



Bureau of Environmental Health
8930 Stanford Boulevard, Columbia, MD 21045
Main: 410-313-2640 | Fax: 410-313-2648
TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
Facebook: www.facebook.com/hocohealth

Maura J. Rossman, M.D., Health Officer

RECEIPT DATE: 9/18/18

ONSITE SEWAGE DISPOSAL SYSTEM

P 569008

APPROVAL DATE: 10/10/18 SEC

PERMIT: CONSTRUCTION

A

PROPERTY ADDRESS: 1020 Thunderbird Drive

SUBDIVISION: Fairlane Farms

LOT: 41

TAX ID: _____

CONTRACTOR: South Carroll Backhoe

EMAIL: scbackhoe@comcast.com

CONTRACTOR ADDRESS: 4410 Salem Bottom Road, Westminster, MD 21157

PHONE: 410-596-3618

PROPERTY OWNER: NV Homes

EMAIL: _____

OWNER ADDRESS: 9720 Patuxent Woods Drive, Columbia, MD 21046

PHONE: 410-379-5956

SEPTIC TANK SIZE (GALLONS): 2000

TANK MANUFACTURER: Babylon Vault or equivalent

PUMP MODEL: N/A

PUMP SIZE

N/A

PUMP TANK CAPACITY: N/A

DISTRIBUTION SYSTEM:



GRAVITY



PRESSURE DOSED

BEDROOMS: 4

APPLICATION RATE

0.8

TRENCHES:

LINEAR FEET REQUIRED: 137.50

INLET DEPTH: 3.5

TRENCH WIDTH: 3

MAXIMUM BOTTOM DEPTH: 7.5

MINIMUM SPACE

BETWEEN TRENCHES: 10

EFFECTIVE AREA BEGINNING DEPTH: 5

LOCATION:

PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND TANK LOCATIONS MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.

NOTES:

ISSUED BY: Hank Oswald

ISSUE DATE: 9/18/18

EXPIRATION DATE: 9/18/19

NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION

NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING

NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.

NOTE: WATERTIGHT TANKS REQUIRED

NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRADE FROM ANY WATER WELL

NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS

NOTE: AN ELECTRICAL PERMIT IS REQUIRED FOR INSTALLATION OF ANY ELECTRICAL COMPONENTS OF THE SYSTEM



ELECTRICAL PERMIT ISSUED

E

N/A

NOTE: MDE RECOMMENDS SEPTIC TANKS, BAT, AND OTHER PRETREATMENT UNITS BE PUMPED AT A FREQUENCY ADEQUATE TO ENSURE THAT SOLIDS ARE NOT DISCHARGED TO THE DISPOSAL AREA

NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM.

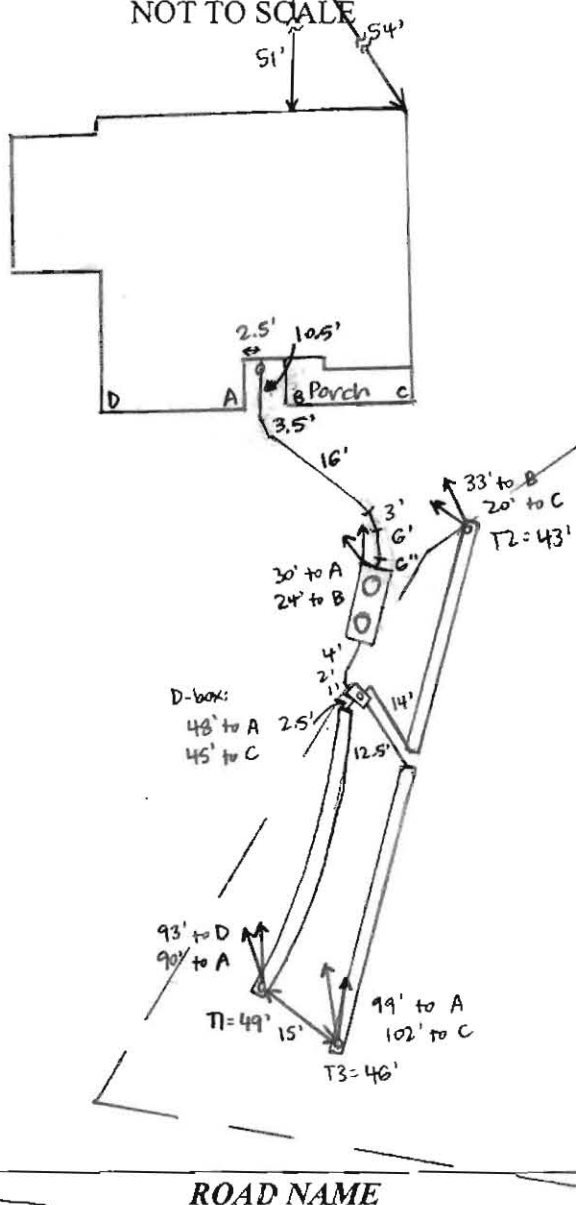
PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT.

CALL 410-313-1771 TO SCHEDULE INSPECTIONS.

HO-15-0189

NOT TO SCALE

1" ≈ 30'



TRENCH/DRAINFIELD DATA

WIDTH	INLET	BOTTOM
3'	3.5'	7.5'
NUMBER OF TRENCHES	3	
TOTAL LENGTH	138'	
ABSORPTION AREA	417' + SIDEWALL	
DISTRIBUTION BOX LEVEL	YES	
DISTRIBUTION BOX BAFFLE	YES	
DISTRIBUTION BOX PORT	YES	

SEPTIC TANK DATA

SEPTIC TANK I LEVEL	YES
MANUFACTURER	BABYLON
CAPACITY	2000 GAL.
SEAM LOC	TOP
TANK LID DEPTH	1-2'
BAFFLES	YES
BAFFLE FILTER	NO
MANHOLE LOC	FRONT - REAR
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	YES
DATE ON LID	8-13-18
PUMP/SEPTIC TANK LEVEL	
MANUFACTURER	
CAPACITY	
SEAM LOC	
TANK LID DEPTH	
BAFFLES	
BAFFLE FILTER	
MANHOLE LOC	
6" PORT LOC	
WATERTIGHT TEST	
SLOTTED	
DATE ON LID	

PRE-CONSTRUCTION:

9/28/18 Met S. Carroll on site for layout. SDA corners + tank staked. Moved tank location farther from house to keep away from grading at porch and swale through front yard; builder OK with move. Sewer line comes out of house at the front. Fall is OK. (SC) [Spoke with Hank Oswald + Jeff Williams - trenches are close to 25% + slopes near road and should be moved off 25' +. OK to set tank, adjust trench spacing prior to install.] 10/2/18 Adjusted trenches, now 3' = 46' to keep 20' off SDA edge near road. OK for TI=49', T3=43' (SC)

INSTALLATION: 10/2/18 Tank set, S. Carroll digging line from house to tank. Pipe laid from house to tank, need house connection. (SC) 10/3/18 T2 installed + left open at ends for inspection. 3' wide, 3' to stone. (SC) 10/9/18 Trenches complete, T3 left open for inspection and TI left open at ends. 3' wide, 3' to stone. D-box installed + connected to tank and trenches. Levelled speed levelers in D-box. Need house connection. (SC) 10/10/18 House connection made - sewer line has a step down before 1st c/o. (SC)

**FISHER, COLLINS
& CARTER, INC.**

**CIVIL ENGINEERING CONSULTANTS
and LAND SURVEYORS**

Transmittal

Terrell A. Fisher, P.E., L.S.
Earl D. Collins, P.E.
Charles J. Crovo, Sr., P.E., L.S.

Paul W. Kriebel, P.E.
Mark L. Robel, P.L.S.
Aldo M. Vitucci, P.E.
Frank Manalansan II, L.S.
Stephanie Tuite, RLA, P.E., LEED AP BD&C

Via: ☐ Fax ☐ Mail ☒ Messenger ☐ E-Mail ☐ To Be Picked Up
☐ Fax (original to follow via U.S. Mail)

To: Bureau of Environmental Health 8930 Stanford Blvd. Columbia, Maryland 21046-4544	Attn: Hank Fax: Phone: 410-313-2640
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From: Tony Fertitta	CC:
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Re: Fairlane Farms, Lot 41	W.O.# 05106-3003
Date: June 4, 2018	Pages: 0 Page(s) including this cover

We are forwarding:	<input checked="" type="checkbox"/> Prints	<input type="checkbox"/> Copy of Letter	<input type="checkbox"/> Specifications	<input type="checkbox"/> Shop drawings	<input type="checkbox"/> Other
	<input type="checkbox"/> Urgent	<input type="checkbox"/> For your use	<input type="checkbox"/> As requested	<input checked="" type="checkbox"/> For Review & Comment	

Remarks:

Re: Fairlane Farm, Lot 41, 1020 Thunderbird Drive.

Here are 3 new copies of the OSDS for Lot 41 for your review. Please let me know if you have any questions.

Thank You,

Tony.

Fisher, Collins, & Carter, Inc. Ph. 410-461-2855

CONFIDENTIALITY NOTICE

This transmission contains confidential information which may be legally privileged, and is intended only for the use of the individual named above. If you are not the intended recipient, you are hereby notified that any distribution (except to the intended recipient), copying, or disclosure of this transmission is strictly prohibited.



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Twitter: HowardCoHealthDep

Maura J. Rossman, M.D., Health Officer

SEWAGE DISPOSAL SYSTEM SPECIFICATIONS WORKSHEET

Address: Thunderbird Dr.

Subdivision: Fairlane Farm Lot: -11

Initial system: Application rate: 0.8 Effective area beginning depth: 5' Bottom maximum depth: 7.5

1st Replacement: Application rate: 0.8 Effective area beginning depth: 5 Bottom maximum depth: 7.5

2nd Replacement: Application rate: 0.8 Effective area beginning depth: 3' Bottom maximum depth: 3.5 (note 243A)

Design Flow = 150 gallons per day per bedroom

Design flow ÷ application rate = square footage of drainfield required

Linear length of trench required = drainfield square footage x sidewall reduction percentage ÷ trench width

Sidewall reduction credit formula:

$$\frac{W + 2}{W + 1 + 2D} \times 100 = \text{Percent of length of standard trench where } W = \text{trench width and } D = \text{depth between effective area beginning depth and trench bottom.}$$

Standard design requirements:

- All trenches must be equal length unless low pressure dosed
- All trenches must be on contour
- Minimum trench spacing: 10' for all trenches utilizing sidewall reduction credit. Additional spacing may be necessary for any trench using over 3.5' of effective sidewall. In those cases, the spacing formula is $2D + W$ up to a maximum spacing of 18'.
- Minimum trench spacing for trenches with no sidewall credit (bottom area only) is 6' for a 2' wide trench and 9' for a 3' wide trench (spacing is measured edge to edge)
- Maximum trench length is 100'
- Maximum pipe depth is 4'

Additional requirements:

Approved: Hank Oswald Date: 1/30/18

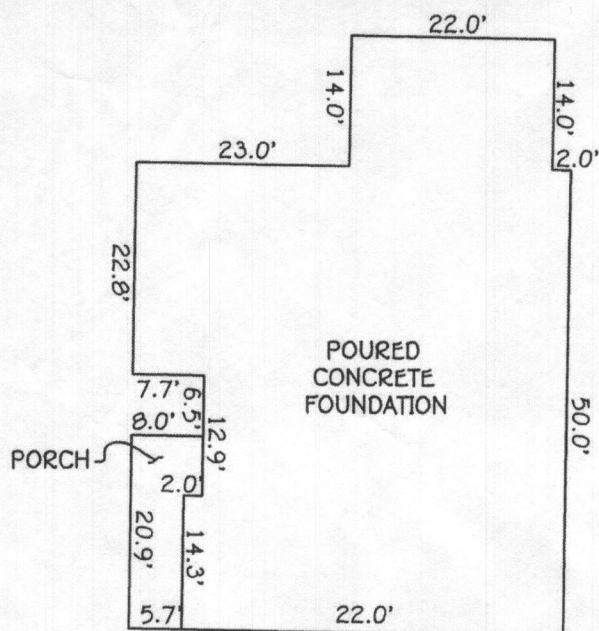
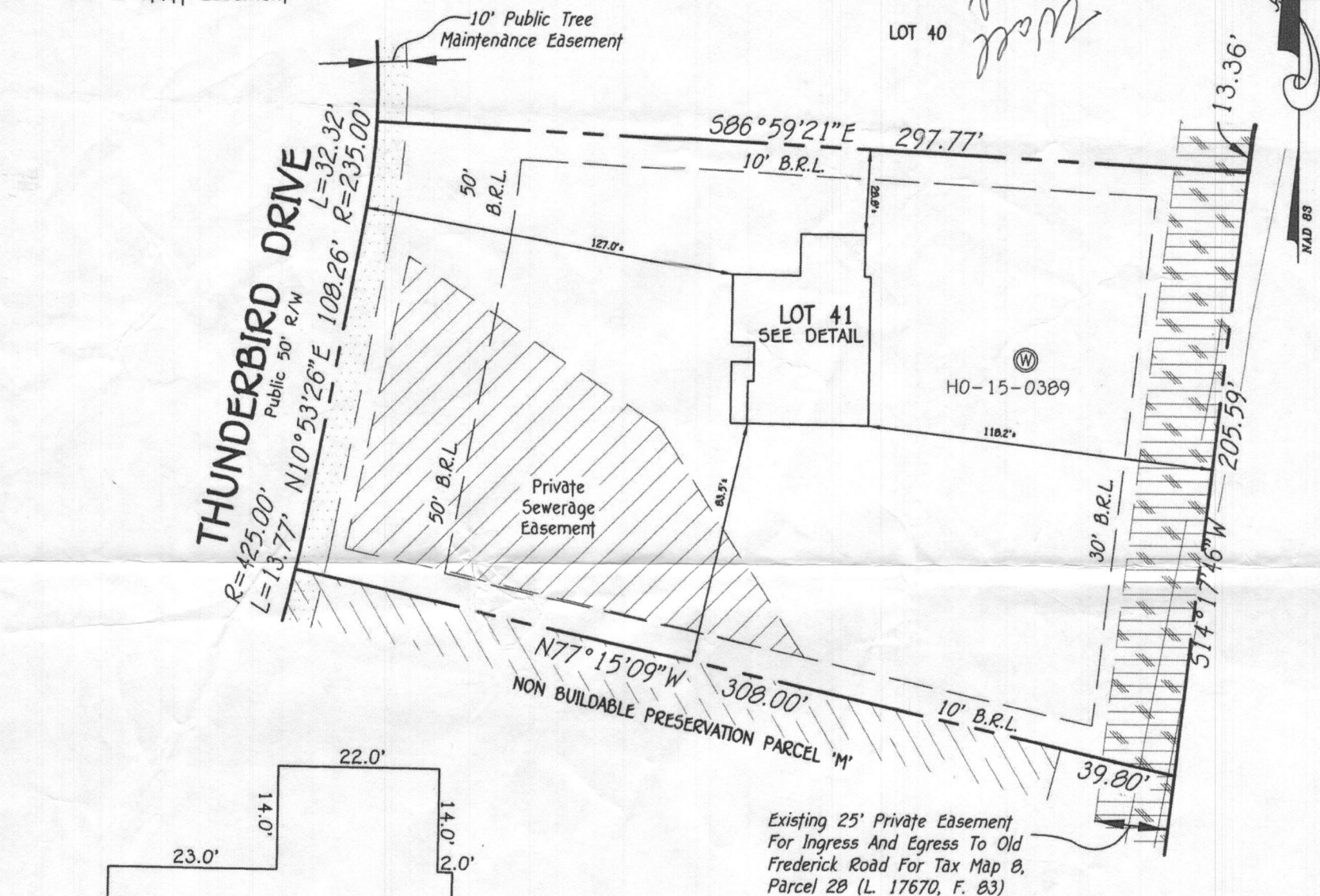
Sarah;
Keep 1st trench 10%
where it's shown
and shift 2nd trench
up toward tank.
Thanks,
Went

GENERAL NOTES:

- 1) THIS LOCATION DRAWING IS PREPARED FOR THE BENEFIT OF THE CLIENT SIGNING THE HOUSE LOCATION SURVEY APPROVAL FORM INsofar AS IT IS REQUIRED BY A LENDER OR TITLE INSURANCE COMPANY OR ITS AGENTS IN CONNECTION WITH THE CONTEMPLATED TRANSFER, FINANCING OR REFINANCING OF THE PROPERTY SHOWN HEREON. UNLESS INDICATED AS BEING A BOUNDARY SURVEY, THIS LOCATION DRAWING IS NOT INTENDED FOR USE IN THE ESTABLISHMENT OF PROPERTY LINES AND IS NOT TO BE RELIED UPON FOR THE ESTABLISHMENT OR LOCATIONS OF FENCES, GARAGES, BUILDINGS OR OTHER EXISTING OR FUTURE IMPROVEMENTS. AS A RESULT, THIS LOCATION DRAWING DOES NOT PROVIDE FOR ACCURATE IDENTIFICATION OF PROPERTY LINES, BUT SUCH IDENTIFICATION MAY NOT BE REQUIRED FOR THE TRANSFER OF TITLE OR SECURING FINANCING FOR RE-FINANCING.
- 2) SUBJECT PROPERTY IS SHOWN IN ZONE X ON THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP OF HOWARD COUNTY, MARYLAND, COMMUNITY PANEL No. 24027C00350 EFFECTIVE 11-06-2013.
- 3) THE OFFSETS FROM BUILDING LINE TO PROPERTY LINE AS SHOWN ON THE PLAT HEREON ARE TO AN ACCURACY OF PLUS OR MINUS 1'.
- 4) NO TITLE REPORT FURNISHED. SUBJECT TO ALL EASEMENTS, RIGHTS OF WAY AND CONDITIONS OF RECORD.
- 5) THE EXISTING WELL(S) SHOWN ON THIS PLAN (IDENTIFIED WITH THE ATTACHED WELL TAG NUMBER HO-15-0389 HAS BEEN FIELD LOCATED BY FISHER, COLLINS AND CARTER, INC. PROFESSIONAL LAND SURVEYORS AND IS ACCURATELY SHOWN.
- 6) PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROPERTY LINE SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 339, EXPIRATION DATE 10/04/2018.
- 7) BUILDING PERMIT #B-18002379

Legend

- 10' Public Tree Maintenance Easement
- Existing 25' Private Easement For Ingress And Egress To Old Frederick Road For Tax Map B, Parcel B3
- Public Stormwater Management, Access, Drainage & Utility Easement



DETAIL:
1"=20'

#1020 THUNDERBIRD DRIVE
B.R.L. = BUILDING RESTRICTION LINE
TOP OF FOUNDATION ELEVATION = 609.9'±

LOT 41
FAIRLANE FARM
PHASE TWO
RESUBDIVISION PLAT-LOTS 19 THRU 44, AND
NON-BUILDABLE PRESERVATION PARCELS 'I' THRU 'N',
& REVISION PLAT-BUILDABLE PRESERVATION PARCEL 'A'
PLAT NOS. 24367 THRU 24372
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLCOTT CITY, MARYLAND 21042
(410) 461 - 2855

Drawing Name:



PROPERTY LINE SURVEYOR
REG. #339

DATE
9/04/18

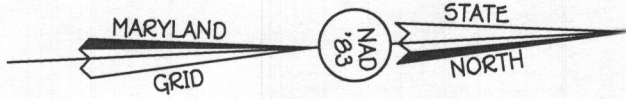
HOUSE LOCATION DRAWING

FOUNDATION LOCATION: 8/29/18
FINAL LOCATION: _____
BOUNDARY SURVEY: _____

SCALE: 1"=50'
DATE: 9/4/18
DRAWN BY: MD
CHECKED BY: MLR
PROJECT No.: 05106-3003

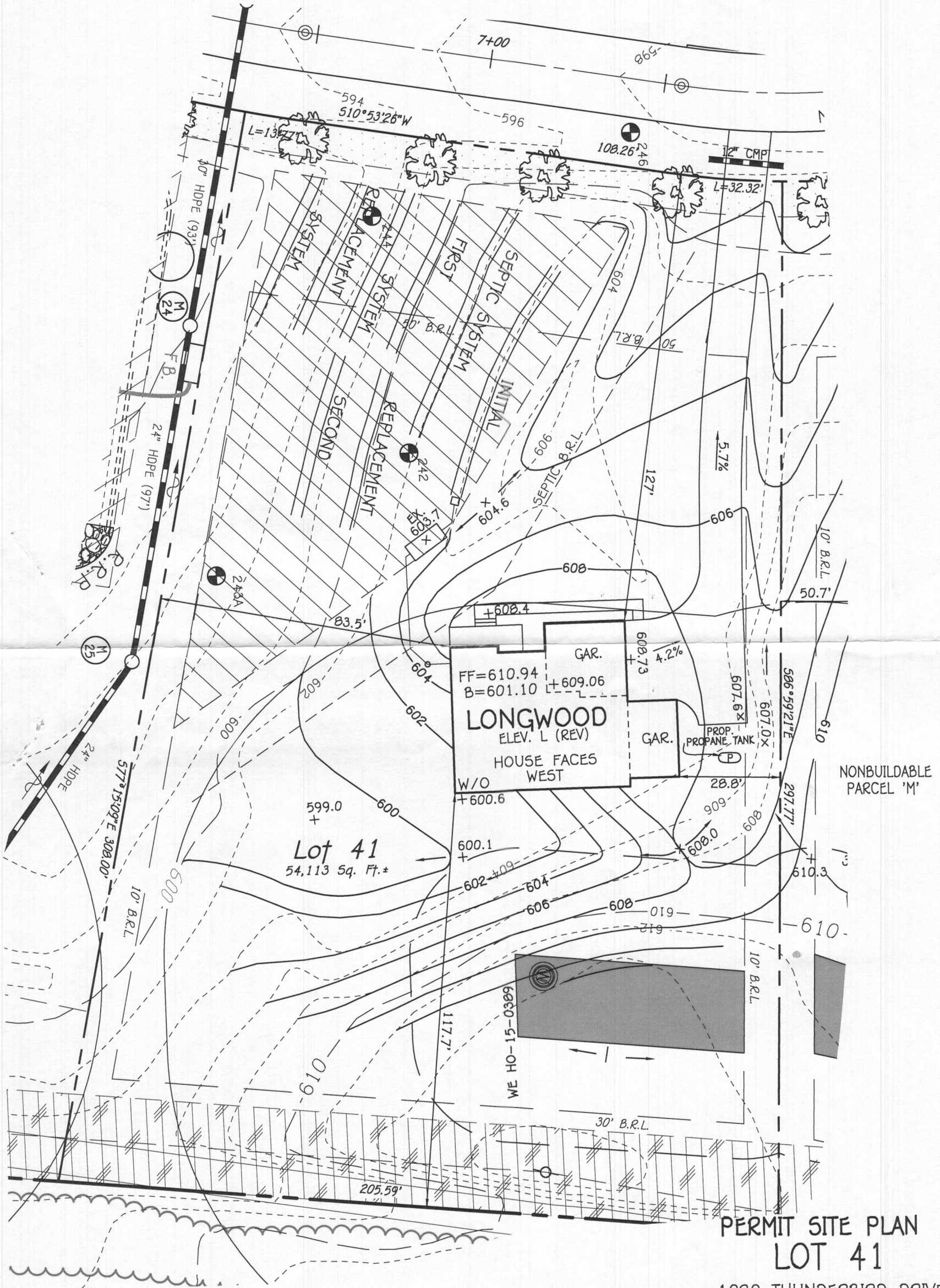
OWNER/DEVELOPER

NV HOMES
9720 PATUXENT WOODS DRIVE
COLUMBIA, MD 21046
410-379-5956



STORMWATER MANAGEMENT NOTES:

STORMWATER MANAGEMENT FOR ALL
IMPERVIOUS AREA OF LOT 41 IS BEING
PROVIDED BY BMP NO. 4, LOCATED ON
NONBUILDABLE PARCEL 'M'.



NOTE: THE EXISTING WELL SHOWN ON THIS PLAN, HO-15-0389, HAS BEEN FIELD LOCATED BY FISHER, COLLINS & CARTER, INC., PROFESSIONAL LAND SURVEYORS AND IS ACCURATELY SHOWN.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
(410) 461-2855

PLAN

SCALE: 1" = 30'

PERMIT SITE PLAN LOT 41

1020 THUNDERBIRD DRIVE

FAIRLANE FARMS

PHASE TWO

ZONED: RC-DEO

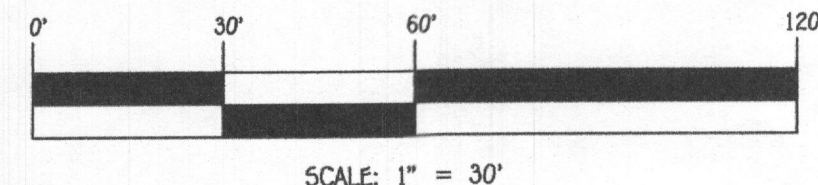
TAX MAP NO.: 8 GRID NO.: 2 PARCEL NO.: 8
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1"=30' DATE: JUNE 5, 2018

SHEET 1 OF 1

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2. THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
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4. THE WELL HO-15-0389 HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.
5. ALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100' OF THE PROPERTY BOUNDARIES AND 200' DOWN GRADIENT OF ANY WELLS AND/OR SEPTIC SYSTEMS HAVE BEEN SHOWN.



PLAN
SCALE: 1" = 30'



FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING, CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 DALLAS ROAD
ELLSWORTH CITY, MARYLAND 21046
(410) 461-2895

OWNER/DEVELOPER
RV HOMES
9720 PATIENT WOODS DRIVE
COLUMBIA, MD 21046
410-379-9956

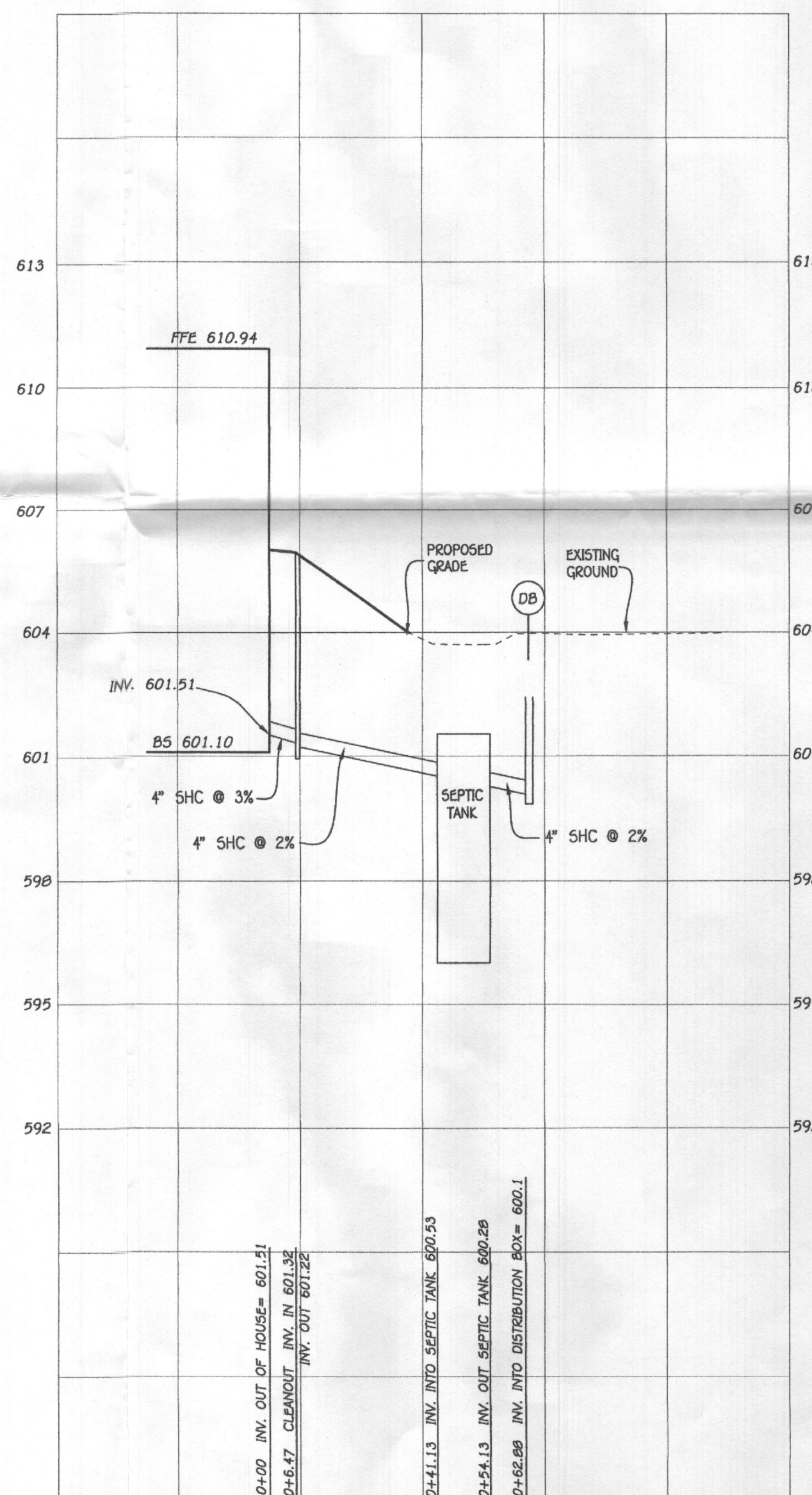
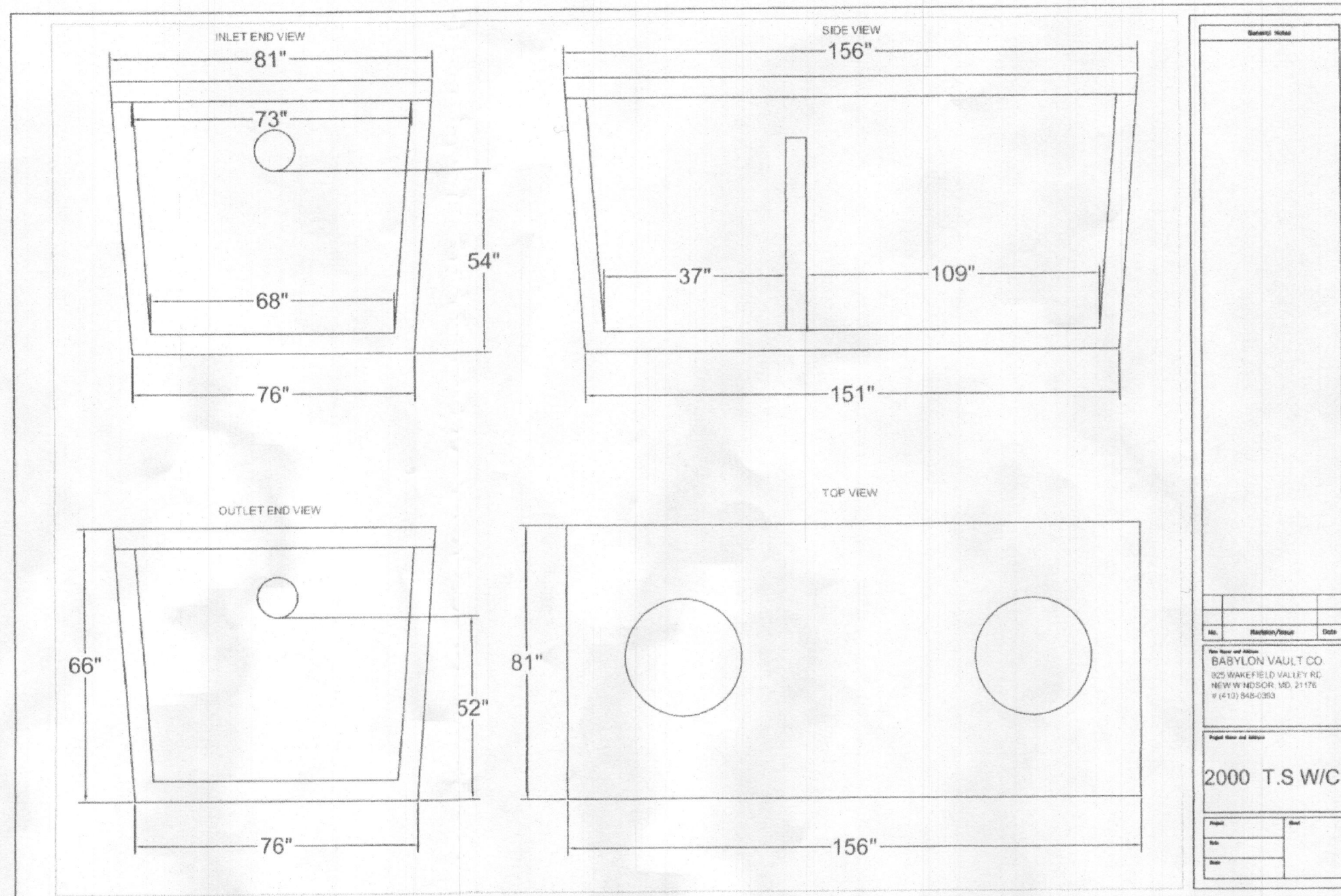


PROFESSIONAL CERTIFICATION

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. 20748, EXPIRATION DATE: 02/22/2019.

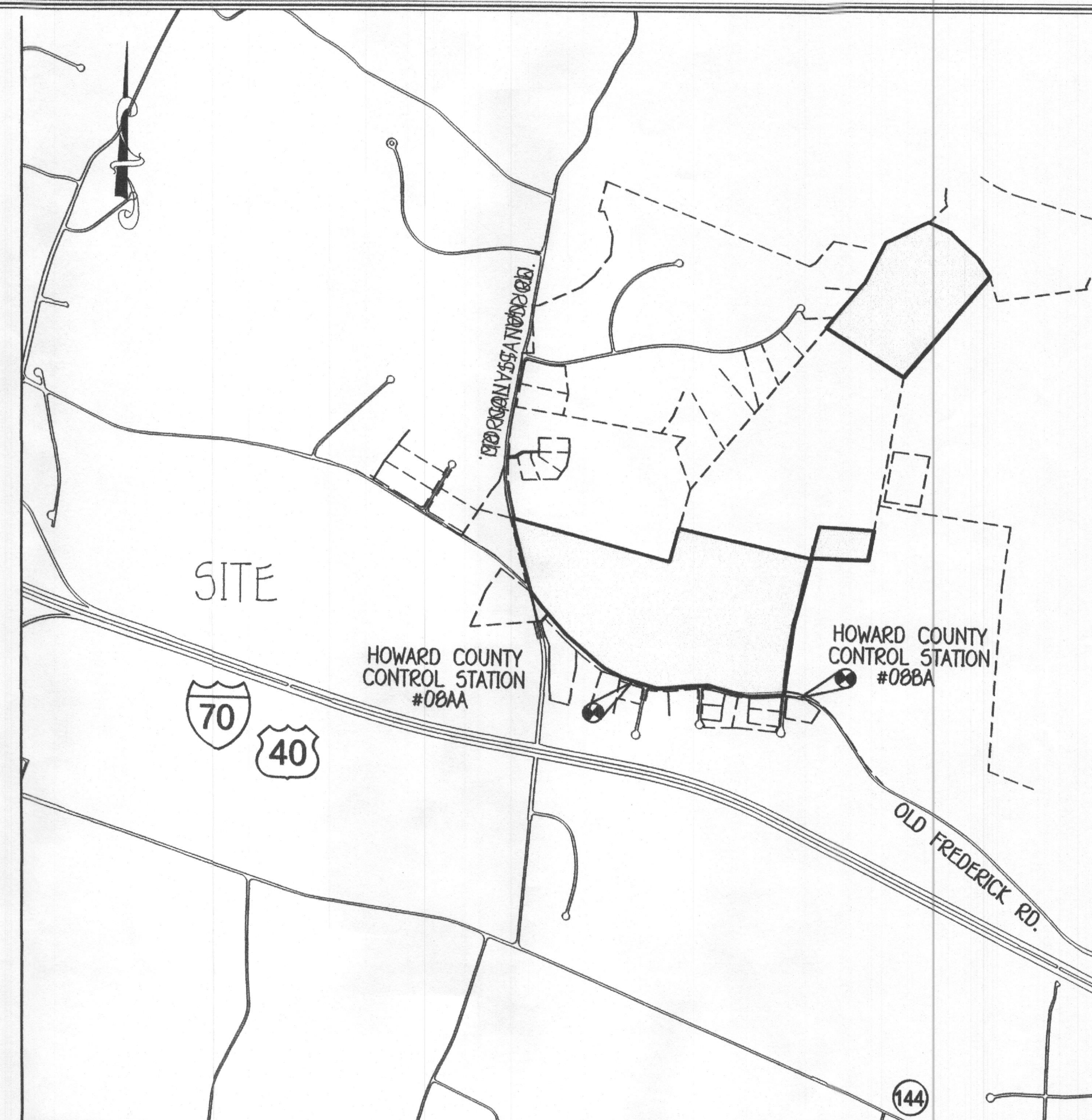
Michael A. Vitucci
Signature Of Professional Engineer

6/14/18
DATE



SEPTIC PROFILE

SCALE: 1" = 30'



VICINITY MAP

SCALE: 1" = 1200'

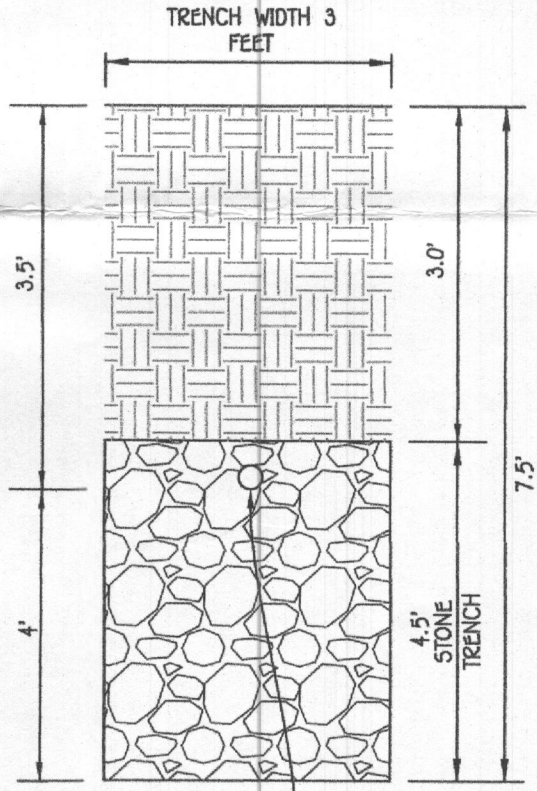
FFE 610.94
BSE 601.10
INV. OUT OF HOUSE = 601.51
PROP. GROUND AT CLEANOUT #1 = 604.3
INV. INTO CLEANOUT = 601.32
INV. OUT OF CLEANOUT = 601.22
EX. GROUND AT SEPTIC TANK = 603.7
PROP. GRADE ABOVE SEPTIC TANK = 603.7
TOP OF SEPTIC TANK = 601.53
INV. INTO SEPTIC TANK = 600.53
INV. OUT OF SEPTIC TANK = 600.28
EX. GROUND AT DISTRIBUTION BOX = 604.0
INV. INTO DISTRIBUTION BOX = 600.1
INV. OUT OF DISTRIBUTION BOX = 600.0

Approved Septic System Plan
Howard County Health Department
Mark Oswald 6/14/18
Signature Date

TRENCH DATA:

TRENCH 1:
EX. GROUND ABOVE = 604.0
INV. IN = 600.0
BOTTOM TRENCH = 596.5

TRENCH 2:
EX. GROUND ABOVE = 602.0
INV. IN = 597.0
BOTTOM TRENCH = 594.5



INITIAL TRENCH DETAIL

SCALE: 1" = 2'

INITIAL SYSTEM

SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR 4 BEDROOMS
LOADING RATE = 4 BEDROOMS X 150 GPD/BEDROOM = 750 GPD
APPLICATION RATE = 0.8
EFFECTIVE SIDEWALL BEGINS AT 5 FEET
TRENCH DEPTH = 7.5 FEET
TRENCH WIDTH (W) = 3 FEET
EFFECTIVE DEPTH (D) = 2.5 FEET
SF OF DRAINFIELD = 750 GPD / 0.8 = 937.5 SF
COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D) = (3+2)/(3+1+(2x2.5)) = 0.55
TRENCH LENGTH = 250.0 SF x 0.55 = 137.50 FEET
(USE 3 TRENCHES AT 45.83 L.F.)
TRENCH SPACING = 2D+W = ((2x2.5) + 3) = 8' USE 10'

1ST REPLACEMENT SYSTEM

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2ND REPLACEMENT SYSTEM

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SEPTIC SYSTEM
INSTALLATION SITE PLAN

LOT 41

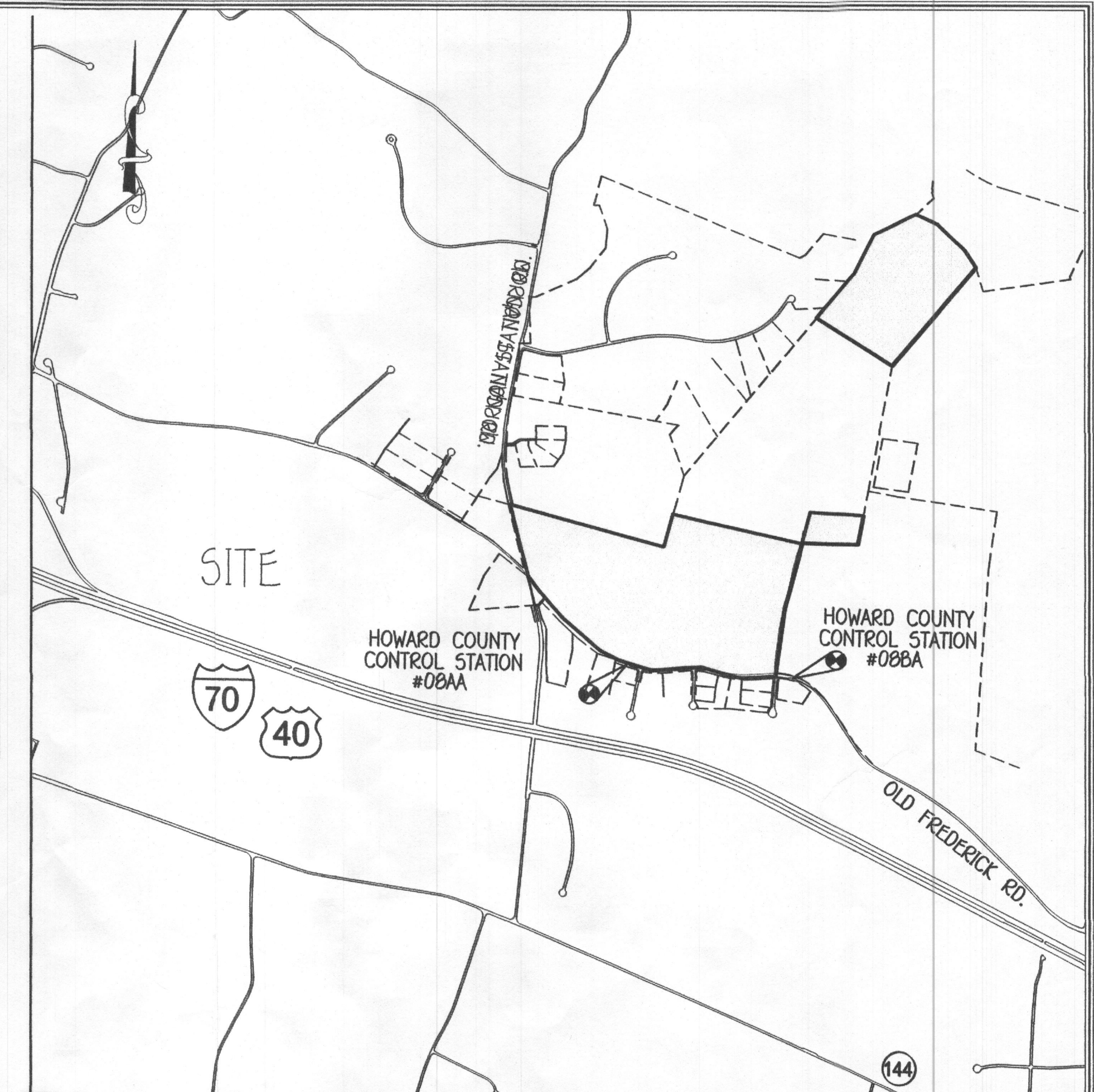
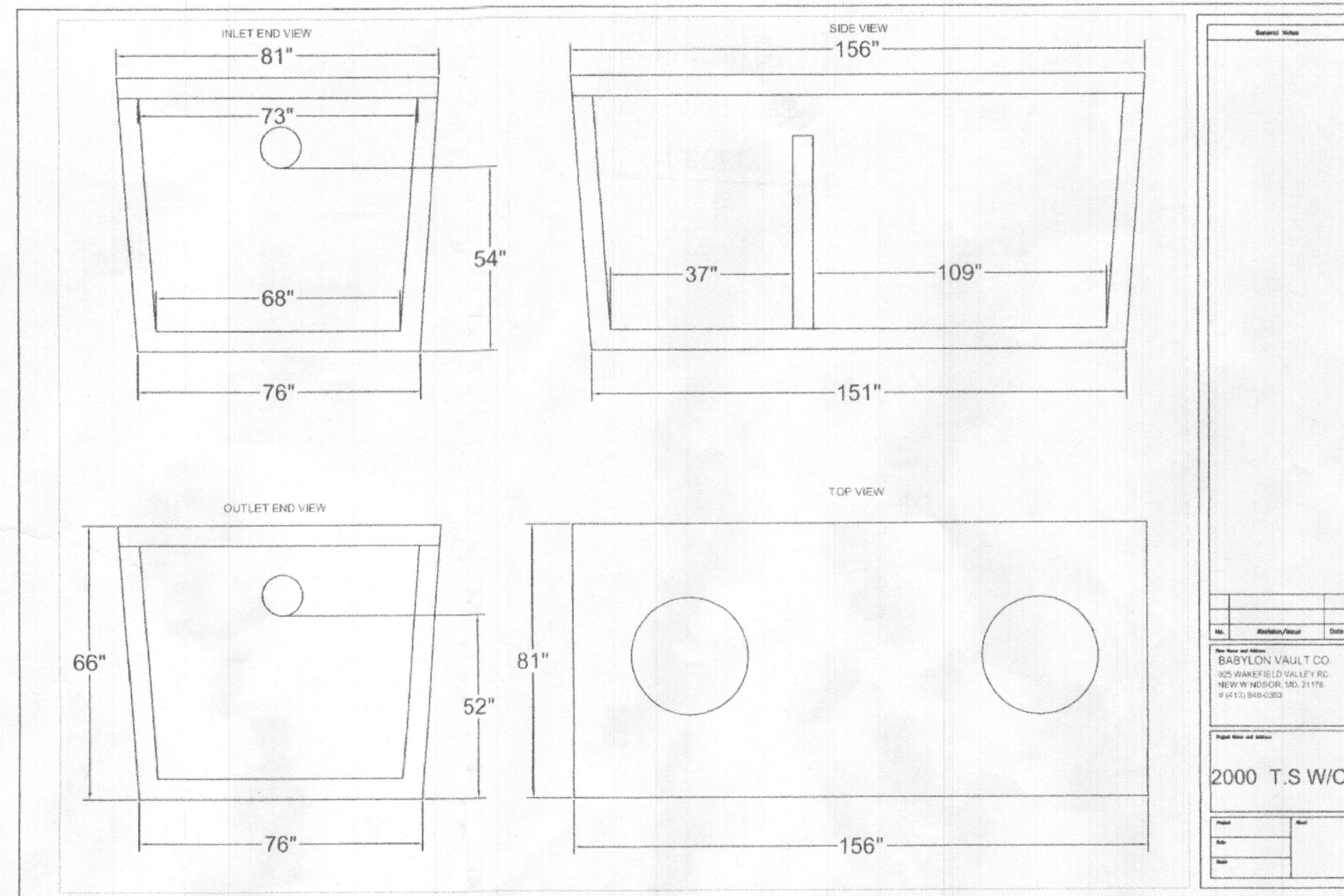
1020 THUNDERBIRD DRIVE
FAIRLANE FARMS

PHASE TWO

ZONED: RC-DEO
TAX MAP NO.: 8 GRID NO.: 2 PARCEL NO.: 8
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1" = 30' DATE: JUNE 11, 2018
SHEET 1 OF 1

ADDRESS CHART	
LOT NUMBER	STREET ADDRESS
41	1020 THUNDERBIRD DRIVE

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TRENCH DATA:
TRENCH 1:
EX. GROUND ABOVE = 604.0
INV. IN = 600.0
BOTTOM TRENCH = 596.5
TRENCH 2:
EX. GROUND ABOVE = 602.0
INV. IN = 597.0
BOTTOM TRENCH = 594.5

INITIAL TRENCH DETAIL
SCALE: 1"=2'

4" PVC INV. INTO TRENCH

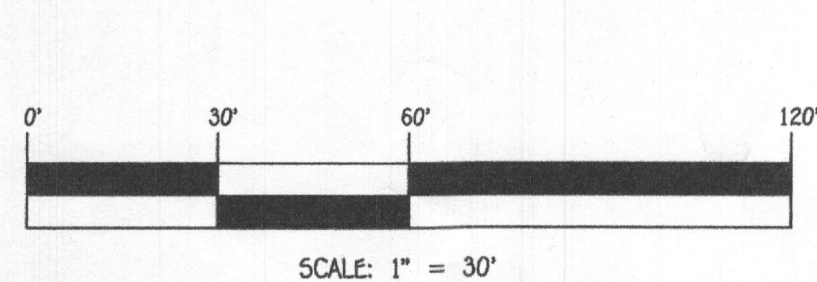
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COEFFICIENT OF REDUCTION OF TRENCH LENGTH = (W+2)/(W+1+2D)=(3+2)/(3+1+(2x2.5))=0.55
TRENCH LENGTH = 250.0 SF X 0.55 = 137.50 FEET
(USE 3 TRENCHES AT 45.83 L.F.)
TRENCH SPACING = 2D+W = ((2x2.5) + 3) = 8' USE 10'

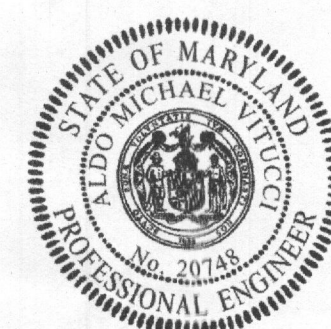
**SEPTIC SYSTEM
INSTALLATION SITE PLAN
LOT 41
1020 THUNDERBIRD DRIVE
FAIRLANE FARMS**

PHASE TWO
ZONED: RC-DEO
TAX MAP NO.: 8 GRID NO.: 2 PARCEL NO.: 8
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1"=30' DATE: JUNE 11, 2018
SHEET 1 OF 1



FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21046
(410) 461-2295

OWNER/DEVELOPER
NV HOMES
9720 PATUXENT WOODS DRIVE
COLUMBIA, MD 21046
410-379-5956



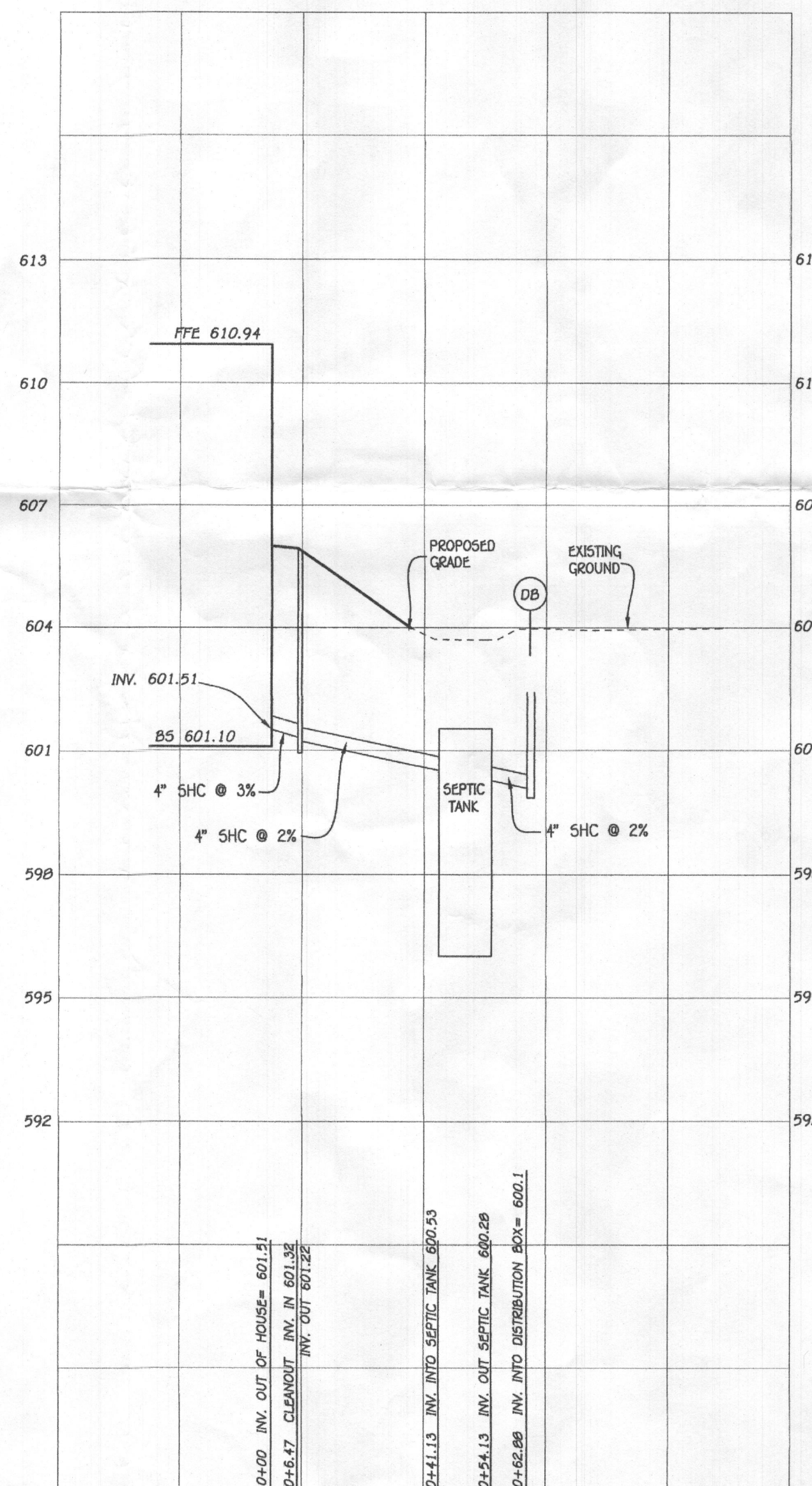
PROFESSIONAL CERTIFICATION

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. 20746, EXPIRATION DATE: 02/22/2019.

Michael L. Fisher
Signature of Professional Engineer

6/14/18
DATE

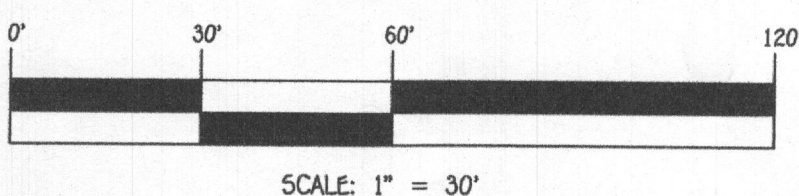
SEPTIC PROFILE
SCALE: 1"=30'



1. 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.
2. THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
3. ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
4. THE WELL HO-15-0389 HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.
5. ALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100' OF THE PROPERTY BOUNDARIES AND 200' DOWN GRADIENT OF ANY WELLS AND/OR SEPTIC SYSTEMS HAVE BEEN SHOWN.

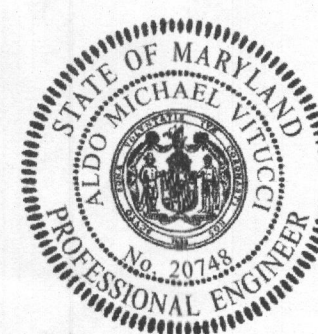


PLAN
SCALE: 1" = 30'



FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21046
(410) 461-2895

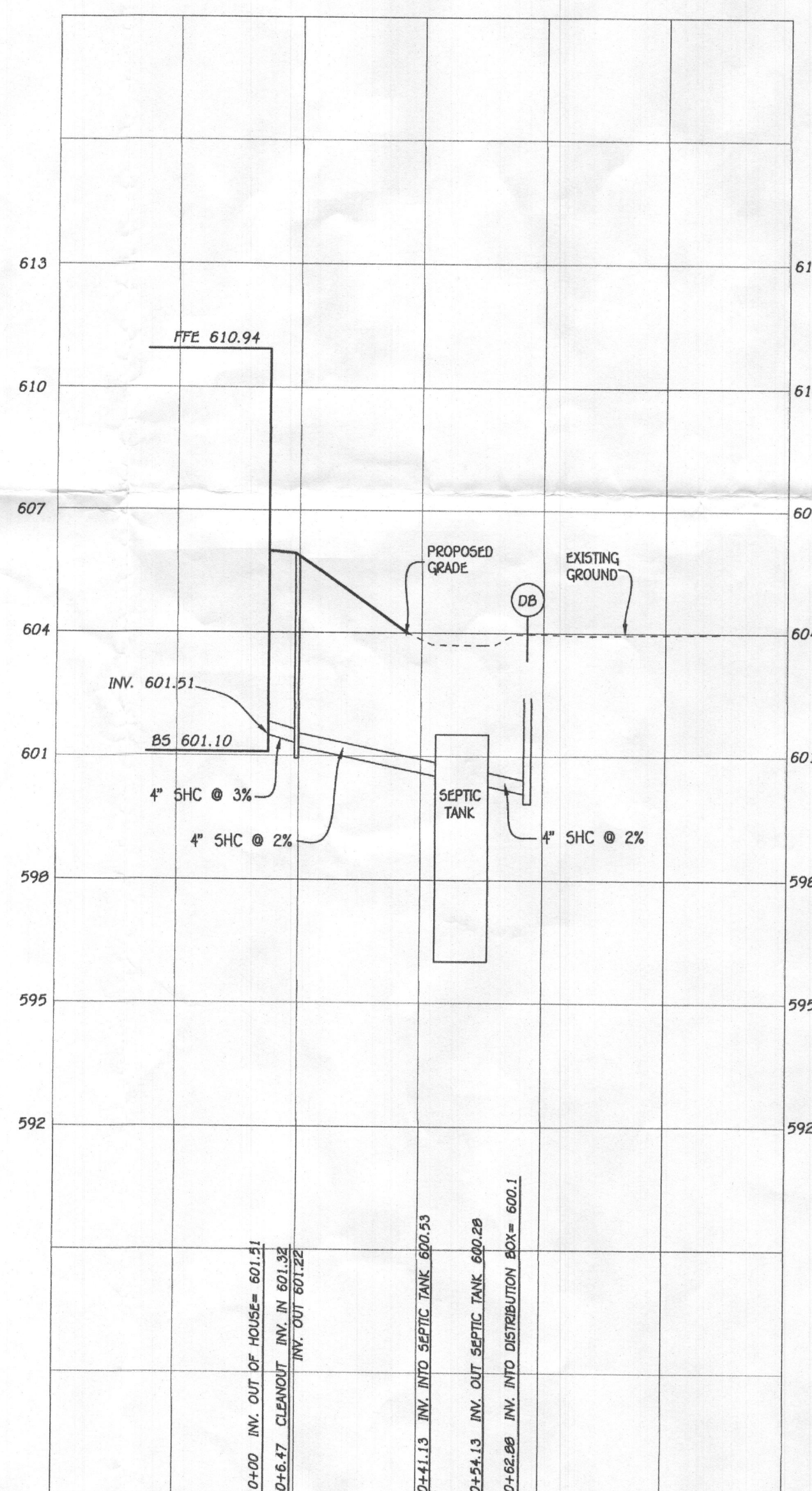
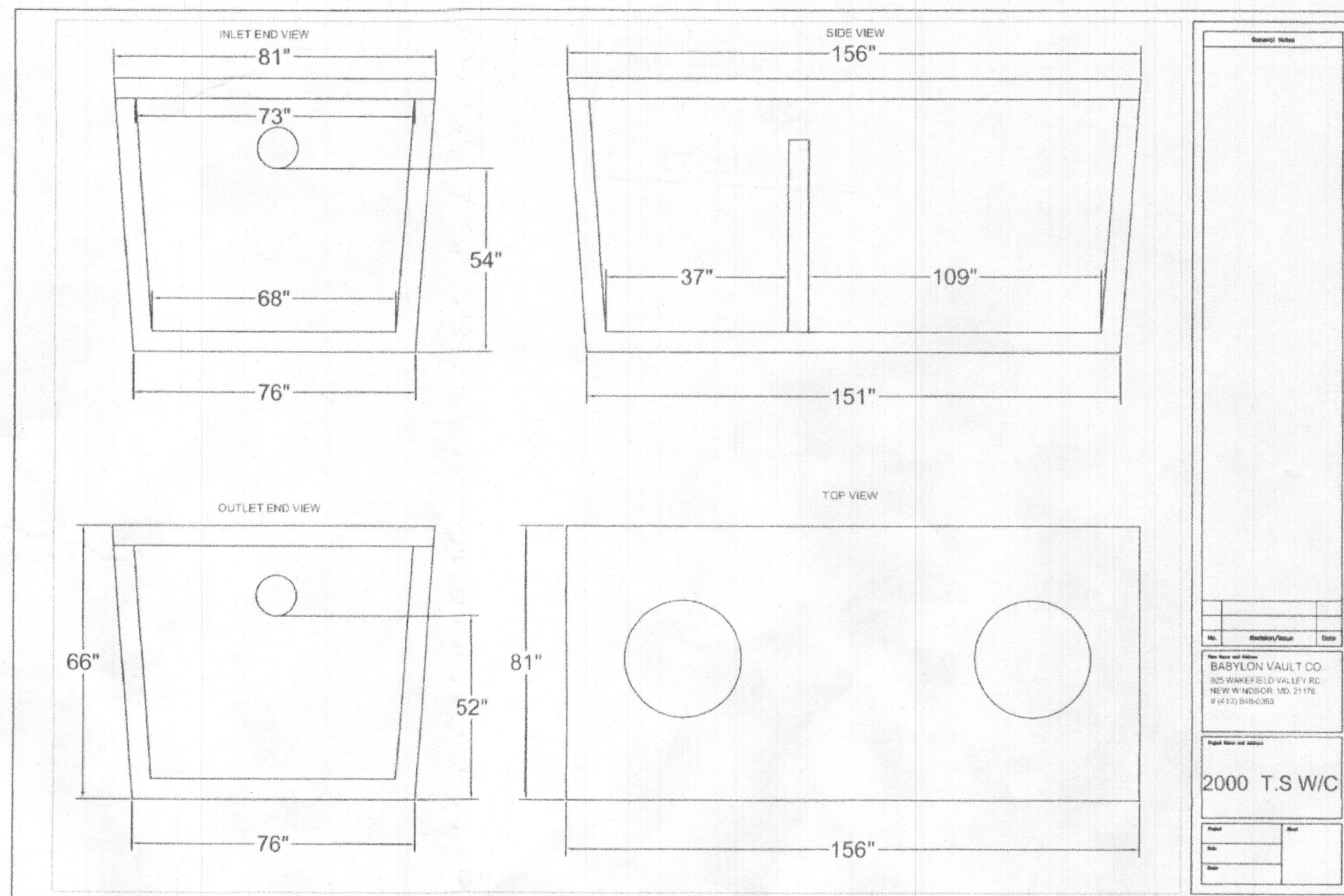
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NY HOMES
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COLUMBIA, MD 21046
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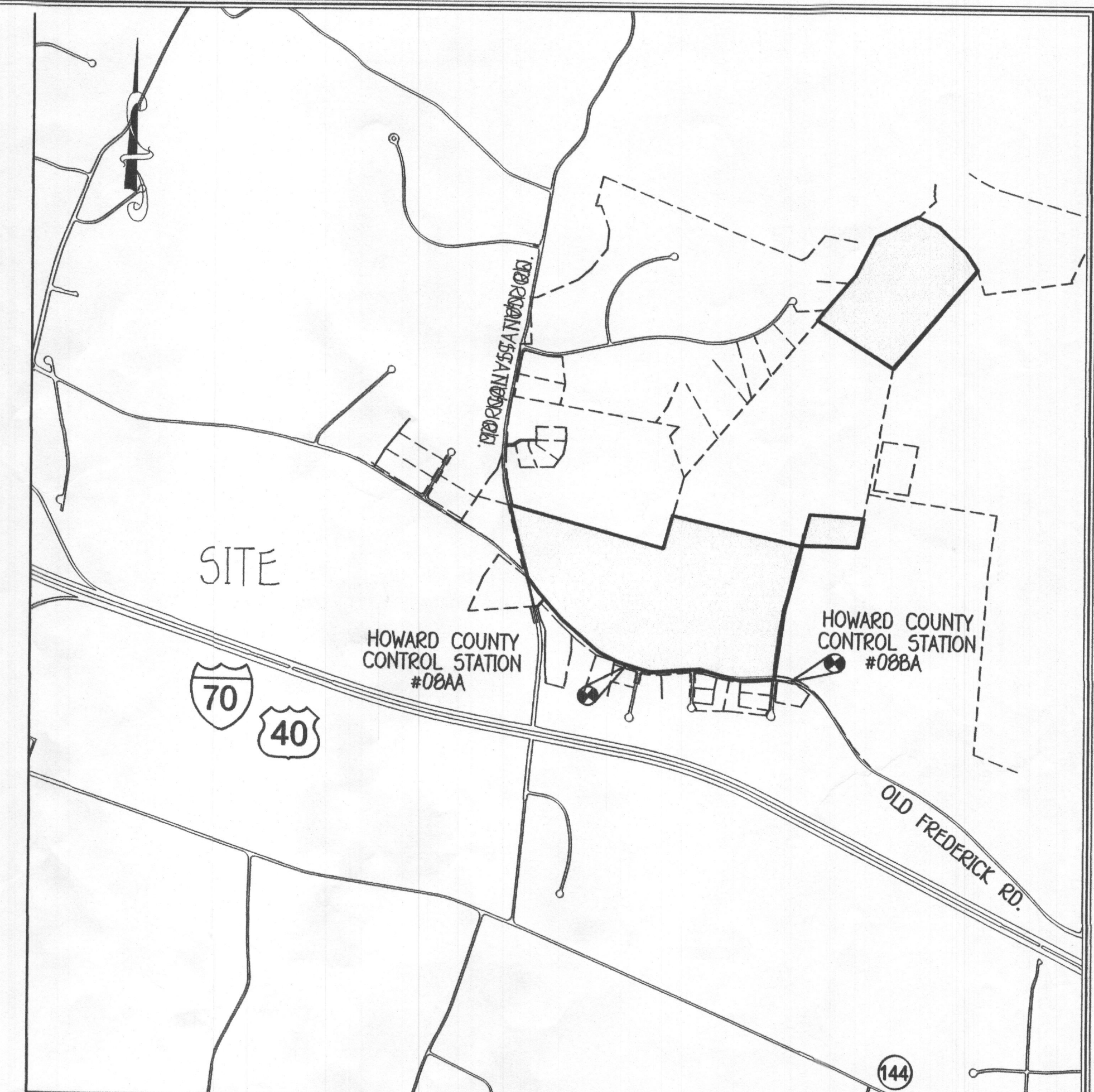
PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME
AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF
THE STATE OF MARYLAND, LICENSE NO. 20748, EXPIRATION DATE: 02/22/2019.

Michael J. Lipp
Signature of Professional Engineer

6/11/19
DATE



SEPTIC PROFILE
SCALE: 1" = 30'



VICINITY MAP
SCALE: 1" = 1200'

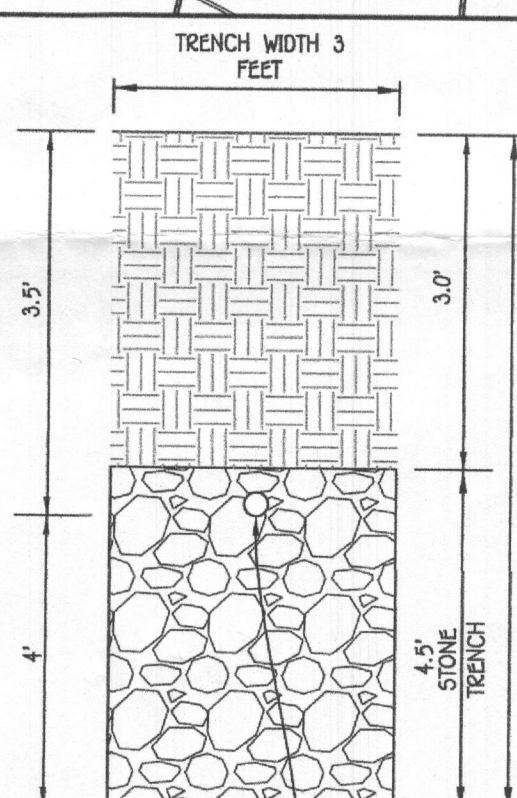
FFE 610.94
BSE 601.10
INV. OUT OF HOUSE = 601.51
PROP. GROUND AT CLEANOUT #1 = 604.3
INV. INTO CLEANOUT = 601.32
INV. OUT OF CLEANOUT = 601.22
EX. GROUND AT SEPTIC TANK = 603.7
PROP. GRADE ABOVE SEPTIC TANK = 603.7
TOP OF SEPTIC TANK = 601.53
INV. INTO SEPTIC TANK = 600.53
INV. OUT OF SEPTIC TANK = 600.28
EX. GROUND AT DISTRIBUTION BOX = 604.0
INV. INTO DISTRIBUTION BOX = 600.1
INV. OUT OF DISTRIBUTION BOX = 600.0

Approved Septic System Plan
Howard County Health Department
Mark Oswald 6/11/19
Signature Date

TRENCH DATA:

TRENCH 1:
EX. GROUND ABOVE = 604.0
INV. IN = 600.0
BOTTOM TRENCH = 596.5

TRENCH 2:
EX. GROUND ABOVE = 602.0
INV. IN = 597.0
BOTTOM TRENCH = 594.5



INITIAL TRENCH DETAIL
SCALE: 1" = 2'

INITIAL SYSTEM

SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR
4 BEDROOMS
LOADING RATE = 4 BEDROOMS X 150 GPD/BEDROOM = 750 GPD
APPLICATION RATE = 0.8
EFFECTIVE SIDEWALL BEGINS AT 5 FEET
TRENCH DEPTH = 7.5 FEET
TRENCH WIDTH (W) = 3 FEET
EFFECTIVE DEPTH (D) = 2.5 FEET
SF OF DRAINFIELD = 750 GPD / 0.8 = 937.5 SF
COEFFICIENT OF REDUCTION OF TRENCH LENGTH =
(W+2)/(W+1+2D)=(3+2)/(3+1+(2x2.5))=0.55
TRENCH LENGTH = 250.0 SF X 0.55 = 137.50 FEET
(USE 3 TRENCHES AT 45.83 LF.)
TRENCH SPACING = 2D+W = ((2x2.5) + 3) = 8' USE 10'

1ST REPLACEMENT SYSTEM

SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR
4 BEDROOMS
LOADING RATE = 4 BEDROOMS X 150 GPD/BEDROOM = 750 GPD
APPLICATION RATE = 0.8
EFFECTIVE SIDEWALL BEGINS AT 5 FEET
TRENCH DEPTH = 7.5 FEET
TRENCH WIDTH (W) = 3 FEET
EFFECTIVE DEPTH (D) = 2.5 FEET
SF OF DRAINFIELD = 750 GPD / 0.8 = 937.5 SF
COEFFICIENT OF REDUCTION OF TRENCH LENGTH =
(W+2)/(W+1+2D)=(3+2)/(3+1+(2x2.5))=0.55
TRENCH LENGTH = 250.0 SF X 0.55 = 137.50 FEET
(USE 3 TRENCHES AT 45.83 LF.)
TRENCH SPACING = 2D+W = ((2x2.5) + 3) = 8' USE 10'

2ND REPLACEMENT SYSTEM

SEWAGE DISPOSAL SYSTEM DATA, DESIGN FOR
4 BEDROOMS
LOADING RATE = 4 BEDROOMS X 150 GPD/BEDROOM = 750 GPD
APPLICATION RATE = 0.8
EFFECTIVE SIDEWALL BEGINS AT 5 FEET
TRENCH DEPTH = 7.5 FEET
TRENCH WIDTH (W) = 3 FEET
EFFECTIVE DEPTH (D) = 2.5 FEET
SF OF DRAINFIELD = 750 GPD / 0.8 = 937.5 SF
COEFFICIENT OF REDUCTION OF TRENCH LENGTH =
(W+2)/(W+1+2D)=(3+2)/(3+1+(2x2.5))=0.55
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(USE 3 TRENCHES AT 45.83 LF.)
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SEPTIC SYSTEM
INSTALLATION SITE PLAN
LOT 41

1020 THUNDERBIRD DRIVE
FAIRLANE FARMS

PHASE TWO

ZONED: RC-DEO

TAX MAP NO.: 8 GRID NO.: 2 PARCEL NO.: 8
5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: 1"=30' DATE: JUNE 11, 2018
SHEET 1 OF 1

ADDRESS CHART	
LOT NUMBER	STREET ADDRESS
41	1020 THUNDERBIRD DRIVE