

Arkansas Department of Health
Environmental Health Protection

Receipt Number

17444/91

Individual Onsite System Permit Application

Permit Type

New Installation

X Alteration / Repair

Fee Schedule for Structures		✓
Structures 1500 sq ft or less	\$ 30.00	☐
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	\$ 90.00	☐
Structures more than 3000 sq ft and up to 4000 sq ft	\$120.00	☐
Structures more than 4000 sq ft	\$150.00	☐
Alteration and Repair	\$ 30.00	X

DR Environmental I.D. #

0 0 2 9 0 0 0 0 0 2

Part 1 Treatment Type (check one)

Disposal Method (check one)

☒ STD = Standard Septic Tank	☐ ATU = Aerobic Treatment Plant	☒ STD = Standard Absorption Field	☐ LPD = Low Pressure Distribution
☐ ISF = Intermittent Sand Filter	☐ RSF = Re-circulating Sand Filter	☐ SUR = Surface Discharge	☐ HLD = Holding Tank
☐ PMF = Proprietary Media Filter	☐ RGF = Re-circulating Gravel Filter	☐ CPF = Capping Fill	☐ SRL = Serial Distribution
☐ OTH = Other (Describe)	☐ HLD = Holding Tank	☐ OTH = Other	☐ DRP = Drip Irrigation

1. Owner's/Applicant's Name Lindsay Dent, Parkway Acres Mobile Park		2. Phone Number 870-425-4700	
3. Mailing Address 393 CR 916 #7 Mtn. Home, AR 72653		4. County Baxter	
5. Address of Proposed System (If a 911 address is not available, attach detailed directions or map.) Mtn. Home, Hwy 5N approx. 3.2 mi. to CR 916, go 0.4 mi to park on right. See map.			
6. Subdivision Name Parkway Acres		7. Approval Date N/A	8. Date Recorded May 1970
9. Lot Number 1,2,3,4,5,6+ 7.24ac		10. Lot Dimensions See attached survey	
11. Total Area (Acres) Approx. 9.5 acres		12. # Bedrooms # People 2.5 year Avg. 2809	
13. Daily Flow (GPD)			
14. Brief Legal Description of Property (Attach a separate sheet of paper if necessary.) E 1/2 SW 1/4 Sec. 36-T20N-R14W			
15. Water Supply (Specify supplier if Public Water.) Lakeview Midway Water		16. GPS Coordinates 36.357731° 36.358007° -92.434690° -92.435081°	
17. Soil Determination (Primary Area) Indicate the depth to items a-f if observed in the soil (designate inches).			
a. Bedrock	b. BSWT	c. MSWT	d. LSWT
#3 48"	*9"	24"	26"
e. Adj. MSWT	f. Adj. LSWT	g. H.C./Depth	h. Loading Rate (GPD/ft²)
N/A	25"	Mod. 24	.30
18. Soil Determination (Secondary Area) Indicate the depth to items a-f if observed in the soil (designate inches).			
a. Bedrock	b. BSWT	c. MSWT	d. LSWT
#1&2 48"	*9.5"	21"	25"
e. Adj. MSWT	f. Adj. LSWT	g. H.C./Depth	h. Loading Rate (GPD/ft²)
N/A	23"	Mod. 21	.25
19. Percolation Test (min/in) 20. System Size			
Rate for Hole 1	N/A	a. Size of Septic Tank	Existing gal
Rate for Hole 2	N/A	b. Size of Dose Tank	Existing gal
Rate for Hole 3	N/A	c. Absorption Area "C"	New 1200 ft²
Alt Area Perc.	N/A	d. Number of Field Lines	6
Average Perc. (1-3)	N/A	e. Length of Field Lines	100 ft
Comments		f. Trench Depth	18 inches
* Curtain drain required to eliminate BSWT.		g. Trench Spacing	10 feet
Add new separate Drain field C, K - Rain Indexing Valve, Three Aquaworx Remediators, and replace d-box on Drain field B.		h. Trench Media	Trench Width
		Pipe & Gravel	24 in.
		Flow 1204P	18 in.

21. I certify that I have conducted the above tests and that the above listed information is in accordance with the latest requirements of the Arkansas Department of Health Rules and Regulations Pertaining to Onsite Wastewater Systems, Designated Representatives and Installers.

Signature
Gary Meador
Typed Name

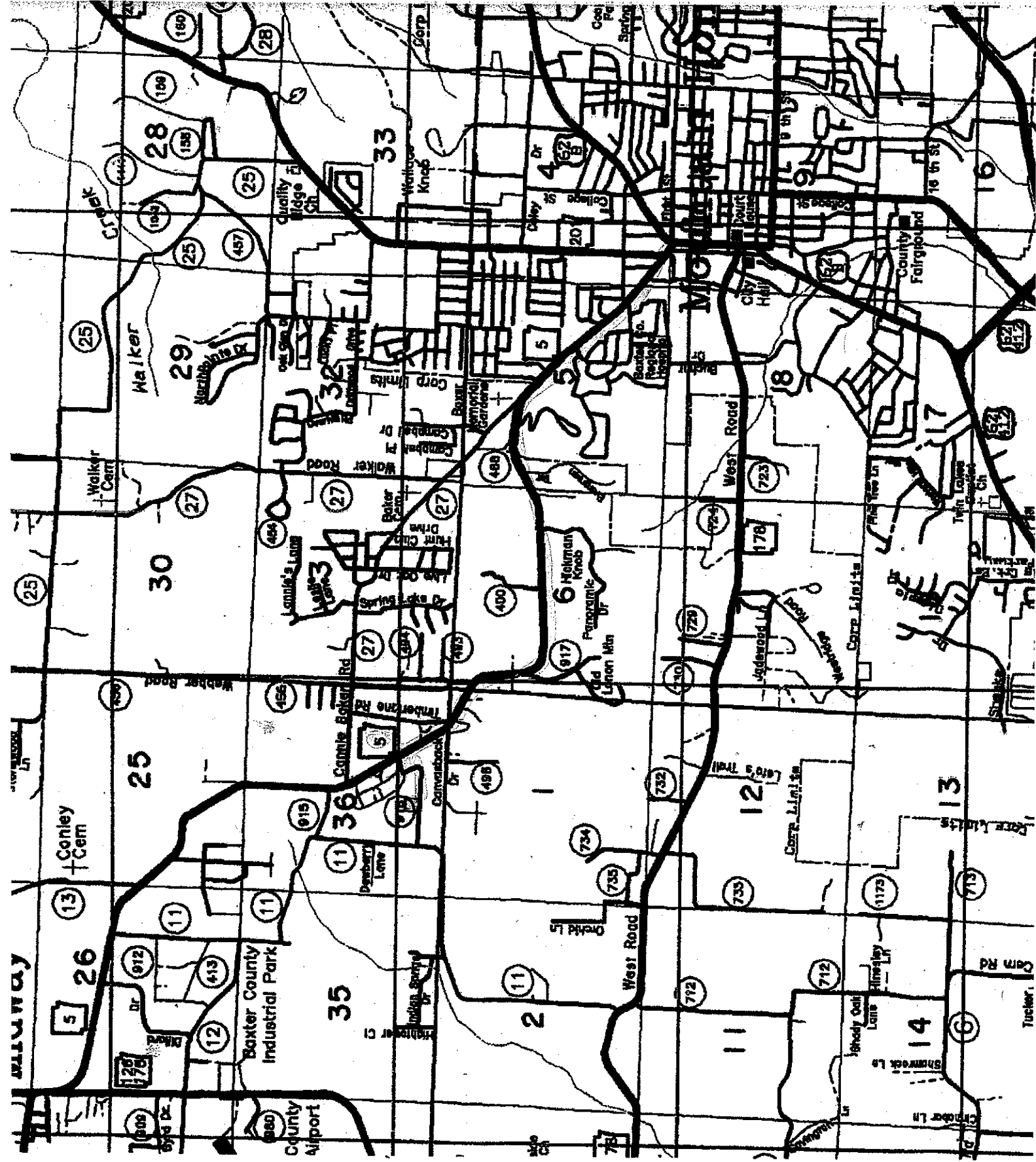
R.S. 314
Title
8-15-11
Date

Soil Certified X Yes No
870-404-1144
Phone Number

22. Approval of Health Authority: The information above has been reviewed and found to meet the requirements of the Arkansas Department of Health for Onsite Wastewater Systems, Designated Representatives and Installers.

A PERMIT FOR CONSTRUCTION is hereby issued.

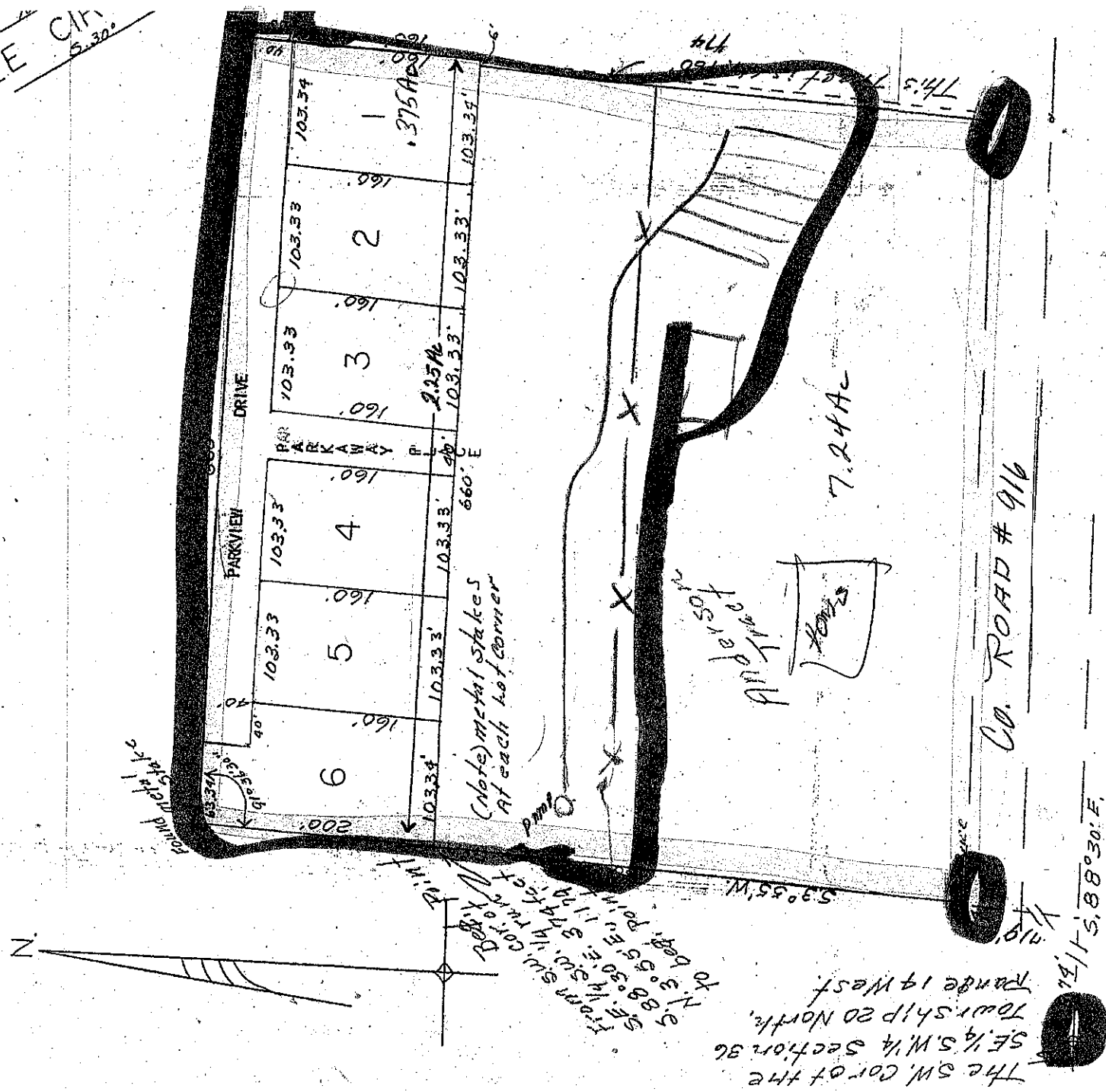
Environmental Health Specialist J. Mark Medley RS #855 Date 8-29-11



PARKWAY ACRES

A SUBDIVISION OF A PART OF THE E. $\frac{1}{2}$ S. W. $\frac{1}{4}$ SECTION 36 TOWNSHIP 20 NORTH, RANGE 14 WEST
BAXTER COUNTY, ARKANSAS

LEE C. 5.30



05/02/1

STATE OF ARKANSAS COUNTY OF BAXTER
DEDICATION

WE, THE UNDERSIGNED, BEING THE FEE OWNERS OF THE PROPERTY SHOWN HEREON,
HAVE CAUSED THE SAME TO BE SURVEYED, SUBDIVIDED AND PLATTED AS SHOWN. WE
HEREBY DEDICATE TO THE USE OF THE PUBLIC FOREVER THE USE OF ALL THE STREETS
AND ROADS SHOWN HEREON.

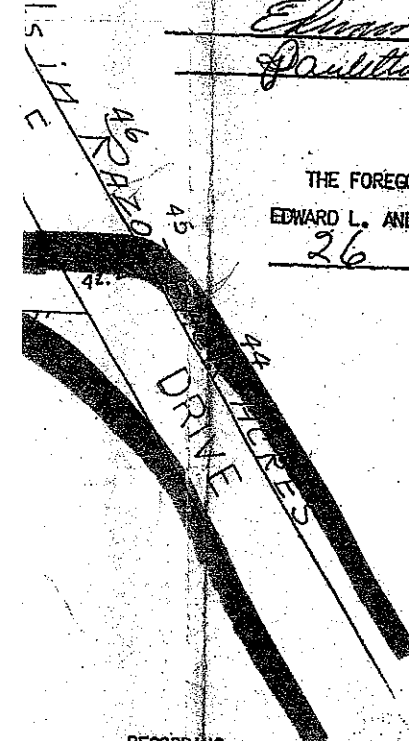
Edward L. Anderson
Pauletta D. Anderson

ACKNOWLEDGEMENT

THE FOREGOING DEDICATION WAS SIGNED AND ACKNOWLEDGED BY
EDWARD L. ANDERSON AND PAULETTA D. ANDERSON BEFORE ME THIS
26 DAY OF May, 1970.

Shirley C. Shirell
NOTARY PUBLIC

MY COMMISSION EXPIRES June 18, 1972



RECORDING

HIS PLAT FILED FOR RECORD IN MY OFFICE 3:45 O'CLOCK THIS 26 DAY OF
May, 1970. RECORDED IN PLAT BOOK # 182-A

Shirley C. Shirell
COUNTY CLERK

EX-OFFICIO RECORDER

CERTIFICATE OF SURVEY

I CERTIFY THAT I HAVE SURVEYED, SUBDIVIDED AND PLATTED THAT PART OF
THE E. $\frac{1}{2}$ S. W. $\frac{1}{2}$ SECTION 36 TOWNSHIP 20 NORTH, RANGE 14 WEST, AS SHOWN
HEREON. ALL LINES AND MEASUREMENTS ARE TRUE AND ACCURATE TO THE BEST
OF MY KNOWLEDGE AND BELIEF.

April 27, 1970

Warren H. Goforth
WARREN H. GOFORTH
SURVEYOR

WARREN H. GOFORTH
REGISTERED
LAND SURVEYOR
STATE OF
ARKANSAS
NO. 59

16480

43,890

64

Lakeview Midway Public Water

Customer History

11:42:55 AM

8/8/2011

Account Number: 01014880

Customer Name: PARKWAY ACRES MOBILE

Service Address: 393 CR 916, MH

Detail Section 1

Date	Cur Mtr Reading		Date	Prv Mtr Rdg	Date	Cons.	Prev. Bal.	Returned Cks. (Info ONLY)
393 CR 916, MH								
07/2011	48125	R	07/15/2011			115,200		
06/2011	46973	R	06/15/2011			96,500		
05/2011	46008	R	05/13/2011			80,600		
04/2011	45202	R	04/15/2011			110,100		
03/2011	44101	R	03/16/2011			103,700		
02/2011	43064	R	02/15/2011			86,700		
01/2011	42197	R	01/14/2011			62,000		
						654,800	/7 = 93,542 Avg Mo./30 days	= 3118 GPD
12/2010	41577	R	12/15/2010			66,300		
11/2010	40914	R	11/15/2010			71,800		
10/2010	40196	R	10/15/2010			66,800		
09/2010	39528	R	09/20/2010			83,100		
08/2010	38697	R	08/20/2010			142,600		
07/2010	37271	R	07/20/2010			227,000		Leak Not used
06/2010	35001	R	06/21/2010			133,700		
05/2010	33664	R	05/20/2010			81,400		
04/2010	32850	R	04/20/2010			85,500		
03/2010	31995	R	03/18/2010			56,700		
02/2010	31428	R	02/19/2010			43,000		
01/2010	30998	R	01/20/2010			43,100		
						1,101,000 - 227,000 = 874,000	/11 = 79,454 Avg Mo./30	= 2648 GPD
12/2009	30567	R	12/21/2009			36,000		
11/2009	30207	R	11/20/2009			43,300		
10/2009	29774	R	10/20/2009			52,700		
09/2009	29247	R	09/21/2009			57,800		
08/2009	28669	R	08/20/2009			78,500		
07/2009	27884	R	07/22/2009			104,100		
06/2009	26843	R	06/22/2009			110,800		
05/2009	25735	R	05/20/2009			88,100		
04/2009	24854	R	04/20/2009			104,800		
03/2009	23806	R	03/20/2009			86,700		
02/2009	22939	R	02/20/2009			69,000		
01/2009	22249	R	01/20/2009			127,000		
						958,600	/12 = 79,833 Avg Mo./30	= 2661 GPD

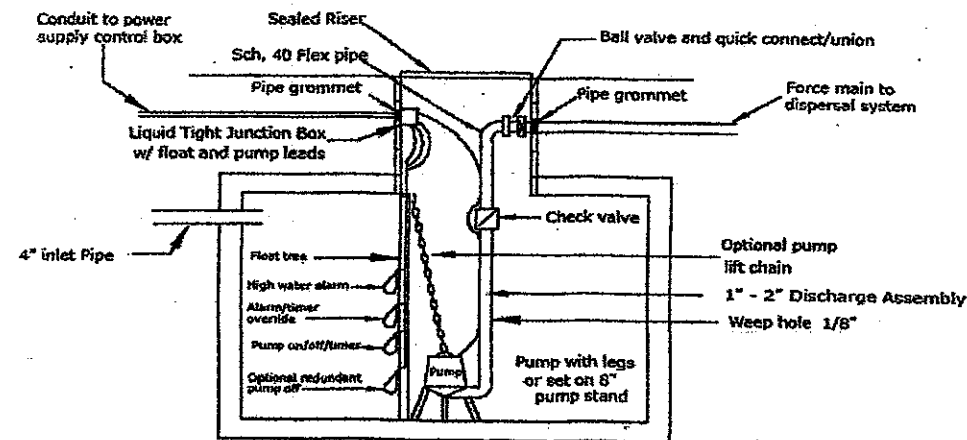
total 8427

8427/3 =

2.5yr. avg. 2809 GPD

Standard Pump / Dose Calculation Worksheet

"Existing" Pump Tank



To calculate Gallons per minute:

- Gallons per day ÷ loading rate _____ sq. ft. (Example: 370 gpd ÷ .75 = 493.33 or 494 sq. ft.)
- Square footage required for system x dose rate. Specify Dose Rate 1200 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 = _____ gpm calculated. Recommended minimum pump run time is 2 minutes. Calculated pump run time _____ 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:

- Ground elevation of distribution device 5'0 - (minus) Ground elevation pump/ dose tank (-39') = 34'
+ "Pump off" elevation in dose chamber / tank to ground (typically 4.25 ft) 38.25' = (Elevation / Static Head)
- Distance to be pumped 640' Pipe Size: 2". Calculate Friction Loss (Use Table on back of page)
26.34 Friction loss.
- Add additional headloss for distribution device if not using d-box: 4.0. Attach calculation sheet for the device.
- Total Head (TDH) 68.6. (Elevation / Static Head) + Friction Loss + Distribution device (if needed) = Total Head

Pump Selected (brand, model) Zoeller E191 Attach pump curve and spec sheet. "Existing"

Alarm Selected (brand, model) Goulds A4-7 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" = 1152 inches ÷ 231 = 4.98 or 5 gals/ inch)

Drawdown: _____ gallons per inch in tank. Drawdown in inches per dose _____.

Set pump float and alarm float. (Maintain a minimum of 1 inch difference between the pump "on/off" float and the alarm float.

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	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	0.04
30	-	-	46.08	11.85	5.53	1.62	0.23	0.06
35	-	-	-	15.76	7.36	2.15	0.31	0.08
40	-	-	-	20.18	9.43	2.75	0.41	0.11
45	-	-	-	25.1	11.73	3.43	0.51	0.17
50	-	-	-	30.51	14.25	4.16	0.61	0.16
60	-	-	-	-	19.98	5.84	0.85	0.22
70	-	-	-	-	-	7.76	1.13	0.31
75	-	-	-	-	-	8.82	1.28	0.34
80	-	-	-	-	-	9.94	1.44	0.38
90	-	-	-	-	-	12.37	1.8	0.47
100	-	-	-	-	-	15.03	2.18	0.58

***** Don't forget to add 20% for fittings*****

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

Force main 640 ft x .20 = 128 + force main 640 = equivalent pipe length 768

Equivalent pipe length 768 ÷ 100 = 7.68 x Friction loss 3.43 = Friction Headloss 26.34

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 weighs = 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)

"QUALITY PUMPS SINCE 1939"

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



MAIL TO: P.O. BOX 16347 • Louisville, KY 40256-0347
SHIP TO: 3649 Cane Run Road • Louisville, KY 40211-1961
(502) 778-2731 • 1 (800) 928-PUMP • FAX (502) 774-3624

visit our web site:
www.zoeller.com

SECTION: 2.20.060

FM0659

1110

Supersedes

0108

COMPARE THESE FEATURES

- Non-clogging vortex impeller design bronze class 88-8-0-4 (180 Series).
- Enclosed impeller design (191 Series).
- Float operated, submersible (NEMA 6) 2-pole mechanical switch.
- Durable cast construction. Cast iron switch case, base, motor and pump housing. No sheet metal parts to rust or corrode.
- Stainless steel screws, bolts, float rod, handle, guard, arm and seal assembly.
- 20 ft. UL Listed 3-wire neoprene cord and plug. Extra cord lengths available in 25-35-50 foot length only.
- Motor - 60 Hz, 3450 RPM, oil-filled, hermetically sealed, automatic reset, thermal overload protected (1 Ph only).
- Maximum temperature for effluent or dewatering 130°F (54°C), WD189 120°F (49°C).
- Variable level control systems available.
- Square Ring & Gasket - Neoprene.
- Shaft Seal - Stainless steel carbon & ceramic rotary.
- Upper sleeve bearing and lower ball bearing running in bath of oil.
- All 180/4180 series pass 3/4 inch spherical solids. Model 191 pump passes 5/8 inch spherical solids.
- On point 14 3/4" • Off point 5" (automatic units).
- Major width 12 3/4" • Height 18 7/16" (single seal pumps).
- 1 1/2" NPT discharge with 2" or 3" flange available (model 191 is not available with 3" flange).
- Corrosion resistant powder coated epoxy finish.

MODELS 4185-4186-4188-4189

DOUBLE SEAL PUMPS (Nonauto only)

- Protects motor from seal leaks.
- Improved bearing lubrication.
- Helps eliminate seal and bearing damage from dry runs.
- Major width 12 3/4" • Height 20 7/16".

Note: The sizing of effluent systems normally requires variable level float(s) controls and properly sized basins to achieve required pumping cycles or dosing timers with nonautomatic pumps.

AUTOMATIC UNITS NOT RECOMMENDED FOR USE IN EFFLUENT SYSTEMS

*NOTE: No UL Listing for 200/208 1 Phase Pumps, Model 185 & 191, or Double Seal Series. See Back Page for UL & CSA Listings

Nonautomatic Model for variable level systems

185 - 186 - 188 - 189 Single Seal Series 4185 - 4186 - 4188 - 4189 Double Seal Series 191 Single Seal Drip Pump (For Pump Prefix Identification see News & Views 0052)



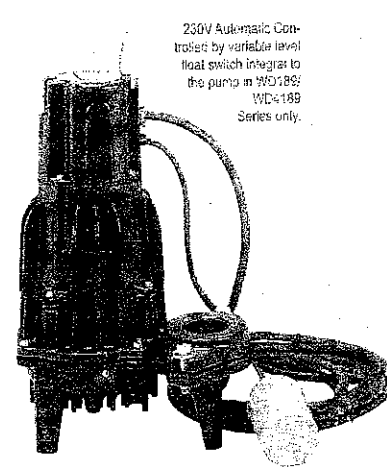
Tested to UL Standard UL778
& Certified to CSA
Standard C22.2 No. 108



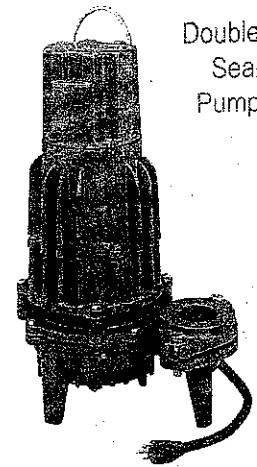
HIGH HEAD
"FLOW-MATE"
FOR SEPTIC TANK • LOW PRESSURE PIPE (LPP)
AND ENHANCED FLOW STEP SYSTEMS



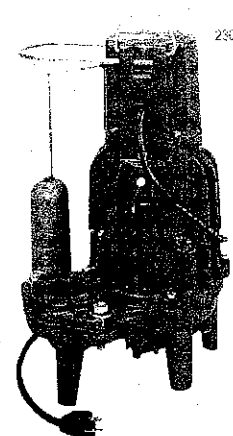
EFFLUENT
OR DEWATERING PUMP • SUBMERSIBLE
1 1/2" NPT DISCHARGE STANDARD • 2" or 3" FLANGE AVAILABLE



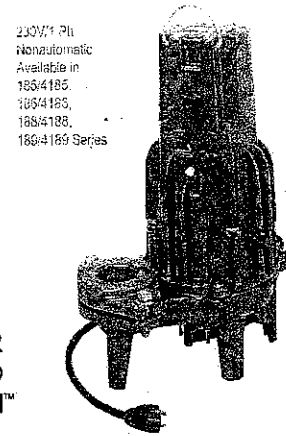
230V Automatic Controlled by variable level float switch integral to the pump in WD185/WD189 Series only.



Double Seal Pump

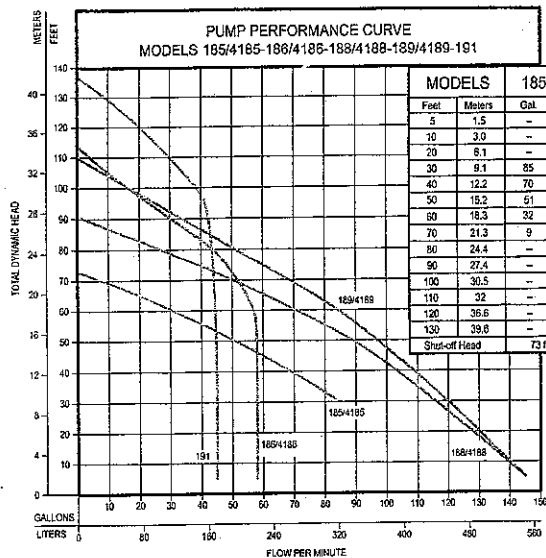


230V/1 Ph Automatic Available in 185, 186, 188, 189 Series



230V/1 Ph Nonautomatic Available in 185/4185, 186/4186, 188/4188, 189/4189 Series



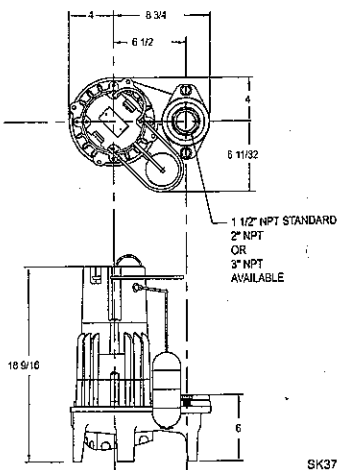


MODELS		185/4185		186/4186		188/4188		189/4189		191	
Feet	Meters	Gal.	Liters	Gal.	Liters	Gal.	Liters	Gal.	Liters	Gal.	Liters
5	1.5	—	—	58	220	145	549	145	549	45	170
10	3.0	—	—	58	220	140	530	140	530	45	170
20	6.1	—	—	58	220	128	484	120.5	454	45	170
30	9.1	85	322	58	220	116	439	120	454	45	170
40	12.2	70	265	58	220	103.5	392	109	413	45	170
50	15.2	51	193	58	220	90	341	97	367	45	170
60	18.3	32	121	58	220	74	289	85	322	45	170
70	21.3	9	34	52	197	51	193	69	261	45	170
80	24.4	—	—	45	170	28	106	51	193	45	170
90	27.4	—	—	30.5	115	2	8	34	129	45	170
100	30.5	—	—	18	69	—	—	17	64	40	151
110	32	—	—	4	15	—	—	—	—	30	114
120	35.6	—	—	—	—	—	—	—	—	20	76
130	39.6	—	—	—	—	—	—	—	—	10	38
Shutoff Head		73 ft. (22m)		114 ft. (35m)		91 ft. (28m)		110 ft. (34m)		137 ft. (42m)	

009903

WARNING: Model 185 should not be subjected to heads less than 30 feet TDH.

Single Seal-180 Series Automatic Design Weight 82-89 lbs.



SK374

185 MODELS		4185 MODELS		Standard all models - 20 ft. cord - 1 HP				Control Selection		Listings	
Single Seal	Double Seal	Volts	Ph	Mode	Amps	Simplex	Duplex	CSA	UL		
D185	—	230	1	Auto	9.8	1	—	Y	Y		
E185	E4185	230	1	Non	9.8	2 or 3	4	Y	Y		
* H185	—	200	1	Auto	11.5	1	—	N	N		
* I185	* I4185	200	1	Non	11.5	2 or 3	4	N	N		
* F185	* F4185	230	3	Non	7.4	3 & 5	4 & 5	Y	Y		
* J185	* J4185	200	3	Non	7.5	3 & 5	4 & 5	Y	Y		
* G185	* G4185	460	3	Non	3.7	3 & 5	4 & 5	Y	Y		
* BA185	—	575	3	Non	3.3	3 & 5	4 & 5	Y	N		

186 MODELS		4186 MODELS		Standard all models - 20 ft. cord - 1 1/2 HP				Control Selection		Listings	
Single Seal	Double Seal	Volts	Ph	Mode	Amps	Simplex	Duplex	CSA	UL		
D186	—	230	1	Auto	13.7	1	—	Y	N		
E186	E4186	230	1	Non	13.7	2 or 3	4	Y	N		
* H186	—	200	1	Auto	17.2	1	—	Y	N		
* I186	* I4186	200	1	Non	17.2	2 or 3	4	Y	N		
* F186	* F4186	230	3	Non	9.2	3 & 5	4 & 5	Y	N		
* G186	* G4186	460	3	Non	4.6	3 & 5	4 & 5	Y	N		

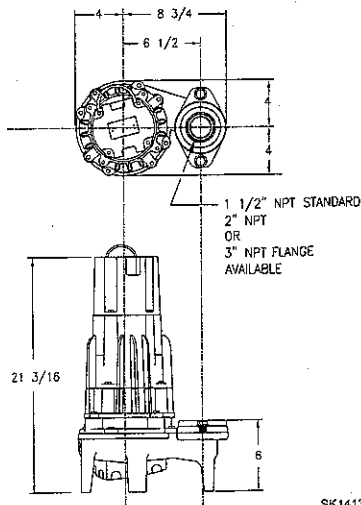
188 MODELS		4188 MODELS		Standard all models - 20 ft. cord - 1 1/2 HP				Control Selection		Listings	
Single Seal	Double Seal	Volts	Ph	Mode	Amps	Simplex	Duplex	CSA	UL		
D188	—	230	1	Auto	14.0	1	—	Y ⁽²⁾	Y ⁽¹⁾		
E188	E4188	230	1	Non	14.0	2 or 3	4	Y	Y ⁽¹⁾		
* H188	—	200	1	Auto	16.8	1	—	Y	N		
* I188	* I4188	200	1	Non	16.8	2 or 3	4	Y	N		
* F188	* F4188	230	3	Non	8.9	3 & 5	4 & 5	Y	Y		
* J188	* J4188	200	3	Non	10.3	3 & 5	4 & 5	Y	Y		
* G188	* G4188	460	3	Non	4.6	3 & 5	4 & 5	Y	Y		
* BA188	—	575	3	Non	3.5	3 & 5	4 & 5	Y	N		

189 MODELS		4189 MODELS		Standard all models - 20 ft. cord - 2 HP				Control Selection		Listings	
Single Seal	Double Seal	Volts	Ph	Mode	Amps	Simplex	Duplex	CSA	UL		
⁽³⁾ D189	—	230	1	Auto	17.1	1	—	Y ⁽²⁾	Y ⁽¹⁾		
⁽³⁾ E189	⁽³⁾ E4189	230	1	Non	17.1	2 or 3	4	Y ⁽²⁾	Y ⁽¹⁾		
* H189	—	200	1	Auto	20.5	1	—	Y	N		
* I189	* I4189	200	1	Non	20.5	2 or 3	4	Y	N		
* F189	* F4189	230	3	Non	11.2	3 & 5	4 & 5	Y	Y		
* J189	* J4189	200	3	Non	13.2	3 & 5	4 & 5	Y	Y		
* G189	* G4189	460	3	Non	6.0	3 & 5	4 & 5	Y	Y		
* BA189	—	575	3	Non	5.8	3 & 5	4 & 5	Y	N		
⁽³⁾ WD189	* WD4189	230	1	Auto	17.1	1	4	N	N		

191 MODEL		Standard all models - 20 ft. cord - 2 HP				Control Selection		Listings	
Single Seal	Double Seal	Volts	Ph	Mode	Amps	Simplex	Duplex	CSA	UL
E191	—	230	1	Non	14.5	2 or 3	4	N	N

* No Molded Plug.
(1) UL Listed unit available with 20 Amp plug.
(2) CSA Approval with 20 Amp plug.
(3) 20 Amp Outlet, P/N 10-0060 must be used.

Double Seal-4180 Series / Weight 89-94 lbs.



SK1413

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.
5. Variable level control switch 10-0743 used as a control activator, specify simplex (3) float or duplex (4) float system. Refer to FM0526.

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).

For information on additional Zoeller products refer to catalog on Piggyback Variable Level Float Switches, FM0477; Electrical Alternator, FM0486; Mechanical Alternator, FM0495; Sump/Sewage Basins, FM0487; Simplex Pump Control, FM1596; Alarm Systems, FM0732; and Disconnect/Rail Systems, FM0787.

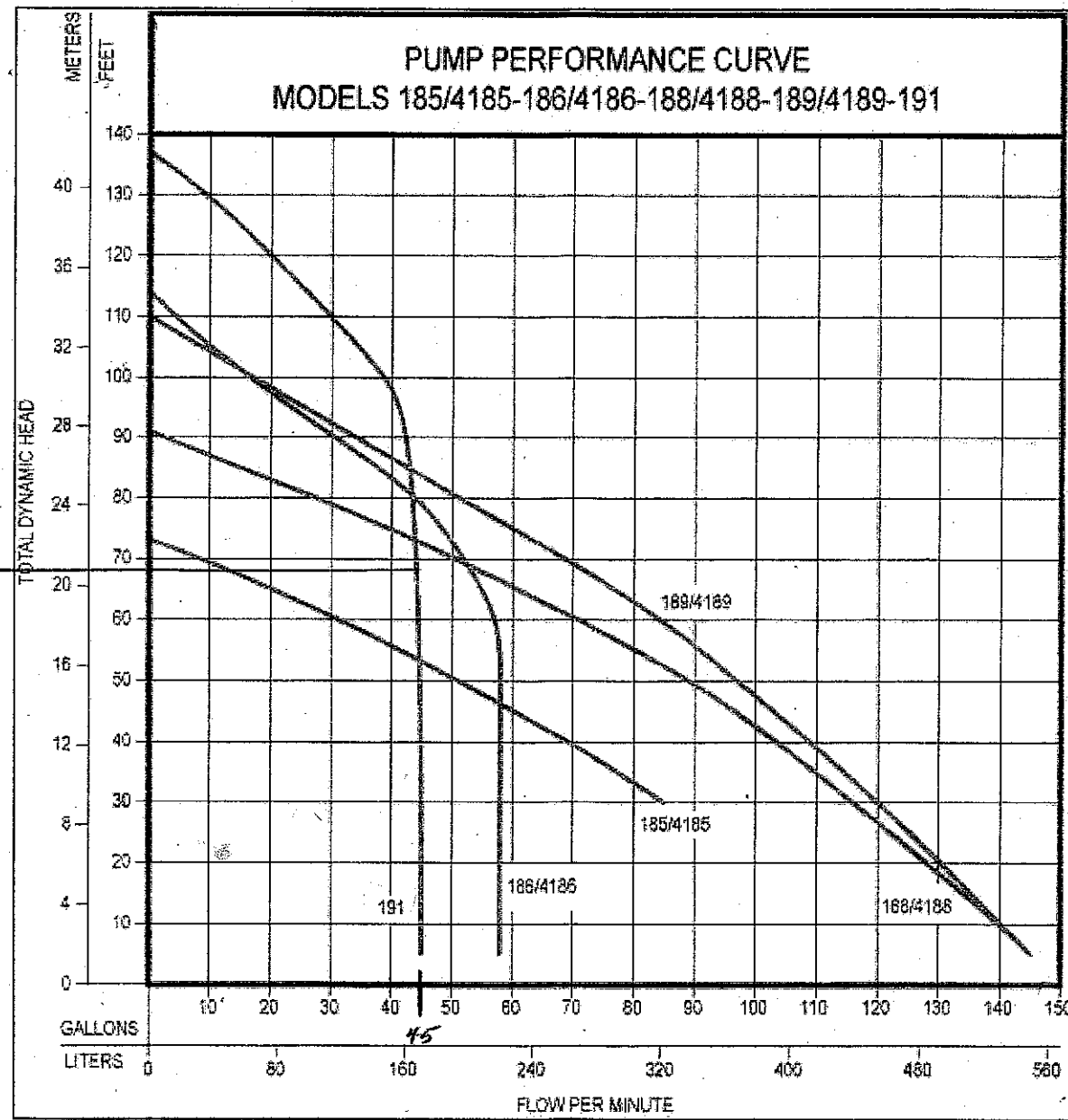
RESERVE POWERED DESIGN

For unusual conditions a reserve safety factor is engineered into the design of every Zoeller pump.

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68.6'



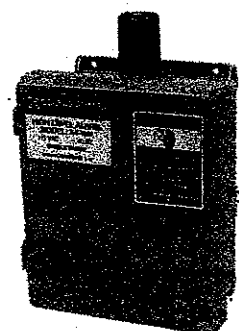
Pump Performance curve Models 185/4185, 186/4186, 188/4188, 189/4189, 191

Indoor and Outdoor Level Alarm Panels



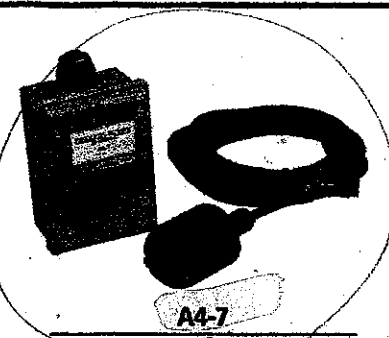
A4-1

- UL and CSA Listed
- Provides warning of high liquid level conditions when used with a Normally Open (N.O.) float switch. Use a Normally Closed (N.C.) switch for low level warning.
- Single phase, 120 volt, 60 hertz power required.
- NEMA 1 painted steel enclosure suitable for indoor use.
- Dimensions are 8" x 8" x 4"
- Alarm bell, 88db @ 10' (3 meters).
- Red warning light (non-flashing) on panel front.
- Power On light.
- Off/On reset switch through door.
- Does not control or interface with pump.
- Alarm bell and light stay on until reset even if level goes down.
- Operates even if pump circuit fails when wired on separate circuit.
- Float switch required, order switch separately (N.O. = A2K23W mercury or A2D11 mechanical, N.C. for low level alarm = A2E23U mechanical).



A4-1 N4

- UL and CSA Listed
- Provides warning of high liquid level conditions when used with a Normally Open (N.O.) float switch. Use a Normally Closed (N.C.) switch for low level warning.
- Single phase, 120 volt, 60 hertz power required.
- NEMA 4X fiberglass, corrosion resistant, weatherproof enclosure suitable for outdoor use and damp environments.
- Dimensions are 14" (includes light) x 10" x 5.5"
- NEMA 4X alarm buzzer, 95db @ 2' (6 meters).
- NEMA 4X flashing alarm light on top of panel provides up to 360° signal depending on mounting.
- Power On light inside enclosure.
- Off/On reset switch inside enclosure.
- Locking hasp on door.
- Does not control or interface with pump.
- Alarm bell and light stay on until reset even if level goes down.
- Operates even if pump circuit fails when wired on separate circuit.
- Float switch required, order switch separately (N.O. = A2K23W mercury or A2D11 mechanical, N.C. for low level alarm = A2E23U mechanical).



A4-7

- UL and CSA Listed
- The Tank Alert® XT with junction box feature can be used as a high level alarm in lift chambers, sump pump basins and holding tanks.
- Single phase, 120 volt, 60/50 hertz power supply required, 7 watts maximum during alarm condition.
- Enclosure meets Type 3R water-tight standards, listed for indoor or outdoor use under UL standard 864.
- Dimensions are 6.5" x 4.5" x 3.0"
- Equipped with terminal strip to serve as a junction box.
- Alarm horn sounds at 82db @ 10' (3 meters).
- Alarm beacon meets Type 3R standards.
- Automatic alarm reset, alarm test switch and horn silence switch.
- Mechanical Signal Master® N.O. float switch with 15', 18 gauge, 2 conductor SJOW (UL) cord is rated for a maximum fluid temperature of 140° F (60° C).
- Does not control or interface with pump.
- Operates even if pump circuit fails when wired on separate circuit.



A4-2

- CSA Listed
- Provides warning of high liquid level condition.
- NEMA 1 indoor steel enclosure.
- Dimensions are 6" x 4" x 2.5"
- Single phase, 115 volt, 60 hertz power supply required.
- Unit has a 6', 18/3 power cord with a 115 volt, molded NEMA three prong grounding plug.
- Alarm buzzer sounds at 86db @ 10' (3 meters).
- Red warning light (non-flashing) and alarm push to test button.
- Power On light.
- Alarm reset/silence switch.
- N.O. mechanical float switch with 10' SJOW Neoprene water resistant jacket.
- Does not control pump operation.
- Operates even if pump circuit fails when wired on separate circuit.

MODELS

Four Outlet Models

6402	Cammed for 2 Zone Operation
6403	Cammed for 3 Zone Operation
6404	Cammed for 4 Zone Operation

Six Outlet Models

6605	Cammed for 5 Zone Operation
6606	Cammed for 6 Zone Operation

OTHER OPTIONS: ADD TO PART NUMBER

RCW	Reclaimed Water Use
-----	---------------------

SPECIFICATIONS

Construction:
Valve Top/Housing: Die Cast Metal
Valve Outlets: High Strength ABS Polymer

Flow Range: 15-150 GPM

Pressure Rating: 25 - 150 PSI

Pressure Loss:

4 Outlet Valve:	Flow (GPM)	20	40	60	80	100
	PSI Loss	2.5	3.5	5.0	7.5	10.0
6 Outlet Valve:	Flow (GPM)	20	40	60	80	100
	PSI Loss	3.0	4.0	6.0	9.0	11.0

Inlet: Threaded 1-1/2" NPT Connection

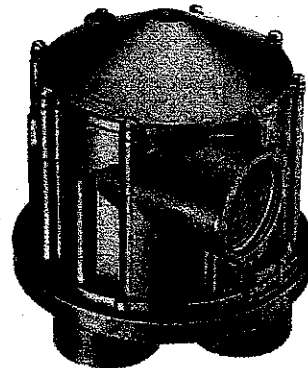
Outlets: Slip and Glue Connections to 1-1/2" PVC Pipe

Dimensions: HEIGHT: 7", WIDTH: 8"

6000 INDEXING VALVE

The 6000 line of indexing valves offers exceptional reliability and durability even under the dirtiest water conditions.

FOR MORE INFORMATION
ON RCW PRODUCTS, PLEASE
SEE PAGES 36 AND 37.



FEATURES/BENEFITS

Metal Die-Cast Body—Durable, long lasting, and capable of high pressure applications.

Available in 4 and 6 Outlet Models—Can quickly and easily change from two to six watering zones.

Simplicity of Design—Valves are easily maintained and serviced for long product life.

Operates at 15 GPM at Pressures of 25–150 PSI— Ideal for pump-fed systems or high-flow city water systems.

Built-in Atmospheric Vacuum Breaker—Releases any vacuum created between the pump and the valve on shut down.

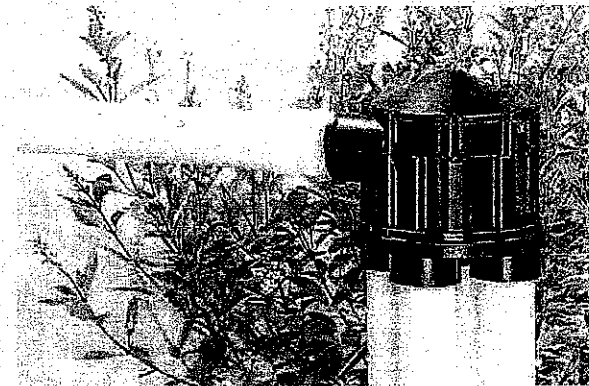
Two Year Limited Warranty.

K-RAIN MODEL 6000 INDEXING VALVE

With a metal die-cast body, the 6000 valves are capable of high pressure applications and are recommended to be used on pump fed systems or high-flow city water systems. The 6000 is also ideal for onsite wastewater and effluent water applications.

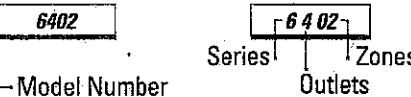
The 6000 valve is available in 4 or 6 outlet models that are cammed for 2 to 6 zone operation. With only one moving part (the stem and disc assembly), the valve is easily serviced and maintained.

The valve requires 15 GPM to operate and works at pressures from 25 to 150 PSI.



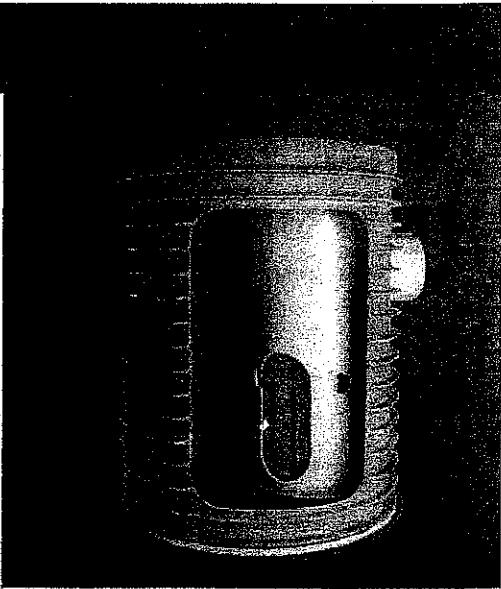
INDEX VALVES / RCW

HOW TO SPECIFY



External Effluent Filter Basins

Adding an effluent filter to an existing septic tank can improve a system's performance. If you can't use a Biotube filter in the tank because of small access openings or unusable outlet tees, Orenco's External Effluent Filter Basin can solve the problem. It consists of an 18-in. diameter section of ribbed PVC pipe with a fiberglass base and an 8-in. diameter Biotube effluent filter. You will need a grade ring insert (supplied), a riser (ordered separately), and a fiberglass lid (ordered separately) to bring the unit up to finished grade.



STANDARD MODELS

FTB1824-0812	18-in. diameter, 8-in. diameter Biotube filter
--------------	--

Selecting a Biotube® Effluent Filter

This chart shows the recommended Biotube filter, based on flow rate. It is assumed that the filter is installed in a watertight septic tank that provides at least three days' hydraulic retention time, so that the effluent has had primary treatment in the tank before flowing through the filter.

See Orenco document NDA-FT-FT-1 for more information.

Design flow rate* (gpd)	Recommended filter
600	FTJX0418
900	FT04-28
1200	FT04-36
1500	FT0822-14B
3500	FT08-36
7500	FT12-36

* At these design flow rates, cleaning intervals can be expected to be 2 to 3 years.
For actual flow rates from residential septic tanks, cleaning intervals typically exceed 5 years or more.
For detailed sizing criteria, contact Orenco.

THE AQUAWORX REMEDATOR

The Aquaworx Remedator rejuvenates most failing septic systems with minimal landscape disruption.

This unique solution is inserted into the existing septic tank and can reverse the biological clogging process causing the failure in as little as two weeks. The Aquaworx Remedator can rejuvenate most types of wastewater drainfield designs and is a simple, permanent solution that is inexpensive to install, operate and maintain.

STRUCTURE AND OPERATION.

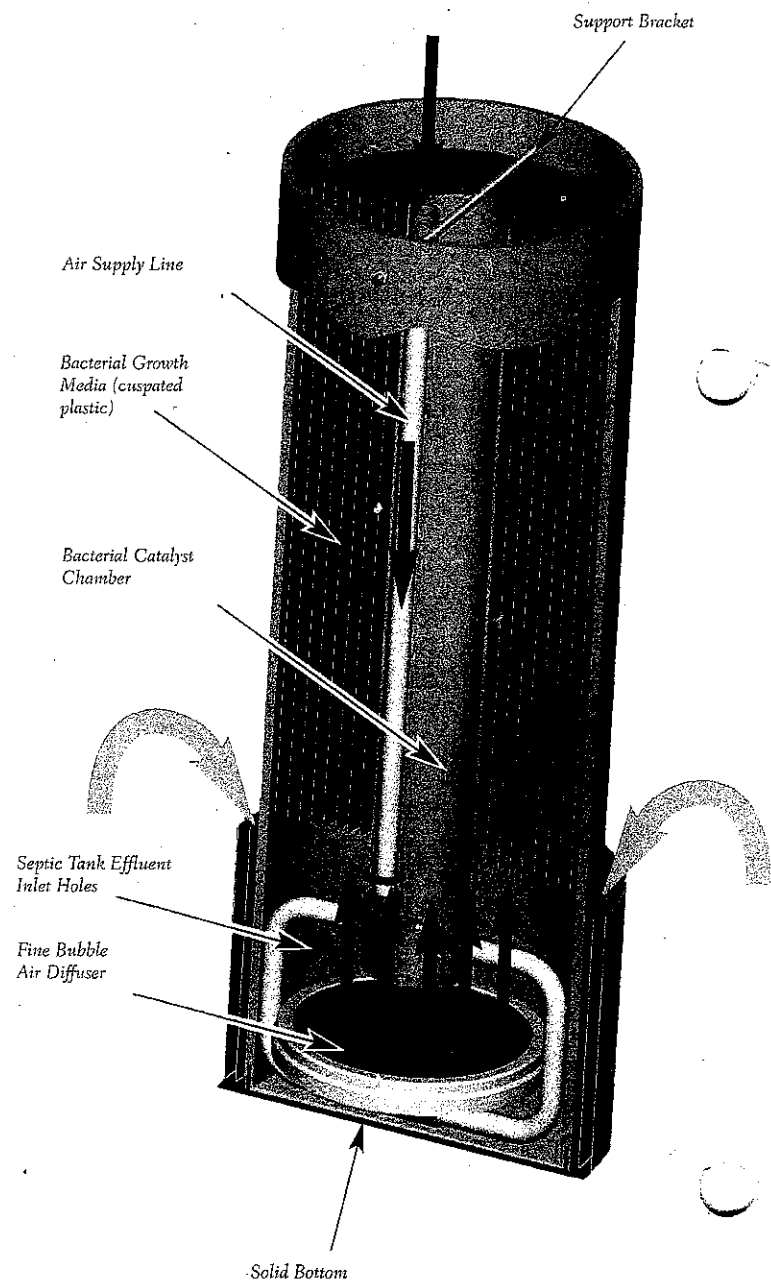
The Aquaworx Remedator is an airlift column.

Inside its structure, bacteria are introduced into the center column where they combine with the oxygen enriched effluent. The cusped plastic wrapped around the bottom outside and within the Aquaworx Remedator provides a substantial surface area for the colonization of bacteria.

Aerobic bacteria thrive within the tank and stimulate the reversal of the drainfield clogging process as they work to consume the organic matter. The end result is predictable, reliable drainfield remediation. The Aquaworx Remedator is not an Advanced Treatment Unit.

BENEFITS.

- Eliminates the need for complete drainfield replacement.
No heavy equipment, no landscape damage.
- Easy installation with hand tools means minimal disruption and a quick return on investment.
- Provides a non-invasive environmental solution that strengthens the natural process of wastewater treatment and groundwater recharge.
- Odors and wet areas in yards are eliminated in as little as two weeks.
- Permanent solution.
- Minimal cost to operate and maintain.

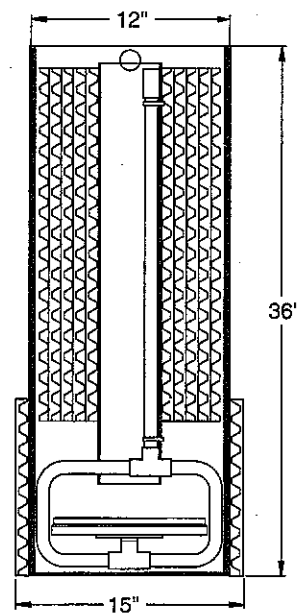


EASY TO INSTALL.



THE AQUAWORX REMEDIATOR.

- Column diameter at top: 12"
- Column diameter at base: 15"
- Total height: 36"
- Weight: 38 lbs.
- Handles flow of 600 gpd
- Air pump weight: 13 lbs.
- Air pump dimensions: 6.8" W x 8.2" L x 7.5" H
- Minimum depth of tank: 40"
- Maximum depth of tank: 84"
- Septic tank volume: minimum 500 gal., maximum 2,000 gal.
(Compartment Volume: minimum 250 gal.)



WHY CHOOSE AQUAWORX?

- **Industry Leader** – Aquaworx is a division of Infiltrator Systems, Inc., a leader in the onsite wastewater industry.
- **Quality Service** – Our advanced treatment products are supported by a staff of 40+ Field Representatives and an inside Technical Resources Department.
- **Performance Warranty** – Each new product offering is backed by the industry's strongest performance warranty.

Design and install with confidence. We stand behind our products for a greener tomorrow.



6 Business Park Road
P.O. Box 768 • Old Saybrook, CT 06475
Toll Free 877.278.2979
Fax 860.577.7001
www.aquaworx.com

Aquaworx by Infiltrator® offers advanced solutions for the onsite wastewater treatment industry.



R020308HP-0

"Repair"

Project Name

Parkway Acres Mobile Home Park DR. M. Lander

Bench mark location

3'9" Nail in tree above existing drain field

Ground Elevation

Line #	Beginning	Middle	End
1	6'3	6'3	6'3
2	6'10	6'10	6'10
3	7'2	7'2	7'2
4	7'9	7'9	7'9
5	8'4	8'4	8'4
6	9'1	9'1	9'1
7			
8			

Flow Line Elevation

Beginning	Middle	End
7'9	7'9	7'9
8'4	8'4	8'4
8'8	8'8	8'8
9'3	9'3	9'3
9'10	9'10	9'10
10'7	10'7	10'7

If the ground elevation reading between line 1 and the last line is 6 inches or greater, enter ground elevation reading from line 1 into box "B" otherwise enter ground elevation reading into box "A".

Ground Elevation

Stub out

N/A

Pump
Tank inlet

Existing

Pump
Tank outlet

Existing

D-Box

5'3

Minimum Flowline Elevation

"A" →

"B" →

6'3

length of line(s)

Building to inlet of tank

Tank outlet to D-Box or other

D-box(other) to Line 1

25'

Distance between lines

	Beginning	Middle	End
1&2	10	19	34
2&3	10	15	24
3&4	10	13	12
4&5	10	10	15
5&6	10	10	24
6&7			
7&8			

NOTE

If the ground elevation across the dispersal field is 5 inches or less, the flowline of the tank outlet shall be at or above the ground elevation of line 1

If the ground elevation across the dispersal field is 6 inches or greater, the flowline of the D-box shall be at or above the ground elevation of line 1

Comments

Arkansas Department of Health

4815 West Markham Street - Little Rock, Arkansas 72205-3867 - Telephone (501) 661-2000

Fay Boozman, M.D., Director - Mike Huckabee, Governor

Division of Environmental Health Protection

Baxter County Office

213 East 6th Street Suite 40 - Mountain Home, AR 72653 - Telephone (870) 425-2545

Fax (870) 424-6965

APPROVED PIPE MATERIAL

HOUSE SEWER AND OTHER SOLID PIPE

Polyvinyl Chloride (PVC) Plastic Pipe, SDR 35

Polyvinyl Chloride (PVC) Plastic Pipe, Schedule 40

Equivalent approved by the Dept. of Health

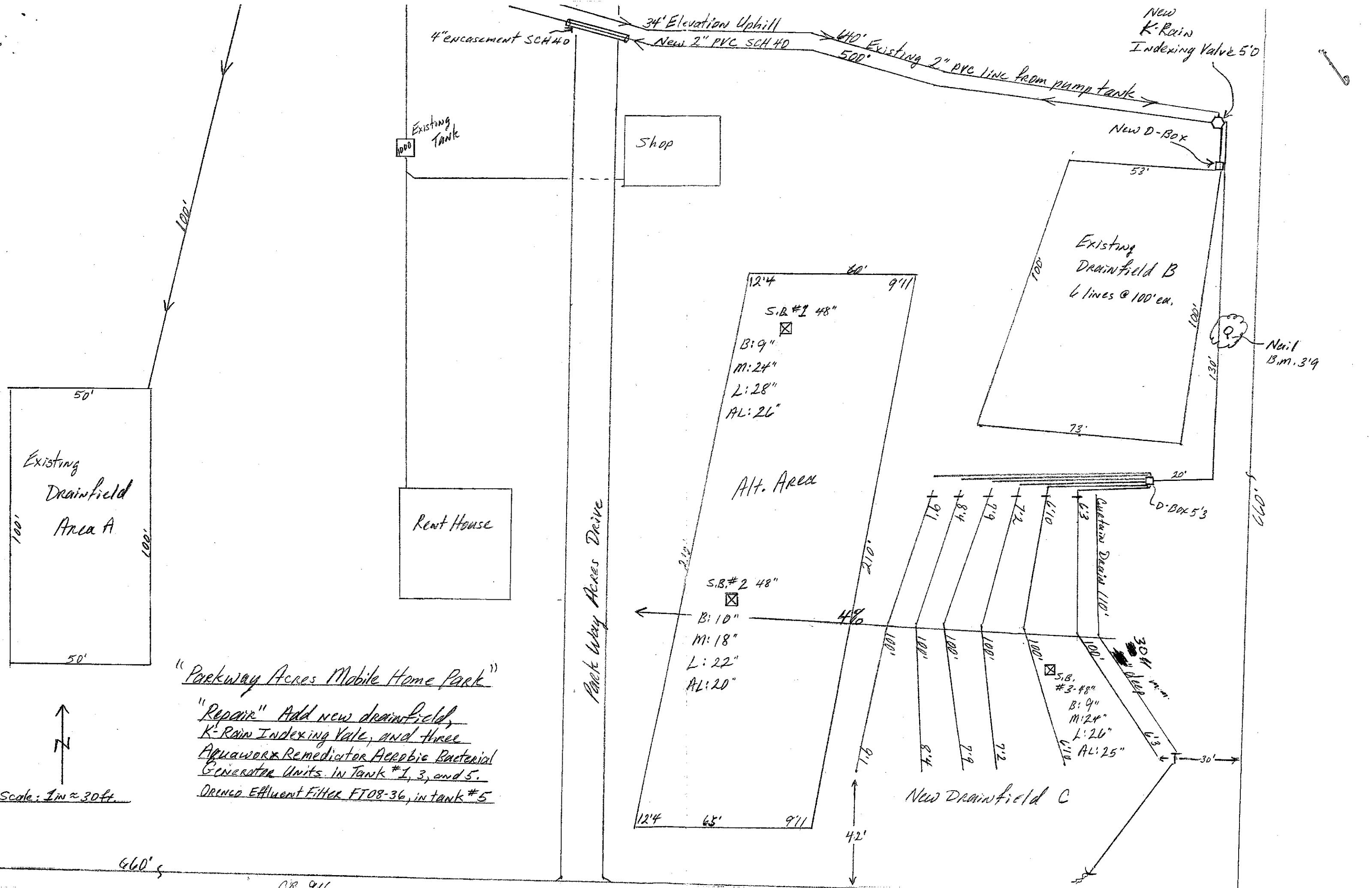
PERFORATED DRAIN PIPES

Polyvinyl chloride (PVC) Plastic Pipe, ASTM 2729

Polyethylene (PE) Plastic Pipe, ASTM F-810

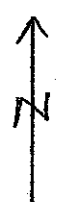
Equivalent approved by the Dept. of Health

These pipe specs are taken from page 27 of the Rules and Regulations Pertaining to
Sewage Disposal Systems, Designated Representatives, and Installers



"Parkway Across Mobile Home Park"

"Repair" Add new drainfield,
K-Rain Indexing Valve, and three
Aquawork Remediator Aerobic Bacterial
Generator Units in Tank #1, 3, and 5.
Drined Effluent Filter FT08-36, in tank #5



Scale: 1 in = 30 ft.

LL 200 LF.
2" PIPE

INSTALL 3" TEE
2-3" X 2" REDUCERS
2-2" GATE VALVES W/BOXES
AND THRUST BLOCKS

INSTALL 270 LF.
OF 3" PIPE

2" METE
LAKEVIEW-
CONTRA

INSTALL 2" X 3"
REDUCER

INSTALL 2" X 90°
BEND
W/THRUST BLOCK

INSTALL 230 LF.
OF 2" PIPE

INSTALL 2" CAP
W/THRUST BLOCK

INSTALL 210 LF.
OF 2" PIPE

INSTALL 2" X 90°
BEND
W/THRUST BLOCK

INSTALL 1"
SERVICE TO
HOUSE

INSTALL 250 LF.
OF 2" PIPE

INSTALL 2" CAP
W/THRUST BLOCK

SEWER
DRAIN FIELD A

SEWER
DRAIN FIELD B

New Drain Field C
6 lines @ 100' ea.

CR 916

