

PERMIT NUMBER: B 21000482

DATE ACCEPTED:

FEB 12 2021



RESIDENTIAL BUILDING PERMIT APPLICATION

HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES, AND PERMITS

3430 COURT HOUSE DRIVE, ELLICOTT CITY, MD 21043 - PHONE: (410) 313-2455 OPTION #4
www.howardcountymd.gov

BUILDING SITE ADDRESS REQUIRED

Street Address: 14511 MacClintock Court		Unit:
City: Glenwood	State: MD	Zip Code: 21738
Subdivision/Village/Complex Name: Warfield Estates		SDP/WP/BA #:
Lot: 21	Tax Map: 0021	Parcel: 0129
Grading Permit #: N/A		

DESCRIPTION OF WORK REQUIRED

Existing Use: Undeveloped	Proposed Use: Residential Single Family	Estimated Cost: \$ 400,000
Trade Work to Be Completed (Separate Permits Required): <input type="checkbox"/> Mechanical (HVACR) <input type="checkbox"/> Electrical <input type="checkbox"/> Plumbing <input type="checkbox"/> None		
Build a new 3 Bedroom 2 1/2 Bath Modular 2 story home with garage, partial finished basement, front covered stoop and 1 wood burning stove.		

PROPERTY OWNER INFORMATION REQUIRED

Owner(s) Name(s) (As it appears on tax records): Patrick and Brooke Curley		Primary Residence: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Owner's Street Address: 210 Market Street		
City: Brookeville	State: Maryland	Zip Code: 20833
Phone: 410-913-9787	Email: curley.patrick26@gmail.com	

APPLICANT NAME REQUIRED - INDIVIDUAL WHO SIGNS THIS APPLICATION

Business Name: Maryland Custom Builders, Inc.	Contact Name: Taz Ezzat
Street Address: 4526 Taralee Court	
City: Ellicott City	State: Maryland
Phone: 301-924-9550	Email: mse.taz@gmail.com
Zip Code: 21042	

CONTRACTOR INFORMATION REQUIRED

Business Name: Maryland Custom Builders, Inc.	
Licensee's Name: Maryland Custom Builders, Inc.	License #: MHBR - 381
Street Address: 4526 Taralee Court	
City: Ellicott City	State: Maryland
Phone: 301-924-9550	Email: mse.taz@gmail.com
Zip Code: 21042	

ARCHITECT/ENGINEER INFORMATION INDIVIDUAL WHO SIGNED PLANS, IF APPLICABLE

Business Name: State Approved Modular	Name:
Street Address:	
City:	State:
Phone:	Email:
Zip Code:	

BUILDING CHARACTERISTICS REQUIRED

Primary Structure: <input checked="" type="checkbox"/> SF Dwelling <input type="checkbox"/> SF Townhouse <input type="checkbox"/> SF Duplex <input type="checkbox"/> Mobile Home <input type="checkbox"/> Multi-Family Dwelling (MF*)	Condo: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Utilities: <input checked="" type="checkbox"/> Electric <input type="checkbox"/> Gas	Water Supply: <input type="checkbox"/> Public <input checked="" type="checkbox"/> Private (Well)
Sewage Disposal: <input type="checkbox"/> Public <input checked="" type="checkbox"/> Private (Septic)	
Heating System: <input checked="" type="checkbox"/> Electric <input type="checkbox"/> Natural Gas <input type="checkbox"/> Propane <input type="checkbox"/> Other:	Roadside Tree Project: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes: #
Sprinkler System: <input checked="" type="checkbox"/> NFPA 13 <input type="checkbox"/> NFPA 13R <input type="checkbox"/> NFPA 13D <input type="checkbox"/> None	Fire Alarm System: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Voice Evac

ADDITIONAL RESIDENTIAL INFORMATION (PLEASE SELECT/COMPLETE ALL THAT APPLY)

Model Name & Options:				
# of Bedrooms (SF): 3	# of efficiency units (MF*):	# of 1 BR (MF*):	# of 2 BR (MF*):	# of 3 BR (MF*):
# Rooms:	# Full Baths: 2	# Half Baths: 1	# Fireplaces: 1 (woodstove)	
Garage/Carport Info: <input checked="" type="checkbox"/> Attached Garage <input type="checkbox"/> Detached Garage <input type="checkbox"/> Integral Garage <input type="checkbox"/> Carport <input type="checkbox"/> None				
Basement/Foundation Info: <input type="checkbox"/> Slab on Grade <input type="checkbox"/> Post & Pier <input type="checkbox"/> Unfinished Basement <input checked="" type="checkbox"/> Finished Basement: <input type="checkbox"/> Full or <input checked="" type="checkbox"/> Partial				
1 st FI Width: 60	1 st FI Depth: 30	2 nd FI Width: 40	2 nd FI Depth: 30	Bsmt Width: 60
Energy Method: <input checked="" type="checkbox"/> Prescriptive <input type="checkbox"/> Performance <input type="checkbox"/> UA Alternative <input type="checkbox"/> ERI		Gross Area: 2547 sq ft		
		Occupiable Area: 2547 sq ft		

AGREEMENT/ DISCALIMER REQUIRED

THE UNDERSIGNED HEREBY CERTIFIES AND AGREES AS FOLLOWS: (1) THAT HE/SHE IS AUTHORIZED TO MAKE THIS APPLICATION; (2) THAT THE INFORMATION IS CORRECT; (3) THAT HE/SHE WILL COMPLY WITH ALL REGULATIONS OF HOWARD COUNTY WHICH ARE APPLICABLE THERETO; (4) THAT HE/SHE WILL PERFORM NO WORK ON THE ABOVE REFERENCED PROPERTY NOT SPECIFICALLY DESCRIBED IN THIS APPLICATION; (5) THAT HE/SHE GRANTS COUNTY OFFICIALS THE RIGHT TO ENTER ONTO THIS PROPERTY FOR THE PURPOSE OF INSPECTING THE WORK PERMITTED AND POSTING NOTICES.

(See original app)

APPLICANT'S ORIGINAL SIGNATURE

DATE SIGNED

FOR OFFICE USE ONLY

CHECKS PAYABLE TO: DIRECTOR OF FINANCE OF HOWARD COUNTY

AGENCIES REQUIRED/APPROVALS:

<input type="checkbox"/> PR	<input type="checkbox"/> DPZ	<input type="checkbox"/> DED	<input checked="" type="checkbox"/> Health <i>R/E</i>	<input type="checkbox"/> SHA	<input type="checkbox"/> CID
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SUBMITTAL FEES:	PAYMENT:	ACCEPTED BY:
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Drop Box 176 \$

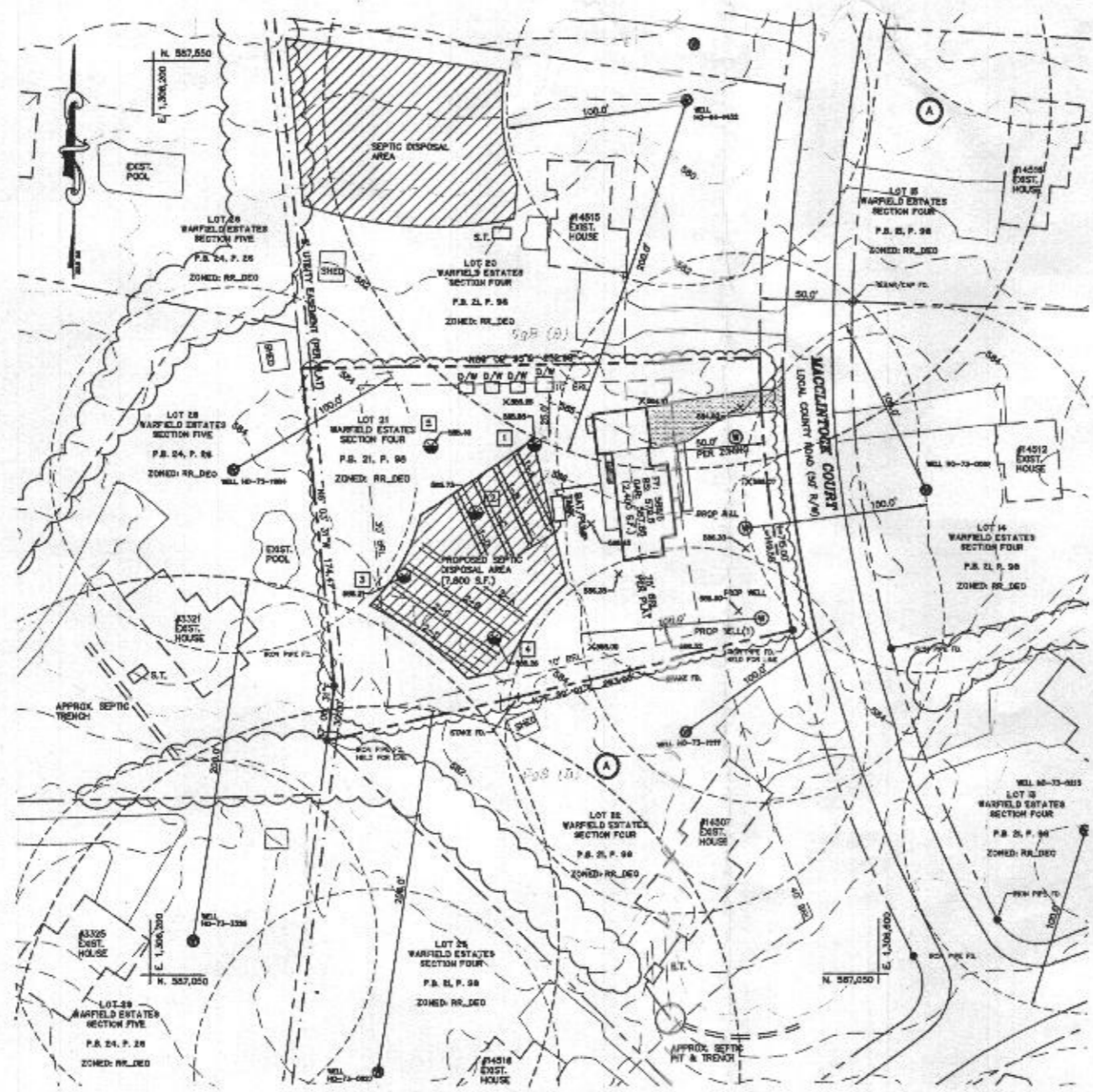
EWELL	BATHS	K FACTOR
0pt	(0)	0.30
RES. MAP 10 (HOWARD, MD)		

ON-SITE SEWAGE DISPOSAL SYSTEM:

RESIDENTIAL SYSTEM DESIGN: 1000 GPD BHR
 4 BEDROOM HOUSE (MINIMUM TANK CAPACITY = 1,250 GAL.)
 150 GALLONS X # OF BEDROOMS = VOLUME OF WASTEWATER / DAY
 150 X 4 = 600 GPD
 PERC RATE = 16-20 MINUTES/INCH
 APPLICATION RATE = 0.6 GPD/SQ.F.T.
 DESIGN FLOW + APPLICATION RATE = 90.F.T. OF TRENCH REQUIRED
 600 + 90 = 690 SQ.F.T.
 SQ.F.T. REQUIRED + WIDTH OF TRENCH = LENGTH OF TRENCH
 1,000 + 3.0' = 333.3 SQ.F.T.

SECONDARY SYSTEM:
 USE 30" OF GRAVEL BELOW DRAIN PIPE
 333.3 X 0.50 = 166.7
 USE FOUR (4) TRENCHES (41.7')
 A MINIMUM OF 10' BETWEEN TRENCHES UTILIZING SIDEWALL
 REDUCTION CREDIT.

1ST BEDROOM:
 USE 12" OF GRAVEL BELOW DRAIN PIPE
 333.3 X 0.63 = 278.7
 USE FOUR (4) TRENCHES (70')
 A MINIMUM OF 10' BETWEEN TRENCHES UTILIZING SIDEWALL
 REDUCTION CREDIT.



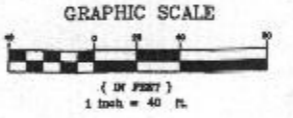
THE PURPOSE OF THE PLAN IS TO CREATE A SEPTIC DISPOSAL AREA (SDA) ON LOT 21

GENERAL NOTES:

- THE SUBJECT PROPERTY IS ZONED RR-DED PER THE 10/06/2003 COMPREHENSIVE ZONING PLAN.
- PARCEL BACKGROUND:**
 ADDRESS: 14511 MACCINTOCK COURT, GLENWOOD, MD 21738
 TAX MAP 21: PARCEL 129; LOT 21
 ELECTION DISTRICT: FOURTH
 OGD REFERENCE: 587 / 688
 RECORD PLAT BOOK 21, PAGE 98 (PLAT DATED JAN. 1971)
 AREA: 44,308 S.F. OR LOT ACRES ±
 TOTAL NUMBER OF UNITS: 1
 TYPE OF PROPOSED UNIT: SPO
 PROPOSED USE FOR SITE: RESIDENTIAL
- PROJECT BOUNDARY IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT OCTOBER, 2020 BY MILDBERG, BOENDER & ASSOC.
- TOPOGRAPHY:** SHOWN HERE IS GS AND HAS BEEN FIELD VERIFIED BY MILDBERG, BOENDER & ASSOC. IN OCTOBER, 2020 TO ACCURATELY REPRESENT THE RELATIVE CHANGES ON THE SUBJECT PROPERTY.
- HORIZONTAL AND VERTICAL DATUMS** ARE RELATED TO THE MARYLAND STATE PLANE COORDINATE SYSTEM AS PROJECTED FROM HOWARD COUNTY CONTROL STATIONS HL 21C8 & 21B4.
 STA. No. 21C8: N 585,188.046; E 1,509,716.711; EL. 596.835 (NAVD83)
 STA. No. 21B4: N 585,125.189; E 1,363,856.357; EL. 532.020 (NAVD83)
- ALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100' OF THE PROPERTY BOUNDARIES AND 200' DOWN GRADIENT OF ANY WELLS AND/OR SEPTIC SYSTEM HAVE BEEN SHOWN AND WERE ACCURATELY FIELD LOCATED BY MILDBERG, BOENDER & ASSOC., INC. ON OR ABOUT OCTOBER 2020.
- SOILS LOCATION AND CLASSIFICATION BASED ON HOWARD COUNTY GS SOIL SURVEY
- THE LOT SHOWN HEREIN COMPLIES WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF ENVIRONMENT.
- ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
- SEPTIC TANKS AND DRAIN FIELD SHOWN IS BASED ON DATA PROVIDED BY HOWARD COUNTY HEALTH DEPARTMENT.
- THIS AREA DESIGNATES A PRIVATE SEWERAGE AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. FOR LOTS CREATED PRIOR TO MARCH OF 1973 IT PROVIDES AT LEAST ENOUGH AREA TO ACCOMMODATE AN INITIAL AND ONE REPLACEMENT BATH-LPO SEPTIC SYSTEMS AS REQUIRED BY THE HOWARD COUNTY HEALTH DEPARTMENT. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THIS AREA SHALL BECOME HULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE EASEMENT. RECORDATION OF A MODIFIED SEWERAGE AREA SHALL NOT BE NECESSARY.
- THE MARYLAND DEPARTMENT OF THE ENVIRONMENT HAS REVIEWED THE PROPOSED WELL AND SEWERAGE DISPOSAL AREA LOCATION ILLUSTRATED ON THE PLAN AS RECOMMENDED BY THE HOWARD COUNTY HEALTH DEPARTMENT, AND HAS GRANTED A VARIANCE TO ALLOW THE SEWERAGE DISPOSAL AREA LOCATION ON WARFIELD ESTATES LOT 21 TO BE ABOVE GRADE OF WARFIELD ESTATES LOTS 23 & 28 PURSUANT TO THE FOLLOWING: - A BATH-LPO UNIT MUST BE INSTALLED IN THE INITIAL & REPLACEMENT SYSTEM. - ALL GRAINFIELDS INSTALLED IN THE RESPECTIVE SDA WILL BE DESIGNED FOR LOW-PRESSURE DISTRIBUTION OR EQUIVALENT.
- THE HOUSE SHOWN HEREON IS THE HOUSE TO BE BUILT (2,400 S.F.) AND NOT THE STANDARD 55x70'

SEPTIC TRENCH SIZING

SYSTEM	APPLICATION RATE (GPD / SF)	MAXIMUM FLOW RATE (GPD)	AREA OF REQUIRED TRENCH (SF)	TRENCH WIDTH (FT)	LENGTH OF TRENCH REQUIRED (LF)	EFFECTIVE TRENCH DEPTH (FT)	TRENCH BOTTOM DEPTH (FT)	TRENCH REDUCTION FACTOR	ADJUSTED LENGTH OF TRENCH REQUIRED (LF)	MINIMUM TRENCH SPACING (FT)	NUMBER OF TRENCHES	REQUIRED TRENCH LENGTH (FT)
INITIAL	0.6	600	1,000	3	333.3	5.5	8.0	0.55	183.3	10.0'	4	46'
REPLACEMENT	0.6	600	1,000	3	333.3	7.0	8.0	0.83	278.7	10.0'	4	70'



- LEGEND**
- BEST AVAILABLE TECHNOLOGY
 - LOW PRESSURE DOWNS
 - PASSED PERCOLATION TEST SITE
 - PROPOSED WELL
 - EXISTING WELL
 - PROPOSED DRYWELLS (STORMWATER)
 - PROPOSED SEWAGE DISPOSAL AREA

OWNER/DEVELOPER
 PATRICK CURLEY &
 BRINCK CURLEY
 210 MARKET STREET
 BROOKVILLE, MARYLAND 21033



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. 28855, EXP. DATE 08/08/21

SAMUEL A. ALOMER P.E. DATE: _____

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
 HOWARD COUNTY HEALTH DEPARTMENT

HOWARD COUNTY HEALTH OFFICER DATE: _____

MILDBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 7800-B Orost Drive, Glenolens, Maryland 21044
 (410) 887-0298 Tel. (410) 997-0298 Fax.

WARFIELD ESTATES, S-4, BL-'A'
 14511 MACCINTOCK CT. - LOT 21
 TAX MAP: 21 - GRID: 04 - PARCEL: 129
 FOURTH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND
PERCOLATION CERTIFICATION PLAN

#B21000 482

CHAMPION FACTORY 041
 CHAMPION MODULAR, INC.
 10642 S. SUSQUEHANNA TRAIL
 LIVERPOOL, PA 17045

CHAMPION
 MODULAR

BRAND:



BUILDER:

MARYLAND CUSTOM BLDRS

CUSTOMER/PROJECT:

CURLEY

ENGINEER'S / ARCHITECT'S SEAL

APPROVERS SEAL

MODIFICATIONS

PROJECT:

43062
 2-STORY SALT BOX

TITLE:

FIRST FLOOR
 FLOOR PLAN

DRAWN BY: KHH

DATE: 02-12-21

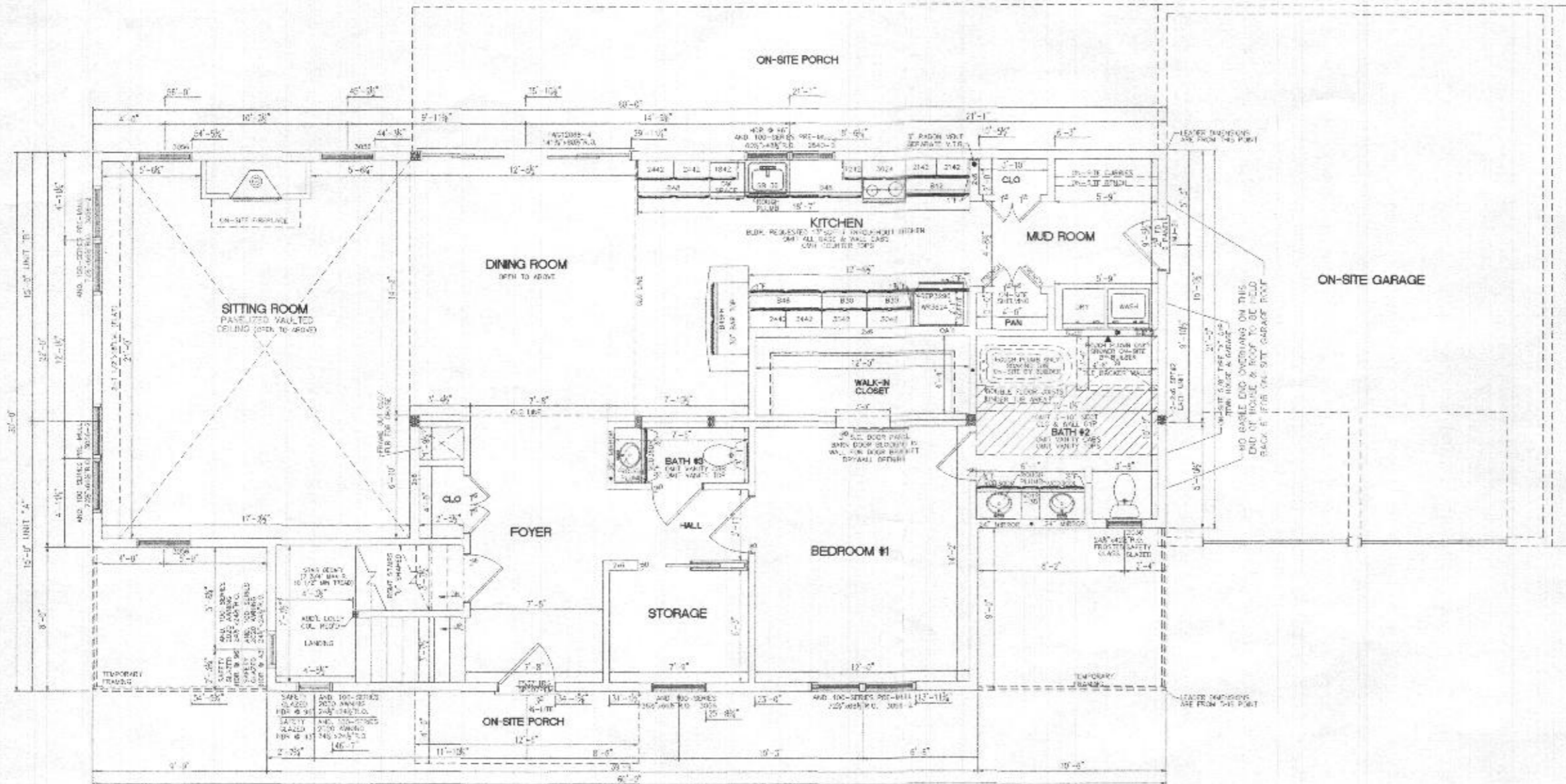
SCALE: NA

FILENAME: 43062 FN

SHEET:

1ST FLR

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- NOTES:
- 2x6 EXT WALLS @ 16" O.C./2x4 MAJOR WALLS @ 16" O.C. (EXCEPT AS NOTED)
 - 9'-0" CLO HT
 - 2x10 SP/2 FLOOR JOISTS @ 12" O.C.
 - ROOF SYS. TO BE 18" O.C.
 - ANDERSEN 100 SERIES WINDOWS
 - CLO SINDER OVER X TO BE: 2-1 1/2"X1 1/4"X" M.L.
 - CLO SINDER OVER X TO BE: 2-1 1/2"X1 1/4"X" M.L.
 - SLIP INSTALLED HEATING SYSTEM TO COVER A 97,000 BTU LOSS
 - HEAT WAS CALCULATED W/ R-22 FLOOR INSULATION
 - BASED ON 15 W/1 MPH WIND LOAD & EXPOSURE "B"
 - SITE LOCATION: GLENWOOD, MD; HOWARD COUNTY, 40 PSF GROUND SNOW LOAD

****ALL 1st FLOOR WINDOW HEADER HEIGHTS ARE TO BE @ 96" AFF. U.N.O.****

****SPRINKLER SYSTEM REQUIRED****

****WINDOWS INSTALLED WITHIN 24" OF THE FINISHED FLOOR. THE BUILDER WILL INSTALL WINDOW SHADINGS IN ACCORDANCE WITH IRC (2018 IRC, R312.2)**

*** ALL PLUMBING FIXTURES AND PIPING WILL BE "ROUGH-IN" FROM THE FACTORY. THE "FINISHED" PLUMBING WILL COMPLETED BY THE BUILDER PER ALL APPLICABLE CODES.**

WINDOWS MEET ALL OF THE REQUIREMENTS OF THE 2018 IRC SECTION R310.1

THIS HOUSE IS TO BE BUILT UNDER THE MARYLAND APPROVED MODULAR BUILDING SYSTEM.

****ALL CEILING BEAMS AND HEADERS ARE TO BE CALCED OUT AFTER ROOF DESIGN IS COMPLETED - PLANS MAY CHANGE PENDING COMPLETION OF ROOF DESIGN****

THE FOUNDATION AND ANY DECKS & PORCH, NOT PART OF THIS PLAN REVIEW, MUST BE SUBMITTED SEPARATELY TO THE LOCAL BUILDING OFFICIAL FOR APPROVAL.

BUILDER / OWNER SIGNATURES:

ACCEPTED BY:

TITLE:

DATE:

2/14/20

CHAMPION FACTORY 041
 CHAMPION MODULAR, INC.
 10642 S. SUSQUEHANNA TRAIL
 LIVERPOOL, PA 17045
CHAMPION
 MODULAR

BRAND:



BUILDER:

MARYLAND CUSTOM BLDRS

CUSTOMER/PROJECT:

CURLEY

ENGINEER'S / ARCHITECT'S SEAL

APPROVERS SEAL

MODIFICATIONS

PROJECT:

**43062
 2-STORY SALT BOX**

TITLE:

**SECOND FLOOR
 FLOOR PLAN**

DRAWN BY: KHH

DATE: 02-12-21

SCALE: NA

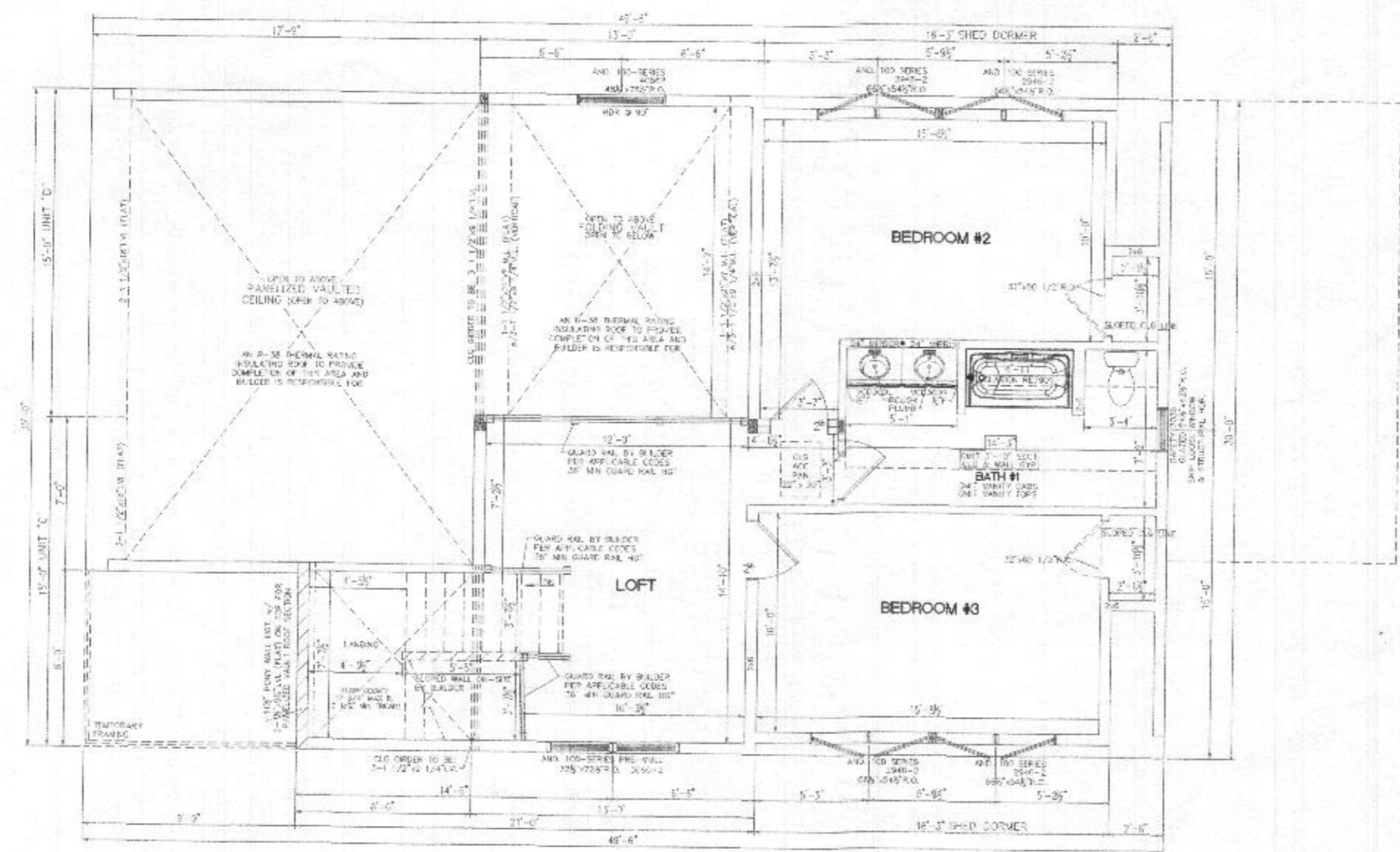
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2ND FLR

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*** SPRINKLER SYSTEM REQUIRED ***



- NOTES:
- 2x6 EXT WALLS @ 16" O.C./2x4 MARR WALLS @ 16" O.C. (EXCEPT AS NOTED)
 - 6'-0" CLG HT
 - 2x10 SP/2x FLOOR JOISTS @ 12" O.C.
 - ROOF SYSTEM TO BE 16" O.C.
 - AMERSEN 100 SERIES WINDOWS
 - CLG BEAM OVER MECH RM TO BE: (2) 1 1/2"x11 1/4" M.L. (PER MODULE)
 - FLR GIRDER UNDER MECH RM TO BE: 2-1 1/2"x14" M.L. (PER MODULE) (SH-FLOORF)

BUILDER / OWNER SIGNATURES:

ACCEPTED BY: *[Signature]* DATE: 2/10/20

TITLE: *[Signature]*

SOILS TABLE (WITHIN LOT)

SYMBOL	RATING	NAME	K FACTOR
GgB	(B)	GLENELD LOAM, 3-8% SLOPES.	20

SOIL MAP: 10 (WOODBINE, SE)

LOW PRESSURE DOSING SYSTEM - INITIAL INSTALLATION

TRENCH	GROUND ELEVATION (FT)	PIPE INV. ELEVATION (FT)	TRENCH LENGTH (FT)	LATERAL LENGTH (FT)	PERFORATION DIAMETER (IN)	PRESSURE HEAD (FT)	PERFORATION FLOW RATE (GPM)	PERFORATION SPACING (FT)	NUMBER OF PERFORATIONS	TRENCH FLOW RATE (GPM)
1-A...1-F	585.45-585.95	582.00	31.00'	26.90'	5/16	2.0	1.63	6.2	5	8.15

GROUND ELEVATION TAKEN DIRECTLY FROM SURVEY SURFACE

INITIAL SYSTEM TRENCH DATA

TRENCH NUMBER	EX. GROUND ELEVATION	INVERT ELEVATION	BOTTOM OF TRENCH EL.
1-A	585.92	582.00	578.45
1-B	585.76	582.00	578.45
1-C	585.63	582.00	578.45
1-D	585.50	582.00	578.45
1-E	585.85	582.00	578.45
1-F	585.66	582.00	578.45

REPLACEMENT SYSTEM TRENCH DATA

TRENCH NUMBER	EX. GROUND ELEVATION	INVERT ELEVATION	BOTTOM OF TRENCH EL.
2-A	585.45	581.45	577.45
2-B	585.30	581.30	577.30
2-C	584.00	580.00	576.00
2-D	583.80	579.80	575.80

LOW PRESSURE DOSING SYSTEM

NO. OF BEDROOMS: 4
TRENCH LENGTH: TRENCH #1 THRU #6 = 31.0'
FLOW METHOD: GRAVITY TO SEPTIC TANK
LOW PRESSURE DOSE PUMPING TO TRENCH SYSTEM

MANIFOLD TYPE: END FEED MANIFOLD
HOLE DIAMETER: 5/16"
HOLE SPACING: LATERAL #1 THRU #6 = 6.2'
LATERAL LENGTH: LATERAL #1 THRU #6 = 26.9'
HOLES NO./LATERAL: LATERAL #1 THRU #6 = 5
LATERAL DIAMETER: 1.25" (TABLE 4.1)
PRESSURE HEAD: LATERAL #1 THRU #6 = 2.0'
ORIFICE DISCHARGE: LATERAL #1 THRU #6 = 1.63 GPM PER ORIFICE
LATERAL DISCHARGE: (NO. OF HOLES x ORIFICE DISCHARGE)
LATERAL #1 THRU #6 = 48.90

SYSTEM DISCHARGE: **48.90 GPM**

MINIMUM DOSE: 48.9 GPM
5x LATERAL VOL + MANIFOLD VOL + FORCE MAIN VOL. (TABLE 4.2)
FORCE MAIN DIAMETER: 3" 27.14' x 38.4 GAL/100' = 10.4 GAL
MANIFOLD DIAMETER: 2" 68.50' x 17.4 GAL/100' = 11.6 GAL
LATERAL VOLUME(EA): 1.25" 26.90' x 7.8 GAL/100' = 2.1 GAL
NO. OF LATERALS = 6; 5 x LATERAL VOL. = 2.1 x 6 x 5 = 63.0 GAL

MINIMUM DOSE: 65.0 GAL (63.0 + 11.6 + 10.4)
DISCHARGES PER DAY: 9
VOLUME PER DISCHARGE (600/6) 100 GAL: USE 100 GAL / DOSE

TOTAL HEAD: DYNAMIC HEAD = STATIC HEAD + FRICTION HEAD + DISTAL HEAD
STATIC HEAD: 3.25'
FORCE MAIN FRICTION LOSS: 33.45' x 0.56/100 = 0.19' (TABLE 4.4)
MANIFOLD FRICTION LOSS: 63.01' x 3.82/100 = 2.41' (TABLE 4.4)

FORCE MAIN (FM) FITTINGS FRICTION LOSS (EQUIVALENT PIPE LENGTHS):
1 QUICK CONNECT 3
2 REDUCERS 2x3 = 6
1 90° BEND 15
1 GATE VALVE 2
1 90° ELBOW 10
1 45° ELBOW 6
FM FITTINGS TOTAL: 42 42' x 0.56/100 = 0.24' (TABLE 4.3)

MANIFOLD FITTINGS FRICTION LOSS (EQUIVALENT PIPE LENGTHS):
4 T STR RUN 3 x 4 = 12
4 T 90° BEND 15 x 4 = 60
3 90° ELBOW 10 x 3 = 30
MANIFOLD FITTINGS TOTAL 102' x 3.82/100 = 3.89' (TABLE 4.3)

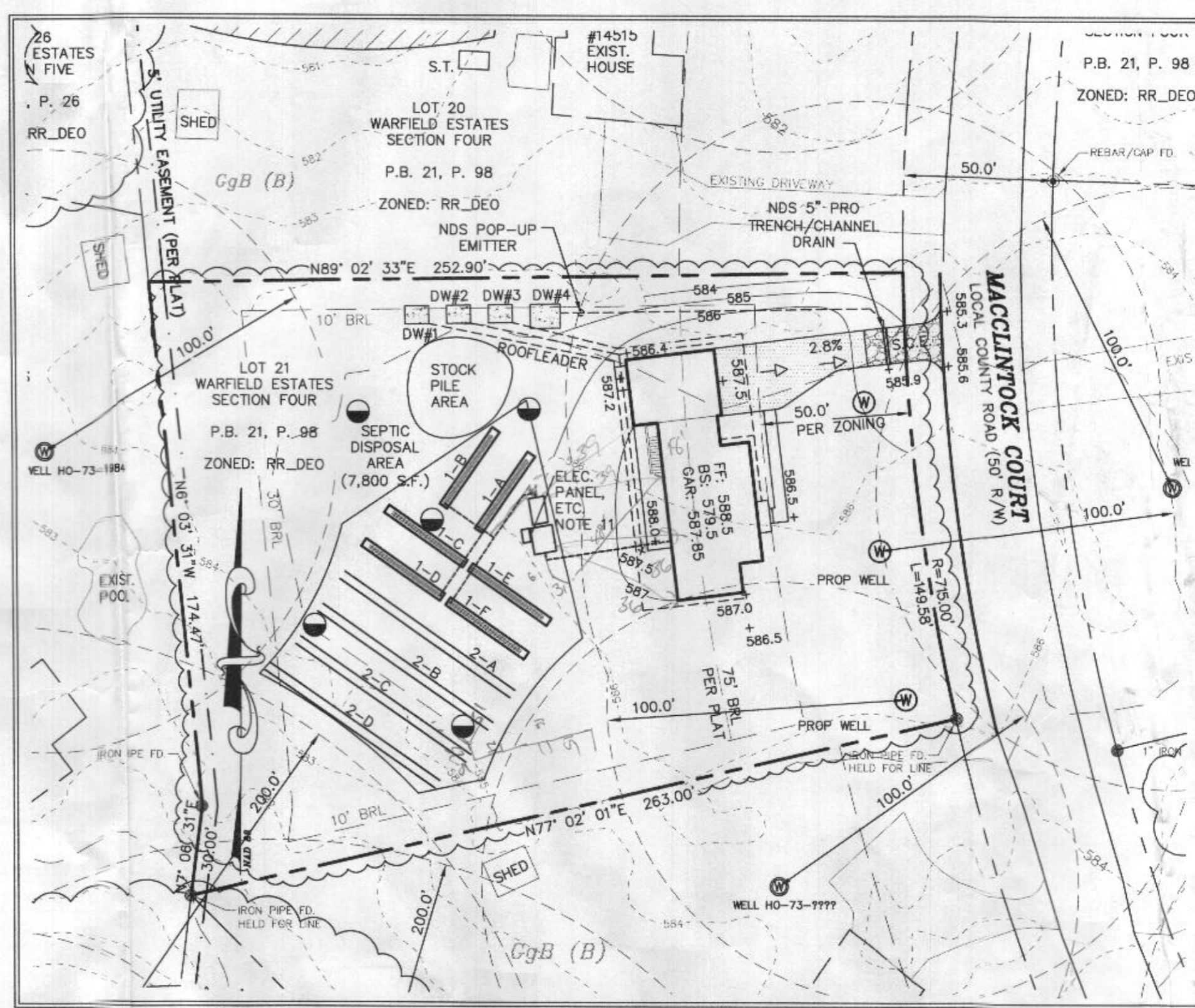
LATERAL SAFETY FACTOR: 1.5'
STATIC HEAD: 3.25'
DISTAL HEAD: 2.0'
TOTAL DYNAMIC HEAD: 13.98' (19+2.41+24+3.89+1.5+3.75+2.0)
GATE VALVE TO BE INCLUDED NOTE: VALVE WILL BE ADJUSTED TO ALLOW DESIGN FLOW OF 48.9 GPM (AS NECESSARY)
TOTAL DYNAMIC HEAD (ADJUSTED BY VALVE) 15.5' YIELDS 48.9 GPM (APPROX)
USE GOULD'S PUMP WQ3M.

CALCULATION FOR STORAGE ABOVE THE HW ALARM

1500 GALLONS NOMINAL STORAGE AT THE WATER LEVEL
3.67 FEET BETWEEN INTERIOR BOTTOM AND WATER LEVEL
408 GALLONS PER FOOT
600 GALLONS REQUIRES 1.47 FEET
WATER LEVEL ELEVATION = 581.67
SET HW ALARM 1.47 LOWER FOR 600 GALLON STORAGE
HW ALARM ELEVATION = 580.20

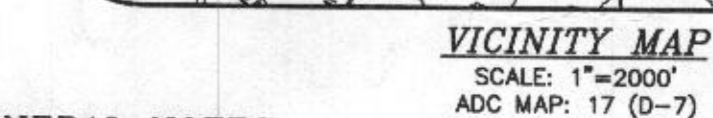
SEPTIC TRENCH SIZING

SYSTEM	APPLICATION RATE (GPD / SF)	MAXIMUM FLOW RATE (GPD)	AREA OF REQUIRED TRENCH (SF)	TRENCH LENGTH (FT)	EFFECTIVE TRENCH DEPTH (FT)	TRENCH BOTTOM DEPTH (FT)	TRENCH REDUCTION FACTOR**	ADJUSTED LENGTH OF REQUIRED TRENCH (LF)	MINIMUM TRENCH SPACING (FT)	NUMBER OF TRENCHES	REQUIRED TRENCH LENGTH (FT)	
INITIAL	0.6	600	1,000	3	333.3	5.5	8.0	0.55	183.3	10.0'	6	30.60
REPLACEMENT	0.6	600	1,000	3	333.3	7.0	8.0	0.83	276.7	10.0'	4	69.18



ON-SITE SEWAGE DISPOSAL SYSTEM PLAN

SCALE: 1"=40'



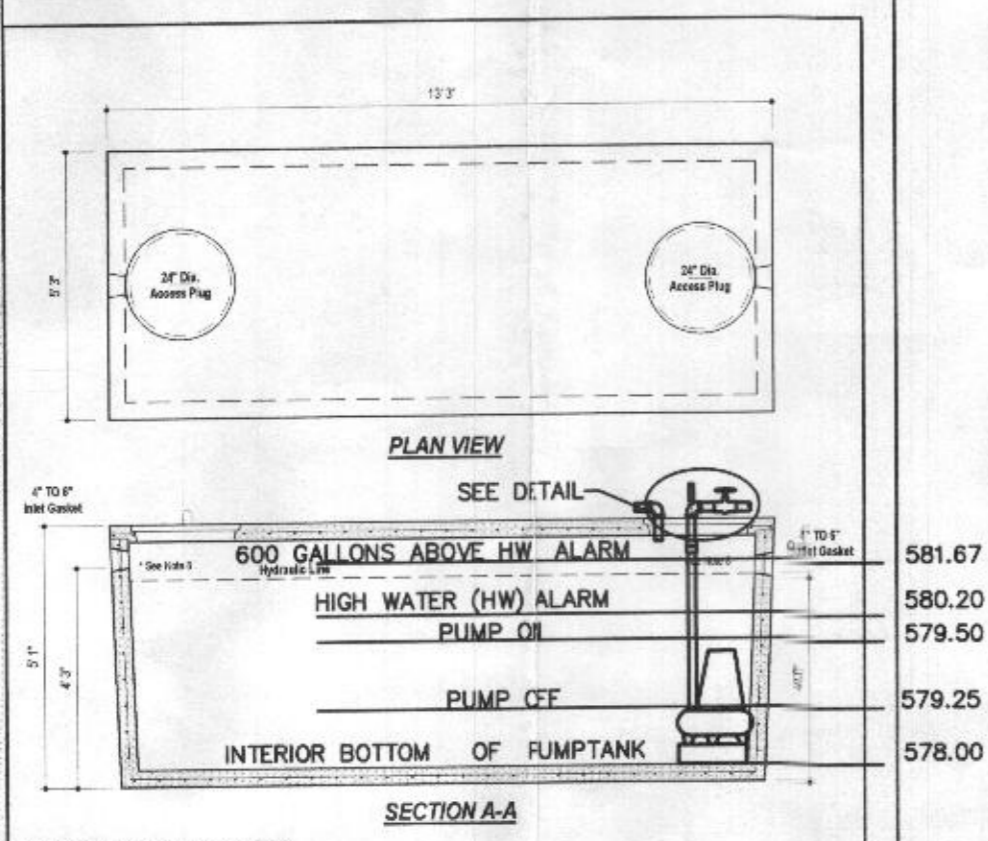
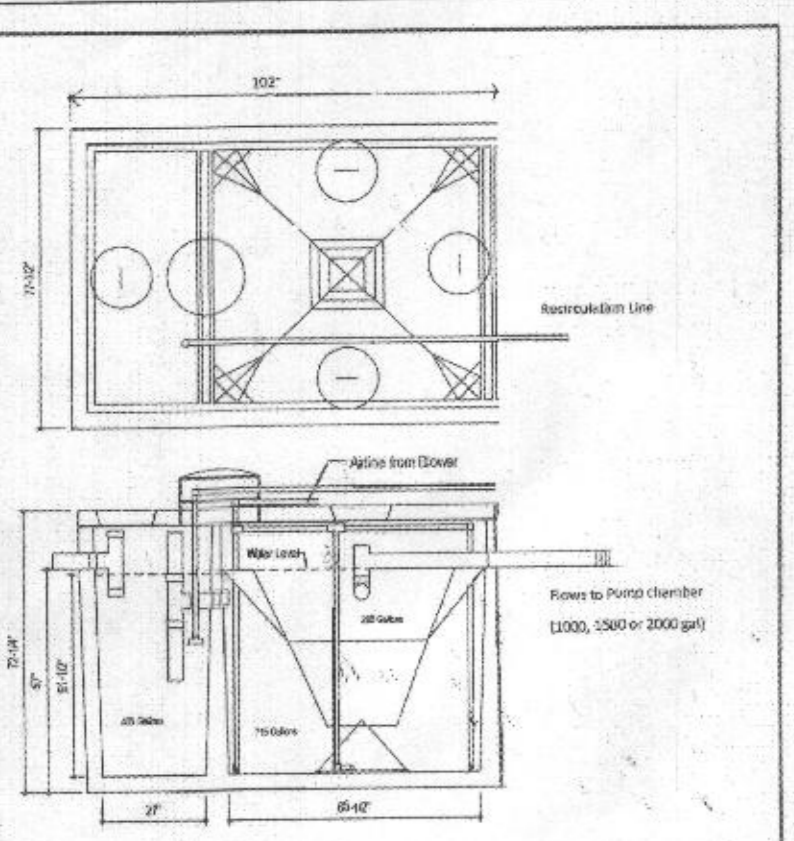
VICINITY MAP
SCALE: 1"=2000'
ADC MAP: 17 (D-7)

GENERAL NOTES:

- THE SUBJECT PROPERTY IS ZONED RR-DEO PER THE 10/06/2013 COMPREHENSIVE ZONING PLAN.
- PARCEL BACKGROUND: ADDRESS: 14511 MACCLINTOCK COURT, GLENWOOD, MD 21738
TAX MAP 21; PARCEL 129; LOT 21
ELECTION DISTRICT: FOURTH
DEED REFERENCE: 987 / 688
RECORD PLAT BOOK 21, PAGE 98 (PLAT DATED JAN. 1971.)
AREA: 44,305 S.F. OR 1.017 ACRES ±
TOTAL NUMBER OF UNITS: 1
TYPE OF PROPOSED UNIT: SFD
PROPOSED USE FOR SITE: RESIDENTIAL.
- PROJECT BOUNDARY IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT JULY, 2020 BY MILDENBERG, BOENDER & ASSOC.
- TOPOGRAPHY SHOWN HERE IS GIS AND WILL BE FIELD VERIFIED BY MILDENBERG, BOENDER & ASSOC. ON THE SUBJECT PROPERTY.
- SOILS LOCATION AND CLASSIFICATION BASED ON HOWARD COUNTY GIS SOIL SURVEY
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BEST AVAILABLE TECHNOLOGY SITE PLAN NOTES

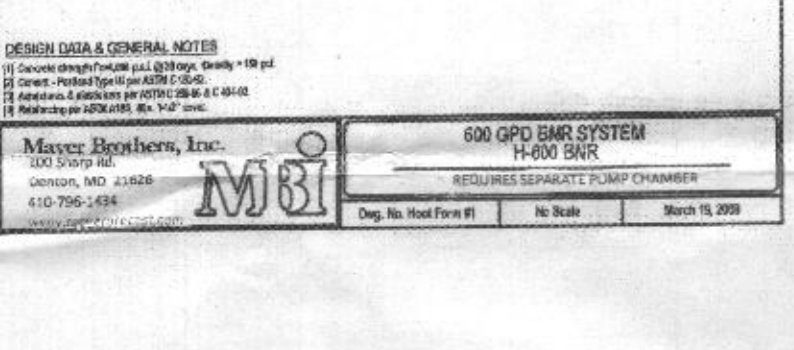
- ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
- THE MAXIMUM DEPTH OF THE BAT PER THE MANUFACTURER'S SPECIFICATION IS 3.0'
- THE BLOWER MAY NOT BE LOCATED MORE THAN 100 FEET FROM THE TANK BASED ON MANUFACTURER'S SPECIFICATIONS.
- THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
- THE BAT SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
- WITHIN ONE (1) MONTH OF INSTALLATION, A PERSON INSTALLING THE BAT SYSTEM SHALL REPORT TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) IN A MANNER ACCEPTABLE TO MDE, THE ADDRESS AND DATE OF COMPLETION OF THE BAT INSTALLATION AND THE TYPE OF BAT INSTALLED.
- ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
- AN AGREEMENT AND EASEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN THE LAND RECORDS OF HOWARD COUNTY.
- THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.
- HIGH WATER (HW) ALARM MUST BE ON A DEDICATED CIRCUIT
- ELECTRICAL PANEL, BLOWER MOTOR, AND ALARM TO BE LOCATED ADJACENT TO H-1000 UNIT.



DESIGN DATA & GENERAL NOTES
1) Concrete strength Fc=4000 psi @ 28 Days. Density = 150 pcf.
2) Concrete Reinforcement: #4 Bars @ 18" O.C.
3) Minimum 4" concrete cover over reinforcement.
4) Reinforcing per ASTM A638. Min. 14" concrete.
5) Top slab must be at least 18" thick.
6) All steel bars, 60% yield.
7) All steel bars.
8) Depending on use of tank, base & cover surface may be required by code.

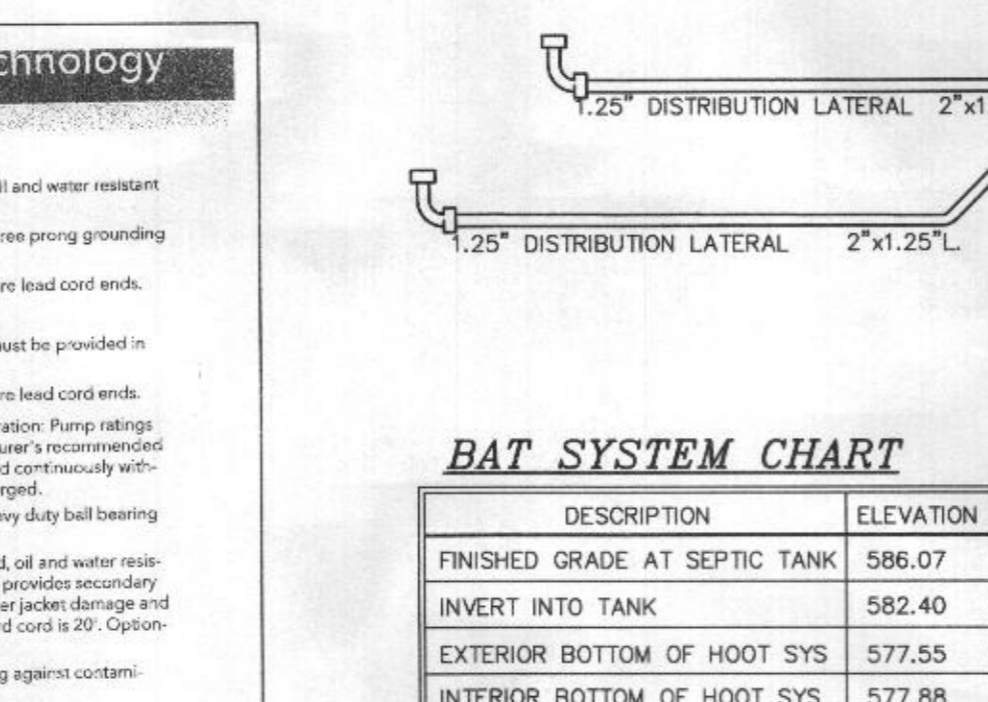
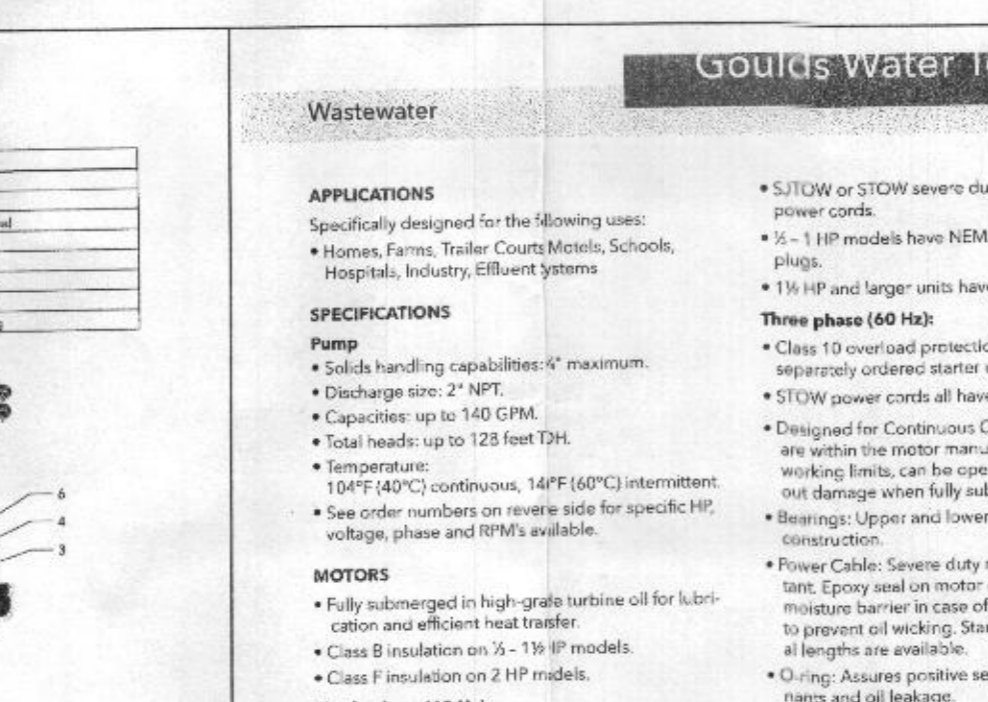
600 GALLON SYSTEM
14-000 SFD
REQUIRES SEPARATE PUMP CHAMBER

1,500 GALLON SEPTIC PUMP TANK
1 Compartment
NON-Traffic MAX 3" OF COVER
WEIGHT = 10,000 LBS.
Mayer Bros., Inc.
Dig. to 180"-IC No. Scale Aug. 19, 2008



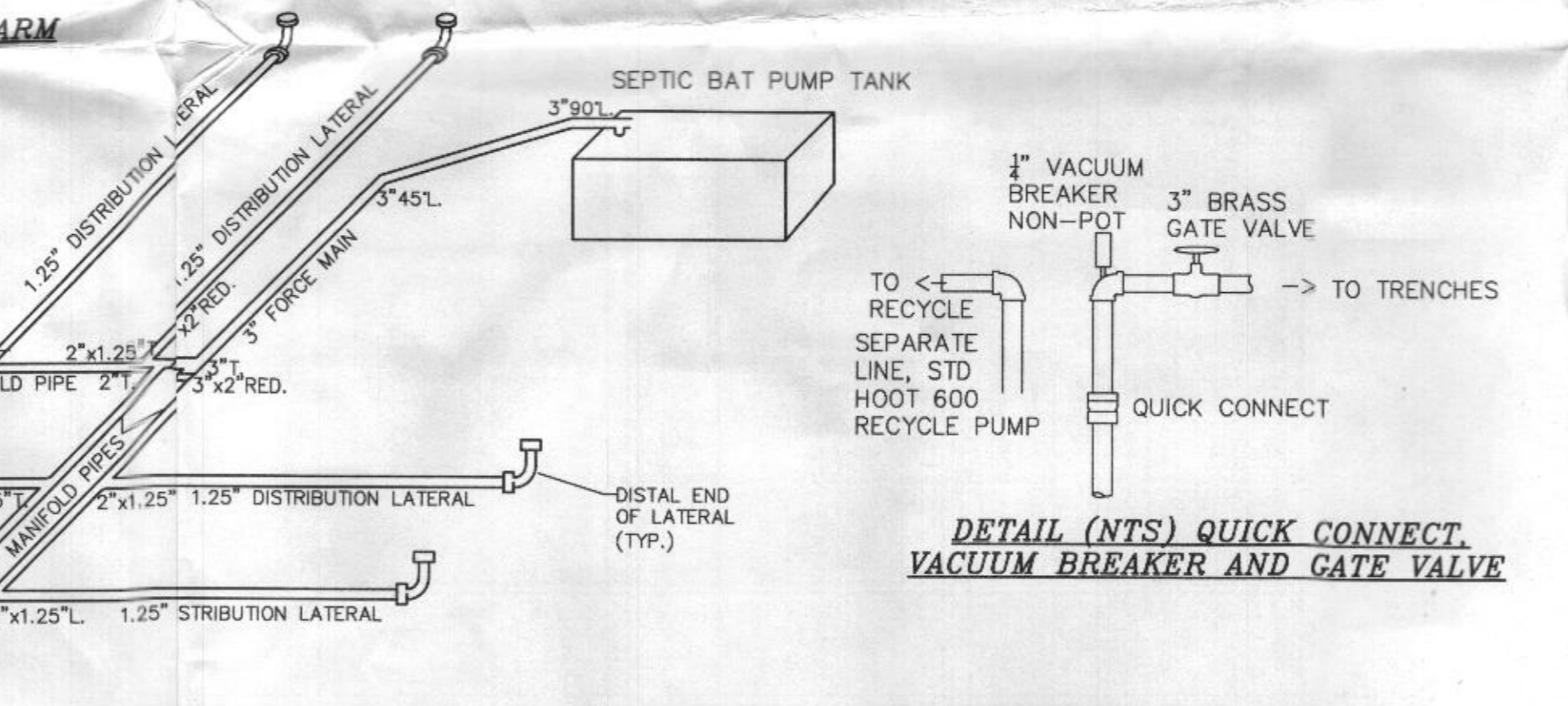
PERFORMANCE RATINGS (gallons per minute)

Outlet	15'	20'	25'	30'	35'	40'	45'	50'	55'	60'
15'	15	15	15	15	15	15	15	15	15	15
20'	20	20	20	20	20	20	20	20	20	20
25'	25	25	25	25	25	25	25	25	25	25
30'	30	30	30	30	30	30	30	30	30	30
35'	35	35	35	35	35	35	35	35	35	35
40'	40	40	40	40	40	40	40	40	40	40
45'	45	45	45	45	45	45	45	45	45	45
50'	50	50	50	50	50	50	50	50	50	50
55'	55	55	55	55	55	55	55	55	55	55
60'	60	60	60	60	60	60	60	60	60	60

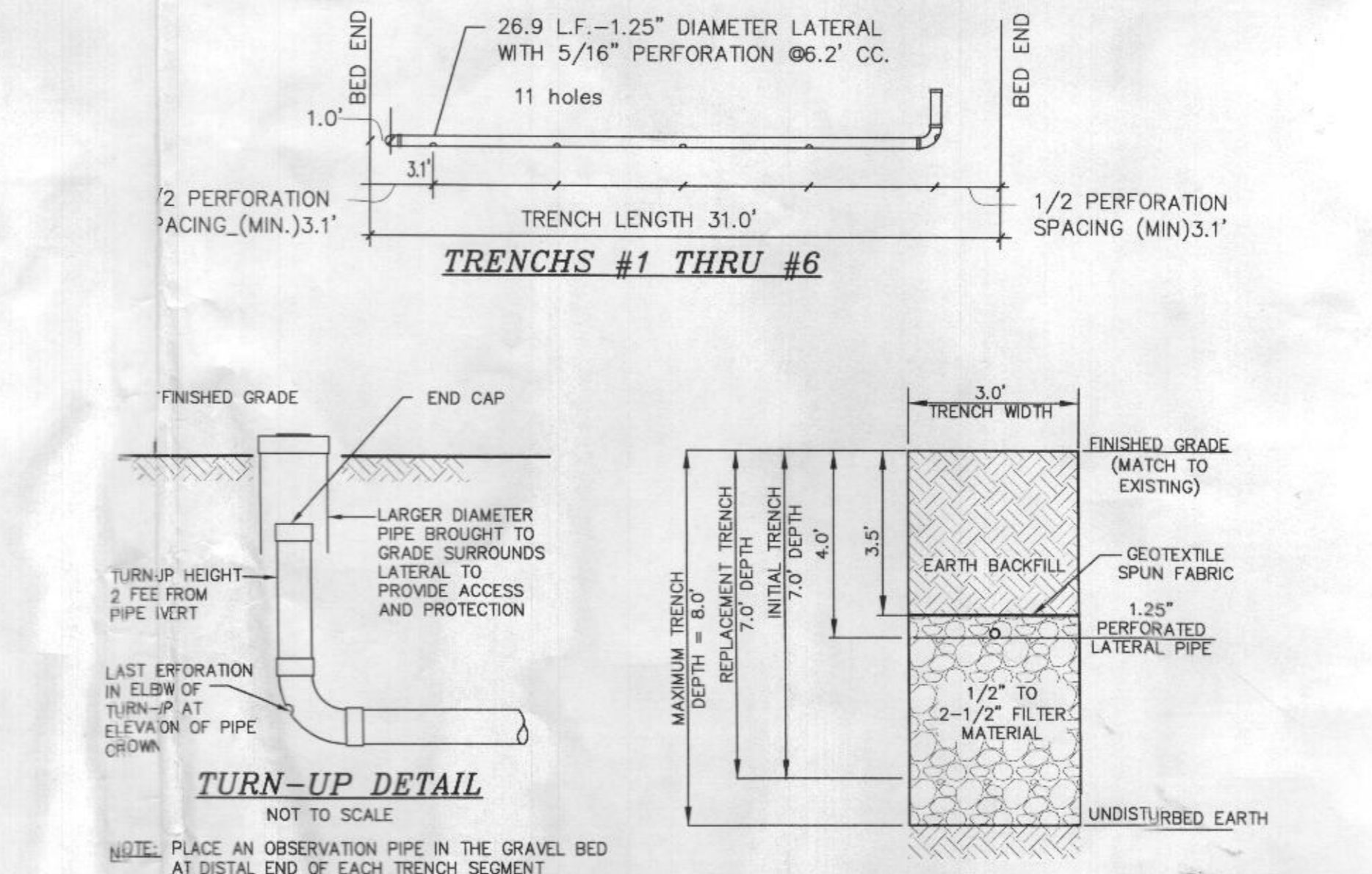


BAT SYSTEM CHART

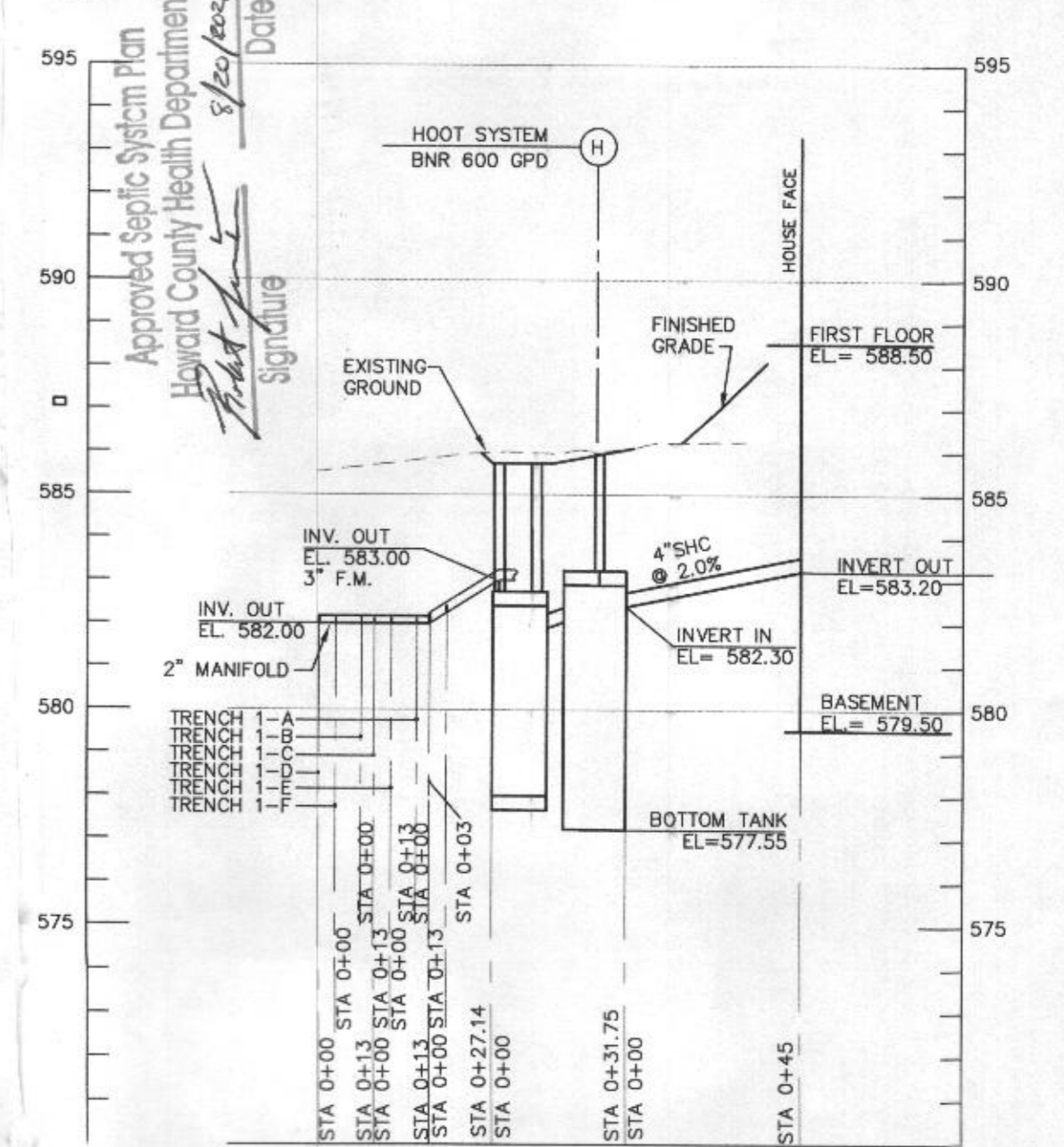
DESCRIPTION	ELEVATION
FINISHED GRADE AT SEPTIC TANK	586.07
INVERT INTO TANK	582.40
EXTERIOR BOTTOM OF HOOT SYS	577.55
INTERIOR BOTTOM OF HOOT SYS	577.88
SEE HOOT 600 DETAIL	
SEE HOOT 600 DETAIL	
INVERT OUT OF HOOT-600	582.17
INVERT INTO PUMP TANK	581.92
EXTERIOR BOTTOM OF PUMP TANK	577.67
INTERIOR BOTTOM OF PUMP TANK	578.00
PUMP OFF	579.25
PUMP ON	579.50
HIGH WATER (HW) ALARM	580.20
600 GALLONS ABOVE HW ALARM	581.67
INVERT OUT TO TRENCHES	583.00
INVERT IN TO MANIFOLD	582.00
TOTAL DYNAMIC HEAD	13.98
DOSED VOLUME	100 GAL.
PUMP RUNTIME	2.05 MIN.



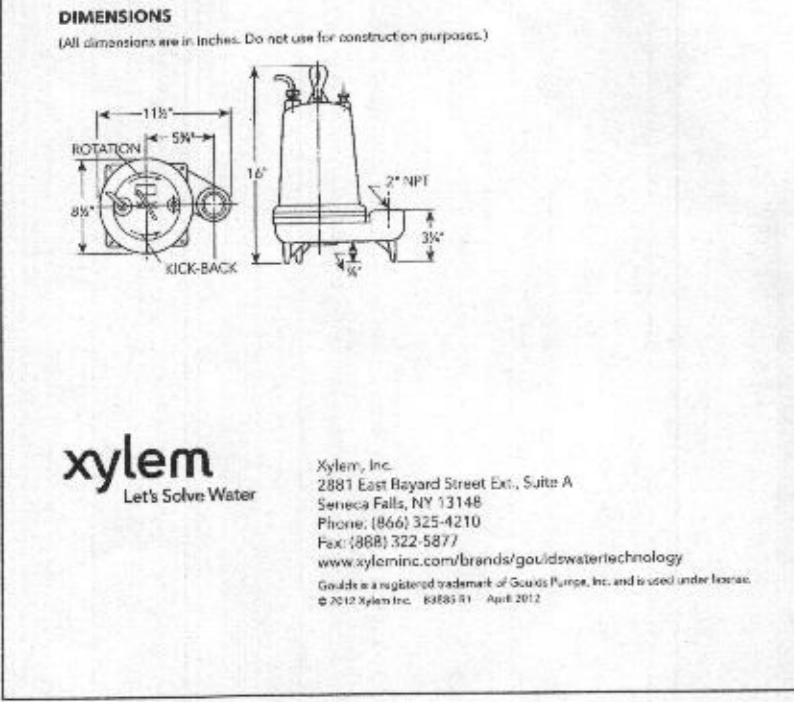
DETAIL (NTS) QUICK CONNECT, VACUUM BREAKER AND GATE VALVE



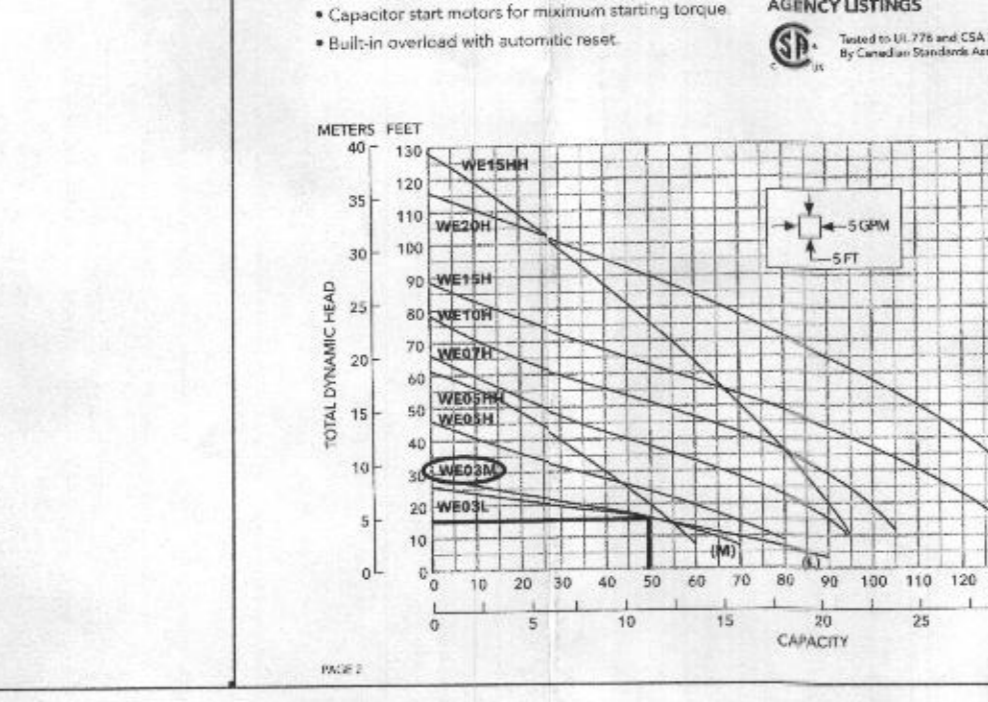
TRENCH DETAIL
NOT TO SCALE



PROFILE - PRIVATE SEWER
SCALE: 1"=50' HOR
1"=5' VER



Let's Solve Water
Mayer Bros., Inc.
2881 East Bay Street, Suite A
Salem, VA 24153
Phone: (800) 325-4210
Fax: (540) 322-5871
www.mayerbros.com
© 2011 Mayer Bros., Inc.



1. 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. 34027, EXP. DATE 01/16/2023
MICHAEL C. KRETSCH, P.E.
08/13/2021
DATE:

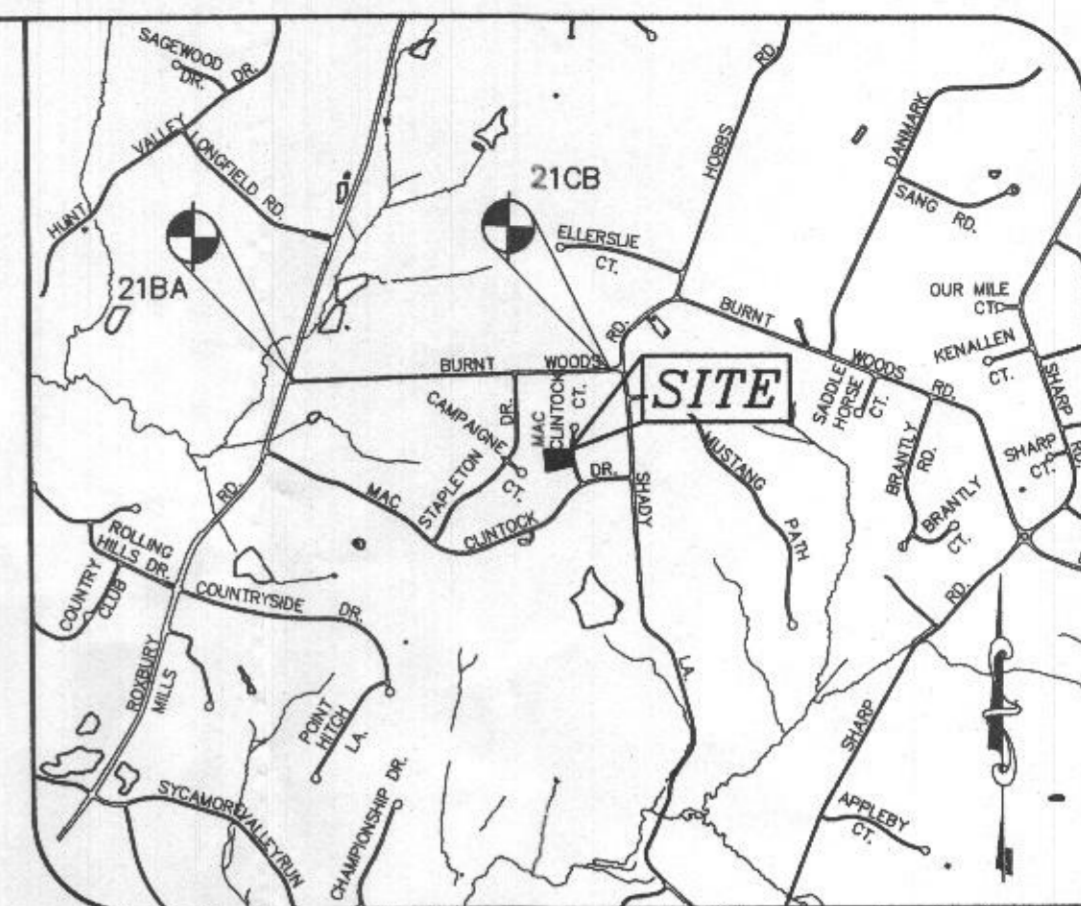
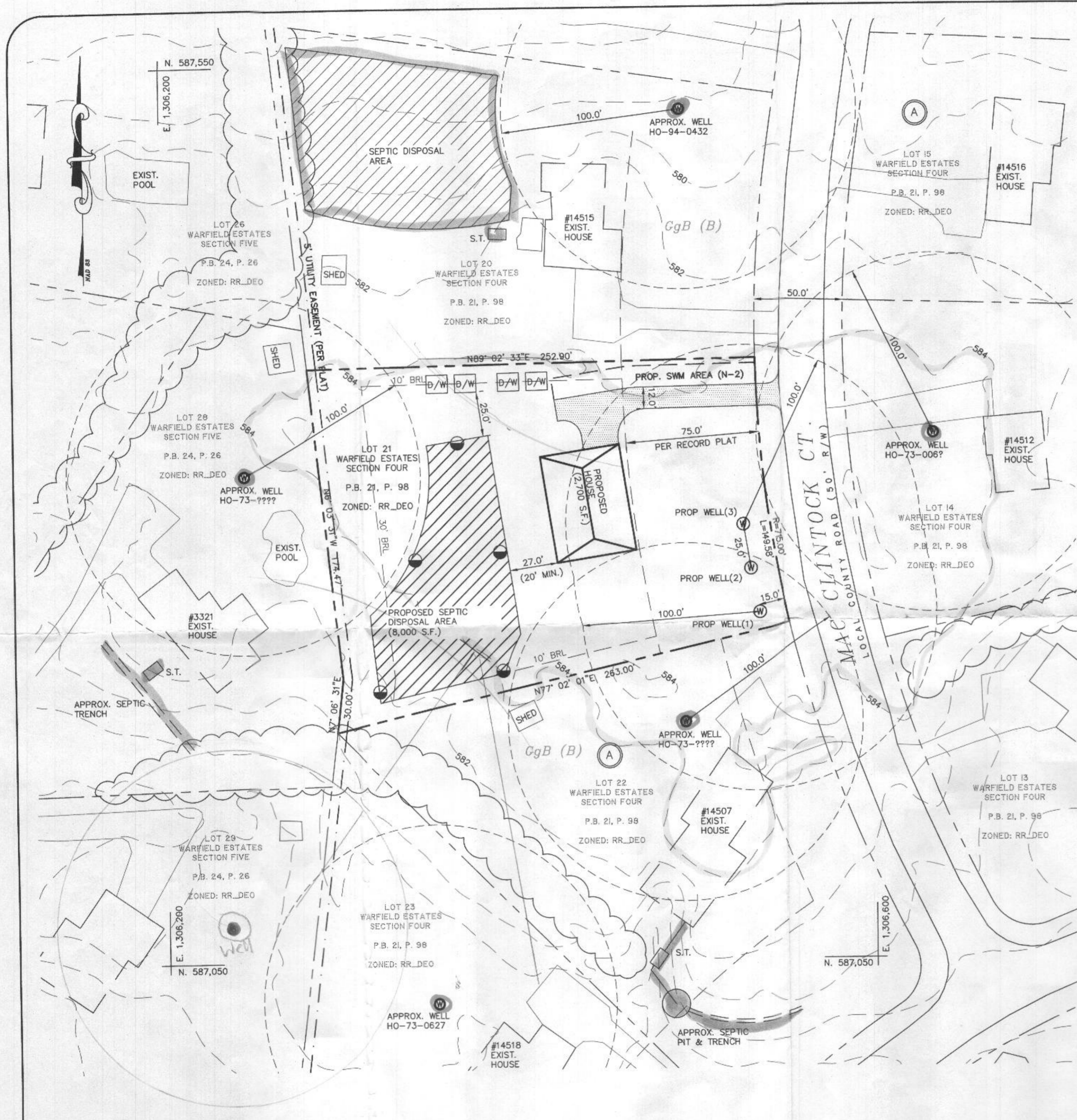
OWNER/DEVELOPER
PATRICK CURLEY & BROOKE CURLEY
14511 MacCLINTOCK COURT
GLENWOOD, MD 21738
(410) 913-9787

project	date	description	revision
20-022	AUG. 2021	engineering	MM
		illustration	MM
		approval	MM
		scale	1"=40'

REVISE TO SHOW HOOT-600 IN PLACE OF HOOT 1000
8/12/2021
date

WARFIELD ESTATES, S-4, BL-A
14511 MacCLINTOCK CT. - LOT 21
TAX MAP: 21 - GRID: 04 - PARCEL: 129
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
ON-SITE SEWAGE DISPOSAL SYSTEM PLAN

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
7350-B Grace Drive, Columbia, Maryland 21044
(410) 997-0296 Tel. (410) 997-0298 Fax.



VICINITY MAP
SCALE: 1"=2000'
ADC MAP: 17 (A-6)

GENERAL NOTES:

- THE SUBJECT PROPERTY IS ZONED RR-DEO PER THE 10/06/2013 COMPREHENSIVE ZONING PLAN.
- PARCEL BACKGROUND:**
ADDRESS : 14511 MACCLINTOCK COURT, GLENWOOD, MD 21738
TAX MAP 21: PARCEL 129; LOT 21
ELECTION DISTRICT : FOURTH
DEED REFERENCE: 567 / 688
RECORD PLAT BOOK 21, PAGE 98 (PLAT DATED JAN. 1971.)
AREA : 44,305 S.F. OR 1.017 ACRES ±
TOTAL NUMBER OF UNITS : 1
TYPE OF PROPOSED UNIT : SFD
PROPOSED USE FOR SITE : RESIDENTIAL.
- PROJECT BOUNDARY IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY PERFORMED ON OR ABOUT JULY, 2020 BY MILDENBERG, BOENDER & ASSOC.
- TOPOGRAPHY SHOWN HERE IS GIS AND WILL BE FIELD VERIFIED BY MILDENBERG, BOENDER & ASSOC, INC. IN JULY 2020 TO ACCURATELY REPRESENT THE RELATIVE CHANGES ON THE SUBJECT PROPERTY.
- HORIZONTAL AND VERTICAL DATUMS ARE RELATED TO THE MARYLAND STATE PLANE COORDINATE SYSTEM AS PROJECTED FROM HOWARD COUNTY CONTROL STATIONS NO. 21CB & 21BA
STA. No. 21CB: N 588,188.046; E 1,306,716.711; EL. 589.835 (NAVD88)
STA. No. 21BA: N 588,125.189; E 1,303,655.381; EL. 532.020 (NAVD88)
- ALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100' OF THE PROPERTY BOUNDARIES HAVE BEEN SHOWN.
- SOILS LOCATION AND CLASSIFICATION BASED ON HOWARD COUNTY GIS SOIL SURVEY
- WELL LOCATIONS SHOWN ARE BASED ON HEALTH DEPARTMENT RECORDS VERIFIED BY FIELD VISIT.
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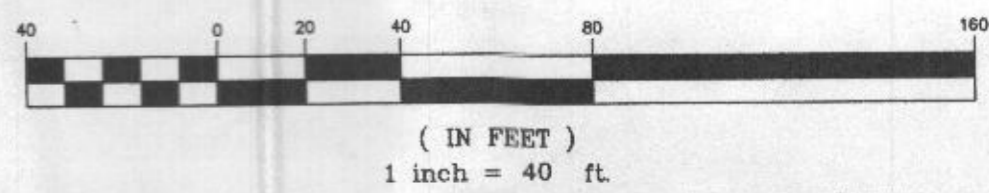
LEGEND

- PROPOSED PERCOLATION TEST SITE
- PROPOSED WELL
- EXISTING WELL
- PROPOSED DRYWELLS (SWM)
- PROPOSED SEWAGE DISPOSAL AREA

SOILS TABLE (WITHIN LOT)

SYMBOL	RATING	NAME	K FACTOR
GgB	(B)	GLENELG LOAM, 3-8% SLOPES.	.20
SOIL MAP: 10 (WOODBINE, SE)			

GRAPHIC SCALE



Project	20-022	date	7/21/2020
Illustration	TMH	engineering	
scale	1"=40'	TMH	
approval		approval	
SAA		SAA	

no.	description	date
	revisions	

WARFIELD ESTATES, S-4, B-A, LOT 21
14511 MACCLINTOCK COURT
TAX MAP 21, GRID 04, PARCEL 129
FOURTH ELECTION DISTRICT
HOWARD COUNTY
PERCOLATION SITE PLAN

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
7850-B Once Drive, Columbia, Maryland, 21044
(410) 997-0286 Fax

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT



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SAMER A. ALOMER P.E. DATE:

OWNER/DEVELOPER

ALBERT M. MONTAGNA &
RAE MONTAGNA
10357 MACCLINTOCK CT.
GLENWOOD, MARYLAND 21738

*Warfield Estates
Section 4
Lot 21*

HOWARD COUNTY HEALTH OFFICER _____ DATE _____