

5329 TURKEY OAK DR

19521217

1/9/2008

duponbj

Groundwater and Wastewater Services File Imaging Project
May 2007
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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

INSTALLATION APPROVAL for an ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

File #: 5946B Permit #: _____ Tax Parcel #: 195 202 17

Property Owner: Farrington Oaks LLC

Job Location Address: 5329 Turkey Oak Dr Lot 70

City: Charlotte State: NC Zip Code: 28227

Installation Approval Issuance Date: 11/21/06

Permission is hereby given to ☒ install ☐ alter ☐ repair an on-site wastewater treatment & and disposal system, with subsurface soil absorption and effluent discharge, as specified herein at the described location. This approval is granted based upon the application information submitted to our office. All work shall be completed on or before 12/21/06, after which date this approval shall be null and void. The system shall meet all of the construction requirements of 15A NCAC 18A. 1900 which are in effect on the date of granting this approval. An **Operation Permit** must be obtained from the Mecklenburg County Health Department before any system can be covered up or placed into service. The issuance of this permit does not in any way guarantee that the system anticipated to be constructed will operate properly, or relieve any person now of hereafter owning, controlling or using such system from any liability resulting from the failure of the system to operate properly.

***NOTICE: This system shall not be installed while soils are in a wet condition.**

Permitted Design Flow: 480 GPD

Site LTAR: .275 GPD/ft² (For new installations only.)

Liquid Capacity of Septic Tank: 1500 gallons

Liquid Capacity of Dosing Tank: 1500 gallons

Drainfield Design ☐ N/A

Trench Depth: 12 inches

Trench Width: 3 feet

Line Spacing: 9 feet (O.C.)

Total line length: 470 feet

# of Lines: see plan @ _____ feet

Depth of Media: 12 inches (Type) INNO

Distribution Device: 2 pressure manifolds

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

Bed Depth: _____ inches

Bed Width: _____ feet

Total line length: _____ feet

# of Lines: _____ @ _____ feet

Depth of Media: _____ inches (Type) _____

Distribution Device: _____

Water Supply Source

☒ Municipal ☐ Private Well ☐ Community Well

☐ Other _____

Minimum System Setbacks

Distance from Building Foundation: 5 feet

Distance from Property Line: 10 feet

Distance from Water Supply Source: 10 feet

SKETCH OF SYSTEM LAYOUT
(Proposed Layout)

Install in accordance w/ approved plot plan

Comments: System Classification & Type: Type IIIb Pump to INNOvative / Drip Irr Repair

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

* IP MODIFIED TO ACCOMMODATE HOUSE LOCATION.

5329 TURKEY OAK DR.

5946B

195-217-17

Attached is a proposed design for a Pressure Manifold Septic System for a 4 bedroom single family residence on lot 70 of Fairington Oaks Subdivision in Mecklenburg County, North Carolina.

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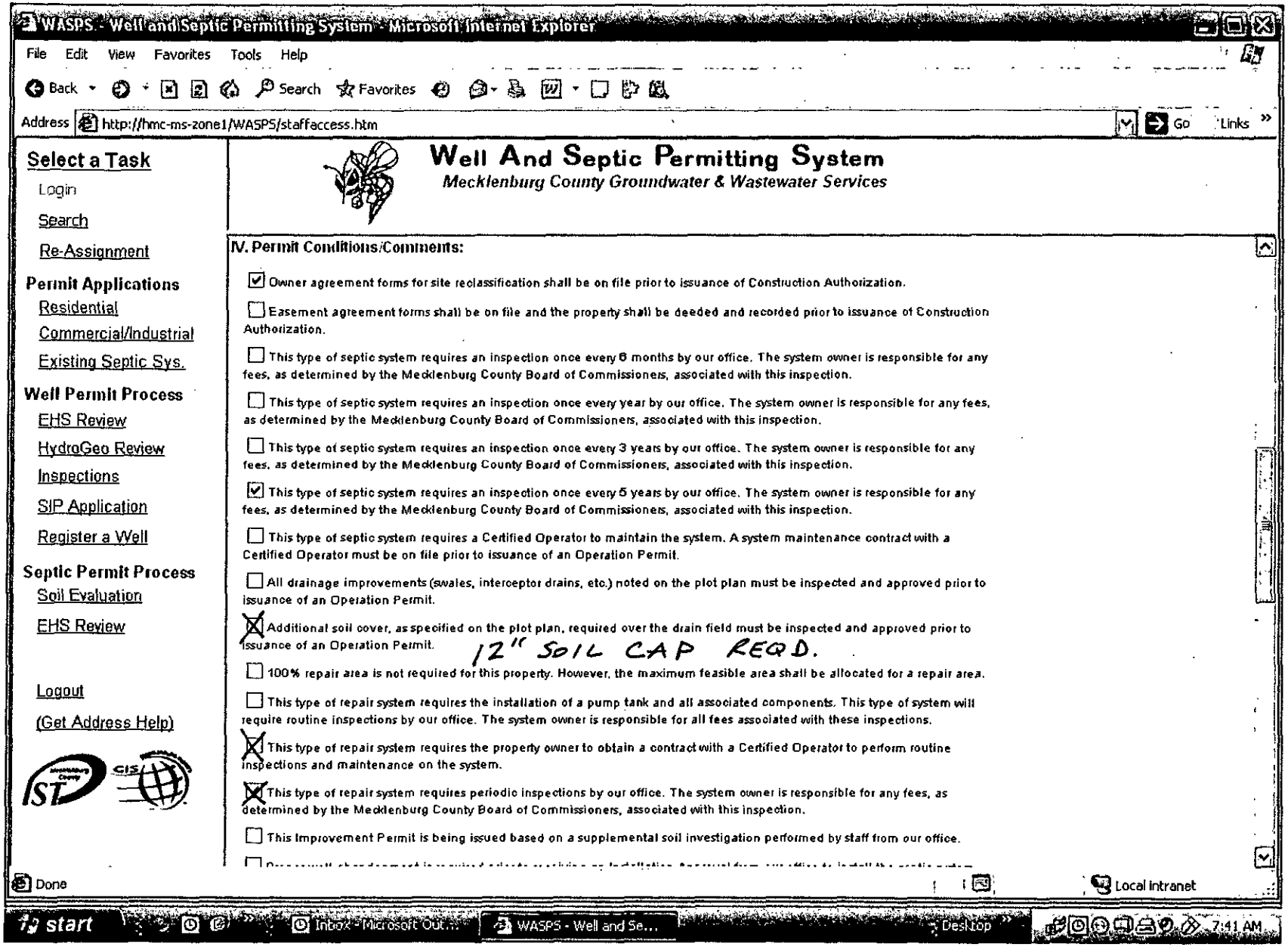
Electric Box Specifications---------- 17

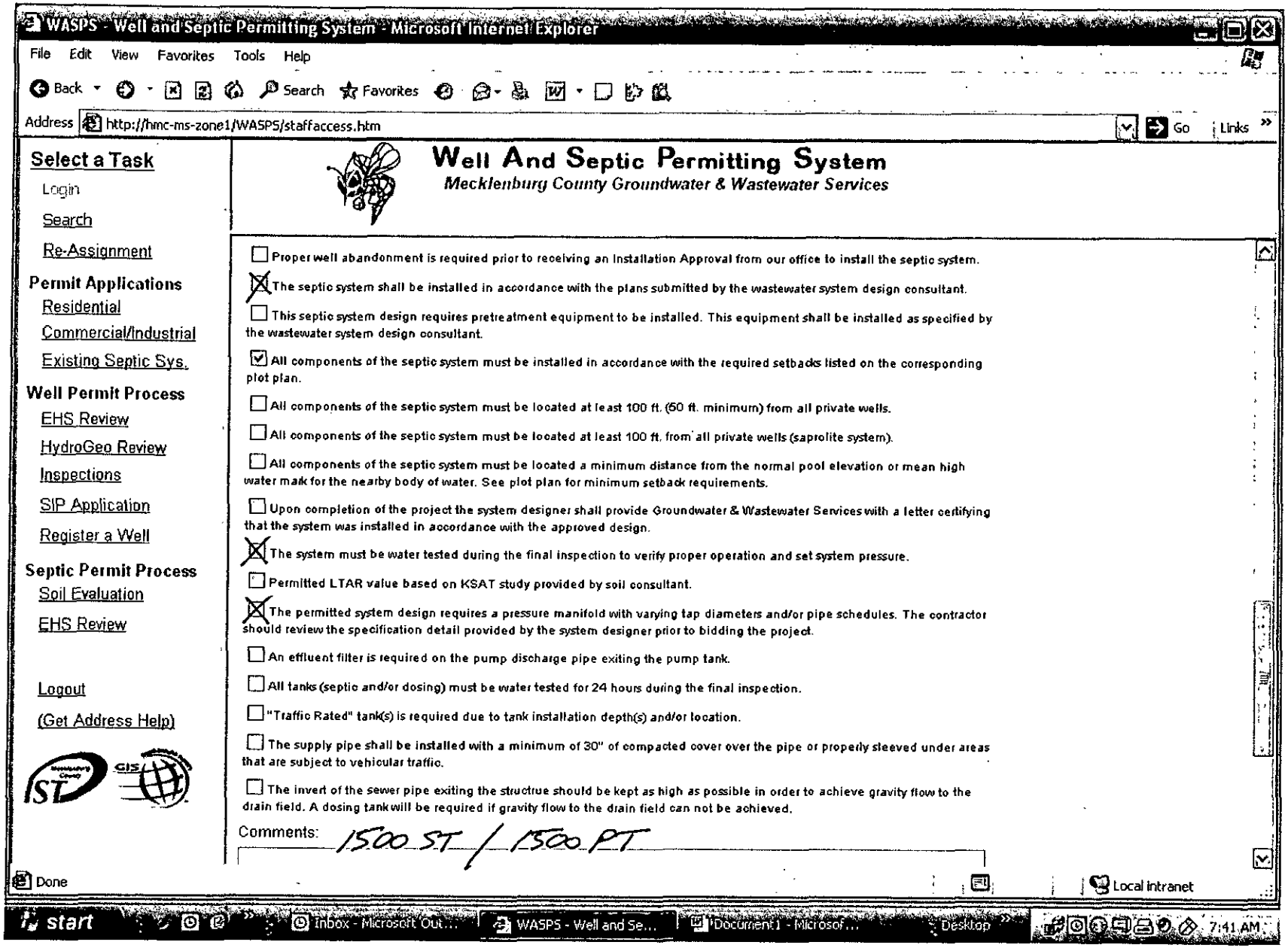
Calculations---------- 18

November 2, 2006
S & EC Project No. 5-1553
Design By: W. Overby

APPROVED ON 11-2-06 TREVOR

5946 B LOT #70 FAIRINGTON OAKS




WASPS - Well and Septic Permitting System - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://hmc-ms-zone1/WASPS/staffaccess.htm
Go Links
Select a Task
Login
Search
Re-Assignment
Permit Applications
Residential
Commercial/Industrial
Existing Septic Sys.
Well Permit Process
EHS Review
HydroGeo Review
Inspections
SIP Application
Register a Well
Septic Permit Process
Soil Evaluation
EHS Review
Logout
(Get Address Help)
Well And Septic Permitting System
Mecklenburg County Groundwater & Wastewater Services
Proper well abandonment is required prior to receiving an Installation Approval from our office to install the septic system.
The septic system shall be installed in accordance with the plans submitted by the wastewater system design consultant.
This septic system design requires pretreatment equipment to be installed. This equipment shall be installed as specified 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.
All components of the septic system must be located at least 100 ft. (50 ft. minimum) from all private wells.
All components of the septic system must be located at least 100 ft. from all private wells (saprolite system).
All components of the septic system must be located a minimum distance from the normal pool elevation or mean high water mark for the nearby body of water. See plot plan for minimum setback requirements.
Upon completion of the project the system designer shall provide Groundwater & Wastewater Services with a letter certifying that the system was installed in accordance with the approved design.
The system must be water tested during the final inspection to verify proper operation and set system pressure.
Permitted LTAR value based on KSAT study provided by soil consultant.
The permitted system design requires a pressure manifold with varying tap diameters and/or pipe schedules. The contractor should review the specification detail provided by the system designer prior to bidding the project.
An effluent filter is required on the pump discharge pipe exiting the pump tank.
All tanks (septic and/or dosing) must be water tested for 24 hours during the final inspection.
"Traffic Rated" tank(s) is required due to tank installation depth(s) and/or location.
The supply pipe shall be installed with a minimum of 30" of compacted cover over the pipe or properly sleeved under areas that are subject to vehicular traffic.
The invert of the sewer pipe exiting the structrue should be kept as high as possible in order to achieve gravity flow to the drain field. A dosing tank will be required if gravity flow to the drain field can not be achieved.
Comments: 1500 ST / 1500 PT
Done
Local intranet
start
Inbox - Microsoft Out...
WASPS - Well and Se...
Document1 - Microsof...
Desktop
7:41 AM

PRESSURE MANIFOLD SYSTEM
FOR WASTEWATER TREATMENT

Owner:	McCarr Homes Brian Parmanter
Address:	
Fax:	(704) 573-0770
Phone:	(704) 622-5028
County:	Mecklenburg
Location:	Fairington Oaks Lot 70
Source of Wastewater Flow:	4 Bedroom Residance
Estimated Daily Wastewater Production:	480
System Flow:	55.48

Design Specifications

Drainfield Size:	470
Loading Rate:	0.275
Depth of Gravel in Trench:	N/A
Gravel Size:	N/A
Trench Depth:	12
Trench Width:	36 in.
Septic Tank Size:	1500
Pump Tank Size:	1500
Estimated Supply Line Length:	90
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	15.66
Dosing Volume:	215.75
Supply Manifolds:	***4*** in. SCH 80 PVC
Supply Manifold 1 Length:	3 ft. (minimum)
Supply Manifold 2 Length:	3.5 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:	3.39
Elevation Head:	8.00
Total Dynamic Head:	15.40
Threaded Union:	In Tank
Gate Valves:	1 in Tank 1 at each Pressure Manifold
Check Valves:	In Tank, 1 on supply line to upper manifold
Anti-Siphon Hole:	NO
Recommended Pump:	Myers Model ME50 or County Approved Effluent Rated Pump Capable of Delivering ~16 ft.of Head at ~55.5 gpm Total Flow
Additional Comments:	Soil suitability was performed by S&EC and Mecklenburg County Health Dept

Fairington Oaks Lot 70
PRESSURE MANIFOLD DESIGN

DESIGN FLOW:	480
SOIL APPLICATION RATE:	0.275
TOTAL AREA TRENCH BOTTOM:	1416
TOTAL LATERAL LENGTH:	472
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	436
SUPPLY LINE LENGTH:	90
TOTAL DYNAMIC HEAD:	15.40
MANIFOLD(S) SIZE:	***4*** in.SCH 80 PVC
DOSING VOLUME:	215.75
PUMP TANK DRAW DOWN*:	10.3
SEPTIC TANK SIZE:	1500
PUMP TANK SIZE:	1500
RECOMMENDED PUMP:	Myers Model ME50 or County Approved Effluent Rated Pump Capable of Delivering ~16 ft.of Head at ~55.5 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 70 Fairington Oaks

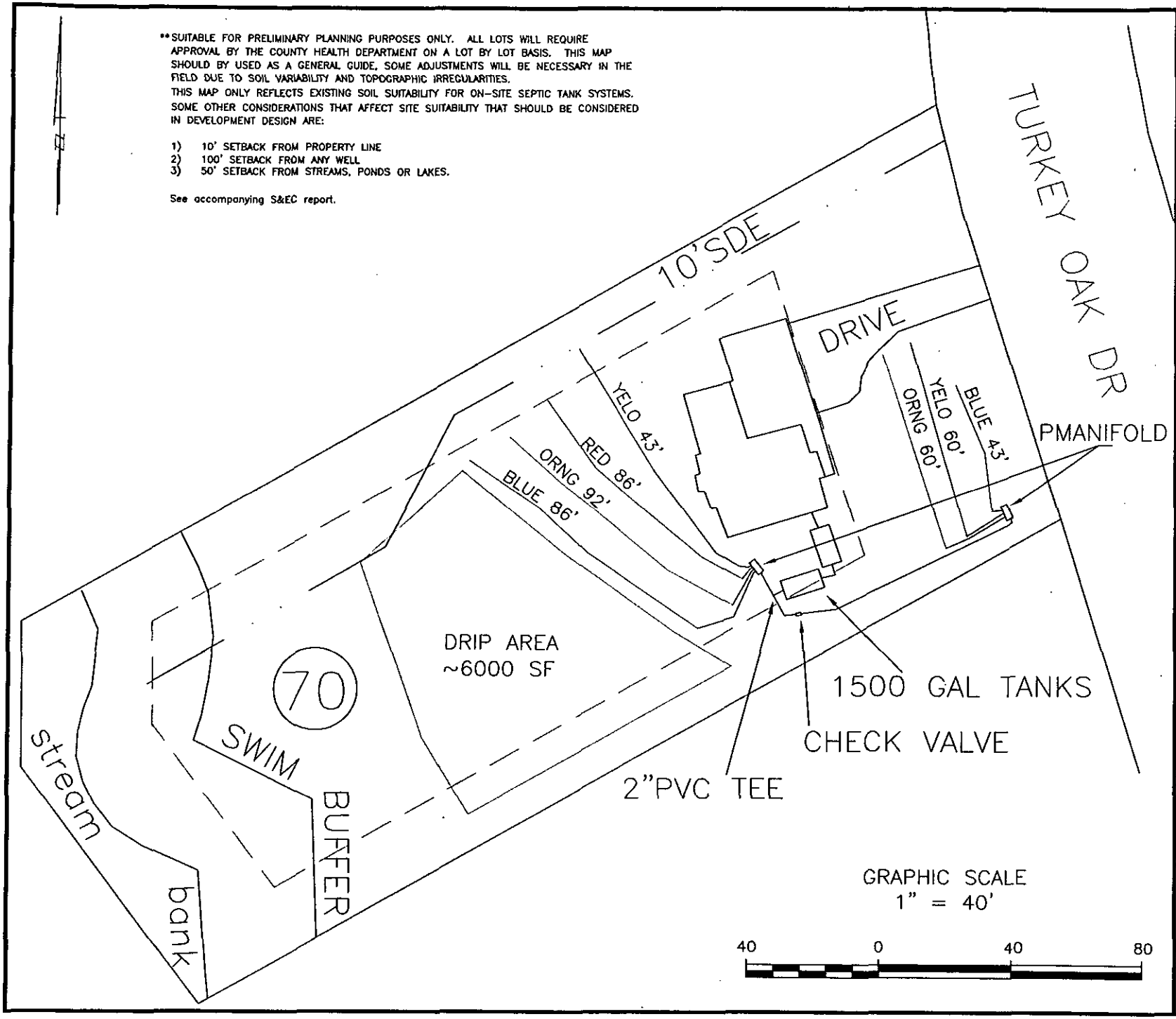
SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/Tap	gpd	Trench Area	Line LTAR
1	Blue	101.10	43	SCH 80 1/2	**5.48**	47.41	129	**0.37**
2	Yellow	100.10	60	SCH 40 1/2	**7.11**	61.51	180	**0.34**
3	Orange	100.70	60	SCH 40 1/2	**7.11**	61.51	180	**0.34**
4	Yellow	87.70	43	SCH 80 1/2	**5.48**	47.41	129	**0.37**
5	Red	86.70	86	SCH 80 3/4	**10.1**	87.38	258	**0.34**
6	Orange	84.90	92	SCH 80 3/4	**10.1**	87.38	276	**0.32**
7	Blue	84.90	86	SCH 80 3/4	**10.1**	87.38	258	**0.34**
	total	**feet =**	**470**	**gal/min =**	**55.48**			
			Des. Flow	**480**				
			Pump Run=	**8.65**				
			soil LTAR	**0.275**				
			25%INNOV LTAR	**0.37**				

**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. 5-1553
PROJECT MGR. WO
DRAWN BY WO
FIELD WORK WO
SCALE 1" = 40'

Soil & Environmental Consultants, PA
238 Loffelby Ct. Suite C • Concord, North Carolina 28025 • Phone (704)720-6405 • Fax (704) 720-6406

S&EC

PROJECT NAME:
McCarr Homes
Fairington Oaks Lot 70
MECK COUNTY, NORTH CAROLINA
10/24/06

SHEET TITLE:
4 BEDROOM SEPTIC SYSTEM LAYOUT
SKETCH MAP

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 #: 5946B Permit #: _____ Tax Parcel #: 19520217 pp

Property Owner: Farrington Oaks LLC

Job Location Address: 5329 Turkey Oak Dr Lot 70

City: Charlotte State: NC Zip Code: 28227

Operation Permit Issuance Date: 12/7/06 Contractor Name: RCS

Permitted Design Flow: 480 GPD

Liquid Capacity of Septic Tank: 1500 gallons

Liquid Capacity of Dosing Tank: 1500 gallons

Effluent Pump Model: Gould

Drainfield Installation ☐ N/A

Trench Depth: 12" Back / Front 24" inches

Trench Width: 3 feet

Line Spacing: 9 feet (O.C.)

Total line length: 470 feet

# of Lines: Front 3 (30' 60' 60') @ _____ feet Back 4 (40' 80' 90' 90')

Depth of Media: 12 inches (Type) EZ Flow

Depth of Cover: 12" inches Cover brought in for back lines

Distribution Device: (2) pressure manifolds

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

Inspection Dates

Tank(s) Inspected: 12/7/06

Excavation Inspected: 12/7/06

Pump & Controls Inspected: 12/7/06

SKETCH OF SYSTEM INSTALLATION
(As-Built Drawing)

see approved plot plan

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 IIIbg System / Drip Irrigation Repair

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

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

INSTALLATION APPROVAL for an
ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

File #: 5946B Permit #: _____ Tax Parcel #: 195 202 17

Property Owner: Farrington Oaks LLC

Job Location Address: 5329 Turkey Oak Dr Lot 70

City: Charlotte State: NC Zip Code: 28227

Installation Approval Issuance Date: 12/30/06

Permission is hereby given to ☒ install ☐ alter ☐ repair an on-site wastewater treatment & and disposal system, with subsurface soil absorption and effluent discharge, as specified herein at the described location. This approval is granted based upon the application information submitted to our office. All work shall be completed on or before 12/30/06, after which date this approval shall be null and void. The system shall meet all of the construction requirements of 15A NCAC 18A. 1900 which are in effect on the date of granting this approval. An **Operation Permit** must be obtained from the Mecklenburg *County Health Department before any system* can be covered up or placed into service. The issuance of this permit does not in any way guarantee that the system anticipated to be constructed will operate properly, or relieve any person now of hereafter owning, controlling or using such system from any liability resulting from the failure of the system to operate properly.

NOTICE: This system shall not be installed while soils are in a wet condition.

Permitted Design Flow: 480 GPD

Site LTAR: .275 GPD/ft² (For new installations only.)

Liquid Capacity of Septic Tank: 1500 gallons

Liquid Capacity of Dosing Tank: 1500 gallons

Drainfield Design ☐ N/A

Trench Depth: Back 12" / Front 24" inches

Trench Width: 3 feet

Line Spacing: 9 feet (O.C.)

Total line length: 470' feet (40, 80, 90, 90')

# of Lines: Front 3 (50', 60', 60') @ Back _____ feet

Depth of Media: 12 inches (Type) EZ Flow

Distribution Device: 2 (pressure manifolds)

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

Bed Depth: _____ inches

Bed Width: _____ feet

Total line length: _____ feet

# of Lines: _____ @ _____ feet

Depth of Media: _____ inches (Type) _____

Distribution Device: _____

Water Supply Source

☒ Municipal ☐ Private Well ☐ Community Well

☐ Other _____

Minimum System Setbacks

Distance from Building Foundation: 5 feet

Distance from Property Line: 10' feet

Distance from Water Supply Source: 10' feet

SKETCH OF SYSTEM LAYOUT
(Proposed Layout)

see approved plot plan on file

Comments: System Classification & Type: Type III bg System

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

FEE: 0.00

DATE: 11/6/2006

CONSTRUCTION AUTHORIZATION FOR AN ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

MECKLENBURG COUNTY

GROUNDWATER & WASTEWATER SERVICES

FILE NUMBER: 5946B

PERMIT NUMBER: 30001608

PARCEL NUMBER: 19521217

JOB LOCATION INFORMATION

ADDRESS: 5329 TURKEY OAK DR

CITY: CHARLOTTE **STATE: NC** **ZIP:** 28227

ISSUED TO: FAIRINGTON OAKS LLC

CONSTRUCTION AUTHORIZATION ISSUANCE DATE: 11/6/2006

CONSTRUCTION AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NUMBER 30001608, 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 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.

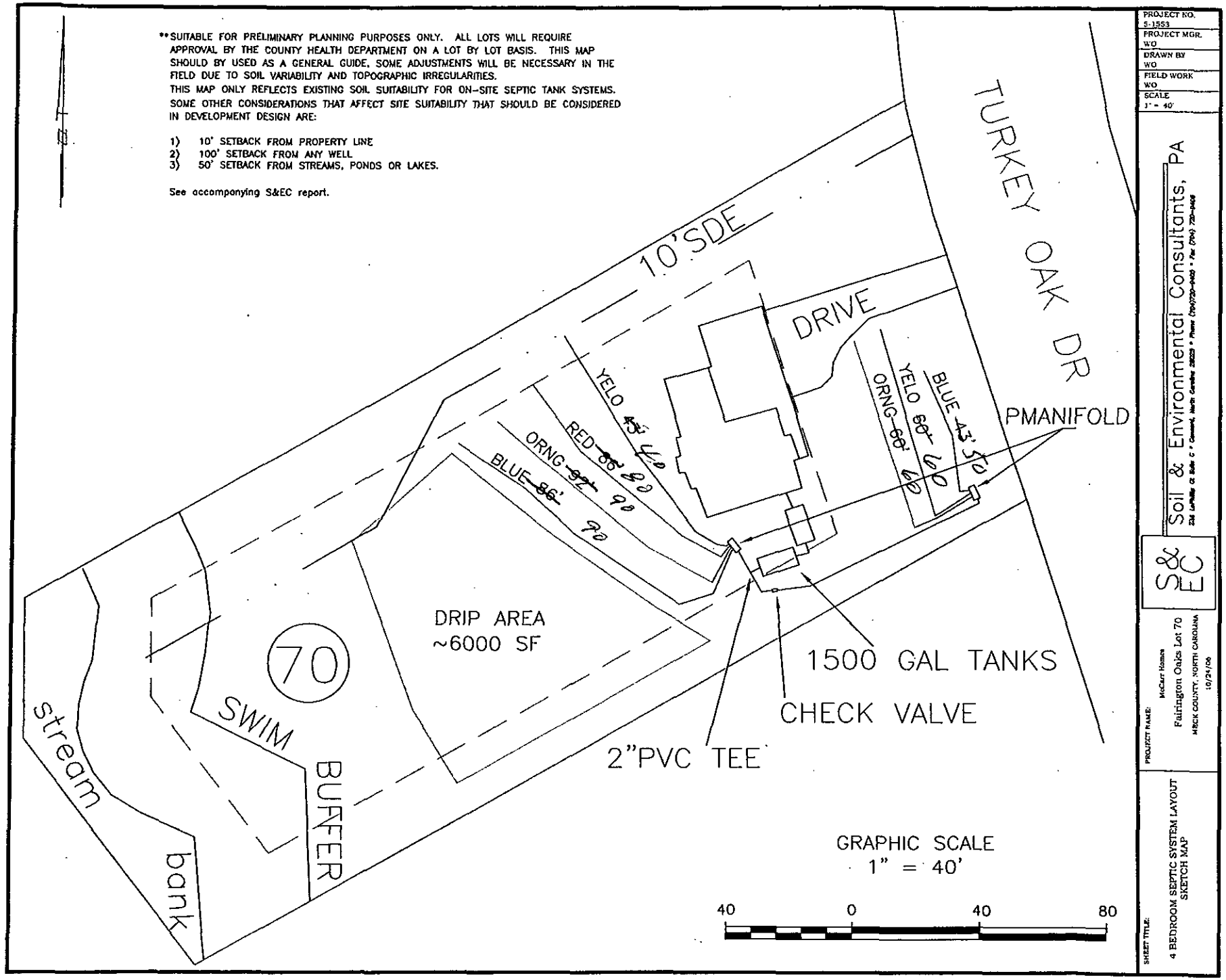
3. ANY ALTERATION IN SITE OR SOIL CONDITIONS (INCLUDING LOCATION OF STRUCTURES AND APPURTENANCES) OR MODIFICATION IN USE, DESIGN WASTEWATER FLOW, OR WASTEWATER CHARACTERISTICS AS SPECIFIED IN THE ASSOCIATED IMPROVEMENT PERMIT AND APPLICATION, MAY SUBJECT THIS CONSTRUCTION AUTHORIZATION AND ASSOCIATED 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.
   *CONSTRUCTION AUTHORIZATION EXPIRATION DATE: 11/3/2011

**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. 5-1553
PROJECT MGR. WO
DRAWN BY WO
FIELD WORK WO
SCALE 1" = 40'

Soil & Environmental Consultants, PA
224 LaVilla Ct. Suite C • Concord, North Carolina 28025 • Phone (704)720-0409 • Fax (704) 720-0409

S&EC

PROJECT NAME:
McCarr Homes
Fairington Oaks Lot 70
MECK COUNTY, NORTH CAROLINA
10/24/06

SHEET TITLE:
4 BEDROOM SEPTIC SYSTEM LAYOUT SKETCH MAP

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 #: **30001608** GWS File #: **5946B** Tax Parcel #: **195-212-17**

- 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):** 11/3/2011

Type of Installation: Residential - Modified Plot Plan Lot Number: 70

Structure Type: HOUSE Size (ft^2): 3200 # Bedrooms: 4 # Occupants: 8

Building Foundation: Crawl Space Water Supply: Municipal

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

Initial System Specifications:

Design Flow (gpd): 480 LTAR (gpd/ft^2): 0.275 Septic Tank Size (gal): 1500 Pump Tank Size (gal): 1500

Trench Width (ft): 3 Trench Spacing (ft): 9 Absorption Area (ft^2): 1309 Total Trench Length (ft): 436

Maximum Trench Depth (in): 12 Depth of Media (in): 12 Distribution Device: Pressure Manifold

III. Repair System Type: Pretreatment with Drip Irrigation **System Classification:** Vd

Repair System Specifications:

Design Flow (gpd): 480 LTAR (gpd/ft^2): 0.275 Septic Tank Size (gal): 1500 Pump Tank Size (gal): 1500

Trench Width (ft): 3 Trench Spacing (ft): 9 Absorption Area (ft^2): 7857 Total Trench Length (ft): 873

Maximum Trench Depth (in): 12 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: 11/3/2006

Owner/Legal Agent: Brian Lam Jr.
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 #: **30001608** GWS File #: **5946B**

IV. Permit Conditions/Comments:

- 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.
- All components of the septic system must be installed in accordance with the required setbacks listed on the corresponding plot plan.
- 12" soil cap required over drainfield

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 A Walker RS

Date Issued: 11/3/2006

Owner/Legal Agent: Brian Pannatier
Print Name

Signature:

App. #: 1608

Septic Fee: 100.00

Date: 11/3/2006

CRT[ ]

PERMIT APPLICATION FOR A RESIDENTIAL SITE IMPROVEMENT PERMIT FOR ONSITE WASTEWATER SYSTEM, NEW WELL INSTALLATION, OR REPAIR OF EXISTING WELL

MECKLENBURG COUNTY GROUNDWATER & WASTEWATER SERVICES

FILE # 5946B

Well Fee: 0.00

Date:

CRT[ ]

SEPTIC / TYPE APPLICATION: ○ NONE ○ NEW SYSTEM ○ ALTERATION ○ REPAIR ◉ MODIFIED PLOT PLAN

WELL / TYPE APPLICATION: ◉ NONE ○ NEW WELL ○ MAJOR REPAIR ○ ABANDONMENT

JOB LOCATION INFORMATION:

TAX / PARCEL #: 195-212-17 ☐ PO

STREET ADDRESS: 5329 TURKEY OAK DR

CITY: Charlotte

STATE: NC ZIP: 28227

SUBDIVISION OR MOBILE HOME PARK NAME: Fairington Oaks

LOT #: 70

TOWNSHIP: 07

General Comments:

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

NUMBER OF OCCUPANTS: 8

FOUNDATION FOR RESIDENCE:

☐ CONCRETE SLAB ☐ BASEMENT WITH PLUMBING

☑ CRAWL SPACE ☐ BASEMENT WITH NO PLUMBING

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

NUMBER OF BEDROOMS TO BE ADDED: 0

NUMBER OF ADDITIONAL OCCUPANTS IN THE RESIDENCE: 0

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: FAIRINGTON OAKS LLC

ADDRESS: 1510 E 3RD ST

CITY: CHARLOTTE

STATE: NORTH CAROLINA ZIP: 28204

HOME PHONE: WORK: 704-370-0303

MOBILE: FAX:

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:

NAME:

ADDRESS:

CITY:

STATE: ZIP:

HOME PHONE: WORK:

MOBILE: FAX:

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED?

WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY?

PRINT | Update | Go to Front Counter | Duplicate

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	11/06/06	**Amount:**	100.00
Receipt #:	46734	**Tendered:**	0.00
Check / Auth #:	CHARGE	**Returned:**	0.00
Received By:	CRAIGGY		

Account Information

Account #: X32342
Contractor: MCCAR HOMES CHARLOTTE LLC
Attn:
Address: 10150 MALLARD CREEK RD
Address: SUITE 160
City/State/Zip: CHARLOTTE, NC 28262

Item	Description	Permit#	Quantity	Unit Price	Total Price
0704	Change in Plot Plan 5329 TURKEY OAK DR/FILE 5946B		1	100.00	100.00

Outstanding Balances

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
4,220.56	38,880.74				

* IP MODIFIED TO ACCOMMODATE HOUSE LOCATION.

5329 TURKEY OAK DR.

5946B

195-217-17

Attached is a proposed design for a Pressure Manifold Septic System for a 4 bedroom single family residence on lot 70 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 Diagrams---------- 9-10

Control Panel Specifications---------- 11-14

Pump Specifications---------- 15-16

Electric Box Specifications---------- 17

Calculations---------- 18

November 2, 2006
S & EC Project No. 5-1553
Design By: W. Overby

APPROVED ON 11-2-06 TREVOR

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 at-grade (12" trench bottom) innov installation
- Repair is specified as subsurface drip irrigation installation
- System requires 2 pressure manifolds set at 2' head
- System requires 12" soil cap over EZFLO lines
- Set both manifolds at 2' of head

Lot 70 Fairington Oaks

Project No. 5-1553

LAYOUT FOR 4 BEDROOM HOME

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH
TBM		4.6			100.00	
INSTR. 1			104.60			
			SYSTEM			
1	Blue			3.50	101.10	43
2	Yellow			3.60	100.10	60
3	Orange			3.90	100.70	60
4	Yellow			3.20	96.80	43
5	Red			4.00	96.00	88
6	Orange			5.30	94.70	92
7	Blue			6.20	93.80	86
					Total	**472**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	TRENCH DEPTH	INNOVATIVE SYSTEM	DISTRIBUTION
System	472	0.275	INNOV	12	EZFLO	P. MANIFOLDS
Repair	DRIP IRRIGATION					

Notes:

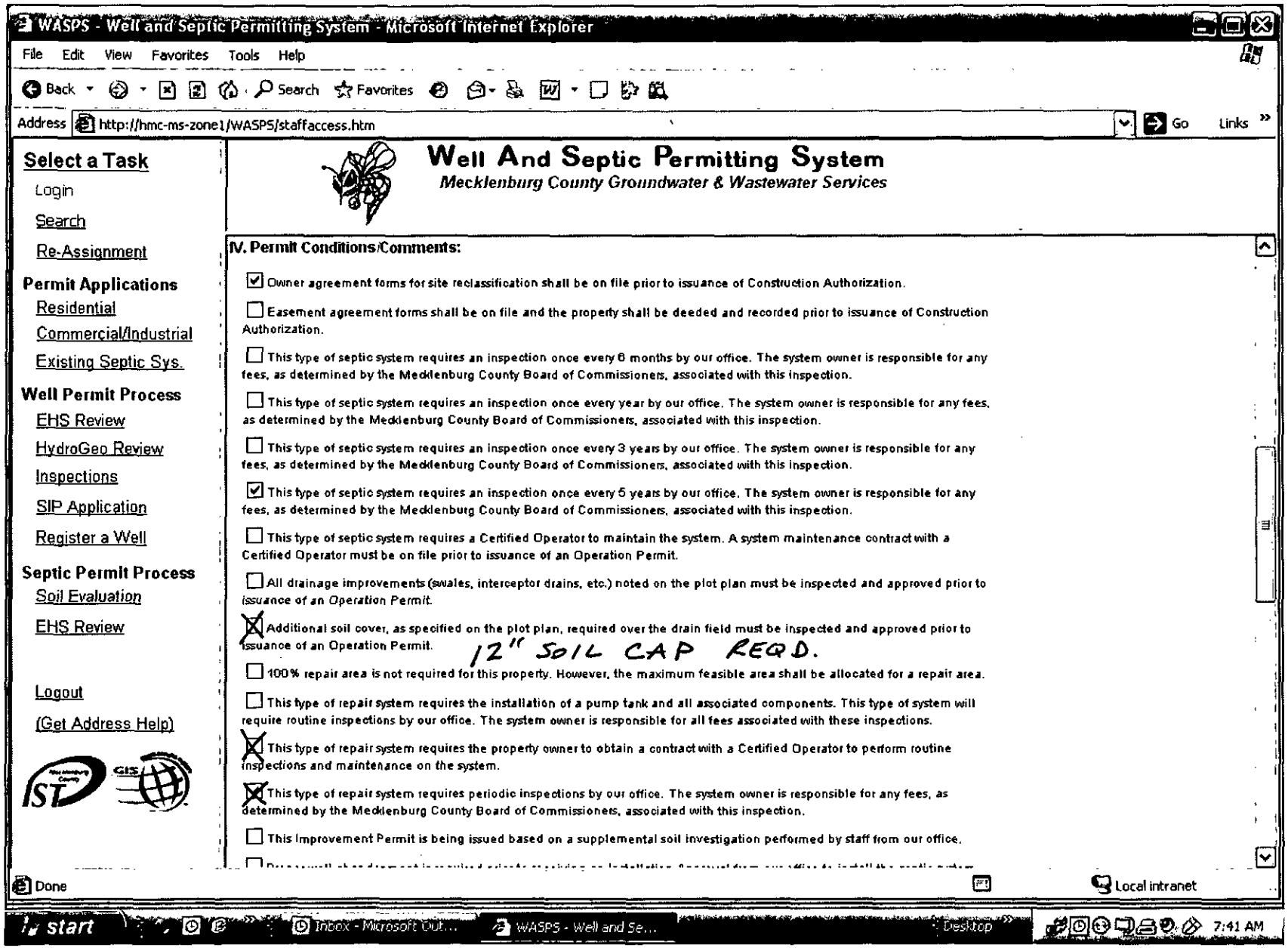
**TBM is assumed to be 100'; all measures in feet

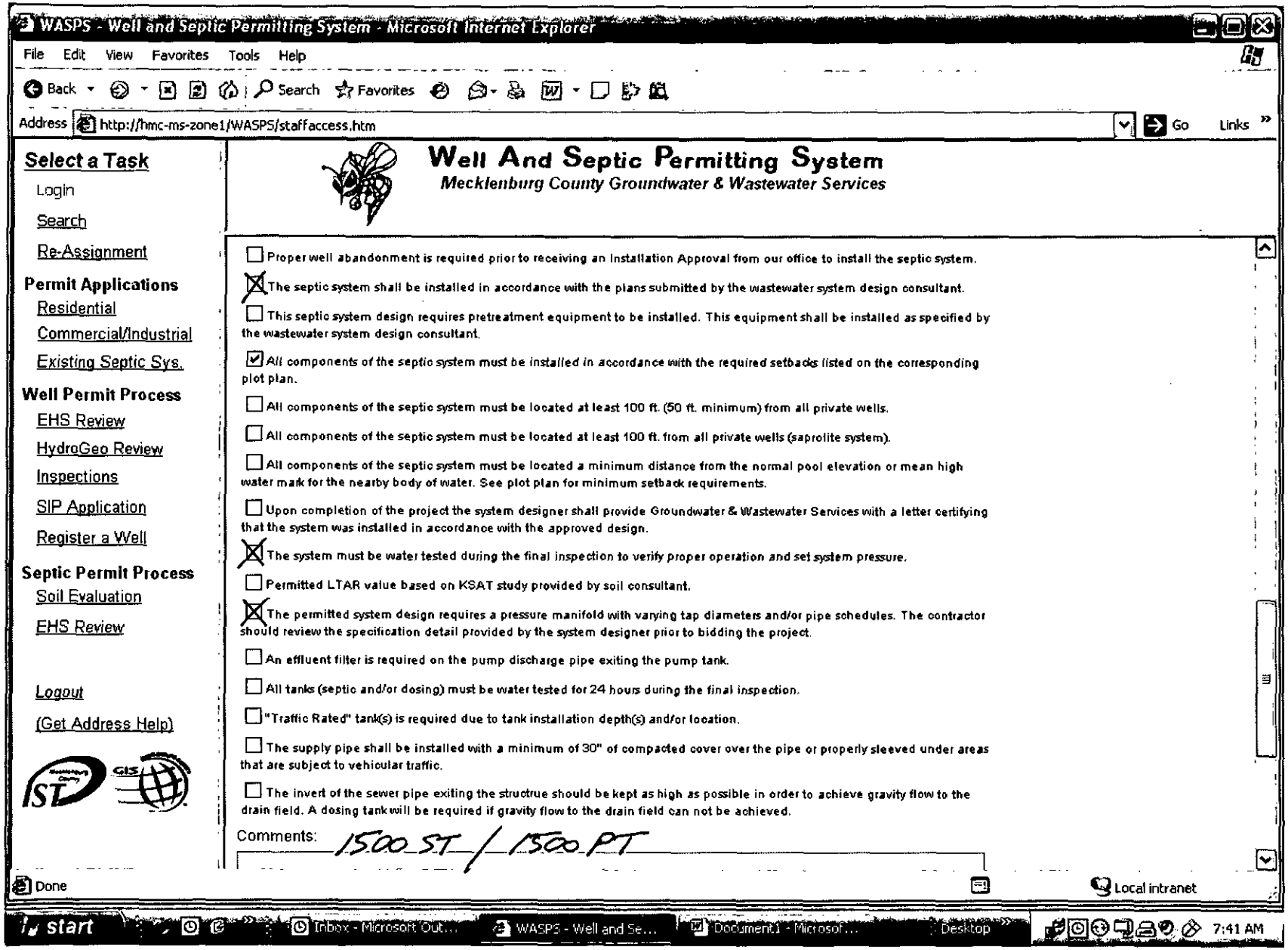
**Nitrification lines are demonstrated on contour via colored pin flags

**BS, HI, and FS indicate rod readings

**System requires 12" soil cap over EZFLO lines

5946 B LOT #70 FAIRINGTON OAKS




WASPS - Well and Septic Permitting System - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address http://hmc-ms-zone1/WASPS/staffaccess.htm
Go Links
Select a Task
Login
Search
Re-Assignment
Permit Applications
Residential
Commercial/Industrial
Existing Septic Sys.
Well Permit Process
EHS Review
HydroGeo Review
Inspections
SIP Application
Register a Well
Septic Permit Process
Soil Evaluation
EHS Review
Logout
(Get Address Help)
Well And Septic Permitting System
Mecklenburg County Groundwater & Wastewater Services
Proper well abandonment is required prior to receiving an Installation Approval from our office to install the septic system.
The septic system shall be installed in accordance with the plans submitted by the wastewater system design consultant.
This septic system design requires pretreatment equipment to be installed. This equipment shall be installed as specified 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.
All components of the septic system must be located at least 100 ft. (50 ft. minimum) from all private wells.
All components of the septic system must be located at least 100 ft. from all private wells (saprolite system).
All components of the septic system must be located a minimum distance from the normal pool elevation or mean high water mark for the nearby body of water. See plot plan for minimum setback requirements.
Upon completion of the project the system designer shall provide Groundwater & Wastewater Services with a letter certifying that the system was installed in accordance with the approved design.
The system must be water tested during the final inspection to verify proper operation and set system pressure.
Permitted LTAR value based on KSAT study provided by soil consultant.
The permitted system design requires a pressure manifold with varying tap diameters and/or pipe schedules. The contractor should review the specification detail provided by the system designer prior to bidding the project.
An effluent filter is required on the pump discharge pipe exiting the pump tank.
All tanks (septic and/or dosing) must be water tested for 24 hours during the final inspection.
"Traffic Rated" tank(s) is required due to tank installation depth(s) and/or location.
The supply pipe shall be installed with a minimum of 30" of compacted cover over the pipe or properly sleeved under areas that are subject to vehicular traffic.
The invert of the sewer pipe exiting the structrue should be kept as high as possible in order to achieve gravity flow to the drain field. A dosing tank will be required if gravity flow to the drain field can not be achieved.
Comments: 1500 ST / 1500 PT
Done
Local intranet
start
Inbox - Microsoft Out...
WASPS - Well and Se...
Document1 - Microsof...
Desktop
7:41 AM

PRESSURE MANIFOLD SYSTEM
FOR WASTEWATER TREATMENT

Owner:	McCarr Homes Brian Parmanter
Address:	
Fax:	(704) 573-0770
Phone:	(704) 622-5028
County:	Mecklenburg
Location:	Fairington Oaks Lot 70
Source of Wastewater Flow:	4 Bedroom Residance
Estimated Daily Wastewater Production:	480
System Flow:	55.48

Design Specifications

Drainfield Size:	470
Loading Rate:	0.275
Depth of Gravel in Trench:	N/A
Gravel Size:	N/A
Trench Depth:	12
Trench Width:	36 in.
Septic Tank Size:	1500
Pump Tank Size:	1500
Estimated Supply Line Length:	90
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	15.66
Dosing Volume:	215.75
Supply Manifolds:	*4* in. SCH 80 PVC
Supply Manifold 1 Length:	3 ft. (minimum)
Supply Manifold 2 Length:	3.5 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:	3.39
Elevation Head:	8.00
Total Dynamic Head:	15.40
Threaded Union:	In Tank
Gate Valves:	1 in Tank 1 at each Pressure Manifold
Check Valves:	In Tank, 1 on supply line to upper manifold
Anti-Siphon Hole:	NO
Recommended Pump:	Myers Model ME50 or County Approved Effluent Rated Pump Capable of Delivering ~16 ft.of Head at ~55.5 gpm Total Flow
Additional Comments:	Soil suitability was performed by S&EC and Mecklenburg County Health Dept

Fairington Oaks Lot 70

PRESSURE MANIFOLD DESIGN

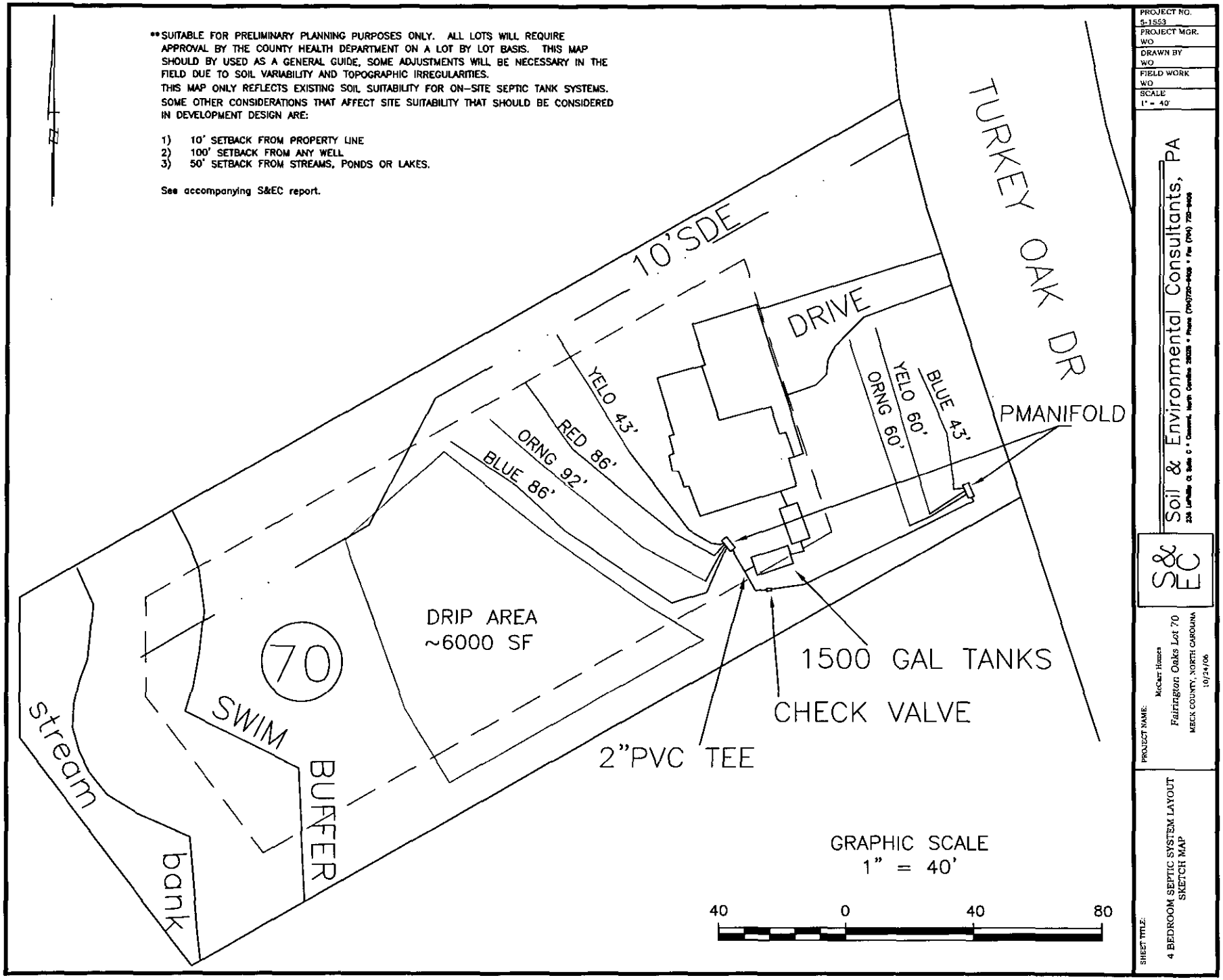
DESIGN FLOW:	480
SOIL APPLICATION RATE:	0.275
TOTAL AREA TRENCH BOTTOM:	1416
TOTAL LATERAL LENGTH:	472
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	436
SUPPLY LINE LENGTH:	90
TOTAL DYNAMIC HEAD:	15.40
MANIFOLD(S) SIZE:	***4*** in.SCH 80 PVC
DOSING VOLUME:	215.75
PUMP TANK DRAW DOWN*:	10.3
SEPTIC TANK SIZE:	1500
PUMP TANK SIZE:	1500
RECOMMENDED PUMP:	Myers Model ME50 or County Approved Effluent Rated Pump Capable of Delivering ~16 ft.of Head at ~55.5 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 70 Fairington Oaks

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/Tap	gpd	Trench Area	Line LTAR
1	Blue	101.10	43	SCH 80 1/2	**5.48**	47.41	129	**0.37**
2	Yellow	100.10	60	SCH 40 1/2	**7.11**	61.51	180	**0.34**
3	Orange	100.70	60	SCH 40 1/2	**7.11**	61.51	180	**0.34**
4	Yellow	87.70	43	SCH 80 1/2	**5.48**	47.41	129	**0.37**
5	Red	86.70	86	SCH 80 3/4	**10.1**	87.38	258	**0.34**
6	Orange	84.90	92	SCH 80 3/4	**10.1**	87.38	276	**0.32**
7	Blue	84.90	86	SCH 80 3/4	**10.1**	87.38	258	**0.34**
	total	***feet =***	**470**	***gal/min =***	***55.48***			
			Des. Flow	**480**				
			Pump Run=	**8.65**				
			soil LTAR	**0.275**				
			25%INNOV LTAR	**0.37**				



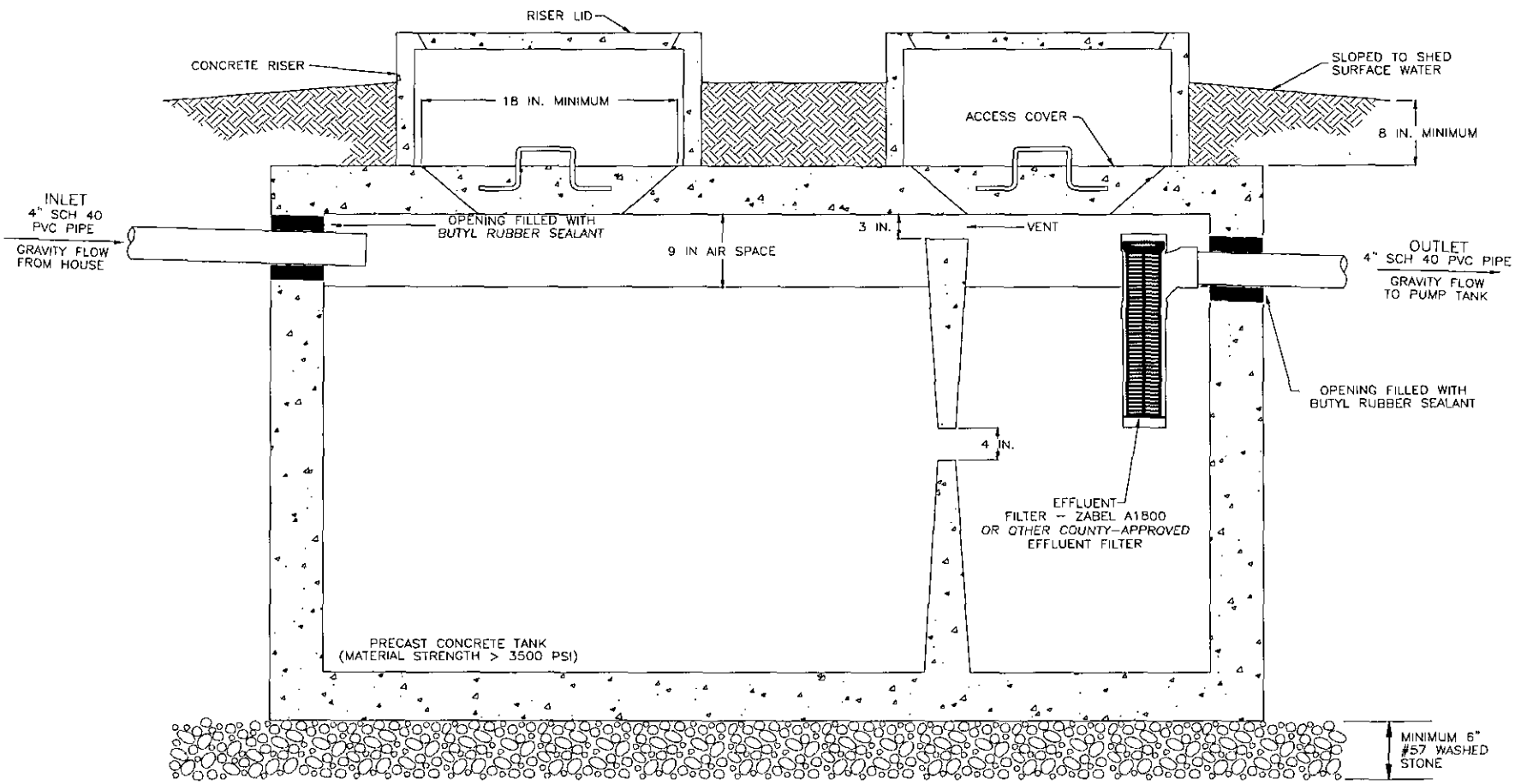
PROJECT NO.
5-1553
PROJECT MGR.
WO
DRAWN BY
WO
FIELD WORK
WO
SCALE
1" = 40'

Soil & Environmental Consultants, PA
224 LaFeille Ct, Suite C • Concord, North Carolina 28025 • Phone (704)720-4402 • Fax (704) 720-4403

S&EC

PROJECT NAME:
McCarr Homes
Fairington Oaks Lot 70
MECK COUNTY, NORTH CAROLINA
10/24/06

SHEET TITLE:
4 BEDROOM SEPTIC SYSTEM LAYOUT
SKETCH MAP

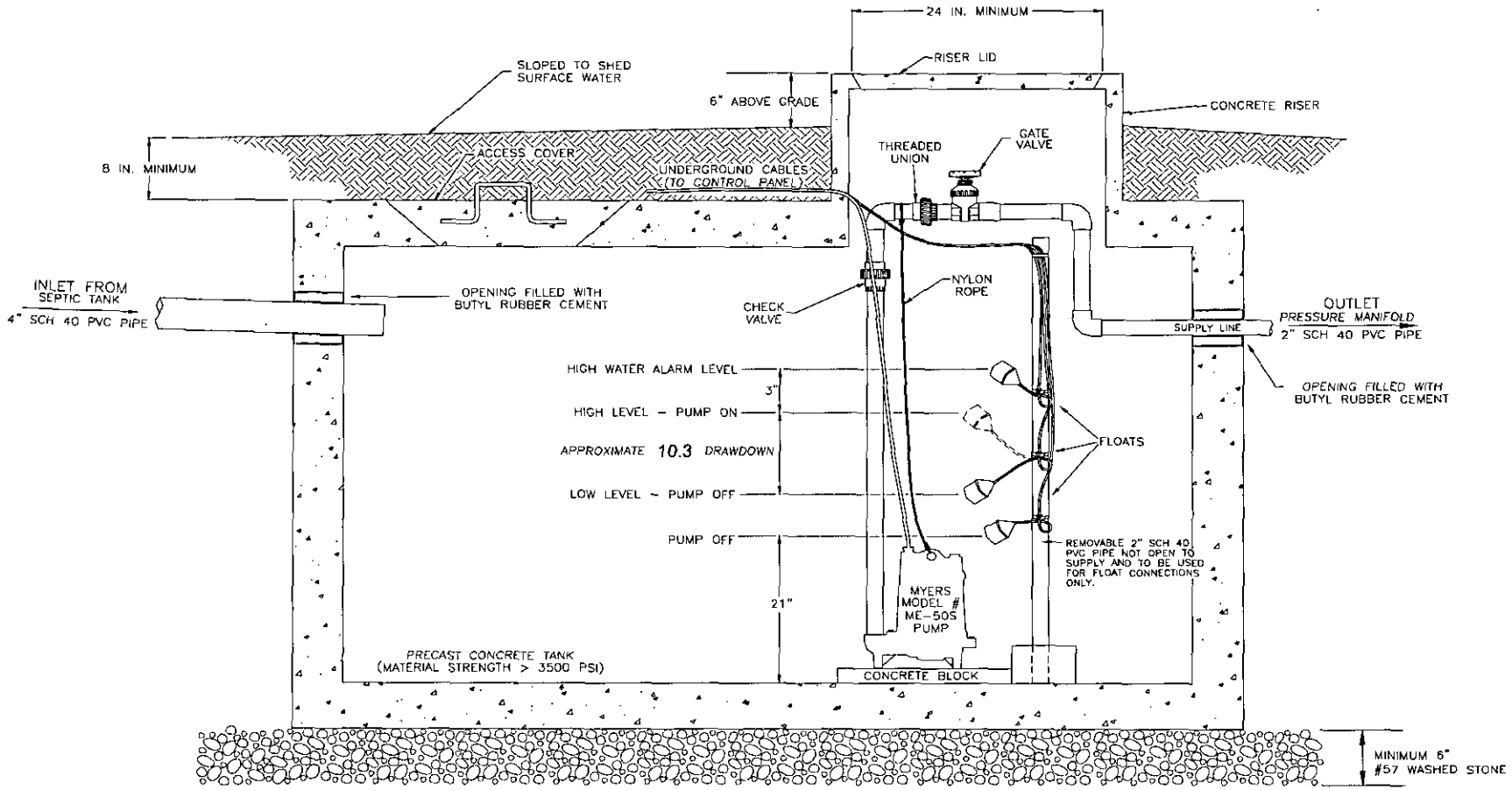


NOTES

1. TANK DIMENSIONS VARY BY MANUFACTURER.

1500 GALLON SEPTIC TANK

PROJECT NO: 4591	PROJECT NAME: **Lot 70 Fairington Oaks**	S&EC Soil & Environmental Consultants, Inc.
PROJECT MGR.	SHEET TITLE: SEPTIC TANK DIAGRAM	11010 Raven Ridge Road Raleigh, North Carolina 27614 Phone: (919) 846-5900 Fax: (919) 846-9467 Web Page: www.SandEC.com
SCALE: NTS		



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

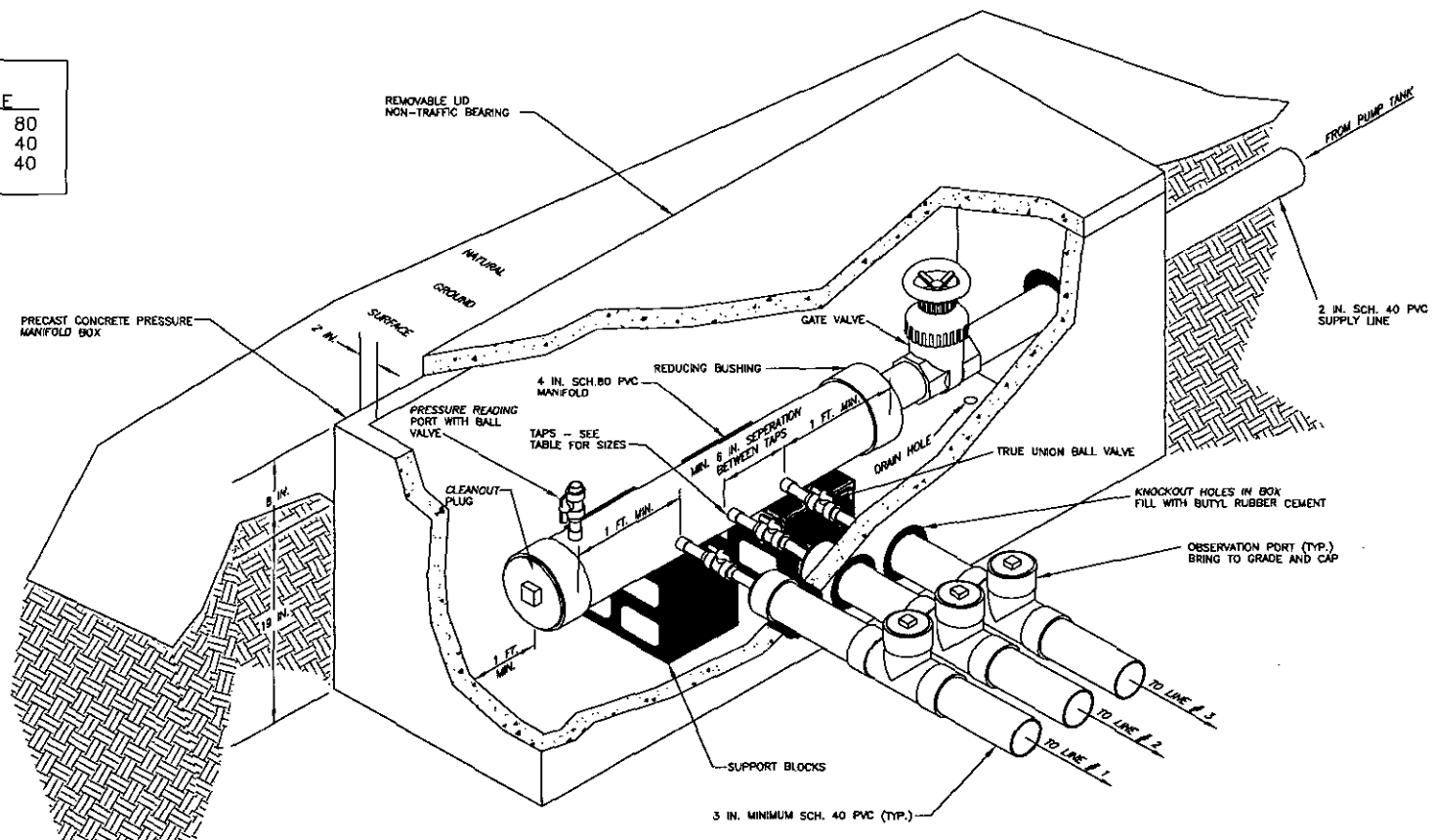
PROJECT NO. 5-1553	PROJECT NAME: Lot 70 Fairington Oaks
PROJECT MGR.	
SCALE NTS	SHEET TITLE: PUMP TANK DIAGRAM

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
FAIRINGTON OAKS LOT 70
UPPER MANIFOLD

TAP SIZES

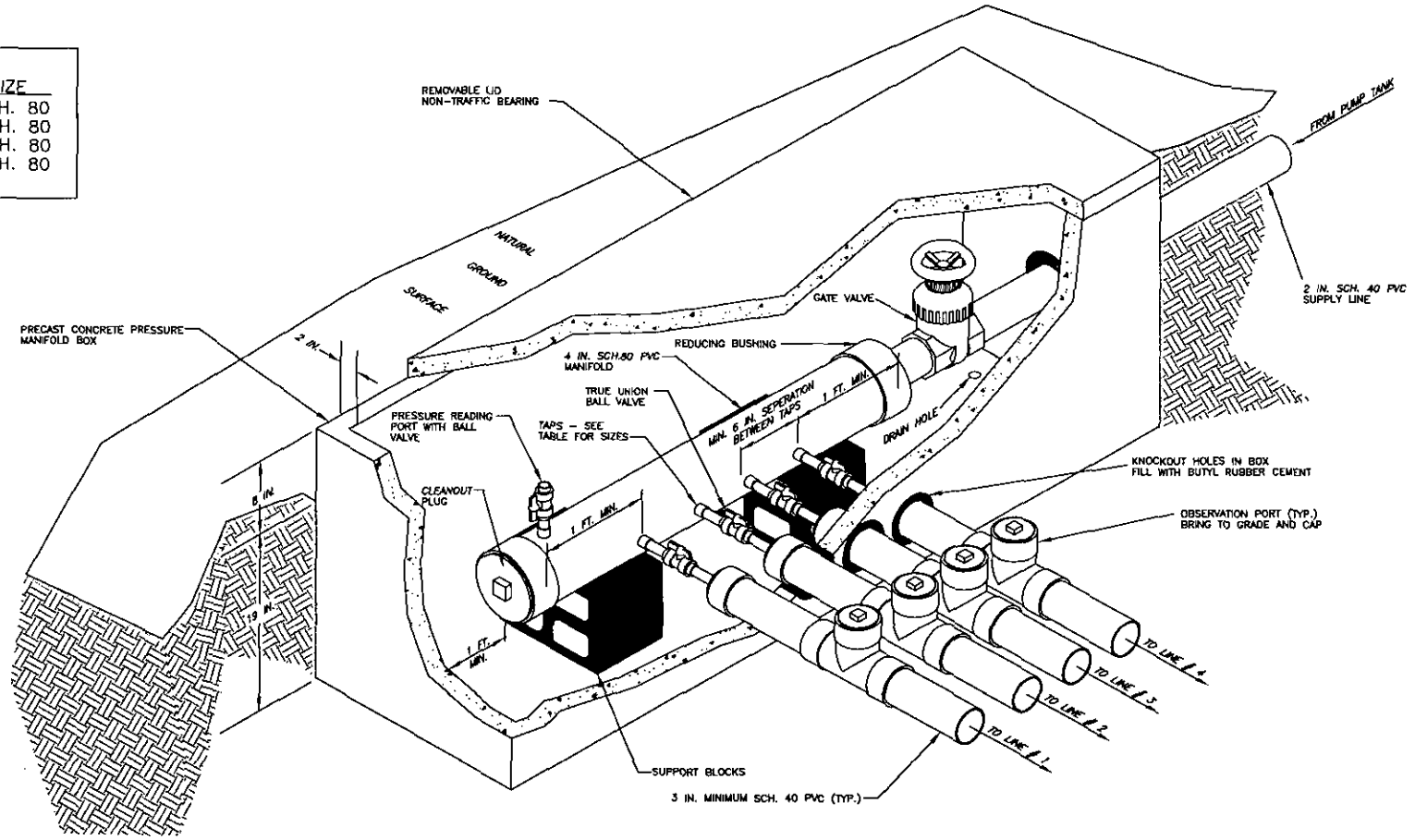
LINE No.	TAP SIZE
1	1/2" SCH. 80
2	1/2" SCH. 40
3	1/2' SCH. 40



PRESSURE MANIFOLD DETAILS
FOR
FAIRINGTON OAKS LOT 70
LOWER MANIFOLD

TAP SIZES

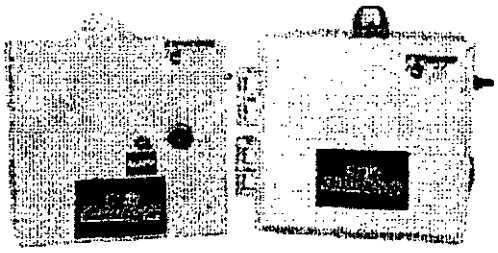
LINE No.	TAP SIZE
1	1/2" SCH. 80
2	3/4" SCH. 80
3	3/4" SCH. 80
4	3/4" SCH. 80



MODEL 112 Control Panel

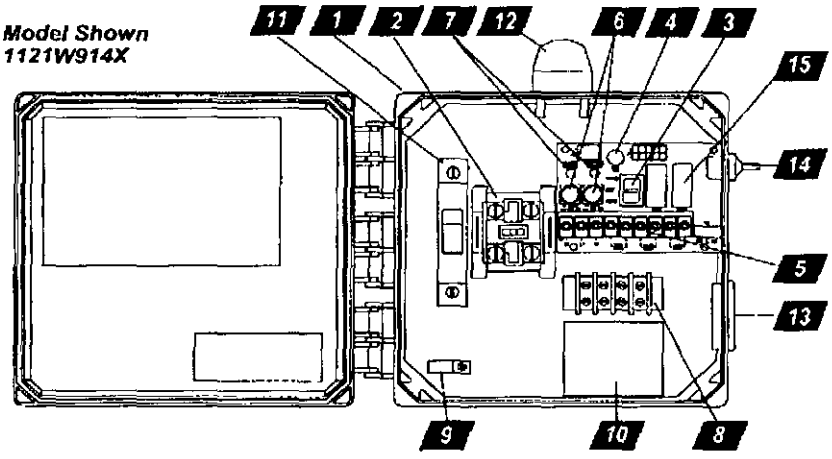
Single phase, simplex motor contactor control.

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

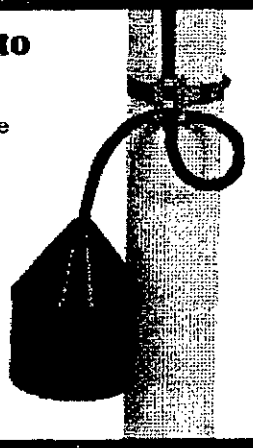
MODEL 112 | 1 | W | 9 | 1 | 4 | H | 3A 8A

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

© SJE-Rhombus Printed in USA 01/00

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

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

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

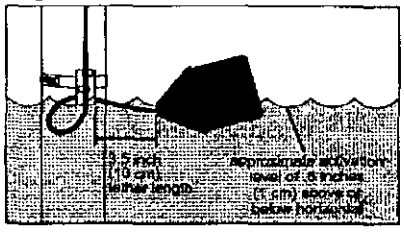
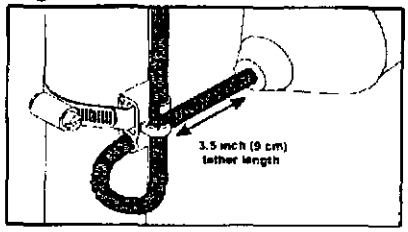


Figure B



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

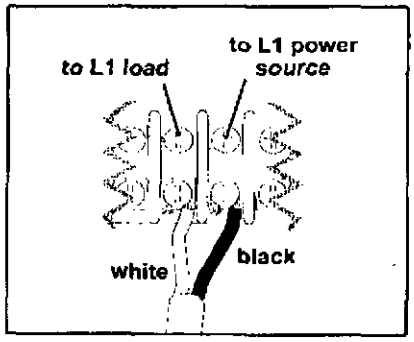
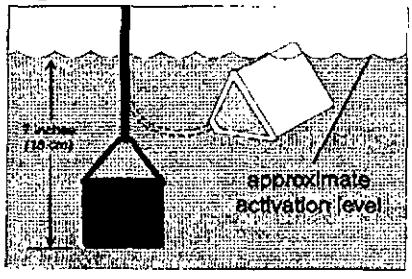


Figure D



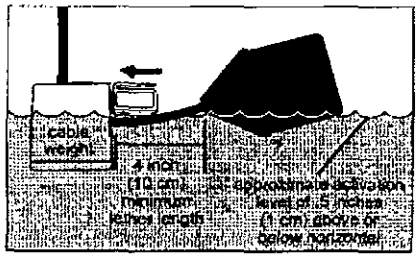
CABLE WEIGHT

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



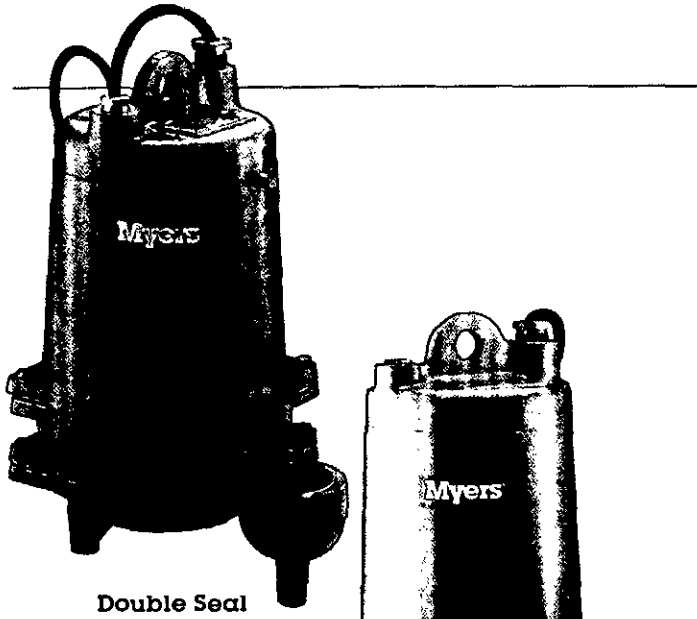
CONTROLS SJE-Rhombus
SJ ELECTRO SYSTEMS, INC.
22650 County Highway 6 ■ P.O. Box 1708 ■ Detroit Lakes, Minnesota 56502 USA
1-888-DIAL-SJE (1-888-342-5753) ■ Phone: 218-847-1317 ■ Fax: 218-847-4617
E-mail: sje@sjerhombus.com

Instl. Instr. PN 1009646A
Cat. Page PN 1009509A

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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

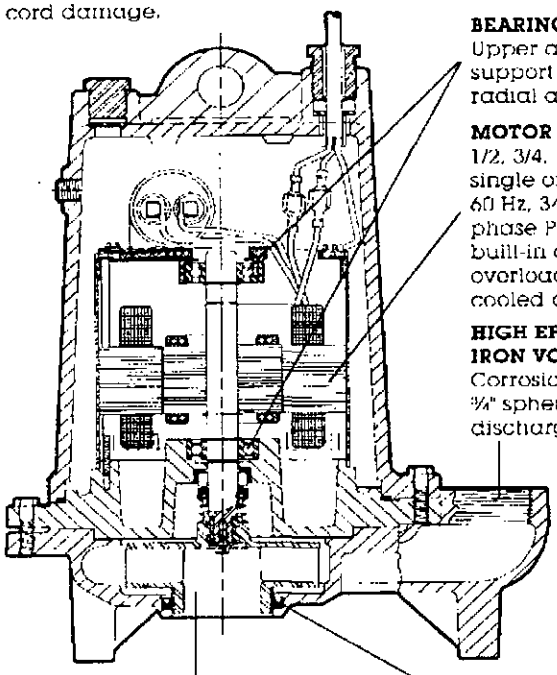
POWER CORD
Jacket sealed with compression fittings. Individual wires potted with epoxy to prevent wicking in case of cord damage.

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

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

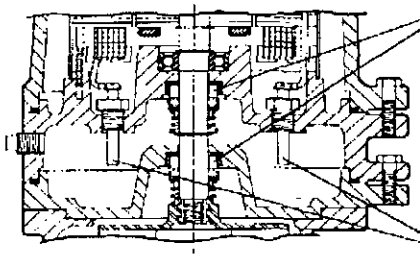
MOTOR
1/2, 3/4, 1 and 1-1/2 HP single or three phase, 60 Hz, 3450 RPM. Single phase PSC motors have built-in on winding overload protection, oil-cooled and lubricated.

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.

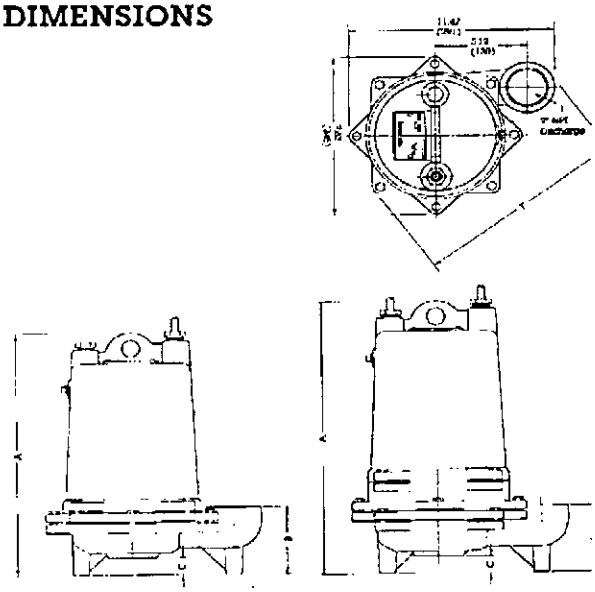
VOLUTE/IMPELLER SEAL RING
Maintains high efficiency and reduces recirculation. Replaceable.



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

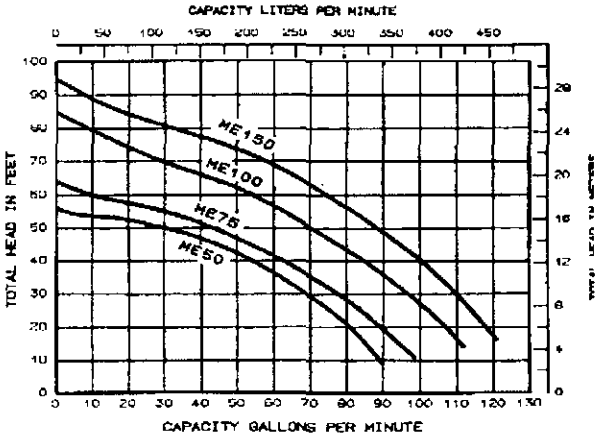
SEAL LEAK PROBES
Optional probes (dual seal only) detect water leakage in seal housing. Activates warning light.

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

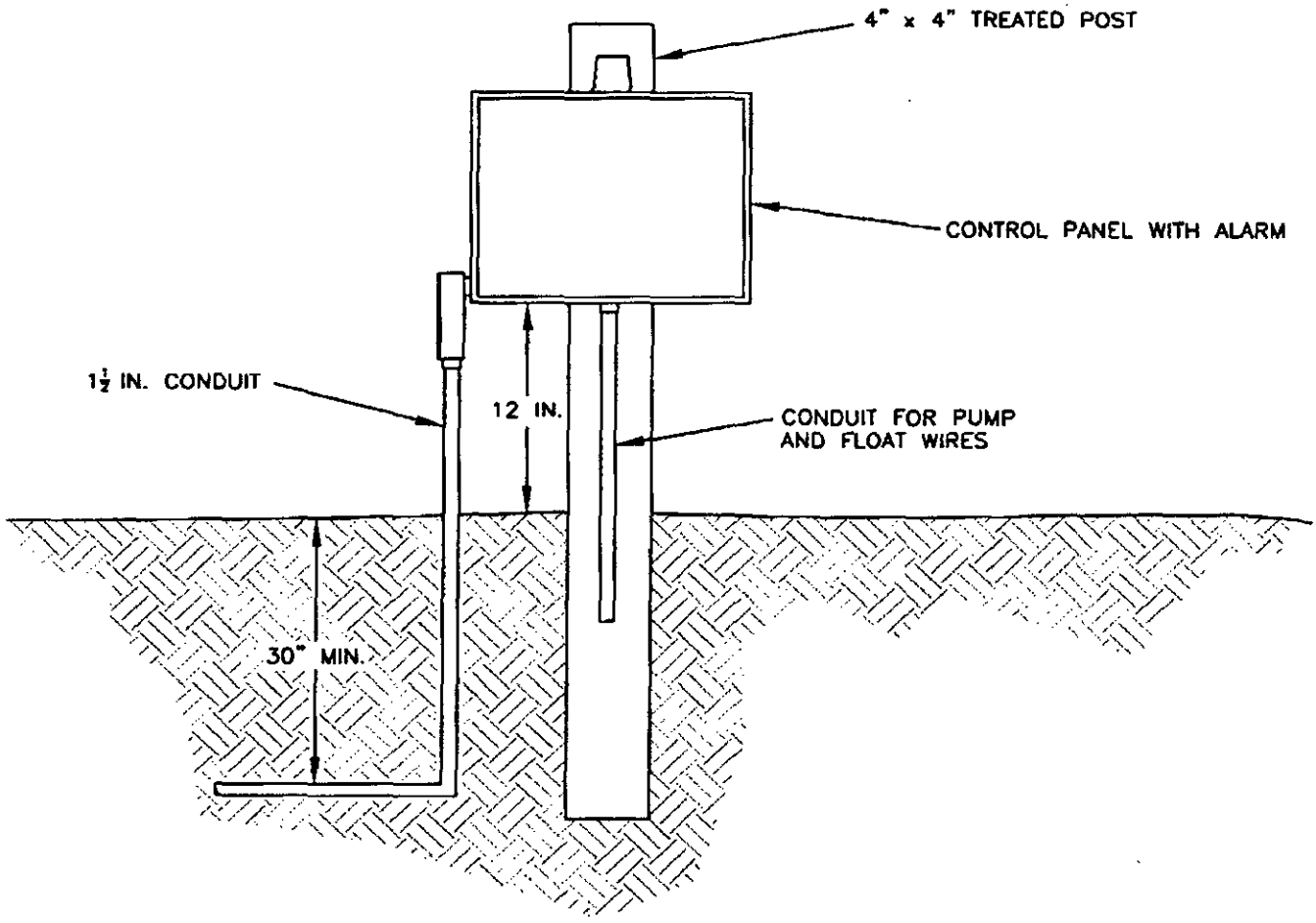


K3320 9/98
Printed in U.S.A.

Myers
PENTAIR PUMP GROUP

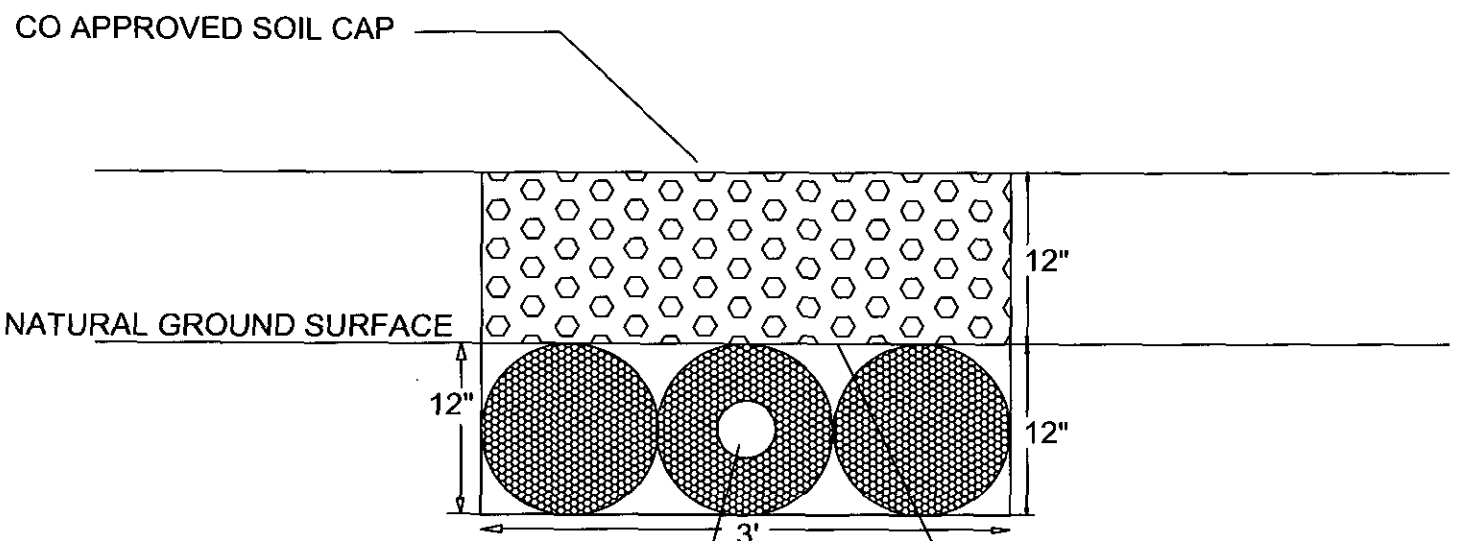
F. E. Myers, 1101 Myers Parkway, Ashland, Ohio 44805-1969
419/289-1144, FAX: 419/289-6658, www.femyers.com
Myers (Canada), 269 Trillium Drive, Kitchener, Ontario N2G 4W5
519/748-5470, FAX: 519/748-2553

ELECTRIC BOX



NOTES: ELECTRICAL SYSTEM COMPONENTS SHALL BE INSTALLED TO MEET OR EXCEED MINIMUM REQUIREMENTS SPECIFIED IN THE *ELECTRICAL CODE*. 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.

NITRIFICATION TRENCH DETAIL FOR EZ-FLOW 12" TRENCH



NOTE :

1. PERFORATED CORRUGATED PLASTIC PIPE SHALL MEET REQUIREMNTS OF ASTM D 2729.
2. PIPE SHALL BE LEVEL.
3. END CAP SHALL BE PROVIDED AT END OF ALL CORRUGATED PLASTIC PIPE LINES.
4. TRENCH BOTTOM SHALL BE LEVEL.

CALCULATIONS

Location Fairington Oaks

Project Number 5-1553

Lot No: 70

No. of Bedrooms 4

Design Flow 480 $^{gal}/_{day}$

LTAR 0.275 $^{gal}/_{ft^2\ day}$

INNOV? (YES OR NO) yes

Supply Line Length 90 ft.

Supply Line Volume 15.66 gal.

Required Feet of Line 436 ft.
Amount of Line from Layout 472 ft.

Gallons per Minute 55.48 $^{gal}/_{min}$

Required Septic Tank Capacity 1500 gal.
Minimum Standard Tank Size 1500

Lateral Line Volume 308.216 gal.

Dosing Volume 215.75 gal.
Note: Dosing Volume based on 70% of the lateral line volume.

Tank Draw Down 10.3 *Generic Draw Down of 21 gal.per in.*

Pump Run Time 3.89 minutes

Estimated Elevation Head 8 ft.
Pressure Head 2 ft.
Friction Factor 3.77 ft./100 ft. *(From the interpolater.)*
Friction Head 3.39 ft.

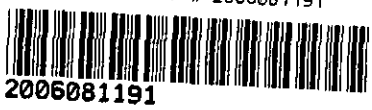
Total Dynamic Head (+15%) 15.40 ft.

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	3.26
42.12	3.77
48.14	4.39
50	4.58
50.77	4.72
58.47	6.14
60	6.42

FOR REGISTRATION JUDITH A. GIBSON
REGISTER OF DEEDS
MECKLENBURG COUNTY, NC
2006 APR 28 11:56 AM
BK:20347 PG:784-787 FEE:$20.00

INSTRUMENT # 2006081191



STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG

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

FILE #: 5946 B Lot 70

PARCEL #: 1952121 7

The undersigned, _____, owner of property located at 5329 Turkey Oak, (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 will apply to the site:

This instrument was prepared by: Ted VonBADINski

Mail after recording to: 10150 Mallard Creek Rd Ste 106
Charlotte N.C. 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 regulation in effect at the 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 the Department, 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 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____.

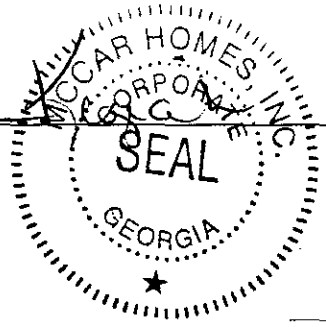
_____ _____ (SEAL)
(Corporate Name)

_____ (SEAL)

By: _____ _____ (SEAL)

_____ President _____ (SEAL)

ATTEST:



Asst. 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 execution of the foregoing instrument.

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

_____
Notary Public

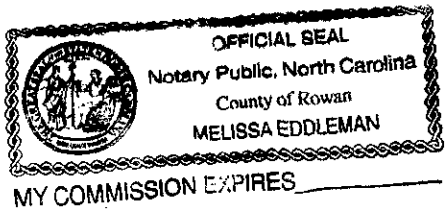
My Commission Expires: _____

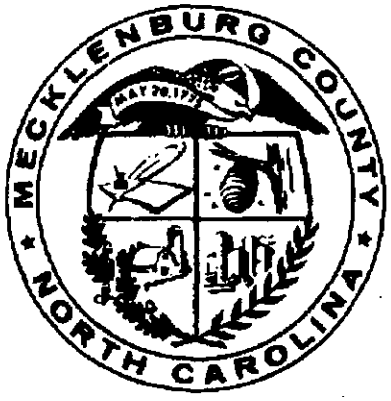
STATE OF NORTH CAROLINA
COUNTY OF MECKLENBURG

I, **Melissa Eddleman**, a Notary Public for said County and State, do hereby certify that **Janice Keziah** personally came before me this day and acknowledged that she is the Assistant Secretary of McCAR HOMES, INC., a Georgia corporation, which is the Manager of McCAR HOMES-CHARLOTTE, LLC, a North Carolina limited liability company, and that she, being authorized to do so, executed the foregoing on behalf of the said corporation. Witness my hand and notarial stamp or seal, this **26th** day of **April**, 2006.

Melissa Eddleman
Notary Public

My Commission Expires: 09/19/2010





JUDITH A. GIBSON
REGISTER OF DEEDS, MECKLENBURG
COUNTY & COURTS OFFICE BUILDING
720 EAST FOURTH STREET
CHARLOTTE, NC 28202

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Book: RE 20347 Page: 784-787

Document No.: 2006081191

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Recorder: JESSIE YOUNG



2006081191

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

Sheet: 1 of 3
Property ID: 195-202-17
Lot #: 70
File #: 16637
Code: 2

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

Owner: Fairington Oaks LLC.
Address: 1578 East 3rd St., Charlotte, N. C. 28204
Proposed Facility: Residence Design Flow (.1949): 600gpd
Location of Site: 5329 Turkey Oak Drive
Water Supply: [x] Public [ ] Individual [ ] Well [ ] Spring [ ] Other
Evaluation Method: [x] Auger Boring [x] Pit [ ] Cut
Type of Wastewater: [x] Sewage [ ] Industrial Process [ ] Mixed

Applicant:
Date Evaluated: 9/29/05
Property Size: .9a
Property Recorded:

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	0-6	GR/CL	FR/SEXP/SS/SP	2.5Y7/1at 21"	24+	N/A	NONE	US, III
		6-24	SBK/CL	"					
2	"	0-4	GR/CL	"	>23" TO SOIL WETNESS	23+	"	"	US
		4-18	SBK/CL	"					
		18-23	ABK/C	VFI/EXP/VS/VP					
3	LS, 8	0-5	GR/SCL	FR/SEXP/SS/SP	>28" TO SOIL WETNESS	28+	"	"	"
		5-19	SBK/CL	"					
		19-28	SBK/C	FI/SEXP/S/P					
		28+	ABK/C	VFI/EXP/VS/VP					
4	"	0-5	GR/SCL	FR/SEXP/SS/SP	>36" TO SOIL WETNESS	36	"	"	PS, IV .25GPD/FT^2
		5-18	SBK/CL	"					
		18-36	SBK/C	FI/SEXP/S/P					
5	"	0-8	GR/CL	FR/SEXP/SS/SP	>40" TO SOIL WETNESS	40	"	"	"
		8-19	SBK/CL	"					
		19-40	ABK/C	FI/SEXP/S/P					
6	"	0-9	GR/CL	FR/SEXP/SS/SP	>34" TO SOIL WETNESS	34+	"	"	US
		9-24	SBK/ABK/C	FI/SEXP/S/P					
		24-34	ABK/C	VFI/EXP/VS/VP					

Description	Initial System	Repair System
Available Space (.1945)	US	US
System Type(s)		
Site LTAR	.25GPD/FT^2	.25GPD/FT^2

Other Factors (.1946):
Site Classification (.1948): UNSUITABLE
Evaluated By: W. R. Marlin, LSS, 9/30/2005, W. R. Marlin
Others Present:

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

Sheet: 2 of 3
File #: 5946B

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM
CONTINUED

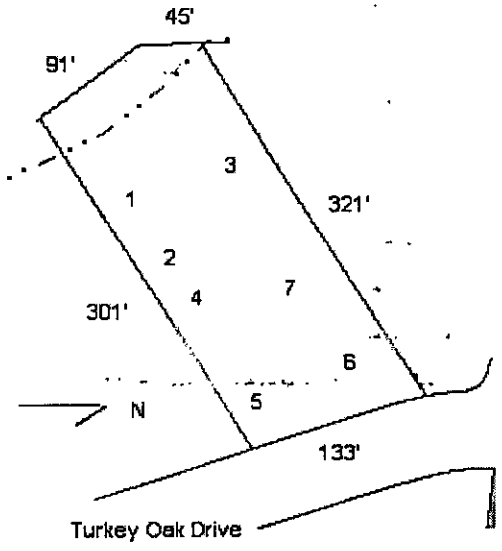
PROFILE #	.1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY .1941 .1941 Structure/ Texture	.1941 Consistence Mineralogy	OTHER PROFILE FACTORS .1942 Soil Wetness/ Color	.1943 Soil Depth (IN.)	.1956 Sapro Class	.1944 Restr Horiz	Profile Class & LTAR
7	LS, 8	0-4	GR/CL	FR/SEXP/SS/SP	>39" TO SOIL WETNESS	39	N/A	NONE	PS, IV
		4-13	SBK/CL	"					.25GPD/FT^2
		13-39	ABK/SBK/C	FI/SEXP/S/P					

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



#32342

FEE: 300.00
DATE: 1/17/06 JRA

AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION

ACS

PERMIT NUMBER: 5946
PARCEL NUMBER: 195-202-17

WO # 180222

JOB LOCATION ADDRESS: 5329 TURKEY OAK DRIVE, LOT 70
PROPERTY OWNER: FARRINGTON OAKS LLC
BUILDING CONTRACTOR: FARRINGTON OAKS LLC
SUBDIVISION NAME: FARRINGTON OAKS
AUTHORIZATION ISSUED BY: PHILO WALKER DATE: 12/19/05

Philo A. Walker RS 12/19/05
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 5946B, 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

CONDITIONS OF IMPROVEMENT PERMIT / CONSTRUCTION AUTHORIZATON

Permit Number: **5946B** Tax Number: **195-202-17**

- The 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.

Basement: ☐ Yes ☒ No ☐ Partial Basement

Primary Wastewater System

Type: ☐ I ☐ II ☒ III ☐ IV ☐ V ☐ VI

☐ Conventional
☐ Prefabricated, permeable block panel system
☐ Shallow Placed Conventional
☐ Low Pressure Pipe
☐ Large Diameter Pipe
☐ Fill
☐ Other
☒ Innovative or Experimental:

.25 *Long-term acceptance rate* (GPD/ft^2)	360 Max gallons/day wastewater flow	1080 Absorption Area (ft^2)	9 Trench spacing (min. on centers) (ft)
Serviced by private well: ☐ Yes ☒ No	1500 *Gallon septic tank*	960 *Total trench length (ft)*	24 Maximum trench depth (in) (At least 12" of provisionally suitable soil must remain *between trench bottom and* unsuitable soil conditions.)
3 Bedrooms in residence	1000 Gallon pump tank	NA Depth of stone (in)	

Any surface water present: **YES** Type: **CREEK** Minimum separation distance (ft): **50**

Additional conditions: **PRESSURE MANIFOLD DISTRIBUTION**
AGREEMENT FORMS REQUIRED, AT GRADE INNOVATIVE SYSTEM REPAIR

Repair Area System

Type: ☐ I ☐ II ☒ III ☐ IV ☐ V ☐ VI

☐ Conventional
☐ Prefabricated, permeable block panel system
☐ Shallow Placed Conventional
☐ Low Pressure Pipe
☐ Large Diameter Pipe
☐ Fill
☒ Other
☒ Innovative or Experimental:

1210 Absorption Area (ft^2) 407 Total trench length (ft)	NA Depth of stone (in)	9 Trench spacing (min. on centers) (ft)	18 Maximum trench depth (in)

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department has approved the Request for the Job Location contained in this document. The approval is granted in accordance with the provisions of Laws and Rules For Sewage Treatment, and Disposal Systems in effect at the time of issuance of the permit and is subject to the following provisions:

*** No work shall be conducted on the septic tank system until an Installation, Construction, Alteration and/or Repair Approval is granted by this Department.

*** This Improvement permit is transferable.

Phil A. Walker RS 12/19/05
DENR Authorized Agent Date

Owner/Agent Signature 1-17-06
Owner/Agent Signature Date

MECKLENBURG COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
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

FAIRINGTON OAKS / Lot 70

Project No. 5-1553

LAYOUT FOR 3 BEDROOM HOME

Oct-05

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	Design Length
TBM		1.4			100.0		
INSTR. 1			101.4				
			SYSTEM				
1	Pink			4.55	96.9	109	100
2	Red			5.10	96.3	112	100
3	Orange			6.20	95.2	76	75
4	Yellow			8.20	93.2	108	100
					Total	405	375
			Repair				
5	Pink			1.80	99.6	38	
6	Orange			2.06	99.4	42	
7	Red			2.96	98.5	105	
8	Yellow			3.46	98.0	112	
9	Blue			3.90	98.1	110	
					Total	407	

VOID

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	INNOVATIVE TYPE	DISTRIBUTION
* System	375	0.25	Shallow Conv.	EZ Flow	P. Manifold
Repair	407	0.25	At Grade Conv.	EZ Flow	P. Manifold

Notes:

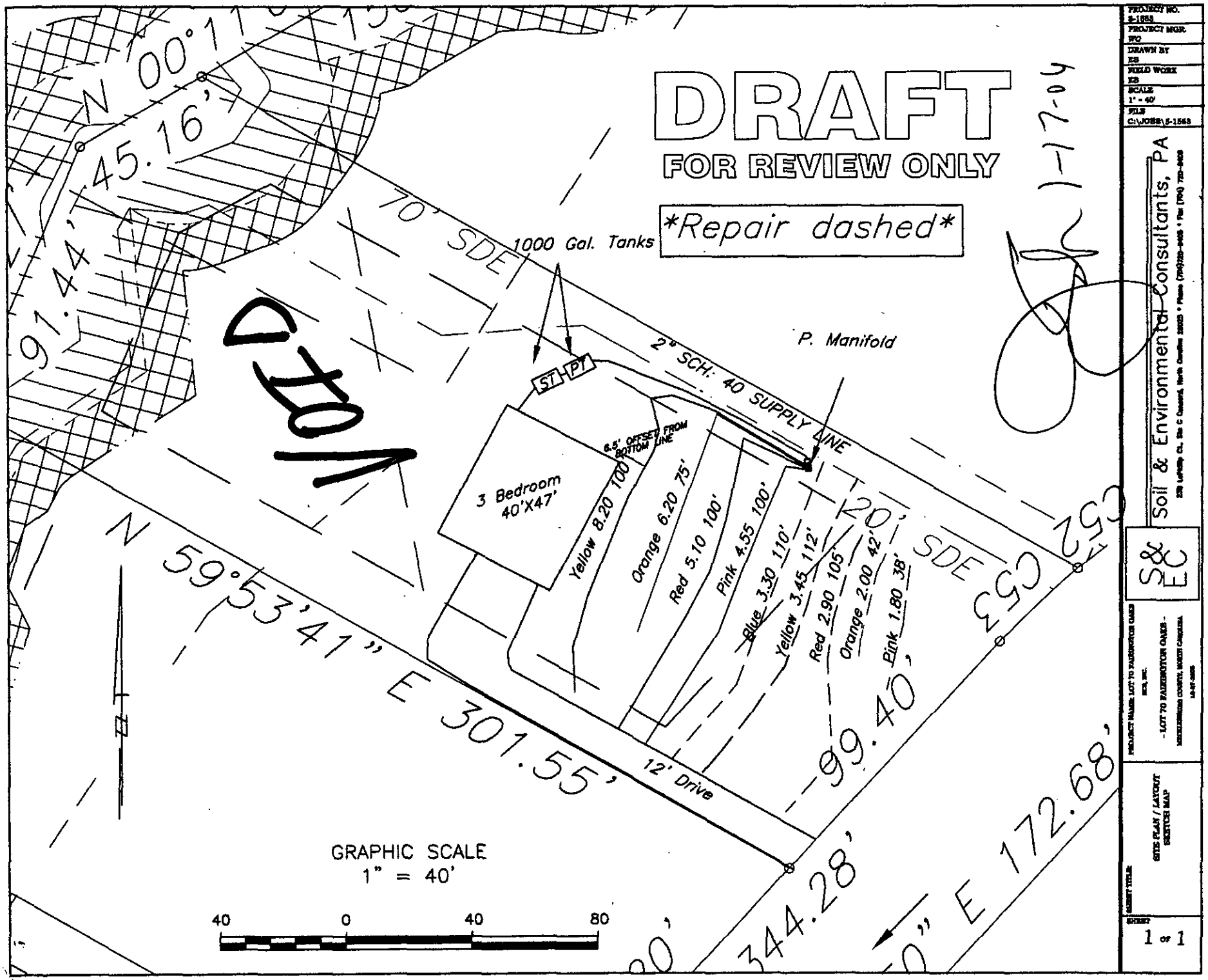
** TBM located top of cip
**TBM is assumed to be 100'
**All measures in feet
**Nitrification lines are demonstrated on contour via colored pin flags
**BS and FS indicate rod readings
**Plan assumes no wing walls built behind structure
**House placement should be 6.5 feet below the bottom line of the system
** At grade conventional requires 6-12" of soil cap.
** Site plan is based on no basement or foundation drain.

Lot 70 Fairington Oaks

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/Tap	gpd	Trench Area	Line LTAR
1	Pink	96.9	100	SCH 80 3/4	10.1	97.19	300	0.32
2	Red	96.3	100	SCH 80 3/4	10.1	97.19	300	0.32
3	Orange	95.2	75	SCH 40 1/2	7.11	68.42	225	0.30
4	Yellow	93.2	100	SCH 80 3/4	10.1	97.19	300	0.32
	total	feet =	375	gal/min =	37.41			
			Des. Flow	360				
			Pump Run=	9.62				
			soil LTAR	0.25				
			EZFLO LTAR	0.33				

VOID


DRAFT
FOR REVIEW ONLY
Repair dashed
1000 Gal. Tanks
P. Manifold
2" SCH. 40 SUPPLY LINE
ST
PT
6.5' OFFSET FROM BOTTOM LINE
3 Bedroom 40'X47'
Yellow 8.20 100'
Orange 6.20 75'
Red 5.10 100'
Pink 4.55 100'
Blue 3.30 110'
Yellow 3.45 112'
Red 2.90 105'
Orange 2.00 42'
Pink 1.80 38'
70' SDE
20' SDE
N 59°53'41" E 301.55'
N 00°1
45.16'
91.44'
99.40'
344.28'
E 172.68'
12' Drive
GRAPHIC SCALE
1" = 40'
40 0 40 80
Soil & Environmental Consultants, PA
S&EC
PROJECT NO. 5-1568
PROJECT MGR. WC
DRAWN BY EB
FIELD WORK EB
SCALE 1" = 40'
FILE C:\JOBS\5-1568
- LOT 70 FAIRSHOTON OAKS -
SITE PLAN / LAYOUT SKETCH MAP
SHEET 1 of 1

FOR REGISTRATION JUDITH A. GIBSON
REGISTER OF DEEDS
MECKLENBURG COUNTY, NC
2006 JAN 31 02:10 PM
BK:19980 PG:612-616 FEE:$20.00

INSTRUMENT # 2006019373

2006019373

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 # ~~5329~~ 5946B LOT 70
PARCEL #

VOID

The undersigned, McCar Homes, owner of property located at 5329 Tuby Oak, (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: JEFF ELLIS
Mail after recording to: 10150 Mallard Creek Rd. 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___.

McCan Homes _____ (SEAL)
(Corporate Name)

_____ (SEAL)

By: Jeffrey Ellis _____ (SEAL)

Sper _____ 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 McCarthy's, 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 Chris Bryant

Chris Bryant Notary Public Mecklenburg County, NC

My Commission Expires:
1-10-2010

REVISED 8-13-02

#957

GWS – RES. APP 12/04

SEPTIC FEE: 300.00 X3228/12
DATE: 6/1/05
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 # 5946B

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 #: 195-202-17
STREET ADDRESS: 5329 TURKEY OAK DR.
CITY: CHARLOTTE
STATE: NC ZIP: 28227
SUBDIVISION OR MOBILE HOME PARK NAME:
LOT #: 70
TOWNSHIP:

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

VOID

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: ~~5~~ 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: FAIRINGTON 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 Date

*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

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

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

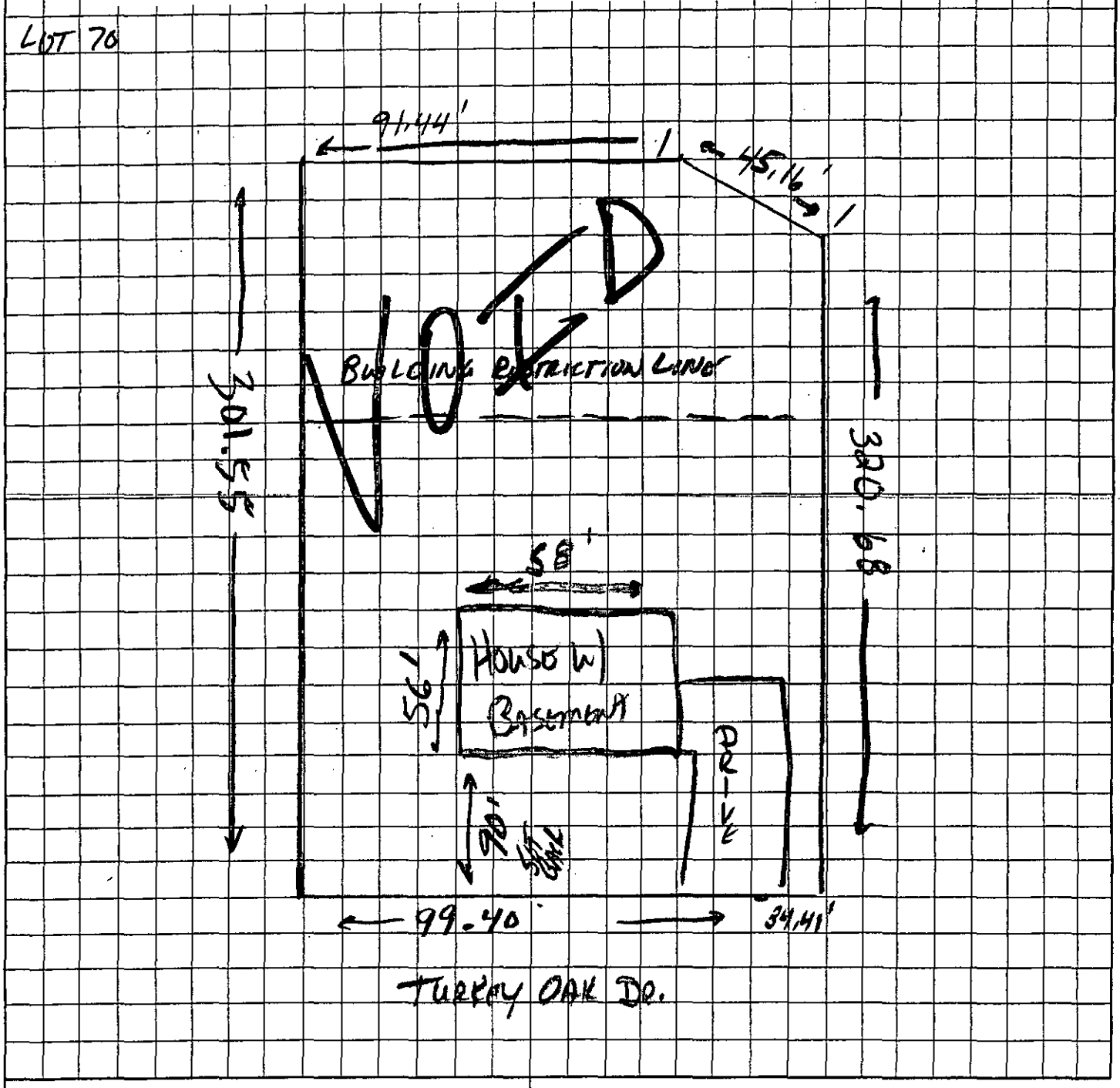
PROPOSED PLOT PLAN

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

FILE: _____

TC: 135-202-17

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 1-17-05

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