

Environmental Services - Water Quality  
Onsite Wastewater Scan Data Entry Form

PERMIT #: 0022588

PIN #: 0699507759

OP DATE: 0113012002

SYSTEM USE:

- ☒ House  
☐ Mobile Home  
☐ Business  
☐ Other

SEWAGE TYPE:

- ☒ Domestic  
☐ Industrial

PUMP/SIPHON?:

- ☒ Yes  
☐ No

PRESSURE MANIFOLD:

- ☒ Yes  
☐ No

SYSTEM TYPE:

- ☐ I  
☐ II  
☒ III  
☐ IV  
☐ V  
☐ VI  
☐ Other

SUB TYPE:

- ☐ A  
☒ B  
☐ C  
☐ D  
☐ E  
☐ F  
☐ G

NBR BEDROOMS:

- ☐ 1  
☐ 2  
☒ 3  
☐ 4  
☐ 5  
☐ 6  
☐ Other

MAINT. SCHEDULE:

- ☐ Yes  
☒ No

CERT. OPERATOR

- ☐ Yes  
☒ No

| GT                                  | ST                                  | PT                                  | SIZE             |
|-------------------------------------|-------------------------------------|-------------------------------------|------------------|
| <input type="checkbox"/>            | <input type="checkbox"/>            |                                     | 750              |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | 900              |
| <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 1,000            |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | 1,200            |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | 1,500            |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | 1,800            |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | 2,100            |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | 2,500            |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | 3,000            |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | 4,000            |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | 5,000            |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | 8,000            |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | 10,000           |
| <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | Other            |
| <input checked="" type="checkbox"/> |                                     | <input type="checkbox"/>            | None/NA GT or PT |

DRAINFIELD SIZE(SQ. FT.)

01200

DRAIN TYPE:

- ☐ Stone  
☐ EZ Flow  
☐ Infiltrator  
☐ Biodiffuser  
☐ Cultec  
☐ Drip  
☐ Hancor  
☐ Large Dia. Pipe  
☐ Multi-Pipe  
☒ Other

MAX DEPTH (IN.):

- ☐ 12 in. or less  
☐ 18 in. or less  
☒ 24 in. or less  
☐ 26 in. or less  
☐ 28 in. or less  
☐ 30 in. or less  
☐ 32 in. or less  
☐ 36 in. or less  
☐ Other

STONE DEPTH (IN.):

- ☐ 8 in. or less  
☐ 12 in. or less  
☐ 18 in. or less  
☐ 24 in. or less  
☒ Other

TRENCHES:

- ☒ Individual  
☐ Bed

TRENCH WIDTH (IN.):

- ☐ 12 in. or less  
☐ 18 in.  
☐ 24 in.  
☒ 36 in.  
☐ 6 ft. or less  
☐ 9 ft. or less  
☐ Other

WAKE COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES WELL AND SEWAGE SITE LOCATION PERMIT  
NO PERMIT(S) FOR CONSTRUCTION, LOCATION OR RELOCATION ACTIVITY SHALL BE ISSUED  
UNTIL AN AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION HAS BEEN ISSUED

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

PERMIT#: D022588 STATUS: A APP. DATE: 08/23/2001 BLDG. PERMIT#: 0020651  
PIN: 0699.04 50 7759 000 TAX MAP: 0767 0000 RECORDED: Y ORIG. PERMIT#:  
TOWNSHIP: 15 PANTHER BRANCH JURISDICTION: WC ZONING: R30  
APPLICANT: RAYNOR BLDGS, INC.  
1281 JACKSON KING RD  
WILLOW SPRING, NC 27592  
(919) 639 - 2011  
USE: HD USE: 101 ONE-FAMILY HOUSE  
EXIST USE:  
DISPOSAL: N BEDROOMS: 3 BASEMENT: N #EMPLOYEES: 0  
SITE: ADDRESS: 4925 TROTTER DR  
SUBDIVISION: LANERIDGE LOT: 60 ACRES: 0.75  
DIRECTION: 401 S. TL SR1010 TR SR2723 TL INTO S/D

Well System: WATER: COMMUNITY - TYPE: EXISTING

WELL LOG INFORMATION: DEPTH: \_\_\_\_\_ CASING DEPTH: \_\_\_\_\_ YIELD: \_\_\_\_\_ STATIC LEVEL: \_\_\_\_\_  
WELL CONTRACTOR: \_\_\_\_\_ REG.# \_\_\_\_\_ PUMP CONTRACTOR: \_\_\_\_\_ REG.# \_\_\_\_\_  
Construction Compliance GROUT APPROVED ☐ DATE \_\_\_\_\_ EHS \_\_\_\_\_  
WELLHEAD APPROVED ☐ DATE \_\_\_\_\_ EHS \_\_\_\_\_  
SYSTEM FINALIZED ☐ DATE \_\_\_\_\_ EHS \_\_\_\_\_

COMMENTS:

DESIGN FLOW: 27.40 gal./min. ACTUAL FLOW: 27.3 Operation Permit  
INNOVATIVE LETTER: Y

INSTALLED BY: 919-639-2019  
PROPRIETARY SYSTEM:  
COMMENTS:

INSTALLATION APPROVED BY: VJM Vine Mung (12/31/01)  
FILTER NO: \_\_\_\_\_

OPERATIONS PERMIT ISSUED? ☒

OP DATE: 1-30-02

BY: SCR Scott Rumm (12/31/01)

This permit is based in part on information provided by the homeowner or his/her representative in the application submitted for this permit. The Environmental Health Specialist is not responsible for false or misleading information contained in the application. The Environmental Health Specialist is also not responsible for concealed conditions on the property or for statements in this report that may have resulted from false or misleading statements provided to him in the application. Neither Wake County nor the Environmental Health Specialist warrants that the septic tank system will continue to function satisfactorily in the future or that the water supply will remain potable.

S.T. p.t. drainlines inspected & approved.

12/31/01 - VJM

mcp 10-16-01 PT  
mcp 11-21-01 -ST

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1281 JACKSON KING RD  
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(919) 639 - 2011  
USE: HD USE: 101 ONE-FAMILY HOUSE  
EXIST USE:   
DISPOSAL: N BEDROOMS: 3 BASEMENT: N #EMPLOYEES: 0 FOUND DRAIN: N  
SITE: ADDRESS: 4925 TROTTER DR  
SUBDIVISION: LANERIDGE LOT: 60 ACRES: 0.75  
DIRECTION: 401 S. TL SR1010 TR SR2723 TL INTO S/D

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**IMPROVEMENT PERMIT**

TANK SIZE: 1000 gal. PUMP Tank: 1000 gal. SQ FT: 1200 INNOVATIVE MAX DEPTH LINE: 24 in.  
WASTEWATER: INDIVIDUAL SEWAGE: DOMESTIC TYPE SYSTEM: III G PUMP: Y P/M: Y  
DAILY FLOW: 360 gal/day DESIGN FEE REQ?: Y PAID?: Y WATER: COMMUNITY

COMMENTS:

IP ISSUED? Y DATE: 09/27/2001 BY: (DJR) Daniel Reese PHONE#: 856-7459

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**AUTHORIZATION FOR WASTEWATER/WATER SYSTEM CONSTRUCTION**

VOID SIXTY (60) MONTHS FROM DATE OF ISSUANCE

**AUTHORIZATION CONDITIONS:**

Contractors shall install system on contours, see attached site plan for wastewater system design and well location. No underground utilities, water lines or sprinkler systems may be located in the original system or repair areas. A septic tank filter with a riser for access is required. The wastewater system shall not be covered or placed into use until inspected by the Wake County Department of Environmental Services and an Operation Permit issued. **OTHER CONDITIONS:**

REFER TO AND ADHERE TO ATTACHED APPROVED PLANS AND SPECIFICATIONS. SYSTEM IS DESIGNED AS A PUMP TO PRESSURE MANIFOLD (LPP REPAIR LOCATED IN OFF-SITE EASEMENT ACROSS STREET). SEPTIC TANK IS TO HAVE TWO ACCESS RISERS AND APPROVED EFFLUENT FILTER, PUMP TANK TO HAVE ACCESS RISER AND ASSOCIATED COMPONENTRY. ESTABLISH AND INSTALL LINES ON CONTOUR AS INDICATED IN PLANS. INSTALLATION AND REPAIR AREAS ARE TO BE PROTECTED FROM DAMAGE/UNAUTHORIZED TRAFFIC. ALL REGULATORY SETBACKS ARE TO BE ADHERED TO. NOTE THAT THE DESIGN PRECLUDES UTILIZATION OF A FOUNDATION DRAIN ON THE RESIDENCE.

TANK SIZE: 1000 gal. PUMP TANK: 1000 gal. SQ FT: 1200 INNOVATIVE MAX DEPTH LINE: 24 in.  
MAINT: N OPER: N L/O: P TRENCH#: 5 LENGTH: 80 ft. WIDTH: 36 in. DESIGNER: HAL OWEN ASSOC.  
# SUBFIELDS: 1 DESIGN HEAD PRESSURE: 2 DESIGN FLOW: 27.40 gal/min DOSE VOLUME: 196 gal.

CA ISSUED? Y DATE: 10/05/2001 BY: (WEL) Cynthia Rymer PHONE#: 856-7461

# Lot 60, Laneridge Subdivision- Phase 2

## On-Site Wastewater Design Specifications

*CA Site Plan*

House Footprint: 55' x 55' (No Foundation Drain)

Bedrooms: 3w/ conv-initial & LPP repair

Initial System: 5 x 80' pump w/ pressure manifold  
on contour at: 24"

LTAR: 0.3gpd/sqft

Repair System : LPP off site

on contour at: 12"

LTAR: 0.13gpd/sqft

Prepared By: LJF

Hal Owen & Associates, Inc.

Soil & Environmental Scientists

P.O. Box 400, 266 Old Coats Rd.

Lillington, NC 27546-0400

Phone: (910) 893-8743

### LEGEND

|                   |             |
|-------------------|-------------|
| Pressure Manifold | Septic Tank |
| EIP               | Pump Tank   |
| Step-down         | D-Box       |

*\*\* Refer to and Adhere  
to Attached Approved  
Plans & Specifications*

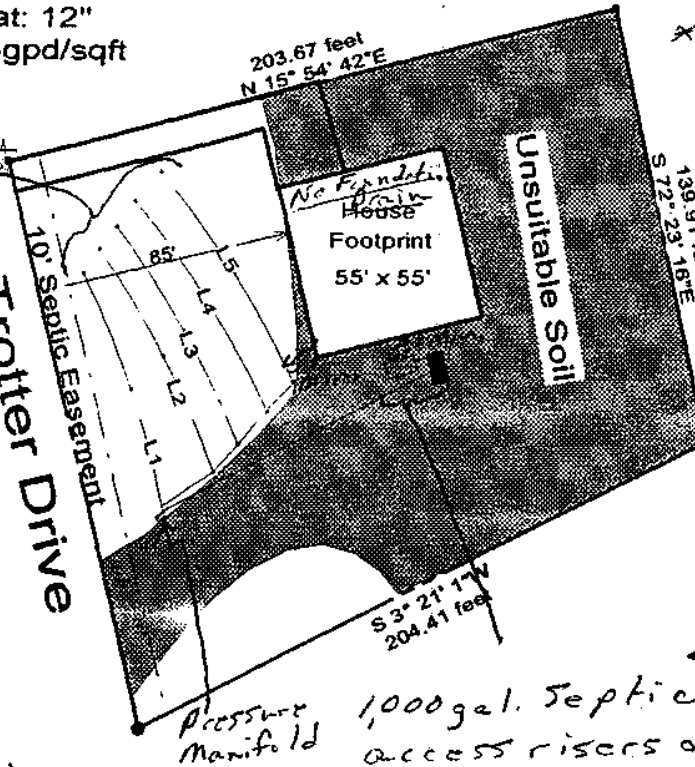
*\*\* Note Off-Site  
Repair Area  
Across Street -  
See Site Plan  
Addendum*

*Disposal Field*

*5 lines - 80' long x  
3' wide, 24" max.  
trench depth.*

*Trotter Drive*

60.00 feet



*Adhere to all  
regulatory setbacks  
for system components.*

*1,000 gal. Septic Tank with two  
access risers and approved effluent  
filter.  
1,000 gal. Pump Tank with  
access riser and associated  
componentry.*

Lines flagged at site on 9-ft centers.

| Initial/<br>Repair | Line<br># | Color | Drainline<br>Length(ft) | Measured Field<br>Line Length (ft) | Relative<br>Elevation (ft) |
|--------------------|-----------|-------|-------------------------|------------------------------------|----------------------------|
| Initial            | 1         | B     | 80                      | 103                                | 97.67                      |
| Initial            | 2         | RY    | 80                      | 106                                | 96.08                      |
| Initial            | 3         | W     | 80                      | 88                                 | 94.31                      |
| Initial            | 4         | RY    | 80                      | 92                                 | 93.19                      |
| Initial            | 5         | B     | 80                      | 81                                 | 91.65                      |
| Pump Tank:         |           |       |                         |                                    | 85.69                      |
| Total:             |           |       | 400                     | 470                                | EIP=0                      |

# PRESSURE MANIFOLD DESIGN

Hal Owen Associates, Inc.  
Soil Environmental Scientists  
PO Box 400, Lillington, NC 27546  
Phone (910) 893-8743 Fax 893-3594

Applicant: Mr. Craig Byrd Phone #: (919) 427-7524  
Mailing Address: Raynor Builders, Inc., 1281 Jackson King Rd., Willow Spring, NC 27592

PIN: 0699.04-50-7759 D#: 22588 S/D: Laneridge - Phase 2 Lot#: 60  
Site Address: 4925 Trotter Drive

# BDR: 3 Daily Flow: 360 Square Ft: 1200.00 Linear Feet: 400  
LTAR: 0.3 gpd/sqft LTAR w/ innov:          gpd/sqft  
Septic Tank (gal): 1000 Pump Tank (gal): 1000

Length of Trenches (ft): 80 Trench Depth (in): 24 Stone Depth (in): 12

Manifold Length (in): 48 Elevation: 98.67 Diameter: 4" sch 80 pvc  
# Taps 5 Tap Configuration: 6" spacing, 1 side(s) of manifold

Supply Line Length (ft): 100 Diameter: 2" sch 40 pvc

Pump Tank Elevation: 85.69 Pump Elevation (ft): 80.69

Simplex Control Panel, **SJE Rhombus 112** or equal, with elapsed time meter and cycle counter is required.  
Floats to be determined by type of pump tank used. A septic filter, **Polylok PL-122** or equal is required.  
Possible pumps include:

Hydromatic: SPD 50H Zoeller: M292 Goulds:          Meyers:         

Friction Head (ft): 2.56 (supply line length + 70' for fittings in pump tank)  
Elevation Head (ft): 17.98 Design Head (ft): 2 Total Head (ft): 22.54

Dose Volume (gal): 195.90 with Pipe Volume at % 75  
Pump to Deliver: 27.40 gpm @ 22.54 ft head  
Dose PRT(min): 7.15 Daily PRT(min): 13.14  
Drawdown: 195.90 gallons divided by 21 gal/ inch = 9.33 inches

## Tap Chart

| Line | Color | Relative Elevation | Drainline Length(ft) | Tap Size/ Schedule | flow (gpm) per tap | gpd   | Trench Area | LTAR gpd/sqft |
|------|-------|--------------------|----------------------|--------------------|--------------------|-------|-------------|---------------|
| 1    | B     | 97.67              | 80                   | 1/2-80             | 5.48               | 72.00 | 240         | 0.300         |
| 2    | RY    | 96.08              | 80                   | 1/2-80             | 5.48               | 72.00 | 240         | 0.300         |
| 3    | W     | 94.31              | 80                   | 1/2-80             | 5.48               | 72.00 | 240         | 0.300         |
| 4    | RY    | 93.19              | 80                   | 1/2-80             | 5.48               | 72.00 | 240         | 0.300         |
| 5    | B     | 91.65              | 80                   | 1/2-80             | 5.48               | 72.00 | 240         | 0.300         |
|      |       |                    |                      |                    |                    |       |             |               |
|      |       |                    |                      |                    |                    |       |             |               |
|      |       |                    |                      |                    |                    |       |             |               |
|      |       |                    |                      |                    |                    |       |             |               |

Total Drainline: 400 Total Flow: 27.40 Sq. Foot: 1200.00

LTAR + 5% = 0.32

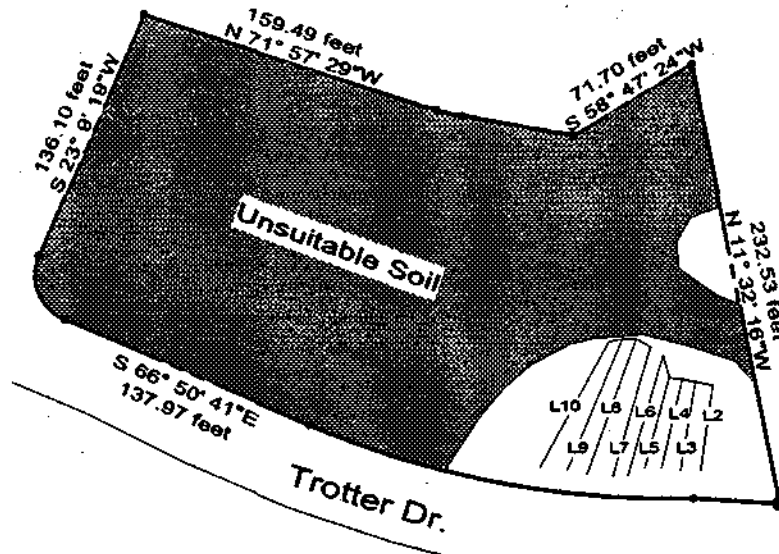
**Lot 60-Repair Easement, Laneridge Subdivision- Phase 1****On-Site Wastewater Design Specifications***CA Site Plan Addendum*

Prepared By:

Hal Owen & Associates, Inc.  
 Soil & Environmental Scientists  
 P.O. Box 400, 266 Old Coats Rd.  
 Lillington, NC 27546-0400  
 Phone: (910) 893-8743

**Repair System: LPP (554 linear feet)****On contour at : 12 inches****LTAR: 0.13 gpd/sqft****LEGEND**

|                     |               |
|---------------------|---------------|
| ⊗ Pressure Manifold | □ Septic Tank |
| ★ EIP               | ■ Pump Tank   |
| ≡ Step-down         | ○ D-Box       |



100.00 feet

Lines flagged at site on 5-ft centers.

| Initial/<br>Repair | Line<br># | Color         | Drainline<br>Length(ft) | Measured Field<br>Line Length (ft) | Relative<br>Elevation (ft) |
|--------------------|-----------|---------------|-------------------------|------------------------------------|----------------------------|
| Repair             | 1         | W             | 0                       | 47                                 | 98.68                      |
| Repair             | 2         | B             | 45                      | 50                                 | 97.93                      |
| Repair             | 3         | Y             | 48                      | 49                                 | 97.28                      |
| Repair             | 4         | B             | 48                      | 49                                 | 96.91                      |
| Repair             | 5         | Y             | 50                      | 50                                 | 96                         |
| Repair             | 6         | W             | 66                      | 70                                 | 95.31                      |
| Repair             | 7         | B             | 70                      | 71                                 | 94.24                      |
| Repair             | 8         | Y             | 75                      | 79                                 | 93.54                      |
| Repair             | 9         | RY            | 76                      | 76                                 | 92.77                      |
| Repair             | 10        | W             | 76                      | 76                                 | 91.95                      |
|                    |           | <b>Total:</b> | <b>554</b>              | <b>617</b>                         | <b>EIP=0</b>               |

## Low Pressure Pipe Distribution Flow Sheet

| Subfields   | Line # | Initial/Repair | Line Color | Line Length | Relative Elev(ft) | Elevation Change | Pressure Head(ft) | Hole Size | Flow/ Hole | Flow/ Lateral | gpm/ft                                             | # Holes | Hole Spacing | First/Last Holes |
|-------------|--------|----------------|------------|-------------|-------------------|------------------|-------------------|-----------|------------|---------------|----------------------------------------------------|---------|--------------|------------------|
| 1           | 2      | Repair         | B          | 45          | 97.9              | 0.0              | 4.0               | 9/64      | 0.4663     | 4.1967        | 0.0932                                             | 9       | 4            | 6.5              |
|             | 3      | Repair         | Y          | 48          | 97.3              | 0.6              | 4.6               | 3/16      | 0.8889     | 4.4445        | 0.0925                                             | 5       | 10           | 4                |
|             | 4      | Repair         | B          | 48          | 96.9              | 1.0              | 5.0               | 5/32      | 0.6436     | 3.8616        | 0.0804                                             | 6       | 8            | 4                |
|             | 5      | Repair         | Y          | 50          | 96.0              | 1.9              | 5.9               | 9/64      | 0.5663     | 3.9641        | 0.0792                                             | 7       | 5            | 10               |
|             | 6      | Repair         | W          | 66          | 95.3              | 2.6              | 6.6               | 5/32      | 0.7394     | 5.1758        | 0.0784                                             | 7       | 9            | 6                |
|             | 7      | Repair         | B          | 70          | 94.2              | 0.0              | 4.0               | 5/32      | 0.5756     | 5.1804        | 0.0740                                             | 9       | 7            | 7                |
|             | 8      | Repair         | Y          | 75          | 93.5              | 0.7              | 4.7               | 5/32      | 0.6240     | 4.9920        | 0.0665                                             | 8       | 9            | 6                |
|             | 9      | Repair         | R          | 76          | 92.8              | 1.4              | 5.4               | 5/32      | 0.6688     | 4.6816        | 0.0616                                             | 7       | 10           | 8                |
|             | 10     | Repair         | W          | 76          | 92.0              | 2.2              | 6.2               | 9/64      | 0.5805     | 4.0635        | 0.0534                                             | 7       | 9.5          | 9.5              |
|             |        |                |            |             |                   |                  |                   |           |            |               |                                                    |         |              |                  |
| 2           |        |                |            |             |                   |                  |                   |           |            |               |                                                    |         |              |                  |
|             |        |                |            |             |                   |                  |                   |           |            |               |                                                    |         |              |                  |
|             |        |                |            |             |                   |                  |                   |           |            |               |                                                    |         |              |                  |
|             |        |                |            |             |                   |                  |                   |           |            |               |                                                    |         |              |                  |
|             |        |                |            |             |                   |                  |                   |           |            |               |                                                    |         |              |                  |
|             |        |                |            |             |                   |                  |                   |           |            |               |                                                    |         |              |                  |
|             |        |                |            |             |                   |                  |                   |           |            |               |                                                    |         |              |                  |
|             |        |                |            |             |                   |                  |                   |           |            |               |                                                    |         |              |                  |
|             |        |                |            |             |                   |                  |                   |           |            |               |                                                    |         |              |                  |
|             |        |                |            |             |                   |                  |                   |           |            |               |                                                    |         |              |                  |
| Pump Tank = |        |                |            |             |                   |                  |                   |           |            |               | % Decrease of gpm/ft from top line to bottom line= |         |              |                  |
|             |        |                |            |             |                   |                  |                   |           |            |               | 42.7                                               |         |              |                  |

### Calculations:

$$\text{Flow/Hole} = 11.79 d^2 h^{1/2}$$

$$\text{Flow/Lateral} = (\text{flow/hole}) \times \text{\#holes}$$

$$\text{gpm/ft} = ((\text{flow/hole}) \times \text{\#holes}) / \text{length}$$

$$\text{Vol. Dose} = \text{Manifold}(d, \text{vol}) + 5(\text{Lat Ln Vol})$$

$$\text{Sup. Ln}(d)\text{Vol} = (\text{Sup Ln. Length}/100) \times \text{Pipe Size \& Vol Table}$$

$$\text{Lat Ln Vol}(1\&1/4) = (\text{Tot. lin. footage} / 100) \times \text{Pipe Size \& Vol Table}$$

$$\text{Manifold Vol} = (\text{Manifold length} \times \text{pip vol}) / 100$$

$$\text{V. Dose} = \text{Manifold Vol} + \text{Lat Ln Vol} + \text{Sup. Ln Vol}$$

### Design Specifications

|                   |     |
|-------------------|-----|
| Sup. Line (d)Vol= |     |
| Lat. Line (d)Vol= |     |
| Manifold (d)Vol=  |     |
| Vol.Dose Range    |     |
| V. Dose=          | @ x |

|             |       |
|-------------|-------|
| Total Flow= | 40.56 |
| LTAR=       | 0.13  |
| Run Time=   |       |
| Draw Down=  |       |

|                     |  |                    |   |
|---------------------|--|--------------------|---|
| Elevation Head(ft)= |  | Flush Head(ft)=    | 2 |
| Friction Hd(ft)=    |  | Pressure Head(ft)= | 4 |
| TDH(ft)=            |  |                    |   |

$$\text{Run Time} = \text{Vol. Dose} / \text{Total Flow}$$

$$\text{Draw Down} = (\text{Vol. Dose} / (\text{Pump Tank Volume})) \times \text{liquid depth of tank (inches)}$$

$$\text{Friction Head} = [0.00113 \times (\text{Pipe Length}(ft) + 70' \text{ for fittings in pump tank}) \times \text{Flow}(GPM)^{1.85}] / \text{Pipe Inside Diameter}(in)^{4.87} \text{ Computed by the Hazen}$$

$$\text{Elev Head}(EH) = \text{Manifold} - (\text{PTank} - 5)$$

$$\text{TDH} = E\text{-Head} + F\text{-Head} + P\text{-Head} + Fr\text{-Head}$$