Menu Save Reset Cancel Help

Record Detail * *(This section is required.)*

Revision ME

Permit Type	Permit Number	Opened Date
Building/Residential/Alteration/SFD	B23000747	03/07/2023

Description of Work

NOV/SFD/ ALTERATIONS TO INCLUDE: INTERIOR RENOVATIONS THROUGHOUT - TOTAL 7 BEDROOMS, 3 FAMILYROOM AREAS, KITCHEN, OFFICES, DINING AREA AND BASEMENT PER PLANS**ALL BEDROOMS MUST MEET EGRESS REQUIREMENTS; SPRINKLER SYSTEM REQUIRED; SMOKE DETECTORS REQUIRED; IF RENTED A RENTAL HOUSING LICENSE IS REQUIRED CB230139 / *07.10.24 REVISION TO LAYOUT PER HEALTH REQUEST NEW ROOM COUNTS (4) BEDROOMS, (6) FULL BATH, (1) HALF BATH, (3) FAMILY ROOMS, (2) OFFICES, KITCHEN/DINING/ LIVING, FOYER, EXERCISE ROOM, UTILITY ROOM,*/**90-DAY EXTENSION APPROVED**/***8.27.24 REVISION TO REDUCE SIZE OF 2ND FLOOR OFFICE INCREASE 2ND FLOOR LAUNDRY AND FAMILY ROOM SIZES, CHANGE OPENING IN BASEMENT EXCERCISE ROOM TO REMOVE DOOR***

check spelling

Address * *(This section is required.)*

Search Reset Clear Get Parcel & Owner

Street #	Street Name	Street Type
4880	MANOR	LN

Unit Type	Unit #	X Coordinate	Y Coordinate
--Select--		-76.88799	39.23732

City	State	Zip Code	Primary
ELLICOTT CITY	MD	21042	Yes

Parcel * *(This section is required.)*

Search Reset Clear Get Address & Owner

GIS ID *	Parcel	Parcel Area	Land Value	Improved Value	Exemption Value	Plan Area
884815		1	221200	0	1000	RURAL

Legal Description

IMPV1.00 A.[ ]4880 MANOR LN[ ]ELLICOTT CITY

check spelling

Block	Lot	Census Tract	Council Dist	Inspection Dist	Supervisor Dist	Map #	DAP Zone
		603000	5				

Plan Area	State Tax Id	Subdivision Name
	1403297497	

Section	Area	Tax Map
		29

Grid	Zoning District	ADC Map
29-11	RC-DEO	4934-H3

SDP No.	Final Plan No.	WP File No.

Record Plat No.	WS Contract No.	FDP No.	Primary
			Yes

Owner Occupied	Year Built	Historic District
○ Yes ◉ No	1963	○ Yes ◉ No

Historic District Registry No.	Stat Area	Flood Plain
	3-09A	○ Yes ◉ No

Building No

Owner *(This section is not required.)*

Search Reset Clear

Name *
L and L
Address Line 1
6017 Western Run Drive
Address Line 2
Address Line 3
Mail City
Baltimore
Mail State
MD
Mail Zip Code
21209
Phone
443-956-7367
Primary
Yes
E-mail

wb.7171@gmail.com

Cell Number 4439567367 **Fax Number**

Professionals *(This section is not required.)*

License # * 08050131051
License Type * MHIC Co
Primary Yes
Business Name L AND L BUILDING BLOCKS LLC
First Name WINSTON **Middle Name** **Last Name** BOWER
Address Line 1 6017 WESTERN RUN DRIVE
Address Line 2
City BALTIMORE **State** MD **ZIP Code** 21209
Phone 1 4439567367 **Phone 2** **Fax**
E-mail WB.7171@GMAIL.COM

Applicant *(This section is not required.)*

Search As Owner As Lic. Prof As Contact

Type * Applicant
Relationship Applicant
Primary No
First Name WINSTON **MI** **Last Name** BOWER
Full Name WINSTON BOWER
Organization Name L AND L BUILDING BLOCKS LLC
Street Address 6017 WESTERN RUN DRIVE
Address Line 2
City BALTIMORE **State** MD **Zip Code** 21209
Phone 4439567367 **Cell** **Fax**
E-mail * WB.7171@GMAIL.COM

Contact *(This section is not required.)*

Search As Owner As Lic. Prof As Contact

Type Contact
Relationship Licensed Professional
Primary Yes
First Name WINSTON **MI** **Last Name** BOWER
Full Name WINSTON BOWER
Organization Name L AND L BUILDING BLOCKS LLC
Street Address 6017 WESTERN RUN DRIVE
Address Line 2
City BALTIMORE **State** MD **Zip Code** 21209
Phone 4439567367 **Cell** **Fax**
E-mail WB.7171@GMAIL.COM

Addtl Info

Est Construction Cost * 350000
Housing Units * 0
Number of Buildings * 0
Public Owned No
Construction Type --Select--

RESIDENTIAL ALTERATION INFO

RESIDENTIAL ALTERATION INFORMATION

Total Square Footage *	No of Stories *	Basement	Bedrooms	Full Baths	Half Baths	Water *	Sewage *
6996 SQFT (Number)	2 (Number)	Full Finished	4 (Number)	6 (Number)	1 (Number)	Private	Private

Existing Utilities *	Existing Heating System *	Existing Sprinkler System *	Type of New Fireplace	Expiration Date
Electric	Electric	None	--Select--	3/3/2025

Related Records

Showing 1-2 of 2

Permit Number	Record Type Alias	Status	Number	Street Name	Opened Date	Description
B23000747	Residential Interior Alteration Single Family Dwelling Permit	Review In Process	4880	MANOR	03/07/2023	NOV/SFD/ ALTERATIONS TO INCLUD
E23001319	Residential Electrical Addition Alteration Permit	Ready for Issuance	4880	MANOR	03/09/2023	Sfd (interior alterations) - (2) 200 amp s

Page 1 of 1

Submit **Cancel**

Co-reviewed by: MDE's ON-SITE SYSTEMS DIVISION & COUNTY Approving Authority

Project Name/Address: 4880 Manor Lane

Date Design Plan Approved: 5-14-24

Regional Consultant Steven Kang

Local Approving Authority

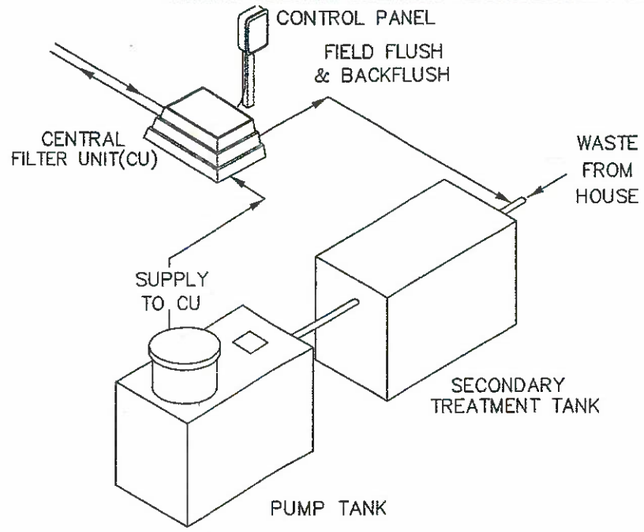
The On-Site Systems Division must be notified at least 48 hours in advance prior to anticipated system installation so that a pre-installation field layout can be conducted. System installation is not to proceed until a final field layout has been conducted/approved by county and MDE.

Date/s of Pre-installation layout meeting:

Date Pre-installation layout approved:

Approved By:

TREATMENT TRAIN ISOMETRIC nts



NOTE: All specifications, material, and products to bid as specified. No "as equal" substitutions until project is awarded. Approval of the designer, the owner, and the Administrative Authority (the County) / The Maryland Department of the Environment (MDE) as applicable required.

PERC-RITE ®
SUBSURFACE DISTRIBUTION SYSTEM

NOTES TO CONTRACTOR:

General: This On Site Sewage Treatment and Dispersal system is to be installed according to the following specifications. These plans are to be accompanied by a current valid Health Department permit prior to construction. The exact location of all utilities must be determined prior to construction and any required setbacks adhered. The contractor is responsible to be familiar with the system design and install the system in accordance with Department of Health, local County ordinances, local standard practices, and is to be properly licensed and certified as may be required by the appropriate state and local agencies. ***Contractor to be an experienced MDE Sandmound certified contractor, preferably with drip dispersal installation experience.***

Pre construction meeting and system startup Final Inspection REQUIRED. Contractor to coordinate with the Administrative Autority (County) to schedule, insuring that MDE, Designer, and Vendors are informed for attendance as necessary. Please call with any questions.

The contractor is responsible to perform a pre construction recognizance and / or stakeout of system componants (including each trench on contour) prior to construction to verify the design and to plan the construction process.

Specification: All manufacturers requirements must be adhered to and materials accompanying specific components to be retained and kept with this package for future owner reference.

NOTE: System design is best attempt to provide a sewage disposal system to an existing house.

Owner acknowledges and agrees that the proposed innovative/alternative system is experimental and that his or her participation is voluntary. Owner agrees that there shall be no liability assigned to evaluator / designer if this innovative/alternative system fails, and that evaluator / designer do not warrant or guarantee that the system will adequately or properly function. Owner acknowledges and agrees that a MDE certified and manufacturer-approved installer will install the best available technology (BAT) and drip dispersal system.

As a condition of the permit, owner acknowledges and agrees the manufacturer will provide for Operation and Maintenance of the as a condition of sale of the BAT (2 years) and the Drip Dispersal System (2 years). After the 2-year period the Operation and Maintenance the BAT contract (and Drip Dispersal System) is to be further extended. The property owner is required to to continuously maintain an Operation and Maintenance contract during the lifetime of the system. A MDE approved BAT service provider is required.

CONTENTS

Page 1....Cover Sheet
Page 2....Site Plan / Treatment Train
Page 3....Field Specifications / Zone Detail
Page 4....Pump Chamber / Hydraulic Profile
Page 5....Panel / Pump Flow Collar / Hydraulic Unit
Page 6....FUJI CLEAN CEN 7
Page 7....INFILTRATOR Dose Tank
Page 8....General Notes
Page 9....Drip Hydraulic Design
Page 10...Additional Information
ATTACHEMENT: Percolation Test Plan / JMN Eng. 5/1/2024

SCOPE: Household Sewage will flow by gravity through a pretreatment unit, then flowing by gravity to a drip dispersal equalization pump chamber. From the pump tank the effluent is filtered through 115 micron disc filters and dispersed through the drip dispersal network. The network is composed of tubing with pressure compensating emitters, installed on contour, and managed by the AMC Perc Rite® process of automatic routine filter backwashing, average flow / peak flow time dosing, and routine network flushing.

Approved Septic System Plan
Howard County Health Department

Signature 5/19/24 Date

Credential Identification Card for: REHS/RS

Credential ID Number: 83255

Cred. Since: 08/09/1985

Thomas W. Ashton, CPSS,REHS
18526 Foggy Bottom Rd
Bluemont, VA 20135-1838

Tom W. Ashton R.E.H.S.
P.O. Box 667 Chincoteage Island VA 23336 540-454-4672

PROJECT NAME :
4880 Manor Lane
Ellicott City, MD 21042
Parcel #522486
TM 27 PAR 121 LOT 11

COUNTY : Howard

5/1/2024

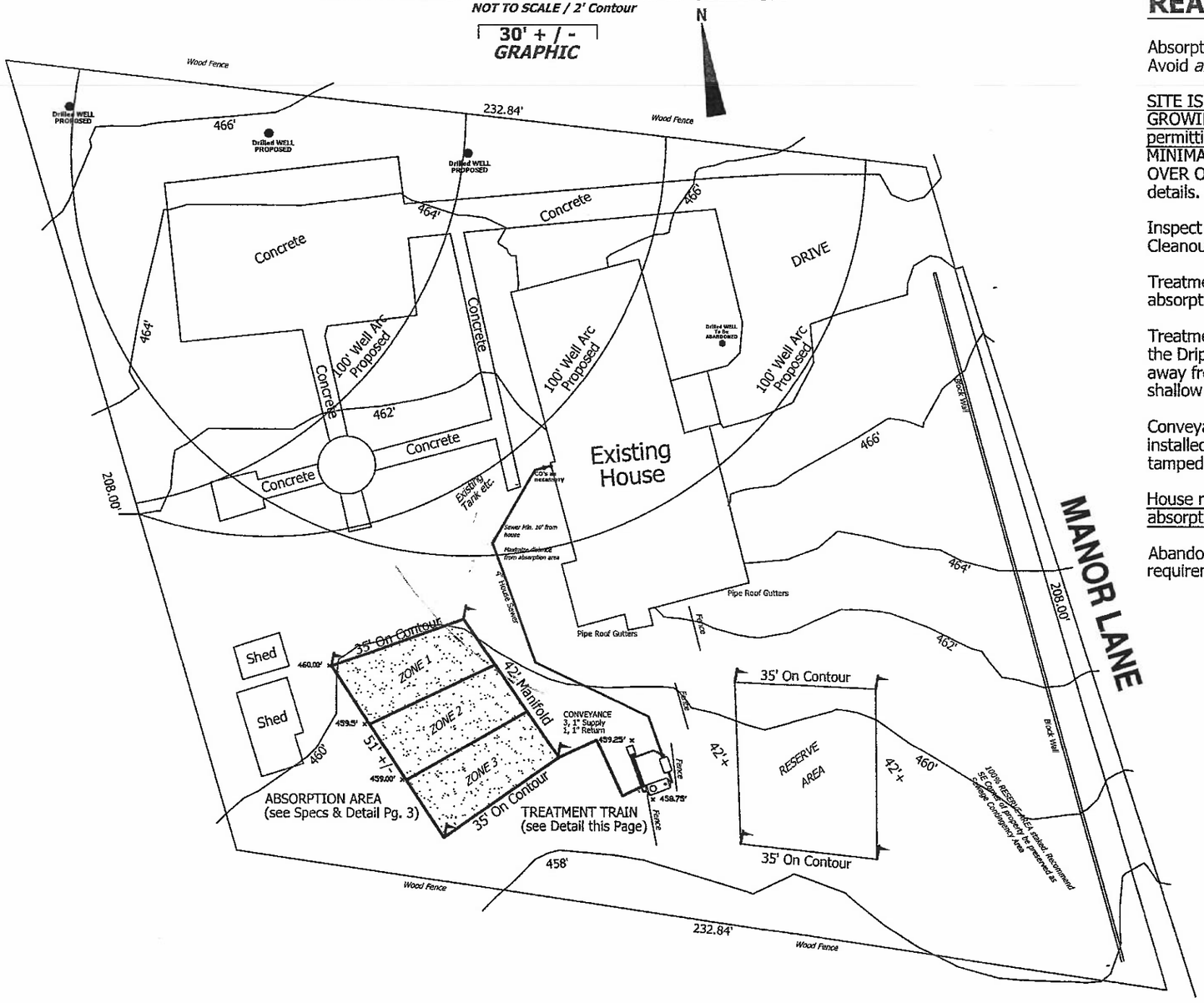
TITLE :
COVER SHEET PERC-RITE® DRIP DESIGN

DESIGNED BY: Tom Ashton R.E.H.S 540-454-4672 | SHEET: 1 OF 10

GENERAL SYSTEM PLAN VIEW SKETCH

NOT TO SCALE / 2' Contour

30' + / - *GRAPHIC*



READ ENTIRE DESIGN / Plan Installation carefully

Absorption area preparation, and system installation to take place in immediate, timely sequence. Avoid *any* precipitation on the exposed ground surface.

SITE IS LIMITED IN AVAILABLE AREA. INSTALLATION TO BE IN DRY CONDITIONS DURING THE GROWING SEASON. INSTALLATION WINDOW LIKELY FROM MAY 15 TO OCTOBER 15, weather permitting. The soils in the absorption area are silty and clayey and very subject to compaction. MINIMAL ACTIVITY ON / ADJACENT TO ABSORPTION AREA as necessary to install. NO CROSSING OVER OF ABSORPTION AREA. Carefully plan the staging of sand. See page 3 for absorption area details.

Inspect existing sewer line for integrity. Replacement if not schedule 40 PVC (no cast iron). Cleanouts as required.

Treatment train location is of the standard configuration and schematic. Keep adjacent to, below the absorption area as to pump up to the dispersal system.

Treatment Train adjustment maybe necessary to account for encountered conditions and the needs of the Drip Dispersal system hardware, subject to vendor approval. Stay out of low areas. Locate away from surface water flow, and house gutter, sump, and drive drainage. Install all tanks as shallow as possible. DONOT bury drip Hydraulic Unit.

Conveyance lines (Common Supply Line / Field Supply Manifold / Common Return piping) to be installed below County determined frost depth. Minimum 24" for pipe protection. Backfill to be tamped for 6" over piping.

House roof gutters to be captures and piped (smooth bore) subsurface to discharge below the absorption area and treatment train.

Abandon existing tank and sewage disposal system in accordance with the Health Department requirements.

ABSORPTION AREA

see Page 3

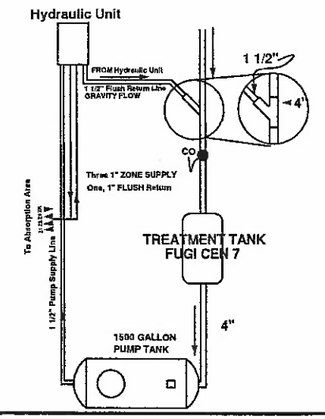
15 TRENCHES
12" WIDE / 3' Centers
18" deep downhill side
35' Long
525' Linear Feet of trench

THREE ZONES
5 Trenches Zone 1 5 Laterals
5 Trenches Zone 2 5 Laterals
5 Trenches Zone 3 5 Laterals

One Trench per Lateral
TWO DRIP RUNS PER (TRENCH)

TREATMENT TRAIN SCHEMATIC

NOT TO SCALE



Design plan representative of property for purposes of on-site sewage system design.

Design based on observed points in field, absorption area stakeout, county GIS, previous Howard County Health Department evaluation, "Percolation Test Plan" by JNM Engineering (date 5/1/2024), and Soil Evaluation Report / Preliminary Design Proposal dated April 12, 2024.

Scale graphic and approximate. Elevations interpolated / assumed.

Design Plan has been prepared for the sole purpose of satisfying state and local on-site sewage regulations in permitting. Construction plans authorized and prepared per Title 26 DEPARTMENT OF THE ENVIRONMENT, Subtitle 04, Chapter 02,.06 Non-Conventional On-Site Sewage Disposal Systems, (D) (2)a. The plan does not represent a survey or is intended to address compliance with other regulations and ordinances.

Tom W. Ashton R.E.H.S.
P.O. Box 667 Chincoteage Island VA 23336 540-454-4672

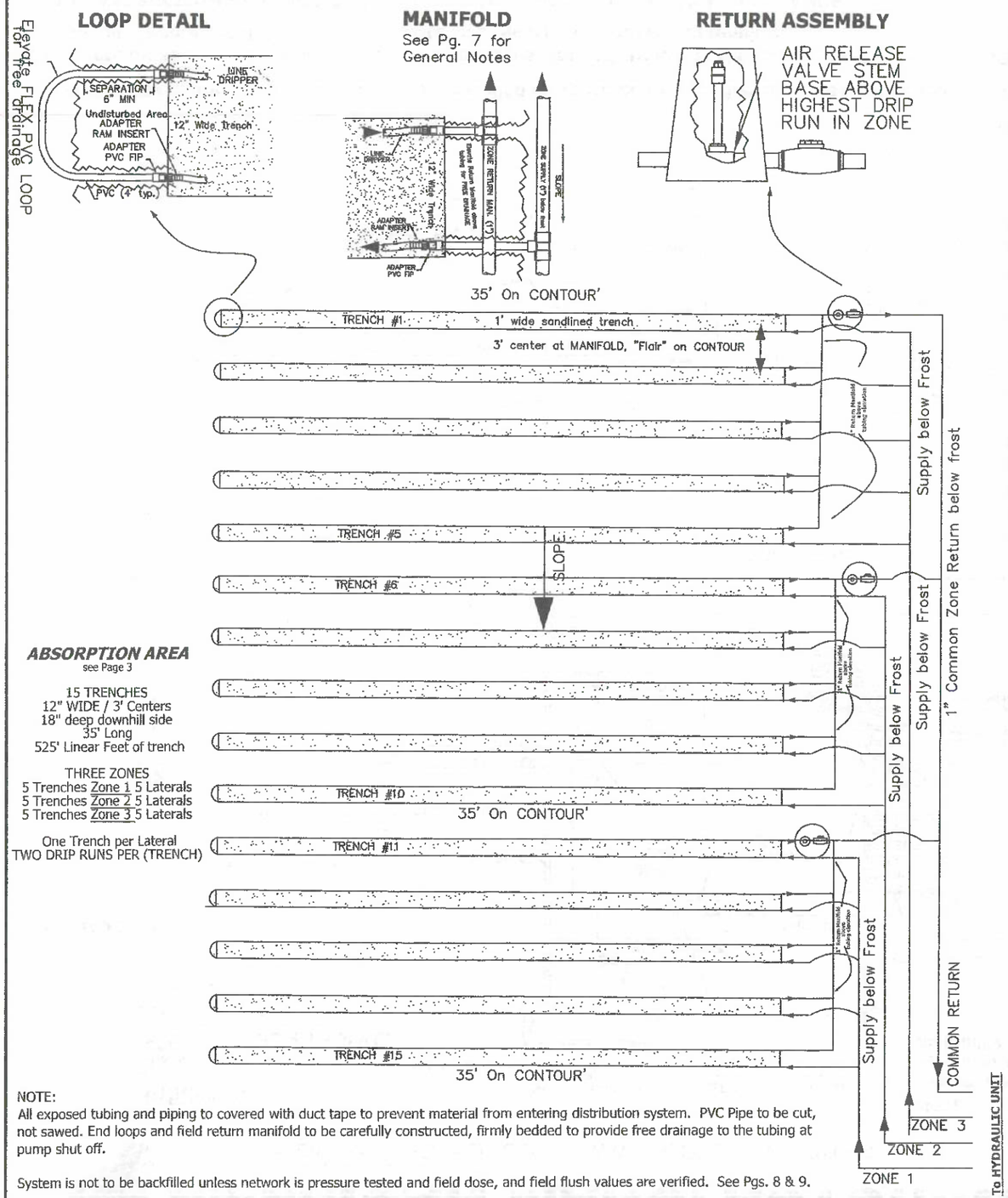
PROJECT NAME :
4880 Manor Lane
Ellicott City, MD 21042
Parcel #522486
TM 27 PAR 121 LOT 11
COUNTY : Howard

5/1/2024

TITLE :
SITE LAYOUT PLAN

DESIGNED BY: Tom W. Ashton R.E.H.S

ZONE DETAIL (SCHEMATIC ONLY, NOT TO SCALE)



NOTE:
All exposed tubing and piping to covered with duct tape to prevent material from entering distribution system. PVC Pipe to be cut, not sawed. End loops and field return manifold to be carefully constructed, firmly bedded to provide free drainage to the tubing at pump shut off.

System is not to be backfilled unless network is pressure tested and field dose, and field flush values are verified. See Pgs. 8 & 9.

COMAR 26.04.02.02 (N) "no part of an on-site sewage disposal system may be covered or used until it has been inspected and approved by the Approving Authority or a third party approved by the Approving Authority

INSTALLATION SPECIFICATIONS

Mow area plus 10' perimeter as short as possible. Rake. Weed whack as short as possible and clear with leaf blower.

Install 15, 12" wide trenches, 18" deep (downhill side), 35' long on contour, level bottoms, minimum 3' centers at Manifold, "flair" on contour as necessary.

THREE ZONES REQUIRED Each ZONE will have 5 Trenches.

Clean trenches, sand line with 12" certified MDE Mound or ASTM 33 sand. Place two runs of drip tubing in each trench, on sides (see detail this page), 3" into sand. Provide minimum 12" undisturbed soil between manifold trench and sand lined trench. Thin spun geo silt barrier over trenches only.

Once Pressure tested (see pgs. 8 & 9.), carefully backfill, and lightly tamp trenches with 6" native material.

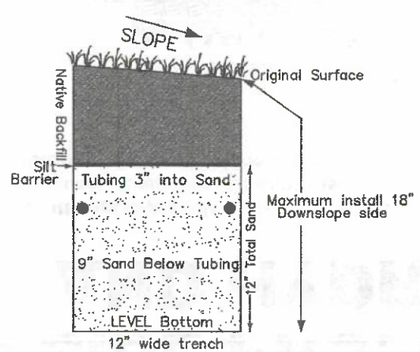
The absorption (and treatment train) area will likely need additional graded cover to divert upslope surface water and provide for no ponding on or above site. Do not over build.

Scarify between trenches, extending to anticipated perimeter of fill. Cap with clean consistent Loam / Sandy loam (native), no organic matter, sticks, stones or clay balls. NO SILTY or clayey MATERIAL. Incorporate into scarified ground surface. Turtle back up slope drainage away from site. Return manifold is very shallow and is to have 12" minimum cover extended for 2' either side, blend into landscape. Lime, fertilize and establish in aggressive turf cover. Over seed in April and September.

NOTE:The preservation of the original structure of the soil in the absorption area is essential to maintaining the percolative capacity of the soil. No activity other than the construction of the system is permitted within the absorption area. The absorption system is not to be constructed during periods of wet weather when the soil is sufficiently wet within 18" of the ground surface to exceed its plastic limit. The plastic limit is exceeded when the soil can be rolled between the palms of the hands to produce threads 1/8 inch in diameter without breaking and crumbling.

Soil compaction. Special caution shall be taken in allowing wheeled and tracked vehicles to traverse the area selected for placement of the absorption system before, during and after construction, especially during wet weather. Precaution is especially important where Texture Group III and IV soils are involved. Alteration of soil structure by movement of vehicles may be grounds for rejection of the site and/or system or revocation of the permit.

TRENCH CROSS SECTION



Conveyance lines, Supply Lines / Field Supply Manifold / Common Return piping) to be installed below frost depth.

Install Field Return Manifold above elevation of tubing to provide free drainage into tubing at pump shut off.

Tom W. Ashton R.E.H.S.
P.O. Box 667 Chincoteage Island VA 23336 540-454-4672

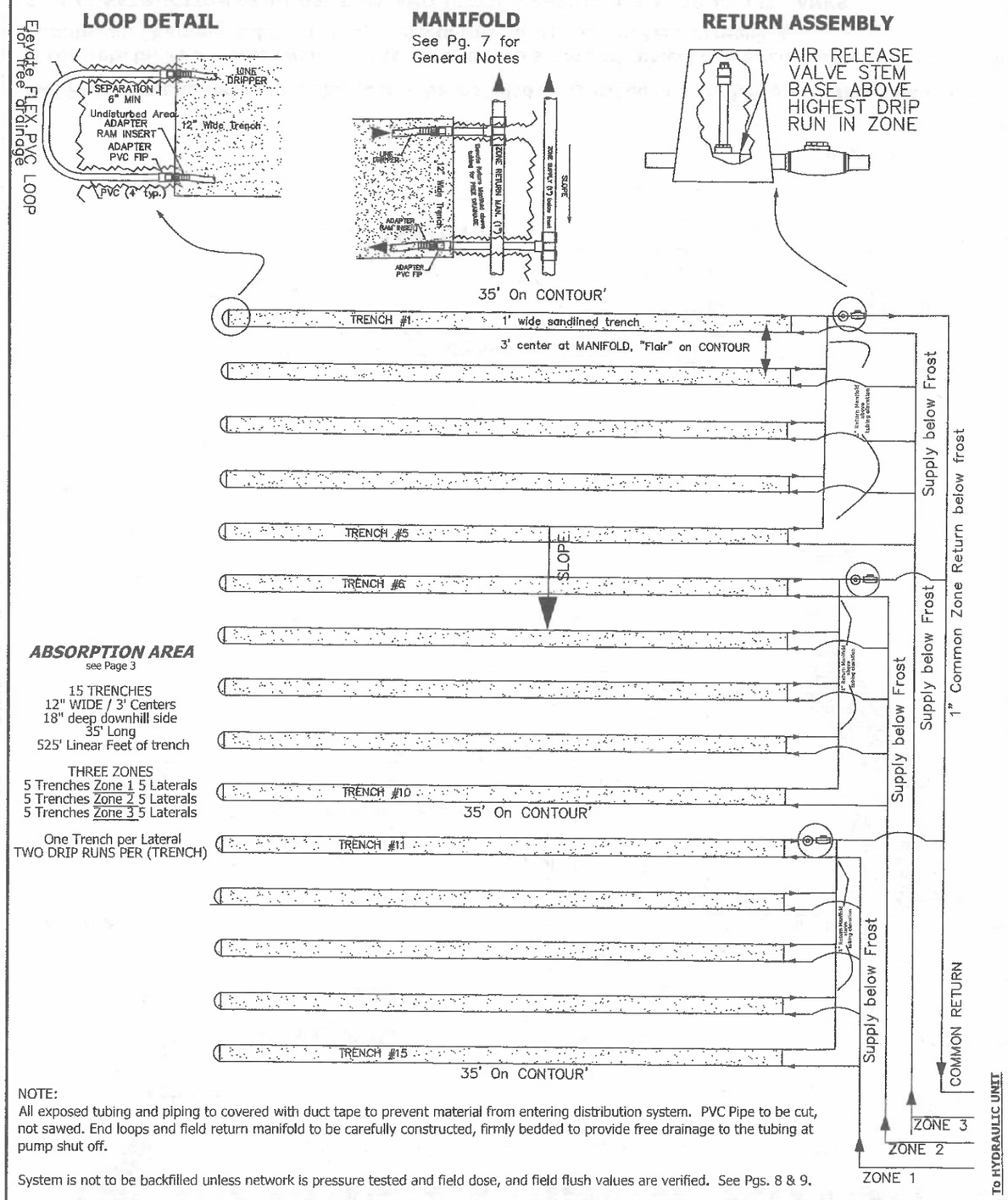
PROJECT NAME :
4880 Manor Lane
Ellicott City, MD 21042
Parcel #522486
TM 27 PAR 121 LOT 11
COUNTY : Howard

5/1/2024

TITLE **FIELD DETAILS & SPECIFICATIONS**

DESIGNED BY: Tom W. Ashton R.E.H.S

ZONE DETAIL (SCHEMATIC ONLY, NOT TO SCALE)



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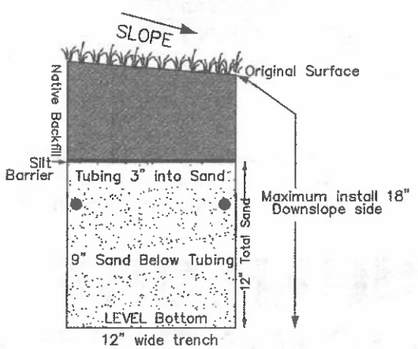


Conveyance lines, Supply Lines / Field Supply Manifold / Common Return piping) to be installed below frost depth.

Install Field Return Manifold above elevation of tubing to provide free drainage into tubing at pump shut off.

Tom W. Ashton R.E.H.S.
P.O. Box 667 Chincoteage Island VA 23336 540-454-4672

PROJECT NAME :
4880 Manor Lane
Ellicott City, MD 21042
Parcel #522486
TM 27 PAR 121 LOT 11
COUNTY : Howard

5/1/2024

TITLE **FIELD DETAILS & SPECIFICATIONS**

DESIGNED BY: Tom W. Ashton R.E.H.S

AMERICAN MANUFACTURING - SIDE PROFILE OF DOSE TANK AND HYDRAULIC FILTER UNIT

1-800-345-3132 www.americanonsite.com

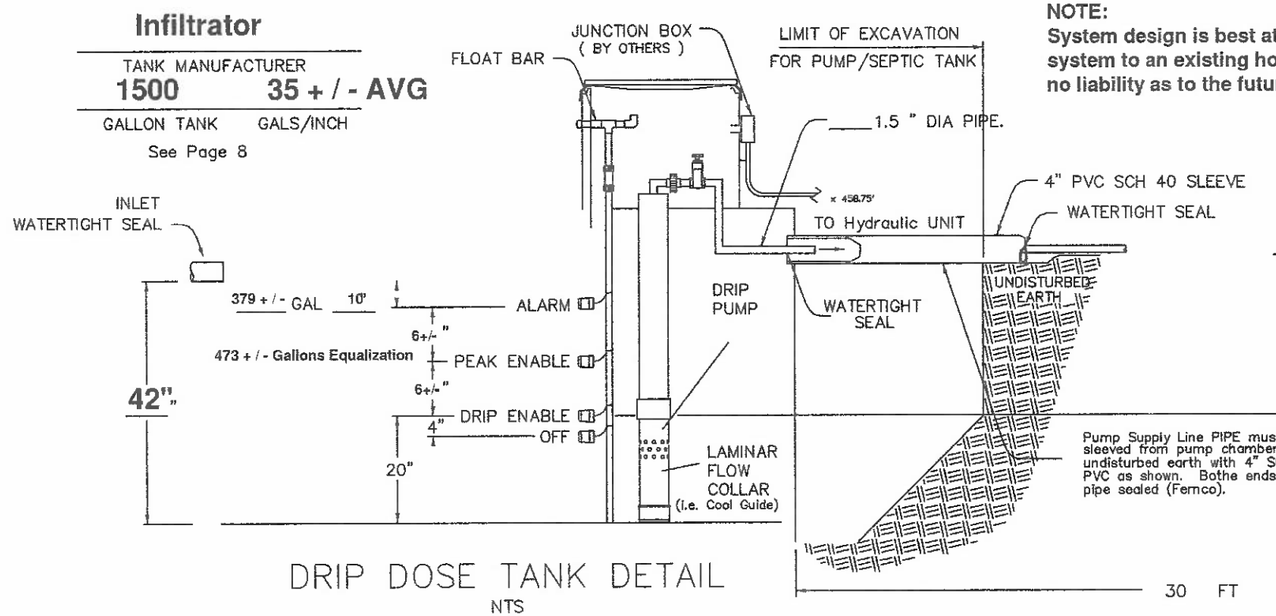
Infiltrator

TANK MANUFACTURER

1500 **35 + / - AVG**

GALLON TANK GALS/INCH

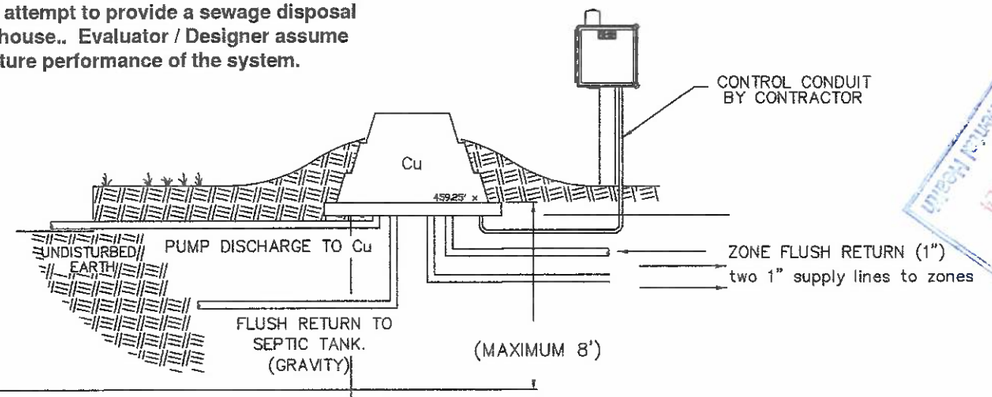
See Page 8



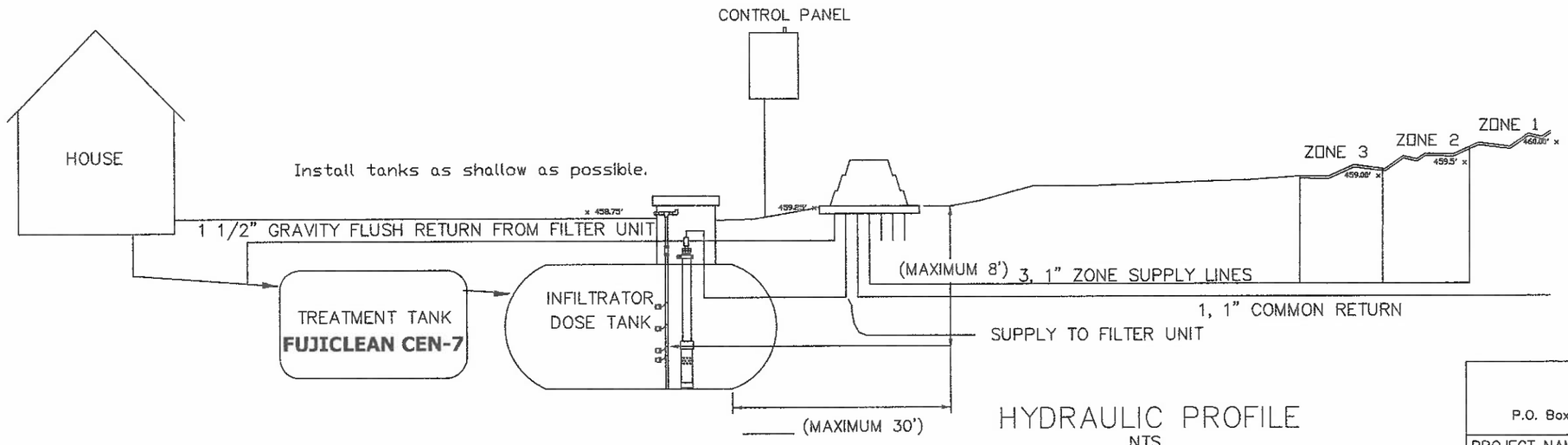
DRIP DOSE TANK DETAIL

NTS

NOTE:
System design is best attempt to provide a sewage disposal system to an existing house.. Evaluator / Designer assume no liability as to the future performance of the system.



During installation elevations must be checked to verify that system will function as designed. There must be at least 1% gravity fall from House Sewer main to Pretreatment Tank inlet. There must be at least 1% gravity fall from the base of Filter Unit to the Pretreatment inlet (sewer) and the "enable" float in the pump tank should not exceed 8' vertical elevation from base of Filter Unit.



HYDRAULIC PROFILE

NTS

BAT Pretreatment and Dosing Chamber to be installed as specified in accordance with all manufacturer's requirements. See *Note* this page.

If concrete tanks are proposed all tanks are to be top seam and subject to the requirements of Title 26 DEPARTMENT OF THE ENVIRONMENT, Subtitle 04, Chapter 02,.05 E. (3) (a). In situ (installed) Vacuum Testing required.

FULL CONSTRUCTION REQUIREMENTS AND TESTING REQUIRED FOR CONCRETE TANKS

See addition requirements and information at the bottom of Pg. 9, GENERAL NOTES.

Tom W. Ashton R.E.H.S.
P.O. Box 667 Chincoteage Island VA 23336 540-454-4672

PROJECT NAME :
4880 Manor Lane
Ellicott City, MD 21042
Parcel #522486
TM 27 PAR 121 LOT 11
COUNTY : Howard

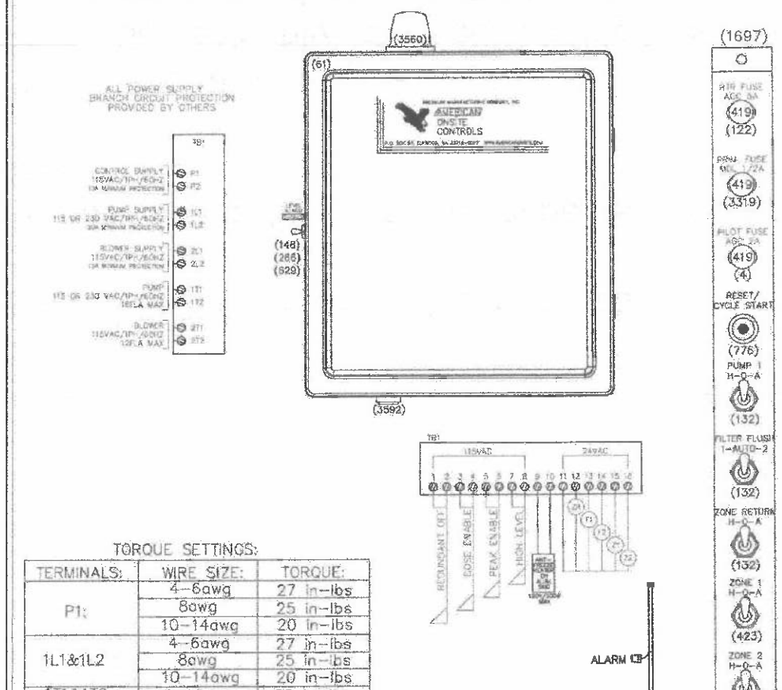
5/1/2024

TITLE :
HYDRAULIC PROFILE PUMP CHAMBER

DESIGNED BY: Tom W. Ashton R.E.H.S

AMERICAN ONSITE CONTROLS

AMERICAN MANUFACTURING COMPANY INC.
P.O. BOX 97 ELKWOOD, VA 22718
(800) 345-3132 www.americanonsite.com



TORQUE SETTINGS:

TERMINALS:	WIRE SIZE:	TORQUE:
P1:	4-6awg	27 in-lbs
	8awg	25 in-lbs
	10-14awg	20 in-lbs
1L1&1L2	4-6awg	27 in-lbs
	8awg	25 in-lbs
	10-14awg	20 in-lbs
1T1&1T2	8-18awg	22 in-lbs
P2:	8-22awg	18-20 in-lbs
TB1 1-14	10-22awg	7-8 in-lbs

INSTALLATION NOTES:

PLEASE REVIEW ALL PAGES AND INSERTS IN THIS MANUAL BEFORE ATTEMPTING TO INSTALL ANY CONTROL EQUIPMENT.
1. DASHED LINES REPRESENT TERMINALS, EQUIPMENT, AND/OR OPTIONS THAT MAY OR MAY NOT BE PRESENT IN EACH SYSTEM COVERED BY THIS MANUAL.
2. BRANCH CIRCUIT PROTECTION MUST BE PROVIDED BY OTHERS.
3. SINGLE (1) PHASE PUMP MOTORS MUST HAVE INTERNAL THERMAL OVERLOAD PROTECTION.
4. TEMPERATURE RATING OF FIELD INSTALLED COPPER CONDUCTORS MUST BE AT LEAST 140F (60C).
5. FOR PUMPS THAT REQUIRE EXTERNAL CAPACITOR INSTALLATIONS KITS, SEE "K" PACK INSTALLATION INSERT PROVIDED.
6. PUMP SUPPLY MUST MATCH REQUIRED PUMP VOLTAGE.
CONDUIT ENTRANCE MUST MATCH ENCLOSURE RATING.
7. PUMP AND PANEL VOLTAGE DROP MUST BE CONSISTENT TO INCOMING PUMP AND CONTROL POWER SUPPLIES.
8. OVERLOAD/MOTOR PROTECTORS UNIT MAY REQUIRE ADJUSTMENT TO MATCH PUMP FULL LOAD AMPS.
9. SEPARATE OVERLOAD NOT REQUIRED WHEN MOTOR PROTECTORS ARE SUPPLIED.
10. THE MANUFACTURER RECOMMENDS THAT CONTROL/ALARM SUPPLY BE SEPARATE FROM THE PUMP SUPPLY.
11. REFER TO SCHEMATIC LAYOUT ON THE LAST PAGE FOR THE REQUIRED TORQUE SETTINGS FOR EACH COMPONENT.

c UL us
508A

DRIP CONTROL WITH BLOWER
INSTALLATION GUIDE FOR "DP0" SERIES CONTROL
1PHASE, 115V. NEMA 4X

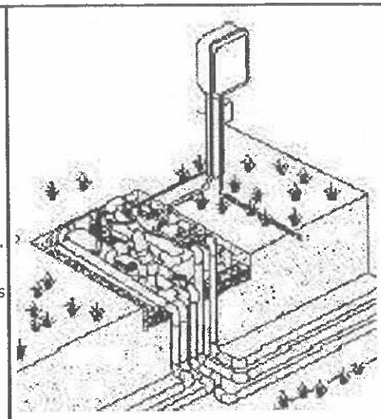
MODEL#	DP022-SAB114-AJLRX(8)	
SW.GR	X9114-2ZX8	REVISION -
DATE	03/16/2022	DRAWN BY DKP
FILE PATH		APPROVED -
		PAGE 1

THREE ZONES

SPECIFICATION for LAMINAR FLOW COLLAR
The laminar flow collar shall be made of non-corrosive, glueable PVC and have sufficient holes in the outer guide tube to assure laminar flow for the rated capacity. The inner flow collar shall extend near the bottom to provide sufficient cooling flow for the motor. The dimension between the inner collar and the pump motor shall not restrict flow to the pump intake but will provide for scouring of surfaces. The Laminar Flow Collar shall be a "Cool Guide" as manufactured by American Manufacturing Company, Inc. Patent Pending.

INSTALLATION INSTRUCTION
1. Measure the distance from the bottom of the tank to 6" down from the top of the riser.
2. Cut the extension pipe (by others) to the length necessary to reach this height. Cut ½ of the pipe down 12" to 18" away from the top of the pipe for pump discharge pipe.
3. Glue the extension coupling (by others) to the extension pipe and to the Cool Guide.
4. For Repairs: Glue on the Cool Guide flat cap and place the Cool Guide firmly on the bottom of the tank. Attach extension to riser with anchors as shown.
5. For New Construction: Anchor flat cap to bottom of tank in proper location to hold Cool Guide and extension. The cap may or may not need to be glued to the device. Attach extension to riser with anchors as shown.
6. Place pipe dope on Cool Guide adapter threads and thread into pump discharge.
7. Attach cooling collar to adapter with set screw provided.
8. Glue pipe into flow collar and with pump attached, lower into guide tube.
9. Attach to discharge pipe, valves, and connect electrical as specified.

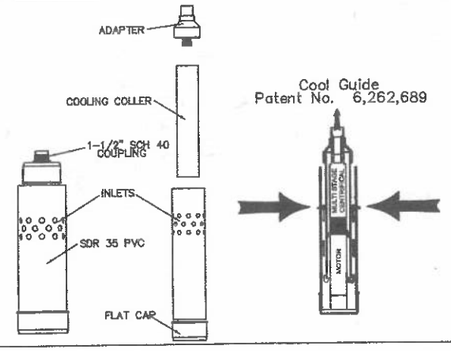
Note:
The float switches should be installed so when the bottom float is down and off, the inlet holes are still covered by the effluent. The hole in the adapter is to provide an exit point for the pump motor cord and to prevent the Cool Guide from "air locking" the pump. Do Not seal off this hole.



The hydraulic unit (HU) must be close to the pump chamber as shown.

The limiting factor is the backflushing sequence for the disc filters.

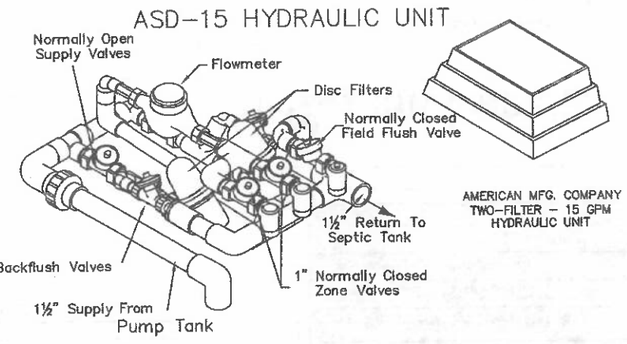
The (HU) must be within 30 feet horizontal and 8 feet vertical distance for the pump to have enough TDH to complete backflushing.

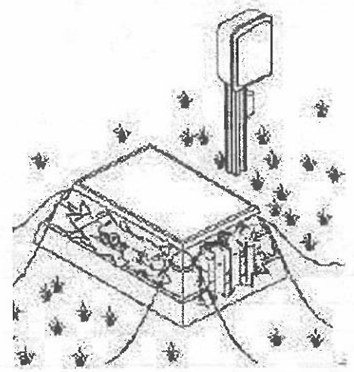


1. Dig a side trench to set the hydraulic unit. The area must be free from groundwater or rainwater infiltration. *If below original grade more than 4" the unit enclosure must have a positive drain.* Center the unit on a gravel bed with the pipes slightly over the edge. Connect the supply and return piping. Install the control panel on a 4"x4" (minimum) pressure treated post with at least 3 feet of clearance from the bottom of the control panel to the ground.

2. The electrician shall provide three sources of power to the control panel per the schematic enclosed in the control enclosure. The control wire shall be run through conduit to the control with no splices and connected to the terminal strip provided. Connect the heater, floats and pump(s) to the control panel.

3. Install the insulated enclosure and backfill the area making sure not to damage any piping or electrical components. Provide positive drainage from around the central unit to insure no excessive rainwater will enter and rainwater which does enter will drain out. Provide a minimum of 4" of backfill above the bottom edge of the enclosure to help enclosure heater maintain temperatures above freezing. Additional mounding is preferred for freeze protection and aesthetics.





SYSTEM OPERATION

The ***Perc Rite*** system control panel is equipped with four float switches and controls the timed doses to be discharged. The water level must be high enough to overcome the "Redundant Off" (Bottom) float in order for the pump to run. When the water level rises high enough to overcome the "Dose Enable" (second) float and the timer is in a dose enable mode, the cycle will initiate and activate the pump automatically backflush the disc filters, and dose the lead zone. The pump will continue to run for the length of time as set on the pump run timer (design adjustable, may vary between zones) to provide a complete dose. Total volume dosed daily will be an average daily flow typically 60% (design adjustable) of the peak daily flow unless the higher peak flow float is activated as described below. The system will remain off until the preprogrammed (design adjustable) off timer enters a new cycle enable mode, at which time the control will activate another cycle and dose the new lead zone (as long as the "Dose Enable" float is still up). Each zone is preprogrammed to dose alternating, evenly throughout the day (design adjustable). This process will continue until the water level drops below the "Dose Enable" float and the pump run timer has timed out. Each zone will automatically receive a forward field flush at > 2 feet per second scouring velocity each week (design adjustable) to clean the drip tubing.

The ***Perc Rite*** control system is equipped with a timer circuit to manage design average daily flows and peak design flow. If the water level rises enough to overcome the "peak flow float" (third) float (typically located in the mid portion of the equalization volume) the pump will be activated, regardless of the time clock position. The system will continue to cycle at a more frequent rate (design adjustable) disposing at the peak design flow until deactivated by the circuit, at which time the system will return to the normal average daily flow dosing cycle frequency. If the water level continues to rise enough to overcome the "High Level" (fourth) float, the audiovisual alarm will be activated until silenced by pressing the Test-Normal-Silence switch to the silence position. The alarm circuit will automatically reset when the "High Level" float returns to its normal position and an operator acknowledges the alarm event. In addition to standard pump event counters (total and per zone) as well as pump run elapsed time meter logging, the controller also logs the number of peak and high water events plus an ETM record of the duration the floats were activated.

Tom W. Ashton R.E.H.S.
P.O. Box 667 Chincoteague Island VA 540-454-4672

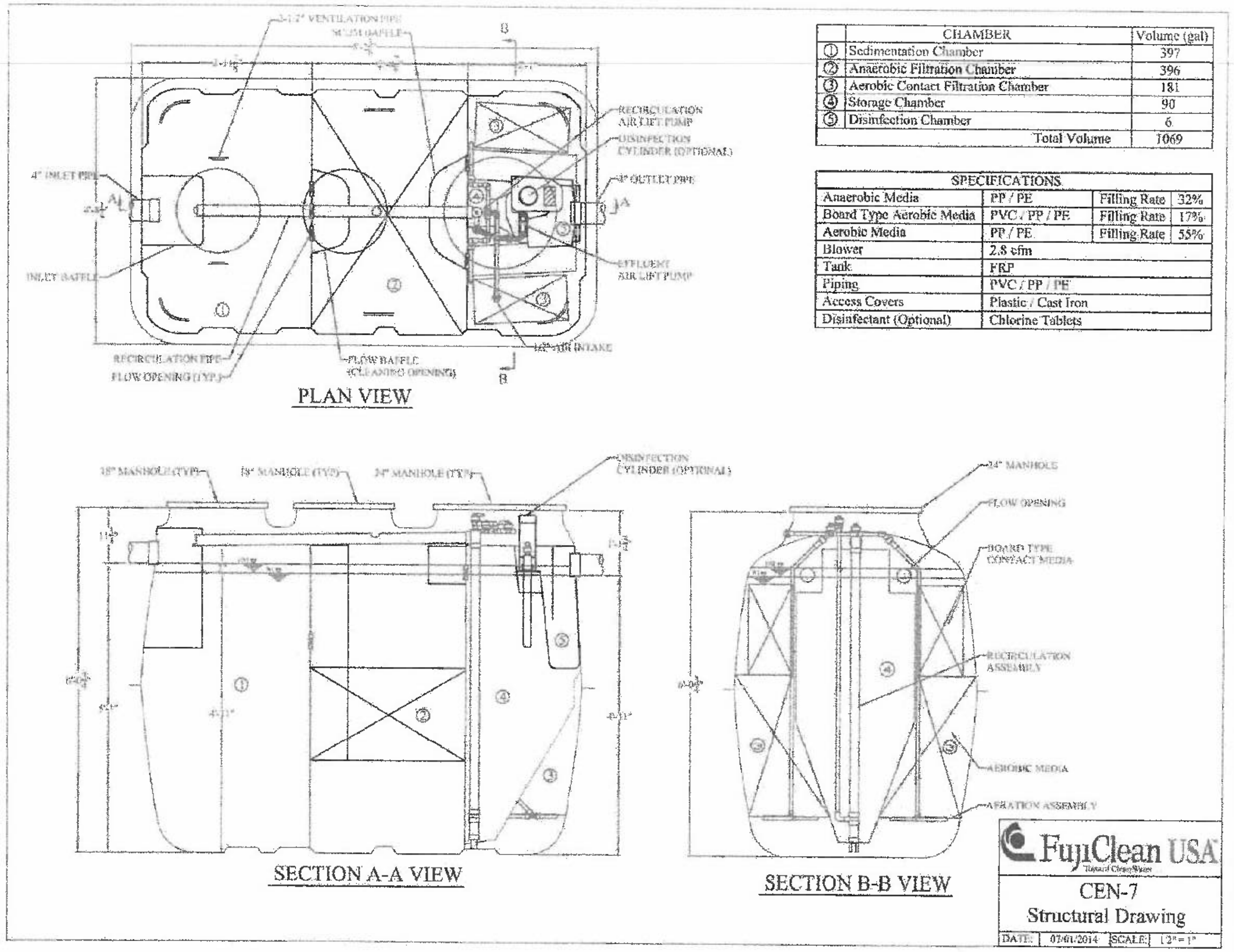
PROJECT NAME :
4880 Manor Lane
Ellicott City, MD 21042
Parcel #522486
TM 27 PAR 121 LOT 11

COUNTY : Howard

5/1/2024

TITLE :
CONTROL, COOL GUIDE & PUMP HYDRAULIC UNIT

DESIGNED BY: Tom W. Ashton R.E.H.S



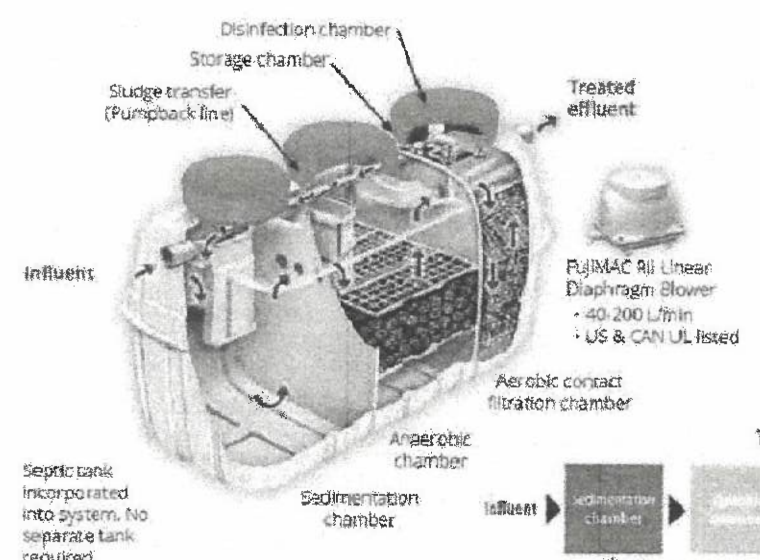
	CHAMBER	Volume (gal)
①	Sedimentation Chamber	397
②	Anaerobic Filtration Chamber	396
③	Aerobic Contact Filtration Chamber	181
④	Storage Chamber	90
⑤	Disinfection Chamber	6
	Total Volume	1069

SPECIFICATIONS			
Anaerobic Media	PP / PE	Filling Rate	32%
Board Type Aerobic Media	PVC / PP / PE	Filling Rate	17%
Aerobic Media	PP / PE	Filling Rate	55%
Blower	2.8 cfm		
Tank	FRP		
Piping	PVC / PP / PE		
Access Covers	Plastic / Cast Iron		
Disinfectant (Optional)	Chlorine Tablets		

FUJI CLEAN USA DESIGN SPECIFICATION TABLE	Residential CEN Series BOD, TSS, TN (Enhanced Nitrogen Removal)		
Model	CEN5	CEN7	CEN10
Tank Volume Total (gallons)	749	1,069	1,498
Height (inches)	65.7	73.6	77.4
Length (inches)	95.7	98.8	118.9
Width (inches)	49.2	56.7	68.9
Weight (lbs.)	463	705	926
Inlet Invert (inches to 1/8")	53	61	62
Outlet Invert (inches, to1/8")	51	59	59.5
Blower Size (Standard**)	80 L/min	100 L/min	150 L/min
Power Use (kWh/day)	1.2	1.7	2.7

FujiClean USA

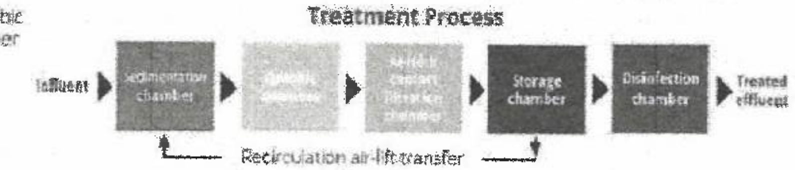
Model CE & CEN Series
Technical Specification Sheet



Fuji Clean Advantages

- Over 2 million installed systems worldwide
- 1-tank system - no septic tank necessary
- No moving parts in tank
- Built-in equalization - levels variable inflow
- NSF 40 and 40/245 certified
- TN removal to 70+% with CEN models
- Phosphorous reduction technology
- Smallest footprint vs. competitors
- Lowest power use vs. competitors
- Lightweight tank - easy installation
- Quick and easy O&M - no mess
- Rapid start up and restart for seasonal homes

Treatment Process



Refer to FUJI CLEAN Installation Manual

All loose and disturbed soil must be removed from bottom of tank excavation hole.

** Bed Tank on 4 - 6" sand or suitable (no rocks) native soil.
** Set tank utilizing 4 - point lifting lugs. Tank must be level to within 1/8"
** Fill tank with fresh water to the LWL (Low Water Level) mark in all three chambers once set.

VENDOR

T/A Jones Pump Service
410-836-9206 office
410-836-9367 fax

Tom W. Ashton R.E.H.S.
P.O. Box 667 Chincoteage Island VA 23336 540-454-4672

PROJECT NAME :
4880 Manor Lane
Ellicott City, MD 21042
Parcel #522486
TM 27 PAR 121 LOT 11

COUNTY : Howard

5/1/2024

TITLE : FUJICLEAN CEN-7

DESIGNED BY: Tom W. Ashton R.E.H.S

TW-SERIES SEPTIC TANKS BY INFILTRATOR®

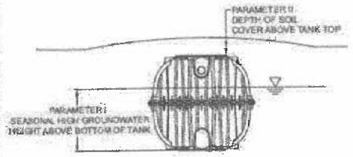
The Only Plastic Tank with Triple-wall Strength

BAY AREA ENVIRONMENTAL
T/A Jones Pump Service
410-836-9206 office
410-836-9367 fax

Table 1 – Infiltrator tank models[1] and conditions requiring buoyancy control

	Parameter I – Groundwater[2] height above tank bottom	Parameter II – Soil cover depth above tank top[3] A: 6" (150 mm) to < 12"	B: 12" (300 mm) to < 18"	C: 18" (450 mm) to < 24"	D: 24" (600 mm)	E: > 24"
1	50" (1,250 mm) and higher	All models	All models	TW-300/500	TW-300	none
2	48" (1,200 mm) to < 50"	All models	All TW models	TW-300/500	none	none
3	42" (1,050 mm) to < 48"	All models	TW-300/500	TW-300/500	none	none
4	36" (900 mm) to < 42"	All models	TW-300/500	none	none	none
5	30" (750 mm) to < 36"	TW-300/500	TW-300	none	none	none
6	24" (600 mm) to < 30"	TW-300/500	none	none	none	none
7	less than 24"	none	none	none	none	none

1. Infiltrator tank models include: TW-300, TW-500, TW-900, TW-1050, IM-1060, TW-1250, and TW-1500
2. Groundwater height corresponds to seasonal high groundwater elevation
3. Minimum 6 inches soil cover backfill required above all Infiltrator tanks



Place Tanks as Shallow as possible per existing sewer elevation FOLLOW MANUFACTUERS INSTALLATION AND ANTI-FLOATATION PROCEDURES

INSTALLING UNDER SHALLOW GROUNDWATER CONDITIONS Buoyancy control measures may be required if the Infiltrator tank is to be installed with less than 12 inches (300 mm) of soil backfill cover, and where the water level outside the tank has the potential to rise 30 inches (750 mm) or more above the elevation of the tank bottom. Buoyancy control measures required.

FOLLOW JONES PUMP SERVICE PROCEDURES FOR PROPER INSTALLATION, BACKFILLING, AND ANTI-FLOATATION PROCEDURES as detailed.

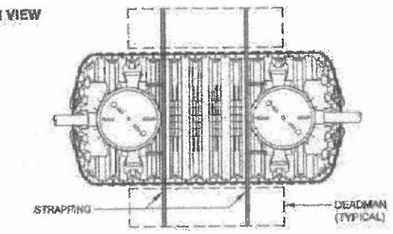
Refer to Infiltrator IM-Series Tank Buoyancy Control Guidance document for more information.

TABLE 1 - SPECIFICATIONS

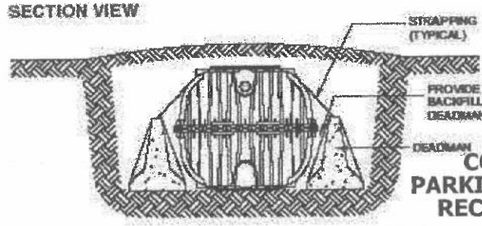
PARAMETER	UNITS U.S.[Metric]	LIQUID LEVEL 39.75 IN [1,010 mm]	LIQUID LEVEL 40.0 IN [1,016 mm]
TOTAL VOLUME	gal [L]	1,762 [6,669]	1,762 [6,669]
WORKING VOLUME	gal [L]	1,523 [5,765]	1,532 [5,798]
TANK LENGTH	in [mm]	170.4 [4,328]	170.4 [4,328]
TANK WIDTH	in [mm]	66.0 [1,676]	66.0 [1,676]
TANK HEIGHT	in [mm]	50.6 [1,285]	50.6 [1,285]
FREEBOARD	in [mm]	10.1 [256]	9.8 [249]

BAY AREA ENVIRONMENTAL
T/A Jones Pump Service
410-836-9206 office
410-836-9367 fax

PLAN VIEW



SECTION VIEW



CONCRETE PARKING BUMPERS RECOMMENDED

Height[1] in	cm	IM-540 U.S. Gal	Liters	I M -10 6 0 U.S. Gal	Liters	IM-1530 U.S. Gal	Liters
1	3	3	11	3	11	17	64
2	5	8	30	13	49	34	128
3	8	14	53	28	106	51	192
4	10	21	80	46	174	68	256
5	13	29	109	65	246	94	357
6	15	37	141	86	326	122	463
7	18	46	173	107	405	152	573
8	20	55	207	129	488	180	681
9	23	64	243	152	575	212	802
10	25	74	279	176	666	245	928
11	28	84	317	200	757	280	1,0 61
12	30	94	356	225	852	312	1,18 2
13	33	105	396	251	950	351	1,328
14	36	116	437	277	1,049	387	1,463
15	38	127	480	303	1,147	422	1,597
16	40	138	523	330	1, 249	464	1,756
17	43	150	566	357	1,351	500	1,892
18	46	161	611	384	1,454	537	2,034
19	48	173	656	411	1,556	575	2,17 7
20	50	186	702	438	1,658	614	2,322
21	53	198	74 9	465	1,76 0	652	2,468
22	56	210	796	493	1,866	690	2,612
23	58	223	843	521	1,972	729	2,758
24	61	235	891	549	2,078	770	2,914
25	64	248	940	577	2,18 4	808	3,058
26	66	261	988	605	2,290	847	3,208
27	69	274	1,038	633	2,396	887	3,356
28	71	287	1,088	662	2,506	928	3,513
29	74	300	1,137	691	2,616	968	3,665
30	76	313	1,18 5	719	2,722	1,0 07	3,814
31	79	326	1, 233	747	2,828	1,048	3,966
32	81	338	1, 281	775	2,934	1,087	4 ,113
33	84	351	1,328	802	3,036	1,12 6	4,262
34	86	363	1,375	830	3 ,14 2	1,16 5	4,410
35	89	375	1,421	857	3,244	1, 204	4,557
36	91	387	1,466	884	3,346	1, 242	4,701
37	94	399	1, 511	911	3,449	1, 280	4,846
38	97	411	1,555	938	3,551	1,318	4,988
39	99	422	1,598	965	3,653	1,355	5 ,131
40	102	433	1,640	992	3,755	1,393	5,272
41	104	444	1,681	1,018	3,854	1,430	5,412

GENERAL REQUIREMENTS Refer to Infiltrator IM-Series Tank Buoyancy Control Guidance document for more information.

Parts and Supplies
Contact Infiltrator's Technical Services Department or your local Infiltrator tank distributor (Bay Area Environmental) for assistance obtaining parts and supplies.

Infiltrator tanks are compatible with the following devices or products used for buoyancy control:
Tie-down straps (high-tensile-strength webbing, 10,000-lbs [4,500 kg] minimum capacity, nylon or polyester, corrosion-resistant hardware)
Concrete deadmen (concrete-filled plastic half pipe or chambers, precast parking bumper, precast traffic barrier, or poured block)
Helical anchors (Chance™ No-Wrench Screw Anchors with min. 4" [100 mm]helix and 48" [1,200 mm] shaft length)

Concrete Deadmen
Types of concrete deadmen recommended for use in buoyancy control of Infiltrator tanks include filled plastic half pipe, filled Infiltrator chambers, precast parking bumpers and traffic barriers, and poured blocks. The inherent weight of these deadmen combined with the weight of soil above them provide buoyancy control when properly strapped across an Infiltrator tank. Deadmen are placed at the bottom of the tank excavation on opposite sides of the tank's proposed installation location. The deadmen are fastened to each other with tie-down straps placed up and over the tank at the locations specified for each tank model .

Concrete parking bumpers RECOMMENDED
Use commercially available steel-reinforced parking bumpers with typical dimensions of 12-inches wide by 6-inches high (300 mm x 150 mm). Weight is 58 lbs/foot (86 kg/m) minimum.

Excavation Requirements
It is recommended that the excavation width provide a minimum of 36 inches (900 mm) clearance beyond the tank on all sides when utilizing buoyancy control. This will allow sufficient room within the excavation to place deadmen and to fasten strapping. The excavation should provide a minimum of 48 inches (1,050 mm) when using Chance™ No-Wrench Screw Anchors to allow for room to properly install the screw anchors. The actual excavation size shall be determined by the installer. Refer to Infiltrator IM- and TW-Series Septic Tank Installation Instructions for additional excavation procedures.

Placement of Deadmen and Anchors
Concrete deadmen are to be installed at the bottom of the tank excavation, parallel to the long axis of the tank (See PLAN VIEW). The deadmen should be placed close to, but not touching, the tank on both sides of the tank to allow the placement of backfill between the deadman anchor and tank sidewall. (See SECTION VIEW). Helical anchors should be installed so that the eye loop is level with the bottom of the tank excavation. They must be in line with the tank model strapping locations or lifting lugs, as appropriate. Anchors must also be installed at such a distance from and angle to the tank so that the strapping is within 5° of alignment with the anchor shaft per manufacturer's recommendations.

Strapping
Preparation and fastening of webbing to/over the tanks is critical for tank stability under constant and fluctuating high groundwater conditions. Straps must be placed at the specified strapping locations for each model as illustrated in the following views. These locations correspond to the top lifting lugs for the TW-300 and TW-500 tank models, and to corner lifting lugs and alignment withinterior structural bulkheads for the remaining TW-Series models. The IM-1060 strapping locations correspond to alignment with interior structural posts. The IM-1060 tank does not have corner lifting lugs for fastening strapping. Straps must never be placed over access openings, lids, or inlet/outlet piping. Straps must be tight-ened with a ratchet or turnbuckle system to remove slack and slightly pre-load the system.

Backfill and Cover
Place backfill between deadman anchor and tank sidewall to fully fill void. A minimum 6" layer (150 mm) of suitable cover material is required over all Infiltrator tank installations. Mound cover for proper drainage. Establish appropriate vegetative cover as necessary. Refer to Infiltrator IM- and TW-Series Septic Tank Installation Instructions for additional backfilling andcover procedures. Baltimore County Code requires maximum cover of 24"

AMC Perc Rite *Drip Dispersal* Package

JOB NAME: 4880 Manor Lane
FILENAME: ASD153-S124

BAY AREA ENVIRONMENTAL
T/A Jones Pump Service
410-836-9206 office
410-836-9367 fax

Line #	Component	Description	Quantity
	CENTRAL UNIT EQUIPMENT		
1	DP0.39114.4Z	SIMPLEX 4 ZONE 2 FILTER CONTROL	1
2	DH2-23SKIT	3 ZONE HYD. UNIT, ENCLOSURE, & FLOAT TREE	1
3	PUTURB1512112W	15 GPM TURBINE PUMP 1/2 HP, 1PH, 115V, 2 WIRE	1
4	COOLGUIDE15	LAMINAR FLOW COLLAR, 6", 15 GPM	1
5	PUMPKITDRIP	DRIP PUMP KIT 1 1/2" Sch 80 Ball Viv & Union	1
	FIELD MATERIAL		
6	Bioline 500 .9 GPH 1'	Bioline 500 .9 GPH emitter 1' spacing	2
7	PVC12FLEX	1/2" FLEX PVC 100'	1
8	BIOINSERT12X34	BIOLINE INSERT ADAPTER 1/2" x 3/4"	75
9	PVCPRFIP12X34	FEMALE ADAPTER 1/2" X 3/4" SXT SCH 40	75
10	BIOCOUP	BIOLINE REPAIR COUPLING, 1/2"	9
11	DH-TOPFEEDKIT1	TOP FEED SUPPLY & RETURN MANIFOLD 1"	3

Tom W. Ashton R.E.H.S.
P.O. Box 667 Chincoteage Island VA 23336 540–454–4672

PROJECT NAME :
2017 Fairlane Road
Bel Air MD 21015
Tax map 34 / 3E / 322
Gibson Manor Lot 37
Tax ID 03-138968

COUNTY : **Harford**

5/1/2024

TITLE :
Infiltrator Dose Tank

DESIGNED BY: Tom W. Ashton R.E.H.S

SHEET: 7 OF 10

COLD WEATHER INSTALLATION NOTES

Minimum construction techniques for all American "Perc-Rite" Drip systems in cold weather climates:

"Top feed" manifolds should be used on all sites with a discernible slope to allow for proper drainage of the manifolds and the 3/4" and 1/2" lateral connectors into the drip tubing.
The main supply and return lines shall be installed below the frost line and shall feed the shallow "top feed" manifolds with a single vertical section of insulated sch 40 PVC pipe. Insulation shall be minimum 1/2" thick foam insulation (or equivalent).
On flat sites where "top feed" manifolds will not drain therefore requiring the use of side feed manifolds, 12" cover is recommended between highest point of 1/2" black flexible PVC pipe (non loop connections) and final grade. On drip tubing installations less than 12" this would require additional cover over the header ditch area to create the 12" separation. Any additional cover is it to be graded and tapered into landscape. Please see note on loop connections below.
Dense vegetation turf cover to be established over supply trench, return trench and tubing prior to 1st exposure to cold weather. If vegetation cannot be established, then trenches and tubing to be covered with a thick layer (minimum 6") of mulch, straw/hay, etc. until such turf cover is established. Cover must be stabilized and maintained until dense vegetative turf is established. Amount of cover may need to be adjusted to account for settling.
All valve boxes that house "remote zone valves" shall be insulated by contractor. Insulation to consist of either blue board, bagged Styrofoam peanuts or equivalent. If fiberglass insulation is used it must be sealed to prevent it from becoming saturated. The "remote valves" shall be placed on a bed of gravel or screenings (4"-6"). Positive grade away from valve boxes is encouraged to reduce the volume of groundwater that may collect in valve box. Certain sites may require positive drains to daylight.
All loops connecting drip runs with 1/2" flexible PVC shall be slightly elevated (minimum 1"-2") so that they drain into the drip tubing after the pump shuts off. It is contractors responsibility to ensure these loops stay elevated during and after the loops are backfilled.
All main supply and return trenches to be installed below the local frost line. If this is not possible due to site restrictions then adequate soil must be added over the top of the trenches so that the effective depth remains below the frost line after settling occurs. The added soils must be prepared for turf cover and stabilized. If vegetation cannot be established then trenches are to be covered with an additional layer (minimum 6") of mulch, straw/hay, etc. until such turf cover is established.
Sufficient ground cover around the hydraulic unit is required to insulate the unit. All pipes entering and leaving the hydraulic unit shall elbow vertically down 90 degrees to a depth below the frost line prior to extending away from the unit horizontally. Additional insulation inside the hydraulic unit is encouraged. Insulation to consist of either blue board, bagged Styrofoam peanuts or equivalent. If fiberglass insulation is used it must be sealed to prevent it from becoming saturated.
All conduit entering into the control panel shall be sealed to prevent condensation inside the panel.
Established vegetation height shall be minimum 4"-6" throughout winter months.
Air release valves shall be placed below the ground surface inside a valve box but at an elevation above the highest drip line in that particular zone.

PRESSURE TESTING

I. System Flushing Air Release Valves Off

a. Be sure pump chamber is full of clean water. Check lights on controller for float activation. The "Off" float and "Standard Enable" float should be in the up position before starting field flush. Continue to fill tank to "alarm" float. It should take one days' flow of clean water to flush tubing.
b. Place all toggle switches, on the inner door, in the "Off" position and place filter backflush switch in the "Auto" position.
c. Remove air release valves, attach piece of 1/2" black flex PVC (5' maximum) to 1/2" white PVC with dry coupling (do not glue) and place end to direct discharge away from excavation.
d. Switch pump to "Hand" position. Pump should dead head with no flow meter movement.
e. Place filter backflush to filter #1 position. Note blue valve opening. Backflush for 15 seconds, Place filter backflush switch to the "Auto" position.
f. Place disc filter backflush to filter #2 position. Note blue valve opening. Backflush for 15 seconds, Place filter backflush switch to the "Auto" position.
g. Turn zone #1 to hand position to allow a manual field flush. After water starts discharging from flex PVC, continue to flush for at least three (3) minutes or until no debris (dirt, PVC shavings, etc.) is noted, whichever is greater.
h. Repeat item "e" & "f".
i. Repeat "g" & "h" for each additional zone.
j. Place all toggle switches, on the inner door, in the "Off" position and place filter backflush switch in the "Auto" position.
k. Remove black PVC hose, dry, and glue coupling with air release valves.

II. Field Flush Flow Test

a. Determine each zone flushing GPM by multiplying the number of lateral connections by 1.6 and adding to the dosing GPM. (see "a" in step III) Resultant should not exceed 15 GPM for the two disc filter rack.
b. Switch pump to "Hand" position. Pump should dead head with no flow meter movement.
c. Place filter backflush switch to filter #1 position. Note Filter Flush valve opening. Backflush for 15 seconds. Place filter backflush switch to the "Auto" position.
d. Place filter backflush switch to filter #2 position. Note Filter Flush valve opening. Backflush for 15 seconds. Place filter backflush switch to the "Auto" position.
e. Turn switch for "Zone #1" and the "Zone Return Valve" to "Hand" position to allow a manual flush. After water starts flowing through zone return valve, flush for three (3) minutes, check flow rate and compare with design flushing flow rate.
f. Place all toggle switches, on the inner door, in the "Off" position and place filter backflush switch in the "Auto" position.
g. Repeat item "b", "c", "d" & "e" for each additional zone.
h. After flushing the last zone leave the pump and zone valve in the "Hand" position and close the zone return valve "Off". After the flow rate stabilizes and compares to design flow rate, see next section.

III. Field Dose Flow Test

a. Determine each design zone dosing Gallons Per Minute (GPM) by the following formula: (If installed as designed refer to calculation sheet.)
b. Determine dosing flow rate in the last zone flush tested. The rate should be close to value calculated in "a" above. Check for leaks and repair as necessary.
c. With all toggle switches in the "off" position, backflush filters as described above instep II's "b", "c", & "d".
d. Move the next zone switch to the "Hand" position and make sure the Zone Return switch is in the "off" position, watch flow meter slow as system fills. When pressurized, measure flow rate with watch. The rate should be close to value calculated in "a" above. Check for leaks and repair as necessary.
e. Repeat for each additional zone.
f. Place all switches in the "Auto" position.

All exposed tubing and piping to covered with duct tape to prevent material from entering distribution system.

Pipe to be cut NOT sawed.

System is not to be backfilled unless network is pressure tested and field dose, and field flush values are verified.

SEE PAGE 9 FOR START UP PARAMETERS.

General Construction Notes
American Manufacturing "Perc-Rite®" Drip

1. All installation and construction techniques shall conform to state and county codes pertaining to on site sewage systems and the permit for this site.
2. The installation of this system shall be in accordance with specifications and procedures as supplied by the Manufacturer of the equipment.
3. The drip tubing shall be installed using a vibratory plow, trencher, or by hand.
4. **All tubing to be installed along contour.**
5. All PVC pipe and fittings shall be PVC SCH 40 Type 1 rated for pressure applications. All glued joints shall be cleaned and primed with purple (dyed) PVC primer prior to being glued.
6. **All cutting of PVC pipe, flexible PVC and dripper tubing of size 1 1/2" or smaller shall be accomplished with pipe cutters. No sawing of PVC, flexible PVC or dripper tubing of size 1 1/2" or smaller allowed.**
7. **All PVC pipe, flexible PVC and dripper tubing in the work area shall have the ends covered with duct tape to prevent construction debris from entering the pipe. Prior to gluing, all joints shall be inspected for and cleared of any construction debris.**
8. All automatic valves (zone valves & field flush return valves) shall be installed with isolation valves, bypass valves, and disconnects (i.e. unions, flanges) for manual field operation during field maintenance events. All valves must be provided with at-grade access.
9. Drain field supply and return lines and manifolds to be installed at adequate depth to prevent freezing. Horizontal spacing between the dripper lines and the installation depth to be as specified.
10. **No activity on drain field area other than minimum required to install system. Do not park equipment, drive large equipment over or store materials on drain field area.**
11. **No wet weather installation is permitted.**
12. The contractor shall be certified by American Manufacturing Company, Inc. to install this type of system and shall hold a pre-construction meeting with the individuals responsible for soil evaluation, permitting and inspections prior to site work beginning to insure protection of the site conditions and to ensure the system is installed according to design.
13. If site conditions are determined to require the installation of the system to deviate from these plans, all work shall stop immediately and the designer shall be notified. Any ongoing work shall be at the sole responsibility of the contractor.
14. All force mains shall be tested for leaks prior to drip tubing installation and prior to system startup. Uncovered force mains shall be visibly inspected for leaks. If a leak is suspected in covered force mains then the force main shall be re-tested at a minimum pressure of at least percent above the design operating pressure, for at least 30 minutes. There shall be no discernible leakage.
15. ASD15 & 25 Hydraulic units to be placed on a bed of gravel for drainage.
16. If standing groundwater is a problem a screened drain to daylight is required.

All concrete tanks to be top seamed, confirmed watertight, and subject to the requirements of Title 26 DEPARTMENT OF THE ENVIRONMENT, Subtitle 04, Chapter 02,.05 E. (3) (a). In situ (installed) Vacuum Testing required. Tanks that are not confirmed watertight are subject to rejection. Install tanks as shallow as possible. Properly seal pipe entry (cast in seals) and appropriate riser placement. In addition, the joints and/or joining surfaces, tank lid, riser joints etc., of the structures shall be sealed with a butyl-rubber-based tape. The material shall be EZ-WRAP Plastic as supplied by PRESS-SEAL GASKET CORPORATION, Fort Wayne, Indiana, or approved equal. The butyl component of the tape shall consist of 50% (min.) butyl rubber, shall contain 2% or less volatile matter, and shall be .050" (1.3 mm) thick. The backing component shall be high-density polyethylene film. The tape width shall be 6" (150 mm) wide. The tape shall be overlapped at least twice its width. Apply on cleaned dried surfaces only. The tape shall not be stretched during application. Primer and/or adhesive as recommended by the tape supplier shall be employed for adverse, critical, or other applications. Testing of joints and compliance with construction requirements shall be conducted in strict conformance with the requirements of the sealant supplier, precaster, and Title 26 DEPARTMENT OF THE ENVIRONMENT, Subtitle 04, Chapter 02,.05 E. (3) (a). Refer to watertight testing standards outlined in the National Precast Association's (NPCA) C923 Best Practices Manual and ASTM C-1227 testing procedures.

Tom W. Ashton R.E.H.S.
P.O. Box 667 Chincoteage Island VA 23336 540-454-4672

PROJECT NAME : 4880 Manor Lane Ellicott City, MD 21042 Parcel #522486 TM 27 PAR 121 LOT 11 COUNTY : Howard	5/1/2024 TITLE : **GENERAL CONSTRUCTION, COLD WEATHER INSTALLATION & SITE CLEARING NOTES**
DESIGNED BY: Tom W. Ashton R.E.H.S	SHEET: 8 OF 10

[* **PROJECT NAME: 4880 Manor Lane**

THREE Zone PERC-RITE™ ASD-15 Calculation Sheet®

Specific to tubing system TDH and tubing Hydraulics only. Does not address fluid handling system application, loading rates etc.

SHEET 1

DISC FILTER BACKWASH TOTAL DYNAMIC HEAD

*(A)	8	FT.	Elevation from "Off" Float to Hydrulic Unit (HU) (*Not to exceed 8'*)
*(B)	115	FT.	Head required to Backwash Disc Filters
(C)	1.5	IN.	Diameter of Pump Supply Line
(D)	30	FT.	Length of Pump Supply Supply Line to HU (*do not exceed*)
(E)	50	FT.	Equivalent Length of Pump Station fittings etc.
(F)	80	FT.	Total Eqivalent length of 1.5" Pump Supply Line
(G)	15	GPM	Filter Flush Flow
(H)	1.6	FT.	Friction Loss /100' of 1.5" inch pipe @ 15 GPM
*(I)	1.3	FT.	Friction Loss of Pump Supply Line Conveyance @ 15 GP ("F" ÷ 100') x "H"

DISC FILTER BACKWASH
SUM OF * 124.3 FT. @ 15 GPM

PUMP STATION TO HYDRAULIC UNIT (TDH)

*(A)	8	FT.	Elevation from "Off" Float to Hydrulic Unit (HU) (Not to exceed 8')
*(I)	1.3	FT.	Friction Loss of Pump Supply Line Conveyance @ 15 GP ("F" ÷ 100') x "H"

PUMP STATION TO HYDRAULIC UNIT
SUM OF * 9.3 FT. @ 15 GPM *]

[*

CHART 2A® ASD-15	
HLoss	GPM
4	1
4	6
5	7
6	8
7	9
8	10
9	11
11	12
12	13
13	14
16	15

CHART 3A®	
AT L (FT.	Hloss (FT.
25	18
115	19
125	24
135	30
145	36
155	42
160	47
170	53
175	59
185	65
190	70
200	76
205	82
210	88

*]

[*

SHEET 2A-Z1

(#1) Peak Design Flow 600 GPD Peak Daily Design Flow
(#2) Total Tubing Length 1,050 FEET (FT.) 3 ZONES
(#3) Emitter Dose Rate 0.9 GALLONS PER HOUR (GPH)

ZONE 1 TOTAL DYNAMIC HEAD DURING NETWORKFLUSHING

*(#4)	9.3	FT. FLoss Rise / Run Pump Station to Hydraulic Unit
(#5)	350	Total Feet of tubing in Zone *300' MIN - 1200' MAX*
(#6)	1	Emitter Spacing (FT.)
(#7)	350	Number of Emitters (#5 ÷ #6)
(#8)	5.3	Total ZONE Dose Flow GALLONS PER MINUTE (GPM) (#7 x #3) ÷ 60
(#9)	5	Number of Lateral Connections
(#10)	8	Flushing Flow (GPM) @ 2 ft./sec. (1.6 GPM per lateral) (#10) x 1.6 GPM
(#11)	13.3	FIELD FLUSH FLOW (GPM), (#8 + # 10) *max 15 gpm*
*(#12)	13	Head Loss (FT.) of Hydraulic Unit @ Field Flush Flow (#10) (#11) "Rounded up" 14 GPM See Chart 2A
(#13)	70	Longest Lateral Length (FT.) in Zone, Round up to 10.
*(#14)	18	Flushing Head of Lateral to provide Flush Velocity based on (#13) See Chart 3A
*(#15)	2	Elevation from HU to top of Zone (FT.)
(#16)	1	Supply / Return Line Diameter INCHES (1 or 1.25 in.)
(#17)	9.4	Supply Line F Loss / 100' (FT) (1 inch pipe at the Field Flush Flow (#11) of 13.25 GPM
		Velocity = 4.92 ft/sec (>2 ft/sec)
(#18)	85	Length of Supply Line from HU to Top of Zone (FT.)
*(#19)	9.0	Friction Loss of Supply Line (FT.) at Field Flush Flow of 13.3 GPM (#18 ÷ 100') x #17
(#20)	3.7	Return Line Friction Loss / 100' 1 inch pipe. at the Flushing Flow (#10) of 8 GPM
(#21)	85	Length Return Line from Zone to HU (FT.)
*(#22)	3.1	Friction Loss of Return Line (FT.) at Flushing Flow (#21 ÷ 100') x #20

ZONE 1
SUM OF * 53.4 FT. @ 13.25 GPM
TOTAL DYNAMIC HEAD DURING NETWORKFLUSHING
82.6 FT. Residual HEAD

[*

SHEET 2A-Z2

ZONE 2 TOTAL DYNAMIC HEAD DURING NETWORKFLUSHING

*(#4)	9.3	FT. FLoss Rise / Run Pump Station to Hydraulic Unit
(#5)	350	Total Feet of tubing in Zone *300' MIN - 1200' MAX*
(#6)	1	Emitter Spacing (FT.) 1, 1.5, or 2' (2' typical)
(#7)	350	Number of Emitters (#5 ÷ #6)
(#8)	5.3	Total ZONE Dose Flow GALLONS PER MINUTE (GPM) (#7 x #3) ÷ 60
(#9)	5	Number of Lateral Connections
(#10)	8	Flushing Flow (GPM) @ 2 ft./sec. (1.6 GPM per lateral) (#10) x 1.6 GPM
(#11)	13.3	FIELD FLUSH FLOW (GPM), (#8 + # 10) *max 15 gpm*
*(#12)	13	Head Loss (FT.) of Hydraulic Unit @ Field Flush Flow (#10) (#11) "Rounded up" 14 GPM See Chart 2A
(#13)	70	Longest Lateral Length (FT.) in Zone, Round up to 10.
*(#14)	18	Flushing Head of Lateral to provide Flush Velocity based on (#13) See Chart 3A
*(#15)	1.5	Elevation from HU to top of Zone (FT.)
(#16)	1	Supply / Return Line Diameter INCHES (1 or 1.25 in.)
(#17)	9.4	Supply Line F Loss / 100' (FT) (1 inch pipe at the Field Flush Flow (#11) of 13.25 GPM
		Velocity = 4.92 ft/sec (>2 ft/sec)
(#18)	70	Length of Supply Line from HU to Zone (FT.)
*(#19)	6.6	Friction Loss of Supply Line (FT.) at Field Flush Flow of 13.3 GPM (#18 ÷ 100') x #17
(#20)	3.7	Return Line Friction Loss / 100' 1 inch pipe. at the Flushing Flow (#10) of 8 GPM
(#21)	70	Length Return Line from Zone to HU (FT.)
*(#22)	2.6	Friction Loss of Return Line (FT.) at Flushing Flow (#18 ÷ 100') x #20

ZONE 2
SUM OF * 51.0 FT. @ 13.3 GPM
TOTAL DYNAMIC HEAD DURING NETWORKFLUSHING
*] 85.0 FT. Residual HEAD

[*

SHEET 2A-Z3

ZONE 3 TOTAL DYNAMIC HEAD DURING NETWORKFLUSHING

*(#4)	9.3	FT. FLoss Rise / Run Pump Station to Hydraulic Unit
(#5)	350	Total Feet of tubing in Zone *300' MIN - 1200' MAX*
(#6)	1	Emitter Spacing (FT.) 1, 1.5, or 2' (2' typical)
(#7)	350	Number of Emitters (#5 ÷ #6)
(#8)	5.3	Total ZONE Dose Flow GALLONS PER MINUTE (GPM) (#7 x #3) ÷ 60
(#9)	5	Number of Lateral Connections
(#10)	8	Flushing Flow (GPM) @ 2 ft./sec. (1.6 GPM per lateral) (#10) x 1.6 GPM
(#11)	13.3	FIELD FLUSH FLOW (GPM), (#8 + # 10) *max 15 gpm*
*(#12)	13	Head Loss (FT.) of Hydraulic Unit @ Field Flush Flow (#10) (#11) "Rounded up" 14 GPM See Chart 2A
(#13)	70	Longest Lateral Length (FT.) in Zone, Round up to 10.
*(#14)	18	Flushing Head of Lateral to provide Flush Velocity based on (#13) See Chart 3A
*(#15)	1	Elevation from HU to top of Zone (FT.)
(#16)	1	Supply / Return Line Diameter INCHES (1 or 1.25 in.)
(#17)	9.4	Supply Line F Loss / 100' (FT) (1 inch pipe at the Field Flush Flow (#11) of 13.25 GPM
		Velocity = 4.92 ft/sec (>2 ft/sec)
(#18)	55	Length of Supply Line from HU to Zone (FT.)
*(#19)	5.2	Friction Loss of Supply Line (FT.) at Field Flush Flow of 13.3 GPM (#18 ÷ 100') x #17
(#20)	3.7	Return Line Friction Loss / 100' 1 inch pipe. at the Flushing Flow (#10) of 8 GPM
(#21)	55	Length Return Line from Zone to HU (FT.)
*(#22)	2.0	Friction Loss of Return Line (FT.) at Flushing Flow (#18 ÷ 100') x #20

ZONE 3
SUM OF * 48.5 FT. @ 13.3 GPM
TOTAL DYNAMIC HEAD DURING NETWORKFLUSHING
*] 87.5 FT. Residual HEAD *]

DOSE REGIME 600 GALLONS PER (GPD) Peak Daily Design Flow
360 Dose Regime AVG Flow (GPD) 60.0%

Total System Tubing Length	1050	FT	TUBING VOLUME	
Z1 Tubing Length =	350	FT or	33.33%	4.55 GAL
Z2 Tubing Length =	350	FT or	33.33%	4.55 GAL
Z3 Tubing Length =	350	FT or	33.33%	4.55 GAL
AVERAGE FLOW =	360	GPD		
Z1 Dose Percentage	120.0	GPD		
Z2 Dose Percentage	120.0	GPD		
Z3 Dose Percentage	120.0	GPD		
TOTAL # of DOSES per DAY	12	or every	2.00	Hours
# of DOSES per ZONE per DAY	4.00	or every	6.00	Hours

Z1 Dose VOLUME =	30.0	GAL or	6.59	x Tubing Dose VOL.
Z2 Dose VOLUME =	30.0	GAL or	0.09	GAL / Emitter per Dose
Z3 Dose VOLUME =	30.0	GAL or	11.0	OZ / Emitter per Dose
Z1 Dose Run TIME =	5.71	MINUTES		

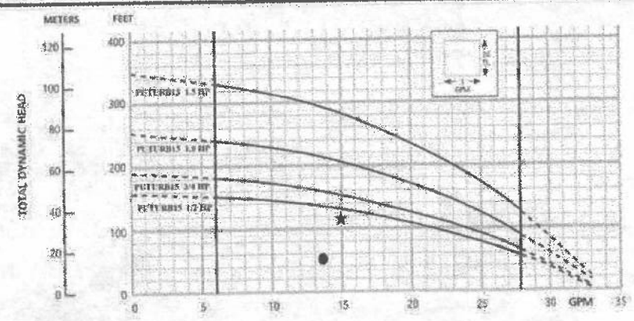
PEAK FLOW =	600	GPD or	0.57	Gal. / lin. ft. / DAY
TOTAL # of DOSES per DAY =	20.0	or every	1.20	Hours
# of DOSES per ZONE per DAY	6.7	or every	3.60	Hours
DAILY RUN TIME @ Peak Flow	114.3	mins. or	8%	

START UP PARAMETERS

	ZONE 1	ZONE 2	ZONE 3	
Dosing Flow	5.3	5.3	5.3	GPM
Field Flush Flow	13.3	13.3	13.3	GPM
Dose Run Time	5	MINUTES	43	SECONDS
AVG Rest Time			2.0	HOURS
PEAK Rest Time			1.2	HOURS
ZONE Dose Volume	30	30	30	GALLONS

*]

Model 20EB **FILTERED EFFLUENT BLASTER**



ALARM
PEAK ENABLE
DRIP ENABLE
OFF

★ Filter BACKWASH= 15 GPM @ 124.3 FT.
● MAX Network FLUSHING= 13.3 GPM @ 63.4 FT.

*]

INFILTRATIVE SURFACE (Trench Bottom)
15 trenches, 35' long, 1' wide = 525 ft². The resultant peak daily design Trench Bottom (K1) loading rate is 1.14 gal/ft²/day (600 GPD / 525 ft²).

AREAL LOADING RATE (Footprint)
Considering trenches installed on centers 3x the width of the trenches the minimum calculated area loading rate is .38 gal/ft²/day ((1.14 gal/ft² /day) / 3).

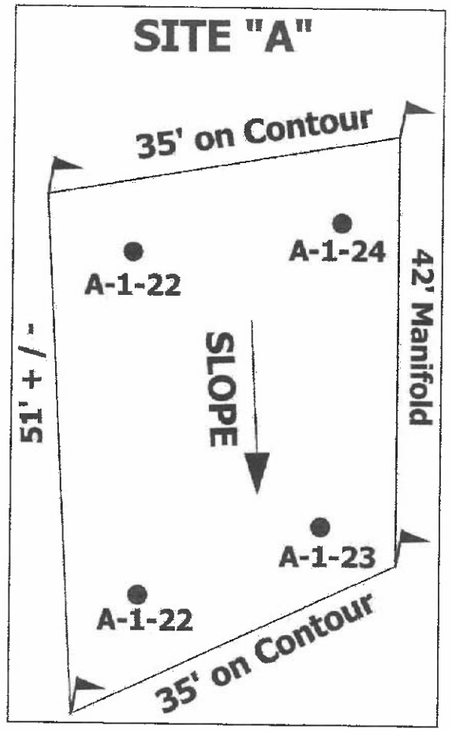
Tom W. Ashton R.E.H.S.
P.O. Box 667 Chincoteage Island VA 23336 540–454–4672

PROJECT NAME : 4880 Manor Lane
Ellicott City, MD 21042
Parcel #522486
TM 27 PAR 121 LOT 11
COUNTY : Howard

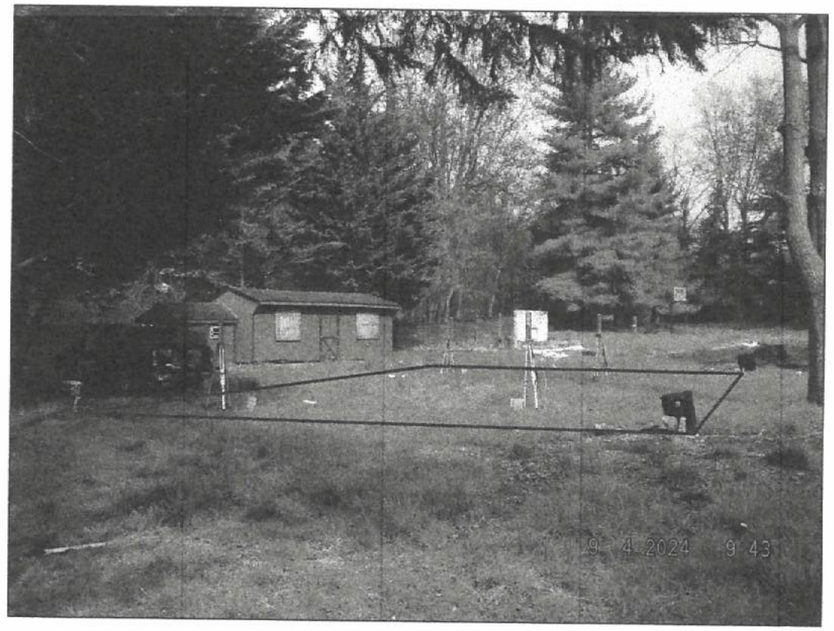
5/1/2024

TITLE : **CALCULATION SHEET**

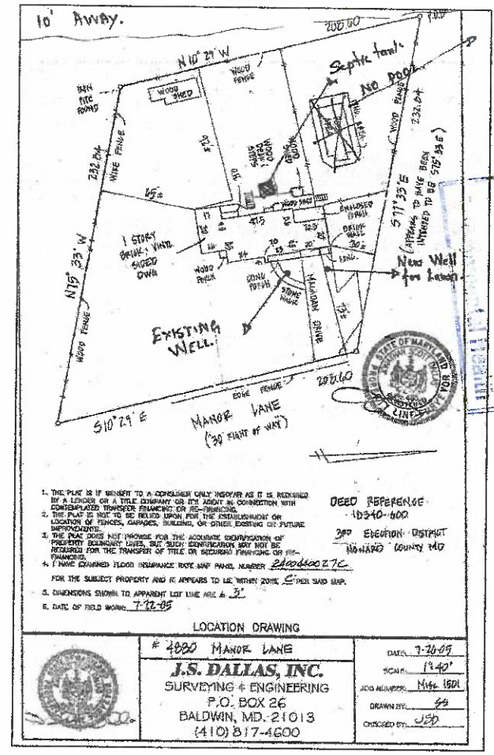
DESIGNED BY: Tom W. Ashton R.E.H.S



DESIGN LOCATION SKETCH
(NOT TO SCALE)



PLAT



SYSTEM DESIGN
LIMITATIONS and DISCLAIMER

This report is prepared and provided to the client, the local Approving Authority, and the Maryland Department of the Environment (MDE) as the site specific Hydrogeologic report and Innovative On-Site Sewage System design per State of Maryland Title 26 DEPARTMENT OF THE ENVIRONMENT, Subtitle 04, Chapter 02, .06 Non-Conventional On-Site Sewage Disposal Systems, (A) and (D).

The system design and the supporting soil / site evaluation represents a proposed on-site sewage disposal system to serve a single - family dwelling.

The design has been prepared to the best of my ability, knowledge, and skills in accordance with the regulatory regulations, policies, and guidance in effect at the time. The evaluation and recommendations have been conducted and presented in accordance with the current standard of practice referencing previous evaluations by the government, others, and includes desktop investigation, and / or other sources as available. Field evaluation / analysis and proposed system design are as described. There may be limiting conditions not revealed in course of this investigation.

This Innovative System design has been reviewed and accepted by the Approving Authority and MDE prior to the preparation of these construction plans per Title 26 DEPARTMENT OF THE ENVIRONMENT, Subtitle 04, Chapter 02,.06 Non-Conventional On-Site Sewage Disposal Systems, (D) (2) a.

The design is the property of the client. These items are not a permit to install a system or are to be construed to be assurance that government approval or permit issuance will be secured. No warranty, expressed or implied, is made. This document does not represent or warrant the operation or proper functioning of any on-site wastewater treatment and dispersal functioning for any period of time.

Field control has been prepared for the sole purpose of satisfying state and local on-site sewage review for preliminary design proposal. Locations and elevations interpolated / assumed. The evaluation and proposal do not represent a survey or is intended to address compliance with other laws, regulations, and ordinances.

Design plan representative of property for purposes of on-site sewage system design.

Design based on observed points in field, absorption area stakeout, county GIS, previous Howard County Health Department evaluation, "Percolation Test Plan" by JNM Engineering (datee 5/1/2024), and Soil Evaluation Report / Preliminary Design Proposal dated April 12, 2024.

Scale graphic and approximate. Elevations interpolated / assumed.

Design Plan has been prepared for the sole purpose of satisfying state and local on-site sewage regulations in permitting. Construction plans authorized and prepared per Title 26 DEPARTMENT OF THE ENVIRONMENT, Subtitle 04, Chapter 02,.06 Non-Conventional On-Site Sewage Disposal Systems, (D) (2)a. The plan does not represent a survey or is intended to address compliance with other regulations and ordinances.

Tom W. Ashton R.E.H.S.
P.O. Box 667 Chincoteage Island VA 23336 540-454-4672

PROJECT NAME :
4880 Manor Lane
Ellicott City, MD 21042
Parcel #522486
TM 27 PAR 121 LOT 11
COUNTY : Howard

5/1/2024

TITLE :
ADDITIONAL MATERIALS

DESIGNED BY: Tom W. Ashton R.E.H.S

GENERAL NOTES

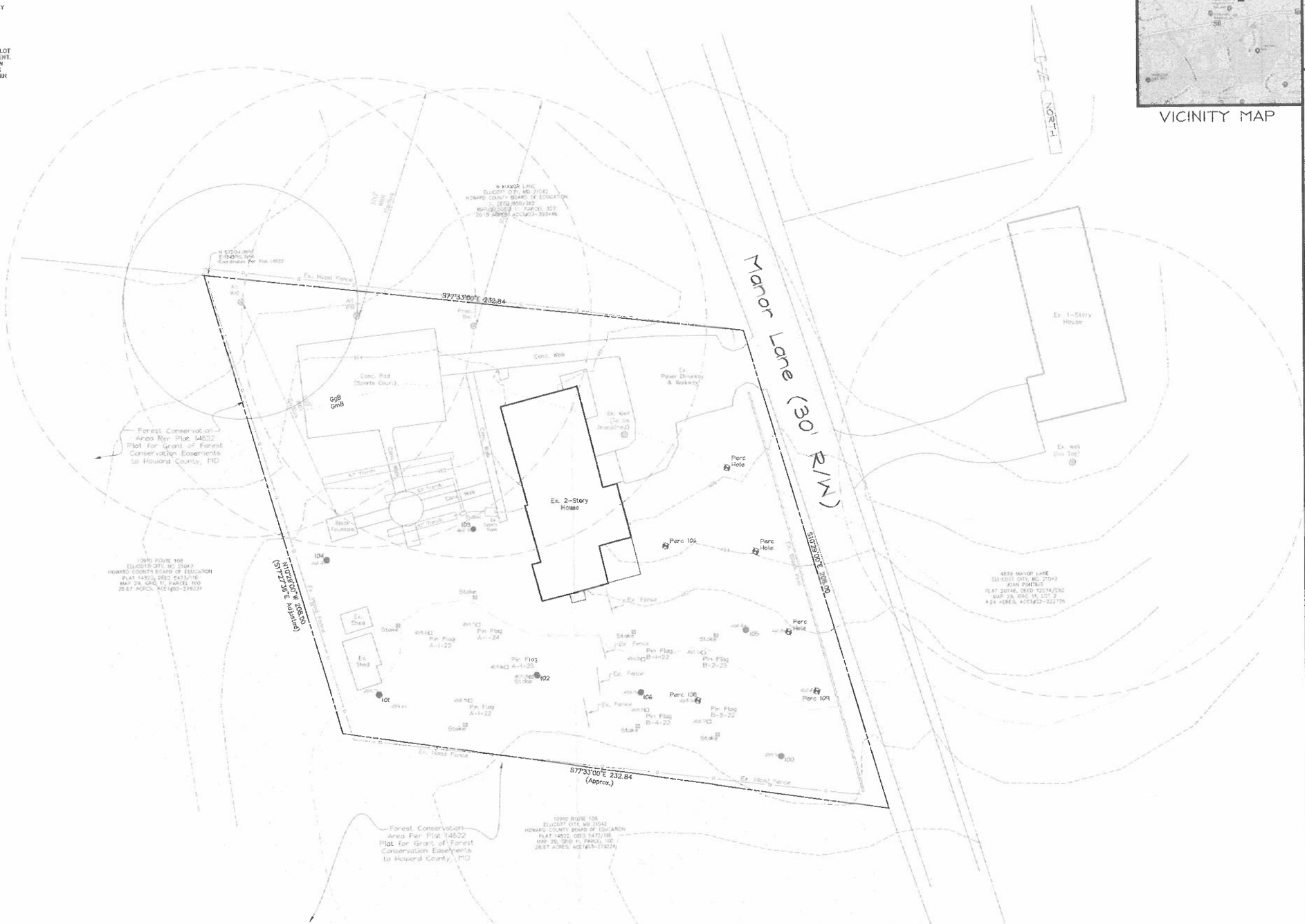
1) THIS PROPERTY IS ZONED RC-DEO.
2) THE PROPERTY BOUNDARY SHOWN IS BASED ON CURRENT DEED AND HOWARD COUNTY GIS DATA.
3) DEED REFERENCE: LIBER 20608 FOLIO 265.
4) THE EXISTING TOPOGRAPHY IS BASED ON A FIELD RUND SURVEY CONDUCTED BY JNM ENGINEERING, LLC.
5) ANY CHANGE TO THE SEWERAGE DISPOSAL AREA SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
6) ADJUSTMENTS TO THE SEPTIC AREA IS NOT PERMITTED WITHOUT ADDITIONAL TESTING.
7) SOIL TYPES SHOWN ON THIS PLAN ARE FROM THE USDA WEB SOIL SURVEY.
8) THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM OWNERSHIP WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
9) ALL EXISTING WELLS AND SEWERAGE DISPOSAL AREAS AND COMPONENTS WITHIN 100-FEET OF THE PROPERTY BOUNDARIES AND ALL EXISTING/PROPOSED WELLS 200' DOWN GRADIENT FROM EXISTING OR PROPOSED SEPTIC SYSTEMS HAVE BEEN SHOWN FROM THE BEST AVAILABLE INFORMATION.
10) ALL BUILDING SITES SHOWN COMPLY WITH MINIMUM BUILDING RESTRICTION REGULATIONS.
11) THE PURPOSE OF THIS PERCOLATION TEST PLAN IS TO ESTABLISH SEWAGE DISPOSAL AREA AND WELL LOCATIONS FOR THIS EXISTING PROPERTY THAT IS BEING RENOVATED.

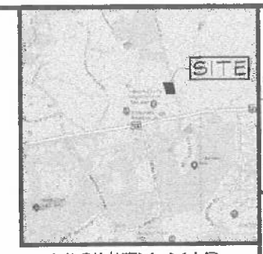
ZONING DATA

ZONING: RC-DEO
MIN. LOT AREA = 3.0 ACRES
MIN. LOT WIDTH AT R/W = 200 FT
FRONT BRL = 75 FT
REAR BRL = 60 FT
SIDE BRL = 30 FT

LEGEND

- EX. PROP. LINE
- EX. FENCE
- SUBJECT PROP. BOUNDARY
- PROP. SEWAGE DISPOSAL AREA EXPANSION
- SOIL BOUNDARY
- EX. 2' CONTOUR
- EX. 10' CONTOUR
- EX. WELL
- BUILDING RESTRICTION LINE
- EX. SPOT ELEVATION
- FAILED PERC TEST
- PASSED PERC TEST
- EX SEWAGE DISPOSAL AREA
- PROP. ALTERNATE WELL LOCATION
- OLD PERC TEST & TESTING DATE





VICINITY MAP

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWAGE SYSTEMS

COUNTY HEALTH OFFICER DATE

PERCOLATION CERTIFICATION:
I CERTIFY THAT THE LOCATIONS SHOWN HEREON ARE BASED ON FIELD LOCATIONS DONE UNDER MY DIRECT SUPERVISION, AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

JAMES W. WITMER DATE
PROFESSIONAL LAND SURVEYOR, MD REG. NO. 21031

SOILS DATA TABLE

SYMBOL	SOIL	HYDRIC	K-FACTOR	ERODIBLE	WET SEASON
GnB	Glenville Silt Loam, 3%-8% Slopes	NO	0.37	NO	YES
GrB	Glenville silt loam, 5%-8% Slopes	NO	0.24	NO	NO

- SOILS INFORMATION TAKEN FROM USDA WEB SOIL SURVEY WEBSITE
NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15% OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR "K" GREATER THAN 0.35 WITH A SLOPE GREATER THAN 5 PERCENT

OWNERS:
RAMADAN ZABLAH
(C/O: WINSTON BOWER)
2628 MILLERS WAY DRIVE
ELLICOTT CITY, MD 21042

4880 MANOR LANE
ELLICOTT CITY, MD 21042
DEED 21936/342, PARCEL 121,
MAP 29, GRID 11
1.0 ACRES, ACCT#03-297497
PERCOLATION TEST PLAN

DATE	BY	REVISION

PROJECT NO. 22-0812 | DATE 03/23
ILLUSTRATOR JWW | ENGINEER NA
SCALE 1"=20' | DRAFTING JWW

4880 MANOR LANE
TAX MAP 29, PARCEL 121, 1.0 ACRES
HOWARD COUNTY, MARYLAND

PERCOLATION TEST PLAN

JNM ENGINEERING, LLC
CIVIL ENGINEERING, SURVEYING, LAND PLANNING,
ENVIRONMENTAL, ARBORICULTURE, LEED PROFESSIONALS
1105 LEAFY HOLLOW CIRCLE, MOUNT AIRY, MD 21771
(301) 514-2666, JNMENGINEERINGLLC.COM

1 OF 1

wb.7171@gmail.com

Cell Number 4439567367 **Fax Number**

Professionals *(This section is not required.)*

License # * 08050131051
License Type * MHIC Co
Primary Yes
Business Name L AND L BUILDING BLOCKS LLC
First Name WINSTON **Middle Name** **Last Name** BOWER
Address Line 1 6017 WESTERN RUN DRIVE
Address Line 2
City BALTIMORE **State** MD **ZIP Code** 21209
Phone 1 4439567367 **Phone 2** **Fax**
E-mail WB.7171@GMAIL.COM

Applicant *(This section is not required.)*

Search As Owner As Lic. Prof As Contact

Type * Applicant
Relationship Applicant
Primary No
First Name WINSTON **MI** **Last Name** BOWER
Full Name WINSTON BOWER
Organization Name L AND L BUILDING BLOCKS LLC
Street Address 6017 WESTERN RUN DRIVE
Address Line 2
City BALTIMORE **State** MD **Zip Code** 21209
Phone 4439567367 **Cell** **Fax**
E-mail * WB.7171@GMAIL.COM

Contact *(This section is not required.)*

Search As Owner As Lic. Prof As Contact

Type Contact
Relationship Licensed Professional
Primary Yes
First Name WINSTON **MI** **Last Name** BOWER
Full Name WINSTON BOWER
Organization Name L AND L BUILDING BLOCKS LLC
Street Address 6017 WESTERN RUN DRIVE
Address Line 2
City BALTIMORE **State** MD **Zip Code** 21209
Phone 4439567367 **Cell** **Fax**
E-mail WB.7171@GMAIL.COM

Addtl Info

Est Construction Cost * 350000
Housing Units * 0
Number of Buildings * 0
Public Owned No
Construction Type --Select--

RESIDENTIAL ALTERATION INFO

RESIDENTIAL ALTERATION INFORMATION

Total Square Footage *	No of Stories *	Basement	Bedrooms	Full Baths	Half Baths	Water *	Sewage *
6996 SQFT (Number)	2 (Number)	Full Finished	4 (Number)	6 (Number)	1 (Number)	Private	Private

Existing Utilities *	Existing Heating System *	Existing Sprinkler System *	Type of New Fireplace	Expiration Date
Electric	Electric	None	--Select--	3/3/2025

Related Records

Showing 1-2 of 2

Permit Number	Record Type Alias	Status	Number	Street Name	Opened Date	Description
B23000747	Residential Interior Alteration Single Family Dwelling Permit	Review In Process	4880	MANOR	03/07/2023	NOV/SFD/ ALTERATIONS TO INCLUD
E23001319	Residential Electrical Addition Alteration Permit	Ready for Issuance	4880	MANOR	03/09/2023	Sfd (interior alterations) - (2) 200 amp s

Page 1 of 1

Submit **Cancel**

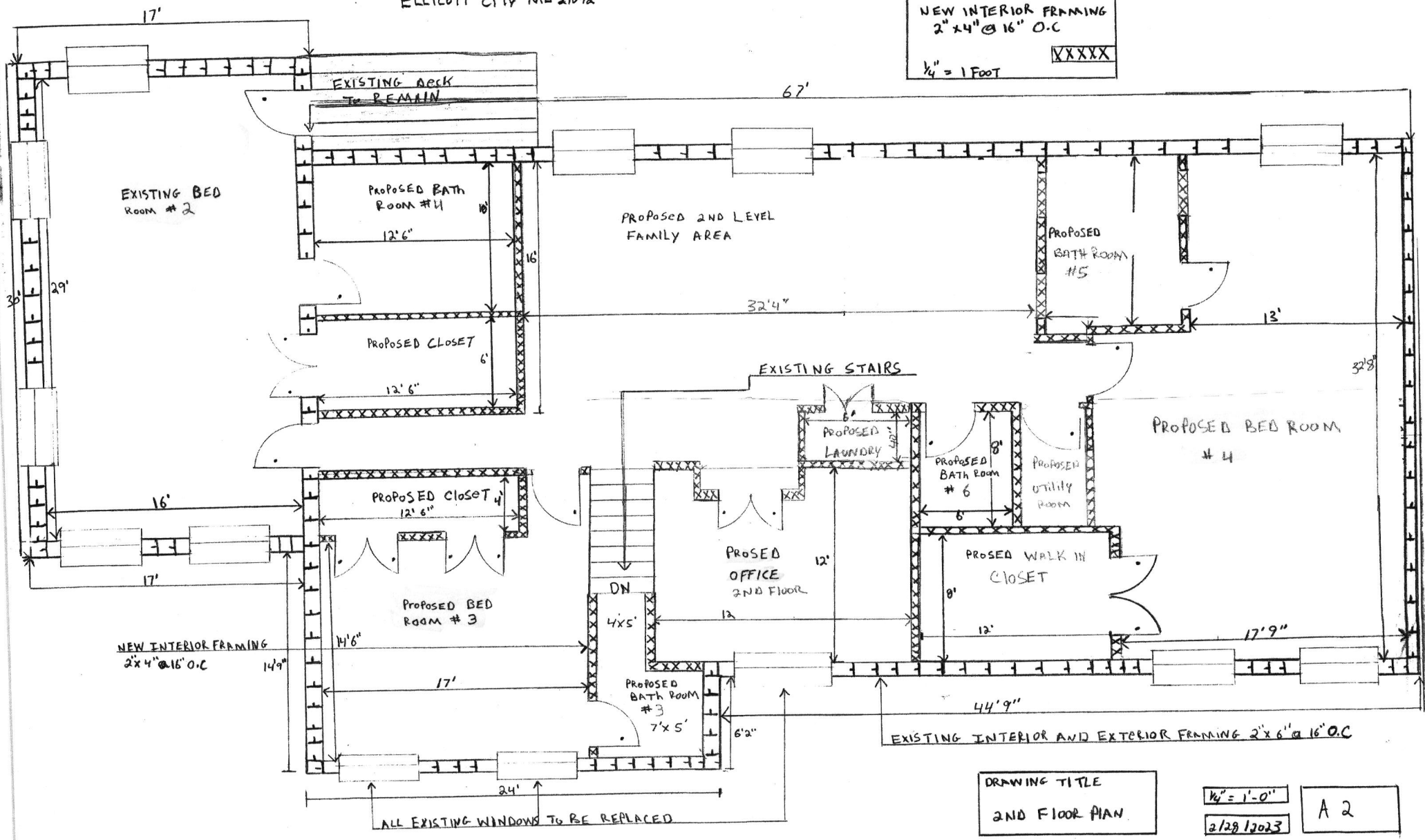
2ND FLOOR PLAN
L AND L BUILDINGS LLC
488 MANOR LANE
ELLICOTT CITY MD 21042

KEY

EXISTING INTERIOR/EXTERIOR FRAMING 2"x6"@ 16" O.C

NEW INTERIOR FRAMING 2"x4"@ 16" O.C

1/4" = 1 FOOT

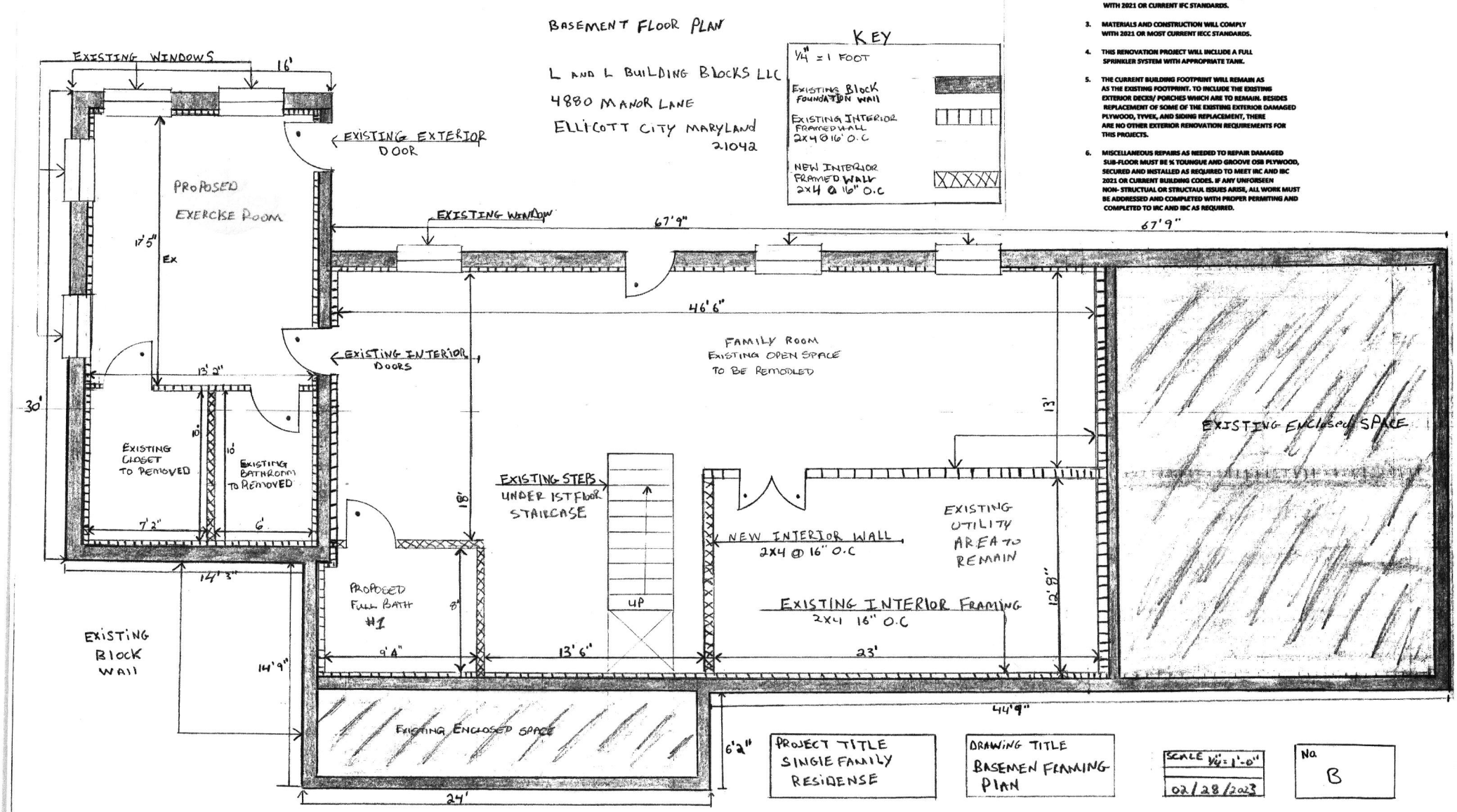


DRAWING TITLE
2ND FLOOR PLAN

1/4" = 1'-0"

2/28/2023

A 2



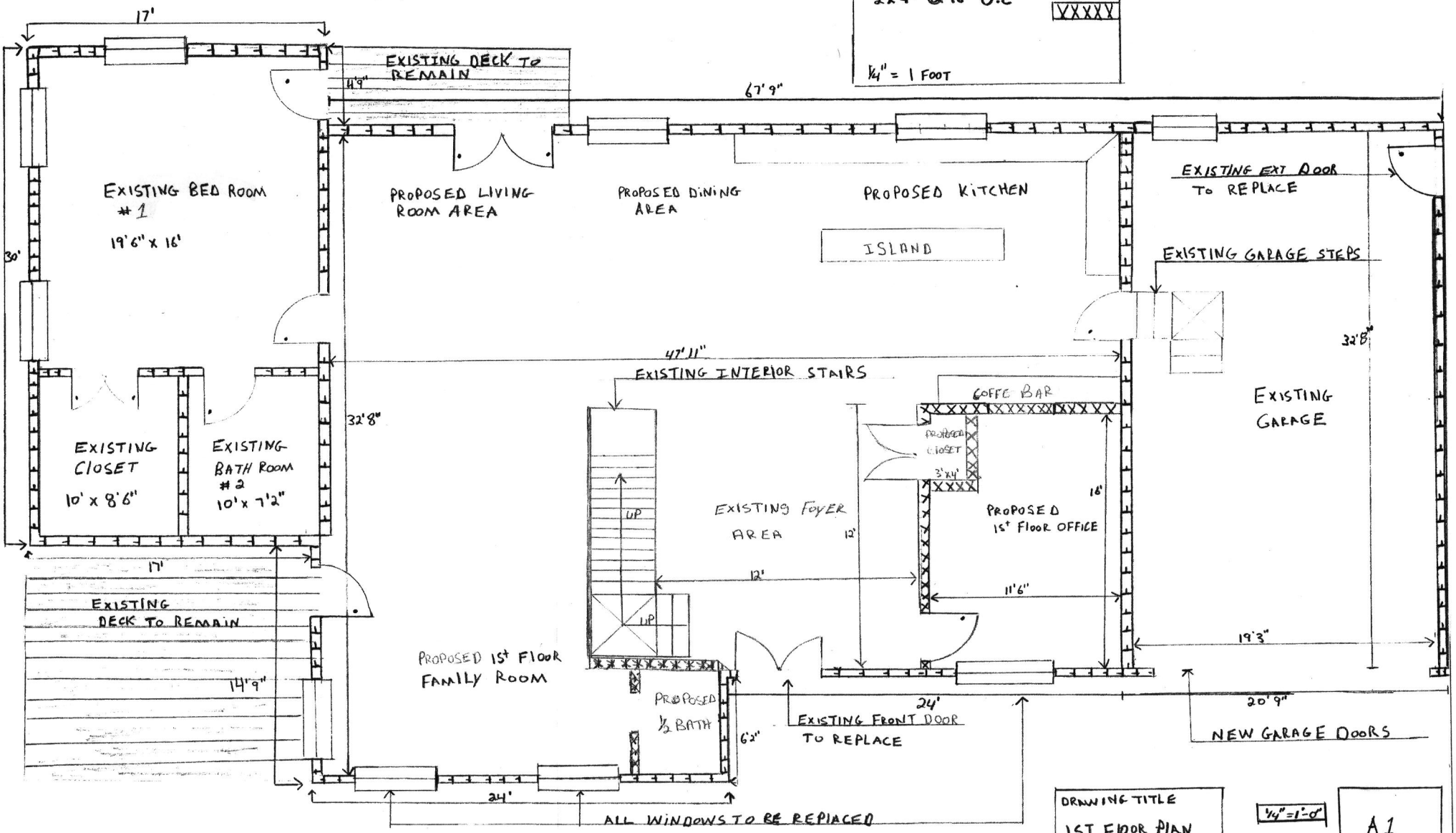
(GENERAL NOTES)

1. MATERIALS AND RENOVATION FOR THIS EXISTING NON-STRUCTUAL FRAMING PROJECT WILL COMPLY WITH 2021 OR MOST CURRENT IRC AND IBC BUILDING STANDARDS. THIS FRAMING WILL CONSIST OF NON-STRUCTUAL ALTERATIONS ONLY TO REFLECT THE FRAMING NEED LISTED IN THE SUBMITTED FLOOR PLANS.
2. MATERIALS AND CONSTRUCTION WILL COMPLY WITH 2021 OR CURRENT IFC STANDARDS.
3. MATERIALS AND CONSTRUCTION WILL COMPLY WITH 2021 OR MOST CURRENT IECC STANDARDS.
4. THIS RENOVATION PROJECT WILL INCLUDE A FULL SPRINKLER SYSTEM WITH APPROPRIATE TANK.
5. THE CURRENT BUILDING FOOTPRINT WILL REMAIN AS AS THE EXISTING FOOTPRINT. TO INCLUDE THE EXISTING EXTERIOR DECKS/ PORCHES WHICH ARE TO REMAIN. BESIDES REPLACEMENT OF SOME OF THE EXISTING EXTERIOR DAMAGED PLYWOOD, TYVEK, AND SIDING REPLACEMENT, THERE ARE NO OTHER EXTERIOR RENOVATION REQUIREMENTS FOR THIS PROJECTS.
6. MISCELLANEOUS REPAIRS AS NEEDED TO REPAIR DAMAGED SUB-FLOOR MUST BE ¾ TOUNGUE AND GROOVE OSB PLYWOOD, SECURED AND INSTALLED AS REQUIRED TO MEET IRC AND IBC 2021 OR CURRENT BUILDING CODES. IF ANY UNFORSEEN NON- STRUCTUAL OR STRUCTAUL ISSUES ARISE, ALL WORK MUST BE ADDRESSED AND COMPLETED WITH PROPER PERMITING AND COMPLETED TO IRC AND IBC AS REQUIRED.

1ST FLOOR PLAN
488 MANOR LANE
ELLICOTT CITY MD 21042

L AND L BUILDING BLOCKS LLC

KEY
EXISTING INTERIOR/EXTERIOR FRAMING 2"x6"@16"O.C
NEW INTERIOR FRAMING 2"x4" @ 16" O.C
1/4" = 1 FOOT



DRAWING TITLE
1ST FLOOR PLAN

1/4"=1'-0"

2/28/2023

A1

BASEMENT FLOOR PLAN

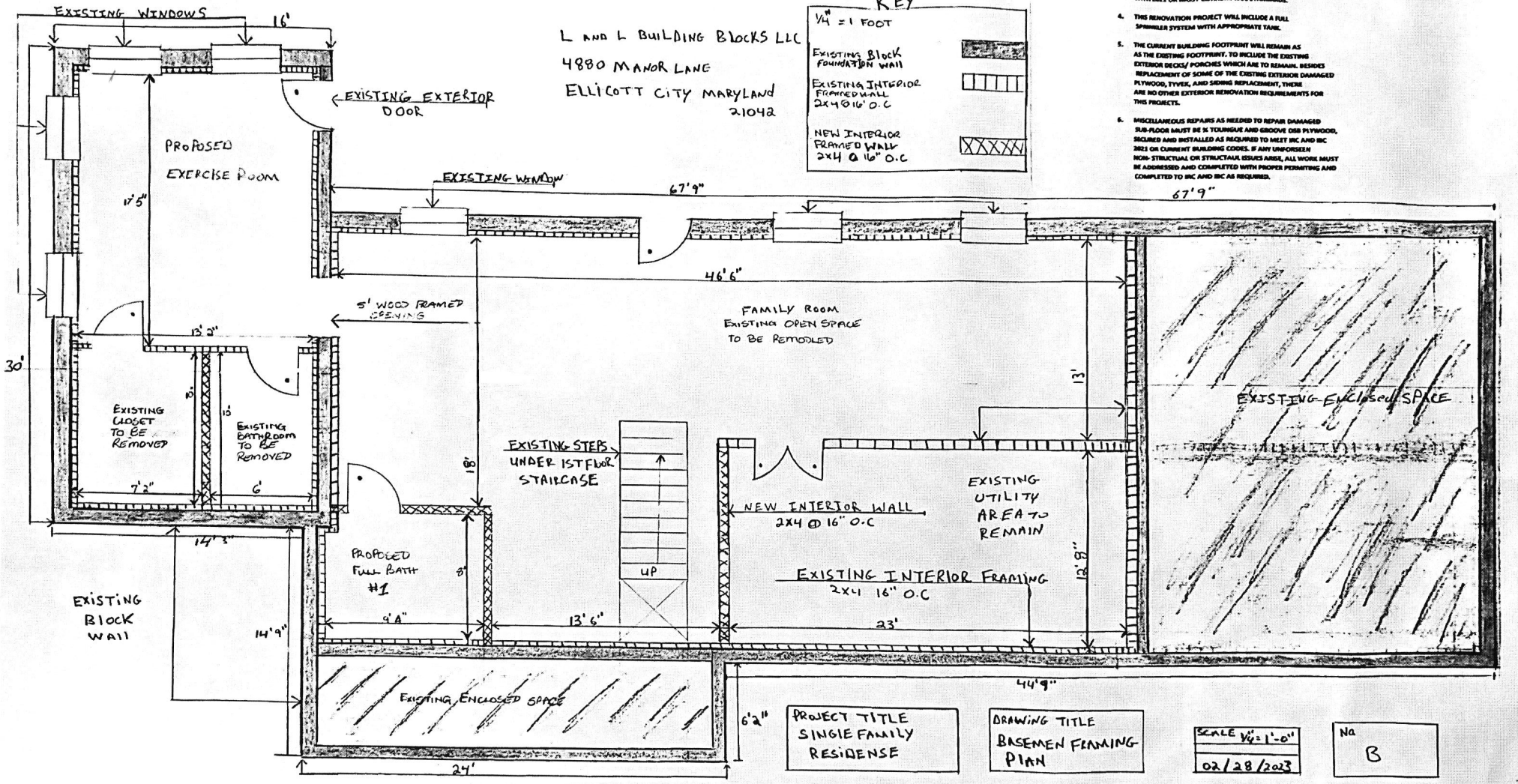
L AND L BUILDING BLOCKS LLC
4880 MANOR LANE
ELLICOTT CITY MARYLAND
21042

KEY

1/4" = 1 FOOT

- EXISTING BLOCK FOUNDATION WALL
- EXISTING INTERIOR FRAMED WALL 2X4 @ 16" O.C
- NEW INTERIOR FRAMED WALL 2X4 @ 16" O.C

1. EXISTING NON-STRUCTUAL FRAMING PRIMES WILL COMPLY WITH 2021 OR MOST CURRENT IRC AND IBC BUILDING STANDARDS. THIS FRAMING WILL CONSIST OF NON-STRUCTUAL ALTERATIONS ONLY TO REFLECT THE FRAMING NEED LISTED IN THE SUBMITTED FLOOR PLANS.
2. MATERIALS AND CONSTRUCTION WILL COMPLY WITH 2021 OR CURRENT IPC STANDARDS.
3. MATERIALS AND CONSTRUCTION WILL COMPLY WITH 2021 OR MOST CURRENT IECC STANDARDS.
4. THIS RENOVATION PROJECT WILL INCLUDE A FULL SPRINKLER SYSTEM WITH APPROPRIATE TANK.
5. THE CURRENT BUILDING FOOTPRINT WILL REMAIN AS AS THE EXISTING FOOTPRINT. TO INCLUDE THE EXISTING EXTERIOR DECKS/ PORCHES WHICH ARE TO REMAIN. BESIDES REPLACEMENT OF SOME OF THE EXISTING EXTERIOR DAMAGED PLYWOOD, TYVEK, AND SIDING REPLACEMENT, THERE ARE NO OTHER EXTERIOR RENOVATION REQUIREMENTS FOR THIS PROJECTS.
6. MISCELLANEOUS REPAIRS AS NEEDED TO REPAIR DAMAGED SUB-FLOOR MUST BE ¾ TOUNGUE AND GROOVE OSB PLYWOOD, SECURED AND INSTALLED AS REQUIRED TO MEET IRC AND IBC 2021 OR CURRENT BUILDING CODES. IF ANY UNFORSEEN NON- STRUCTUAL OR STRUCTAUL ISSUES ARISE, ALL WORK MUST BE ADDRESSED AND COMPLETED WITH PROPER PERMITING AND COMPLETED TO IRC AND IBC AS REQUIRED.



PROJECT TITLE	SINGLE FAMILY RESIDENSE
DRAWING TITLE	BASEMEN FRAMING PLAN
SCALE	1/4"=1'-0"
	02/28/2023
Na	B

2ND FLOOR PLAN
L AND L BUILDINGS LLC
488 MANOR LANE
ELLICOTT CITY MD 21042

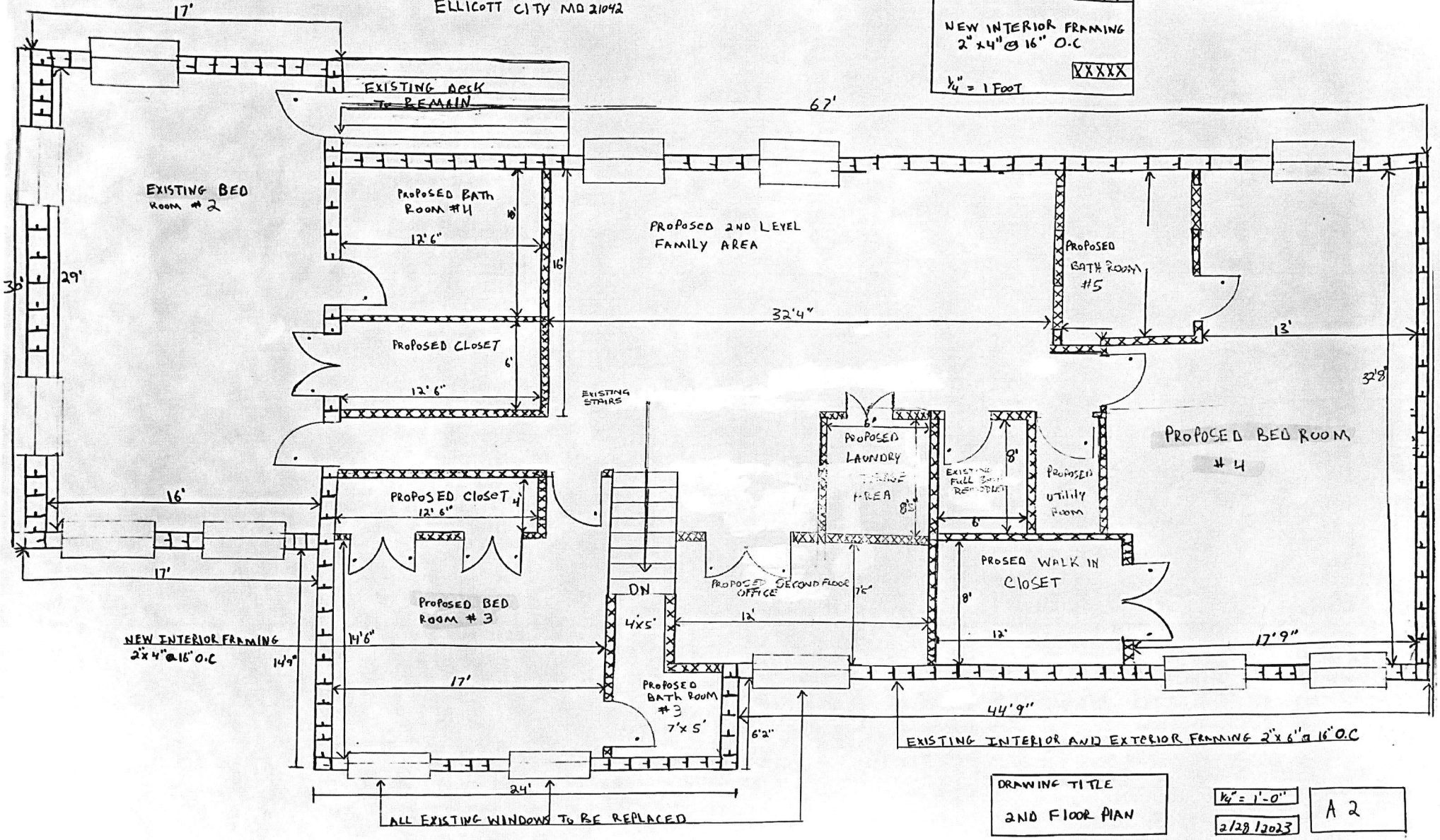
KEY

EXISTING INTERIOR/EXTERIOR FRAMING 2"x6"@ 16"O.C

NEW INTERIOR FRAMING 2"x4"@ 16" O.C

XXXXX

1/4" = 1 FOOT

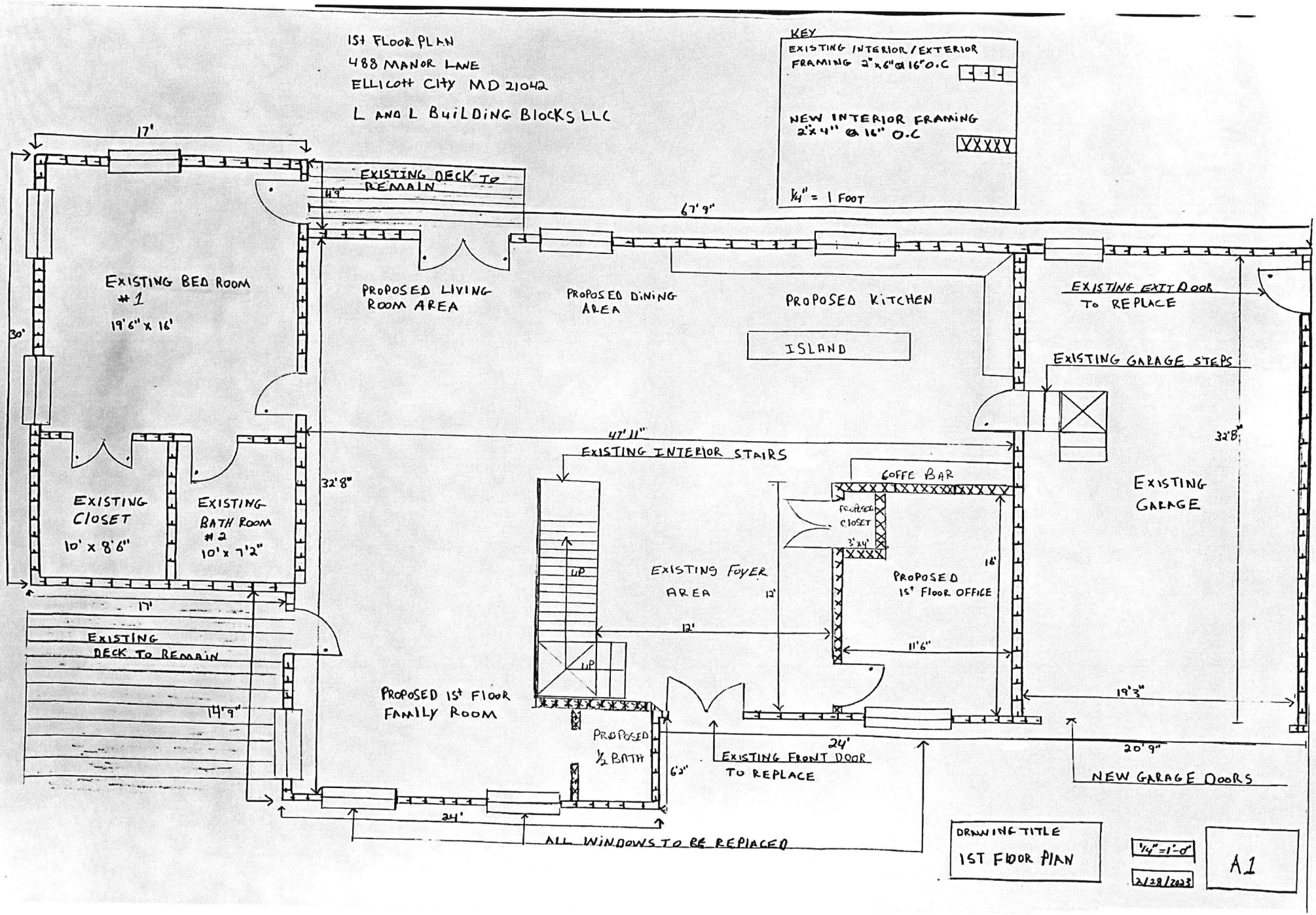


DRAWING TITLE
2ND FLOOR PLAN

1/4" = 1'-0"

2/28/2023

A 2


1st FLOOR PLAN
488 MANOR LANE
ELLICOTT CITY MD 21042
L AND L BUILDING BLOCKS LLC
KEY
EXISTING INTERIOR/EXTERIOR FRAMING 2"x6"@16"O.C
NEW INTERIOR FRAMING 2"x4" @ 16" O.C
1/4" = 1 FOOT
17'
EXISTING DECK TO REMAIN
4'9"
67'9"
EXISTING BED ROOM #1
19'6" x 16'
PROPOSED LIVING ROOM AREA
PROPOSED DINING AREA
PROPOSED KITCHEN
ISLAND
EXISTING EXIT DOOR TO REPLACE
EXISTING GARAGE STEPS
30'
47'11"
EXISTING INTERIOR STAIRS
32'8"
EXISTING CLOSET
10' x 8'6"
EXISTING BATH ROOM #2
10' x 7'2"
COFFE BAR
PROPOSED CLOSET
3'x4'
EXISTING FOYER AREA
12'
PROPOSED 1ST FLOOR OFFICE
16'
11'6"
EXISTING GARAGE
32'8"
17'
EXISTING DECK TO REMAIN
14'9"
PROPOSED 1ST FLOOR FAMILY ROOM
UP
PROPOSED 1/2 BATH
6'2"
24'
EXISTING FRONT DOOR TO REPLACE
19'3"
20'9"
NEW GARAGE DOORS
ALL WINDOWS TO BE REPLACED
DRAWING TITLE
1ST FLOOR PLAN
1/4"=1'-0"
2/28/2023
A1

APPROVED
WALK-THRU BUILDING PERMIT
BP# A#
APP. SAN Dana Bennett DATE: 2-24-10
DESC. OF WORK: 9X11 Deck
Approved as Shown

Surveyor's Certificate

I hereby certify to the best of my knowledge and belief that the information shown hereon is based on actual field measurements and that there are no encroachments across the property, unless otherwise shown.

11/24/07
ANTHONY G. CURRIE, PLS
MD REG. NO. 560
DATE

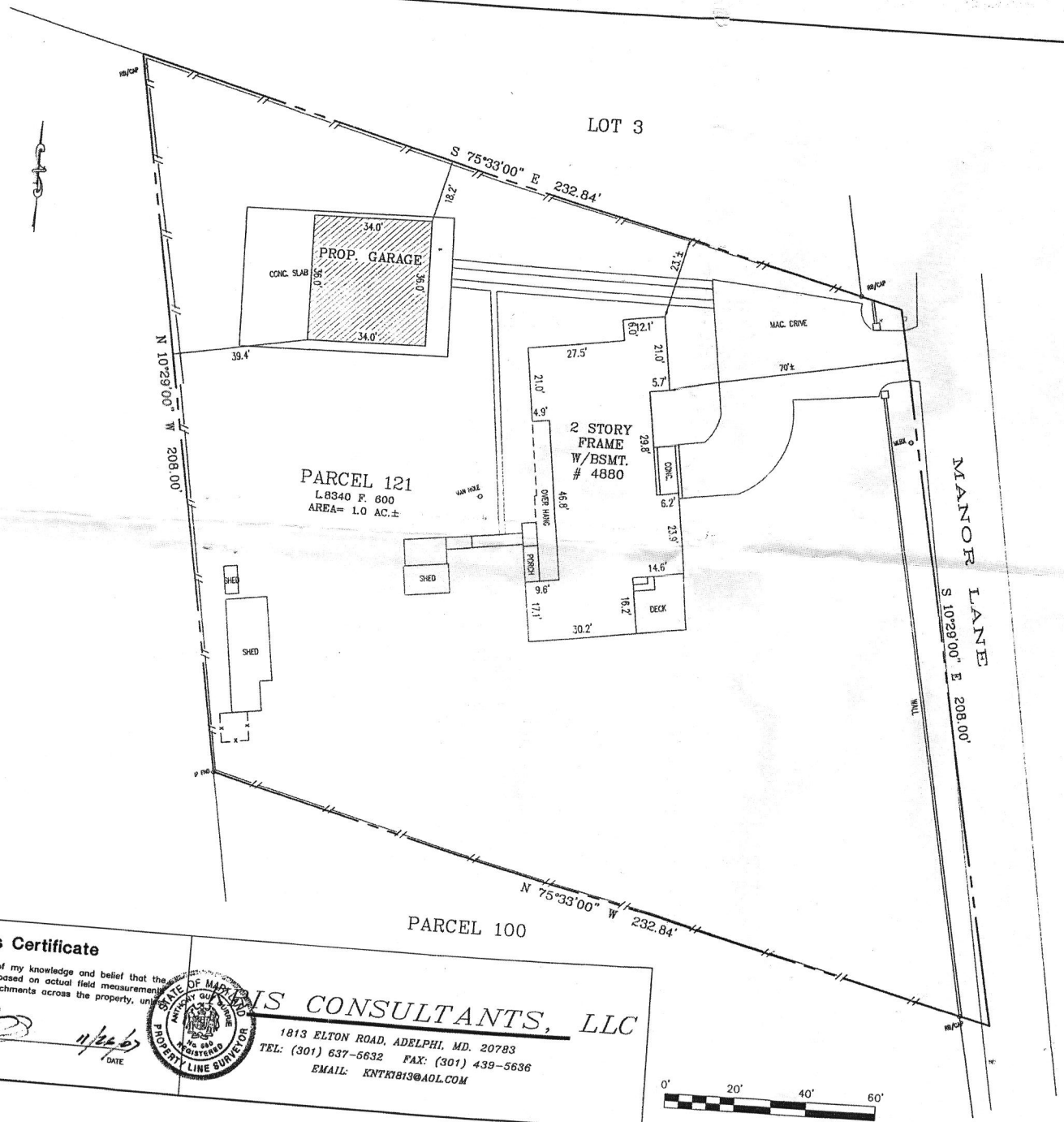
STATE OF MARYLAND — ANTHONY GUY CURRIE — No. 560 REGISTERED PROPERTY LINE SURVEYOR

IS CONSULTANTS, LLC
1813 ELTON ROAD, ADELPHI, MD. 20783
TEL: (301) 637-5632 FAX: (301) 439-5636
EMAIL: KNTK1813@AOL.COM

0' 20' 40' 60'

LOCATION DRAWING

DRAWN K.S.	DATE 11/14/07	4880 MANOR LANE ELLICOTT CITY, MD.
APPROVED	DATE	HOWARD COUNTY MARYLAND
SCALE 1"=20'	SHEET 1 OF 1	PROJECT NO. 05-255



Surveyor's Certificate

I hereby certify to the best of my knowledge and belief that the information shown hereon is based on actual field measurements and that there are no encroachments across the property, unless otherwise shown.

ANTHONY G. CURRIE, PLS
MD REG. NO. 360

11/14/07
DATE

STATE OF MARYLAND
ANTHONY GUY CURRIE
No 360
REGISTERED
PROPERTY LINE SURVEYOR

KNS CONSULTANTS, LLC
1813 ELTON ROAD, ADELPHI, MD. 20783
TEL: (301) 637-5632 FAX: (301) 439-5636
EMAIL: KNTK1813@AOL.COM

0' 20' 40' 60'

LOCATION DRAWING

DRAWN K.S.	DATE 11/14/07	4880 MANOR LANE ELLICOTT CITY, MD. HOWARD COUNTY MARYLAND
APPROVED	DATE	
SCALE 1"=20'	SHEET 1 OF 1	PROJECT NO. 05-255

1ST FLOOR PLAN
488 MANOR LANE
ELLICOTT CITY MD 21042
L AND L BUILDING BLOCKS LLC
KEY
EXISTING INTERIOR / EXTERIOR FRAMING 2"x6" @ 16" O.C
NEW INTERIOR FRAMING 2"x4" @ 16" O.C
1/4" = 1 FOOT
17'
EXISTING DECK TO REMAIN
4'9"
67'9"
EXISTING BED ROOM #1
19'6" x 16'
PROPOSED LIVING ROOM AREA
PROPOSED DINING AREA
PROPOSED KITCHEN
ISLAND
EXISTING EXIT DOOR TO REPLACE
EXISTING GARAGE STEPS
30'
47'11"
EXISTING INTERIOR STAIRS
32'8"
EXISTING CLOSET
10' x 8'6"
EXISTING BATH ROOM #2
10' x 7'2"
COFFE BAR
PROPOSED CLOSET
3'x4'
EXISTING FOYER AREA
12'
UP
PROPOSED 1ST FLOOR OFFICE
16'
11'6"
EXISTING GARAGE
32'8"
17'
EXISTING DECK TO REMAIN
14'9"
PROPOSED 1ST FLOOR FAMILY ROOM
PROPOSED 1/2 BATH
6'2"
24'
EXISTING FRONT DOOR TO REPLACE
19'3"
20'9"
NEW GARAGE DOORS
24'
ALL WINDOWS TO BE REPLACED
DRAWING TITLE
1ST FLOOR PLAN
1/4"=1'-0"
2/28/2023
A1

2ND FLOOR PLAN
L AND L BUILDINGS LLC
488 MANOR LANE
ELLICOTT CITY MD 21042

KEY

EXISTING INTERIOR/EXTERIOR FRAMING 2"x6" @ 16" O.C

NEW INTERIOR FRAMING 2"x4" @ 16" O.C

XXXXX

1/4" = 1 FOOT

17'

4'X4' WINDOW

EXISTING DECK TO REMAIN

67'

WINDOW 4'5'

4'X4' WINDOW

EXISTING BED ROOM #4

PROPOSED BATH ROOM #4

10'

12'6"

16'

PROPOSED 2ND LEVEL FAMILY AREA

PROPOSED BED ROOM #5

12'

11'

PROPOSED CLOSET

11'6"

4'

PROPOSED CLOSET

11'

PROPOSED BED ROOM #7

16'

36'

29'

20'

13'

34'

PROPOSED CLOSET

6'

12'6"

EXISTING STAIRS

DN

DN

4'X4' WINDOW

PROPOSED BATH ROOM #6

8'

6'

PROPOSED CLOSET

3' PROSED CLOSET

9'

11'

PROPOSED CLOSET 4'

12'6"

16'

4'X4' WD

4'X4' WD

17'

PROSED OFFICE

12'

DN

DN

PROPOSED BED ROOM #6

14'

PROSED BATH ROOM #7

8'

12'

4'

4'6"

12'

17'9"

PROPOSED BED ROOM #3

DN

4'X5'

NEW INTERIOR FRAMING 2"X4" @ 16" O.C

14'6"

14'9"

17'

PROPOSED BATH ROOM #5 7'X5'

6'2"

5'X3' WINDOWS

44'9"

EXISTING INTERIOR AND EXTERIOR FRAMING 2"X6" @ 16" O.C

4'X4' WD

4'X4' WD

24'

ALL EXISTING WINDOWS TO BE REPLACED

DRAWING TITLE
2ND FLOOR PLAN

1/4" = 1'-0"

2/28/2023

A 2

EXISTING BASEMENT LAYOUT

L AND L BUILDING BLOCKS LLC
4880 MANOR LANE
ELLICOTT CITY MARYLAND
21042

KEY

1/4" = 1 FOOT	
EXISTING BLOCK FOUNDATION WALL	
EXISTING INTERIOR FRAMED WALL 2X4 @ 16" O.C	
NEW INTERIOR WALL 2"X4" STUD @ 16" O.C	XXXXX

(GENERAL NOTES)

1. MATERIALS AND RENOVATION FOR THIS EXISTING NON-STRUCTURAL FRAMING PROJECT WILL COMPLY WITH 2021 IRC MOST CURRENT IRC AND IBC BUILDING STANDARDS. THIS FRAMING WILL CONSIST OF NON-STRUCTURAL ALTERATIONS ONLY TO REFLECT THE FRAMING NEED LISTED IN THE SUBMITTED FLOOR PLANS.
2. MATERIALS AND CONSTRUCTION WILL COMPLY WITH 2021 OR CURRENT IPC STANDARDS.
3. MATERIALS AND CONSTRUCTION WILL COMPLY WITH 2021 OR MOST CURRENT IECC STANDARDS.
4. THIS RENOVATION PROJECT WILL INCLUDE A FULL SPRINKLER SYSTEM WITH APPROPRIATE TANK.
5. THE CURRENT BUILDING FOOTPRINT WILL REMAIN AS AS THE EXISTING FOOTPRINT. TO INCLUDE THE EXISTING EXTERIOR DECKS/ PORCHES WHICH ARE TO REMAIN. BESIDES REPLACEMENT OF SOME OF THE EXISTING EXTERIOR DAMAGED PLYWOOD, TYVEK, AND SIDING REPLACEMENT, THERE ARE NO OTHER EXTERIOR RENOVATION REQUIREMENTS FOR THIS PROJECTS.
6. MISCELLANEOUS REPAIRS AS NEEDED TO REPAIR DAMAGED SUB-FLOOR MUST BE ¾ TOUNGUE AND GROOVE OSB PLYWOOD, SECURED AND INSTALLED AS REQUIRED TO MEET IRC AND IBC 2021 OR CURRENT BUILDING CODES. IF ANY UNFORSEEN NON- STRUCTURAL OR STRUCTAUL ISSUES ARISE, ALL WORK MUST BE ADDRESSED AND COMPLETED WITH PROPER PERMITING AND COMPLETED TO IRC AND IBC AS REQUIRED.
7. Insulation rates shall be R-49 in roof rafters/attic area. Exterior 2x6 walls shall be R-21 and 2x4 walls shall be R-13 to R-15. If walls and Ceilings Are spray foam the performance value must equal code values, and a Performance certificate will be provided.
8. THE EXISTING 3" x8" FRAMED GARAGE SEPARATION WALL LEADING FROM THE WALL TO THE KITCHEN SHALL BE TYPE X GYP BD/ FIRE RATED DRYWALL FOR ADJACENT WALLS AND CEILINGS.
9. THE GARAGE DOOR LEADING TO THE KITCHEN SHALL BE A SELF CLOSING STEEL FIRE RATED DOOR.

THE WELL AND SEPTIC SHALL BE INSPECTED AND BROUGHT TO CODE TO ACCOMMODATE THE EXISTING AND PROPOSED RENOVATIONS ACCORDING TO THE NEW FLOOR PLANS.

EXISTING WINDOWS 4'X4' — 16'
EXISTING EXTERIOR DOOR
EXISTING WINDOWS 3'X4'
67'9"
67'9"
11'5"
EXISTING BEDROOM #1
46'6"
FAMILY ROOM
EXISTING OPEN SPACE TO BE REMODLED
EXISTING INTERIOR DOORS
13'2"
30'
EXISTING CLOSET TO REMODEL
EXISTING BATHROOM TO REMODEL
7'2"
6'
14'3"
EXISTING STEPS UNDER 1ST FLOOR STAIRCASE LEFTSIDE
UP
26'
PROPOSED FULL BATHROOM
8'
9'4"
NEW INTERIOR WALL 2"X4" @ 16" O.C
13'6"
EXISTING UTILITY AREA TO REMAIN
EXISTING INTERIOR FRAMING 2X4 16" O.C
23'
13'
12'8"
EXISTING ENCLOSED SPACE UNDER GARAGE
28'
EXISTING BLOCK WALL
EXISTING BLOCK WALL
14'9"
EXISTING ENCLOSED SPACE
44'9"
6'2"
24'

PROJECT TITLE	SINGLE FAMILY RESIDENSE
DRAWING TITLE	BASEMEN FRAMING PLAN
SCALE 1/4" = 1'-0"	
02/28/2023	
No	B

EXISTING
2ND FLOOR LAYOUT
L AND L BUILDINGS LLC
488 MANOR LANE
ELLICOTT CITY MD 21042

KEY

EXISTING INTERIOR/EXTERIOR FRAMING 2"x6" @ 16" O.C

EXIST INTERIOR FRAMING 2"x4" @ 16" O.C

XXXXX

1/4" = 1 FOOT

17'

4'x4' WINDOW

EXISTING DECK TO REMAIN

67'

WINDOW 4'x5'

4'x4' WINDOW

EXISTING BED ROOM #3

36'

29'

EXISTING BATH ROOM #4

10'

12'6"

16'

EXISTING BED ROOM #5

EXISTING BATHROOM #6

12'x5'

EXIST LAUNDRY AREA

4'

EXISTING CLOSET

11'

EXISTING BED ROOM #7

16'

20'x11'6"

4'x11'6"

13'

EXISTING CLOSET

6'

12'6"

EXISTING STAIRS

34'

4'x4' WINDOW

DN

DN

EXISTING CLOSET

3'

EXISTING CLOSET

3'

9'

11'

16'

EXISTING CLOSET 4'

12'6"

EXISTING HALLWAY SPACE

12'

EXISTING CLOSET STORAGE SPACE

10'

6'

EXISTING BED ROOM #6

14'

4'x4' WD

4'x4' WD

16'

17'

DN

DN

EXISTING BATHROOM #7

8'

EXISTING BED ROOM #5

4'x5'

12'

4'

46"

12'

17'9"

EXISTING INTERIOR FRAMING 2"x4" @ 16" O.C

14'6"

14'9"

17'

EXISTING CLOSET 7'x5'

6'2"

5'x5' WINDOWS

44'9"

4'x4' WD

4'x4' WD

24'

EXISTING INTERIOR AND EXTERIOR FRAMING 2"x6" @ 16" O.C

ALL EXISTING WINDOWS TO BE REPLACED

DRAWING TITLE
2ND FLOOR LAYOUT EXISTING

1/4" = 1'-0"

2/28/2023

A 2

2ND FLOOR PLAN
L AND L BUILDINGS LLC
488 MANOR LANE
ELLICOTT CITY MD 21042

KEY

EXISTING INTERIOR/EXTERIOR FRAMING 2"x6" @ 16" O.C

NEW INTERIOR FRAMING 2"x4" @ 16" O.C

XXXXX

1/4" = 1 FOOT

17'

4'X4' WINDOW

EXISTING DECK TO REMAIN

67'

WINDOW 4'5'

4'X4' WINDOW

EXISTING BED ROOM #4

PROPOSED BATH ROOM #4

10'

12'6"

16'

PROPOSED 2ND LEVEL FAMILY AREA

PROPOSED BED ROOM #5

12'

11'

PROPOSED CLOSET

11'6"

4'

PROPOSED CLOSET

11'

PROPOSED BED ROOM #7

16'

36'

29'

20'

13'

34'

PROPOSED CLOSET

6'

12'6"

EXISTING STAIRS

DN

DN

4'X4' WINDOW

PROPOSED BATH ROOM #6

8'

6'

PROPOSED CLOSET

3' PROSED CLOSET

9'

11'

PROPOSED CLOSET 4'

12'6"

16'

4'X4' WD

4'X4' WD

17'

PROSED OFFICE

12'

DN

DN

PROPOSED BED ROOM #6

14'

PROSED BATH ROOM #7

8'

12'

4'

4'6"

12'

17'9"

PROPOSED BED ROOM #3

DN

4'X5'

NEW INTERIOR FRAMING 2"X4" @ 16" O.C

14'6"

14'9"

17'

PROPOSED BATH ROOM #5 7'X5'

6'2"

5'X3' WINDOWS

44'9"

EXISTING INTERIOR AND EXTERIOR FRAMING 2"X6" @ 16" O.C

4'X4' WD

4'X4' WD

24'

ALL EXISTING WINDOWS TO BE REPLACED

DRAWING TITLE
2ND FLOOR PLAN

1/4" = 1'-0"

2/28/2023

A 2

1ST FLOOR PLAN
488 MANOR LANE
ELLICOTT CITY MD 21042
L AND L BUILDING BLOCKS LLC

KEY
EXISTING INTERIOR/EXTERIOR FRAMING 2"x6"@16"O.C
NEW INTERIOR FRAMING 2"x4" @ 16" O.C
¼" = 1 FOOT

17'
5'x5' WINDOWS
EXISTING DECK TO REMAIN
4'9"
67'9"
EXISTING WINDOWS 4'x4'
EXISTING DOOR
EXISTING BED ROOM #2
19'6" x 16'
PROPOSED LIVING ROOM AREA
PROPOSED DINING AREA
PROPOSED KITCHEN
EXISTING EXT DOOR TO REPLACE
EXISTING GARAGE STEPS
30'
5'x5' WINDOW
STEELSEIF CLOSING GARAGE DOOR
3'5"
47'11"
34'
EXISTING ACCESS TO BASEMEN UNDER STAIRCASE
EXISTING INTERIOR STAIRS
38'4"
UP
UP
EXISTING CLOSET
10' x 8'6"
EXISTING BATH ROOM #2
10' x 7'2"
EXISTING FOYER AREA
12'
PROPOSED 1ST FLOOR OFFICE
16'
EXISTING GARAGE
EXISTING 2"x6" SEPERATION WALL
5/8" FIRE RATED DRYWALL TYPE X GYP BD FOR ADJACENT WALLS AND CEILINGS
17'
UP
12'
UP
11'6"
5'
19'3"
EXISTING DECK TO REMAIN
PROSED 1st FLOOR FAMILY ROOM
11'
14'9"
24'
20'9"
PROPOSED CLOSET 3'x5'
6'3"
EXISTING FRON DOOR TO REPLACE
NEW GARAGE DOORS
24'
ALL WINDOWS TO BE REPLACED

DRAWING TITLE
1ST FLOOR PLAN
¼"=1'-0"
2/28/2023
A1