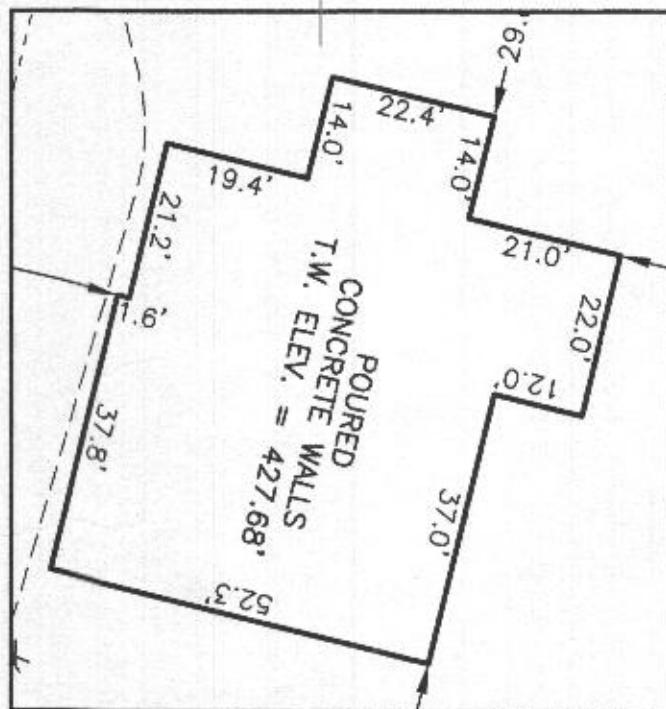


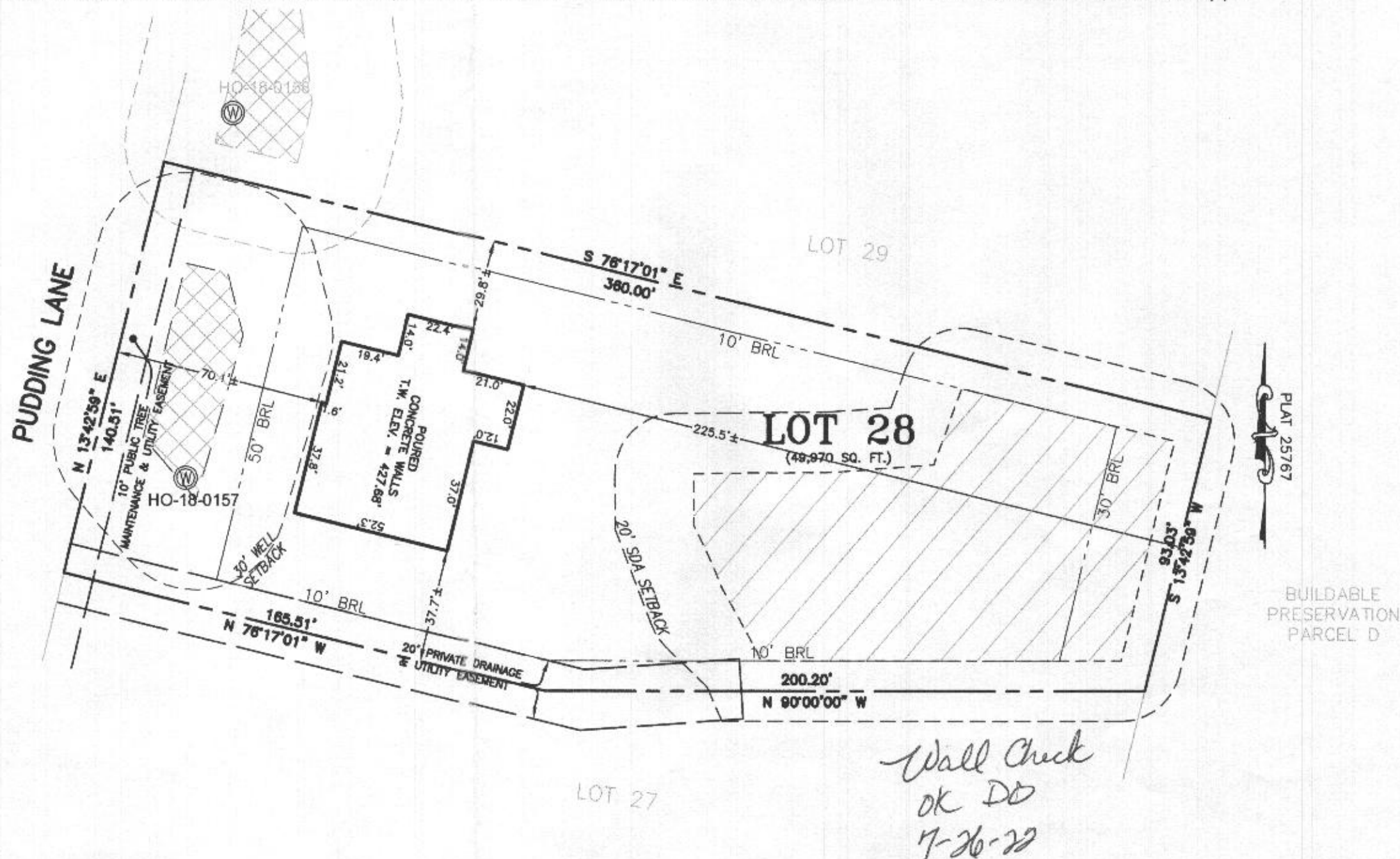
LEGEND:

WELL NUMBER: HO-18-0157
ADDRESS: 10537 PUDDING LANE
ELLICOTT CITY, MD 21042
PERMIT NO.: 22000336



HOUSE ENLARGEMENT
NOT TO SCALE

BUILDING SETBACKS (B.R.L.'s) SHOWN HEREON PER SITE DEVELOPEMENT PLAN
SETBACK DISTANCES SHOWN HEREON AS "±" HAVE AN ACCURACY OF ±0.1' FOOT.



THIS WALLCHECK WAS PREPARED WITHOUT THE BENEFIT OF A CURRENT TITLE REPORT. THIS PROPERTY IS SUBJECT TO ANY AND ALL EASEMENTS, RIGHT-OF-WAYS, COVENANTS, AND RESTRICTIONS, ETC. OF RECORD, SOME OR ALL OF WHICH MAY OR MAY NOT BE SHOWN AND/OR REFERENCED HEREON. BEARINGS AND DISTANCES OF THE PROPERTY BOUNDARY LINES SHOWN HEREON ARE PER AVAILABLE RECORDS AND HAVE NOT BEEN FIELD VERIFIED.
THIS IS NOT A "LOCATION DRAWING" AND IS NOT TO BE USED FOR SETTLEMENT PURPOSES.

SIGNATURE: MICHAEL JOE BOYCE 21328 7/5/22
MD. LIC NO. DATE

WALLCHECK
LOT 28
KINGS FOREST
LIBER 11372, FOLIO 431
PLAT NO. 25767
2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

ESE CONSULTANTS

ENGINEERING • PLANNING • SURVEYING • ENVIRONMENTAL

ESE Consultants, Inc.

6731 Columbia Gateway Drive • Suite 120 • Columbia, MD 21046

T: 410-872-9105

DATE: 07/05/2022

CHK'D: M.J.B.

SCALE: 1" = 40'

JOB NO: 3502

FILE: WC LOT 28

DRAWN: V.X.P.

AREA SHOWN IN ORANGE TO BE ADDED TO SEPTIC AREA

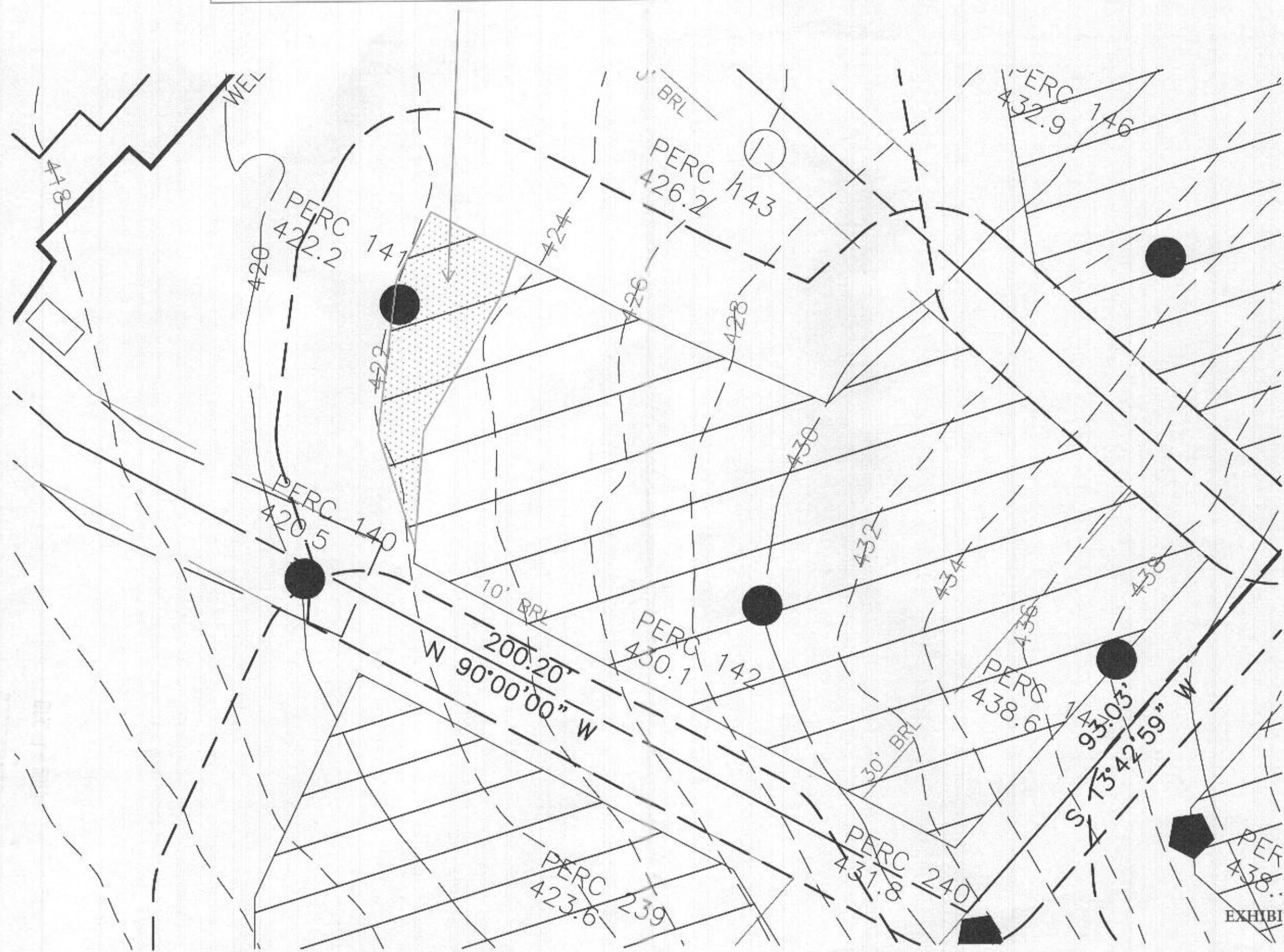
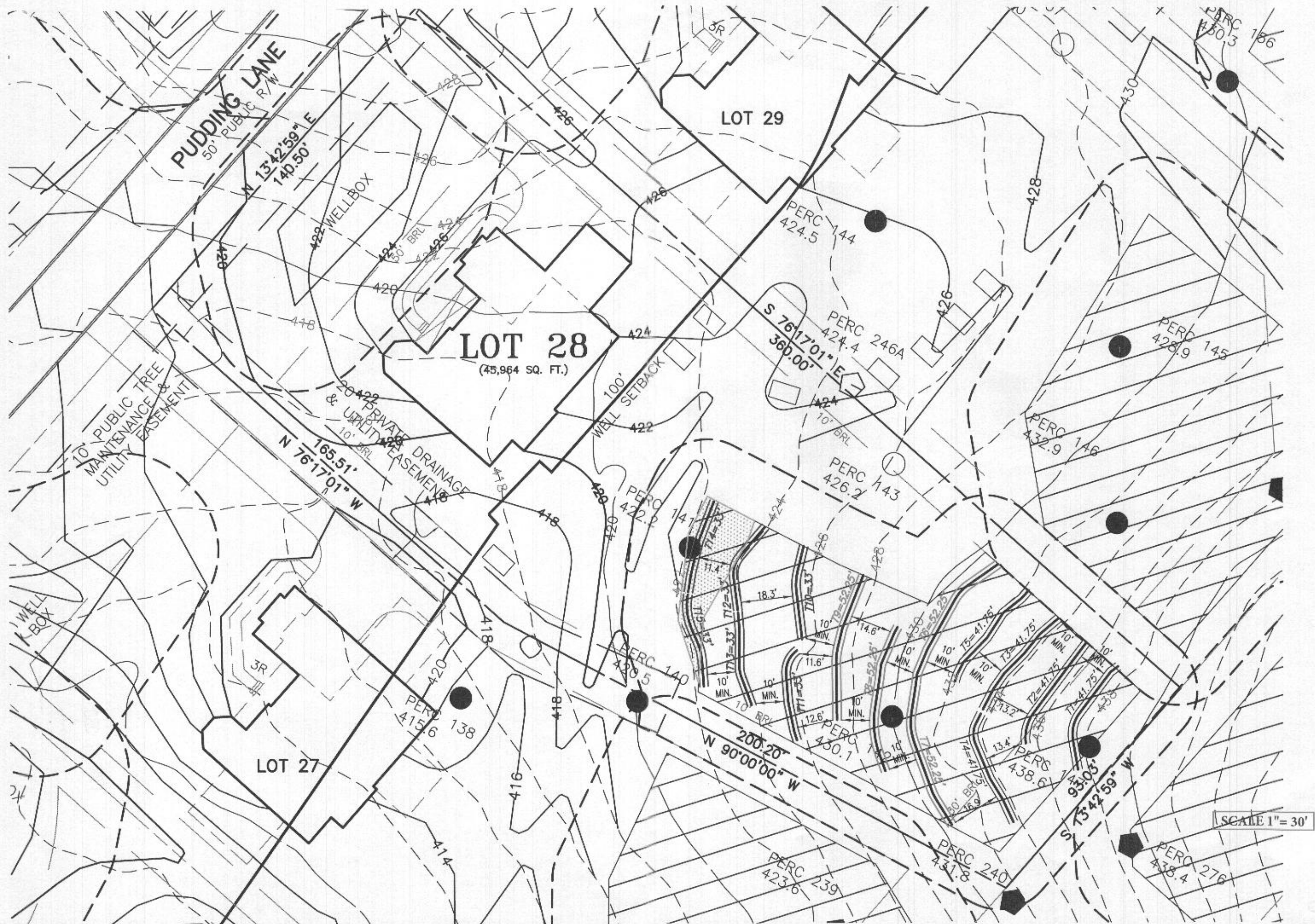
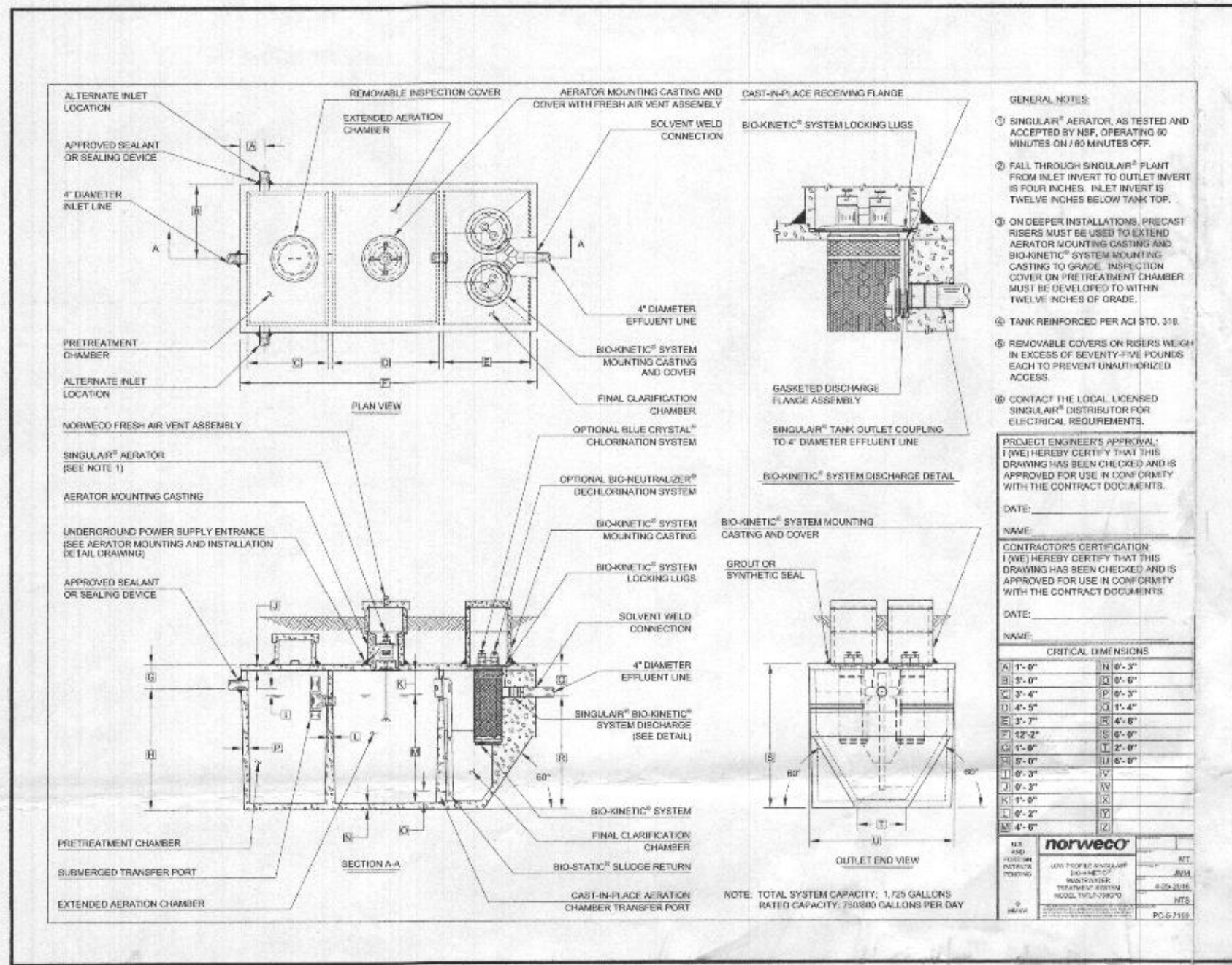


EXHIBIT TO SHOW ADDITIONAL
SEPTIC AREA
KINGS FOREST
LOT 28

SCALE 1" = 20'





Ashland Effluent Pump
Model: EP50, EP75, EP100, EP150
PUMP Specifications

IMPORTANT: Prior to installation, record Model Number, MFG Data, Amps, Voltage, Phase and HP from pump nameplate for future reference. Also record the voltage and current readings at startup.

Specifications:

- 1 Phase Models
- Model Number: MFG Data
- Amps: Voltage
- HP: Phase
- SN: SN

Physical Data:

- Discharge Size: 2" NPT
- Impeller Type: 2-View Closed, Cast Iron
- Cable Length: 20'
- Liquid Handling: 3/4"
- Solids Size: 1/4"
- Maximum Liquid Temp: 104°F - Intermittent
- Acceptable pH Range: 6.8
- Temperature: 120°C
- Technical Data: Cast Iron
- Motor Housing: Cast Iron
- Impeller: Cast Iron
- Motor Shaft: 5/8"
- Seals: NBR
- Upper Bearing: Single Mechanical
- Lower Bearing: Carbon Ceramic
- Upper Bearing: 6003
- Lower Bearing: 6003

Dimensions:

- 11.3"
- 6.6"
- 3.1"
- 5.1"
- 2" NPT
- 18.2"

Ashland PUMP

OPERATION, PERFORMANCE, SPECIFICATIONS AND PARTS MANUAL

EP50,75,100,150
1/2, 3/4, 1, 1-1/2 HP
Effluent Pumps

Thank you for purchasing this pump. Take the time to read the instructions carefully before using this product. We strongly recommend that you keep this instruction manual in a safe place for future reference.

Please refer to our website and the Products Center for additional installation and operation instructions and replacement parts information.

WARNING: "Warning" indicates an imminent hazardous situation which, if not avoided, WILL result in death or serious injury.

CAUTION: "Caution" indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury.

PERFORMANCE:

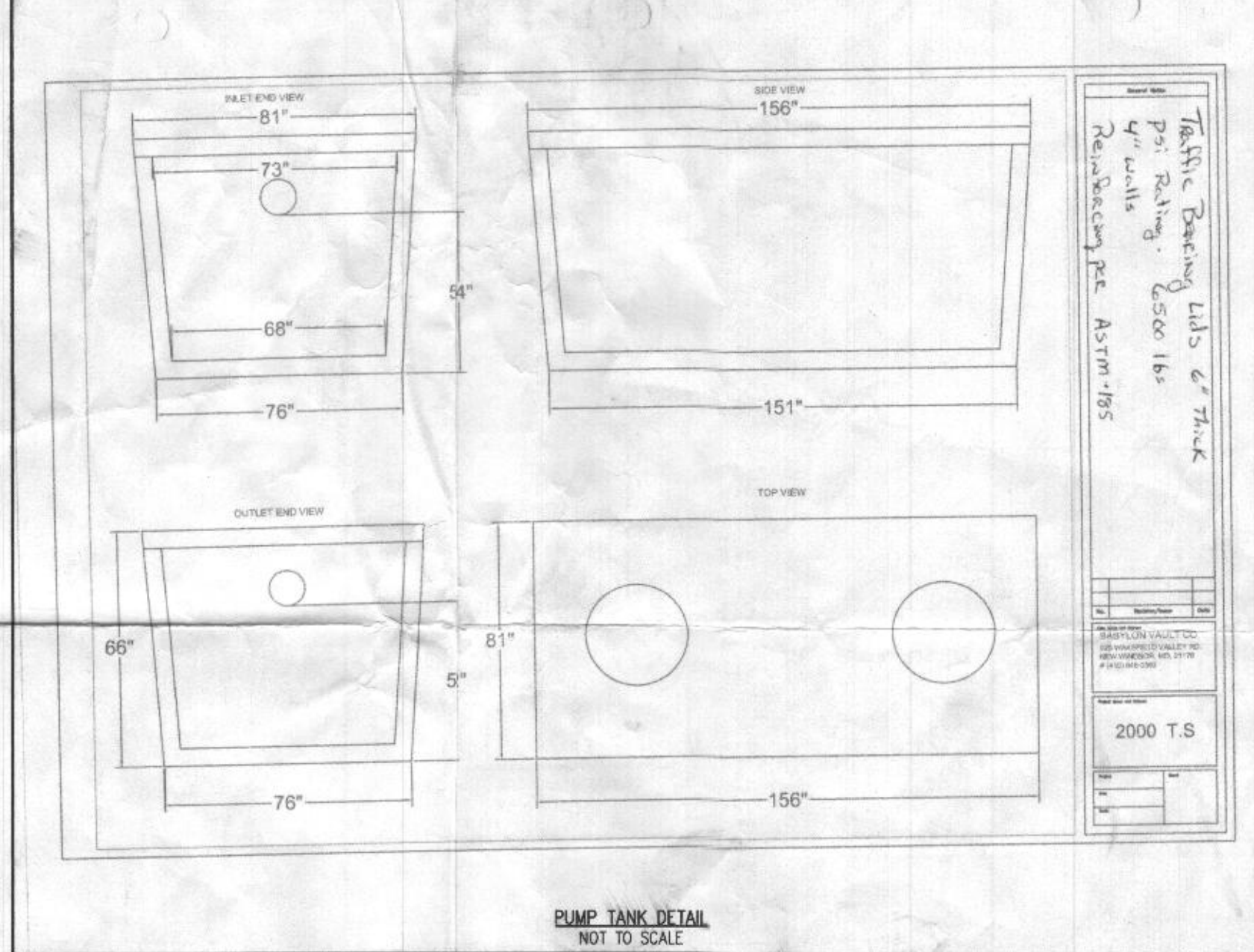
EP50, EP75, EP100, EP150 PERFORMANCE CHART

EP50 PERFORMANCE CHART

EP75 PERFORMANCE CHART

EP100 PERFORMANCE CHART

EP150 PERFORMANCE CHART



Ashland Effluent Pump
Model: EP50, EP75, EP100, EP150
PUMP Specifications and Performance

Specifications:

- 1 Phase Models
- Model Number: MFG Data
- Amps: Voltage
- HP: Phase
- SN: SN

Physical Data:

- Discharge Size: 2" NPT
- Impeller Type: 2-View Closed, Cast Iron
- Cable Length: 20'
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- Solids Size: 1/4"
- Maximum Liquid Temp: 104°F - Intermittent
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- Motor Shaft: 5/8"
- Seals: NBR
- Upper Bearing: Single Mechanical
- Lower Bearing: Carbon Ceramic
- Upper Bearing: 6003
- Lower Bearing: 6003

Dimensions:

- 11.3"
- 6.6"
- 3.1"
- 5.1"
- 2" NPT
- 18.2"

LOW PRESSURE DISTRIBUTION SYSTEM CALCULATIONS

NUMBER OF MANIFOLDS = 1 MANIFOLD TYPE = END FEED DESIGN FLOW = 750 GPD

TRENCH 1 (T1) ELEV.=437.50' LENGTH=40.00' PUMP OFF ELEV. = 413.32'

TRENCH 2 (T2) ELEV.=435.80' LENGTH=40.00' INV. TOP PUMP TANK = 415.49'

TRENCH 3 (T3) ELEV.=434.00' LENGTH=39.00' PUMP BOTTOM ELEV. = 411.99'

TRENCH 4 (T4) ELEV.=432.60' LENGTH=39.00' PUMP SELECTED = 1 HP

MANIFOLD LENGTH = 189.00' TYPE=SC40 FORCEMAIN LENGTH = 6.00' TYPE=SC40

MIN. SYSTEM DISCHARGE RATE = 101.94 GPM VELOCITY = 4.42 FPS FRICTION LOSS (TABLE 44) = 2.09

FORCE MAIN DIAMETER = 3" IN. VELOCITY = 4.42 FPS FRICTION LOSS (TABLE 44) = 2.09

MINIMUM DOSE = 201.22 GAL (VOL. IN FM, MAN. 5x LATERAL=201.22 GAL > 1/6 DESIGN FLOW=750/5=150 GAL)

CALCULATE TOTAL DESIGN HEAD

LENGTH OF FM FROM PUMP TANK TO MANIFOLD = 189.00' (ADD 6" PER BEND) = 24'

LENGTH OF FM FROM FM TO TRENCHES = 53.00' (6.00' MANIFOLD + 47.00' LONGEST 1.5" PIPE FROM MANIFOLD TO TRENCH 4)

LENGTH OF (45) BENDS IN MANIFOLD = 4 (1.5" PIPE) (ADD 6" PER BEND) = 24'

LENGTH OF (90) BENDS IN MANIFOLD = 3 (ADD 10" PER BEND) = 30'

OF COUPLINGS (3" TO 1.5") = 5 (ADD 3" PER COUPLING) = 15'

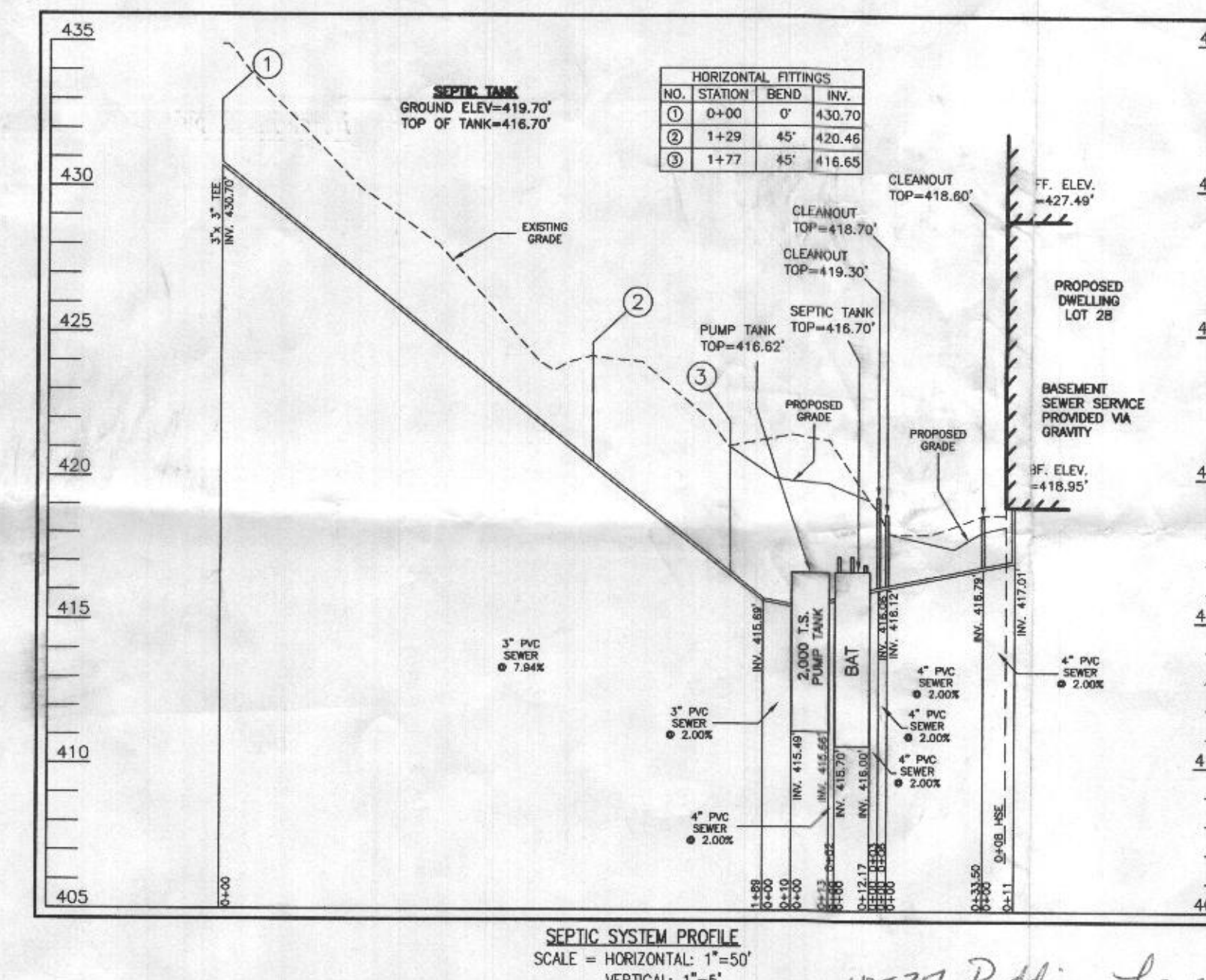
TOTAL LENGTHS = 242.00' TOTAL ADD'L LENGTHS = 93' TOTAL PIPE/ FRICTION LOSS = 335.00'

FRICTION HEAD = 7.00' FT. (PER ABOVE CALCULATION)

OPERATING HEAD = 2.00' FT. (HIGHEST POINT IN DISTRIBUTION SYSTEM - PUMP OFF FLOW ELEVATION)

STATIC HEAD = 30.88' FT. (FRICTION HEAD + OPERATING HEAD + STATIC HEAD)

TOTAL DYNAMIC HEAD = 30.88' FT. THEREFORE A PUMP CAPABLE OF DELIVERING AT LEAST 101.94 GPM AGAINST 30.88' OF HEAD IS REQUIRED. EP100M-20, 1 H.P. IS EFFICIENT



SEPTIC TRENCH SIZE CALCULATIONS

SYSTEM INPUT INFORMATION

SYSTEM INPUT INFORMATION	INITIAL SYSTEM	1ST REPLACEMENT SYSTEM	2ND REPLACEMENT SYSTEM
APPLICATION RATE (GPD)	0.8	0.6	0.6
EFFECTIVE AREA BEGINNING DEPTH (GVEN)	6	5	5
BOTTOM MAXIMUM DEPTH (GVEN)	8	8	8
NUMBER OF BEDROOMS	5	5	5
DESIGN FLOW (150 GAL/DAY/BEDROOM)	750	750	750

ABSORPTION TRENCH CALCULATIONS

ABSORPTION TRENCH CALCULATIONS	INITIAL SYSTEM	1ST REPLACEMENT SYSTEM	2ND REPLACEMENT SYSTEM
DRAINFIELD AREA REQUIRED (DESIGN FLOW/APP RATE)	875	1,250	1,250
EFFECTIVE SIDEWALL DEPTH "D" (DEPTH BETWEEN THE EFFECTIVE BEGINNING DEPTH OR PIPE DEPTH (WHICHEVER IS DEEPER) AND MAX. TRENCH BOTTOM)	2	3	3
TRENCH WIDTH "W" (2 OR 3 FEET)	3	3	3
SIDEWALL REDUCTION (W+2)/(W+1+2D)	0.63	0.50	0.50
LINEAR FEET OF TRENCH REQUIRED (DRAINFIELD AREA X SIDEWALL REDUCTION)/W	196.88	208.34	208.34

TRENCH LAYOUT INFORMATION

TRENCH LAYOUT INFORMATION	INITIAL SYSTEM	1ST REPLACEMENT SYSTEM	2ND REPLACEMENT SYSTEM
NUMBER OF TRENCHES USED	5	4	3
TOTAL LINEAR FEET USED	197.00	209.00	208.50
MINIMUM TRENCH SPACING FOR TRENCHES WITH NO SIDEWALL COVERT, THE SPACING IS 6' FOR A 2' WIDE TRENCH AND 9' FOR A 3' WIDE TRENCH (MEASURED EDGE TO EDGE). ALL TRENCHES UTILIZING SIDEWALL REDUCTION CREDIT MUST BE SPACED A MIN. OF 10' FOR EFFECTIVE SIDEWALL NOT OVER 3.5' IF MORE THAN 3.5' THEN SPACING FORMULA IS (20+W) UP TO A MAX. OF 18'	10	10	10

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21328, EXPIRATION DATE 1/8/23.

04/13/22

MICHAEL JOE BOYCE



DESIGNED BY: R.C.K.

DRAWN BY: R.C.K.

CHECKED BY: M.J.B.

DATE: _____

REVISION: _____

BY: _____

APPROVED: _____

SITE PLAN FOR BAT INSTALLATION LOT 28

KINGS FOREST

LIBER 11372, FOLIO 431

PLAT NO. 25767

TAX NO. 03-603438

2nd ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

ADDRESS: 10537 PUDDING LANE

ELLICOTT CITY, MARYLAND 21042

DATE: 04/11/2022

SCALE: 1"=30'

FILE: BAT LOT 28

CHK'D: M.J.B.

JOB NO: 3502

DRAWN: R.C.K.

ESE CONSULTANTS

ENGINEERING • PLANNING • SURVEYING • ENVIRONMENTAL

ESE Consultants, Inc.

6731 Columbia Gateway Drive • Suite 120 • Columbia, MD 21046

T: 410-872-9105

SHEET 1 OF 1

SOILS LEGEND

SOIL	NAME	HYDRIC	HYDROLOGIC GROUP	ALTERNATE GROUP
G6B	GLADSTONE LOAM 3 TO 8 PERCENT SLOPES		B	
G6C	GLADSTONE LOAM 8 TO 15 PERCENT SLOPES		B	
G6B	GLENNVILLE-BAILE SILT LOAM 0 TO 8 PERCENT SLOPES	YES	C	D

NOTES:

- HYDRIC SOILS AND / OR CONTAINS HYDRIC INCLUSIONS

HOUSE OPTIONS:

HOUSE TYPE: PARKHURST (FAIRVIEW)

INTERIOR WET BAR

FINISHED LOFT

TWO CAR SIDE ENTRY GARAGE

WALK-OUT BASEMENT

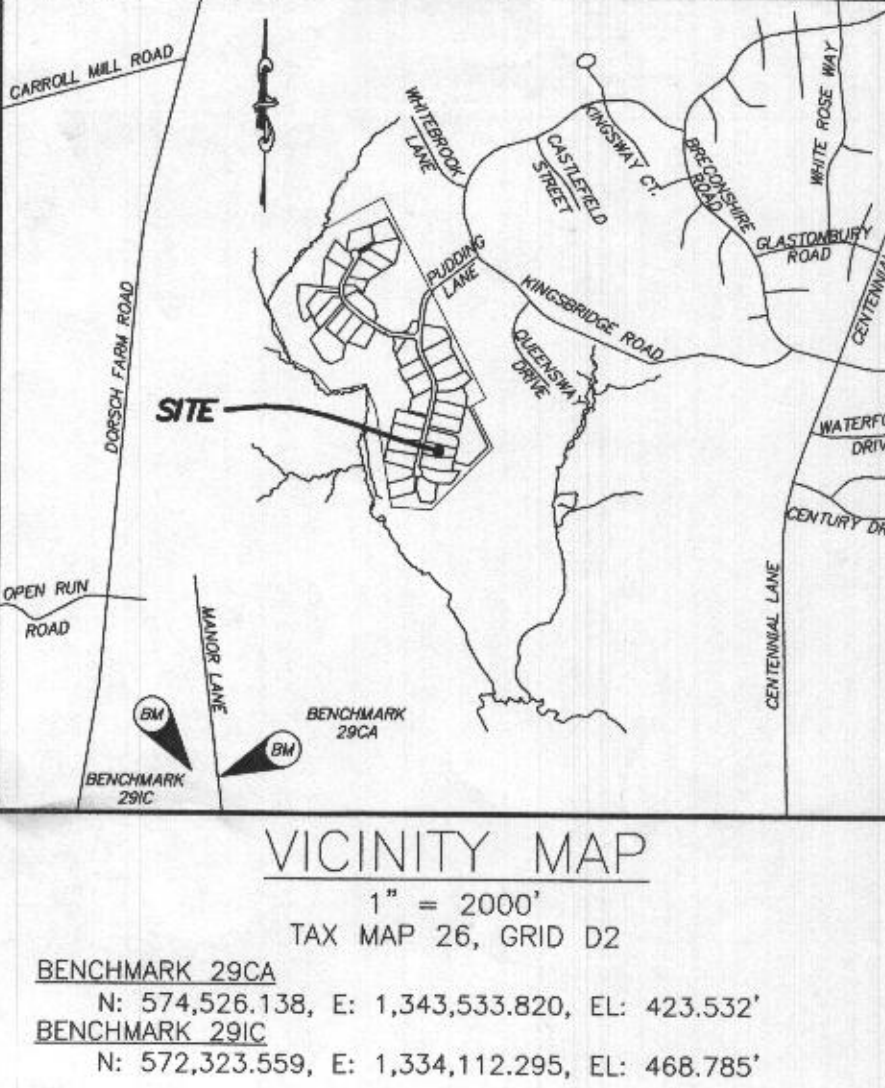
OPTIONAL DROP ZONE

ADDITIONAL ONE CAR FRONT ENTRY GARAGE-14'

OUTDOOR LIVING DECK-WALK-OUT

LEGEND:

- BRL: BUILDING RESTRICTION LINE
- T.W.: TOP OF WALL
- G.F.: GARAGE FLOOR
- B.F.: BASEMENT FLOOR
- P.L.: PASSED PERC LOCATION
- F.L.: FAILED PERC LOCATION
- S.D.A.: SEWAGE DISPOSAL AREA
- W.B.A.: WELL BOX AREA
- S.F.F.: SUPER SILT FENCE
- L.D.S.: LIMITS OF DISTURBANCE
- P.T.: PROPOSED TREE
- S.C.E.: STONE CONSTRUCTION ENTRANCE



- GENERAL NOTES:**
- THESE AREAS DESIGNATE A PRIVATE SEWAGE AREA OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. ANY SEWAGE SYSTEM SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR ENCROACHMENTS INTO THE PRIVATE SEWAGE AREA. RECORDATION OF A MODIFIED SEWAGE AREA SHALL NOT BE NECESSARY.
 - EXISTING WELLS, SEPTIC SYSTEMS, AND SEWAGE DISPOSAL AREAS WITHIN 100' OF THE PROPERTY AND THOSE WELLS WITHIN 200' DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS OR SEWAGE DISPOSAL AREAS HAVE BEEN SHOWN.
 - ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
 - BUILDING SETBACKS (B.L.L.'s) SHOWN HEREON PER SITE DEVELOPMENT PLAN SETBACK DISTANCES SHOWN HEREON AS "1" HAVE AN ACCURACY OF ±0.1' FOOT.
 - ANY CHANGES TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED SITE PLAN MAY BE REQUIRED.
 - THE MAXIMUM EARTH COVER OVER THE TANK IS THREE (3) FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
 - THE LOT SHOWN HEREON COMPLIES WITH THE MINIMUM OWNERSHIP, WIDTH, AND LOT AREA AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT.
 - THE EXISTING TOPOGRAPHY SHOWN HEREON IS FROM HOWARD COUNTY GIS, 2" CONTOUR INTERVAL AND FIELD VERIFIED BY FISHER, COLINS AND CARTER, INC.
 - THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE BAT SYSTEM.
 - THE BAT SYSTEM 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 (DHE) IN A MANNER ACCEPTABLE TO DHE, 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 THE FINAL APPROVAL OF THE BAT INSTALLATION.
 - AFTER PRESSURE TESTING THE DISTRIBUTION SYSTEM, THE PIPE TURN-UPS AT THE ENDS OF THE LATERALS ARE TO BE CUT BELOW GRADE AND CAPPED. THE TRUNCATED LATERAL TURN-UPS SHOULD BE PROTECTED BY TURF BOXES.
 - THE EXISTING WELL FOR LOT 28 (TAG NO. HO-18-0157) HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN HEREON.

