

WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER PERMIT

NO PERMIT(S) FOR CONSTRUCTION, LOCATION OR RELOCATION ACTIVITY SHALL BE ISSUED UNTIL AN AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION AUTHORIZATION HAS BEEN ISSUED

PERMIT VOID IF NOT IN COMPLIANCE WITH ZONING REGULATIONS AND/OR IF SITE IS ALTERED OR INTENDED USE CHANGED

OPERATIONS PERMIT

PERMIT # WRP-070726-2021 **APPLICATION DATE:** 11/16/2021 **BLDG. PERMIT#:** RBPR-070731-2021
PIN: 0686692689 **RECORDED:** Yes
TOWNSHIP: 12 - Middle Creek **JURISDICTION:** Wake County **ZONING:** R-30
APPLICANT: Drees Homes
Linda Martin
8521 Six Forks RD 500 **BUSINESS PHONE:** (919) 256-5432
HOME PHONE:
MOBILE PHONE:
HD USE: 101A CONVENTIONAL ONE-FAMILY HOUSE **EXISTING USE:**
SITE ADDRESS: 7033 LEANDO DR
SUBDIVISION: Bloomfield PH 6 **LOT:** 9 **ACRES:** 0.84
DIRECTIONS: Capital to US 401S/Fayetteville Rd
L - Hilltop Needmore Rd
R - Hilltop Rd
L - Panther Lake
L - Arcola Way
R - Leando Dr

Systems defined as either type III-b, III-g with a pump, IV, V or VI, in accordance with the North Carolina administrative code 15A NCAC 18a .1961, table V as adopted by reference in the "Regulations Governing Wastewater Treatment Dispersal Systems in Wake County", requires Wake County Environmental Services to conduct periodic inspections of the system type pursuant to 15A NCAC 18a. 1961 (j). Fees for these inspections will be charged as per the approved Fee Schedule. In addition, all systems are to be operated and maintained as specified in 15A NCAC 18A .1961. This permit is based in part on information provided by the homeowner and/or his/her representative in the application submitted for this permit. The Environmental Health Specialist is not responsible for false or misleading information contained in the application. The environmental health specialist is also not responsible for concealed conditions on the property or for statements in this report that may have resulted from false or misleading statements provided to him/her in the application. Neither Wake County nor the Environmental Health Specialist warrants that the septic tank system will continue to function satisfactorily in the future or that the water supply will remain potable.

OPERATION PERMIT VALID FOR: No Expiration

INSTALLED BY: FAISON, EDWARD - 4530 - IV

PROPRIETARY SYSTEM: EZ1203HG - EZFlow EZ 1203H Geo **PRETREATMENT SYSTEM:**

SYSTEM TYPE INSTALLED: III G

OPERATION PERMIT: **STATUS:** Issued

ISSUED BY: Caroline Suggs

ISSUED DATE: 05/17/2022

SEPTIC TANK: Erader Mills - STB-857 - 1200
gallons

DATE OF MANUFACTURE: 02/22/2022 **FILTER:** Polylok - PL-68

GREASE TRAP:

DATE OF MANUFACTURE:

FILTER:

DOSING PUMP TANK:

DATE OF MANUFACTURE:

FILTER:

CC1:

ETM1:

CC2:

ETM2:

RECIRCULATION TANK:

CC1:

ETM1:

CC2:

DATE OF MANUFACTURE:

ETM2:

SEPTIC TANK ELEVATION: 4.83

GREASE TRAP ELEVATION:

DOSING PUMP TANK ELEVATION:

RECIRCULATION TANK ELEVATION:

DISTRIBUTION DEVICE ELEVATION: 7

INSTALLED TRENCH DEPTH	INSTALLED AGGREGATE DEPTH	INSTALLED TRENCH LENGTH	INSTALLED TRENCH BOTTOM ELEVATION
24	12	80	8.5
24	12	80	9.08
24	12	80	9.66
24	12	80	9.83

ACTUAL PRESSURE HEAD:

ACTUAL FLOW RATE:

ACTUAL DOSE VOLUME: 0

SPECIFIC OPERATION REQUIREMENTS:

-4 BR SFD, 360 GPD using engineered flow reduction design

-Repair- IIIG, 30" max TD, 0.35 LTAR

-Community well water supply

ISSUED BY:

Caroline Augsp. RTHS

DATE: 05/17/2022

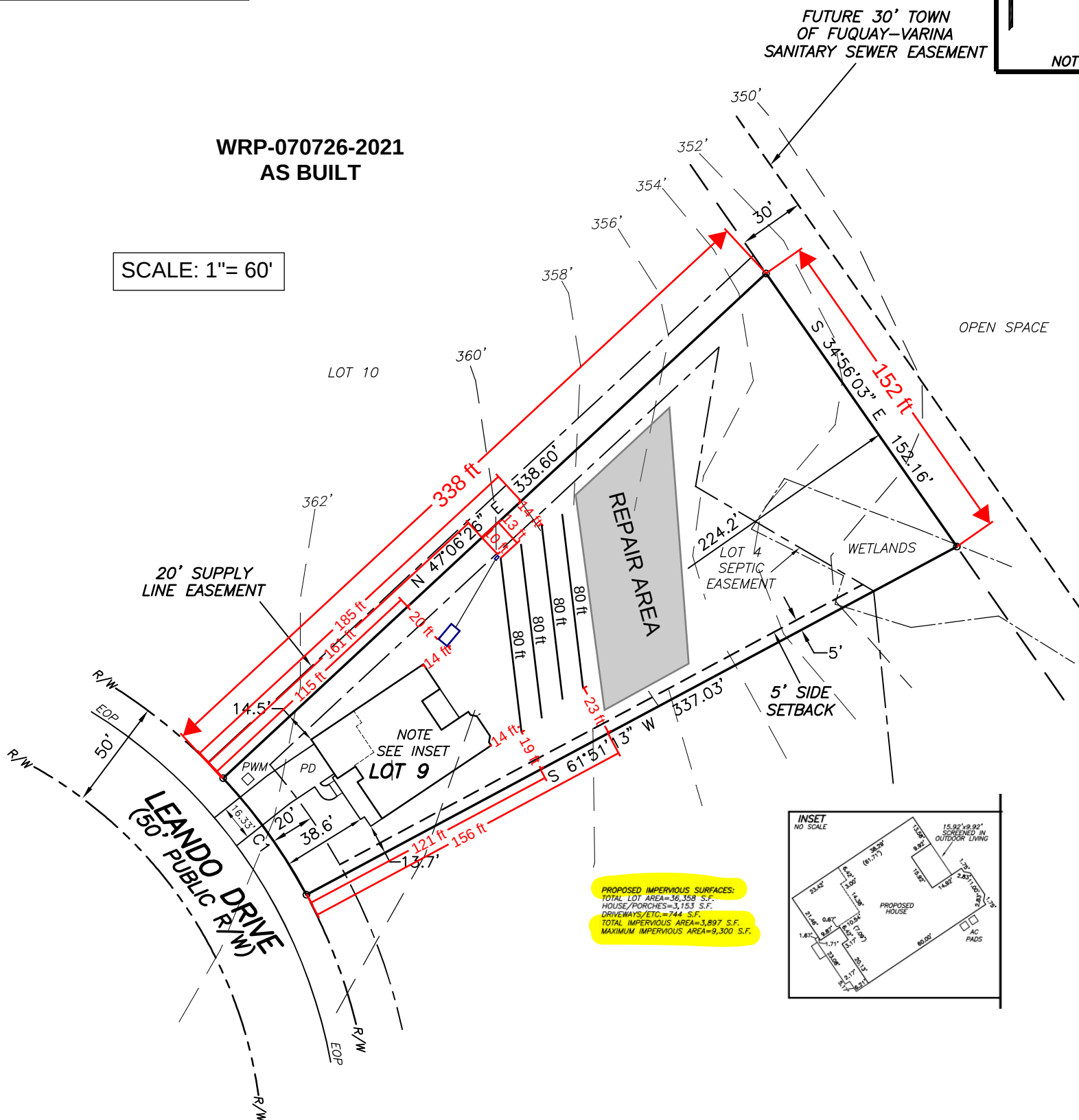
CURVE TABLE

Δ	DELTA	RADIUS	ARC	CHORD	TANGENT	CHORD BRG
1	14°44'47"	255.00'	65.63'	65.45'	33.00'	N 35°31'11" W

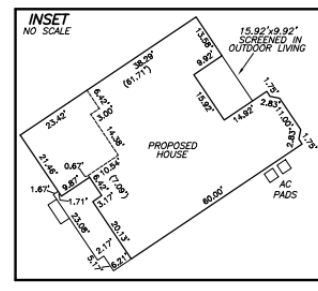
PROPOSED DISTURBED AREA
16,169 S.F. - 0.371 Ac.

WRP-070726-2021
AS BUILT

SCALE: 1"= 60'



PROPOSED IMPERVIOUS SURFACES:
TOTAL LOT AREA=36,358 S.F.
HOUSE/PORCHES=3,153 S.F.
DRIVEWAYS, ETC.=744 S.F.
TOTAL IMPERVIOUS AREA=3,897 S.F.
MAXIMUM IMPERVIOUS AREA=9,300 S.F.



070731-2021



SETBACKS

FRONT-15'
CORNER-15'
SIDE-5'
REAR-15'

ALL EASEMENTS, RIGHTS OF WAY AND BOUNDARY INFORMATION TAKEN FROM B.M. 2020, PG. 1645-1647 UNLESS OTHERWISE NOTED.
PROPERTY IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
TITLE EXAMINATION HAS BEEN DONE BY ROBINSON & PLANTE, P.C.

Return to:
Linda Martin
Drees Homes
8521 Six Forks Rd
#500
Raleigh, NC 27615

WAKE COUNTY, NC 5
TAMMY L. BRUNNER
REGISTER OF DEEDS
PRESENTED & RECORDED ON
05/13/2022 09:44:19

BOOK:019024 PAGE:01277 - 01278

ALTERNATIVE SEWAGE DISPOSAL SYSTEM MAINTENANCE SCHEDULE

To Be Recorded In The Register Of Deed's Office In Wake County.

Owner/Grantor Drees Homes Deedbook and Page _____
PIN No. 0868.02-69-2689 Date Installed 5.11.22
Subdivision Name Bloomfield Lot No. 09
System Designed by Central Carolina Soil Consulting, LLC Installer Quality Septic

AN ALTERNATIVE OR NON-TRADITIONAL SEWAGE DISPOSAL SYSTEM HAS BEEN INSTALLED ON THIS PROPERTY.
The design specifications and locations for alternative sewage disposal systems are specified or authorized in Regulations Governing Wastewater Treatment and Dispersal in Wake County effective November 21, 1988, amended effective October 27, 2011, amended June 25, 2020.
As A Condition Of Issuance Of This Improvements/Operation Permit, The Property Owner Hereby Grants The Wake County Department Of Environmental Services A Right Of Access To The System During Regular Working Hours For Purposes Of Monitoring Compliance With State And Local Regulations, Recorded Maintenance Agreements And Certified Operator Compliance.
This permit requires the use of **gravity flow to a mode of subsurface wastewater dispersal**. Experience and study have shown that systems require routine maintenance in order to function satisfactorily. In as much as each system must be individually designed and sited, special maintenance requirements may apply to a specific installation; however, the following maintenance schedule is applicable to all pre-treatment systems. For additional information, technical assistance or if a malfunction of the system occurs, contact the Wake County Department of Environmental Services, Telephone: (919) 856-7400.

System Component	Frequency	Maintenance
1. Septic Tank	6-12 months	Check riser condition (must be accessible from ground surface), excess in/exfiltration, entry of water at riser, and solids accumulation.
	1-3 years	Pump seepage.
2. Pump/Dosing Tank	6-12 months	For future repair system if needed. Check riser conditions (must be accessible from ground surface), excess in/exfiltration, entry of water at riser, and solids accumulation. Pump sludge accumulation as required and when septic tank is pumped. Check pump(s), controls, floats, electrical connections, and alarm for proper operation. Wash (hose) sludge accumulation from pump housing.
3. Supply lines	6-12 months	Check for settling, pipe exposure and leakage. Includes Distribution Box.
4. Drain Field(s)	1-4 weeks	Maintain vegetative cover (mow grass and remove weeds and brush).
	6-12 months	Check for settling, erosion and surfacing of effluent. Check distribution box for damage, unequal flow distribution. Check site drainage, eliminate low or settled areas and divert surface or shallow groundwater movement around fields.
5. General	At all times	Prohibit vehicular or equipment traffic on ground absorption field. Prohibit tillage (gardening) or other soil disturbance over ground absorption field. Practice water conservation to reduce waste water load on system. Do no permit entry or grease and non-domestic waste to system. Use of a garbage disposal is <u>prohibited</u> . Addition of chemical or biological additives has <u>not</u> been demonstrated to be necessary to maintain proper system function. Prevention of root intervention on lateral lines and trenches may be necessary on certain sites. Surface and groundwater diversion structures must be maintained. <u>Adherence to permitted flow rate.</u>

This system is permitted under S.L. 2014-120 for engineer flow reduction utilizing low flow fixtures and technologies, all of which must remain in use for the life of the applicable system. Neither the State nor any local government shall be liable for any damages by a system approved or permitted pursuant to this section.

[Signature]
Signature of Property Owner
5/12/22
Date

NORTH CAROLINA Durham County. I, a Notary Public of the County and State aforesaid, certify that Jerry Dean Owner, Personally appeared before me this day and acknowledged the execution of the foregoing instrument. Witness my hand and official stamp or seal, this 12 day of May 2022.
My commission expires 10-30-24 Notary Public Jessica D Hudson

JESSICA D HUDSON
NOTARY PUBLIC
DURHAM COUNTY, NC
My Commission Expires 10-30-24



BOOK:019024 PAGE:01277 - 01278

Please retain yellow trailer page

It is part of the recorded document and must be submitted with the original for re-recording.

Tammy L. Brunner
Register of Deeds
Wake County Justice Center
300 South Salisbury Street, Suite 1700
Raleigh, NC 27601

- | | |
|--|---|
| ☐ New Time Stamp | ☐ \$25 Non-Standard Fee |
| ☐ Additional Document Fee | ☐ Additional Reference Fee |

This Customer Group

_____ # of Excessive Entities
_____ # of Time Stamps Needed

This Document

_____ *2* # of Pages
ER



Environmental Services

TEL 919 856 7400
FAX 919 856 7407

Water Quality Division
336 Fayetteville St. • P.O. Box 550 • Raleigh, NC 27602

12/7/2021

REQUIREMENTS TO COMPLETE YOUR ENGINEERED FLOW REDUCTION SYSTEM

Dear Sir/Madam:

Enclosed is your approved Engineer Flow Reduction plan as permitted under Session Law 2014-120 Section 53, and the "Engineer Flow Reduction Sewage Disposal System Maintenance Information Sheet".
"Neither the State nor local health department shall be liable for any damages caused by an engineered system approved or permitted pursuant to Session Law 2014-120 Section 53."

To complete your permit:

- **System Installation** - A contractor **CERTIFIED** by the State of North Carolina and **REGISTERED** in Wake County, must be used to install your system, if applicable.
- **System Components** - All portions of the engineered design plans shall be completed using only materials specified in the engineered design plans.
- **Engineer Certification** - The engineer must certify that the design plans have been completed to the specifications in the approved design, and provide an engineer certification letter to Wake County that is **SEALED, SIGNED, AND DATED** stating as much.
- **Alternative Sewage Disposal System Maintenance Schedule** - this document must be signed, notarized and recorded at the Wake County Register of Deeds Office. A copy of the recorded document must be submitted to Wake County before your permit can be finalized.

A copy of the "Wake County Well and Septic System Owner's Guide", which contain information essential to the long-term performance of this wastewater disposal system, must be forwarded to the owner or user of the system, if other than yourself.

ANY PROPOSED MODIFICATION TO THE APPROVED PLANS MUST BE COORDINATED WITH YOUR DESIGN ENGINEER.

Please call (919) 842-7142 or email at Gary.Morehouse@wakegov.com if you have any questions.

Sincerely,

Gary Morehouse, LSS, REHSI
Environmental Consultant

WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER PERMIT

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APPLICANT: Drees Homes
7701 Six Forks RD
Raleigh, NC 27615

BUSINESS PHONE: (919) 256-5432**HOME PHONE:****MOBILE PHONE:****HD USE:** 101A CONVENTIONAL ONE-FAMILY HOUSE**EXISTING USE:****SITE ADDRESS:** 7033 LEANDO DR**SUBDIVISION:** Bloomfield PH 6**LOT:** 9**ACRES:** 0.84**DIRECTIONS:** Capital to US 401S/Fayetteville Rd

L - Hilltop Needmore Rd

R - Hilltop Rd

L - Panther Lake

L - Arcola Way

R - Leando Dr

Contractors shall install system on contour. See attached SITE PLAN for wastewater system design and well location. No underground utilities, water lines or sprinklers systems may be located in the original system, or permit areas. A septic tank filter with two risers for access is required. The wastewater system shall not be covered or placed into use until inspected by the Wake County Department of Environmental Services and Operations Permit issued. An Accepted Status System may be used in place of conventional system, if it can be placed in the permitted/authorized trench footprint (except reduction in line length and/or number as allowed for in approval) and the installation in accordance with the accepted system approval, without unauthorized product alteration. If permit required use of an Accepted Status System, substitution with another accepted status system may be made, as long as no changes are necessary in the location of each nitrifications line (including any increase in line length), trench depth or effluent distribution method. If changes are necessary, prior approval by this office is required before system installation. Maximum depth of line is calculated using the downhill side of the trench and includes slope correction.

CONSTRUCTION AUTHORIZATION PERMIT VALID FOR: Five Years**CONSTRUCTION AUTHORIZATION PERMIT: CA STATUS:** Issued**BY:** Gary Morehouse**DATE:** 12/07/2021**CA VALID FOR:** Five Years**DESIGN FLOW:** 360 GALLONS**BASEMENT:** No**BASEMENT FIXTURES:** No**SEPTIC TANK:** 1200 GALLONS**SEPTIC TANK FILTER:** Yes**DOSING PUMP TANK:****DOSING PUMP TANK FILTER:****GREASE TRAP:****GREASE TRAP FILTER:****RECIRCULATION PUMP TANK:****RECIRCULATION PUMP TANK FILTER:****PROPOSED SYSTEM:** 0.25 - 25% Reduction (Innovative or Accepted)**EXISTING SYSTEM:****DRAINFIELD SQ. FT:** 960**AGGREGATE DEPTH:** 12**MAX. TRENCH DEPTH:** 34 INCHES

DISTRIBUTION DEVICE: GS - Gravity Serial

TRENCH #: 4

TRENCH LENGTH: 80 FEET

TRENCH WIDTH: 36 INCHES

TOTAL TRENCH LENGTH: 320 FEET

CENTER SPACING: 9 FEET

MINIMUM SOIL COVER: 6 INCHES

PRETREATMENT:

APPROVAL #:

SUBFIELDS #:

PUMP DESIGN FLOW:

PUMP TDH:

ZONE VALVE: No

ASDMS REQUIRED: Yes

LINE OF CREDIT REQUIRED: No

OPERATOR REQUIRED: No

P.E. SIGN OFF/ASBUILT REQUIRED: Yes

TRIPARTY AGREEMENT REQUIRED: No

SPECIFIC CONSTRUCTION AUTHORIZATION REQUIREMENTS:

THIS PERMIT IS FOR FOUR (4) BEDROOM DWELLING WITH 360 GALLONS DAILY FLOW USING ENGINEERED FLOW REDUCTION. INITIAL SYSTEM IS A GRAVITY TO 4 EQUAL 80-FOOT DRAIN LINES WITH 34" TRENCH BOTTOM. REPAIR SYSTEM IS A GRAVITY TO 3 EQUAL 100-FOOT DRAIN LINES WITH 30" TRENCH BOTTOM. 1200 GALLON SEPTIC TANK REQUIRED.

WHEN INSTALLING SYSTEM, MAINTAIN ALL REQUIRED SETBACKS. DO NOT DISTURB OR REMOVE ANY SOIL IN INITIAL OR REPAIR AREAS. IF FLAGS ARE MISSING, CALL DESIGNER TO RE-FLAG. THIS SYSTEM IS DESIGNED BY A CONSULTANT AND MUST BE INSTALLED PER THE DESIGN, INCLUDING THE USE OF THE MATERIALS SPECIFIED IN THE DESIGN. ANY DEVIATION MUST BE APPROVED BY THE DESIGNER OR WAKE COUNTY ENVIRONMENTAL SERVICES PRIOR TO SYSTEM INSTALLATION.

NEITHER THE STATE NOR LOCAL HEALTH DEPARTMENT SHALL BE LIABLE FOR ANY DAMAGES CAUSED BY AN ENGINEERED SYSTEM APPROVED OR PERMITTED PURSUANT TO SESSION LAW 2014-120 SECTION 53. ALTERNATIVE SEWAGE DISPOSAL SYSTEM MAINTENANCE SCHEDULE MUST BE SIGNED, NOTARIZED AND RECORDED AT THE WAKE COUNTY REGISTER OF DEEDS OFFICE. ENGINEER CERTIFICATION OF REQUIRED FIXTURE INSTALLATION ARE REQUIRED PRIOR TO ISSUANCE OF 5 BEDROOM OPERATION PERMIT. PLEASE CONTACT ENVIRONMENTAL SERVICES IF ANY QUESTIONS OR PROBLEMS ARISE PRIOR TO INSTALLATION. GARY MOREHOUSE 919-842-7142

Issued By:



Date: 12/07/2021

CA PART A-C

HOMEOWNER GUIDE FOR UTILIZATION AND MAINTENANCE OF ON-SITE WASTEWATER DISPOSAL SYSTEMS

What is an On-site Wastewater Disposal System?

There are a number of different types of on-site wastewater disposal systems each designed for a specific set of site conditions. However, there are several system components that are common to most systems. These include the following:

1. A septic tank - a concrete tank that is designed to receive wastewater from the house and to provide a degree of pretreatment for the waste, chiefly through removal of some of the solids in the waste. Note that these solids accumulate over time and necessitate periodic pumping of the septic tank. Currently septic tanks are equipped with two access risers (normally constructed of concrete), which are designed to be at least 6 inches above the ground surface to prevent surface and shallow groundwater from entering the septic tank and to provide access for maintenance. **Care must be taken not to damage or cover these risers so that water inflow / infiltration can be prevented and the tank can be accessed for maintenance.**
2. In some installations, a pump tank - a concrete tank, very similar to the septic tank, which contains a pump along with the associated controls / componentry. The pump tank and pump is designed to receive effluent from the septic tank, and pump the effluent to a disposal field located at a higher elevation and/or to a pressurized distribution network in the disposal field. **The pump tank also has an access riser which must be protected in a similar manner to that indicated for the septic tank.** Servicing of the pump tank components often necessitates the assistance of a professional such as a septic tank installer or Certified Subsurface System Operator. The latter is required for operation and maintenance of certain types of systems.
3. A disposal field - a series of subsurface trenches and lines that are designed to distribute the effluent into the soil and provide for the ultimate treatment and disposal of the effluent. There are numerous variations on the design of the disposal field, related chiefly to the type of system chosen, site constraints, etc. Dependent on the type of disposal system, you may have to maintain a contract with a Certified Subsurface System Operator for operation and maintenance of your wastewater disposal system.

Utilization of Your Wastewater Disposal System

In order to obtain the maximum efficiency and life expectancy from your system, the following simple procedures must be adhered to:

1. **Practice water conservation.** This can include many practical considerations such as not leaving the water running while you brush your teeth, not overfilling the tub, limiting time in the shower, not replacing low flow fixtures with those of higher flows, over rinsing dishes (allow the dishwasher to do its job), immediate repair of any leaking fixtures, running washing machines and dishwashers only when full, etc.

NOTE: Washing machines generate significant volumes of wastewater. As a result, laundry activities should be spread over the week as opposed to accumulating all of laundry until the weekend.

2. **Do not utilize your wastewater disposal system as a trash can by dumping nondegradables down your drains or toilet.** These include cigarette butts, sanitary products, grease, plastics, disposable diapers, etc. Avoid use of garbage disposals. Do not retrofit garbage disposals unless the system is specifically permitted for their use. Also, do not dump harmful chemicals down the drain. These include petroleum products, paint, paint thinner, pesticides, antifreeze, etc.

Maintenance of Your Wastewater Disposal System

Every wastewater disposal system requires maintenance in order to function properly. The specific maintenance required is related to the type of system. The following are general considerations that apply to all systems.

1. **Protect your wastewater disposal system components including the tanks, access risers, disposal field and associated components.** Do not drive or park on any portion of the system. The area over the disposal field should be left undisturbed with the grass cover being maintained as you would your lawn. Location of trees and shrubs on or in close proximity to the disposal field is not recommended since roots may clog or damage your drain lines. Additionally, great care must be exercised when considering the addition of any structure(s) to the site. The location of any appurtenances cannot encroach on the installation or repair areas for your system. It is not recommended that irrigation systems be located in proximity to the disposal system since their construction can cause system damage and/or result in additional hydraulic load on the disposal field.
2. **Protect the system from excess surface and shallow groundwater.** The land surface on and around the wastewater disposal system should be landscaped to shed rainfall and runoff and prevent ponding. Be sure that foundation drains, runoff from roofs and drives, etc. are diverted away from the disposal system.
3. **Regularly have the septic tank / pump tank pumped and cleaned by a permitted septage hauler.** Although the necessary frequency of pumping varies with the household and system, most tanks need **pumping at a frequency of 3-5 years** and at any time solids occupy one-fourth to one-third of the septic tank liquid depth.

Note that all septic tanks being currently installed incorporate an effluent filter within the outlet compartment of the septic tank. This filter is to be cleaned anytime the septic tank is pumped. If plumbing becomes sluggish, this filter should be checked. If filter service is found to be necessary, the tank is to be pumped, the filter cleaned and the filter reinstalled.

4. **Be alert to warning signs that your system may not be functioning properly.**
These include sewage surfacing over the disposal system, sewage backups / slow draining in the house, lush growth over the disposal system, sewage odors, etc.
5. **Do not make or allow repairs to your system unless all necessary permits are obtained from Wake County Department of Environmental Services.**
6. **Commercial additives for septic tank systems** - It has generally not been demonstrated that these additives enhance the function of septic systems or reduce the need for tank pumping and other necessary maintenance.
7. **Special maintenance considerations** - As already alluded to, some of the more complex wastewater disposal systems require that you retain / maintain the services of a Certified Wastewater System Operator in order to comply with Laws and Rules and maintain a valid operation permit for your system. In Wake County this maintenance requirement should be recorded with Register of Deeds if applicable.

Where Do I Obtain Information and Assistance?

If you are purchasing a new home, you should request a copy of your wastewater system permit from the builder / seller along with information regarding any special maintenance requirements. You may also obtain information and assistance from the **Wake County Department of Environmental Services**, 336 Fayetteville Street Mall, Raleigh, NC, Telephone (919) 856-7400. Additional information is also available on Wake County's [Septic and Wastewater Management](#) webpage.

BSM 3/9/21

ALTERNATIVE SEWAGE DISPOSAL SYSTEM MAINTENANCE SCHEDULE

To Be Recorded In The Register Of Deed’s Office In Wake County.

Owner/Grantor _____ Deedbook and Page _____

PIN No. _____ Date Installed _____

Subdivision Name _____ Lot No. _____

System Designed by _____ Installer _____

AN ALTERNATIVE OR NON-TRADITIONAL SEWAGE DISPOSAL SYSTEM HAS BEEN INSTALLED ON THIS PROPERTY.

The design specifications and locations for alternative sewage disposal systems are specified or authorized in Regulations Governing Wasterwater Treatment and Dispersal in Wake County effective November 21, 1988, amended effective October 27, 2011, amended June 25, 2020.

As A Condition Of Issuance Of This Improvements/Operation Permit, The Property Owner Hereby Grants The Wake County Department Of Environmental Services A Right Of Access To The System During Regular Working Hours For Purposes Of Monitoring Compliance With State And Local Regulations, Recorded Maintenance Agreements And Certified Operator Compliance.

This permit requires the use of **gravity flow to a mode of subsurface wastewater dispersal**. Experience and study have shown that systems require routine maintenance in order to function satisfactorily. In as much as each system must be individually designed and sited, special maintenance requirements may apply to a specific installation; however, the following maintenance schedule is applicable to all pre-treatment systems. For additional information, technical assistance or if a malfunction of the system occurs, contact the Wake County Department of Environmental Services, Telephone: (919) 856-7400.

<u>System Component</u>	<u>Frequency</u>	<u>Maintenance</u>
1. Septic Tank	6-12 months	Check riser condition (must be accessible from ground surface), excess in/exfiltration, entry of water at riser, and solids accumulation.
	1-3 years	Pump septage.
2. Pump/Dosing Tank	6-12 months	For future repair system if needed. Check riser conditions (must be accessible from ground surface), excess in/exfiltration, entry of water at riser, and solids accumulation. Pump sludge accumulation as required and when septic tank is pumped. Check pump(s), controls, floats, electrical connections, and alarm for proper operation. Wash (hose) sludge accumulation from pump housing.
3. Supply lines	6-12 months	Check for settling, pipe exposure and leakage. Includes Distribution Box.
4. Drain Field(s)	1-4 weeks	Maintain vegetative cover (mow grass and remove weeds and brush).
	6-12 months	Check for settling, erosion and surfacing of effluent. Check distribution box for damage, unequal flow distribution. Check site drainage, eliminate low or settled areas and divert surface or shallow groundwater movement around fields.
5. General	At all times	Prohibit vehicular or equipment traffic on ground absorption field. Prohibit tillage (gardening) or other soil disturbance over ground absorption field. Practice water conservation to reduce waste water load on system. Do no permit entry or grease and non-domestic waste to system. Use of a garbage disposal is <u>prohibited</u> . Addition of chemical or biological additives has <u>not</u> been demonstrated to be necessary to maintain proper system function. Prevention of root intervention on lateral lines and trenches may be necessary on certain sites. Surface and groundwater diversion structures must be maintained. <u>Adherence to permitted flow rate.</u>

This system is permitted under S.L. 2014-120 for engineer flow reduction utilizing low flow fixtures and technologies, all of which must remain in use for the life of the applicable system. Neither the State nor any local government shall be liable for any damages by a system approved or permitted pursuant to this section.

Signature of Property Owner

Date

NORTH CAROLINA _____ County. I, a Notary Public of the County and State aforesaid, certify that _____ Owner, Personally appeared before me this day and acknowledged the execution of the foregoing instrument. Witness my hand and official stamp or seal, this ____ day of _____ 20 ____.

My commission expires _____ Notary Public _____

NOTICE

PROTECTION OF WASTEWATER DISPOSAL AREAS

AREAS DESIGNATED FOR INSTALLATION AND REPAIR OF WASTEWATER DISPOSAL SYSTEMS ON WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES PERMITS MUST BE PROTECTED FROM ALL LAND DISTURBING ACTIVITIES.

PROHIBITED ACTIVITIES (NOT ASSOCIATED WITH THE INSTALLATION OF THE WASTEWATER DISPOSAL SYSTEM) INCLUDE BUT MAY NOT BE LIMITED TO:

- **CLEARING**
- **EXCAVATION**
- **FILLING**
- **GRADING**
- **STORAGE OF BUILDING MATERIALS**
- **VEHICLE OR EQUIPMENT TRAFFIC**

THE PERMITTEE IS ADVISED TO CLEARLY FLAG OR FENCE THESE AREAS DURING CONSTRUCTION TO PREVENT UNAUTHORIZED ACTIVITIES.

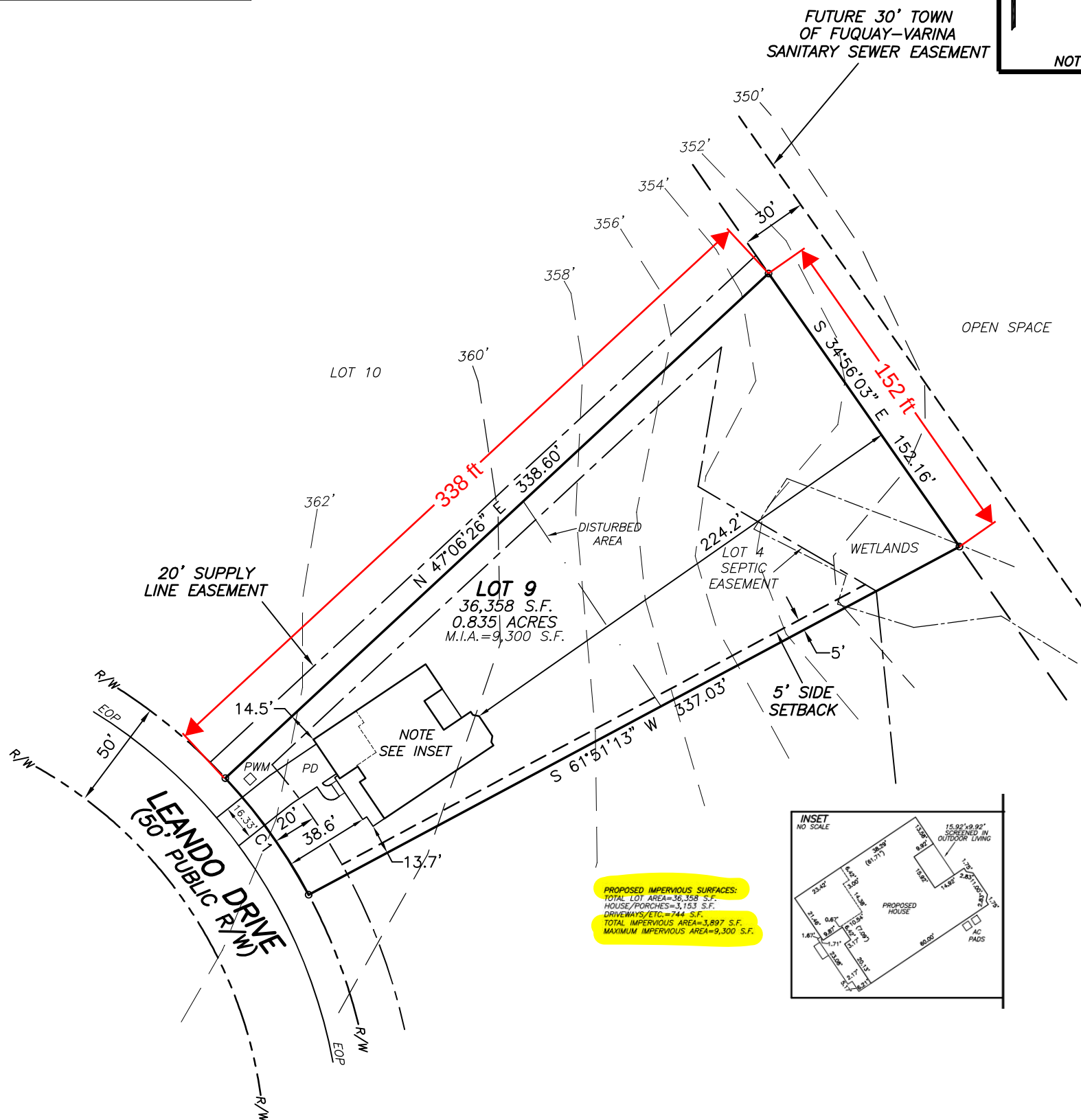
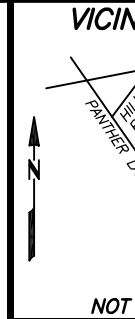
FAILURE TO PROTECT WASTEWATER DISPOSAL AREAS WILL LIKELY RESULT IN VOIDING OF PERMITS AND LOSS OF ABILITY TO UTILIZE THE SITE FOR THE DESIRED PURPOSE.

IF YOU HAVE A QUESTION REGARDING ANY OF THE AFOREMENTIONED ACTIVITIES, CALL WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES (856-7400) BEFORE YOU ACT.

CURVE TABLE						
VE	DELTA	RADIUS	ARC	CHORD	TANGENT	CHORD BRG
	14°44'47"	255.00'	65.63'	65.45'	33.00'	N 35°31'11" W

PROPOSED DISTURBED AREA
16,169 S.F. – 0.371 Ac.

CA PART A



070731-2021



SETBACKS

FRONT-15'
CORNER-15'
SIDE-5'
REAR-15'

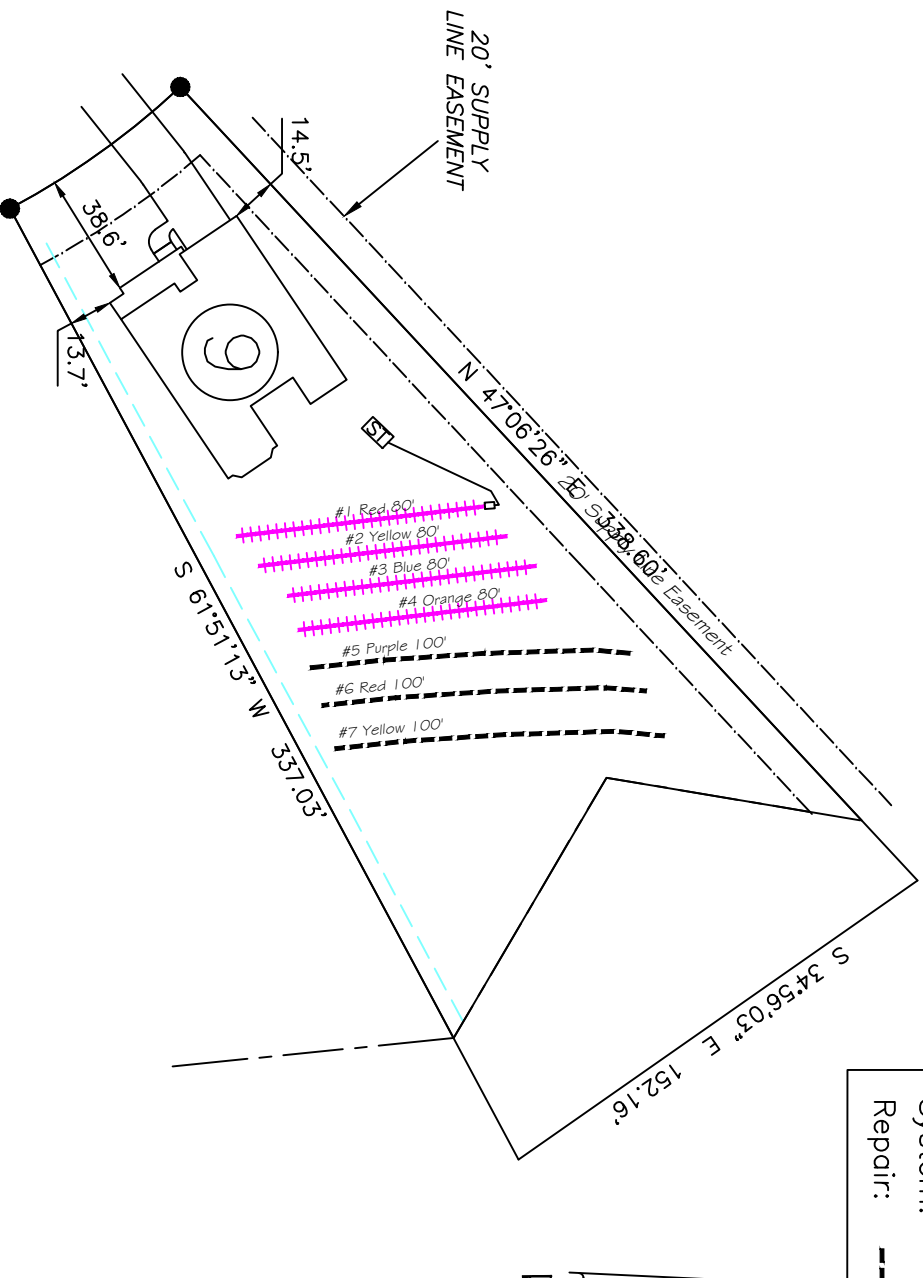
ALL EASEMENTS, RIGHTS OF WAY AND BOUNDARY INFORMATION TAKEN
FROM B.M. 2020, PG. 1645-1647 UNLESS OTHERWISE NOTED.
PROPERTY IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
NO TITLE EXAMINATION HAS BEEN DONE BY ROBINSON & PLANTE, P.C.

- *Keep tanks and drain lines 10' from property lines.
- *Not a survey.
- *Not a guarantee of a septic permit.
- *Keep supply lines >5' from property lines.
- *Some lines are flagged longer in the field than lengths indicated on septic plan.
- *No grading within septic area.
- *No adding soil within septic area.
- *No rutting—up septic area.
- *No cuts of >2' within 15' of septic areas
- *Divert surface water away from drain fields.

System: Gravity to Serial Dist.
Lines: 1–4, (320')
Accepted Status System
0.35 Soil LTAR

Repair: Gravity to Serial Dist.
Lines: 5–7, (300')
Accepted Status System
0.35 Soil LTAR

System: —————
Repair: - - - - -



0 30 60
SCALE:
1" = 60 ft.



Central Carolina Soil Consulting, PLLC
1900 South Main Street, Suite 110
Wake Forest, North Carolina 27587
Phone (919)569-6704 Fax (919)569-6703

Lot 9, Bloomfield Estates Subdivision
5-Bedroom
96 Gallon per day per flow reduction
Wake County, North Carolina

Job#: 2283

Drawn By: AH

Date: 11/15/2021

Revision: 12/6/21



Bateman Civil Survey Company, PC
2524 Reliance Avenue
Apex, NC 27539
(919) 577-1080/fax (919) 577-1080



Department of Environmental Services
Wake County

Approved by

Date: 12/03/2021

Review of this document has been made with the design concept of the project and approval shall not relieve the designer and/or contractor from responsibility for any errors therein or for furnishing the materials, and equipment of proper dimension, size, quantity, quality and all performance characteristics to meet the requirements and intent of the contract documents.

November 29, 2021

Wake County Staff
Wake County Environmental Health Department
336 Fayetteville Street
Raleigh, North Carolina

RE: Wastewater Daily Flow Calculations
Bloomfield Estates Lot 9
7033 Leando Drive, Wake Forest, Wake County, North Carolina
Project #2283

Dear Wake County Staff:

Bateman Civil Survey Company in conjunction with Central Carolina Soil Consulting (CCSC) are proposing wastewater daily flow calculations for a single-family home located at Bloomfield Estates Lot 9 pursuant to session law 2014-120 and 2013-413. The proposed home will have **4** bedrooms and under the current flow calculations provided in the state rules would have a daily flow of **480** gallons per day. That would be based on 120 gallons per bedroom.

Household flow rates from the 15 NCAC 18A section of the state rules relied on fixture flow rates from 1982, and calculated the flows for common fixtures to established average flows for the purpose of calculating household daily flows and septic system based on those flows. The data for the historic fixture flows was taken from the EPA 2002 Onsite Wastewater Treatment Systems Manual.

The attached spreadsheet contains the flow reducing fixtures that are proposed for Bloomfield Estates Lot 9. The table includes flow rates for the flow reducing fixtures as well as flow rates from the state rules and the percentage of water savings. On average the proposed fixtures provide a 37% savings.

We are requesting a reduction of 25% for the use of low flow fixtures. This will provide an adjusted daily flow of 90 gallons per bedroom per day and a total flow of **360** gallons per day for the proposed 4-bedroom house.

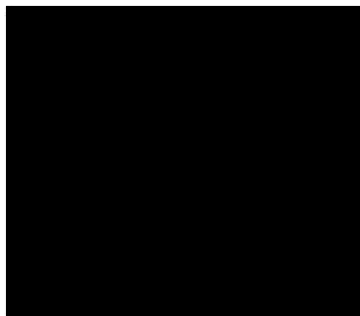
If you need further information or have any questions please contact Matt Burdette at (919) 422-2827 or Tom Speight at 919-577-1080 2524 Reliance Ave, Apex NC 27539.

Sincerely,

BATEMAN CIVIL SURVEY COMPANY
NCBELS# C-2378.



Thomas Speight, P.E
(seal)



Bloomfield Estates Lot 9						
	Item		Gal/min. or flush	Number of Fixures	Base Flow From 1982	Percent Water Savings
Kitchen	Kitchen Sink Faucet	Moen 7864	1.5 gal/minute	1	3.0 gal/minute	50%
Hall Bath	Shower Head	Moen T2133EP	1.8 gal/minute	1	5.5 gal/minute	68%
	Lavatory Faucet	Moen 6410	1.5 gal/minute	1	3.0 gal/minute	50%
Bath 3	Shower Head	Moen T2133EP	1.8 gal/minute	1	5.5 gal/minute	68%
	Lavatory Faucet	Moen 6410	1.5 gal/minute	1	3.0 gal/minute	50%
Master Bath	Lavatory Faucet	Moen 6420	1.5 gal/minute	2	3.0 gal/minute	50%
	Tub Trim	Fill & Release	Fill & Release	1	Fill & Release	0%
	Shower Head	Moen 3662EP	1.8 gal/minute	1	5.5 gal/minute	68%
Toilets	Master, Hall, 4	Gerber MX28-990	1.6 gal/flush	3	3.5 gal/minute	54%

FIXTURES	TOILET	FAUCET	SHOWER	LEAK	BATH	OTHER	DISHWASHER	CLOTHES WASHER	TOTALS
PERCENT OF HOUSE HOLD WATER USE	24%	20%	20%	12%	3%	3%	2%	16%	100%
GALLONS PER DAY (480 BASE)	115	96	96	58	14	14	10	77	480
PERCENT OF SAVINGS FROM WATER SAVING FIXURES	54%	50%	68%	0%	0%	0%	0%	0%	37%
ADJUSTED FLOW (GALLONS)	53	48	31	58	14	14	10	77	305



Specifications

DESCRIPTION

- Versatile, hands-free convenience in the kitchen
- Optimized cleaning force with PowerClean™
- Allows users to control the faucet in 2 unique ways: Wave Sensor and familiar handle
- Powered by 6 AA batteries or optional AC adapter with power splitter
- High arc spout provides height and reach to fill or clean large pots while pull down wand provides the maneuverability for cleaning or rinsing
- Reflex™ pulldown system offers smooth operation, easy movement and secure docking
- Metal construction with various finishes identified by suffix
- Pulldown spray with 68" braided hose
- Flexible supply lines with 3/8" compression fittings
- Quick connect installation - Duralock™
- Faucet designed for handle to be mounted on right side

OPERATION

- Lever style handle
- Temperature controlled by 100° arc of handle travel
- Operates with less than 5 lbs. of force
- Operates in stream or spray mode in the pulldown or retracted position

FLOW

- Flow is limited to 1.5 gpm (5.7 L/min) at 60 psi

CARTRIDGE

- 1255™ Duralast™ cartridge for Single-Handle Faucets

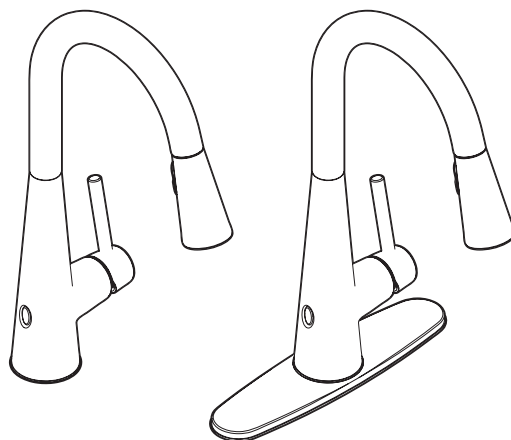
STANDARDS

- Third party certified to ASME A112.18.1/CSA B125.1 and all applicable requirements referenced therein including NSF 61/9 & 372
- Meets CalGreen and Georgia SB370 requirements
- Complies with California Proposition 65 and with the Federal Safe Drinking Water Act
- The backflow protection system in the device consists of two independently operating check valves, a primary and a secondary which prevent backflow
- ADA ♿ for lever handle

WARRANTY

- Lifetime limited warranty against leaks, drips and finish defects to the original homeowner
- 10 year limited warranty when used in a multifamily installation
- 5 year limited warranty when used in a commercial installation

Visit www.moen.com/support for complete details and limitations



Sleek™ MotionSense Wave™ Single Handle High Arc Pulldown Kitchen Faucet

Models: 7864EW series

NOTE: THIS FAUCET IS DESIGNED TO BE
INSTALLED THROUGH 1 OR 3 HOLES,
1-1/2" (38mm) MIN. DIA.



See pages 2 and 3 for dimensions



Buy it for looks. Buy it for life.®

Specifications

DESCRIPTION

- Metal construction with various finishes identified by suffix
- 1/2" IPS connections
- Includes metal pop-up waste assembly

OPERATION

- Lever style handles
- Maximum handle(s) rotation angle is 90° to full on
- Rotate hot side counterclockwise to open (clockwise to close)
- Rotate cold side clockwise to open (counterclockwise to close)

FLOW

- Flow is limited to 1.5 gpm max (5.7L/min) at 60 psi, for products made before October 2008 flow is limited to 2.2 gpm max (8.3 L/min)

CARTRIDGE

- 1224 cartridge design
- Nonmetallic and stainless steel material

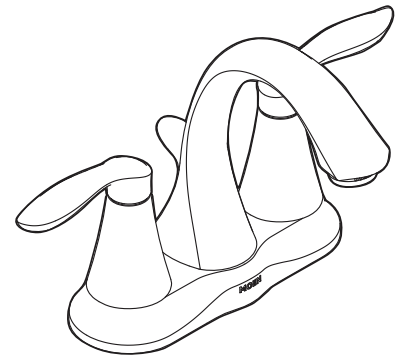
STANDARDS

- Third party certified to WaterSense®, ASME A112.18.1/CSA B125.1 and all applicable requirements referenced therein
- Certified to NSF 61/9 & 372
- Complies with California Proposition 65 and with the Federal Safe Drinking Water Act

- **ADA**  for lever handles

WARRANTY

- Lifetime limited warranty against leaks, drips and finish defects to the original consumer purchaser
- 5 year warranty if used in commercial installations



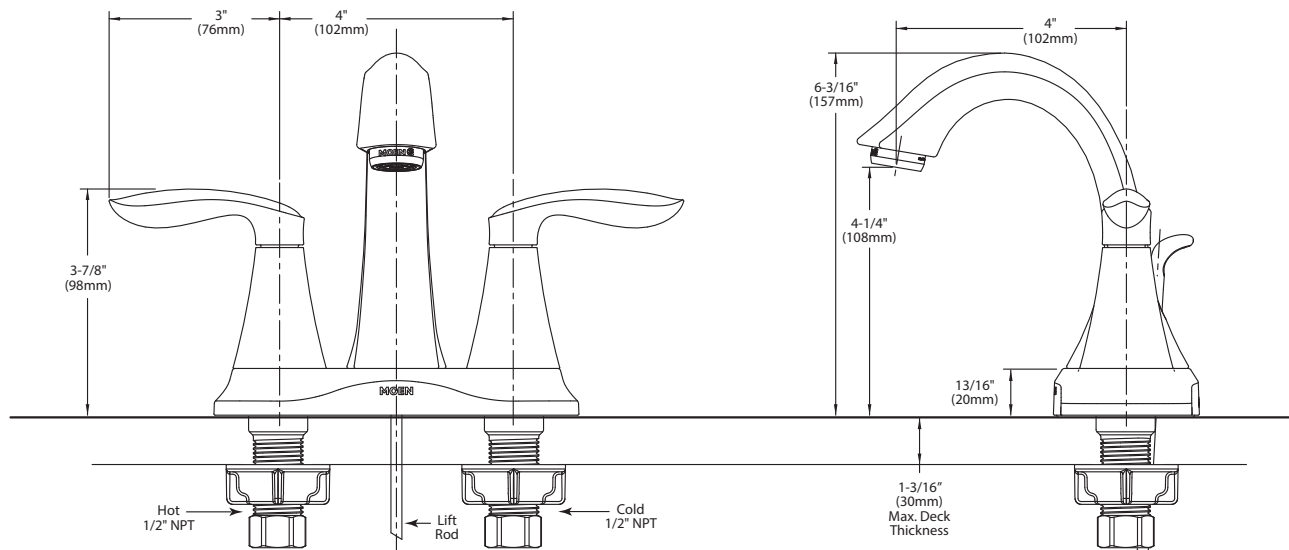
EVA™ 4" Lavatory Faucet with Metal Waste Assembly

Models: 6410 series

Bulk Models: 66410, 66411*
**(Bulk packed 6 per carton),
50/50 waste assembly**

*Includes hot (red) and cold (blue) indicators.

NOTE: THIS FAUCET IS DESIGNED TO BE
INSTALLED THRU 3 HOLES, 1" MIN. DIA.



CRITICAL DIMENSIONS

(DO NOT SCALE)



Buy it for looks. Buy it for life.®

Specifications

DESCRIPTION

- Quick connect system
- Metal construction with various finishes identified by suffix
- 1/2" IPS connections

OPERATION

- Lever style handles
- Maximum handle rotation angle is 90° to full on for either handle
- Hot side counterclockwise to open (clockwise to close)
- Cold side clockwise to open (counterclockwise to close)

FLOW

- Flow is limited to 1.5 gpm max (5.7L/min) at 60 psi, for products made before October 2008 flow is limited to 2.2 gpm max (8.3 L/min)

CARTRIDGE

- 1224 cartridge design
- Nonmetallic, nonferrous and stainless steel material

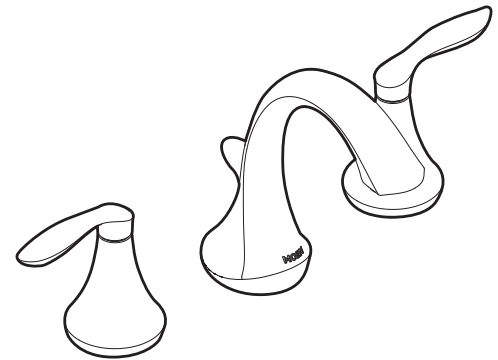
STANDARDS

- Third party certified to WaterSense®, ASME A112.18.1/CSA B125.1 and all applicable requirements referenced therein
- Certified to NSF 61/9 & 372
- Complies with California Proposition 65 and with the Federal Safe Drinking Water Act

- **ADA**  for lever handles

WARRANTY

- Lifetime limited warranty against leaks, drips and finish defects to the original consumer purchaser
- 5 year warranty if used in commercial installations



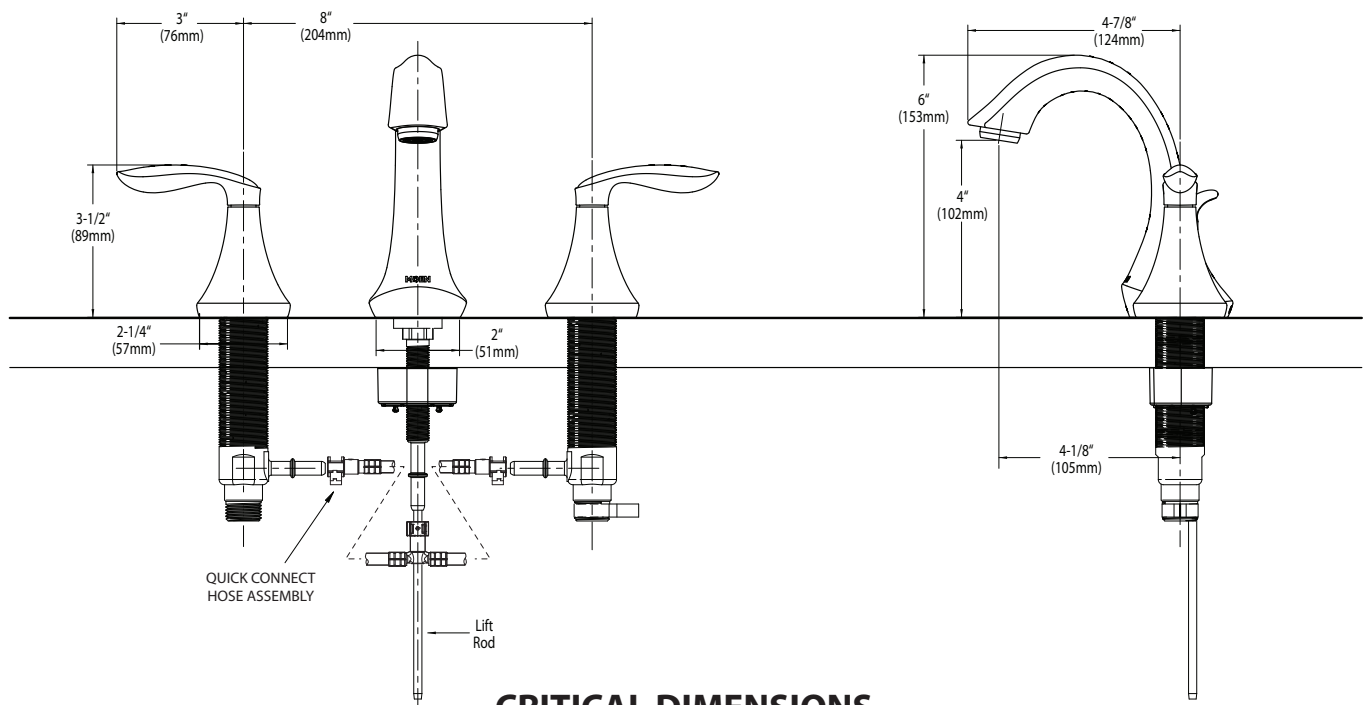
EVA™ Two Handle Widespread Lavatory Faucet

Models: T6420 series

Valve: 9000, 69000

NOTE: THIS FAUCET IS DESIGNED TO BE INSTALLED THRU 3 HOLES, 1-1/8" MIN. DIA.

NOTE: FOR DECK THICKNESS 1-1/2" to 3", USE SERVICE KIT #115001. VALVES INSTALL THROUGH 1-1/4" DIA. HOLE.



CRITICAL DIMENSIONS

(DO NOT SCALE)



Buy it for looks. Buy it for life.®

Specifications

DESCRIPTION

- Metal construction with various finishes identified by suffix
- Includes showerhead, arm, flange and diverter spout

OPERATION

- Handle operates counterclockwise through a 270° arc with off at 6 o'clock and maximum hot at the 9 o'clock position. Shut off in clockwise direction
- Adjustable temperature limit stop to control maximum hot water temperature
- Pressure balancing mechanism maintains selected discharge temperature to $\pm 3^\circ$

FLOW

- Showerhead is limited to 2.5 gpm (9.5 L/min) at 80 psi
- EP suffix models are limited to 1.75 gpm (6.6 L/min) at 80 psi
- NH suffix models contain no showerhead

CARTRIDGE

- 1222 cartridge design
- Nonmetallic/nonferrous and stainless steel materials
- Accommodates back to back installations

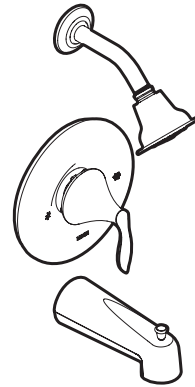
STANDARDS

- Third party certified to meet ASME A112.18.1/CSA B125.1 and all applicable requirements referenced therein
- EP suffix models are third party certified to WaterSense®

- **ADA** for lever handle

WARRANTY

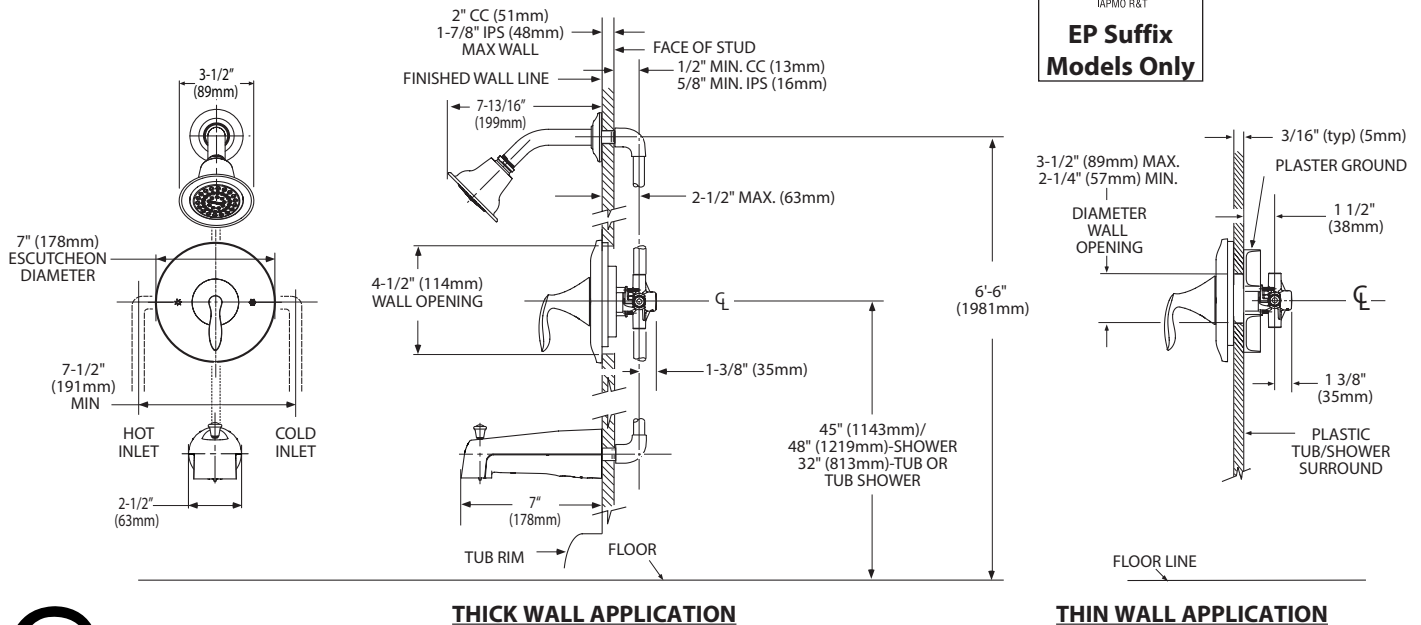
- Lifetime limited warranty against leaks, drips and finish defects to the original homeowner
 - 10 year limited warranty when used in a multifamily installation
 - 5 year limited warranty when used in a commercial installation
- Visit www.moen.com/support for complete details and limitations



EVA™ POSI-TEMP® Single-Handle Tub/Shower Trim Kit

Models: T2131 series - valve trim only
T62131 (Bulk Packed 12 per carton)
T2132 series - shower trim only
T62132 (Bulk Packed 12 per carton)
T2133 series - tub/shower trim
T62133 (Bulk Packed 12 per carton)

Valves: 62300 series
2500 series



THICK WALL APPLICATION

THIN WALL APPLICATION



CRITICAL DIMENSIONS

(DO NOT SCALE)



Buy it for looks. Buy it for life.®

Specifications

DESCRIPTION

- Various finishes identified by suffix
- Handshower with Magnetix™ docking
- Metal shower ball
- 59" double interlock (metal) spiral hose
- Assembled with two check valves for backflow prevention
- Adjustable bracket

OPERATION

- Six function
- Wall bracket rotates to adjust angle of handshower

FLOW

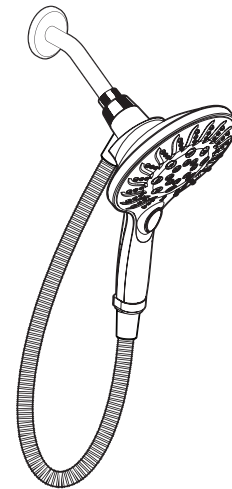
- Designed to deliver 1.75 gpm (6.7 L/min) max. at 80 psi

STANDARDS

- Designed and manufactured to comply with the applicable requirements of WaterSense®, ASME A112.18.1/CSA B-125.1, ASSE 1014 and all applicable specifications referenced therein

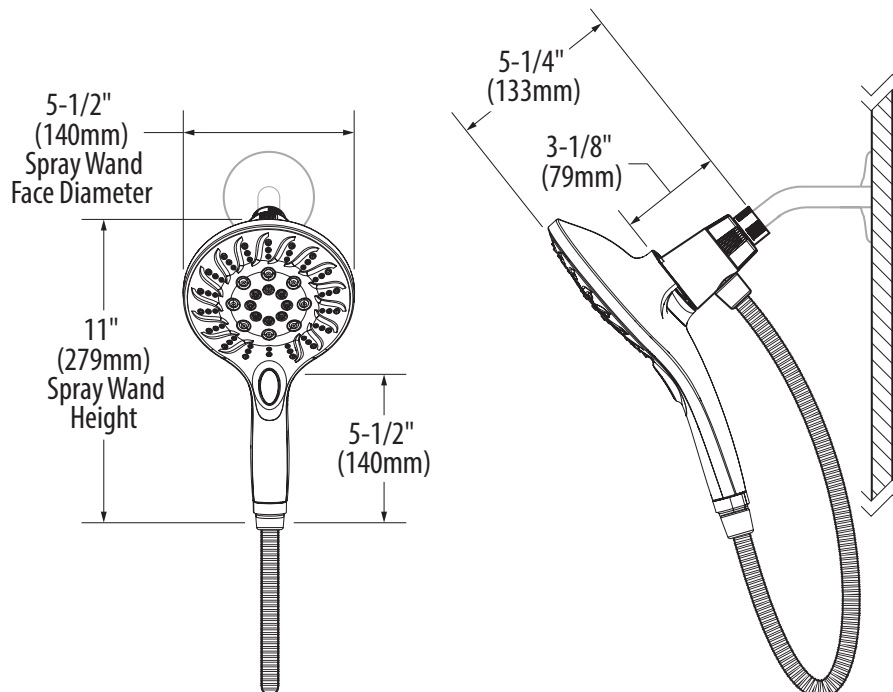
WARRANTY

- Lifetime limited warranty against material or manufacturing defects to the original consumer purchaser
- 5 year warranty if used in commercial installations



**Attract™
Handshower
with Bracket & Hose**

Models: 3662EP series



CRITICAL DIMENSIONS

(DO NOT SCALE)



GERBER

www.gerberonline.com

Maxwell® 1.6 GPF ErgoHeight™ ADA Elongated Toilet

12" Rough-in

Features:

□ MX-21-418

- Vitreous china
- Combination bowl and tank
- 3" Flush valve
- 12" Rough-in
- Elongated bowl
- Dual-fed siphon jet action bowl (no splashing)
- 2" Fully Glazed trapway for effective waste removal
- Color matched metal tank lever
- 6 point tank to bowl connection for tank stability
- Sanitary bead for easy cleaning
- Color matched Bolt caps included
- Toilet seat not included



Technical Information:

Included Components:

- Combination MX-21-418
- Bowl 21-928
- Tank MX-28-990

Other Tank Options: (bowl to be purchased separately)

- Insulated Tank MX-28-992
- Tank with Right Hand Lever MX-28-990-97

Fixtures:

Configuration	Two-piece, ADA elongated
Water per Flush	1.6 gpf (6 lpf)
Rough-In	12"
Height	30 1/8"
Width	17 1/2"
Depth	28 1/8"
Trapway	2"
Large Water Surface	8 7/8" x 7 3/8"
Shipping Weight	85.5 lbs

Accessories:

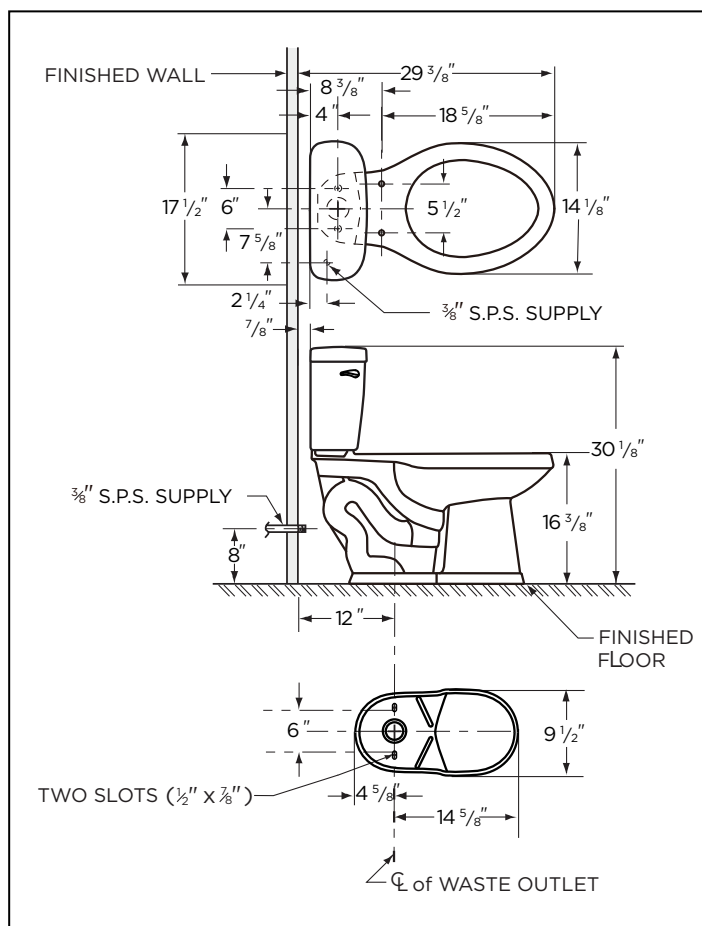
Soft Close Toilet Seat	99-213
------------------------	--------

Colors/Finishes:

- White
- Other: Refer to Price Book for additional colors/finishes

Warranty:

- Limited lifetime warranty



NOTES: All dimensions are in inches. Illustrations may not be drawn to scale.

IMPORTANT:

Dimensions of fixtures are nominal and may vary within the range of tolerances established by ASME standard A 112.19.2 THIS FIXTURE QUALIFIES ACCORDING TO ASME TEST PROCEDURES AS A HIGH EFFICIENCY WATER CLOSET WITH AN AVERAGE CONSUMPTION OF 1.28 gpf (4.8 Lpf) OR LESS.

WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WASTEWATER PERMIT

NO PERMIT(S) FOR CONSTRUCTION, LOCATION OR RELOCATION ACTIVITY SHALL BE ISSUED UNTIL AN
AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION AUTHORIZATION HAS BEEN ISSUED

***PERMIT VOID IF NOT IN COMPLIANCE WITH ZONING REGULATIONS AND/OR IF SITE IS ALTERED OR
INTENDED USE CHANGED***

IMPROVEMENT PERMIT

PERMIT #: WRP-070726-2021

APPLICATION DATE: 11/16/2021

BLDG. PERMIT #:

PIN: 0686692689

RECORDED: Yes

TOWNSHIP: 12 - Middle Creek

JURISDICTION: Wake County

ZONING: R-30

APPLICANT: Drees Homes
7701 Six Forks RD

BUSINESS PHONE: (919) 256-5432

HOME PHONE:

MOBILE PHONE:

HD USE: 101A CONVENTIONAL ONE-FAMILY HOUSE

EXISTING USE:

SITE ADDRESS: 7033 LEANDO DR

SUBDIVISION: Bloomfield PH 6

LOT: 9

ACRES: 0.84

DIRECTIONS: Capital to US 401S/Fayetteville Rd

L - Hilltop Needmore Rd

R - Hilltop Rd

L - Panther Lake

L - Arcola Way

R - Leandro Dr

Permit is subject to revocation if the Site Plan or Plat changes or the intended use changes.

*Maximum depth of line is calculated using the downhill side of the trench and includes slope correction.

IP VALID FOR: Five Years AS PER GS 130A-335 (f)

DESIGNED BY: Central Carolina Soil Consulting

SYSTEM LAYOUT: Private Sector

SITE CLASSIFICATION: Provisionally Suitable

IP STATUS: Issued

BY: Gary Morehouse

DATE: 12/06/2021

NUMBER OF BEDROOMS: 4

OR TOTAL NUMBER OF OCCUPANTS: 8

PERMITTED DESIGN FLOW: 360 GPD

BASEMENT: No

BASEMENT PLUMBING: No

WASTEWATER STRENGTH: Domestic

SYSTEM TYPE: II A

LTAR: 0.350

EXISTING SYSTEM UTILIZED:

PRETREATMENT STRENGTH REQUIRED:

EASEMENT FOR WW SYSTEM ASSOCIATED WITH PARCEL: No

MAXIMUM TRENCH DEPTH: 34 INCHES

PUMP REQUIRED: No

SPECIFIC SYSTEM REQUIREMENTS: - 4 Bedroom SFD, 360 GPD utilizing Engineer Flow Reduction

- DO NOT CUT, GRADE, INSTALL UTILITIES IN, OR OTHERWISE ALTER DESIGNATED SEPTIC AREAS

- MAINTAIN SETBACKS AS REQUIRED

- Call REHSI Gary Morehouse at 919-842-7142 with questions; any modifications to permitted system must be approved by this department and consultant prior to installation.

- Repair IIA, 30" Max Trench Depth, 0.35 LTAR

- Community Water Supply

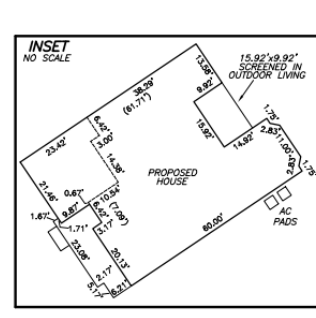
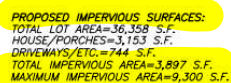
ISSUED BY:

A handwritten signature in black ink, appearing to read "Gary Morehouse", written over a light gray rectangular background.

DATE: 12/06/2021

FUTURE 30' TOWN
OF FUQUAY-VARINA
SANITARY SEWER EASEMENT

Repair System: Type IIA



Scale
1"=60'

SETBACKS
FRONT-15'
CORNER-15'
SIDE-5'
REAR-15'



ALL EASEMENTS, RIGHTS OF WAY AND BOUNDARY INFORMATION TAKEN
FROM B.M. 2020, PG. 1645-1647 UNLESS OTHERWISE NOTED.
PROPERTY IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
NO TITLE EXAMINATION HAS BEEN DONE BY ROBINSON & PLANTE, P.C.

Redaction Log

Reason	Page (# of occurrences)	Description
no reason	17 (1)	---