Groundwater & Wastewater Services
Septic Project File & Data Review Worksheet

GWS File #: 5930 B WASPS App #: 95B

Primary ES assigned to project: PW

Secondary ES assigned to project: _____

Project Type: New System ☑ Alteration ☐ Repair ☐ Modified Plot Plan ☐

I. File Review:

Rule or Law	Permit Application			
.1937(d)	Is the Application complete	Yes ☑	No ☐	N/A ☐
.1937(d)	Is there a Site plan/Plat with application	Yes ☑	No ☐	N/A ☐
.1937(d)	Is the Facility shown?	Yes ☑	No ☐	N/A ☐
.1937(d)	Are appurtenances shown	Yes ☑	No ☐	N/A ☐
	Site Evaluation Information			
.1939 (a)(1)	Topography and Landscape Position Recorded?	Yes ☑	No ☐	N/A ☐
.1940 (a-g)	Slope % Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(2)	Texture Class Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(2)	Structure type Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(2)	Consistence Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(2)	Mineralogy Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(3)	Soil Wetness Condition Recorded?	Yes ☑	No ☐	N/A ☐
.1939 (a)(4)	Soil Depth to Rock or Parent Material Recorded When Encountered	Yes ☑	No ☐	N/A ☐
.1939 (a)(5)	Depth to Restrictive Horizons Recorded When Encountered?	Yes ☑	No ☐	N/A ☐
.1939 (a)(6)	Sufficient Available Space Recorded?	Yes ☑	No ☐	N/A ☐
.1937(m)	Are the Profile Locations Shown?			
.1939(a)	Are the S/PS Profiles in system & in repair area?	Yes ☑	No ☐	N/A ☐
& .1945(b)	Number of auger borings made: 6			
	Were sufficient auger borings made?	Yes ☑	No ☐	N/A ☐
.1939(d), .1955, .1956, .1957	LTAR -275	Yes ☐	No ☐	N/A ☐
	Improvement Permit/Construction Authorization			
.1937(g) 130A-336(a)	Proposed System Type stated-Initial	Yes ☑	No ☐	N/A ☐
.1945(b)	Proposed System Type stated-Repair	Yes ☑	No ☐	N/A ☐
130A-336 (a)(3)	System location identifiable by setbacks - Initial	Yes ☑	No ☐	N/A ☐
.1937(g) .1945(b)	System components shown – Initial	Yes ☑	No ☐	N/A ☐
.1945(b)	Repair area shown	Yes ☑	No ☐	N/A ☐
.1937 (f)(g)	Does System design match facility, flow & WWcharacteristics?	Yes ☑	No ☐	N/A ☐
.1937 (f)(g)	Is System design consistent with soil/site conditions?	Yes ☑	No ☐	N/A ☐
.1937 (f)(g)	Is the System located in the approved area?	Yes ☑	No ☐	N/A ☐
130A-336(a)	Is the Design flow (gpd) indicated?	Yes ☑	No ☐	N/A ☐

130A-336(a)	Number of Bedrooms, employees, seats, etc. indicated?	Yes ☑	No ☐	N/A ☐
.1937(g)	Trench depth indicated?	Yes ☑	No ☐	N/A ☐
.1937(g)	Trench width indicated?	Yes ☑	No ☐	N/A ☐
.1937(g)	Trench length indicated?	Yes ☑	No ☐	N/A ☐
130A-336(a)(1)	Proposed/existing well shown?	Yes ☐	No ☐	N/A ☐
130A-336(a)(1)	Property line lengths shown?	Yes ☑	No ☐	N/A ☐
130A-336(a)	Facility/appurtenance setbacks shown from fixed points?	Yes ☑	No ☐	N/A ☐
	Operation Permit			
.1937(i)	System type as described in table V(a) of rule .1961	Yes ☑	No ☐	N/A ☐
.1937(i)	Conditions for system performance, operation, maintenance, monitoring and reporting.	Yes ☑	No ☐	N/A ☐

II. WASPS Review:

Construction authorization issued	Yes ☑	No ☐	N/A ☐
Installation approval issued	Yes ☐	No ☑	N/A ☐
Operation permit issued	Yes ☐	No ☐	N/A ☐
Other related documentation	Yes ☐	No ☐	N/A ☐

Items requiring correction/modification: _____

Comments:

_____

_____

_____

_____

_____

IA issued date: _____

OP issued date: _____

Review performed by: JR Date performed: 5-2-07



3303 MINTWOOD DR

19521218

1/9/2008

duponbj

Groundwater and Wastewater Services File Imaging Project
May 2007
Barcode Font = IDAutomationHC39M

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St., Suite 211 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-6894

NC DENR
Division of Environmental Health
On-Site Wastewater Section

OPERATION PERMIT for an ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

File #: 5930B Permit #: _____ Tax Parcel #: 195 212 18

Property Owner: Farrington Oaks LLC

Job Location Address: 3303 Mintwood Dr Lot 69

City: Mint Hill State: NC Zip Code: 28227

Operation Permit Issuance Date: 4/23/07 Contractor Name: RCS

Permitted Design Flow: 360 GPD Liquid Capacity of Dosing Tank: NA gallons

Liquid Capacity of Septic Tank: 1500 gallons Effluent Pump Model: NA

Drainfield Installation ☐ N/A

Trench Depth: 18 inches

Trench Width: 3 feet

Line Spacing: 9 feet (O.C.)

Total line length: 400 feet

# of Lines: 5 @ various lengths feet

Depth of Media: 12 inches (Type) EZ Flow

Depth of Cover: 12 inches

Distribution Device: Drop Boxes

Inspection Dates

Tank(s) Inspected: 4/23/07

Excavation Inspected: 4/23/07

Pump & Controls Inspected: NA

Bed Installation *(For Repair Installations ONLY.)* ☒ N/A

Bed Depth: _____ inches

Bed Width: _____ feet

Total line length: _____ feet

# of Lines: _____ @ _____ feet

Depth of Media: _____ inches (Type) _____

Depth of Cover: _____ inches

Distribution Device: _____

Water Supply Source

☒ Municipal ☐ Private Well ☐ Community Well

☐ Other _____

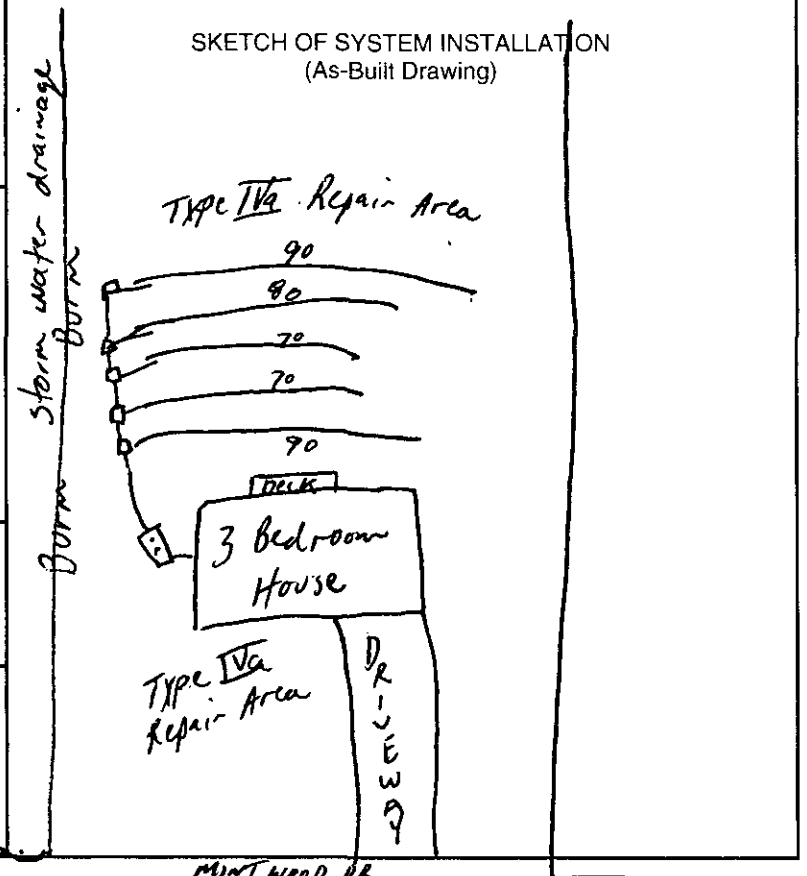
System Installation Setbacks

Distance from Building Foundation: 5 feet

Distance from Property Line: 10 feet

Distance from Water Supply Source: 10 feet

SKETCH OF SYSTEM INSTALLATION
(As-Built Drawing)



The undersigned has inspected the Septic Tank System described above, and ~~certifies it has been~~ ☒ installed ☐ altered ☐ repaired ☒ as detailed in the plot above ☐ in accordance with the permit issued and meets the provisions of 15A NCAC 18A. 1900, "Laws and Rules for Sewage Treatment and Disposal Systems" in effect on the date of issuance of the permit. The issuance of this Operation Permit does not in any way guarantee that the system will operate properly or relieve any person now or hereafter owning, controlling, or using such system from any liability resulting from the failure of the system to operate properly. This document is issued subject to those restrictions and conditions shown on the permit(s) and the provisions of 15A NCAC 18A. 1900 in addition to those listed below under "Comments." This document shall be null and void if any information contained in the application is untrue or if any additions are made to the property which would increase the requirements for said system.

Notice: Disturbance of the designated repair area may result in the Suspension or Revocation of this permit.

Comments: System Classification & Type: Type IIIg Installation / Burm installed along back left property line (1961; shall pretain to permit)

DENR Authorized Agent: Philo S. Walker Signature: Philo S. Walker RS

FEE: 300
DATE: 1/17/06
X323427JRA

AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION

ACS

PERMIT NUMBER: 5930B
PARCEL NUMBER: 195-~~211-45~~ 212-18

LD 3/8/07

JOB LOCATION ADDRESS: 3303 MINTWOOD DRIVE LOT 69
PROPERTY OWNER: FARRINGTON OAKS LLC
BUILDING CONTRACTOR: FARRINGTON OAKS LLC
SUBDIVISION NAME: FARRINGTON OAKS
AUTHORIZATION ISSUED BY: PHILO WALKER DATE: 12/19/05

Philo S. Walker RS
DENR/DEH AUTHORIZED AGENT

AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NUMBER 5930B, AND THE ATTACHED SITE PLAN WITH SYSTEM DETAILS. CONSTRUCTION AND INSTALLATION MUST ALSO MEET ALL REQUIREMENTS SET FORTH IN THE RULES GOVERNING SANITARY SEWAGE COLLECTION, TREATMENT, AND DISPOSAL AND ANY OTHER APPLICABLE RULES AND LAWS.

2. AN *INSTALLATION, CONSTRUCTION, ALTERATION AND/OR REPAIR APPROVAL* MUST BE SECURED PRIOR TO INSTALLATION OF THE SEPTIC TANK SYSTEM. THE INSTALLER OF THE SYSTEM SHALL BE A REGISTERED SEPTIC TANK CONTRACTOR WITH THE MECKLENBURG COUNTY HEALTH DEPARTMENT.

3. ANY ALTERATION IN SITE OR SOIL CONDITIONS (INCLUDING LOCATION OF STRUCTURES AND APPURTENANCES) OR MODIFICATION IN USE, DESIGN WASTEWATER FLOW, OR WASTEWATER CHARACTERISTICS AS SPECIFIED IN THE ASSOCIATED IMPROVEMENT PERMIT AND APPLICATION, MAY SUBJECT THIS CONSTRUCTION AUTHORIZATION AND ASSOCIATED PERMIT(S) TO REVOCATION.

4. THIS CONSTRUCTION AUTHORIZATION AS PROVIDED IN G.S. 130A-335(f) AND G.S. 130A-336(b) SHALL BE VALID FOR A PERIOD EQUAL TO THE VALIDITY OF THE IMPROVEMENT PERMIT, NOT TO EXCEED 60 MONTHS.

5. OTHER CONDITIONS:
   AGREEMENT FORMS REQUIRED

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St, Suite 211 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-6894

NC DENR
Division of Environmental Health
On-Site Wastewater Section

IMPROVEMENT PERMIT for a RESIDENTIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: **30000958** GWS File #: **5930B** Tax Parcel #: **195-212-18**

- This IMPROVEMENT PERMIT is subject to revocation if site plans or the intended use change. There is to be **NO** grading, filling, or disturbance of the soil in the area of the septic tank system or repair area.
- CONSTRUCTION AUTHORIZATION must be obtained prior to receiving a Building Permit. The Construction Authorization is **NOT** transferable. Do not clear, grade, fill or disturb soil prior to obtaining a Construction Authorization.
- Domestic-type wastewater only. No industrial process wastewater may be discharged into the system.

I. This Improvement Permit Shall: Expire in Five (5) Years **Expiration Date (If Applicable):** 12/19/2010

Type of Installation: Residential - New System Lot Number: 69

Structure Type: HOUSE Size (ft^2): 3200 # Bedrooms: 3 # Occupants: 4

Building Foundation: ~~Basement With Plumbing~~ crawl space & C Water Supply: Municipal

II. Initial System Type: Pump to Innovative or Experimental **System Classification:** IIIb

Initial System Specifications:

Design Flow (gpd):	360	LTAR (gpd/ft^2):	0.275	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1000
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	982	Total Trench Length (ft):	327
Maximum Trench Depth (in):	24	Depth of Media (in):	12	Distribution Device:	Pressure Manifold		

III. Repair System Type: PPBPS (pressurized) **System Classification:** IVa

Repair System Specifications:

Design Flow (gpd):	360	LTAR (gpd/ft^2):	0.275	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1000
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	654	Total Trench Length (ft):	218
Maximum Trench Depth (in):	36	Depth of Media (in):	N/A	Distribution Device:	N/A		

IV. Permit Conditions/Comments:

(Please See the Following Page for Permit Conditions.)

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment, and Disposal Systems* and is subject to the following provisions:

- No work shall be conducted on the septic system until an INSTALLATION APPROVAL is granted by the Department.
- The septic system installer shall be a registered septic contractor with Mecklenburg County Health Department.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

DENR Authorized Agent: Philo Walker

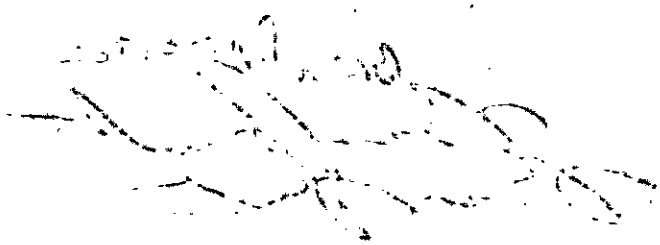
Signature: Philo S. Walker RS

Date Issued: 12/19/2005

Owner/Legal Agent: Brian Pennington

Print Name

Signature:



Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St, Suite 211 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-6894

NC DENR
Division of Environmental Health
On-Site Wastewater Section

IMPROVEMENT PERMIT for a RESIDENTIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: **30000958** GWS File #: **5930B**

IV. Permit Conditions/Comments:

- Owner agreement forms for site reclassification shall be on file prior to issuance of Construction Authorization.
- This type of septic system requires an inspection once every 5 years by our office. The system owner is responsible for any fees, as determined by the Mecklenburg County Board of Commissioners, associated with this inspection.
- This type of repair system requires the property owner to obtain a contract with a Certified Operator to perform routine inspections and maintenance on the system.
- This type of repair system requires periodic inspections by our office. The system owner is responsible for any fees, as determined by the Mecklenburg County Board of Commissioners, associated with this inspection.
- The septic system shall be installed in accordance with the plans submitted by the wastewater system design consultant.
- All components of the septic system must be installed in accordance with the required setbacks listed on the corresponding plot plan.
- REDESIGN PLOT PLAN APPROVED 11/21/06

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment and Disposal Systems* and is subject to the following provisions:

- No work shall be conducted on the septic system until an INSTALLATION APPROVAL is granted by the Department.
- The septic system installer shall be a registered septic contractor with Mecklenburg County Health Department.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

DENR Authorized Agent: Philo Walker

Signature: Philo J Walker RS

Date Issued: 12/19/2005

Owner/Legal Agent: Brian Pennington
Print Name

Signature:

X32342 VOID

GWS – RES. APP 07/05

SEPTIC FEE: 100
DATE: 1/8/07
CRT [ ]

PERMIT APPLICATION FOR A RESIDENTIAL SITE IMPROVEMENT PERMIT / CONSTRUCTION AUTHORIZATION FOR ON-SITE WASTEWATER SYSTEM NEW WELL INSTALLATION OR REPAIR OF EXISTING WELL MECKLENBURG COUNTY GROUNDWATER & WASTEWATER SERVICES

WELL FEE: _____
DATE: _____
CRT [ ]

FILE # _____

SEPTIC / TYPE APPLICATION: ☐ NONE ☐ NEW SYSTEM ☐ ALTERATION ☐ REPAIR ☒ MODIFY PLOT PLAN

WELL / TYPE APPLICATION: ☐ NONE ☐ NEW WELL ☐ MAJOR REPAIR ☐ ABANDONMENT

JOB LOCATION INFORMATION:

TAX/PARCEL #: 195-211-45
STREET ADDRESS: 3303 Mint Wood DR
CITY: Mint Hill
STATE: NC ZIP: 28227
SUBDIVISION OR MOBILE HOME PARK NAME: Farrington Oaks
LOT #: 69
TOWNSHIP:

☐ 0-MECKLENBURG ☐ 4-PINEVILLE
☐ 1-CHARLOTTE ☐ 5-MATTHEWS
☐ 2-DAVIDSON ☐ 6-HUNTERSVILLE
☐ 3-CORNELIUS ☐ 7-MINT HILL

BUILDING INFORMATION:

TYPE OF BUILDING:

☐ SINGLE MOBILE HOME (S) ☐ MODULAR HOME (M)
☐ DOUBLE WIDE (D) ☐ MULTIPLE FAMILY (U)
☒ HOUSE (H) ☐ OTHER

HEATED SQUARE FOOTAGE: 3200
NUMBER OF BEDROOMS: 4-3
NUMBER OF OCCUPANTS: 5

FOUNDATION FOR RESIDENCE:

☐ CONCRETE SLAB ☐ BASEMENT WITH PLUMBING
☒ CRAWLSPACE ☐ BASEMENT WITH NO PLUMBING

IF PLANNING TO EXPAND/ALTER THE EXISTING SYSTEM INDICATE THE FOLLOWING CHANGES:

NUMBER OF BEDROOMS TO BE ADDED: NUMBER OF ADDITIONAL OCCUPANTS IN THE RESIDENCE:

WILL THERE BE A HOME BUSINESS IN THE RESIDENCE? ☐ YES ☒ NO TYPE:

WATER SUPPLY:

☒ MUNICIPAL (M) ☐ PUBLIC (C) ☐ PRIVATE WELL (P) ☐ SHARED WELL (S) ☐ OTHER 'SPRINGS' (O)

PROPOSED USE OF WELL: ☒ N/A ☐ IRRIGATION ☐ POTABLE ☐ GEOTHERMAL ☐ OTHER

ARE ANY OF THE FOLLOWING LOCATED ON THE PROPERTY? IF SO, PLEASE SHOW LOCATION ON SITE PLAN/PLAT.

BURIED CABLES, LANDFILLS, STUMPHOLES	☐ YES	☒ NO	WELLS, SPRINGS, OR WATER LINES	☐ YES	☒ NO
EXISTING WASTEWATER SYSTEMS	☐ YES	☒ NO	DESIGNATED WETLANDS	☐ YES	☒ NO
EASEMENTS OR RIGHT-OF-WAYS	☐ YES	☒ NO	GRADING/SOIL REMOVAL PERFORMED	☐ YES	☒ NO

PROPERTY OWNER:

NAME: Farrington Oaks LLC
ADDRESS: 1518 East 3rd ST
CITY: Charlotte
STATE: NC ZIP: 28204
HOME PHONE: WORK PHONE: 704-370-0303
MOBILE PHONE: FAX:

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:

NAME:
ADDRESS:
CITY:
STATE: ZIP:
HOME PHONE: WORK PHONE:
MOBILE PHONE: FAX:

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED?
WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY? 6/1/07

*An Improvement Permit is subject to suspension or revocation if site plans or the intended use change or if information submitted in this application is falsified or changed. The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

Owner's/Agent's Signature 1/9/07 Date

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT & NATURAL RESOURCES DIVISION
OF ENVIRONMENTAL HEALTH ON-SITE
WASTEWATER SECTION

*A Well Permit is subject to suspension or revocation if site plans or the intended use change or if information submitted in this application is falsified or changed. The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

Owner's/Agent's Signature Date

MECKLENBURG COUNTY HEALTH DEPARTMENT
GROUNDWATER & WASTEWATER SERVICES
700 N. TRYON ST., SUITE 211
CHARLOTTE, NC 28202 704-336-5103 / FAX: 704-336-6894

0704

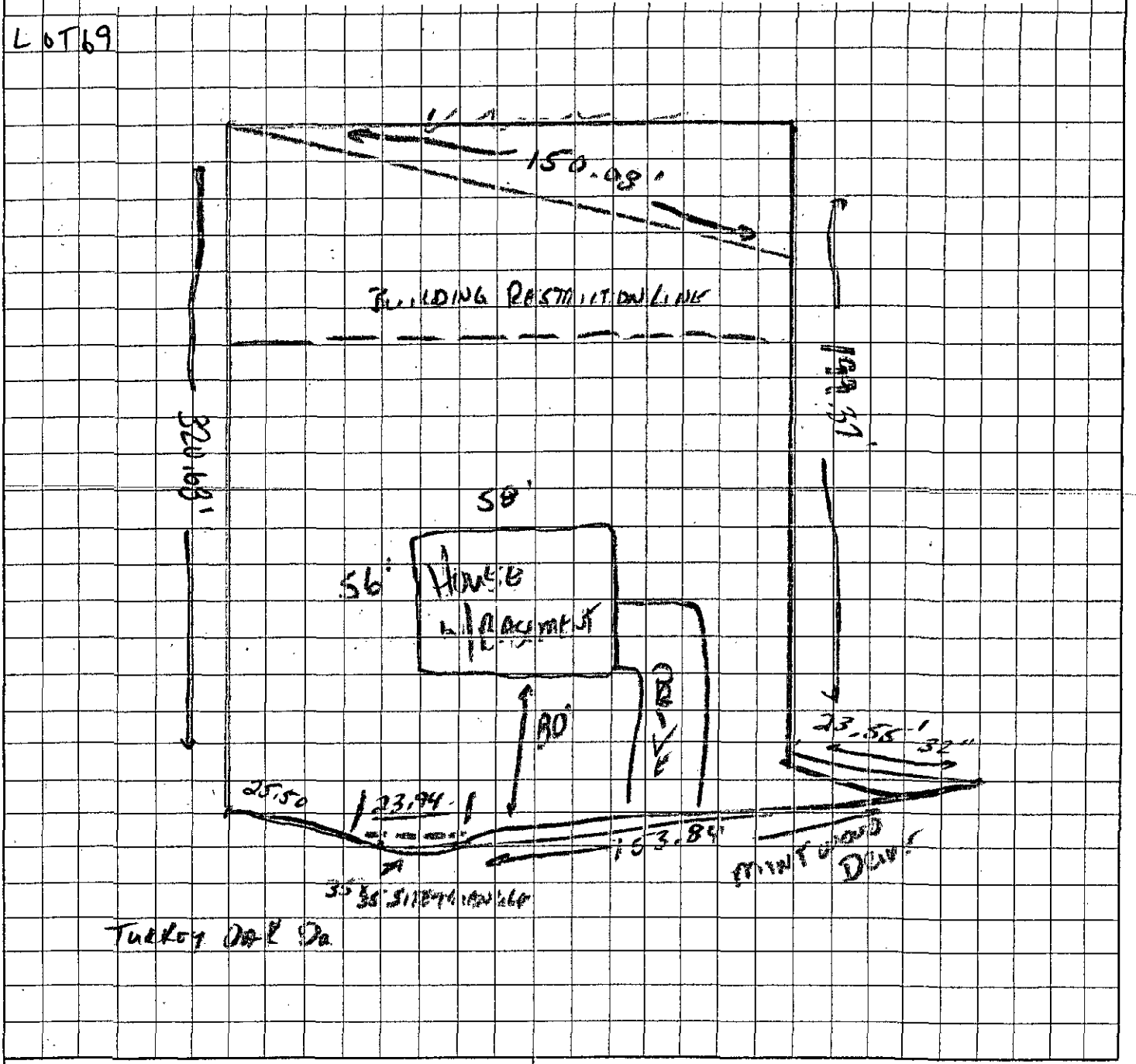
PROPOSED PLOT PLAN

HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
700 NORTH TRYON ST., SUITE 211
CHARLOTTE, NC 28202
PHONE (704) 336-5103

FILE: _____

TC: _____

Draw in and name all roads adjoining the property. Draw in and accurately dimension the lot concerned. Accurately indicate property boundaries proposed and/or existing structures and driveways, underground utilities, and wells and springs within 100 feet of the proposed building or drainfield.



APPROVAL DATE _____

OWNER/AGENT SIGNATURE

DATE 1-17-06

White - Health Department's Copy Canary - E.H.S. Copy Pink - Owner's Copy

Page 1

Attached is a proposed design for a Pressure Manifold Septic System for a 3 bedroom single family residence on lot 69 of Fairington Oaks Subdivision in Mecklenburg County, North Carolina.

Contents: **Page**

Information for the Installer---------- 1

Design Information

Design Specifications---------- 2-3

Layout Specifications---------- 4

System Tapsheet---------- 5

Site Plan/System Plan---------- 6

Septic Tank Diagram---------- 7

Pump Tank Diagram---------- 8

Pressure Manifold Diagram---------- 9

Control Panel Specifications---------- 10-13

Pump Specifications---------- 14-15

Electric Box Specifications---------- 16

Calculations---------- 17

November 16, 2006
S & EC Project No. 5-1553
Design By: W. Overby

INFORMATION FOR THE INSTALLER:

- The permit should be read very carefully prior to bidding. The following are details that must be considered along with all other considerations.
- Tanks shall be approved by DEHNR, and certification supplied by the manufacturer.
- Tanks shall be water tested prior to installation.
- The installer shall be responsible to the owner for placement of the tanks and to insure that final grades are returned to the original natural grade, with exception of added structural features.
- The supply trench shall be compacted to eliminate cavities left during initial fill placement.
- Installation of the system shall be during dry conditions in order to protect the soil structure.
- All fittings shall be pressure rated fittings.
- All joints shall be cleaned with PVC pipe cleaner and a heavy bodied glue applied to weld all joints.
- Where required by the county health department, post installation inspections by the designer must be scheduled 5 week days in advance.
- Trenches shall be carefully excavated so the bottom is within 2" from the highest to the lowest points of elevation within the trench. If the bottom elevation needs adjusting after it has been trenched, it will be done by removing high points rather than filling low points. It is extremely important to insure that trenches are not over excavated during initial trenching. All fine grading within the trench will be hand done with a shovel. No loose material will be left in the trench
- All pipe openings in the tanks shall be properly grouted. This also applies to the joints around the riser.
- All tanks shall be properly back filled and compacted to prevent slump at a later date.
- Earth dams, constructed of relatively impervious material, shall be installed at the beginning and end of each lateral.
- No rubber tire loader to be used on field after EZFLO installed. Use track loader only for backfilling trenches.
- Elevations of pinflags should be checked by installer prior to beginning trenches.
- Pumptank riser should be 6" above grade, control panel should be 12" above grade.
- Septic tank riser shall be a minimum of 6" above finished grade.
- System is specified as an innovative installation
- System distribution via pressure manifold set at 2' head
- Repair is specified as at-grade innovative type
- Repair requires 12" soil cap over EZFLO lines
- Driveway to be built on right hand side of lot along property line
- No grading behind house in repair area.

PRESSURE MANIFOLD SYSTEM
FOR WASTEWATER TREATMENT

Owner:	*McCar Homes* Brian Parmanter
Address:	
Fax:	(704) 573-0770
Phone:	(704) 622-5028
County:	Mecklenburg
Location:	Fairington Oaks Lot 69
Source of Wastewater Flow:	3 Bedroom Residance
Estimated Daily Wastewater Production:	360
System Flow:	42.89

Design Specifications

Drainfield Size:	422
Loading Rate:	0.275
Depth of Gravel in Trench:	N/A
Gravel Size:	N/A
Trench Depth:	(18) ADDITIONAL SOIL COVER REQD.
Trench Width:	36 in.
Septic Tank Size:	1500
Pump Tank Size:	1500
Estimated Supply Line Length:	75
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	13.05
Dosing Volume:	192.90
Supply Manifolds:	***4*** in. SCH 80 PVC
Supply Manifold 1 Length:	4 ft. (minimum)

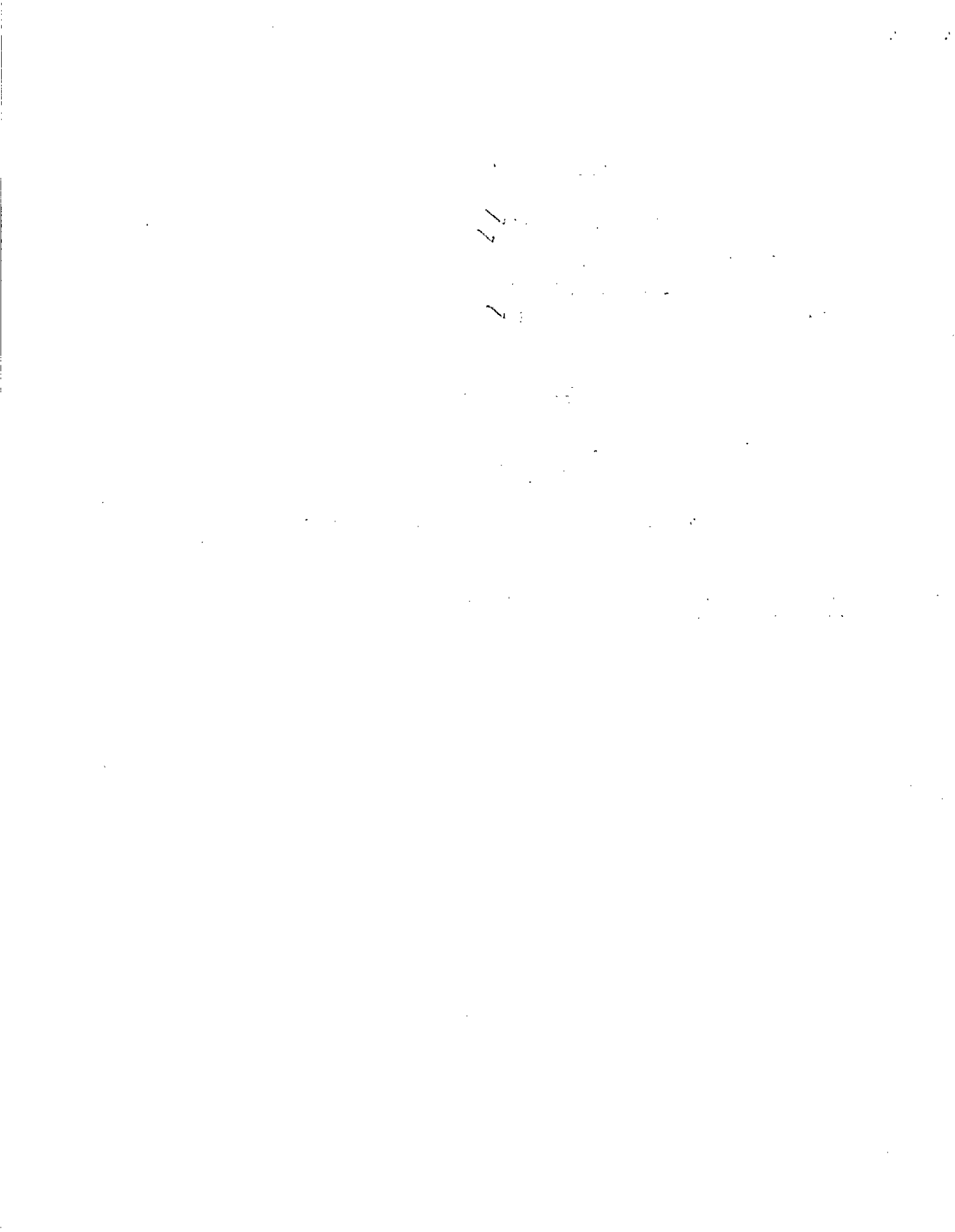
Recommended Float Controls:	SJE Sensor Float Control Switches as Required for Control Panel or County Approved Equivalents
Recommended Control Panel:	SJE-Rhombus Model 112 (NEMA 4x) Control Panel or County Approved Control Panel.
Pressure Head:	2 ft.
Friction Head:	2.83
Elevation Head:	12.00
Total Dynamic Head:	19.35
Threaded Union:	In Tank
Gate Valves:	1 in Tank, 1 at manifold
Check Valves:	1 In Tank
Anti-Siphon Hole:	NO
Recommended Pump:	Myers Model ME50 or County Approved Effluent Rated Pump Capable of Delivering ~20 ft.of Head at ~43 gpm Total Flow
Additional Comments:	Soil suitability was performed by S&EC and Mecklenburg County Health Dept

Document Size Over 100.

Fairington Oaks Lot 69
PRESSURE MANIFOLD DESIGN

DESIGN FLOW:	360 ✓
SOIL APPLICATION RATE:	0.275 ✓
TOTAL AREA TRENCH BOTTOM:	1266
TOTAL LATERAL LENGTH:	422
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	327 ✓
SUPPLY LINE LENGTH:	75
TOTAL DYNAMIC HEAD:	19.35
MANIFOLD(S) SIZE:	*4* in.SCH 80 PVC
DOSING VOLUME:	192.90
PUMP TANK DRAW DOWN*:	9.2
SEPTIC TANK SIZE:	1500
PUMP TANK SIZE:	1500
RECOMMENDED PUMP:	Myers Model ME50 or County Approved Effluent Rated Pump Capable of Delivering ~20 ft.of Head at ~43 gpm Total Flow

**Pump tank draw down based on a volume basis of 21 gallons per inch. Draw down may vary among pump tank manufacturers.*



Lot 69 Fairington Oaks

Project No. 5-1553

LAYOUT FOR 3 BEDROOM HOME (NO BASEMENT)

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH
TBM		3.5			100.00	
INSTR. 1			103.50			
			SYSTEM			
1	Yellow			4.10	99.40	36
2	Blue			4.70	98.80	50
3	Pink			6.10	97.40	75
4	Red			6.80	96.70	105
5	Orange			7.50	96.00	96
6	Yellow			7.90	95.60	96
					Total	**458**
			REPAIR			
7	Red			2.80	93.60	75
8	Orange			4.00	92.40	58
9	Yellow			5.20	91.20	70
10	Blue			6.10	90.30	70
11	Pink			7.40	89.00	75
12	Red			8.50	87.90	90
					Total	**438**

	DESIGN LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	TRENCH DEPTH	INNOVATIVE SYSTEM	DISTRIBUTION
System	422	0.275	INNOV	18	EZFLO	P. MANIFOLD
Repair	438	0.225	INNOV	12	EZFLO	DROP BOX

Notes:

**TBM is assumed to be 100'; all measures in feet

**Nitrification lines are demonstrated on contour via colored pin flags

**BS, HI, and FS indicate rod readings

Lot 69 Fairington Oaks

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/Tap	gpd	Trench Area	Line LTAR
1	Yellow	99.40	EXTRA	0	**0**	0.00	0	**0.00**
2	Blue	98.80	50	SCH 80 1/2	**5.48**	46.00	150	**0.31**
3	Pink	97.40	75	SCH 40 1/2	**7.11**	59.68	225	**0.27**
4	Red	96.70	105	SCH 80 3/4	**10.1**	84.78	315	**0.27**
5	Orange	96.00	96	SCH 80 3/4	**10.1**	84.78	288	**0.29**
6	Yellow	95.60	96	SCH 80 3/4	**10.1**	84.78	288	**0.29**
	total	**feet =**	**422**	**gal/min =**	**42.89**			
			Des. Flow	**360**				
			Pump Run=	**8.39**				
			soil LTAR	**0.275**				
			25%INNOV LTAR	**0.37**				

* NOTE VARYING TAP SCHEDULES AND SIZES REQUIRED.

59308

12/19/05

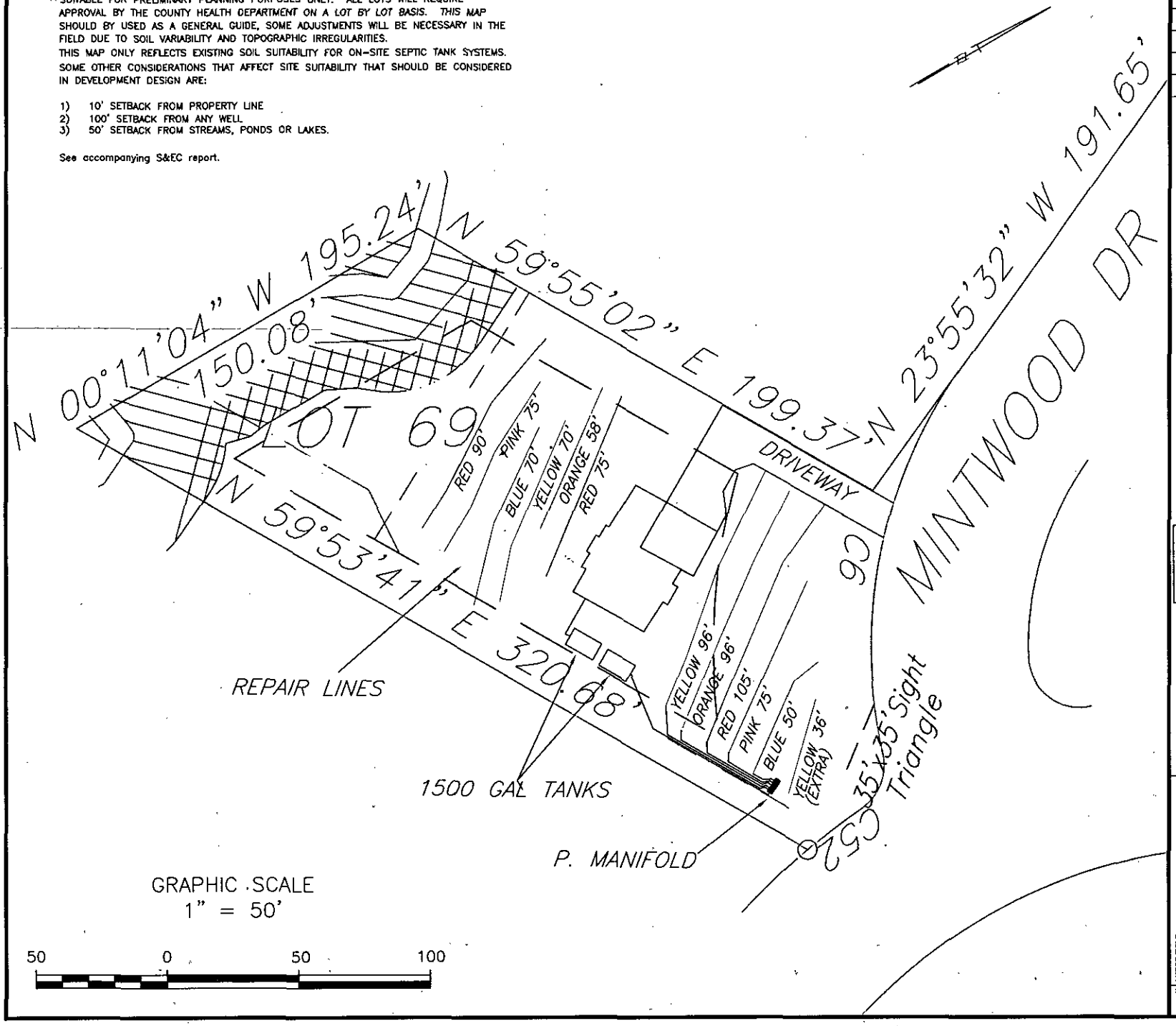
* Note Naming The Schedules
Also Sizes Required.

7303

**SUITABLE FOR PRELIMINARY PLANNING PURPOSES ONLY. ALL LOTS WILL REQUIRE APPROVAL BY THE COUNTY HEALTH DEPARTMENT ON A LOT BY LOT BASIS. THIS MAP SHOULD BY USED AS A GENERAL GUIDE, SOME ADJUSTMENTS WILL BE NECESSARY IN THE FIELD DUE TO SOIL VARIABILITY AND TOPOGRAPHIC IRREGULARITIES.
THIS MAP ONLY REFLECTS EXISTING SOIL SUITABILITY FOR ON-SITE SEPTIC TANK SYSTEMS. SOME OTHER CONSIDERATIONS THAT AFFECT SITE SUITABILITY THAT SHOULD BE CONSIDERED IN DEVELOPMENT DESIGN ARE:

1) 10' SETBACK FROM PROPERTY LINE
2) 100' SETBACK FROM ANY WELL
3) 50' SETBACK FROM STREAMS, PONDS OR LAKES.

See accompanying S&EC report.



PROJECT NO.	S-1553
PROJECT MGR.	W.O.
DRAWN BY	W.O.
FIELD WORK	W.O
SCALE	1" = 50'
FILE	Y:\S-1553\LOT 69

Soil & Environmental Consultants, PA
236 Laffitte Ct. Suite C • Concord, North Carolina 28025 • Phone (704)720-8405 • Fax (704) 720-8406

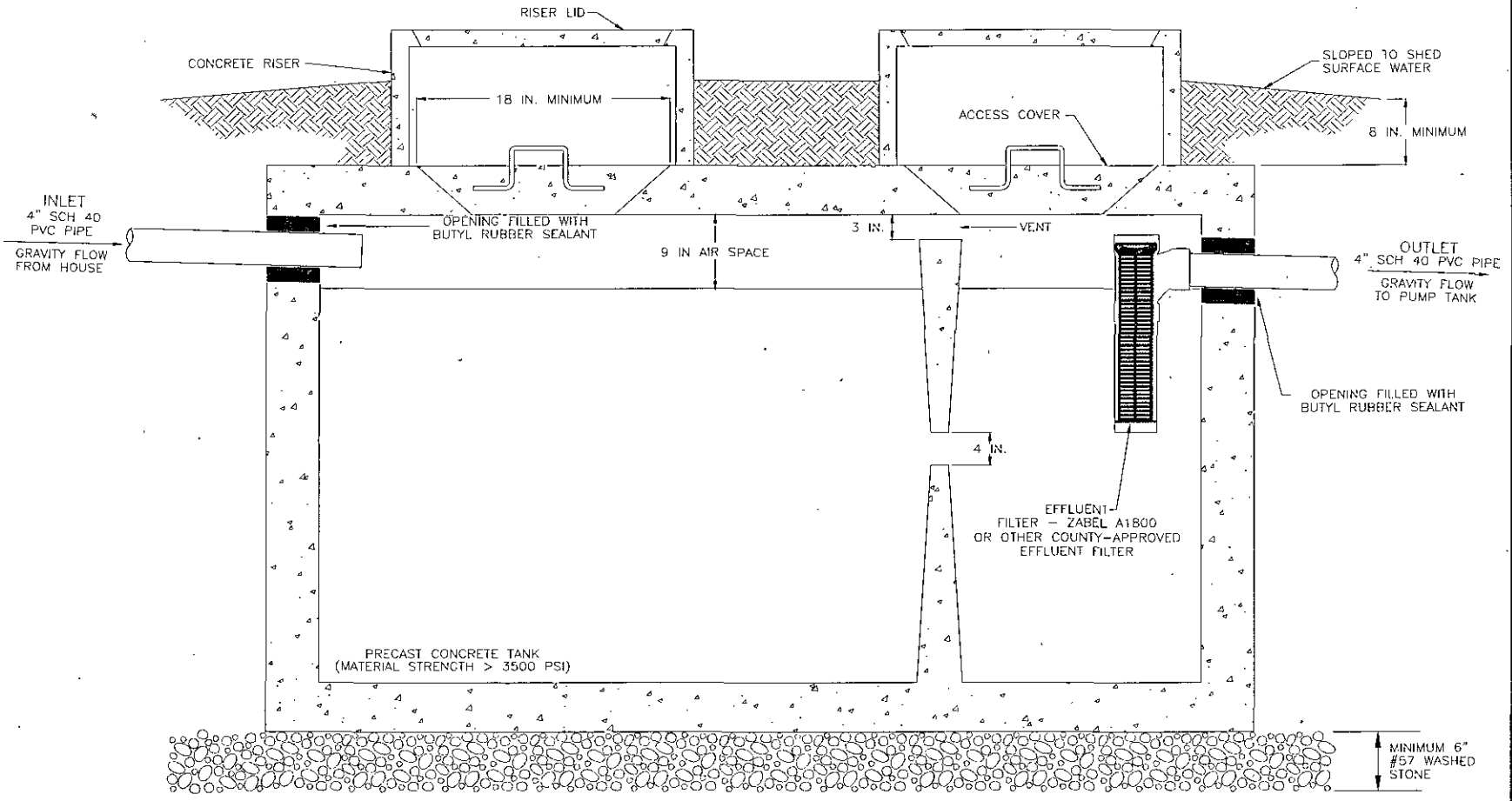
S&EC

PROJECT NAME: McCar Homes
Lot 69 Fairington Oaks
MECKLENBURG COUNTY, NC
11-16-06

SHEET TITLE:
3 BEDROOM SEPTIC SYSTEM LAYOUT
SKETCH MAP

SHEET 1 OF 1

59308
12/19/05

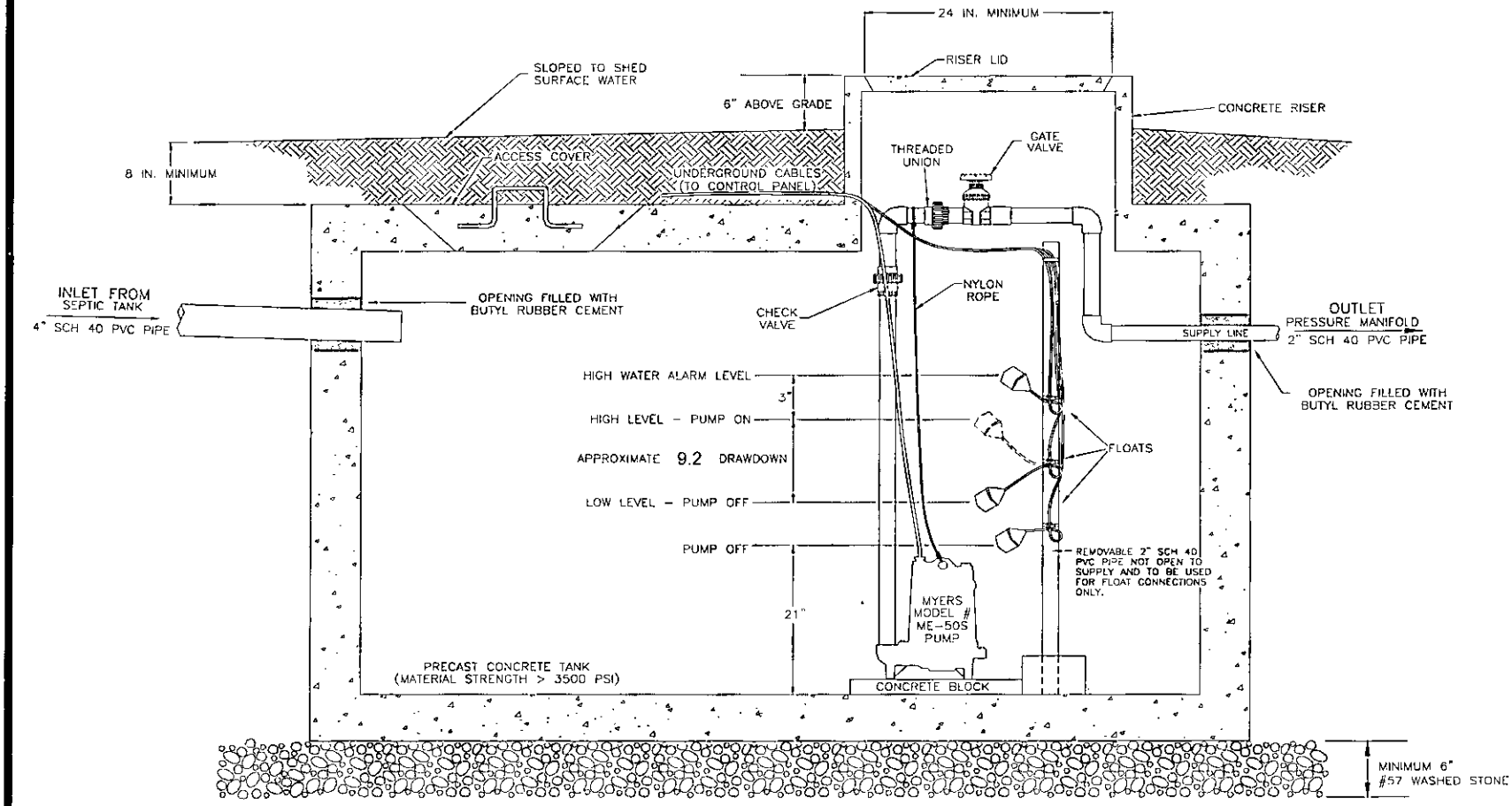


NOTES

1. TANK DIMENSIONS VARY BY MANUFACTURER.

1500 GALLON SEPTIC TANK

PROJECT NO: 4591 PROJECT MGR. SCALE: NTS	PROJECT NAME: **Lot 69 Fairington Oaks** SHEET TITLE: SEPTIC TANK DIAGRAM	S&EC **Soil & Environmental Consultants, Inc.** 11010 Raven Ridge Road Raleigh, North Carolina 27614 Phone: (919) 846-5900 Fax: (919) 846-9467 Web Page: www.SandEC.com



NOTES

1. TANK DIMENSIONS VARY BY MANUFACTURER.
2. DRAWDOWN WILL VARY WITH TANK DIMENSIONS. DRAWDOWN SHOWN BASED ON 21 GALLONS PER INCH.

1500 GALLON PUMP TANK

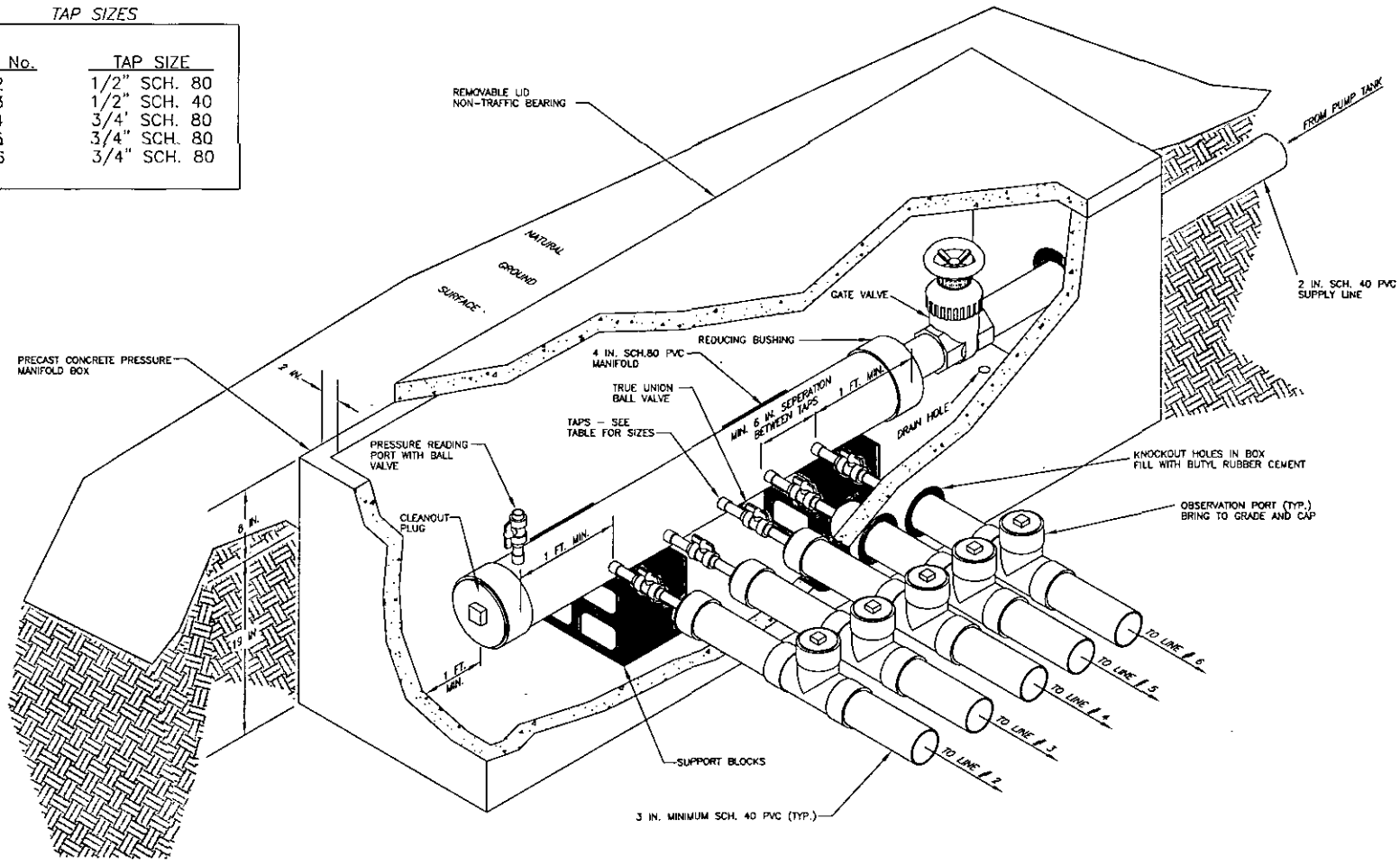
PROJECT NO. 5-1553	PROJECT NAME: Lot 69 Fairington Oaks
PROJECT MGR.	
SCALE NTS	SHEET TITLE: PUMP TANK DIAGRAM

S&EC
Soil & Environmental Consultants, Inc.
11010 Raven Ridge Road Raleigh, North Carolina 27614 Phone: (919) 846-5900 Fax: (919) 846-9467
Web Page: www.SandEC.com

PRESSURE MANIFOLD DETAILS
FOR
LOT 69 FAIRINGTON OAKS

TAP SIZES

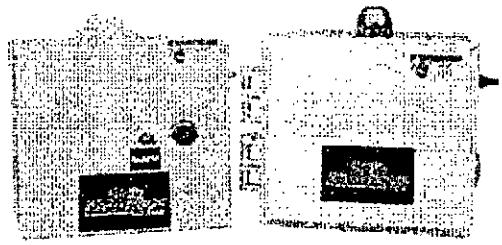
LINE No.	TAP SIZE
2	1/2" SCH. 80
3	1/2" SCH. 40
4	3/4' SCH. 80
5	3/4" SCH. 80
6	3/4" SCH. 80



MODEL 112 Control Panel

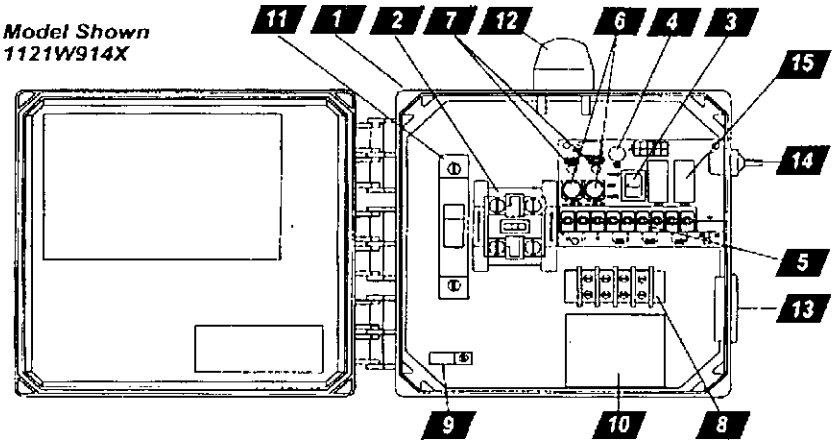
Single phase, simplex motor contactor control.

The Model 112 control panel provides a reliable means of controlling one 120, 208, or 240 VAC single-phase pump in pump chambers, sump pump basins, irrigation systems and lift stations. Two control switches activate a magnetic motor contactor to turn the pump on and off. If an alarm condition occurs, an additional alarm switch activates the audio/visual alarm system.



indoor *indoor/outdoor*

Model Shown
1121W914X



1. **Enclosure** measures 8 x 8 x 4 inches (20.32 X 20.32 X 10.16 cm). Choice of NEMA 1 (steel for indoor use), or NEMA 4X (ultraviolet stabilized thermoplastic with removable flanges for outdoor or indoor use).

   * Options selected may increase enclosure size and change component layout.

2. **Magnetic Motor Contactor** controls pump by switching hot electrical lines.
3. **HOA Switch** for manual pump control (mounted on circuit board).
4. **Green Pump Run Indicator Light** (mounted on circuit board).
5. **Float Switch Terminal Block** (mounted on circuit board).
6. **Alarm and Control Fuses** (mounted on circuit board).
7. **Alarm and Control Power Indicators** (mounted on circuit board).
8. **Pump Input Power and Pump Connection Terminal Block**
9. **Ground Lug**
10. **Terminal Block Installation Label**
11. **Circuit Breaker** (optional) provides pump disconnect and branch circuit protection.

STANDARD ALARM PACKAGE (other options available)

12. **Red Alarm Beacon** provides 360° visual check of alarm condition. **Note:** NEMA 1 style utilizes a door mounted indicator in lieu of a beacon.
13. **Alarm Horn** provides audio warning of alarm condition (83 to 85 decibel rating). **Note:** NEMA 1 style utilizes an internally mounted buzzer (83 to 85 decibel) in lieu of horn.
14. **Exterior Horn Test/Normal/Silence Switch** allows alarm horn to be silenced and testing of horn and light to ensure proper operation of alarm system.
15. **Horn Silence Relay** automatically resets alarm after alarm condition has been resolved (mounted on circuit board).

FEATURES

- Entire control system (panel and switches) is UL Listed to meet and/or exceed industry safety standards
- Dual safety certification for the United States and Canada
- Standard package includes three 20' Sensor Float® control switches
- Complete with step-by-step installation instructions
- Three-year limited warranty

c UL us
LISTED

SJE Rhombus CONTROLS
SJ ELECTRO SYSTEMS, INC.
PO Box 1708, Detroit Lakes, MN 56502
1-888-DIAL-SJE ..1-218-847-1317
1-218-847-4617 Fax
email: sje@sjerhombus.com
www.sjerhombus.com



MODEL 112

ALARM PACKAGE
- 0 = select options or no alarm package
- 1 = alarm package (includes test/normal/silence switch, fuse, red light, horn & float)

ENCLOSURE RATING
- I = Indoor, NEMA 1 (metal)
- W = Weatherproof, NEMA 4X (engineered thermoplastic)

STARTING DEVICE
- 1 = magnetic motor contactor 120/208/240V
- 9 = magnetic motor contactor 120V only

PUMP FULL LOAD AMPS
- 0 = 0-7 FLA
- 1 = 8-15 FLA
- 2 = 16-20 FLA
- 3 = 21-30 FLA

PUMP DISCONNECTS
- 0 = no pump disconnect
- 1 = pull-out with safety deadfront in a 10"x8" enclosure
- 4 = circuit breaker

FLOAT SWITCH APPLICATION
- H or L = pump down or pump up
- X = no floats

OPTIONS *Listed below*

★ Options selected may increase enclosure size and change component layout.

If additional features are required, call the factory for a quote on either a Pro-Line or Engineered Custom control panel system.

CODE	DESCRIPTION
1A	Red beacon only / no audio *must select 1E if floats included*
1C	Horn only / no visual *must select 1E if floats included*
1E	Alarm float
3A	Alarm flasher
★ 4A	Low level cutout *select option 4D if floats included*
★ 4B	Red low-level indicator & alarm *must select 4A also*
4D	Low-level float
6A	Auxiliary alarm contact, form C type
★ 8A	Elapsed time meter
★ 8C	Event (cycle) counter
10E	Lockable latch - NEMA 4X
10E	Lockable latch - NEMA 1
★10F	Lightning arrester
★10K	Anti-condensation heater

CODE	DESCRIPTION
11C	NEMA 1 alarm panel *must select option 6A*
11D	NEMA 4X alarm panel *must select option 6A*
15A	Control / alarm circuit breaker *Does not include the circuit board as in standard.*
16A	10' cord in lieu of 20'
16B	15' cord in lieu of 20'
16C	30' cord in lieu of 20'
16D	40' cord in lieu of 20'
17A	SJE SignalMaster® / mounting strap ●
17B	SJE SignalMaster® / externally weighted ●
17C	Sensor Float® / internally weighted ▲
17D	Sensor Float® / externally weighted ▲
17E	Sensor Float® Mini / pipe clamp ▲
17F	Sensor Float® Mini / externally weighted ▲
19X	Door mounted pump run indicator
21A	Pumpmaster® in lieu of on/off switches ●
21B	PumpMaster® Plus in lieu of on/off switches ●
21C	Super Single® in lieu of on/off switches ▲
21D	Double Float™ in lieu of on/off switches ▲

● Mechanically-activated ▲ Mercury-activated

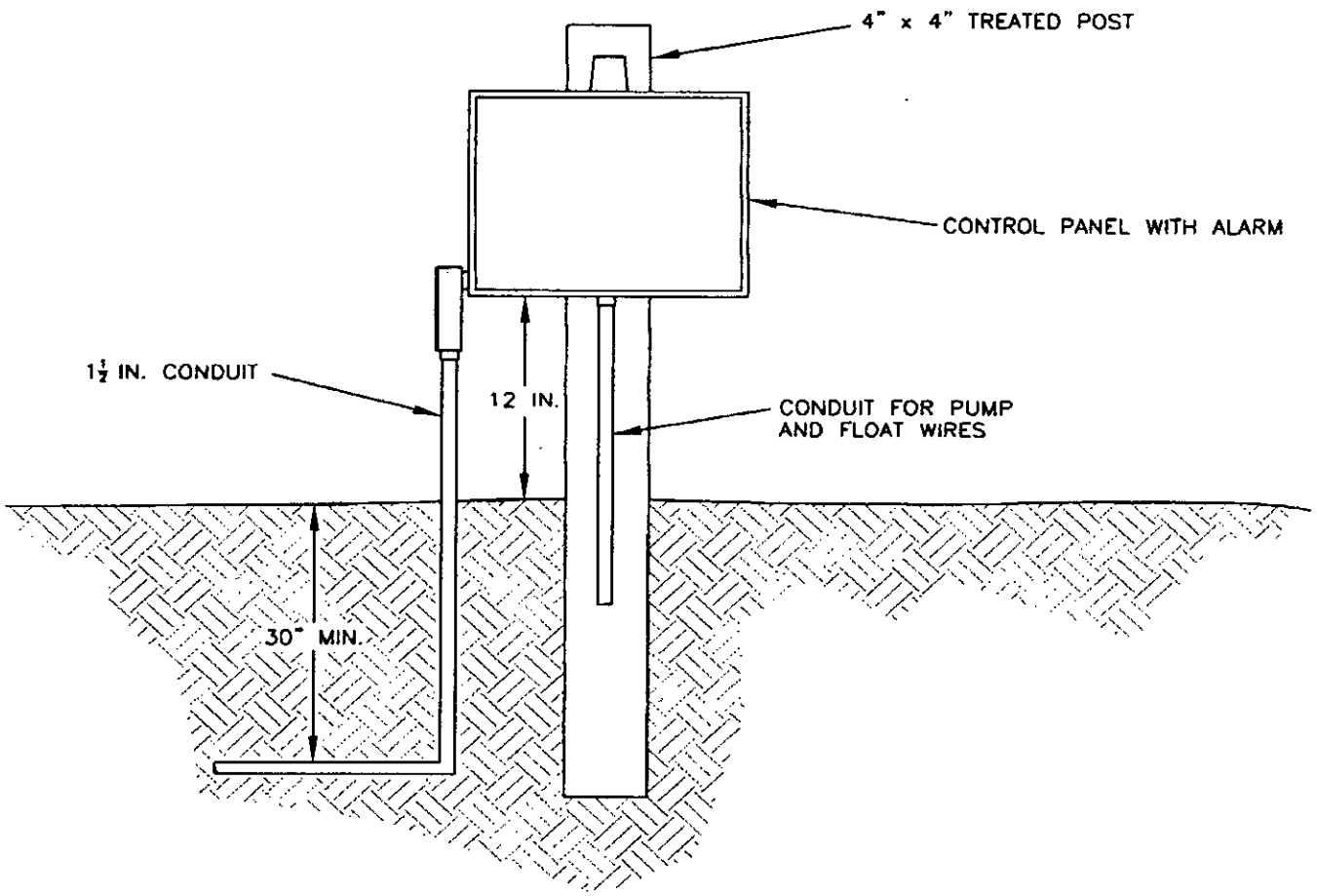
SAMPLE

MODEL 112 1 W 9 1 4 H 3A 8A

- Alarm Package
- Enclosure Rating
- Starting Device
- Pump Full Load Amps
- Pump Disconnect
- Float Switch Application
- Options: Alarm Flasher, Elapsed Time Meter

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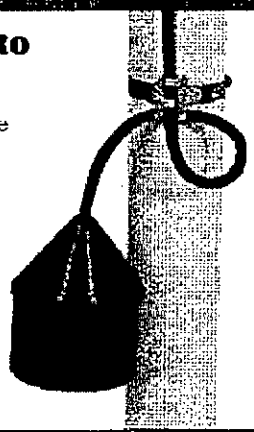
ELECTRIC BOX



NOTES: ELECTRICAL SYSTEM COMPONENTS SHALL BE INSTALLED TO MEET OR EXCEED MINIMUM REQUIREMENTS SPECIFIED IN THE ELECTRICAL COME. ALL WIRING SHALL BE #12 MINIMUM, AND RATED FOR DIRECT BURY. PROVIDE GROUNDING AS REQUIRED, AND PROVIDE 30" MINIMUM BURY ON CABLES. PROVIDE ONE 20 AMP, DOUBLE POLE, 230 VOLT CIRCUIT BREAKER (FOR PUMP), AND ONE 20 AMP, SINGLE POLE, 115 VOLT CIRCUIT BREAKER (FOR ALARM) IN MAIN PANEL.

SENSOR FLOAT® control switch

Mercury-activated, narrow-angle float switch designed to activate pump control panels and alarms.



This narrow-angle sensing device is used to accurately monitor liquid levels in sewage and non-potable water applications. The Sensor Float® control switch is not sensitive to rotation and is suitable for use with intrinsically safe circuits. Contact SJE-Rhombus regarding specific intrinsically safe applications.

Normally Open Model (high level)
The control switch turns on (closes) when the float tips slightly **above** horizontal signaling a high level, and turns off (opens) when the float drops slightly below horizontal.

Normally Closed Model (low level)
The control switch turns on (closes) when the float drops slightly **below** horizontal signaling a low level, and turns off (opens) when the float tips slightly above horizontal.

FEATURES

- Suitable for use with intrinsically safe circuits.
- Not sensitive to rotation.
- Control differential of .5 inches (1 cm) above or below horizontal.
- UL Listed for use in non-potable water and sewage.
- CSA Certified.
- Three-year limited warranty.

LR54245 LISTED 83N2

Hydraulic

OPTIONS

This switch is available:

- for normally open (high level) applications or normally closed (low level) applications.
- in standard cable lengths of 10, 15, 20, or 30 feet and 3, 5, 6, or 10 meters.
- with three mounting options that allow for flexibility in installation:

  Mounting Clamp: for applications where the switch can be attached to a discharge pipe or similar mounting device.

  Internally Weighted: for applications where the switch can be suspended from above.

  Externally Weighted: for applications where the switch can be suspended from above.

SPECIFICATIONS

CABLE: flexible 18 gauge, 2 conductor (UL,CSA) SJOW, water-resistant (CPE) jacket

FLOAT: 3.38 inch diameter x 4.55 inch long (8.58 cm x 11.56 cm), high-impact, corrosion resistant, PVC housing for use in sewage and non-potable water up to 140°F (60°C)

MAXIMUM WATER DEPTH: 30 feet (9 meters), 13 psi

MERCURY TILT SWITCH: single pole, single throw, mercury-to-mercury contacts, hermetically sealed in a steel capsule and epoxy sealed in the float housing

ELECTRICAL: 5 amp, 120/230 VAC, 50/60 Hz

CONTROLS SJE-Rhombus SJ ELECTRO SYSTEMS, INC.
PO Box 1708, Detroit Lakes, MN 56502
1-888-DIAL-SJE 1-218-847-1317
1-218-847-4617 Fax
email: sje@sjerhombus.com
www.sjerhombus.com

Sensor Float® control switch installation instructions

⚠WARNING **ELECTRICAL SHOCK HAZARD**
Disconnect power before installing or servicing this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.

⚠WARNING **EXPLOSION OR FIRE HAZARD**
Do not use this product with flammable liquids. Do not install in hazardous locations as defined by National Electrical Code, ANSI/NFPA 70.

Failure to follow these precautions could result in serious injury or death. Replace product immediately if switch cable becomes damaged or severed. Keep these instructions with warranty after installation. This product must be installed in accordance with National Electric Code, ANSI/NFPA 70 so as to prevent moisture from entering or accumulating within boxes, conduit bodies, fittings, float housing, or cable.

MOUNTING THE SWITCH

1. Place the cord into the clamp as shown in Figure B.
2. Locate clamp at desired activation level and secure the clamp to the discharge pipe as shown in Figures A and B. **Note:** Do not install cord under hose clamp.
3. Tighten the hose clamp using a screwdriver. Over tightening may result in damage to the plastic clamp. Make sure the float cable is not allowed to touch the excess hose clamp band during operation.
4. Bring cable leads back to control device and wire according to Figure C.
5. Check installation. Allow system to cycle to insure proper operation.

Note: All hose clamp components are made of 18-8 stainless steel material. See your SJE-Rhombus supplier for replacements.

Figure A

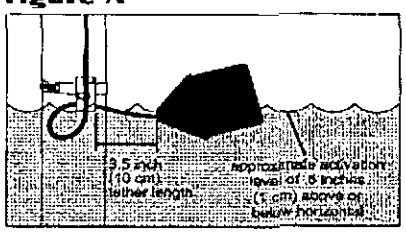
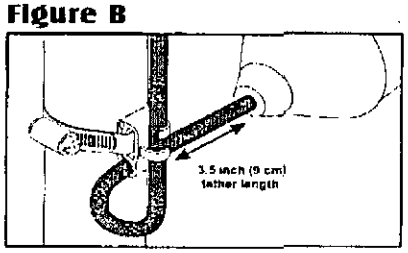


Figure B



INTERNAL WEIGHT

1. Determine desired activation level.
2. Suspend switch 7 inches (18 cm) below desired activation level as shown in Figure D. Switch remains partially submerged during the "on" tipping action. Switch can be totally submerged and still continue to operate properly.
3. Wire cable leads directly into control device as shown in Figure C.
4. Check installation. Allow system to cycle to insure proper operation.

Figure C - Wiring Diagram

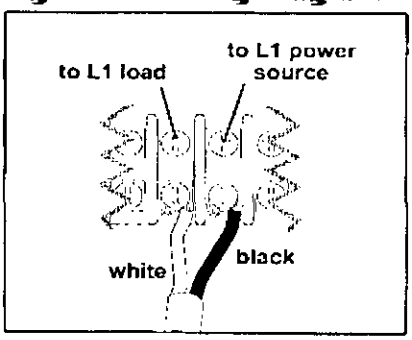
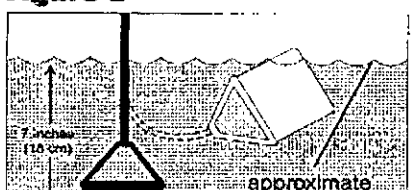


Figure D



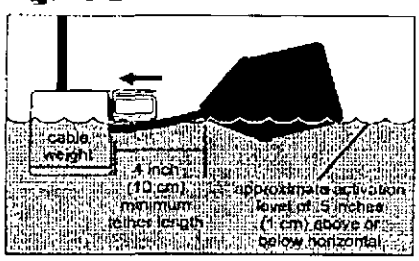
CABLE WEIGHT

1. Determine desired activation level.
2. Suspend switch and cable weight at desired activation level as shown in Figure E.
3. Wire cable leads directly into control device as shown in Figure C.
4. Check installation. Allow system to cycle to insure proper operation.

Cable weight is attached to switch cable at the factory. To adjust:

1. Release clip.
2. Adjust cable weight to desired position.
3. Lay switch cable in weight channel.
4. Align clip with weight channel and slide towards switch cable as shown in Figure E.
5. Snap clip snugly up to cable, moving clip to tightest possible position.

Figure E



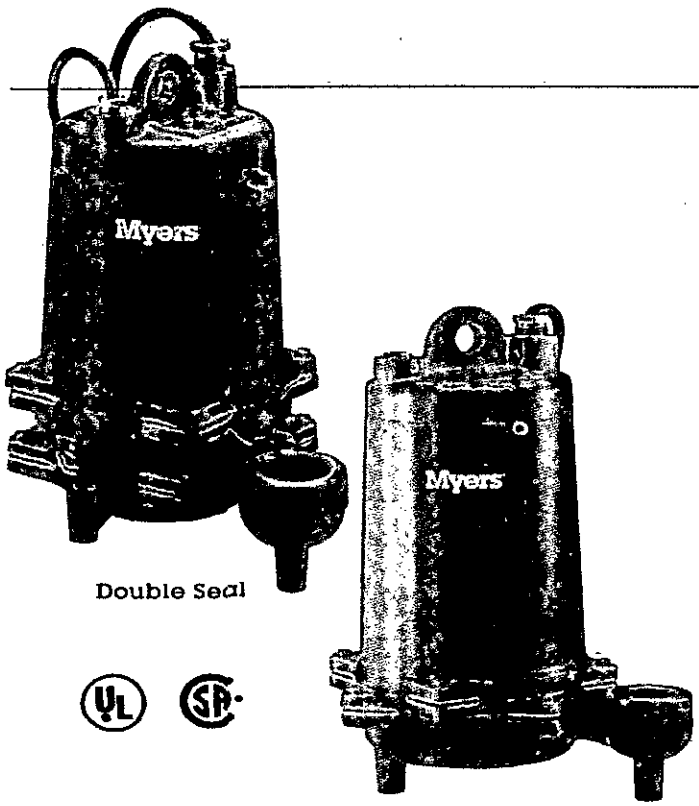
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ME SERIES

1/2 through 1-1/2 HP
Effluent Pumps



Double Seal

Single Seal

THE MYERS ME SERIES EFFLUENT PUMPS ARE DESIGNED SPECIFICALLY FOR TODAY'S EFFLUENT PRESSURE DISTRIBUTION MOUNDS, TRENCHES AND HIGH FLOW DRAINAGE APPLICATIONS. The ME Series effluent pumps with their efficient two vane, enclosed impellers, provide the ideal performance for optimum dosing. ME Series pumps are constructed of only corrosion resistant materials like cast iron, stainless steel and thermoplastics to assure that they will perform for years to come in the harsh effluent environment and drainage applications. For more information, call your Myers distributor today or the Myers Ashland, Ohio sales office at 419/289-1144.

ADVANTAGES BY DESIGN

IDEAL FOR USE IN MOUND AND TRENCH PRESSURE DISTRIBUTION SYSTEMS

- High efficiency, two vane, enclosed impeller provides ideal performance for most efficient dosing.
- Impeller passes full ¾ inch solids.
- Enclosed impeller design eliminates possibility of jamming or corrosion between impeller and volute.

DURABLE MOTOR WILL DELIVER MANY YEARS OF RELIABLE SERVICE

- Oil-filled motor for maximum heat dissipation and constant bearing lubrication.
- High torque, permanent split capacitor (PSC), single phase motors. No starting switches or relays to wear out.
- Optional seal leak probe warns of seal leak condition. (Dual seal motors only.) Helps prevent costly motor damage.
- Motors have on winding current and temperature sensitive overload. (Single phase only.)

THE ME SERIES EFFLUENT PUMPS ARE DESIGNED FOR YEARS OF MAINTENANCE FREE OPERATION

- Volute seal ring is replaceable. Restores pump to original performance if wear should occur.
- Motor is held in place by 4 screws. Easily removed if service is ever needed.

PRODUCT CAPAILITIES

Capacities To	120 GPM	454 LPM
Heads To	95 ft.	28.9 m
Max. Spherical Solids	¾ in.	19 mm
Liquids Handling	domestic effluent & drain water	
Intermittent Liquid Temp.	up to 140° F	up to 60° C
Motor Electrical Data	1/2 HP 115 volts, 1 ph 1/2 to 1-1/2 HP 230 volts, 1 ph 208, 230, 460, 575 volts, 3 ph oil-filled, permanent split capacitor type, 1 ph, 3450 rpm, 60 Hz	
Motor Insulation	Class B (130° C)	
Third Party Approvals	UL, CSA	
Acceptable pH Range	6-9	
Specific Gravity	.9-1.1	
Viscosity	28-35 SSU	
Discharge, NPT	2 in.	50.8 mm
Min. Sump Dia. Simplex	24 in.	61 cm
Duplex	36 in.	91.4 cm

Construction Materials	
Motor Housing, Volute	cast iron, Class 30, ASTM A48-76
Enclosed Two Vane Impeller Standard	engineered thermoplastic
Optional	bronze
Impeller Wear Ring	304 SST
Volute Sealing Ring	Buna-N
Shaft	416 SST
Power Cord	
1/2 HP 1 Ph	20 ft. 16/3 SJOW/SJOW-A
3/4 - 1-1/2 HP 1 Ph	20 ft. 14/3 SJOW/SJOW-A
All 3 Ph	20 ft. 14/4 SOW/SOW-A
Shaft Seals Standard	single carbon & ceramic
Optional	tandem carbon & ceramic
Opt. Lower	tungsten carbide
Fasteners	300 Series SST

WHERE INNOVATION MEETS TRADITION

ISO 9001 Certified Company

Myers
PENTAIR PUMP GROUP

ME SERIES

1/2 through 1-1/2 HP
Effluent Pumps

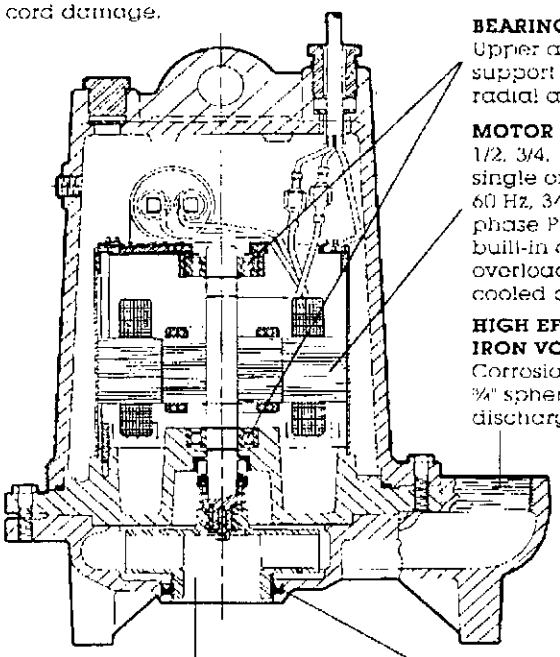
POWER CORD
Jacket sealed with compression fittings. Individual wires potted with epoxy to prevent wicking in case of cord damage.

MOTOR HOUSING
Cast iron for efficient heat transfer and corrosion resistance.

BEARINGS
Upper and lower ball support rotor. Take radial and thrust loads.

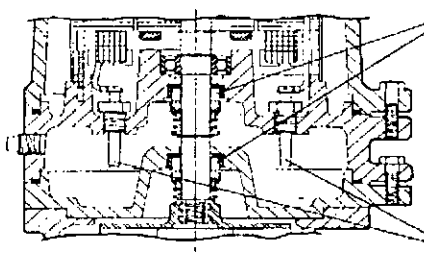
MOTOR
1/2, 3/4, 1 and 1-1/2 HP single or three phase. 60 Hz, 3450 RPM. Single phase PSC motors have built-in on winding overload protection, oil-cooled and lubricated.

HIGH EFFICIENCY CAST IRON VOLUTE
Corrosion resistant. Passes ¾" spherical solids. 2" NPT discharge.



ENCLOSED TWO VANE IMPELLER
high efficiency. Passes ¾" spherical solids with stainless steel wear ring. Optional bronze construction available.

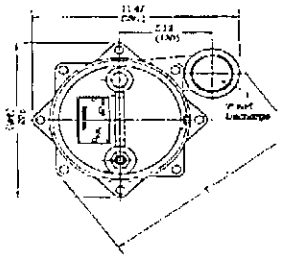
VOLUTE/IMPELLER SEAL RING
Maintains high efficiency and reduces recirculation. Replaceable.

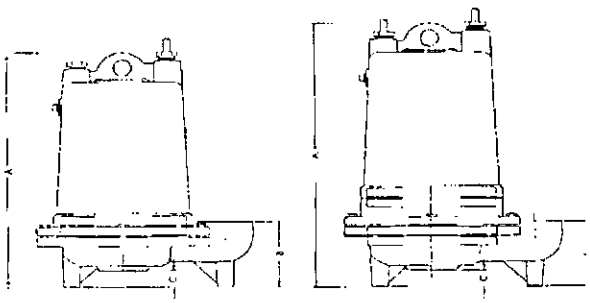


SHAFT SEAL(S)
Carbon and ceramic faces. Optional dual tandem seals. Extends motor life.

SEAL LEAK PROBES
Optional probes (dual seal only) detect water leakage in seal housing. Activates warning light.

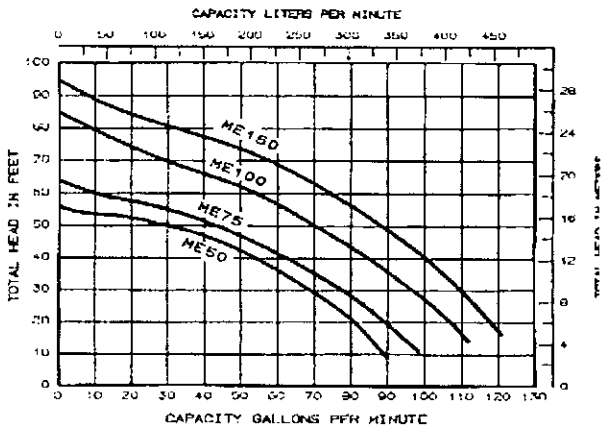
DIMENSIONS





Model Series	Inches (millimeters) A	B	C	F
ME50S	16.8 (427)	4.09 (104)	1.03 (26)	12.13 (308)
ME50D	18.6 (472)	4.09 (104)	1.03 (26)	12.13 (308)
ME75S, ME100S, ME150S	16.8 (427)	4.0 (102)	1.06 (27)	12.5 (318)
ME75D, ME100D, ME150D	18.6 (472)	4.0 (102)	1.06 (27)	12.5 (318)

PERFORMANCE CURVE



K3320 9/98
Printed in U.S.A.

PRINTED WITH SOY INK

Myers
PENTAIR PUMP GROUP

F. E. Myers, 1101 Myers Parkway, Ashland, Ohio 44805-1969
419/289-1144, FAX: 419/289-6658, www.femyers.com

Myers (Canada), 269 Trillium Drive, Kitchener, Ontario N2G 4W5
519/748-5470, FAX: 519/748-2553

CALCULATIONS

Location Fairington Oaks

Project Number 5-1553

Lot No:	69	
No. of Bedrooms	3	
Design Flow	360	$^{gal}/_{day}$
LTAR	0.275	$^{gal}/_{ft^2\ day}$
INNOV? (YES OR NO)	yes	
Supply Line Length	75	ft.
Supply Line Volume	13.05	gal.
Required Feet of Line	327	ft.
Amount of Line from Layout	422	ft.
Gallons per Minute	42.89	$^{gal}/_{min}$
Required Septic Tank Capacity	1500	gal.
Minimum Standard Tank Size	1500	
Lateral Line Volume	275.566	gal.
Dosing Volume	192.90	gal.

Note: Dosing Volume based on 70% of the lateral line volume.

FRICTION FACTOR INTERPOLATER
2" SCH 40 PVC

GPM	*f*
20	0.84
	-0.88
25	1.27
	-1.28
30	1.78
	-1.76
35	2.37
	-2.25
40	3.03
40.67	3.20
42.89	3.77
48.14	4.37
50	4.58
50.77	4.72
58.47	6.14
60	6.42

Tank Draw Down	9.2	*Generic Draw Down of 21 gal.per in.*
Pump Run Time	4.50	minutes
Estimated Elevation Head	12	ft.
Pressure Head	2	ft.
Friction Factor	3.77	ft./100 ft. *(From the interpolater.)*
Friction Head	2.83	ft.
Total Dynamic Head (+15%)	19.35	ft.

Department of Environment, Health, and Natural Resources
Division of Environmental Health
On-site Wastewater Section

Sheet: 1 of 2
Property ID: 195-212-18
Lot #: 69
File #: 5930B
Code: 2

ACS

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

Owner: Fairington Oaks LLC. Applicant:
Address: 1518 East 3rd St., Charlotte, N. C. 28204 Date Evaluated: 10/18/05
Proposed Facility: Residence. Design Flow (.1949): 600gpd Property Size: .82a
Location of Site: 3303 Mintwood Drive Property Recorded:
Water Supply: [x] Public [ ] Individual [ ] Well [ ] Spring [ ] Other
Evaluation Method: [x] Auger Boring [ ] Pit [ ] Cut
Type of Wastewater: [x] Sewage [ ] Industrial Process [ ] Mixed

PROFILE #	1940 Landscape Position/ Slope%	Horizon Depth (IN:)	SOIL MORPHOLOGY 1941 — 1941 Structure/ Texture	1941 Consistence/ Mineralogy	OTHER PROFILE FACTORS — 1942 Soil Wetness/ Color	1943 Soil Depth (IN:)	1956 Sapro Class	1944 Restr. Horiz	Profile Class & LTAR
1	LS, 6	0-8	GRSCL	FR/SEXP/SS/SP	>48" TO SOIL WETNESS	48	N/A	NONE	PS, IV
		8-48	SBK/C	FI/SEXP/S/P					.3GPD/FT^2
2	"	0-7	GR/CL	FR/SEXP/SS/SP	>39" TO SOIL WETNESS	39	"	"	PS, IV
		7-39	SBK/C	FI/SEXP/S/P					.275GPD/FT^2
3	"	0-8	GR/SCL	FR/SEXP/SS/SP	>48" TO SOIL WETNESS	48	"	"	PS, IV
		8-48	SBK/C	FI/SEXP/S/P					.3GPD/FT^2
4	LS, 10	0-7	GR/SCL	FR/SEXP/SS/SP	2.5Y7/1 at 29"	36+	"	"	US, IV
		7-36	SBK/C	FI/SEXP/S/P					
5	LS, 8	0-8	GR/SCL	FR/SEXP/SS/SP	2.5Y7/1 at 38"	43	"	"	PS, IV
		8-43	SBK/C	FI/SEXP/S/P					.225GPD/FT^2
6	"	0-8	GR/SCL	FR/SEXP/SS/SP	>48" TO SOIL WETNESS	48	"	"	PS. IV
		8-48	SBK/C	FI/SEXP/S/P					.25GPD/FT^2

Description	Initial System	Repair System
Available Space (.1945)	PS	PS
System Type(s)	ETb	IVG
Site LTAR	.275GPD/FT^2	.275GPD/FT

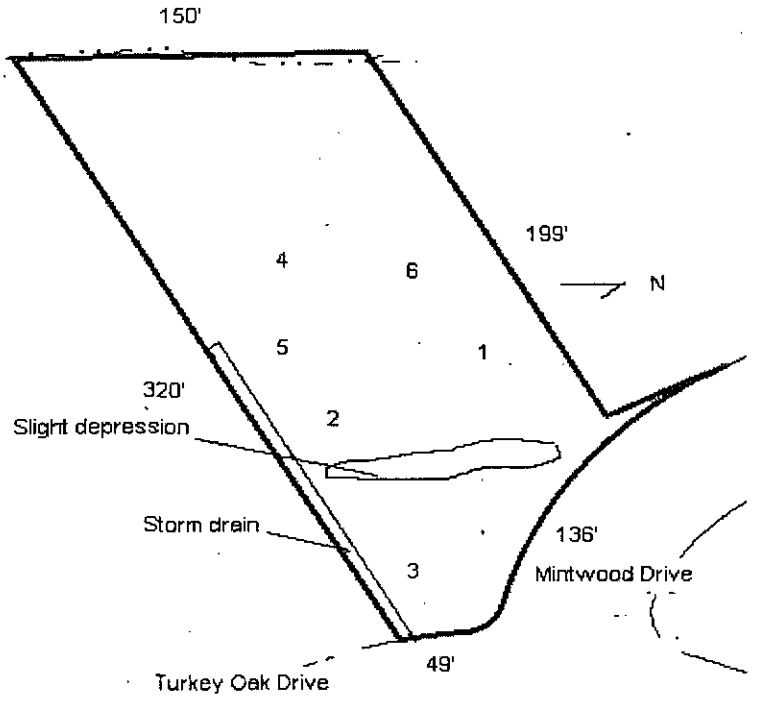
Other Factors (.1946):
Site Classification (.1948): ~~UNSUITABLE~~ PROV. SUITABLE
Evaluated By: W. R. Marlin, LSS, 10/19/2005. W.R. Marlin
Others Present:

COMMENTS:
100% repair

Landscape Position	Group	Texture	1955 LTAR	Structure
R-Ridge	I	S-Sand	1.2 - 0.8	SG-Single Grain
SS-Shoulder Slope		LS-Loamy Sand		M-Massive
LS-Linear Slope				CR-Crumb
FS-Food Slope	II	SL-Sandy Loam	0.8 - 0.6	GR-Granular
NS-Nose Slope		L-Loam		SBK-Subangular Blocky
HS-Head Slope				ABK-Angular Blocky
CC-Concave Slope	III	SI-Silt	0.6 - 0.3	PL-Platy
CV-Convex Slope		SICL-Silty Clay Loam		PR-Prismatic
T-Terrace		CL-Clay Loam		
FP-Flood Plain		SCL-Sandy Clay Loam		
	IV	SC-Sandy Clay	0.4 - 0.1	
		SIC-Silty Clay		
		C-Clay		

Consistence Moist	Consistence Wet	Mineralogy
VFR-Very Friable	NS-Non-Sticky	SEXP-Slightly Expansive
FR-Friable	SS-Slightly Sticky	EXP-Expansive
FI-Firm	S-Sticky	
VFI-Very Firm	VS-Very Sticky	
EFI-Extremely Firm	NP-Non-Plastic	
	SP-Slightly Plastic	
	P-Plastic	
	VP-Very Plastic	

Sketch of Soil Evaluation Locations



FAIRINGTON OAKS / Lot 69

Project No. 5-1553

LAYOUT FOR 3 BEDROOM HOME — Apr-07

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	Design Length
TBM		6.5			100.0		
INSTR 1			106.5				
			SYSTEM				
6	Orange			3.40	103.1	100	100
7	Yellow			4.50	102.0	65	65
8	Blue			5.50	101.0	70	70
9	Pink			7.00	99.5	75	75
10	Red			8.00	98.5	90	90
					Total	**400**	**400**
			Repair				
Tbm		5.4	105.4				
1	Pink			4.90	100.5	75	
2	Red			6.00	99.4	105	
3	Orange			6.40	99.0	83	
4	Yellow			7.10	98.3	83	
5	Red			3.60	102.9	54	
					Total	400	

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	INNOVATIVE TYPE	DISTRIBUTION
* System	400	0.225	At Grade	EZ Flow Or Chamber	Drop Boxes
Repair	400	0.3	Shallow Conv	EZ Flow Or Chamber	County Preference

Notes:

** TBM's located top of house cnr
**TBM is assumed to be 100'
**All measures in feet
**Nitrification lines are demonstrated on contour via colored pin flags
**BS and FS indicate rod readings

#950

GWS – RES. APP 12/04

SEPTIC FEE: 700 #032342
DATE: 1/10/05
CRT [illegible]

PERMIT APPLICATION FOR A RESIDENTIAL SITE
IMPROVEMENT PERMIT / CONSTRUCTION AUTHORIZATION
FOR ON-SITE WASTEWATER SYSTEM
NEW WELL INSTALLATION OR REPAIR OF EXISTING WELL
MECKLENBURG COUNTY GROUNDWATER & WASTEWATER SERVICES

WELL FEE:
DATE:
CRT [illegible]

FILE # 5930B

SEPTIC / TYPE APPLICATION: ☐ NONE ☒ NEW SYSTEM EXISTING SYSTEM: ☐ EXPANSION/ALTERATION ☐ REPAIR

WELL / TYPE APPLICATION: ☒ NONE ☐ NEW WELL ☐ MAJOR REPAIR ☐ ABANDONMENT

JOB LOCATION INFORMATION:

TAX/PARCEL #: 195-211-45
STREET ADDRESS: 3303 MINTWOOD Drive
CITY: MINT HILL
STATE: NC ZIP: 28227
SUBDIVISION OR MOBILE HOME PARK NAME: FARRINGTON OAKS
LOT #: 69
TOWNSHIP:

☐ 0-MECKLENBURG ☐ 4-PINEVILLE
☐ 1-CHARLOTTE ☐ 5-MATTHEWS
☐ 2-DAVIDSON ☐ 6-HUNTERSVILLE
☐ 3-CORNELIUS ☒ 7-MINT HILL

BUILDING INFORMATION:

TYPE OF BUILDING:

☐ SINGLE MOBILE HOME (S) ☐ MODULAR HOME (M)
☐ DOUBLE WIDE (D) ☐ MULTIPLE FAMILY (U)
☒ HOUSE (H) ☐ OTHER

HEATED SQUARE FOOTAGE: 3200
NUMBER OF BEDROOMS: 3 + Jae
NUMBER OF OCCUPANTS: 4

FOUNDATION FOR RESIDENCE:

☐ CONCRETE SLAB ☑ BASEMENT WITH PLUMBING
☐ CRAWLSPACE ☒ BASEMENT WITH NO PLUMBING

IF PLANNING TO EXPAND/ALTER THE EXISTING SYSTEM INDICATE THE FOLLOWING CHANGES:

NUMBER OF BEDROOMS TO BE ADDED: NUMBER OF ADDITIONAL OCCUPANTS IN THE RESIDENCE:

WILL THERE BE A HOME BUSINESS IN THE RESIDENCE? ☐ YES ☒ NO TYPE:

WATER SUPPLY:

☒ MUNICIPAL (M) ☐ PUBLIC (C) ☐ PRIVATE WELL (P) ☐ SHARED WELL (S) ☐ OTHER 'SPRINGS' (O)

PROPOSED USE OF WELL: ☒ N/A ☐ IRRIGATION ☐ POTABLE ☐ GEOTHERMAL ☐ OTHER

ARE ANY OF THE FOLLOWING LOCATED ON THE PROPERTY? IF SO, PLEASE SHOW LOCATION ON SITE PLAN/PLAT.

BURIED CABLES, LANDFILLS, STUMPHOLES	☐ YES	☒ NO	WELLS, SPRINGS, OR WATER LINES	☐ YES	☒ NO
EXISTING WASTEWATER SYSTEMS	☐ YES	☒ NO	DESIGNATED WETLANDS	☐ YES	☒ NO
EASEMENTS OR RIGHT-OF-WAYS	☐ YES	☒ NO	GRADING/SOIL REMOVAL PERFORMED	☐ YES	☒ NO

PROPERTY OWNER:

NAME: FARRINGTON OAKS LLC.
ADDRESS: 1518 East 3rd St.
CITY: Charlotte
STATE: N.C. ZIP: 28204
HOME PHONE: WORK PHONE: 704 370 0303
MOBILE PHONE: FAX:

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:

NAME:
ADDRESS:
CITY:
STATE: ZIP:
HOME PHONE: WORK PHONE:
MOBILE PHONE: FAX:

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED?
WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY? 6/1/05

*An Improvement Permit is subject to suspension or revocation if site plans or the intended use change or if information submitted in this application is falsified or changed. The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

Owner's/Agent's Signature 2/16/05 Date

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT & NATURAL RESOURCES DIVISION
OF ENVIRONMENTAL HEALTH ON-SITE
WASTEWATER SECTION

*A Well Permit is subject to suspension or revocation if site plans or the intended use change or if information submitted in this application is falsified or changed. The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

Owner's/Agent's Signature Date

MECKLENBURG COUNTY HEALTH DEPARTMENT
GROUNDWATER & WASTEWATER SERVICES
700 N. TRYON ST., SUITE 211
CHARLOTTE, NC 28202
704-336-5103 / FAX: 704-336-6894

X

X

X

FOR REGISTRATION JUDITH A. GIBSON
REGISTER OF DEEDS
MECKLENBURG COUNTY, NC
2006 JAN 31 02:10 PM
BK:19960 PG:618-619 FEE:$20.00

INSTRUMENT # 2006019374

2006019374

STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG

WASTEWATER TREATMENT AND DISPOSAL SYSTEM DESIGN AGREEMENT: 15A NCAC 18A .1948 AND ANY OF THE FOLLOWING RULES: .1956; .1957(a); .1957(b); or .1957(c); OR .1969

FILE # 5930 B 69
PARCEL # _____

The undersigned, McCAR HOMES, owner of property located at 3303 Minstrel Dawn, (the "site") and described in an instrument recorded in Book _____ at Page _____, Mecklenburg Public Registry, hereby acknowledges that the undersigned applied to the Mecklenburg County Health Department (the "Department") for a permit to install a septic tank sewage disposal system on the site; that the Department evaluated the site for suitability for such a system in accordance with the regulations promulgated by the North Carolina Commission for Health Services as 15A NCAC 18A .1900 et seq.; that the Department originally classified the site as "unsuitable" pursuant to the standards set forth in the regulations; that the undersigned requested that the Department reclassify the site as "provisionally suitable" in light of the particular septic tank system proposed by the undersigned; that the Department considered various studies, data, and other information which indicate to the Department that the septic tank system proposed by the undersigned is allowed by the rules; and that the Department therefore reclassified the site as "provisionally suitable" and issued an appropriate permit for such proposed septic tank system.

The undersigned further acknowledges that the proper design, construction, operation and maintenance of such septic tank system is the responsibility of the designer, owner, developer, installer, or user of the system, as applicable, and that neither the Department nor its officials, employees, or agents warrant or guarantee that the said system installed pursuant to the permit issued by the Department will function in a satisfactory manner for any given period of time or that the Department, its officials, employees or agents assume any liability for any damages of any kind which are caused, or which may be caused, by a malfunction of such system.

The undersigned further acknowledges that the following conditions will apply to the site:

This instrument was prepared by: J ELLIS Jeffrey Ellis
Mail after recording to: 10150 Mallard Creek Rd. Suite 107
Charlotte, NC. 28262

-- Any changes on the property may make the Improvement Permit null and void and may make the Improvement Permit subject to revocation.

-- Do not grade, cut, fill, pave, construct a building or deck, dig a well, install a swimming pool or otherwise cover or disturb the soil (except for planting and maintaining grass or other ground covers) in a manner which will adversely affect the repair area or area where the septic tank system is located.

-- When a private certified operator is required, no improvement permit for the designated repair shall be issued unless there is a private certified operator to carry out this management program in the service area where the proposed system is to be located. (Refer to Rule .1961, "Maintenance of Sewage Systems," for further information.)

-- Additional fees will be required according to the Mecklenburg County user fee schedule applicable at the time for the issuance of a repair permit for any subsequent repairs to the sewage treatment and disposal system or for installation of a replacement system.

-- At the time repairs to the sewage treatment and disposal system are to be made or a replacement system installed, the regulations in effect at that time will govern the repairs or installation of a replacement system.

The undersigned further agrees for himself, his heirs and assigns that he shall indemnify and hold harmless theDepartment, its employees, and officials, as well as Mecklenburg County and its employees and officials, for any damages or other claims of any person or persons whatsoever arising out of the installation, operation, or failure of said septic tank system.

Use of the singular masculine pronoun forms herein shall be deemed to also include the plural and feminine forms as the context may require.

This document shall be placed on the public records of the Register of Deeds of Mecklenburg County and indexed therein under the Grantor Index in the name or names of the undersigned, and the foregoing acknowledgements shall henceforth be binding on all persons claiming any right, title, or interest in the site.

IN WITNESS WHEREOF, the undersigned has hereunto set his hand and seal, or if corporate, has caused this instrument to be signed in its corporate name by its duly authorized officers and its seal to be hereunto affixed by authority of its Board of Directors, this _____ day of _____, 20___.

McCar Homes _____ (SEAL)
(Corporate Name)

_____ (SEAL)

By: Jeffrey Ellis _____ (SEAL)

b Syed _____ President _____ (SEAL)

ATTEST:

_____

_____ Secretary

(Corporate Seal)

STATE OF NORTH CAROLINA
COUNTY OF _____

I, _____, a Notary Public for said County and State, do hereby certify that _____ personally appeared before me this date and acknowledged the due execution of the foregoing instrument.

WITNESS my hand and notarial seal, this _____ day of _____, 20____.

_____
Notary Public

My Commission Expires:

_____

STATE OF NORTH CAROLINA
COUNTY OF Mecklenburg

I, Chris Bryant, a Notary Public for said County and State, do hereby certify that Jeffrey Ellis (SEAL) personally came before me this day and acknowledged that he is ~~Secretary~~ of Building Superintendent of MDC/Cal NORTH, a North Carolina corporation, and that by authority duly given and as the act and deed of said corporation, the foregoing instrument was signed in its name by its ~~President, sealed with its corporate seal, and attested by~~ Building Superintendent as its ~~Secretary~~.

WITNESS my hand and notarial seal, this 17 day of Jan, 2006.

Chris Bryant Notary Public

Notary Public Chris Bryant

My Commission Expires:

7-10-2010

REVISED 8-13-02