

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	GENERIC BOXES & HOUSE TYPES
3	SITE DEVELOPMENT PLAN LOTS 1 THRU 11 & 47 THRU 50
4	SITE DEVELOPMENT PLAN LOTS 12 THRU 15 & 39 THRU 46
5	SITE DEVELOPMENT PLAN LOTS 16 THRU 30
6	SEDIMENT/EROSION CONTROL PLAN LOTS 1 THRU 11 & 47 THRU 50
7	SEDIMENT/EROSION CONTROL PLAN LOTS 12 THRU 15 & 39 THRU 46
8	SEDIMENT/EROSION CONTROL PLAN LOTS 16 THRU 30
9	SEDIMENT/EROSION CONTROL NOTES
10	SEDIMENT/EROSION CONTROL DETAILS
11	STORMWATER MANAGEMENT NOTES & DETAILS
12	STORMWATER MANAGEMENT NOTES & DETAILS
13	BORING DETAILS
14	BORING DETAILS
15	LANDSCAPE NOTES AND DETAILS

SITE DEVELOPMENT PLAN ENCLAVE AT RIVER HILL PHASE 1

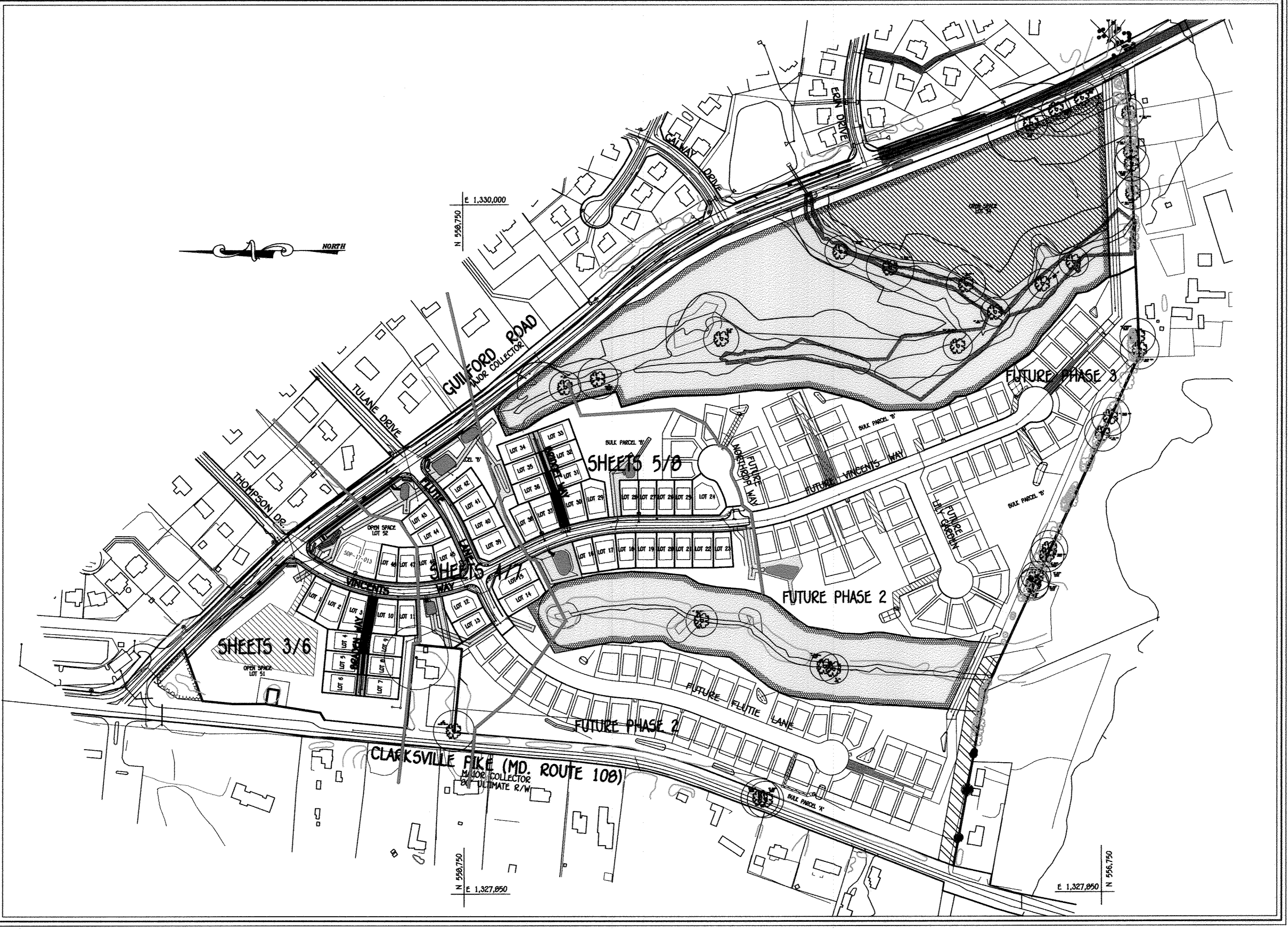
LOTS 1 THRU 48, OPEN SPACE 51, AND BULK PARCEL 'B' R-ED (RESIDENTIAL: ENVIRONMENTAL DEVELOPMENT) TAX MAP No. 34 GRID No. 18 PARCEL NOS. 88 & 97 HOWARD COUNTY, MARYLAND

BENCH MARKS
 T.P. 34FB ELEV. 406.148
 N. 957,439.913
 E. 1,330,191.322
 LOC. NEAR INTERSECTION OF
 GUILFORD ROAD & GALWAY DR.

T.P. 34FE ELEV. 431.118
 N. 958,339.601
 E. 1,329,709.025
 LOC. NEAR I-95 BRIDGE
 LOC. NEAR INTERSECTION OF
 GUILFORD ROAD & BRN DR.

VICINITY MAP
 SCALE: 1" = 2000'
 HO. CO. ADC MAP 4933, GRID K-9

ADDRESS CHART			
LOT NUMBER	STREET ADDRESS	LOT NUMBER	STREET ADDRESS
1	12510 VINCENTS WAY	26	12567 VINCENTS WAY
2	12514 VINCENTS WAY	27	12563 VINCENTS WAY
3	12518 VINCENTS WAY	28	12559 VINCENTS WAY
4	6104 BRADEN WAY	29	12553 VINCENTS WAY
5	6108 BRADEN WAY	30	12549 VINCENTS WAY
6	6112 BRADEN WAY	31	6206 BRIDGET WAY
7	6113 BRADEN WAY	32	6210 BRIDGET WAY
8	6109 BRADEN WAY	33	6214 BRIDGET WAY
9	6105 BRADEN WAY	34	6215 BRIDGET WAY
10	12522 VINCENTS WAY	35	6211 BRIDGET WAY
11	12526 VINCENTS WAY	36	6207 BRIDGET WAY
12	6122 FLUTIE LANE	37	12545 VINCENTS WAY
13	12530 VINCENTS WAY	38	12541 VINCENTS WAY
14	6126 FLUTIE LANE	39	6119 FLUTIE LANE
15	6123 FLUTIE LANE	40	12537 VINCENTS WAY
16	12536 VINCENTS WAY	41	6115 FLUTIE LANE
17	12534 VINCENTS WAY	42	6111 FLUTIE LANE
18	12532 VINCENTS WAY	43	6106 FLUTIE LANE
19	12528 VINCENTS WAY	44	6110 FLUTIE LANE
20	12566 VINCENTS WAY	45	6114 FLUTIE LANE
21	12570 VINCENTS WAY	46	12531 VINCENTS WAY
22	12574 VINCENTS WAY	47	12527 VINCENTS WAY
23	12578 VINCENTS WAY	48	12523 VINCENTS WAY
24	12575 VINCENTS WAY		
25	12571 VINCENTS WAY		



LEGEND	
SYMBOL	DESCRIPTION
(Symbol)	EXISTING CONTOUR 2' INTERVAL
(Symbol)	EXISTING CONTOUR 10' INTERVAL
(Symbol)	PROPOSED CONTOUR 10' INTERVAL
(Symbol)	PROPOSED CONTOUR 2' INTERVAL
(Symbol)	SPOT ELEVATION
(Symbol)	DRYWELL (M-5) TYPICAL
(Symbol)	LINE OF DISTURBANCE
(Symbol)	SUPER SILT FENCE
(Symbol)	STREET TREES PER F-15-110
(Symbol)	PERIMETER LANDSCAPE TREES PER F-15-110
(Symbol)	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
(Symbol)	EXISTING BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
(Symbol)	PROPOSED LANDSCAPE TREES PROVIDED BY THIS SDP

GENERAL NOTES

- SUBJECT PROPERTY ZONED R-ED PER THE 10/06/13 COMPREHENSIVE ZONING PLAN.
- THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTION DIVISION AT (410)513-1880 AT LEAST (5) FIVE WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- THIS PROJECT IS SUBJECT TO HOWARD COUNTY FILES: ECP-15-005, PB CASE NO. 409, SP-15-006 F-15-110, WP-15-069 AND WP-15-152.
- THIS PLAN IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT FEBRUARY, 2014 BY FISHER, COLLINS & CARTER, INC.
- TOPOGRAPHY SHOWN IS BASED ON FINAL ROAD CONSTRUCTION, GRADING AND STORMWATER MANAGEMENT PLANS F-15-110.
- HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON NAD 83, MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS. HOWARD COUNTY MONUMENT 34FB N 957,439.913 E 1,330,191.322 HOWARD COUNTY MONUMENT 34FE N 958,339.601 E 1,329,709.025
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
- THIS PLAN IS FOR HOUSE SITING AND GRADING ONLY. IMPROVEMENTS SHOWN WITHIN THE RIGHTS-OF-WAY OF THIS S.D.P. ARE NOT USED FOR CONSTRUCTION. FOR CONSTRUCTION SEE APPROVED ROAD CONSTRUCTION PLANS F-15-110. FOR APPROVED WATER CONTRACT NO. 24-4849-D AND FOR APPROVED SEWER CONTRACT NO. 20-3253.
- CONTRACTOR WILL CHECK SEWER HOUSE CONNECTION ELEVATION AT EASEMENT LINE PRIOR TO CONSTRUCTION.
- LANDSCAPING OBLIGATIONS FOR THE OVERALL ENCLAVE AT RIVER HILL PROJECT HAVE BEEN PROVIDED UNDER F-15-110. FINANCIAL SURETY FOR THE REQUIRED 12 SHADE TREES, AND 15 EVERGREEN TREES SHALL BE POSTED AS PART OF THE GRADING PERMIT IN THE AMOUNT OF \$5,850.00 FOR LANDSCAPING PROVIDED UNDER THIS SITE DEVELOPMENT PLAN.
- FOREST CONSERVATION REQUIREMENTS HAVE BEEN ADDRESSED WITH F-15-110.
- FOR DRIVEWAY ENTRANCE DETAILS REFER TO HO. CODES MANUAL VOL. IV DETAILS R.6.03 & R.6.05.
- OPEN SPACE REQUIREMENTS FOR THESE LOTS HAVE BEEN PROVIDED UNDER F-15-110.
- THIS SDP IS SUBJECT TO THE 5TH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE ZONING REGULATIONS AS AMENDED BY COUNCIL BILL 20-2001.
- IN ACCORDANCE WITH SECTION 12B OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 18' FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS, PORCHES OR DECKS OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACKS. THE 15' MINIMUM DISTANCE BETWEEN STRUCTURES DOES NOT APPLY TO THOSE REFERENCED FEATURES NOR BETWEEN OPEN DECKS AND A DWELLING STRUCTURE OR ANOTHER DECK. AS AN ADVISORY, THE 15' DISTANCE DOES APPLY TO THE SECOND STORY OVERHANG.
- STORMWATER MANAGEMENT WILL BE PROVIDED BY 83 DRY WELLS (M-5) TO BE OWNED AND MAINTAINED BY THE LOT OWNER WHERE THAT PARTICULAR DRY WELL IS LOCATED AND 2 BIO-RETENTION FACILITIES (F-6) TO BE OWNED AND MAINTAINED BY THE H.O.A. THIS SITE DEVELOPMENT IS ALSO SUPPORTED BY BIO-RETENTION PROVIDED BY F-15-110.
- MODERATE INCOME HOUSING UNITS (M.I.H.U.) REQUIREMENTS FOR PHASE 1 OF THE ENCLAVE AT RIVER HILL HAVE BEEN SATISFIED UNDER F-15-110. THE REQUIRED 5 M.I.H.U. (50 LOTS X 10%) HAVE BEEN SATISFIED BY THE DEVELOPER THROUGH AN ALTERNATIVE COMPLIANCE AND PAYMENT OF A FEE-IN-LIEU TO THE HOWARD COUNTY HOUSING DEPARTMENT. AN EXECUTED M.I.H.U. AGREEMENT WITH THE HOWARD COUNTY HOUSING DEPARTMENT HAS BEEN COMPLETED.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING (MINIMUM) REQUIREMENTS:
 - WIDTH - 12' (15' IF SERVING MORE THAN ONE RESIDENCE)
 - SURFACE - 6" OF COMPACTED CRUSHER RUN BASE W/TAR AND CHIP COATING (1-1/2" MIN.)
 - GEOMETRY MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE AND 45 FOOT TURNING RADIUS
 - STRUCTURES - (BRIDGES/CULVERTS) CAPABLE OF SUPPORTING 25 GROSS TONS (H25-LOADING)
 - DRAINAGE ELEMENTS CAPABLE OF SAFELY PASSING 100 YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.
 - STRUCTURE CLEARANCES - MINIMUM 12 FEET
 - MAINTENANCE SUFFICIENT TO INSURE ALL WEATHER USE.

SITE ANALYSIS DATA

- TOTAL AREA OF OVERALL PROJECT SITE = 80.90 AC.*
- TOTAL AREA OF THIS SUBMISSION = 24.46 AC.*
- LIMIT OF DISTURBED AREA = 9.69 AC.*
- PRESENT ZONING DESIGNATION = R-ED
- PROPOSED USE: SINGLE FAMILY DETACHED
- FLOOR SPACE ON EACH LEVEL OF BUILDING: N/A
- TOTAL NUMBER OF UNITS: 48 UNITS
- TOTAL NUMBER OF PARKING SPACES REQUIRED = 96 SPACES
- TOTAL NUMBER OF PARKING SPACES PROVIDED = 192 SPACES
- OPEN SPACE ON SITE: 4.07 AC.*
- BUILDING COVERAGE OF SITE: 12%
- PREVIOUS HOWARD COUNTY FILES: ECP-15-005, PB CASE NO. 409, SP-15-006 F-15-110, WP-15-069 & WP-16-152
- TOTAL AREA OF FLOODPLAIN: 0.00 AC.*
- TOTAL AREA OF SLOPES IN EXCESS OF 25% = 0.00 AC.*
- AREA OF WETLANDS = 0.00 AC.*
- AREA OF FOREST = 0.00 AC.*
- IMPERVIOUS AREA = 3.57 AC.* OR 38%

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10772 BALDORRE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461 - 2855



PROFESSIONAL CERTIFICATION
 "PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE, 7/14/19."
 John Mankel
 NAME DATE 7/28/17

OWNERS
 TIERNEY FARMS-CLARKSVILLE, LP
 24151 VENTURE BOULEVARD
 CALABASAS, CALIFORNIA 91302
 (818)-385-3697

DEVELOPER
 BEAZER HOMES, LLC
 8965 GUILFORD ROAD - SUITE 290
 COLUMBIA, MARYLAND 21046
 (765)-894-0182

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

John J. ... 10-26-17
 Chief, Division of Land Development Date

John J. ... 10-19-17
 Chief, Development Engineering Division Date

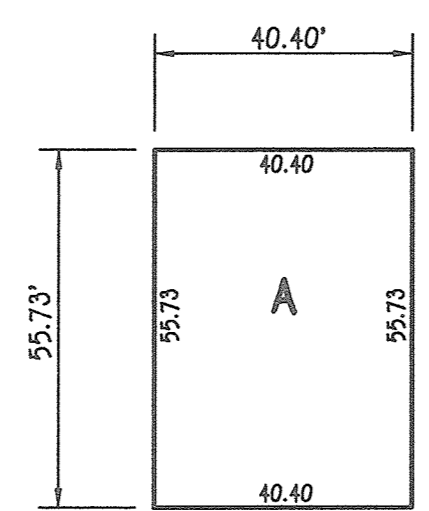
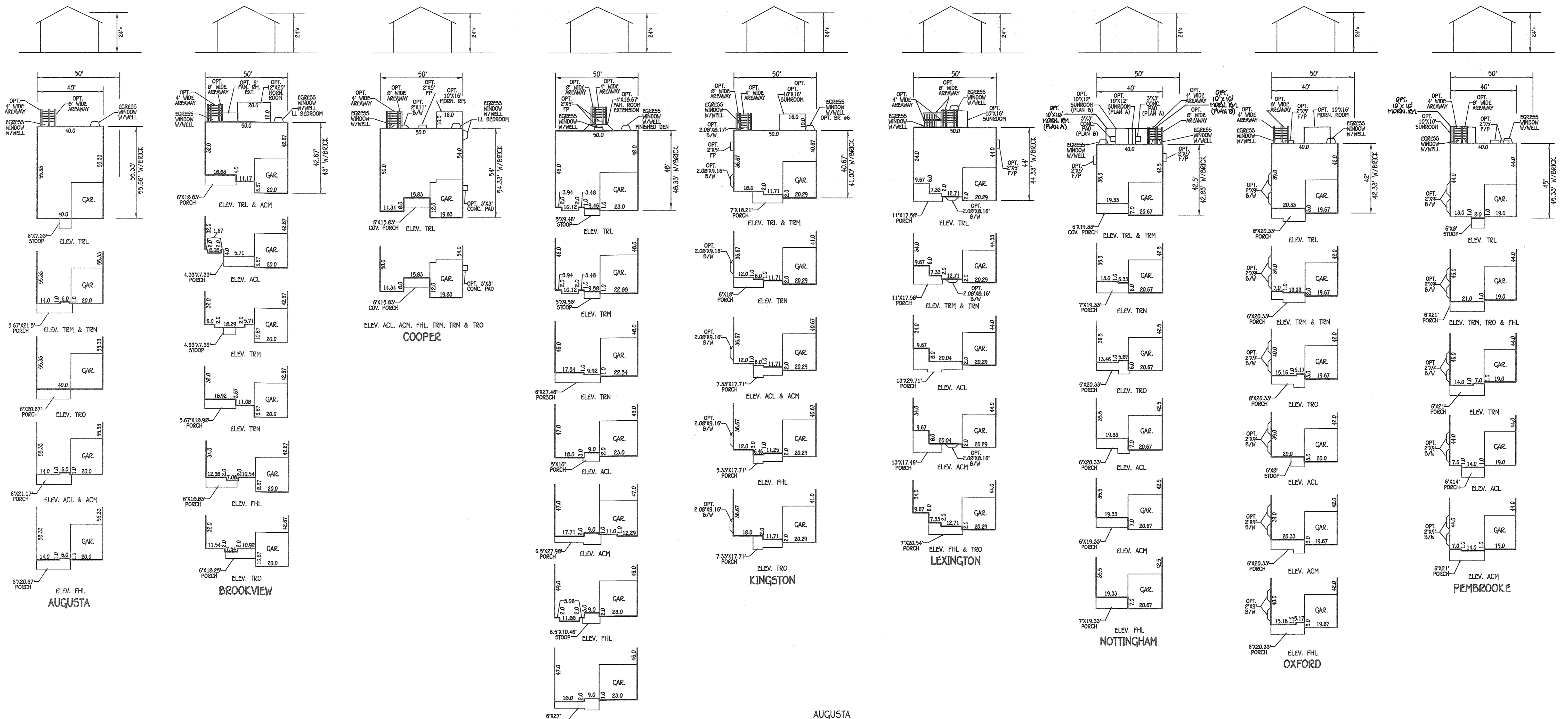
John J. ... 10-26-17
 Director - Department of Planning and Zoning Date

PROJECT	PHASE	PARCEL NOS.
ENCLAVE AT RIVER HILL	I	88 & 97

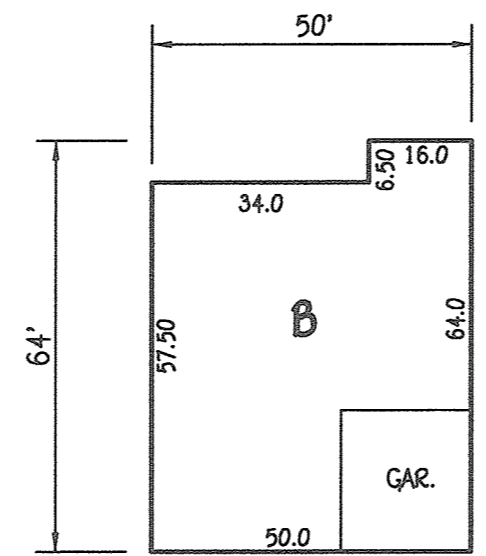
PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
24231-24244	18	R-ED	34	5	605102

PREVIOUS HOWARD COUNTY FILES:
 ECP-15-005, PB CASE NO. 409, SP-15-006, F-15-110, WP-15-069 & WP-16-152

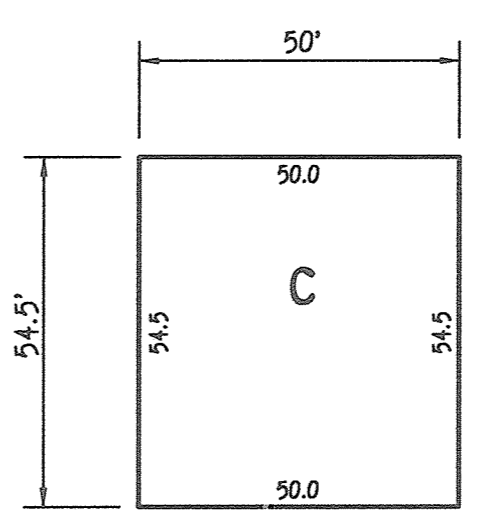
SINGLE FAMILY HOUSES
ENCLAVE AT RIVER HILL
 LOTS 1 THRU 48, OPEN SPACE 51, AND BULK PARCEL 'B'
 PHASE 1
 PREVIOUS HOWARD COUNTY FILES:
 ECP-15-005, PB CASE NO. 409, SP-15-006, WP-15-069, F-15-110 & WP-16-152
 ZONED: R-ED
 TAX MAP NO: 34 PARCEL NOS: 88 & 97 GRID NO: 18
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: SEPTEMBER, 2017
 SHEET 1 OF 15



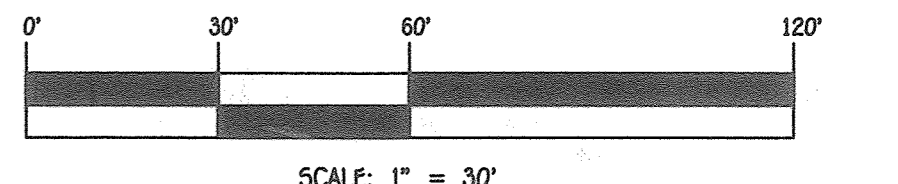
AUGUSTA
NO 3 CAR GAR.
NOTTINGHAM
NO 3 CAR GAR.
OXFORD
NO 3 CAR GAR.
PEMBROOKE
NO 3 CAR GAR.



AUGUSTA
W/ALL OPTIONS
BROOKVIEW
W/ALL OPTIONS
COOPER
W/ALL OPTIONS
FEDERALSBURG
W/ALL OPTIONS
KINGSTON
W/ALL OPTIONS
LEXINGTON
W/ALL OPTIONS
NOTTINGHAM
W/ALL OPTIONS
OXFORD
W/ALL OPTIONS
PEMBROOKE
W/ALL OPTIONS



BROOKVIEW
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KINGSTON
W/ALL OPTIONS
LEXINGTON
W/ALL OPTIONS
NOTTINGHAM
W/ALL OPTIONS
OXFORD
W/ALL OPTIONS
PEMBROOKE
W/ALL OPTIONS



SCALE: 1" = 30'



NO.	REVISION	DATE
1	ADD OPT. NOTTINGHAM, OXFORD & PEMBROOKE	9/27/19



PROFESSIONAL CERTIFICATION
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 Name: *Robert J. ...* DATE: 7/28/17

OWNERS
 TIERNEY FARMS-CLARKSVILLE, LP.
 24151 VENTURE BOULEVARD
 CALABASAS, CALIFORNIA 91302
 (818)-365-3697

DEVELOPER
 BEAZER HOMES, LLC
 8965 GUILFORD ROAD - SUITE 290
 COLUMBIA, MARYLAND 21046
 (765)-894-0182

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Keith ... 10-26-17
 Chief, Division of Land Development Date

JP 10-19-17
 Chief, Development Engineering Division Date

Director 10-26-17
 Director - Department of Planning and Zoning Date

PROJECT	ENCLAVE AT RIVER HILL	PHASE	1	PARCEL NO.	88 & 97
PLAT	24231-24244	BLOCK NO.	18	ZONE	R-ED
TAX/ZONE	34	ELEC. DIST.	5	CENSUS TR.	605102

PREVIOUS HOWARD COUNTY FILES:
 ECP-15-005, PB CASE NO. 409, SP-15-006, F-15-110, WP-15-069 & WP-16-152

GENERIC BOXES & HOUSE TYPES

SINGLE FAMILY HOUSES

ENCLAVE AT RIVER HILL

LOTS 1 THRU 48, OPEN SPACE 51, AND BULK PARCEL 'B'

PHASE I

PREVIOUS HOWARD COUNTY FILES:
 ECP-15-005, PB CASE NO. 409, SP-15-006, WP-15-069, F-15-110 & WP-16-152

ZONED: R-ED

TAX MAP NO.: 34 PARCEL NO'S: 88 & 97 GRID NO: 18

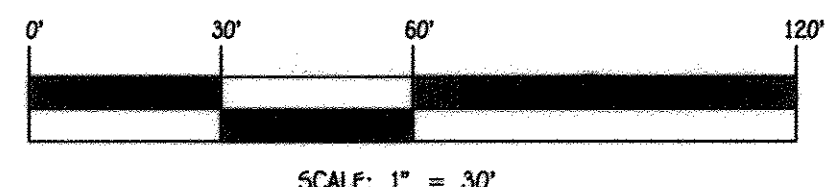
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: SEPTEMBER, 2017

SHEET 2 OF 15



SYMBOL	DESCRIPTION
(Dashed line)	EXISTING CONTOUR 2' INTERVAL
(Dotted line)	EXISTING CONTOUR 10' INTERVAL
(Solid line)	PROPOSED CONTOUR 2' INTERVAL
(Solid line)	PROPOSED CONTOUR 10' INTERVAL
(X symbol)	SPOT ELEVATION
(Circle with cross)	DRYWELL (M-5) TYPICAL
(Square with cross)	LIMIT OF DISTURBANCE
(Dashed line with cross)	SUPER SALT FENCE
(Circle with cross)	STREET TREES PER F-15-110
(Starburst symbol)	PERIMETER LANDSCAPE TREES PER F-15-110
(Triangle)	NO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
(Square)	EXISTING NO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
(Starburst symbol)	PROPOSED LANDSCAPE TREES PROVIDED BY THIS SOP
(Dashed line)	10' PRIVATE LANDSCAPE EASEMENT



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 GAITHERSBURG, MARYLAND 20878
 (410) 461-2895

NO.	REVISION	DATE
3	REVISE LOT 47 GRADING & HOUSETYPE TO PEMBROOKE	3/27/18
2	REVISE LOT 11 TO GARAGE LEFT & TO NOTTINGHAM	3/16/18
1	REVISE GRADING & HOUSETYPE TO PEMBROOKE LOT 10	2/27/18



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Paul M. Rankin II 9/28/17
 NAME DATE

OWNERS	DEVELOPER
TIERNEY FARMS-CLARKSVILLE, LP. 24151 VENTURE BOULEVARD CALABASAS, CALIFORNIA 91302 (818)-365-3697	BEAZER HOMES, LLC 8965 GUILFORD ROAD - SUITE 290 COLUMBIA, MARYLAND 21046 (765)-894-0182

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Veronica... 10-26-17
 Chief, Division of Land Development Date

... 10-19-17
 Chief, Development Engineering Division Date

... 10-26-17
 Director - Department of Planning and Zoning Date

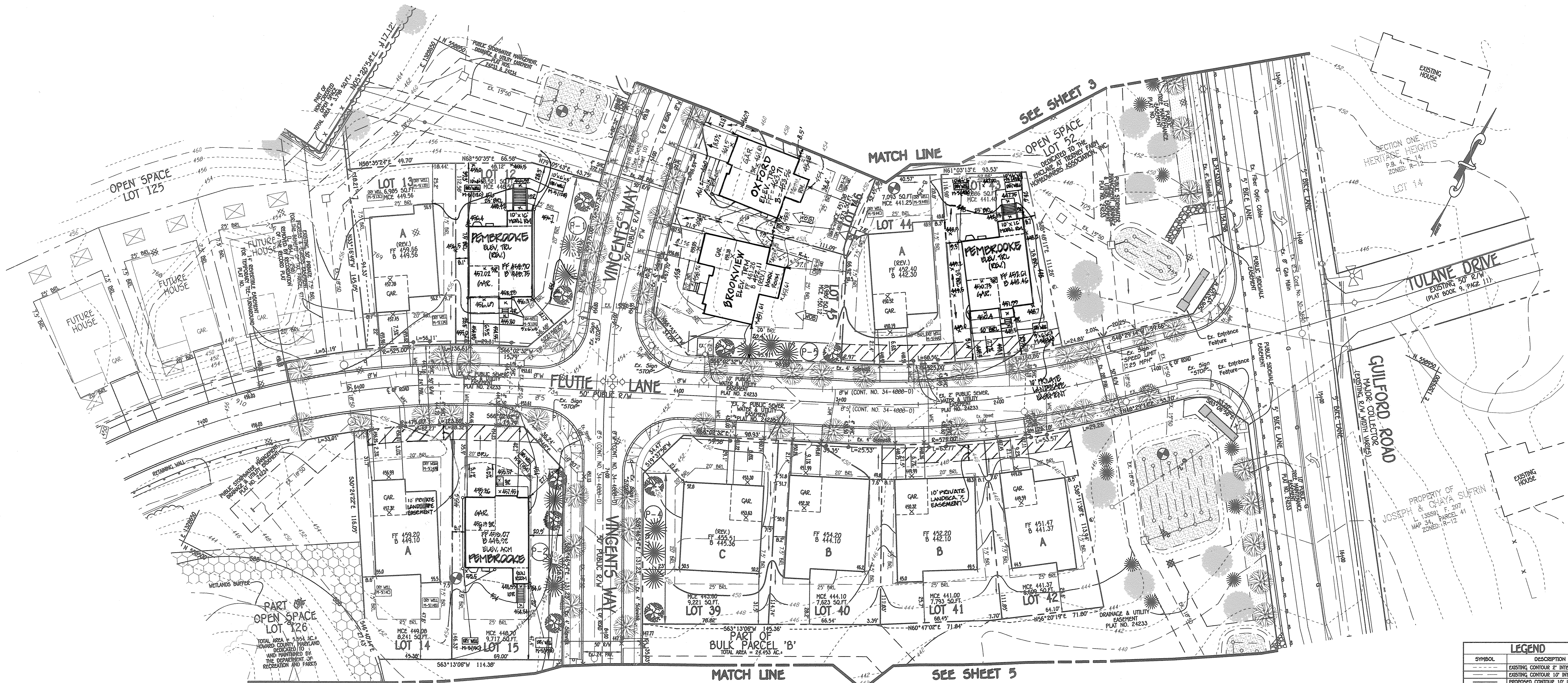
PROJECT	PHASE	PARCEL NOS.
ENCLAVE AT RIVER HILL	I	88 & 97

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
24231-24244	18	R-ED	34	5	605102

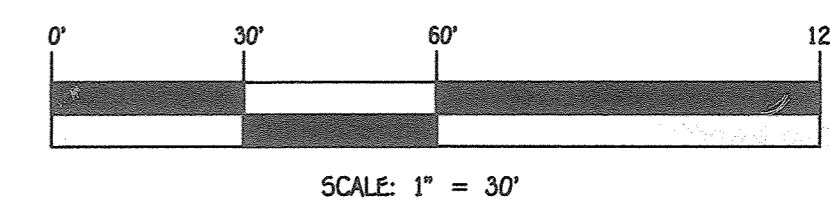
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SITE DEVELOPMENT PLAN

SINGLE FAMILY HOUSES
ENCLAVE AT RIVER HILL
 LOTS 1 THRU 48, OPEN SPACE 51, AND BULK PARCEL 'B'
 PHASE I
 PREVIOUS HOWARD COUNTY FILES:
 ECP-15-005, PB CASE NO. 409, SP-15-006, WP-15-069, F-15-110 & WP-16-152
 ZONED: R-ED
 TAX MAP NO.: 34 PARCEL NO'S.: 88 & 97 GRID NO.: 18
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: SEPTEMBER, 2017
 SHEET 3 OF 15



LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
---	EXISTING CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
x382	SPOT ELEVATION
⊗	ORWELL (W-5) TYPICAL
---	LIMIT OF DISTURBANCE
---	SUPER SILT FENCE
⊗	STREET TREES PER F-15-110
⊗	PERIMETER LANDSCAPE TREES PER F-15-110
⊗	BIO RETENTION FACILITY (F-6) OR (F-8) AS NOTED
⊗	EXISTING BIO RETENTION FACILITY (F-6) OR (F-8) AS NOTED
⊗	PROPOSED LANDSCAPE TREES PROVIDED BY THIS SGP
---	10' PRIVATE LANDSCAPE EASEMENT



NO.	REVISION	DATE
4	REV. HPG & GAR. FROM OPEN BOX TO PEMBROOKS, LOTS 14 & 15	2/17/19
3	REV. HPG & GAR. FROM OPEN BOX TO PEMBROOKS	9/26/18
2	REV. LOT 46 GRADING & HOUSE TYPE TO OXFORD	3/20/18
1	REV. LOT 45 GRADING & HOUSE TYPE TO BROOKVIEW	3/16/18



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 Randolph R. Anderson, 9/28/17
 NAME DATE

OWNERS		DEVELOPER	
TIERNEY FARMS-CLARKSVILLE, LP. 24151 VENTURE BOULEVARD CALABAS, CALIFORNIA 91302 (818)-395-3697	BEAZER HOMES, LLC 8965 GUILFORD ROAD - SUITE 290 COLUMBIA, MARYLAND 21046 (765)-894-0182		

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Walter J. ... 10-26-17
 Chief, Division of Land Development Date

John ... 10-13-17
 Chief, Development Engineering Division Date

Walter J. ... 10-26-17
 Director - Department of Planning and Zoning Date

PROJECT	PHASE	PARCEL NOs.
ENCLAVE AT RIVER HILL	1	88 & 97

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
24231-24244	18	R-ED	34	5	605102

PREVIOUS HOWARD COUNTY FILES:
 ECP-15-005, PB CASE NO. 409, SP-15-006, F-15-110, WP-15-069 & WP-16-152

SITE DEVELOPMENT PLAN

SINGLE FAMILY HOUSES
ENCLAVE AT RIVER HILL
 LOTS 1 THRU 48, OPEN SPACE 51, AND BULK PARCEL 'B'

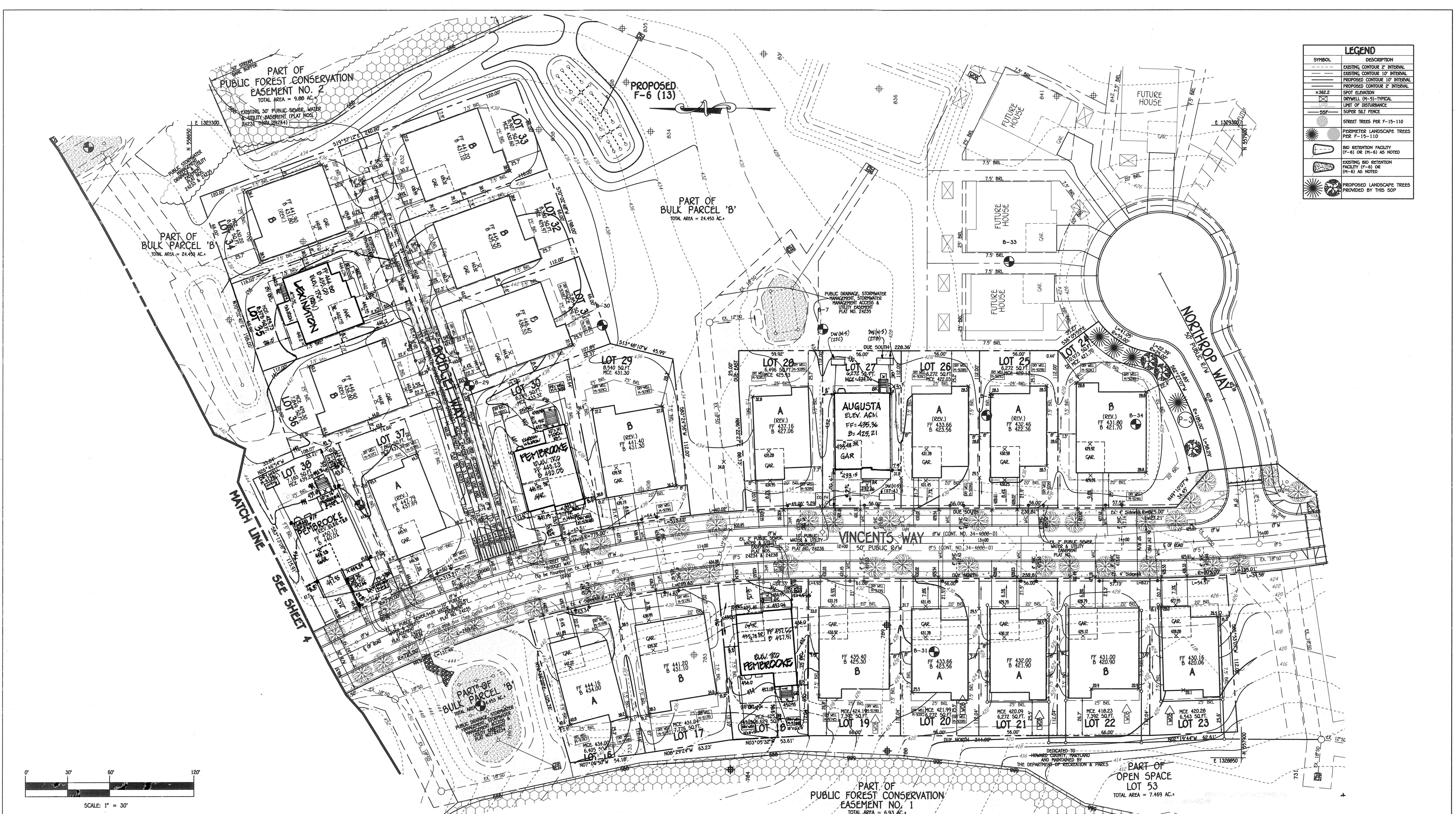
PHASE I

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ZONED: R-ED
 TAX MAP NO.: 34 PARCEL NO'S.: 88 & 97 GRID NO.: 18
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: SEPTEMBER, 2017
 SHEET 4 OF 15

FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2295

LEGEND	
SYMBOL	DESCRIPTION
	EXISTING CONTOUR 2' INTERVAL
	EXISTING CONTOUR 10' INTERVAL
	PROPOSED CONTOUR 2' INTERVAL
	PROPOSED CONTOUR 10' INTERVAL
	SPOT ELEVATION
	DEWELL (M-5) TYPICAL
	LIMIT OF DISTURBANCE
	SUPER SILT FENCE
	STREET TREES PER F-15-110
	PERMETER LANDSCAPE TREES PER F-15-110
	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
	EXISTING BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
	PROPOSED LANDSCAPE TREES PROVIDED BY THIS SGP



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE
 ELICOTT CITY, MARYLAND 21042
 (410) 461-2095

NO.	REVISION	DATE
4	REVISE LOTS 1 & 2, LOT 30, FROM L&S BOX 21 TO PERMODOCKE	9/17/10
3	REVISE LOTS 6 & 10, LOT 16, FROM L&S BOX 14 TO PERMODOCKE	9/17/10
2	REVISE LOT 37 TO AN AUGUSTA & REMOVED GARAGE ADJUSTMENTS	9/17/10
1	REVISE L&S & C&E LOT 35, FROM L&S BOX 18 TO LEXINGTON	6/22/10



PROFESSIONAL CERTIFICATION
 "PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE, 7/14/19.
 Frank J. Thompson
 9/28/17
 NAME DATE

OWNERS
 TIERNEY FARMS-CLARKSVILLE, LP.
 24151 VENTURE BOULEVARD
 CALABASAS, CALIFORNIA 91302
 (818)-395-3697

DEVELOPER
 BEAZER HOMES, LLC
 8965 GUILFORD ROAD - SUITE 290
 COLUMBIA, MARYLAND 21046
 (765)-894-0182

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Veronica Jones 10-26-17
 Chief, Division of Land Development Date

Michael J. Smith 10-19-17
 Chief, Development Engineering Division Date

Valerie J. Smith 10-26-17
 Director, Department of Planning and Zoning Date

PROJECT	PHASE	PARCEL NOS.
ENCLAVE AT RIVER HILL	1	88 & 97

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
24231-24244	18	R-ED	34	5	609102

PREVIOUS HOWARD COUNTY FILES:
 ECP-15-005, PB CASE NO. 409, SP-15-006, F-15-110, WP-15-069 & WP-16-152

SITE DEVELOPMENT PLAN

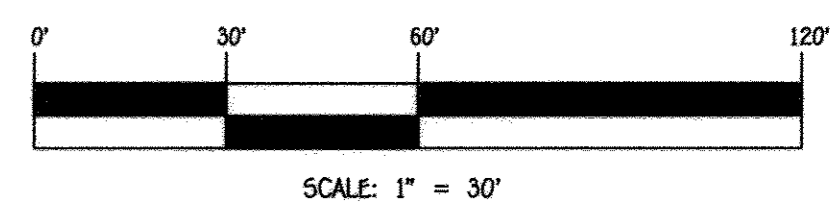
SINGLE FAMILY HOUSES
ENCLAVE AT RIVER HILL
 LOTS 1 THRU 48, OPEN SPACE 51, AND BULK PARCEL 'B'

PHASE I
 PREVIOUS HOWARD COUNTY FILES:
 ECP-15-005, PB CASE NO. 409, SP-15-006, WP-15-069, F-15-110 & WP-16-152
 ZONED: R-ED
 TAX MAP NO.: 34 PARCEL NO'S.: 88 & 97 GRID NO.: 18
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: SEPTEMBER, 2017
 SHEET 5 OF 15



SOILS LEGEND			
SOIL	NAME	CLASS	KW
GbA	GLADSTONE LOAM	B	0.37
GbB	GLADSTONE LOAM	B	0.37
GbC	GLADSTONE LOAM	B	0.37
GbD	GLENMILLE-SALE LOAM, 3 TO 8 PERCENT SLOPES	C	0.37

LEGEND	
(Symbol)	DESCRIPTION
(Symbol)	EXISTING CONTOUR 2' INTERVAL
(Symbol)	EXISTING CONTOUR 10' INTERVAL
(Symbol)	PROPOSED CONTOUR 10' INTERVAL
(Symbol)	PROPOSED CONTOUR 2' INTERVAL
(Symbol)	SPOT ELEVATION
(Symbol)	DRYWELL (M-S) TYPICAL
(Symbol)	LIMIT OF DISTURBANCE
(Symbol)	SUPER SILT FENCE
(Symbol)	STREET TREES PER F-15-110
(Symbol)	PERIMETER LANDSCAPE TREES PER F-15-110
(Symbol)	BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
(Symbol)	EXISTING BIO RETENTION FACILITY (F-6) OR (M-6) AS NOTED
(Symbol)	PROPOSED LANDSCAPE TREES PROVIDED BY THIS SGP



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELKLOTT CITY, MARYLAND 21142
 (410) 461-2995

NO.	REVISION	DATE



PROFESSIONAL CERTIFICATE
 "I 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 THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
 Signature of Licensed Professional: *Frank John Manalangan II* DATE: 9/28/17
 SIGNATURE OF LICENSED PROFESSIONAL FRANK JOHN MANALANGAN II DATE

BUILDER/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 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: *Brian Knauft* DATE: 9/28/17
 SIGNATURE OF DEVELOPER BRIAN KNAUFT DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature: *John R. ...* DATE: 10/5/17
 HOWARD SOIL CONSERVATION DISTRICT

OWNERS
 TIERNEY FARMS-CLARKSVILLE, LP.
 24151 VENTURE BOULEVARD
 CALABASAS, CALIFORNIA 91302
 (818)-385-3697

DEVELOPER
 BEAZER HOMES, LLC
 8965 GUILFORD ROAD - SUITE 290
 COLUMBIA, MARYLAND 21046
 (765)-894-0182

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Signature: *Walter ...* DATE: 10-26-17
 Chief, Division of Land Development

Signature: *Walter ...* DATE: 10-19-17
 Chief, Development Engineering Division

Signature: *Walter ...* DATE: 10-26-17
 Director - Department of Planning and Zoning

PROJECT	ENCLAVE AT RIVER HILL	PHASE	1	PARCEL NOS.	88 & 97
PLAT	24231-24244	BLOCK NO.	18	ZONE	R-ED
TAX/ZONE	34	ELEC. DIST.	5	CENSUS TR.	605102

PREVIOUS HOWARD COUNTY FILES:
 ECP-15-005, PB CASE NO. 409, SP-15-006, F-15-110, WP-15-069 & WP-16-152

SEDIMENT/EROSION CONTROL PLAN

SINGLE FAMILY HOUSES
ENCLAVE AT RIVER HILL
 LOTS 1 THRU 48, OPEN SPACE 51, AND BULK PARCEL 'B'
 PHASE I
 PREVIOUS HOWARD COUNTY FILES:
 ECP-15-005, PB CASE NO. 409, SP-15-006, WP-15-069, F-15-110 & WP-16-152
 ZONED: R-ED
 TAX MAP NO.: 34 PARCEL NOS.: 88 & 97 GRID NO.: 18
 FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 SCALE: AS SHOWN DATE: SEPTEMBER, 2017
 SHEET 6 OF 15

SOIL PREPARATION, TOPSOILING AND SOIL AMENDMENTS (B-4-2)

- A. SOIL PREPARATION
1. TEMPORARY STABILIZATION
a. SEEDING PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT...

TEMPORARY SEEDING NOTES (B-4-3)

TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS. PURPOSE: TO APPLY FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS. CONDITIONS WHERE PRACTICE APPLIES: EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS...

TEMPORARY SEEDING SUMMARY TABLE with columns: HARDINESS ZONE, SPECIES, APPLICATION RATE, SEEDING DATES, SEEDING DEPTH, N, P2O5, L2O, and LIFE RATE.

PERMANENT SEEDING NOTES (B-4-3)

A. SEED MIXTURES
1. GENERAL SPECIFICATIONS
a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE...

PERMANENT SEEDING SUMMARY TABLE with columns: HARDINESS ZONE, SPECIES, APPLICATION RATE, SEEDING DATES, SEEDING DEPTH, N, P2O5, L2O, and LIFE RATE.

TEMPORARY SEEDING NOTES (B-4-3)

TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS. PURPOSE: TO APPLY FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS...

TEMPORARY SEEDING SUMMARY TABLE with columns: HARDINESS ZONE, SPECIES, APPLICATION RATE, SEEDING DATES, SEEDING DEPTH, N, P2O5, L2O, and LIFE RATE.

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

DEFINITION: THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER. PURPOSE: TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION...

HOWARD SOIL CONSERVATION DISTRICT (HSCD) STANDARD SEDIMENT CONTROL NOTES

- 1. A PRE-CONSTRUCTION MEETING MUST OCCUR WITH THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, CONSTRUCTION INSPECTION DIVISION (CID), 410-313-1999 AFTER THE FUTURE LEO AND PROTECTED AREAS ARE MARKED CLEARLY IN THE FIELD...
2. ALL VEGETATIVE AND STRUCTURAL PROVISIONS ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL...

B. TOPSOILING

- 1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF COMPOSITION WITH LOW NITROGEN CONTENT, LOW NITROGEN LEVELS, LOW PH, NITROGEN TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRANULARITY...

C. SOIL AMENDMENTS (FERTILIZER & LIME SPECIFICATIONS)

- 1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT NUTRIENT AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A REGISTERED FERTILIZER OR FERTILIZER ANALYST...

STANDARD STABILIZATION NOTE

- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
a) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER EROSION, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1 HORIZONTAL TO 1 VERTICAL (3:1).

DUST CONTROL

- DEFINITION: CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS. PURPOSE: TO PREVENT BLOWING AND MOVEMENT OF DUST FROM DISTURBED SOIL SURFACES, REDUCE ON AND OFF-SITE DAMAGE, HEALTH HAZARDS AND IMPROVE TRAFFIC SAFETY...

SEQUENCE OF CONSTRUCTION

- 1. OBTAIN A GRADING PERMIT AND HOLD PRE-CONSTRUCTION MEETING WITH COUNTY INSPECTOR. (14 DAYS)
2. NOTIFY MISS UTILITY AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK. (14 DAYS)
3. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, AND SUPER-SILT FENCE. (2 DAYS)
4. ROUGH GRADE AND/OR HOUSE SITE AND INSTALL TEMPORARY SEEDING, IF REQUIRED. (3 DAYS)
5. CONSTRUCT BUILDING. (4 MONTHS)
6. INSTALL DRIVELAND. (7 DAYS)
7. FINE GRADE SITE AND INSTALL PERMANENT SEEDING. (2 DAYS)
8. FINAL GRADE AND STABILIZATION TO BE COMPLETED BEFORE ANY REMOVAL OF CONTROLS. (3 DAYS)
9. WHEN ALL CONTROLLING DEVICES TO THE SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE SEDIMENT CONTROL DEVICES MAY BE REMOVED. (3 DAYS)

FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS. CENTRAL/AREA OFFICE: 10772 BALTIMORE NATIONAL PIKE, CLUCCO, MD 21042. (410) 451-2892.

PROFESSIONAL CERTIFICATE: I 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 THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. SIGNATURE OF DEVELOPER: BEAM KNAUFF, DATE: 9/28/17.

OWNER: TERNEY FARMS-CLARKSVILLE, LP. 24151 VENTURE BOULEVARD, CALABASAS, CALIFORNIA 91302. DEVELOPER: BEAZER HOMES, LLC. 8965 GUILFORD ROAD - SUITE 290, COLUMBIA, MARYLAND 21046.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. Chief, Division of Land Development: 10-26-17. Chief, Development Engineering Division: 10-26-17.

SEDIMENT/EROSION CONTROL NOTES. SINGLE FAMILY HOUSES. ENCLAVE AT RIVER HILL. LOT 1 THRU 48, OPEN SPACE 51, AND BULK PARCEL 'B'. PREVIOUS HOWARD COUNTY FILES: ECP-15-005, PB CASE NO. 409, SP-15-006, WP-15-069, F-15-110 & WP-16-152.

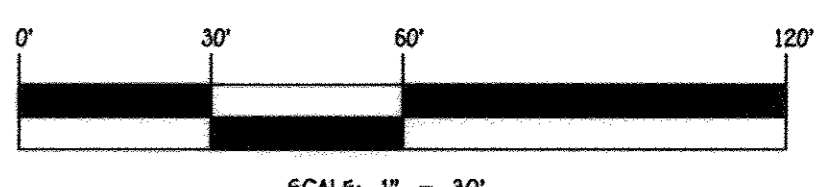
TABLE B.1 TEMPORARY SEEDING FOR SITE STABILIZATION

Table with columns: PLANT SPECS, SEEDING RATE (LB./AC. and LB./1000 FT.2), SEEDING DEPTH (INCHES), and RECOMMENDED SEEDING DATES BY PLANT HARDINESS ZONE (5b AND 6a, 6b, 7a AND 7b).

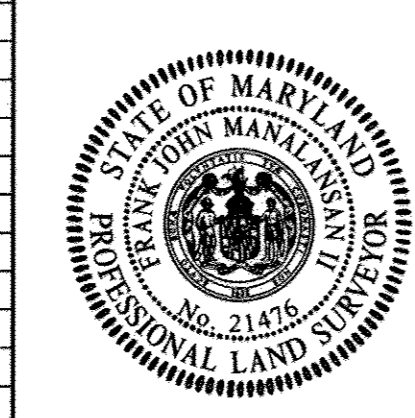
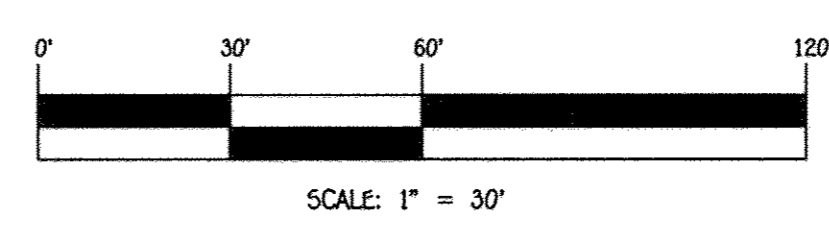
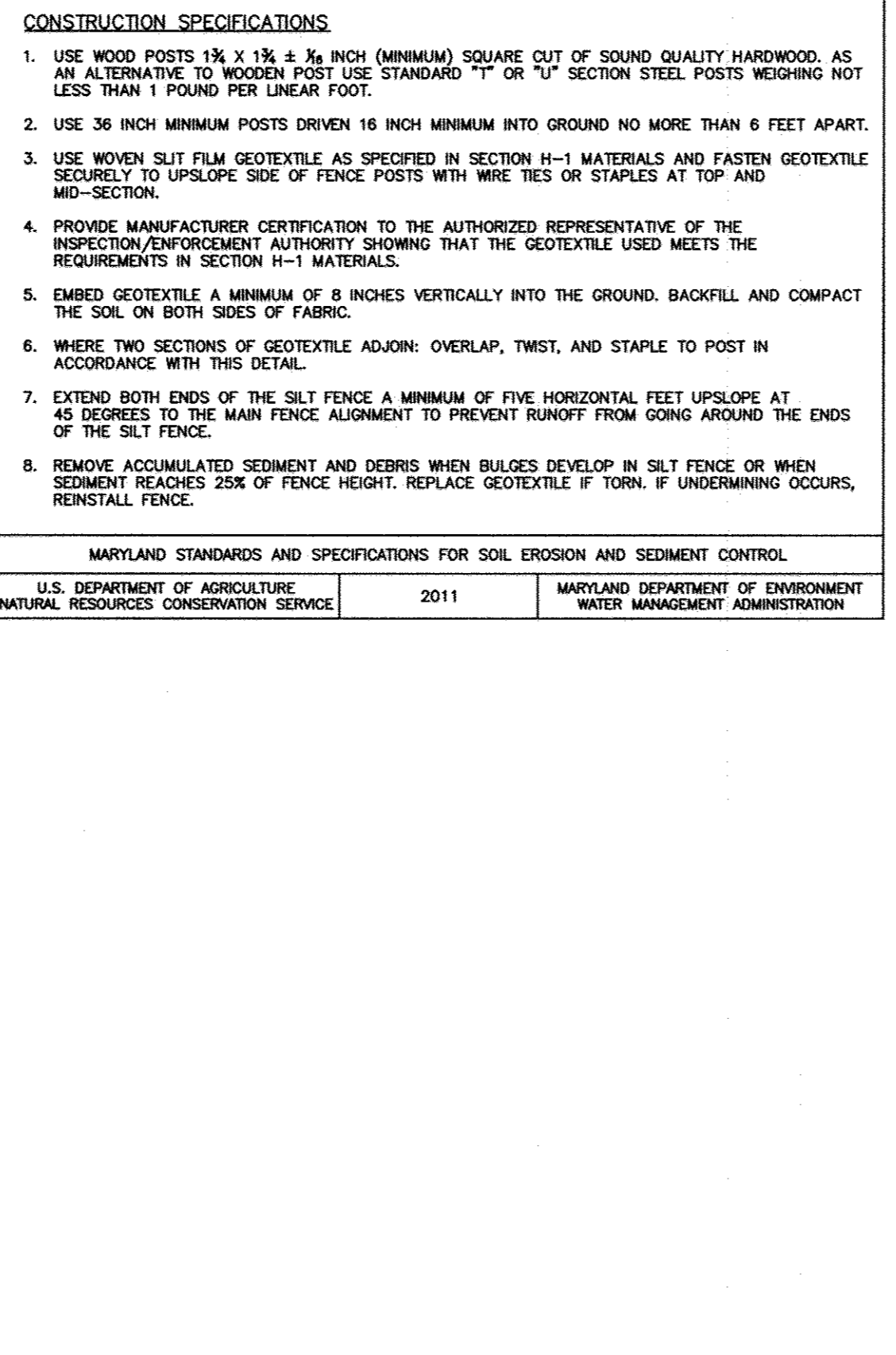
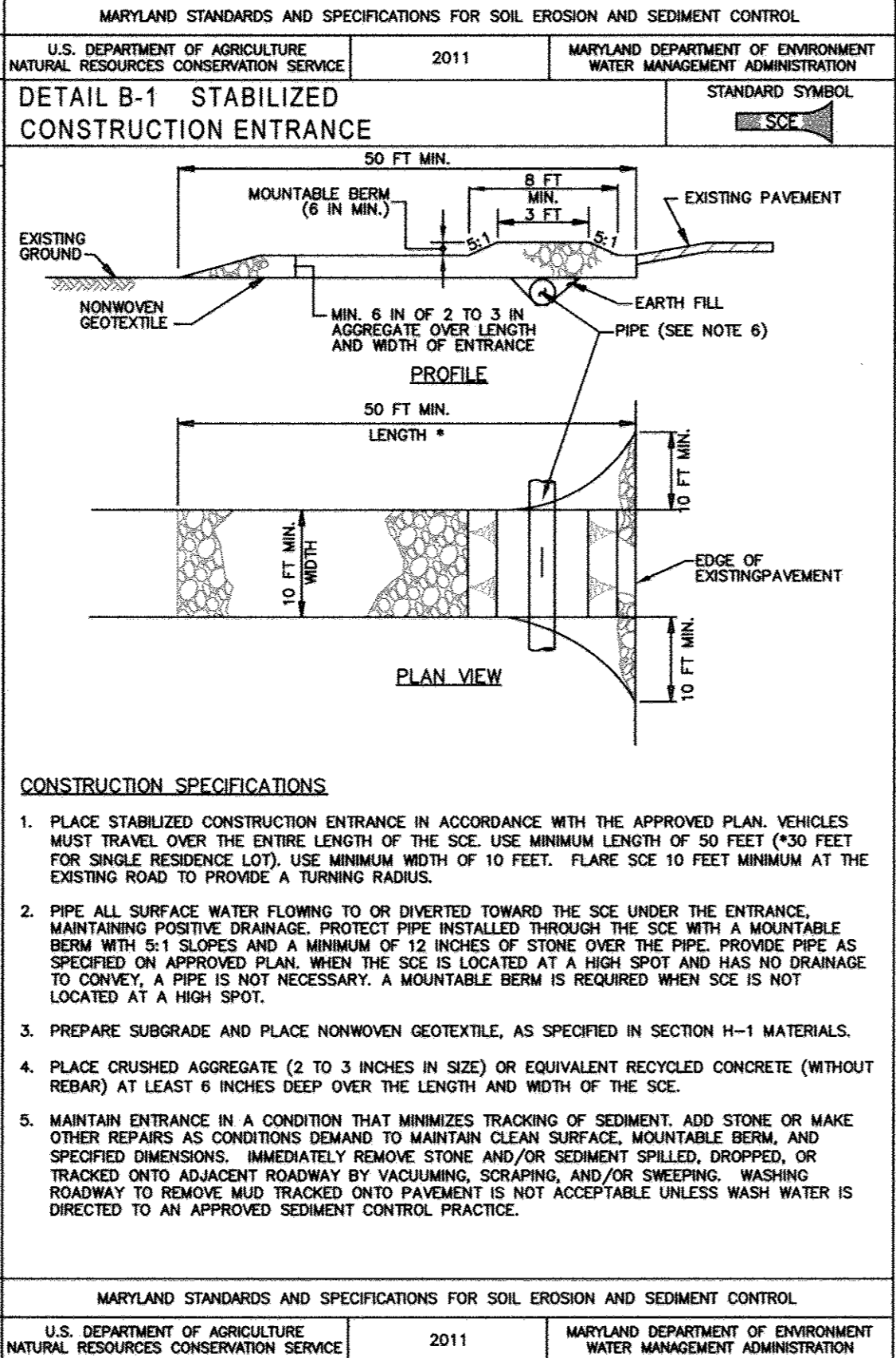
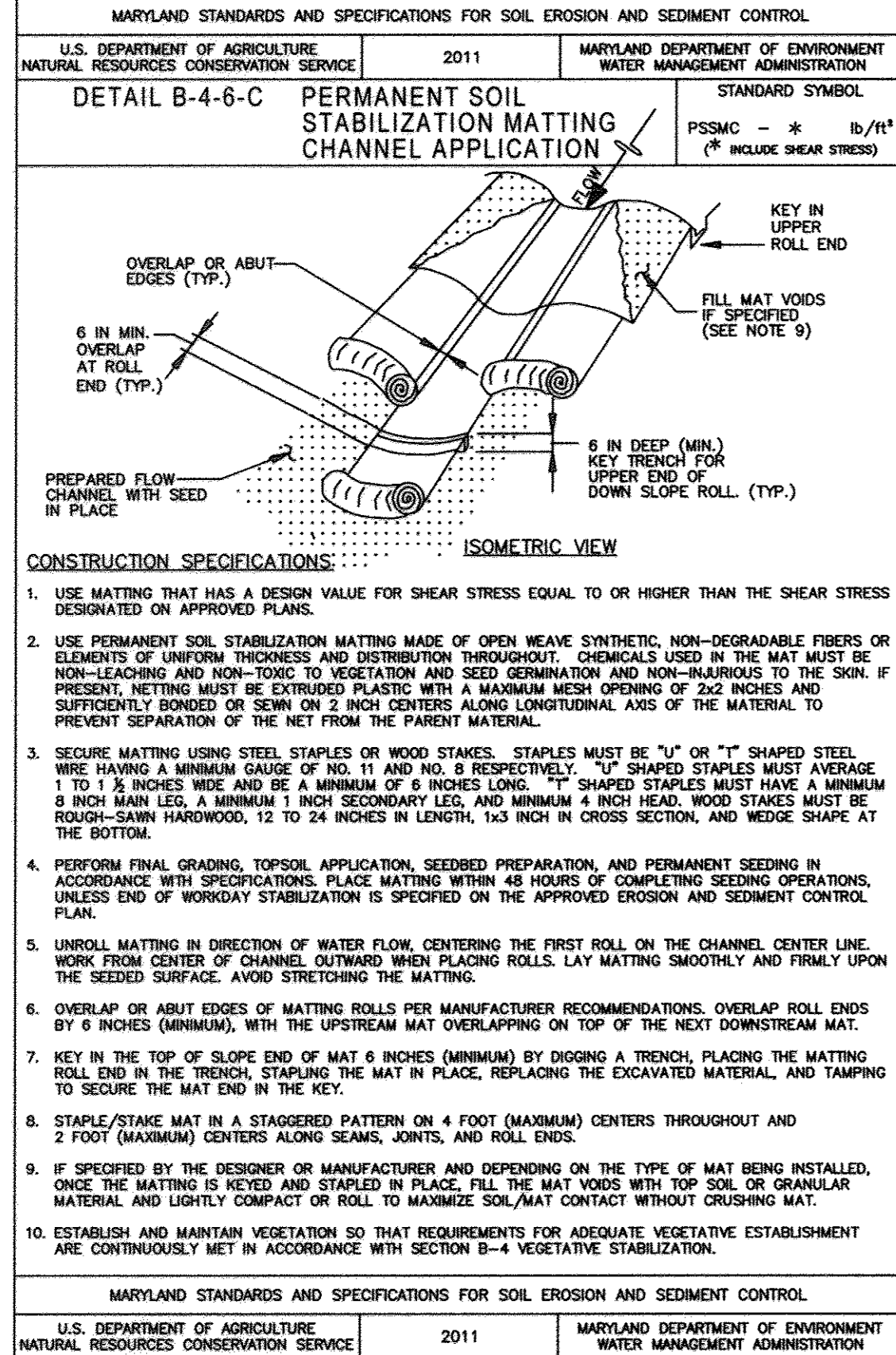
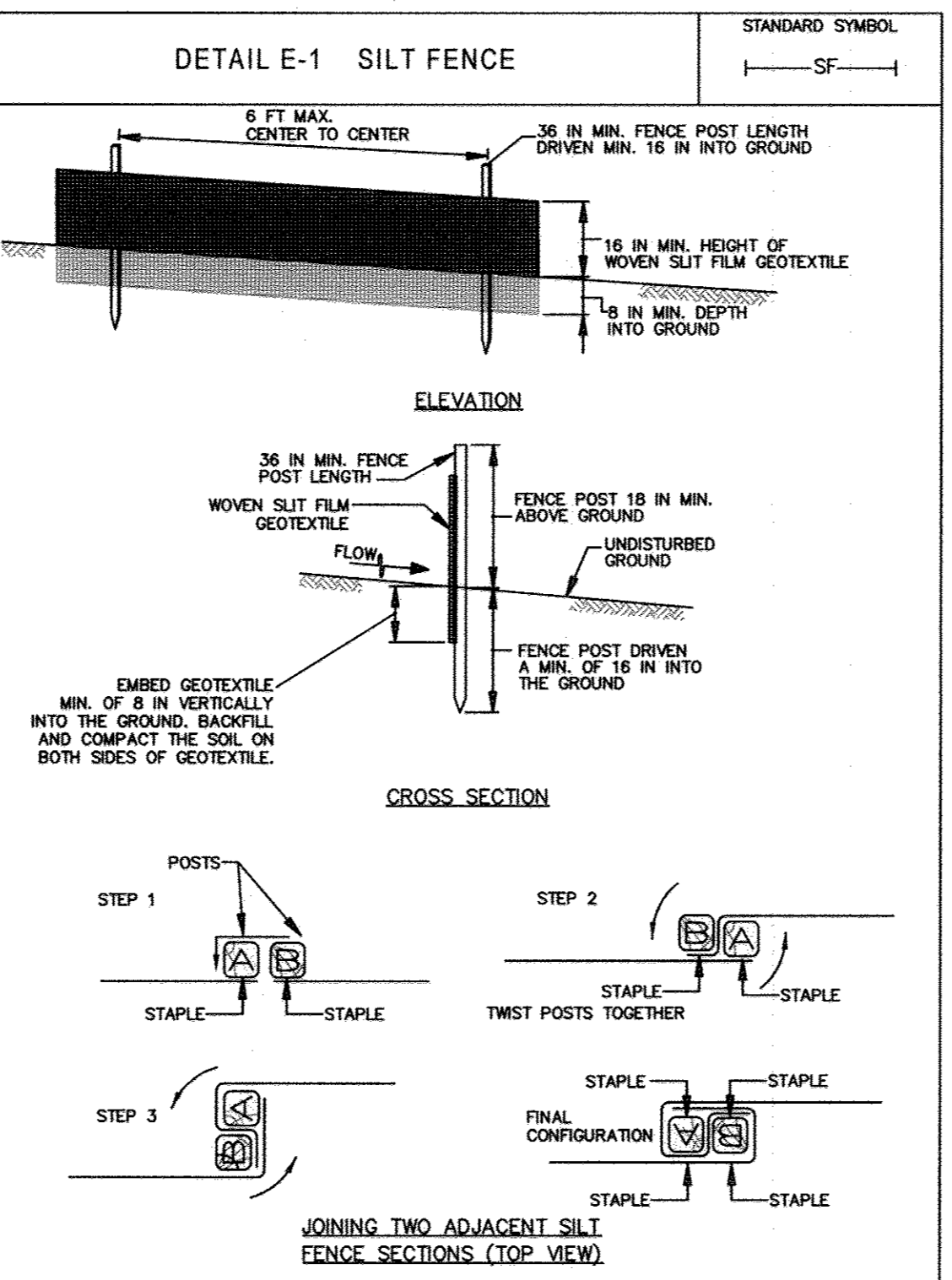
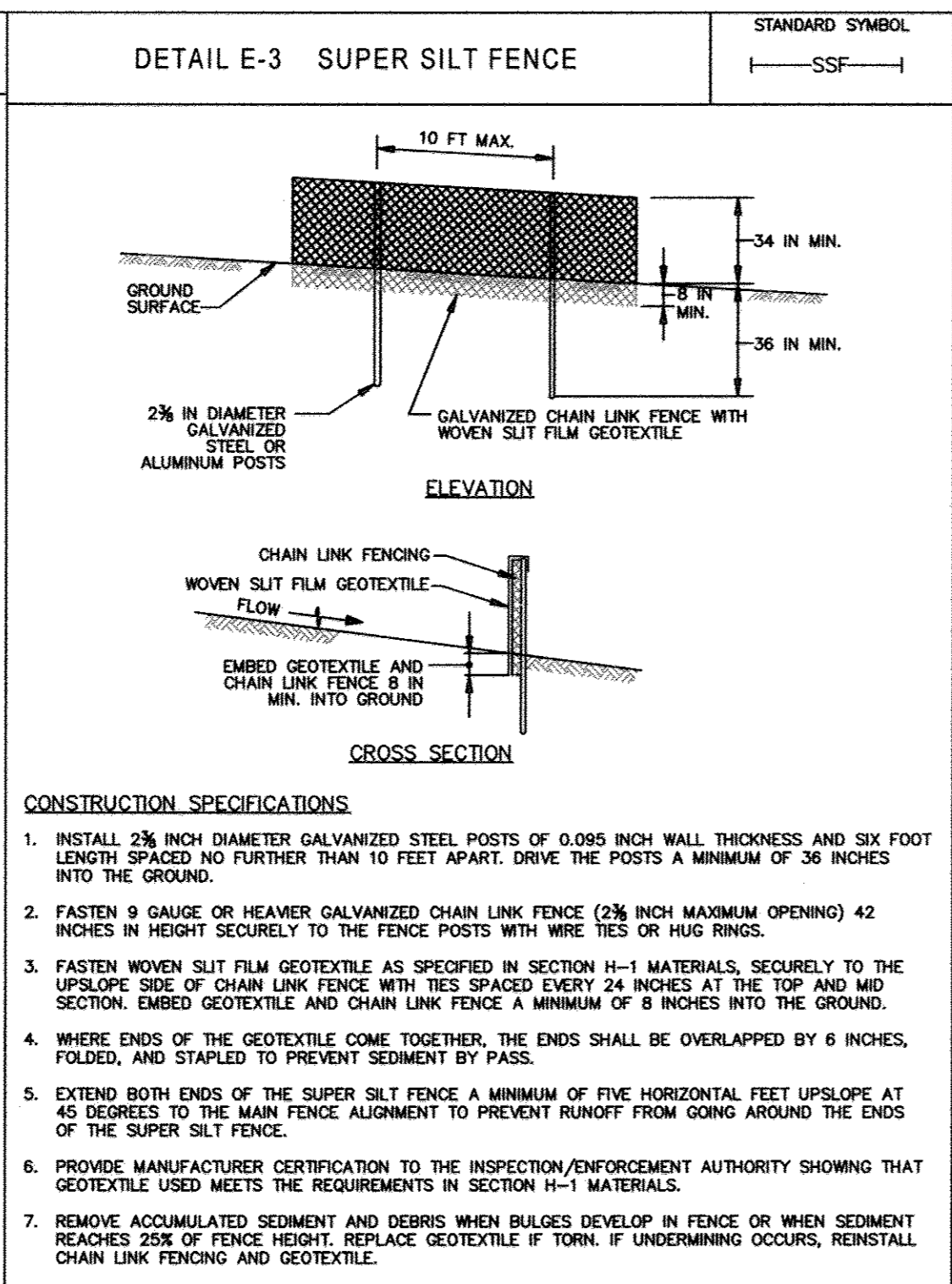
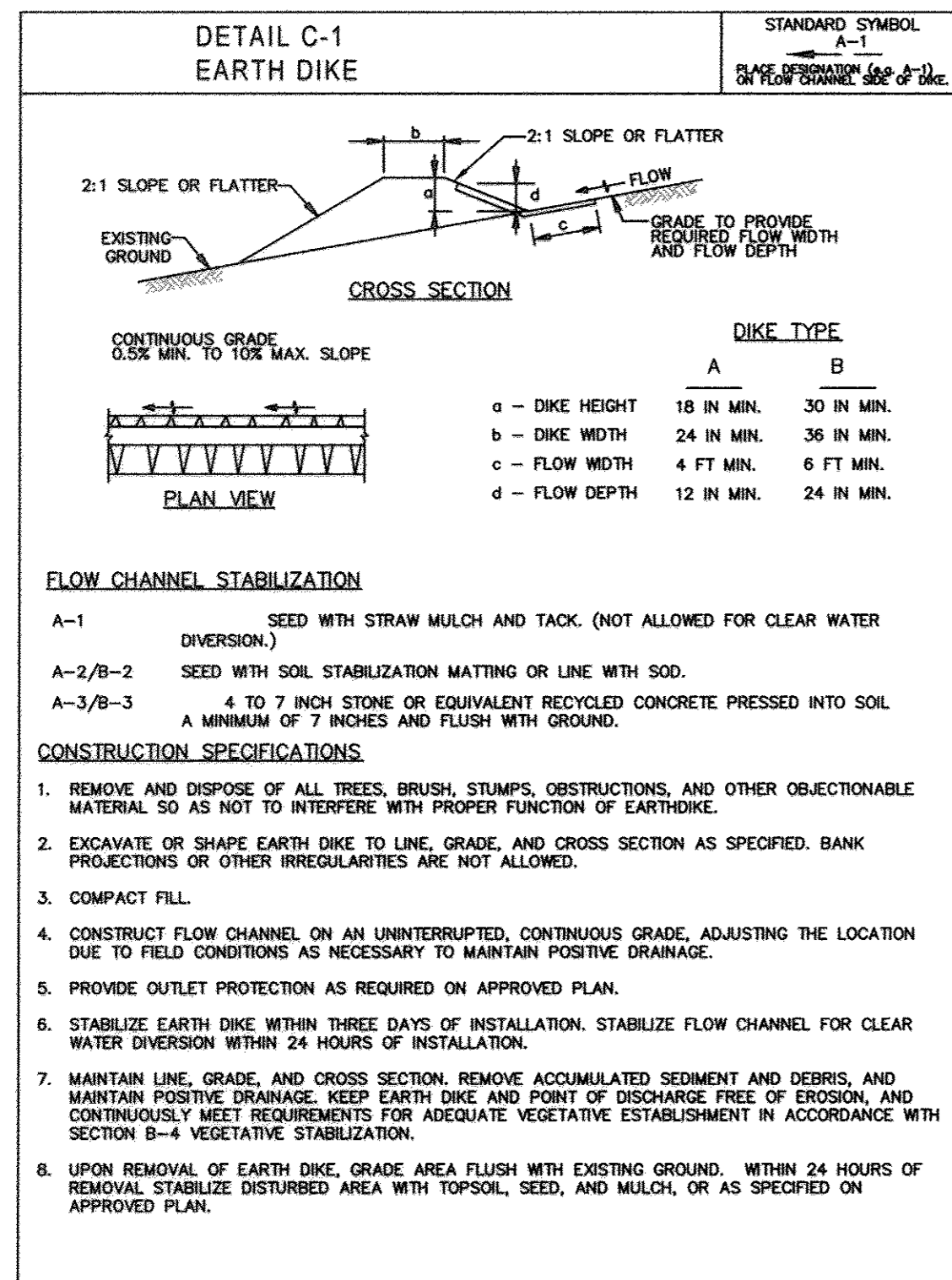
NOTES: 1. SEEDING RATES FOR THE WARM-SEASON GRASSES ARE IN POUNDS OF PURE LIME SEED (PLS). ACTUAL PLANTING RATES SHALL BE ADJUSTED TO REFLECT PERCENT SEED GERMINATION AND PURITY... 2. SEEDING RATES LISTED ABOVE ARE FOR TEMPORARY SEEDINGS, WHEN PLANTED ALONE...

STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREAS B-4-8

- DEFINITION: A POUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT CONTROL MEASURES. PURPOSE: TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION AND CHANGES TO DRAINAGE PATTERNS...
1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN.
2. THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL ON THE BASIS OF A USE SLOPE RATIO NO STEEPER THAN 2:1 BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION 8-3 LAND GRADING.



SCALE: 1" = 30'



PROFESSIONAL CERTIFICATE

"I 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 THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Frank John Manalansan II 9/28/17
SIGNATURE OF LICENSED PROFESSIONAL FRANK JOHN MANALANSAN II DATE

BUILDER/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 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."

Brian Knapp 9/28/17
SIGNATURE OF DEVELOPER BRIAN KNAPP DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Karla Deane 10-26-17
Chief, Division of Land Development Date

John R. Roberts 10-17-17
Chief, Development Engineering Division Date

Valerie Johnson 10-28-17
Director - Department of Planning and Zoning Date

PROJECT	PHASE	PARCEL NOS.
ENCLAVE AT RIVER HILL	I	00 & 97

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
24231-24244	10	R-ED	34	5	605102

PREVIOUS HOWARD COUNTY FILES:
ECP-15-005, PB CASE NO. 409, SP-15-006, WP-15-069, F-15-110 & WP-16-152

ZONED: R-ED
PARCEL NOS.: 00 & 97 GRID NO.: 10
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: SEPTEMBER, 2017
SHEET 10 OF 15

OWNERS
TIERNEY FARMS-CLARKSVILLE, LP.
24151 VENTURE BOULEVARD
CALABASAS, CALIFORNIA 91302
(818)-395-3697

DEVELOPER
BEAZER HOMES, LLC
8965 GUILFORD ROAD - SUITE 290
COLUMBIA, MARYLAND 21046
(765)-894-0182

SEDIMENT/EROSION CONTROL DETAILS

SINGLE FAMILY HOUSES
ENCLAVE AT RIVER HILL
LOTS 1 THRU 40, OPEN SPACE 51, AND BULK PARCEL 'B'

PHASE I
PREVIOUS HOWARD COUNTY FILES:
ECP-15-005, PB CASE NO. 409, SP-15-006, WP-15-069, F-15-110 & WP-16-152

ZONED: R-ED
PARCEL NOS.: 00 & 97 GRID NO.: 10
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: SEPTEMBER, 2017
SHEET 10 OF 15

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Karla Deane 10-26-17
Chief, Division of Land Development Date

John R. Roberts 10-17-17
Chief, Development Engineering Division Date

Valerie Johnson 10-28-17
Director - Department of Planning and Zoning Date

PROJECT	PHASE	PARCEL NOS.
ENCLAVE AT RIVER HILL	I	00 & 97

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
24231-24244	10	R-ED	34	5	605102

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FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: SEPTEMBER, 2017
SHEET 10 OF 15

NO.	REVISION	DATE

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 WC, and Re v. In some instances where permeability is great, these facilities may be used for Op as well. The most common systems include infiltration trenches, infiltration basins, sand filters, and organic filters.

When properly planted, vegetation will thrive and enhance the functioning of these systems. For example, pre-treatment buffers will trap sediments that often are bound with phosphorus and metals. Vegetation planted in the facility will aid in nutrient uptake and water storage. Additionally, plant roots will provide aeration for stormwater to permeate soil for groundwater recharge. Finally, successful plantings provide aesthetic value and wildlife habitat making these systems more desirable to the public.

Design Considerations:

- > Planting buffer strips of at least 20 feet will cause sediments to settle out before reaching the facility, thereby reducing the possibility of clogging.
> Determine areas that will be saturated with water and water table depth so that appropriate plants may be selected (hydrology will be similar to bioretention facilities, see figure A.5 and Table A.4 for planting material guidance).
> Plants known to send down deep taproots should be avoided in systems where filter fabric is used as part of facility design.
> Test soil conditions to determine if soil amendments are necessary.
> Plants shall be located so that access is possible for structure maintenance.
> Stabilize heavy flow areas with erosion control mats or sod.
> Temporally divert flows from seeded areas until vegetation is established.
> See Table A.5 for additional design considerations.

Bio-retention

Soil Bed Characteristics

The characteristics of the soil for the bioretention facility are perhaps as important as the facility location, size, and treatment volume. The soil must be permeable enough to allow runoff to filter through the media, while having characteristics suitable to promote and sustain a robust vegetative cover crop. In addition, much of the nutrient pollutant uptake (nitrogen and phosphorus) is accomplished through absorption and microbial activity within the soil profile. Therefore, soils must balance their chemical and physical properties to support biotic communities above and below ground.

The planting soil should be a sandy loam, loamy sand, loam (USDA), or a loam/sand mix (should contain a minimum 35 to 60% sand, by volume). The clay content for these soils should be less than 25% by volume (Environmental Quality Resources (EQE), 1996; Engineering Technology Inc. and Biohabitats, Inc. (ETAB), 1993). Soils should fall within the SM, ML, SC classifications or the Unified Soil Classification System (USCS). A permeability of at least 1.0 feet per day (0.5"/hr) is required (a conservative value of 0.5 feet per day is used for design). The soil should be free of stones, stumps, roots, or other woody material over 1" in diameter. Brush or seeds from noxious weeds (e.g., Johnson Grass, Mugwort, Nutcracker, and Canada Thistle or other noxious weeds as specified under COMAR 15.08.01.05.) should not be present in the soils. Placement of the planting soil should be in 12 to 18 lifts that are loosely compacted (tamped lightly with a backhoe bucket or traversed by dozer tracks). The specific characteristics are presented in Table A.3.

Table A.3 Planting Soil Characteristics

Table with 2 columns: Parameter and Value. Rows include pH range (5.2 to 7.00), Organic matter (1.5 to 4.0% by weight), Magnesium (35 lbs. per acre, minimum), Phosphorus (phosphate - P2O5) (75 lbs. per acre, minimum), Potassium (potash - K2O) (85 lbs. per acre, minimum), Soluble salts (500 ppm), Clay (10 to 25 %), Silt (30 to 55 %), and Sand (35 to 60%).

Mulch Layer

The mulch layer plays an important role in the performance of the bioretention system. The mulch layer helps maintain soil moisture and avoids surface sealing, which reduces permeability. Mulch helps prevent erosion, and provides a microenvironment suitable for soil biota at the mulch/soil interface. It also serves as a pretreatment layer, trapping the finer sediments, which remain suspended after the primary pretreatment.

The mulch layer should be standard landscape style, single or double shredded hardwood mulch or chips. The mulch layer should be well aged (stockpiled or stored for at least 12 months), uniform in color, and free of other materials, such as weed seeds, soil, roots, etc. The mulch should be applied to a maximum depth of three inches. Grass clippings should not be used as a mulch material.

Planting Guidance

Plant material selection should be based on the goal of simulating a terrestrial forested community of native species. Bioretention simulates an upland-species ecosystem. The community should be dominated by trees, but have a distinct community of understory trees, shrubs and herbaceous materials. By creating a diverse, dense plant cover, a bioretention facility will be able to treat stormwater runoff and withstand urban stresses from insects, disease, drought, temperature, wind, and exposure. The proper selection and installation of plant materials is key to a successful system. There are essentially three zones within a bioretention facility (Figure A.5). The lowest elevation supports plant species adapted to standing and fluctuating water levels. The middle elevation supports plants that like drier soil conditions, but can still tolerate occasional inundation by water. The outer edge is the highest elevation and generally supports plants adapted to dryer conditions. A sample of appropriate plant materials for bioretention facilities are included in Table A.4. The layout of plant material should be flexible, but should follow the general principals described in Table A.5. The objective is to have a system, which resembles a random, and natural plant layout, while maintaining optimal conditions for plant establishment and growth. For a more extensive bioretention plan, consult ETAB, 1993 or Clayton and Schueler, 1997.

OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS (M-6) AND (F-6)

- 1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDER BEYOND TREATMENT. TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WEEDS.
3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

CONSTRUCTION CRITERIA:

THE FOLLOWING ITEMS SHOULD BE ADDRESSED DURING CONSTRUCTION OF PROJECTS WITH DRY WELLS:

EROSION AND SEDIMENT CONTROL: FINAL GRADING FOR PROPOSED DRY WELLS SHOULD NOT TAKE PLACE UNTIL THE SURROUNDING SITE IS COMPLETELY STABILIZED. IF THIS CANNOT BE ACCOMPLISHED, RUNOFF FROM DISTURBED AREAS SHALL BE DIVERTED.

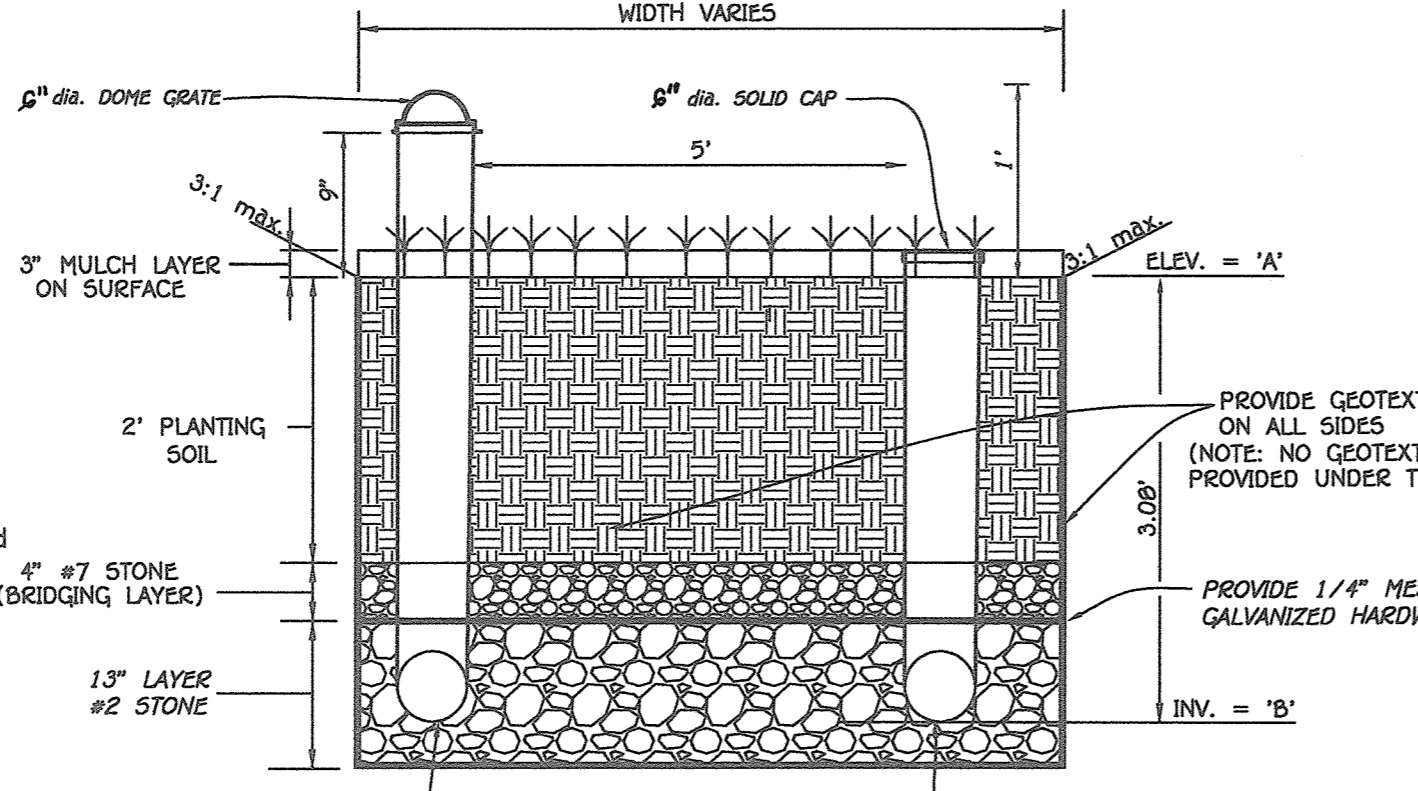
SOIL COMPACTION: EXCAVATION SHOULD BE CONDUCTED IN DRY CONDITIONS WITH EQUIPMENT LOCATED OUTSIDE OF THE PRACTICE TO MINIMIZE BOTTOM AND SIDEWALL COMPACTION. CONSTRUCTION OF A DRY WELL SHALL BE PERFORMED WITH LIGHTWEIGHT, WIDE-TRACKED EQUIPMENT TO MINIMIZE DISTURBANCE AND COMPACTION. EXCAVATED MATERIALS SHALL BE PLACED IN A CONTAINED AREA.

UNDERGROUND CHAMBER: A SUBSURFACE PREFABRICATED CHAMBER MAY BE USED.

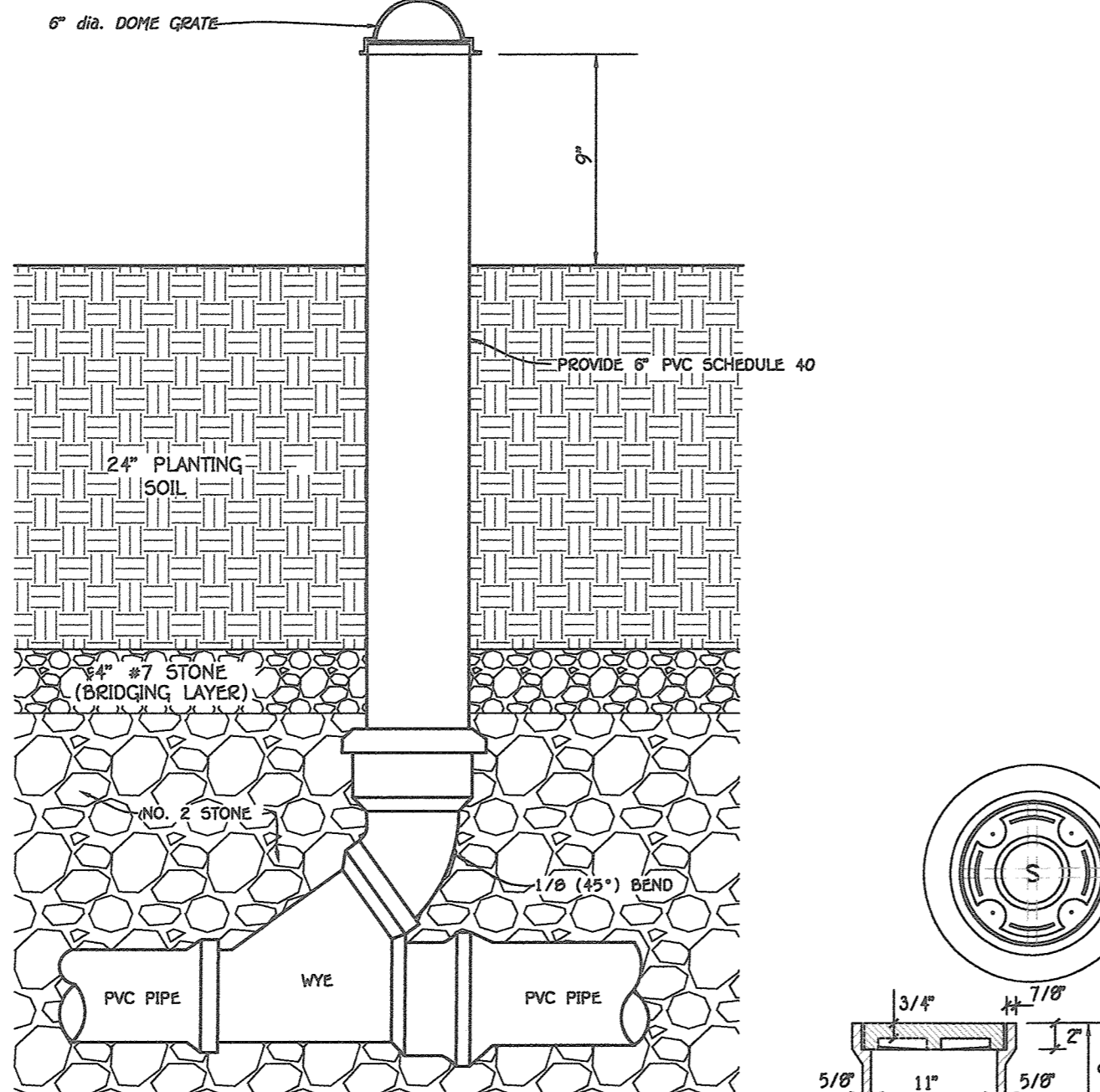
DRY WELL BOTTOM: THE BOTTOM SHALL BE AS LEVEL AS POSSIBLE TO MINIMIZE POOLED WATER IN SMALL AREAS THAT MAY REDUCE OVERALL INFILTRATION AND LONGEVITY.

FILTER CLOTH: FILTER CLOTH SHALL NOT BE INSTALLED ON THE BOTTOM OF THE WELL. NON-WOVEN FILTER CLOTH SHOULD BE USED TO LINE THE TOP AND SIDES OF THE DRY WELL TO PREVENT THE PORE SPACE BETWEEN THE STONES FROM BEING BLOCKED BY THE SURROUNDING NATIVE MATERIAL.

GRAVEL MEDIA: THE AGGREGATE SHALL BE COMPOSED OF AN 18 TO 48-INCH LAYER OF CLEAN WASHED, OPEN GRADED MATERIAL WITH 40% POROSITY (E.G., ASTM D448 4, 5, OR 6 STONE OR EQUAL).



TYPICAL SECTION - BIO-RETENTION FACILITY (F-6) NO SCALE



TYPICAL CLEAN-OUT DETAIL NO SCALE

CLEANOUT/ WATER QUALITY SAMPLING PORT DETAIL NOT TO SCALE

DRY WELL CHART table with columns: ADDRESS, LOT NO., DRYWELL NUMBER, NO. OF DOWNDRAWS, AREA OF ROOF, VOLUME REQUIRED, VOLUME PROVIDED, AREA OF STORAGE, AREA OF TREATMENT, NO. OF DRYWELLS, and DIMENSIONS OF DRYWELLS. The table lists 54 rows of data for various addresses in the Vincennes and Flutie Lane areas.

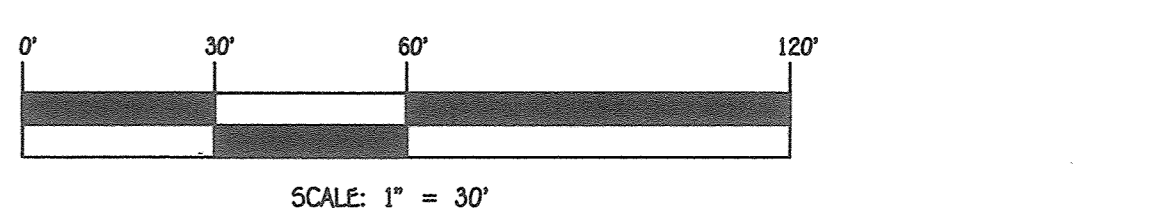
NOTES: 1) DRYWELL DIMENSIONS SHOWN ARE BASED ON TREATMENT OF 50% OF THE AREA OF THE GENERIC BOX AREA PROPOSED FOR THE LOT ASSUMING THAT THE FRONT PORTION (50%) OF THE ROOF AREA OF THE PROPOSED HOUSE SPECIFIED WITHIN THE GENERIC BOX WILL BE CAPTURED UNDER THE SWM PRACTICES PROPOSED UNDER F14-081 2) A MODIFICATION TO THE STORAGE REQUIREMENT (DRYWELL SIZE) MAY BE DETERMINE WHEN THE ACTUAL HOUSE TYPE IS SITED ON THE INDIVIDUAL LOT.

B.4.C Specifications for Micro-Bioretention, Rain Gardens, Landscape Infiltration & Infiltration Berms

- 1. Material Specifications: The allowable materials to be used in these practices are detailed in Table B.4.1.
2. Filtering Media or Planting Soil: The soil shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches. No other materials or substances shall be mixed or dumped within the micro-bioretention practice that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda grass, Quackgrass, Johnson grass, or other noxious weeds as specified under COMAR 15.08.01.05.
The planting soil shall be tested and shall meet the following criteria: Soil Component - Loamy Sand or Sandy Loam (USDA Soil Textural Classification) Organic Content - Minimum 10% by dry weight (ASTM D 2974). In general, this can be met with a mixture of loamy sand (60%-65%) and compost (35% to 40%) or sandy loam (30%), coarse sand (30%), and compost (40%).
Clay Content - Media shall have a clay content of less than 5%.
pH Range should be between 5.5 - 7.0. Amendments (e.g., lime, iron sulfate plus sulfur) may be mixed into the soil to increase or decrease pH.
There shall be at least one soil test per project. Each test shall consist of both the standard soil test for pH, and additional tests of organic matter and soil salinity. A textural analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.
3. Compaction: It is very important to minimize compaction of both the base of bioretention practices and the required backfill. When possible, use excavation hoses to remove original soil. If practices are excavated using a loader, the contractor should use wide track or marsh track equipment, or light equipment with turf tire tires. Use of equipment with narrow tracks or narrow tires, rubber tires with large lugs, or high-pressure tires will cause excessive compaction resulting in reduced infiltration rates and is not acceptable. Compaction will significantly contribute to design failure.
Compaction can be alleviated at the base of the bioretention facility by using a primary tilling operation such as a chisel plow, ripper, or subsoiler. These tilling operations are to restructure the soil profile through the 12 inch compaction zone. Substitute methods must be approved by the engineer. Rototillers typically do not till deep enough to reduce the effects of compaction from heavy equipment.
Rototill 2 to 3 inches of sand into the base of the bioretention facility before backfilling the optional sand layer. Pump any ponded water before preparing (rototilling) base.
When backfilling the topsoil over the sand layer, first place 3 to 4 inches of topsoil over the sand, then rototill the sand/topsoil to create a gradation zone. Backfill the remainder of the topsoil to final grade.
When backfilling the bioretention facility, place soil in lifts 12" to 18". Do not use heavy equipment within the bioretention basin. Heavy equipment can use around the perimeter of the basin to supply soil and sand. Grade bioretention materials with light equipment such as a compact loader or a dozer/loader with marsh tracks.
4. Plant Material: Recommended plant material for micro-bioretention practices can be found in Appendix A, Section A.2.3.
5. Plant Installation: Compost is a better organic material source, is less likely to float, and should be placed in the invert and lower areas. Mulch should be placed in surrounding to a uniform thickness of 2" to 3" shredded or chipped hardwood mulch is the only accepted mulch. Pine mulch and wood chips will float and move to the perimeter of the bioretention area during a storm event and are not acceptable. Shredded mulch must be well aged (6 to 12 months) for acceptance.
Rootstock of the plant material shall be kept moist during transport and on-site storage. The plant root ball should be planted so 1/8" of the ball is above final grade surface. The diameter of the planting pit shall be at least six inches larger than the diameter of the planting ball. Set and maintain the plant straight during the entire planting process. Thoroughly water ground bed after establishment.
Trees shall be braced using 2" by 2" stakes only as necessary and for the first growing season only. Stakes are to be equally spaced on the outside of the tree ball.
Grasses and legume seeds should be drilled into the soil to a depth of at least one inch. Grass and legume plugs shall be planted following the non-grass grade cover planting specifications.
The topsoil specifications provide enough organic material to adequately supply nutrients from natural cycling. The primary function of the bioretention structure is to improve water quality. Adding fertilizers, debris, or at a minimum, impedes this goal. Only add fertilizer if wood chips or mulch are used to amend the soil. Rototill used fertilizer at a rate of 2 pounds per 1000 square feet.
6. Underdrains: Underdrains should meet the following criteria: Pipe - Should be 4" to 6" diameter, slotted or perforated rigid plastic pipe (ASTM F 756, Type PS 28, or AASHTO-M-278) in a gravel layer. The preferred material is 'slotted, 4 inch pipe (e.g., PVC or HDPE). Perforations - If perforated pipe is used, perforations should be 3/8" diameter located 6" on center with a minimum of four holes per row. Pipe shall be wrapped with a 1/4" (No. 4 or 6x4) galvanized hardware cloth. Gravel - The gravel layer (No. 57 stone preferred) shall be at least 3" thick above and below the underdrain.
The main collector pipe shall be at a minimum 0.5% slope. A rigid, non-perforated observation well must be provided (one per every 1,000 square feet) to provide a clean-out port and monitor performance of the filter.
A 4' layer of pea gravel (1/4" to 3/8" stone) shall be located between the filter media and underdrain to prevent migration of fines into the underdrain. This layer may be considered part of the filter bed when bed thickness exceeds 24".
The main collector pipe for underdrain systems shall be constructed at a minimum slope of 0.5%. Observation wells and/or clean-out pipes must be provided (one minimum slope every 1,000 square feet of surface area).
7. Miscellaneous: These practices may not be constructed until all contributing drainage area has been stabilized.

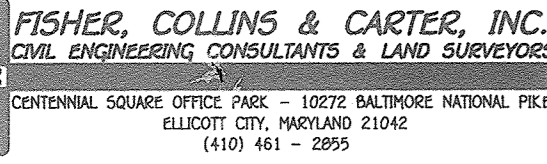
STORMWATER MANAGEMENT NOTES

- 1. STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH WITH CHAPTER 5, "ENVIRONMENTAL SITE DESIGN" OF THE 2007 MARYLAND STORMWATER MANAGEMENT DESIGN MANUAL, EFFECTIVE MAY 4, 2010.
2. MAXIMUM CONTRIBUTING ROOF TOP AREA TO EACH DOWNSPOUT SHALL BE 1,000 SQ. FT. OR LESS.
3. DRYWELLS SHALL BE PROVIDED AT LOCATIONS WHERE THE LENGTH OF DISCONNECTION IS LESS THAN 75' AT 5%. THE SIZE AND CONSTRUCTION OF THE DRYWELL SHALL BE IN ACCORDANCE WITH THE DETAIL SHOWN ON THIS SHEET.
4. FINAL GRADING IS SHOWN ON THIS SITE DEVELOPMENT PLAN.



STORMWATER MANAGEMENT NOTES & DETAILS

Professional certification and owner/developer information. Includes 'PROFESSIONAL CERTIFICATION' by Howard County Department of Planning and Zoning, signed by K. J. Johnson on 10-26-17. Also includes owner and developer details for 'ENCLAVE AT RIVER HILL', listing property addresses, parcel numbers, and owner/developer names and addresses.

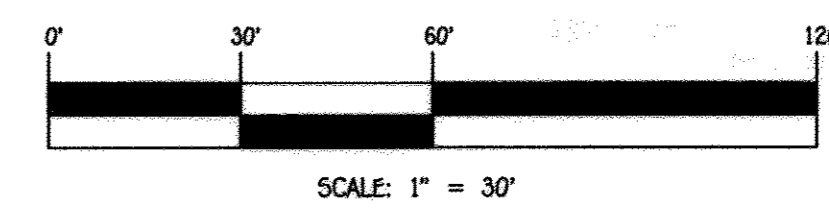
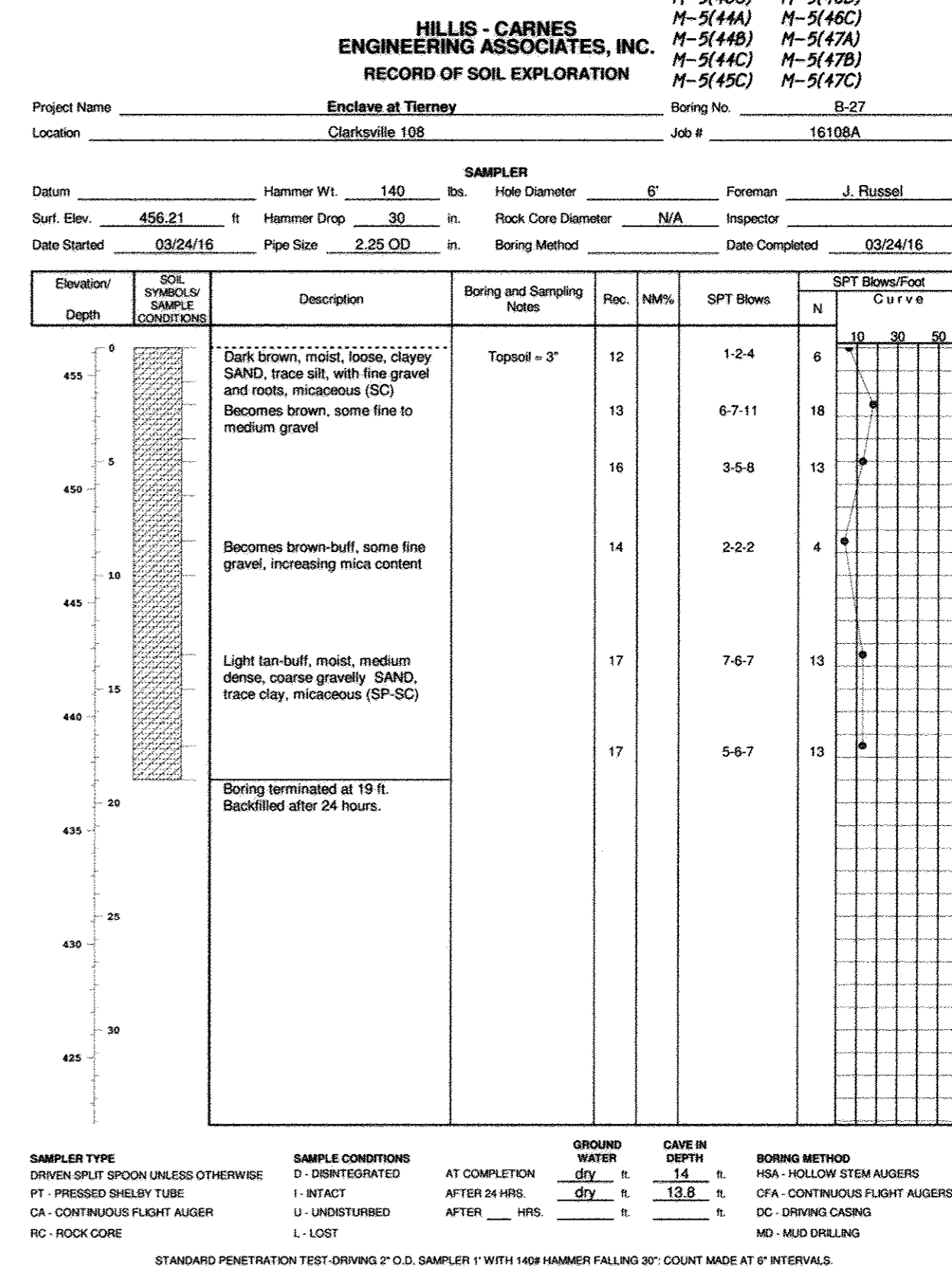
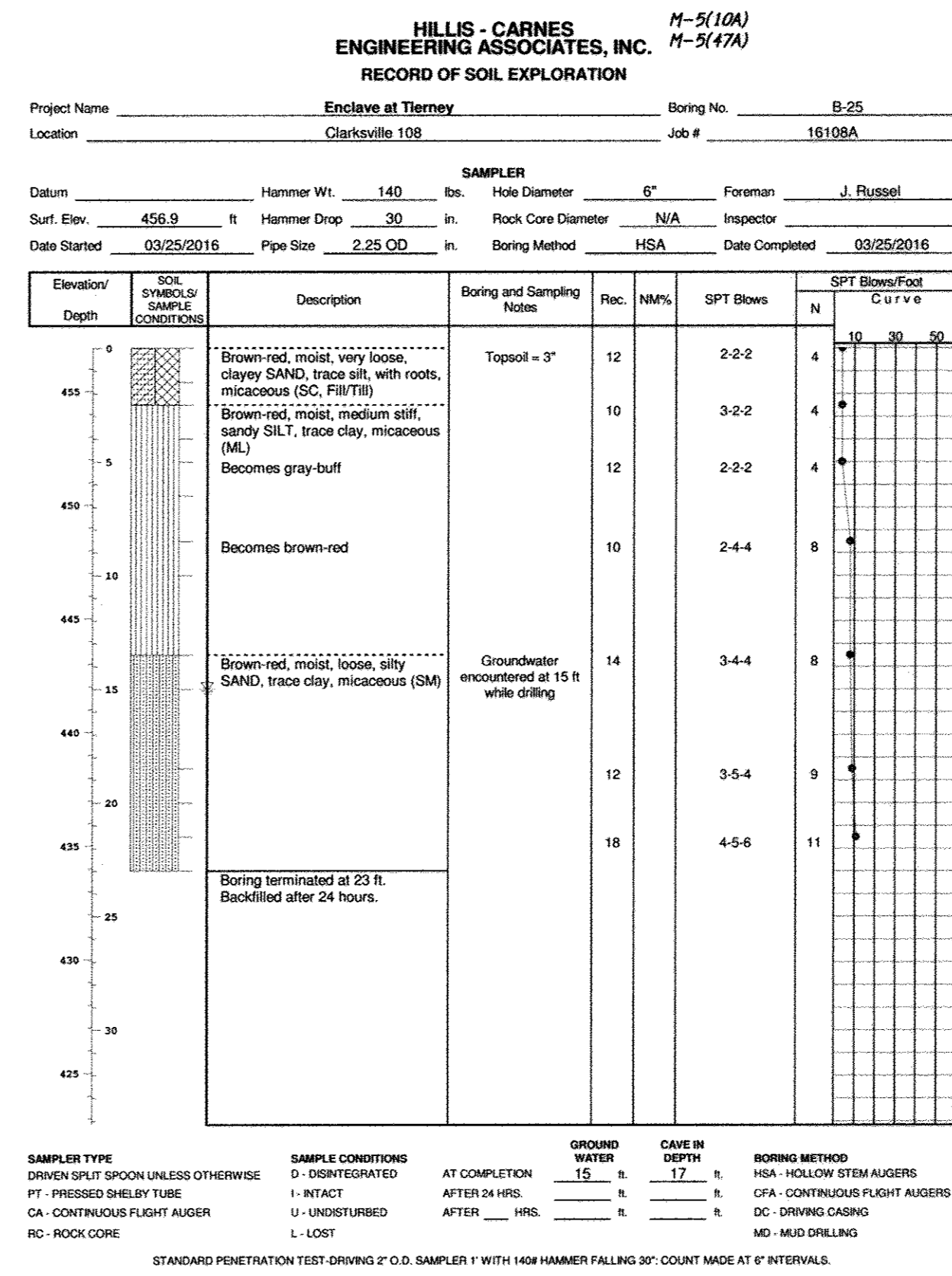
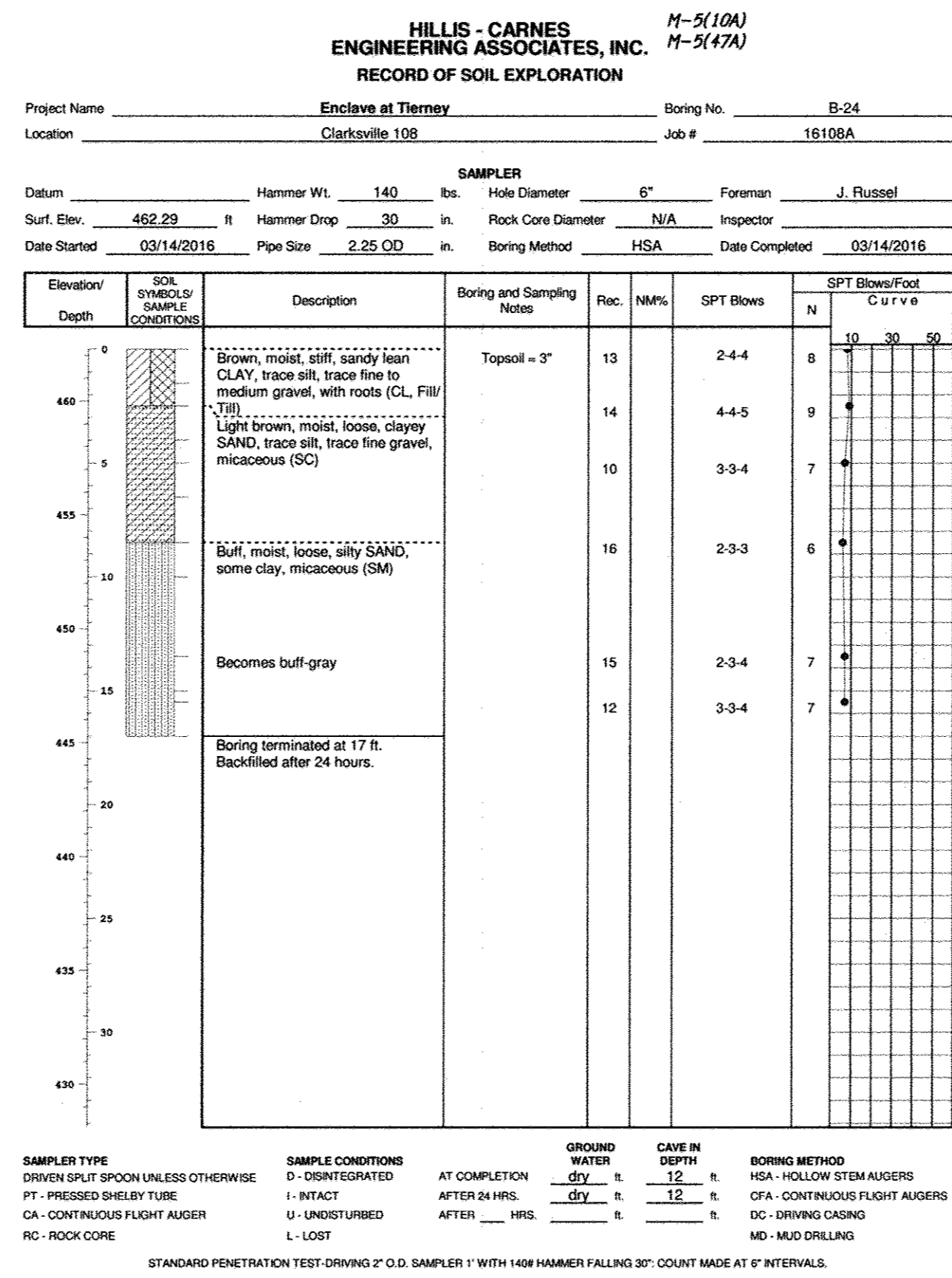
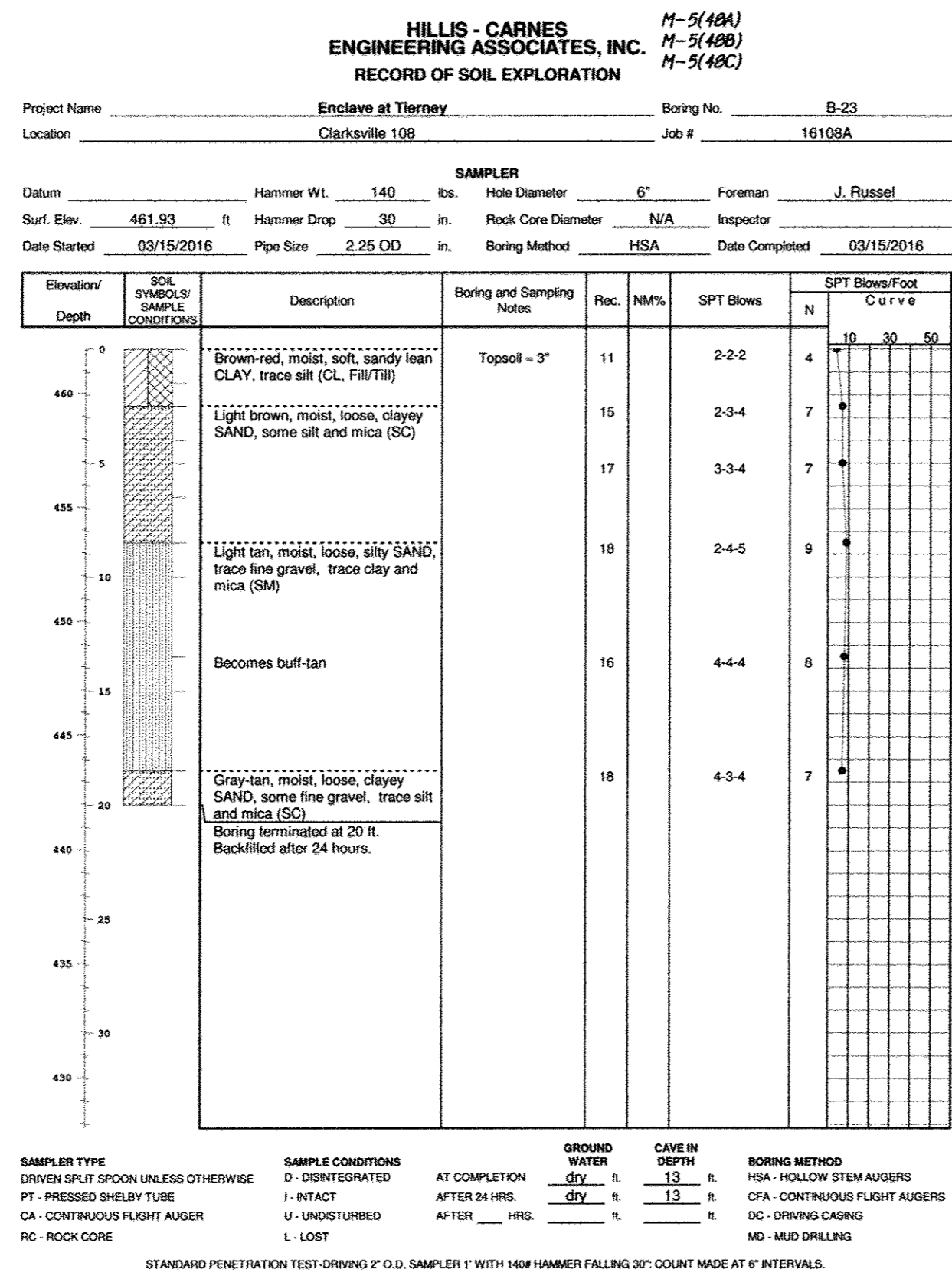
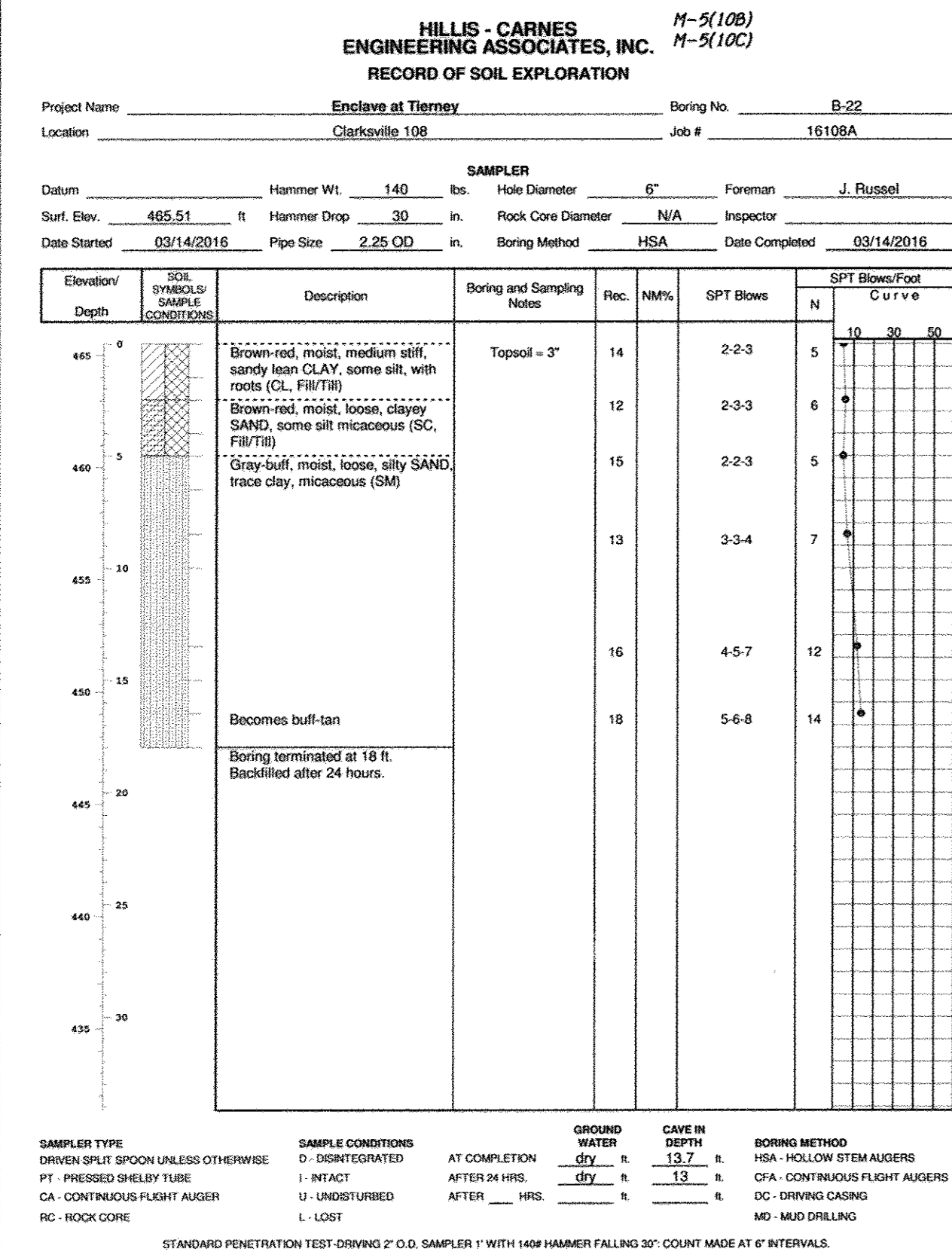
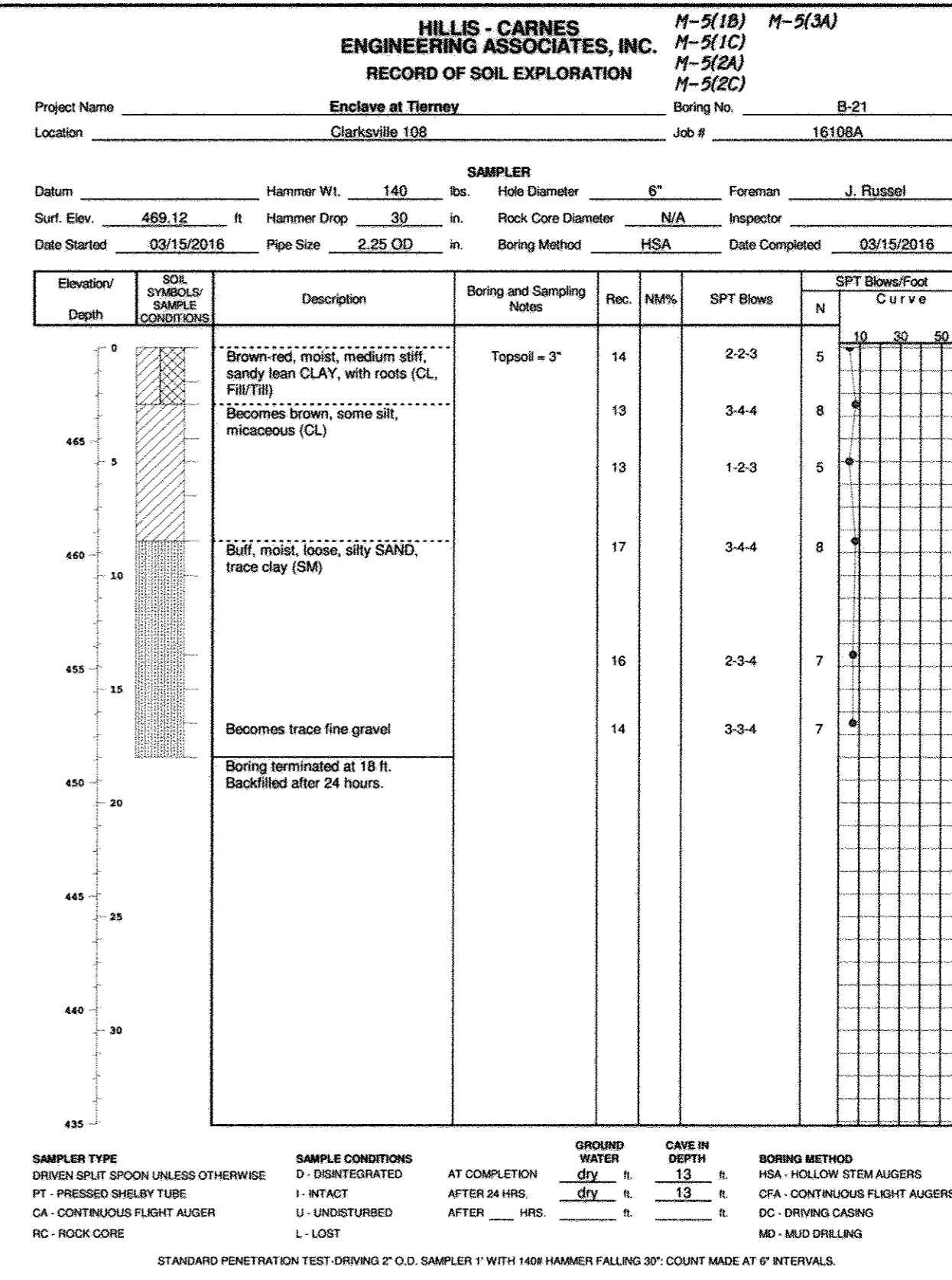
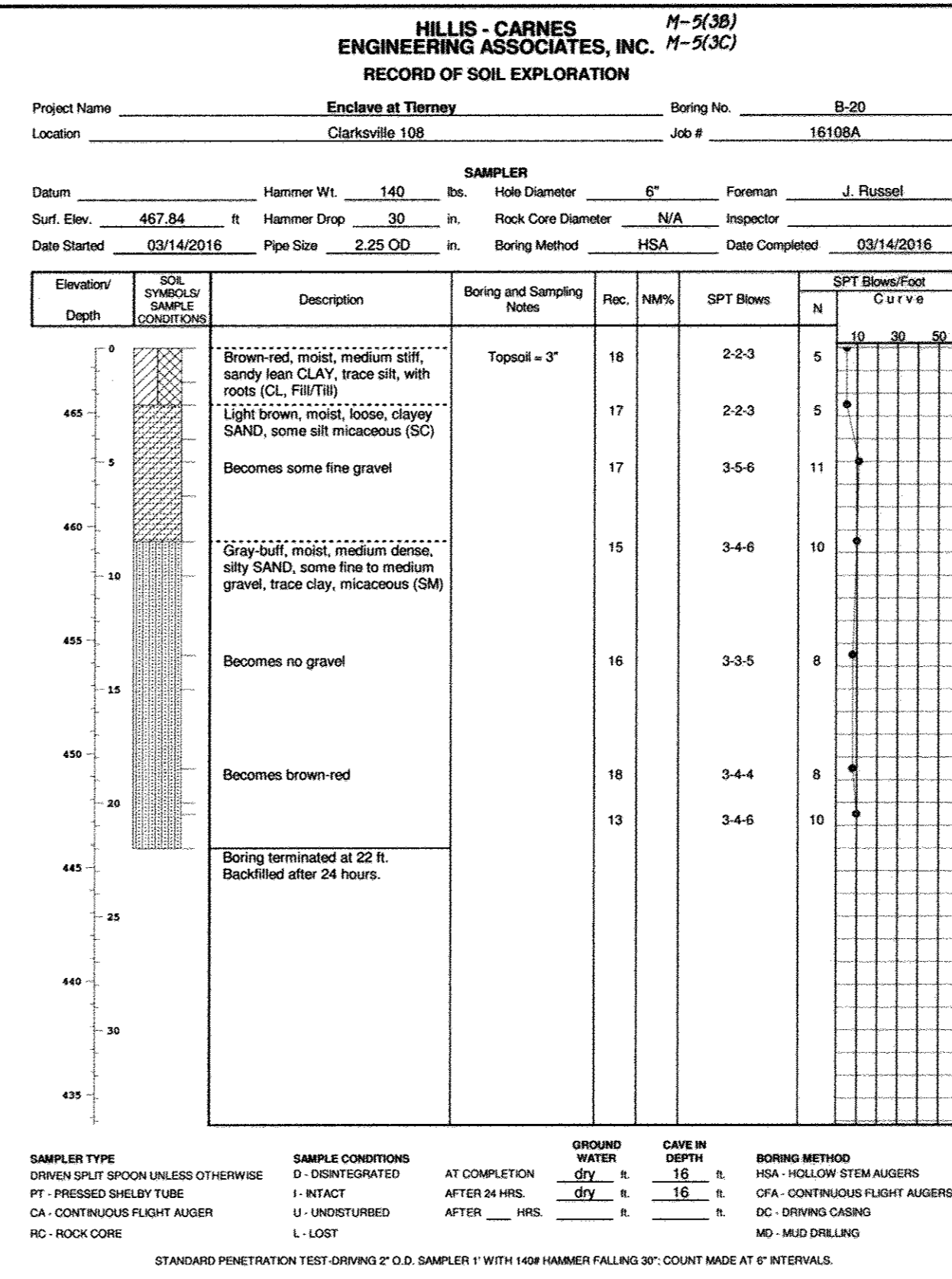
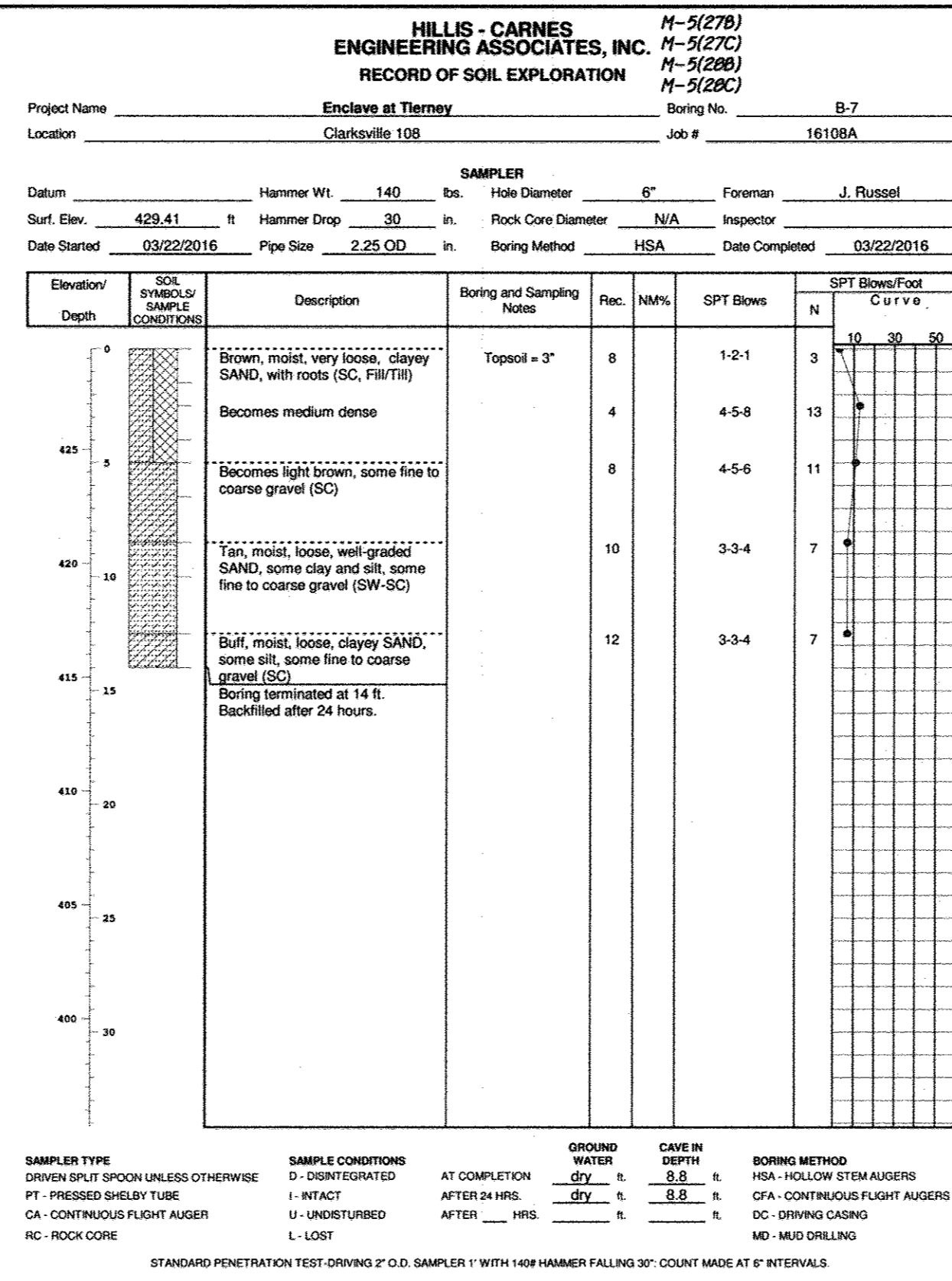
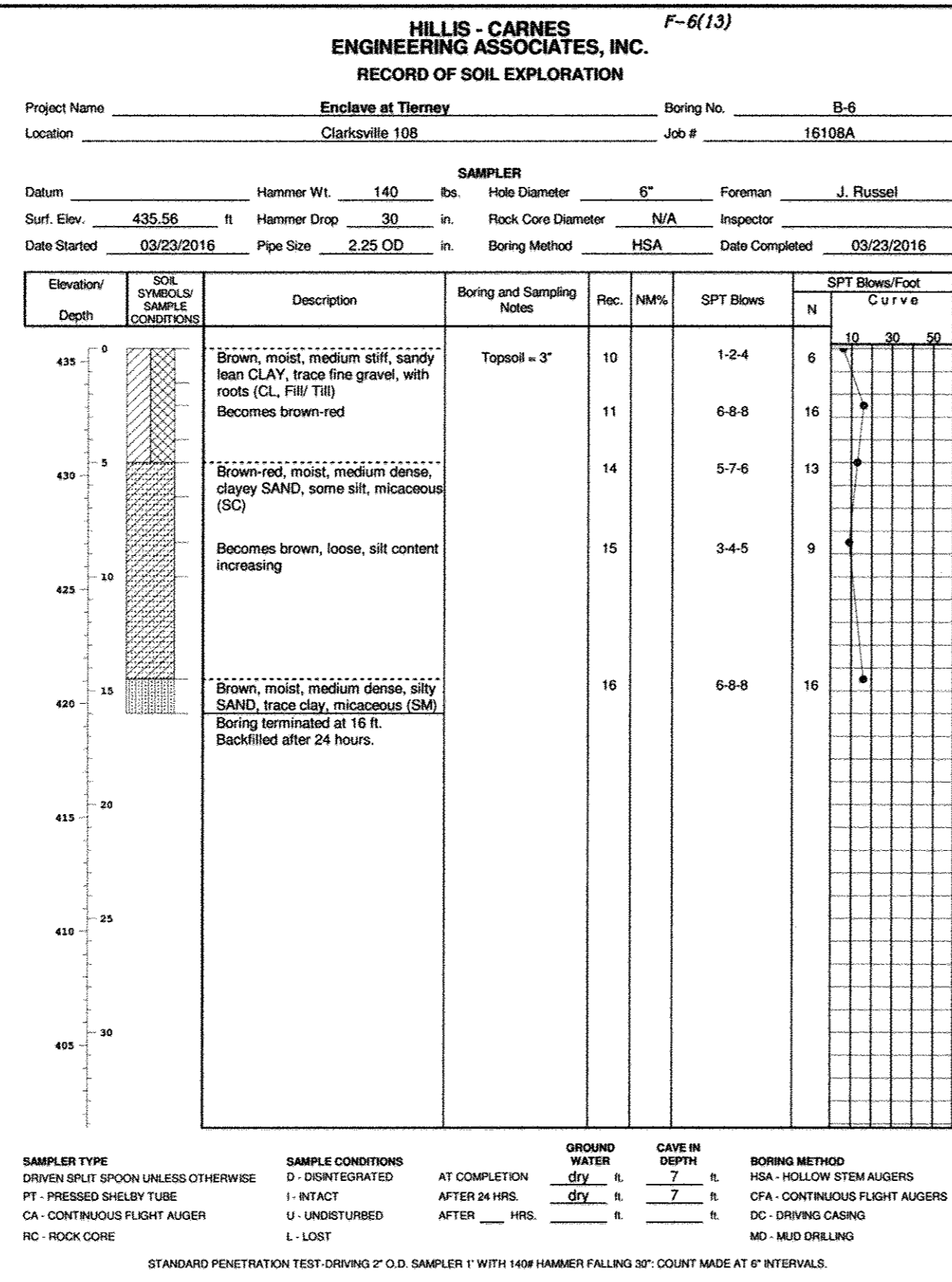
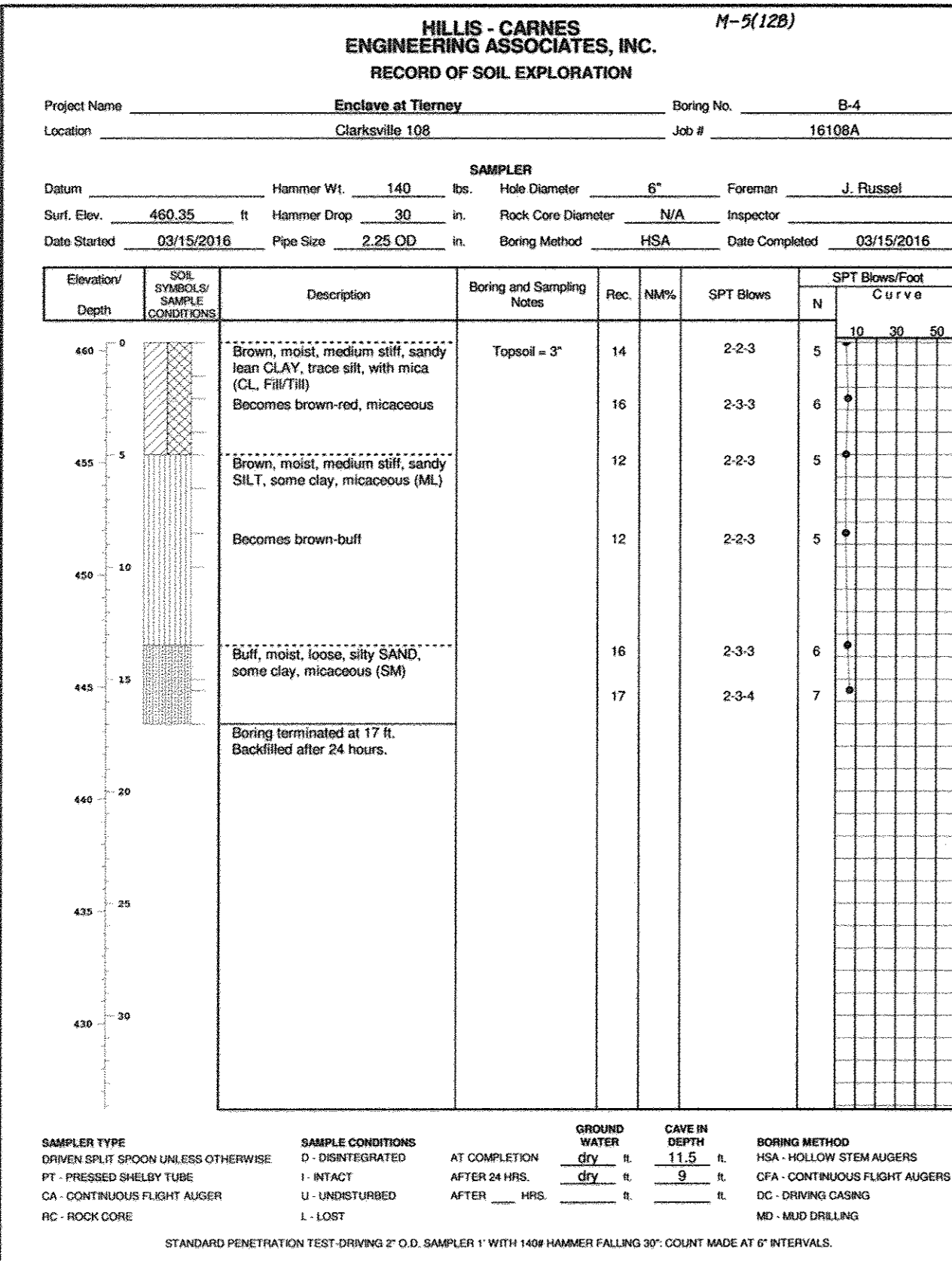


PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE, 7/14/19. Signed by K. J. Johnson on 10/26/17.

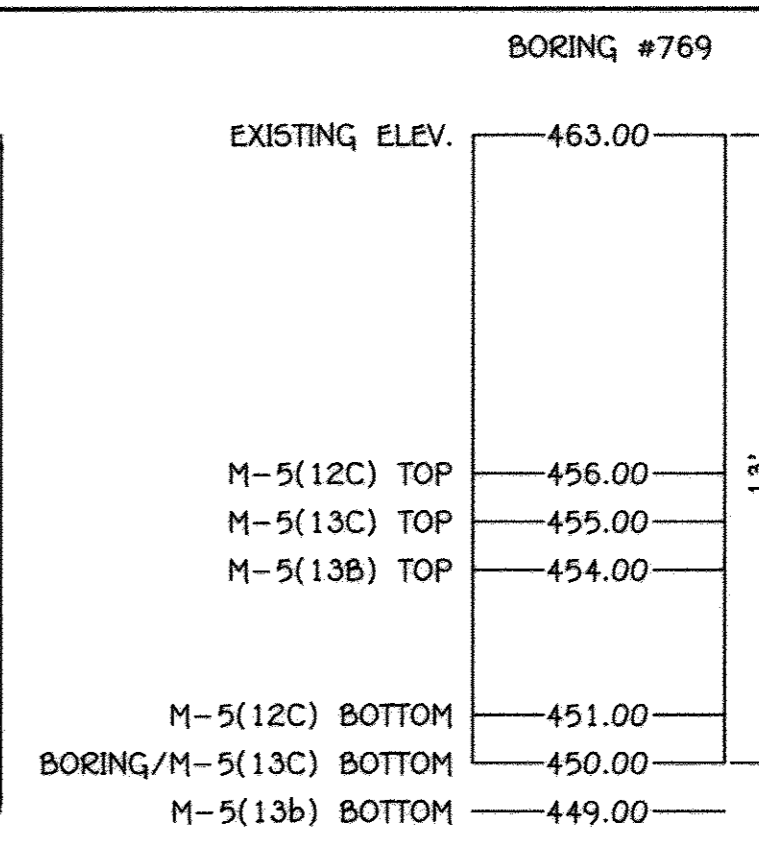
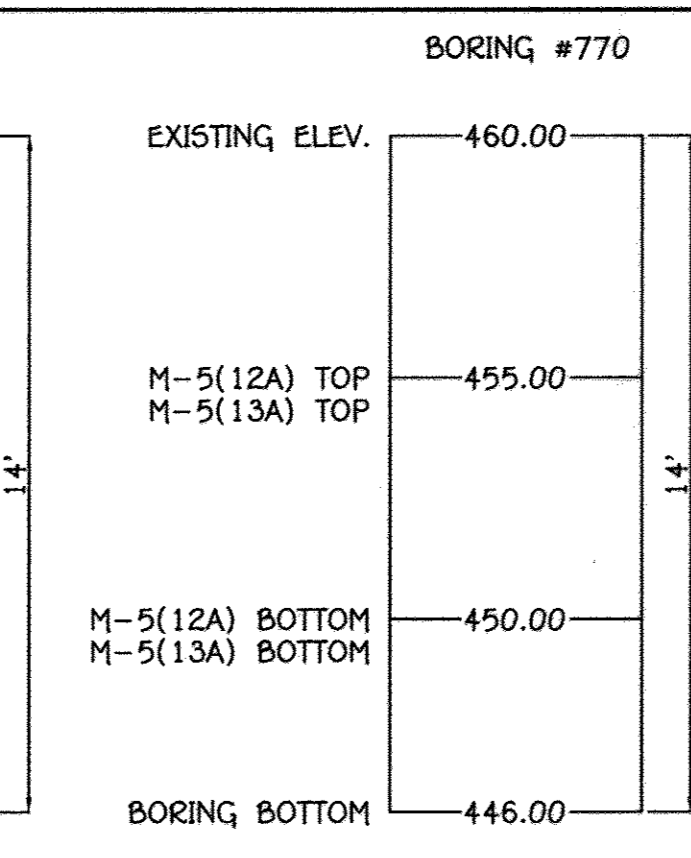
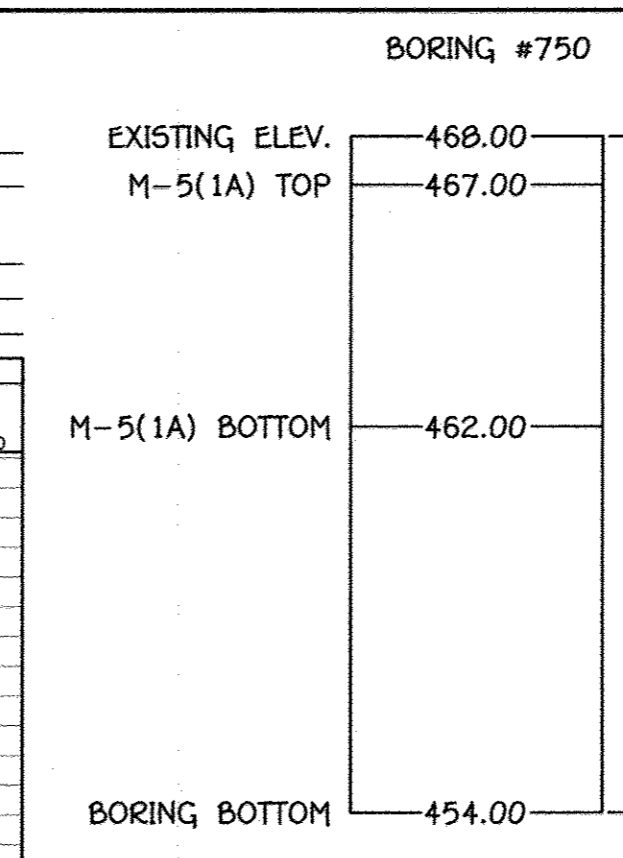
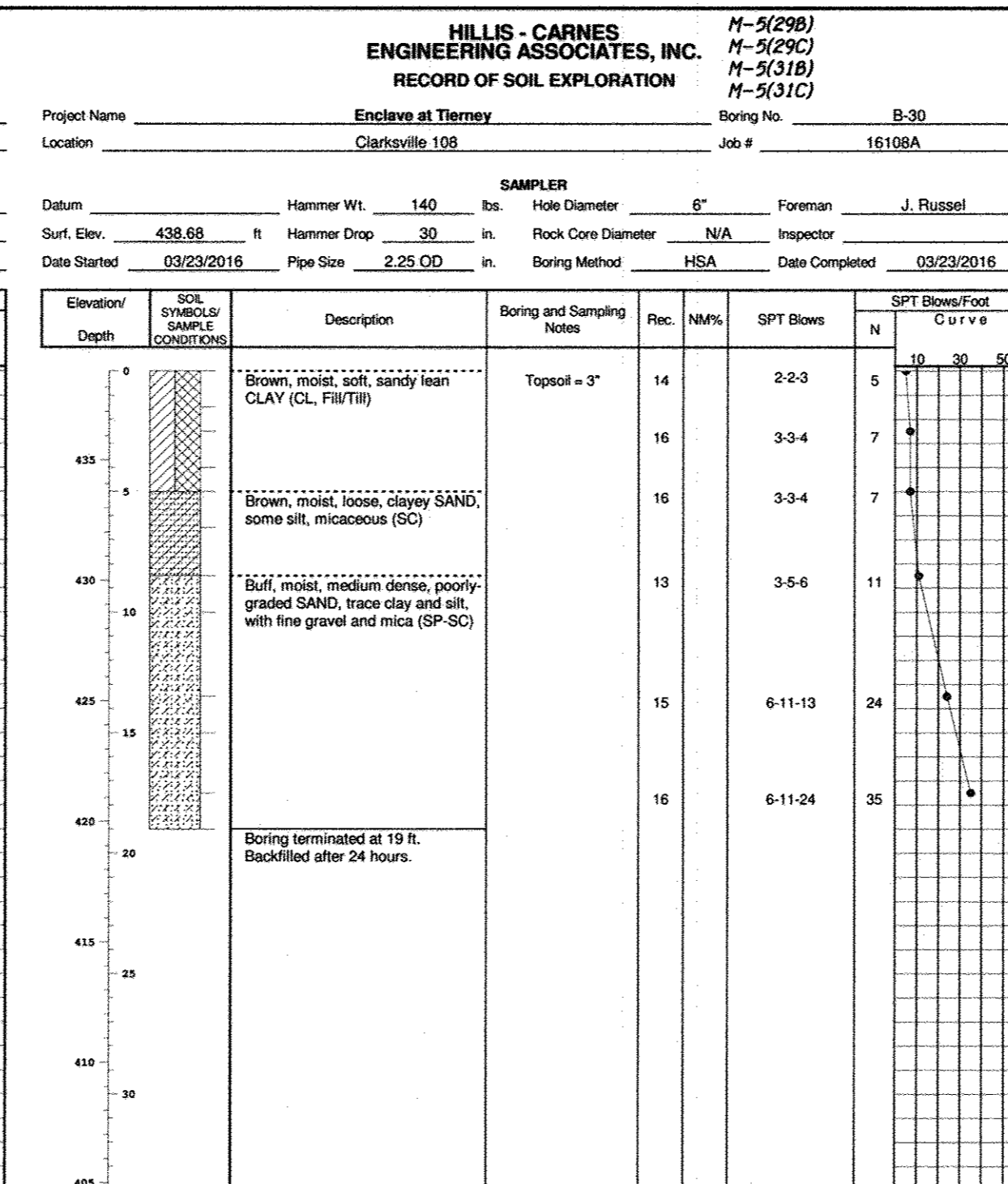
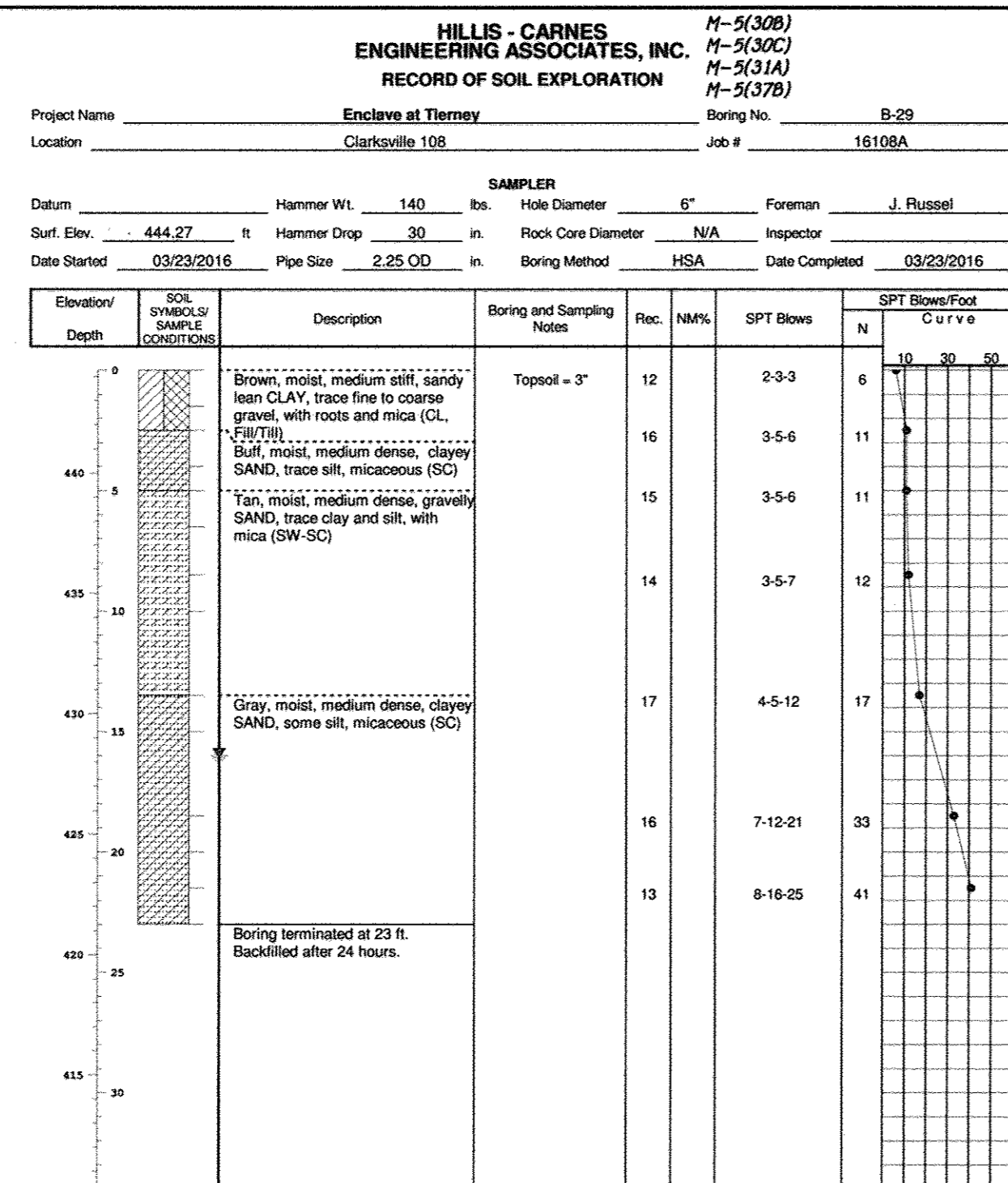
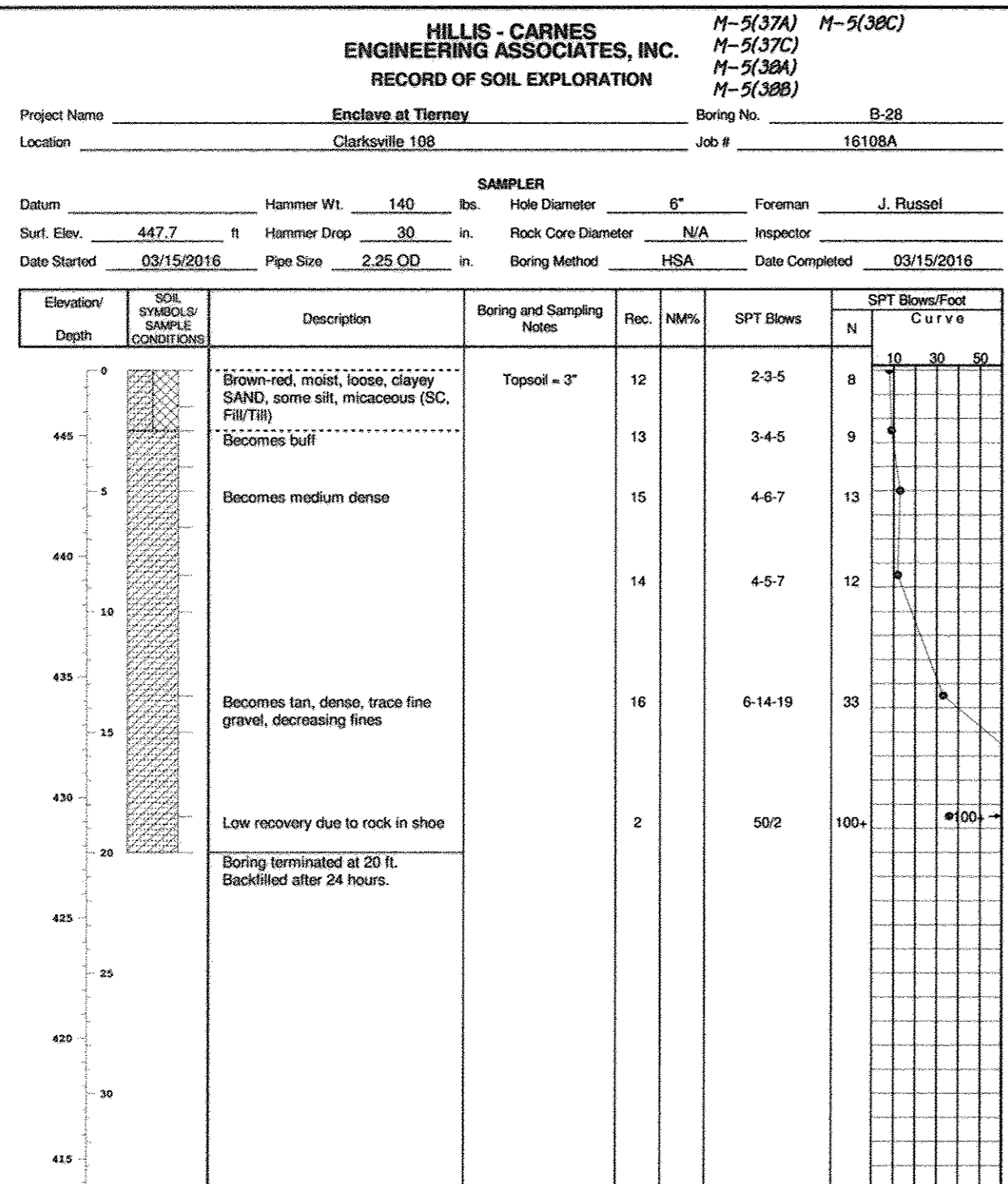
Table with 4 columns: NO., REVISION, DATE. Row 1: 1, PROVIDE LINEAR DRAIN SUBSTITUTION & CHANGE GRADE OF DRAINAGE, 10/27/19.

OWNERS: TRESNEY FARMS-CLARKSVILLE, LP. 24151 VENTURE BOULEVARD CALABASAS, CALIFORNIA 91302 (818)-395-3697. DEVELOPER: BRAZIER HOMES, LLC 8965 GUILFORD ROAD SUITE 290 COLUMBIA, MARYLAND 21046 (765)-894-0182.

Table with columns: APPROVED, CHIEF, DATE, PROJECT, PHASE, PARCEL NOS., PLAT, BLOCK NO., ZONE, TAX/ZONE, ELEC. DIST., CENSUS TR. Includes information for Howard County Department of Planning and Zoning and specific project details for Enclave at River Hill.



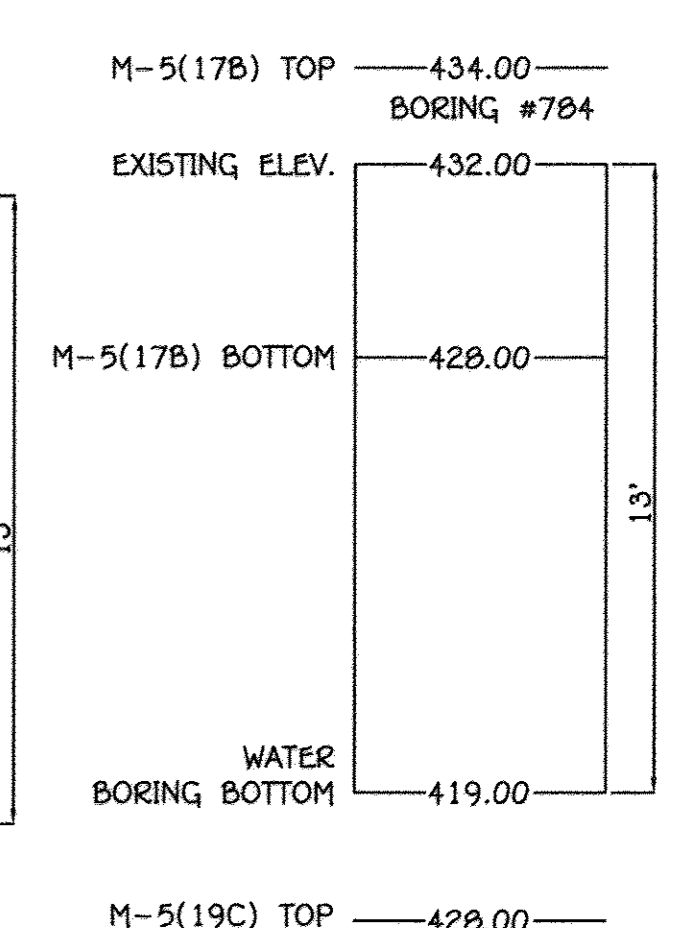
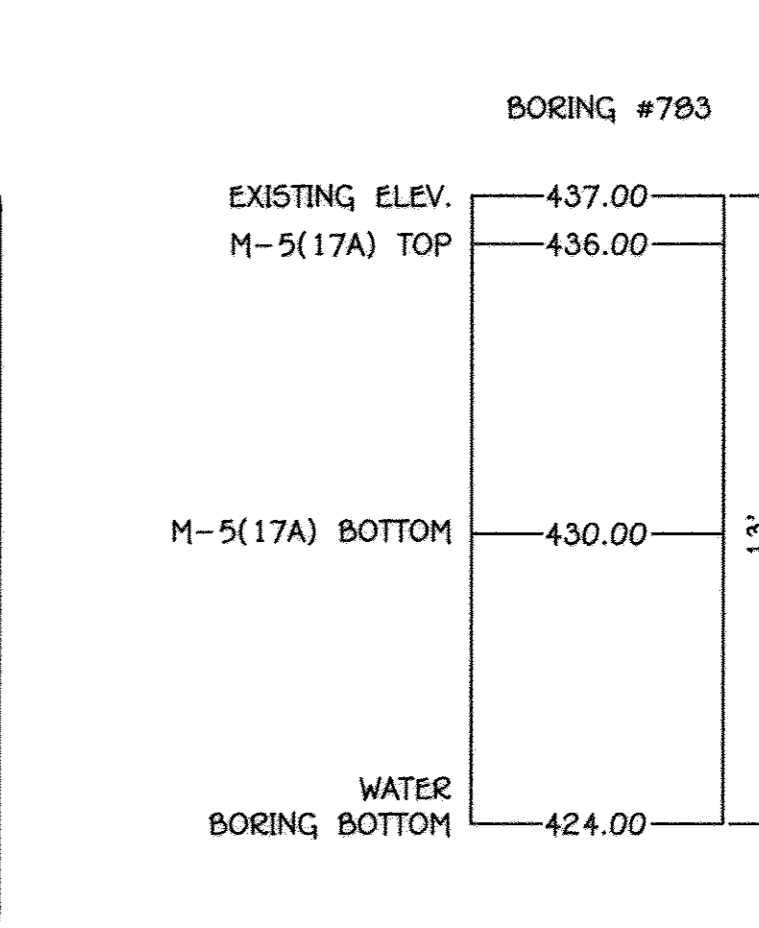
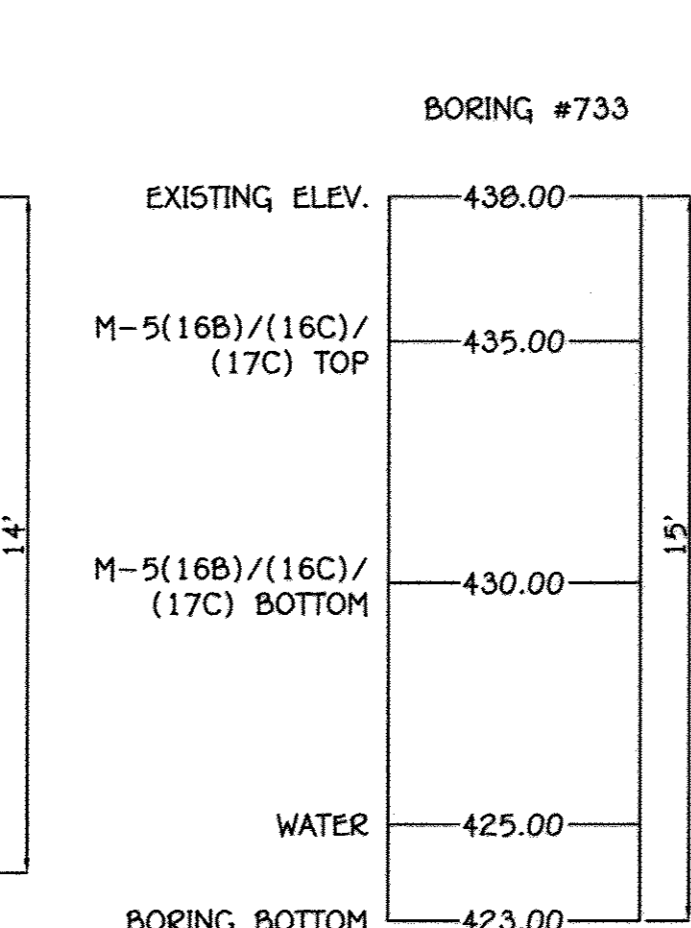
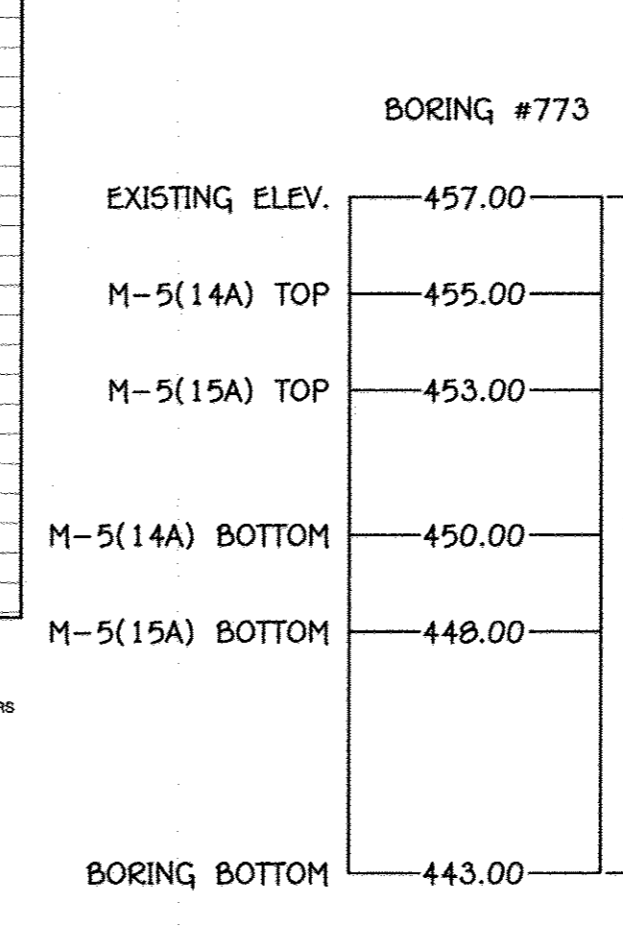
FISHER, COLLINS & CARTER, INC.
CONSULTING ENGINEERS &



SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED
SAMPLE CONDITIONS: D - DISINTEGRATED, I - INTACT, U - UNDISTURBED, L - LOST
GROUND WATER: AT COMPLETION, AFTER 24 HRS.
CAVE IN DEPTH: 17 ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS, CFA - CONTINUOUS FLIGHT AUGERS, DC - DRIVING CASING, MD - MUD DRILLING

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED
SAMPLE CONDITIONS: D - DISINTEGRATED, I - INTACT, U - UNDISTURBED, L - LOST
GROUND WATER: AT COMPLETION, AFTER 24 HRS.
CAVE IN DEPTH: 16 ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS, CFA - CONTINUOUS FLIGHT AUGERS, DC - DRIVING CASING, MD - MUD DRILLING

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED
SAMPLE CONDITIONS: D - DISINTEGRATED, I - INTACT, U - UNDISTURBED, L - LOST
GROUND WATER: AT COMPLETION, AFTER 24 HRS.
CAVE IN DEPTH: 12.2 ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS, CFA - CONTINUOUS FLIGHT AUGERS, DC - DRIVING CASING, MD - MUD DRILLING



HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Enclave at Tierney
Location: Clarksville 108
Boring No.: B-31
Job #: 16108A

Datum: Hammer Wt. 140 lbs. Hole Diameter 6" Foreman J. Russel
Surf. Elev. 421.32 ft Hammer Drop 30 in. Rock Core Diameter N/A Inspector
Date Started 03/24/2016 Pipe Size 2.25 OD in. Boring Method HSA Date Completed 03/24/2016

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

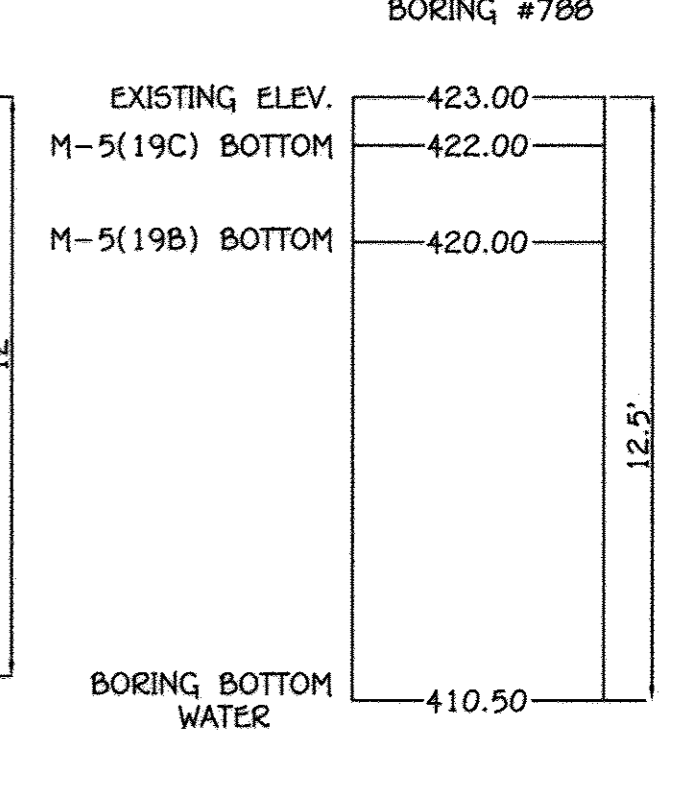
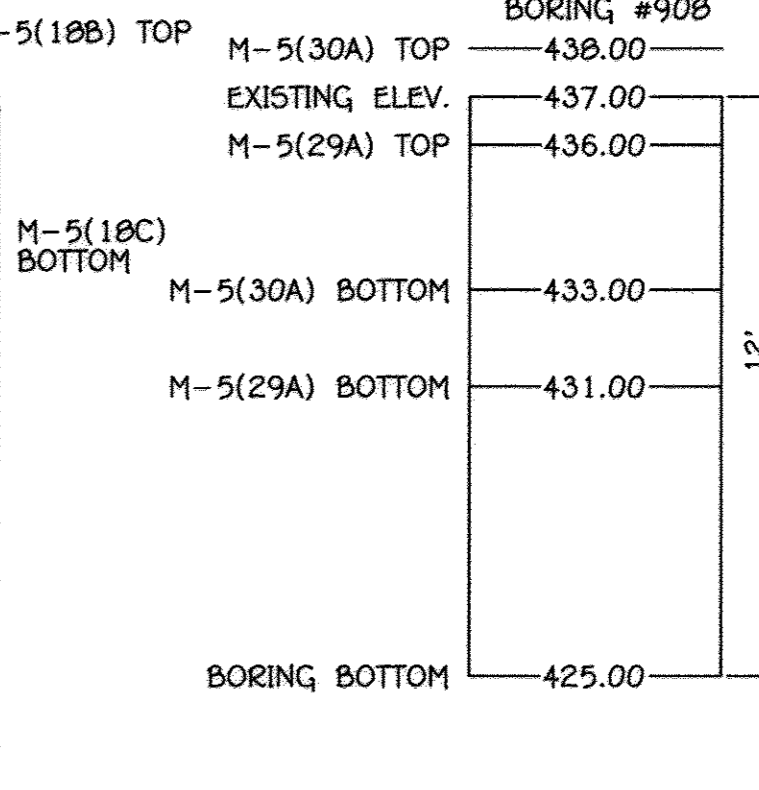
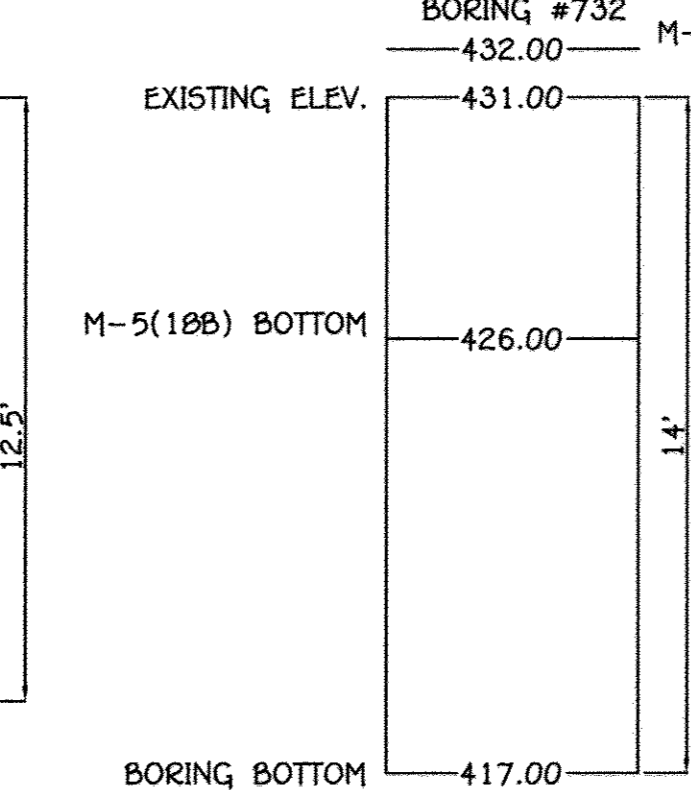
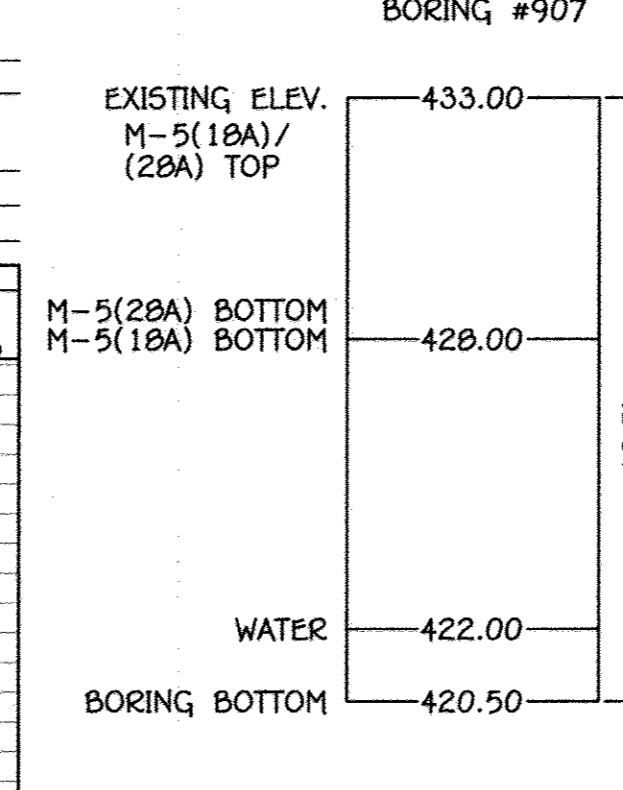
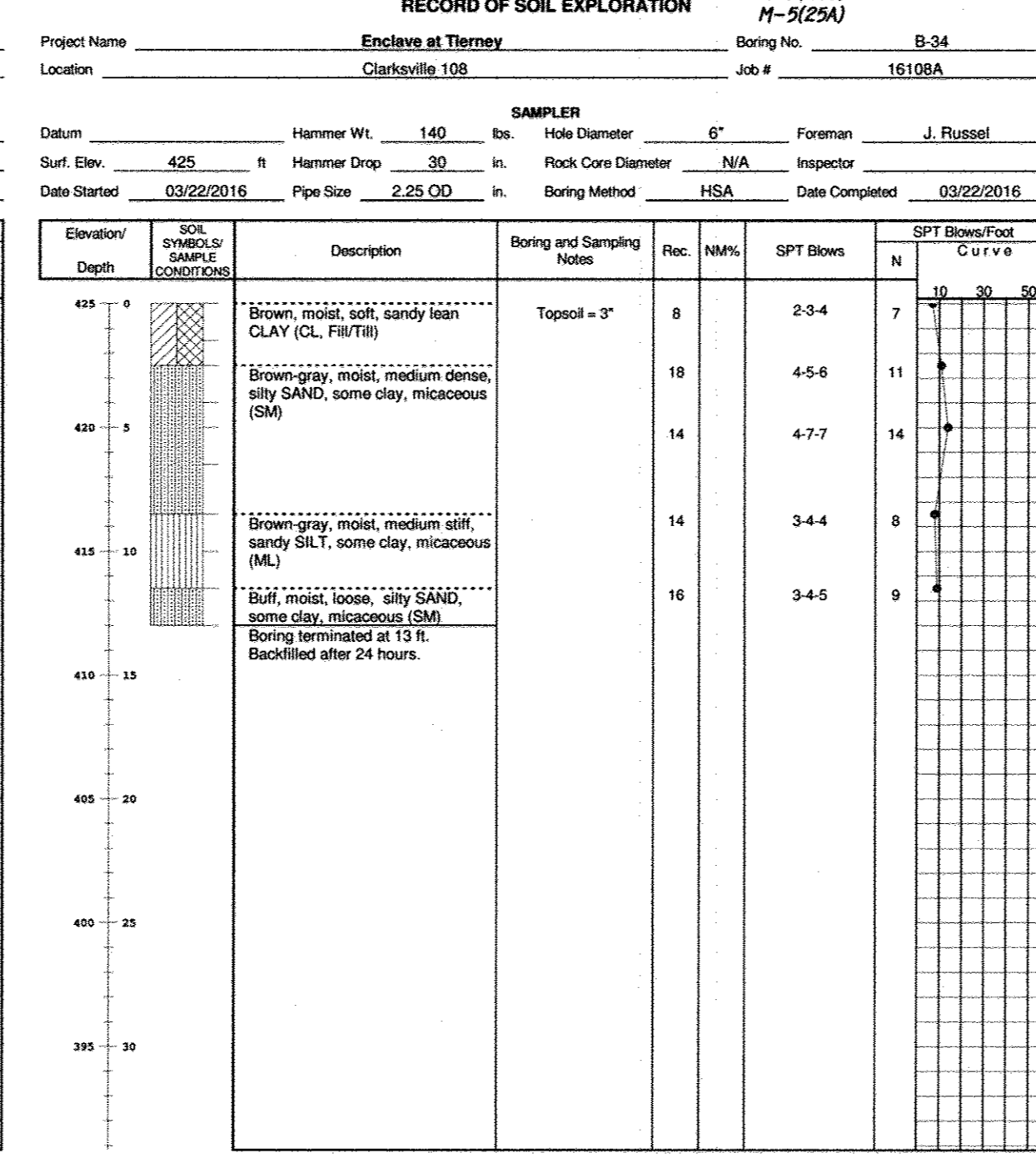
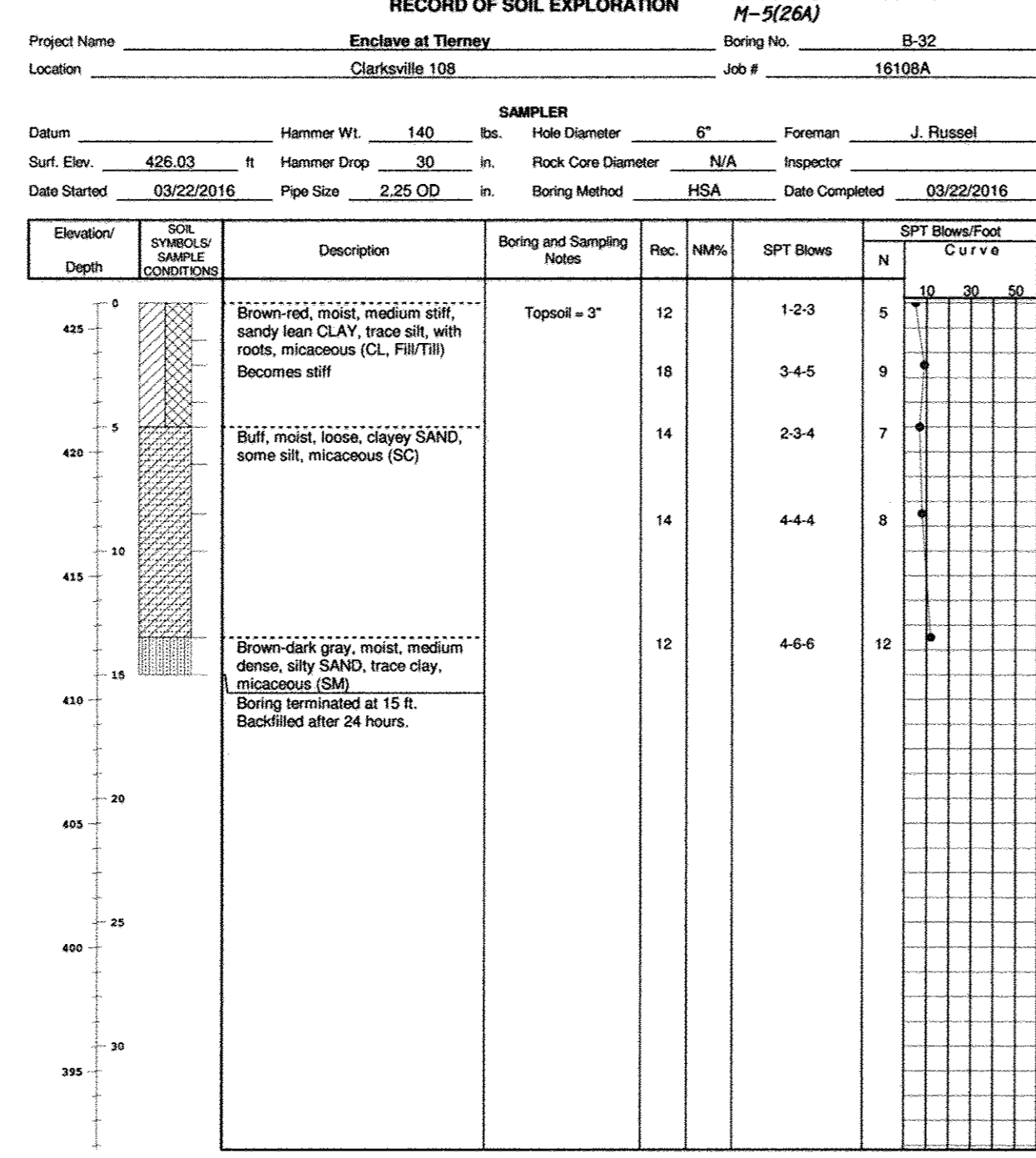
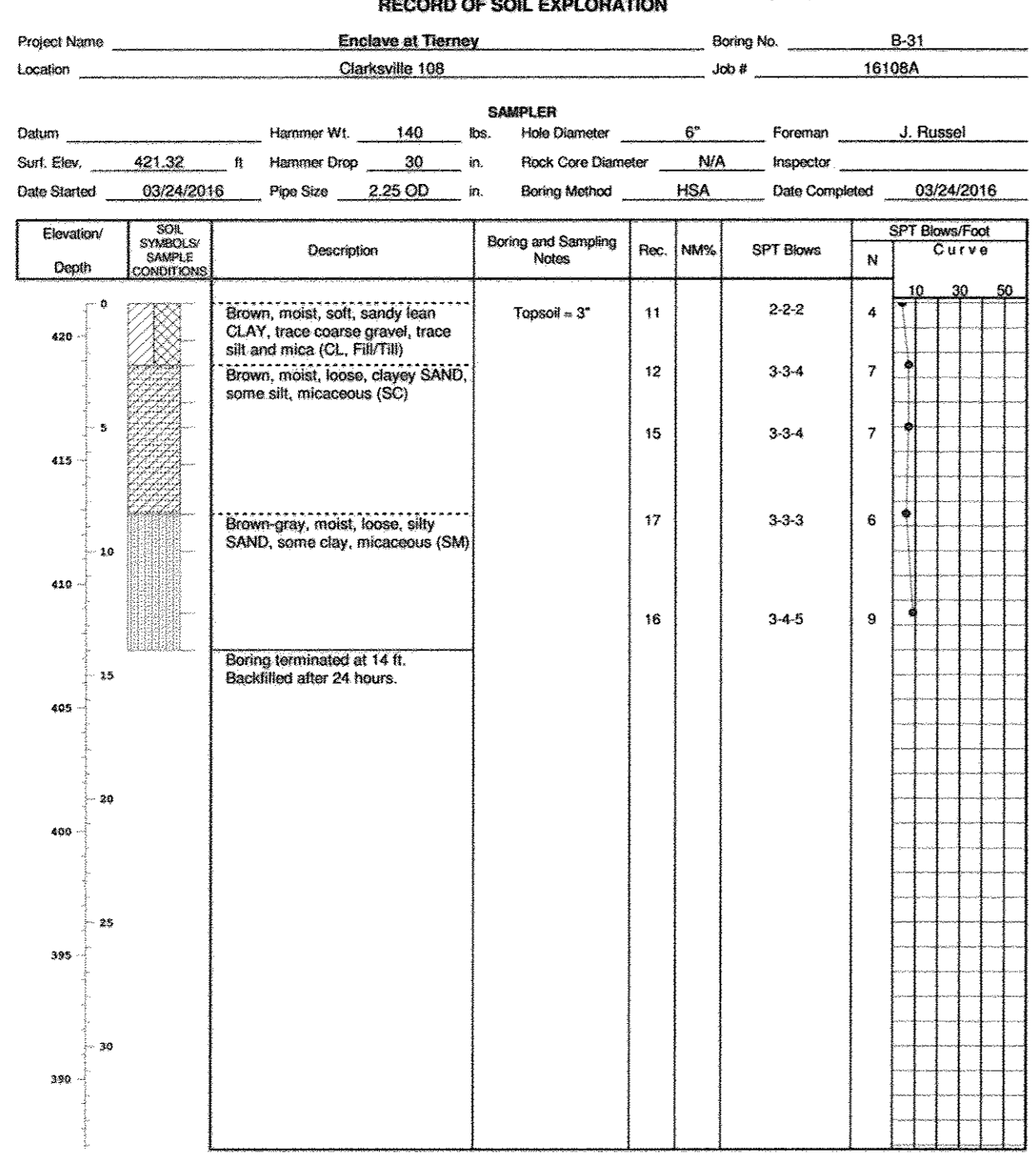
Project Name: Enclave at Tierney
Location: Clarksville 108
Boring No.: B-32
Job #: 16108A

Datum: Hammer Wt. 140 lbs. Hole Diameter 6" Foreman J. Russel
Surf. Elev. 426.03 ft Hammer Drop 30 in. Rock Core Diameter N/A Inspector
Date Started 03/22/2016 Pipe Size 2.25 OD in. Boring Method HSA Date Completed 03/22/2016

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Enclave at Tierney
Location: Clarksville 108
Boring No.: B-34
Job #: 16108A

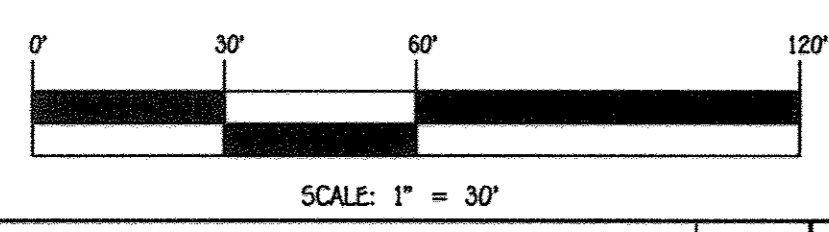
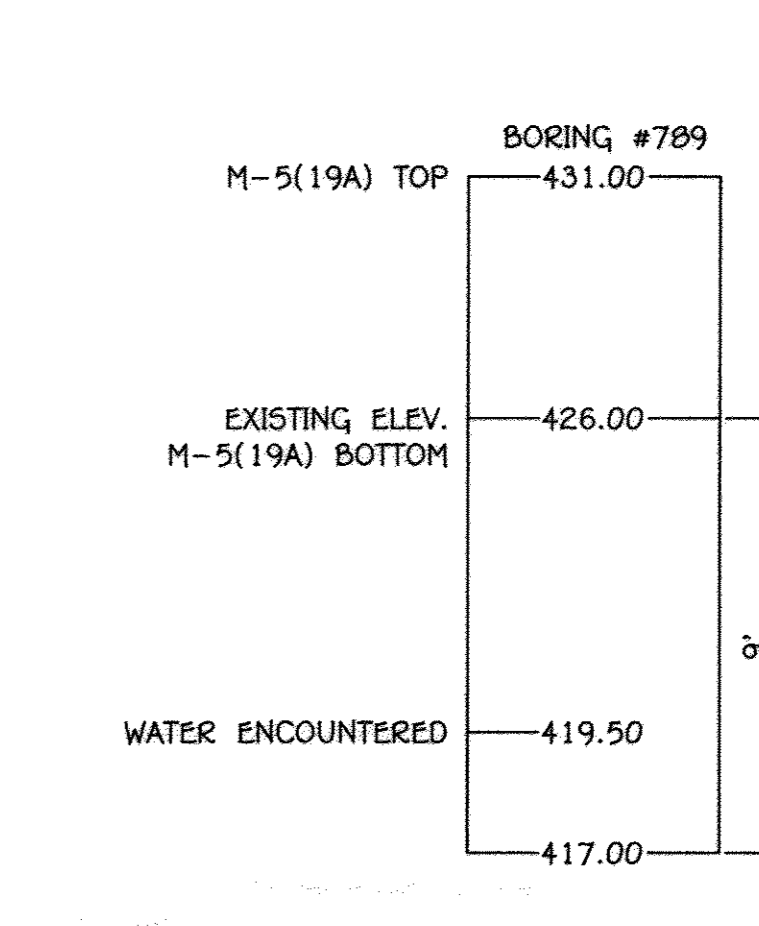
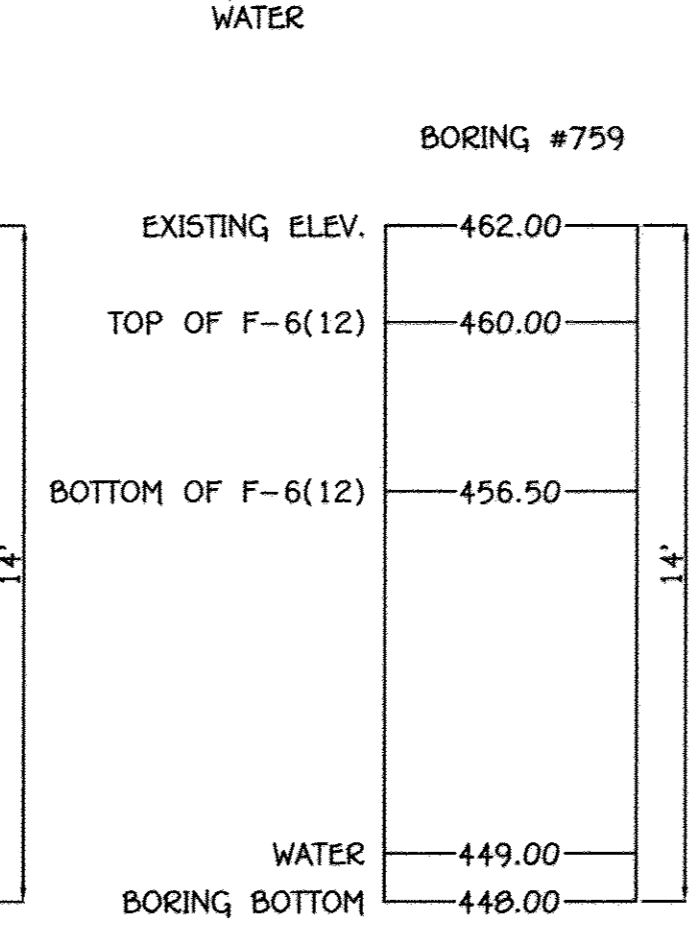
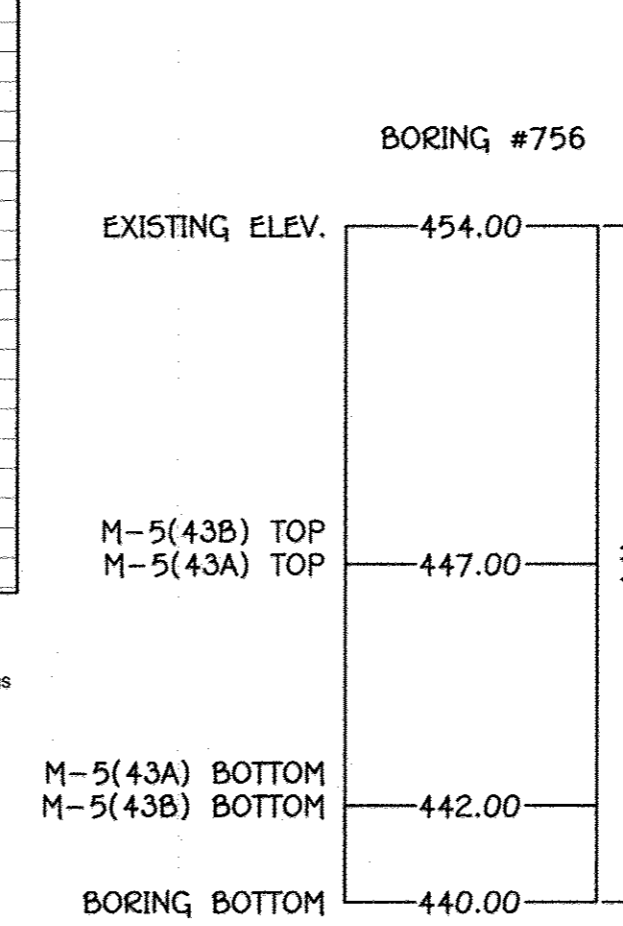
Datum: Hammer Wt. 140 lbs. Hole Diameter 6" Foreman J. Russel
Surf. Elev. 425 ft Hammer Drop 30 in. Rock Core Diameter N/A Inspector
Date Started 03/22/2016 Pipe Size 2.25 OD in. Boring Method HSA Date Completed 03/22/2016



SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED
SAMPLE CONDITIONS: D - DISINTEGRATED, I - INTACT, U - UNDISTURBED, L - LOST
GROUND WATER: AT COMPLETION, AFTER 24 HRS.
CAVE IN DEPTH: 9 ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS, CFA - CONTINUOUS FLIGHT AUGERS, DC - DRIVING CASING, MD - MUD DRILLING

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED
SAMPLE CONDITIONS: D - DISINTEGRATED, I - INTACT, U - UNDISTURBED, L - LOST
GROUND WATER: AT COMPLETION, AFTER 24 HRS.
CAVE IN DEPTH: 8.5 ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS, CFA - CONTINUOUS FLIGHT AUGERS, DC - DRIVING CASING, MD - MUD DRILLING

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE NOTED
SAMPLE CONDITIONS: D - DISINTEGRATED, I - INTACT, U - UNDISTURBED, L - LOST
GROUND WATER: AT COMPLETION, AFTER 24 HRS.
CAVE IN DEPTH: 6.5 ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS, CFA - CONTINUOUS FLIGHT AUGERS, DC - DRIVING CASING, MD - MUD DRILLING



FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL Pk.
ELLSWORTH CITY, MARYLAND 21046
(410) 461-2895

NO.	REVISION	DATE

PROFESSIONAL CERTIFICATION

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE, 7/14/19.

Frank J. Anderson
NAME: Frank J. Anderson DATE: 9/28/17

OWNERS
TIERNEY FARMS-CLARKSVILLE, LP.
24151 VENTURE BOULEVARD
CALABASKAS, CALIFORNIA 91302
(818)-395-3697

DEVELOPER
BEAZER HOMES, LLC
8965 GUILFORD ROAD - SUITE 290
COLUMBIA, MARYLAND 21046
(765)-894-0182

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Kentle D. ...
Chief, Division of Land Development 10-26-17
Date

...
Chief, Development Engineering Division 10-26-17
Date

...
Director - Department of Planning and Zoning 10-26-17
Date

PROJECT: ENCLAVE AT RIVER HILL PHASE: I PARCEL NO.: 88 & 97

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
24231-24244	18	R-ED	34	5	605102

PREVIOUS HOWARD COUNTY FILES:
ECP-15-005, PB CASE NO. 409, SP-15-006, F-15-110, WP-15-069 & WP-16-152

BORING LOGS

SINGLE FAMILY HOUSES
ENCLAVE AT RIVER HILL
LOTS 1 THRU 48, OPEN SPACE 51, AND BULK PARCEL 'B'
PHASE I
PREVIOUS HOWARD COUNTY FILES:
ECP-15-005, PB CASE NO. 409, SP-15-006, WP-15-069, F-15-110 & WP-16-152
ZONED: R-ED
TAX MAP NO.: 34 PARCEL NO'S.: 88 & 97 GRID NO.: 18
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: SEPTEMBER, 2017
SHEET 14 OF 15

NOTE: CONTRACTOR TO REGRADE, SOO OR HYDROSEED AND STRAW MULCH ALL AREAS DISTURBED AS A RESULT OF THEIR WORK.

SPRAY WITH MILT-PROOF ACCORDING TO MANUFACTURERS STANDARDS

PRUNE 1/3 LEAF AREA BUT RETAIN NATURAL FORM OF TREE

2 PIECES OF REINFORCED RUBBER HOSE

DOUBLE #12 GALVANIZED WIRE GUYS TWISTED

3-2" X 2" OAK STAKES

NOTCH STAKES TO HOLD WIRE

WRAP TRUNK TO SECOND TIER OF BRANCHES WITH WATERPROOF TREE WRAP, TIE AT 2' INTERVALS (EXCEPT EVERGREENS)

REMOVE ANY COVERING FROM TOP OF ROOT CROWN

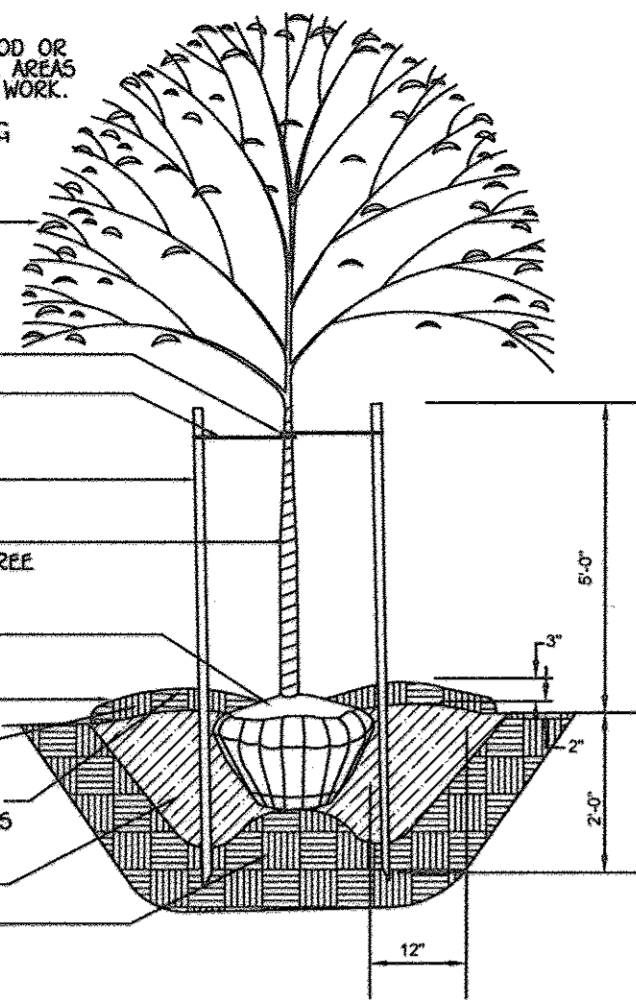
3" MULCH

MAINTAIN GROUND LINE WITH TOP OF ROOT CROWN

CONSTRUCT 3" SAUCER RIM-FLOOD WITH WATER TWICE WITHIN 24 HOURS

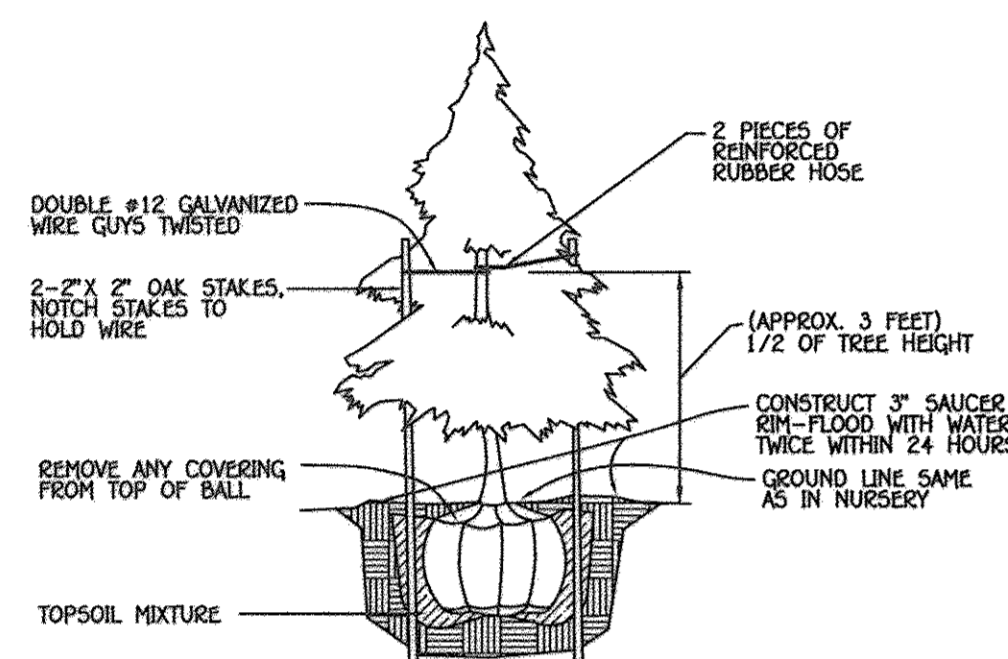
TOP SOIL MIXTURE

CONVEX BOTTOM 6" MIN. HT.



SHADE TREE PLANTING DETAIL

NO SCALE



EVERGREEN TREE PLANTING DETAIL

NO SCALE

PLANTING SPECIFICATIONS

Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.

All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to the species, size, root and shape shown on the plant list and the American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, distorting roots, and shall have no signs of insect infestation, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable infestations. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug; no heated-in plants from cold storage will be accepted.

Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Specification Guidelines for Baltimore-Washington Metropolitan Area", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the National Chapter of the American Society of Landscape Architects, latest edition, including all appendices.

Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.

Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 48 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.

Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence or blaze orange safety fence at the strip line.

Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within the growing season of completion of site construction.

Bid shall be based on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications.

Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence.

All shrubs shall be planted in continuous trenches or prepared planting beds and mulched with composted hardwood mulch as details and specified except where noted on plans.

Planting mix shall be as follows: Deciduous Plants - Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs. of standard fertilizer per cubic yard of planting mix. Evergreen Plants - Two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic) fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.

Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to assure its adaptability to the specific ground cover to be treated.

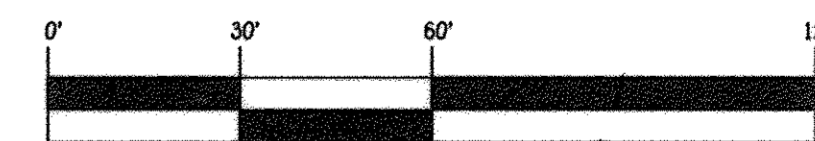
All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded. The plan is intended for landscape use only. See other plan sheets for more information on grading, sediment control, layout, etc.

LANDSCAPE DEVELOPER'S 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 Howard County 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.

Name: *[Signature]*

Date: 9/28/17



SCALE: 1" = 30'

SCHEDULE A PERIMETER LANDSCAPE EDGE											
PERIMETER	CATEGORY (PROPERTIES/ROADWAYS)	LANDSCAPE TYPE	LINEAR FEET OF ROADWAY FRONTAGE PERIMETER	CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NUMBER OF PLANTS REQUIRED SHADE TREES	NUMBER OF PLANTS REQUIRED EVERGREEN TREES	NUMBER OF PLANTS REQUIRED SHRUBS	NUMBER OF PLANTS PROVIDED SHADE TREES	NUMBER OF PLANTS PROVIDED EVERGREEN TREES	NUMBER OF PLANTS PROVIDED SHRUBS
P-1	SIDE TO ROADWAY	B	80'	NO	NO	2	2	-	2	2	-
P-2	SIDE TO ROADWAY	B	119'	NO	NO	3	3	-	3	3	-
P-3	SIDE TO ROADWAY	B	135'	NO	NO	3	4	-	3	4	-
P-4	SIDE TO ROADWAY	B	94'	NO	NO	2	3	-	2	3	-
P-5	SIDE TO ROADWAY	B	96'	NO	NO	2	3	-	2	3	-

PLANT LIST			
SYMBOL	QTY.	BOTANICAL AND COMMON NAME	SIZE
	12	ACER GOSSOLUM PAPERBARK MAPLE	2 1/2-3" CAL.
	15	PINUS STROBUS EASTERN WHITE PINE	6' - 8' HT.

NOTE: FINANCIAL SURETY FOR THE REQUIRED 12 SHADE TREES, AND 15 EVERGREEN TREES SHALL BE POSTED AS PART OF THE GRADING PERMIT IN THE AMOUNT OF \$5,000.00

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERS, CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21046
(410) 461-2895



PROFESSIONAL CERTIFICATION

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE, 7/14/19.

Name: *[Signature]* Date: 9/28/17

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 10-26-17
Chief, Division of Land Development
[Signature] 10-19-17
Chief, Development Engineering Division
[Signature] 10-26-17
Director - Department of Planning and Zoning

PROJECT: ENCLAVE AT RIVER HILL
PHASE: 1
PARCEL NO.: 80 & 97

PLAT	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
24231-24244	18	R-ED	34	5	605102

PREVIOUS HOWARD COUNTY FILES:
ECP-15-005, PB CASE NO. 409, SP-15-006, F-15-110, WP-15-069 & WP-16-152

LANDSCAPE NOTES AND DETAILS

SINGLE FAMILY HOUSES
ENCLAVE AT RIVER HILL
LOTS 1 THRU 48, OPEN SPACE 51, AND BULK PARCEL 'B'
PHASE I
PREVIOUS HOWARD COUNTY FILES:
ECP-15-005, PB CASE NO. 409, SP-15-006, WP-15-069, F-15-110 & WP-16-152
ZONED: R-ED
TAX MAP NO.: 34 PARCEL NO'S.: 80 & 97 GRID NO.: 10
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: SEPTEMBER, 2017
SHEET 15 OF 15

SDP-17-014