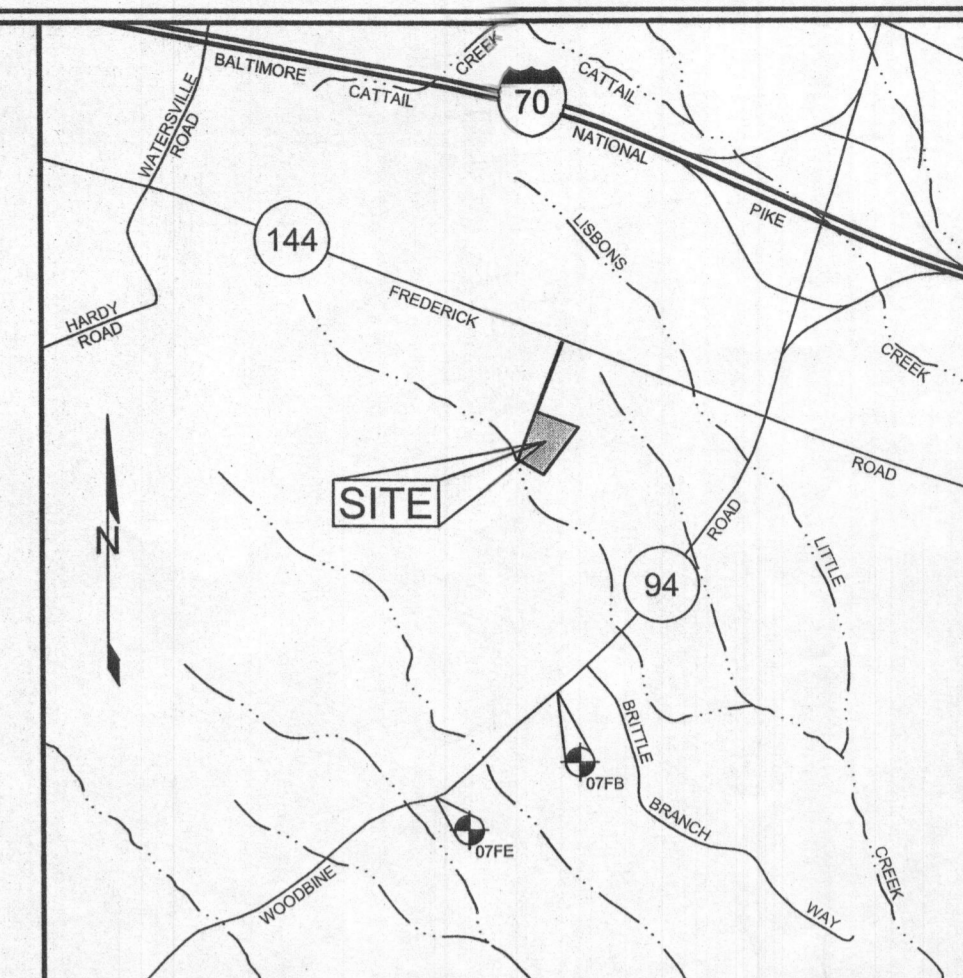


SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
Gp	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	0.37
GmB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	0.37
GmB	GLENVILLE SILT LOAMS, 3 TO 8 PERCENT SLOPES	C/D	0.43
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.24
GgA	GLENELG LOAM, 0 TO 3 PERCENT SLOPES	B	0.24
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	0.24

BENCHMARKS				
NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
07FE	604367.13	1288042.49	593.75	CORNER OF CATTAL RIVER DR & WOODBINE RD, 20.3' FROM SD MANHOLE, 15' FROM POLE VZ 22 1/2
07FB	605463.41	1289326.15	588.26	WOODBINE ROAD, 44.6' FROM POLE FE FS2601, 62.9' FROM POLE C&P 15

LEGEND

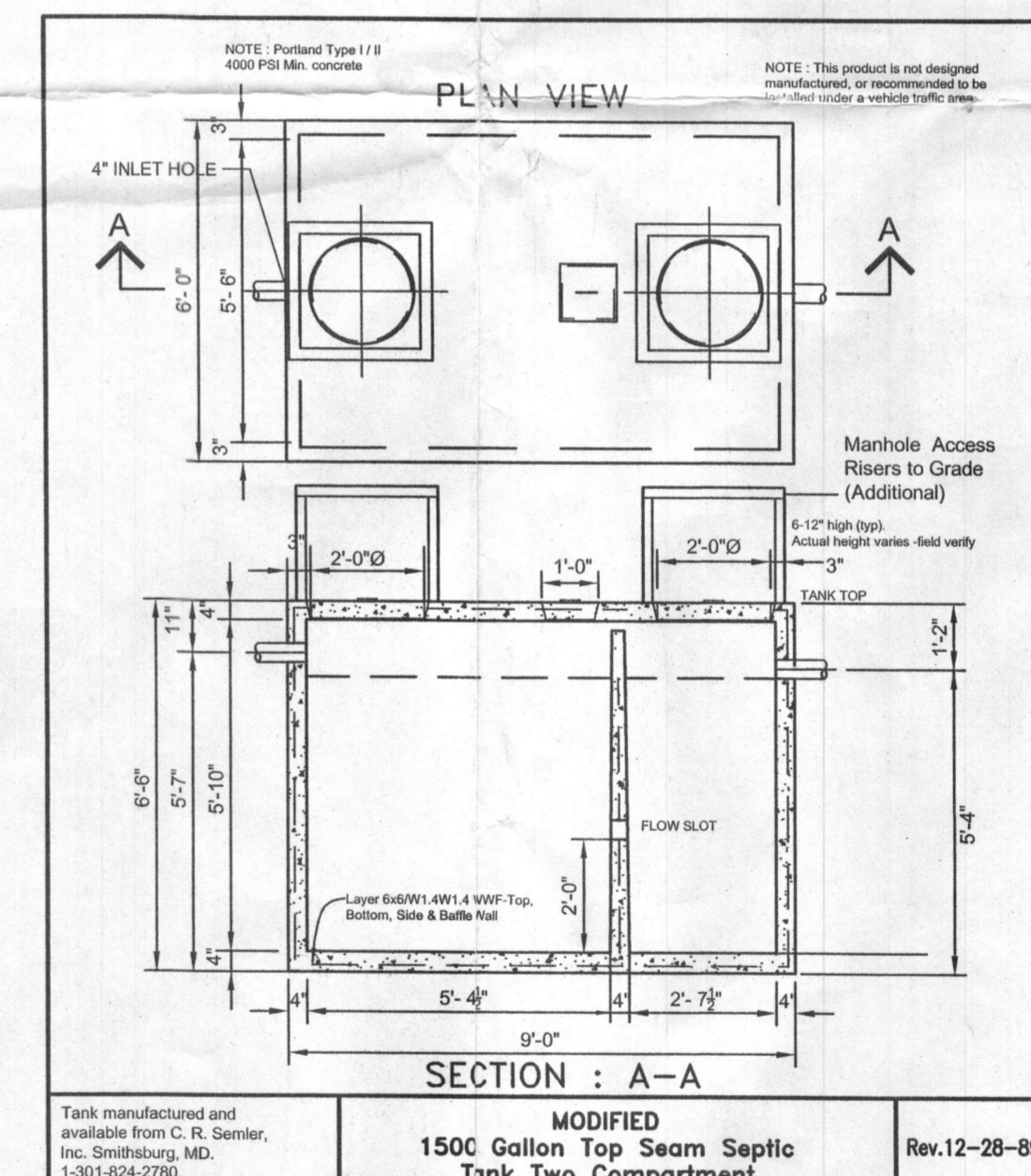
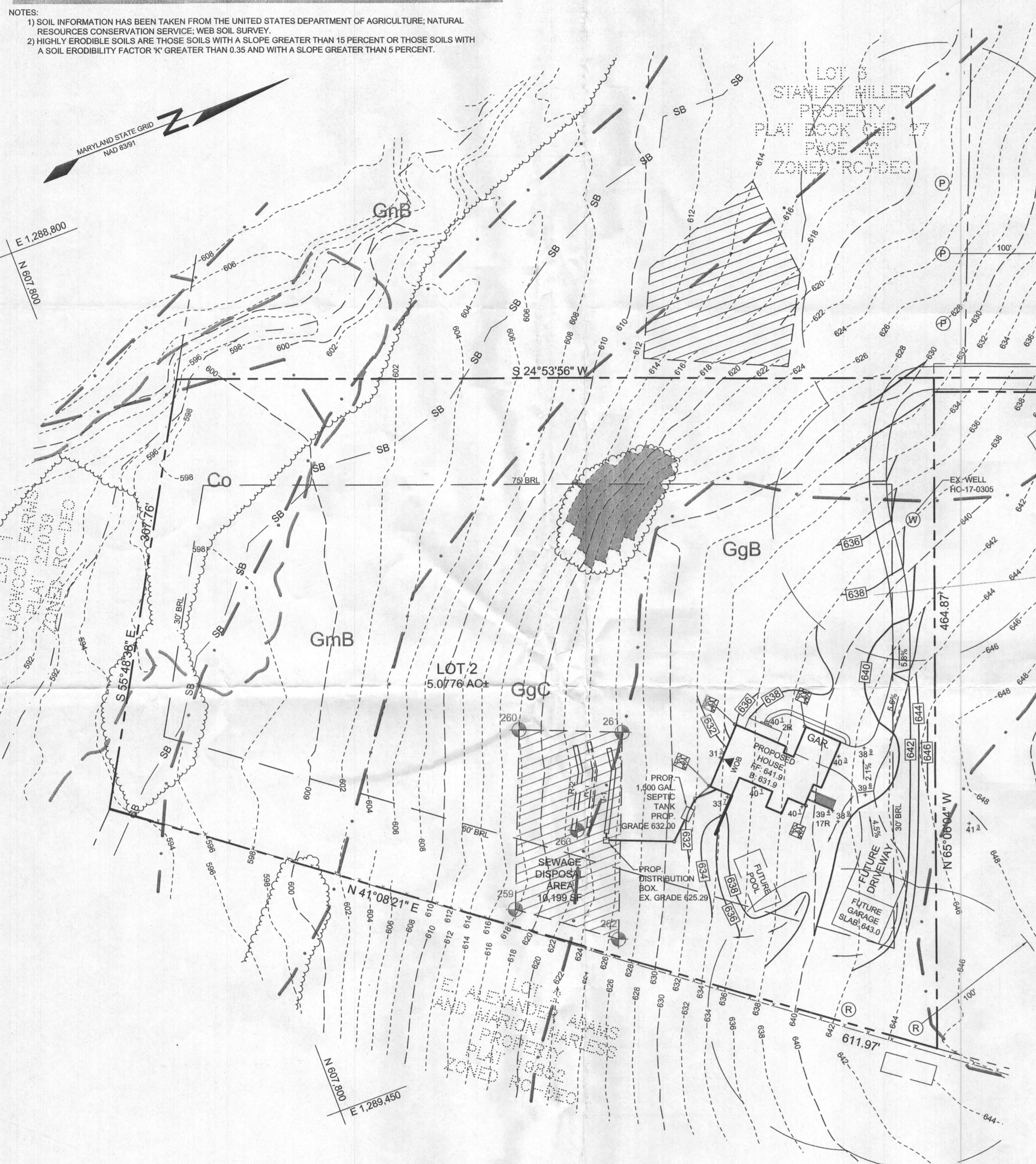
- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING TREELINE
- PROPOSED TREELINE
- WALK OUT BASEMENT
- PROPOSED DRY WELL
- PROPOSED WELL
- REPLACEMENT WELL
- EXISTING WELL
- EXISTING PASSED PERCOLATION TEST
- STEEP SLOPES (25%)



VICINITY MAP
SCALE: 1"=200'

GENERAL NOTES

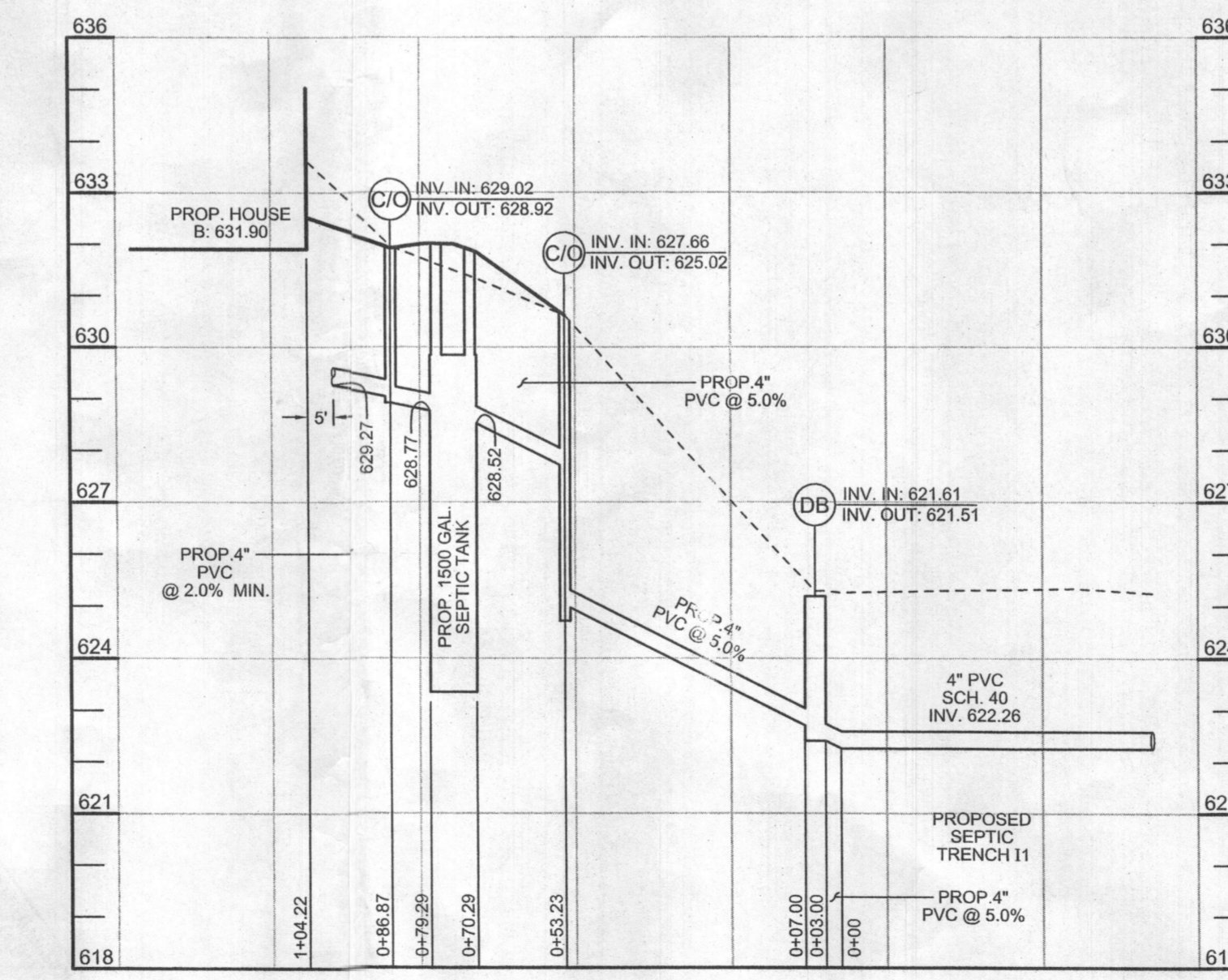
- SUBJECT PROPERTY ZONED RC-DEO PER 10/06/13 COMPREHENSIVE ZONING PLAN.
- TOTAL AREA OF LOT = 44,818 SF OR 1.0289 AC.
- PRIVATE WATER AND PRIVATE SEWER WILL BE USED WITHIN THIS SITE.
- ZZZZ THIS AREA DESIGNATES A PRIVATE SEWAGE AREA, OF AT LEAST 10,000 SF AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL (COMAR 26.04.03). IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE AREAS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE AREA. RECORDED OF A MODIFIED SEWAGE AREA SHALL NOT BE NECESSARY.
- ALL EXISTING WELLS, SEPTIC SYSTEMS AND SEWAGE DISPOSAL AREAS WITHIN 100 FEET OF THE PROPERTY BOUNDARIES AND ALL EXISTING AND PROPOSED WELLS THAT ARE LOCATED WITHIN 200 FEET DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS AND SEWAGE DISPOSAL AREAS HAVE BEEN FIELD LOCATED.
- THE BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN BOUNDARY SURVEY PREPARED BY NTT ASSOCIATES, INC. ON OR AROUND AUGUST 6, 2018.
- THE TOPOGRAPHY SHOWN HEREON HAS BEEN FIELD RUN BY NTT ASSOCIATES, INC. IN JUNE, 2018. THE EXISTING TOPOGRAPHY SHOWN OUTSIDE THE SITE IS BASED ON HOWARD COUNTY AERIAL TOPOGRAPHY FLOWN IN 2011.
- THE SOILS SHOWN HAVE BEEN TAKEN FROM THE NRCS WEB SOIL SURVEY WEBSITE. HOWARD COUNTY SOIL MAP GRID 2, SOILS MAP - GRID 307.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS, NUMBERS 07FE AND 07FB, WERE USED FOR THIS PROJECT.
- THERE ARE NO HISTORIC STRUCTURES OR CEMETERIES WITHIN THE PROJECT BOUNDARY.
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- ANY DAMAGE TO PUBLIC RIGHT-OF-WAYS, PAVING OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
- LIMIT OF DISTURBANCE = 57,643 ± SQ. FT.
- ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
- THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
- SEPTIC TANK TO BE THE OR SEWERER 1,500 GALLON TWO COMPARTMENT SEPTIC TANK OR EQUIVALENT.
- THE WELL (TAG #HO-17-0305) HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.



Approved Septic System Plan
Howard County Health Department
Dane Bunde 10-18-19
Signature Date

SEPTIC SYSTEM TRENCH DESIGN SPECIFICATIONS

- INITIAL SYSTEM:**
 - APPLICATION RATE: 1.2
 - EFFECTIVE AREA BEGINNING DEPTH: 3'
 - BOTTOM MAXIMUM DEPTH: 8'
 - REPLACEMENT SYSTEM 1:**
 - APPLICATION RATE: 1.2
 - EFFECTIVE AREA BEGINNING DEPTH: 3'
 - BOTTOM MAXIMUM DEPTH: 8'
 - REPLACEMENT SYSTEM 2:**
 - APPLICATION RATE: 1.2
 - EFFECTIVE AREA BEGINNING DEPTH: 3'
 - BOTTOM MAXIMUM DEPTH: 8'
- DESIGN FLOW:**
 - 4 BEDROOMS AT 150 GPD
 - 4X150 GPD = 600 GPD
 - SQUARE FOOTAGE OF DRAIN FIELD REQUIRED:**
 - DESIGN FLOW (600 GPD) / APPLICATION RATE (1.2) = 500 SF
 - SIDEWALL REDUCTION CREDIT:**
 - TRENCH WIDTH (W) = 3'
 - TRENCH EFFECTIVE DEPTH (D) = 5'
 - (W+2) / (W+1+2D) X 100 = 36%
 - LINEAR LENGTH OF TRENCH REQUIRED:**
 - DRAIN FIELD SQUARE FOOTAGE (500) X SIDEWALL REDUCTION CREDIT (36%) / TRENCH WIDTH (3') = 60'
 - LINEAR LENGTH OF TRENCH PROVIDED = 60'
 - EXISTING GRADE:** TRENCH R1: 625.4'
 - INVERT:** TRENCH R1: 617.4'



PROFILE VIEW
SCALE: HORIZ: 1"=30'
VERT: 1"=3'

CONTRACT PURCHASER

ROBERT SURRETTE
13288 STYER COURT
HIGHLAND, MD 20777
CELL 240) 508-1428
HOME (301) 854-1302
OFFICE (301) 621-1102

OWNER

DORIS R MILLER
16488 FREDERICK ROAD
WOODBINE, MD 21787-6517

ONSITE SEWAGE DISPOSAL SYSTEM DESIGN PLAN SURETTE PROPERTY

16241 FREDERICK ROAD

TAX MAP 7 GRID 10
4TH ELECTION DISTRICT

PARCEL 467 LOT 2
HOWARD COUNTY, MARYLAND



SILL ENGINEERING GROUP, LLC

11130 Dovedale Court, Suite 200
Marriottville, Maryland 21104
Phone: 443.325.5076
Fax: 410.696.3022
Email: info@sillengineering.com
Civil Engineering for Land Development

DESIGN BY: PS
DRAWN BY: MPO
CHECKED BY: PS
SCALE: AS SHOWN
DATE: OCTOBER 2, 2018
PROJECT #: 18-002
SHEET #: 1 of 1

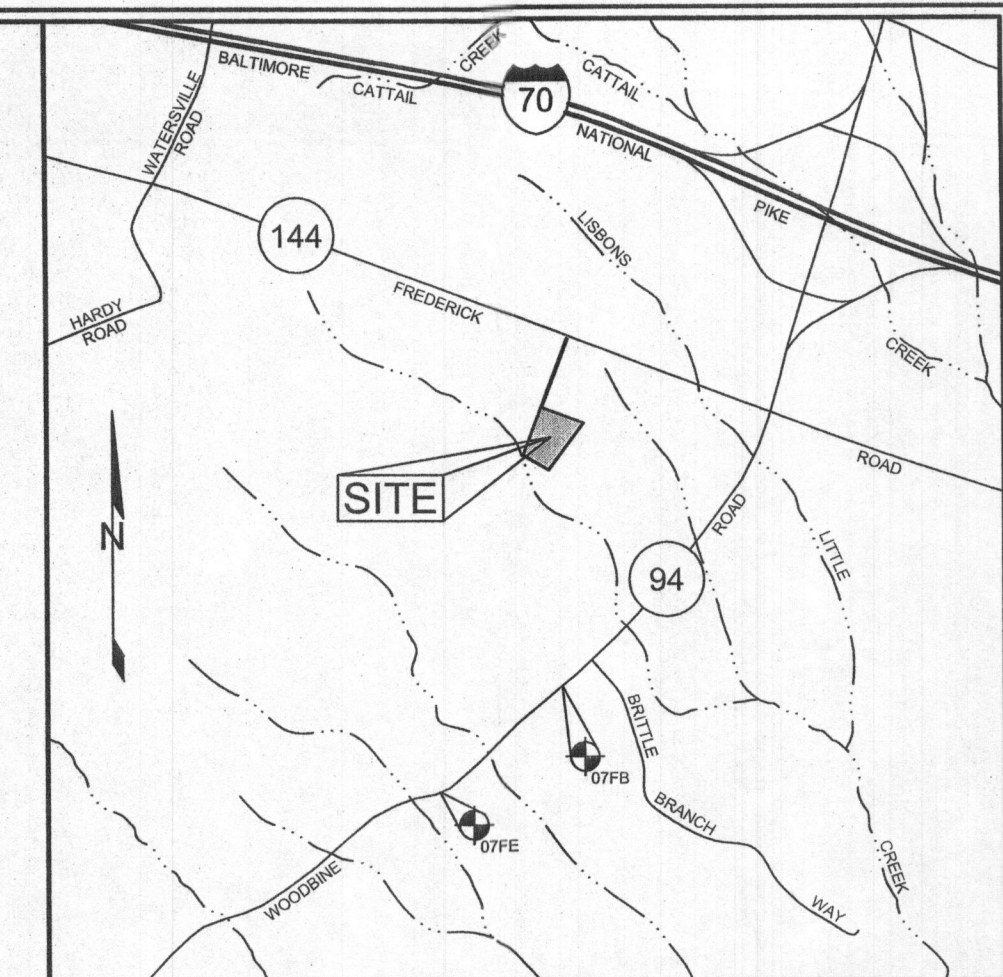
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32955, EXPIRATION DATE: JUNE 29, 2019.

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	"K" FACTOR
Co	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	0.37
GnB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	0.43
GmB	GLENVILLE SILT LOAMS, 3 TO 8 PERCENT SLOPES	C/D	0.37
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.24
GgA	GLENELG LOAM, 0 TO 3 PERCENT SLOPES	B	0.24
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	0.24

BENCHMARKS				
NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
07FE	604367.13	1288042.49	593.75	CORNER OF CATTAL RIVER DR & WOODBINE RD, 20.3' FROM SD MANHOLE, 15' FROM POLE VZ 22 12
07FB	605463.41	1289326.15	588.26	WOODBINE ROAD, 44.8' FROM POLE PE FS2601, 62.9' FROM POLE C&P 15

LEGEND

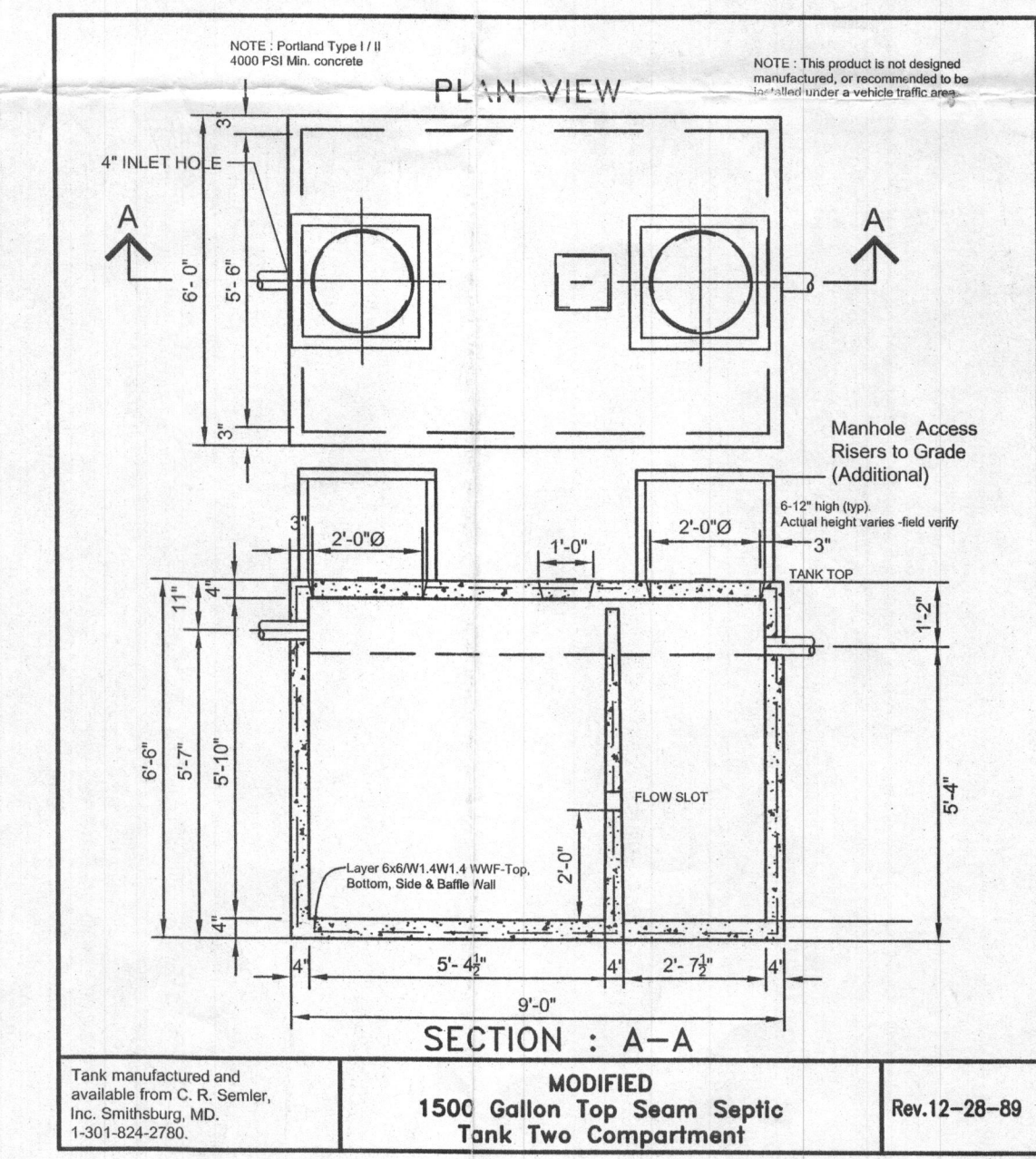
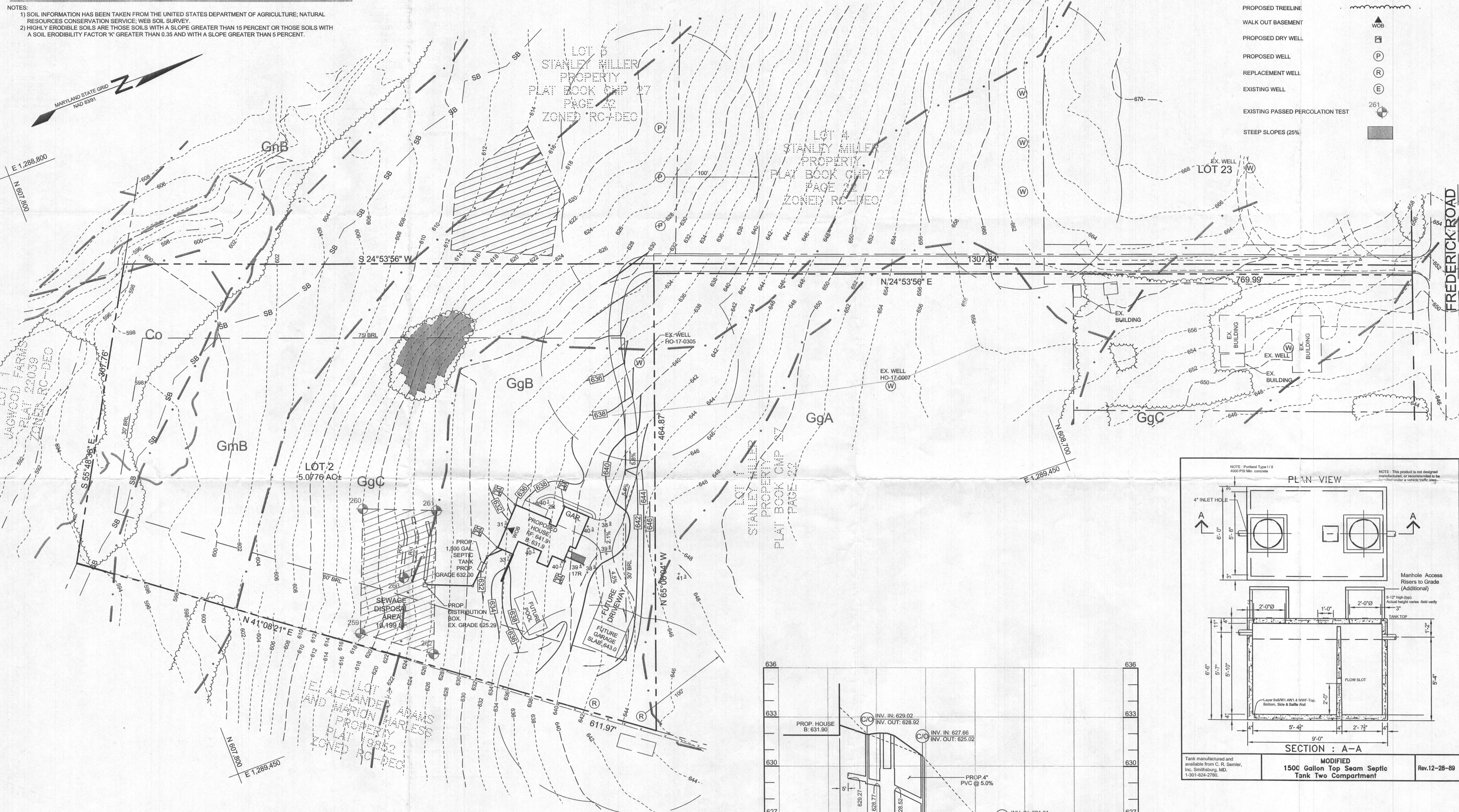
- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- DIRECTION OF FLOW
- EXISTING TREELINE
- PROPOSED TREELINE
- WALK OUT BASEMENT
- PROPOSED DRY WELL
- PROPOSED WELL
- REPLACEMENT WELL
- EXISTING WELL
- EXISTING PASSED PERCOLATION TEST
- STEEP SLOPES (25%)



VICINITY MAP
SCALE: 1"=2000'

GENERAL NOTES

- SUBJECT PROPERTY ZONED RC-DEO PER 10/06/13 COMPREHENSIVE ZONING PLAN.
- TOTAL AREA OF LOT = 44,818 SF OR 1.0289 AC±.
- PRIVATE WATER AND PRIVATE SEWER WILL BE USED WITHIN THIS SITE.
- THIS AREA DESIGNATES A PRIVATE SEWAGE AREA OF AT LEAST 10,000 SF AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL (COMAR 26.04.03). IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE AREAS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE AREA. RECORDATION OF A MODIFIED SEWAGE AREA SHALL NOT BE NECESSARY.
- ALL EXISTING WELLS, SEPTIC SYSTEMS AND SEWAGE DISPOSAL AREAS WITHIN 100 FEET OF THE PROPERTY BOUNDARIES AND ALL EXISTING AND PROPOSED WELLS THAT ARE LOCATED WITHIN 200 FEET DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS AND SEWAGE DISPOSAL AREAS HAVE BEEN FIELD LOCATED.
- THE BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN BOUNDARY SURVEY PREPARED BY NTT ASSOCIATES, INC. ON OR AROUND AUGUST 6, 2018.
- THE TOPOGRAPHY SHOWN HEREON HAS BEEN FIELD RUN BY NTT ASSOCIATES, INC. IN JUNE, 2018. THE EXISTING TOPOGRAPHY SHOWN OUTSIDE THE SITE IS BASED ON HOWARD COUNTY AERIAL TOPOGRAPHY FLOWN IN 2011.
- THE SOILS SHOWN HAVE BEEN TAKEN FROM THE NRCS WEB SOIL SURVEY WEBSITE. HOWARD COUNTY SOIL MAP GRID 2, SOILS MAP - GRID 307.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM, HOWARD COUNTY MONUMENTS, NUMBERS 07FE AND 07FB, WEBSITE FOR THIS PROJECT.
- THERE ARE NO HISTORIC STRUCTURES OR CEMETERIES WITHIN THE PROJECT BOUNDARY.
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- ANY DAMAGE TO PUBLIC RIGHT-OF-WAYS, PAVING OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
- LIMIT OF DISTURBANCE = 57,643 ± SQ. FT.
- ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
- THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
- SEPTIC TANK TO BE THE CR SEMLER 1,500 GALLON TWO COMPARTMENT SEPTIC TANK OR EQUIVALENT.
- THE WELL (TAG #HO-17-0305) HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.



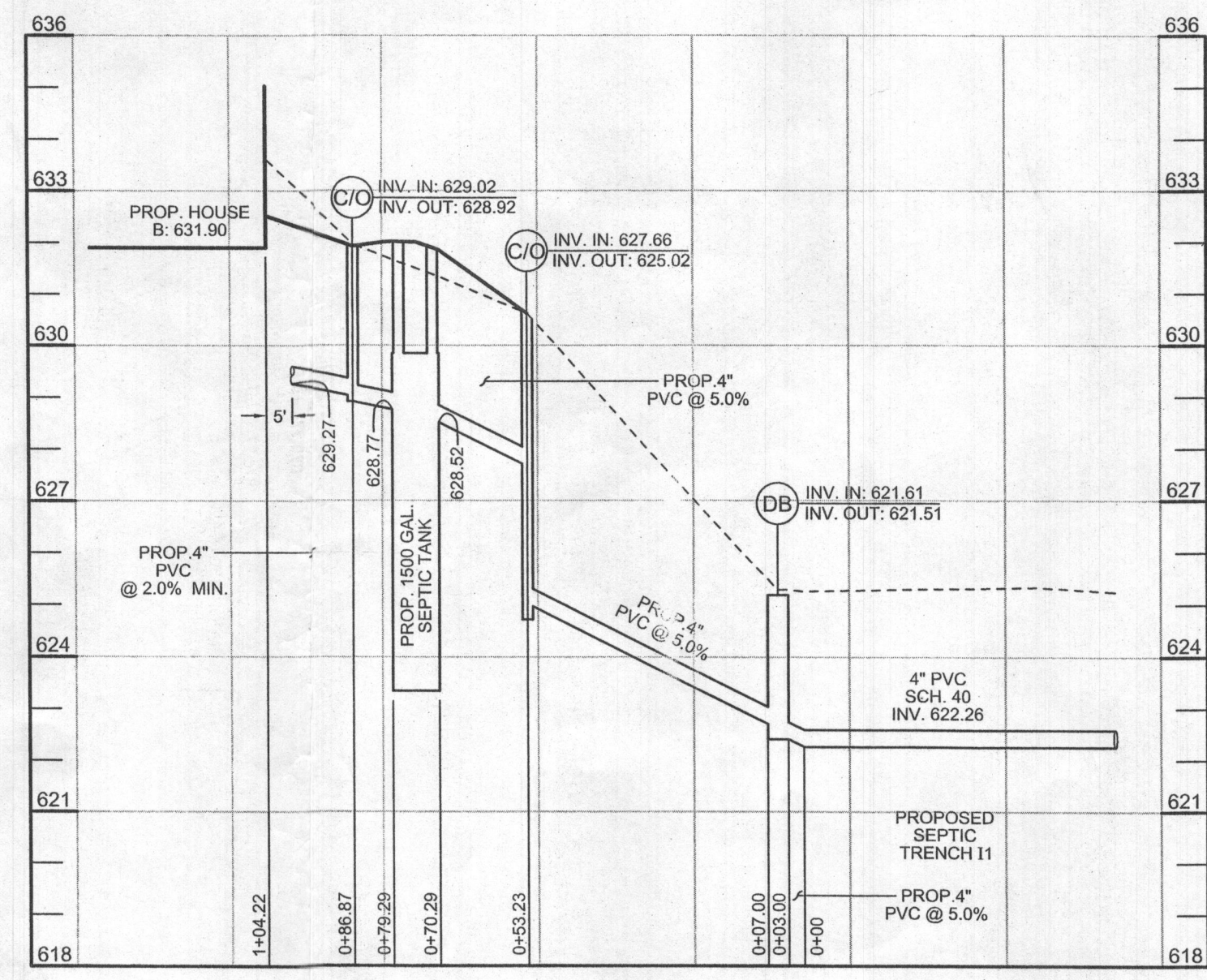
Approved Septic System Plan
Howard County Health Department
Dore Surette 10-18-19
Signature Date

SEPTIC SYSTEM TRENCH DESIGN SPECIFICATIONS

- INITIAL SYSTEM:**
 - APPLICATION RATE: 1.2
 - EFFECTIVE AREA BEGINNING DEPTH: 3'
 - BOTTOM MAXIMUM DEPTH: 6'
 - REPLACEMENT SYSTEM 1:**
 - APPLICATION RATE: 1.2
 - EFFECTIVE AREA BEGINNING DEPTH: 3'
 - BOTTOM MAXIMUM DEPTH: 6'
 - REPLACEMENT SYSTEM 2:**
 - APPLICATION RATE: 1.2
 - EFFECTIVE AREA BEGINNING DEPTH: 3'
 - BOTTOM MAXIMUM DEPTH: 6'
- DESIGN FLOW:**
 - 4 BEDROOMS AT 150 GPD
 - 4X150 GPD = 600 GPD
 - DESIGN FLOW (600 GPD) / APPLICATION RATE (1.2) = 500 SF**
 - SIDEWALL REDUCTION CREDIT:**
 - TRENCH WIDTH (W) = 3'
 - TRENCH EFFECTIVE DEPTH (D) = 6'
 - (W+2) / (W+1+2D) X 100 = 36%
 - LINEAR LENGTH OF TRENCH REQUIRED:**
 - DRAIN FIELD SQUARE FOOTAGE (500) X SIDEWALL REDUCTION CREDIT (36%) / TRENCH WIDTH (3') = 60'
 - LINEAR LENGTH OF TRENCH PROVIDED = 60'**
 - EXISTING GRADE: TRENCH R1: 624.0'**
 - INVERT: TRENCH R1: 616.0'**

PLAN VIEW

SCALE: 1"=50'



PROFILE VIEW

SCALE: HORIZ. 1"=30'

VERT. 1"=3'

CONTRACT PURCHASER

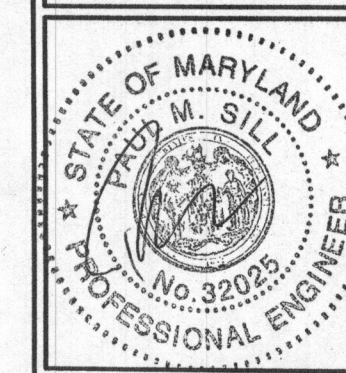
ROBERT SURRETTE
13256 STYER COURT
HIGHLAND, MD 20777
CELL 240) 508-1428
HOME (301) 854-1302
OFFICE (301) 621-1111

OWNER

DORIS R MILLER
16489 FREDERICK ROAD
WOODBINE, MD 21797-8517

ONSITE SEWAGE DISPOSAL SYSTEM DESIGN PLAN SURETTE PROPERTY

16241 FREDERICK ROAD
TAX MAP 7 GRID 10
4TH ELECTION DISTRICT
PARCEL 467 LOT 2
HOWARD COUNTY, MARYLAND



SILL ENGINEERING GROUP, LLC

11130 Dovelade Court, Suite 200
Marriottsville, Maryland 21104
Phone: 443.325.5076
Fax: 410.696.2022
Email: info@sillengineering.com
Civil Engineering for Land Development

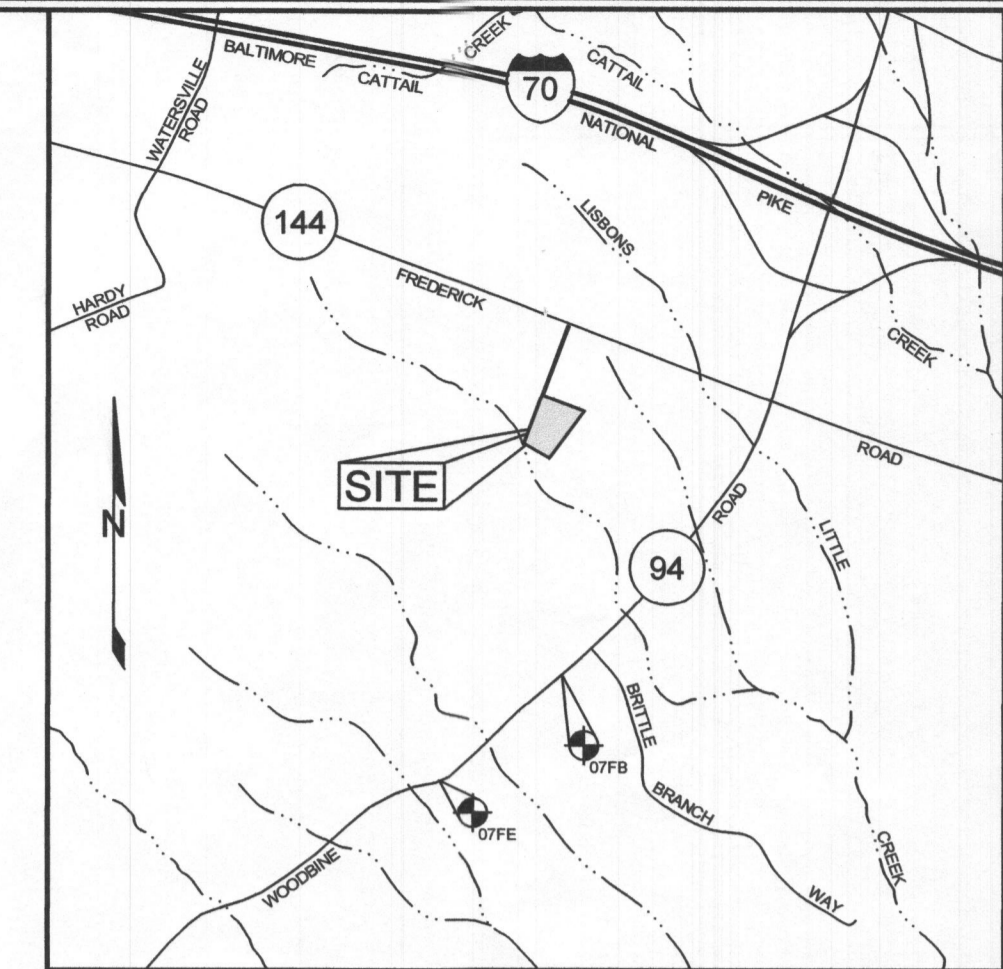
DESIGN BY: PS
DRAWN BY: MPO
CHECKED BY: PS
SCALE: AS SHOWN
DATE: OCTOBER 2, 2018
PROJECT #: 18-002
SHEET #: 1 of 1

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. 32025, EXPIRATION DATE: JUNE 30, 2019.

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
Co	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	0.37
GmB	GLENVILLE-BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C/D	0.43
GmB	GLENVILLE SILT LOAMS, 3 TO 8 PERCENT SLOPES	C/D	0.37
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.24
GgA	GLENELG LOAM, 0 TO 3 PERCENT SLOPES	B	0.24
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	0.24

BENCHMARKS				
NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
07FE	604367.13	1288042.49	593.75	CORNER OF CATTAIL RIVER DR & WOODBINE RD, 20.37' FROM SD MANHOLE, 15' FROM POLE VZ 72 12
07FB	605463.41	1289326.15	588.26	WOODBINE ROAD, 44.6' FROM POLE PE FS2601, 62.9' FROM POLE C&P 15

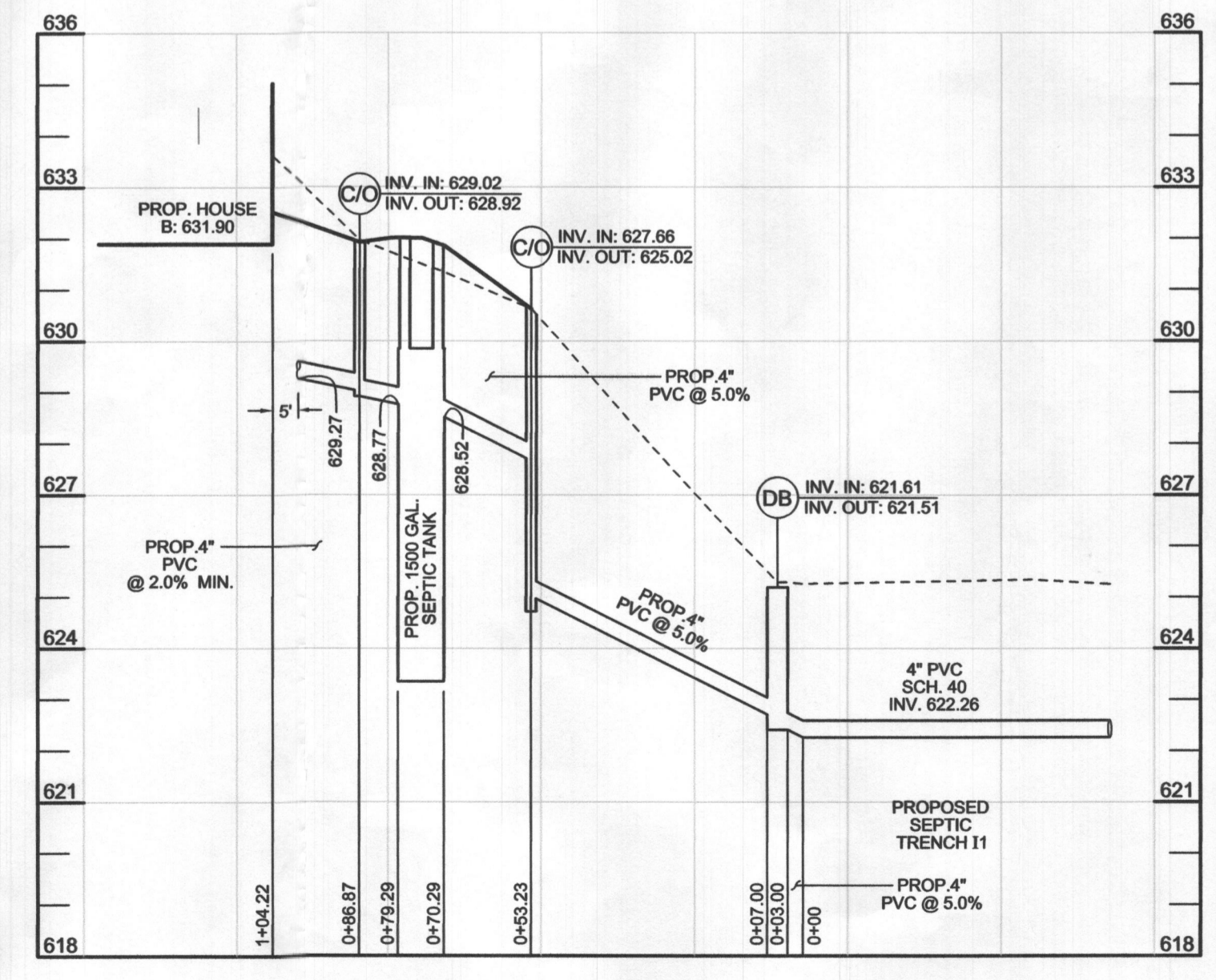
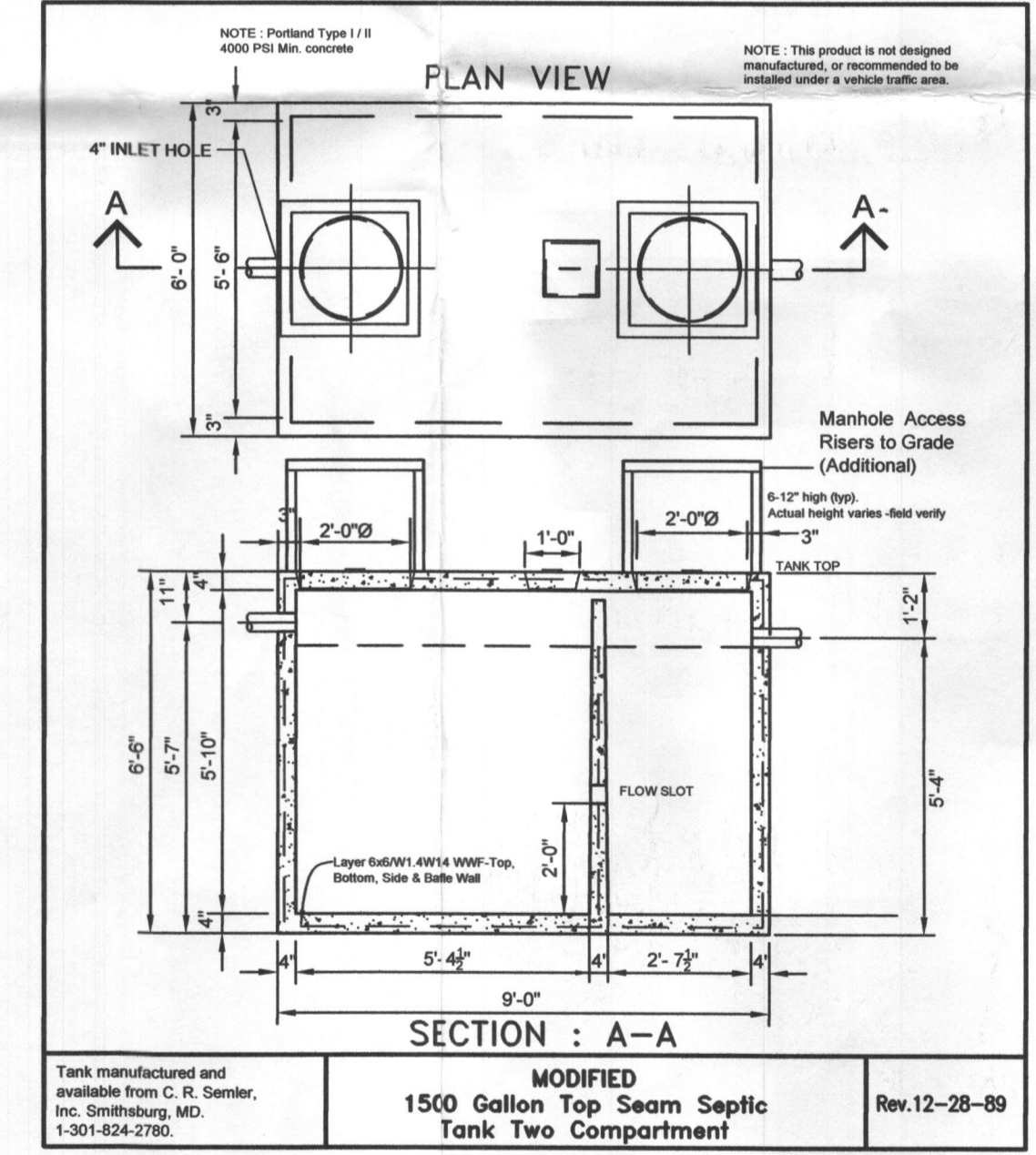
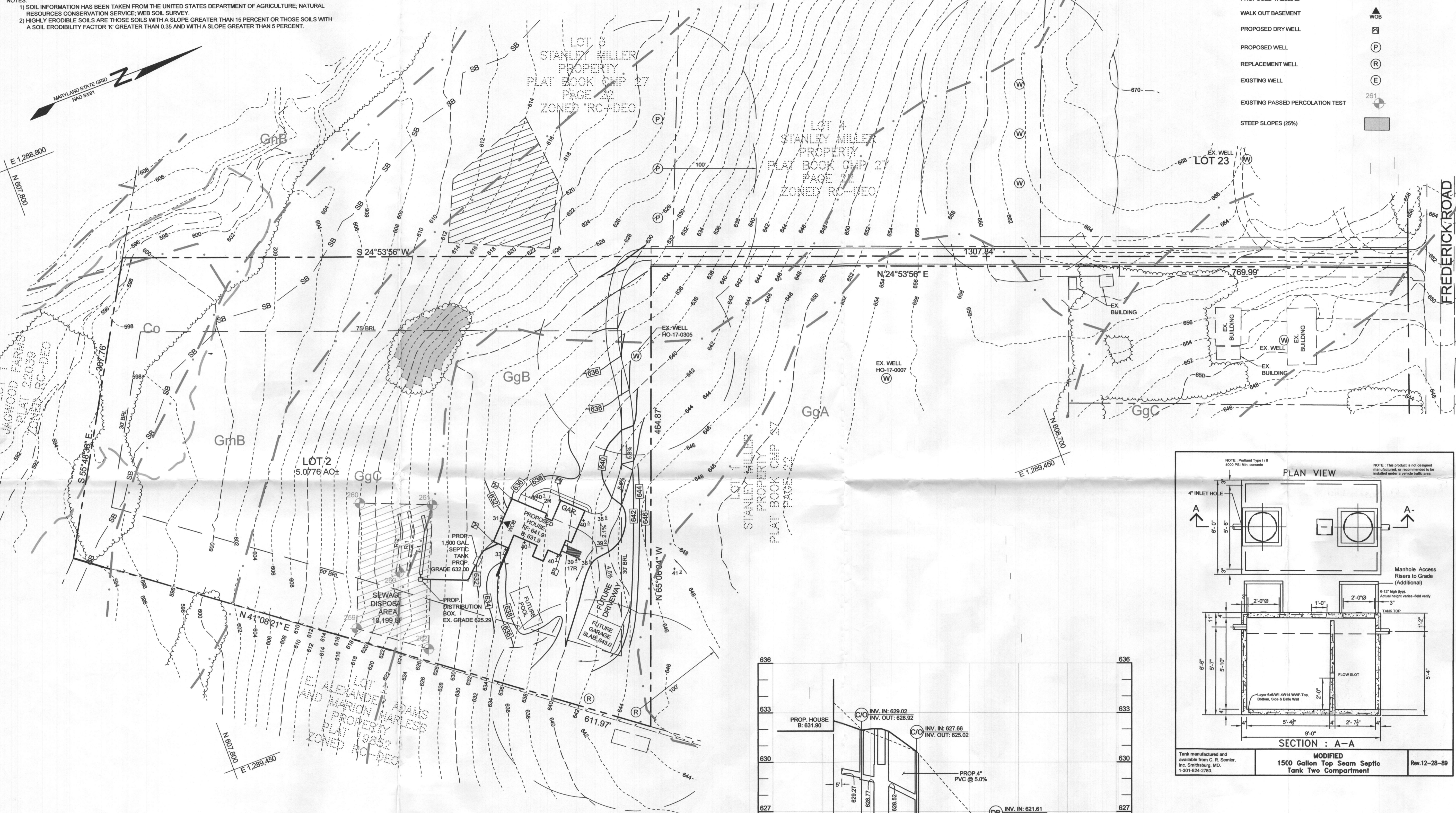
LEGEND	
EXISTING CONTOUR	
PROPOSED CONTOUR	
EXISTING SPOT ELEVATION	
PROPOSED SPOT ELEVATION	
DIRECTION OF FLOW	
EXISTING TREELINE	
PROPOSED TREELINE	
WALK OUT BASEMENT	
PROPOSED DRY WELL	
REPLACEMENT WELL	
EXISTING WELL	
EXISTING PASSED PERCOLATION TEST	
STEEP SLOPES (25%)	



VICINITY MAP
SCALE: 1"=200'

GENERAL NOTES

- SUBJECT PROPERTY ZONED RC-DEO PER 10/06/13 COMPREHENSIVE ZONING PLAN.
- TOTAL AREA OF LOT = 44,818 SF OR 1.0289 AC.
- PRIVATE WATER AND PRIVATE SEWER WILL BE USED WITHIN THIS SITE.
- THIS AREA DESIGNATES A PRIVATE SEWAGE AREA, OF AT LEAST 10,000 SF AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL (COMAR 26.04.03). IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE AREAS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE AREA RECORDATION OF A MODIFIED SEWAGE AREA SHALL NOT BE NECESSARY.
- ALL EXISTING WELLS, SEPTIC SYSTEMS AND SEWAGE DISPOSAL AREAS WITHIN 100 FEET OF THE PROPERTY BOUNDARIES AND ALL EXISTING AND PROPOSED WELLS THAT ARE LOCATED WITHIN 200 FEET DOWN-GRADE OF EXISTING OR PROPOSED SEPTIC SYSTEMS AND SEWAGE DISPOSAL AREAS HAVE BEEN FIELD LOCATED.
- THE BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN BOUNDARY SURVEY PREPARED BY NIT ASSOCIATES, INC. ON OR AROUND JANUARY 3, 2018.
- THE TOPOGRAPHY SHOWN HEREON HAS BEEN FIELD RUN BY NIT ASSOCIATES, INC. ON OR AROUND JANUARY 3, 2018. THE EXISTING TOPOGRAPHY SHOWN OUTSIDE THE SITE IS BASED ON HOWARD COUNTY AERIAL TOPOGRAPHY FLOWN IN 2011.
- THE SOILS SHOWN HAVE BEEN TAKEN FROM THE NRCS WEB SOIL SURVEY WEBSITE, HOWARD COUNTY SOIL MAP GRID 2, SOILS MAP-GRID 307.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS, NUMBERS 07FE AND 07FB, WERE USED FOR THIS PROJECT.
- THERE ARE NO HISTORIC STRUCTURES OR CEMETERIES WITHIN THE PROJECT BOUNDARY.
- THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- ANY DAMAGE TO PUBLIC RIGHT-OF-WAYS, PAVING OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP, WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
- LIMIT OF DISTURBANCE = 29,441 ± SQ. FT.
- ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
- THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
- SEPTIC TANK TO BE THE CR SEMLER 1,500 GALLON TWO COMPARTMENT SEPTIC TANK OR EQUIVALENT.
- THE WELL (TAG #HO-17-0305) HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.



SEPTIC SYSTEM TRENCH DESIGN SPECIFICATIONS

- INITIAL SYSTEM:**
 - APPLICATION RATE: 1.2
 - EFFECTIVE AREA BEGINNING DEPTH: 3'
 - BOTTOM MAXIMUM DEPTH: 8'
- REPLACEMENT SYSTEM 1:**
 - APPLICATION RATE: 1.2
 - EFFECTIVE AREA BEGINNING DEPTH: 3'
 - BOTTOM MAXIMUM DEPTH: 8'
- DESIGN FLOW:**
 - 4 BEDROOMS AT 150 GPD
 - 4X150 GPD = 600 GPD
- DESIGN FLOW:**
 - 4 BEDROOMS AT 150 GPD
 - 4X150 GPD = 600 GPD
- SQUARE FOOTAGE OF DRAIN FIELD REQUIRED:**
 - DESIGN FLOW (600 GPD) / APPLICATION RATE (1.2) = 500 SF
- SQUARE FOOTAGE OF DRAIN FIELD REQUIRED:**
 - DESIGN FLOW (600 GPD) / APPLICATION RATE (1.2) = 500 SF
- SIDEWALL REDUCTION CREDIT:**
 - TRENCH WIDTH (W) = 3'
 - TRENCH EFFECTIVE DEPTH (D) = 5'
 - (W+2) / (W+1+2D) X 100 = 36%
- SIDEWALL REDUCTION CREDIT:**
 - TRENCH WIDTH (W) = 3'
 - TRENCH EFFECTIVE DEPTH (D) = 5'
 - (W+2) / (W+1+2D) X 100 = 36%
- LINEAR LENGTH OF TRENCH REQUIRED:**
 - DRAIN FIELD SQUARE FOOTAGE (500) X SIDEWALL REDUCTION CREDIT (36%) / TRENCH WIDTH (3) = 60'
- LINEAR LENGTH OF TRENCH REQUIRED:**
 - DRAIN FIELD SQUARE FOOTAGE (500) X SIDEWALL REDUCTION CREDIT (36%) / TRENCH WIDTH (3) = 60'
- EXISTING GRADE:** TRENCH R1: 625.4'
- EXISTING GRADE:** TRENCH R1: 625.4'
- INVERT:** TRENCH I1: 617.4'
- INVERT:** TRENCH I1: 616.0'

PLAN VIEW
SCALE: 1"=50'

PROFILE VIEW
SCALE: HORIZ: 1"=30'
VERT: 1"=3'

ONSITE SEWAGE DISPOSAL SYSTEM DESIGN PLAN
SURRETTE PROPERTY

16241 FREDERICK ROAD
4TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

CONTRACT PURCHASER

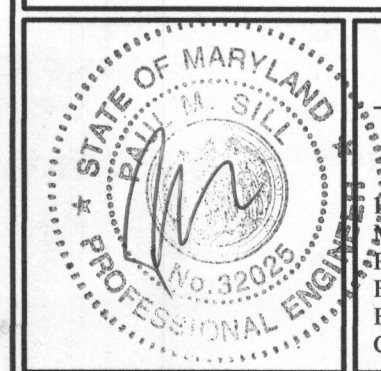
ROBERT SURRETTE
132585TYER COURT
HIGHLAND, MD 20777
CELL(240) 506-1428
HOME (301) 854-1302
OFFICE (301) 621-1111

OWNER

DORS R MILLER
16489 FREDERICK ROAD
WOODBINE, MD 21797-8517

TAX MAP 7 GRID 10
4TH ELECTION DISTRICT

PARCEL 467 LOT 2
HOWARD COUNTY, MARYLAND



SILL ENGINEERING GROUP, LLC
1130 Dovedale Court, Suite 200
Marriottsville, Maryland 21104
Phone: 443.325.5076
Fax: 410.696.2022
Email: info@sillengineering.com

DESIGN BY: PS
DRAWN BY: MPO
CHECKED BY: PS
SCALE: AS SHOWN
DATE: SEPTEMBER 5, 2018
PROJECT #: 18-002
SHEET #: 1 of 1

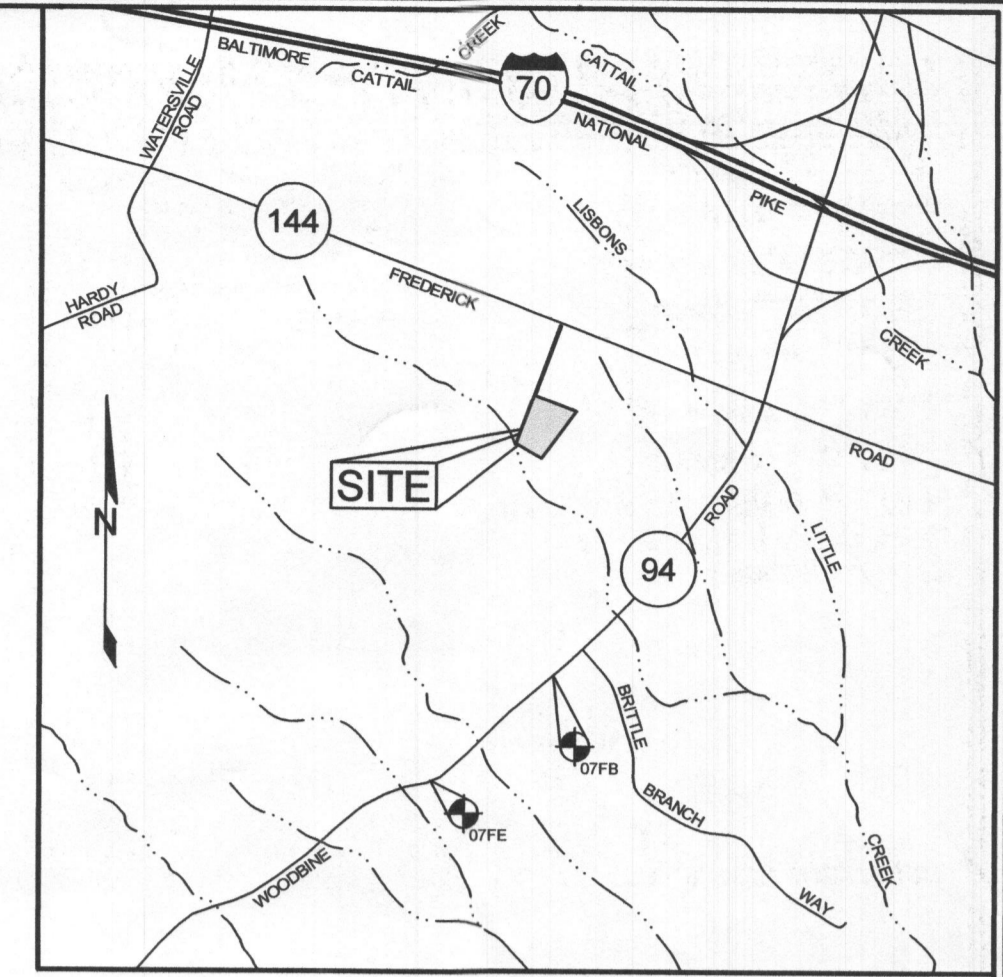
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 32025, EXPIRATION DATE: JUNE 26, 2019.

SOILS LEGEND			
SYMBOL	NAME / DESCRIPTION	GROUP	'K' FACTOR
Co	CODORUS AND HATBORO SILT LOAMS, 0 TO 3 PERCENT SLOPES	C	0.37
GmB	GLENVILLE BAILE SILT LOAMS, 0 TO 8 PERCENT SLOPES	C	0.43
GmB	GLENVILLE SILT LOAMS, 3 TO 8 PERCENT SLOPES	C/D	0.37
GgB	GLENELG LOAM, 3 TO 8 PERCENT SLOPES	B	0.24
GgA	GLENELG LOAM, 0 TO 3 PERCENT SLOPES	B	0.24
GgC	GLENELG LOAM, 8 TO 15 PERCENT SLOPES	B	0.24

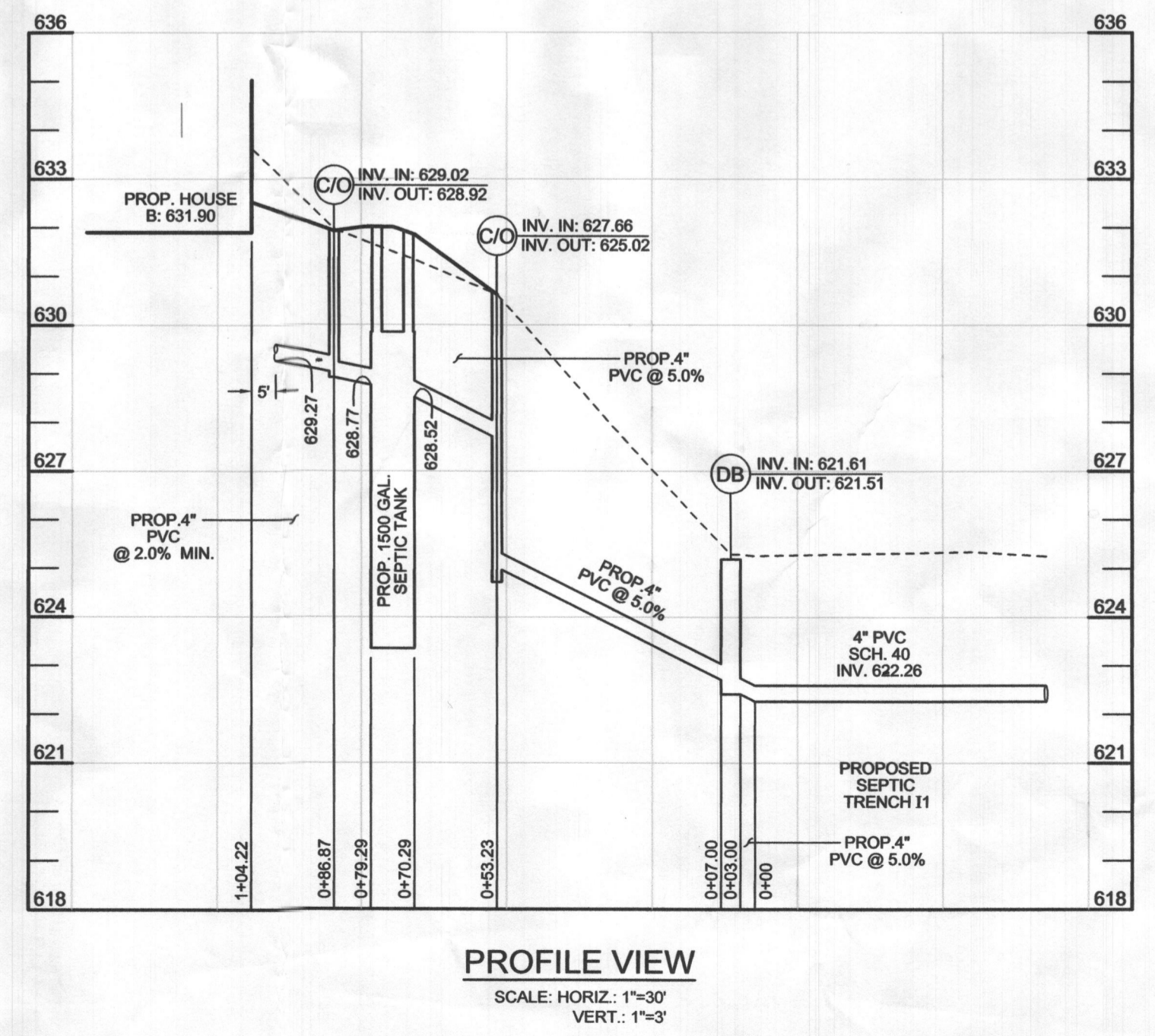
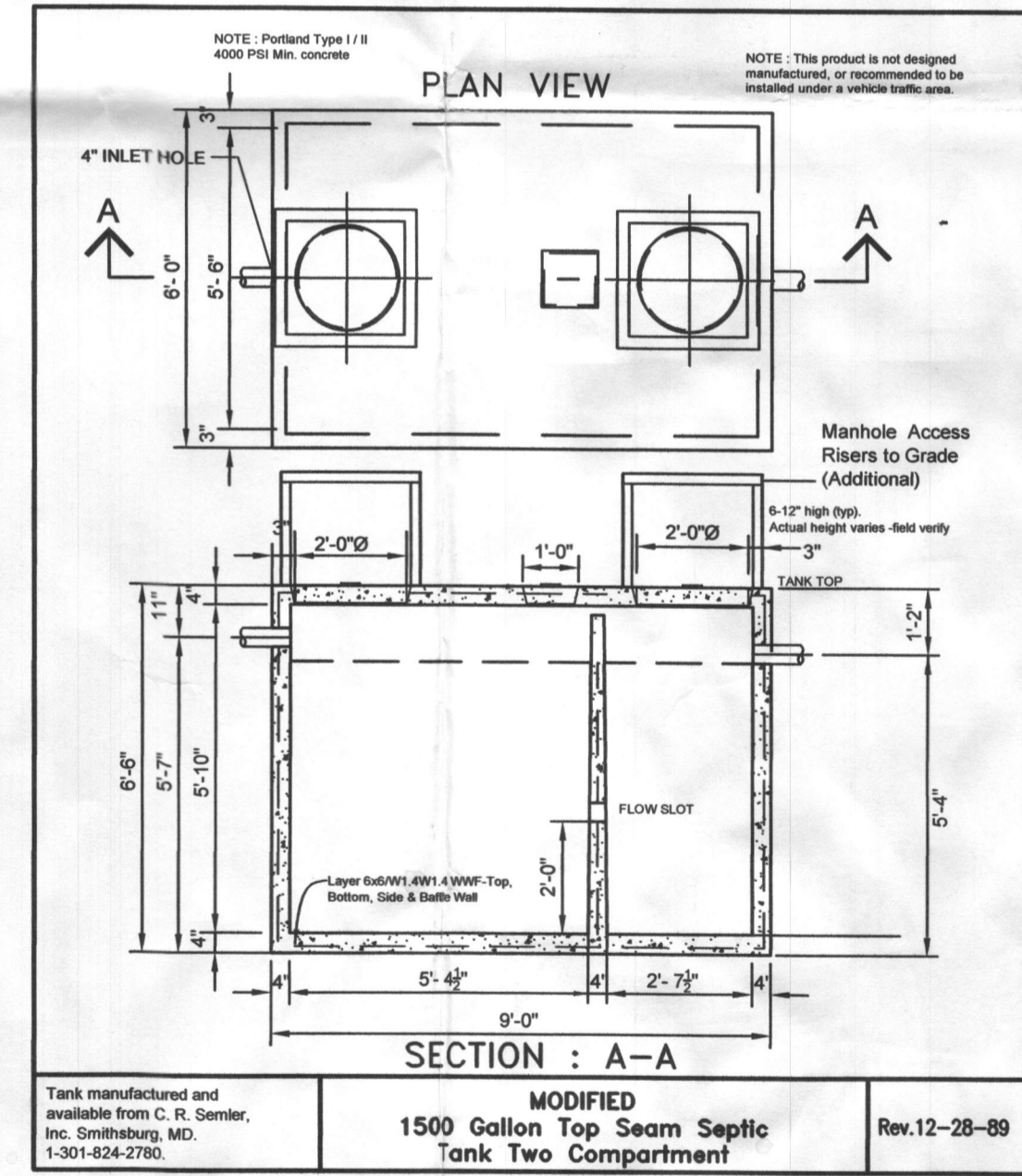
NOTES:
 1) SOIL INFORMATION HAS BEEN TAKEN FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE, WEB SOIL SURVEY.
 2) HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR 'K' GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT.

BENCHMARKS				
NUMBER	NORTHING	EASTING	ELEVATION	DESCRIPTION
07FE	604367.13	1288042.49	593.75	CORNER OF CATTAIL RIVER DR & WOODBINE RD, 20.3' FROM SD MANHOLE, 15' FROM POLE VZ 22 1/2
07FB	605463.41	1289326.15	588.26	WOODBINE ROAD, 44.6' FROM POLE PE FS2601, 62.9' FROM POLE C&P 15

LEGEND	
EXISTING CONTOUR	---
PROPOSED CONTOUR	---
EXISTING SPOT ELEVATION	+
PROPOSED SPOT ELEVATION	+
DIRECTION OF FLOW	→
EXISTING TREELINE	---
PROPOSED TREELINE	---
WALK OUT BASEMENT	WOB
PROPOSED DRY WELL	⊠
REPLACEMENT WELL	⊙
PROPOSED WELL	⊙
REPLACEMENT WELL	⊙
EXISTING WELL	⊙
EXISTING PASSED PERCOLATION TEST	⊙
STEEP SLOPES (2%)	▭



- GENERAL NOTES**
- SUBJECT PROPERTY ZONED RC-DEO PER 1006/13 COMPREHENSIVE ZONING PLAN.
 - TOTAL AREA OF LOT = 44,818 SF OR 1.0289 AC ±
 - PRIVATE WATER AND PRIVATE SEWER WILL BE USED WITHIN THIS SITE.
 - THIS AREA DESIGNATES A PRIVATE SEWERAGE AREA, OF AT LEAST 10,000 SF AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWER DISPOSAL (COMAR 26.04.03). IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE AREAS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE AREA RECORDATION OF A MODIFIED SEWERAGE AREA SHALL NOT BE NECESSARY.
 - ALL EXISTING WELLS, SEPTIC SYSTEMS AND SEWER DISPOSAL AREAS WITHIN 100 FEET OF THE PROPERTY BOUNDARIES AND ALL EXISTING AND PROPOSED WELLS THAT ARE LOCATED WITHIN 200 FEET DOWN-GRADE OF EXISTING OR PROPOSED SEPTIC SYSTEMS AND SEWER DISPOSAL AREAS HAVE BEEN FIELD LOCATED.
 - THE BOUNDARY SHOWN HEREON IS BASED ON A FIELD RUN BOUNDARY SURVEY PREPARED BY NTT ASSOCIATES, INC. ON OR AROUND JANUARY 3, 2018.
 - THE TOPOGRAPHY SHOWN HEREON HAS BEEN FIELD RUN BY NTT ASSOCIATES, INC. ON OR AROUND JANUARY 3, 2018. THE EXISTING TOPOGRAPHY SHOWN OUTSIDE THE SITE IS BASED ON HOWARD COUNTY AERIAL TOPOGRAPHY FLOWN IN 2011.
 - THE SOILS SHOWN HAVE BEEN TAKEN FROM THE NRCS WEB SOIL SURVEY WEBSITE. HOWARD COUNTY SOIL MAP GRID 2, SOILS MAP - GRID 307.
 - THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENTS, NUMBERS 07FE AND 07FB, WERE USED FOR THIS PROJECT.
 - THERE ARE NO HISTORIC STRUCTURES OR CEMETERIES WITHIN THE PROJECT BOUNDARY.
 - THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
 - ANY DAMAGE TO PUBLIC RIGHT-OF-WAYS, PAVING OR EXISTING UTILITIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
 - THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP, WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
 - LIMIT OF DISTURBANCE = 29,441 ± SQ. FT.
 - ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
 - THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
 - SEPTIC TANK TO BE THE CR SEMLER 1,500 GALLON TWO COMPARTMENT SEPTIC TANK OR EQUIVALENT.
 - THE WELL (TAG #HO-17-0305) HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.



SEPTIC SYSTEM TRENCH DESIGN SPECIFICATIONS

<ul style="list-style-type: none"> INITIAL SYSTEM: <ul style="list-style-type: none"> APPLICATION RATE: 1.2 EFFECTIVE AREA BEGINNING DEPTH: 3' BOTTOM MAXIMUM DEPTH: 5' DESIGN FLOW: <ul style="list-style-type: none"> 4 BEDROOMS AT 150 GPD 4X150 GPD = 600 GPD SQUARE FOOTAGE OF DRAIN FIELD REQUIRED: <ul style="list-style-type: none"> DESIGN FLOW (600 GPD) / APPLICATION RATE (1.2) = 500 SF SIDEWALL REDUCTION CREDIT: <ul style="list-style-type: none"> TRENCH WIDTH (W) = 3' TRENCH EFFECTIVE DEPTH (D) = 5' (W+2) / (W+2D) X 100 = 36% LINEAR LENGTH OF TRENCH REQUIRED: <ul style="list-style-type: none"> DRAIN FIELD SQUARE FOOTAGE (500) X SIDEWALL REDUCTION CREDIT (36%) / TRENCH WIDTH (3) = 60' LINEAR LENGTH OF TRENCH PROVIDED = 60' EXISTING GRADE: TRENCH R1: 625.4' INVERT: TRENCH R1: 617.4' 	<ul style="list-style-type: none"> REPLACEMENT SYSTEM 1: <ul style="list-style-type: none"> APPLICATION RATE: 1.2 EFFECTIVE AREA BEGINNING DEPTH: 3' BOTTOM MAXIMUM DEPTH: 5' DESIGN FLOW: <ul style="list-style-type: none"> 4 BEDROOMS AT 150 GPD 4X150 GPD = 600 GPD SQUARE FOOTAGE OF DRAIN FIELD REQUIRED: <ul style="list-style-type: none"> DESIGN FLOW (600 GPD) / APPLICATION RATE (1.2) = 500 SF SIDEWALL REDUCTION CREDIT: <ul style="list-style-type: none"> TRENCH WIDTH (W) = 3' TRENCH EFFECTIVE DEPTH (D) = 5' (W+2) / (W+2D) X 100 = 36% LINEAR LENGTH OF TRENCH REQUIRED: <ul style="list-style-type: none"> DRAIN FIELD SQUARE FOOTAGE (500) X SIDEWALL REDUCTION CREDIT (36%) / TRENCH WIDTH (3) = 60' LINEAR LENGTH OF TRENCH PROVIDED = 60' EXISTING GRADE: TRENCH R1: 624.0' INVERT: TRENCH R1: 616.0'
--	--

CONTRACT PURCHASER
 ROBERT SURRETTE
 13258 TYLER COURT
 HIGHLAND, MD 20777
 CELL (240) 506-1426
 HOME (301) 854-1302
 OFFICE (301) 621-1111

OWNER
 DORIS R MILLER
 16489 FREDERICK ROAD
 WOODBINE, MD 21797-8517

ONSITE SEWER DISPOSAL SYSTEM DESIGN PLAN SURRETTE PROPERTY

16241 FREDERICK ROAD

TAX MAP 7 GRID 10
 4TH ELECTION DISTRICT

PARCEL 467 LOT 2
 HOWARD COUNTY, MARYLAND

SILL ENGINEERING GROUP, LLC
 11130 Dovedale Court, Suite 200
 Marriottsville, Maryland 21104
 Phone: 443.325.5076
 Fax: 410.696.2022
 Email: info@sillengineering.com
 Civil Engineering for Land Development

DESIGN BY: PS
 DRAWN BY: MPO
 CHECKED BY: PS
 SCALE: AS SHOWN
 DATE: SEPTEMBER 5, 2018
 PROJECT #: 18-002
 SHEET #: 1 of 1

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. 32025, EXPIRATION DATE: JUNE 20, 2019.