



NC DEPARTMENT OF
**HEALTH AND
HUMAN SERVICES**

ROY COOPER • Governor
KODY H. KINSLEY • Secretary
HELEN WOLSTENHOLME • Interim Deputy Secretary for Health
MARK T. BENTON • Assistant Secretary for Public Health
Division of Public Health

COMMON FORM FOR LICENSED SOIL SCIENTIST COVID-19 PERMIT OPTION FOR NON-ENGINEERED SYSTEMS

See Instructions for Use in Appendix A

Except for "Date received", this Section to be completed by the LSS in accordance with S.L. 2020-97, Section 3.19 and G.S. 130A-336.2

LHD USE ONLY: Initial submittal of this NOI received: _____ by _____
Date Initials

PART 1: Notice of Intent to Construct (NOI) - Please check all that apply

Single System or Multiple Systems

AND

New Expansion Relocation of all or part of the Existing System Relocation of Repair Area

Repair – LHD Permit Number _____ Repair – EOP/LSS COVID 19/AOWE Permit Number _____

1. Facility Owner's name: (Owner, Company Name, Utility, Partnership, Individual, etc.): _____

Mailing address: _____ City: _____ State: _____ Zip: _____

Telephone number: _____ E-mail Address: _____

2. Licensed Soil Scientist (LSS) name: _____ LSS License number: _____

Mailing address: _____ City: _____ State: _____ Zip: _____

Telephone number: _____ E-mail Address: _____

3. Licensed Geologist (LG) (if applicable) name: _____ License Number: _____

Mailing address: _____ City: _____ State: _____ Zip: _____

Telephone number: _____ E-mail Address: _____

4. Proof of Errors and Omissions or other appropriate liability insurance for the following persons is attached that includes the name of the insurer, name of the insured and the effective dates of coverage:

LSS LG

5. Property location (physical address, tax parcel identification number or subdivision lot, block number of the property to be permitted): _____

County Name: _____

6. Type of facility: Place of residence No. Bedrooms: _____ No. Occupants: _____

Place of business Basis for flow calculation: _____

Place of public assembly Basis for flow calculation: _____

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES • DIVISION OF PUBLIC HEALTH

LOCATION: 5605 Six Forks Road, Raleigh, NC 27609
MAILING ADDRESS: 1642 Mail Service Center, Raleigh, NC 27699-1642
www.ncdhhs.gov • TEL: 919-707-5874 • FAX: 919-845-3972

AN EQUAL OPPORTUNITY / AFFIRMATIVE ACTION EMPLOYER

- 7. Factors that would affect the wastewater load: _____

- 8. Type and located of proposed wastewater system: _____

- 9. Design wastewater flow: _____ gpd
Design wastewater strength: domestic high strength industrial process *(For industrial process wastewater, a Professional Engineer licensed in accordance with G.S. 89C shall design the on-site wastewater system.)*
- 10. A plat as defined in G.S. 130A-334(7a) is attached: Yes No
A site plan as defined in G.S. 130A-334(13a) is attached: Yes No
- 11. Location of proposed or existing wells (drinking water, irrigation, geothermal, groundwater monitoring, sampling, etc.) and any potable and non-potable water conveyance lines is indicated on attached plans and complies with 15A NCAC 18A .1950: Yes No
This is a saporlite system. Yes No
- 12. Evaluation(s) of soil conditions and site features in accordance with G.S. 130A-335(a1) signed and sealed by a LSS is attached: Yes No
- 13. Evaluation of geologic and hydrogeologic conditions signed and sealed by a LG is attached Yes NA
- 14. Proposed landscape, site, drainage, or soil modifications are attached: Yes NA

Attestation by LSS pursuant to S.L. 2020-97, Section 3.19 and G.S. 130A-336.2

I, _____ hereby attest that the information required to be included with
Licensed Soil Scientist (Print Name)
this Notice of Intent to Construct is accurate and complete to the best of my knowledge and that the proposed system shall meet applicable federal, State, and local laws, regulations, rules and ordinances, and that the proposed system does not require a Professional Engineer, licensed in accordance with G.S. 89C, and in accordance with 15A NCAC 18A .1938 and activities determined to be engineering as determined by the North Carolina Board of Examiners for Engineers and Surveyors.

Signature of Licensed Soil Scientist _____
Date

Owner self-submittal of NOI:

I, _____ hereby submit this NOI prepared by _____
Print Name of Owner *Print Name of Licensed PE*

pursuant to G.S. 130A-336.1.

Signature of Owner _____
Date

NOTES:

LIABILITY: The Department, the Department’s authorized agents, or local health departments shall have no liability for wastewater systems designed, constructed, and installed pursuant to an LSS COVID-19 Permit Option [S.L. 2020-97, Section 3.19(d) and G.S. 130A-336.2(f)]

*RIGHT OF ENTRY: The submittal of this **Notice of Intent to Construct** grants right of entry to the Local Health Department and the State to the referenced property.*

ISSUANCE OF BUILDING PERMIT: Once the LHD deems that the Notice of Intent to Construct is complete via signature in the section below, the owner may apply to the local permitting agency for a permit for electrical, plumbing, heating, air conditioning or other construction, location, or relocation activity under any provision of general or special law pursuant to G.S. 130A-338.

Re-submittal of NOI with missing items included

*This Section is for use by owner to submit items noted as missing during LHD Completeness Review above.
Resubmittals must be accompanied by a cover letter from the LSS.*

LHD USE ONLY: This NOI resubmittal received: _____ by _____
Date Initials

Item # from initial NOI	Resubmittal description

Attestation by LSS pursuant to S.L. 2020-97, Section 3.19

I, _____ hereby attest that the information required to be included with
Licensed Soil Scientist (Print Name)
this Notice of Intent to Construct is accurate and complete to the best of my knowledge and that the proposed system shall meet applicable federal, State, and local laws, regulations, rules, and ordinances.

Signature of Licensed Soil Scientist *Date*

The section below is for Local Health Department use after submittal of items noted as missing above.

LHD Follow-up Completeness Review of Notice of Intent to Construct

This follow-up review for completeness of this Notice and Intent was conducted in accordance with G.S. 130A-336.2(c). This NOI is determined to be:

INCOMPLETE
Based upon review of information submitted in the RESUBMITTAL above, this Notice of Intent remains INCOMPLETE because the following items from Part 1 of this form remain missing: _____

Copies of this signed form were sent to the LSS and the Owner on _____ via _____
Date Email, FAX, USPS, Hand-delivered

Print name of authorized Agent of the LHD *Signature of authorized Agent of the LHD* *Date*

COMPLETE
Based upon review of information submitted in the RESUBMITTAL above in addition to information provided in Part 1 of this form, this NOI is deemed complete.

Copies of this signed form were sent to the LSS and the Owner on _____ via _____
Date Email, FAX, USPS, Hand-delivered

A complete copy of this form with tracking information was sent to the State: _____ via _____
Date Email, FAX, USPS, hand-delivered

Print name of authorized Agent of the LHD *Signature of authorized Agent of the LHD* *Date*

PART 3: Authorization to Operate (ATO)

Except for date received, the Section below is to be completed by the Owner.

LHD USE ONLY: Initial submittal of request for ATO received: _____ by _____
Date Initials
Date of Post-construction Conference: _____

The following items are included in this submittal for an Authorization to Operate under an LSS COVID-19 permit:

- 1. Signed and sealed copy of the LSS’s report that includes the information in G.S. 130A-336.2(k) Yes No
- 2. Operation and management program Yes No
- 3. Fee (as applicable) Yes No
- 4. Notarized letter documenting Owner’s acceptance of the system from the LSS Yes No
- 5. On-site Wastewater Contractor name: _____ License number: _____
Mailing address: _____ City: _____ State: _____ Zip: _____
Telephone number: _____ E-mail Address: _____
- 6. Proof of Errors and Omissions or other appropriate liability insurance for the On-site Wastewater Contractor is attached and includes the name of the insurer, name of the insured, and the effective dates of coverage.
 Yes No

Attestation by the Owner for Authorization to Operate

I, _____ hereby attest that all items indicated above have been provided to the
Print name of Owner
_____ County LHD and the system shall meet applicable federal, State, and local laws, regulations, rules, and ordinances.

Signature of Owner Date

This section for LHD Use Only.

LHD Review of required information for the ATO

INCOMPLETE
Based upon review of information submitted in the Section above, the following items are missing from the information required for an Authorization to Operate for an LSS COVID-19 permit: _____

Copies of this signed form were sent to the LSS and the Owner on _____ via _____
Date Email, FAX, USPS, Hand-delivered

Print name of authorized Agent of the LHD Signature of authorized Agent of the LHD Date

COMPLETE
Based upon review of information submitted in the Section above, this Authorization to Operate is hereby issued in accordance with G.S. 130A-336.2(m).

A copy of this complete NOI/ATO with tracking information was sent to the State on _____ via _____
Date Email, FAX, USPS, Hand-delivered

Print name of authorized Agent of the LHD Signature of authorized Agent of the LHD Date

ISSUANCE OF CERTIFICATE OF OCCUPANCY: Once the LHD determines completeness based upon the ATO submission, the owner may apply to the local permitting agency for permanent electrical service to a residence, place of business or place of public assembly pursuant to G.S. 130A-339.



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

1/18/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must be endorsed. If **SUBROGATION IS WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Wade Associates, LLC 250 Pollock St. New Bern NC 28560	CONTACT NAME: Angela Sensenig PHONE (A/C No. Ext): (252) 631-5269 E-MAIL ADDRESS: asensenig@wadeict.com	FAX (A/C No): (252) 649-2443
	INSURER(S) AFFORDING COVERAGE	
INSURED Sanlee Environmental LLC 235 Avents Ferry Rd Sanford NC 27330-9077	INSURER A: Auto-Owners NAIC # 18988	
	INSURER B: Markel Insurance Company NAIC # 38970	
	INSURER C:	
	INSURER D:	
	INSURER E:	
	INSURER F:	

COVERAGES

CERTIFICATE NUMBER: 21-22 Master

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:			35761571	3/16/2021	3/16/2022	EACH OCCURRENCE	\$ 1,000,000
								DAMAGE TO RENTED PREMISES (Ea occurrence)
							MED EXP (Any one person)	\$ 10,000
							PERSONAL & ADV INJURY	\$ 1,000,000
							GENERAL AGGREGATE	\$ 2,000,000
							PRODUCTS - COMP/OP AGG	\$ 2,000,000
								\$
							COMBINED SINGLE LIMIT (Ea accident)	\$
							BODILY INJURY (Per person)	\$
							BODILY INJURY (Per accident)	\$
							PROPERTY DAMAGE (Per accident)	\$
								\$
							EACH OCCURRENCE	\$
							AGGREGATE	\$
								\$
							PER STATUTE	
							OTH-ER	
							E.L. EACH ACCIDENT	\$
							E.L. DISEASE - EA EMPLOYEE	\$
							E.L. DISEASE - POLICY LIMIT	\$
B	Errors & Omissions			MEO2044	3/16/2021	3/16/2022	General Aggregate	\$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER**CANCELLATION**

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

N Whitsett/MB

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SanLee Environmental, LLC

Project: Lillington DG Date: 5/10/2022

Address: TBD US 421 Hwy, Lillington, NC

County: Harnett PIN# _____ Water Source: Public

of Bedrooms: NA Design Daily Flow: 260 Waste Strength: Domestic

Initial System

LTAR: 0.4 Trench Width: 3 Trench Depth: 24"

Min. ft of Drainfield: 108 Adjusted ft of Drainfield: 117

Septic Tank Size: 1200 Gallons Pump Tank Size: 1200 Gallons

Distribution Method: Pressure Manifold Specified Product: PPBPS

Pretreatment Required? No Amount of Soil Cover Required NA

Notes

- 1) Maintain all applicable setback to septic system components
- 2) Install when soils are dry and rake trench sidewalls if any smearing occurs
- 3) A time dosed control panel is required with the pressure manifold distribution of the PPBPS product
- 4) Preconstruction conference required prior to installation
- 5) Property lines and easements should remain clearly marked to ensure proper setbacks
- 6) Risers must extend above grade on both the septic tank and pump tank

Repair System

LTAR: 0.4 Trench Width: 3 Trench Depth: 24"

Min. ft of Drainfield: 108 Adjusted ft of Drainfield: 108

Septic Tank Size: 1200 Gallons Pump Tank Size: 1200 Gallons

Distribution Method: Pressure Manifold Specified Product: PPBPS

Pretreatment Required? No Amount of Soil Cover Required NA

Notes

- 1) Maintain all applicable setback to septic system components
- 2) Install when soils are dry and rake trench sidewalls if any smearing occurs

SanLee Environmental, LLC

Project: Lillington DG Date: 5/10/2022

Address: TBD US 421 Hwy, Lillington, NC

County: Harnett PIN# TBD Water Source: Public

Line #	Flag Color	Elevation	Layout		
			Line Length	System 1	System 2
Septic Tank					
Line 1	Blue		46	39	
Line 2			46	39	
Line 3			44	39	
Line 4			45		42
Line 5			43		42
Line 6			25		24
			249	117	108

PRESSURE MANIFOLD SEPTIC SYSTEM DESIGN (Initial/Primary)

Site Information

Applicants: Dollar General - Lillington
 Site Address: TBD Us 421 Hwy
 Lillington, NC

Design Information

Flow/Unit: 260 gpd over 10,600 sq ft
 Design Daily Flow: 260 gal/day
 L.T.A.R. : 0.4 gal/day/ft²
 L.T.A.R. + 5%: 0.42 gal/day/ft²
 Trench Width: 3 ft.
 Line Length Required: 108.3 ft.
 Adjusted Line Length 117 ft. (50% Reduction Product)
 L.T.A.R. Reduced: 0.7407407 gal/day/ft²
 L.T.A.R. Reduced + 5%: 0.778 gal/day/ft²

DRAINFIELD INFO. - Initial (Primary)

Proposed Type of System/Distribution: **PPBPS**

Line No. (EL in ft)	Flag Color	Line Length (ft.)	Number of PPBPS Panels	Lateral Flow	Flow/Foot (gpm/ft)	Line L.T.A.R.
1		39	9	7.11	0.182	0.741
2		39	9	7.11	0.182	0.741
3		39	9	7.11	0.182	0.741
TOTAL		117	27	21.33		

Note: Flow/tap estimate assumes 2.0 ft. of head.

Total Run Time = 12.19 min.
 # of PPBPS Panels = 27
 Dose Volume = 86.6 gal/dose
Run Time/Dose = 4.1 min
 Volume/depth = 21 gal/in (Dependent upon tank manufacturer, to be field verified)
 Estimated Drawdown = 4.1 in.

PRESSURE MANIFOLD SEPTIC SYSTEM DESIGN (Repair)

Site Information

Applicants: Dollar General - Lillington Site Address: TBD Us 421 Hwy Lillington, NC

Design Information

Flow/Unit:	260 gpd over 10,600 sq ft					
Design Daily Flow:	260 gal/day					
L.T.A.R. :	0.4 gal/day/ft ²					
L.T.A.R. + 5%:	0.42 gal/day/ft ²					
Trench Width:	3 ft.					
Line Length Required:	108.3 ft.					
Adjusted Line Length	108 ft. (50% Reduction Product)					
L.T.A.R. Reduced:	0.8024691 gal/day/ft ²					
L.T.A.R. Reduced + 5%:	0.843 gal/day/ft ²					
DRAINFIELD INFO. - Initial (Primary)						
Proposed Type of System/Distribution:	PPBPS					
Line No. (EL in ft)	Flag Color	Line Length (ft.)	Number of PPBPS Panels	Lateral Flow	Flow/Foot (gpm/ft)	Line L.T.A.R.
4		42	10	10.10	0.240	0.812
5		42	10	10.10	0.240	0.812
6		24	6	5.48	0.228	0.771
TOTAL		108	26	25.68		
Note: Flow/tap estimate assumes 2.0 ft. of head.						
Total Run Time =	10.12 min.					
# of PPBPS Panels =	26					
Dose Volume =	86.7 gal/dose					
Run Time/Dose =	3.4 min					
Volume/depth =	21 gal/in (Dependent upon tank manufacturer, to be field verified)					
Estimated Drawdown =	4.1 in.					

PUMP DESIGN

Applicants: Dollar General - Lillington
Site Address: TBD Us 421 Hwy
Lillington, NC

Friction Losses

Suction Head =	0 ft.	(submersible = 0)
Elev. Difference (highest point from pump) =	10.00 ft.	
Design Pressure At Outlet =	2 ft.	
Supply Line - 2" Schedule 40 PVC from Pump to Manifold		
Pipe Diameter (ID) =	2.047 in.	Flow = 21.33 gpm
Pipe Length =	70 ft.	Velocity = 2.08 ft/sec
Pipe Length for Fittings =	70 ft.	
Est. Friction Loss per 100' =	0.87 ft/100 ft.	
Estimated Friction Loss =	1.22 ft.	
Friction Loss - Taps/Special Fittings =	3.5 ft.	
SUB-TOTAL =		16.72 ft.
Friction Loss - Fittings (5%) =		0.84 ft.
TOTAL =		17.56 ft.

Flow for Anti-Siphon Hole

Hole Diameter = 5/32 in.
Hole Flowrate = 1.21 gpm

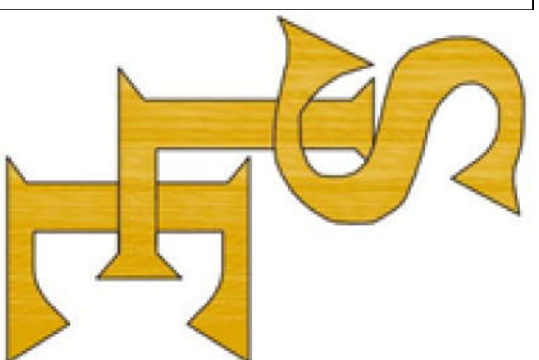
Pump Efficiency =	0.7 (assumed, typical)
Motor Efficiency =	0.9 (assumed for electric pumps)
Flow =	22.54 gpm
Required Horsepower =	0.16 hp
TDH =	17.56 ft.

Recommended Pump: Zoeller N98

Soil Notes

Name	Horizon 1	Horizon 2	Horizon 3	Horizon 4
WPT 6	0-17 l gr fr nsnp sepx	17-38 sl gr fr nsnp sepx	38-48 scl wsbk fr sssp sepx	
WPT 5	0-13 fill	13-34 sl gr fr nsnp sepx	34-41 scl wsbk fr sssp sepx	41+ scl wsbk fr sssp sepx 10yr 7/1
WPT 4	0-18 l gr fr nsnp sepx	18-35 sl gr fr nsnp sepx	35-48 scl wsbk fr sssp sepx	
WPT 3	0-17 l gr fr nsnp sepx	17-43 sl gr fr nsnp sepx	43-48 scl wsbk fr sssp sepx	
WPT 2	0-26 l gr fr nsnp sepx	26-41 scl wsbk fr sssp sepx	41+ scl wsbk fr sssp sepx 10yr 7/2	
WPT 1	0-29 l gr fr nsnp sepx	29-48 scl wsbk fr sssp sepx		

Name	LTAR	Restrictive Layer	Slope	Soil Depth
WPT 6	0.45		4	48
WPT 5	0.4	swc	4	41
WPT 4	0.5		4	48
WPT 3	0.5		5	48
WPT 2	0.45	swc	5	41
WPT 1	0.45		4	48



SanLee
Environmental, LLC
919-842-6263

Project:
Dollar General
US 421
Lillington, NC

Date:
May 10, 2022

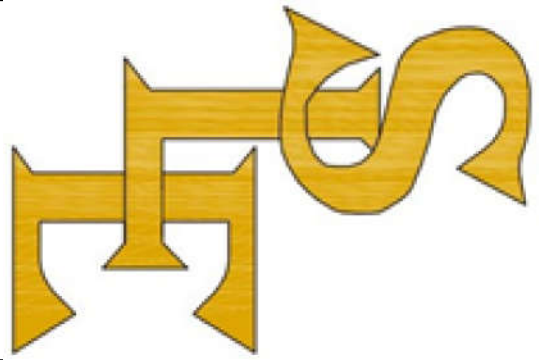
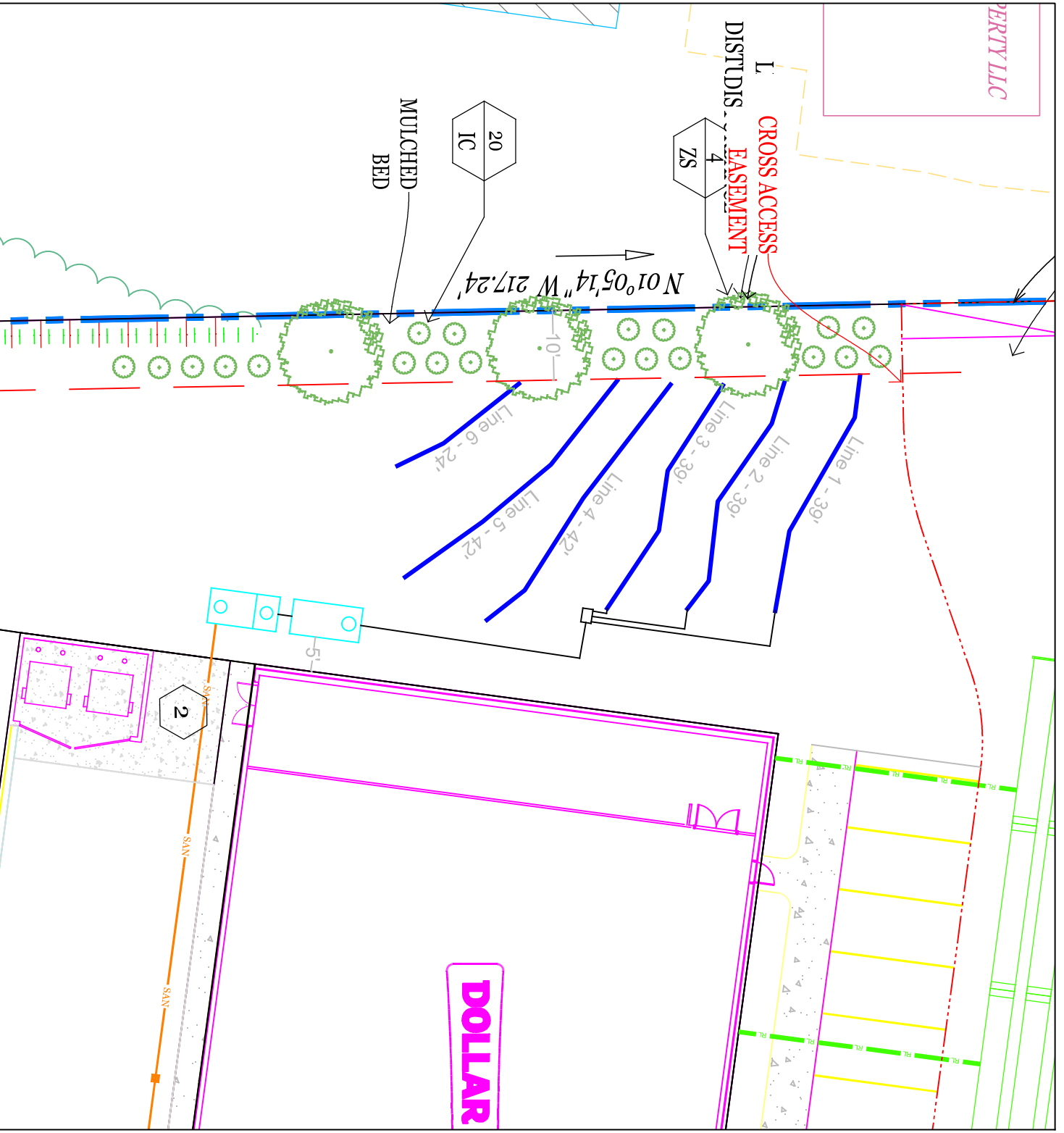
Drawn By:
Sloan Griffin

1" = 40'



JAMES ROBERT WAGNER
DR. 3959 PG. 536
PIN - 0810-87-7464
PID - 202601000020

N/F



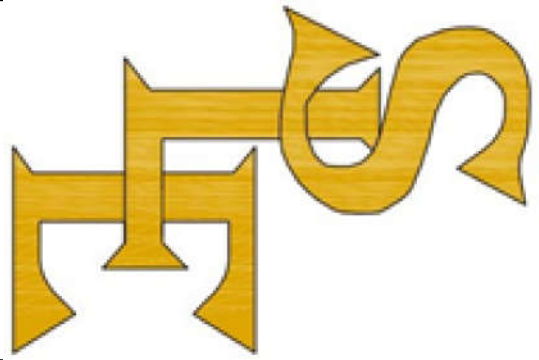
SanLee
 Environmental, LLC
 919-842-6263

Project:
 Dollar General
 US 421
 Lillington, NC

Date:
 May 10, 2022

Drawn By:
 Sloan Griffin

1" = 20'



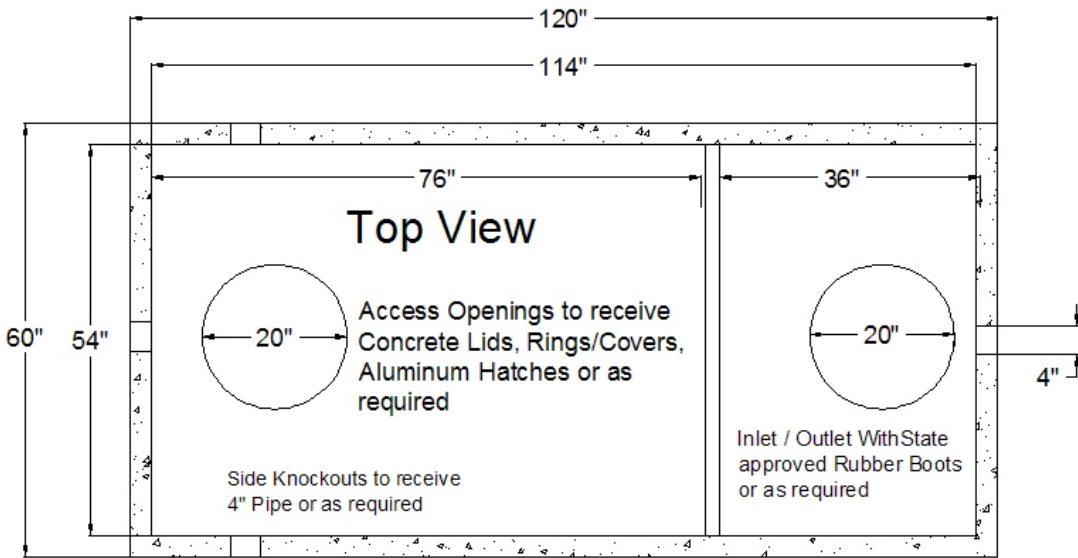
SanLee
Environmental, LLC
919-842-6263

Project:
Dollar General
US 421
Lillington, NC

Date:
May 10, 2022

Drawn By:
Sloan Griffin

1" = 10'



STB - 346 - Top Seam

Date: 12-09-99

Liquid Capacity **1250 Gallons**

Non Traffic Rated

Reinforcing Schedule: # 3 Grade 60 Rebar
4500 PSI Concrete w/ State Approved Structural Fiber
2.85 yds. **Est. Weight 11,500 lbs.**

Manufactured By:

GARNERS
Septic Tanks, Inc.

Eddie Garner, President

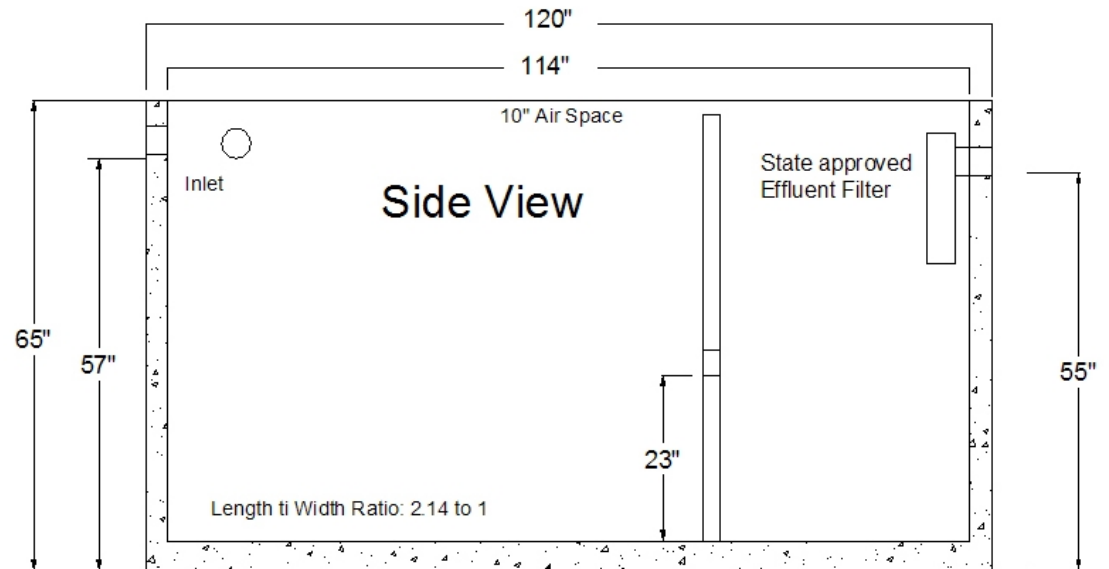
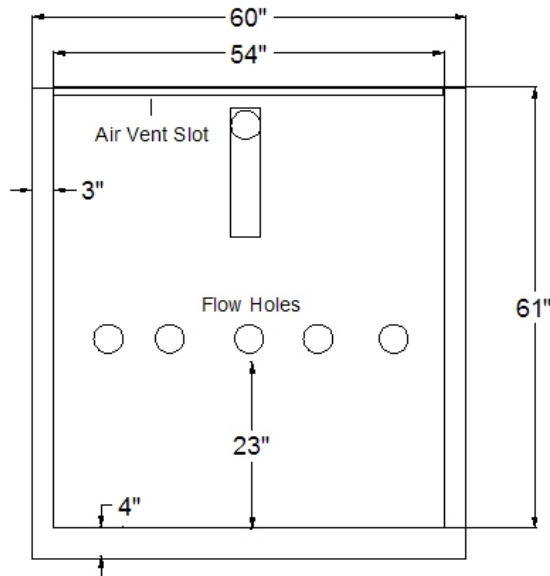
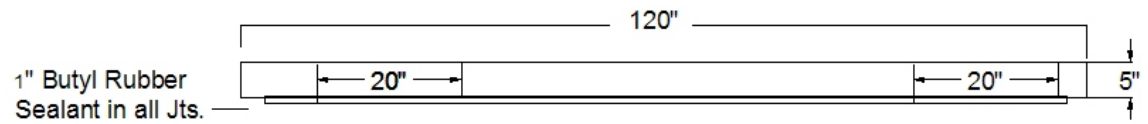
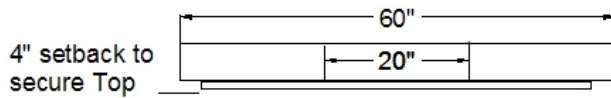
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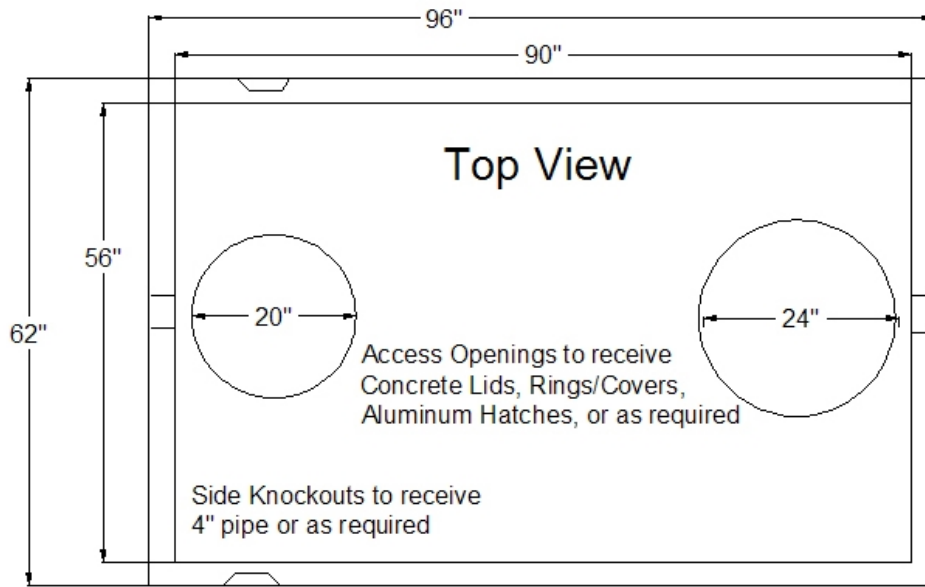
121 Stanton Hill Road

Carthage, NC 28327

Fax 919-775-2229

Eddie@garnersseptic tanks.com





PT - 213 Top seam

Date: 08-18-93

Non Traffic Rated

Liquid Capacity 1,211 Gallons

Reinforcing Schedule: # 3 Grade 60 Rebar

4500 PSI Concrete w/ State Approved Structural Fiber

2.5 yds. Est. Weight 8,900 lbs. 19 gals. per in.

Manufactured By:

GARNERS
Septic Tanks, Inc.

Eddie Garner, President

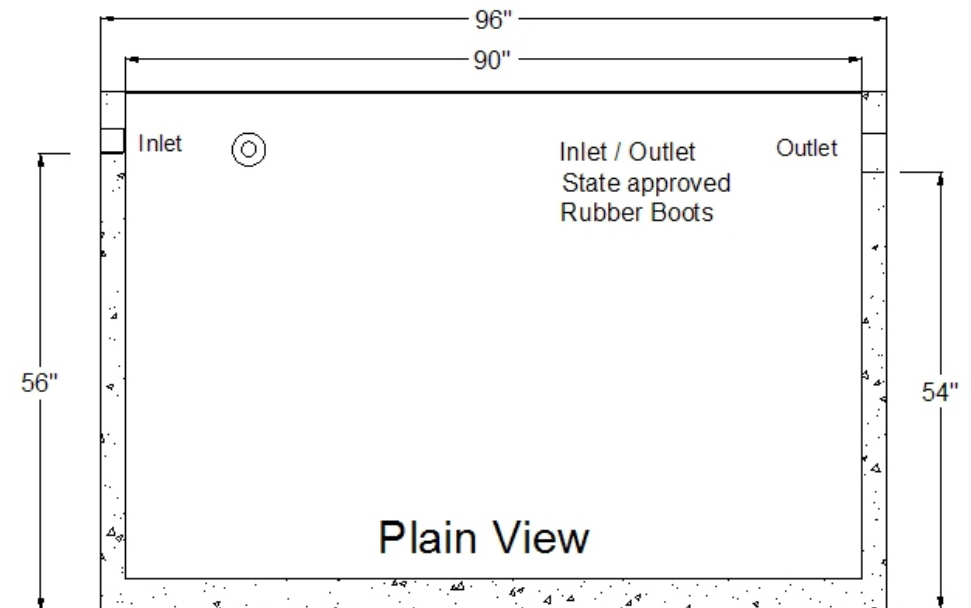
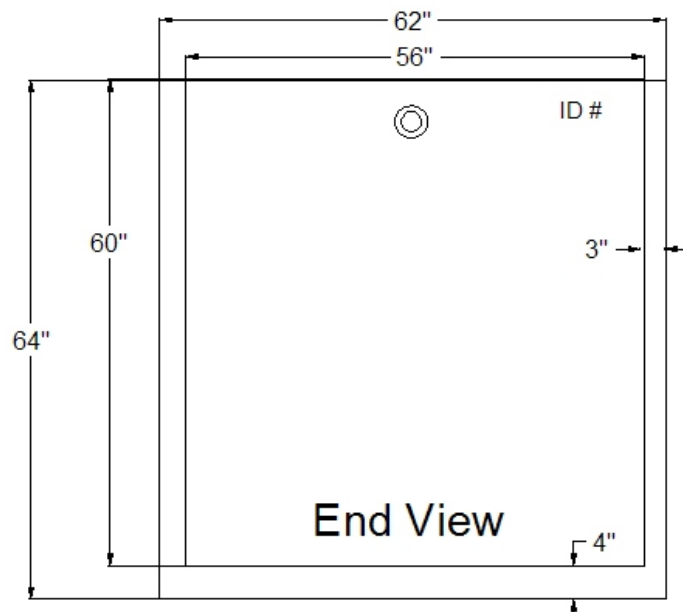
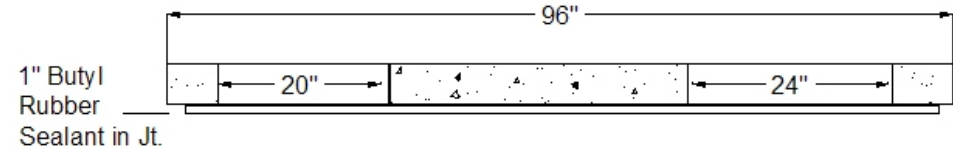
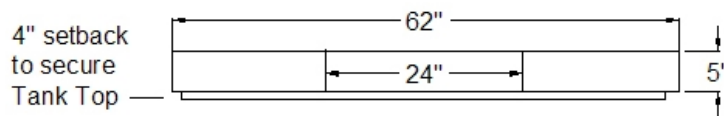
919-718-5181

121 Stanton Hill Road

Carthage, NC 28327

Fax 919-775-2229

Eddie@garnersseptic tanks.com



Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.

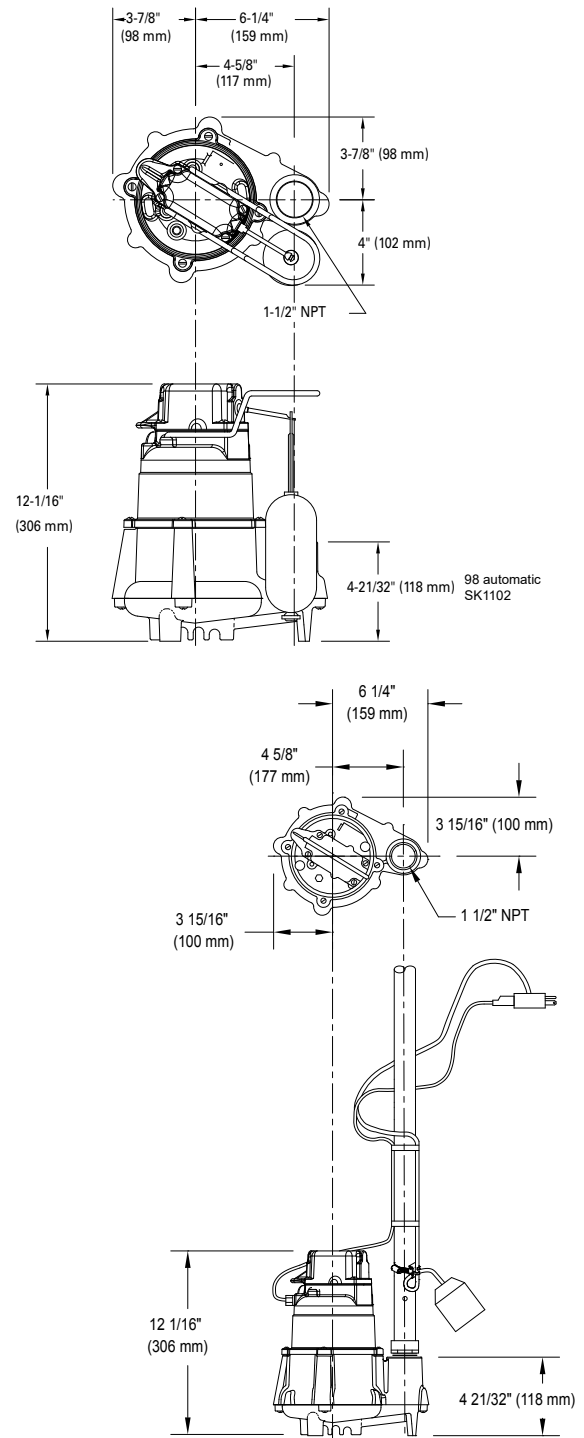
TECHNICAL DATA SHEET

FLOW-MATE SERIES

Model 98 Submersible Effluent/Dewatering Pump

PRODUCT SPECIFICATIONS

MOTOR	Horse Power	1/2
	Voltage	115 or 230
	Phase	1 Ph
	Hertz	60 Hz
	RPM	1725
	Type	Permanent split capacitor
	Insulation	Class B
	Amps	4.7 - 9.4
PUMP	Operation	Automatic or nonautomatic
	Auto On/Off Points	9-1/2" (24 cm) / 3" (7.6 cm)
	Discharge Size	1-1/2" NPT
	Solids Handling	1/2" (13 mm) spherical solids
	Cord Length	15' (5 m) standard
	Cord Type	UL listed
	Max. Head	23' (7 m)
	Max. Flow Rate	72 GPM (273 LPM)
	Max. Operating Temp.	130° F (54° C)
	Cooling	Oil filled
	Motor Protection	Auto reset thermal overload
	MATERIALS	Cap
Motor Housing		Cast iron
Pump Housing		Cast iron
Base		Engineered thermoplastic
Upper Bearing		Oil-fed cast iron
Lower Bearing		Oil-fed cast iron
Mechanical Seals		Carbon and ceramic
Impeller Type		Non-clogging vortex
Impeller		Engineered plastic
Hardware		Stainless steel
Motor Shaft		AISI 1215 cold rolled steel
Gasket		Neoprene

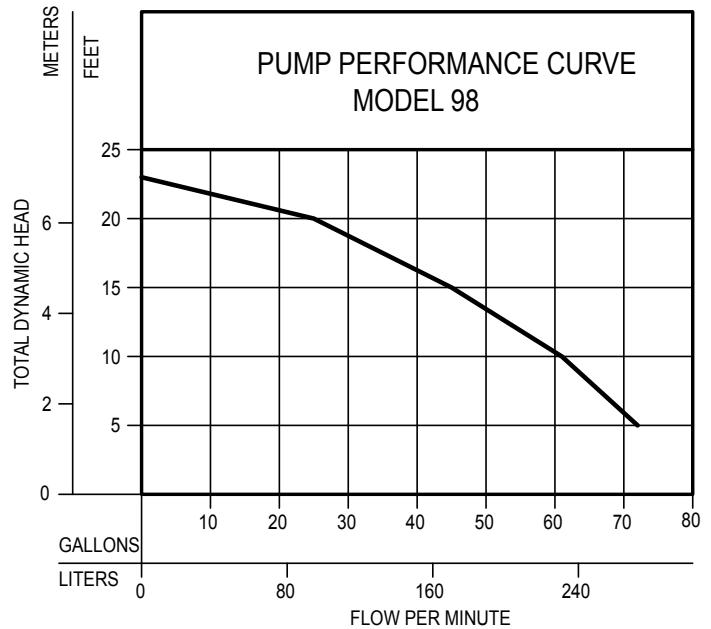


NOTE: See model comparison chart for specific details.



TOTAL DYNAMIC HEAD FLOW PER MINUTE

MODEL		98	
Feet	Meters	Gal.	Liters
5	1.5	72	273
10	3.0	61	231
15	4.6	45	170
20	7.1	25	95
Shut-off Head:		23 ft.(7.0m)	



009971

Model	MODEL COMPARISON										
	Seal	Mode	Volts	Ph	Amps	HP	Hz	Lbs	Kg	Simplex	Duplex
M98	Single	Auto	115	1	9.4	1/2	60	36	16	1	4
N98	Single	Non	115	1	9.4	1/2	60	36	16	2 or 3	4
D98	Single	Auto	230	1	4.7	1/2	60	36	16	1	4
E98	Single	Non	230	1	4.7	1/2	60	35	16	2 or 3	4
BN98	Single	Auto	115	1	9.4	1/2	60	37	17	*	--
BE98	Single	Auto	230	1	9.4	1/2	60	40	18	*	--

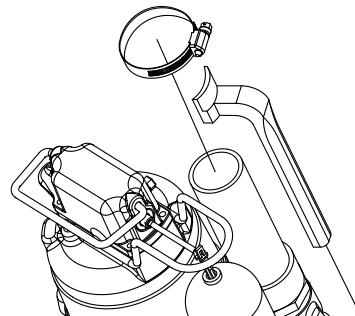
*BN and BE models include a 20' (6 m) piggyback variable level pump switch. Additional cord lengths are available in 25' (8 m) and 35' (11 m). 50' (15 m) cords are available for 230 V units only.

SELECTION GUIDE

1. Integral float-operated mechanical switch, no external control required.
2. For automatic, use single piggyback variable level float switch or double piggyback variable level float switch. Refer to FM0477.
3. See FM1228 for correct model of simplex control panel.
4. See FM0712 for correct model of duplex control panel or FM1663 for a residential alternator system.

OPTIONAL PUMP STAND P/N 10-2421

- Reduces potential clogging by debris
 - Replaces rocks or bricks under the pump
 - Made of durable, noncorrosive ABS
 - Raises pump 2" (5 cm) off bottom of basin
 - Provides the ability to raise intake by adding sections of 1½" or 2" (DN40 or DN50) PVC piping
 - Attaches securely to pump
 - Accommodates sump, dewatering and effluent applications
- NOTE: Make sure float is free from obstruction.



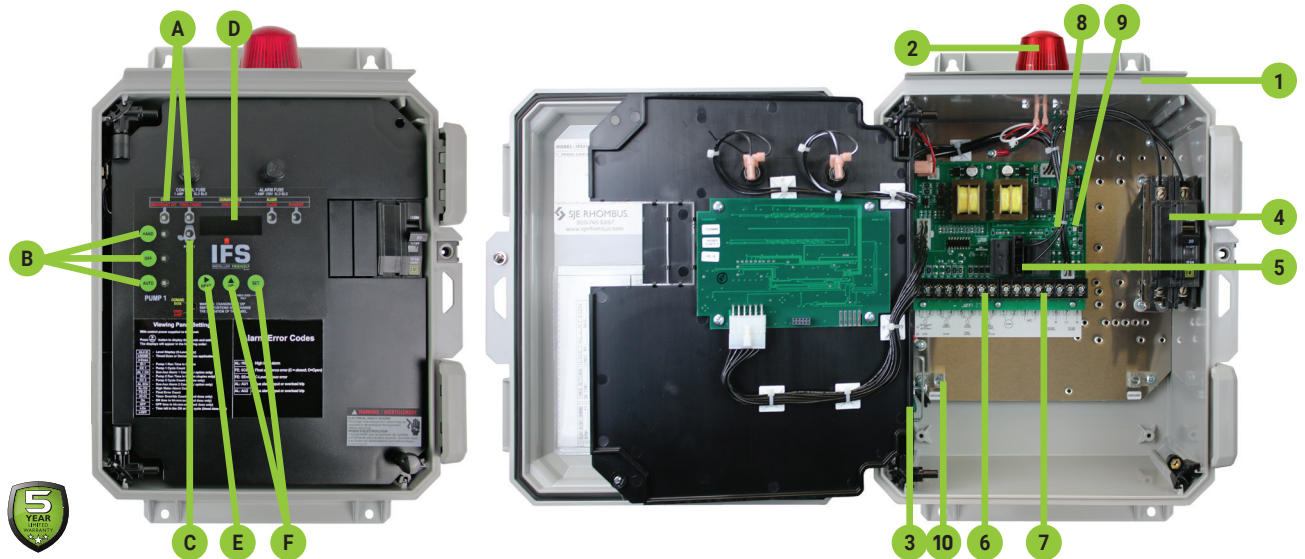
CAUTION

All installation of controls, protection devices and wiring should be done by a qualified licensed electrician. All electrical and safety codes should be followed including the most recent National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).

INSTALLER FRIENDLY SERIES® (IFS)

SINGLE PHASE SIMPLEX

Demand Dose or Timed Dose, Float or C-Level™ Sensor Controlled System for Pump Control and System Monitoring



Panel layout may vary with options.

Reg. Cdn Pat. & TM Off

C-Level™ Sensor US Patent No. 8,336,385; 8,567,242; 8,650,949

The IFS simplex control panel utilizes an innovative circuit board design to control one 120/208/240V single phase pump in water and sewage applications. IFS panels feature an easy-to-use touch pad on inner door for programming and system monitoring. The panel configuration can be easily converted in the field to either a timed dose or demand dose. Available with the EZconnex® float system.

The panel can utilize the C-Level™ sensor for continuous level monitoring. It senses the level in the tank and sends a signal to the panel. Pump activation levels can be adjusted by using the panel touch pad. C-Level™ CL40 sensor operating range is 3-39.9 inches (7.6-101.3 cm). C-Level™ CL100 operating range is 3-99.5 inches (7.6-252.7 cm).

TOUCH PAD FEATURES

- A. Level Status indicators illuminate when floats or set points are activated; alarm will activate if a float operates out of sequence
- B. HOA (Hand-Off-Automatic) buttons control pump mode with indication; hand mode defaults to Automatic when stop level or redundant off level is reached
- C. Pump Run indicator illuminates when pump is called to run
- D. LED Display for system information including: level in inches or centimeters (C-Level™ only), mode, pump elapsed time (hh:mm), events (cycles), alarm counter, float error count, timed dose override counter (timed dose only), and ON/OFF times (timed dose only)
- E. NEXT push button toggles display
- F. UP and SET Push Buttons set pump ON/OFF times (timed dose only) or activation levels (C-Level™ only)

COMPONENTS

1. Enclosure measures 12 x 10 x 6 inches (30.48 x 24.4 x 15.24) NEMA 4X (ultraviolet stabilized thermoplastic, padlockable with integral mounting flanges, drip shield, (2) heavy duty cover latches, and stainless steel ¼ turn set screw; for outdoor or indoor use)
2. Red LED beacon provides 360° visual check of alarm condition
3. Alarm horn provides audio warning of alarm condition (83 to 85 decibel rating)
4. Circuit breaker (optional) provides pump disconnect and branch circuit protection
5. Power relay controls pump by switching electrical lines; definite purpose contactor used when pump full load amps are above 15
6. Float connection terminal block
7. Incoming control/alarm power & pump terminal block
8. Control Power Indicator/Fuse indicator light illuminates if control power is present in panel; alarm will activate if control fuse is blown
9. Alarm Power Indicator/Fuse indicator light illuminates if alarm power is present in panel
10. Ground lug
11. Exterior Alarm Test/Normal/Silence switch allows horn and light to be tested and horn to be silenced in an alarm condition; alarm automatically resets once alarm condition is cleared (not shown)

Note: Added options, voltage, and amp range selected may change enclosure size and enclosure features, and component layout.

Note: Schematic/Wiring Diagram and Pump Specification Label are located inside the panel.



INSTALLER FRIENDLY SERIES® SINGLE PHASE SIMPLEX - Demand or timed dose float controlled system for pump control and system monitoring.

IFS CONTROL PANEL	MODEL TYPE	1 ALARM PACKAGE	W ENCLOSURE RATING	STARTING DEVICE	PUMP FULL LOAD AMPS	PUMP DISCONNECTS	FLOAT SWITCH APPLICATION	8AC10E OPTIONS (LISTED BELOW)
-----------------------------	-------------------	---------------------------	------------------------------	------------------------	----------------------------	-------------------------	---------------------------------	---

CONTROL PANEL	✓	IFS	
MODEL TYPE		1	Simplex Timed Dose (includes Options 8AC and 10E as standard)
		2	Simplex Demand Dose (includes Options 8AC and 10E as standard)
ALARM PACKAGE	✓	1	Alarm Package (includes test/normal/silence switch, fuse, red light, & horn)
ENCLOSURE RATING	✓	W	Weatherproof, NEMA 4X (engineered thermoplastic)
STARTING DEVICE		1	120/208/240V
		9	120V only
PUMP FULL LOAD AMPS		0	0 - 7 FLA
		1	7 - 15 FLA
		2	15 - 20 FLA
PUMP DISCONNECTS		0	No Pump Disconnect
		4	Circuit Breaker 120V (select STARTING DEVICE Option 9 above) Circuit Breaker 120/208/240V (select STARTING DEVICE Option 1 above)
FLOAT SWITCH APPLICATION		H	Floats - Pump Down (select Option 17 below) Timed dose = timer enable and alarm / Demand dose=stop, start, and alarm
		E	EZconnex® Float Switch System (select Option 33, 35 or 36 below)
			Timed Dose
			Demand Dose
		X	No Floats
			Timed Dose
			Demand Dose
		C	C-Level™ Sensor (select Option 24 or 29) Select Option 3E and/or 4A & 4D for high water alarm and/or redundant off floats
			Timed Dose
			Demand Dose

PRICING WORKSHEET	IFS Simplex Base Price _____
	Alarm Package _____
	Enclosure Rating _____
	Starting Device _____
	Pump Full Load Amps _____
	Pump Disconnects _____
	Float Switch Application _____
	Total Options _____
	TOTAL LIST PRICE _____

NOTE: Pump down applications only. Industry practices suggest that a secondary device, such as a float switch, be used for redundant activation of the high level alarm and pump shut off when using the C-Level™ sensor.

OPTIONS	DESCRIPTION
1J	Duo Alarm Inputs
3A	Alarm Flasher
3B	Manual Alarm Reset
3E	High Water Alarm Float (must also select Option 17) Only Available with Float Switch Application = C
4A	Redundant Off (must also select Option 4D if floats are required)
	Timed Dose
	Demand Dose
4D	Redundant Off Float (must also select Option 4A and Option 17)
6A	Auxiliary Alarm Contact, Form C
✓ 8AC	Display Board - Includes: ETM Counter, Events (Cycles) Counter, Alarm Counter, and Override Counter (Timed Dose Only) (included as standard)
✓ 10E	Lockable Latch - NEMA 4X (included as standard)
10F	Lightning Arrestor (select pump circuit breaker, control and alarm power combined)
10K	Anti-condensation Heater
11C	Additional NEMA 1 Remote Alarm Panel (must also select Option 6A)
11D	Additional NEMA 4X Remote Alarm Panel (must also select Option 6A)
15A	Control/Alarm Circuit Breaker
16A	10' Cord in Lieu of 20' Cord (per Float)
16B	15' Cord in Lieu of 20' Cord (per Float)
16C	30' Cord in Lieu of 20' Cord (per Float)
16D	40' Cord in Lieu of 20' Cord (per Float)

OPTIONS	DESCRIPTION
17C	Sensor Float® / Internally Weighted (per Float) - Mercury
17D	Sensor Float® / Externally Weighted (per Float) - Mercury
17G	SJE MilliAmpMaster™ / Pipe Clamp (per Float) - Mechanical
17H	SJE MilliAmpMaster™ / Externally Weighted (per Float) - Mechanical
17J	Sensor Float® / Pipe Clamp (per Float) - Mercury
18A	Timer Override Float (Timed Dose Float Panel Only)
24E	C-Level™ CL40 Sensor with 4' Vent Tube and 20' Cord
24F	C-Level™ CL40 Sensor with 4' Vent Tube and 40' Cord
24G	C-Level™ CL40 Sensor with 8' Vent Tube and 20' Cord
24H	C-Level™ CL40 Sensor with 8' Vent Tube and 40' Cord
24X	No C-Level™ CL40 Sensor
29A	C-Level™ CL100 Sensor with 10' Vent Tube and 20' Cord
29B	C-Level™ CL100 Sensor with 10' Vent Tube and 40' Cord
29X	No C-Level™ CL100 Sensor
33D ■	EZconnex® 3-Port, 25', with 10' Floats (3) / Pipe Clamp
33E ■	EZconnex® 3-Port, 50', with 10' Floats (3) / Pipe Clamp
33G ■	EZconnex® 3-Port, 25', with 20' Floats (3) / Pipe Clamp
33H ■	EZconnex® 3-Port, 50', with 20' Floats (3) / Pipe Clamp
35D ■	EZconnex® 4-Port, 25', with 10' Floats (4) / Pipe Clamp
35E ■	EZconnex® 4-Port, 50', with 10' Floats (4) / Pipe Clamp
35G ■	EZconnex® 4-Port, 25', with 20' Floats (4) / Pipe Clamp
35H ■	EZconnex® 4-Port, 50', with 20' Floats (4) / Pipe Clamp
36D ■	EZconnex® 3-Port, 25', with 10' Floats (2) / Pipe Clamp, Sealing Plug
36E ■	EZconnex® 3-Port, 50', with 10' Floats (2) / Pipe Clamp, Sealing Plug
36G ■	EZconnex® 3-Port, 25', with 20' Floats (2) / Pipe Clamp, Sealing Plug
36H ■	EZconnex® 3-Port, 50', with 20' Floats (2) / Pipe Clamp, Sealing Plug

■ EZconnex® mechanically-activated, narrow angle float switches with quick release connections

Design Flow: 260
 Length of Drainfield: 117
 % Dose Value 113%
 Design Dose Volume: 86.06871
 Measured Delivery Rate: 21.33
 Suggested Tank Size: 1200
 Gallons/Inch: 21.07

Pump Run Time: 4 min 4 sec
 Pump Off Time: 7hr 55m 56sec
 Pump Submergence Vol: 421
 Storage Volume: 256
 Emergency Volume: 260
 Miminum Tank Size: 937
 Dose Drawdown (inches): 4.08

Week	Day	Hour	% of Flow	Inflow	Dose Volume	Storage	
Week 1	Monday	1:00 AM		0		120	
		2:00 AM		0		120	
		3:00 AM		0		120	
		4:00 AM		0		120	
		5:00 AM		0		120	
		6:00 AM		0		120	
		7:00 AM		0		120	
		8:00 AM	5.0%	13	86.06871	46.93129	
		9:00 AM	6.0%	15.6		62.53129	
		10:00 AM	6.0%	15.6		78.13129	
		11:00 AM	6.0%	15.6		93.73129	
		12:00 PM	6.0%	15.6		109.33129	
		1:00 PM	6.0%	15.6		124.93129	
		2:00 PM	6.0%	15.6		140.53129	
	3:00 PM	7.0%	18.2		158.73129		
	4:00 PM	7.0%	18.2	86.06871	90.86258		
	5:00 PM	7.0%	18.2		109.06258		
	6:00 PM	7.0%	18.2		127.26258		
	7:00 PM	7.0%	18.2		145.46258		
	8:00 PM	7.0%	18.2		163.66258		
	9:00 PM	6.0%	15.6		179.26258		
	10:00 PM	6.0%	15.6		194.86258		
	11:00 PM	5.0%	13		207.86258		
	Tuesday	12:00 AM			0	86.06871	121.79387
		1:00 AM			0		121.79387
		2:00 AM			0		121.79387
3:00 AM				0		121.79387	
4:00 AM				0		121.79387	
5:00 AM				0		121.79387	
6:00 AM				0		121.79387	
7:00 AM				0		121.79387	
8:00 AM		5.0%	13	86.06871	48.72516		
9:00 AM		6.0%	15.6		64.32516		
10:00 AM		6.0%	15.6		79.92516		
11:00 AM		6.0%	15.6		95.52516		
12:00 PM	6.0%	15.6		111.12516			
1:00 PM	6.0%	15.6		126.72516			

	2:00 PM	6.0%	15.6		142.32516
	3:00 PM	7.0%	18.2		160.52516
	4:00 PM	7.0%	18.2	86.06871	92.65645
	5:00 PM	7.0%	18.2		110.85645
	6:00 PM	7.0%	18.2		129.05645
	7:00 PM	7.0%	18.2		147.25645
	8:00 PM	7.0%	18.2		165.45645
	9:00 PM	6.0%	15.6		181.05645
	10:00 PM	6.0%	15.6		196.65645
	11:00 PM	5.0%	13		209.65645
Wednesday	12:00 AM		0	86.06871	123.58774
	1:00 AM		0		123.58774
	2:00 AM		0		123.58774
	3:00 AM		0		123.58774
	4:00 AM		0		123.58774
	5:00 AM		0		123.58774
	6:00 AM		0		123.58774
	7:00 AM		0		123.58774
	8:00 AM	5.0%	13	86.06871	50.51903
	9:00 AM	6.0%	15.6		66.11903
	10:00 AM	6.0%	15.6		81.71903
	11:00 AM	6.0%	15.6		97.31903
	12:00 PM	6.0%	15.6		112.91903
	1:00 PM	6.0%	15.6		128.51903
	2:00 PM	6.0%	15.6		144.11903
	3:00 PM	7.0%	18.2		162.31903
	4:00 PM	7.0%	18.2	86.06871	94.45032
	5:00 PM	7.0%	18.2		112.65032
	6:00 PM	7.0%	18.2		130.85032
	7:00 PM	7.0%	18.2		149.05032
	8:00 PM	7.0%	18.2		167.25032
	9:00 PM	6.0%	15.6		182.85032
	10:00 PM	6.0%	15.6		198.45032
	11:00 PM	5.0%	13		211.45032
Thursday	12:00 AM		0	86.06871	125.38161
	1:00 AM		0		125.38161
	2:00 AM		0		125.38161
	3:00 AM		0		125.38161
	4:00 AM		0		125.38161
	5:00 AM		0		125.38161
	6:00 AM		0		125.38161
	7:00 AM		0		125.38161
	8:00 AM	5.0%	13	86.06871	52.3129
	9:00 AM	6.0%	15.6		67.9129
	10:00 AM	6.0%	15.6		83.5129
	11:00 AM	6.0%	15.6		99.1129
	12:00 PM	6.0%	15.6		114.7129

	1:00 PM	6.0%	15.6		130.3129
	2:00 PM	6.0%	15.6		145.9129
	3:00 PM	7.0%	18.2		164.1129
	4:00 PM	7.0%	18.2	86.06871	96.24419
	5:00 PM	7.0%	18.2		114.44419
	6:00 PM	7.0%	18.2		132.64419
	7:00 PM	7.0%	18.2		150.84419
	8:00 PM	7.0%	18.2		169.04419
	9:00 PM	6.0%	15.6		184.64419
	10:00 PM	6.0%	15.6		200.24419
	11:00 PM	5.0%	13		213.24419
Friday	12:00 AM		0	86.06871	127.17548
	1:00 AM		0		127.17548
	2:00 AM		0		127.17548
	3:00 AM		0		127.17548
	4:00 AM		0		127.17548
	5:00 AM		0		127.17548
	6:00 AM		0		127.17548
	7:00 AM		0		127.17548
	8:00 AM	5.0%	13	86.06871	54.10677
	9:00 AM	6.0%	15.6		69.70677
	10:00 AM	6.0%	15.6		85.30677
	11:00 AM	6.0%	15.6		100.90677
	12:00 PM	6.0%	15.6		116.50677
	1:00 PM	6.0%	15.6		132.10677
	2:00 PM	6.0%	15.6		147.70677
	3:00 PM	7.0%	18.2		165.90677
	4:00 PM	7.0%	18.2	86.06871	98.03806
	5:00 PM	7.0%	18.2		116.23806
	6:00 PM	7.0%	18.2		134.43806
	7:00 PM	7.0%	18.2		152.63806
	8:00 PM	7.0%	18.2		170.83806
	9:00 PM	6.0%	15.6		186.43806
	10:00 PM	6.0%	15.6		202.03806
	11:00 PM	5.0%	13		215.03806
Saturday	12:00 AM		0	86.06871	128.96935
	1:00 AM		0		128.96935
	2:00 AM		0		128.96935
	3:00 AM		0		128.96935
	4:00 AM		0		128.96935
	5:00 AM		0		128.96935
	6:00 AM		0		128.96935
	7:00 AM		0		128.96935
	8:00 AM	5.0%	13	86.06871	55.90064
	9:00 AM	6.0%	15.6		71.50064
	10:00 AM	6.0%	15.6		87.10064
	11:00 AM	6.0%	15.6		102.70064

	12:00 PM	6.0%	15.6		118.30064
	1:00 PM	6.0%	15.6		133.90064
	2:00 PM	6.0%	15.6		149.50064
	3:00 PM	7.0%	18.2		167.70064
	4:00 PM	7.0%	18.2	86.06871	99.83193
	5:00 PM	7.0%	18.2		118.03193
	6:00 PM	7.0%	18.2		136.23193
	7:00 PM	7.0%	18.2		154.43193
	8:00 PM	7.0%	18.2		172.63193
	9:00 PM	6.0%	15.6		188.23193
	10:00 PM	6.0%	15.6		203.83193
	11:00 PM	5.0%	13		216.83193
Sunday	12:00 AM		0	86.06871	130.76322
	1:00 AM		0		130.76322
	2:00 AM		0		130.76322
	3:00 AM		0		130.76322
	4:00 AM		0		130.76322
	5:00 AM		0		130.76322
	6:00 AM		0		130.76322
	7:00 AM		0		130.76322
	8:00 AM	5.0%	13	86.06871	57.69451
	9:00 AM	6.0%	15.6		73.29451
	10:00 AM	6.0%	15.6		88.89451
	11:00 AM	6.0%	15.6		104.49451
	12:00 PM	6.0%	15.6		120.09451
	1:00 PM	6.0%	15.6		135.69451
	2:00 PM	6.0%	15.6		151.29451
	3:00 PM	7.0%	18.2		169.49451
	4:00 PM	7.0%	18.2	86.06871	101.6258
	5:00 PM	7.0%	18.2		119.8258
	6:00 PM	7.0%	18.2		138.0258
	7:00 PM	7.0%	18.2		156.2258
	8:00 PM	7.0%	18.2		174.4258
	9:00 PM	6.0%	15.6		190.0258
	10:00 PM	6.0%	15.6		205.6258
	11:00 PM	5.0%	13		218.6258
	12:00 AM		0	86.06871	132.55709

Week	Day	Hour	% of Flow	Inflow	Dose Volume	Storage	
Week 2	Monday	1:00 AM		0		132.55709	
		2:00 AM		0		132.55709	
		3:00 AM		0		132.55709	
		4:00 AM		0		132.55709	
		5:00 AM		0		132.55709	
		6:00 AM		0		132.55709	
		7:00 AM		0		132.55709	
		8:00 AM	5.0%	13	86.06871	59.48838	
		9:00 AM	6.0%	15.6		75.08838	
		10:00 AM	6.0%	15.6		90.68838	
		11:00 AM	6.0%	15.6		106.28838	
		12:00 PM	6.0%	15.6		121.88838	
		1:00 PM	6.0%	15.6		137.48838	
		2:00 PM	6.0%	15.6		153.08838	
		3:00 PM	7.0%	18.2		171.28838	
		4:00 PM	7.0%	18.2	86.06871	103.41967	
		5:00 PM	7.0%	18.2		121.61967	
		6:00 PM	7.0%	18.2		139.81967	
		7:00 PM	7.0%	18.2		158.01967	
	8:00 PM	7.0%	18.2		176.21967		
	9:00 PM	6.0%	15.6		191.81967		
	10:00 PM	6.0%	15.6		207.41967		
	11:00 PM	5.0%	13		220.41967		
	Tuesday	12:00 AM			0	86.06871	134.35096
		1:00 AM			0		134.35096
		2:00 AM			0		134.35096
3:00 AM				0		134.35096	
4:00 AM				0		134.35096	
5:00 AM				0		134.35096	
6:00 AM				0		134.35096	
7:00 AM				0		134.35096	
8:00 AM		5.0%	13	86.06871	61.28225		
9:00 AM		6.0%	15.6		76.88225		
10:00 AM		6.0%	15.6		92.48225		
11:00 AM		6.0%	15.6		108.08225		
12:00 PM		6.0%	15.6		123.68225		
1:00 PM	6.0%	15.6		139.28225			

	2:00 PM	6.0%	15.6		154.88225
	3:00 PM	7.0%	18.2		173.08225
	4:00 PM	7.0%	18.2	86.06871	105.21354
	5:00 PM	7.0%	18.2		123.41354
	6:00 PM	7.0%	18.2		141.61354
	7:00 PM	7.0%	18.2		159.81354
	8:00 PM	7.0%	18.2		178.01354
	9:00 PM	6.0%	15.6		193.61354
	10:00 PM	6.0%	15.6		209.21354
	11:00 PM	5.0%	13		222.21354
Wednesday	12:00 AM		0	86.06871	136.14483
	1:00 AM		0		136.14483
	2:00 AM		0		136.14483
	3:00 AM		0		136.14483
	4:00 AM		0		136.14483
	5:00 AM		0		136.14483
	6:00 AM		0		136.14483
	7:00 AM		0		136.14483
	8:00 AM	5.0%	13	86.06871	63.07612
	9:00 AM	6.0%	15.6		78.67612
	10:00 AM	6.0%	15.6		94.27612
	11:00 AM	6.0%	15.6		109.87612
	12:00 PM	6.0%	15.6		125.47612
	1:00 PM	6.0%	15.6		141.07612
	2:00 PM	6.0%	15.6		156.67612
	3:00 PM	7.0%	18.2		174.87612
	4:00 PM	7.0%	18.2	86.06871	107.00741
	5:00 PM	7.0%	18.2		125.20741
	6:00 PM	7.0%	18.2		143.40741
	7:00 PM	7.0%	18.2		161.60741
	8:00 PM	7.0%	18.2		179.80741
	9:00 PM	6.0%	15.6		195.40741
	10:00 PM	6.0%	15.6		211.00741
	11:00 PM	5.0%	13		224.00741
Thursday	12:00 AM		0	86.06871	137.9387
	1:00 AM		0		137.9387
	2:00 AM		0		137.9387
	3:00 AM		0		137.9387
	4:00 AM		0		137.9387
	5:00 AM		0		137.9387
	6:00 AM		0		137.9387
	7:00 AM		0		137.9387
	8:00 AM	5.0%	13	86.06871	64.86999
	9:00 AM	6.0%	15.6		80.46999
	10:00 AM	6.0%	15.6		96.06999
	11:00 AM	6.0%	15.6		111.66999
	12:00 PM	6.0%	15.6		127.26999

	1:00 PM	6.0%	15.6		142.86999
	2:00 PM	6.0%	15.6		158.46999
	3:00 PM	7.0%	18.2		176.66999
	4:00 PM	7.0%	18.2	86.06871	108.80128
	5:00 PM	7.0%	18.2		127.00128
	6:00 PM	7.0%	18.2		145.20128
	7:00 PM	7.0%	18.2		163.40128
	8:00 PM	7.0%	18.2		181.60128
	9:00 PM	6.0%	15.6		197.20128
	10:00 PM	6.0%	15.6		212.80128
	11:00 PM	5.0%	13		225.80128
Friday	12:00 AM		0	86.06871	139.73257
	1:00 AM		0		139.73257
	2:00 AM		0		139.73257
	3:00 AM		0		139.73257
	4:00 AM		0		139.73257
	5:00 AM		0		139.73257
	6:00 AM		0		139.73257
	7:00 AM		0		139.73257
	8:00 AM	5.0%	13	86.06871	66.66386
	9:00 AM	6.0%	15.6		82.26386
	10:00 AM	6.0%	15.6		97.86386
	11:00 AM	6.0%	15.6		113.46386
	12:00 PM	6.0%	15.6		129.06386
	1:00 PM	6.0%	15.6		144.66386
	2:00 PM	6.0%	15.6		160.26386
	3:00 PM	7.0%	18.2		178.46386
	4:00 PM	7.0%	18.2	86.06871	110.59515
	5:00 PM	7.0%	18.2		128.79515
	6:00 PM	7.0%	18.2		146.99515
	7:00 PM	7.0%	18.2		165.19515
	8:00 PM	7.0%	18.2		183.39515
	9:00 PM	6.0%	15.6		198.99515
	10:00 PM	6.0%	15.6		214.59515
	11:00 PM	5.0%	13		227.59515
Saturday	12:00 AM		0	86.06871	141.52644
	1:00 AM		0		141.52644
	2:00 AM		0		141.52644
	3:00 AM		0		141.52644
	4:00 AM		0		141.52644
	5:00 AM		0		141.52644
	6:00 AM		0		141.52644
	7:00 AM		0		141.52644
	8:00 AM	5.0%	13	86.06871	68.45773
	9:00 AM	6.0%	15.6		84.05773
	10:00 AM	6.0%	15.6		99.65773
	11:00 AM	6.0%	15.6		115.25773

	12:00 PM	6.0%	15.6		130.85773
	1:00 PM	6.0%	15.6		146.45773
	2:00 PM	6.0%	15.6		162.05773
	3:00 PM	7.0%	18.2		180.25773
	4:00 PM	7.0%	18.2	86.06871	112.38902
	5:00 PM	7.0%	18.2		130.58902
	6:00 PM	7.0%	18.2		148.78902
	7:00 PM	7.0%	18.2		166.98902
	8:00 PM	7.0%	18.2		185.18902
	9:00 PM	6.0%	15.6		200.78902
	10:00 PM	6.0%	15.6		216.38902
	11:00 PM	5.0%	13		229.38902
Sunday	12:00 AM		0	86.06871	143.32031
	1:00 AM		0		143.32031
	2:00 AM		0		143.32031
	3:00 AM		0		143.32031
	4:00 AM		0		143.32031
	5:00 AM		0		143.32031
	6:00 AM		0		143.32031
	7:00 AM		0		143.32031
	8:00 AM	5.0%	13	86.06871	70.2516
	9:00 AM	6.0%	15.6		85.8516
	10:00 AM	6.0%	15.6		101.4516
	11:00 AM	6.0%	15.6		117.0516
	12:00 PM	6.0%	15.6		132.6516
	1:00 PM	6.0%	15.6		148.2516
	2:00 PM	6.0%	15.6		163.8516
	3:00 PM	7.0%	18.2		182.0516
	4:00 PM	7.0%	18.2	86.06871	114.18289
	5:00 PM	7.0%	18.2		132.38289
	6:00 PM	7.0%	18.2		150.58289
	7:00 PM	7.0%	18.2		168.78289
	8:00 PM	7.0%	18.2		186.98289
	9:00 PM	6.0%	15.6		202.58289
	10:00 PM	6.0%	15.6		218.18289
	11:00 PM	5.0%	13		231.18289
	12:00 AM		0	86.06871	145.11418

Week	Day	Hour	% of Flow	Inflow	Dose Volume	Storage	
Week 3	Monday	1:00 AM		0		145.11418	
		2:00 AM		0		145.11418	
		3:00 AM		0		145.11418	
		4:00 AM		0		145.11418	
		5:00 AM		0		145.11418	
		6:00 AM		0		145.11418	
		7:00 AM		0		145.11418	
		8:00 AM	5.0%	13	86.06871	72.04547	
		9:00 AM	6.0%	15.6		87.64547	
		10:00 AM	6.0%	15.6		103.24547	
		11:00 AM	6.0%	15.6		118.84547	
		12:00 PM	6.0%	15.6		134.44547	
		1:00 PM	6.0%	15.6		150.04547	
		2:00 PM	6.0%	15.6		165.64547	
		3:00 PM	7.0%	18.2		183.84547	
		4:00 PM	7.0%	18.2	86.06871	115.97676	
		5:00 PM	7.0%	18.2		134.17676	
		6:00 PM	7.0%	18.2		152.37676	
		7:00 PM	7.0%	18.2		170.57676	
	8:00 PM	7.0%	18.2		188.77676		
	9:00 PM	6.0%	15.6		204.37676		
	10:00 PM	6.0%	15.6		219.97676		
	11:00 PM	5.0%	13		232.97676		
	Tuesday	12:00 AM			0	86.06871	146.90805
		1:00 AM			0		146.90805
		2:00 AM			0		146.90805
3:00 AM				0		146.90805	
4:00 AM				0		146.90805	
5:00 AM				0		146.90805	
6:00 AM				0		146.90805	
7:00 AM				0		146.90805	
8:00 AM		5.0%	13	86.06871	73.83934		
9:00 AM		6.0%	15.6		89.43934		
10:00 AM		6.0%	15.6		105.03934		
11:00 AM		6.0%	15.6		120.63934		
12:00 PM		6.0%	15.6		136.23934		
1:00 PM	6.0%	15.6		151.83934			

	2:00 PM	6.0%	15.6		167.43934
	3:00 PM	7.0%	18.2		185.63934
	4:00 PM	7.0%	18.2	86.06871	117.77063
	5:00 PM	7.0%	18.2		135.97063
	6:00 PM	7.0%	18.2		154.17063
	7:00 PM	7.0%	18.2		172.37063
	8:00 PM	7.0%	18.2		190.57063
	9:00 PM	6.0%	15.6		206.17063
	10:00 PM	6.0%	15.6		221.77063
	11:00 PM	5.0%	13		234.77063
Wednesday	12:00 AM		0	86.06871	148.70192
	1:00 AM		0		148.70192
	2:00 AM		0		148.70192
	3:00 AM		0		148.70192
	4:00 AM		0		148.70192
	5:00 AM		0		148.70192
	6:00 AM		0		148.70192
	7:00 AM		0		148.70192
	8:00 AM	5.0%	13	86.06871	75.63321
	9:00 AM	6.0%	15.6		91.23321
	10:00 AM	6.0%	15.6		106.83321
	11:00 AM	6.0%	15.6		122.43321
	12:00 PM	6.0%	15.6		138.03321
	1:00 PM	6.0%	15.6		153.63321
	2:00 PM	6.0%	15.6		169.23321
	3:00 PM	7.0%	18.2		187.43321
	4:00 PM	7.0%	18.2	86.06871	119.5645
	5:00 PM	7.0%	18.2		137.7645
	6:00 PM	7.0%	18.2		155.9645
	7:00 PM	7.0%	18.2		174.1645
	8:00 PM	7.0%	18.2		192.3645
	9:00 PM	6.0%	15.6		207.9645
	10:00 PM	6.0%	15.6		223.5645
	11:00 PM	5.0%	13		236.5645
Thursday	12:00 AM		0	86.06871	150.49579
	1:00 AM		0		150.49579
	2:00 AM		0		150.49579
	3:00 AM		0		150.49579
	4:00 AM		0		150.49579
	5:00 AM		0		150.49579
	6:00 AM		0		150.49579
	7:00 AM		0		150.49579
	8:00 AM	5.0%	13	86.06871	77.42708
	9:00 AM	6.0%	15.6		93.02708
	10:00 AM	6.0%	15.6		108.62708
	11:00 AM	6.0%	15.6		124.22708
	12:00 PM	6.0%	15.6		139.82708

	1:00 PM	6.0%	15.6		155.42708
	2:00 PM	6.0%	15.6		171.02708
	3:00 PM	7.0%	18.2		189.22708
	4:00 PM	7.0%	18.2	86.06871	121.35837
	5:00 PM	7.0%	18.2		139.55837
	6:00 PM	7.0%	18.2		157.75837
	7:00 PM	7.0%	18.2		175.95837
	8:00 PM	7.0%	18.2		194.15837
	9:00 PM	6.0%	15.6		209.75837
	10:00 PM	6.0%	15.6		225.35837
	11:00 PM	5.0%	13		238.35837
Friday	12:00 AM		0	86.06871	152.28966
	1:00 AM		0		152.28966
	2:00 AM		0		152.28966
	3:00 AM		0		152.28966
	4:00 AM		0		152.28966
	5:00 AM		0		152.28966
	6:00 AM		0		152.28966
	7:00 AM		0		152.28966
	8:00 AM	5.0%	13	86.06871	79.22095
	9:00 AM	6.0%	15.6		94.82095
	10:00 AM	6.0%	15.6		110.42095
	11:00 AM	6.0%	15.6		126.02095
	12:00 PM	6.0%	15.6		141.62095
	1:00 PM	6.0%	15.6		157.22095
	2:00 PM	6.0%	15.6		172.82095
	3:00 PM	7.0%	18.2		191.02095
	4:00 PM	7.0%	18.2	86.06871	123.15224
	5:00 PM	7.0%	18.2		141.35224
	6:00 PM	7.0%	18.2		159.55224
	7:00 PM	7.0%	18.2		177.75224
	8:00 PM	7.0%	18.2		195.95224
	9:00 PM	6.0%	15.6		211.55224
	10:00 PM	6.0%	15.6		227.15224
	11:00 PM	5.0%	13		240.15224
Saturday	12:00 AM		0	86.06871	154.08353
	1:00 AM		0		154.08353
	2:00 AM		0		154.08353
	3:00 AM		0		154.08353
	4:00 AM		0		154.08353
	5:00 AM		0		154.08353
	6:00 AM		0		154.08353
	7:00 AM		0		154.08353
	8:00 AM	5.0%	13	86.06871	81.01482
	9:00 AM	6.0%	15.6		96.61482
	10:00 AM	6.0%	15.6		112.21482
	11:00 AM	6.0%	15.6		127.81482

	12:00 PM	6.0%	15.6		143.41482
	1:00 PM	6.0%	15.6		159.01482
	2:00 PM	6.0%	15.6		174.61482
	3:00 PM	7.0%	18.2		192.81482
	4:00 PM	7.0%	18.2	86.06871	124.94611
	5:00 PM	7.0%	18.2		143.14611
	6:00 PM	7.0%	18.2		161.34611
	7:00 PM	7.0%	18.2		179.54611
	8:00 PM	7.0%	18.2		197.74611
	9:00 PM	6.0%	15.6		213.34611
	10:00 PM	6.0%	15.6		228.94611
	11:00 PM	5.0%	13		241.94611
Sunday	12:00 AM		0	86.06871	155.8774
	1:00 AM		0		155.8774
	2:00 AM		0		155.8774
	3:00 AM		0		155.8774
	4:00 AM		0		155.8774
	5:00 AM		0		155.8774
	6:00 AM		0		155.8774
	7:00 AM		0		155.8774
	8:00 AM	5.0%	13	86.06871	82.80869
	9:00 AM	6.0%	15.6		98.40869
	10:00 AM	6.0%	15.6		114.00869
	11:00 AM	6.0%	15.6		129.60869
	12:00 PM	6.0%	15.6		145.20869
	1:00 PM	6.0%	15.6		160.80869
	2:00 PM	6.0%	15.6		176.40869
	3:00 PM	7.0%	18.2		194.60869
	4:00 PM	7.0%	18.2	86.06871	126.73998
	5:00 PM	7.0%	18.2		144.93998
	6:00 PM	7.0%	18.2		163.13998
	7:00 PM	7.0%	18.2		181.33998
	8:00 PM	7.0%	18.2		199.53998
	9:00 PM	6.0%	15.6		215.13998
	10:00 PM	6.0%	15.6		230.73998
	11:00 PM	5.0%	13		243.73998
	12:00 AM		0	86.06871	157.67127

Week	Day	Hour	% of Flow	Inflow	Dose Volume	Storage	
Week 4	Monday	1:00 AM		0		157.67127	
		2:00 AM		0		157.67127	
		3:00 AM		0		157.67127	
		4:00 AM		0		157.67127	
		5:00 AM		0		157.67127	
		6:00 AM		0		157.67127	
		7:00 AM		0		157.67127	
		8:00 AM	5.0%	13	86.06871	84.60256	
		9:00 AM	6.0%	15.6		100.20256	
		10:00 AM	6.0%	15.6		115.80256	
		11:00 AM	6.0%	15.6		131.40256	
		12:00 PM	6.0%	15.6		147.00256	
		1:00 PM	6.0%	15.6		162.60256	
		2:00 PM	6.0%	15.6		178.20256	
		3:00 PM	7.0%	18.2		196.40256	
		4:00 PM	7.0%	18.2	86.06871	128.53385	
		5:00 PM	7.0%	18.2		146.73385	
		6:00 PM	7.0%	18.2		164.93385	
		7:00 PM	7.0%	18.2		183.13385	
	8:00 PM	7.0%	18.2		201.33385		
	9:00 PM	6.0%	15.6		216.93385		
	10:00 PM	6.0%	15.6		232.53385		
	11:00 PM	5.0%	13		245.53385		
	Tuesday	12:00 AM			0	86.06871	159.46514
		1:00 AM			0		159.46514
		2:00 AM			0		159.46514
3:00 AM				0		159.46514	
4:00 AM				0		159.46514	
5:00 AM				0		159.46514	
6:00 AM				0		159.46514	
7:00 AM				0		159.46514	
8:00 AM		5.0%	13	86.06871	86.39643		
9:00 AM		6.0%	15.6		101.99643		
10:00 AM		6.0%	15.6		117.59643		
11:00 AM		6.0%	15.6		133.19643		
12:00 PM		6.0%	15.6		148.79643		
1:00 PM	6.0%	15.6		164.39643			

	2:00 PM	6.0%	15.6		179.99643
	3:00 PM	7.0%	18.2		198.19643
	4:00 PM	7.0%	18.2	86.06871	130.32772
	5:00 PM	7.0%	18.2		148.52772
	6:00 PM	7.0%	18.2		166.72772
	7:00 PM	7.0%	18.2		184.92772
	8:00 PM	7.0%	18.2		203.12772
	9:00 PM	6.0%	15.6		218.72772
	10:00 PM	6.0%	15.6		234.32772
	11:00 PM	5.0%	13		247.32772
Wednesday	12:00 AM		0	86.06871	161.25901
	1:00 AM		0		161.25901
	2:00 AM		0		161.25901
	3:00 AM		0		161.25901
	4:00 AM		0		161.25901
	5:00 AM		0		161.25901
	6:00 AM		0		161.25901
	7:00 AM		0		161.25901
	8:00 AM	5.0%	13	86.06871	88.1903
	9:00 AM	6.0%	15.6		103.7903
	10:00 AM	6.0%	15.6		119.3903
	11:00 AM	6.0%	15.6		134.9903
	12:00 PM	6.0%	15.6		150.5903
	1:00 PM	6.0%	15.6		166.1903
	2:00 PM	6.0%	15.6		181.7903
	3:00 PM	7.0%	18.2		199.9903
	4:00 PM	7.0%	18.2	86.06871	132.12159
	5:00 PM	7.0%	18.2		150.32159
	6:00 PM	7.0%	18.2		168.52159
	7:00 PM	7.0%	18.2		186.72159
	8:00 PM	7.0%	18.2		204.92159
	9:00 PM	6.0%	15.6		220.52159
	10:00 PM	6.0%	15.6		236.12159
	11:00 PM	5.0%	13		249.12159
Thursday	12:00 AM		0	86.06871	163.05288
	1:00 AM		0		163.05288
	2:00 AM		0		163.05288
	3:00 AM		0		163.05288
	4:00 AM		0		163.05288
	5:00 AM		0		163.05288
	6:00 AM		0		163.05288
	7:00 AM		0		163.05288
	8:00 AM	5.0%	13	86.06871	89.98417
	9:00 AM	6.0%	15.6		105.58417
	10:00 AM	6.0%	15.6		121.18417
	11:00 AM	6.0%	15.6		136.78417
	12:00 PM	6.0%	15.6		152.38417

	1:00 PM	6.0%	15.6		167.98417
	2:00 PM	6.0%	15.6		183.58417
	3:00 PM	7.0%	18.2		201.78417
	4:00 PM	7.0%	18.2	86.06871	133.91546
	5:00 PM	7.0%	18.2		152.11546
	6:00 PM	7.0%	18.2		170.31546
	7:00 PM	7.0%	18.2		188.51546
	8:00 PM	7.0%	18.2		206.71546
	9:00 PM	6.0%	15.6		222.31546
	10:00 PM	6.0%	15.6		237.91546
	11:00 PM	5.0%	13		250.91546
Friday	12:00 AM		0	86.06871	164.84675
	1:00 AM		0		164.84675
	2:00 AM		0		164.84675
	3:00 AM		0		164.84675
	4:00 AM		0		164.84675
	5:00 AM		0		164.84675
	6:00 AM		0		164.84675
	7:00 AM		0		164.84675
	8:00 AM	5.0%	13	86.06871	91.77804
	9:00 AM	6.0%	15.6		107.37804
	10:00 AM	6.0%	15.6		122.97804
	11:00 AM	6.0%	15.6		138.57804
	12:00 PM	6.0%	15.6		154.17804
	1:00 PM	6.0%	15.6		169.77804
	2:00 PM	6.0%	15.6		185.37804
	3:00 PM	7.0%	18.2		203.57804
	4:00 PM	7.0%	18.2	86.06871	135.70933
	5:00 PM	7.0%	18.2		153.90933
	6:00 PM	7.0%	18.2		172.10933
	7:00 PM	7.0%	18.2		190.30933
	8:00 PM	7.0%	18.2		208.50933
	9:00 PM	6.0%	15.6		224.10933
	10:00 PM	6.0%	15.6		239.70933
	11:00 PM	5.0%	13		252.70933
Saturday	12:00 AM		0	86.06871	166.64062
	1:00 AM		0		166.64062
	2:00 AM		0		166.64062
	3:00 AM		0		166.64062
	4:00 AM		0		166.64062
	5:00 AM		0		166.64062
	6:00 AM		0		166.64062
	7:00 AM		0		166.64062
	8:00 AM	5.0%	13	86.06871	93.57191
	9:00 AM	6.0%	15.6		109.17191
	10:00 AM	6.0%	15.6		124.77191
	11:00 AM	6.0%	15.6		140.37191

	12:00 PM	6.0%	15.6		155.97191
	1:00 PM	6.0%	15.6		171.57191
	2:00 PM	6.0%	15.6		187.17191
	3:00 PM	7.0%	18.2		205.37191
	4:00 PM	7.0%	18.2	86.06871	137.5032
	5:00 PM	7.0%	18.2		155.7032
	6:00 PM	7.0%	18.2		173.9032
	7:00 PM	7.0%	18.2		192.1032
	8:00 PM	7.0%	18.2		210.3032
	9:00 PM	6.0%	15.6		225.9032
	10:00 PM	6.0%	15.6		241.5032
	11:00 PM	5.0%	13		254.5032
Sunday	12:00 AM		0	86.06871	168.43449
	1:00 AM		0		168.43449
	2:00 AM		0		168.43449
	3:00 AM		0		168.43449
	4:00 AM		0		168.43449
	5:00 AM		0		168.43449
	6:00 AM		0		168.43449
	7:00 AM		0		168.43449
	8:00 AM	5.0%	13	86.06871	95.36578
	9:00 AM	6.0%	15.6		110.96578
	10:00 AM	6.0%	15.6		126.56578
	11:00 AM	6.0%	15.6		142.16578
	12:00 PM	6.0%	15.6		157.76578
	1:00 PM	6.0%	15.6		173.36578
	2:00 PM	6.0%	15.6		188.96578
	3:00 PM	7.0%	18.2		207.16578
	4:00 PM	7.0%	18.2	86.06871	139.29707
	5:00 PM	7.0%	18.2		157.49707
	6:00 PM	7.0%	18.2		175.69707
	7:00 PM	7.0%	18.2		193.89707
	8:00 PM	7.0%	18.2		212.09707
	9:00 PM	6.0%	15.6		227.69707
	10:00 PM	6.0%	15.6		243.29707
	11:00 PM	5.0%	13		256.29707
	12:00 AM		0	86.06871	170.22836