ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY

NOTICE OF INTENT INDIVIDUAL TREATMENT FACILITIES NPDES GENERAL PERMIT ARG550000

Application Type:	New X	Domestic	□ (D	(/ A D C # #	
		Renewai	(Permit	# ARG55)
I. PERMITTEE/OPERATO	RINFORMATION				
Permittee (Legal Name):	Edward Tolefree			Operator T	Гуре:
Permittee Mailing Address:	159 Bradley 18-E		Sta	ate	Partnership
Permittee City:	Warren		Fe	deral	Cornoration*
Permittee State:	Ar.	Zip: _71671	x_ s	Sole Proprietorshi	
Permittee Telephone Number:	870-820-8724		*State	of Incorporation:	:
Permittee Fax Number:	N/A		The le	egal name of the I	Permittee must be
Permittee E-mail Address:			identie	cal to the name isas Secretary of S	listed with the State.
II. INVOICE MAILING INFO	ORMATION (Home o	wners are exemp	ot.)		
Invoice Contact Person: N	/A		City	y: _N/A	
Invoice Mailing Company: N			State	e: _N/A	Zip: N/A
Invoice Mailing Address: N				e: N/A	
	firee ATU 18-E 4in 08.16000Sec bod: GPS	Telepho Facility City, Facility Longi tum	one Number: State & Zip: tude:	Edward Tolefree 870-820-8724 Warren, Ar. 716 092 Deg 02 Min	571 47.04000Sec
Type of Treatment: Aerobic Tr	Min 09.60000 Sec Dat hod: GPS eatment Unit	um	sin Code: 80	g 02 Min 46.3200	•,
Receiving Stream: Ouachita R V. FACILITY PERMIT INFO					
NPD		ber (If Applicabl	e): <u>ARG550</u> er:	0000	
NPDES General Construction S	Stormwater Permit Num	ber (If Applicabl	e): ARR15N	V/A	

WATER DIVISION
5301 NORTHSHORE DRIVE / NORTH LITTLE ROCK, ARKANSAS 72118
PHONE 501-682-0623 / FAX 501-682-0880

VI.	OTHER INFORMATION								
V. 1.									
	Operator Name:		ldon H	Iadley					
	Operator License Number: Consultant Contact Name:	-				Licen	se Class: II		
	Consultant Contact Name: Consultant Email Address:	_							
	Consultant Address:			City: N/A		State:	N/A	Zip:	NI/A
	Consultant Phone Number:				 sultant Fa	_	er: N/A	Ζip.	<u>N/A</u>
Has this	s treatment system been app	proved	bv A						
	ure Statements:		•		_				
statemen	is Code Annotated Section 8 tion or operational authority in with their applications. The one. You must submit a new ned from ADEQ web site at:	issuea filing disclo	of a di	e Arkansas Departmen sclosure statement is n statement even if you b	it of Envi nandatory	ronmenta	al Quality (A	DEQ) file a	a disclosure
N/A(I	nitial) "I certify that, if this faintial) "I certify that the cogrepresentative under the understand that the Denitial) "I certify under penalty supervision in according evaluate the information gathering the information and complete. I am a possibility of fine and	mizant the pro epartm y of la ance v on sul ion, th ware t	officionisted of the contract	al designated in this as of 40 CFR 122.22(Il accept reports signed this document and a system designed to add. Based on my inquimation submitted is, there are significant pen	Application (b). If not donly by all attaching assure the control of the best alties for	ion is quo cognize the Applements we at qualifice person	ralified to act ant official dicant." ere prepared or personned or persons converges and according to the converges and acc	t as a duly has been de under my del properly directly resp	authorized esignated, I direction or gather and ponsible for
Respo	msible Official Printed Name:	Edv	ward T	`olefree	Title	· Home	eowner		
	esponsible Official Signature:					: 8-9-2			
	Responsible Official Email:			V	Date	6-9-2.			
Cog	nizant Official Printed Name:			ayanoo.com		Tid	NT/A		
	Cognizant Official Signature:				_		N/A		
	Cognizant Official Email:				Te	lephone:	N/A		
X. PER	RMIT REQUIREMENT VE			DNI .					
	se check the following to veri				ents. for any of	the questi	ons, then a pe	rmit can not	be issued!
Submi	ttal of Complete NOI?	X							
Submi	ttal of Required Permit Fee?		X	Check Number:			Private Ho	maoumor	
	ttal of AHD Form EHP-19?	X	П				1 Hvate 110	meowilei	
	ttal of Site Map?	X							
Submit	ttal of Disclosure								
Statem	ent?		X						

WATER DIVISION
5301 NORTHSHORE DRIVE / NORTH LITTLE ROCK, ARKANSAS 72118
PHONE 501-682-0623 / FAX 501-682-0880



Arkansas Department of Health Environmental Health Protection

Receipt Number	-	
2512856	7	

Permit Type	Individual Onsite Wastewater System Permit Application									-	-
	Permit Type					Fee Schedule for Structures V					1
	Cal retrie installation				Structures 1500 sq ft or less \$ 30.00						
		Alteration / Re	pair		Conditioned more than 1500 an B and to bear			20 og ff ge 00	45.00		
DR Environment	al ID #			Saructur	es more th	uan 2000 sq ft and u	ip to 300	O sq ft g	90.00		
5 0 0 1	1001	0 0 1 1 5 1			atructur	es more th	an 3000 sq ft and u	ID to 400	20 sq n _ 5	120.00	0
	1-10	0 0 1 5					ian 4000 sq ft		5	150.00	
Part 1 Applica	ation 7	frombroom T.		L	Alteratio	n and Rep	ar			30 00	56
STD = Standard	Septic Tank t Sand Filter ty Media Filter (scribe)	reatment Type (chu ATU = Aerobic Treu RSF = Re-circulatin RGF = Re-circulatin HLD = Holding Tank	Sand Filter	r CP	IR = Surt F = Cap	dard Abso lace Disch cina Fili	Disposal Metho reton Field arge	HLD	 Low Pressure I Holding Lank 	Divinibutio	in
EDWARD TOLEF	ant's Name REE			1 1101	H = Oth		Phone Numbe		 Serial Distribut Drip Irrigation 		
 Mailing Address CLAYTON HOMES 	S (DENISE LE	BLANC) 3655 JUNC	DAL OWN.				870-820-8724 4. County				
5. Address of Prop 159 BRADLEY 18-	osed System	(If a 911 address is n AR. 71671	ot available	HWY, EL (DORAD	O	AR., 71730. BR	ADLEY			
6. Subdivision Nan	E. TIMICKEN,	AR. 716/1				- ecocara	or map)				
N/A			7. Approx N/A	val Date		8. Date N/A	Recorded	-	9. Lot Numbe	or	
10. Lot Dimensions 356.2'X184.4'X316.	8'V300 0		11. Total	Area (Acre	05)		edrooms # Peo	-	N/A		
14. Brief Legal Desc	oription of Prov	perty (Attach a separa	2.0 ACRE	100		4	edrooms # Peo	ple	13. Daily Flo 450	w (GPD)
15. Water Supply (S BRADLEY RURAL V	Specify supplie	e if Dublin Water	1.	16. GF	PS Coo	rdinates					
17. Loading Rates	(gpd/ft²)	18. System Specifi	lanting.	LAT:	33.6863	33 / LON	G: -92.04654				
Primary Area	NOLOAD	a. Size of Septic Ta		τυ	Tool	1,-		Υ			
Secondary Area	NOLOAD	b. Size of Dose Tar	-	IO MIN	gai		ench Depth ench Spacing	N/A		inche	8
Percolation Test	(min/in)	c. Absorption Area	N/		ft2		ench Media (Lis	The second secon		feet	
Primary Area Avg	N/A	d. Number of Field I	ines N/	A			WECO SINGUL				nch Wier
Secondary Area	N/A	e. Length of Field Li	nes N/	A	ft		WECO SINGUI	-		N/A N/A	ir
The permit for construction of conditions have consistenced. Appropriately was designed a systems, unless there:	oval for opera and installed are exception of agent must on item 12 the	ation does not cons according to the Ar is or deviations note revalidate a permit	kansas De kansas De ed in the o more than	arantee to epartment omments. one (1) ye	of Hea A Per ear old	system alth, Rub rmit for o prior to t	will function present and Regulat Construction is the start of any	roperty ions P valid fo constru	rate or has by. The approvertaining to O or one (1) yea uction.	een for al state nalte W r from t	und to is that t astewa he date
pproval. The authorize 9. Utilization Verification I hereby attest that utilize the designed understand the layo	out, installation	n, maintenance, ope	eration and	expense	(s) that	may be	curate. I have n associated with	eviews h this s	id the permit a system.	pplicati	will) on and
pproval. The authorize 9. Utilization Verification I hereby attest that utilize the designed understand the layout wher/Applicant Signatu	out, installation	n, maintenance, ope SEE AT	TACHED E	expense	(s) that	may be	associated with	eviewe h this s	ystem.	pplicati	on and
9. Utilization Verification I hereby attest that utilize the designed understand the layo wher/Applicant Signatu 0. I certify that I have of Arkansas Department	out, installation	SEE AT	TACHED E	expense	T-A informa site Wa	ition is instewate	Date n accordance w r Systems.	this s	ystem.	ments o	on and
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ipproval. The authorize 19. Utilization Verification I hereby attest that utilize the designed understand the layo wher/Applicant Signatu 0. I certify that I have of Arkansas Department	conducted the co	SEE AT a above tests and th tules and Regulation a Signature HADLEY	TACHED E	expense	T-A informa site Wa	may be attorn is in steware DESIGN	Date n accordance w r Systems.	this s	latest requirer Soil Certified	ments o	on and
9. Utilization Verification 9. Utilization Verification 1 hereby attest that utilize the designed understand the layo wher/Applicant Signatu 0. I certify that I have of Arkansas Department	Representative SHELDON Print Na	SEE AT s above tests and th fules and Regulation s Signature HADLEY ame	TACHED E	expense HP19-OP ve listed ing to One	(s) that	may be attorn is in stewate DESIGN	Date	eviewe h this s ith the	Soil Certified	ments o	on and

21.



Arkansas Department of Health Environmental Health Protection

Receipt Number	
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							-								
Individual Onsite Wastewater System Permit Application								Fee Schedule for Structures √							
Permit Type	e New Installation												\$ 30.00		
	\boxtimes	Alteration / Repair				Structures more than 1500 sq ft and up to 2000 sq ft Structures more than 2000 sq ft and up to 3000 sq ft					\$ 45.00				
DD E. Survey (ALID	_		, moranen , nopan								an 2000 sq π and u an 3000 sq ft and u	•		\$ 90.00 \$120.00	
DR Environmental ID											an 4000 sq ft	ip to 400	0 34 11	\$150.00	
5 0 0 1	0 0 0	0	1	5				Alteration			•			\$ 30.00	
Part 1 Applicatio	n Tro	atment	t Tyne	(che	ck one)		L			Г	Disposal Metho	nd (che	ick one)		
STD = Standard Sep	tic Tank 🛛 🗵	■ ATU =	Aerobio	c Treatr	ment Plan	ıt				Abso	rption Field	LPD :	= Low Pressure		n
☐ ISF = Intermittent Sal ☐ PMF = Proprietary M ☐ OTH = Other (Descril	edia Filter		Re-circ	culating	Sand Filt Gravel F		CI	UR = Surf PF = Cap _l TH = Othe	ping F		Ĭ	SRL :	= Holding Tanl = Serial Distrib = Drip Irrigatio	ution	
Owner's/Applicant EDWARD TOLEFRE											2. Phone Numbe 870-820-8724	er			
3. Mailing Address CLAYTON HOMES (DENISE LEB	LANC)	3655 J	IUNCT	ION CIT	Y HW	/Y, EL	. DORAD	00		4. County AR., 71730. BR	ADLEY			
5. Address of Propos 159 BRADLEY 18-E,				ss is n	ot availa	ble, a	ttach d	detailed o	direct	tions	or map)				
6. Subdivision Name N/A					7. App N/A	roval	Date		8. I N/A		Recorded		9. Lot Num N/A	oer	
10. Lot Dimensions 356.2'X184.4'X316.8'	X390.9'				11. To 2.0 AC		ea (Ac	cres)	12. 4	# B	edrooms #Peop	ple	13. Daily FI 450	ow (GPD)	
14. Brief Legal Descr PRT OF THE, SE1/4,						t of pa	aper, if	f necessa	ary)						
15. Water Supply (Sp BRADLEY RURAL W				iter)				GPS Cod : 33.686			G: -92.04654				
17. Loading Rates	(gpd/ft²)	18. S	System	Speci	fications										
Primary Area	NOLOAD	a. Siz	e of Se	eptic T	ank	ATL	J	gal		f. Tr	ench Depth	N/A		inches	
Secondary Area	NOLOAD	b. Siz	e of Do	ose Ta	nk	300	MIN	gal		g. Tr	g. Trench Spacing N/A			feet	
Percolation Test	(min/in)	c. Abs	sorptio	n Area	1	N/A		ft²		h. Trench Media (List Below) i.Tre			i.Trench	Width	
Primary Area Avg	N/A	d. Nu	mber o	of Field	Lines	N/A				NOR	RWECO SINGUL	AIR GF	REEN/CL2	N/A	in
Secondary Area	N/A	e. Ler	ngth of	Field	Lines	N/A		ft	ı	NOR	RWECO SINGUL	AIR GR	REEN/CL2	N/A	in
TO THE OWNER The permit for construction may be deemed invalid by the local Environmental Health Specialist before the start of construction, if the site and/or soil conditions have changed after approval of this permit, or if the information within this permit is inaccurate or has been found to be misrepresented. Approval for operation does not constitute a guarantee that the system will function properly. The approval states that the system was designed and installed according to the Arkansas Department of Health, Rules and Regulations Pertaining to Onsite Wastewater Systems, unless there are exceptions or deviations noted in the comments. A Permit for Construction is valid for one (1) year from the date of approval. The authorized agent must revalidate a permit more than one (1) year old prior to the start of any construction. 19. Utilization Verification I hereby attest that item 12, the number of bedrooms (number of persons for commercial) and square footage of the structure that will utilize the designed individual onsite wastewater system in this permit application, is accurate. I have reviewed the permit application and understand the layout, installation, maintenance, operation and expense(s) that may be associated with this system.															
Owner/Applicant Sign					ATTACH						Date				
20. I certify that I ha Arkansas Depart												h the la	test requiren	ents of the	e
		Turk	<u> _ </u>	d	2				DES		NATED REP	So	il Certified	⊠ Yes [No
Design	nated Represent	tative Si	gnature								Title				
	SHELD Pri	ON HA									26-22 Date			03-7165 Number	
21. Approval of Heal The information a Health Rules and	and specificati	Pertain	ing To	Onsite					ERM	1IT FO				ed.	nt of

Individual Onsite Wastewater System Permit Application

Receipt Number	

Continue Part 1

22. Soil Criteria (Primary Area)			Indicate the dep	th to items a-f, if o	bserved in the soil (c	lesignate in inches	3)			
a. Bedrock	b. BSW	Т	c. MSWT	d. LSWT	d. LSWT e. Adj. MSWT f. Adj. LSWT g. H.C./Depth h. Loading Rate (
N/A	0"		9"	N/A 6" N/A MOD NO LOAD				NO LOAD		
23. Soil Criter	ia (Secor	ndary A	∖rea)	Indicate the dep	oth to items a-f, if o	bserved in the soil (designate inches)			
a. Bedrock	b. BSW	Т	c. MSWT	d. LSWT	e. Adj. MSWT	f. Adj. LSWT	g. H.C./Depth	h. Loading Rate (gpd/ft²)		
N/A	0"		7"	N/A	5"	N/A	MOD	NO LOAD		
24. Seasona	Water T	able (S	SWT) Classes [Detail						
Primar	y Area			List	Redoximorphic F	eatures and/or Clay	Content Restrictio	ns		
Brief ()"	in	DISSIMILAR	DISSIMILAR COLORS ON PED SURFACE.						
Moderate 9)"	in	CHROMA 2 C	ON <50% OF PED	SURFACE, CLA	Y >35%.				
Long N	I/A	in	N/A							
Second	ary Area			List	Redoximorphic Fo	eatures and/or Clay	Content Restriction	าร		
Brief ()"	in	DISSIMILAR	COLORS ON PE	D SURFACE.					
Moderate 7	711	in	CHROMA 2 (ON <50% OF PED	SURFACE, CLA	Y >35%.				
Long N	I/A	in	N/A							
Comments M	IULTIPLE	SOIL	PITS EXCAVA	ATED. EXISTING	HOME WAS DIS	TROYED BY FIRE.				

Part 2 Installation Inspection

Septic tank manufacturer	Pump information	
Septic tank material	Trench media and width	
Dose tank manufacturer	Depth of interceptor drain	
Dose tank material	Depth of settled fill	
Name of Installer		License Number
Installation Inspected by □ Environmental Health Specialist (check one or installer signs System Installation Verification below)	Designated Representative	
Signature	EHS / License Number	Date
System Installation Verification I have installed this system as designed and in compliance with all Rules ar	nd Regulations Pertaining to Onsite Was	stewater Systems.
Installer Signature	License Number	Date

	_		_	
Part 3	Per	mit for	r One	ration

Part 3 Permit for Operation			
The information contained in Part 1 and 2	of this form has been reviewed and found	to meet the requirements of the Arka	nsas Department of
Health. THE PERMIT FOR OPERATION	of this system is hereby issued.		
Environmental Health Specialist			
	Signature	EHS Number	Date
Comments			
O'th Describer and stalls	E. San and the Health Consideration	D. C. (d. D	(-1)
Site Revalidation conducted by (check one)	 Environmental Health Specialist 	 Designated Represen 	tative
(Check one)			
Signature		EHS / License Number	Date

* Optional System Utilization Verification Form



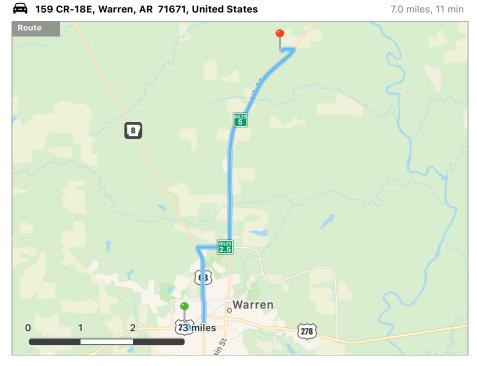
Arkansas Department of Health Environmental Health Protection

Receipt Number	

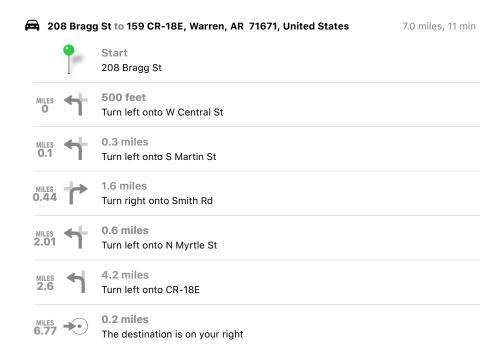
Individual Onsite Wastewater System Permit Application	Fee Schedule for Structures √	
Permit Type	Structures 1500 sq ft or less \$ 30.00	
Alteration / Repair	Structures more than 1500 sq ft and up to 2000 sq ft \$ 45.00 Structures more than 2000 sq ft and up to 3000 sq ft	
DR Environmental ID #	Structures more than 2000 sq ft and up to 3000 sq ft \$ 90.00 Structures more than 3000 sq ft and up to 4000 sq ft \$ 120.00	
5001000015	Structures more than 4000 sq ft	
3001000013	\$150.00 Alteration and Repair \$30.00	
☑ Homeowner	1	
☐ Builder/Developer		
TO THE PROPERTY OWNER		
Onsite Wastewater System Utilization Verificat	ion	
Property location: 159 Bradle (Address of Proposed	ey 18-E, Warren, Ar. 71671 d System, City, State, Zip)	
I hereby attest there are4 bedrooms (_N/A	_ number of persons for commercial) an	d
the square footage of the structure that will	utilize the designed onsite wastewate	er
system in this permit application is accurate. I	have reviewed the permit application an	d
understand the layout, installation, maintenance	• • • •	
associated with this system.	o, operation and expenses(e) that may b	_
As Developer/Builder, I hereby attest that the	above information is correct and prior t	0
the sale of the property, I will convey, to the k	·	
system.		
Owner/Applicant Signature Edward &	= Tolefree	-
Date 4-30-22		
This document must be submitted with the permit applie	cation, if the Owner/Applicant Signature Section	

EHP-19, OPT-A (R 8/13)

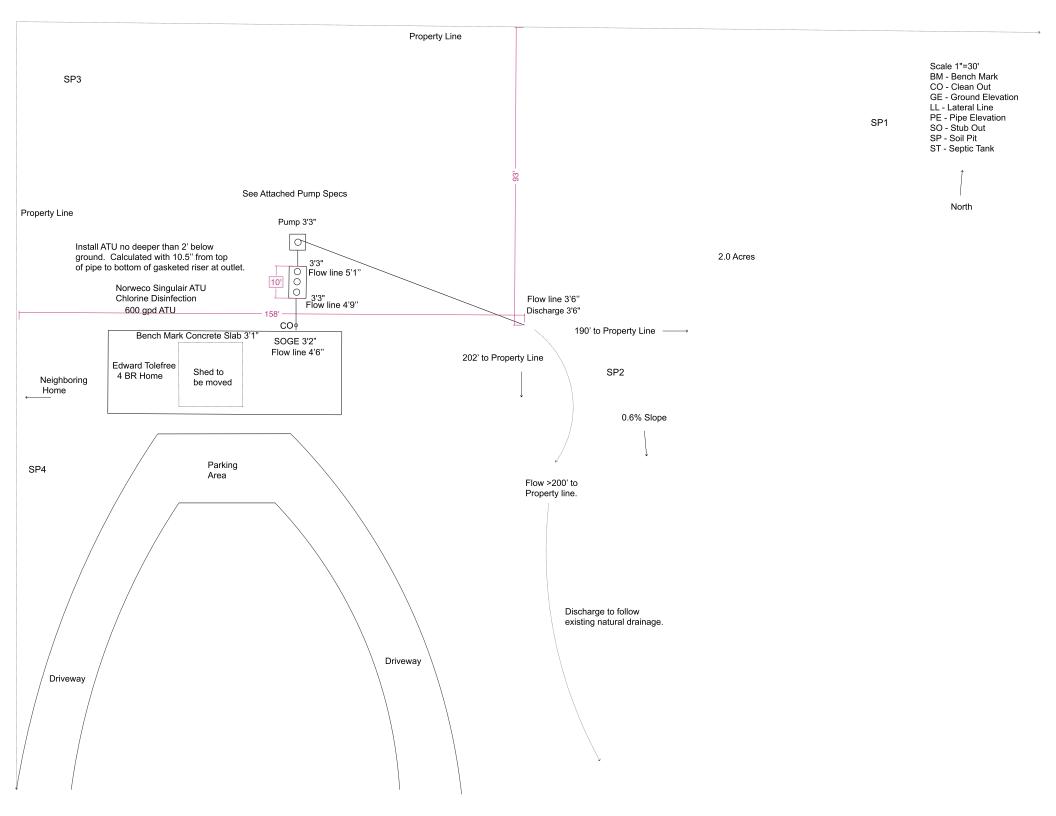
(number 19 on the EHP-19) is not signed.







1 of 2





Soil Evaluation

Applicant	EDWARD TOLEFREE
Date	4-26-22

Pit # 1

Depth Matrix Mottle (Abundance) Texture

0-9''	10YR4/3	5YR4/6<20%, 10YR5/4<20%	LOAM
9"+	10YR5/4	10YR6/2<50%	CLAY LOAM>35%
		BRIEF SWT 0"/MOD 9"/NO LOAD	
		DUE TO SHALLOW REDOXAMORPHIC FEATURES, PITS WIERE NOT	
		EXCAVATED TO 4 FT.	

Pit # 2

Depth	Matrix	Mottle (Abundance)	Texture
0-7"	10YR4/3	5YR4/6<20%, 10YR5/4<20%	LOAM
7"+	10YR5/4	10YR6/2<50%	CLAY LOAM>35%
		BRIEF SWT 0"/MOD 7"/NO LOAD	
		DUE TO SHALLOW REDOXAMORPHIC FEATURES, PITS WIERE NOT	
		EXCAVATED TO 4 FT.	

Pit # 3

Depth	Matrix	Mottle (Abundance)	Texture
0-4''	10YR4/3	5YR4/6<20%, 10YR5/4<20%	LOAM
4''+	10YR5/4	10YR6/2<50%	CLAY LOAM>35%
		BRIEF SWT 0"/MOD 4"/NO LOAD	
		DUE TO SHALLOW REDOXAMORPHIC FEATURES, PITS WIERE NOT	
		EXCAVATED TO 4 FT.	



WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS:

THAT I, AUGUSTA TOLEFREE

for and in consideration of the sum of TEN AND NO/100-----

----- DOLLARS (\$ 10.00) AND OTHER GOOD AND VALUABLE CONSIDERATION

in hand paid by EDWARD E. TOLEFREE & MARTHA J. TOLEFREEthe

receipt of which is hereby acknowledged, do hereby grant, bargain,

sell and convey unto the said EDWARD E. TOLEFREE & and unto MARTHA J. TOLEFREE

their heirs and assigns forever, the following lands

lying in the county of Bradley and State of Arkansas to-wit:

A parcel of land described as: Beginning at the NE Corner of the SE/4 NE/4, Section 8, Township 12 South, Range 9 West, and run South 36 degrees 06' West 356.2 feet, then South 80 degrees, 48' West 183.4 feet, then North 316.8 feet, then East 390.9 feet to beginning point, containing 2.0 acres, more or less.

TO HAVE AND TO HOLD the same unto the said EDWARD E. TOLEFREE AND MARTHA J. TOLEFREE and unto their

heirs and assigns forever, with all appurtenances

thereunto belonging.

And I hereby covenant with the said EDWARD E. TOLEFREE AND MARTHA

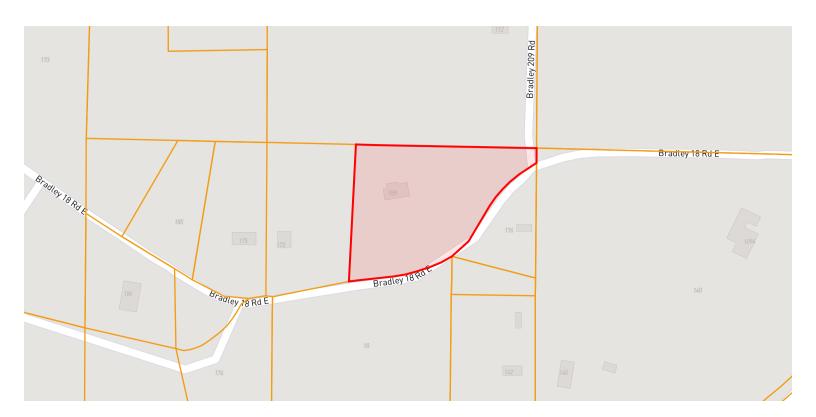
J. TOLEFREE that I will forever warrant

and defend the title to the said lands against all claims whatever.

WITNESS my Hand and seal on this Who day of September, 1978.

Jugusta Talefree

PREPARED BY
HUEY & VITTITOW
Anomoys of Low
WARREN, ARKANSAS





Neighbor Notification of Aerobic Treatment Unit Discharge

This letter is to inform any neighbor within close proximity to the proposed/current location of my home located at 159 Bradley CR-18 East. Warren, Ar. 71671, will utilize an aerobic treatment unit for on-site wastewater treatment. The use of an aerobic treatment unit requires that the treated wastewater be discharged upon the surface of the ground. With a newly constructed residence, the State of Arkansas requires a minimum of 3.0 acres of land, the discharge be a minimum of 150 feet from all property lines, 200 feet from the property line in the direction of flow, 100 feet from the discharging residence and 300 feet from any other residence. If the proposed residence On-Site Wastewater Permit is considered a repair, the setback distances can be shortened to accommodate the repair of the current septic system.

The proposed discharge location of treated wastewater will be on 2.0 acres, 93 feet from the north property line, 190 feet from the east property line, 202 from the south property line (Direction of flow) and 158 feet from the west property line. In addition, the discharge will be located approximately 75 feet from the discharging residence.

This letter, signed jointly by the resident of the neighboring home and occupant of the proposed/current home and attached to the On-site Wastewater Application (EHP19) will serve as record that the resident of the neighboring home is aware of the required minimum distance setbacks from the Point of Discharge and surrounding property lines and residences, is aware of the proposed distances of the Point of Discharge with surrounding property lines and residences and has no reservations or objections to the location of the proposed location of the Point of Discharge.

Neighboring Resident (Signed): Avy SA M Date: 04/30/0000
Neighboring Resident (Print): AVSVSA TOJEFRE
Address: 173 B/Ad/ly 18-E
WArren, AR 71671
Phone: 50/-626-5753
Proposed Resident (Signed): Edule: 4-30-22

Proposed Resident (Print): Edward E. Tolefree





Arkansas Department of Health

4815 West Markham, Slot 46 Little Rock, Arkansas 72205-3867

MEMORANDUM OF AGREEMENT

SUBJECT: ONSITE WASTEWATER SYSTEM APPLICATION

This is an agreement that the onsite wastewater system installed on this property has been permitted under authority of Act 402 of 1977 and by the Arkansas Department of Health with the understanding that the following provisions are met:

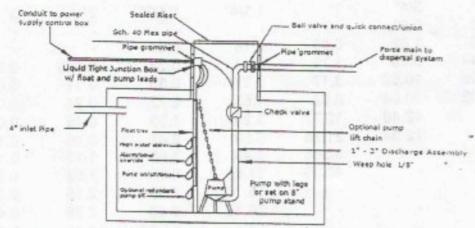
- Onsite Wastewater Systems requiring a Monitoring Contract with a Certified Monitoring Personnel are Holding Tanks, Experimental Systems (i.e. Reduced Absorption Areas, *ABGs), and Drip Dispersal Systems. *Aerobic Biological Generators – Commercial applications only, residential applications must follow manufacturers' service contract requirements.
- 2. The property owner assumes all responsibility for the proper operation of the onsite wastewater system.
- 3. The property owner must maintain a monitoring contract with a licensed Certified Monitoring Personnel for the life of the system and retain Onsite Wastewater System Assessments (EHP-71), on file, for at least five (5) years.
- 4. The Arkansas Department of Health has no responsibility in the operation and maintenance of such systems.
- 5. That the Arkansas Department of Health may monitor the system as to its operation capabilities.
- 6. That the Arkansas Department of Health is granted permission to make such inspections as deemed necessary.
- Subsurface systems with flows ≥3000 gpd and all surface discharging systems require the owner to file an additional permit application with the Arkansas Department of Environmental Quality (ADEQ).
- 8. That, on the sale of the property, the owner of the property must disclose to the perspective buyer notice of this agreement and any permit requirements. The buyer is to sign memoranda, contracts or permit name change forms and submit these documents to the appropriate regulatory agency.

SIGNED:	Edul E. Toh	efree signed:	
	(Property Owner)		(Health Department)
DATE:	4-30-22	DATE:	



Standard Pump / Dose Calculation Worksheet

Pump Tank



10 calculate Gallons per minute:
 Gallons per day + loading rate N/A sq ft. (Example: 370 gpd + .75 = 493.33 or 494 sq. ft)
2. Square footage required for system x dose rate. Specify Dose Rate N/A gal/ sq. ft (Max dose rate is .25 gal/ sq. ft.)
(Example: 494 sq. ft x .15 gal/sq.ft = 74.1 gal dose) gal per dose.
Take dose rate and + by number of minutes for pump run time = 20 gpm calculated. Recommended minimum pump
run time is 2 minutes. Calculated pump run time 3.75 minutes per dose. Check manufacturer for best optimal run duration
(Example: 74.1 gal/dose + 4 minutes = 18.53 or 19 gpm)
To calculate Total Head:
1. Ground elevation of distribution device 3.5" - (minus) Ground elevation pump/ dose tank 3.25' = 0.25'
"Pump off" elevation in dose chamber / tank to ground (typically 4.25 ft) 4.5" = (Elevation / Static Head)
Distance to be pumped
3. Add additional headloss for distribution device if not using d-box: N/A. Attach calculation sheet for the device.
4. Total Head (TDH) 5.26'. (Elevation / Static Head) + Friction Loss + Distribution device (if needed) = Total Head)
Pump Selected (brand, model) Attach pump curve and spec sheet.
Alarm Selected (brand, model) Attach spec sheet.
Calculate Drawdown: Maintain enough effluent to cover the pump.
Length" x Width" x 1" + 231 = Gallons per inch (Example 72" x 16" x 1" = 11523 inches + 231 = 4.98 or 5 gals/ inch)
Drawdown: 11.36 gallons per inch in tank. Drawdown in inches per dose 6.6"
Set pump float and alarm float. (Maintain a minimum of 1 inch difference between the pump "on/off" float and the alarm

NOTE: Gallons per inch may vary between tanks/pump chambers by different manufacturers.

Friction Loss Per 100 Feet of SCH 40 Plastic Pipe Nominal Pipe Diameter

GPM	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	3"	4"
1-	2.08	0.51		-	-	-	-	2
2	4.16	1.02	0.55	0.14	0.07		-	
5	23.44	5.73	1.72	0.44	0.22	0.066	0.015	
7	43.06	10.52	3.17	0.81	0.38	0.11	0.021	_
10	82.02	20.04	6.02	1.55	0.72	0.21	0.03	
15		42.46	12.77	3.28	1.53	0.45	0.07	-
20		72.34	21.75	5.59	2.61	0.76	0.11	0.03
25			32.88	8.45	3.95	1.15	0.17	0.03
30		. 24	46.08-	11.85	5.53	1.62	0.23	0.04
35	-			15.76	7.36	2.15	0.23	
40	-			20.18	9.43	2.75		0.08
45	_						0.41	0.11
50			-	25.1	11.73	3.43	0.51	0.17
7.7				30.51	14.25	4.16	0.61	0.16
60	-	1			19.98	5.84	0.85	0.22
70	-	-	-			7.76	1.13	0.31
75		and the result in		- 111	Training makes	8.82	1.28	0.34
80	-	-	-			9.94	1.44	0.38
90		-	- 000 400 10			12.37	1.8	0.47
100	-					15.03	2.18	0.58
		****	*** Don't fo	rget to add	20% for fitti			0.00

FORMULA: Force main + 20% + 100 x friction loss

Force main N/A' ft x .20 = N/A' + force main N/A' = equivalent pipe length N/A'

Equivalent pipe length N/A + 100 = N/A x Friction loss N/A = Friction Headloss N/A

Example: 125 ft of 2in SCH 40 at 25 gpm

125 ft x .20 (fitting loss) = 25 ft + 125 = 150 ft (equivalent pipe length) + 100 = 1.5 x 1.15 = 1.73 ft of Friction Headloss

Take answer and apply to front of worksheet.

Helpful conversion factors:

1 acre = 43,560 Sq. Ft. (ft²) Inches + 12 = Tenth of Foot (Ex. 6 in. + 12 = 0.5 Ft.)

231 cubic inches = 1 gallon of water 1 Cu. Ft. of Water weighs = 62.4 lbs.

1 Cubic Yard = 27 Cu. Ft. (3 x 3 x 3)

1 Gallon of Water weights = 8.34 lbs.

1 Cu. Ft. = 7.48 gallons

Volume, gallons = ft3 x 7.48

Volume for a Rectangle Volume, cu. ft. = L x W x d

(L = length; W = width; d = depth of water in tank)

Volume for a Pond Volume, ft³ = 43,560 x acres x depth

Volume for a circle

Volume, cu. ft. = 3.14 x r² x d (d=depth of water in tank)

Volume, cu. ft. = 0.785 x D2 x d

VER 1.0 (10/07)

SUMP PUMPS

Little GIANT.

6EC SERIES - 1/3 HP

APPLICATIONS

Basement sumps, dewatering, water transfer, light effluent

- Heavy-duty cast iron construction
- Permanent split capacitor (PSC) motor with thermal overload protection
- Designed for continuous duty
- Energy-saving low amp draw
- 1-1/2" FNPT discharge (38 mm)
- Handles up to 1/2" (12.7 mm) solids
- Multiple switch options for automatic operation
- 140 °F (60 °C) liquid temperature rating
- cCSAus listed



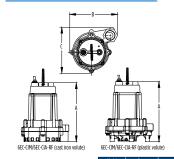
Volts		Amps	Watts	((mance ight in Fee	t)	Shut-Off (ft)	PSI
				5'	10'	15'	20'	(10)	
115	60	5	600	53	50	42	34	28	12.1
230	60	3	650	53	50	42	34	28	12.1

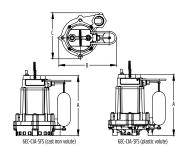
Item	Model	HP	Volts	Base Material	Switch Type/ Operations	On Level	Off Level	Cord	Weight
506853	6EC-CIA-RF	1/3	115	Cast Iron	Piggyback Mechanical Float	13" - 15" (33.2 cm - 38.1 cm)	6" - 8" (15.2 cm - 20.3 cm)	10' (3 m)	33.5 lbs (15.2 Kg)
506803	6EC-CIA-RF	1/3	115	Polypropylene	Piggyback Mechanical Float	13" - 15" (33.2 cm - 38.1 cm)	6" - 8" (15.2 cm - 20.3 cm)	10' (3 m)	27.5 lbs (12.5 Kg)
506858	6EC-CIA-RF	1/3	115	Cast Iron	Piggyback Mechanical Float	13" - 15" (33.2 cm - 38.1 cm)	6" - 8" (15.2 cm - 20.3 cm)	20' (6.1 m)	35.5 lbs (16.1 Kg)
506855	6EC-CIA-SFS	1/3	115	Cast Iron	Integral Snap-Action Float	8" - 11" (20.3 cm - 27.9 cm)	2" - 5" (5.1 cm - 12.7 cm)	10' (3 m)	34 lbs (15.4 Kg)
506807	6EC-CIA-SFS	1/3	115	Polypropylene	Integral Snap-Action Float	8" - 11" (20.3 cm - 27.9 cm)	2" - 5" (5.1 cm - 12.7 cm)	10' (3 m)	28 lbs (12.7 Kg)
506860	6EC-CIA-SFS	1/3	115	Cast Iron	Integral Snap-Action Float	8" - 11" (20.3 cm - 27.9 cm)	2" - 5" (5.1 cm - 12.7 cm)	20' (6.1 m)	35 lbs (15.9 Kg)
506804	6EC-CIA-SFS	1/3	115	Polypropylene	Integral Snap-Action Float	8" - 11" (20.3 cm - 27.9 cm)	2" - 5" (5.1 cm - 12.7 cm)	20' (6.1 m)	29 lbs (13.5 Kg)
506851	6EC-CIM	1/3	115	Cast Iron	Manual	-	-	10' (3 m)	32.5 lbs (14.7 Kg)
506801	6EC-CIM	1/3	115	Polypropylene	Manual	-	-	10' (3 m)	26.5 lbs (12 Kg)
506852	6EC-CIM	1/3	115	Cast Iron	Manual	-	-	20' (6.1 m)	33.5 lbs (15.2 Kg)
506802	6EC-CIM	1/3	115	Polypropylene	Manual	-	-	20' (6.1 m)	27.5 lbs (12.5 Kg)
506806	6EC-CIM (Black)	1/3	115	Polypropylene	Manual	-	-	20' (6.1 m)	27.5 lbs (12.5 Kg)
506854	6EC-CIM	1/3	115	Cast Iron	Manual	-	-	25' (7.6 m)	34 lbs (15.4 Kg)
506800	6EC-CIM	1/3	127	Polypropylene	Manual	-	-	20' (6.1 m)	27.5 lbs (12.5 Kg)

SUMP PUMPS

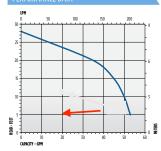
6EC SERIES - 1/3 HP

ENGINEERING DATA





Model	Base A		В		
6EC-CIA-SFS	Polypropylene	11.28" (286.5 mm)	10.66" (270.8 mm)	8.48" (215.5 mm)	
OEC-CIA-3F3	Cast Iron	11.07" (281.2 mm)	10.66" (270.8 mm)	8.48" (215.5 mm)	
6FC-CIA-RF	Polypropylene	11.08" (281.5 mm)	8.79" (223.4 mm)	8.48" (215.5 mm)	
DEC-CIA-RF	Cast Iron	10.9" (276.2 mm)	8.79" (223.4 mm)	8.48" (215.5 mm)	
6EC+CIM	Polypropylene	11.08" (281.5 mm)	8.79" (223.4 mm)	8.48" (215.5 mm)	
OEC-CIM	Cast Iron	10.9" (276.2 mm)	8.79" (223.4 mm)	8.48" (215.5 mm)	



Cover	Epoxy-coated cast iron
Motor Housing	Epoxy-coated cast iron
Impeller Material	Nylon
Volute	Epoxy-coated cast iron
Mechanical Shaft Seal	Nitrile with carbon and ceramic
rieciialiicai Silait Seal	faces
Fasteners	Stainless steel
Shaft	Cold-rolled steel
Bearings	Upper and lower ball bearings
Power Cord	SJTW, SJTOW (506854)

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303 HWXT

Applications

• The Little Giant 303 HWXT Series is an ideal indoor high water alarm for use in lift pump chambers, sump pump basins, holding tanks, sewage, and wastewater removal

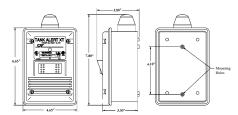
- Enclosure meets Type 3R water-tight standards
- · Automatic alarm re-set, horn silence switch and alarm test switch
- Alarm horn sounds at 82 decibels at 10' (3 m)
- Alarm system (when installed on separate circuit) operates even if pump circuit fails
- Complete package includes mechanical float control switch with 15' (4.57 m) of cable and pipe clamp for mounting
- Extra value includes pre-mounted terminal block so enclosures can also be used as a junction box for splicing pump, pump switch and power. Meets NEC standard for junction boxes
- UL listed for indoor or outdoor use under UL standard 864

Specifications

- Voltage: 120 VAC, 50/60 Hz, 7 watts max (alarm condition)
- Alarm Enclosure: 6.5" x 4.5" x 3.0" (16.51 x 11.43 x 7.62 cm), indoor-outdoor, weatherproof, thermoplastic and meets Type 3R water-tight standards
- · Pre-mounted terminal block
- Alarm Beacon: Meets Type 3R standards
- Test/Silence Switch: Certified to IP66 and IP68 standards
- Float Switch: SJE SignalMaster® control switch with pipe clamp
- Cable: 15' (4.57 m), flexible 18 gauge, 2 conductor (UL) SJOW and water-resistant (CPE)
- Float: 3.38" dia. x 4.55" 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)



Engineering Data



Specificati	Specifications								
Item No.	Model No.	Primary Voltage							
513273	303 HWXT	120 V 60 Hz							

General Installation Instructions

Installing the Float Switch

- Determine desired activation level (see Figure A). Position float to activate prior to threatening liquid level condition. To adjust activation level, move pipe clamp up or down on discharge pipe
- Place the cord into the clamp as shown in Figure B.
 Locate the clamp at the desired activation level and secure the clamp to the discharge pipe as shown in Figure B. NOTE: Do not install cord under hose clamp.

 4. 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.

Installing the Alarm

- 1. Mount alarm box using existing holes in back of box. To ensure water-tight seal, use screws and sealing washers included with alarm. Note: Screws are to be located over wall stud or used with a wall anchor sized for a #8 x 1.25 self tapping screw.

 2. Determine "conduit-in" locations on alarm as shown in Figure C.
- Note: When used with a pump application, connect alarm to a circuit separate from the pump circuit. This allows alarm to continue to operate if the pump circuit fails.
- Drill holes for conduit entry, taking care not to damage bosses inside alarm box.
- Attach conduit. If alarm includes premounted terminal block option, refer now to the Terminal Block Option Wiring Instructions.
- 5. Bring float switch cable through conduit and wire to terminal block
- positions 1 and 2 as shown in Figure B.

 6. Wire power conductors to terminal block positions 3 and 4 and ground wire to ground termination post as shown in Figure B. Note: If terminal block option is used, attach ground wire as shown in Figure
 A of Terminal Block Option Wiring Instructions.
- If remote device is used, connect wires as shown in Figure B using supplied wire nuts.
- Attach alarm box cover using the four pre-installed screws.
 Turn on power. Light on switch should come on.
 Check installation by manually tipping the float. The horn and beacon
- should turn on.

 11. Push silence switch to test silence feature.
- 12. Test unit once per week to insure proper operation



P.O. Box 12010 Oklahoma City, OK 73157-2010 Phone: 1.800.701.7894 www.LittleGiantPump.com

Typical Installation





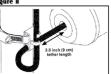
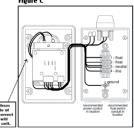


Figure C



Wastewater • Water Systems • HVAC • Industrial • Engineered Products



SINGULAIR GREEN® BIO-KINETIC® WASTEWATER TREATMENT SYSTEM

MODELS 960 AND THT WITH SERVICE PRO® CONTROL CENTER

SPECIFICATIONS

GENERAL SPECIFICATIONS

The contractor shall furnish and install one complete Singulair Green Bio-Kinetic wastewater treatment system with all necessary parts and equipment as described in the following specifications. Treatment of the domestic wastewater shall be accomplished by the extended aeration process with non-mechanical flow equalization, pretreatment of the influent and filtration of the final-effluent. The treatment system shall provide primary, secondary and tertiary treatment of the wastewater flow, and if required, chlorination and dechlorination of the effluent prior to discharge. All treatment processes shall be contained within a single tank which shall be manufactured using high density polyethylene resin. The wastewater treatment system shall be a Singulair Green as manufactured by Norweco, Inc., Norwalk, Ohio, USA. Systems not including integral pretreatment or non-mechanical flow equalization shall not be considered for this application.



The wastewater treatment system shall include high density polyethylene tankage providing separate pretreatment, aeration and final clarification chambers. The tankage shall be furnished with a Schedule 40 PVC inlet hub, removable sealed pretreatment cover, subbmerged transfer ports, aerator mounting riser with removable vented cover, molded outlet coupling, Bio-Kinetic system mounting riser with removable sealed cover and Schedule 40 PVC outlet hub. Principal items of electro-mechanical equipment supplied with the Singulair Green wastewater treatment system shall be a UL Listed 1725 RPM mechanical aerator, UL Listed Service Pro electrical control center, Bio-Static situage return and a Bio-Kinetic tertiary treatment device for flow equalization and final filtration of system effluent.

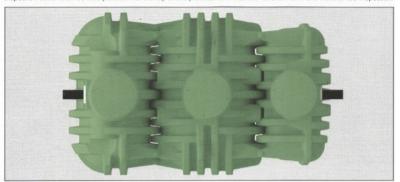
SPECIFICATION

OPERATING CONDITIONS

The Singulair Green system shall be certified to treat up to 600 GPD (gallons per day) of domestic wastewater. Total holding capacity of the system shall provide a minimum of 48 hour retention of the daily flow. The pretreatment chamber shall provide at least 18 hour retention, the extended aeration chamber shall provide at least 24 hour retention and the clarification chamber shall provide at least 6 hour retention. The non-mechanical flow equalization device shall increase each individual chamber and total system retention time in direct proportion to loading. Design of the system shall include a compartmented tank and a non-mechanical flow equalization device to insure successful treatment performance without upset even when the significant runoff period is six hours. Hydraulic design considerations of the system and flow equalization device shall be such that intermittent peak flow factors as high as four shall not upset hydraulic reliability within the system. Capability of the system to perform as outlined shall be certified by an independent testing laboratory and approved for use by the local governing regulatory agency.

PRETREATMENT CHAMBER

The pretreatment chamber shall be an integral part of the wastewater treatment system. All domestic wastewater shall be preconditioned and flow equalized while passing through the pretreatment chamber prior to being introduced to the extended aeration chamber. The outlet of the pretreatment chamber shall be equipped with a discharge tee that extends vertically into the liquid so that only the preconditioned equalized flow from the center area of the chamber is displaced to the extended aeration chamber. The discharge tee and transfer port shall be of adequate size to handle a peak flow factor of four without restricting the outlet and disturbing hydraulic displacement to the extended aeration chamber. A removable inspection cover shall be incorporated into the too of the pretreatment chamber to allow tank and transfer tee inspection.



AERATION CHAMBER

The extended aeration chamber shall provide in excess of 24 hour retention of the equalized daily flow. The chamber shall be of sufficient size to provide a minimum of 80 cubic feet of tank capacity per pound of applied BOD. The aeration chamber shall be an integral part of the system flow path and configured to insure effective mixing of microorganisms, wastewater and fresh air. No area of the chamber shall be isolated from process mixing, thereby eliminating dead or quiescent areas of the treatment chamber which are detrimental to the treatment process. Influent into the aeration chamber shall be preconditioned, equalized flow from the pretreatment chamber and settled solids via the Bio-Static studge return.

FINAL CLARIFICATION CHAMBER

The final clarification chamber shall consist of 5 functionally independent zones operating together to provide satisfactory settling and clarification of the equalized flow. An inlet zone shall be provided and shall dissipate transfer turbulence at the flow inlet of the clarification chamber. Its performance shall also eliminate turbulence in other zones of the clarifier. Liquid

shall be hydraulically displaced from the inlet zone to the sludge return zone. Hydraulic currents shall sweep settled sludge from the hoppered walls and return these solids via the inlet zone to the aeration chamber. As solids are removed, liquid is displaced to the hopper zone of the clarifler. In this zone, settling by gravity takes place. Three of the four sidewalls are slanted to form a hopper which directs all settled material back to the sludge return zone. Clarifled liquid from the hopper zone shall be displaced into the final settling zone to provide additional clarification of the liquid. The liquid is displaced to the outlet zone for final filtration and discharge from the system. Non-mechanical equalization of the flow, through all 5 zones, shall provide optimal settling and clarification.



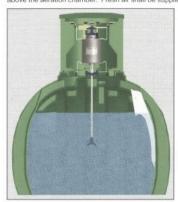
BIO-STATIC® SLUDGE RETURN

A Bio-Static sludge return shall be mounted into the opening in the aeration/clarification chamber wall to provide positive return of settled solids. Aeration

chamber hydraulic currents shall enter the sludge return and be directed through the Bio-Static device into the second zone of the clarification chamber. The Bio-Static sludge return shall accomplish resuspension and return of settled solids without disturbing the clarified liquid in the final settling zone and outlet zone.

MECHANICAL AERATOR

The Singulair aerator shall be installed in a rotationally molded, heavy duty, high density polyethylene aerator mounting riser above the aeration chamber. Fresh air shall be supplied through an injection molded, heavy duty, glass-filled polypropylene



access cover above the aerator. The vented access cover shall be secured to the mounting riser with four fasteners. The aerator shall be UL Listed and include plated mounting brackets. NEMA 6 rated electrical connector, fractional horsepower motor, molded plastic lifting handle, molded plastic air intake screens, molded plastic foam restrictor, stainless steel aspirator shaft and molded glass-filled nylon aspirator tip. The motor shall contain precision manufactured o-ring type seals installed between the motor shell and the machined aluminum endbells to insure watertight integrity. Molded Viton elastomer shaft seals shall protect the bearings from contamination. Only the stainless steel aspirator shaft and glass-filled nylon aspirator tip shall be in contact with the liquid. There shall be no submerged electrical motors, bearings or fixed air piping in the aeration system. The Singulair aerator motor shall not exceed the motor nameplate rating when installed and operated as recommended. The fractional horsepower aerator motor shall be equipped with a foam restrictor to protect the motor against high water and foam. The motor shall be 4 pole, 1725 RPM, 115 volt, 60 hertz, single phase, ball bearing constructed with a 1.0 service factor. It shall draw 4.0 amps when operating at the rated nameplate voltage. Aerators without UL listing have not demonstrated compliance with international electrical standards for safety and reliability and shall not be considered for this application.

BIO-KINETIC

SERVICE PRO® CONTROL CENTER

The Service Pro electrical control center shall control all aspects of treatment plant operation using a microprocessor based platform. The prewired control center shall contain nonvolatile memory to prevent the loss of programming in the event of a power failure. For protection of wiring and components, the electrical controls shall be mounted in an injection molded, lockable, corrosion proof, NEMA rated enclosure designed specifically for outdoor use. The enclosure shall be equipped with a tamper evident seal to discourage unauthorized access. The Service Pro control center shall be a UL Listed assembly and shall include a time clock, alarm light, audible alarm, reset button and power switch. The control center shall monitor all treatment system operating conditions including aerator over current, aerator under current and open motor circuit. In the event the control center detects one of these conditions, power to the aerator shall be interrupted, a diagnostic sequence shall begin and the visual alarm shall activate. After a programmed recovery interval, an automatic restart attempt shall



be initiated. If normal aerator operation does not resume during 24 programmed recovery and restart cycles, the audible alarm shall activate.

TIME CLOCK

The aerator run cycle shall be controlled by an adjustable, prewired time clock. The minimum setting shall not permit the aerator to be "off" for more than 30 minutes per hour. It shall be adjustable in 5 minute increments and designed such that any adjustment results in additional run time up to "continuous" operation (60 minutes per hour). The Service Pro TNT controls shall include a non-adjustable time clock. Use of a time clock can seriously affect system performance and operating cost. Systems that have not been performance certified at the minimum time clock setting by an independent testing laboratory shall not be considered for this application.

SERVICE PRO® ADVANCED CONTROLS (Optional)

Advanced system control options shall be available for all Singulair Green Bio-Kinetic wastewater treatment systems. Service Pro control center options include the Service Pro control center with Monitoring, Compliance and Diagnostic (MCD) technology and the Service Pro control center with Total Nitrogen Treatment (Try) technology and

The Service Pro control center with MCD technology shall be a UL Listed assembly and shall include a time clock, integral telemetry system, main alarm light, power light, phone light, aerator alarm light, three auxiliary alarm lights, reset button and power switch. The control center shall monitor all treatment system operating conditions including aerator over current, aerator under current and open motor circuit. In the event the control center detects one of these conditions, power to the aerator shall be interrupted, a diagnostic sequence shall begin and the visual alarm shall activate. After a programmed recovery interval, an automatic restart attempt shall be initiated. If normal aerator operation does not resume during 24 programmed recovery and restart cycles, the audible alarm shall activate and the telemetry system shall report the specific condition to the Service Pro monitoring center. In the event that any of the auxiliary inputs detect abnormal operation of the treatment system auxiliary equipment, the audible and visual alarms shall immediately activate and the telemetry system shall report the alarm condition to the monitoring center.

The Service Pro TNT control center shall provide the same Monitoring, Compliance and Diagnostic functions as the Service Pro control center with MCD technology. However, the Service Pro TNT control center shall include a non-adjustable time clock. The non-adjustable time clock shall create a 60 minute aeration cycle followed by a 60 minute anoxic cycle during which the aerator shall be off. This aeration cycle shall insure Total Nitrogen Treatment of the wastewater.

SPECIFICATIONS

BIO-KINETIC® SYSTEM

A Bio-Kinetic system shall be installed in the mounting riser above the clarification chamber. The Bio-Kinetic system shall provide non-mechanical flow equalization through all plant processes including pretreatment, aeration, clarification, tertiary filtration, chlorination and dechlorination. The assembly shall be supplied with locking lugs and removable moisture/vapor shield and shall consist of a design flow and peak flow micronically molded filter, baffled perimeter settling zone, flow distribution deck, lifting handles, level indicator, adjustment lugs, optional chlorination feed tube, unbaffled perimeter settling zone, solids contact zone, vertical inlet zone, compartmented settling zone consisting of 42 baffled chamber plates, effluent stilling well, final discharge zone, adjustable outlet weir, optional dechlorination feed tube, outlet zone and gasketed discharge flange. All components shall be manufactured from inert synthetic materials or rubber, assembled in circular fashion and connected to a plastic outlet coupling. The outlet coupling shall accept a 4" diameter, Schedule 40 PVC pipe. The Bio-Kinetic system shall be installed with the inverts of the design flow equalization ports located at the normal liquid level of the clarifier. If intermittent flow rates exceed the capacity of



the design flow ports, flow shall be held upstream until the intermittent flow dissipates. If the intermittent flow continues to increase, the liquid level may reach a pair of sustained flow equalization ports. With four ports in use, flow through the system increases while continuing to provide flow equalization to all upstream and downstream processes. Peak flow equalization ports are supplied but should not be required. Optional Blue Crystal and Bio-Max tablet feed tubes shall be positioned such that the flow-activated chemical cannot contact the liquid upstream of the feed tubes.

FLOW EQUALIZATION

The wastewater treatment system shall include a demand use, non-mechanical, flow equalization device. The device shall control normal residential flow rates and reduce typical residential flow surges. The flow equalization rate shall be dependent upon the specific loading pattern and the duration of flow surges. At the 600 GPD (gallons per day) NSF Standard 40 design loading schedule, minimum performance of the device shall equalize daily flow an average of 50%.

SERVICE PRO® MONITORING CENTER

The Service Pro monitoring center shall include a 128 bit encrypted password protected website for interface with the monitoring center database. Access to the secure website shall be obtained through a unique user name and password that provides tiered access to data from monitored treatment systems. Access level tiers shall include dealers, service providers, regulatory agencies and individual system owners. Dealers and service providers



shall be able to create accounts, maintain service records and grant regulatory agencies access to the information. Individual system owners shall be able to view information regarding their own systems, as well as download instructional information. Integrity of stored data shall be maintained through the use of multiple servers operating in geographically isolated locations.

BLUE CRYSTAL® CHLORINATION SYSTEM (Optional)

The Singulair Green system shall be furnished complete with a tablet feed tube and a six month supply of Blue Crystal disinfecting tablets. Blue Crystal tablets shall be specifically formulated for consistent chlorine dosage and effluent disinfection to the sustained, variable and intermittent flows that are typical of domestic wastewater treatment systems. The tablets shall be manufactured from pure calcium hypochlorite and contain a minimum of 70% available chlorine. Each tablet shall be 2^5h^* diameter, compressed to a 1" thickness, weigh approximately 5 ounces and be white in color with blue crystals for easy identification. The tablets shall dissolve in direct proportion to the flow rate, releasing controlled amounts of chlorine.

BIO-MAX® DECHLORINATION SYSTEM (Optional)

The Singulair Green system shall be furnished complete with a tablet feed tube and a six month supply of Bio-Max dechlorination tablets. The dechlorination tablets shall contain 92% socilium suffice as the active ingredient and shall be specially formulated to chemically neutralize both free and combined chlorine. Each tablet shall be $2^{5}/e^{\circ}$ diameter, compressed to a $^{15}/e^{\circ}$ thickness, weigh approximately 5 ounces and be green in color for easy identification. The tablets shall dissolve slowly, releasing controlled amounts of chemical for the instantaneous removal of residual chlorine from the system effluent.

WARRANTY AND EXCHANGE PROGRAM

The manufacturer shall provide a three year limited warranty for each Singulair aerator, control center, Bio-Kinetic system and any other electro-mechanical components purchased from the manufacturer. The comprehensive aerator exchange program offers a lifetime of equipment protection. The dealer shall provide warranty and exchange information to the regulatory agency, contractor and customer as required.



EQUIPMENT MANUFACTURER

The equipment specified herein shall be the product of a manufacturer having a minimum of seven years experience in the construction of prefabricated wastewater treatment equipment and systems. Bids shall be prepared on the basis of the equipment and material specified herein for purposes of determining the low bid. This is not done, however, to eliminate other products or equipment of equal quality and efficiency. If equipment is to be substituted, approval of such substitution must be made prior to execution of any order. It is assumed that substitution will result in a reduction of cost to the contractor and that if accepted, these savings will be passed along by a reduction in the base bid.

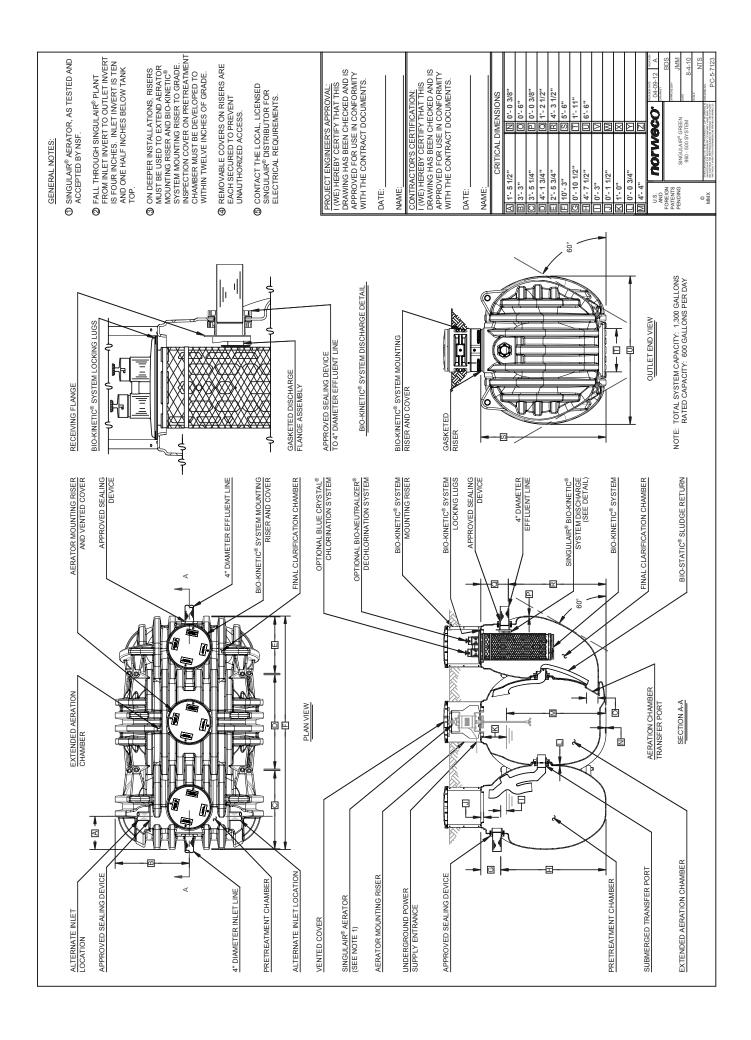


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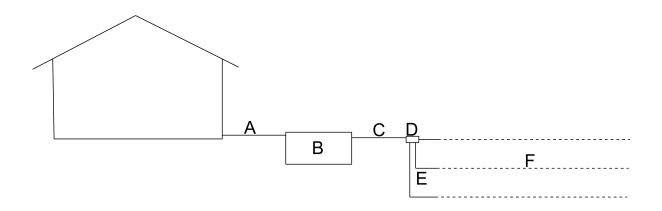
Norweco*, Norweco.com*, Singulair*, Modulair*, Travalair*, Singulair Green*, Ribbit Rivet*, Hydro-Kinetic*, Hydro-Kinetic Bio-Film Reactor*, Evanair*, Lift-Rali*, Microsonic*, Bio-Dynamic*, Bio-Sanittzer*, Bio-Mutralizer*, Bio-Max*, Bio-Kinetic*, Bio-Static*, Bio-Gem*, Bio-Perc*, Blue Crystal*, Phos-4-Fade*, Enviro-C*, ClearCheck*, ChemChock*, Tri-Max*, Hydra-Max*, Service Pro*, MCD*, TNT*, WASP*, Grease Buster* and "BUSTER* logo" are registered trademarks of Norwalk Wastewater Equipment Company, Inc.

MMXVIII NORWECO, INC



INDIVIDUAL ONSITE SYSTEM PERMIT APPLICATION AUDIT								
	Applicant's Name EDWARD TOLEFREE				Permit #			
	PLAT DRAWING			EHP-19			N	
1	Scale 1:20 or 1:30 indicated and used			19	Application sumitted in triplicate	1	T	
2	North indicated			20	Items 1-15 filled in adequately and accurately		T	
3	Benchmark indicated			21	Vicinity Map provided			
4	Slope Indicated			22	Directions provided		_	
5	Property lines defined and dimensions shown			23	Items 17-19 filled in adequately (if applicable)	V	T	
6	Distance to two opposing property lines shown			24	Item 20 filled in accurately			
7	Structures and their dimensions shown			25	Items 21 and 23 signed and dated			
	Setbacks indicated (utilities, geographic features,			EHI	P-6 attached and completed			
8	etc.)				PUMP SYSTEMS	Υ	N	
	Driveway and parking area dimensions shown (if							
	applicable)				All pump calculations provided			
10	Ground elevation shots indicated			27	Pump selected has a pump curve attached			
11	Flow-line elevation shots calculated and shown			28	Alarm selected has a spec sheet attached			
	Location, elevation, and distance of well shown (100			29	Distribution device (spider valve, hydrosplitter, etc.)			
12	,		spec sheet attached					
	Location, elevation, and distance of surrounding	T	'					
13	property's wells shown (100 ft)	•		OMP SYSTEMS			N	
				30	OPM contract signed by a certified provider			
14	Primary absorption area located and sized accurately				Aerobic unit spec sheet attached			
	Alternate absorption area located and sized			32 Disinfection type indicated				
15	accurately			33	Disinfection type spec sheet provided			
	Location of soil pits/perc holes shown for primary and							
16	alternate area	Ш		PRE-SITE REVIEW			N	
17		Ш		_	All system components staked and identified			
	Unusual site conditions indicated (pond, sinkholes,	T		35 Primary area lateral lines flagged and on contour				
18	etc.)	V		36	Alternate area flagged and on contour			
NO.	TE: Justify items checked "N" in the Comments Section	n.		37	Perc holes/test pits flagged			
Cor	Comments:							
	EHS Name:		As	sses	sor Name:			
						_		
	EHP-19a (7/09)				Date:			

PIPE SPECIFICATIONS



	Name	Pipe Approved
А	House Sewer Line	Schedule 40 PVC Schedule 40 ABS Schedule 40 ABS Foam Core
В	Septic Tank	Approved Sanitary T's Inlet and outlet
С	Effluent Line	To solid ditch bottom, same as A. Beyond that point, SDR 35 or ASTM 3034, or same as A.
D	Distribution Device	Approved device as indicated on plans.
Е	Solid Manifold Pipe	Same as C
F	Absorption line	Approved means of absorption as indicated on plans. Pipe and gravel use ASTM 2729



Arkansas Department of Health Environmental Health Protection

Receipt No.	

Individual Onsite Wastewater System Installation Specifications

(Must be signed and returned to ADH Authorized Agent within five working days.)

(9								,				
Name of Applicant									TB = Trench Bottom Elevation PE = Top of Pipe Elevation				
Location of System									GE = Ground Elevation				
Name of Installer Lice					Licens	FL = Flow Line TE = Tank Lid B			Elevation (Top of Pipe Elev. + 4") Elevation				
			1				Dr	awdown		- 1			
Septic Tank S	Size	Gal	Dose Tank Size			Gal	Inches			Benchmark			
Type of Syste	em						Nu Lin	mber and Length of at				ft	
Orifice Head		ft	Pump	Run	min		sec	Pump R	Pump Rest min			sec	
Trench Media	1							Trench W	ıatn				
Stub-out			FL					GE					
Tank Inlet	FL	GE		TE		Dose Tan	k Inle	t FL		GE		TE	
Tank Outlet	FL	GE		TE		Dose Tan	k Out	let FL		GE		TE	
								<u> </u>					
D-box Inlet	FL	GE		D-box Outl	let FL		GE		Other Devices	GE		PE	
									2011000			1	
Line 1										1			
Line Length				Beginning				Middle			End	d	
		ТВ				ТВ				ТВ			
		GE	<u> </u>			GE				GE			
Line 2													
Line Length				Beginning				Middle			End	d	
		ТВ	i			ТВ				ТВ			
		GE				GE				GE			
Line 3													
Line Length			Beginning				Middle		End				
		ТВ				TB				ТВ			
		GE				GE				GE			
Line 4		•											
Line Length			Beginning				Middle			End			
		TE	ТВ			ТВ	ТВ			ТВ			
			GE				GE			GE			

			Receipt No.
Line 5			
Line Length	Beginning	Middle	End
	ТВ	ТВ	ТВ
	GE	GE	GE
Line 6		Middle	
Line Length	Beginning		End
	ТВ	ТВ	ТВ
	GE	GE	GE
Line 7			
Line Length	Beginning	Middle	End
	ТВ	ТВ	ТВ
	GE	GE	GE
Line 8		·	·
Line Length	Beginning	Middle	End
<u> </u>	ТВ	ТВ	ТВ
	GE	GE	GE
Line O	<u> </u>		
Line 9 Line Length	Beginning	Middle	End
	ТВ	ТВ	ТВ
	GE	GE	GE
Line 10			
Line Length	Beginning	Middle	End
	ТВ	ТВ	ТВ
	GE	GE	GE
Environmental Health 6	Propielist		Data
Environmental Health S	specialist		Date
I have installed this sys	tem as designed and in compliance with	all Rules and Regulations Pertaining	ng to Onsite Wastewater Systems.

License Number

Date

Installer Signature