND SHA DETAILS  
 SIMPSON & DENAULT PROPERTIES  
 5232 GREEN BRIDGE ROAD DAYTON, MARYLAND

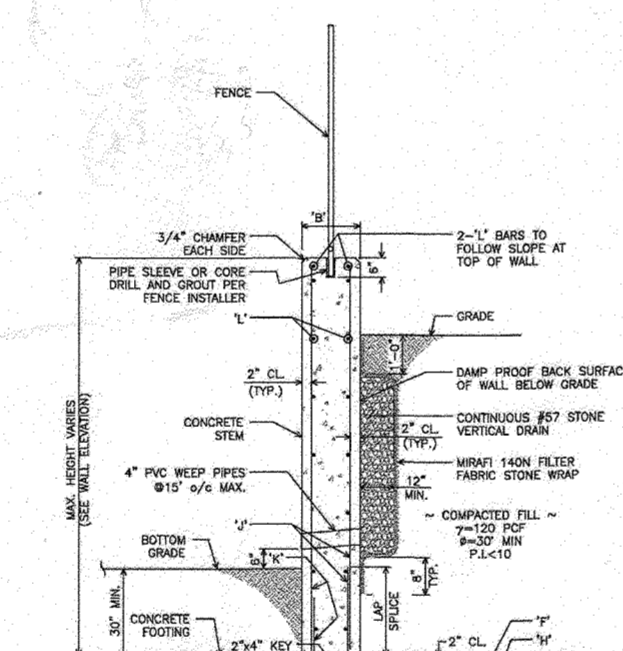
REVISION NO.	DESCRIPTION	DATE	JOB NUMBER	DESIGNED BY	TIC
1	AS SHOWN	02/26/19	17784A	AM	TIC



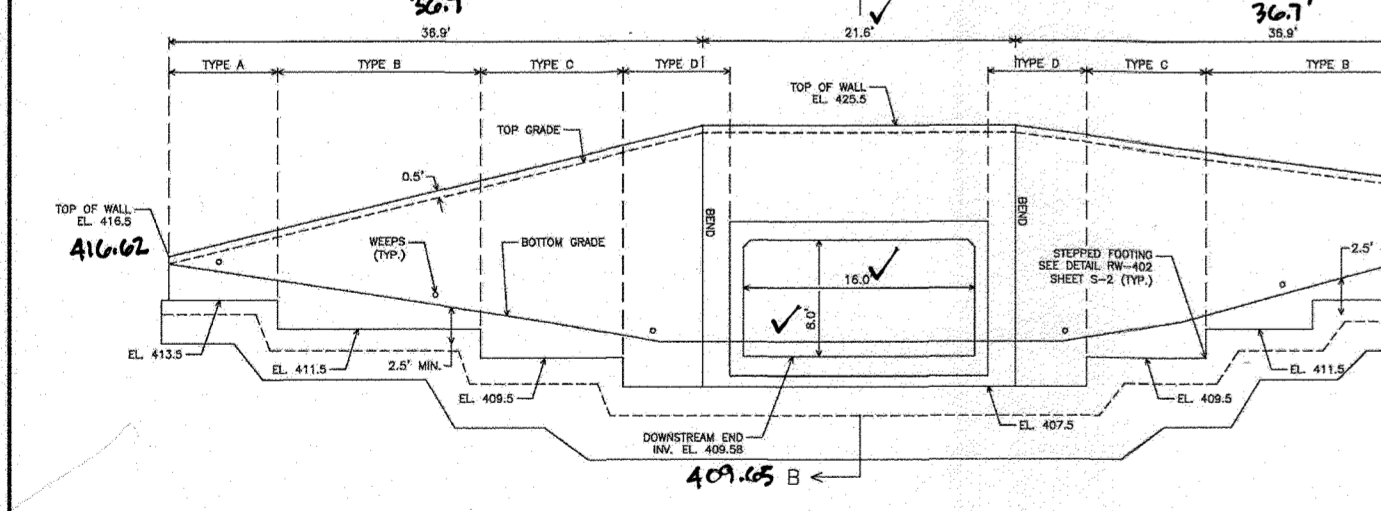
ELEVATION UPSTREAM END SCALE 3/16" = 1'-0"



SECTION B-B HEADWALL SCALE 1/2" = 1'-0"



TYPICAL CONCRETE RETAINING WALL SECTION NOT TO SCALE



ELEVATION DOWNSTREAM END SCALE 3/16" = 1'-0"

HILLIS-CARNES ENGINEERING ASSOCIATES  
 BOX CULVERT CONSTRUCTION DETAILS  
 SIMPSON & DENAULT PROPERTIES  
 5232 GREEN BRIDGE ROAD DAYTON, MARYLAND

REVISION NO.	DESCRIPTION	DATE	JOB NUMBER	DESIGNED BY	TIC
1	AS SHOWN	02/26/19	17784A	AM	TIC

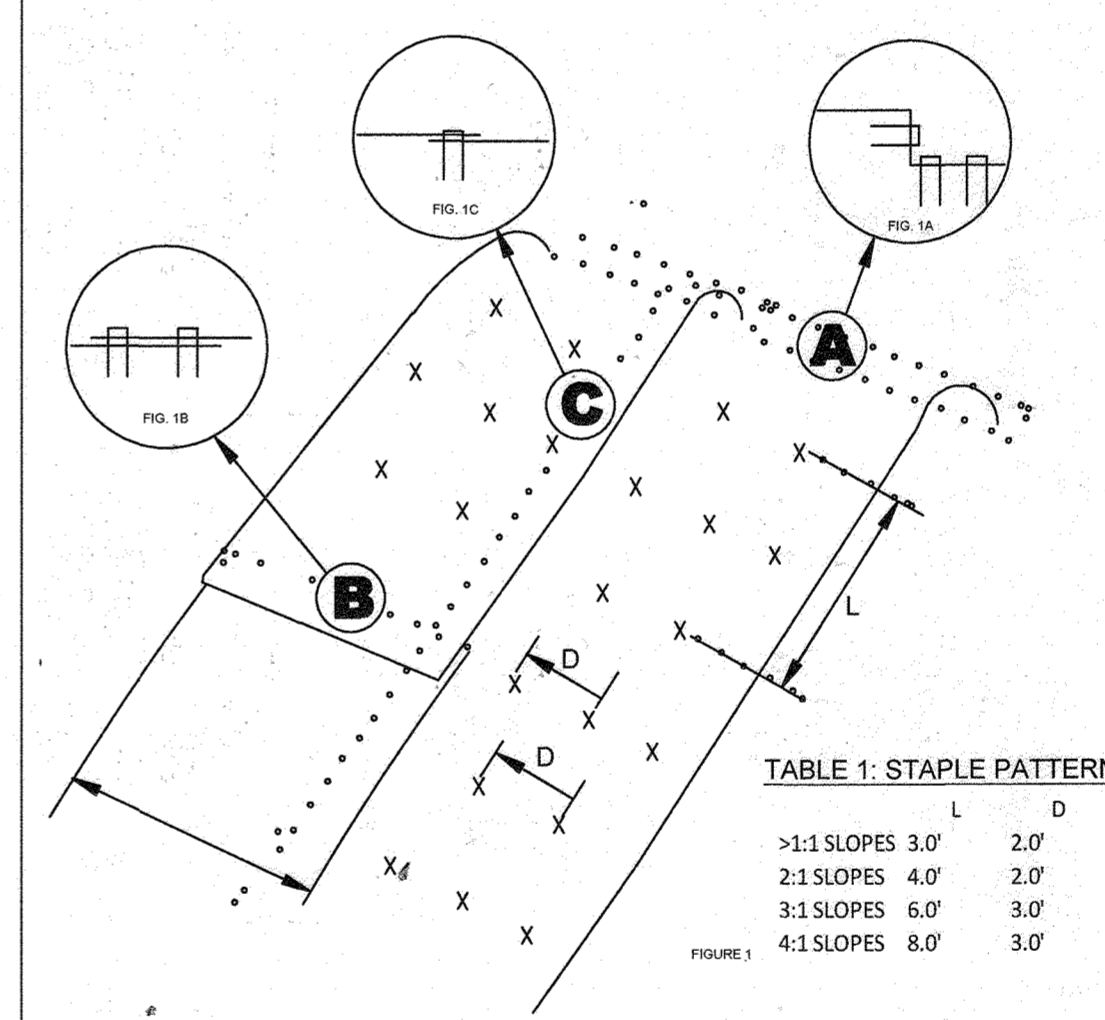
APPROVED: DEPARTMENT OF PUBLIC WORKS  
 DATE: 1/24/2019  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 DATE: 2/20/2020  
 DATE: 12-9-19



AS-BUILT CERTIFICATION  
 I HEREBY CERTIFY BY SEAL THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS PLAN MEET THE CURRENT APPROVED SPECIFICATIONS  
 THOMAS J. CALVERT  
 PROFESSIONAL LAND SURVEYOR #10849  
 LICENSE EXPIRATION DATE 4/2/2024  
 AS-BUILT SURVEY DATE 10/10/2023  
 INSTRUMENTS LAYED BY REEF SURVEYING THIS AS-BUILT SURVEY:  
 5 SECOND SOKKIA IX ROBOTE TOTAL STATION, TOPCON RC-5 RECEIVER, SOKKIA 360° PRISM

**STREAMBANK FILL AREAS NOTES AND SPECIFICATIONS**

- FILL MATERIAL TO BE USED IN STREAMBANK CONSTRUCTION SHALL BE SELECT GRANULAR MATERIAL APPROVED BY THE PROJECT GEO-TECHNICAL ENGINEER.
- PLACEMENT OF SELECT FILL SHALL BE UNDER THE DIRECTION OF THE GEO-TECHNICAL ENGINEER. ALL FILLS SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE STANDARD PROCTOR TEST.
- ALL PROPOSED MATTING, SEEDING AND STAKES SHALL BE PLACED IMMEDIATELY UPON COMPLETION OF FILL PLACEMENT.

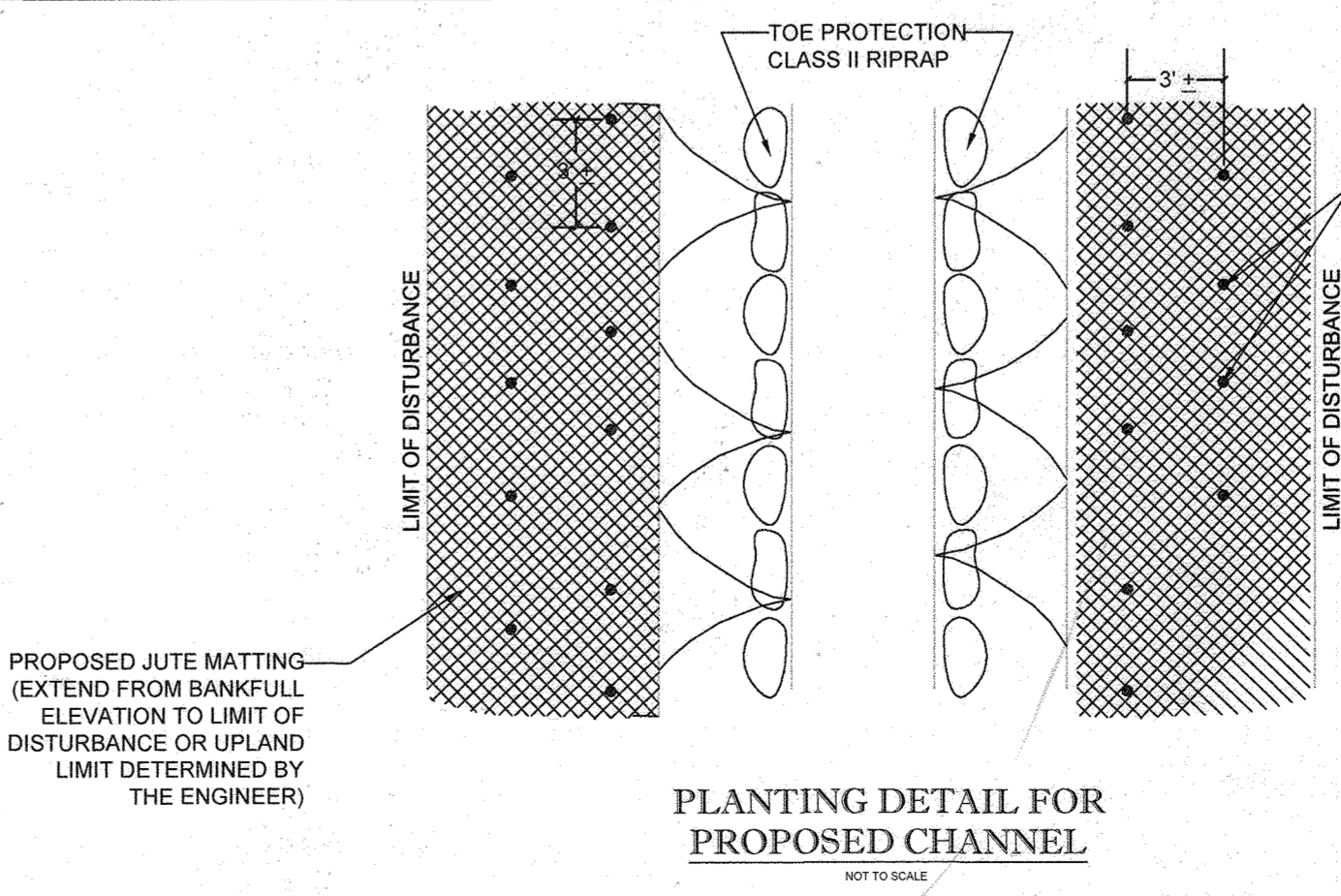


JUTE MATTING INSTALLATION GUIDE NOT TO SCALE

- PREPARE SOIL, INCLUDING GRADING, APPLICATION OF LIME, FERTILIZER, AND SEEDS. THE SURFACE OF THE SOIL SHOULD BE SMOOTH AND FREE OF ROCKS, ROOTS AND OTHER OBSTRUCTIONS.
- START AT THE TOP OF THE SLOPE BY ANCHORING BLANKETS IN A 6" DEEP AND 6" WIDE ANCHOR TRENCH. PLACE BLANKETS, STAPLE (8" STAPLES RECOMMENDED), BACKFILL AND COMPACT (FIG. 1A).
- ROLL THE BLANKETS DOWN THE SLOPE (RECOMMENDED FOR STEEP SLOPES) OR ACROSS THE SLOPE. STAPLE THE OPEN BLANKET EDGE USING ONE ROW OF STAPLES AT 1.5-2 FOOT INTERVALS. THE MIDDLE OF THE BLANKETS SHOULD BE STAPLED USING A PREFERRED STAPLE PATTERN (TABLE 1). BE SURE TO LAY BLANKETS LOOSELY ON THE GROUND ALLOWING A GOOD CONTACT BETWEEN SOIL AND BLANKETS.
- WHEN BLANKET SPLICING IS NECESSARY, USE AN 8 INCH OVERLAP. USE TWO ROWS OF STAPLES (8" STAPLES RECOMMENDED) TO ANCHOR BLANKETS (FIG. 1B). TWELVE INCH STAPLE SPACING WITH A STAGGERED PATTERN IS RECOMMENDED. OVERLAP SIDES OF BLANKETS AT LEAST 6" AND USE STAPLES (8" STAPLES RECOMMENDED) ALONG THE OVERLAP AT 12" SPACING (FIG. 1C).
- PROVIDE A 6" DEEP AND 6" WIDE ANCHOR TRENCH AT THE TOE OF THE SLOPE.
- USE WIRE STAPLES OF GAUGE 11 OR LOWER. IF WOODEN BEGS ARE USED, THE MINIMUM LENGTH IS 12 INCHES. ANCHORS SHOULD BE LONG ENOUGH TO PROVIDE A STRONG BOND BETWEEN THE BLANKET AND THE GROUND. REQUIRED ANCHOR LENGTH MAY VARY DEPENDING ON THE SOIL CONDITION.
- THIS PROCEDURE COULD BE ALTERED AT THE DISCRETION OF THE SITE ENGINEER.

TABLE 1: STAPLE PATTERN

SLOPE	L	D
>1:1 SLOPES	3.0'	2.0'
2:1 SLOPES	4.0'	2.0'
3:1 SLOPES	6.0'	3.0'
4:1 SLOPES	8.0'	3.0'



PLANTING DETAIL FOR PROPOSED CHANNEL NOT TO SCALE

**BOHLER ENGINEERING**  
 CIVIL & CONSULTING ENGINEERS  
 SURVEYORS  
 PROJECT MANAGERS  
 ENVIRONMENTAL CONSULTANTS  
 LANDSCAPE ARCHITECTS

CORPORATE OFFICE:  
 WARREN, NJ

OFFICES:  
 BOWNE, MD  
 WASHINGTON, VA  
 ROCKY HILL, CT  
 CENTER VALLEY, PA  
 TAMPA, FL

PHILADELPHIA, PA

REVISIONS

REV	DATE	COMMENT	BY

APPROVED FOR CONSTRUCTION

FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE: 5232 GREEN BRIDGE ROAD 5TH ELECTION DISTRICT TAX MAP 27, GRID 18 PARCELS 34, 36, 98, 111, & 112 HOWARD COUNTY, MARYLAND

**BOHLER ENGINEERING**  
 901 DULANEY VALLEY ROAD, SUITE 801  
 TOWSON, MARYLAND 21284  
 Phone: (410) 821-7900  
 Fax: (410) 821-7987  
 www.BohlerEngineering.com

**B.R. ROWE**  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 10849  
 I, BRANDON M. ROWE, 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. 10849, EXPIRES DATE: 7/30/2021

BOX CULVERT CONSTRUCTION DETAILS  
 SHEET NUMBER: 87 OF 92

SOILS TABLE					
SOILS NAME	SOILS DESCRIPTION	HYDROLOGIC SOILS GROUP	HIGHLY ERODIBLE SOIL	K FACTOR	AREA - AC.
Co	CODORUS AND HATBORO SILT LOAMS, 0 TO 5 PERCENT SLOPES	C	NO	0.32	3.88
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.28	16.53
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	11.83
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	YES	0.43	9.42
GmB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	9.40
GcB	GLENVILLE-CODORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	4.16
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	35.66
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	NO	0.28	9.09

LOT 2	LOT 5	LOT 13	LOT 12
DRYWELLS (M-5) DW1 = 7L x 9W x 5D DW2 = 6L x 5W x 5D DW3 = 7L x 5.5W x 5D DW4 = 7L x 5.5W x 5D DW5 = 7L x 5W x 5D	DRYWELLS (M-5) DW1 = 6.5L x 5W x 5D DW2 = 6L x 4.5W x 5D DW3 = 6L x 4.5W x 5D DW4 = 7L x 5.5W x 5D	DRYWELLS (M-5) DW1 = 7L x 6W x 5D DW2 = 7L x 6W x 5D DW3 = 7L x 5.5W x 5D DW4 = 6L x 5W x 5D DW5 = 6L x 6W x 5D	DRYWELLS (M-5) DW1 = 9L x 4W x 5D DW2 = 9L x 4W x 5D DW3 = 9L x 4.5W x 5D DW4 = 9L x 4.5W x 5D
LOT 3	LOT 4	LOT 6	LOT 7
DRYWELLS (M-5) DW1 = 8L x 5W x 5D DW2 = 8L x 5W x 5D DW3 = 7L x 5.5W x 5D DW4 = 7L x 5W x 5D	DRYWELLS (M-5) DW1 = 7L x 5W x 5D DW2 = 7L x 5.5W x 5D DW3 = 7L x 5.5W x 5D DW4 = 7L x 5.5W x 5D	DRYWELLS (M-5) DW1 = 7L x 6W x 5D DW2 = 7L x 6W x 5D DW3 = 7L x 6W x 5D DW4 = 6L x 5W x 5D DW5 = 6L x 5.5W x 5D	DRYWELLS (M-5) DW1 = 6L x 6W x 5D DW2 = 7L x 6W x 5D DW3 = 7L x 6W x 5D DW4 = 7L x 5.5W x 5D

LOT 11	LOT 10	LOT 9	LOT 8
DRYWELLS (M-5) DW1 = 7L x 6W x 5D DW2 = 8L x 5W x 5D DW3 = 6L x 5W x 5D DW4 = 7L x 5W x 5D DW5 = 7L x 5.5W x 5D	DRYWELLS (M-5) DW1 = 7L x 6W x 5D DW2 = 7L x 5.5W x 5D DW3 = 9L x 4.5W x 5D DW4 = 9L x 4.5W x 5D	DRYWELLS (M-5) DW1 = 7L x 6W x 5D DW2 = 7L x 6W x 5D DW3 = 7L x 6W x 5D DW4 = 7L x 6W x 5D	DRYWELLS (M-5) DW1 = 7L x 6W x 5D DW2 = 7L x 6W x 5D DW3 = 7L x 6W x 5D DW4 = 7L x 6W x 5D

NOTE: HAZARD CLASS FOR ALL SWM FACILITIES IS "A" DUE TO NO LIFE LOSS FOR FAILURE

NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

Professional L.S. # 10849 Exp. Date 4/2/2024  
AS-BUILT DATE: 10/10/2023

Shanberger & Lane  
IMPLEMENTING UNDER THE SUPERVISION OF THIS AS-BUILT SURVEY: SUEDEP SCORPIA UK AEROTIC TOWER STATION, TOPCON PC-5 RECEIVER, SCORPIA 300 PRISM

ESD SUMMARY TABLE	
"SITE AREA"	84.77 AC.
ESDv	53,393 C.F. (REQUIRED), 92,579 C.F. (PROVIDED)
Rev	11,128 C.F. (REQUIRED), 11,166 C.F. (PROVIDED)
CPv	INCLUDED IN ESDv
QP10	NOT REQUIRED
QP100	NOT REQUIRED



**ESE CONSULTANTS**  
ENGINEERING • PLANNING • SURVEYING • ENVIRONMENTAL

ESE Consultants Inc.  
6731 Columbia Gateway Drive • Suite 20 • Columbia, MD 21046  
Tel: 410-872-9105 • Fax: 410-872-4870

REVISIONS				
REV	DATE	COMMENT	BY	
1	01/19/2021	REVISIONS TO LOT 2 AND 12	R.C.K.	
2	01/19/2021	REVISIONS TO LOT 14	R.C.K.	
3	01/27/2021	REVISIONS TO LOT 9	R.C.K.	
4	02/03/2021	REVISIONS LOTS 10 & 11	R.C.K.	
5	02/05/2021	REVISIONS LOTS 6, 7 & 13	R.C.K.	
6	04/10/2021	REVISIONS LOTS 3 AND 8	R.C.K.	
7	06/09/2021	REVISIONS LOT 6	R.C.K.	
8	08/03/2021	REVISIONS LOT 8	R.C.K.	
9	01/18/2022	REVISIONS LOT 14	R.C.K.	
10	10/20/2022	REVISIONS LOT 2	R.C.K.	
11	02/06/2023	REVISIONS LOT 2	R.C.K.	

APPROVED FOR CONSTRUCTION

PROJECT No: MD142048  
DRAWN BY: AVG  
CHECKED BY: BRR  
DATE: 08/28/19  
SCALE: 1" = 50'  
CAD I.D.: GP3

**FINAL ROAD CONSTRUCTION PLAN**  
FOR  
**WILLOWSHIRE**  
LOTS 1-15, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K

LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 16,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

**NEW SHEET \*REVISED\***

SHEET TITLE:  
**GRADING AND STORMWATER MANAGEMENT PLAN**

SHEET NUMBER:  
**88 OF 92**

APPROVED: DEPARTMENT OF PLANNING AND ZONING

OFFICE DIVISION OF LAND DEVELOPMENT

DATE: 5/25/23

APPROVED: HOWARD SOIL CONSERVATION DISTRICT

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

DATE: 05/15/23

PROFESSIONAL CERTIFICATION


I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR IN THE STATE OF MARYLAND, LICENSE NO. 21328, EXPIRATION DATE 18/25.

DATE: 03/17/23

OWNERS:	PARCEL 34	PARCEL 112
PARCEL 36 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044	TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044	TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044
PARCEL 111 DENNIS A LEAF JERRY MAUCK JANET BURKE JT 5232 GREEN BRIDGE ROAD DAYTON, MD 21036	PARCEL 98 JERRY MAUCK JANET BURKE JT 5232 GREEN BRIDGE ROAD DAYTON, MD 21036	PARCEL 99 JERRY MAUCK JANET BURKE JT 5232 GREEN BRIDGE ROAD DAYTON, MD 21036



REVISIONS			
REV	DATE	COMMENT	BY
1	01/19/2021	REVISIONS TO LOT 14	R.C.K.
2	01/18/2022	REVISIONS TO LOT 14	R.C.K.

  
 THE FOLLOWING STATES REQUIRE NOTIFICATION BY GEOGRAPHERS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN THE STATE OF VIRGINIA, MARYLAND, THE DISTRICT OF COLUMBIA, AND DELAWARE CALL: 811  
 WV 1-800-246-4848 (PA 1-800-257-3770) DC 1-800-257-7773  
 MD 1-800-562-7011 (VA 1-800-257-7777) DE 1-800-282-8565

**APPROVED FOR CONSTRUCTION**

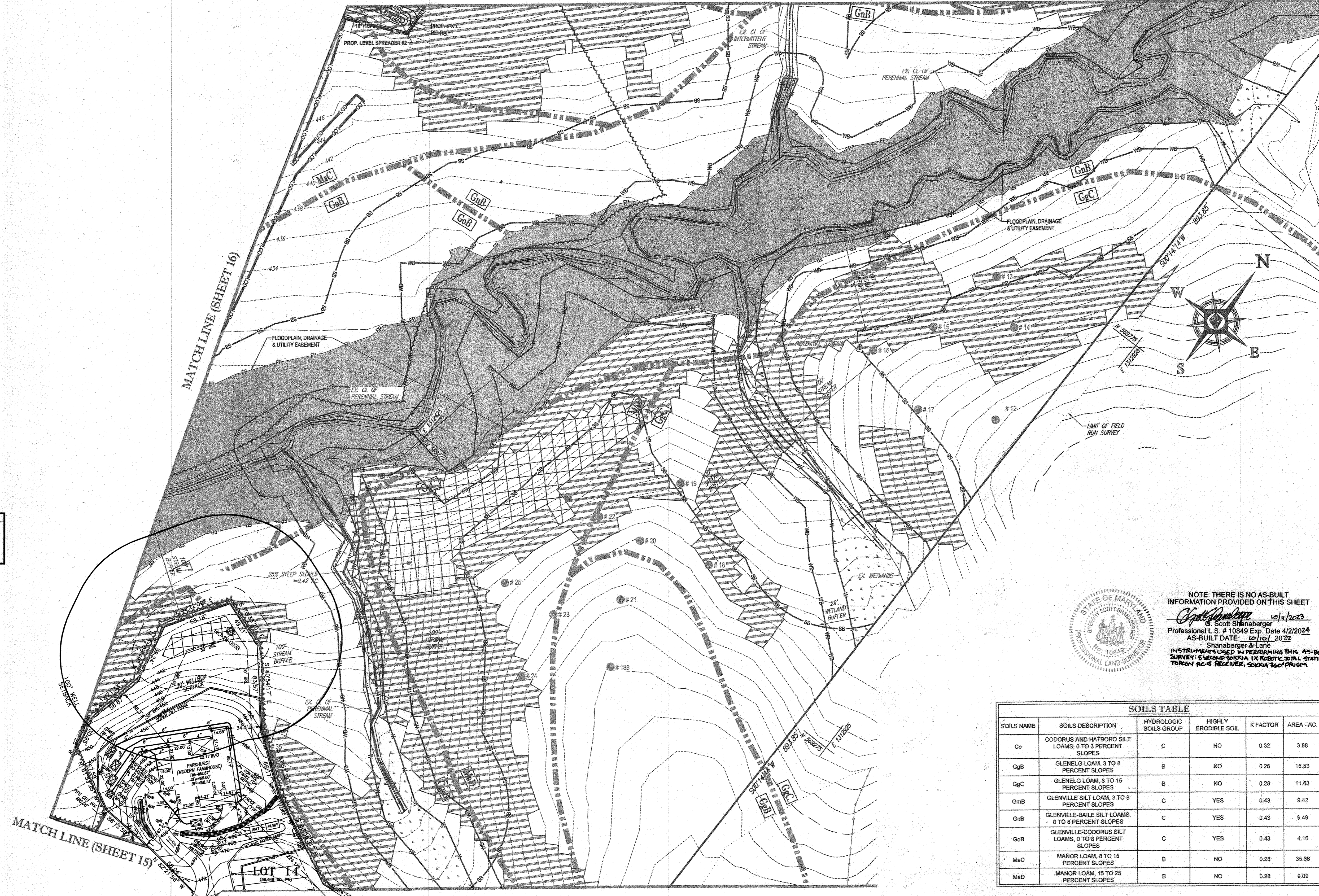
PROJECT No.: M0142048  
 DRAWN BY: AVG  
 CHECKED BY: BBR  
 DATE: 08/26/19  
 SCALE: 1" = 60'  
 CAD I.D.: G.P.S.

PROJECT: **FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E - G & L, P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE: 5232 GREEN BRIDGE ROAD 5TH ELECTION DISTRICT TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112 HOWARD COUNTY, MARYLAND

**NEW SHEET \*REVISED\***

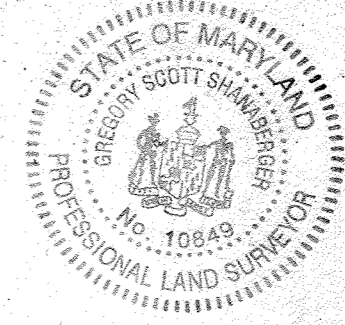
SHEET TITLE: **GRADING AND STORMWATER MANAGEMENT PLAN**  
 SHEET NUMBER: **89 OF 92**

MATCH LINE (SHEET 17)



**LOT 14**

MICRO-BUFFER (M.B.)	45' x 14' x 10' x 10'
TOTAL STORAGE 100 CF	
SOILS	
DRY WELL 1 (DW1)	18" x 40" x 20'
DRY WELL 2 (DW2)	18" x 40" x 20'
DRY WELL 3 (DW3)	18" x 40" x 20'
DRY WELL 4 (DW4)	18" x 40" x 20'
DRY WELL 5 (DW5)	18" x 40" x 20'



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
 Scott Shanberger 10/14/2022  
 Professional L.S. # 10849 Exp. Date 4/2/2024  
 AS-BUILT DATE: 10/10/2022  
 Shanberger & Lane  
 INSTRUMENT NO. 21 IN PERFORMING THIS AS-BUILT SURVEY: 5 SECOND SIOXIA LX ROBOTIC TOTAL STATION, TOPCON RC-5 RECEIVER, SOXIA 360 PRISM

SOILS TABLE					
SOILS NAME	SOILS DESCRIPTION	HYDROLOGIC SOILS GROUP	HIGHLY ERODIBLE SOIL	K FACTOR	AREA - AC.
Co	ODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	NO	0.32	3.88
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.28	16.53
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	11.63
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	YES	0.43	9.42
GmB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	9.49
Gob	GLENVILLE-CODORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	4.18
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	35.66
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	NO	0.28	9.09

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 DATE: 11/3/22  
 DATE: 1-20-23

APPROVED: HOWARD SOIL CONSERVATION DISTRICT  
 DATE: 01/26/22

**PROFESSIONAL CERTIFICATION**  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A FULLY LICENSED PROFESSIONAL LAND SURVEYOR IN THE STATE OF MARYLAND, LICENSE NO. 21328, EXPIRATION DATE 1/20/23

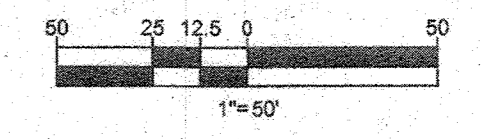
DATE: 01/14/22



NOTE: HAZARD CLASS FOR ALL SWM FACILITIES IS "A" DUE TO NO LIFE LOSS FOR FAILURE

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A FULLY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF MARYLAND, LICENSE NO. 21328, EXPIRATION DATE 1/23/23

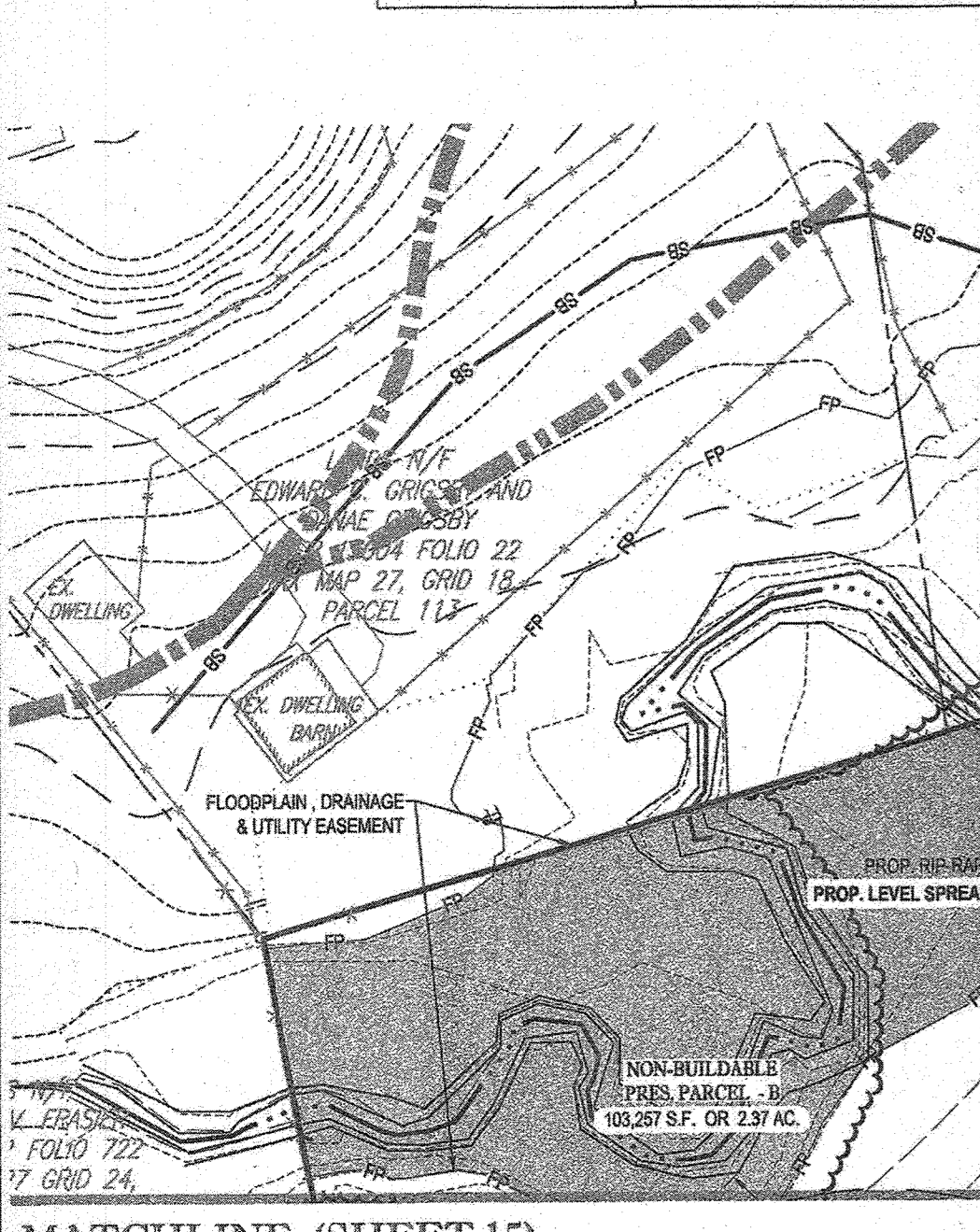
OWNERS: PARCEL 36 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAR ROAD HORSHAM PA, 19044	PARCEL 34 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAR ROAD HORSHAM PA, 19044	PARCEL 112 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TAR ROAD HORSHAM PA, 19044
PARCEL 111 DENNIS A LEAF LENORE D. SINES 5232 GREEN BRIDGE ROAD DAYTON, MD 21033	PARCEL 98 JERRY MAULICK JANET BURKE J/T 5232 GREEN BRIDGE ROAD DAYTON, MD 21033	DEVELOPER: GREEN BRIDGE FARM II, L.C. 5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTACT: JASON VAN KIRK PHONE: (410) 720-3221
SUBDIVISION NAME: WILLOWSHIRE SECTION A AREA, VA DEED # 11361100222, 0016300554, 1584403554, 0556900490 0434100270, & 0320100539	PREVIOUS FILE NO. EQ-16-023 PB436 SP-17-002 WP-17105	TAX MAP: 27 GRID: 18 ZONED: RR-DEO PARCEL: 34, 36, 98, 111 & 112 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND



**STANDARD DRAWING LEGEND**

FOR ENTIRE PLAN SET  
(NOT TO SCALE)

EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
---	ONSITE PROPERTY LINE / R.O.W. LINE	---
---	NEIGHBORING PROPERTY LINE / INTERIOR PARCEL LINE	---
---	EASEMENT LINE	---
---	SETBACK LINE	---
---	CONTOUR LINE	---
---	UNDERGROUND WATER LINE	---
---	UNDERGROUND ELECTRIC LINE	---
---	UNDERGROUND GAS LINE	---
OH	OVERHEAD WIRE	OH
S	STORM SEWER	S
FM	SANITARY SEWER MAIN	FM
FM	FORCE MAIN	FM
H	HYDRANT	H
S	SANITARY MANHOLE	S
S	STORM MANHOLE	S
---	LIMIT OF FIELD RUN SURVEY	---
---	YARD/OVERFLOW INLET	---
---	BIORETENTION FACILITY	---
WM	WATER METER	WM
WV	WATER VALVE	WV
---	TYPICAL END SECTION	---
---	BORING	---
---	SOIL STABILIZATION MATTING	---
---	STEEP SLOPES (>25%)	---
---	STEEP SLOPES (15%-25%)	---
---	FULL DEPTH PAVEMENT	---
---	CONCRETE PAVEMENT	---
---	TREELINE	---
---	WETLAND BUFFER	---
---	STREAM BUFFER	---
---	SEPTIC EASEMENT RESERVE AREA	---
---	WELL AREA	---
---	WELL	---
---	PERCOLATION HOLE (PASSED)	---
---	PERCOLATION HOLE (FAILED)	---
---	GEOTEXTILE STABILIZATION MATTING	---



MATCHLINE (SHEET 15)

MATCHLINE (SHEET 17)



MATCHLINE (SHEET 15)

<b>LOT 15</b> DRYWELLS (M-4) DW1 = 9L x 4.5W x 5D DW2 = 7L x 5.5W x 5D DW3 = 9L x 4.5W x 5D DW4 = 9L x 4.5W x 5D	<b>LOT 16</b> DRYWELLS (M-4) DW1 = 9L x 4.5W x 5D DW2 = 7L x 5.5W x 5D DW3 = 9L x 4.5W x 5D DW4 = 9L x 4.5W x 5D
<b>BUILDABLE PRESERVATION PARCEL C</b> EXISTING BIORETENTION SWM #2 (F-4) DIMENSIONS: 85L x 45W x 1D STORAGE = 3,804 C.F.	

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
DATE: 3/21/23

APPROVED: HOWARD SOIL CONSERVATION DISTRICT  
DATE: 3-22-23

PROFESSIONAL CERTIFICATION  
DATE: 03/01/23



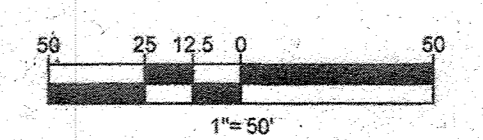
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR IN THE STATE OF MARYLAND, LICENSE NO. 21328, EXPIRATION DATE 1/26/25.

SOILS NAME	SOILS DESCRIPTION	HYDROLOGIC SOILS GROUP	HIGHLY ERODIBLE SOIL	K FACTOR	AREA - AC.
Co	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	NO	0.32	3.88
GgB	GLENELOG LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.28	16.53
GgC	GLENELOG LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	11.63
GmB	GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	YES	0.43	9.42
GmB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	9.49
GoB	GLENVILLE-CODORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	4.18
MaC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	35.66
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	NO	0.28	9.09



NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
DATE: 10/12/2023  
Professional L.S. # 10849 Exp. Date 4/2/2024  
AS-BUILT DATE: 10/12/2023  
Shaberger & Lane

NOTE: ALL ROOF DRAINS WILL BE 6"  
NOTE: HAZARD CLASS FOR ALL SWM FACILITIES IS "A" DUE TO NO LIFE LOSS FOR FAILURE.



<b>OWNERS:</b> PARCEL 38 TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044	<b>PARCEL 34</b> TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044	<b>PARCEL 112</b> TOLL MID ATLANTIC LP COMPANY INC. 250 GIBRAL TARR ROAD HORSHAM PA, 19044	<b>SUBDIVISION NAME:</b> WILLOWSHIRE SECTION/AREA: N/A DEED # 1158102222, 0158300654, 15884003894, 0588900480 0434100270, & 0320100839	<b>DEVELOPER:</b> ELM STREET DEVELOPMENT 5074 DORSEY HALL ROAD, SUITE 205 COLUMBIA, MD 21042 CONTACT: JASON VAN HIRK PHONE: (410) 720-3021
<b>PARCEL 111</b> DENNIS A LEAF LENORE D. SINES 5228 GREEN BRIDGE ROAD DAYTON, MD 21036	<b>PARCEL 88</b> JERRY MAUCK JANET BURKE/JT 5238 GREEN BRIDGE ROAD DAYTON, MD 21036	<b>PREVIOUS FILE No.:</b> ECP-16-023 SP-17-002 WP-17-105	<b>TAX MAP:</b> 27 <b>GRID:</b> 18 <b>ZONED:</b> RR-DEO <b>PARCEL:</b> 34, 36, 98, 111 & 112 <b>5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND</b>	

**ESE CONSULTANTS**  
ENGINEERING • PLANNING • SURVEYING • ENVIRONMENTAL  
ESE Consultants Inc.  
6731 Columbia Gateway Drive • Suite 120 • Columbia, MD 21046  
Tel: 410-872-9105

**REVISIONS**

REV	DATE	COMMENT	BY
1	04/19/2021	REVISIONS TO LOTS 15 & 16 R.C.K.	R.C.K.
2	02/12/2022	REVISIONS TO LOT 16	R.C.K.
3	02/07/2023	REVISIONS TO BUILDABLE PRESERVATION PARCEL C	R.C.K.

**APPROVED FOR CONSTRUCTION**

PROJECT NO: MD12048  
DRAWN BY: AVG  
CHECKED BY: BRR  
DATE: 08/20/19  
SCALE: 1" = 50'  
GAD I.D.: GP3

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
LOTS 1-5, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - P & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE  
5232 GREEN BRIDGE ROAD  
5TH ELECTION DISTRICT  
TAX MAP 27, GRID 18,  
PARCELS 34, 36, 98, 111, & 112  
HOWARD COUNTY, MARYLAND

**NEW SHEET \*REVISED\***

**GRADING AND STORMWATER MANAGEMENT PLAN**  
SHEET NUMBER:  
**90 OF 92**

MATCH LINE (SHEET 18)

- LOT 45  
DRYWELLS (M-5)  
DW1 = 9L x 4.5W x 5D  
DW2 = 7L x 5W x 5D  
DW3 = 9L x 4W x 5D  
DW4 = 7L x 6W x 4D  
DW5 = 7L x 5W x 5D
- LOT 44  
DRYWELLS (M-5)  
DW1 = 8L x 5W x 5D  
DW2 = 8L x 5W x 5D  
DW3 = 7L x 5W x 5D  
DW4 = 7L x 5W x 5D
- LOT 43  
DRYWELLS (M-5)  
DW1 = 7L x 6W x 5D  
DW2 = 7L x 5W x 5D  
DW3 = 6L x 4W x 4D  
DW4 = 7L x 5W x 5D  
DW5 = 7L x 5W x 5D

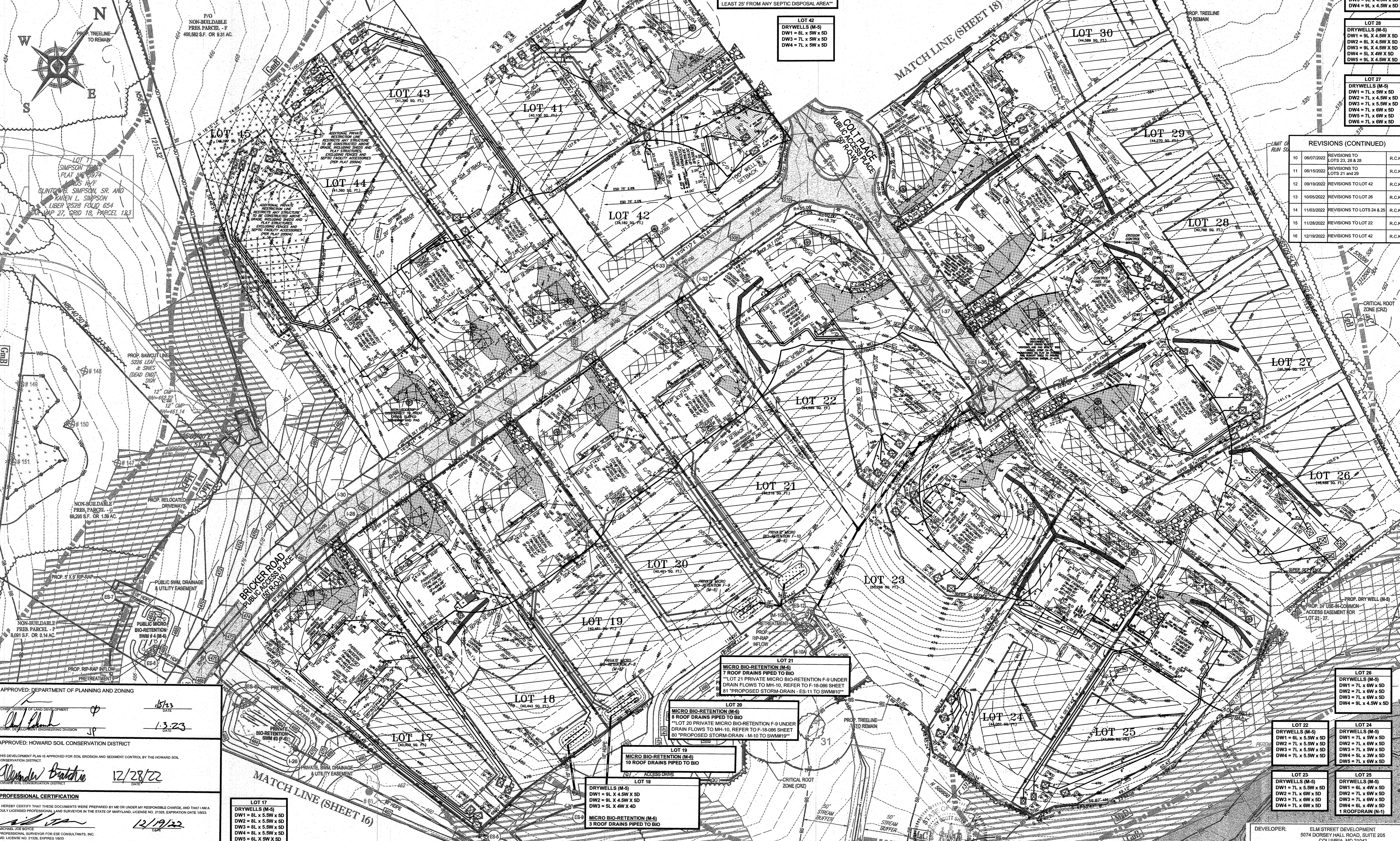
- LOT 41  
DRYWELLS (M-5)  
DW1 = 9L x 4.5W x 5D  
DW2 = 8L x 4.5W x 5D  
DW3 = 7L x 5W x 5D  
DW4 = 7L x 5W x 5D  
DW5 = 7L x 5W x 5D
- LOT 42  
DRYWELLS (M-5)  
DW1 = 8L x 5W x 5D  
DW2 = 7L x 5W x 5D  
DW3 = 7L x 5W x 5D

- LOT 30  
DRYWELLS (M-5)  
DW1 = 7L x 6W x 5D  
DW2 = 7L x 6W x 5D  
DW3 = 7L x 5W x 5D  
DW4 = 7L x 5W x 5D  
DW5 = 7L x 5W x 5D

- LOT 29  
DRYWELLS (M-5)  
DW1 = 9L x 4.5W x 5D  
DW2 = 8L x 4.5W x 5D  
DW3 = 9L x 4.5W x 5D  
DW4 = 9L x 4.5W x 5D
- LOT 28  
DRYWELLS (M-5)  
DW1 = 9L x 4.5W x 5D  
DW2 = 8L x 4.5W x 5D  
DW3 = 9L x 4.5W x 5D  
DW4 = 9L x 4.5W x 5D  
DW5 = 9L x 4.5W x 5D
- LOT 27  
DRYWELLS (M-5)  
DW1 = 7L x 5W x 5D  
DW2 = 7L x 4.5W x 5D  
DW3 = 7L x 5W x 5D  
DW4 = 7L x 6W x 5D  
DW5 = 7L x 6W x 5D

REVISIONS (CONTINUED)

REV	DATE	REVISIONS TO	R.C.K.
10	08/07/2022	REVISIONS TO LOTS 23, 28 & 29	R.C.K.
11	06/15/2022	REVISIONS TO LOTS 21 AND 29	R.C.K.
12	09/19/2022	REVISIONS TO LOT 42	R.C.K.
13	10/05/2022	REVISIONS TO LOT 26	R.C.K.
14	11/03/2022	REVISIONS TO LOTS 24 & 25	R.C.K.
15	11/28/2022	REVISIONS TO LOT 22	R.C.K.
16	12/19/2022	REVISIONS TO LOT 42	R.C.K.



APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 DATE: 1/5/23  
 DATE: 1/3/23  
 APPROVED: HOWARD SOIL CONSERVATION DISTRICT  
 DATE: 12/28/22  
 DATE: 12/19/22

SOILS TABLE

SOILS NAME	SOILS DESCRIPTION	HYDROLOGIC SOILS GROUP	HIGHLY ERODIBLE SOIL	K FACTOR	AREA - AC.
Co	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	NO	0.32	3.88
GgB	GLENNELG LOAM, 3 TO 6 PERCENT SLOPES	B	NO	0.28	18.53
GgC	GLENNELG LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	11.83
GmB	GLENNVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	YES	0.43	6.42
GmB	GLENNVILLE-BAILEY SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	6.49
GmC	GLENNVILLE-CODORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	4.16
MmC	MANOR LOAM, 8 TO 15 PERCENT SLOPES	B	NO	0.28	35.66
MmD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	NO	0.28	8.09

I HEREBY CERTIFY ITEMS SHOWN ONLY FOR THE LOTS LISTED IN THE REVISIONS BLOCK; THESE ITEMS ARE REVISIONS FROM THE PREVIOUSLY APPROVED PLANS.  
 NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
 DATE: 10/1/2023  
 DATE: 4/2/2024  
 DATE: 10/1/2023  
 DATE: 4/2/2024  
 DATE: 10/1/2023  
 DATE: 4/2/2024

**ESE CONSULTANTS**  
 ENGINEERING • PLANNING • SURVEYING • ENVIRONMENTAL  
 ESE CONSULTANTS, INC.  
 6731 Columbia Gateway Drive • Suite 120 • Columbia, MD 21046  
 Tel: 410-872-9105

REVISIONS

REV	DATE	COMMENT	BY
1	06/19/2021	REVISIONS TO LOT 18	R.C.K.
2	07/02/2021	REVISIONS TO LOT 17	R.C.K.
3	07/08/2021	REVISIONS TO LOT 22	R.C.K.
4	07/16/2021	REVISIONS TO LOTS 23-25	R.C.K.
5	10/21/2021	REVISIONS TO LOT 42	V.X.P.
6	10/28/2021	REVISIONS TO LOT 19	V.X.P.
7	01/03/2022	REVISIONS TO LOT 26 AND LOT 45	R.C.K.
8	03/16/2022	REVISIONS TO LOTS 20, 41, 43 AND 44	R.C.K.
9	05/25/2022	REVISIONS TO LOT 30	R.C.K.

APPROVED FOR CONSTRUCTION  
 PROJECT NO: M442008  
 DRAWN BY: BRR  
 CHECKED BY: BRR  
 DATE: 08/28/19  
 SCALE: 1" = 60'  
 CAD LID: GPR

**FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE**  
 LOTS 1-45, BUILDABLE PRESERVATION PARCELS C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L, P & NON-BUILDABLE BULK PARCELS H-K  
 LOCATION OF SITE  
 5234 GREEN BRIDGE ROAD  
 5TH ELECTION DISTRICT  
 TAX MAP 27, GRID 18  
 PARCELS 34, 36, 98, 111, & 112  
 HOWARD COUNTY, MARYLAND

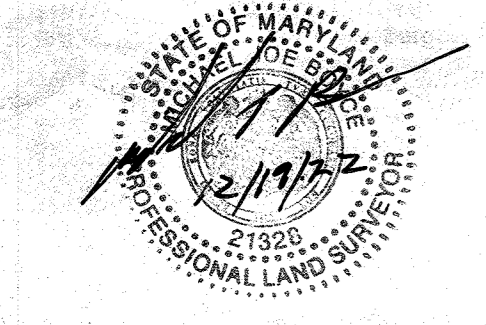
DEVELOPER: ELM STREET DEVELOPMENT  
 5074 DORSEY HALL ROAD, SUITE 205  
 COLUMBIA, MD 21046  
 CONTACT: JASON VAN KIRK  
 PHONE: (410) 720-3021

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
 PARCEL: 34, 36, 98, 111 & 112  
 5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

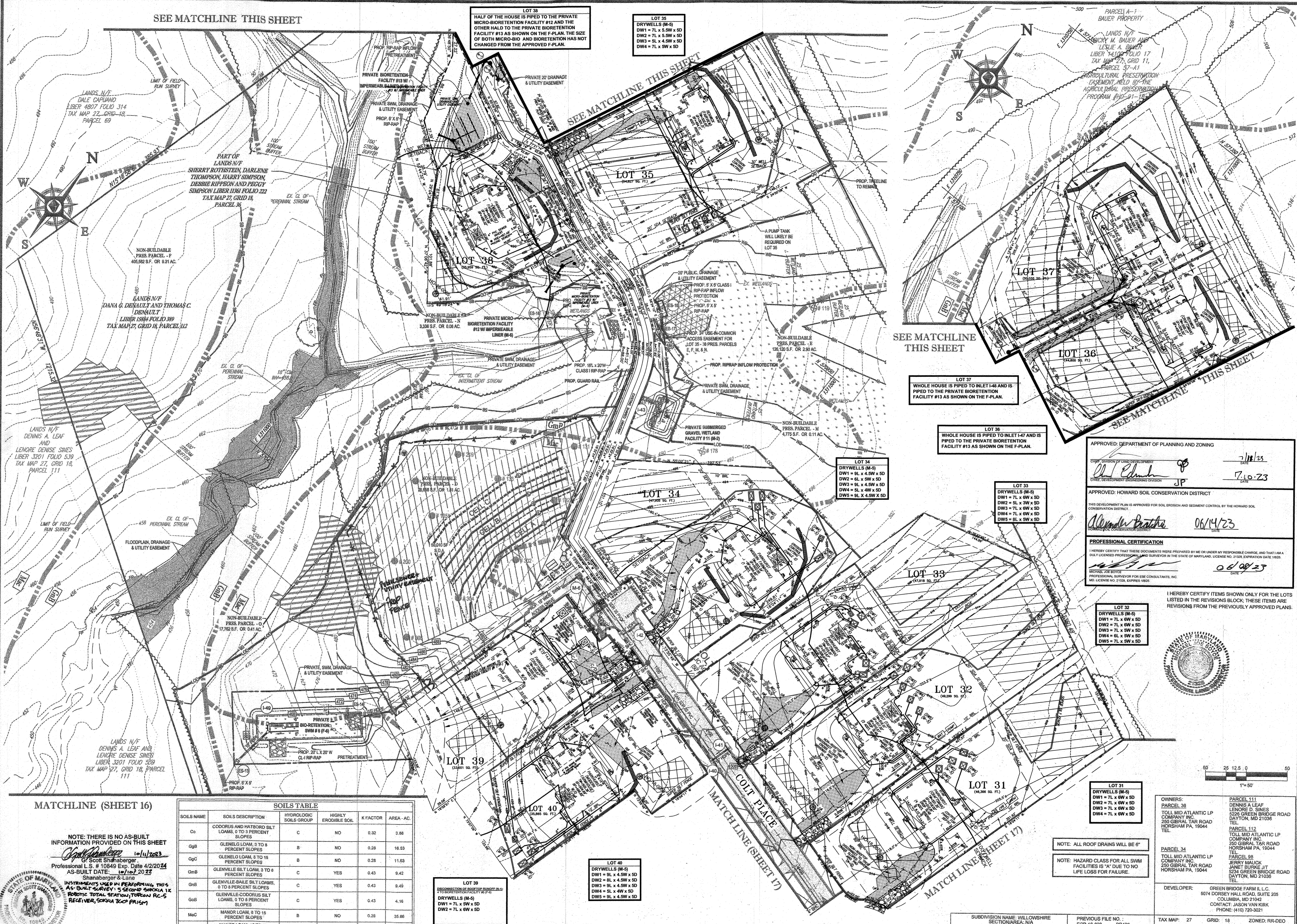
SUBDIVISION NAME: WILLOWSHIRE  
 SECTION: N/A  
 DEED # 113010222, 018300554, 15884002884, 0588500490, 04341002070, & 0320100539

PREVIOUS FILE NO.: ECP-16-023  
 SP-17-002  
 WP-17-105

**NEW SHEET \*REVISED\***  
 SHEET NUMBER:  
**91 OF 92**



SEE MATCHLINE THIS SHEET



LOT 38  
HALF OF THE HOUSE IS PIPED TO THE PRIVATE MICRO-BIORETENTION FACILITY #12 AND THE OTHER HALF TO THE PRIVATE BIORETENTION FACILITY #13 AS SHOWN ON THE F-PLAN. THE SIZE OF BOTH MICRO-BIO AND BIORETENTION HAS NOT CHANGED FROM THE APPROVED F-PLAN.

LOT 35  
DRYWELLS (M-5)  
DW1 = 7L x 5.5W x 5D  
DW2 = 7L x 5.5W x 5D  
DW3 = 5L x 4.5W x 5D  
DW4 = 7L x 5W x 5D

SEE MATCHLINE THIS SHEET

LOT 37  
WHOLE HOUSE IS PIPED TO INLET I-46 AND IS PIPED TO THE PRIVATE BIORETENTION FACILITY #13 AS SHOWN ON THE F-PLAN.

LOT 36  
WHOLE HOUSE IS PIPED TO INLET I-47 AND IS PIPED TO THE PRIVATE BIORETENTION FACILITY #13 AS SHOWN ON THE F-PLAN.

LOT 34  
DRYWELLS (M-5)  
DW1 = 9L x 4.5W x 5D  
DW2 = 6L x 5W x 5D  
DW3 = 9L x 4.5W x 5D  
DW4 = 5L x 4W x 5D  
DW5 = 9L x 4.5W x 5D

LOT 33  
DRYWELLS (M-5)  
DW1 = 7L x 6W x 5D  
DW2 = 5L x 3W x 5D  
DW3 = 7L x 6W x 5D  
DW4 = 7L x 6W x 5D  
DW5 = 8L x 5W x 5D

LOT 32  
DRYWELLS (M-5)  
DW1 = 7L x 6W x 5D  
DW2 = 7L x 6W x 5D  
DW3 = 7L x 5W x 5D  
DW4 = 6L x 5W x 5D  
DW5 = 7L x 5W x 5D

LOT 31  
DRYWELLS (M-5)  
DW1 = 7L x 6W x 5D  
DW2 = 7L x 6W x 5D  
DW3 = 7L x 6W x 5D  
DW4 = 7L x 6W x 5D

LOT 40  
DRYWELLS (M-5)  
DW1 = 9L x 4.5W x 5D  
DW2 = 9L x 4.5W x 5D  
DW3 = 9L x 4.5W x 5D  
DW4 = 5L x 4W x 5D  
DW5 = 9L x 4.5W x 5D

LOT 39  
BIORETENTION FACILITY #12  
DRYWELLS (M-6)  
DW1 = 7L x 6W x 5D  
DW2 = 7L x 6W x 5D

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
DATE: 7/11/23

APPROVED: HOWARD SOIL CONSERVATION DISTRICT  
DATE: 7-10-23

PROFESSIONAL CERTIFICATION  
DATE: 06/14/23

DATE: 06/08/23



I HEREBY CERTIFY ITEMS SHOWN ONLY FOR THE LOTS LISTED IN THE REVISIONS BLOCK. THESE ITEMS ARE REVISIONS FROM THE PREVIOUSLY APPROVED PLANS.

NOTE: ALL ROOF DRAINS WILL BE 6"

NOTE: HAZARD CLASS FOR ALL SWM FACILITIES IS "A" DUE TO NO LIFE LOSS FOR FAILURE.

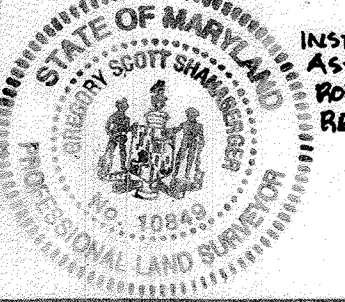
OWNERS:  
PARCEL 36: DENNIS A. LEAF AND LENORE DENISE SINES  
PARCEL 111: DENNIS A. LEAF AND LENORE DENISE SINES  
PARCEL 34: JERRY MAUCK AND JANET BURKE  
DEVELOPER: GREEN BRIDGE FARM & L.L.C.

TAX MAP: 27 GRID: 18 ZONED: RR-DEO  
PARCEL: 34, 36, 98, 111 & 112  
5TH ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

MATCHLINE (SHEET 16)

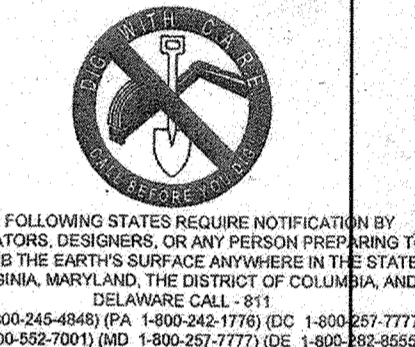
SOILS NAME	SOILS DESCRIPTION	HYDROLOGIC SOILS GROUP	HIGHLY ERODIBLE SOIL	K FACTOR	AREA - AC.
Co	COCORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	NO	0.32	3.98
OgB	GLENELO LOAM, 3 TO 8 PERCENT SLOPES	B	NO	0.28	16.53
OgC	GLENELO LOAM, 8 TO 18 PERCENT SLOPES	B	NO	0.28	11.53
OmB	GLENEVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES	C	YES	0.43	9.42
OnB	GLENEVILLE-BAILE SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	YES	0.43	8.49
GoB	GLENEVILLE-COCORUS SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	YES	0.43	4.16
MaC	MANOR LOAM, 3 TO 18 PERCENT SLOPES	B	NO	0.28	35.86
MaD	MANOR LOAM, 15 TO 25 PERCENT SLOPES	B	NO	0.28	9.09

NOTE: THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET  
Professional L.S. # 10649 Exp. Date 4/2/2024  
AS-BUILT DATE: 10/11/2023  
Shanabarger & Lane  
INSTRUMENTS USED IN PREPARING THIS AS-BUILT SURVEY: 5 SECOND SOKKIA 1X ROBOTIC TOTAL STATION, TORAN RC-5 RECEIVER, SOKKIA 300P PRISM



**ESE CONSULTANTS**  
ENGINEERING • PLANNING • SURVEYING • ENVIRONMENTAL  
ESE Consultants, Inc.  
6731 Columbia Gateway Drive, Suite 126 • Columbia, MD 21046  
Tel: 410-872-9105 • Fax: 410-972-4870

REV	DATE	COMMENT	BY
1	08/26/2021	REVISIONS TO LOT 34	R.C.K.
2	02/22/2022	REVISIONS TO LOT 39	V.K.P.
3	02/28/2022	REVISIONS TO LOT 40	R.C.K.
4	09/19/2022	REVISIONS TO LOTS 32-37	R.C.K.
5	10/05/2022	REVISIONS TO LOTS 31 & 36	R.C.K.
6	06/08/2023	REVISIONS TO LOT 33	R.C.K.



APPROVED FOR CONSTRUCTION

PROJECT NO.: MD12048  
DRAWN BY: AVG  
CHECKED BY: BRB  
DATE: 08/28/19  
SCALE: 1" = 50'  
CAD ID: GFS

PROJECT: FINAL ROAD CONSTRUCTION PLAN FOR WILLOWSHIRE

LOTS 1-45, BUILDABLE PRESERVATION PARCEL C, NON-BUILDABLE PRESERVATION PARCELS A, B, D, E, G & L - H & NON-BUILDABLE BULK PARCELS H-K  
LOCATION OF SITE: 5232 GREEN BRIDGE ROAD 5TH ELECTION DISTRICT TAX MAP 27, GRID 18, PARCELS 34, 36, 98, 111, & 112 HOWARD COUNTY, MARYLAND

NEW SHEET \*REVISED\*

SHEET NUMBER: 92 OF 92