SPECIAL PERMIT CONDITIONS ON NEXT PAGE

COMAL COUNTY

ENGINEER'S OFFICE

License to Operate On-Site Sewage Treatment and Disposal Facility

Issued This Date: **02/09/2023** Permit Number: **113611**

Location Description: 3660 TANGLEWOOD TRL
SPRING BRANCH, TX 78070

Subdivision:	Charles Murhart Survey Abs No. 404
Unit:	0
Lot:	0
Block:	0
Acreage:	14.2300

Type of System: Aerobic
Drip Irrigation

Issued to: Rebecca Creek Campground

This license is authorization for the owner to operate and maintain a private facility at the location described in accordance to the rules and regulations for on-site sewerage facilities of Comal County, Texas, and the Texas Commission on Environmental Quality.

The license grants permission to operate the facility. It does not guarantee successful operation. It is the responsibility of the owner to maintain and operate the facility in a satisfactory manner.

Alterations to this permit including, but not limited to:

- Increase in the square feet of living area
- Increase in the number of bedrooms
- A change of use (i.e. residential to commercial)
- Relocation of system components (including the relocation of spray heads)
- Installation of landscaping
- Adding new structures to the system

may require a new permit. **It is the responsibility of the owner to apply for a new permit, if applicable.**

Inspection and licensing of a facility indicates only that the facility meets certain minimum requirements. It does not impede any governmental entity in taking the proper steps to prevent or control pollution, to abate nuisance, or to protect the public health.

This license to operate is valid for an indefinite period. The holder may transfer it to a succeeding owner, provided the facility has not been remodeled and is functioning properly.

Licensing Authority
Comal County Environmental Health

James F Conner 4

ENVIRONMENTAL HEALTH INSPECTOR
OS0032485

Assistant
OS0034792

ENVIRONMENTAL HEALTH COORDINATOR

As a condition of this permit submittal, a meter must be installed on the outflow line of the pump tank. The readings from this meter must be recorded on a daily basis and submitted to the Comal County Environmental Health Department once a month for 12 months from the date the License to Operate is issued. If at any time the daily meter reading exceeds the permitted flow rate this permit will be void and a new permit must be obtained.

CCEO

COPY

Date:	Meter Reading:	GPD:	Date:	Meter Reading:	GPD:
06/20/25	7483		06/20/25	16695	16695
06/21/25	7521	38	06/21/25	16715	20
06/22/25	7560	39	06/22/25	16780	65
06/23/25	7578	18	06/23/25	16845	65
06/24/25	7620	42	06/24/25	17041	196
06/25/25	7656	36	06/25/25	17158	117
06/26/25	7694	38	06/26/25	17304	146
06/27/25	7739	45	06/27/25	17435	131
06/28/25	7846	107	06/28/25	17495	60
06/29/25	7849	3	06/29/25	17532	37
06/30/25	7850	1	06/30/25	17801	269
07/01/25	7857	7	07/01/25	17839	38
07/02/25	7860	3	07/02/25	17846	7
07/03/25	7865	5	07/03/25	17860	14
07/04/25	7865	0	07/04/25	17846	0
07/05/25	7865	0	07/05/25	17846	0
07/06/25	7865	0	07/06/25	17846	0
07/07/25	7865	0	07/07/25	17846	0
07/08/25	7865	0	07/08/25	17846	0
07/09/25	7865	0	07/09/25	17846	0
07/10/25	7865	0	07/10/25	17846	0
07/11/25	7865	0	07/11/25	17846	0
07/12/25	7881	16	07/12/25	17941	95
07/13/25		0	07/13/25		0
07/14/25		0	07/14/25		0
07/15/25		0	07/15/25		0
07/16/25		0	07/16/25		0
07/17/25		0	07/17/25		0
07/18/25		0	07/18/25		0
07/19/25		0	07/19/25		0
07/20/25		0	07/20/25		0

Date:	Meter Reading:	GPD:	Date:	Meter Reading:	GPD:
06/20/25	84	84	06/20/25	5089	5089
06/21/25	84	0	06/21/25	5234	145
06/22/25	84	0	06/22/25	5329	95
06/23/25	84	0	06/23/25	5473	144
06/24/25	84	0	06/24/25	5649	176
06/25/25	84	0	06/25/25	5737	88
06/26/25	84	0	06/26/25	5792	55
06/27/25	84	0	06/27/25	5863	71
06/28/25	85	1	06/28/25	5863	0
06/29/25	85	0	06/29/25	5863	0
06/30/25	86	1	06/30/25	5863	0
07/01/25	89	3	07/01/25	5863	0
07/02/25	90	1	07/02/25	5984	121
07/03/25	91	1	07/03/25	5991	7
07/04/25	93	2	07/04/25	5994	3
07/05/25	93	0	07/05/25	5994	0
07/06/25	93	0	07/06/25	5994	0
07/07/25	93	0	07/07/25	5994	0
07/08/25	93	0	07/08/25	5994	0
07/09/25	93	0	07/09/25	5994	0
07/10/25	93	0	07/10/25	5994	0
07/11/25	93	0	07/11/25	5994	0
07/12/25	103	10	07/12/25	6022	28
07/13/25	103	0	07/13/25		0
07/14/25	103	0	07/14/25		0
07/15/25	103	0	07/15/25		0
07/16/25	103	0	07/16/25		0
07/17/25		0	07/17/25		0
07/18/25		0	07/18/25		0
07/19/25		0	07/19/25		0
07/20/25		0	07/20/25		0

Date:	Meter Reading:	GPD:	Date:	Meter Reading:	GPD:
06/20/25	62880	62880	06/20/25	230884	230884
06/21/25	62880	0	06/21/25	231116	232
06/22/25	62880	0	06/22/25	231374	258
06/23/25	62880	0	06/23/25	231662	288
06/24/25	62880	0	06/24/25	232056	394
06/25/25	62880	0	06/25/25	232379	323
06/26/25	62880	0	06/26/25	232770	391
06/27/25	62880	0	06/27/25	233339	569
06/28/25	62880	0	06/28/25	233339	0
06/29/25	62880	0	06/29/25	233339	0
06/30/25	62880	0	06/30/25	233339	0
07/01/25	62880	0	07/01/25	233339	0
07/02/25	62880	0	07/02/25	233755	416
07/03/25	62880	0	07/03/25	233950	195
07/04/25	62880	0	07/04/25	233950	0
07/05/25		0	07/05/25	233950	0
07/06/25		0	07/06/25	233950	0
07/07/25		0	07/07/25	233950	0
07/08/25		0	07/08/25	233950	0
07/09/25		0	07/09/25	233950	0
07/10/25		0	07/10/25	233950	0
07/11/25		0	07/11/25	233950	0
07/12/25		0	07/12/25	233955	5
07/13/25		0	07/13/25		0
07/14/25		0	07/14/25		0
07/15/25		0	07/15/25		0
07/16/25		0	07/16/25		0
07/17/25		0	07/17/25		0
07/18/25		0	07/18/25		0
07/19/25		0	07/19/25		0
07/20/25		0	07/20/25		0

GPD:	N/A
System 2	
System 3	
System 4	
System 5	

Numbering System is Per submitted readings Not our permit numbering system

Date:	Meter Reading:	GPD:	Date:	Meter Reading:	GPD:
06/20/25	151039	151039	06/20/25	94182	94182
06/21/25	151039	0	06/21/25	94182	0
06/22/25	151039	0	06/22/25	94292	110
06/23/25	151039	0	06/23/25	94292	0
06/24/25	151039	0	06/24/25	94447	155
06/25/25	151039	0	06/25/25	94447	0
06/26/25	151039	0	06/26/25	94447	0
06/27/25	151039	0	06/27/25	94728	281
06/28/25	151039	0	06/28/25	94728	0
06/29/25	151039	0	06/29/25	94728	0
06/30/25	151039	0	06/30/25	94728	0
07/01/25	151039	0	07/01/25	94728	0
07/02/25	151039	0	07/02/25	94879	151
07/03/25	151039	0	07/03/25	94980	101
07/04/25	151039	0	07/04/25	95111	131
07/05/25	151039	0	07/05/25	95401	290
07/06/25	151039	0	07/06/25	95699	298
07/07/25	151039	0	07/07/25	95779	80
07/08/25	151039	0	07/08/25	95823	44
07/09/25	151039	0	07/09/25	95965	142
07/10/25	151039	0	07/10/25	95992	27
07/11/25	151039	0	07/11/25	96012	20
07/12/25	151039	0	07/12/25	96053	41
07/13/25	151039	0	07/13/25	96127	74
07/14/25	151039	0	07/14/25	96175	48
07/15/25	151039	0	07/15/25	96195	20
07/16/25	151039	0	07/16/25	96227	32
07/17/25		0	07/17/25		0
07/18/25		0	07/18/25		0
07/19/25		0	07/19/25		0
07/20/25		0	07/20/25		0

Date:	Meter Reading:	GPD:	Date:	Meter Reading:	GPD:	Date:	Meter Reading:	GPD:	Date:	Meter Reading:	GPD:
07/21/25		0	08/21/25		0	09/21/25		0	10/22/25		0
07/22/25		0	08/22/25		0	09/22/25		0	10/23/25		0
07/23/25		0	08/23/25		0	09/23/25		0	10/24/25		0
07/24/25		0	08/24/25		0	09/24/25		0	10/25/25		0
07/25/25		0	08/25/25		0	09/25/25		0	10/26/25		0
07/26/25		0	08/26/25		0	09/26/25		0	10/27/25		0
07/27/25		0	08/27/25		0	09/27/25		0	10/28/25		0
07/28/25		0	08/28/25		0	09/28/25		0	10/29/25		0
07/29/25		0	08/29/25		0	09/29/25		0	10/30/25		0
07/30/25		0	08/30/25		0	09/30/25		0	10/31/25		0
07/31/25		0	08/31/25		0	10/01/25		0	11/01/25		0
08/01/25		0	09/01/25		0	10/02/25		0	11/02/25		0
08/02/25		0	09/02/25		0	10/03/25		0	11/03/25		0
08/03/25		0	09/03/25		0	10/04/25		0	11/04/25		0
08/04/25		0	09/04/25		0	10/05/25		0	11/05/25		0
08/05/25		0	09/05/25		0	10/06/25		0	11/06/25		0
08/06/25		0	09/06/25		0	10/07/25		0	11/07/25		0
08/07/25		0	09/07/25		0	10/08/25		0	11/08/25		0
08/08/25		0	09/08/25		0	10/09/25		0	11/09/25		0
08/09/25		0	09/09/25		0	10/10/25		0	11/10/25		0
08/10/25		0	09/10/25		0	10/11/25		0	11/11/25		0
08/11/25		0	09/11/25		0	10/12/25		0	11/12/25		0
08/12/25		0	09/12/25		0	10/13/25		0	11/13/25		0
08/13/25		0	09/13/25		0	10/14/25		0	11/14/25		0
08/14/25		0	09/14/25		0	10/15/25		0			0
08/15/25		0	09/15/25		0	10/16/25		0			0
08/16/25		0	09/16/25		0	10/17/25		0			0
08/17/25		0	09/17/25		0	10/18/25		0			0
08/18/25		0	09/18/25		0	10/19/25		0			0
08/19/25		0	09/19/25		0	10/20/25		0			0
08/20/25		0	09/20/25		0	10/21/25		0			0

DATE	SYS 2	SYS 3	SYS 4	SYS 5
6-19	in			
	out			
6-20	in 07483	05089	62880	[illegible]
	out 16695	00084	230884	151039
6-21	in 07521	05234	62880	94182
	out 16715	00084	231116	151039
6-22	in 07560	05329	62880	94292
	out 16780	00084	231374	151039
23	in 16845	05473	62880	94292
	out 07578	00084	231662	151039
24	in 17041	05649	232056	94447
	out 7620	84	62880	151039
25	in 7656	5737	[illegible]	94447
	out 17158	0084	232379	151039
26	in 7694	5792	62880	151039
	out 17304	84	232770	94447
27	in 17435	5863	62880	151039
	out 7739	00084	233339	94728
28	in 17495			
	out 7786	000 85		
29	in 17532			
	out 7849	000 85		
30	in 17601			
	out 7850	000 86		
July 1	in 17939			
	out 7857	000 89		
2	in 17846	05984	62880	151039
	out 7860	000900	233755	94879
3	in 17960	05991	62880	151039
	out 7865	000900	233950	94980
4	in 17946	5994	62880	151039
	out	00093		95111
5	in			151039
	out	000 93		95401
6	in			151039
	out	00093		95699

ATE	SYS 2	SYS 3	SYS 4	SYS 5
7-7-25				151039 95779
7-8-25				95823 151039
7-9-25				95865 151039
7/10/25				95992 151039
7/11/26				96012 151039
7/12/25	17491 7881	06022 00103	233755	96053 151039
7/13/25		00103		96127 151039
7/14/25		00103		96175 151039
7/15/25		00103		96195 151039
7/16/25		00103		96227 151039

RECEIVED
By Brandon Olvera at 12:00 pm, Jul 29, 2025

DATE	METER # 2	METER # 3	METER # 4	METER #5
9/20	IN 3821-31 OUT 1825-70	IN 58-38 OUT 560.40	IN 132290.4 OUT 62945-6	IN 102035.9 OUT 58321.0
9/21	IN 1835-84 OUT 3846-07	IN 58-28 OUT 560.40	IN 132589-2 OUT 62944.8	IN 103241-9 OUT 59221-1
9/22	IN 1844-01 OUT 3871-98	IN 58-54 OUT 564-51	IN 132881-9 OUT 62944-6	IN 104123-5 OUT 59853-0
9/23	IN 1849-98 OUT 3883-18	IN 59.75 OUT 569.99	IN 133076-4 OUT 62945.6	IN 104761-8 OUT 60311-9
9/24	IN OUT	IN OUT	IN OUT	IN OUT
	No Read -Monica was here All day.			
9/25	IN Cant see #5 OUT 3921-90	IN 59-36 OUT 577-94	IN 133913-1 OUT 62945.6	IN 105821-8 OUT 61073-1
9/26	IN Cant See OUT 0939-47	IN 060.61 OUT 577.94	IN 130184.2 OUT 62944.6	IN 106451-1 OUT 61514.1
9/27	IN Cant see OUT 3958-13	IN 060-76 OUT 586-23	IN 134373-8 OUT 629446	IN 107082-0 OUT 61961-1
9/28	IN OUT	IN 060.76 OUT 586.23	IN OUT	IN OUT
9/29	IN OUT	IN 060-84 OUT	IN OUT	IN OUT
9/30	IN OUT	IN 060-84 OUT	IN OUT	IN OUT
9/31	IN OUT	IN 060-92 OUT	IN OUT	IN OUT
10/1	IN 1895-8.4 OUT 4011-78	IN 061-92 OUT 602-36	IN 1360624-9 OUT 62945.6	IN 110255-7 OUT 64129-0
10/2	IN 19000-48 4033-67	IN 061-92 602-36	IN 136777-1 62945.6	IN 110624-7 64157-9

344- Micow Refrig 356- Refrig

DATE	METER #2	METER #3	METER #4	METER #5
10/3	IN 1900-57 OUT 4057-20	IN 061-92 OUT 602-44	IN 62945-6 OUT 137446-6	IN 110634-2 OUT 64157-9
10/4	IN 1914-10 OUT 4071-79	IN 061-92 OUT 602-36	IN 137651-9 OUT 62945-6	IN 110634-2 OUT 64157-9
10/5	IN Can't See OUT 4102-62	IN 061-30 OUT 601-76	IN 62945-6 UT 137946-5	IN 110634-2 OUT 64157-9
10/6	IN can't see OUT 4170-55	IN 061-74 OUT 069-31	IN 136276-1 OUT 62945-6	IN 10634-2 OUT 64157-9
10/7	IN Can't See OUT 4170-55	IN 062-74 OUT 619-31	IN 138279-1 OUT 62945-6	IN 10634-2 OUT 64157-9
10/8	IN 1979-02 OUT 4221-13	IN 062-74 OUT 619-31	IN 138545-7 OUT 62945-6	IN 110634-2 OUT 64157-9
10/9	IN Can't See OUT 4291-79	IN 062-74 OUT 619-31	IN 138545-7 OUT 62945-6	IN 110634-2 OUT 64157-9
10/10	IN Can't See OUT 4355-42	IN 062-22 OUT 628-83	IN 133979-5 OUT 62945-6	IN 110634-2 OUT 64157-9
10/11	IN Can't See OUT 4433-74	IN 062-22 OUT 628-83	IN 139145-5 OUT 62945-6	IN 64157-9 OUT 110635-8
	IN OUT	IN OUT	IN OUT	IN OUT
10-29	IN 02341 OUT 04964-38	IN 675-9 OUT 0712-08	IN ~~144479~~ 144479 OUT 62945-6	IN 110635 OUT 64157-9
10-~~30~~	IN 2342 OUT 4970 ~~4971~~	IN 67-95 OUT 712-09	IN 145273 OUT 62945	IN 110635-9 OUT 64157
10-~~31~~	IN 2344-33 92 OUT 4976-82	IN 67-95 OUT 712-20	IN 146577 OUT 62945	IN 110 635-9 OUT 64157
11/1	IN 2353-82 5001-46	IN 67-95 712-80	IN 147031-3 62945-8	IN 110 635-9 64157

DATE	METER # 2	METER # 3	METER # 4	METER #5
11/2	IN 2360 -20 OUT 5030 - 58	IN 68 - 45 OUT 714 - 55	IN 147732-4 OUT 62945-6	IN 110635 - 8 OUT 64157 - 9
11/3	IN 2376 - 28 OUT 5062 - 29	IN 69 - 33 OUT 718 - 62	IN OUT 62945 - 6	IN 110635 - 8 OUT 64157 - 9
11/4	IN 2382 - 30 OUT 5085 - 42	IN 69 - 55 OUT 727 - 84	IN 148897 - 9 UT 62945 - 6	IN 110635 - 8 OUT 64157 - 9
11/5	IN CANT SEE OUT 5111 - 81	IN 69 - 55 OUT 727 - 84	IN 150537 - 8 OUT 62945 - 6	IN 110635 - 8 OUT 64157 - 9
11/6	IN CANT SEE OUT 5132 - 15	IN 69.69 OUT	IN 151226 - 8 OUT 62945 - 6	IN 110635 - 8 OUT 64157 - 9
11/7	IN SAND S~~ee~~ OUT 5149 - 28	IN 69.93 OUT 735 · 10	IN 151517 - 6 62945 6 OUT ~~62945 6~~	IN 110635 - 8 OUT 64157 - 9
	IN OUT	IN OUT	IN OUT	IN OUT
	IN OUT	IN OUT	IN OUT	IN OUT
	IN OUT	IN OUT	IN OUT	IN OUT
	IN OUT	IN OUT	IN OUT	IN OUT
	IN OUT	IN OUT	IN OUT	IN OUT
	IN OUT	IN OUT	IN OUT	IN OUT
	IN OUT	IN OUT	IN OUT	IN OUT
	IN	IN	IN	IN

From:	Ritzen, Brenda
To:	"robert@enukiinvestments.com"
Cc:	Boyd, Robert; Massie,Cassandra S; Olvera,Brandon; Connor,James F
Subject:	FW: 3660 Tanglewood Trail/RV park
Date:	Wednesday, February 7, 2024 12:59:00 PM
Attachments:	image001.png 3660 Tanglewood.zip

Re: Rebecca Creek Campgrounds
14.23 acres, 3660 Tanglewood Trail
On-Site Sewage Facility (OSSF) Permits 113609 & 113610

Mr. Sutcliffe :

Our office conducted a site visit yesterday at the referenced property. For your situational awareness I have attached pictures representative of our visit. Backfill materials have been washed away from the drip system leaving the system exposed and no longer compliant with OSSF Regulations.

Also, it has come to our attention that the daily water meter readings as required by the Special Permit Conditions for Permits 113611 & 113612 (see attached) have not been submitted. Please submit the required daily meter readings from mid-February 2023 to present.

Thank you,

COMAL COUNTY TEXAS
Brenda Ritzen
Environmental Health Coordinator
195 David Jonas Dr.
New Braunfels, TX 78132
DR:OS00007722
830-608-2090
www.cceo.org

From: Connor,James F <connoj@co.comal.tx.us>
Sent: Wednesday, February 7, 2024 9:18 AM
To: Ritzen, Brenda <rabbjr@co.comal.tx.us>
Cc: Boyd, Robert <boydro@co.comal.tx.us>; Olvera,Brandon <Olverb@co.comal.tx.us>; Massie,Cassandra S <massic@co.comal.tx.us>
Subject: 3660 Tanglewood Trail/RV park

Brenda,
These are the photos I took on 2/6/24 showing erosion damage/exposed drip tubing on

METER READING FOR REBECCA CREEK CAMPGROUNDS

4/16/24 TO 5/17/24

SYSTEM 4

4/16/24 IN:00062936 OUT:00102566

4/17/24 IN:00062936 OUT:00102665

4/18/24 IN:00062936 OUT:00102861

4/19/24 IN:00062936 OUT:00102899

4/20/24 IN:00062936 OUT:00103050

4/21/24 IN:00062936 OUT:00103165

4/22/24 IN:00062936 OUT:00103229

4/23/24 IN:00062936 OUT:00103366

4/24/24 IN:00062936 OUT:00103561

4/25/24 IN:00062936 OUT:00103490

4/26/24 IN:00062936 OUT:00103561

4/27/224 IN:00062936 OUT:00103653

4/28/24 IN:00062936 OUT:00103771

4/29/24 IN:00062936 OUT:00103890

4/30/24 IN:00062936 OUT:00104049

5/1/24 IN:00062936 OUT:00104237

5/2/24 IN:00062936 OUT:00104237

5/3/24 IN:00062936 OUT:00104333

5/4/24 IN:00062936 OUT:00104456

5/5/24 IN:00062936 OUT:00104510

5/6/24 IN:00062936 OUT:00104605

5/7/24 IN:00062936 OUT:00104781

5/8/24 IN:00062936 OUT:00104862

5/9/24 IN:00062936 OUT:00104954

5/10/24 IN:00062936 OUT: 00105062

5/11/24 IN:00062936 OUT:00105179

5/12/24 IN:00062936 OUT:00105250

5/13/24 IN:00062936 OUT:00105348

5/14/24 IN:00062936 OUT:00105447

5/15/24 IN:00062936 OUT:00105534

5/16/24 IN:00062936 OUT:00105620

5/17/24 IN:00062936 OUT:00105720

METER READING FOR REBECCA CREEK CAMPGROUNDS

3/12/24 TO 4/15/24

SYSTEM 4

3/12/24 IN:00062936 OUT:00099580

3/13/24 IN:0062936 OUT:0099580

3/14/24 IN:0062936 OUT:0099580

3/15/24 IN:0062936 OUT:0099580

3/16/24 IN:0062936 OUT:0099618

3/17/24 IN:0062936 OUT:0099645

3/18/24 IN:0062936 OUT:0099679

3/19/24 IN:0062936 OUT:0099679

3/20/24 IN:0062936 OUT:0099679

3/21/24 IN:0062936 OUT:0099679

3/22/24 IN:00062936 OUT:00099679

3/23/24 IN:0062936 OUT:00099882

3/24/24 IN:0062936 OUT:00099962

3/25/24 IN:0062936 OUT:00100187

3/26/24 IN:00062936 OUT:00100187

3/27/24 IN:00062936 OUT:00100288

3/28/24 IN:00062936 OUT:00100397

3/29/24 IN:0062936 OUT:00100502

3/30/24 IN:0062936 OUT:00100698

3/31/24 IN:0062936 OUT:00100871

4/1/24 IN:0062936 OUT:00101093

4/2/24 IN:0062936 OUT:00101206

4/3/24 IN:00062936 OUT:0010291

4/4/24 IN:00062936 OUT:00101377

4/5/24 IN:00062936 OUT: 00101513

4/6/24 IN:00062936 OUT:0010741

4/7/24 IN:00062936 OUT:00101879

4/8/24 IN:00062936 OUT:00101962

4/9/24 IN:00062936 OUT:00102033

4/10/24 IN:00062936 OUT:00102119

4/11/24 IN:00062936 OUT:00102235

4/12/24 IN:00062936 OUT:00102341

4/13/24 IN:00062936 OUT:00102423

4/14/24 IN:00062936 OUT:00102492

4/15/24 IN:00062936 OUT:00102566

	Permit 113611 System 4			Permit 113612 System 5		
Date	In	Out		In	Out	
2/8/24	44123	71899		62936	95662	
2/9/24	44154	71963	64	62936	95788	126
2/10/24	44219	72091	128	62936	95862	74
2/11/24	44296	72283	192	62936	95980	118
2/12/24	44342	72305	22	62936	96071	91
2/13/24	44380	72355	50	62936	96173	102
2/14/24	44411	72393	38	62936	92684	111
2/15/24	44459	72437	44	62936	96377	93
2/16/24	44497	72498	61	62936	96452	75
2/17/24	44571	72571	73	62936	96561	109
2/18/24	44662	72689	118	62936	96670	109
2/19/24	44705	72778	89	62936	96779	109
2/20/24	44762	72884	106	62936	96868	89
2/21/24	44809	72972	88	62936	96987	119
2/22/24	44873	73101	129	62936	97054	67
2/23/24	44941	73198	97	62936	97162	108
2/24/24	45520	73285	87	62936	97240	78
2/25/24	45567	73397	112	62936	97351	111

2/26/24	45584	73485	88	62936	97428	77
2/27/24	45603	73569	84	62936	97502	74
2/28/24	45647	73670	101	62936	97589	87
2/29/24	45676	73783	113	62936	97666	77
3/1/24	45693	73859	76	62936	97781	115
3/2/24	45758	73986	127	62936	97843	62
3/3/24	45799	74097	111	62936	97906	63
3/4/24	45826	74186	89	62936	97989	83
3/5/24	45854	74269	83	62936	98070	81
3/6/24	45901	74293	24	62936	98121	51
3/7/24	45946	74370	77	62936	98199	78
3/8/24	45962	74496	126	62936	98254	55
3/9/24	45997	74624	128	62936	98341	87
3/10/24	46076	74799	175	62936	98407	66
3/11/24	46082	74986	187	62936	98496	89
3/12/24	46091	75290	304	62936	98535	39
3/13/24	46101	75490	200	62936	98624	89

Comal County Environmental Health
OSSF Inspection Sheet

Installer Name: Marco Fernandez **OSSF Installer #:** OS0002409

1st Inspection Date: 12/22/23 **2nd Inspection Date:** 1/10/23 **3rd Inspection Date:** 1/27/23

Inspector Name: J. Aguirre **Inspector Name:** J. Aguirre **Inspector Name:** Connor

Permit#: 113611 **Address:** 3660 Tanglewood

No.	Description	Answer	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
1	SITE AND SOIL CONDITIONS & SETBACK DISTANCES Site and Soil Conditions Consistent with Submitted Planning Materials	X	285.31(a) 285.30(b)(1)(A)(iv) 285.30(b)(1)(A)(v) 285.30(b)(1)(A)(iii) 285.30(b)(1)(A)(ii) 285.30(b)(1)(A)(i)		X		
2	SITE AND SOIL CONDITIONS & SETBACK DISTANCES Setback Distances Meet Minimum Standards	X	285.91(10) 285.30(b)(4) 285.31(d)		X		
3	SEWER PIPE Proper Type Pipe from Structure to Disposal System (Cast Iron, Ductile Iron, Sch. 40, SDR 26)	X	285.32(a)(1)		X		
4	SEWER PIPE Slope from the Sewer to the Tank at least 1/8 Inch Per Foot	X	285.32(a)(3)		X		
5	SEWER PIPE Two Way Sanitary - Type Cleanout Properly Installed (Add. C/O Every 100' &/or 90 degree bends)	X	285.32(a)(5)		X		
6	PRETREATMENT Installed (if required) TCEQ Approved List PRETREATMENT Septic Tank(s) Meet Minimum Requirements		285.32(b)(1)(G) 285.32(b)(1)(E)(iii) 285.32(b)(1)(E)(iv) 285.32(b)(1)(F) 285.32(b)(1)(B) 285.32(b)(1)(C)(i) 285.32(b)(1)(C)(ii) 285.32(b)(1)(D) 285.32(b)(1)(E) 285.32(b)(1)(A) 285.32(b)(1)(E)(ii)(II) 285.32(b)(1)(E)(i) 285.32(b)(1)(E)(ii)(I)				
7	PRETREATMENT Grease Interceptors if required for commercial		285.34(d)				

Inspector Notes: **12/22/22: Tank level, no leaks,operational. Short on drip tubing. Add to meet design requirements.**
1/10/23 JA Correct number of lines added. Operational, not attached to structure. Revisions received. Cover all.
1/27/23 JC Covered. Not attached to sewage line.

2/8/23 JC Tank covered, attached to RV sewage line, lids secured, Alarms functional. need revision for tank type Revision in

Comal County Environmental Health
OSSF Inspection Sheet

No.	Description	Answer	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
8	SEPTIC TANK Tank(s) Clearly Marked SEPTIC TANK If SingleTank, 2Compartments Provided withBaffle SEPTIC TANK Inlet Flowline Greater than3" and " T " Provided on Inlet and OutletSEPTIC TANK Septic Tank(s) MeetMinimum Requirements		285.32(b)(1) (E)285.91(2)285.32(b)(1) (F)285.32(b)(1)(E) (iii)285.32(b)(1)(E)(ii) (II)285.32(b)(1)(E)(ii) (I)285.32(b)(1)(E) (i)285.32(b)(1) (D)285.32(b)(1)(C) (ii)285.32(b)(1)(C) (i)285.32(b)(1) (B)285.32(b)(1) (A)285.32(b)(1)(E)(iv)				
9	ALL TANKS Installed on 4" Sand Cushion/ Proper Backfill Used	X	285.32(b)(1)(F) 285.32(b)(1)(G) 285.34(b)		X		
10	SEPTIC TANK Inspection / Clean Out Port & Risers Provided on Tanks Buried Greater than 12" Sealed and Capped		285.38(d)				
11	SEPTIC TANK Secondary restraint system providedSEPTIC TANK Riser permanently fastened to lid or cast into tank SEPTIC TANK Riser cap protected against unauthorized intrusions		285.38(d) 285.38(e)				
12	SEPTIC TANK Tank Volume Installed						
13	PUMP TANK Volume Installed						
14	AEROBIC TREATMENT UNIT Size Installed	X			X		
15	AEROBIC TREATMENT UNIT Manufacturer AEROBIC TREATMENT UNIT Model Number	X X		Proflo	X X		
16	DISPOSAL SYSTEM Absorptive		285.33(a)(4) 285.33(a)(1) 285.33(a)(2) 285.33(a)(3)				
17	DISPOSAL SYSTEM Leaching Chamber		285.33(a)(1) 285.33(a)(3) 285.33(a)(4) 285.33(a)(2)				
18	DISPOSAL SYSTEM Drip Irrigation	X	285.33(c)(3)(A)-(F)		X		

Comal County Environmental Health
OSSF Inspection Sheet

No.	Description	Answer	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
32	EFFLUENT DISPOSAL SYSTEM Utilized Only by Single Family Dwelling EFFLUENT DISPOSAL SYSTEM Topographic Slopes < 2.0% EFFLUENT DISPOSAL SYSTEM Adequate Length of Drain Field (1000 Linear ft. for 2 bedrooms or Less & an additional 400 ft. for each additional bedroom) EFFLUENT DISPOSAL SYSTEM Lateral Depth of 18 inches to 3 ft. & Vertical Separation of 1ft on bottom and 2 ft. to restrictive horizon and ground water respectfully EFFLUENT DISPOSAL SYSTEM Lateral Drain Pipe (1.25 - 1.5" dia.) & Pipe Holes (3/16 - 1/4" dia. Hole Size) 5 ft. Apart		285.33(b)(3)(A) 285.33(b)(3)(A) 285.33(b)(3) (B)285.91(13) 285.33(b)(3)(D) 285.33(b)(3)(F)				
33	AEROBIC TREATMENT UNIT Is Aerobic Unit Installed According to Approved Guidelines.	X	285.32(c)(1)		X		
34	AEROBIC TREATMENT UNIT Inspection/Clean Out Port & Risers Provided AEROBIC TREATMENT UNIT Secondary restraint system provided AEROBIC TREATMENT UNIT Riser permanently fastened to lid or cast into tank AEROBIC TREATMENT UNIT Riser cap protected against unauthorized intrusions	X X X			X X X		
35	AEROBIC TREATMENT UNIT Chlorinator Properly Installed with Chlorine Tablets in Place.	X			X		
36	PUMP TANK Is the Pump Tank an approved concrete tank or other acceptable materials & construction PUMP TANK Sampling Port Provided in the Treated Effluent Line PUMP TANK Check Valve and/or Anti- Siphon Device Present When Required PUMP TANK Audible and Visual High Water Alarm Installed on Separate Circuit From Pump						
37	PUMP TANK Inspection/Clean Out Port & Risers Provided PUMP TANK Secondary restraint system provided PUMP TANK Riser permanently fastened to lid or cast into tank PUMP TANK Riser cap protected against unauthorized intrusions						
38	PUMP TANK Secondary restraint system provided						
39	PUMP TANK Electrical Connections in Approved Junction Boxes / Wiring Buried	X			X		

Comal County Environmental Health
OSSF Inspection Sheet

No.	Description	Answer	Citations	Notes	1st Insp.	2nd Insp.	3rd Insp.
40	APPLICATION AREA Distribution Pipe, Fitting, Sprinkler Heads & Valve Covers Color Coded Purple?	X	285.33(d)(2)(G)(iii)(II) 285.33(d)(2)(G)(iii)(III) 285.33(d)(2)(G)(v) 285.33(d)(2)(G)(iii) 285.33(d)(2)(G)(iv) 285.33(d)(2)(G)(i) 285.33(d)(2)(G)(ii) 285.33(d)(2)(G)(iii)(I)		X		
41	APPLICATION AREA Low Angle Nozzles Used / Pressure is as required APPLICATION AREA Acceptable Area, nothing within 10 ft of sprinkler heads? APPLICATION AREA The Landscape Plan is as Designed	X X	285.33(d)(2)(G) (i)285.33(d)(2) (A)285.33(d)(2)(F)		X X		X
42	APPLICATION AREA Area Installed	X			X		
43	PUMP TANK Meets Minimum Reserve Capacity Requirements						
44	PUMP TANK Material Type & Manufacturer						
45	PUMP TANK Type/Size of Pump Installed						

COMAL COUNTY

ENGINEER'S OFFICE

Permit of Authorization to Construct an On-Site Sewage Facility
Permit Valid For One Year From Date Issued

Permit Number:	113611
Issued This Date:	05/06/2022
This permit is hereby given to:	Rebecca Creek Campground

To start construction of a private, on-site sewage facility located at:

3660 TANGLEWOOD TRL
SPRING BRANCH, TX 78070

Subdivision:	Charles Murhart Survey Abs No. 404
Unit:	0
Lot:	0
Block:	0
Acreage:	14.2300

APPROVED MINIMUM SIZES AS PER ATTACHED DESIGN

Type of System:	Aerobic Drip Irrigation

This permit gives permission for the construction of the above referenced on-site facility to commence. Installation must be completed by an installer holding a valid registration card from the Texas Commission on Environmental Quality (TCEQ). Installation and inspection must comply with current TCEQ and Comal County requirements.

Call (830) 608-2090 to schedule inspections.

******As a condition of this permit submittal a meter must be installed on the outflow line of the pump tank. The readings from this meter must be recorded on a daily basis and submitted to the Comal County Environmental Health Department once a month for 12 months from the date the License to Operate is issued. If at any time the daily meter reading exceeds the permitted flow rate this permit will be void and a new permit must be obtained.******

RECEIVED
By KG at 11:31 am, Nov 16, 2021

COUNTY OF COMAL **COUNTY ENGINEER'S OFFICE**

OSSF DEVELOPMENT APPLICATION CHECKLIST

#4

Staff will complete shaded

items Date Received *Initials*

113611

Permit Number

Instructions:

Place a check mark next to all items that apply. For items that do not apply, place "N/A". This OSSF Development Application Checklist **must** accompany the completed application.

OSSF Permit

- ✓ Completed Application for Permit for Authorization to Construct an On-Site Sewage Facility and License to Operate
- ✓ Site/Soil Evaluation Completed by a Certified Site Evaluator or a Professional Engineer
- ✓ Planning Materials of the OSSF as Required by the TCEQ Rules for OSSF Chapter 285. Planning Materials shall consist of a scaled design and all system specifications.
- ✓ Required Permit Fee
- ✓ Copy of Recorded Deed
- ✓ Surface Application/Aerobic Treatment System
  - ✓ Recorded Certification of OSSF Requiring Maintenance/Affidavit to the Public
  - ✓ Signed Maintenance Contract with Effective Date as Issuance of License to Operate

I affirm that I have provided all information required for my OSSF Development Application and that this application constitutes a completed OSSF Development Application.

Signature of Applicant

11/10/2021
Date

____COMPLETE APPLICATION

Check No._____ Receipt No. _____

____INCOMPLETE APPLICATION

(Missing Items Circled, Application Refused)

Revised: January 2015

REVISED
10:19 am, Dec 16, 2022

COMAL COUNTY OFFICE OF ENVIRONMENTAL HEALTH * * *

APPLICATION FOR PERMIT FOR AUTHORIZATION TO CONSTRUCT AN ON-SITE SEWAGE FACILITY AND LICENSE TO OPERATE

System #4

Date 11/4/21 Permit # _____

Owner Name	Rebecca Creek Campgrounds	Agent Name	Michelle Wertheim
Mailing Address	31660 Tanglewood Trail	Agent Address	31660 Tanglewood Trail
City, State, Zip	Spring Branch TX 78070	City, State, Zip	Spring Branch, TX 78070
Phone #	(830) 885-4035	Phone #	(830) 446-0048
Email	rebecca creekgrounds@gmail.com	Email	same as office

All correspondence should be sent to: ☒ Owner ☐ Agent ☐ Both Method: ☒ Mail ☒ Email

Subdivision Name N/A Unit _____ Lot _____ Block _____

Acreage/Legal 14.23 ac. Charles Murhart Survey ABS No. 404

Street Name/Address 31660 Tanglewood Trail City Spring Branch Zip 78078

Type of Development:

☐ Single Family Residential

Type of Construction (House, Mobile, RV, Etc.) _____

Number of Bedrooms _____

Indicate Sq Ft of Living Area _____

☒ Non-Single Family Residential

(Planning materials must show adequate land area for doubling the required land needed for treatment units and disposal area)

Type of Facility _____

Offices, Factories, Churches, Schools, Parks, Etc. - Indicate Number Of Occupants _____

Restaurants, Lounges, Theaters - Indicate Number of Seats _____

Hotel, Motel, Hospital, Nursing Home - Indicate Number of Beds _____

Travel Trailer/RV Parks - Indicate Number of Spaces 9 RV spaces

Miscellaneous _____

Estimated Cost of Construction: $ _____ (Structure Only) N/A

Is any portion of the proposed OSSF located in the United States Army Corps of Engineers (USACE) flowage easement?

☐ Yes ☒ No (If yes, owner must provide approval from USACE for proposed OSSF improvements within the USACE flowage easement)

Source of Water ☒ Public ☐ Private Well

Are Water Saving Devices Being Utilized Within the Residence? ☒ Yes ☐ No

By signing this application, I certify that:

- The completed application and all additional information submitted does not contain any false information and does not conceal any material facts. I certify that I am the property owner or I possess the appropriate land rights necessary to make the permitted improvements on said property.
- Authorization is hereby given to the permitting authority and designated agents to enter upon the above described property for the purpose of site/soil evaluation and inspection of private sewage facilities..
- I understand that a permit of authorization to construct will not be issued until the Floodplain Administrator has performed the reviews required by the Comal County Flood Damage Prevention Order.
- I affirmatively consent to the online posting/public release of my e-mail address associated with this permit application, as applicable.

Signature of Owner _____ Date 12-14-22

195 David Jonas Dr., New Braunfels, Texas 78132-3760 (830) 608-2090 Fax (830) 608-2078

REVISED
10:19 am, Dec 16, 2022

COMAL COUNTY OFFICE OF ENVIRONMENTAL HEALTH * * *

APPLICATION FOR PERMIT FOR AUTHORIZATION TO CONSTRUCT AN ON-SITE SEWAGE FACILITY AND LICENSE TO OPERATE

Planning Materials & Site Evaluation as Required Completed By KAELEIGH CRANDALL

System Description AEROBIC WITH DRIP IRRIGATION

Size of Septic System Required Based on Planning Materials & Soil Evaluation

Tank Size(s) (Gallons) 1000 gal ATU Absorption/Application Area (Sq Ft) 1800 ft2

Gallons Per Day (As Per TCEQ Table III) 360 gpd

(Sites generating more than 5000 gallons per day are required to obtain a permit through TCEQ.)

Is the property located over the Edwards Recharge Zone? ☐ Yes ☒ No

(If yes, the planning materials must be completed by a Registered Sanitarian (R.S.) or Professional Engineer (P.E.))

Is there an existing TCEQ approved WPAP for the property? ☐ Yes ☒ No

(If yes, the R.S. or P.E. shall certify that the OSSF design complies with all provisions of the existing WPAP.)

If there is no existing WPAP, does the proposed development activity require a TCEQ approved WPAP? ☐ Yes ☒ No

(If yes, the R.S. or P.E. shall certify that the OSSF design will comply with all provisions of the proposed WPAP. A Permit to Construct will not be issued for the proposed OSSF until the proposed WPAP has been approved by the appropriate regional office.)

Is the property located over the Edwards Contributing Zone? ☒ Yes ☐ No

Is there an existing TCEQ approval CZP for the property? ☐ Yes ☒ No

(If yes, the P.E. or R.S. shall certify that the OSSF design complies with all provisions of the existing CZP.)

If there is no existing CZP, does the proposed development activity require a TCEQ approved CZP? ☐ Yes ☒ No

(If yes, the R.S. or P.E. shall certify that the OSSF design will comply with all provisions of the proposed CZP. A Permit to Construct will not be issued for the proposed OSSF until the CZP has been approved by the appropriate regional office.)

Is this property within an incorporated city? ☐ Yes ☒ No

If yes, indicate the city: _____

By signing this application, I certify that:
- The information provided above is true and correct to the best of my knowledge.
- I affirmatively consent to the online posting/public release of my e-mail address associated with this permit application, as applicable.

Kaeleigh Crandall
Signature of Designer

12/14/22
Date

195 David Jonas Dr., New Braunfels, Texas 78132-3760 (830) 608-2090 Fax (830) 608-2078

ile

System #4

202106058593 11/10/2021 03:22:30 PM 1/1

AFFIDAVIT TO THE PUBLIC

THE COUNTY OF COMAL
STATE OF TEXAS

CERTIFICATION OF OSSF REQUIRING MAINTENANCE

According to Texas Commission on Environmental Quality Rules for On-Site Sewage Facilities (OSSF's), this document is filed in the Deed Records of Comal County, Texas.

I

The Texas Health and Safety Code, Chapter 366 authorizes the Texas Commission on Environmental Quality (commission) to regulate on-site sewage facilities (OSSFs). Additionally, the Texas Water Code (TWC), § 5.012 and § 5.013, gives the commission primary responsibility for implementing the laws of the State of Texas relating to water and adopting rules necessary to carry out its powers and duties under the TWC. The commission, under the authority of the TWC and the Texas Health and Safety code, requires owner's to provide notice to the public that certain types of OSSFs are located on specific pieces of property. To achieve this notice, the commission requires a recorded affidavit. Additionally, the owner must provide proof of the recording to the OSSF permitting authority. This recorded affidavit is not a representation or warranty by the commission of the suitability of this OSSF, nor does it constitute any guarantee by the commission that the appropriate OSSF was installed.

II

An OSSF requiring a maintenance contract, according to 30 Texas Administrative Code §285.91(12) will be installed on the property described as **(insert legal description)**: 14.23 ac. Charles Murhart survey abs No. 404

The property is owned by **(insert owner's full name)**: Alan Carranza, Member, Rebecca Creek Campgrounds, LLC

This OSSF must be covered by a continuous maintenance contract for the first two years. After the initial two-year service policy, the owner of an aerobic treatment system for a single family residence shall either obtain a maintenance contract within 30 days or maintain the system personally.

Upon sale or transfer of the above-described property, the permit for the OSSF shall be transferred to the buyer or new owner. A copy of the planning materials for the OSSF can be obtained from the Comal County Engineer's Office.

WITNESS BY HAND(S) ON THIS 10 DAY OF NOV, 2021

Owner(s) signature(s)

SWORN TO AND SUBSCRIBED BEFORE ME ON THIS 10 DAY OF NOV, 2021

Notary Public, State of Texas

Notary's Printed Name: Johnny Trigiano
My Commission Expires: 3-18-2023

JOHNNY TRIGIANO
Notary Public, State of Texas
Comm. Expires 03-18-2023
Notary ID 131935218

Filed and Recorded
Official Public Records
Bobbie Koepp, County Clerk
Comal County, Texas
11/10/2021 03:22:30 PM
CHRISTY 1 Page(s)
202106058593

Bobbie Koepp

Permit/License Number :_____
Regulatory Authority : ***Comal Co***

JT Environmental Services
13735 Greenwood rd
Atascosa Tx 78002
Cell (210) 347-8465

Customer: ***Rebecca Creek Campgrounds***
Site address: ***3660 Tanglewood Trl*** (System #4)
City: ***SpringBranch*** Zip: ***78070***
Phone: ***830-885-4035***
Email: rebeccacreekcampgrounds@gmail.com

Septic System Service Agreement

I. **General**: This work for Hire Agreement (hereinafter referred to as "agreement") is entered into and between ***Rebecca Creek Campgrounds*** (hereinafter referred to as "Customer") and JT Environmental Service. By this agreement , JT Environmental Service and it's employees (hereinafter inclusively referred to as "Contractor") agree to render services at the site address stated below, and described herein, and the Customer agrees to fulfill his/her/their responsibilities, as described herein. The designed flow rate for this system is a maximum of ***500*** gallons per day.

II. **Effective dates**: This Agreement commences on ***November 2021*** and ends on ***November 2023*** . If this is an initial agreement (New Installation), the Customer will notify the Contractor within two(2) business days of the systems first use to establish the date of commencement. If no notification is received by the Contractor within ninety (90) days after completion of the installation or where county authority mandates, the date of commencement will be the date the "License to Operate" (Notice of Approval) was issued by the permitting authority. This agreement may or may not commence at the same time as any warranty period of installed equipment, but in no case shall it extend the specified warranty.

III. **Renewal:** This agreement shall automatically renew each at the same terms, conditions ,and costs unless either party gives notice of termination a minimum of thirty (30) days prior to the end of the first agreement period. See section IV.

IV. **Termination of agreement:** This agreement may be terminated by either party with thirty (30) days written notice for any reason, including for example, substantial failure to perform in accordance with it's terms, without fault or liability of the terminating party. If this agreement is so terminated, Contractor will be paid at the rate of $75.00 per hour for any work performed and for which compensation has not been received. After the deduction of any remaining monies from Prepayment for services will be refunded to Customer within thirty(30) days. Either party terminating this agreement for any reason, including non-renewal, shall notify in writing the equipment manufacturer and the appropriate regulatory authority a minimum of thirty (30) days prior to the date of such termination. Non payment of any kind shall be considered breach of contract and a termination.

V. **Services:** Contractor Will:
a. Inspect and perform routine upkeep on the On-Site Sewage Facility (hereinafter referred to as OSSF) as recommended by the treatment systems manufacturer, and required by state and/or local regulation ,for a total of three(3) visits per year. (**Residential**)
b. Provide written record of each visit to the site by means of an inspection tag attached or contained in the control panel.
c. Repair of Replace, if Contractor has necessary materials on site, any component of the OSSF to be failing or inoperative during the course of a routine monitoring visit. If such services are not covered by warranty, and services cost are $100.00 or less. Customer hereby authorizes Contractor to perform the service and invoice Customer for said service. When service cost are greater than $100.00, or if the contractor does not have the necessary supplies on site, the customer will be notified of required services and associated costs. Customer must notify Contractor of arrangements to affect repair of

system within two(2) days of said notification.
d. Provide sample collection and laboratory testing of TSS and BOD on a yearly basis (commercial systems only, as aplicable)
e. Forward copies of this agreement and all reports to the regulatory agency and the Customer.
f. Visit the site in response to Customers request for unscheduled services within forty-eight (48) hours of the date of notification (weekends and holidays excluded) of said request. Unless otherwise covered by warranty, costs for such unscheduled responses will be billed to the customer.

VI. **Disinfection**: The Disinfection system will be maintained by the Customer. A cost estimate can be provided if the customer can not perform this function. Customer initial AC.

VII. **Electronic Monitoring is not included in this agreement.**

VIII. **Performance of agreement:** Commencement of performance under this agreement is contingent on the following conditions:

a. If this is a 1. Contractor receipt of fully executed original copy or facsimile of this agreement and all documentation requested by Contractor.
2. Contractors receipt of payment of the Wastewater-monitoring fee in accordance with the terms as described in section XIV of this agreement.

b. If the above conditions are not met, Contractor is not obligated to perform any portion of this agreement.

IX. **Customers Responsibilities:** The Customer is responsible for each and all of the following:

a. Provide all necessary yard and lawn maintenance and removal of obstacles, including but not limited to : Dogs and other animals, vehicles, trees, brush, trash, or debris as needed to allow the OSSF to function properly, and to allow Contractor safe and easy access to all parts of the OSSF.
b. Protect equipment from physical damage including but not limited to damaged caused by insects.
c. Maintain a current license to operate and abide by the conditions and limitations of that license and all requirements for an OSSF from the State and/or local regulatory agency, whichever are more stringent, as well as proprietary systems manufacturer recommendations.
d. Notify Contractor immediately of any and all alarms, and/or any and all problems with. including failure of the OSSF.
e. Provide upon request by Contractor, water usage records for evaluation by Contractor as to the performance of the OSSF.
f. Allow samples at both the inlet and outlet of the OSSF to be obtained by Contractor for the purpose of evaluation of the OSSF. If these samples are taken to a laboratory for testing, with the exception of the service provided under section V, subsection d, above. Customer agrees to pay contractor for sample collection and transportation, portal to portal, at a rate of $35.00 per hour, plus associated fees for laboratory testing.
g. Prevent the backwash or flushing of water treatment of conditioning equipment from entering the OSSF.
h. Prevent condensation from air conditioning, or refrigeration units, or ice maker drains, from hydraulically overloading the aerobic treatment units. Drain lines may discharge into the surface application pump tank if approved by the system designer.
i. Provide pumping and cleaning of tanks and treatment units, when as recommended by Contractor, at Customers expense.
j. Maintain site drainage to prevent adverse effects to the OSSF.
k. Pay promptly and fully, all Contractors fees, Bills, or invoices as described herein.

X. **Access by Contractor**: Contractor is hereby granted and easement to the OSSF for the purpose of performing services described herein. Contractor may enter during Contractors normal work hours and /or any reasonable hour without prior notice to Customer to perform services and/or repairs described herein. Contractor shall have access to the OSSF electrical and physical components.

Tanks and treatment units shall be accessible by means of man ways, or risers and removable covers, for the purpose of evaluation as required by state and/or local rules or proprietary system manufacturer. If not an initial agreement (new installation) and the access is not in place or provided by Customer, the cost for the labor of excavation, and possible other labor and material costs will be required. These costs shall be billed to the Customer as an additional service at a rate of $75.00 per hour, plus materials at list price. Excavated soil shall be replaced as best as can at the time of service, and under no circumstances is the Contractor responsible for damages to sod, grass, roots, landscaping, or any un-marked underground items (telephone, television, electrical, cable, water, gas, etc) or for the uneven settling of soil.

XI. **Limit of Liability**: Contractor shall not be held liable for any incidental, consequential, special damages, economic loss due to expense, loss of profits or income, loss of use to Customer, whether in contract tort of any other theory. In no event shall Contractor be liable in an amount exceeding the total fee for services amount paid by Customer under this agreement.

XII . **Severability:** If any provision of the "Proposal and Contract" shall be held to be invalid or un-enforceable for any reason, the remaining provisions shall continue to be valid and enforceable. If a court finds that any provision of the "agreement" is invalid or un-enforceable, but that by limiting such provisions is would become valid and enforceable, then such provisions shall be deemed to be written, constructed and enforces as so limited.

XIII. Fee for services: The cost for this agreement is **$465.00** (Four hundred Sixty Five). This fee only involves the regularly scheduled required inspection service described herein section **V. Services.** The Fee does not include any equipment, material, labor necessary for non-warranty repairs, unscheduled inspections, or Customer requested visits to site.

Price Schedule for common (not covered) services:

Customer requested site visits (Call Outs)	***$100.00***
Site evaluation for existing OSSF (N/A if a service contract is initiated)	
Samples necessary for Regulatory authority compliance, not required by the STATE	
For all other services/repairs, the contractor will provide a cost estimate to the customer.	

XIV. **Payment:** Full amount due upon signature (required of new customers). Payment of invoices for any other service or repair provided by Contractor are due upon receipt of invoice.

XV. **Application or transfer of payment:** The fees paid for this agreement may transfer to the subsequent property owner; however this agreement is not transferable. Customer will advise subsequent property owner of the state requirement that they sign a replacement agreement authorizing Contractor to perform the herein described services. and accepting the Customers responsibilities. This replacement agreement must be signed and received in the Contractors office within ten (10) days of the date of transfer of property ownership. Contractor will apply all funds received from Customer, first to any past due obligations arising form this agreement including fees or charges for service or repairs. Any remaining monies will be applied to the funding of the replacement agreement. The consumption of funds in this manner may result in a reduction in the termination date of effective coverage per this agreement. See section IV.

XVI. **Entire agreement:** This agreement contains the entire Agreement of the parties, and there are no other conditions in any other agreement, oral or written.

Theodore G. Knappick MP#0002213 Customer Signature 11/15/2021 Date

OSSF DESIGN

for

Rebecca Creek Campgrounds

Design as required by
30 TAC Chapter 285

MANGOLD ENGINEERING COMPANY
5596 CR 5710
DEVINE, TEXAS 78016
PHONE: (830) 931-0400
PHONE: (210) 213-3912
FIRM NO. F-5549

Cypress Cove Water Supply Corporation
180 Tanglewood Trail Ct., Spring Branch, TX 78070
Email – ccwsc@gvtc.com
Office – 830-885-2440 / www.cypresscovewsc.com

April 6, 2022

Comal County Engineer's Office (CCEO)
Subject: Notice of Septic placement Permission

Regarding the Rebecca Creek Campgrounds at
3660 Tanglewood Trail
Spring Branch, TX 78070

To Whom It May Concern at Comal County Engineers Office,

The Rebecca Creek Campgrounds has permission to place its septic lines across any of Cypress Cove Water Supply's (CCWSC) easements as necessary.

Sincerely,

Angelyn Price
Administrative Office Manager

REVISED
9:53 am, Feb 14, 2023

SITE EVALUATION AND CALCULATIONS

Site Evaluation:

Soil Texture:	Clay loam
Soil Structure:	Blocky
Soil Depth:	18" minimum
Restrictive Horizon:	At 18” min. from surface
Groundwater:	None encountered
Topography:	More than 2% slope on drainfield area

Determination: Site was determined to have a Class III soil. Due to the park layout and rock horizon an aerobic treatment unit followed by drip irrigation shall be installed.

Calculations:

System # 4; the calculated flow based on water records is 250 gpd. The system shall be over designed to match the TCEQ designated flow of 360 gpd. Reference design 100-8497F for calculations and layout. Water saving devices are used throughout.

Q = 9 RV (40 gpd / RV)= **360 gpd**

A Pro Flo 5060S 600 gallon aerobic treatment system was installed. It has built in pre-treatment tank and pump tank. The aerobic unit shall be a drip irrigation system. (Reference the System Layout) Chlorinator is required for water entering pump tank. Liquid type chlorination shall be used.

Ra = **0.20 gal. / sq. ft. / day,** **(For a Class III soil)**

A = Q / Ra, **A** = (360 gal. / day) / (0.20 gal. / sq. ft. / day) = **1800 sq. ft.**

calculations continued on next page....

Owner	Rebecca Creek Campgrounds	**Drawn by:**	Kaeleigh R. Crandall
Location	Comal County, Texas	**Drawing No.**	100-8495F

MANGOLD Engineering Company
5596 CR 5710
Devine, TX 78016
Phone: (830) 931-0400

Date: 2/13/23
Scale: None
Sheet 1 **of** 5

Kaeleigh Rose Crandall
STATE OF TEXAS
KAELEIGH ROSE CRANDALL
134570
LICENSED
PROFESSIONAL ENGINEER
2/13/23

SITE EVALUATION AND CALCULATIONS

REVISED
8:29 am, Dec 12, 2022

Calculations:

Emitter line shall be used which has emitters spaced at 2 foot intervals, and adjacent emitter lines shall also be spaced at 2 feet on center.

Required line length = A / 2 = (1800 sq. ft. / 2 sq. ft. per foot) = **900 feet**
1000' of drip line shall be installed as shown on the System Layout

A 1" SCH 40 PVC supply line shall be used from the ATU systems pump tank to the drainfield. A 1" SCH 40 PVC return line from the drainfield back to the pump tank shall be provided. The system shall be set up in accordance with NuWater specifications. (Contact manufacturer for complete specifications and reference the System Layout and details)

NOTES FOR INSTALLER (if applicable):

Do not connect water softener back-wash to septic system.

The TCEQ allows washing machine water to be discharged into a separate gray water system unless the water contains human waste. Running this water out separate from the septic system can prolong the life of the system.

A Netafim 1" "Super Filter" 200 mesh/55 micron, shall be installed in a riser in the outlet line of the pump tank compartment.

Connect the 1" "Super Filter" and assemble in accordance with manufacturers specifications..

Contact NuWater dealer for complete specifications. All required specifications may not be contained in this design.

Owner	Rebecca Creek Camgrounds	**Drawn by:**	Kaeleigh R. Crandall
Location	See sheet #1	**Drawing No.**	100-8495A

MANGOLD Engineering Company
5596 CR 5710
Devine, TX 78016
Phone: (830) 931-0400

Date: 12/5/22
Scale: None
Sheet 2 **of** 5

Kaeleigh R. Crandall
STATE OF TEXAS
KAELEIGH ROSE CRANDALL
134570
LICENSED
PROFESSIONAL ENGINEER
12/5/22

REVISED
9:56 am, Apr 07, 2022

SITE EVALUATION AND CALCULATIONS

The design pressure at the emitters is as specified by the manufacturer.

The total length of supply and return pipe is as shown on the System Layout

Diameter of supply and return lines is as shown on the System Layout.

NOTES TO OWNER OF SYSTEM:
MAINTENANCE AND MANAGEMENT PRACTICES (if applicable):

An OSSF should not be treated as if it were a normal city sewer system.

The excessive use of in-sink garbage grinders and grease discarding should be avoided.

Do not use the toilet to dispose of cleaning tissues, cigarette butts, or other trash.

Septic tanks shall be cleaned before sludge accumulates to a point where it approaches the bottom of the outlet device, to prevent solids from exiting the tank with the liquid.

Septic tanks should be cleaned every two-to-three years to prevent excessive sludge buildup.

Do not build driveways, storage buildings, or other structures over the treatment works or its disposal field.

Chemical additives or the so-called enzymes are not necessary for the operation of a septic tank. Some of these additives may be harmful to the tank's operation.

continued next page.....

Owner	Rebecca Creek Camgrounds	**Drawn by:**	Kaeleigh R. Crandall
Location	See sheet #1	**Drawing No.**	100-8495

MANGOLD Engineering Company
5596 CR 5710
Devine, TX 78016
Phone: (830) 931-0400

Date: 3/10/22
Scale: None
Sheet 3 **of** 5

Kaeleigh R. Crandall
STATE OF TEXAS
KAELEIGH ROSE CRANDALL
134570
LICENSED
PROFESSIONAL ENGINEER
3/10/22

REVISED
9:56 am, Apr 07, 2022

SITE EVALUATION AND CALCULATIONS

Soaps, detergents, bleaches, drain cleaners, and other household cleaning materials will very seldom affect the operation of the system. However, moderation should be exercised in the use of such materials.

It is not advisable to allow water softener back flush to enter into any portion of the OSSF.

Except for Aerobic systems, the liquid from the OSSF is still heavily laden with bacteria. Contact with this liquid should be avoided, if it surfaces.

WATER CONSERVATION MEASURES (if applicable):

Showers usually use less water than baths. Install a water saving shower head that uses less than 2 1/2 gallons per minute and saves both water and energy.

If you take a tub bath, reduce the level of water in the tub from the level to which you customarily fill it.

Leaky faucets and faulty toilet fill-up mechanisms should be repaired as quickly as possible.

Check toilets for leaks that may not be apparent. Add a few drops of food coloring to the tank. Do not flush. If the color appears in the bowl within a few minutes, the toilet fill or ball-cock valve needs to be adjusted to prevent water from overflowing the stand pipe, or the flapper at the bottom of the toilet tank needs to be replaced.

Reduce the amount of water used for flushing the toilet by installing one of the following: a new toilet (1.6 gallon); a toilet tank dam; or filling and capping one-quart plastic bottles with water (usually one is all that will fit in smaller toilet tanks) and lowering them into the tank of the existing 3.5 gallon or larger toilet. Do not use bricks since they may crumble and cause damage to the fixture.

continued next page.....

Owner	Rebecca Creek Camgrounds	**Drawn by:**	Kaeleigh R. Crandall
Location	See sheet #1	**Drawing No.**	100-8495

MANGOLD Engineering Company
5596 CR 5710
Devine, TX 78016
Phone: (830) 931-0400

Date: 3/10/22
Scale: None
Sheet 4 **of** 5

Kaeleigh R. Crandall
STATE OF TEXAS
KAELEIGH ROSE CRANDALL
134570
LICENSED
PROFESSIONAL ENGINEER
3/10/22

REVISED
9:57 am, Apr 07, 2022

SITE EVALUATION AND CALCULATIONS

Try to run the dishwasher with a full load, whenever possible.

Avoid running the water continuously for brushing teeth, washing hands, rinsing kitchen utensils, or for cleaning vegetables.

Use faucet aerators that restrict flow to no more than 2.2 gallons per minute to reduce water consumption.

Keep a container of drinking water in the refrigerator instead of running the faucet until the water turns cool.

Insulate all hot water pipes to avoid long delays of wasted water while waiting for the heated water.

Ask your city, county, or local government about their programs to conserve water, and how they can help you save water.

Owner	Rebecca Creek Camgrounds	**Drawn by:**	Kaeleigh R. Crandall
Location	See sheet #1	**Drawing No.**	100-8495

MANGOLD Engineering Company
5596 CR 5710
Devine, TX 78016
Phone: (830) 931-0400

Date: 3/10/22
Scale: None
Sheet 5 **of** 5

Kaeleigh R. Crandall
KAELEIGH ROSE CRANDALL
134570
LICENSED
PROFESSIONAL ENGINEER
3/10/22

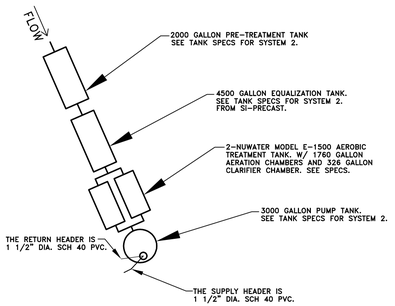
As a condition of this permit submittal, a meter must be installed on the outflow line of the pump tank. The readings from this meter must be recorded on a daily basis and submitted to the Comal County Environmental Health Department once a month for 12 months from the date the License to Operate is issued. If at any time the daily meter reading exceeds the permitted flow rate this permit will be void and a new permit must be obtained.

REVISED
9:02 am, Feb 14, 2023

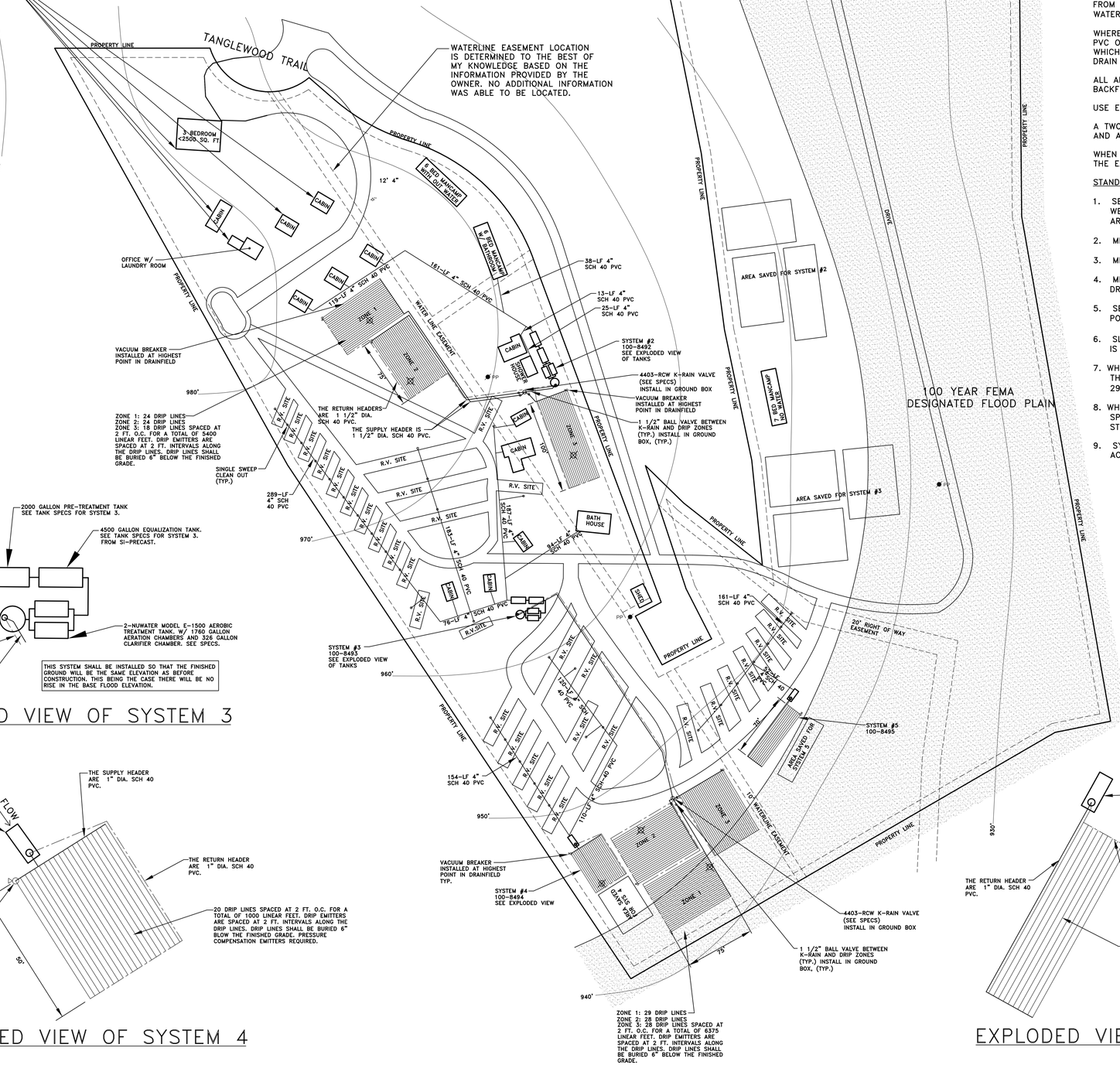
THE INSTALLATION OF THE 4 PROPOSED SEPTIC SYSTEMS WILL DISTURB LESS THAN 5 ACRES. THEREFORE PER 30 TAC 213.21, A CONTRIBUTING ZONE PLAN IS NOT REQUIRED FOR THIS ACTIVITY.

LEGEND:
10' UTILITIES EASEMENT
DRIP SUPPLY LINE
DRIP RETURN LINE
SOIL EVALUATION POINTS

THIS EXISTING SYSTEM #1 IS GRAND FATHERED IN, AS OF 9-28-21 REFERENCE EMAIL FROM ROBERT BOYD, P.E., COMAL COUNTY ASSISTANT ENGINEER.



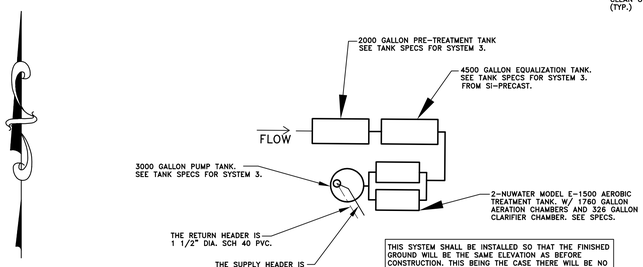
EXPLODED VIEW OF SYSTEM 2



SCALE: 1" = 60'

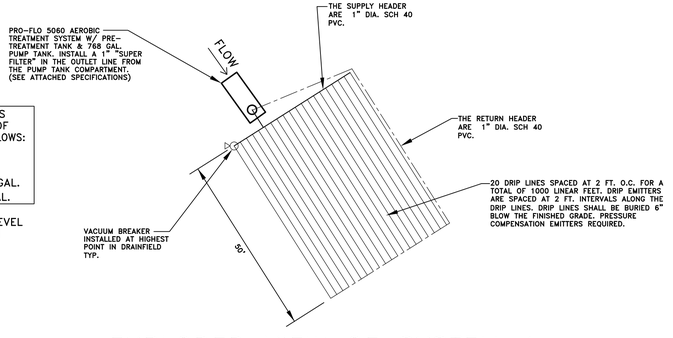
SYSTEM LAYOUT

60 0 60 120



THIS SYSTEM SHALL BE INSTALLED SO THAT THE FINISHED GROUND WILL BE THE SAME ELEVATION AS BEFORE CONSTRUCTION. THIS BEING THE CASE THERE WILL BE NO RISE IN THE BASE FLOOD ELEVATION.

EXPLODED VIEW OF SYSTEM 3

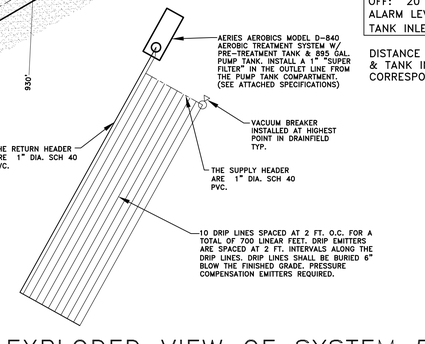


FLOAT SETTINGS & DISTANCES ABOVE THE INSIDE BOTTOM OF THE PUMP COMPT. ARE AS FOLLOWS:

ON: 18" – 260 GAL.
OFF: 17" – 246 GAL.
ALARM LEVEL: 43" – 693 GAL.
TANK INLET: 53" – 768 GAL.

DISTANCE BETWEEN ALARM LEVEL & TANK INLET IS 10" WHICH CORRESPONDS TO 145 GAL.

EXPLODED VIEW OF SYSTEM 4



FLOAT SETTINGS & DISTANCES ABOVE THE INSIDE BOTTOM OF THE PUMP COMPT. ARE AS FOLLOWS:

ON: 21" – 304 GAL.
OFF: 20" – 290 GAL.
ALARM LEVEL: 43" – 623 GAL.
TANK INLET: 53" – 768 GAL.

DISTANCE BETWEEN ALARM LEVEL & TANK INLET IS 10" WHICH CORRESPONDS TO 145 GAL.

EXPLODED VIEW OF SYSTEM 5

SITE NOTES:

ALL EXISTING UNDERGROUND UTILITIES SHALL BE LOCATED AMD MARKED BEFORE ANY EXCAVATION BEGINS.

EXISTING WATER LINE LOCATIONS ARE UNDETERMINED. SEE WATER CASING NOTE AS REQUIRED.

WHERE A WATER LINE IS CLOSER THAN 10' TO A WASTEWATER MAIN, THE WATER LINE SHALL BE CASED INSIDE OF A SCH 40 PVC PIPE SUCH THAT THE ENDS OF THE CASING ARE AT LEAST. 10' AWAY FROM THE WASTEWATER MAIN. IN ADDITION, IF THE LINES CROSS, THE WATER LINE SHALL BE AT LEAST 6" ABOVE THE WASTEWATER MAIN.

WHERE DRAIN LINES PASS UNDER ROADWAYS, THEY SHALL BE SCH 80 PVC OR THEY SHALL BE SLEEVED INSIDE OF A SCH 40 PVC PIPE WHICH IS AT LEAST TWO NOMINAL PIPE SIZES LARGER THAN THE DRAIN LINE.

ALL ABANDONED SEPTIC TANKS SHALL BE LOCATED, PUMPED, BACKFILLED & CAVED-IN.

USE EXISTING SEWER LINES UNDER R.V. SITES WHERE POSSIBLE.

A TWO-WAY CLEAN OUT SHALL BE INSTALLED BETWEEN THE BUILDING AND AEROBIC TANKS.

WHEN CROSSING EASEMENT LINES, PERMISSION SHALL BE GRANTED BY THE EASEMENT HOLDER BEFORE ANY EXCAVATION BEGINS.

STANDARD NOTES:

1. SEPTIC TANK MUST BE A MINIMUM OF 50' FROM ANY WATER WELL. CLOSEST DISTANCE FROM ANY PART OF THE DRAINFIELD AREA TO A WATER WELL MUST BE 100' MINIMUM.
2. MINIMUM SETBACK OF SPRAY AREA FROM PROPERTY LINE IS 20'.
3. MINIMUM SETBACK OF DRIP AREA FROM PROPERTY LINE IS 5'.
4. MINIMUM SEPARATION DISTANCE BETWEEN SEPTIC TANK OR DRAINFIELD AREA AND WATER SUPPLY LINES IS 10'.
5. SETBACK OF SPRAY OR DRIP AREA FROM LAKES, STREAMS, PONDS, AND RIVERS IS 50' MINIMUM.
6. SLOPE OF INFLOW LINE TO TANK IS $\frac{1}{8}$ INCH PER FOOT RUN. PIPE IS 4" SCH 40 PVC.
7. WHERE PARALLEL SEWER AND NEW WATER LINES ARE CLOSER THAN 9' THE REQUIREMENTS SPECIFIED IN TCEQ, SUBCHAPTER D, 290.44(e)(4)(A) SHALL BE STRICTLY FOLLOWED.
8. WHERE SEWER AND NEW WATER LINES CROSS, THE REQUIREMENTS SPECIFIED IN TCEQ, SUBCHAPTER D, 290.44(e)(4)(B) SHALL BE STRICTLY FOLLOWED.
9. SYSTEM SHALL BE INSPECTED BY THE COUNTY INSPECTOR IN ACCORDANCE WITH CURRENT COUNTY INSPECTION PROCEDURES.

PER COUNTY REQUIREMENTS, A FLOW METER SHALL BE INSTALLED ON THE SUPPLY LINE AND RETURN LINE OF EACH AEROBIC UNIT FOLLOWED BY A DRIP IRRIGATION SYSTEM. FOR THE AEROBIC UNIT WITH SPRAY ONLY ONE METER SHALL BE INSTALLED ON THE SUPPLY LINE TO THE SPRINKLER. THE FLOW TO EACH SEPTIC SYSTEM SHALL BE METERED. EACH SYSTEM SHALL BE MONITORED, RECORDED & SUBMITTED TO COMAL COUNTY FOR ONE YEAR TO VERIFY NO MORE THAN THE PERMITTED FLOW IS USED FOR EACH SYSTEM.

Plans For:
REBECCA CREEK CAMPGROUNDS

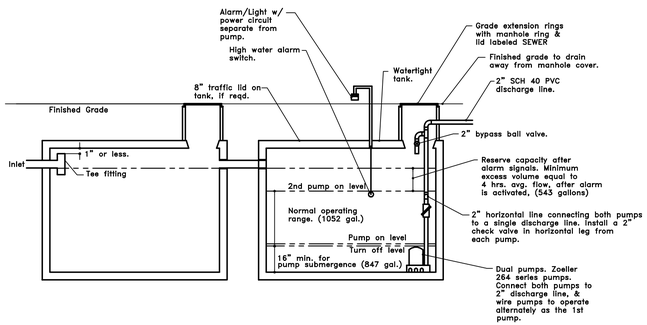
MANGOLD ENGINEERING COMPANY
5596 CR 5710
Devine, Texas 78016
FIRM NO. F-5549
Phone: (830) 931-0400
Phone: (210) 213-3912

Dwg: 100-8497
Date: 1/27/23
Revision: H
Drawn: K. Crandall
Sheet: 1 of 2

Kaleigh Crandall
STATE OF TEXAS
KAELEIGH ROSE CRANDALL
134570
LICENSED PROFESSIONAL ENGINEER
1/27/23

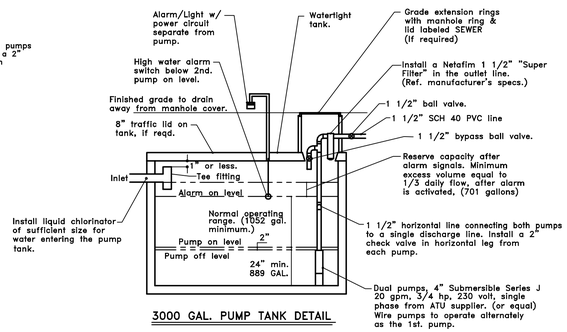
REVISED
10:16 am, Dec 16, 2022

SYSTEM #2 TANK SPECS:



2000 GAL. PRE-TREATMENT TANK & 4500 GALLON EQUALIZATION TANK

SET VALVES, FLOATS, AND TIMERS TO DELIVER A MAXIMUM OF 16 GAL./MIN., AND 61 GALLONS PER HOUR TO THE AEROBIC TREATMENT UNITS, TOTAL.



3000 GAL. PUMP TANK DETAIL

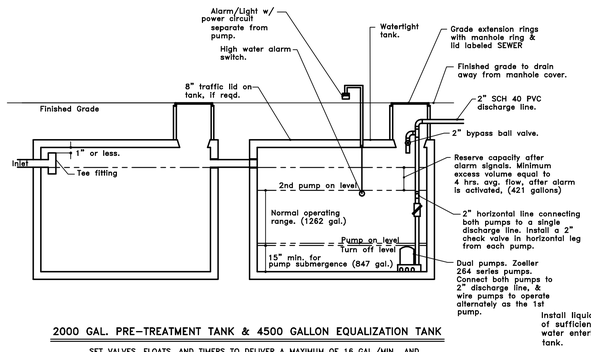
NOTES:

THE ALARM ON LEVEL SHALL BE BELOW THE 2ND PUMP ON LEVEL. THE ALARM SYSTEM SHALL HAVE A LOCK-ON FEATURE SO THAT ONCE IT IS ACTIVATED, IT WILL NOT GO OFF WHEN THE 2ND PUMP DRAWS THE LIQUID LEVEL BELOW THE ALARM ON LEVEL. BOTH AUDIO AND VISUAL ALARMS SHALL HAVE A MANUAL SILENCE SWITCH.

ALL ELECTRICAL WIRING SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE NATIONAL ELECTRIC CODE. CONNECTIONS SHALL BE IN APPROVED JUNCTION BOXES AND ALL EXTERNAL POWER WIRING SHALL BE IN APPROVED ELECTRICAL CONDUIT, BURIED, AND TERMINATED AT A MAIN CIRCUIT BREAKER PANEL OR SUB-PANEL. ALL ELECTRICAL COMPONENTS SHOULD HAVE AN ELECTRICAL DISCONNECT WITHIN DIRECT VISION. ELECTRICAL DISCONNECTS MUST BE WEATHERPROOF (APPROVED FOR OUTDOOR USE) AND HAVE MAINTENANCE LOCKOUT PROVISIONS.

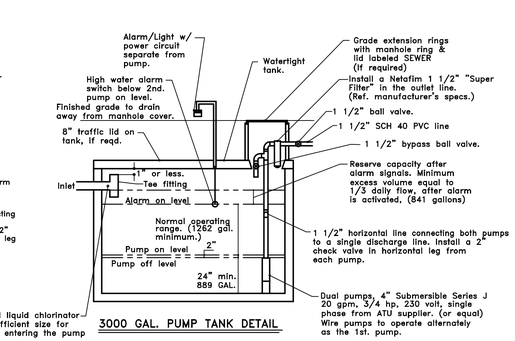
USE A LARGER TANK IF REQUIRED TO MEET MINIMUM STORAGE REQUIREMENTS.

SYSTEM #3 TANK SPECS:



2000 GAL. PRE-TREATMENT TANK & 4500 GALLON EQUALIZATION TANK

SET VALVES, FLOATS, AND TIMERS TO DELIVER A MAXIMUM OF 16 GAL./MIN., AND 74 GALLONS PER HOUR TO THE AEROBIC TREATMENT UNITS, TOTAL.



3000 GAL. PUMP TANK DETAIL

NOTES:

THE ALARM ON LEVEL SHALL BE BELOW THE 2ND PUMP ON LEVEL. THE ALARM SYSTEM SHALL HAVE A LOCK-ON FEATURE SO THAT ONCE IT IS ACTIVATED, IT WILL NOT GO OFF WHEN THE 2ND PUMP DRAWS THE LIQUID LEVEL BELOW THE ALARM ON LEVEL. BOTH AUDIO AND VISUAL ALARMS SHALL HAVE A MANUAL SILENCE SWITCH.

ALL ELECTRICAL WIRING SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE NATIONAL ELECTRIC CODE. CONNECTIONS SHALL BE IN APPROVED JUNCTION BOXES AND ALL EXTERNAL POWER WIRING SHALL BE IN APPROVED ELECTRICAL CONDUIT, BURIED, AND TERMINATED AT A MAIN CIRCUIT BREAKER PANEL OR SUB-PANEL. ALL ELECTRICAL COMPONENTS SHOULD HAVE AN ELECTRICAL DISCONNECT WITHIN DIRECT VISION. ELECTRICAL DISCONNECTS MUST BE WEATHERPROOF (APPROVED FOR OUTDOOR USE) AND HAVE MAINTENANCE LOCKOUT PROVISIONS.

USE A LARGER TANK IF REQUIRED TO MEET MINIMUM STORAGE REQUIREMENTS.

CALCULATIONS TO DETERMINE PERMITTED FLOW FOR COMAL COUNTY:

THE PERMITTED FLOW FOR EACH SYSTEM IS BASED ON WATER RECORDS PROVIDED BY THE OWNER OVER AN ENTIRE YEAR. THE TCEQ DAILY FLOW FOR THE PARK SHALL BE USED TO SIZE EACH SYSTEM. A DIRECT RATIO WILL BE USED TO DETERMINE HOW THAT WATER IS DISTRIBUTED THROUGHOUT THE PARK FOR THE PERMIT APPLICATIONS. SEE CALCULATIONS BELOW.

MAXIMUM DAILY DEMAND FROM FEBRUARY LODGE WATER (100510 GALLONS) AND APRIL CABINS WATER RECORDS (30480 GALLONS)

100510 GALLONS / 28 DAYS OF FEBRUARY = 3590 GPD
30480 GALLONS / 30 DAYS OF APRIL = 1016 GPD
$Q_{TOTAL-PARK-WATER-USAGE}$ = 4606 GPD

DIRECT RATIO EQUATION:

$$\frac{Q_{TCEQ-COMPONENT}}{Q_{TCEQ-TOTAL-PARK}} = \frac{Q_{COMPONENT}}{Q_{TOTAL-PARK-WATER-RECORDS}}$$

FOR SYSTEM 1 $Q_{TCEQ\ COMPONENT}$:

3 BEDROOM <2500 SQ. FT. Q = 240 GPD
OFFICE W/5 EMPLOYEES Q= 5 EMPLOYEES(4 GPD/ PERSON)=20 GPD
LAUNDRY ROOM W/ 4 WASHING MACHINES
Q= 4 WASHING MACHINES (200 GPD / MACHINE) = 800 GPD
3 CABINS (AS AN APARTMENT)
Q= 100 GPD/ CABIN (3 CABINS) = 300 GPD

$Q_{TCEQ\ COMPONENT}$ = 1360 GPD SYSTEM #1

FOR SYSTEM 2 $Q_{TCEQ\ COMPONENT}$:

4 CABINS (AS AN APARTMENT)
Q= 100 GPD/ CABIN (4 CABINS) = 400 GPD
6 BED MANCAMP WITH 1 COMMON BATHROOM (SIZED AS HOTEL ROOM)
Q = 60 GPD / BED (6 BEDS) = 360 GPD
SHOWER HOUSE Q = 1344 GPD (TOTAL BATH USAGE EQUALLY DIVIDED AMONGST BOTH SHOWER HOUSES. SEE CALCULATIONS FOR EXPLANATION)

$Q_{TCEQ\ COMPONENT}$ = 2104 GPD SYSTEM #2

FOR SYSTEM 3 $Q_{TCEQ\ COMPONENT}$:

Q = 17 RV (40 GPD / RV) = 680 GPD
5 CABINS (AS AN APARTMENT)
Q= 100 GPD/ CABIN (5 CABINS) = 500 GPD
BATH HOUSE Q = 1344 GPD (TOTAL BATH USAGE EQUALLY DIVIDED AMONGST BOTH SHOWER HOUSES. SEE CALCULATIONS FOR EXPLANATION)

$Q_{TCEQ\ COMPONENT}$ = 2524 GPD SYSTEM #3

FOR SYSTEM 4 $Q_{TCEQ\ COMPONENT}$:

9 RV SITES (40 GPD) = 360 GPD

$Q_{TCEQ\ COMPONENT}$ = 360 GPD SYSTEM #4

FOR SYSTEM 5 $Q_{TCEQ\ COMPONENT}$:

7 RV SITES (40 GPD) = 280 GPD

$Q_{TCEQ\ COMPONENT}$ = 280 GPD SYSTEM #5

FLOW FOR BATH HOUSE & SHOWER HOUSE:

USAGE FROM RV Q= 28 GPD/ RV (33 TOTAL RV) = 924 GPD
USAGE FROM CAMPSITES
Q = 25 CAMPSITES (2 PEOPLE/ SITE) (28 GPD / SHOWER) = 1400 GPD
USAGE FROM MANCAMPS
Q = 13 BEDS (28 GPD) = 364 GPD

Q TOTAL = 2688 GPD FOR BOTH BATHHOUSE & SHOWER HOUSE
FOR CONSERVATISM THIS IS MORE THAN THE RECOMMENDED TCEQ FLOW

TOTAL FLOW FOR ENITRE PARK PER TCEQ:

$Q_{TCEQ-TOTAL-COMPONENT}$=1360 GPD + 2104 GPD + 2524 GPD + 360 GPD + 280 GPD= 6628 GPD

DIRECT RATIO FOR SYSTEM 1 $Q_{COMPONENT}$:

$$\frac{1360\ GPD\ TCEQ\ COMPONENT}{6628\ TCEQ\ TOTAL} = \frac{Q\ COMPONENT}{4606\ TOTAL\ PARK\ WATER\ RECORDS}$$

Q PERMITTED COMPONENT = 946 GPD FOR SYSTEM #1

DIRECT RATIO FOR SYSTEM 2 $Q_{COMPONENT}$:

$$\frac{2104\ GPD\ TCEQ\ COMPONENT}{6628\ TCEQ\ TOTAL} = \frac{Q\ COMPONENT}{4606\ TOTAL\ PARK\ WATER\ RECORDS}$$

Q PERMITTED COMPONENT = 1463 GPD FOR SYSTEM #2

DIRECT RATIO FOR SYSTEM 3 $Q_{COMPONENT}$:

$$\frac{2524\ GPD\ TCEQ\ COMPONENT}{6628\ TCEQ\ TOTAL} = \frac{Q\ COMPONENT}{4606\ TOTAL\ PARK\ WATER\ RECORDS}$$

Q PERMITTED COMPONENT = 1755 GPD FOR SYSTEM #3

DIRECT RATIO FOR SYSTEM 4 $Q_{COMPONENT}$:

$$\frac{360\ GPD\ TCEQ\ COMPONENT}{6628\ TCEQ\ TOTAL} = \frac{Q\ COMPONENT}{4606\ TOTAL\ PARK\ WATER\ RECORDS}$$

Q PERMITTED COMPONENT = 251 GPD FOR SYSTEM #4

DIRECT RATIO FOR SYSTEM 5 $Q_{COMPONENT}$:

$$\frac{280\ GPD\ TCEQ\ COMPONENT}{6628\ TCEQ\ TOTAL} = \frac{Q\ COMPONENT}{4606\ TOTAL\ PARK\ WATER\ RECORDS}$$

Q PERMITTED COMPONENT = 195 GPD FOR SYSTEM #5

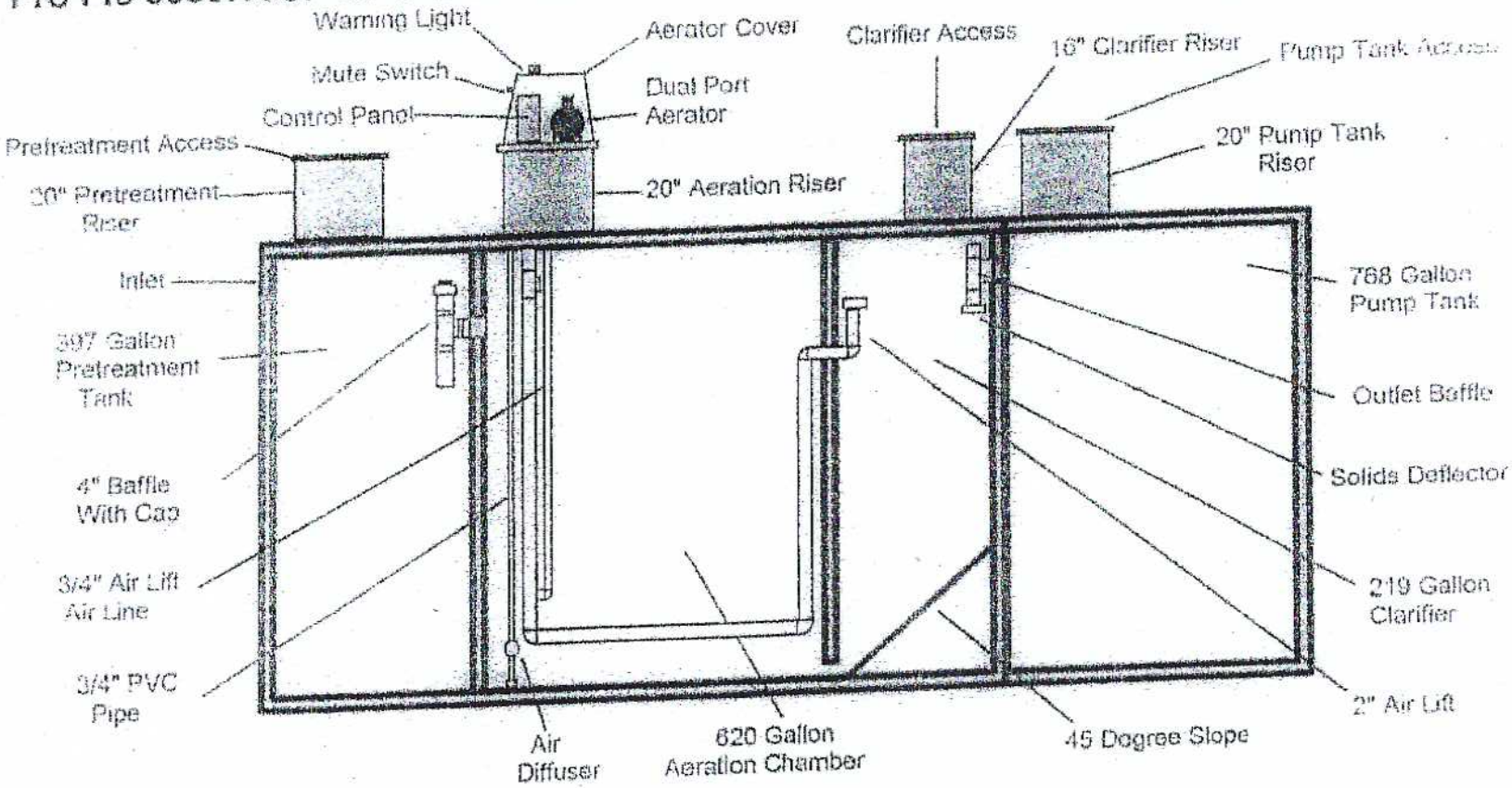
Plans For:
REBECCA CREEK
CAMPGROUNDS

MANGOLD ENGINEERING COMPANY
5596 CR 5710
Devine, Texas 78016
FIRM NO. F-5549
Phone: (830) 931-0400
Phone: (210) 213-3912

Dwg: 100-8497
Date: 12/14/22
Revision: F
Drawn: K. Crandall
Sheet: 2 of 2

Kaleigh Crandall
STATE OF TEXAS
KALEIGH ROSE CRANDALL
134570
LICENSED PROFESSIONAL ENGINEER
12/14/22

Pro Flo 5060HCSP GPD Unit with 397 Gallon Pretreatment and 768 Gallon Pump Tank Affixed



All Gallonage Approximate
Drawing Not to Scale
Configuration May Vary

Note: Unit Tested Did Not Have Affixed Pretreatment or Pump Tank

Note: If the wall between the clarifier and aeration chamber is a drop in wall, the thickness shall be 2-1/2"

Overall Length -Top 159" Bottom 155"
Overall Width - Top 68" Bottom 64"
Height Without Risers - 71"
Exterior Wall Thickness - 3"
Interior Wall Thickness - Top 2" Bottom 3"
Top & Bottom Thickness - Top 5" Bottom 3"
Pretreatment Length - Top 29-1/4" Bottom 26-3/4"
Aeration Length - Top 44" Bottom 43"
Clarifier Length - Top 18-1/2" Bottom 17-1/2"
Pump Tank Length - Top 55-1/4" Bottom 52-3/4"
Water Level - 55"
Air Diffuser - 27"
Bottom of Inlet to Bottom of Tank - 60-1/2"
Total Tank Weight (Empty) - 17,710#*
(*actual scaled weight)

Revised 7/19/13 5060HCSP-N

Pro Flo 5060HCSP

REVISED
11:15 am, Apr 07, 2022

OSSF DESIGN

for

Rebecca Creek Campgrounds

Water Records

REVISED
11:15 am, Apr 07, 2022

Wednesday, May 26, 2021

Reprinted for: 5/25/2021
12:43:07PM

USAGE SUMMARY

Cypress Cove Water Supply Corporat

MONTH	TOTAL USAGE	# CUSTOMERS	MONTH AVG	DAILY AVG	% OF YEARLY USAGE
January	39920	1	39,920	1,288	5.41
February	100510	1	100,510	3,590	13.62
March	49430	1	49,430	1,595	6.70
April	50050	1	50,050	1,668	6.78
May	79700	1	79,700	2,571	10.80
June	81450	1	81,450	2,715	11.04
July	71140	1	71,140	2,295	9.64
August	85390	1	85,390	2,755	11.58
September	60960	1	60,960	2,032	8.26
October	46030	1	46,030	1,485	6.24
November	38280	1	38,280	1,276	5.19
December	34830	1	34,830	1,124	4.72
Total Usage	737,690gallons	12			100.00
Total Sales		5,388.67	Average Sales	5,388.67	
Monthly Avg.	61,474		**Daily Avg.**	2,021	

Individual Accounts
Cypress Cove Water Supply Corp

Lodge

REVISED
11:16 am, Apr 07, 2022

Wednesday, May 26, 2021

Reprinted for: 5/25/2021
12:42:17PM

USAGE SUMMARY

Cypress Cove Water Supply Corporat

MONTH	TOTAL USAGE	# CUSTOMERS	MONTH AVG	DAILY AVG	% OF YEARLY USAGE
January	7630	1	7,630	246	4.34
February	12850	1	12,850	459	7.32
March	12170	1	12,170	393	6.93
April	30480	1	30,480	1,016	17.35
May	19260	1	19,260	621	10.96
June	21120	1	21,120	704	12.02
July	16830	1	16,830	543	9.58
August	16950	1	16,950	547	9.65
September	12440	1	12,440	415	7.08
October	9420	1	9,420	304	5.36
November	9600	1	9,600	320	5.47
December	6910	1	6,910	223	3.93
Total Usage	175,660gallons	12			100.00
Total Sales		1,469.64	Average Sales	1,469.64	
Monthly Avg.	14,638		**Daily Avg.**	481	

Individual Accounts
Cypress Cove Water Supply Corp

Cabins

REVISED
11:16 am, Apr 07, 2022

OSSF DESIGN

for

Rebecca Creek Campgrounds

Specifications

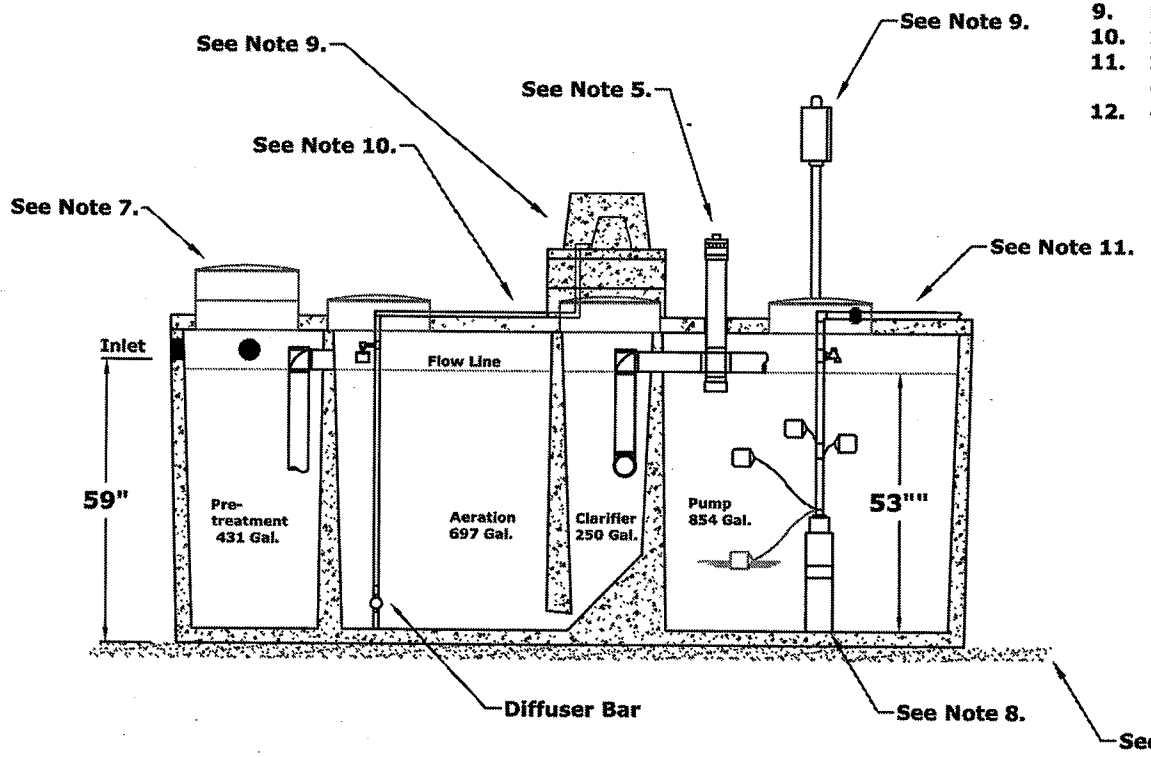
Assembly Details

OSSF

REVISED
11:16 am, Apr 07, 2022

DIMENSIONS:
Outside Height: 67"
Outside Width: 75"
Outside Length: 164.5"

MINIMUM EXCAVATION DIMENSIONS:
Width: 87"
Length: 177"



GENERAL NOTES:

1. Plant structure material to be precast concrete and steel.
2. Maximum burial depth is 30" from slab top to grade.
3. Weight = 16,700 lbs.
4. Treatment capacity is 800 GPD. Pump compartment set-up for a 420 GPD Flow Rate (5 beedroom, < 4,501 sq/ft living aera). Please specify for additional set-up requirements. BOD Loading = 2.60 lbs. per day.
5. Standard tablet chlorinator or Optional Liquid chlorinator. NSF approved chlorinators (tablet & liquid) available.
6. Bio-Robix B-800 Control Center w/ Timer for night spray application. Optional Micro Dose (min/sec)timer available for drip applications. Electrical Requirement to be 115 Volts, 60 Hz, Single Phase, 30 AMP, Grounded Receptacle.
7. 20" Ø acess riser w/ lid (Typical 4). Optional extension risers available.
8. 20 GPM 1/2 HP, high head effluent pump.
9. HIBLOW Air Compressor w/ concrete housing.
10. 1/2" Sch. 40 PVC Air Line (Max. 50 Lft from Plant).
11. 1" Sch. 40 PVC pipe to distribution system provided by contractor.
12. 4" min. compacted sand or gravel pad by Contractor

NuWater B-800
Aerobic Treatment Plant (Assembled)

Model: B-800

March, 2010
By: A.S.

Scale:
* All Dimensions subject to allowable specification tolerances.

Dwg. #: ADV-B800-2

Advantage Wastewater Solutions llc.
444 A Old Hwy No 9
Comfort, TX 78013
830-995-3189
fax 830-995-4051

"Quality Pumps Since 1939"

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

ZOELLER PUMP CO.

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

SECTION: 2.30.015
FM1495
0500
Supersedes
1097

visit our web site:
http://www.zoeller.com

COMPARE THESE FEATURES

- Non-Clogging Vortex Impeller Design.
- Float operated, submersible (NEMA 6) 2 pole switch.
- Durable cast iron construction. Cast iron switch cap, motor, and pump housing.
- Stainless steel screws, bolts, handle, guard, arm and seal assembly.
- Engineered, glass-filled, plastic impeller with metal insert.
- UL-listed 3-wire cord and plug. 15 ft. cord standard for automatic & nonautomatic.
- Corrosion resistant powder coated epoxy finish.
- Thermal overload protection.
- Oil filled PSC motor - hermetically sealed.
- Engineered plastic base.
- .4 H.P. 115V & 230V, 1Ph., 60 cycle, 1725 RPM.
- Carbon and ceramic shaft seal.
- Oil Lubricated Bearings.
- Passes 2-inch spherical solids.
- 2" NPT Discharge.
- On point - 12½"
- Off point - 4½"

SIMPLEX AND DUPLEX SYSTEMS AVAILABLE

ZOELLER PUMP CO.

Manufacturers of . . .

"Quality Pumps Since 1939"

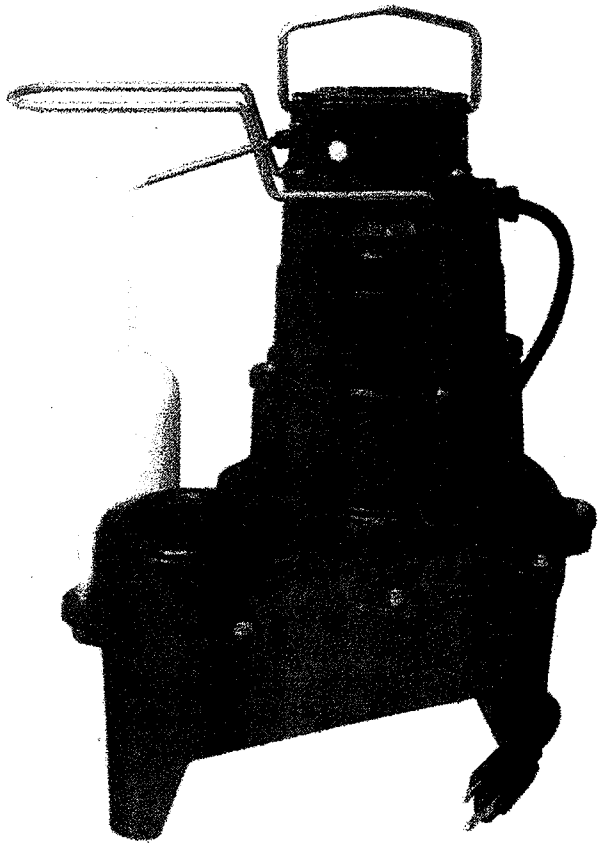
264 SERIES
"WASTE-MATE"

(For Pump Prefix Identification see News & Views 0052)

SUBMERSIBLE
SEWAGE/EFFLUENT*
OR DEWATERING PUMP
2" NPT DISCHARGE

POWDER COATED TOUGH™

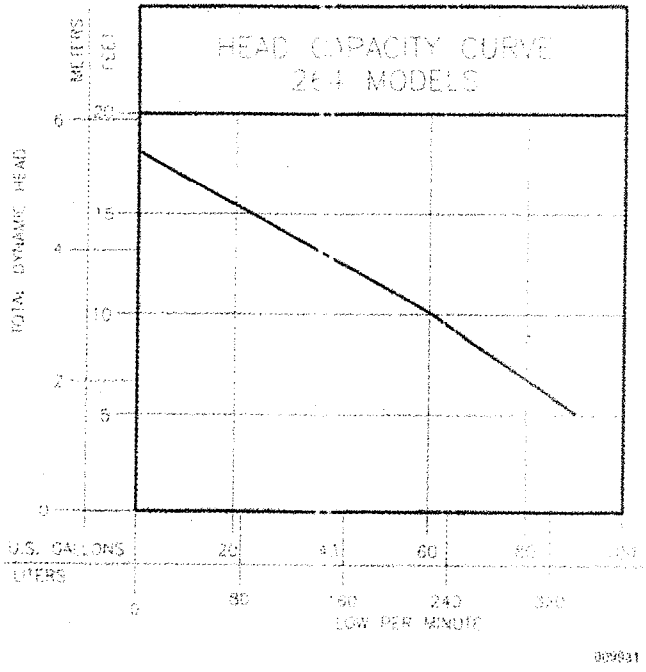
SSPMA MEMBER SUMP AND SEWAGE PUMP MFRS. ASSN.

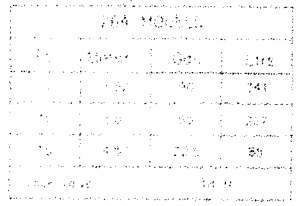


MODELS AVAILABLE
- Automatic
- Nonautomatic (for variable level systems)
- BE & BN264 available packaged with Piggyback variable level float switch.

*May be used in those states where codes do not restrict solids size in effluent systems.

REVISED
11:16 am, Apr 07, 2022





SK1643

CONSULT FACTORY FOR SPECIAL APPLICATIONS

- Electrical alternators for duplex systems available with variable level float switches.
- Minimum recommended basin size
  Simplex-18"x30"
  Duplex-30"x30"
- Standard Automatic - Weight 39 lbs. .4 H.P.
- High water alarms available.
- Mechanical alternators available for duplex systems.

⚠ CAUTION Maximum temperature of sewage or dewatering must be limited to 130° F. (54° C.) For over 130° F. (54° C.) special quotation required.

264 MODELS				CONTROL SELECTION		
Model	Volts	Ph	Mode	Amps	Simplex	Duplex
M264	115	1	Auto	9.4	1 or 1 & 7	———
N264	115	1	Non	9.4	2 or 2 & 6	3 or 4 & 5
D264	230	1	Auto	4.7	1 or 1 & 7	———
E264	230	1	Non	4.7	2 or 2 & 6	3 or 4 & 5

SELECTION GUIDE

1. Integral float operated 2-pole mechanical switch, no external control required.
2. Single piggyback variable level float switch, or double piggyback variable level float switch. Refer to FM0477.
3. Mechanical alternator M-Pak 10-0072 or 10-0075.
4. See FM0712 for correct model of electrical alternator.
5. Control switch 10-0225 used as a control activator specify duplex (3) or (4) float system.

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, and Simplex Pump Control, FM1596; Alarm System, FM0712.

⚠ 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 Electric Code (NEC) and the Occupational Safety and Health Act (OSHA).

RESERVE POWERED DESIGN

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

http://www.zoeller.com

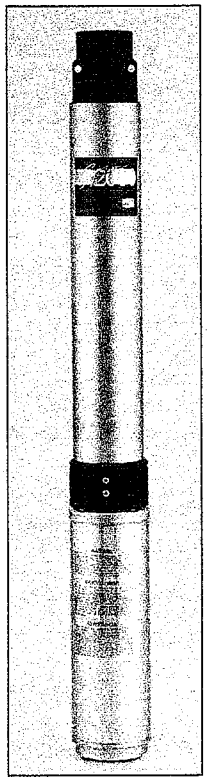
ZOELLER PUMP CO.

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

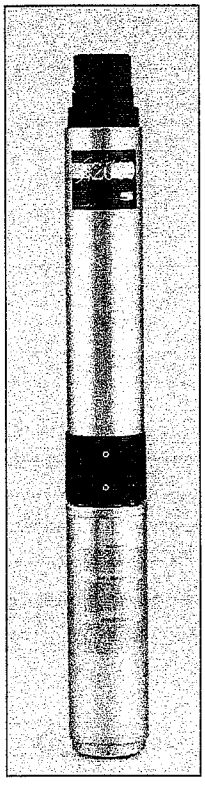
Manufacturers of . .
"Quality Pumps Since 1939"

4" Submersible Pumps

Signature 2000®



5-7 GPM TrimLine™
Max O.D. = 3-3/4"



10-30 GPM Series
Max O.D. = 3-7/8"

Series J
Composite and Stainless

Precision-engineered, corrosion-resistant Signature 2000® Series J pumps in 5, 7, 10, 15, 20 and 30 GPM models deliver efficient, dependable performance even in rough, aggressive water. Heads to over 700 feet and capacities to 45 GPM. Built to deliver long-term, trouble-free service.

These pumps feature the patented Signa-Seal™ staging system. Floating stack design resists sand and reduces sand locking.

The 5 & 7 GPM models are the smaller diameter, TrimLine™ design; 10, 15, 20, and 30 GPM are standard models.

UL Classified to ANSI/NSF Standard 61, Drinking Water System Components – Health Effects.

MATERIALS

Shell – stainless steel

Discharge – fiberglass-reinforced thermoplastic

Discharge bearing – Nylatron®

Intermediate bearing – (on larger units) polycarbonate, nitrile rubber, and stainless steel

Impellers – Acetal

Diffusers – Polycarbonate

Suction caps – Polycarbonate with stainless steel insert

Thrust pads – proprietary spec.

Shaft and coupling – stainless steel

Intake – fiberglass-reinforced thermoplastic

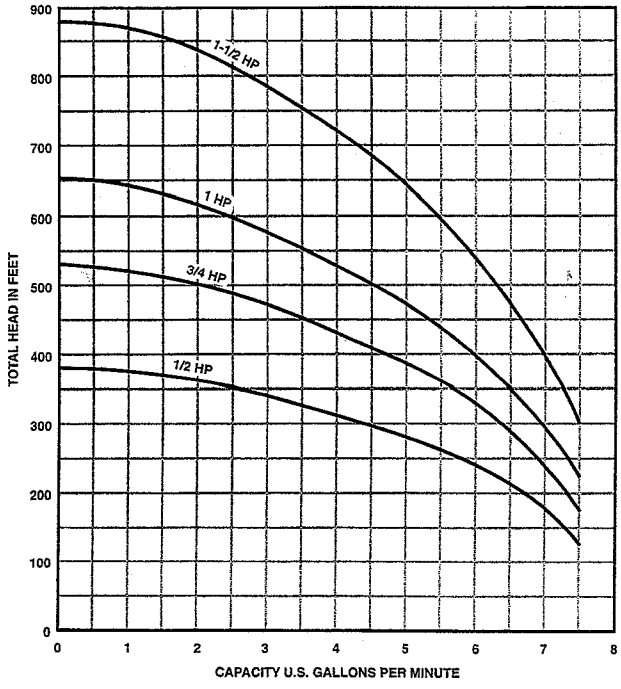
Intake screen – polypropylene

Check valve – durable internal check valve

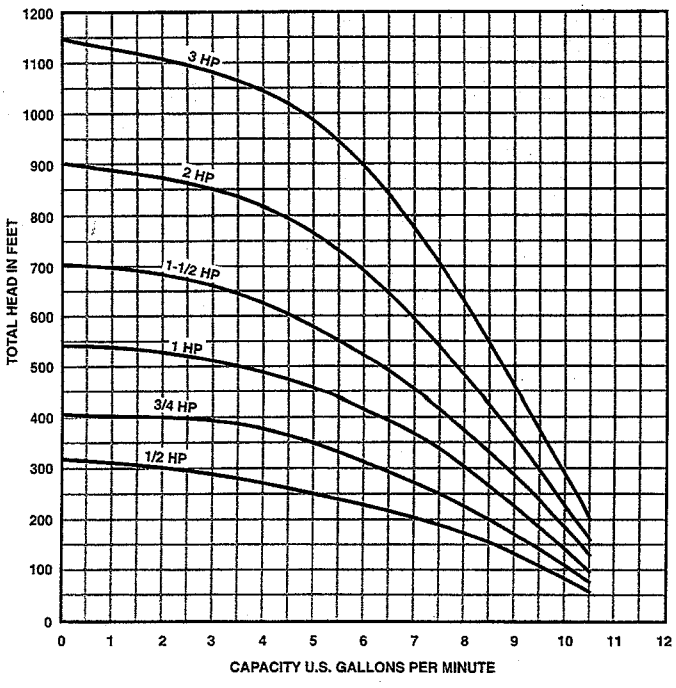
Cable guard – stainless steel

Agency Listings – UL 778, CSA and NSF

PUMP PERFORMANCE
5 GPM



7 GPM

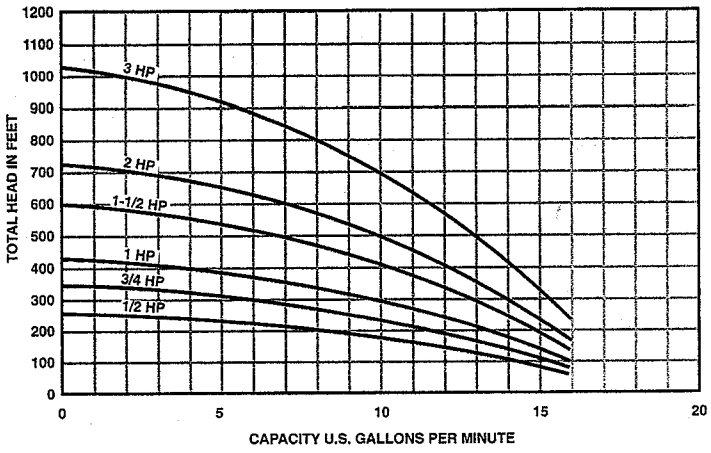


REVISED
11:17 am, Apr 07, 2022

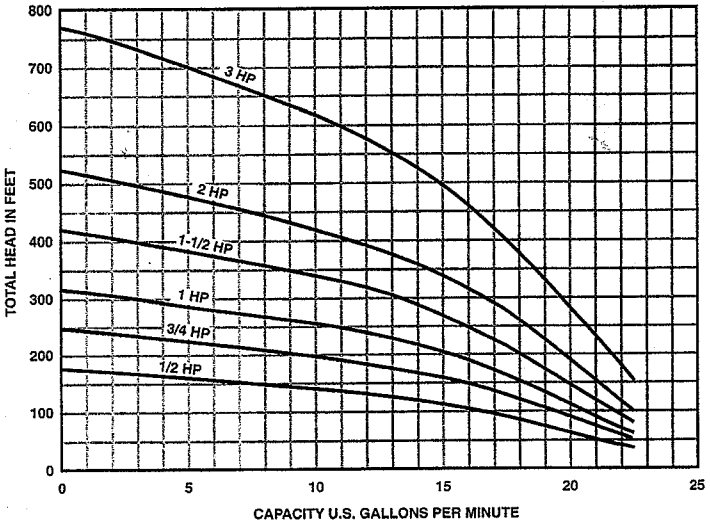
4" Submersible Pumps

PUMP PERFORMANCE

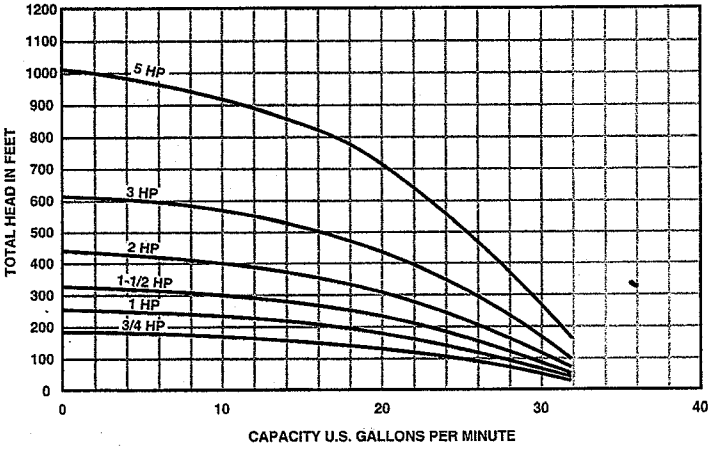
10 GPM



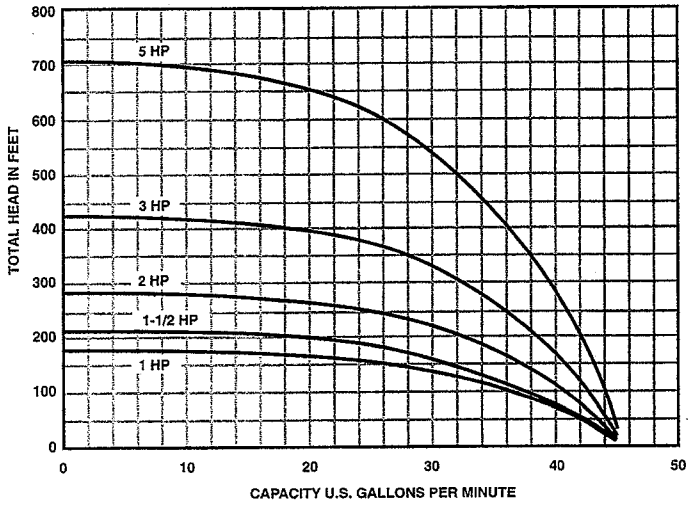
15 GPM



20 GPM



30 GPM



REVISED
11:17 am, Apr 07, 2022

4" Submersible Pumps

ORDERING INFORMATION

Series	HP	Motor Voltage	Phase	Stages	Disch.	3 Wire			2 Wire		
						Catalog No.	Approx. Wt. Lbs.*	Length Inches*	Catalog No.	Approx. Wt. Lbs.*	Length Inches*
15	1/2	115	1	5	1-1/4"	15P4C01J	27	22-1/4	15SP4C01J	27	22-1/4
		230	1	5	1-1/4"	15P4C02J	27	22-1/4	15SP4C02J	27	22-1/4
	3/4	230	1	7	1-1/4"	15P4D02J	31	25-3/4	15SP4D02J	31	25-3/4
	1	230	1	9	1-1/4"	15P4E02J	35	29-1/4	15SP4E02J	35	29-1/4
	1-1/2	230	1	12	1-1/4"	15P4F02J	41	33-3/4	15SP4F02J	43	35-1/4
		230	3	12	1-1/4"	15P4F03J	38	32-1/2			
		460	3	12	1-1/4"	15P4F04J	38	32-1/2			
	2	230	1	15	1-1/4"	15P4G02J	44	38-1/2			
		230	3	15	1-1/4"	15P4G03J	42	37			
		460	3	15	1-1/4"	15P4G04J	42	37			
	3	230	1	22	1-1/4"	15P4H02J	69	54-3/4			
		230	3	22	1-1/4"	15P4H03J	60	52			
		460	3	22	1-1/4"	15P4H04J	60	52			
20	3/4	230	1	5	1-1/4"	20P4D02J	30	23-3/4	20SP4D02J	30	23-3/4
	1	230	1	7	1-1/4"	20P4E02J	34	27-1/4	20SP4E02J	34	27-1/4
	1-1/2	230	1	9	1-1/4"	20P4F02J	39	30-1/2	20SP4F02J	39	32
		230	3	9	1-1/4"	20P4F03J	37	29-1/4			
		460	3	9	1-1/4"	20P4F04J	37	29-1/4			
	2	230	1	12	1-1/4"	20P4G02J	42	35-1/4			
		230	3	12	1-1/4"	20P4G03J	39	33-3/4			
		460	3	12	1-1/4"	20P4G04J	39	33-3/4			
	3	230	1	17	1-1/4"	20P4H02J	67	49-1/4			
		230	3	17	1-1/4"	20P4H03J	58	46-1/2			
		460	3	17	1-1/4"	20P4H04J	58	46-1/2			
	5	230	1	28	1-1/4"	20P4J02J	89	67-1/2			
		230	3	28	1-1/4"	20P4J03J	74	61-1/2			
		460	3	28	1-1/4"	20P4J04J	74	61-1/2			
30	1	230	1	5	1-1/4"	30P4E02J	35	26-1/2	30SP4E02J	35	26-1/2
	1-1/2	230	1	6	1-1/4"	30P4F02J	39	29	30SP4F02J	39	30-1/2
		230	3	6	1-1/4"	30P4F03J	36	28	—		
		460	3	6	1-1/4"	30P4F04J	36	28	—		
	2	230	1	8	1-1/4"	30P4G02J	42	33-1/4	—		
		230	3	8	1-1/4"	30P4G03J	37	32-1/4	—		
		460	3	8	1-1/4"	30P4G04J	37	32-1/4	—		
	3	230	1	12	1-1/4"	30P4H02J	66	47-1/2	—		
		230	3	12	1-1/4"	30P4H03J	57	44-3/4	—		
		460	3	12	1-1/4"	30P4H04J	57	44-3/4	—		
	5	230	1	20	1-1/4"	30P4J02J	89	65-1/4	—		
		230	3	20	1-1/4"	30P4J03J	73	59-1/4	—		
		460	3	20	1-1/4"	30P4J04J	73	59-1/4	—		

*Length and weight are approximate.

Standard version maximum outside diameter 3-7/8"

NOTE: Control box or magnetic starter must be ordered separately.

4" Submersible Pumps

ORDERING INFORMATION – PUMP ENDS

Series	HP	Stages	Disch.	Catalog No.	Approx. Wt. Lbs.*	Length Inches*
5	1/2	13	1-1/4"	L5P4CJL	12	18
	3/4	18	1-1/4"	L5P4DJL	15	22
	1	22	1-1/4"	L5P4EJL	17	25-1/4
	1-1/2	30	1-1/4"	L5P4FJL	21	32
7	1/2	10	1-1/4"	L7P4CJL	11	16
	3/4	13	1-1/4"	L7P4DJL	13	18-1/2
	1	17	1-1/4"	L7P4EJL	15	22
	1-1/2	22	1-1/4"	L7P4FJL	17	27-1/4
	2	28	1-1/4"	L7P4GJL	20	32-1/2
	3	36	1-1/4"	L7P4HJL	24	39-1/2
10	1/2	6	1-1/4"	L10P4CJ	8-1/2	12
	3/4	8	1-1/4"	L10P4DJ	9-1/2	13-3/4
	1	10	1-1/4"	L10P4EJ	10-1/4	15-1/2
	1-1/2	14	1-1/4"	L10P4FJ	12	19
	2	17	1-1/4"	L10P4GJ	13-1/2	21-1/2
	3	24	1-1/4"	L10P4HJ	16-1/2	27-1/2
15	1/2	5	1-1/4"	L15P4CJ	9	12-1/4
	3/4	7	1-1/4"	L15P4DJ	10	14-1/2
	1	9	1-1/4"	L15P4EJ	11	16-3/4
	1-1/2	12	1-1/4"	L15P4FJ	13	20-1/4
	2	15	1-1/4"	L15P4GJ	15	23-1/2
	3	22	1-1/4"	L15P4HJ	18	31-1/4
20	3/4	5	1-1/4"	L20P4DJ	8-1/2	12-1/2
	1	7	1-1/4"	L20P4EJ	9-3/4	14-3/4
	1-1/2	9	1-1/4"	L20P4FJ	10-3/4	16-3/4
	2	12	1-1/4"	L20P4GJ	12-1/2	20-1/4
	3	17	1-1/4"	L20P4HJ	15	25-3/4
	5	28	1-1/4"	L20P4JJ	21	38
30	1	5	1-1/4"	L30P4EJ	10	14
	1-1/2	6	1-1/4"	L30P4FJ	11	15-1/4
	2	8	1-1/4"	L30P4GJ	12	18-1/4
	3	12	1-1/4"	L30P4HJ	15	24
	5	20	1-1/4"	L30P4JJ	20	35-3/4

*Length and weight are approximate.
TrimLine™ version maximum outside diameter 3-3/4".
Standard version maximum outside diameter 3-7/8".
NOTE: Motor, control box or magnetic starter must be ordered separately.

EFFLUENT PUMPS

Little GIANT®

REVISED
11:17 am, Apr 07, 2022

C1 SERIES - 1/2 HP

APPLICATIONS

Gray water pumping, filtered effluent service water pumping,
water reclamation projects such as pumping from rain catchment basins,
aeration and other fountain or pond applications, agriculture and livestock water pumping

FEATURES

- Supplied with a removable 5" base for secure and reliable mounting
- Bottom suction design
- Robust thermoplastic discharge head design resists breakage during installation and operation
- Single shell housing design provides a compact unit while ensuring cool and quiet operation
- Hydraulic components molded from high quality engineered thermoplastics
- Optimized hydraulic design allows for increased performance and decreased power usage
- All metal components are made of high grade stainless steel for corrosion resistance
- Available with a high quality 115 V or 230 V, 1/2 hp motor
- Fluid flows of 10, 20, and 30 gpm, with a maximum shut-off pressure of 100 psi
- Heavy-duty 600 V 10 foot SJOOW jacketed lead

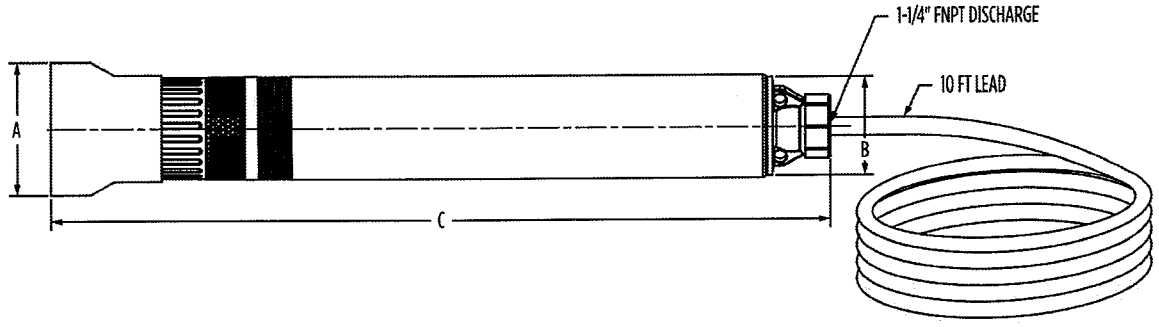
SERIES SPECIFICATIONS

Item No	Model	HP	Volts	Hz	Stages	Amps	Watts	Wire	Min. Shut-Off Head		Min. Head @ Rated Flow		Max. GPM	Min. Head @ Max. GPM		Max. Amps
									PSI	FT	PSI	FT		PSI	FT	
90301005	10C1-05P4-2W115	1/2	115	60	7	9.0	920	2	93	215	50	115	14	22	50	10
90301010	10C1-05P4-2W230	1/2	230	60	7	4.5	920	2	93	215	50	115	14	22	50	5
90302005	20C1-05P4-2W115	1/2	115	60	5	9.0	920	2	56	130	34	78	28	9	20	10
90302010	20C1-05P4-2W230	1/2	230	60	5	4.5	920	2	56	130	34	78	28	9	20	5
90302015	20XC1-05P4-2W115	1/2	115	60	6	9.0	920	2	68	156	37	85	28	9	21	10
90302020	20XC1-05P4-2W230	1/2	230	60	6	4.5	920	2	68	156	37	85	28	9	21	5
90303005	30C1-05P4-2W115	1/2	115	60	4	9.0	920	2	39	89	19	45	35	13	29	10
90303010	30C1-05P4-2W230	1/2	230	60	4	4.5	920	2	39	89	19	45	35	13	29	50

REVISED
11:17 am, Apr 07, 2022

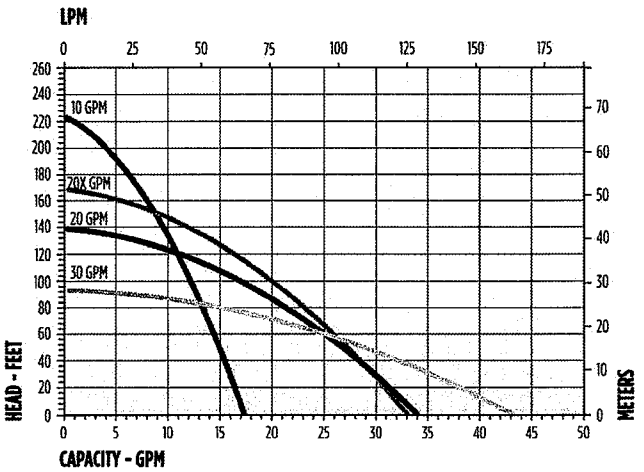
C1 SERIES - 1/2 HP

ENGINEERING DATA



Item No	Model	A	B	C
90301005	10C1-05P4-2W115	5" 12.70 cm	3.9" 9.91 cm	26" 66.04 cm
90301010	10C1-05P4-2W230	5" 12.70 cm	3.9" 9.91 cm	26" 66.04 cm
90302005	20C1-05P4-2W115	5" 12.70 cm	3.9" 9.91 cm	26" 66.04 cm
90302010	20C1-05P4-2W230	5" 12.70 cm	3.9" 9.91 cm	26" 66.04 cm
90302015	20XC1-05P4-2W115	5" 12.70 cm	3.9" 9.91 cm	26" 66.04 cm
90302020	20XC1-05P4-2W230	5" 12.70 cm	3.9" 9.91 cm	26" 66.04 cm
90303005	30C1-05P4-2W115	5" 12.70 cm	3.9" 9.91 cm	26" 66.04 cm
90303010	30C1-05P4-2W230	5" 12.70 cm	3.9" 9.91 cm	26" 66.04 cm

PERFORMANCE DATA

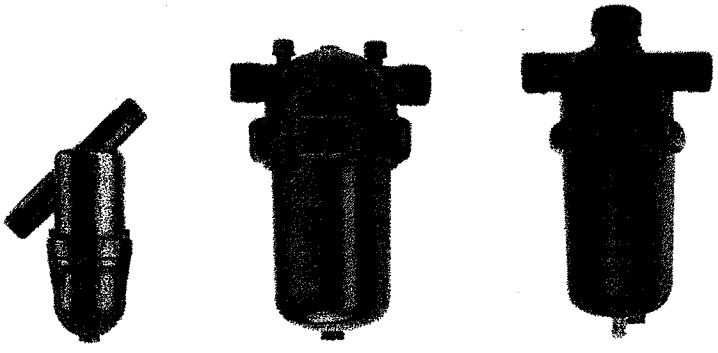


REVISED
11:17 am, Apr 07, 2022

NETAFIM™
GROW MORE WITH LESS

MANUAL DISC FILTERS

RELIABLE, EFFICIENT PLASTIC DISCS CREATE SUPERIOR FILTRATION



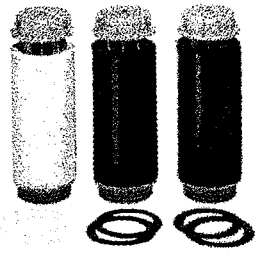
3/4" 1" 2" DUAL LITE

PRODUCT ADVANTAGES

- Highly effective multiple disc ring design captures and holds more debris.
- Greater holding capacity of the rings vs. screen filters mean less frequent cleaning.
- Rings are easily removed for fast cleaning without the need for scrubbing.
- Color-coded disc rings make identification of mesh rating fast and easy.

APPLICATIONS

- Primary irrigation filter for relatively clean or average water quality
- Protection of irrigation systems from clogging and/or abrasion



MESH/MICRON

MESH	MICRON	DISC COLOR
040	400	Blue
080	200	Yellow
120	130	Red
140	115	Black
200	55	Green

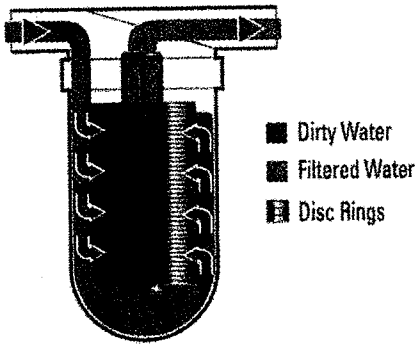
Substitute *** in Model Number for proper mesh.

THE FILTERING PROCESS

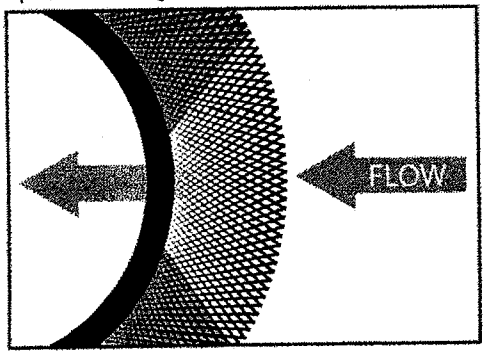
Grooved, compressed plastic disc rings produce a deep filtration process. As dirty water is pumped into the filter and pressure increases on the outside of the filter, the water pressure compresses the rings together tightly.

Grooves in the disc rings crisscross, forming a three dimensional network that traps particles. The number of crisscrossed intersection points on each groove varies, depending on filtration grade. The turbulence in the varying paths and the large number of intersections create an environment where particles are eventually trapped.

This design filters the dirty water thoroughly, not only on the outer surface of the cylindrical disc filter, but through the entire depth of every ring's grooves. The result is a larger, more efficient filtering area (when compared to screen filters) with more debris being captured and cleaner water exiting from the filter.



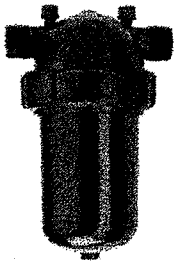
Top view of disc ring



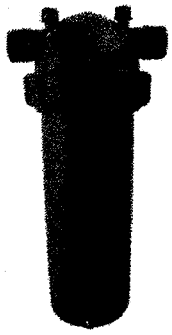
MANUAL DISC FILTERS

REVISED
11:17 am, Apr 07, 2022

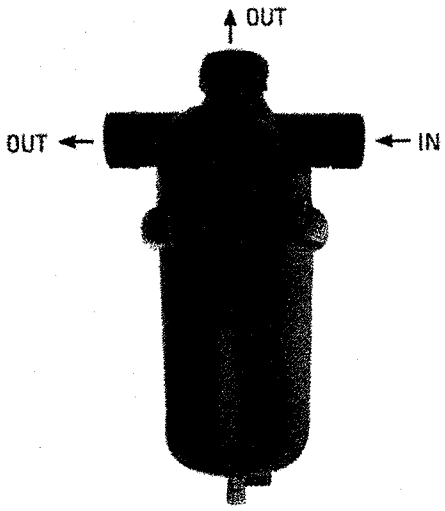
3/4" FILTER	
FLOW RANGE	1 - 12 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	25 sq. in.
FILTERING VOLUME	5.8 cu. in.
LENGTH	5 22/32"
WIDTH	7 15/32"
WEIGHT	.66 lbs.
DISTANCE BETWEEN ENDS	6"
INLET/OUTLET DIAMETER	3/4" Male
MODEL NUMBER	25A45-***



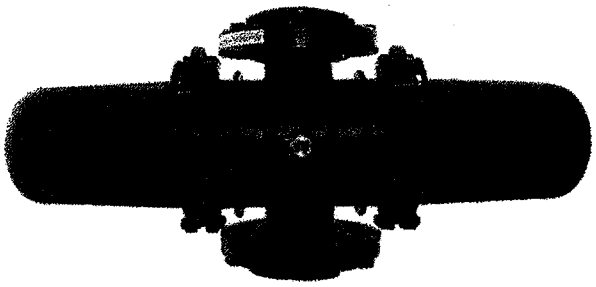
1" FILTER	
FLOW RANGE	5 - 26 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	49 sq. in.
FILTERING VOLUME	27 cu. in.
LENGTH	9 11/32"
WIDTH	6 7/32"
WEIGHT	2.2 lbs.
DISTANCE BETWEEN ENDS	6 7/32"
INLET/OUTLET DIAMETER	1" Male
MODEL NUMBER	25A47-***



1" SUPER FILTER	
FLOW RANGE	10 - 35 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	78 sq. in.
FILTERING VOLUME	36 cu. in.
LENGTH	13 13/32"
WIDTH	6 7/32"
WEIGHT	3.11 lbs.
DISTANCE BETWEEN ENDS	6 7/32"
INLET/OUTLET DIAMETER	1" Male
MODEL NUMBER	25A48-***

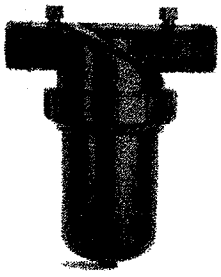


2" DUAL LITE FILTER	
FLOW RANGE	40 - 110 GPM
MAXIMUM PRESSURE	115 psi
FILTERING SURFACE AREA	147 sq. in.
FILTERING VOLUME	75.7 cu. in.
LENGTH	16 5/16"
WIDTH	10 1/4"
WEIGHT	6.6 lbs.
DISTANCE BETWEEN ENDS	10 1/4"
INLET/OUTLET DIAMETER	2" Male
MODEL NUMBER	25A2DL-***

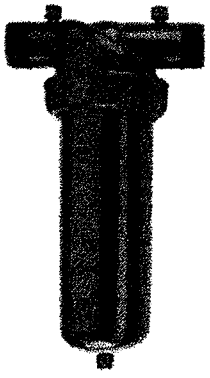


3" TWIN LITE FILTER	
FLOW RANGE	80 - 220 GPM
MAXIMUM PRESSURE	115 psi
FILTERING SURFACE AREA	294.5 sq. in.
FILTERING VOLUME	174 cu. in.
LENGTH	28 3/4"
WIDTH	9 14/32"
WEIGHT	17 lbs.
DISTANCE BETWEEN ENDS	12 19/32"
INLET/OUTLET DIAMETER	3" Flanged
MODEL NUMBER	25A3TL-***F

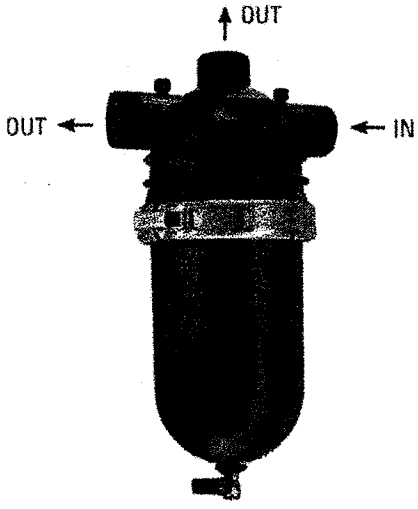
REVISED
11:17 am, Apr 07, 2022



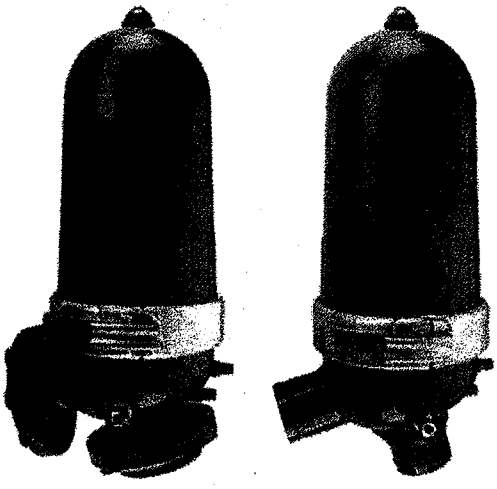
1 ½" FILTER	
FLOW RANGE	10 - 35 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	49 sq. in.
FILTERING VOLUME	27 cu. in.
LENGTH	10 5/8"
WIDTH	7 7/8"
WEIGHT	2.4 lbs.
DISTANCE BETWEEN ENDS	7 7/8"
INLET/OUTLET DIAMETER	1 1/2" Male
MODEL NUMBER	25A15-***



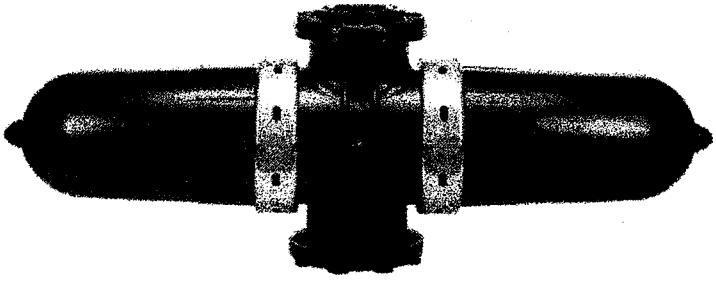
1 ½" SUPER FILTER	
FLOW RANGE	10 - 52 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	78 sq. in.
FILTERING VOLUME	36 cu. in.
LENGTH	14 1/2"
WIDTH	7 7/8"
WEIGHT	3.3 lbs.
DISTANCE BETWEEN ENDS	7 7/8"
INLET/OUTLET DIAMETER	1 1/2" Male
MODEL NUMBER	25A17-***



2" DUAL HP FILTER	
FLOW RANGE	40 - 120 GPM
MAXIMUM PRESSURE	174 psi
FILTERING SURFACE AREA	147 sq. in.
FILTERING VOLUME	75 cu. in.
LENGTH	14 3/4"
WIDTH	10 1/4"
WEIGHT	11 lbs.
DISTANCE BETWEEN ENDS	10 1/4"
INLET/OUTLET DIAMETER	2" Male
MODEL NUMBER	25A30-***



FLANGED GROOVED



3" ANGLE FILTER	
FLOW RANGE	80 - 220 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	287 sq. in.
FILTERING VOLUME	108 cu. in.
LENGTH	24 7/8"
WIDTH	12 3/32"
WEIGHT	31 lbs.
INLET/OUTLET DIAMETER	3"
MODEL NUMBER - FLANGED	25A53-***FNEW
MODEL NUMBER - GROOVED	25A53-***GNEW

4" TWIN FILTER	
FLOW RANGE	160 - 450 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	574 sq. in.
FILTERING VOLUME	216 cu. in.
LENGTH	47"
WIDTH	13"
WEIGHT	52.8 lbs.
DISTANCE BETWEEN ENDS	17 17/32"
INLET/OUTLET DIAMETER	4" Flanged
MODEL NUMBER	25A78-***F

6" TWIN FILTER	
FLOW RANGE	200 - 600 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	574 sq. in.
FILTERING VOLUME	216 cu. in.
LENGTH	47"
WIDTH	13"
WEIGHT	57.2 lbs.
DISTANCE BETWEEN ENDS	17 17/32"
INLET/OUTLET DIAMETER	6" Flanged
MODEL NUMBER	25A80-***F

MANUAL DISC FILTERS

REVISED
11:17 am, Apr 07, 2022

FILTER APPLICATION RECOMMENDATIONS

FLOW RATE (GPM)	HEADLOSS (psi)										
	3/4"	1"	1" SUPER	1 1/2"	1 1/2" SUPER	2" DUAL HP	2" DUAL LITE	3" TWIN LITE	3" ANGLE	4" TWIN	6" TWIN
5	0.60	0.25									
10	2.50	0.60									
13	3.40	1.34									
17	5.87	2.10									
22		3.24	1.10	1.10							
26			1.50	1.30	1.50						
31			2.10	1.70	2.10						
35			2.50	2.30	2.50						
44					4.20	0.30	0.30				
66						0.63	0.63				
88						1.03	1.03	0.64	0.44		
110						1.47	1.47	0.98	0.58		
132								1.37	0.73		
154								1.80	0.88		
176								2.28	1.03		
198									1.32		
220									1.61		
242											
264											
286											
308										1.40	1.00
330										1.50	1.20
350										1.60	1.30
400										2.00	1.50
500											2.00
600											3.00

The losses shown are for filters with 140 Mesh

CHART LEGEND

0.00	River, ditch, pond, lake or reservoir water
0.00	Well water containing sand only
0.00	Municipal supply

ORDERING INFORMATION

FILTER SIZE	MODEL NUMBER
3/4"	25A45-***
1"	25A47-***
1" SUPER	25A48-***
1 1/2"	25A15-***
1 1/2" SUPER	25A17-***
2" DUAL HP	25A30-***
2" DUAL LITE	25A2DL-***
3" TWIN LITE	25A3TL-***F
3" ANGLE FLANGED	25A53-***FNEW
3" ANGLE GROOVED	25A53-***GNEW
4" TWIN FLANGED	25A78-***F
6" TWIN FLANGED	25A80-***F

Substitute *** for proper mesh size.

MATERIALS

- Disc Rings: Polypropylene
- O-Rings: EPDM Rubber
- Clamp: Stainless Steel (except 2" Dual Lite and 3" Twin Lite which is Plastic)

NETAFIM™
GROW MORE WITH LESS

NETAFIM USA
5470 E. HOME AVE.
FRESNO, CA 93727
CS 888 638 2346
www.netafimusa.com

From:	Magley, Wesley
To:	"rebeccacreekcampgrounds@gmail.com"
Cc:	"stevemangold1@gmail.com"
Subject:	Permits 113609,113610,113611,113612
Date:	Wednesday, November 17, 2021 11:29:00 AM
Attachments:	image001.png 113609 Site Map.pdf

RE: 14.23 acres out of the Charles Murhardt Survey, Abstract 404/ 3660 Tanglewood Trail.

Property Owner & Agent,

We received planning materials for the referenced permit application on 11/16/21 and found those planning materials to be deficient. In order to continue processing this permit, we need the following:

1. The site map is not legible. Please provide a digital copy of the site map so we can verify accordingly. (see attached)
2. Revise accordingly and resubmit.

If you have any questions, you can email me or call the office.

Thank you,

COMAL COUNTY TEXAS

Wesley A. Magley
Health Inspector
DR # OS0035625
195 David Jonas Dr.
New Braunfels, TX 78132
830-608-2090
830-643-3770
maglew@co.comal.tx.us

Boyd, Robert

From: Donna Cosper <donna.cosper@tceq.texas.gov>
Sent: Wednesday, February 23, 2022 1:28 PM
To: Boyd, Robert
Subject: RE: Wastewater Flow vs. Treatment

Hi Robert,

Yes, your summary is correct. They must not go over the permitted daily flow. As we discussed, the generated flow might be more as long as the flow is equalized so that 5000 gpd or less is treated.

On the STR issue, I have not gotten legal's opinion. I know you no longer need their opinion for the case that generated the request but I want to get their take on it and will let you know as soon as I do.

Regards,

Donna Cosper, P.E., M.S.S.E.
Texas Commission on Environmental Quality
Program Support and Environmental Assistance Division
On-Site Sewage Facility Program

From: Boyd, Robert <boydro@co.comal.tx.us>
Sent: Wednesday, February 23, 2022 1:23 PM
To: Donna Cosper <donna.cosper@tceq.texas.gov>
Subject: RE: Wastewater Flow vs. Treatment

Donna,

Have you had a chance to review?

Thanks.

Robert Boyd, P.E.
Comal County Assistant Engineer
195 David Jonas Drive
New Braunfels, TX 78132
O: 830-608-2090
C: 830-358-0516
www.cceo.org

From: Boyd, Robert
Sent: Thursday, February 17, 2022 3:59 PM

To: 'Donna Cosper' <donna.cosper@tceq.texas.gov>
Subject: Wastewater Flow vs. Treatment

Donna,

Thanks for your time on the phone. From our conversation, we understood that we could not issue a permit with a wastewater flowrate greater than 5,000 GPD. However, we could issue a permit that can treat more than 5,000 GPD as long as the permitted flow rate is less than 5,000 GPD. In this scenario, we would also require flow meters on the outflow of the treatment units demonstrating that the development is staying within the permitted flow rate. If the development went above the permitted flow rate or went over 5,000 GPD, it would trigger a violation that could only be resolved by getting a permit from the state.

Is this a correct summary of our discussion?

Thanks.

Robert Boyd, P.E.
Comal County Assistant Engineer
195 David Jonas Drive
New Braunfels, TX 78132
O: 830-608-2090
C: 830-358-0516
www.cceo.org

RECEIVED
By KG at 11:31 am, Nov 16, 2021

* * * COMAL COUNTY OFFICE OF ENVIRONMENTAL HEALTH * * *

APPLICATION FOR PERMIT FOR AUTHORIZATION TO CONSTRUCT AN ON-SITE SEWAGE FACILITY AND LICENSE TO OPERATE

Date 11/4/21 Permit # 113611

Owner Name	Rebecca Creek Campgrounds	Agent Name	Michelle Wertheim
Mailing Address	31660 Tanglewood Trail	Agent Address	31660 Tanglewood Trail
City, State, Zip	Spring Branch TX 78070	City, State, Zip	Spring Branch, TX 78070
Phone #	(830) 885-4035	Phone #	(830) 446-0048
Email	rebeccacreekgrounds@gmail.com	Email	same as office

All correspondence should be sent to: ☒ Owner ☐ Agent ☐ Both Method: ☒ Mail ☒ Email

Subdivision Name N/A Unit ____ Lot ____ Block ____

Acreage/Legal 14.23 ac. Charles Murhart Survey abs No. 404

Street Name/Address 31660 Tanglewood Trail City Spring Branch Zip 78078

VOID

Type of Development:

☐ Single Family Residential

Type of Construction (House, Mobile, RV, ____)

Number of Bedrooms ____

Indicate Sq Ft of Living Area ____

☒ Non-Single Family Residential

(Planning materials must show adequate land area for doubling the required land needed for treatment units and disposal area)

Type of Facility ____

Offices, Factories, Churches, Schools, Parks, Etc. - Indicate Number Of Occupants ____

Restaurants, Lounges, Theaters - Indicate Number of Seats ____

Hotel, Motel, Hospital, Nursing Home - Indicate Number of Beds ____

Travel Trailer/RV Parks - Indicate Number of Spaces 10 RV spaces

Miscellaneous ____

Estimated Cost of Construction: $ ____ (Structure Only) N/A

Is any portion of the proposed OSSF located in the United States Army Corps of Engineers (USACE) flowage easement?

☐ Yes ☒ No (If yes, owner must provide approval from USACE for proposed OSSF improvements within the USACE flowage easement)

Source of Water ☒ Public ☐ Private Well

Are Water Saving Devices Being Utilized Within the Residence? ☒ Yes ☐ No

By signing this application, I certify that:

- The completed application and all additional information submitted does not contain any false information and does not conceal any material facts. I certify that I am the property owner or I possess the appropriate land rights necessary to make the permitted improvements on said property.
- Authorization is hereby given to the permitting authority and designated agents to enter upon the above described property for the purpose of site/soil evaluation and inspection of private sewage facilities..
- I understand that a permit of authorization to construct will not be issued until the Floodplain Administrator has performed the reviews required by the Comal County Flood Damage Prevention Order.
- I affirmatively consent to the online posting/public release of my e-mail address associated with this permit application, as applicable.

Signature of Owner ____ Date 11/10/2021

195 David Jonas Dr., New Braunfels, Texas 78132-3760 (830) 608-2090 Fax (830) 608-2078

* * * COMAL COUNTY OFFICE OF ENVIRONMENTAL HEALTH * * *

APPLICATION FOR PERMIT FOR AUTHORIZATION TO CONSTRUCT AN ON-SITE SEWAGE FACILITY AND LICENSE TO OPERATE

System #4

Planning Materials & Site Evaluation as Required Completed By Kaeleigh Crandall

System Description Aerobic w/ drip

Size of Septic System Required Based on Planning Materials & Soil Evaluation

Tank Size(s) (Gallons) 900 gallon ATU Absorption/Application Area (Sq Ft) 1390ft²

Gallons Per Day (As Per TCEQ Table III) 278 gpd

(Sites generating more than 5000 gallons per day are required to obtain a permit through TCEQ.)

Is the property located over the Edwards Recharge Zone? ☐ Yes ☒ No

(If yes, the planning materials must be completed by a Registered Sanitarian (R.S.) or Professional Engineer (P.E.))

Is there an existing TCEQ approved WPAP for the property? ☐ Yes ☐ No

(If yes, the R.S. or P.E. shall certify that the OSSF design complies with all provisions of the existing WPAP.)

If there is no existing WPAP, does the proposed development activity require a TCEQ approved WPAP? ☐ Yes ☒ No

(If yes, the R.S. or P.E. shall certify that the OSSF design will comply with all provisions of the proposed WPAP. A Permit to Construct will not be issued for the proposed OSSF until the proposed WPAP has been approved by the appropriate regional office.)

Is the property located over the Edwards Contributing Zone? ☒ Yes ☐ No

Is there an existing TCEQ approval CZP for the property? ☐ Yes ☒ No

(If yes, the P.E. or R.S. shall certify that the OSSF design complies with all provisions of the existing CZP.)

If there is no existing CZP, does the proposed development activity require a TCEQ approved CZP? ☐ Yes ☒ No

(If yes, the R.S. or P.E. shall certify that the OSSF design will comply with all provisions of the proposed CZP. A Permit to Construct will not be issued for the proposed OSSF until the CZP has been approved by the appropriate regional office.)

Is this property within an incorporated city? ☐ Yes ☒ No

If yes, indicate the city: _____

By signing this application, I certify that:

- The information provided above is true and correct to the best of my knowledge.
- I affirmatively consent to the online posting/public release of my e-mail address associated with this permit application, as applicable.

Kaeleigh Crandall
Signature of Designer

9/30/21
Date

VOID

195 David Jonas Dr., New Braunfels, Texas 78132-3760 (830) 608-2090 Fax (830) 608-2078

SITE EVALUATION AND CALCULATIONS

Site Evaluation:

Soil Texture:	Clay loam
Soil Structure:	Blocky
Soil Depth:	18" minimum
Restrictive Horizon:	At 18" min. from surface
Groundwater:	None encountered
Topography:	More than 2% slope on drainfield area

Determination: Site was determined to have a Class III soil. Due to the park layout and rock horizon an aerobic treatment unit followed by drip irrigation shall be installed.

Calculations:

System # 4 is designed for total flow 278 gpd. Reference design 100-8196 for calculations and layout. Water saving devices are used throughout.

Q = 278 gpd

A Nu-Water Model B-800 aerobic treatment system, or equal, shall be installed. It has built in pre-treatment tank and pump tank. The aerobic unit shall be a drip irrigation system. (Reference the System Layout) Chlorinator is required for water entering pump tank. Liquid type chlorination shall be used.

Ra = **0.20 gal. / sq. ft. / day,** **(For a Class III soil)**

A = Q / Ra, **A** = (278 gal. / day) / (0.20 gal. / sq. ft. / day) = **1390 sq. ft.**

calculations continued on next page....

Owner	Rebecca Creek Camgrounds	**Drawn by:**	Kaeleigh R. Crandall
Location	Comal County, Texas	**Drawing No.**	100-8195A

MANGOLD Engineering Company
5596 CR 5710
Devine, TX 78016
Phone: (830) 931-0400

Date: 10/28/21
Scale: None
Sheet 1 **of** 5

Kaeleigh R. Crandall
KAELEIGH ROSE CRANDALL
134570
LICENSED
PROFESSIONAL ENGINEER
10/28/21

SITE EVALUATION AND CALCULATIONS

Calculations:

Emitter line shall be used which has emitters spaced at 2 foot intervals, and adjacent emitter lines shall also be spaced at 2 feet on center.

Required line length = A / 2 = (1390 sq. ft. / 2 sq. ft. per foot) = **695 feet**
695' of drip line shall be installed as shown on the System Layout

A 1" SCH 40 PVC supply line shall be used from the ATU systems pump tank to the drainfield. A 1" SCH 40 PVC return line from the drainfield back to the pump tank shall be provided. The system shall be set up in accordance with NuWater specifications. (Contact manufacturer for complete specifications and reference the System Layout and details)

VOID

NOTES FOR INSTALLER (if applicable)

Do not connect water softener back-wash to septic system.

The TCEQ allows washing machine water to be discharged into a separate gray water system unless the water contains human waste. Running this water out separate from the septic system can prolong the life of the system.

A Netafim 1" "Super Filter" 200 mesh/55 micron, shall be installed in a riser in the outlet line of the pump tank compartment.

Connect the 1" "Super Filter" and assemble in accordance with manufacturers specifications..

Contact NuWater dealer for complete specifications. All required specifications may not be contained in this design.

Owner	Rebecca Creek Camgrounds	**Drawn by:**	Kaeleigh R. Crandall
Location	See sheet #1	**Drawing No.**	100-8195A

MANGOLD Engineering Company
5596 CR 5710
Devine, TX 78016
Phone: (830) 931-0400

Date: 10/28/21
Scale: None
Sheet 2 **of** 5

Kaeleigh R. Crandall
STATE OF TEXAS
KAELEIGH ROSE CRANDALL
134570
LICENSED
PROFESSIONAL ENGINEER
10/28/21

SITE EVALUATION AND CALCULATIONS

The design pressure at the emitters is as specified by the manufacturer.

The total length of supply and return pipe is as shown on the System Layout

Diameter of supply and return lines is as shown on the System Layout.

NOTES TO OWNER OF SYSTEM:
MAINTENANCE AND MANAGEMENT PRACTICES (if applicable):

An OSSF should not be treated as if it were a normal city sewer system.

The excessive use of in-sink garbage grinders and grease disposing should be avoided.

Do not use the toilet to dispose of cleaning tissues, cigarette butts, or other trash.

Septic tanks shall be cleaned before sludge accumulates to a point where it approaches the bottom of the outlet device, to prevent solids from exiting the tank with the liquid.

Septic tanks should be cleaned every two-to-three years to prevent excessive sludge buildup.

Do not build driveways, storage buildings, or other structures over the treatment works or its disposal field.

Chemical additives or the so-called enzymes are not necessary for the operation of a septic tank. Some of these additives may be harmful to the tank's operation.

continued next page.....

Owner	Rebecca Creek Camgrounds	**Drawn by:**	Kaeleigh R. Crandall
Location	See sheet #1	**Drawing No.**	100-8195A

MANGOLD Engineering Company
5596 CR 5710
Devine, TX 78016
Phone: (830) 931-0400

Date: 10/28/21
Scale: None
Sheet 3 **of** 5

Kaeleigh R. Crandall
KAELEIGH ROSE CRANDALL
134570
LICENSED
PROFESSIONAL ENGINEER
10/28/21

SITE EVALUATION AND CALCULATIONS

Soaps, detergents, bleaches, drain cleaners, and other household cleaning materials will very seldom affect the operation of the system. However, moderation should be exercised in the use of such materials.

It is not advisable to allow water softener back flush to enter into any portion of the OSSF.

Except for Aerobic systems, the liquid from the OSSF is still heavily laden with bacteria. Contact with this liquid should be avoided, if it surfaces.

WATER CONSERVATION MEASURES (if applicable):

Showers usually use less water than baths. Install a water saving shower head that uses less than 2 1/2 gallons per minute and saves water and energy.

If you take a tub bath, reduce the level of water in the tub from the level to which you customarily fill it.

Leaky faucets and faulty toilet fill-up mechanisms should be repaired as quickly as possible.

VOID

Check toilets for leaks that may not be apparent. Add a few drops of food coloring to the tank. Do not flush. If the color appears in the bowl within a few minutes, the toilet fill or ball-cock valve needs to be adjusted to prevent water from overflowing the stand pipe, or the flapper at the bottom of the toilet tank needs to be replaced.

Reduce the amount of water used for flushing the toilet by installing one of the following: a new toilet (1.6 gallon); a toilet tank dam; or filling and capping one-quart plastic bottles with water (usually one is all that will fit in smaller toilet tanks) and lowering them into the tank of the existing 3.5 gallon or larger toilet. Do not use bricks since they may crumble and cause damage to the fixture.

continued next page.....

Owner	Rebecca Creek Camgrounds	**Drawn by:**	Kaeleigh R. Crandall
Location	See sheet #1	**Drawing No.**	100-8195A

MANGOLD Engineering Company
5596 CR 5710
Devine, TX 78016
Phone: (830) 931-0400

Date: 10/28/21
Scale: None
Sheet 4 **of** 5

Kaeleigh R. Crandall
KAELEIGH ROSE CRANDALL
134570
LICENSED
PROFESSIONAL ENGINEER
10/28/21

SITE EVALUATION AND CALCULATIONS

Try to run the dishwasher with a full load, whenever possible.

Avoid running the water continuously for brushing teeth, washing hands, rinsing kitchen utensils, or for cleaning vegetables.

Use faucet aerators that restrict flow to no more than 2.2 gallons per minute to reduce water consumption.

Keep a container of drinking water in the refrigerator instead of running the faucet until the water turns cool.

Insulate all hot water pipes to avoid long delays of wasted water while waiting for the heated water.

Ask your city, county, or other government body about programs to conserve water, and how they can help you save water.

VOID

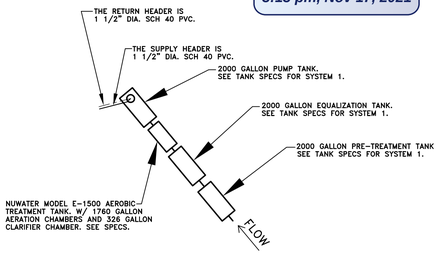
Owner	Rebecca Creek Camgrounds	**Drawn by:**	Kaeleigh R. Crandall
Location	See sheet #1	**Drawing No.**	100-8195A

MANGOLD Engineering Company
5596 CR 5710
Devine, TX 78016
Phone: (830) 931-0400

Date: 10/28/21
Scale: None
Sheet 5 **of** 5

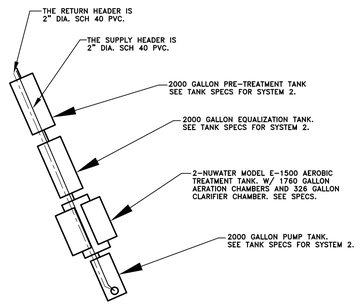
Kaeleigh R. Crandall
KAELEIGH ROSE CRANDALL
134570
LICENSED
PROFESSIONAL ENGINEER
10/28/21

REVISED
3:13 pm, Nov 17, 2021



EXPLODED VIEW OF SYSTEM 1

THIS EXISTING SYSTEM IS GRANDFATHERED IN, AS OF 9-28-21 REFERENCE EMAIL FROM ROBERT BOYD, P.E., COMAL COUNTY ASSISTANT ENGINEER. SYSTEM #1 IS PROPOSED FOR FUTURE REFERENCE ONLY. THIS SYSTEM SHALL BE PERMITTED BEFORE ANY CONSTRUCTION BEGINS.



EXPLODED VIEW OF SYSTEM 2

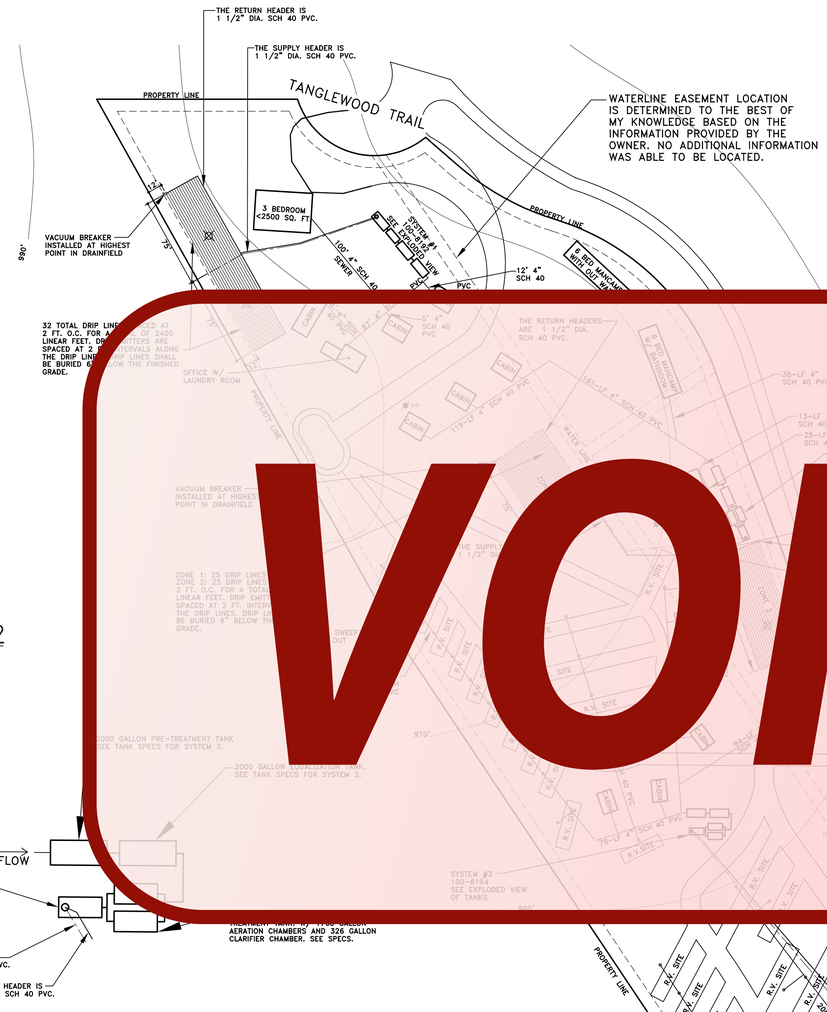
SCALE: 1" = 60'

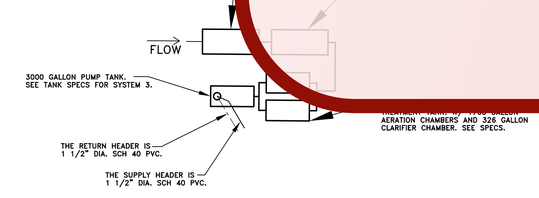
SYSTEM LAYOUT

60 0 60 120

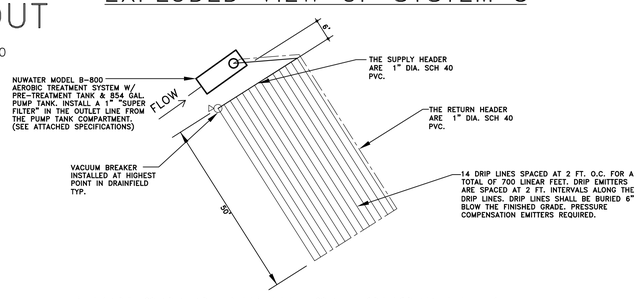
THE INSTALLATION OF THE 4 PROPOSED SEPTIC SYSTEMS WILL DISTURB LESS THAN 5 ACRES. THEREFORE PER 30 TAC 213.21, A CONTRIBUTING ZONE PLAN IS NOT REQUIRED FOR THIS ACTIVITY.

LEGEND:
- 10' UTILITIES EASEMENT
- DRIP SUPPLY LINE
- DRIP RETURN LINE
- SOIL EVALUATION POINTS ⊠





EXPLODED VIEW OF SYSTEM 3



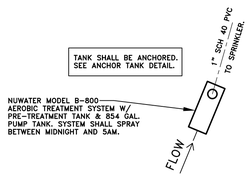
EXPLODED VIEW OF SYSTEM 4

FLOAT SETTINGS & DISTANCES ABOVE THE INSIDE BOTTOM OF THE PUMP COMPT. ARE AS FOLLOWS:

ON: 21" - 338 GAL.
OFF: 20" - 322 GAL.
ALARM LEVEL: 43" - 693 GAL.
TANK INLET: 53" - 854 GAL.

DISTANCE BETWEEN ALARM LEVEL & TANK INLET IS 10" WHICH CORRESPONDS TO 161 GAL.

TANK SHALL BE ANCHORED. SEE ANCHOR TANK DETAIL.



ALL SPRINKLERS ARE HUNTER PGP TYPE W/ LOW ANGLE NOZZLES

THE DISTRIBUTION LINE TO THE SPRINKLERS IS A 1" DIA. SCH 40 PVC LINE

SOIL SHALL BE PRESENT OVER ENTIRE SEPTIC SYSTEM SPRAY AREA. SPRAY AREA SHALL BE SEEDED WITH GRASS, EVERGREEN SHRUBS, BUSHES, TREES, OR LANDSCAPED BEDS CONTAINING MIXED VEGETATION MAY ALSO BE ADDED TO THE SPRAY AREA.

EXPLODED VIEW OF SYSTEM 5

MANGOLD ENGINEERING COMPANY will not be responsible for the consequences of the use of any part of the engineering of this septic system before the engineering has been completely and finally approved by the appropriate county authority in the county for which it is intended. If test holes were not present during the site-evaluation, the owner/installer shall be responsible for digging test holes and contacting Mangold Engineering Company prior to any use of this engineering design.

SITE NOTES:

ALL EXISTING UNDERGROUND UTILITIES SHALL BE LOCATED AMD MARKED BEFORE ANY EXCAVATION BEGINS.

EXISTING WATER LINE LOCATIONS ARE UNDETERMINED. SEE WATER CASING NOTE AS REQUIRED.

WHERE A WATER LINE IS CLOSER THAN 10' TO A WASTEWATER MAIN, THE WATER LINE SHALL BE CASED INSIDE OF A SCH 40 PVC PIPE SUCH THAT THE ENDS OF THE CASING ARE AT LEAST. 10' AWAY FROM THE WASTEWATER MAIN. IN ADDITION, IF THE LINES CROSS, THE WATER LINE SHALL BE AT LEAST 6" ABOVE THE WASTEWATER MAIN.

WHERE DRAIN LINES PASS UNDER ROADWAYS, THEY SHALL BE SCH 80 PVC OR THEY SHALL BE SLEEVED INSIDE OF A SCH 40 PVC PIPE WHICH IS AT LEAST TWO NOMINAL PIPE SIZES LARGER THAN THE DRAIN LINE.

ALL ABANDONED SEPTIC TANKS SHALL BE LOCATED, PUMPED, BACKFILLED & CAVED-IN.

USE EXISTING SEWER LINES UNDER R.V. SITES WHERE POSSIBLE.

A TWO-WAY CLEAN OUT SHALL BE INSTALLED BETWEEN THE BUILDING AND AEROBIC TANKS.

WHEN CROSSING EASEMENT LINES, PERMISSION SHALL BE GRANTED BY THE EASEMENT HOLDER BEFORE ANY EXCAVATION BEGINS.

STANDARD NOTES:

1. SEPTIC TANK MUST BE A MINIMUM OF 50' FROM ANY WATER WELL. CLOSEST DISTANCE FROM ANY PART OF THE DRAINFIELD AREA TO A WATER WELL MUST BE 100' MINIMUM.
2. MINIMUM SETBACK OF SPRAY AREA FROM PROPERTY LINE IS 20'.
3. MINIMUM SETBACK OF DRIP AREA FROM PROPERTY LINE IS 5'.
4. MINIMUM SEPARATION DISTANCE BETWEEN SEPTIC TANK OR DRAINFIELD AREA AND WATER SUPPLY LINES IS 10'.
5. SETBACK OF SPRAY OR DRIP AREA FROM LAKES, STREAMS, PONDS, AND RIVERS IS 50' MINIMUM.
6. SLOPE OF INFLOW LINE TO TANK IS $\frac{1}{8}$ INCH PER FOOT RUN. PIPE IS 4" SCH 40 PVC.
7. SYSTEM SHALL BE INSPECTED BY THE COUNTY INSPECTOR IN ACCORDANCE WITH CURRENT COUNTY INSPECTION PROCEDURES.

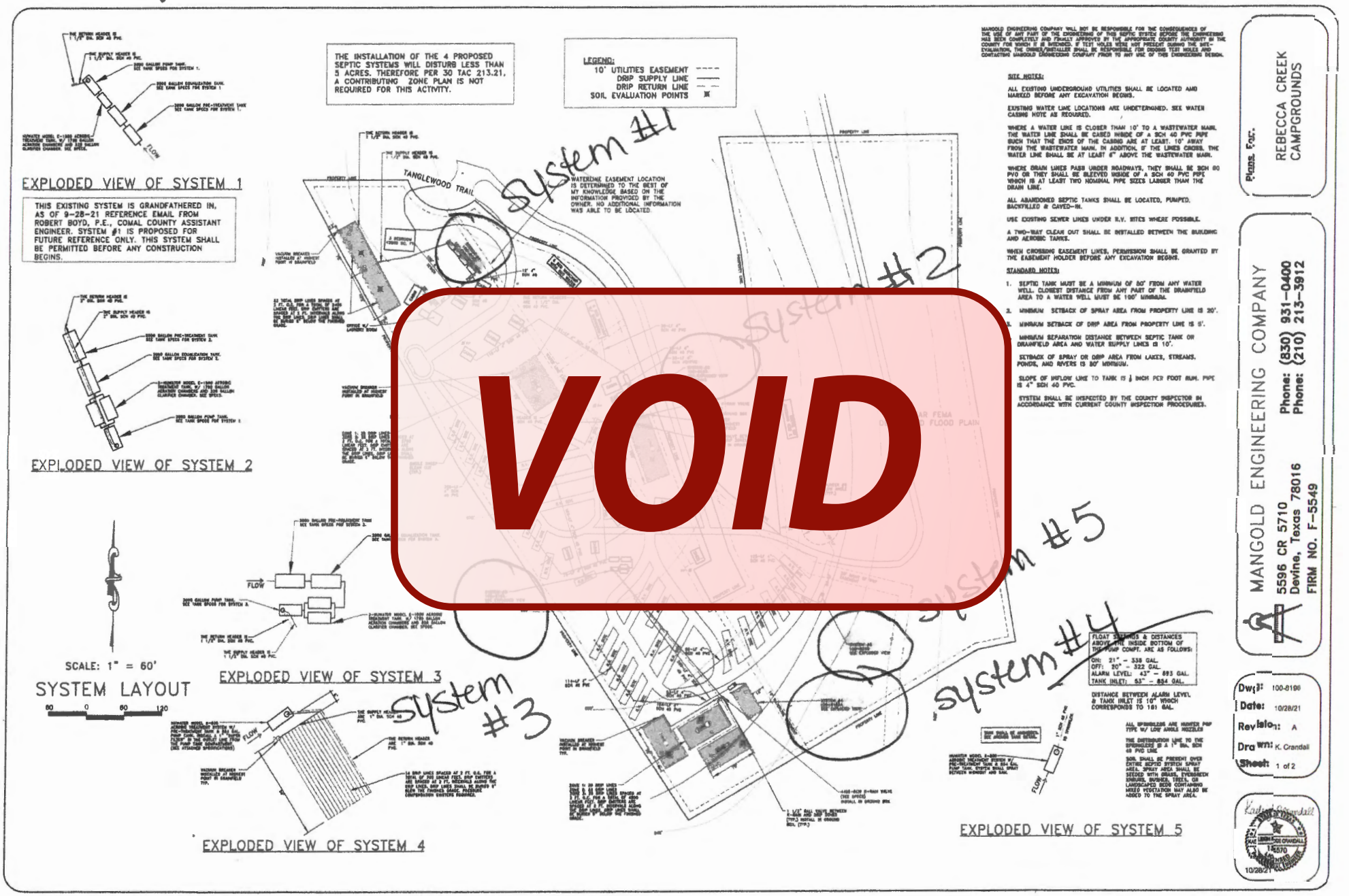
Plans For:
REBECCA CREEK CAMPGROUNDS

MANGOLD ENGINEERING COMPANY
5596 CR 5710
Devine, Texas 78016
FIRM NO. F-5549
Phone: (830) 931-0400
Phone: (210) 213-3912

Dwg: 100-8196
Date: 10/28/21
Revision: A
Drawn: K. Crandall
Sheet: 1 of 2

Kaleigh Crandall
STATE OF TEXAS
KAELEIGH ROSE CRANDALL
134570
LICENSED PROFESSIONAL ENGINEER
10/28/21

System Label Locations



OSSF DESIGN

for

Rebecca Creek Campgrounds

VOID

MANGOLD ENGINEERING COMPANY
5596 CR 5710
DEVINE, TEXAS 78016
PHONE: (830) 931-0400
PHONE: (210) 213-3912
FIRM NO. F-5549

OSSF DESIGN

for

Rebecca Creek Campgrounds

Reprinted for: 5/25/2021
12:43:07PM

USAGE SUMMARY

Cypress Cove Water Supply Corporat

MONTH	TOTAL USAGE	# CUSTOMERS	MONTH AVG	DAILY AVG	% OF YEARLY USAGE
January	39920	1	39,920	1,288	5.41
February	100510	1	100,510	3,590	13.62
March	49430	1	49,430	1,595	6.70
April	50050	1	50,050	1,668	6.78
May	79700	1	79,700	2,571	10.80
June	81450	1	81,450	2,715	11.04
July	71140	1	71,140	2,295	9.64
August	85390	1	85,390	2,755	11.58
September	60960	1	60,960	2,032	8.26
October	46030	1	46,030	1,485	6.24
November	38280	1	38,280	1,276	5.19
December	34830	1	34,830	1,124	4.72
Total Usage	737[illegible]gallons	12			100.00
Total Sales		5,388.67	Average Sales	5,388.67	
Monthly Avg.	61,474		Daily Avg	2,021	

VOID

Individual Accounts
Cypress Cove Water Supply Corp

Reprinted for: 5/25/2021
12:42:17PM

USAGE SUMMARY

Cypress Cove Water Supply Corporat

MONTH	TOTAL USAGE	# CUSTOMERS	MONTH AVG	DAILY AVG	% OF YEARLY USAGE
January	7630	1	7,630	246	4.34
February	12850	1	12,850	459	7.32
March	12170	1	12,170	393	6.93
April	30480	1	30,480	1,016	17.35
May	19260	1	19,260	621	10.96
June	21120	1	21,120	704	12.02
July	16830	1	16,830	543	9.58
August	16950	1	16,950	547	9.65
September	12440	1	12,440	415	7.08
October	9420	1	9,420	304	5.36
November	9600	1	9,600	320	5.47
December	6910	1	6,910	223	3.93
Total Usage	175,660	12			100.00
Total Sales		1,469.64	Average Sales	1,469.64	
Monthly Avg.	14,638		Daily Avg.	481	

VOID

Individual Accounts
Cypress Cove Water Supply Corp

OSSF DESIGN

for

Rebecca Creek Campgrounds

VOID

Supplemental Calculations

SUPPLEMENTAL CALCULATIONS FOR DESIGN 100-8196

THE FLOW FOR EACH SYSTEM IS BASED ON WATER RECORDS PROVIDED BY THE OWNER OVER AN ENTIRE YEAR. THE MAXIMUM DAILY FLOW FOR THE PARK SHALL BE USED. A DIRECT RATIO WILL BE USED TO DETERMINE HOW THAT WATER IS DISTRIBUTED THROUGHOUT THE PARK. SEE CALCULATIONS BELOW.

MAXIMUM DAILY DEMAND FROM FEBRUARY LODGE WATER (100510 GALLONS) AND APRIL CABINS WATER RECORDS (30480 GALLONS)

100510 GALLONS / 28 DAYS OF FEBRUARY = 3590 GPD
30480 GALLONS / 30 DAYS OF APRIL = 1016 GPD
$Q_{TOTAL-PARK-WATER-USAGE}$ = 4606 GPD

DIRECT RATIO EQUATION:

$$\frac{Q_{TCEQ-COMPONENT}}{Q_{TCEQ-TOTAL-PARK}} = \frac{Q_{COMPONENT}}{Q_{TOTAL-PARK-WATER-RECORDS}}$$

VOID

3 BEDROOM <2500 SQ. FT. = 2 GPD
OFFICE W/5 EMPLOYEES Q= EMPLOYEES (4 GPD/ PERSON)=20 GPD
LAUNDRY ROOM W/ 4 WASHING MACHINES
Q= 4 WASHING MACHINES (200 GPD / MACHINE) = 800 GPD
3 CABINS (AS AN APARTMENT)
Q= 100 GPD/ CABIN (3 CABINS) = 300 GPD

$Q_{TCEQ\ COMPONENT}$ = 1360 GPD SYSTEM #1

FOR SYSTEM 2 $Q_{TCEQ\ COMPONENT}$:

4 CABINS (AS AN APARTMENT)
Q= 100 GPD/ CABIN (4 CABINS) = 400 GPD
6 BED MANCAMP WITH 1 COMMON BATHROOM (SIZED AS HOTEL ROOM)
Q = 60 GPD / BED (6 BEDS) = 360 GPD
SHOWER HOUSE Q = 1344 GPD (TOTAL BATH USAGE EQUALLY DIVIDED AMONGST BOTH SHOWER HOUSES. SEE CALCULATIONS FOR EXPLANATION)

$Q_{TCEQ\ COMPONENT}$ = 2104 GPD SYSTEM #2

Owner Rebecca Creek Campgrounds	Drawn by: Kaeleigh R. Crandall	Kaeleigh R Crandall STATE OF TEXAS KAELEIGH ROSE CRANDALL 134570 LICENSED PROFESSIONAL ENGINEER 10/28/21
Location Comal County, Texas	Drawing No. 100-8196A-SUP	
MANGOLD Engineering Company 5596 CR 5710 Devine, TX 78016 Phone: (830) 931-0400 FIRM NO. 5549	Date: 10/28/21 Scale: None Sheet 1 of 3	

SUPPLEMENTAL CALCULATIONS FOR DESIGN 100-8196

FOR SYSTEM 3 $Q_{TCEQ\ COMPONENT}$:

Q = 17 RV (40 GPD / RV) = 680 GPD
5 CABINS (AS AN APARTMENT)
Q= 100 GPD/ CABIN (5 CABINS) = 500 GPD
BATH HOUSE Q = 1344 GPD (TOTAL BATH USAGE EQUALLY DIVIDED AMONGST BOTH SHOWER HOUSES. SEE CALCULATIONS FOR EXPLANATION)

$Q_{TCEQ\ COMPONENT}$ = 2524 GPD SYSTEM #3

FOR SYSTEM 4 $Q_{TCEQ\ COMPONENT}$:

10 RV SITES (40 GPD) = 400 GPD

$Q_{TCEQ\ COMPONENT}$ = 400 GPD SYSTEM #4

6 RV SITES (40 GPD) = 240 GPD

$Q_{TCEQ\ COMPONENT}$ = 240 GPD SYSTEM #4

VOID

FLOW FOR BATH HOUSE & SHOWER HOUSE:

USAGE FROM RV Q= 28 GPD/ RV (33 TOTAL RV) = 924 GPD
USAGE FROM CAMPSITES
Q = 25 CAMPSITES (2 PEOPLE/ SITE) (28 GPD / SHOWER) = 1400 GPD
USAGE FROM MANCAMPS
Q = 13 BEDS (28 GPD) = 364 GPD

Q TOTAL = 2688 GPD FOR BOTH BATHHOUSE & SHOWER HOUSE

TOTAL FLOW FOR ENITRE PARK PER TCEQ:

$Q_{TCEQ-TOTAL-COMPONENT}$=1360 GPD + 2104 GPD + 2524 GPD + 400 GPD + 240 GPD= 6628 GPD

Owner	Rebecca Creek Campgrounds	Drawn by: Kaeleigh R. Crandall	Kaeleigh R Crandall STATE OF TEXAS KAELEIGH ROSE CRANDALL 134570 LICENSED PROFESSIONAL ENGINEER 10/28/21
Location	Comal County, Texas	Drawing No. 100-8196A-SUP	

MANGOLD Engineering Company
5596 CR 5710
Devine, TX 78016
Phone: (830) 931-0400
FIRM NO. 5549

Date: 10/28/21
Scale: None
Sheet 2 of 3

SUPPLEMENTAL CALCULATIONS FOR DESIGN 100-8196

DIRECT RATIO FOR SYSTEM 1 Q COMPONENT:

$$\frac{\text{1360 GPD TCEQ COMPONENT}}{\text{6628 TCEQ TOTAL}} = \frac{\text{Q COMPONENT}}{\text{4606 TOTAL PARK WATER RECORDS}}$$

Q COMPONENT = 946 GPD FOR SYSTEM #1

DIRECT RATIO FOR SYSTEM 2 Q COMPONENT:

$$\frac{\text{2104 GPD TCEQ COMPONENT}}{\text{6628 TCEQ TOTAL}} = \frac{\text{Q COMPONENT}}{\text{4606 TOTAL PARK WATER RECORDS}}$$

Q COMPONENT = 1463 GPD FOR SYSTEM #2

VOID

DIRECT RATIO FOR SYSTEM 3 Q COMPONENT:

$$\frac{\text{2524 GPD TCEQ COMPONENT}}{\text{6628 TCEQ TOTAL}} = \frac{\text{Q COMPONENT}}{\text{4606 TOTAL PARK WATER RECORDS}}$$

Q COMPONENT = 1755 GPD FOR SYSTEM #3

DIRECT RATIO FOR SYSTEM 4 Q COMPONENT:

$$\frac{\text{400 GPD TCEQ COMPONENT}}{\text{6628 TCEQ TOTAL}} = \frac{\text{Q COMPONENT}}{\text{4606 TOTAL PARK WATER RECORDS}}$$

Q COMPONENT = 278 GPD FOR SYSTEM #4

DIRECT RATIO FOR SYSTEM 5 Q COMPONENT:

$$\frac{\text{240 GPD TCEQ COMPONENT}}{\text{6628 TCEQ TOTAL}} = \frac{\text{Q COMPONENT}}{\text{4606 TOTAL PARK WATER RECORDS}}$$

Q COMPONENT = 167 GPD FOR SYSTEM #5

Owner Rebecca Creek Campgrounds	Drawn by: Kaeleigh R. Crandall	Kaeleigh R Crandall STATE OF TEXAS KAELEIGH ROSE CRANDALL 134570 LICENSED PROFESSIONAL ENGINEER 10/28/21
Location Comal County, Texas	Drawing No. 100-8196A-SUP	
MANGOLD Engineering Company 5596 CR 5710 Devine, TX 78016 Phone: (830) 931-0400 FIRM NO. 5549	Date: 10/28/21 Scale: None Sheet 3 of 3	

OSSF DESIGN

for

Rebecca Creek Campgrounds

Specifications

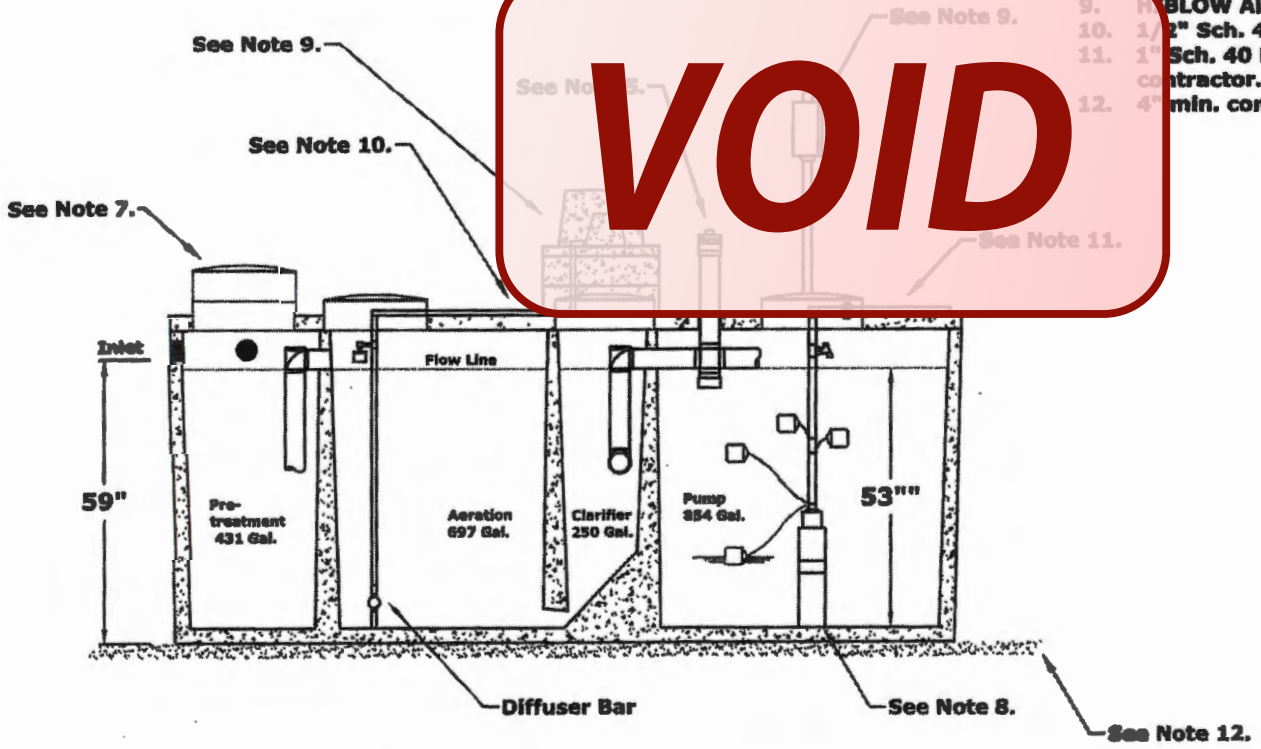
VOID

Assembly Details

OSSF

DIMENSIONS:
Outside Height: 67"
Outside Width: 75"
Outside Length: 164.5"

MINIMUM EXCAVATION DIMENSIONS:
Width: 87"
Length: 177"



GENERAL NOTES:

1. Plant structure material to be precast concrete and steel.
2. Maximum burial depth is 30" from slab top to grade.
3. Weight = 16,700 lbs.
4. Treatment capacity is 800 GPD. Pump compartment set-up for a 420 GPD Flow Rate (5 beedroom, < 4,501 sq/ft living aera). Please specify for additional set-up requirements. BOD Loading = 2.60 lbs. per day.
5. Standard tablet chlorinator or Optional Liquid chlorinator. NSF approved chlorinators (tablet & liquid) available.
6. Bio-Robix B-800 Control Center w/ Timer for night spray application. Optional Micro Dose (min/sec)timer available for drip applications. Electrical Requirement to be 115 Volts, 60 Hz, Single Phase, 30 AMP, Grounded Receptacle.
7. 20" Ø acess riser w/ lid (Typical 4). Optional extension risers available.
8. 20 GPM 1/2 HP, high head effluent pump.
9. [illegible]BLOW Air Compressor w/ concrete housing.
10. 1/2" Sch. 40 PVC Air Line (Max. 50 Lft from Plant).
11. 1" Sch. 40 PVC pipe to distribution system provided by contractor.
12. 4" min. compacted sand or gravel pad by Contractor

NuWater B-800
Aerobic Treatment Plant (Assembled)

Model: B-800

March, 2010
By: A.S.

Scale:
* All Dimensions subject to allowable specification tolerance.

Dwg. #: ADV-B800-2

Advantage Wastewater Solutions llc.
444 A Old Hwy No 9
Comfort, TX 78013
830-995-3189
fax 830-995-4051

"Quality Pumps Since 1939"

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

ZOELLER PUMP CO.

SECTION: 2.30.015
FM1495
0500
Supersedes
1097

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:
http://www.zoeller.com

COMPARE THESE FEATURES

- Non-Clogging Vortex Impeller Design.
- Float operated, submersible (NEMA 6) 2 pole switch.
- Durable cast iron construction. Cast iron switch cap, motor, and pump housing.
- Stainless steel screws, bolts, handle, guard, arm and seal assembly.
- Engineered, glass-filled, plastic impeller with metal insert.
- UL-listed 3-wire cord and plug. 15 ft. cord standard for automatic & nonautomatic.
- Corrosion resistant powder coated epoxy finish.
- Thermal overload protection.
- Oil filled PSC motor - hermetically sealed.
- Engineered plastic base.
- .4 H.P. 115V & 230V, 1Ph., 60 cycle, 1725 RPM.
- Carbon and ceramic shaft seal.
- Oil Lubricated Bearings.
- Passes 2-inch spherical solids.
- 2" NPT Discharge.
- On point - 12½"
- Off point - 4½"

SIMPLEX AND DUPLEX SYSTEMS AVAILABLE

ZOELLER PUMP CO.

Manufacturers of . . .

"Quality Pumps Since 1939"

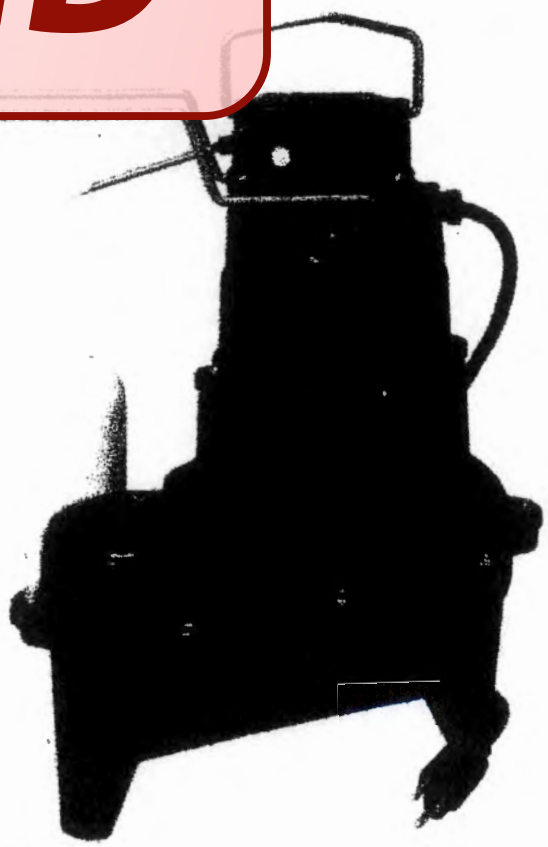
264 SERIES
"WASTE-MATE"

(For Pump Prefix Identification see News & Views 0052)

SUBMERSIBLE
SEWAGE/EFFLUENT*
OR DEWATERING PUMP
2" NPT DISCHARGE

POWDER COATED TOUGH™

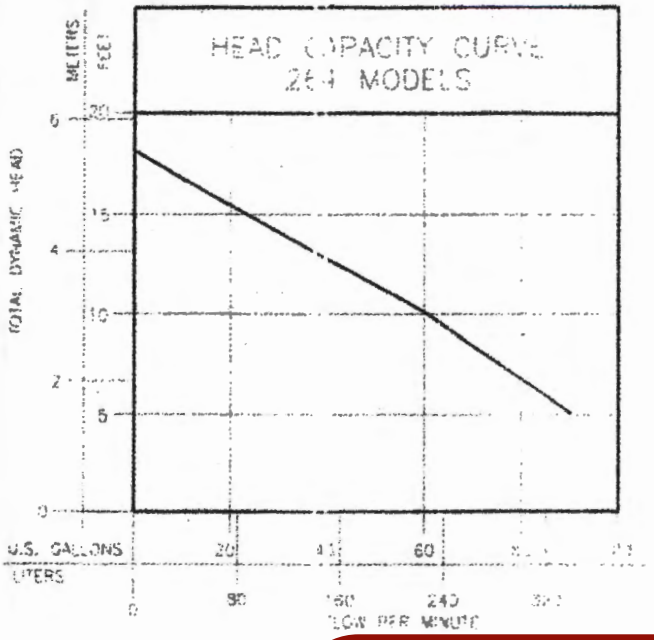
SSPMA MEMBER SUMP AND SEWAGE PUMP MFRS. ASSN.

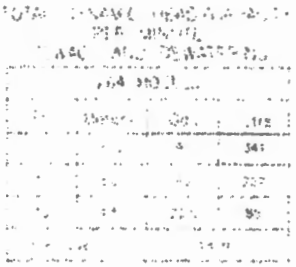


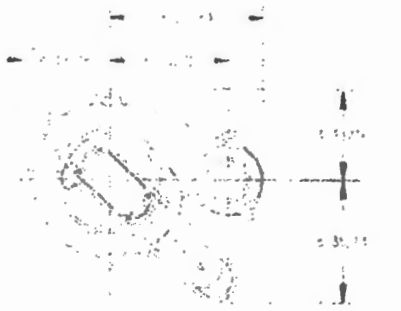
MODELS AVAILABLE

- Automatic
- Nonautomatic (for variable level systems)
- BE & BN264 available packaged with Piggyback variable level float switch.

*May be used in those states where codes do not restrict solids size in effluent systems.







VOID

ATIONS

- Electrical alternators for dup[illegible] system[illegible] variable level float switches.
- Minimum recommended bas[illegible] size
  Simplex-18"x30"
  Duplex-30"x30"
- Standard Automatic - Weight [illegible] lbs. .4 H.P.

- Hi[illegible]ter alarms available.
- [illegible]anical alter[illegible]ators available for duplex systems.

⚠ CAUTION [illegible]aximum temperature of sewage or dewatering must[illegible]e limited to 130° F. (54° C.)
For over 130° [illegible]. (54° C.) special quotation required.

264 MODELS				CONTROL SELECTION		
Model	Volts	Ph	Mode	Amps	Simplex	Duplex
M264	115	1	Auto	9.4	1 or 1 & 7	——
N264	115	1	Non	9.4	2 or 2 & 6	3 or 4 & 5
D264	230	1	Auto	4.7	1 or 1 & 7	——
E264	230	1	Non	4.7	2 or 2 & 6	3 or 4 & 5

SELECTION GUIDE

1. Integral float operated 2-pole mechanical switch, no external control required.
2. Single piggyback variable level float switch, or double piggyback variable level float switch. Refer to FM0477.
3. Mechanical alternator M-Pak 10-0072 or 10-0075.
4. See FM0712 for correct model of electrical alternator.
5. Control switch 10-0225 used as a control activator specify duplex (3) or (4) float system.

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, and Single Phase Simplex Pump Control, FM1596; Alarm System, FM0[illegible].

⚠ 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 Electric Code (NEC) and the Occupational Safety and Health Act (OSHA).

RESERVE POWERED DESIGN

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

http://www.zoeller.com

ZOELLER PUMP CO.

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

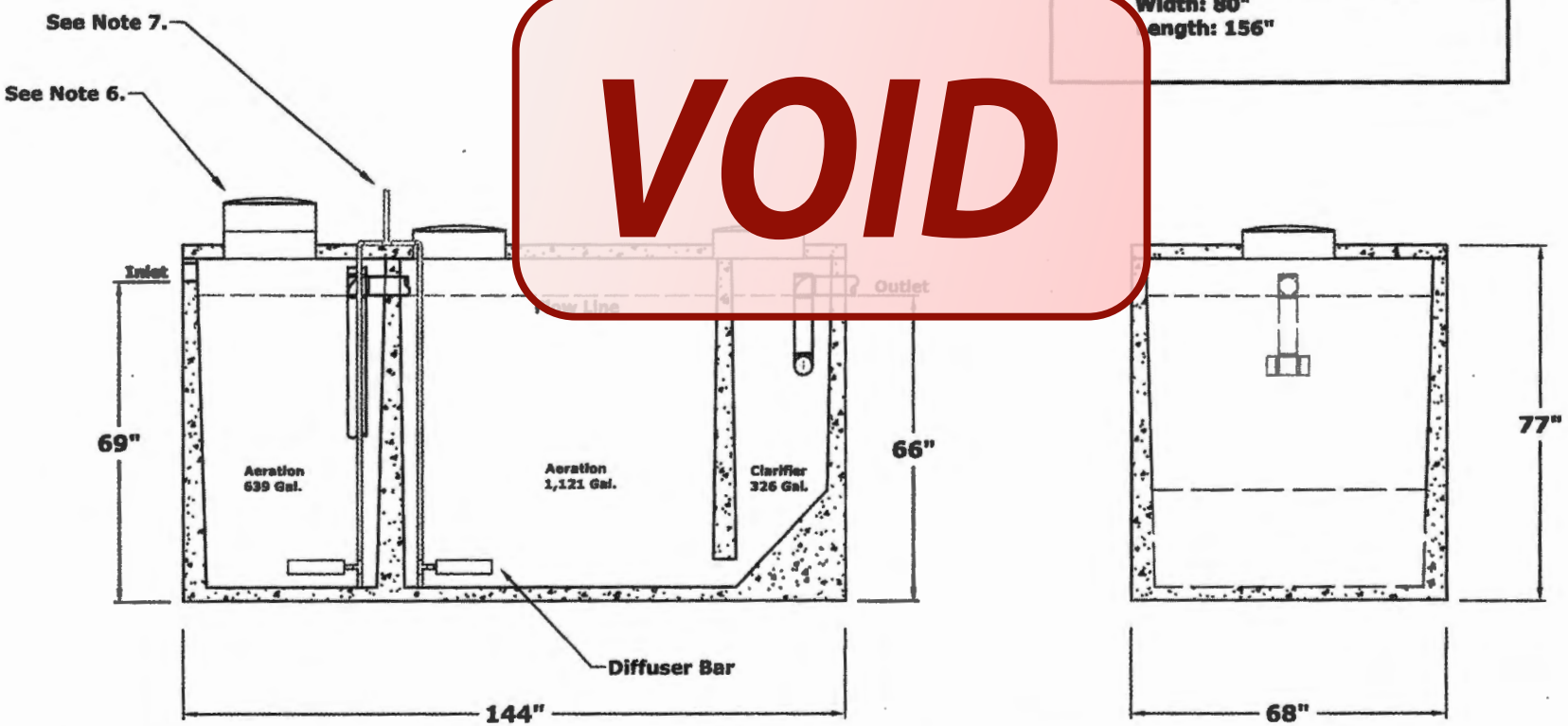
Manufacturers of . .
"Quality Pumps Since 1939"

Advantage Wastewater Solutions llc

GENERAL NOTES:

1. Plant structure material to be precast concrete and steel.
2. Maximum burial depth is 30" from slab top to grade.
3. Weight = 16,600 lbs.
4. Treatment capacity is 1,500 GPD.
5. BOD Loading = 4.50 lbs. per day.
6. 20" Ø acess riser w/ lid (Typical 3). Optional extension risers available.
7. 1" Sch. 40 PVC Air Line to NuWater B-1500 Air Compressor (Max. 50 Lft from Plant).
8. Requires minimum 1,000 gallon trash tank unless otherwise specified by engineering.

MINIMUM EXCAVATION DIMENSIONS:
Width: 80"
ength: 156"



NuWater B-1500 Duel Aeration Aerobic Treatment Plant

Model: B-1500

July, 2010
By: A.S.

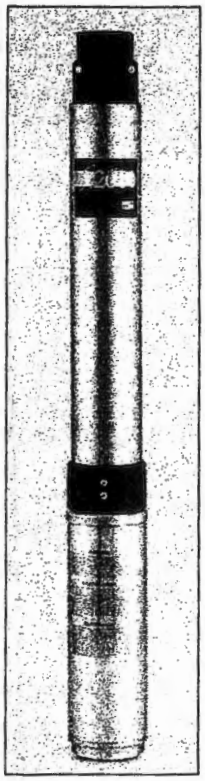
Scale:
* All Dimensions subject to allowable specification tolerances.

Dwg. #: ADV-B1500-2

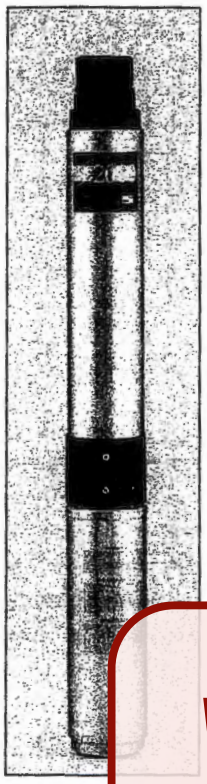
Advantage Wastewater Solutions llc
444 A Old Hwy No 9
Comfort, TX 78013
830-995-3189
fax 830-995-4051

4" Submersible Pumps

Signature 2000®



5-7 GPM TrimLine™
Max O.D. = 3-3/4"



10-30 GPM Series
Max O.D. 3-7/8"

Series J
Composite and Stainless

Precision-engineered, corrosion-resistant Signature 2000® Series J pumps in 5, 7, 10, 15, 20 and 30 GPM models deliver efficient, dependable performance even in rough, aggressive water. Heads to over 700 feet and capacities to 45 GPM. Built to deliver long-term, trouble-free service.

These pumps feature the patented Signa-Seal™ staging system. Floating stack design resists sand and reduces sand locking.

The 5 & 7 GPM models are the smaller diameter, TrimLine™ design; 10, 15, 20, and 30 GPM are standard models.

MATERIALS

Shell – stainless steel

Discharge – fiberglass-reinforced thermoplastic

Discharge bearing – Nylatron®

Intermediate bearing – (on larger units) polycarbonate, nitrile rubber, and stainless steel

Impellers – Acetal

Diffusers – Polycarbonate

Suction caps – Polycarbonate with stainless steel insert

Thrust pads – proprietary spec.

Shaft and coupling – stainless steel

Intake – fiberglass-reinforced thermoplastic

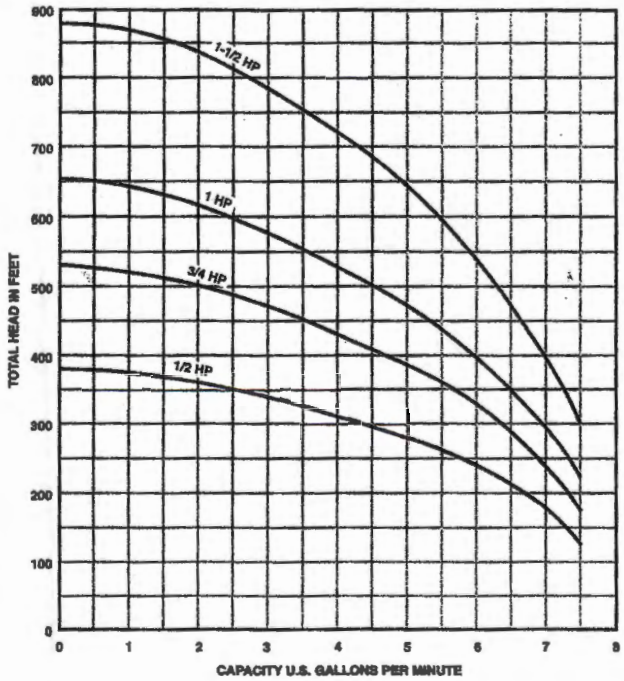
Intake screen – polypropylene

Check valve – durable internal check valve

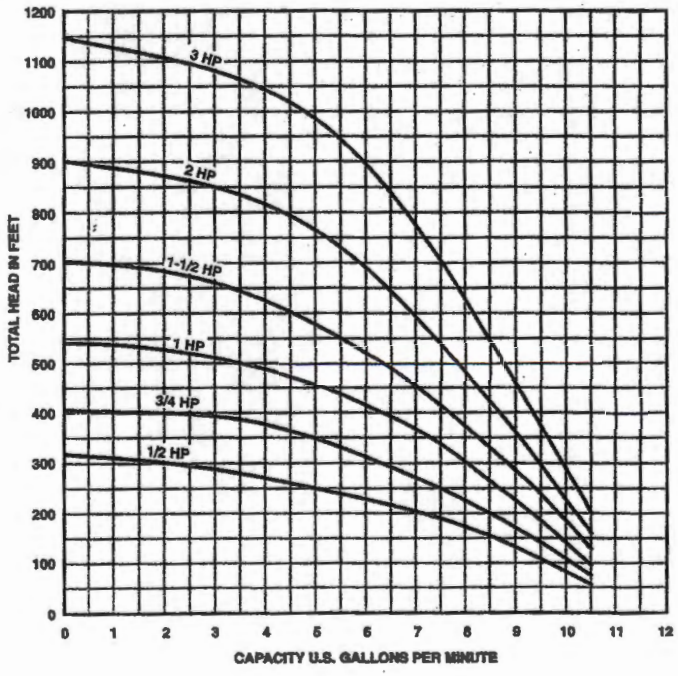
Cable guard – stainless steel

Agency Listings – UL 778, CSA and NSF

PUMP PERFORMANCE
5 GPM



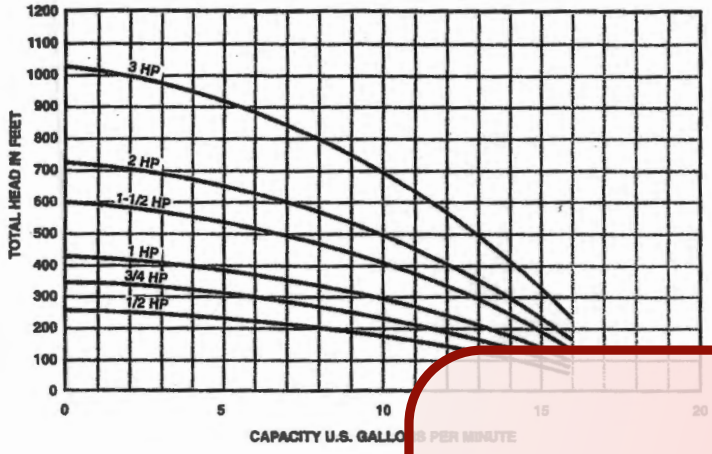
7 GPM



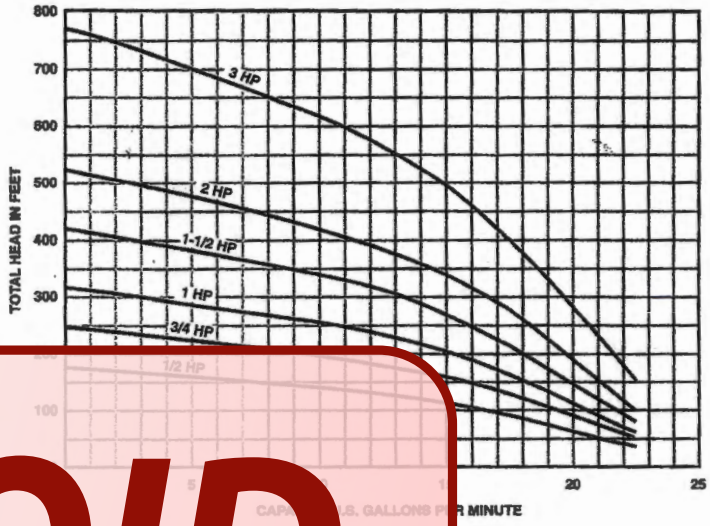
4" Submersible Pumps

PUMP PERFORMANCE

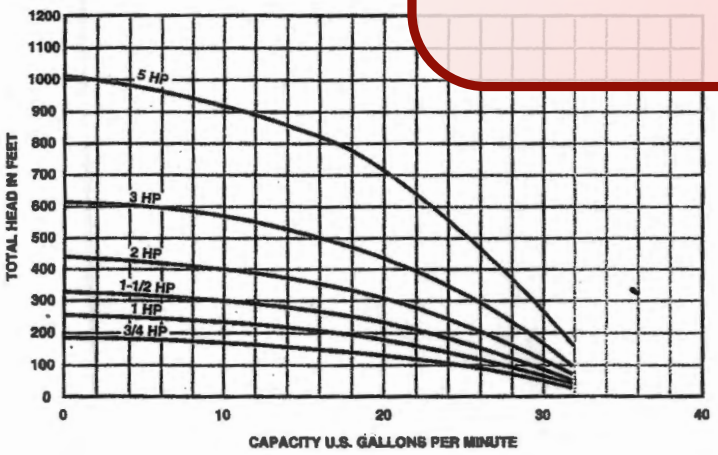
10 GPM

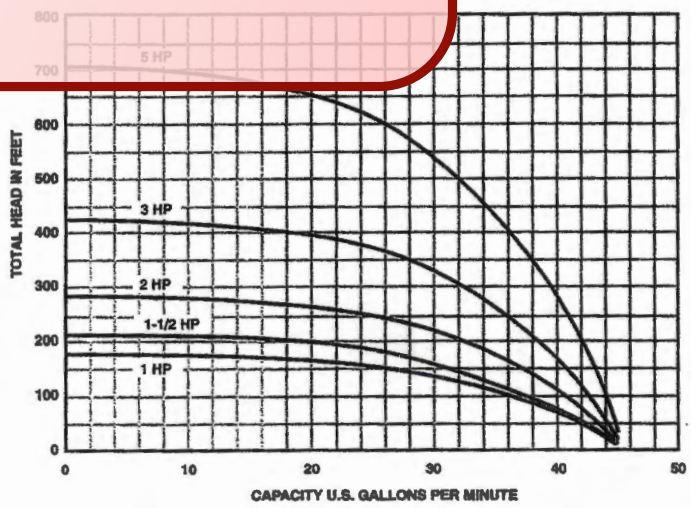


15 GPM



20 GPM





4" Submersible Pumps

ORDERING INFORMATION

Series	HP	Motor Voltage	Phase	Stages	Disch.	3 Wire			2 Wire		
						Catalog No.	Approx. Wt. Lbs.*	Length Inches*	Catalog No.	Approx. Wt. Lbs.*	Length Inches*
15	1/2	115	1	5	1-1/4"	15P4C01J	27	22-1/4	15SP4C01J	27	22-1/4
		230	1	5	1-1/4"	15P4C02J	27	22-1/4	15SP4C02J	27	22-1/4
	3/4	230	1	7	1-1/4"	15P4D02J	31	25-3/4	15SP4D02J	31	25-3/4
	1	230	1	9	1-1/4"	15P4E02J	35	29-1/4	15SP4E02J	35	29-1/4
	1-1/2	230	1	12	1-1/4"	15P4F02J	41	33-3/4	15SP4F02J	43	35-1/4
		230	3	12	1-1/4"	15P4F03J	38	32-1/2			
		460	3	12	1-1/4"	15P4F04J	38	32-1/2			
	2	230	1	15	1-1/4"	15P4G02J	44	38-1/2			
		230	3	15	1-1/4"	15P4G03J	42	37			
		460	3	15	1-1/4"	15P4G04J	42	37			
	3	230	1	22	1-1/4"	15P4H02J	69	54-3/4			
		230	3	22	1-1/4"	15P4H03J	60	52			
		460	3	22	1-1/4"	15P4H04J	60	52			
20	3/4	230	1	5	1-1/4"	20P4D02J	30	23-3/4	20SP4D02J	30	23-3/4
	1	230	1	7	1-1/4"	20P4E02J	34	27-1/4	20SP4E02J	34	27-1/4
	1-1/2	230	1	9	1-1/4"	20P4F02J	39	32	20SP4F02J	39	32
		230	3	9	1-1/4"	20P4F03J	39	32			
		460	3	9	1-1/4"	20P4F04J	39	32			
	2	230	1	12	1-1/4"	20P4G02J	49	40-1/4			
		230	3	12	1-1/4"	20P4G03J	46	38-3/4			
		460	3	12	1-1/4"	20P4G04J	46	38-3/4			
	3	230	1	17	1-1/4"	20P4H02J	67	49-1/4			
		230	3	17	1-1/4"	20P4H03J	58	46-1/2			
		460	3	17	1-1/4"	20P4H04J	58	46-1/2			
	5	230	1	28	1-1/4"	20P4J02J	89	67-1/2			
		230	3	28	1-1/4"	20P4J03J	74	61-1/2			
		460	3	28	1-1/4"	20P4J04J	74	61-1/2			
30	1	230	1	5	1-1/4"	30P4E02J	35	26-1/2	30SP4E02J	35	26-1/2
	1-1/2	230	1	6	1-1/4"	30P4F02J	39	29	30SP4F02J	39	30-1/2
		230	3	6	1-1/4"	30P4F03J	36	28	—		
		460	3	6	1-1/4"	30P4F04J	36	28	—		
	2	230	1	8	1-1/4"	30P4G02J	42	33-1/4	—		
		230	3	8	1-1/4"	30P4G03J	37	32-1/4	—		
		460	3	8	1-1/4"	30P4G04J	37	32-1/4	—		
	3	230	1	12	1-1/4"	30P4H02J	66	47-1/2	—		
		230	3	12	1-1/4"	30P4H03J	57	44-3/4	—		
		460	3	12	1-1/4"	30P4H04J	57	44-3/4	—		
	5	230	1	20	1-1/4"	30P4J02J	89	65-1/4	—		
		230	3	20	1-1/4"	30P4J03J	73	59-1/4	—		
		460	3	20	1-1/4"	30P4J04J	73	59-1/4	—		

*Length and weight are approximate.

Standard version maximum outside diameter 3-7/8"

NOTE: Control box or magnetic starter must be ordered separately.

4" Submersible Pumps

ORDERING INFORMATION – PUMP ENDS

Series	HP	Stages	Disch.	Catalog No.	Approx. Wt. Lbs.*	Length Inches*
5	1/2	13	1-1/4"	L5P4CJL	12	18
	3/4	18	1-1/4"	L5P4DJL	15	22
	1	22	1-1/4"	L5P4EJL	17	25-1/4
	1-1/2	30	1-1/4"	L5P4FJL	21	32
7	1/2	10	1-1/4"	L7P4CJL	11	16
	3/4	13	1-1/4"	L7P4DJL	13	18-1/2
	1	17	1-1/4"	L7P4EJL	15	22
	1-1/2	22	1-1/4"	L7P4FJL	17	27-1/4
	2	28	1-1/4"	L7P4GJL	20	32-1/2
	3	36	1-1/4"	L7P4HJL	24	39-1/2
10	1/2	6	1-1/4"	L10P4CJ	8-1/2	12
	3/4	8	1-1/4"	L10P4DJ	9-1/2	13-3/4
	1	10	1-1/4"	L10P4EJ	10-1/4	15-1/2
	1-1/2	14	1-1/4"	L10P4FJ	12	19
	2	17	1-1/4"	L10P4GJ	13-1/2	21-1/2
	3	24	1-1/4"	L10P4HJ	16-1/2	27-1/2
15	1/2	5	1-1/4"	L15	9	12-1/4
	3/4	7	1-1/4"	L1	10	14-1/2
	1	9	1-1/4"	L	11	16-3/4
	1-1/2	11	1-1/4"	L15P4FJ	13	20-1/4
	2	15	1-1/4"	L15P4GJ	15	23-1/2
	3	22	1-1/4"	L15P4HJ	18	31-1/4
20	3/4	5	1-1/4"	L20P4DJ	8-1/2	12-1/2
	1	7	1-1/4"	L20P4EJ	9-3/4	14-3/4
	1-1/2	9	1-1/4"	L20P4FJ	10-3/4	16-3/4
	2	12	1-1/4"	L20P4GJ	12-1/2	20-1/4
	3	17	1-1/4"	L20P4HJ	15	25-3/4
	5	28	1-1/4"	L20P4JJ	21	38
30	1	5	1-1/4"	L30P4EJ	10	14
	1-1/2	6	1-1/4"	L30P4FJ	11	15-1/4
	2	8	1-1/4"	L30P4GJ	12	18-1/4
	3	12	1-1/4"	L30P4HJ	15	24
	5	20	1-1/4"	L30P4JJ	20	35-3/4

VOID

*Length and weight are approximate.
TrimLine™ version maximum outside diameter 3-3/4".
Standard version maximum outside diameter 3-7/8".
NOTE: Motor, control box or magnetic starter must be ordered separately.

NETAFIM™
GROW MORE WITH LESS

MANUAL DISC FILTERS

RELIABLE, EFFICIENT PLASTIC DISCS CREATE SUPERIOR FILTRATION

PRODUCT ADVANTAGES

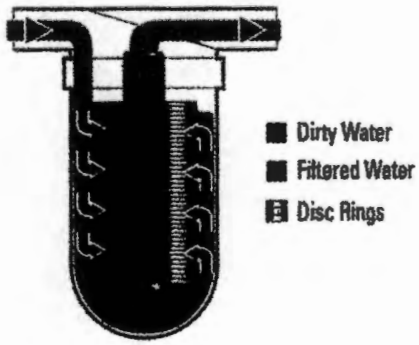
- Highly effective multiple disc ring design captures and holds more debris
- Greater holding capacity of the rings vs. screen filters mean less frequent cleaning
- Rings are easily removed for fast cleaning without the need for scrubbing
- Color coded disc rings make identification of mesh rating fast and easy

THE FILTERING PROCESS

Grooved, compressed plastic disc rings produce a deep filtration process. As dirty water is pumped into the filter and pressure increases on the outside of the filter, the water pressure compresses the rings together tightly.

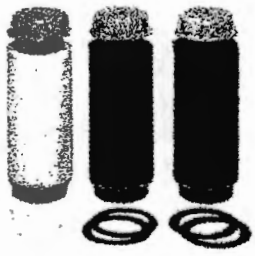
Grooves in the disc rings crisscross, forming a three dimensional network that traps particles. The number of crisscrossed intersection points on each groove varies, depending on filtration grade. The turbulence in the varying paths and the large number of intersections create an environment where particles are eventually trapped.

This design filters the dirty water thoroughly, not only on the outer surface of the cylindrical disc filter, but through the entire depth of every ring's grooves. The result is a larger, more efficient filtering area (when compared to screen filters) with more debris being captured and cleaner water exiting from the filter.



APPLICATIONS

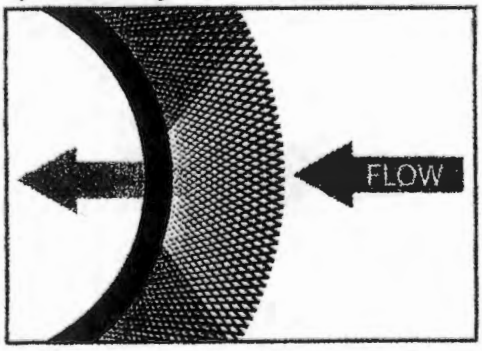
- Primary irrigation filter for relatively clean or average water quality
- Protection of irrigation systems from clogging and/or abrasion



MESH/MICRON		
MESH	MICRON	DISC COLOR
040	400	Blue
080	200	Yellow
120	130	Red
140	115	Black
200	55	Green

Substitute *** in Model Number for proper mesh.

Top view of disc ring



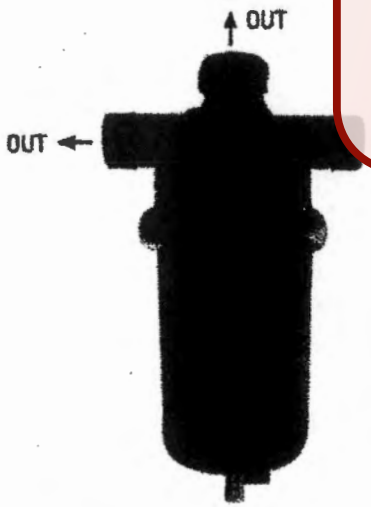
MANUAL DISC FILTERS

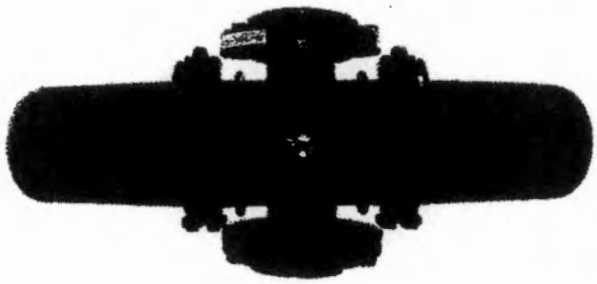
3/4" FILTER	
FLOW RANGE	1 - 12 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	25 sq. in.
FILTERING VOLUME	5.8 cu. in.
LENGTH	5 22/32"
WIDTH	7 15/32"
WEIGHT	.66 lbs.
DISTANCE BETWEEN ENDS	6"
INLET/OUTLET DIAMETER	3/4" Male
MODEL NUMBER	25A45-***

1" FILTER	
FLOW RANGE	5 - 26 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	49 sq. in.
FILTERING VOLUME	27 cu. in.
LENGTH	9 11/32"
WIDTH	6 7/32"
WEIGHT	2.2 lbs.
DISTANCE BETWEEN ENDS	6 7/32"
INLET/OUTLET DIAMETER	1" Male
MODEL NUMBER	25A47-***

1" SUPER FILTER	
FLOW RANGE	10 - 35 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	78 sq. in.
FILTERING VOLUME	38 cu. in.
LENGTH	13 13/32"
WIDTH	6 7/32"
WEIGHT	3.11 lbs.
DISTANCE BETWEEN ENDS	6 7/32"
INLET/OUTLET DIAMETER	1" Male
MODEL NUMBER	25A48-***

VOID



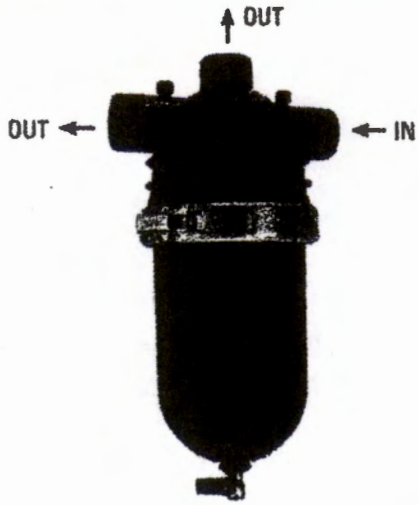


2" DUAL LITE FILTER	
FLOW RANGE	40 - 110 GPM
MAXIMUM PRESSURE	115 psi
FILTERING SURFACE AREA	147 sq. in.
FILTERING VOLUME	75.7 cu. in.
LENGTH	16 5/16"
WIDTH	10 1/4"
WEIGHT	6.6 lbs.
DISTANCE BETWEEN ENDS	10 1/4"
INLET/OUTLET DIAMETER	2" Male
MODEL NUMBER	25A2DL-***

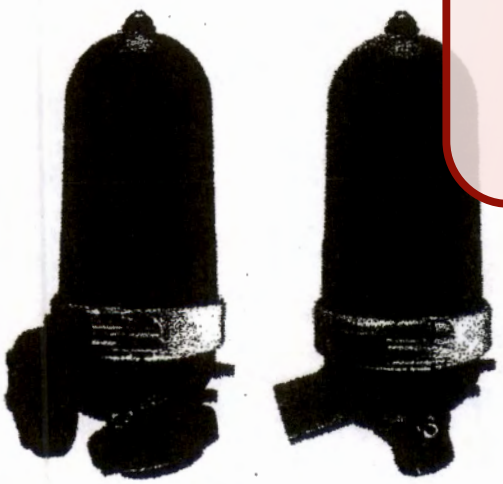
3" TWIN LITE FILTER	
FLOW RANGE	80 - 220 GPM
MAXIMUM PRESSURE	115 psi
FILTERING SURFACE AREA	294.5 sq. in.
FILTERING VOLUME	174 cu. in.
LENGTH	28 3/4"
WIDTH	9 14/32"
WEIGHT	17 lbs.
DISTANCE BETWEEN ENDS	12 19/32"
INLET/OUTLET DIAMETER	3" Flanged
MODEL NUMBER	25A3TL-***F

1 ½" FILTER	
FLOW RANGE	10 - 35 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	49 sq. in.
FILTERING VOLUME	27 cu. in.
LENGTH	10 5/8"
WIDTH	7 7/8"
WEIGHT	2.4 lbs.
DISTANCE BETWEEN ENDS	7 7/8"
INLET/OUTLET DIAMETER	1 1/2" Male
MODEL NUMBER	25A15-***

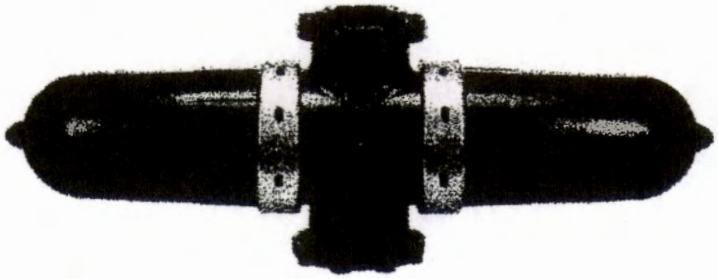
1 ½" SUPER FILTER	
FLOW RANGE	10 - 52 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	78 sq. in.
FILTERING VOLUME	38 cu. in.
LENGTH	14 1/2"
WIDTH	7 7/8"
WEIGHT	3.3 lbs.
DISTANCE BETWEEN ENDS	7 7/8"
INLET/OUTLET DIAMETER	1 1/2"
MODEL NUMBER	25A15-***



2" DUAL HP FILTER	
FLOW RANGE	40 - 120 GPM
MAXIMUM PRESSURE	174 psi
FILTERING SURFACE AREA	147 sq. in.
FILTERING VOLUME	75 cu. in.
LENGTH	14 3/4"
WIDTH	10 1/4"
WEIGHT	11 lbs.
DISTANCE BETWEEN ENDS	10 1/4"
INLET/OUTLET DIAMETER	2" Male
MODEL NUMBER	25A30-***



FLANGED GROOVED



3" ANGLE FILTER	
FLOW RANGE	80 - 220 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	287 sq. in.
FILTERING VOLUME	108 cu. in.
LENGTH	24 7/8"
WIDTH	12 3/32"
WEIGHT	31 lbs.
INLET/OUTLET DIAMETER	3"
MODEL NUMBER - FLANGED	25A53-***FNEW
MODEL NUMBER - GROOVED	25A53-***GNEW

4" TWIN FILTER	
FLOW RANGE	160 - 450 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	574 sq. in.
FILTERING VOLUME	216 cu. in.
LENGTH	47"
WIDTH	13"
WEIGHT	52.8 lbs.
DISTANCE BETWEEN ENDS	17 17/32"
INLET/OUTLET DIAMETER	4" Flanged
MODEL NUMBER	25A78-***F

6" TWIN FILTER	
FLOW RANGE	200 - 600 GPM
MAXIMUM PRESSURE	140 psi
FILTERING SURFACE AREA	574 sq. in.
FILTERING VOLUME	216 cu. in.
LENGTH	47"
WIDTH	13"
WEIGHT	57.2 lbs.
DISTANCE BETWEEN ENDS	17 17/32"
INLET/OUTLET DIAMETER	6" Flanged
MODEL NUMBER	25A80-***F

MANUAL DISC FILTERS

FILTER APPLICATION RECOMMENDATIONS

FLOW RATE (GPM)	HEADLOSS (psi)										
	3/4"	1"	1" SUPER	1 1/2"	1 1/2" SUPER	2" DUAL HP	2" DUAL LITE	3" TWIN LITE	3" ANGLE	4" TWIN	6" TWIN
5	0.60	0.25									
10	2.50	0.60									
13	3.40	1.34									
17	5.87	2.10									
22		3.24	1.10	1.10							
26			1.50	1.30	1.50						
31			2.10	1.70	2.10						
35			2.50	2.30	2.50						
44					4.20	0.30	0.30				
66											
88											
110											
132											
154											
176											
198											
220											
242											
264											
286											
308											
330											
350											
400											
500											
600											

The losses shown are for filters with 140 Mesh

CHART LEGEND

- 0.00 — River, ditch, pond, lake or reservoir water
- 0.00 — Well water containing sand only
- 0.00 — Municipal supply

ORDERING INFORMATION

FILTER SIZE	MODEL NUMBER
3/4"	25A45-***
1"	25A47-***
1" SUPER	25A48-***
1 1/2"	25A15-***
1 1/2" SUPER	25A17-***
2" DUAL HP	25A30-***
2" DUAL LITE	25A2DL-***
3" TWIN LITE	25A3TL-***F
3" ANGLE FLANGED	25A53-***FNEW
3" ANGLE GROOVED	25A53-***GNEW
4" TWIN FLANGED	25A78-***F
6" TWIN FLANGED	25A80-***F

Substitute *** for proper mesh size.

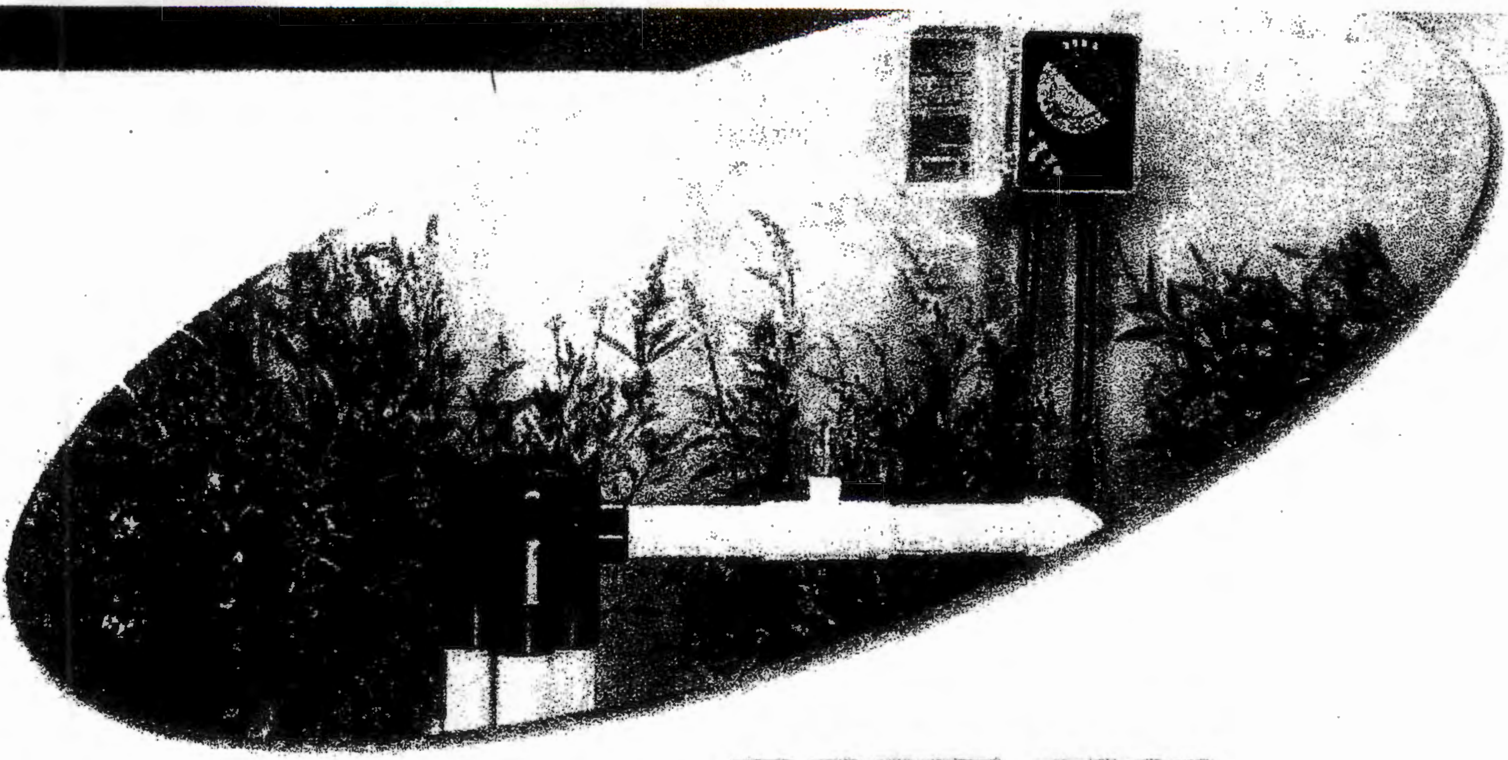
MATERIALS

- Disc Rings: Polypropylene
- O-Rings: EPDM Rubber
- Clamp: Stainless Steel (except 2" Dual Lite and 3" Twin Lite which is Plastic)

NETAFIM™
GROW MORE WITH LESS

NETAFIM USA
5470 E. HOME AVE.
FRESNO, CA 93727
CS 888 638 2346
www.netafimusa.com

A024 12/13



K-RAIN 4000

DISTRIBUTING VALVES THE NEXT GENERATION OF PROFESSIONAL PRODUCTS.

VOID

FEATURES/BENEFITS

- **2 Year Trade Warranty-** Factory support up to two years after purchase.
- **ABS Polymer Construction-** High-strength, non-corrosive body for long product life.
- **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 Low 10 GPM at Pressures of 25-75 PSI-** Reliably automates multiple zoned residential and small commercial irrigation or wastewater systems.

K RAIN®

IRRIGATION SOLUTIONS WORLDWIDE™

K-RAIN MODEL 4000: DISTRIBUTING VALVE

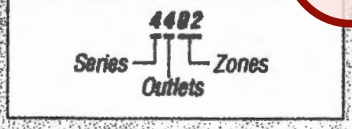
The 4000 distributing valve offers a reliable, economical way to automate multiple zoned residential and small commercial irrigation systems. The simplicity of design and a minimum of moving parts ensures ease of maintenance and long service life.

These patented valves allow for the number of watering zones to be changed quickly and easily. They are ideally suited for both city water and pump applications and may also be used for onsite wastewater or effluent water applications.

The 4000 valve is available in 4 or 6 outlet models. A quick change of the cam allows the valve to operate from 2 to 6 zones. The valve will operate with flows as low as 1[illegible] GPM and at pressures of 25 to 75 PSI.

The distributing valve shall carry a [illegible]wo-year trade warranty against manufactur[illegible]g defects.

HOW TO SPECIFY



MODELS

4 Outlet - 1 1/4" x 1 1/4" Models

4400	No Cam
4402	Cammed for 2 Zone Operation
4403	Cammed for 3 Zone Operation
4404	Cammed for 4 Zone Operation

Other Options: Add to Part Number

RCW	Reclaimed Water Use

4 Outlet - 1" x 1" Models

4410	No Cam
4412	Cammed for 2 Zone Operation
4413	Cammed for 3 Zone Operation
4414	Cammed for 4 Zone Operation
4600	[illegible]
4602	[illegible]
4603	Cammed for 3 Zone Operation
4604	Cammed for 4 Zone Operation
4605	Cammed for 5 Zone Operation
4606	Cammed for 6 Zone Operation

Other Options: Add to Part Number

RCW	Reclaimed Water Use

6 Outlet - 1" x 1" Models

4610	No Cam
4612	Cammed for 2 Zone Operation
4613	Cammed for 3 Zone Operation
4614	Cammed for 4 Zone Operation
4615	Cammed for 5 Zone Operation
4616	Cammed for 6 Zone Operation

SPECIFICATIONS

- Constructed of High Strength, Non-Corrosive ABS Polymer
- Flow Range:
  4 Outlet Valve: 10-40 GPM
  6 Outlet Valve: 10-25 GPM
- Pressure Rating: 25 - 75 PSI
- Pressure Loss:

4 Outlet Valve

Flow (GPM)	10	20	30	40
PSI Loss	2.0	3.0	4.5	6.4

6 Outlet Valve

Flow (GPM)	10	20	30
PSI Loss	2.5	4.5	7.5

- Inlet: Slip and Glue Connection
  4400 Series: to 1 1/4" PVC Pipe
  4410 Series: to 1" PVC Pipe
  4600 Series: to 1 1/4" PVC Pipe
  4610 Series: to 1" PVC Pipe
- Outlets: Slip and Glue Connections
  4400 Series: to 1 1/4" PVC Pipe
  4410 Series: to 1" PVC Pipe
  4600 Series: to 1" PVC Pipe
  4610 Series: to 1" PVC Pipe
- Dimensions: Height: 5-3/4"
  Width: 5-3/4"

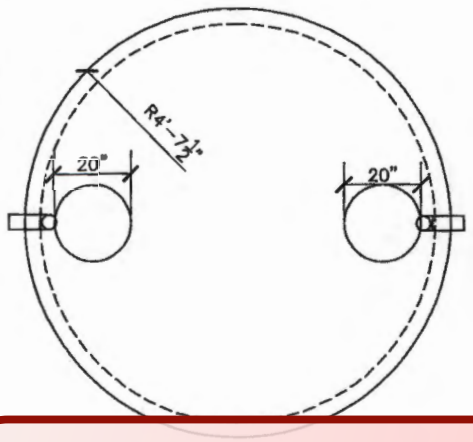
INSTALLATION TIPS

- We Recommend the Installation of an Atmospheric Vacuum Breaker Between the Pump and the Valve.

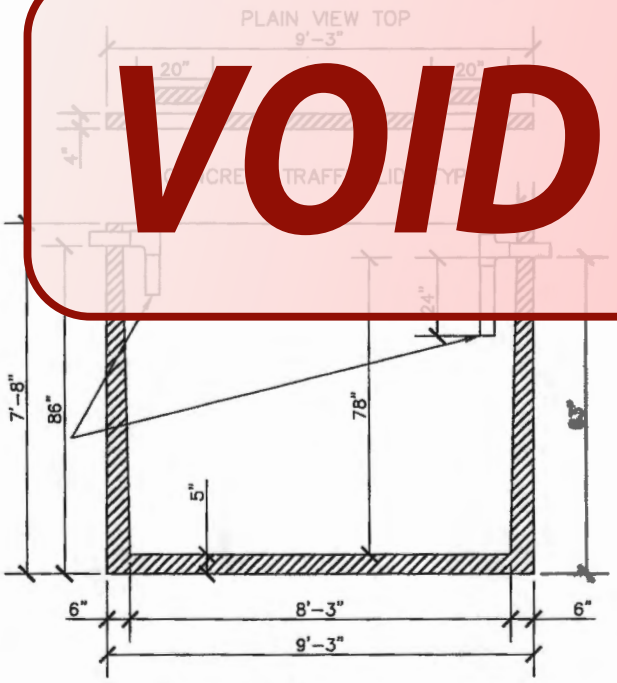
K-RAIN
IRRIGATION SOLUTIONS WORLDWIDE™
K-Rain Manufacturing Corp.
1640 Australian Avenue
Riviera Beach, FL 33404 USA
PH: 1-561-844-1002 FAX: 1-561-842-9493
1-800-735-7246
EMAIL: krain@k-rain.com
WEB: http://www.k-rain.com

CERTIFICATIONS:

* ANALYSIS AND DESIGN IN ACCORDANCE WITH ASTM STANDARD C 1227



PLAIN VIEW TOP



4" SDR 35/SCH-40 TEE FITTING

SINGLE COMPARTMENT TANK

NOTES:
1. CONCRETE: 4500 PSI
2. REINFORCEMENT: #3 REBAR 1' ON CENTER IN LID AND FLOOR W/ 1' TURN UP IN WALL
   3"X5"X1/4" MESH WIRE IN WALLS
3. 5" TRAFFIC LID (STD)
4. TANK WEIGHT: 20,126.7#
5. CAPACITY: 2706 GAL
6. GAL/IN = 34.7
7. INLET & OUTLET MEASURED FROM BOTTOM OF TANK TO FLOWLINE.

STATE OF TEXAS
GREG W. JOHNSON
67587
REGISTERED
PROFESSIONAL ENGINEER

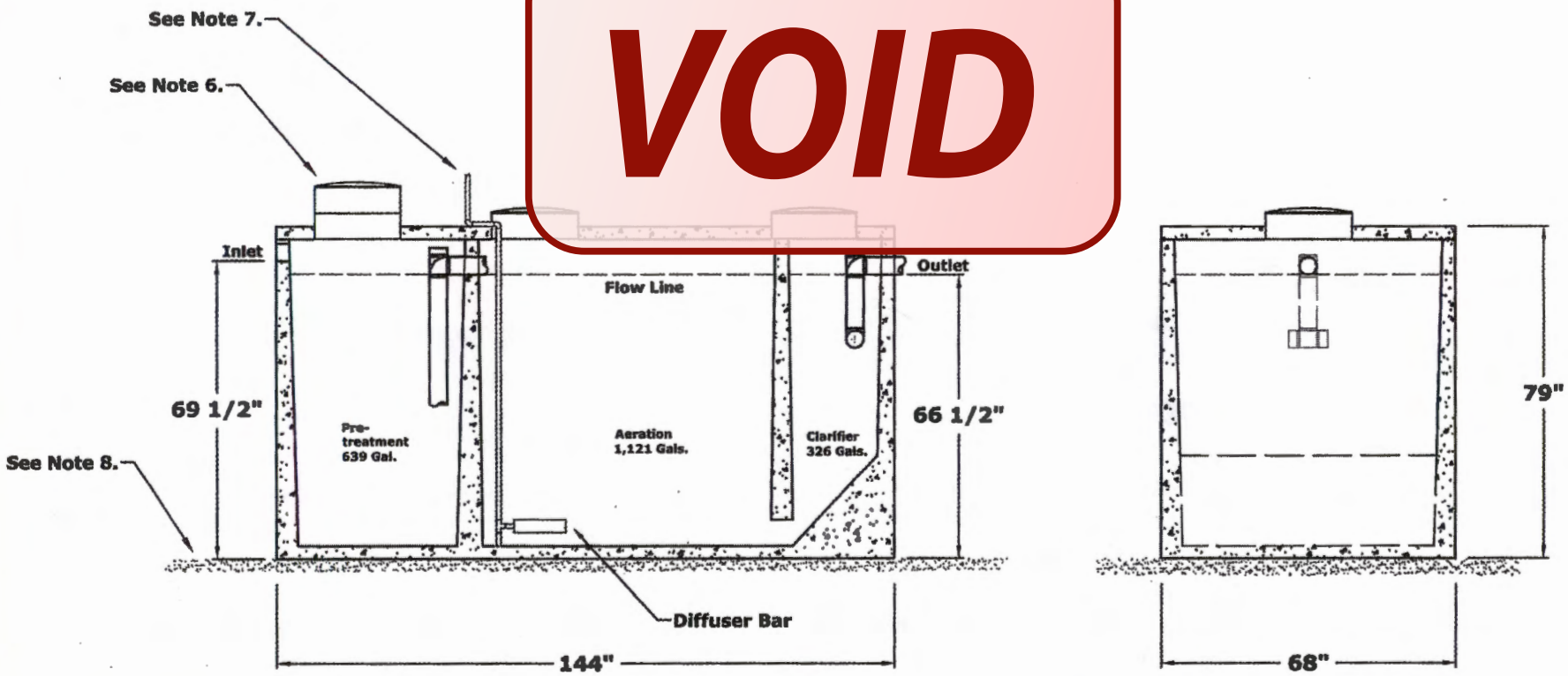
CLIENT: BLOCK CREEK CONCRETE				DRAWN BY:
STREET ADDRESS: 444 OLD #9 HWY A				
DESC: 3000 GAL. SINGLE COMP. SEPTIC TANK				
PREPARED BY: GREG W. JOHNSON, P.E., F#2585	SCALE: 1/4" = 1'-0"	DATE: 12/1/2017	REVISED:	

Advantage Wastewater Solutions llc

GENERAL NOTES:

1. Plant structure material to be precast concrete and steel.
2. Maximum burial depth is 30" from slab top to grade.
3. Weight = 16,600 lbs.
4. Treatment capacity is 1,000 GPD.
5. BOD Loading = 3.00 lbs. per day.
6. 20" Ø acess riser w/ lid (Typical 3). Optional extension risers available.
7. 1" Sch. 40 PVC Air Line to Bio-Robic B-1000 Air Compressor (Max. 50 Lft from Plant).
8. 4" min. compacted sand or gravel pad by Contractor

MINIMUM EXCAVATION DIMENSIONS:
Width: 80"
Length: 156"



NuWater B-1000
Aerobic Treatment Plant (Assembled)

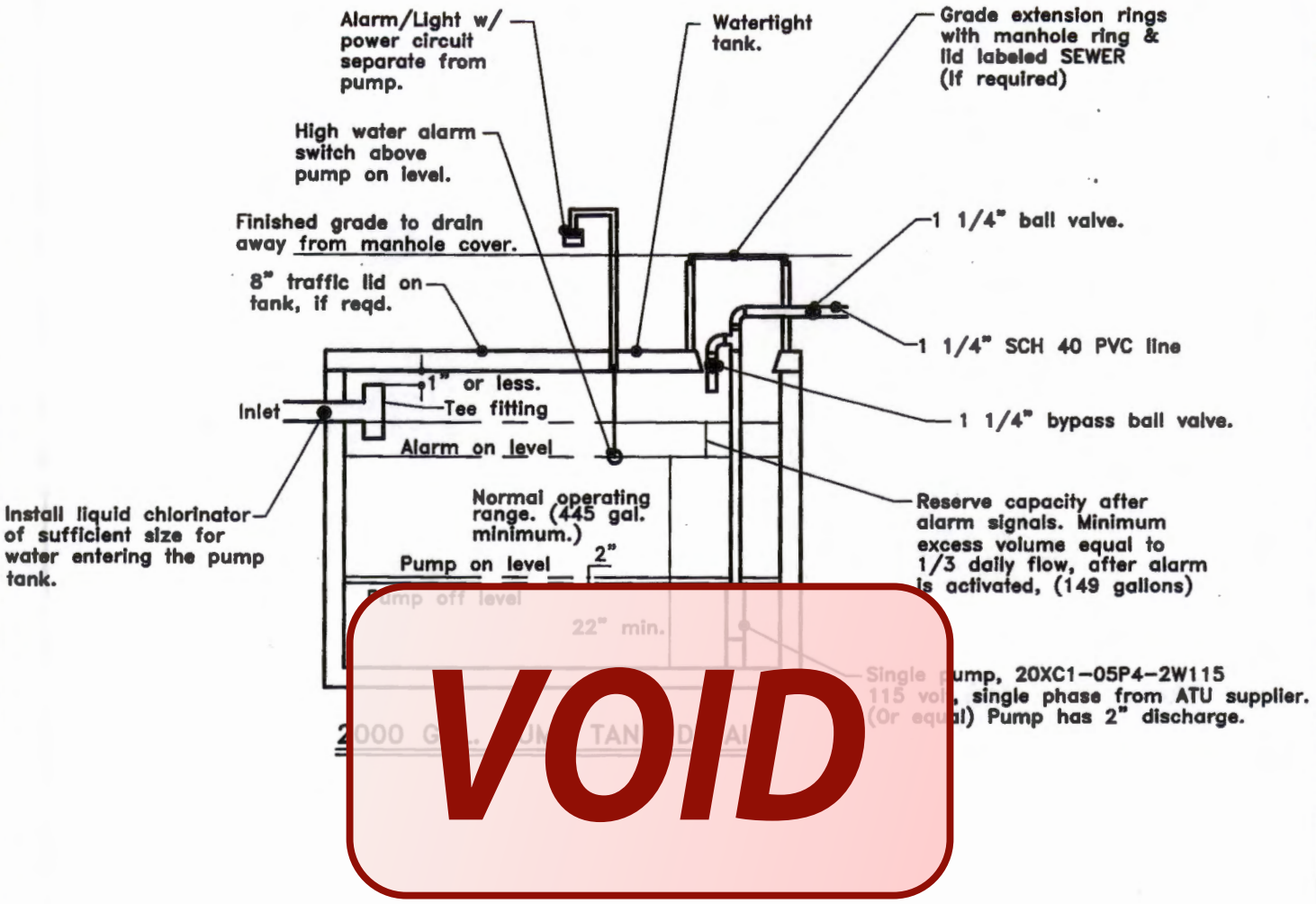
Model: B-1000

July, 2012
By: A.S.

Scale:
* All Dimensions subject to allowable specification tolerances.

Dwg. #: ADV-B1000-2

Advantage Wastewater Solutions llc
444 A Old Hwy No 9
Comfort, TX 78013
830-995-3189
fax 830-995-4051



VOID

ALL ELECTRICAL WIRING SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE NATIONAL ELECTRIC CODE. CONNECTIONS SHALL BE IN APPROVED JUNCTION BOXES AND ALL EXTERNAL POWER WIRING SHALL BE IN APPROVED ELECTRICAL CONDUIT, BURIED, AND TERMINATED AT A MAIN CIRCUIT BREAKER PANEL OR SUB-PANEL. ALL ELECTRICAL COMPONENTS SHOULD HAVE AN ELECTRICAL DISCONNECT WITHIN DIRECT VISION. ELECTRICAL DISCONNECTS MUST BE WEATHERPROOF (APPROVED FOR OUTDOOR USE) AND HAVE MAINTENANCE LOCKOUT PROVISIONS.

USE A LARGER TANK IF REQUIRED TO MEET MINIMUM STORAGE REQUIREMENTS.

Owner Rebecca Creek Campgrounds SYSTEM # 4	Drawn by: Kaeleigh R. Crandall
Location Comal County, Texas	Drawing No. 100-8195-PT

MANGOLD Engineering Company
5596 CR 5710
Devine, TX 78016
Phone: (830) 931-0400
FIRM NO. 5549

Date: 9/1/21

Scale: None

Sheet 1 of 1

Kaeleigh R Crandall

STATE OF TEXAS
KAELEIGH ROSE CRANDALL
134570
LICENSED
PROFESSIONAL ENGINEER

9/1/21

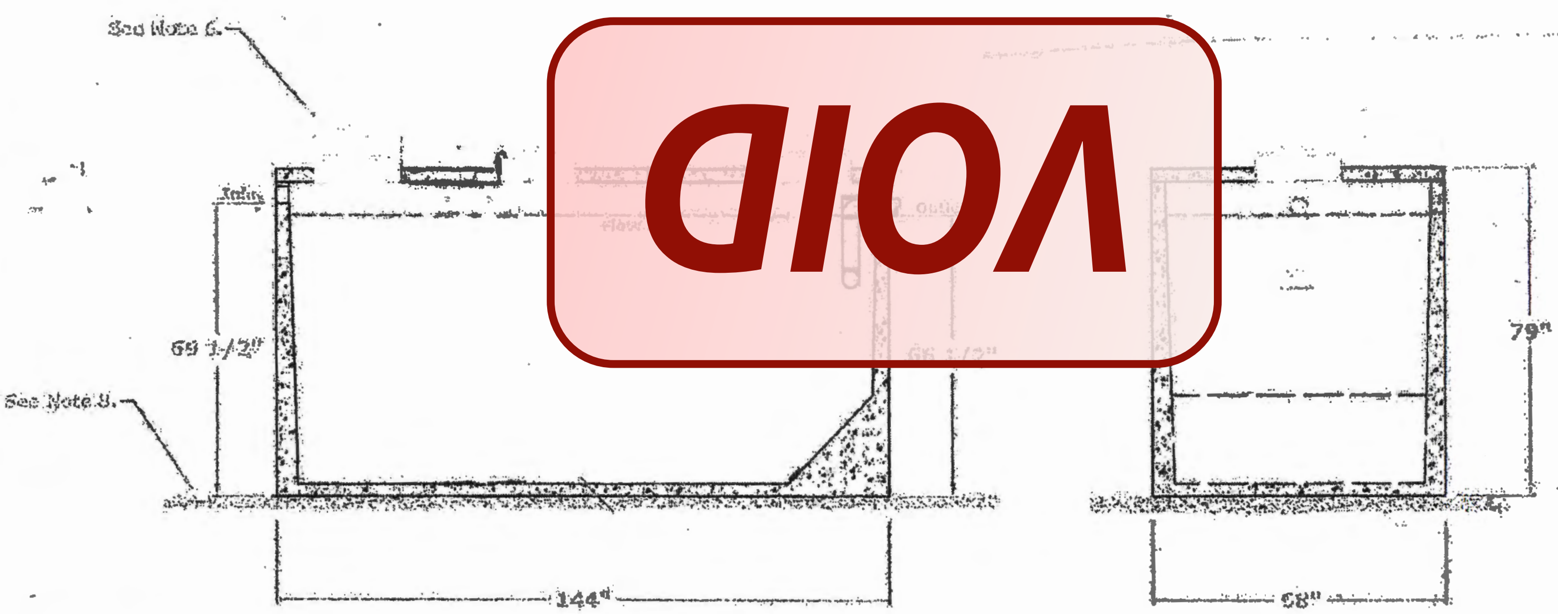
Advantage
Wastewater Solutions llc

GENERAL NOTES:

2000 Gallon Pump Tank

MINIMUM EXCAVATION DIMENSIONS:
Width: 80"
Length: 158"

VOID



2000 Gallon Pump Tank	July, 2010 By: A.S.	Advantage Wastewater Solutions llc	Advantage Wastewater Solutions llc 444 A Old Hwy No 9 Comfort, TX 78013 830-995-3189 fax 830-995-4051
	Scale:		
Model: E- 2000 P	Dwg. #: ADV-B1300-2		

EFFLUENT PUMPS

MENU

Little GIANT

C1 SERIES - 1/2 HP

APPLICATIONS

Gray water pumping, filtered effluent service water pumping,
water reclamation projects such as pumping from rain catchment basins,
aeration and other fountain or pond applications, agriculture and livestock water pumping

FEATURES

- Supplied with a removable 5" base for secure and reliable mounting
- Bottom suction design
- Robust thermoplastic discharge head design resists breakage during installation and operation
- Single shell housing desig provides a compact unit while ensuring cool and quiet operation
- Hydraulic components m ded from quality engineered plasti
- Optimized hydraulic desig allows for ease of fo ce and ea power usage
- All metal components are made of hig stainl el for sist
- Available with a high qua ty 115 V or 2 2 hp moto
- Fluid flows of 10, 20, and 3 gpm, with a maximum shut-off pressure of 100 psi
- Heavy-duty 600 V 10 foot SJ W jacketed lead

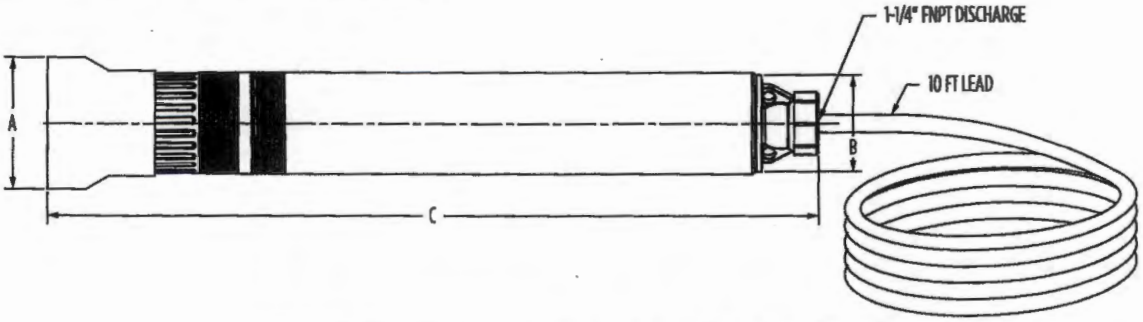
VOID

SERIES SPECIFICATIONS

Item No	Model	HP	Volts	Hz	Stages	Amps	Watts	Wire	Min. Shut-Off Head		Min. Head @ Rated Flow		Max GPM	Min. Head @ Max. GPM		Max. Amps
									PSI	FT	PSI	FT		PSI	FT	
90301010	10C1-05P4-2W230	1/2	230	60	7	4.5	920	2	93	215	50	115	14	22	50	5
90302010	20C1-05P4-2W230	1/2	230	60	5	4.5	920	2	56	130	34	78	28	9	20	5
90302020	20XC1-05P4-2W230	1/2	230	60	6	4.5	920	2	68	156	37	85	28	9	21	5
90303010	30C1-05P4-2W230	1/2	230	60	4	4.5	920	2	39	89	19	45	35	13	29	50

C1 SERIES - 1/2 HP

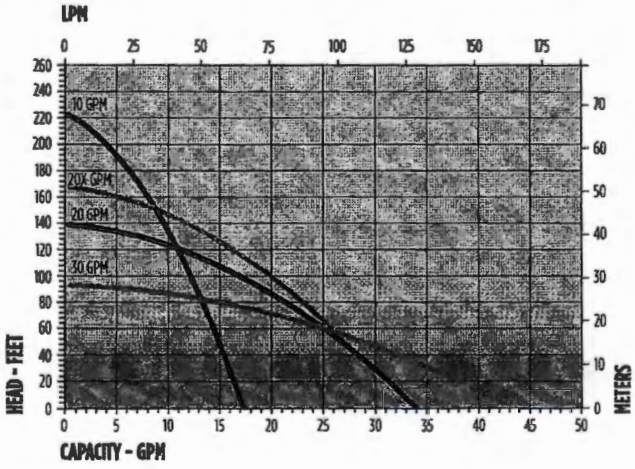
ENGINEERING DATA



Item No	Model	A	B	C
90301010	10C1-05P4-2W230	5" 12.70 cm	3.9" 9.91 cm	26" 66.04 cm
90302010	20C1-05P4-2W230	5" 12.70 cm	3.9" 9.91 cm	26" 66.04 cm
90302020	20C1-05P4-2W230	5" 12.70 cm	3.9" 9.91 cm	26" 66.04 cm
90303010	30C1-05P4-2W230	5" 12.70 cm	3.9" 9.91 cm	26" 66.04 cm

VOID

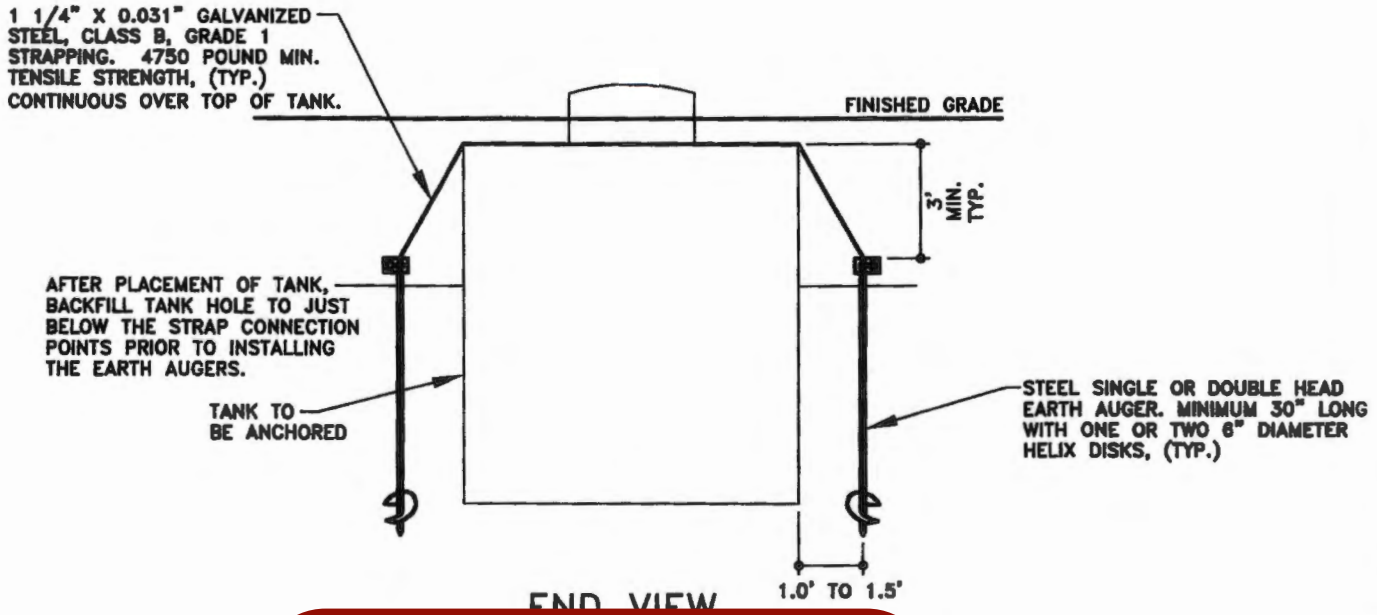
PERFORMANCE DATA



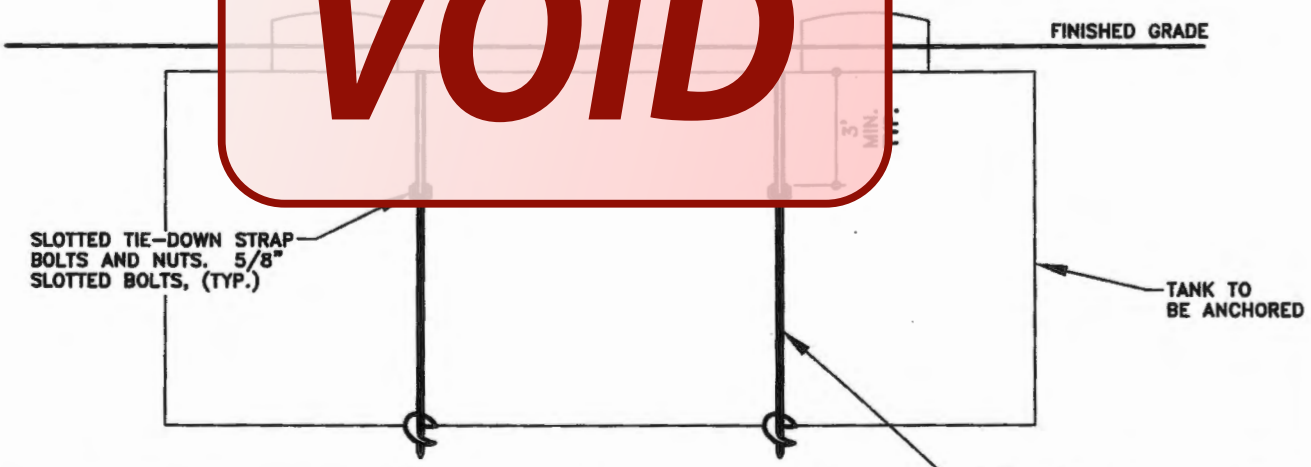
PGP Low Angle Nozzle (Gray) Performance Data

Nozzle	Pressure PSI	Radius ft.	Flow GPM	Precip in/hr ■	Precip in/hr ▲
4	30	22'	1.4	0.56	0.64
	40	24'	1.7	0.57	0.66
	50	26'	1.8	0.51	0.59
	60	28'	2.0	0.49	0.57
5	30	25'	1.6	0.49	0.57
	40	27'	1.9	0.50	0.58
	50	28'	2.1	0.52	0.60
	60	30'	2.3	0.49	0.57
6	30	27'	2.1	0.55	0.64
	40	30'	2.5	0.53	0.62
	50	33'	2.8	0.49	0.57
	60	35'	3.0		
7	30	29'	2	0.64	0.74
	40	32'	3	0.58	0.67
	50	35'	3	0.55	
	60	37'	3		
8	30	31'	3		0.79
	40	34'	3	0.65	
	50	37'	4	0.62	
	60	38'	4		0.72
9	30	33'	4	6	
	40	37'	5	0	0.8
	50	40'	5		
	60	42'	6	0.67	
10	40	38'	6		1.00
	50	40'	7	0.85	
	60	42'	8		1.01
	70	44'	8		
P	Blank nozzle plug for turning off selected sprinklers during repairs, maintenance, etc.				

VOID



END VIEW



SIDE VIEW

IF APPLICABLE, ALL ELECTRICAL EQUIPMENT SUCH AS ALARMS, JUNCTION BOXES, AND COMPRESSORS SHALL BE ELEVATED ABOVE 100-YEAR FLOOD ELEVATION.

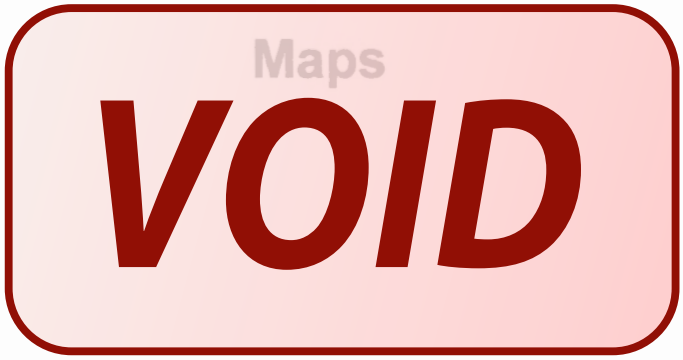
TANK ANCHORING DETAILS

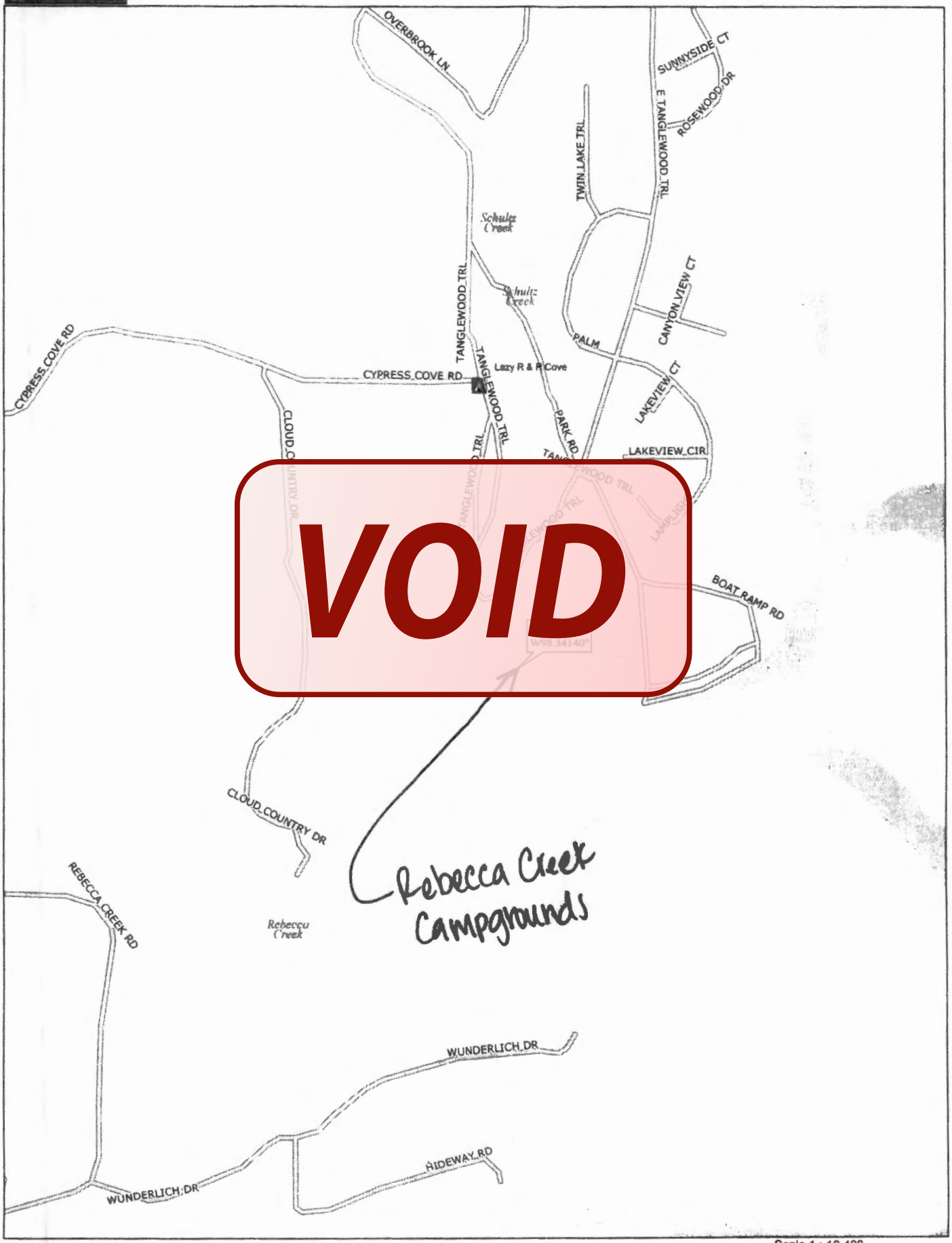
STANDARD ANCHOR TANK DETAIL	Drawn by: Stephen A. Mangold Drawing No. 300-2681	
MANGOLD Engineering Company 5596 CR 5710 Devine, TX 78016 Phone: (830) 931-0400 FIRM NO. F-5549	Date: 3/17/21 Scale: None Sheet 1 of 1	Kaleigh Crandall STATE OF TEXAS KAELEIGH ROSE CRANDALL 134570 LICENSED PROFESSIONAL ENGINEER 3/17/21

OSSF DESIGN

for

Rebecca Creek Campgrounds





Scale 1 : 10,400

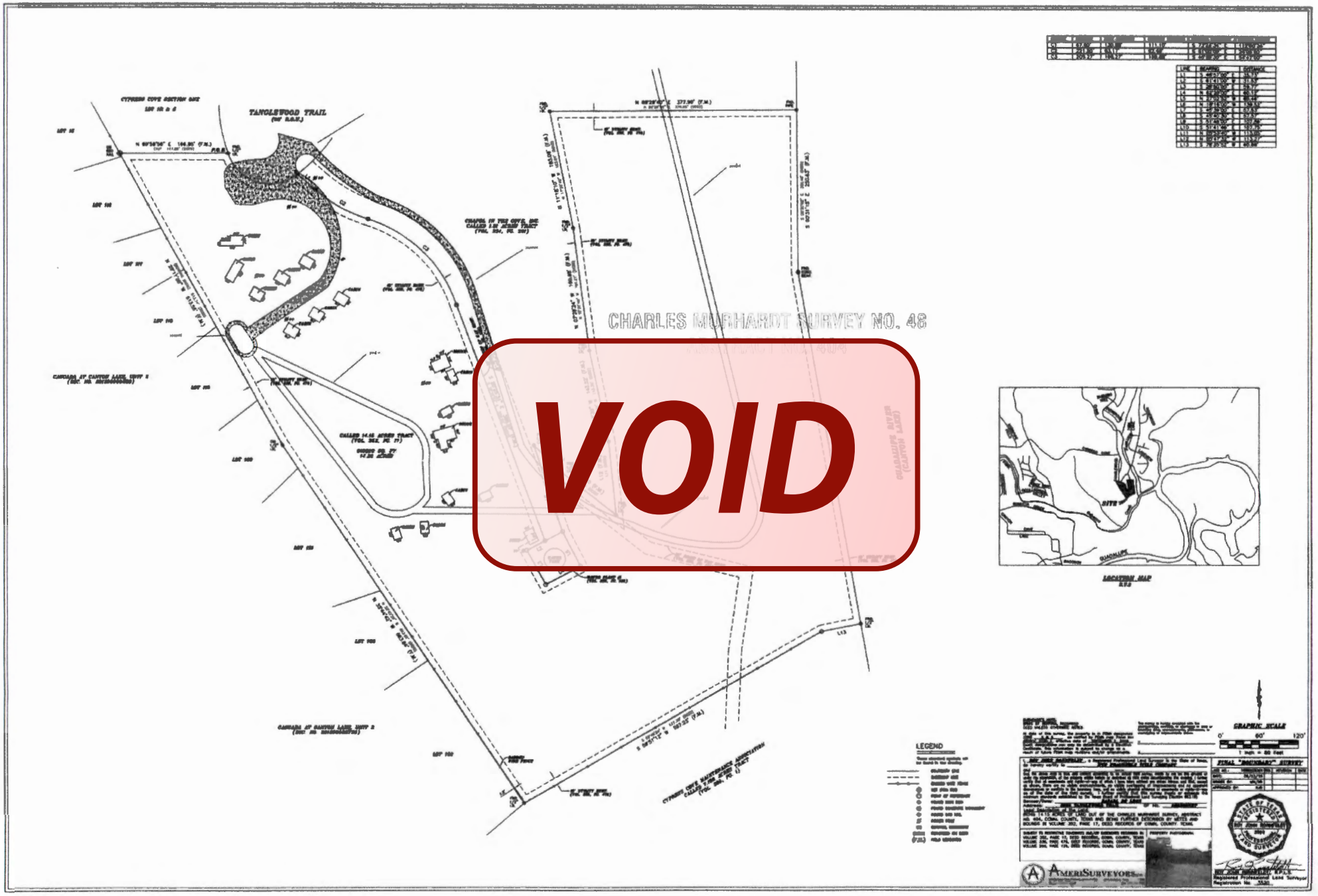
1" = 866.7 ft Data Zoom 14-3

OSSF DESIGN

for

Rebecca Creek Campgrounds

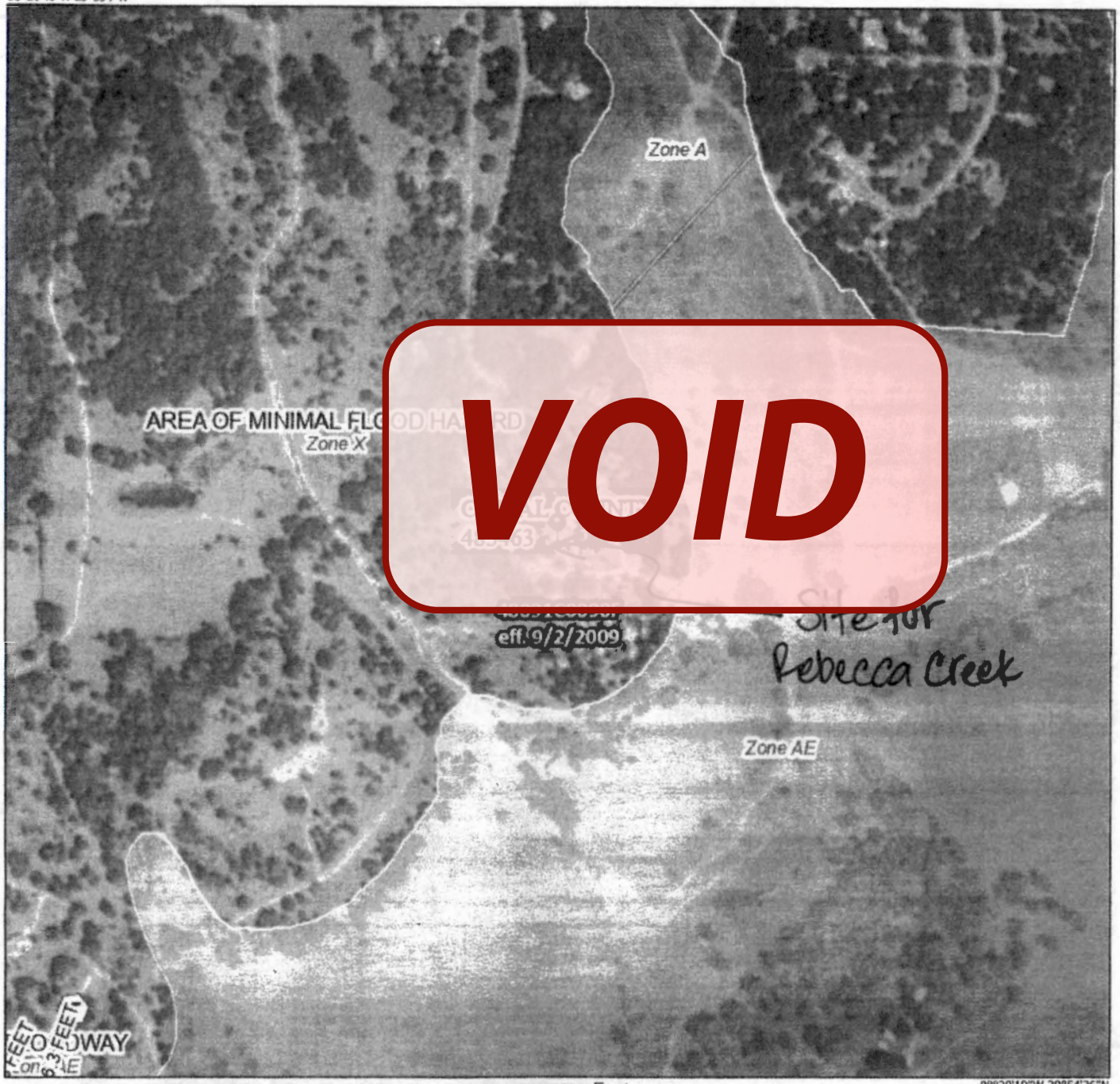
VOID


TANGLEWOOD TRAIL
CHARLES MUEHARDT SURVEY NO. 48
VOID
LEGEND
LOCATION MAP
GRAPHIC SCALE
AMERISURVEYORS

National Flood Hazard Layer FIRMette

FEMA

98°20'48"W 29°55'7"N



98°20'10"W 29°54'36"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/30/2021 at 4:13 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

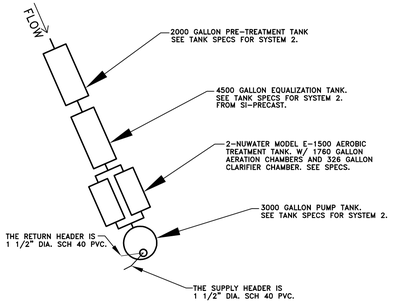
REVISED
9:59 am, Apr 07, 2022

THE INSTALLATION OF THE 4 PROPOSED SEPTIC SYSTEMS WILL DISTURB LESS THAN 5 ACRES. THEREFORE PER 30 TAC 213.21, A CONTRIBUTING ZONE PLAN IS NOT REQUIRED FOR THIS ACTIVITY.

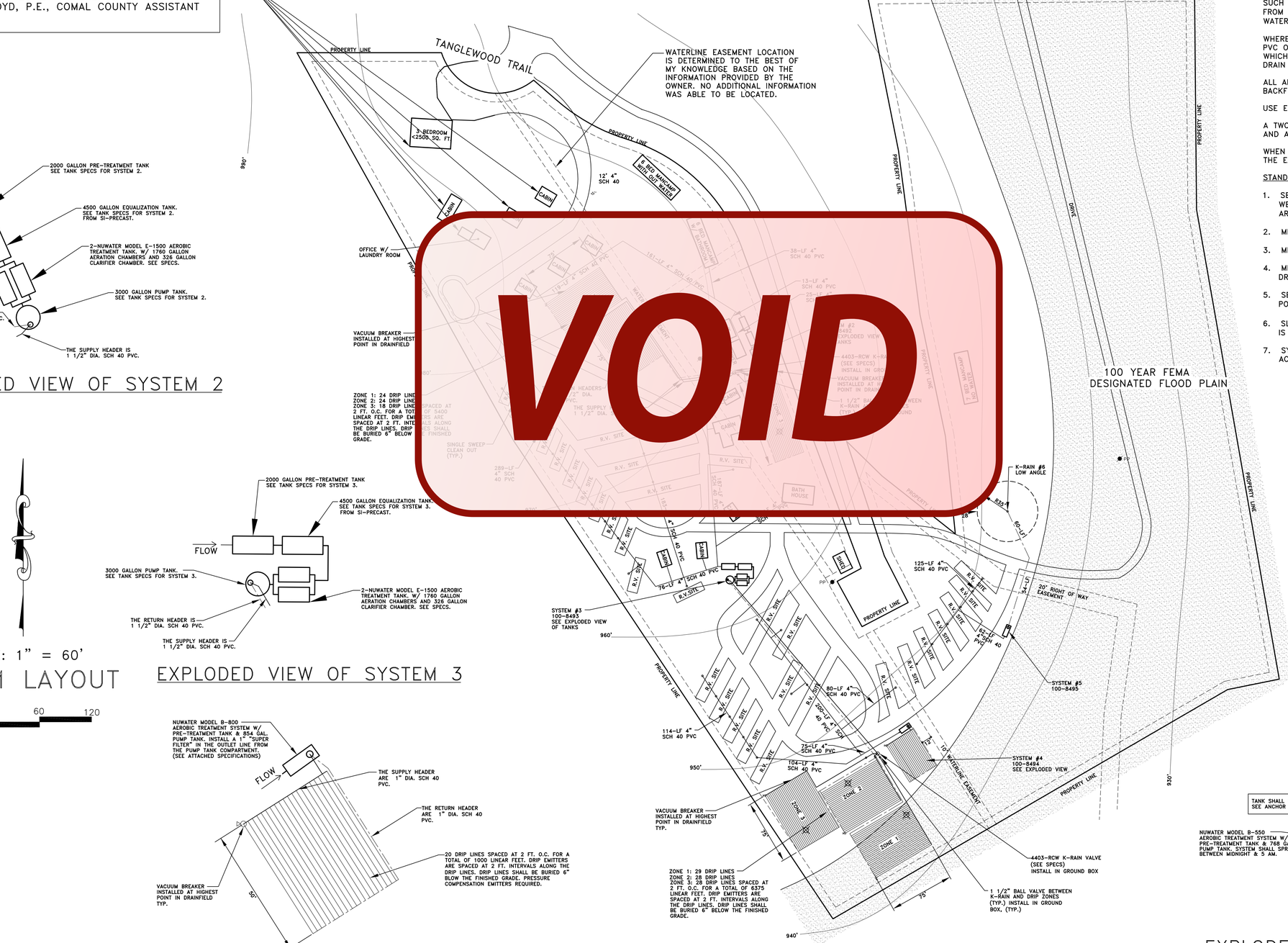
LEGEND:
10' UTILITIES EASEMENT
DRIP SUPPLY LINE
DRIP RETURN LINE
SOIL EVALUATION POINTS

MANGOLD ENGINEERING COMPANY WILL NOT BE RESPONSIBLE FOR THE CONSEQUENCES OF THE USE OF ANY PART OF THE ENGINEERING OF THIS SEPTIC SYSTEM BEFORE THE ENGINEERING HAS BEEN COMPLETELY AND FINALLY APPROVED BY THE APPROPRIATE COUNTY AUTHORITY IN THE COUNTY FOR WHICH IT IS INTENDED. IF TEST HOLES WERE NOT PRESENT DURING THE SITE-EVALUATION, THE OWNER/INSTALLER SHALL BE RESPONSIBLE FOR DIGGING TEST HOLES AND CONTACTING MANGOLD ENGINEERING COMPANY PRIOR TO ANY USE OF THIS ENGINEERING DESIGN.

THIS EXISTING SYSTEM #1 IS GRAND FATHERED IN, AS OF 9-28-21 REFERENCE EMAIL FROM ROBERT BOYD, P.E., COMAL COUNTY ASSISTANT ENGINEER.



EXPLODED VIEW OF SYSTEM 2



VOID

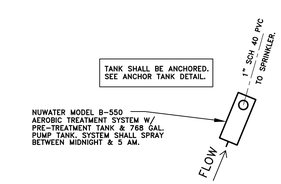
SCALE: 1" = 60'

SYSTEM LAYOUT

60 0 60 120

EXPLODED VIEW OF SYSTEM 3

EXPLODED VIEW OF SYSTEM 4



EXPLODED VIEW OF SYSTEM 5

PER COUNTY REQUIREMENTS, THE FLOW TO EACH SEPTIC SYSTEM SHALL BE METERED. CONTACT COUNTY TO DETERMINE AN ACCEPTABLE METERING PROCESS.

SITE NOTES:

ALL EXISTING UNDERGROUND UTILITIES SHALL BE LOCATED AMD MARKED BEFORE ANY EXCAVATION BEGINS.

EXISTING WATER LINE LOCATIONS ARE UNDETERMINED. SEE WATER CASING NOTE AS REQUIRED.

WHERE A WATER LINE IS CLOSER THAN 10' TO A WASTEWATER MAIN, THE WATER LINE SHALL BE CASED INSIDE OF A SCH 40 PVC PIPE SUCH THAT THE ENDS OF THE CASING ARE AT LEAST. 10' AWAY FROM THE WASTEWATER MAIN. IN ADDITION, IF THE LINES CROSS, THE WATER LINE SHALL BE AT LEAST 6" ABOVE THE WASTEWATER MAIN.

WHERE DRAIN LINES PASS UNDER ROADWAYS, THEY SHALL BE SCH 80 PVC OR THEY SHALL BE SLEEVED INSIDE OF A SCH 40 PVC PIPE WHICH IS AT LEAST TWO NOMINAL PIPE SIZES LARGER THAN THE DRAIN LINE.

ALL ABANDONED SEPTIC TANKS SHALL BE LOCATED, PUMPED, BACKFILLED & CAVED-IN.

USE EXISTING SEWER LINES UNDER R.V. SITES WHERE POSSIBLE.

A TWO-WAY CLEAN OUT SHALL BE INSTALLED BETWEEN THE BUILDING AND AEROBIC TANKS.

WHEN CROSSING EASEMENT LINES, PERMISSION SHALL BE GRANTED BY THE EASEMENT HOLDER BEFORE ANY EXCAVATION BEGINS.

STANDARD NOTES:

1. SEPTIC TANK MUST BE A MINIMUM OF 50' FROM ANY WATER WELL. CLOSEST DISTANCE FROM ANY PART OF THE DRAINFIELD AREA TO A WATER WELL MUST BE 100' MINIMUM.
2. MINIMUM SETBACK OF SPRAY AREA FROM PROPERTY LINE IS 20'.
3. MINIMUM SETBACK OF DRIP AREA FROM PROPERTY LINE IS 5'.
4. MINIMUM SEPARATION DISTANCE BETWEEN SEPTIC TANK OR DRAINFIELD AREA AND WATER SUPPLY LINES IS 10'.
5. SETBACK OF SPRAY OR DRIP AREA FROM LAKES, STREAMS, PONDS, AND RIVERS IS 50' MINIMUM.
6. SLOPE OF INFLOW LINE TO TANK IS $\frac{1}{8}$ INCH PER FOOT RUN. PIPE IS 4" SCH 40 PVC.
7. SYSTEM SHALL BE INSPECTED BY THE COUNTY INSPECTOR IN ACCORDANCE WITH CURRENT COUNTY INSPECTION PROCEDURES.

FLOAT SETTINGS & DISTANCES ABOVE THE INSIDE BOTTOM OF THE PUMP COMPT. ARE AS FOLLOWS:

ON: 21" - 304 GAL.
OFF: 20" - 290 GAL.
ALARM LEVEL: 43" - 623 GAL.
TANK INLET: 53" - 768 GAL.

DISTANCE BETWEEN ALARM LEVEL & TANK INLET IS 10" WHICH CORRESPONDS TO 145 GAL.

ALL SPRINKLERS ARE K-RAIN TYPE W/ LOW ANGLE NOZZLES

THE DISTRIBUTION LINE TO THE SPRINKLERS IS A 1" DIA. SCH 40 PVC LINE

SOIL SHALL BE PRESENT OVER ENTIRE SEPTIC SYSTEM SPRAY AREA. SPRAY AREA SHALL BE SEEDED WITH GRASS, EVERGREEN SHRUBS, BUSHES, TREES, OR LANDSCAPED BEDS CONTAINING MIXED VEGETATION MAY ALSO BE ADDED TO THE SPRAY AREA.

Plans For:
REBECCA CREEK CAMPGROUNDS

MANGOLD ENGINEERING COMPANY
5596 CR 5710
Devine, Texas 78016
FIRM NO. F-5549
Phone: (830) 931-0400
Phone: (210) 213-3912

Dwg: 100-8497
Date: 4/4/2022
Revision: C
Drawn: K. Crandall
Sheet: 1 of 2

STATE OF TEXAS
KAELEIGH ROSE CRANDALL
134570
LICENSED PROFESSIONAL ENGINEER
4/4/2022

Olvera,Brandon

From: Olvera,Brandon
Sent: Friday, April 8, 2022 9:10 AM
To: 'Stephen Mangold'
Cc: Ritzen, Brenda; Robert Sutcliffe; Massie,Cassandra S; Boyd, Robert
Subject: RE: 113609, 113610, 113611, 113612

Robert Sutcliffe,

The permit files have been updated. Lines 1, 3-6 in previous email have been addressed.

✔ Submit a copy for the Release of Easement Crossing

If you have any questions give me a call at 830-643-3759

Thank You,

COMAL COUNTY TEXAS

Brandon Olvera
Environmental Health Inspector
195 David Jonas Dr.
New Braunfels, TX 78132
DR:OS0034792

O: 830-608-2090 I C: 830-832-9442
olverb@co.comal.tx.us

From: Stephen Mangold <stevemangold1@gmail.com>
Sent: Thursday, April 7, 2022 2:38 PM
To: Olvera,Brandon <Olverb@co.comal.tx.us>
Cc: Ritzen, Brenda <rabbjr@co.comal.tx.us>; Robert Sutcliffe <robert@enukiinvestments.com>; Massie,Cassandra S <massic@co.comal.tx.us>; Boyd, Robert <boydro@co.comal.tx.us>
Subject: Re: 113609, 113610, 113611, 113612

1. Certify that waterline crossing's equivalent protection complies with TAC 290

- Added note to the design see attached.

2. Provide the release of easement crossings

- The owners will take care of this.

✓ How is it determined that half the people will go to the Shower House and the other half to the Bath House

- This was already taken care of.

✓ System 3 application does not reflect the Bath House

Corrected see attachment.

✓ All systems will need to have a daily flow meter to provide daily meter readings once a month for 1 year.

- Updated note on drawing page to what we discussed on the phone.

✓ Present how system 1 will provide daily water use records

- Agreed to using the water meter for those facilities.

Mangold Engineering Company
5596 County Road 5710
Devine, Texas 78016

Stephen Mangold, P.E. Cell: (210) 213-3912
Kaeleigh Crandall, P.E. Cell: (830) 931-0400

On Wed, Apr 6, 2022 at 11:13 AM Olvera,Brandon <Olverb@co.comal.tx.us> wrote:

> RE: 3660 Tanglewood Trail 14.23 AC charles Murhart Survey Abs No. 404
>
> Property Owner & Agent,
>
> We received planning materials for the referenced permit application on Revision 04-05-2022 and found those planning materials to be deficient. In order to continue processing this permit, we need the following:
>
> ✓ Certify that waterline crossing's equivalent prtoection complies with TAC 290
>
> ✓ Provide the release of easment crossings

2. How is it determined that half the people will go to the Shower House and the other half to the Bath House

4. System 3 application does not reflect the Bath House

5. All systems will need to have a daily flow meter to provide daily meter readings once a month for 1 year

6. Present how system 1 will provide daily water use records

7. Revise accordingly and resubmit.

If you have any questions, you can email me or call the office.

Thank you,

COMAL COUNTY
TEXAS

Brandon Olvera
Environmental Health Inspector
195 David Jonas Dr.
New Braunfels, TX 78132
DR:OS0034792

O: 830-608-2090 I C: 830-832-9442
olverb@co.comal.tx.us

Olvera,Brandon

From: Olvera,Brandon
Sent: Wednesday, April 6, 2022 11:13 AM
To: Stephen Mangold
Cc: Ritzen, Brenda; Robert Sutcliffe; Massie,Cassandra S; Boyd, Robert
Subject: 113609, 113610, 113611, 113612

RE: 3660 Tanglewood Trail 14.23 AC charles Murhart Survey Abs No. 404

Property Owner & Agent,

We received planning materials for the referenced permit application on Revision 04-05-2022 and found those planning materials to be deficient. In order to continue processing this permit, we need the following:

1. Certify that waterline crossing's equivalent prtoection complies with TAC 290
2. Provide the release of easment crossings
3. How is it determined that half the people will go to the Shower House and the other half to the Bath House
4. System 3 application does not reflect the Bath House
5. All systems will need to have a daily flow meter to provide daily meter readings once a month for 1 year
6. Present how system 1 will provide daily water use records
7. Revise accordingly and resubmit.

If you have any questions, you can email me or call the office.

Thank you,

Brandon Olvera
Environmental Health Inspector
195 David Jonas Dr.
New Braunfels, TX 78132
DR:OS0034792

O: 830-608-2090 I C: 830-832-9442
olverb@co.comal.tx.us

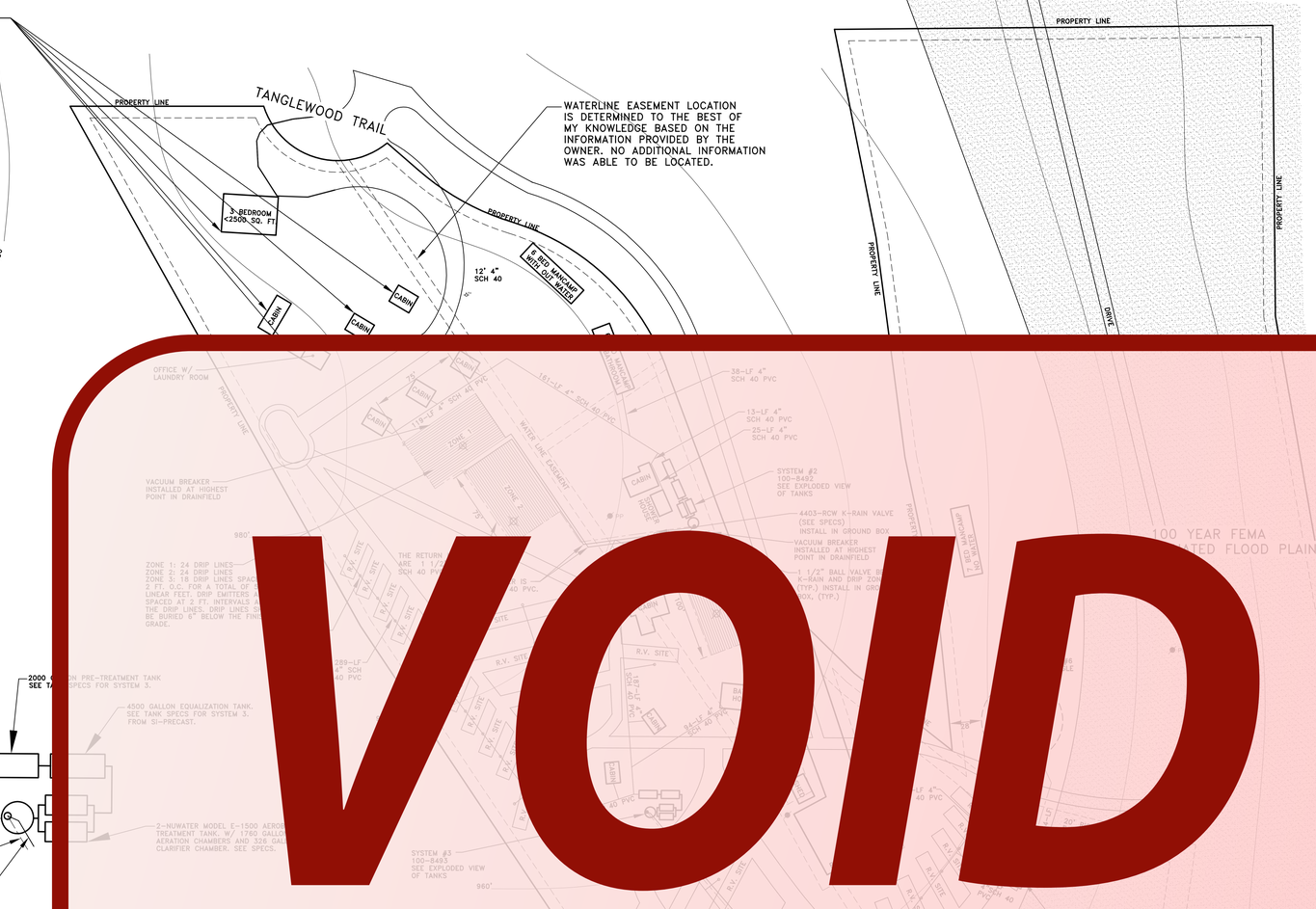
REVISED
4:31 pm, Apr 07, 2022

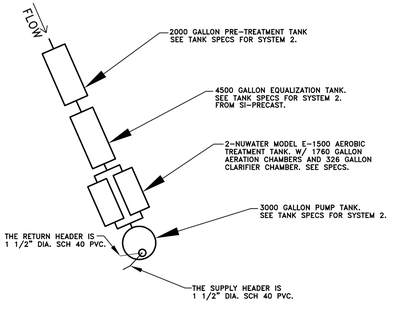
THE INSTALLATION OF THE 4 PROPOSED SEPTIC SYSTEMS WILL DISTURB LESS THAN 5 ACRES. THEREFORE PER 30 TAC 213.21, A CONTRIBUTING ZONE PLAN IS NOT REQUIRED FOR THIS ACTIVITY.

LEGEND:
10' UTILITIES EASEMENT
DRIP SUPPLY LINE
DRIP RETURN LINE
SOIL EVALUATION POINTS

MANGOLD ENGINEERING COMPANY WILL NOT BE RESPONSIBLE FOR THE CONSEQUENCES OF THE USE OF ANY PART OF THE ENGINEERING OF THIS SEPTIC SYSTEM BEFORE THE ENGINEERING HAS BEEN COMPLETELY AND FINALLY APPROVED BY THE APPROPRIATE COUNTY AUTHORITY IN THE COUNTY FOR WHICH IT IS INTENDED. IF TEST HOLES WERE NOT PRESENT DURING THE SITE-EVALUATION, THE OWNER/INSTALLER SHALL BE RESPONSIBLE FOR DIGGING TEST HOLES AND CONTACTING MANGOLD ENGINEERING COMPANY PRIOR TO ANY USE OF THIS ENGINEERING DESIGN.

THIS EXISTING SYSTEM #1 IS GRAND FATHERED IN, AS OF 9-28-21 REFERENCE EMAIL FROM ROBERT BOYD, P.E., COMAL COUNTY ASSISTANT ENGINEER.



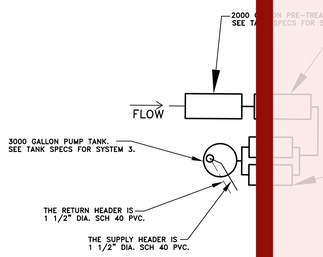


EXPLODED VIEW OF SYSTEM 2

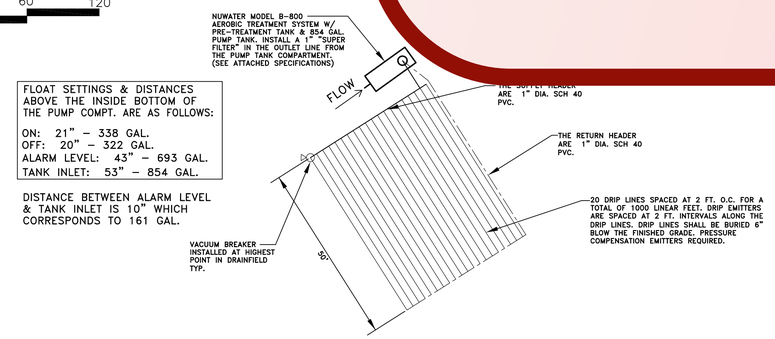
SCALE: 1" = 60'

SYSTEM LAYOUT

60 0 60 120



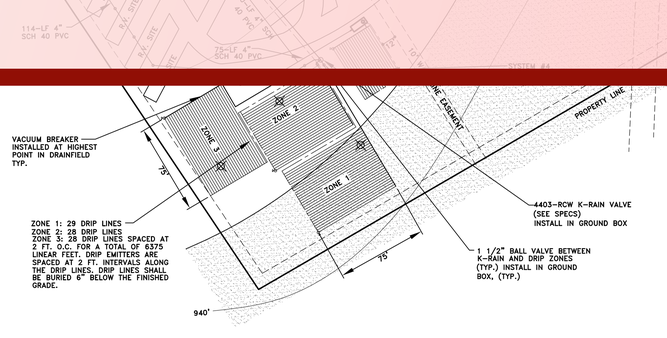
EXPLODED VIEW OF SYSTEM 3

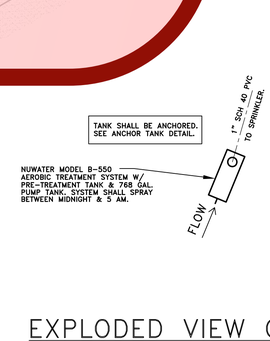


FLOAT SETTINGS & DISTANCES ABOVE THE INSIDE BOTTOM OF THE PUMP COMPT. ARE AS FOLLOWS:
ON: 21" - 338 GAL.
OFF: 20" - 322 GAL.
ALARM LEVEL: 43" - 693 GAL.
TANK INLET: 53" - 854 GAL.

DISTANCE BETWEEN ALARM LEVEL & TANK INLET IS 10" WHICH CORRESPONDS TO 161 GAL.

EXPLODED VIEW OF SYSTEM 4





EXPLODED VIEW OF SYSTEM 5

FLOAT SETTINGS & DISTANCES ABOVE THE INSIDE BOTTOM OF THE PUMP COMPT. ARE AS FOLLOWS:
ON: 21" - 304 GAL.
OFF: 20" - 290 GAL.
ALARM LEVEL: 43" - 623 GAL.
TANK INLET: 53" - 768 GAL.

DISTANCE BETWEEN ALARM LEVEL & TANK INLET IS 10" WHICH CORRESPONDS TO 145 GAL.

ALL SPRINKLERS ARE K-RAIN TYPE W/ LOW ANGLE NOZZLES

THE DISTRIBUTION LINE TO THE SPRINKLERS IS A 1" DIA. SCH 40 PVC LINE

SOIL SHALL BE PRESENT OVER ENTIRE SEPTIC SYSTEM SPRAY AREA. SPRAY AREA SHALL BE SEEDED WITH GRASS, EVERGREEN SHRUBS, BUSHES, TREES, OR LANDSCAPED BEDS CONTAINING MIXED VEGETATION MAY ALSO BE ADDED TO THE SPRAY AREA.

SITE NOTES:

ALL EXISTING UNDERGROUND UTILITIES SHALL BE LOCATED AMD MARKED BEFORE ANY EXCAVATION BEGINS.

EXISTING WATER LINE LOCATIONS ARE UNDETERMINED. SEE WATER CASING NOTE AS REQUIRED.

WHERE A WATER LINE IS CLOSER THAN 10' TO A WASTEWATER MAIN, THE WATER LINE SHALL BE CASED INSIDE OF A SCH 40 PVC PIPE SUCH THAT THE ENDS OF THE CASING ARE AT LEAST. 10' AWAY FROM THE WASTEWATER MAIN. IN ADDITION, IF THE LINES CROSS, THE WATER LINE SHALL BE AT LEAST 6" ABOVE THE WASTEWATER MAIN.

WHERE DRAIN LINES PASS UNDER ROADWAYS, THEY SHALL BE SCH 80 PVC OR THEY SHALL BE SLEEVED INSIDE OF A SCH 40 PVC PIPE WHICH IS AT LEAST TWO NOMINAL PIPE SIZES LARGER THAN THE DRAIN LINE.

ALL ABANDONED SEPTIC TANKS SHALL BE LOCATED, PUMPED, BACKFILLED & CAVED-IN.

USE EXISTING SEWER LINES UNDER R.V. SITES WHERE POSSIBLE.

A TWO-WAY CLEAN OUT SHALL BE INSTALLED BETWEEN THE BUILDING AND AEROBIC TANKS.

WHEN CROSSING EASEMENT LINES, PERMISSION SHALL BE GRANTED BY THE EASEMENT HOLDER BEFORE ANY EXCAVATION BEGINS.

STANDARD NOTES:

1. SEPTIC TANK MUST BE A MINIMUM OF 50' FROM ANY WATER WELL. CLOSEST DISTANCE FROM ANY PART OF THE DRAINFIELD AREA TO A WATER WELL MUST BE 100' MINIMUM.
2. MINIMUM SETBACK OF SPRAY AREA FROM PROPERTY LINE IS 20'.
3. [illegible]UM SETBACK OF DRIP AREA FROM PROPERTY LINE IS 5'.
4. MINI[illegible] SEPARATION DISTANCE BETWEEN SEPTIC TANK OR DRAINFIE[illegible] AREA AND WATER SUPPLY LINES IS 10'.
5. SETBACK [illegible] SPRAY OR DRIP AREA FROM LAKES, STREAMS, PONDS, AN[illegible] RIVERS IS 50' MINIMUM.
6. SLOPE OF [illegible]OW LINE TO TANK IS $\frac{1}{8}$ INCH PER FOOT RUN. PIPE IS 4" SCH [illegible] PVC.
7. WHERE PARA[illegible]L SEWER AND NEW WATER LINES ARE CLOSER THAN 9' TH[illegible] REQUIREMENTS SPECIFIED IN TCEQ, SUBCHAPTER D, 290.44(e)(4[illegible]) SHALL BE STRICTLY FOLLOWED.
8. WHERE SEWE[illegible] AND NEW WATER LINES CROSS, THE REQUIREMENTS SPECIFIED I[illegible] TCEQ, SUBCHAPTER D, 290.44(e)(4)(B) SHALL BE STRICTLY FO[illegible]OWED.
9. SYSTEM SH[illegible] BE INSPECTED BY THE COUNTY INSPECTOR IN ACCORDANC[illegible] WITH CURRENT COUNTY INSPECTION PROCEDURES.

[illegible]R COUNTY REQUIREMENTS, A [illegible]OW METER SHALL BE INSTALLED [illegible]N THE SUPPLY LINE AND RETURN [illegible]NE OF EACH AEROBIC UNIT [illegible]LLOWED BY A DRIP IRRIGATION [illegible]STEM. FOR THE AEROBIC UNIT [illegible]TH SPRAY ONLY ONE METER [illegible]HALL BE INSTALLED ON THE [illegible]UPPLY LINE TO THE SPRINKLER. [illegible]E FLOW TO EACH SEPTIC SYSTEM [illegible]HALL BE METERED. EACH SYSTEM [illegible]HALL BE MONITORED, RECORDED & [illegible]UBMITTED TO COMAL COUNTY FOR [illegible]NE YEAR TO VERIFY NO MORE [illegible]HAN THE PERMITTED FLOW IS USED [illegible]OR EACH SYSTEM.

Plans For:
REBECCA CREEK CAMPGROUNDS

MANGOLD ENGINEERING COMPANY
5596 CR 5710
Devine, Texas 78016
FIRM NO. F-5549
Phone: (830) 931-0400
Phone: (210) 213-3912

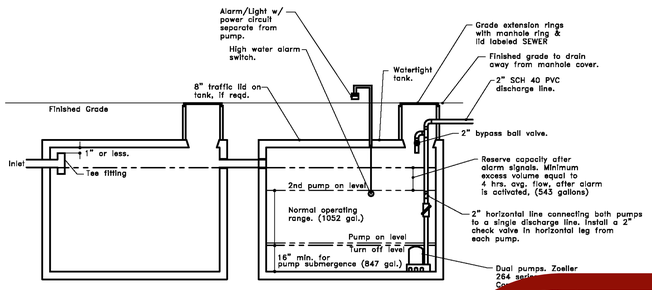
Dwg: 100-8497
Date: 4/7/22
Revision: D
Drawn: K. Crandall
Sheet: 1 of 2

Kaleigh Crandall
STATE OF TEXAS
KAELEIGH ROSE CRANDALL
134570
LICENSED PROFESSIONAL ENGINEER
4/7/22

VOID

REVISED
10:00 am, Apr 07, 2022

SYSTEM #2 TANK SPECS:



2000 GAL. PRE-TREATMENT TANK & 4500 GALLON EQUALIZATION TANK

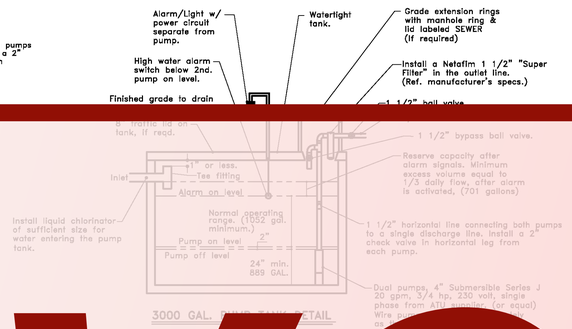
SET VALVES, FLOATS, AND TIMERS TO DELIVER A MAXIMUM OF 16 GAL./MIN., AND 61 GALLONS PER HOUR TO THE AEROBIC TREATMENT UNITS, TOTAL.

NOTES:

THE ALARM ON LEVEL SHALL BE BELOW THE 2ND PUMP ON LEVEL. THE ALARM SYSTEM SHALL HAVE A LOCK-ON FEATURE SO THAT ONCE IT IS ACTIVATED, IT WILL NOT GO OFF WHEN THE 2ND PUMP DRAWS THE LIQUID LEVEL BELOW THE ALARM ON LEVEL. BOTH AUDIO AND VISUAL ALARMS SHALL HAVE A MANUAL SILENCE SWITCH.

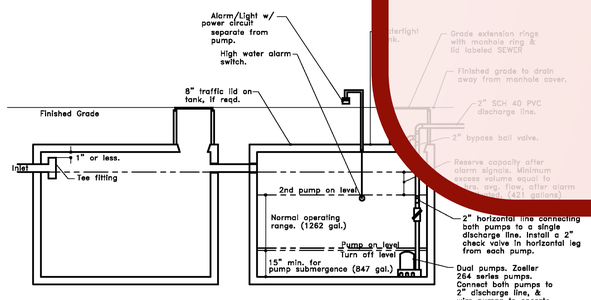
ALL ELECTRICAL WIRING SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE NATIONAL ELECTRIC CODE. CONNECTIONS SHALL BE IN APPROVED JUNCTION BOXES AND ALL EXTERNAL POWER WIRING SHALL BE IN APPROVED ELECTRICAL CONDUIT, BURIED, AND TERMINATED AT A MAIN CIRCUIT BREAKER PANEL OR SUB-PANEL. ALL ELECTRICAL COMPONENTS SHOULD HAVE AN ELECTRICAL DISCONNECT WITHIN DIRECT VISION. ELECTRICAL DISCONNECTS MUST BE WEATHERPROOF (APPROVED FOR OUTDOOR USE) AND HAVE MAINTENANCE LOCKOUT PROVISIONS.

USE A LARGER TANK IF REQUIRED TO MEET MINIMUM STORAGE REQUIREMENTS.



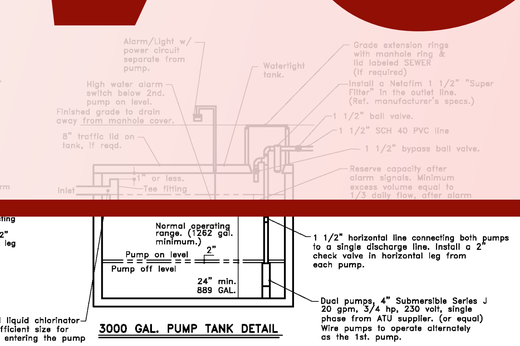
3000 GAL. PUMP TANK DETAIL

SYSTEM #3 TANK SPECS:



2000 GAL. PRE-TREATMENT TANK & 4500 GALLON EQUALIZATION TANK

SET VALVES, FLOATS, AND TIMERS TO DELIVER A MAXIMUM OF 16 GAL./MIN., AND 74 GALLONS PER HOUR TO THE AEROBIC TREATMENT UNITS, TOTAL.



3000 GAL. PUMP TANK DETAIL

NOTES:

THE ALARM ON LEVEL SHALL BE BELOW THE 2ND PUMP ON LEVEL. THE ALARM SYSTEM SHALL HAVE A LOCK-ON FEATURE SO THAT ONCE IT IS ACTIVATED, IT WILL NOT GO OFF WHEN THE 2ND PUMP DRAWS THE LIQUID LEVEL BELOW THE ALARM ON LEVEL. BOTH AUDIO AND VISUAL ALARMS SHALL HAVE A MANUAL SILENCE SWITCH.

ALL ELECTRICAL WIRING SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE NATIONAL ELECTRIC CODE. CONNECTIONS SHALL BE IN APPROVED JUNCTION BOXES AND ALL EXTERNAL POWER WIRING SHALL BE IN APPROVED ELECTRICAL CONDUIT, BURIED, AND TERMINATED AT A MAIN CIRCUIT BREAKER PANEL OR SUB-PANEL. ALL ELECTRICAL COMPONENTS SHOULD HAVE AN ELECTRICAL DISCONNECT WITHIN DIRECT VISION. ELECTRICAL DISCONNECTS MUST BE WEATHERPROOF (APPROVED FOR OUTDOOR USE) AND HAVE MAINTENANCE LOCKOUT PROVISIONS.

USE A LARGER TANK IF REQUIRED TO MEET MINIMUM STORAGE REQUIREMENTS.

CALCULATIONS TO DETERMINE PERMITTED FLOW FOR COMAL COUNTY:

THE PERMITTED FLOW FOR EACH SYSTEM IS BASED ON WATER RECORDS PROVIDED BY THE OWNER OVER AN ENTIRE YEAR. THE TCEQ DAILY FLOW FOR THE PARK SHALL BE USED TO SIZE EACH SYSTEM. A DIRECT RATIO WILL BE USED TO DETERMINE HOW THAT WATER IS DISTRIBUTED THROUGHOUT THE PARK FOR THE PERMIT APPLICATIONS. SEE CALCULATIONS BELOW.

MAXIMUM DAILY DEMAND FROM FEBRUARY LODGE WATER (100510 GALLONS) AND APRIL CABINS WATER RECORDS (30480 GALLONS)

100510 GALLONS / 28 DAYS OF FEBRUARY = 3590 GPD
30480 GALLONS / 30 DAYS OF APRIL = 1016 GPD
$Q_{TOTAL-PARK-WATER-USAGE}$ = 4606 GPD

DIRECT RATIO EQUATION:

$$\frac{Q_{TCEQ-COMPONENT}}{Q_{TCEQ-TOTAL-PARK}} = \frac{Q_{COMPONENT}}{Q_{TOTAL-PARK-WATER-RECORDS}}$$

FOR SYSTEM 1 $Q_{TCEQ\ COMPONENT}$:

3 BEDROOM <2500 SQ. FT. Q = 240 GPD
OFFICE W/5 EMPLOYEES Q= 5 EMPLOYEES(4 GPD/ PERSON)=20 GPD
LAUNDRY ROOM W/ 4 WASHING MACHINES
Q= 4 WASHING MACHINES (200 GPD / MACHINE) = 800 GPD
3 CABINS (AS AN APARTMENT)
Q= 100 GPD/ CABIN (3 CABINS) = 300 GPD

$Q_{TCEQ\ COMPONENT}$ = 1360 GPD SYSTEM #1

4 CABINS (AS AN APARTMENT)
Q= 100 GPD/ CABIN (4 CABINS) = 400 GPD
6 BED MANCAMP WITH 1 COMMON BATHROOM (SIZED AS HOTEL ROOM)
Q = 60 GPD / BED (6 BEDS) = 360 GPD
SHOWER HOUSE Q = 1344 GPD (TOTAL BATH USAGE EQUALLY DIVIDED AMONGST BOTH SHOWER HOUSES. SEE CALCULATIONS FOR EXPLANATION)

$Q_{TCEQ\ COMPONENT}$ = 2104 GPD SYSTEM #2

FOR SYSTEM 3 $Q_{TCEQ\ COMPONENT}$:

Q = 17 RV (40 GPD / RV) = 680 GPD
5 CABINS (AS AN APARTMENT)
Q= 100 GPD/ CABIN (5 CABINS) = 500 GPD
BATH HOUSE Q = 1344 GPD (TOTAL BATH USAGE EQUALLY DIVIDED AMONGST BOTH SHOWER HOUSES. SEE CALCULATIONS

$Q_{TCEQ\ COMPONENT}$

$Q_{TCEQ\ COMPONENT}$

0 RV SITES 400 GPD

Q_{TCEQ} 00 GPD SYSTEM #4

FOR $Q_{TCEQ\ COMPONENT}$:

6 RV SITE = 240 GPD

Q_{TC} 240 GPD SYSTEM #5

FLOW C E & SHOWER HOUSE:

USAGE 28 GPD/ RV (3 924 GPD
USAGE TES
SITES (2 D / SHOWER) = 1400 GPD
USAGE

BATHHOUSE & SHOWER HOUSE
MORE THAN THE RECOMMENDED TCEQ FLOW

TOTAL FLOW FOR ENITRE PARK PER TCEQ:

$Q_{TCEQ-TOTAL-COMPONENT}$=1360 GPD + 2104 GPD + 2524 GPD + 400 GPD + 240 GPD= 6628 G

DIRECT RATIO FOR SYSTEM 1 $Q_{COMPONENT}$:

$$\frac{1360\ GPD\ TCEQ\ COMPONENT}{6628\ TCEQ\ TOTAL} = \frac{Q\ COMPONENT}{4606\ TOTAL\ PARK\ WATER\ RECORDS}$$

Q PERMITTED COMPONENT = 946 GPD FOR SYSTEM #1

DIRECT RATIO FOR SYSTEM 2 $Q_{COMPONENT}$:

$$\frac{2104\ GPD\ TCEQ\ COMPONENT}{6628\ TCEQ\ TOTAL} = \frac{Q\ COMPONENT}{4606\ TOTAL\ PARK\ WATER\ RECORDS}$$

Q PERMITTED COMPONENT = 1463 GPD FOR SYSTEM #2

DIRECT RATIO FOR SYSTEM 3 $Q_{COMPONENT}$:

$$\frac{2524\ GPD\ TCEQ\ COMPONENT}{6628\ TCEQ\ TOTAL} = \frac{Q\ COMPONENT}{4606\ TOTAL\ PARK\ WATER\ RECORDS}$$

Q PERMITTED COMPONENT = 1755 GPD FOR SYSTEM #3

DIRECT RATIO FOR SYSTEM 4 $Q_{COMPONENT}$:

$$\frac{400\ GPD\ TCEQ\ COMPONENT}{6628\ TCEQ\ TOTAL} = \frac{Q\ COMPONENT}{4606\ TOTAL\ PARK\ WATER\ RECORDS}$$

Q PERMITTED COMPONENT = 278 GPD FOR SYSTEM #4

DIRECT RATIO FOR SYSTEM 5 $Q_{COMPONENT}$:

$$\frac{240\ GPD\ TCEQ\ COMPONENT}{6628\ TCEQ\ TOTAL} = \frac{Q\ COMPONENT}{4606\ TOTAL\ PARK\ WATER\ RECORDS}$$

Q PERMITTED COMPONENT = 167 GPD FOR SYSTEM #5

VOID

Plans For:
REBECCA CREEK
CAMPGROUNDS

MANGOLD ENGINEERING COMPANY
5596 CR 5710
Devine, Texas 78016
FIRM NO. F-5549
Phone: (830) 931-0400
Phone: (210) 213-3912

Dwg: 100-8497
Date: 4/4/22
Revision: C
Drawn: K. Crandall
Sheet: 2 of 2

Kaleigh Crandall
STATE OF TEXAS
KALEIGH ROSE CRANDALL
134570
LICENSED PROFESSIONAL ENGINEER
4/4/2022

REVISED
9:56 am, Apr 07, 2022

SITE EVALUATION AND CALCULATIONS

Site Evaluation:

Soil Texture:	Clay loam
Soil Structure:	Blocky
Soil Depth:	18" minimum
Restrictive Horizon:	At 18" min. from surface
Groundwater:	None encountered
Topography:	More than 2% slope on drainfield area

Determination: Site was determined to have a Class III soil. Due to the park layout and rock horizon an aerobic treatment unit followed by drip irrigation shall be installed.

VOID

Calculations:

System # 4 calculated in accordance with water conservation. The system shall be over designed to match the TCEQ designated flow of 400 gpd. Reference design 100-8497 for calculations and layout. Water saving devices are used throughout.

Q = 10 RV (40 gpd / RV)= **400 gpd**

A Nu-Water Model B-800 aerobic treatment system, or equal, shall be installed. It has built in pre-treatment tank and pump tank. The aerobic unit shall be a drip irrigation system. (Reference the System Layout) Chlorinator is required for water entering pump tank. Liquid type chlorination shall be used.

Ra = **0.20 gal. / sq. ft. / day,** **(For a Class III soil)**

A = Q / Ra, **A** = (400 gal. / day) / (0.20 gal. / sq. ft. / day) = **2000 sq. ft.**

calculations continued on next page....

Owner	Rebecca Creek Camgrounds	**Drawn by:**	Kaeleigh R. Crandall
Location	Comal County, Texas	**Drawing No.**	100-8495

MANGOLD Engineering Company
5596 CR 5710
Devine, TX 78016
Phone: (830) 931-0400

Date: 3/10/22
Scale: None
Sheet 1 **of** 5

Kaeleigh R. Crandall
STATE OF TEXAS
KAELEIGH ROSE CRANDALL
134570
LICENSED
PROFESSIONAL ENGINEER
3/10/22

REVISED
9:56 am, Apr 07, 2022

SITE EVALUATION AND CALCULATIONS

Calculations:

Emitter line shall be used which has emitters spaced at 2 foot intervals, and adjacent emitter lines shall also be spaced at 2 feet on center.

Required line length = A / 2 = (2000 sq. ft. / 2 sq. ft. per foot) = **1000 feet**
1000' of drip line shall be installed as shown on the System Layout

A 1" SCH 40 PVC supply line shall be used from the ATU systems pump tank to the drainfield. A 1" SCH 40 PVC return line from the drainfield back to the pump ta[illegible] shall be provided. The system shall be set up in accordance with NuWater specifications. (Contact manufacturer for complete specifications and reference the System Layout and details)

VOID

NOTES F[illegible] INSTA[illegible]R (i[illegible]licable)

Do not co[illegible]ct w[illegible] sof[illegible] back-wa[illegible] se[illegible] sys[illegible]

The TCEQ [illegible]ashin[illegible]chine wa[illegible]o b[illegible]scha[illegible] into a [illegible]ate gray water system un[illegible] water [illegible]ins hu[illegible] was[illegible] Run[illegible] this w[illegible]ut separate from the septic [illegible]n can prol[illegible] the system.

A Netafim 1" "Super Filter" 200 mesh/55 micron, shall be installed in a riser in the outlet line of the pump tank compartment.

Connect the 1" "Super Filter" and assemble in accordance with manufacturers specifications..

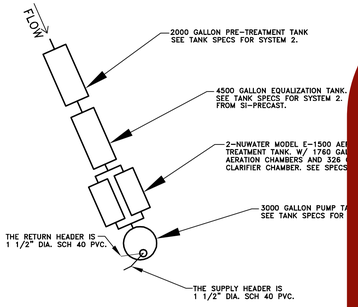
Contact NuWater dealer for complete specifications. All required specifications may not be contained in this design.

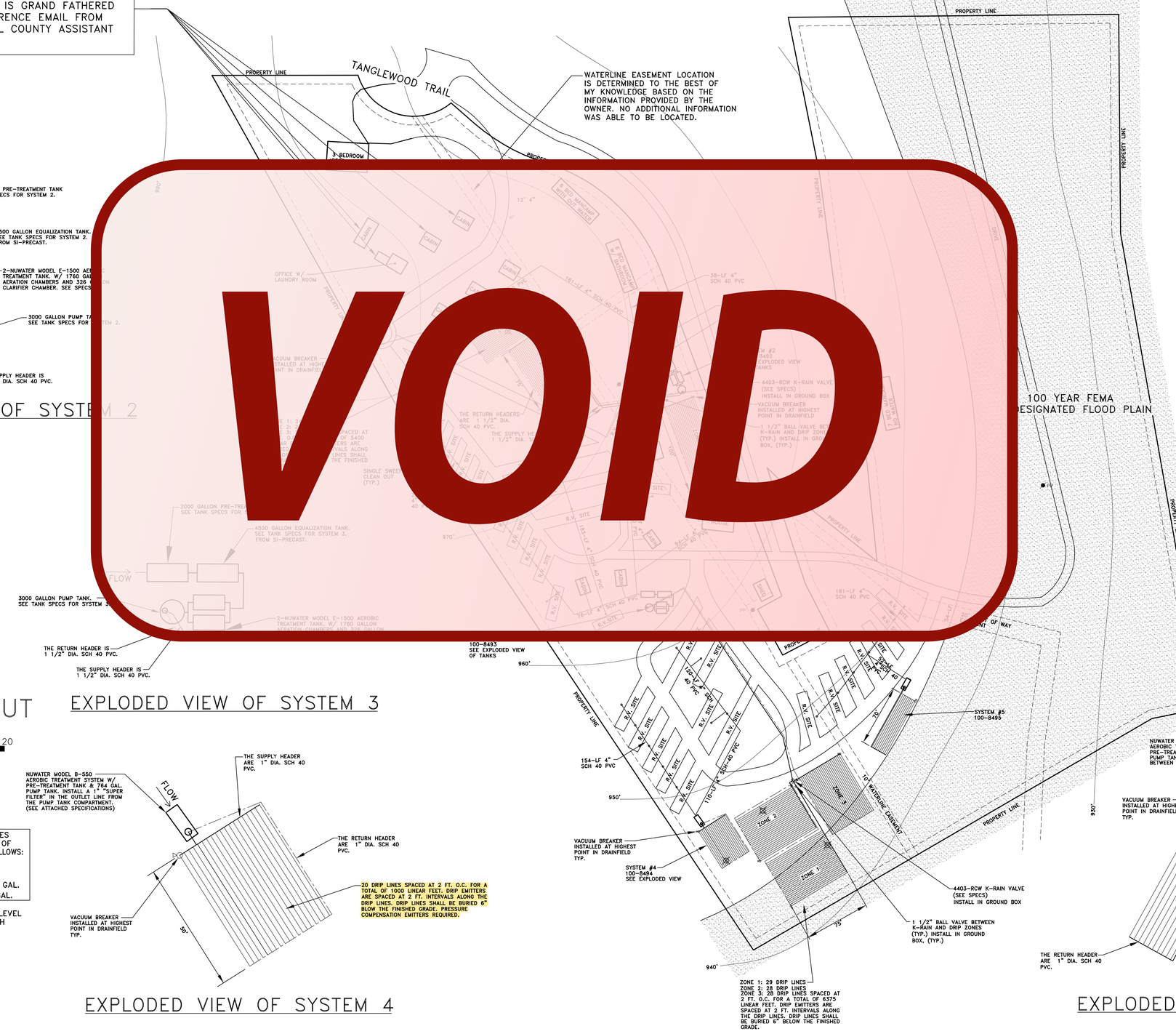
Owner	Rebecca Creek Camgrounds	**Drawn by:**	Kaeleigh R. Crandall
Location	See sheet #1	**Drawing No.**	100-8495

MANGOLD Engineering Company
5596 CR 5710
Devine, TX 78016
Phone: (830) 931-0400

Date: 3/10/22
Scale: None
Sheet 2 **of** 5

Kaeleigh R. Crandall
STATE OF TEXAS
KAELEIGH ROSE CRANDALL
134570
LICENSED PROFESSIONAL ENGINEER
3/10/22





REVISED
8:39 am, Dec 12, 2022

VOID

THIS EXISTING SYSTEM #1 IS GRAND FATHERED IN, AS OF 9-28-21 REFERENCE EMAIL FROM ROBERT BOYD, P.E., COMAL COUNTY ASSISTANT ENGINEER.

THE INSTALLATION OF THE 4 PROPOSED SEPTIC SYSTEMS WILL DISTURB LESS THAN 5 ACRES. THEREFORE PER 30 TAC 213.21, A CONTRIBUTING ZONE PLAN IS NOT REQUIRED FOR THIS ACTIVITY.

LEGEND:
10' UTILITIES EASEMENT – – –
DRIP SUPPLY LINE ——
DRIP RETURN LINE –·–
SOIL EVALUATION POINTS ⊗

MANGOLD ENGINEERING COMPANY WILL NOT BE RESPONSIBLE FOR THE CONSEQUENCES OF THE USE OF ANY PART OF THE ENGINEERING OF THIS SEPTIC SYSTEM BEFORE THE ENGINEERING HAS BEEN COMPLETELY AND FINALLY APPROVED BY THE APPROPRIATE COUNTY AUTHORITY IN THE COUNTY FOR WHICH IT IS INTENDED. IF TEST HOLES WERE NOT PRESENT DURING THE SITE-EVALUATION, THE OWNER/INSTALLER SHALL BE RESPONSIBLE FOR DIGGING TEST HOLES AND CONTACTING MANGOLD ENGINEERING COMPANY PRIOR TO ANY USE OF THIS ENGINEERING DESIGN.

EXPLODED VIEW OF SYSTEM 2

ZONE 1: 29 DRIP LINES
ZONE 2: 28 DRIP LINES
ZONE 3: 28 DRIP LINES SPACED AT 2 FT. O.C. FOR A TOTAL OF 6375 LINEAR FEET. DRIP EMITTERS ARE SPACED AT 2 FT. INTERVALS ALONG THE DRIP LINES. DRIP LINES SHALL BE BURIED 6" BELOW THE FINISHED GRADE.

SCALE: 1" = 60'

SYSTEM LAYOUT

EXPLODED VIEW OF SYSTEM 3

FLOAT SETTINGS & DISTANCES ABOVE THE INSIDE BOTTOM OF THE PUMP COMPT. ARE AS FOLLOWS:

ON: 18" – 260 GAL.
OFF: 17" – 246 GAL.
ALARM LEVEL: 43" – 693 GAL.
TANK INLET: 53" – 768 GAL.

DISTANCE BETWEEN ALARM LEVEL & TANK INLET IS 10" WHICH CORRESPONDS TO 145 GAL.

20 DRIP LINES SPACED AT 2 FT. O.C. FOR A TOTAL OF 1000 LINEAR FEET. DRIP EMITTERS ARE SPACED AT 2 FT. INTERVALS ALONG THE DRIP LINES. DRIP LINES SHALL BE BURIED 6" BLOW THE FINISHED GRADE. PRESSURE COMPENSATION EMITTERS REQUIRED.

EXPLODED VIEW OF SYSTEM 4

SITE NOTES:

ALL EXISTING UNDERGROUND UTILITIES SHALL BE LOCATED AMD MARKED BEFORE ANY EXCAVATION BEGINS.

EXISTING WATER LINE LOCATIONS ARE UNDETERMINED. SEE WATER CASING NOTE AS REQUIRED.

WHERE A WATER LINE IS CLOSER THAN 10' TO A WASTEWATER MAIN, THE WATER LINE SHALL BE CASED INSIDE OF A SCH 40 PVC PIPE SUCH THAT THE ENDS OF THE CASING ARE AT LEAST. 10' AWAY FROM THE WASTEWATER MAIN. IN ADDITION, IF THE LINES CROSS, THE WATER LINE SHALL BE AT LEAST 6" ABOVE THE WASTEWATER MAIN.

WHERE DRAIN LINES PASS UNDER ROADWAYS, THEY SHALL BE SCH 80 PVC OR THEY SHALL BE SLEEVED INSIDE OF A SCH 40 PVC PIPE WHICH IS AT LEAST TWO NOMINAL PIPE SIZES LARGER THAN THE DRAIN LINE.

ALL ABANDONED SEPTIC TANKS SHALL BE LOCATED, PUMPED, BACKFILLED & CAVED-IN.

USE EXISTING SEWER LINES UNDER R.V. SITES WHERE POSSIBLE.

A TWO-WAY CLEAN OUT SHALL BE INSTALLED BETWEEN THE BUILDING AND AEROBIC TANKS.

WHEN CROSSING EASEMENT LINES, PERMISSION SHALL BE GRANTED BY THE EASEMENT HOLDER BEFORE ANY EXCAVATION BEGINS.

STANDARD NOTES:

1. SEPTIC TANK MUST BE A MINIMUM OF 50' FROM ANY WATER WELL. CLOSEST DISTANCE FROM ANY PART OF THE DRAINFIELD AREA TO A WATER WELL MUST BE 100' MINIMUM.
2. MINIMUM SETBACK OF SPRAY AREA FROM PROPERTY LINE IS 20'.
3. MINIMUM SETBACK OF DRIP AREA FROM PROPERTY LINE IS 5'.
4. MINIMUM SEPARATION DISTANCE BETWEEN SEPTIC TANK OR DRAINFIELD AREA AND WATER SUPPLY LINES IS 10'.
5. SETBACK OF SPRAY OR DRIP AREA FROM LAKES, STREAMS, PONDS, AND RIVERS IS 50' MINIMUM.
6. SLOPE OF INFLOW LINE TO TANK IS $\frac{1}{8}$ INCH PER FOOT RUN. PIPE IS 4" SCH 40 PVC.
7. WHERE PARALLEL SEWER AND NEW WATER LINES ARE CLOSER THAN 9' THE REQUIREMENTS SPECIFIED IN TCEQ, SUBCHAPTER D, 290.44(e)(4)(A) SHALL BE STRICTLY FOLLOWED.
8. WHERE SEWER AND NEW WATER LINES CROSS, THE REQUIREMENTS SPECIFIED IN TCEQ, SUBCHAPTER D, 290.44(e)(4)(B) SHALL BE STRICTLY FOLLOWED.
9. SYSTEM SHALL BE INSPECTED BY THE COUNTY INSPECTOR IN ACCORDANCE WITH CURRENT COUNTY INSPECTION PROCEDURES.

PER COUNTY REQUIREMENTS, A FLOW METER SHALL BE INSTALLED ON THE SUPPLY LINE AND RETURN LINE OF EACH AEROBIC UNIT FOLLOWED BY A DRIP IRRIGATION SYSTEM. FOR THE AEROBIC UNIT WITH SPRAY ONLY ONE METER SHALL BE INSTALLED ON THE SUPPLY LINE TO THE SPRINKLER. THE FLOW TO EACH SEPTIC SYSTEM SHALL BE METERED. EACH SYSTEM SHALL BE MONITORED, RECORDED & SUBMITTED TO COMAL COUNTY FOR ONE YEAR TO VERIFY NO MORE THAN THE PERMITTED FLOW IS USED FOR EACH SYSTEM.

FLOAT SETTINGS & DISTANCES ABOVE THE INSIDE BOTTOM OF THE PUMP COMPT. ARE AS FOLLOWS:

ON: 21" – 304 GAL.
OFF: 20" – 290 GAL.
ALARM LEVEL: 43" – 623 GAL.
TANK INLET: 53" – 768 GAL.

DISTANCE BETWEEN ALARM LEVEL & TANK INLET IS 10" WHICH CORRESPONDS TO 145 GAL.

70 DRIP LINES SPACED AT 2 FT. O.C. FOR A TOTAL OF 700 LINEAR FEET. DRIP EMITTERS ARE SPACED AT 2 FT. INTERVALS ALONG THE DRIP LINES. DRIP LINES SHALL BE BURIED 6" BLOW THE FINISHED GRADE. PRESSURE COMPENSATION EMITTERS REQUIRED.

TANK SHALL BE ANCHORED. SEE ANCHOR TANK DETAIL.

EXPLODED VIEW OF SYSTEM 5

Plans For:
REBECCA CREEK
CAMPGROUNDS

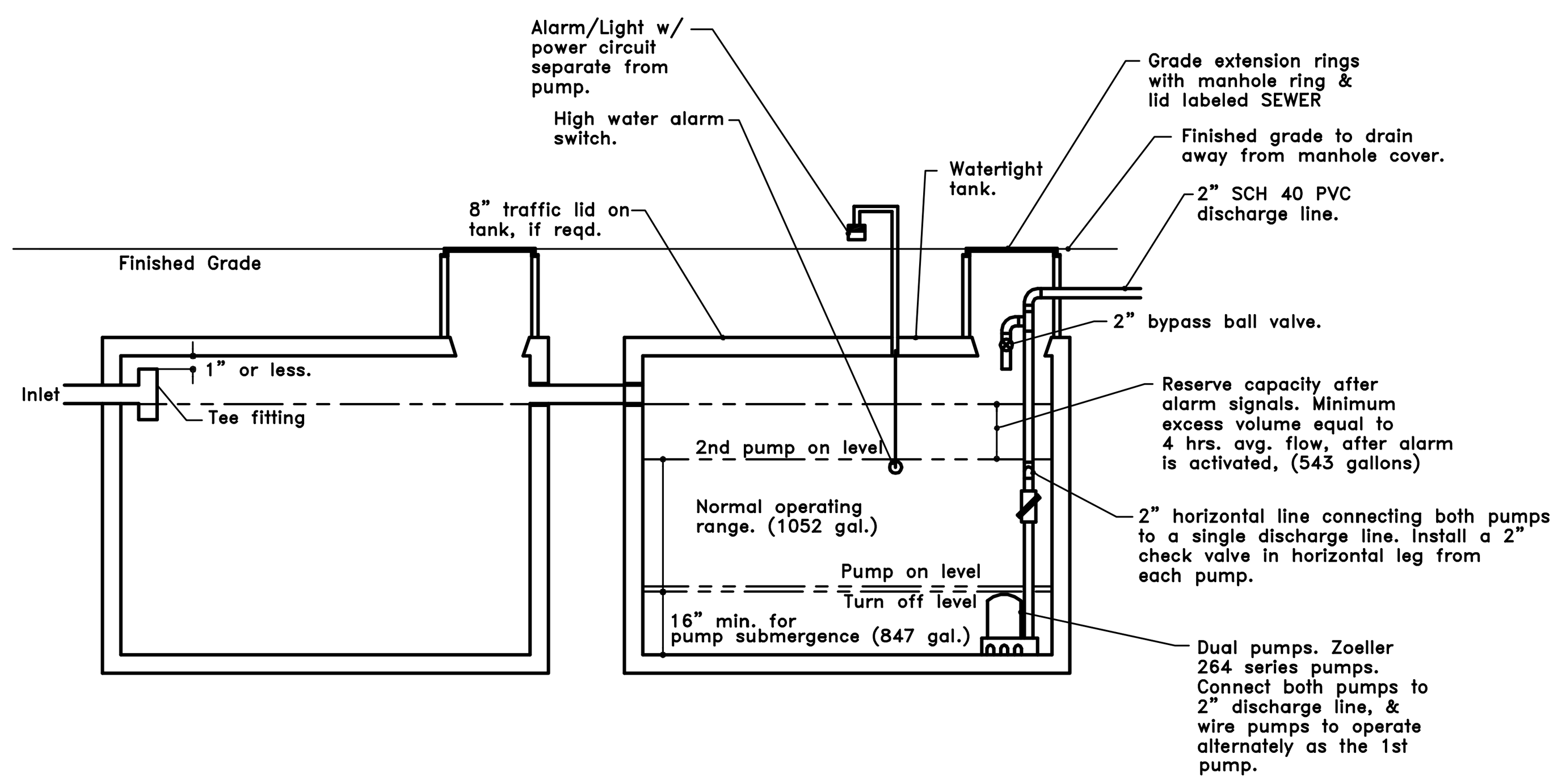
MANGOLD ENGINEERING COMPANY
5596 CR 5710
Devine, Texas 78016
FIRM NO. F-5549
Phone: (830) 931-0400
Phone: (210) 213-3912

Dwg: 100-8497
Date: 12/7/22
Revision: E
Drawn: K. Crandall
Sheet: 1 of 2

Kaeleigh R Crandall
KAELEIGH ROSE CRANDALL
134570
12/7/22

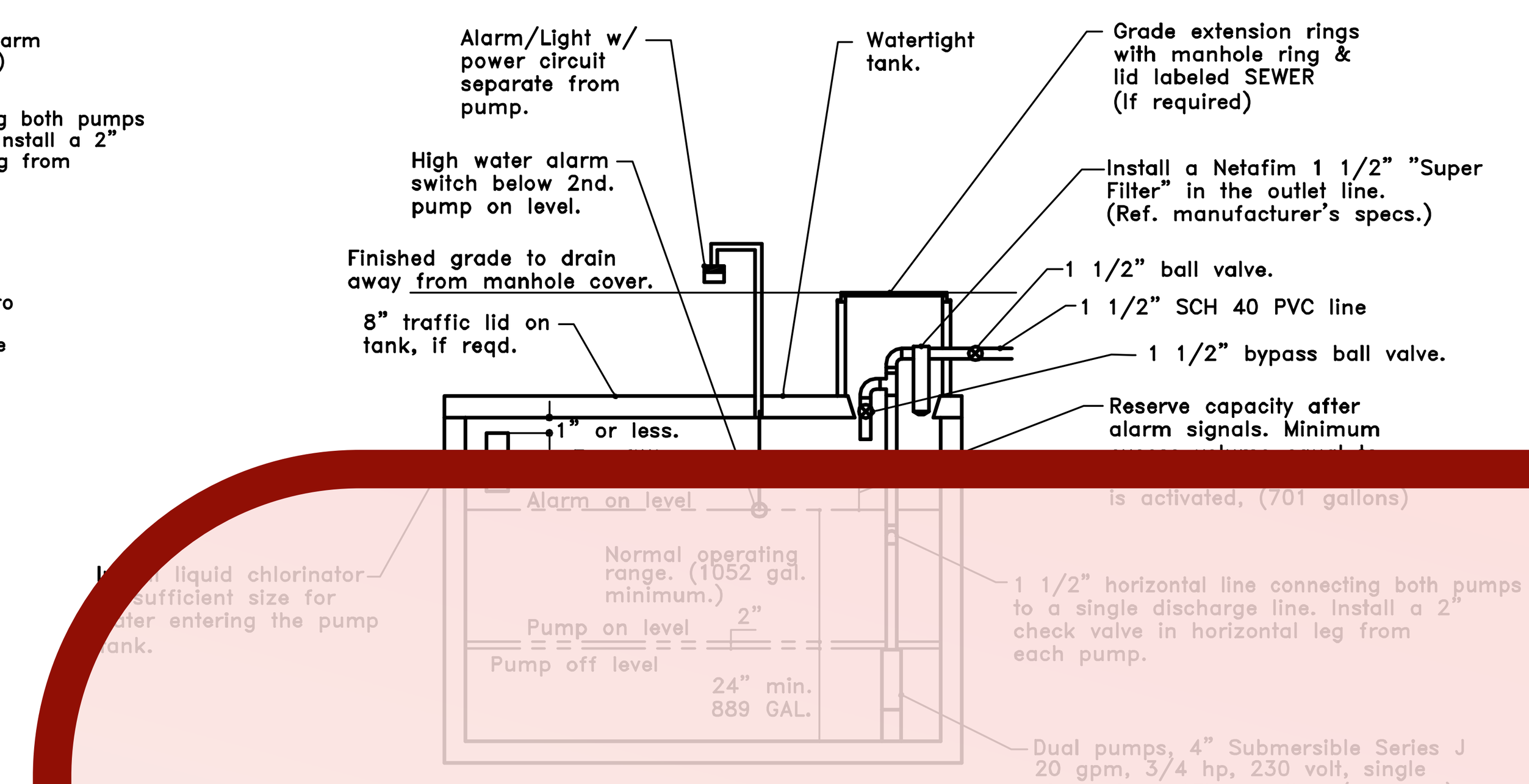
REVISED
8:39 am, Dec 12, 2022

SYSTEM #2 TANK SPECS:



2000 GAL. PRE-TREATMENT TANK & 4500 GALLON EQUALIZATION TANK

SET VALVES, FLOATS, AND TIMERS TO DELIVER A MAXIMUM OF 16 GAL./MIN., AND 61 GALLONS PER HOUR TO THE AEROBIC TREATMENT UNITS, TOTAL.



Install liquid chlorinator of sufficient size for water entering the pump tank.

3000 GAL. PUMP TANK DETAIL

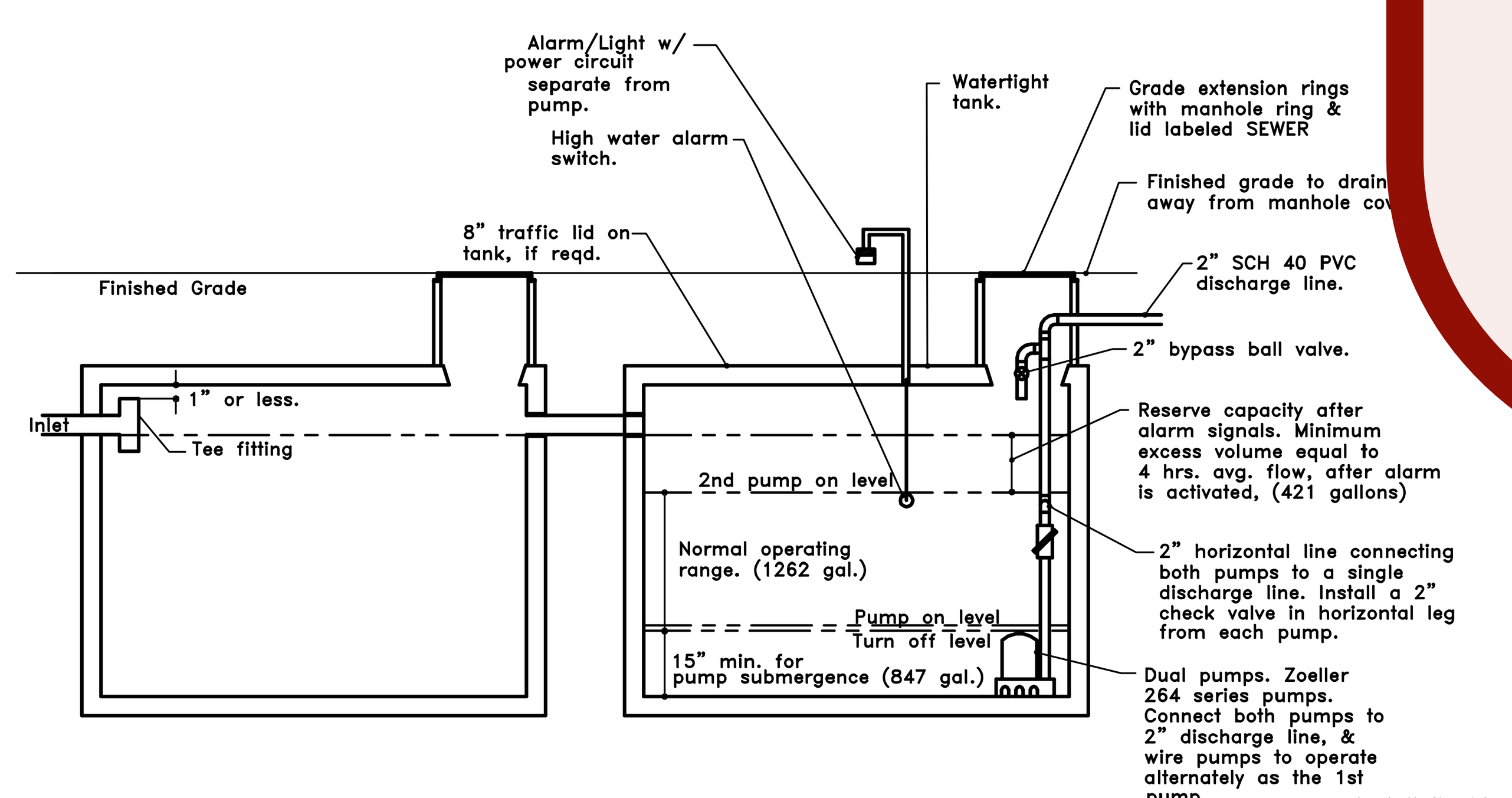
NOTES:

THE ALARM ON LEVEL SHALL BE BELOW THE 2ND PUMP ON LEVEL. THE ALARM SYSTEM SHALL HAVE A LOCK-ON FEATURE SO THAT ONCE IT IS ACTIVATED, IT WILL NOT GO OFF WHEN THE 2ND PUMP DRAWS THE LIQUID LEVEL BELOW THE ALARM ON LEVEL. BOTH AUDIO AND VISUAL ALARMS SHALL HAVE A MANUAL SILENCE SWITCH.

ALL ELECTRICAL WIRING SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE NATIONAL ELECTRIC CODE. CONNECTIONS SHALL BE IN APPROVED JUNCTION BOXES AND ALL EXTERNAL POWER WIRING SHALL BE IN APPROVED ELECTRICAL CONDUIT, BURIED, AND TERMINATED AT A MAIN CIRCUIT BREAKER PANEL OR SUB-PANEL. ALL ELECTRICAL COMPONENTS SHOULD HAVE AN ELECTRICAL DISCONNECT WITHIN DIRECT VISION. ELECTRICAL DISCONNECTS MUST BE WEATHERPROOF (APPROVED FOR OUTDOOR USE) AND HAVE MAINTENANCE LOCKOUT PROVISIONS.

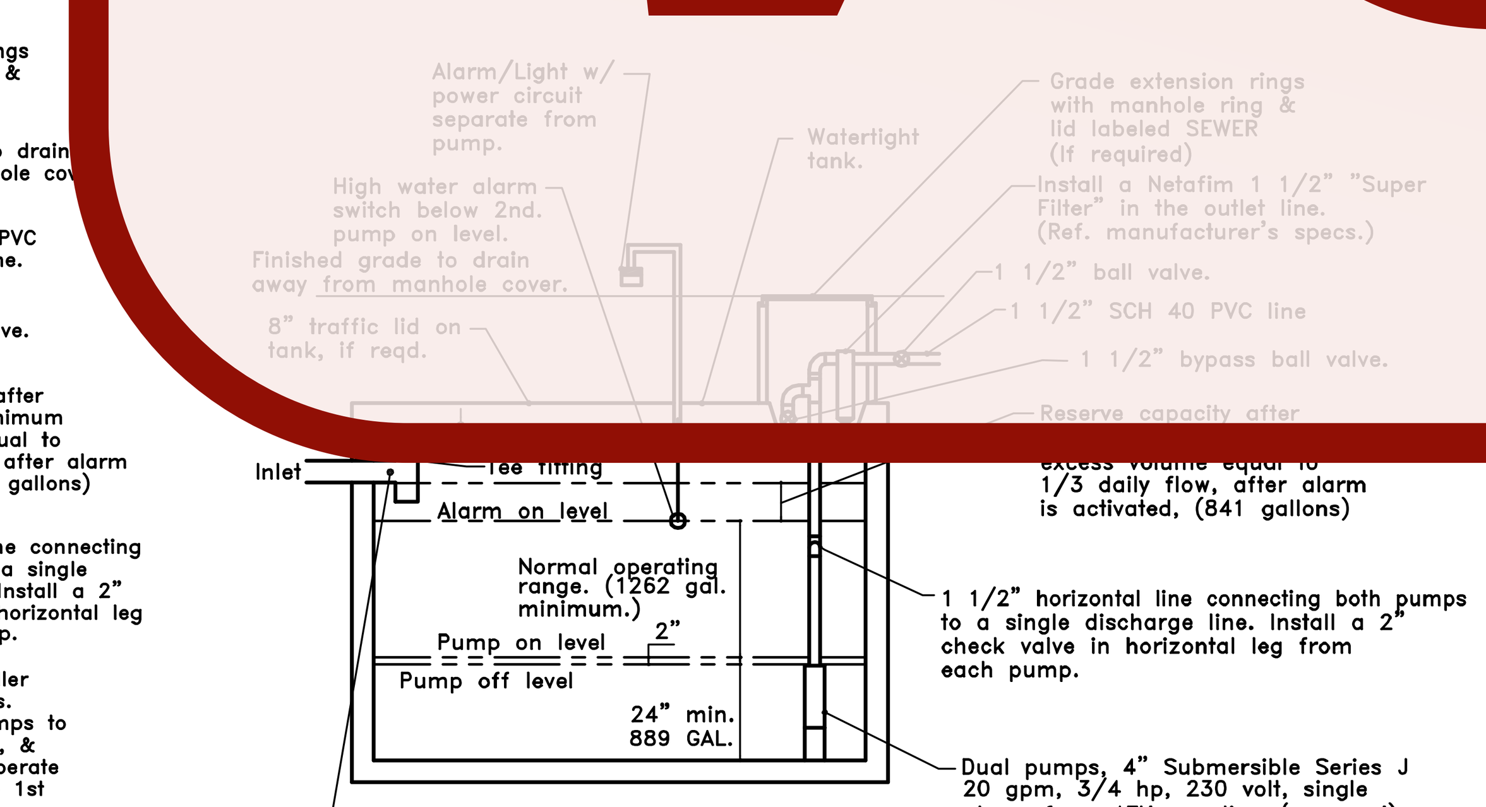
USE A LARGER TANK IF REQUIRED TO MEET MINIMUM STORAGE REQUIREMENTS.

SYSTEM #3 TANK SPECS:



2000 GAL. PRE-TREATMENT TANK & 4500 GALLON EQUALIZATION TANK

SET VALVES, FLOATS, AND TIMERS TO DELIVER A MAXIMUM OF 16 GAL./MIN., AND 74 GALLONS PER HOUR TO THE AEROBIC TREATMENT UNITS, TOTAL.



Install liquid chlorinator of sufficient size for water entering the pump tank.

3000 GAL. PUMP TANK DETAIL

NOTES:

THE ALARM ON LEVEL SHALL BE BELOW THE 2ND PUMP ON LEVEL. THE ALARM SYSTEM SHALL HAVE A LOCK-ON FEATURE SO THAT ONCE IT IS ACTIVATED, IT WILL NOT GO OFF WHEN THE 2ND PUMP DRAWS THE LIQUID LEVEL BELOW THE ALARM ON LEVEL. BOTH AUDIO AND VISUAL ALARMS SHALL HAVE A MANUAL SILENCE SWITCH.

ALL ELECTRICAL WIRING SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE NATIONAL ELECTRIC CODE. CONNECTIONS SHALL BE IN APPROVED JUNCTION BOXES AND ALL EXTERNAL POWER WIRING SHALL BE IN APPROVED ELECTRICAL CONDUIT, BURIED, AND TERMINATED AT A MAIN CIRCUIT BREAKER PANEL OR SUB-PANEL. ALL ELECTRICAL COMPONENTS SHOULD HAVE AN ELECTRICAL DISCONNECT WITHIN DIRECT VISION. ELECTRICAL DISCONNECTS MUST BE WEATHERPROOF (APPROVED FOR OUTDOOR USE) AND HAVE MAINTENANCE LOCKOUT PROVISIONS.

USE A LARGER TANK IF REQUIRED TO MEET MINIMUM STORAGE REQUIREMENTS.

CALCULATIONS TO DETERMINE PERMITTED FLOW FOR COMAL COUNTY:

THE PERMITTED FLOW FOR EACH SYSTEM IS BASED ON WATER RECORDS PROVIDED BY THE OWNER OVER AN ENTIRE YEAR. THE TCEQ DAILY FLOW FOR THE PARK SHALL BE USED TO SIZE EACH SYSTEM. A DIRECT RATIO WILL BE USED TO DETERMINE HOW THAT WATER IS DISTRIBUTED THROUGHOUT THE PARK FOR THE PERMIT APPLICATIONS. SEE CALCULATIONS BELOW.

MAXIMUM DAILY DEMAND FROM FEBRUARY LODGE WATER (100510 GALLONS) AND APRIL CABINS WATER RECORDS (30480 GALLONS)

100510 GALLONS / 28 DAYS OF FEBRUARY = 3590 GPD
30480 GALLONS / 30 DAYS OF APRIL = 1016 GPD
$Q_{TOTAL-PARK-WATER-USAGE}$ = 4606 GPD

DIRECT RATIO EQUATION:

$$\frac{Q_{TCEQ-COMPONENT}}{Q_{TCEQ-TOTAL-PARK}} = \frac{Q_{COMPONENT}}{Q_{TOTAL-PARK-WATER-RECORDS}}$$

FOR SYSTEM 1 $Q_{TCEQ\ COMPONENT}$:

3 BEDROOM <2500 SQ. FT. Q = 240 GPD
OFFICE W/5 EMPLOYEES Q= 5 EMPLOYEES(4 GPD/ PERSON)=20 GPD
LAUNDRY ROOM W/ 4 WASHING MACHINES
Q= 4 WASHING MACHINES (200 GPD / MACHINE) = 800 GPD
3 CABINS (AS AN APARTMENT)
Q= 100 GPD/ CABIN (3 CABINS) = 300 GPD

$Q_{TCEQ\ COMPONENT}$ = 1360 GPD SYSTEM #1

FOR SYSTEM 2 $Q_{TCEQ\ COMPONENT}$:

4 CABINS (AS AN APARTMENT)
Q= 100 GPD/ CABIN (4 CABINS) = 400 GPD
6 BED MANCAMP WITH 1 COMMON BATHROOM (SIZED AS HOTEL ROOM)
Q = 60 GPD / BED (6 BEDS) = 360 GPD
SHOWER HOUSE Q = 1344 GPD (TOTAL BATH USAGE EQUALLY DIVIDED AMONGST BOTH SHOWER HOUSES. SEE CALCULATIONS FOR EXPLANATION)

$Q_{TCEQ\ COMPONENT}$ = 2104 GPD SYSTEM #2

FOR SYSTEM 3 $Q_{TCEQ\ COMPONENT}$:

Q = 17 RV (40 GPD / RV) = 680 GPD
5 CABINS (AS AN APARTMENT)
Q= 100 GPD/ CABIN (5 CABINS) = 500 GPD
BATH HOUSE Q = 1344 GPD (TOTAL BATH USAGE EQUALLY DIVIDED AMONGST BOTH SHOWER HOUSES. SEE CALCULATIONS FOR EXPLANATION)

$Q_{TCEQ\ COMPONENT}$ = 2[illegible]

[illegible] $Q_{TCEQ\ COMPONENT}$:

9 [illegible] (40 GPD) [illegible]

[illegible] COMPONENT = [illegible] SYSTEM #4

FOR SYST[illegible] COMPONENT:

[illegible] (40 GPD [illegible] GPD

[illegible] COMPONENT [illegible] SYSTEM #5

FLOW FOR BA[illegible] SHOWER HOUSE:

[illegible] FROM RV [illegible]/ RV (33 TOTAL [illegible] GPD
[illegible] FROM CA[illegible]
[illegible] = 25 CA[illegible] PEOPLE/ S[illegible] SHOWER) = 1400 GPD
[illegible] FROM MA[illegible]
[illegible] = 13 BE[illegible]

[illegible] TOTAL [illegible] HOUSE & SHOWER HOUSE
FOR CONSERVATISM [illegible] MORE THAN THE RECOMMENDED TCEQ FLOW

TOTAL FLOW FOR ENITRE PARK PER TCEQ:

$Q_{TCEQ-TOTAL-COMPONENT}$=1360 GPD + 2104 GPD + 2524 GPD + 360 GPD + 280 GPD= 6628 GPD

DIRECT RATIO FOR SYSTEM 1 $Q_{COMPONENT}$:

$$\frac{1360\ GPD\ TCEQ\ COMPONENT}{6628\ TCEQ\ TOTAL} = \frac{Q\ COMPONENT}{4606\ TOTAL\ PARK\ WATER\ RECORDS}$$

VOID

DIRECT RATIO FOR SYSTEM 2 $Q_{COMPONENT}$:

$$\frac{2104\ GPD\ TCEQ\ COMPONENT}{6628\ TCEQ\ TOTAL} = \frac{Q\ COMPONENT}{4606\ TOTAL\ PARK\ WATER\ RECORDS}$$

Q PERMITTED COMPONENT = 1463 GPD FOR SYSTEM #2

DIRECT RATIO FOR SYSTEM 3 $Q_{COMPONENT}$:

$$\frac{2524\ GPD\ TCEQ\ COMPONENT}{6628\ TCEQ\ TOTAL} = \frac{Q\ COMPONENT}{4606\ TOTAL\ PARK\ WATER\ RECORDS}$$

Q PERMITTED COMPONENT = 1755 GPD FOR SYSTEM #3

DIRECT RATIO FOR SYSTEM 4 $Q_{COMPONENT}$:

$$\frac{360\ GPD\ TCEQ\ COMPONENT}{6628\ TCEQ\ TOTAL} = \frac{Q\ COMPONENT}{4606\ TOTAL\ PARK\ WATER\ RECORDS}$$

Q PERMITTED COMPONENT = 251 GPD FOR SYSTEM #4

DIRECT RATIO FOR SYSTEM 5 $Q_{COMPONENT}$:

$$\frac{280\ GPD\ TCEQ\ COMPONENT}{6628\ TCEQ\ TOTAL} = \frac{Q\ COMPONENT}{4606\ TOTAL\ PARK\ WATER\ RECORDS}$$

Q PERMITTED COMPONENT = 195 GPD FOR SYSTEM #5

Plans For: REBECCA CREEK CAMPGROUNDS

MANGOLD ENGINEERING COMPANY
5596 CR 5710
Devine, Texas 78016
FIRM NO. F-5549
Phone: (830) 931-0400
Phone: (210) 213-3912

Dwg: 100-8497
Date: 12/7/22
Revision: E
Drawn: K. Crandall
Sheet: 2 of 2

STATE OF TEXAS
KAELEIGH ROSE CRANDALL
134570
LICENSED PROFESSIONAL ENGINEER
12/7/22

REVISED
9:54 am, Apr 07, 2022

*** COMAL COUNTY OFFICE OF ENVIRONMENTAL HEALTH ***
APPLICATION FOR PERMIT FOR AUTHORIZATION TO CONSTRUCT AN ON-SITE SEWAGE FACILITY AND LICENSE TO OPERATE

System #4

Date 11/4/21 Permit # _____

Owner Name	Rebecca Creek Campgrounds	Agent Name	Michelle Wertheim
Mailing Address	31660 Tanglewood Trail	Agent Address	31660 Tanglewood Trail
City, State, Zip	Spring Branch TX 78070	City, State, Zip	Spring Branch, TX 78070
Phone #	(830) 885-4035	Phone #	(830) 446-0048
Email	rebecca creekgrounds@gmail.com	Email	same as office

All correspondence should be sent to: ☒ Owner ☐ Agent ☐ Both Method: ☒ Mail ☒ Email

Subdivision Name N/A Unit Lot Block

Acreage Legal 14.23 ac. Charles Murhart Survey abs No. 404

Street Name/Address 31660 Tanglewood Trail City Spring Branch Zip 78078

Type of Development:

☐ Single Family Residential

Type of Construction (House, Mobile, Etc.)

Number of Bedrooms

Indicate Sq Ft of Living Area

☒ Non-Single Family Dwelling

(Planning materials must indicate land area doubling the required land area needed for replacement units and disposal area)

Type of Facility

Offices, Factories, Churches, Schools, Parks, Estimate Number Occupants

Restaurants, Lounges, Theaters - Indicate Number of Seats

Hotel, Motel, Hospital, Nursing Home - Indicate Number of Beds

Travel Trailer/RV Parks - Indicate Number of Spaces 10 RV spaces

Miscellaneous

VOID

Estimated Cost of Construction: $ _____ (Structure Only) N/A

Is any portion of the proposed OSSF located in the United States Army Corps of Engineers (USACE) flowage easement?

☐ Yes ☒ No (If yes, owner must provide approval from USACE for proposed OSSF improvements within the USACE flowage easement)

Source of Water ☒ Public ☐ Private Well

Are Water Saving Devices Being Utilized Within the Residence? ☒ Yes ☐ No

By signing this application, I certify that:
- The completed application and all additional information submitted does not contain any false information and does not conceal any material facts. I certify that I am the property owner or I possess the appropriate land rights necessary to make the permitted improvements on said property.
- Authorization is hereby given to the permitting authority and designated agents to enter upon the above described property for the purpose of site/soil evaluation and inspection of private sewage facilities..
- I understand that a permit of authorization to construct will not be issued until the Floodplain Administrator has performed the reviews required by the Comal County Flood Damage Prevention Order.
- I affirmatively consent to the online posting/public release of my e-mail address associated with this permit application, as applicable.

_____ _____
Signature of Owner Date

195 David Jonas Dr., New Braunfels, Texas 78132-3760 (830) 608-2090 Fax (830) 608-2078

REVISED
9:54 am, Apr 07, 2022

* * * COMAL COUNTY OFFICE OF ENVIRONMENTAL HEALTH * * *

APPLICATION FOR PERMIT FOR AUTHORIZATION TO CONSTRUCT AN ON-SITE SEWAGE FACILITY AND LICENSE TO OPERATE

System #4

Planning Materials & Site Evaluation as Required Completed By Kaeleigh Crandall

System Description Aerobic w/ drip

Size of Septic System Required Based on Planning Materials & Soil Evaluation

Tank Size(s) (Gallons) 800 gallon ATU Absorption/Application Area (Sq Ft) 2000 ft²

Gallons Per Day (As Per TCEQ Table III) 278 gpd

(Sites generating more than 5000 gallons per day are required to obtain a permit through TCEQ.)

Is the property located over the Edwards Recharge Zone? ☐ Yes ☒ No

(If yes, the planning materials must be completed by a Registered Sanitarian (R.S.) or Professional Engineer (P.E.))

Is there an existing TCEQ approved WPAP for the property? ☐ Yes ☒ No

(If yes, the R.S. or P.E. shall certify that the OSSF design complies with all provisions of the existing WPAP.)

If there is no existing WPAP, does the proposed development activity require a TCEQ approved WPAP? ☐ Yes ☒ No

(If yes, the R.S. or P.E. shall certify that the OSSF design will comply with all provisions of the proposed WPAP. A Permit to Construct will not be issued for the proposed OSSF until the WPAP has been approved by the appropriate regional office.)

Is the property located over the Edwards Contributing Zone? ☐ Yes ☒ No

Is there an existing TCEQ approval CZP for the property? ☐ Yes ☒ No

(If yes, the P.E. or R.S. shall certify that the OSSF design complies with all provisions of the existing CZP.)

If there is no existing CZP, does the proposed development activity require a TCEQ approved CZP? ☐ Yes ☒ No

(If yes, the R.S. or P.E. shall certify that the OSSF design will comply with all provisions of the proposed CZP. A Permit to Construct will not be issued for the proposed OSSF until the CZP has been approved by the appropriate regional office.)

VOID

Is this property within an incorporated city? ☐ Yes ☒ No

If yes, indicate the city: _____

By signing this application, I certify that:
- The information provided above is true and correct to the best of my knowledge.
- I affirmatively consent to the online posting/public release of my e-mail address associated with this permit application, as applicable.

Kaeleigh Crandall
Signature of Designer

4/4/22
Date

195 David Jonas Dr., New Braunfels, Texas 78132-3760 (830) 608-2090 Fax (830) 608-2078

Olvera,Brandon

From: Olvera,Brandon
Sent: Tuesday, December 20, 2022 10:31 AM
To: 'Stephen Mangold'
Cc: Rebecca Creek Campgrounds
Subject: RE: FW: Rebecca Creek As-built for System 4 & 5

Good Morning,
File has been updated.

Thank You,

Brandon Olvera | Designated Representative | Comal County | www.cceo.org

195 David Jonas Dr, New Braunfels, TX-78132 | **t:** 830-608-2090 | **f:** 830-608-2078 | **e:** olverb@co.comal.tx.us

---

From: Stephen Mangold <stevemangold1@gmail.com>
Sent: Friday, December 16, 2022 11:04 AM
To: Olvera,Brandon <Olverb@co.comal.tx.us>
Cc: Rebecca Creek Campgrounds <rebeccacreekcampgrounds@gmail.com>
Subject: Re: FW: Rebecca Creek As-built for System 4 & 5

Brandon,

Attached is the signed application from me. This job we are permitting the water records but sizing the systems to accommodate the TCEQ flow. The flow on the application is correct.

System 2&3 aren't installed yet. We are hoping to complete 4 & 5 and move on to the other 2 systems.

Thank you,
Kaeleigh

Mangold Engineering Company
5596 County Road 5710
Devine, Texas 78016

Stephen Mangold, P.E. Cell: (210) 213-3912
Kaeleigh Crandall, P.E. Cell: (830) 931-0400

On Fri, Dec 16, 2022 at 10:32 AM Olvera,Brandon <Olverb@co.comal.tx.us> wrote:

Good Morning,

2. System 5
    a. Application page 2
        i. GPD for 7 RV's would be 280
        ii. Needs signature of the designer
3. System 2-3
    a. Applications, need to be signed by the owner
3. Revise accordingly and resubmit

Thank You,

Brandon Olvera | Designated Representative | Comal County | www.cceo.org

195 David Jonas Dr, New Braunfels, TX-78132 | **t:** 830-608-2090 | **f:** 830-608-2078 | **e:** olverb@co.comal.tx.us

---

From: Stephen Mangold <stevemangold1@gmail.com>
Sent: Wednesday, December 14, 2022 3:06 PM
To: Rebecca Creek Campgrounds <rebeccacreekcampgrounds@gmail.com>
Cc: Olvera,Brandon <Olverb@co.comal.tx.us>
Subject: Re: FW: Rebecca Creek As-built for System 4 & 5

Brandon,

I attached my documents with Rebecca Creeks Signed applications. I also updated the overall drawing. Please let me know if you need anything else.

Thank you,

Kaeleigh

Mangold Engineering Company

5596 County Road 5710

Devine, Texas 78016

Stephen Mangold, P.E. Cell: (210) 213-3912

Kaeleigh Crandall, P.E. Cell: (830) 931-0400

On Wed, Dec 14, 2022 at 12:42 PM Rebecca Creek Campgrounds <rebeccacreekcampgrounds@gmail.com> wrote:

> attached signed apps
>
> On Mon, Dec 12, 2022 at 9:22 AM Olvera,Brandon <Olverb@co.comal.tx.us> wrote:
>
> > RE: 3660 Tanglewood Trail
> >
> > Property Owner & Agent,
> >
> > We received planning materials for the referenced permit application on 04-07-2022 and found those planning materials to be deficient. In order to continue processing this permit, we need the following:
> >
> > ✓ System 4
> >
> > a. Revise application to show new number of RV sites
> > b. Revise application to show new absorption area and GPD
> > c. Application Needs to have the owners signature and date
> > d. On the design, the exploded view shows only 19 drip lines, the notes mention 20

3. System 5

    a. Revise application to show new number of RV sites
    b. Revise application to show new absorption area and GPD
    c. Revise system description to show a the drip irrigation
    d. Application Needs to have the owners signature and date
    e. On the design, exploded view shows 70 lines, however there are 10 at 70ft.

4. Permits 113609-113612

    a. All applications need to have the owners signature and Date.

5. Revise accordingly and resubmit.

If you have any questions, you can email me or call the office.

Thank You,

Brandon Olvera | Designated Representative | Comal County | www.cceo.org

195 David Jonas Dr, New Braunfels, TX-78132 | t: 830-608-2090 | f: 830-608-2078 | e: olverb@co.comal.tx.us

---

From: Stephen Mangold <stevemangold1@gmail.com>
Sent: Wednesday, December 7, 2022 2:41 PM
To: Ritzen, Brenda <rabbjr@co.comal.tx.us>; Rebecca Creek Campgrounds <rebeccacreekcampgrounds@gmail.com>
Subject: Rebecca Creek As-built for System 4 & 5

Hi Brenda,

Michelle with Rebecca Creek contacted me to draw as builts for system 4 & 5. The installer should be calling for an inspection.

Please call me if you have any questions.

Thank you,

Kaeleigh

Mangold Engineering Company

5596 County Road 5710

Devine, Texas 78016

Stephen Mangold, P.E. Cell: (210) 213-3912

Kaeleigh Crandall, P.E. Cell: (830) 931-0400

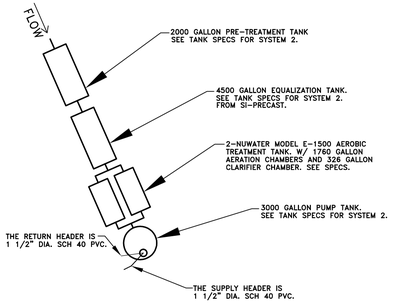
REVISED
10:15 am, Dec 16, 2022

THE INSTALLATION OF THE 4 PROPOSED SEPTIC SYSTEMS WILL DISTURB LESS THAN 5 ACRES. THEREFORE PER 30 TAC 213.21, A CONTRIBUTING ZONE PLAN IS NOT REQUIRED FOR THIS ACTIVITY.

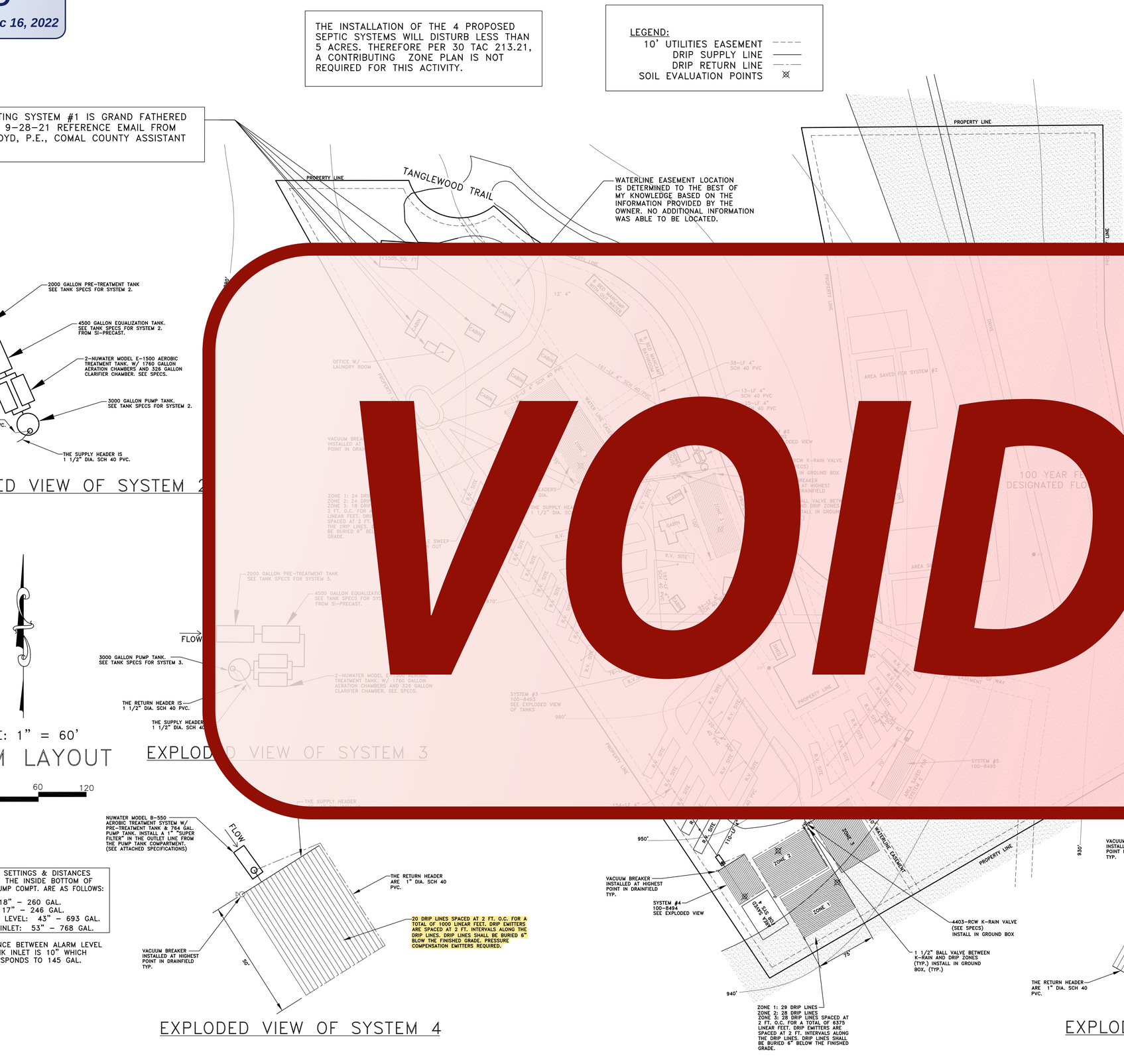
LEGEND:
10' UTILITIES EASEMENT
DRIP SUPPLY LINE
DRIP RETURN LINE
SOIL EVALUATION POINTS

MANGOLD ENGINEERING COMPANY WILL NOT BE RESPONSIBLE FOR THE CONSEQUENCES OF THE USE OF ANY PART OF THE ENGINEERING OF THIS SEPTIC SYSTEM BEFORE THE ENGINEERING HAS BEEN COMPLETELY AND FINALLY APPROVED BY THE APPROPRIATE COUNTY AUTHORITY IN THE COUNTY FOR WHICH IT IS INTENDED. IF TEST HOLES WERE NOT PRESENT DURING THE SITE-EVALUATION, THE OWNER/INSTALLER SHALL BE RESPONSIBLE FOR DIGGING TEST HOLES AND CONTACTING MANGOLD ENGINEERING COMPANY PRIOR TO ANY USE OF THIS ENGINEERING DESIGN.

THIS EXISTING SYSTEM #1 IS GRAND FATHERED IN, AS OF 9-28-21 REFERENCE EMAIL FROM ROBERT BOYD, P.E., COMAL COUNTY ASSISTANT ENGINEER.



EXPLODED VIEW OF SYSTEM 2



SCALE: 1" = 60'

SYSTEM LAYOUT

60 0 60 120

SITE NOTES:

ALL EXISTING UNDERGROUND UTILITIES SHALL BE LOCATED AMD MARKED BEFORE ANY EXCAVATION BEGINS.

EXISTING WATER LINE LOCATIONS ARE UNDETERMINED. SEE WATER CASING NOTE AS REQUIRED.

WHERE A WATER LINE IS CLOSER THAN 10' TO A WASTEWATER MAIN, THE WATER LINE SHALL BE CASED INSIDE OF A SCH 40 PVC PIPE SUCH THAT THE ENDS OF THE CASING ARE AT LEAST. 10' AWAY FROM THE WASTEWATER MAIN. IN ADDITION, IF THE LINES CROSS, THE WATER LINE SHALL BE AT LEAST 6" ABOVE THE WASTEWATER MAIN.

WHERE DRAIN LINES PASS UNDER ROADWAYS, THEY SHALL BE SCH 80 PVC OR THEY SHALL BE SLEEVED INSIDE OF A SCH 40 PVC PIPE WHICH IS AT LEAST TWO NOMINAL PIPE SIZES LARGER THAN THE DRAIN LINE.

ALL ABANDONED SEPTIC TANKS SHALL BE LOCATED, PUMPED, BACKFILLED & CAVED-IN.

USE EXISTING SEWER LINES UNDER R.V. SITES WHERE POSSIBLE.

[illegible]AN OUT SHALL BE INSTALLED BETWEEN THE BUILDING AND AEROBIC

WHEN CROSSING EASEMENT [illegible]INES, PERMISSION SHALL BE GRANTED BY THE EASEMENT HOLDER BE[illegible] ANY EXCAVATION BEGINS.

STANDARD NOTES:

1. SEPTIC TANK MUST BE A MI[illegible]M OF 50' FROM ANY WATER WELL. CLOSEST DISTANCE FR[illegible]NY PART OF THE DRAINFIELD AREA TO A WATER WELL MUST[illegible] 100' MINIMUM.
2. MINIMUM SETBACK OF SPRAY [illegible]A FROM PROPERTY LINE IS 20'.
3. MINIMUM SETBACK OF DRIP AR[illegible] FROM PROPERTY LINE IS 5'.
4. MINIMUM SEPARATION DISTANCE[illegible]TWEEN SEPTIC TANK OR DRAINFIELD AREA AND WATER S[illegible]PLY LINES IS 10'.
5. SETBACK OF SPRAY OR DRIP A[illegible] FROM LAKES, STREAMS, PONDS, AND RIVERS IS 50' MIN[illegible]M.
6. SLOPE OF INFLOW LINE TO TA[illegible]S $\frac{1}{8}$ INCH PER FOOT RUN. PIPE IS 4" SCH 40 PVC.
7. WHERE PARALLEL SEWER AND N[illegible] WATER LINES ARE CLOSER THAN 9' THE REQUIREMENTS S[illegible]IFIED IN TCEQ, SUBCHAPTER D, 290.44(e)(4)(A) SHALL BE STRI[illegible]Y FOLLOWED.
8. WHERE SEWER AND NEW WATER [illegible]ES CROSS, THE REQUIREMENTS SPECIFIED IN TCEQ, SUBCHAPTE[illegible], 290.44(e)(4)(B) SHALL BE STRICTLY FOLLOWED.
9. SYSTEM SHALL BE INSPECTED [illegible]THE COUNTY INSPECTOR IN ACCORDANCE WITH CURRENT C[illegible]TY INSPECTION PROCEDURES.

PER COUNTY R[illegible]UIREMENTS, A FLOW METER S[illegible]LL BE INSTALLED ON THE SUPPL[illegible] LINE AND RETURN LINE OF EACH [illegible]ROBIC UNIT FOLLOWED BY [illegible] DRIP IRRIGATION SYSTEM. FOR [illegible] AEROBIC UNIT WITH SPRAY O[illegible]Y ONE METER SHALL BE INST[illegible]LED ON THE SUPPLY LINE T[illegible] THE SPRINKLER. THE FLOW TO [illegible]CH SEPTIC SYSTEM SHALL BE MET[illegible]ED. EACH SYSTEM SHALL BE MON[illegible]ORED, RECORDED & SUBMITTED TO [illegible]OMAL COUNTY FOR ONE YEAR TO [illegible]RIFY NO MORE THAN THE PER[illegible]TTED FLOW IS USED FOR EACH SY[illegible]M.

EXPLODED VIEW OF SYSTEM 3

FLOAT SETTINGS & DISTANCES ABOVE THE INSIDE BOTTOM OF THE PUMP COMPT. ARE AS FOLLOWS:

ON: 18" – 260 GAL.
OFF: 17" – 246 GAL.
ALARM LEVEL: 43" – 693 GAL.
TANK INLET: 53" – 768 GAL.

DISTANCE BETWEEN ALARM LEVEL & TANK INLET IS 10" WHICH CORRESPONDS TO 145 GAL.

EXPLODED VIEW OF SYSTEM 4

EXPLODED VIEW OF SYSTEM 5

FLOAT SETTINGS & DISTANCES ABOVE THE INSIDE BOTTOM OF THE PUMP COMPT. ARE AS FOLLOWS:

ON: 21" – 304 GAL.
OFF: 20" – 290 GAL.
ALARM LEVEL: 43" – 623 GAL.
TANK INLET: 53" – 768 GAL.

DISTANCE BETWEEN ALARM LEVEL & TANK INLET IS 10" WHICH CORRESPONDS TO 145 GAL.

VOID

Plans For: REBECCA CREEK CAMPGROUNDS

MANGOLD ENGINEERING COMPANY
5596 CR 5710
Devine, Texas 78016
FIRM NO. F-5549
Phone: (830) 931-0400
Phone: (210) 213-3912

Dwg: 100-8497
Date: 12/14/22
Revision: F
Drawn: K. Crandall
Sheet: 1 of 2

Kaeleigh Crandall
STATE OF TEXAS
KAELEIGH ROSE CRANDALL
134570
LICENSED PROFESSIONAL ENGINEER
12/14/22

Olvera,Brandon

From: Olvera,Brandon
Sent: Wednesday, January 11, 2023 9:49 AM
To: 'Stephen Mangold'; 'Rebecca Creek Campgrounds'; 'rebeccacreekgrounds@gmail.com'
Subject: 3660 Tanglewood Trail

RE: 3660 Tanglewood Trail

Property Owner & Agent,

We received planning materials for the referenced permit application on 11-18-2021 and found those planning materials to be deficient. In order to continue processing this permit, we need the following:

1. System 3
    a. The drip lines that cross over the 100 year floodplain need to meet the requirements below.

§285.31. SELECTION CRITERIA FOR TREATMENT AND DISPOSAL SYSTEMS.

(a) General Requirement. The type and size of an OSSF shall be determined on t of the soil and site information developed according to §285.30 of this title (relating to Evaluation).

(b) Suitability. A standard subsurface absorption system may be used if all the s site criteria are determined to be suitable under §285.91(5) of this title (relating to Tabl one or more of the soil and site criteria categories are determined to be unsuitable, a sta subsurface absorption system cannot be used except as noted in §285.91(5) of this title. determined that a standard subsurface absorption system cannot be used, either a prop or a non-standard system may be used, provided all soil and site criteria for that system met as required in §285.91(13) of this title.

(c) Surface drainage criteria.

(1) Topography. Uniform slopes under 30% are suitable for standard sub absorption systems. If the slope is less than 2%, steps shall be taken to ensure there is a surface drainage over any subsurface disposal field. The excavation for a standard subsu absorption system shall be parallel to the contour of the ground.

(2) Flood hazard. Any potential OSSF site within a 100-year floodplain is to special planning requirements. The OSSF shall be located so that a flood will not dam OSSF during a flood event, resulting in contamination of the environment. Planning ma shall indicate how tank flotation is eliminated. Additionally, if the site is within the regu floodway, a professional engineer shall demonstrate that:

(A) the system shall not increase the height of the flood;

(B) all components, with the exception of risers, chlorinators, cle sprinklers, and inspection ports, shall be completely buried without adding fill; and

(C) non-buried components (e.g. alarms, junction boxes, and compressors) shall be elevated above the 100-year flood elevation.

(d) Separation requirements. OSSFs shall be separated from features, in the are the OSSF is to be installed, that could be contaminated by the OSSF or could prevent th operation of the system. The separation requirements are in §285.91(10) of this title.

Adopted May 23, 2001 Effective June

b.

2. System 4-5
    a. Per our inspectors notes, we will need a revision on the tank types that were used.
        i. System 4- Si Tank/ ProFlo control panel
        ii. System 5- Si Tank/ Areis Aerobic control panel
3. Per our conversation, since the tank on system 5 is not in the floodplain, it is to your discretion on the anchors for the tank.
4. Revise accordingly and resubmit.

If you have any questions, you can email me or call the office.

Thank You,

Brandon Olvera | Designated Representative | Comal County | www.cceo.org

195 David Jonas Dr, New Braunfels, TX-78132 | t: 830-608-2090 | f: 830-608-2078 | e: olverb@co.comal.tx.us

REVISED
8:29 am, Dec 12, 2022

SITE EVALUATION AND CALCULATIONS

Site Evaluation:

Soil Texture:	Clay loam
Soil Structure:	Blocky
Soil Depth:	18" minimum
Restrictive Horizon:	At 18" min. from surface
Groundwater:	None encountered
Topography:	More than 2% slope on drainfield area

Determination: Site was determined to have a Class III soil. Due to the park layout and rock horizon an aerobic treatment unit followed by drip irrigation shall be installed.

VOID

Calculations:

System # 4 was calculated based on water records at 51 gpd. The system shall be over designed to match TCEQ design rate flow of 60 gpd. Reference design 100-8497 for calculations and layout. Water saving devices are used throughout.

Q = 9 RV (40 gpd/RV)= **360 gpd**

A Nu-Water Model B-550 aerobic treatment system, or equal, shall be installed. It has built in pre-treatment tank and pump tank. The aerobic unit shall be a drip irrigation system. (Reference the System Layout) Chlorinator is required for water entering pump tank. Liquid type chlorination shall be used.

Ra = **0.20 gal. / sq. ft. / day,** **(For a Class III soil)**

A = Q / Ra, **A** = (360 gal. / day) / (0.20 gal. / sq. ft. / day) = **1800 sq. ft.**

calculations continued on next page....

Owner	Rebecca Creek Camgrounds
Location	Comal County, Texas
Drawn by:	Kaeleigh R. Crandall
Drawing No.	100-8495A

MANGOLD Engineering Company
5596 CR 5710
Devine, TX 78016
Phone: (830) 931-0400

Date: 12/5/22
Scale: None
Sheet 1 **of** 5

Kaeleigh R. Crandall
STATE OF TEXAS
KAELEIGH ROSE CRANDALL
134570
LICENSED
PROFESSIONAL ENGINEER
12/5/22

REVISED
11:18 am, Apr 07, 2022

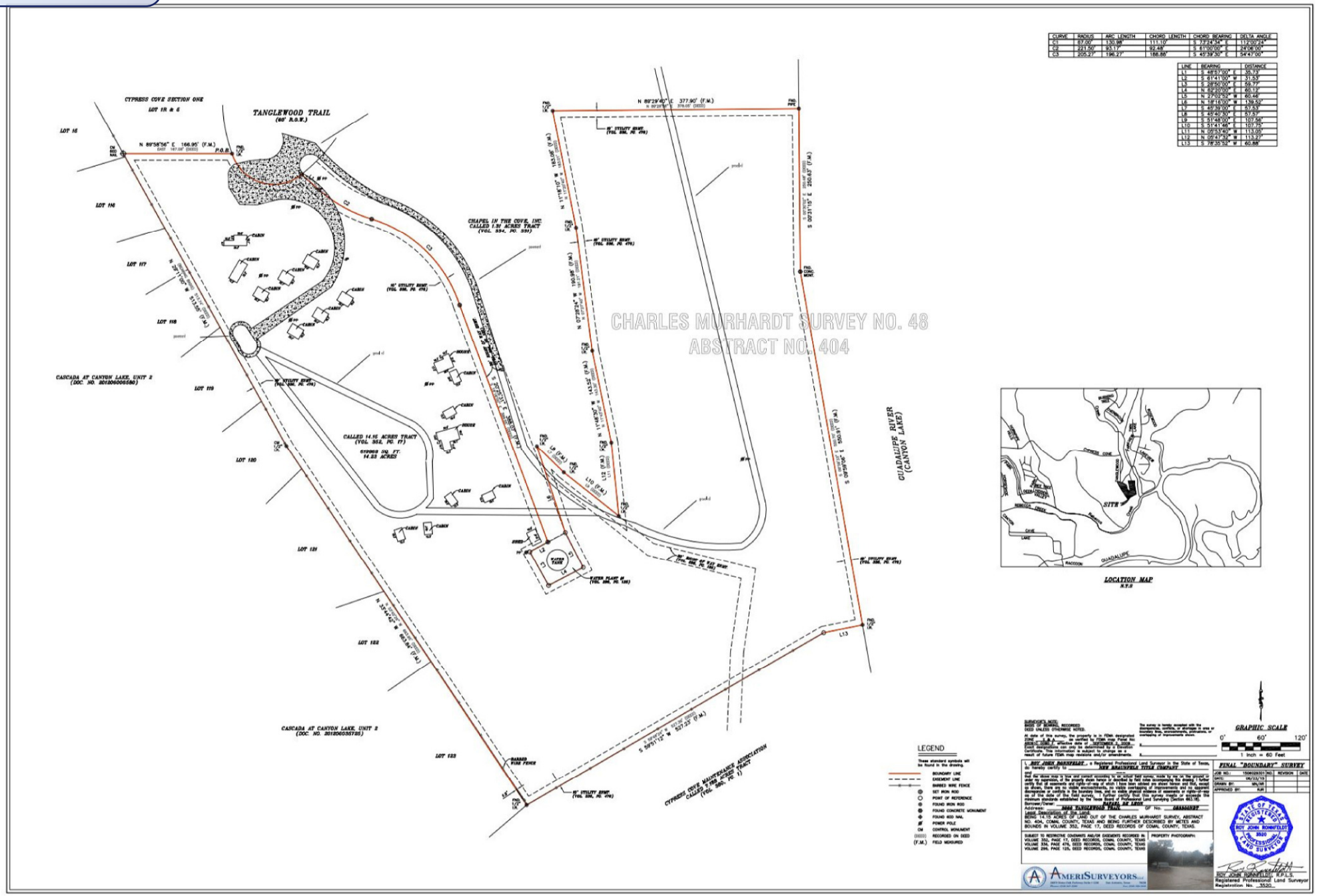
OSSF DESIGN

for

Rebecca Creek Campgrounds

Survey

REVISED
11:18 am, Apr 07, 2022



CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING	DELTA ANGLE
C1	87.00'	130.98'	111.10'	S 77°24'34" E	113°00'24"
C2	221.50'	93.17'	92.48'	S 61°00'09" E	24°06'00"
C3	205.27'	196.27'	188.88'	S 45°39'30" E	54°47'00"

LINE	BEARING	DISTANCE
L1	S 48°57'00" E	35.23'
L2	S 61°41'00" W	31.53'
L3	S 28°50'00" E	58.77'
L4	N 63°10'00" E	65.12'
L5	N 27°02'52" W	60.46'
L6	N 18°16'00" W	139.52'
L7	S 45°39'00" E	57.53'
L8	S 45°40'30" E	57.57'
L9	S 51°48'00" E	107.56'
L10	S 51°41'48" E	107.75'
L11	N 05°53'49" W	113.05'
L12	N 05°47'13" W	113.22'
L13	S 78°35'52" W	60.88'

REVISED
11:18 am, Apr 07, 2022

OSSF DESIGN

for

Rebecca Creek Campgrounds

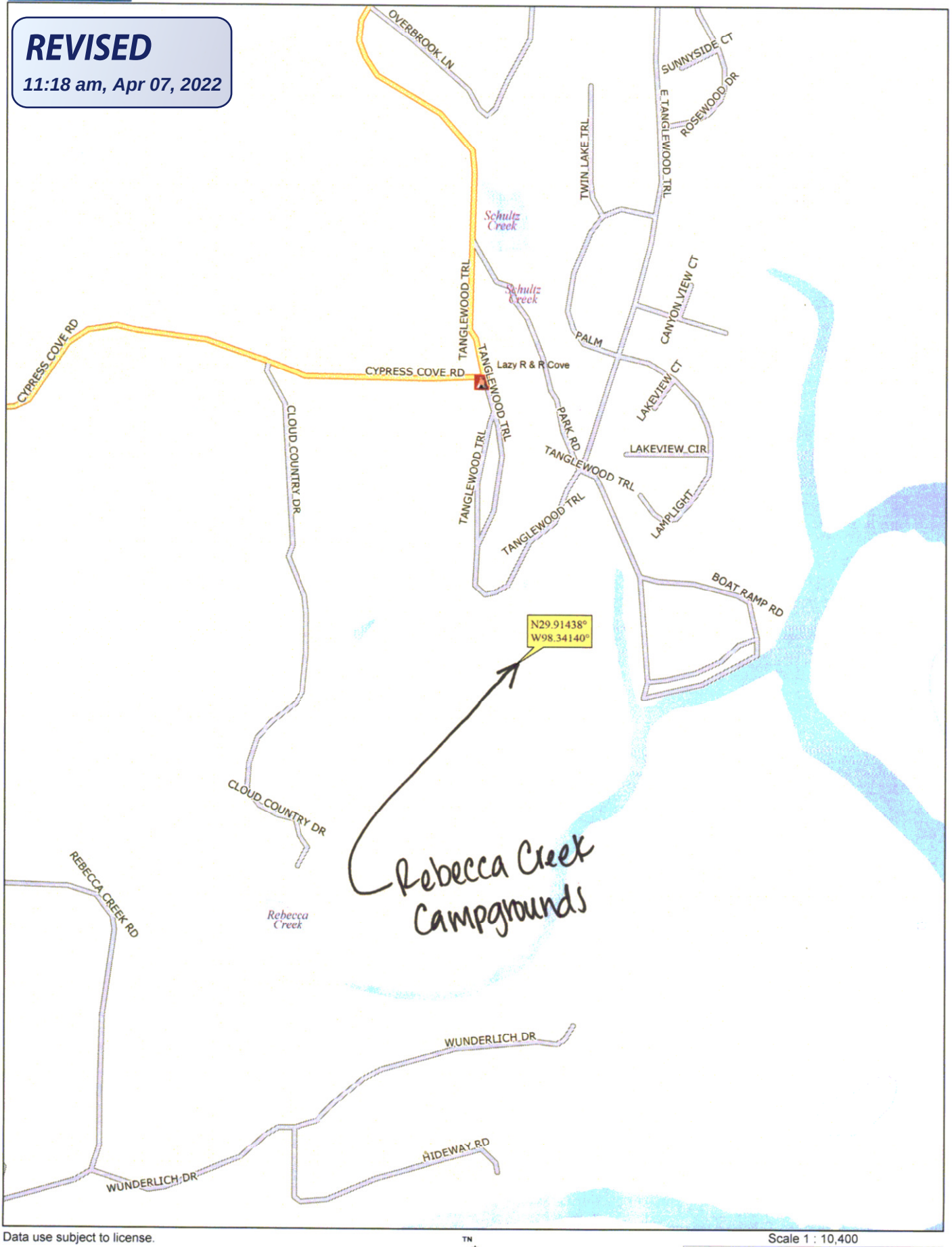
Maps

DeLorme

DeLorme Street Atlas USA® 2013

REVISED

11:18 am, Apr 07, 2022



TN

MN (3.6°E)

Scale 1 : 10,400

1" = 866.7 ft

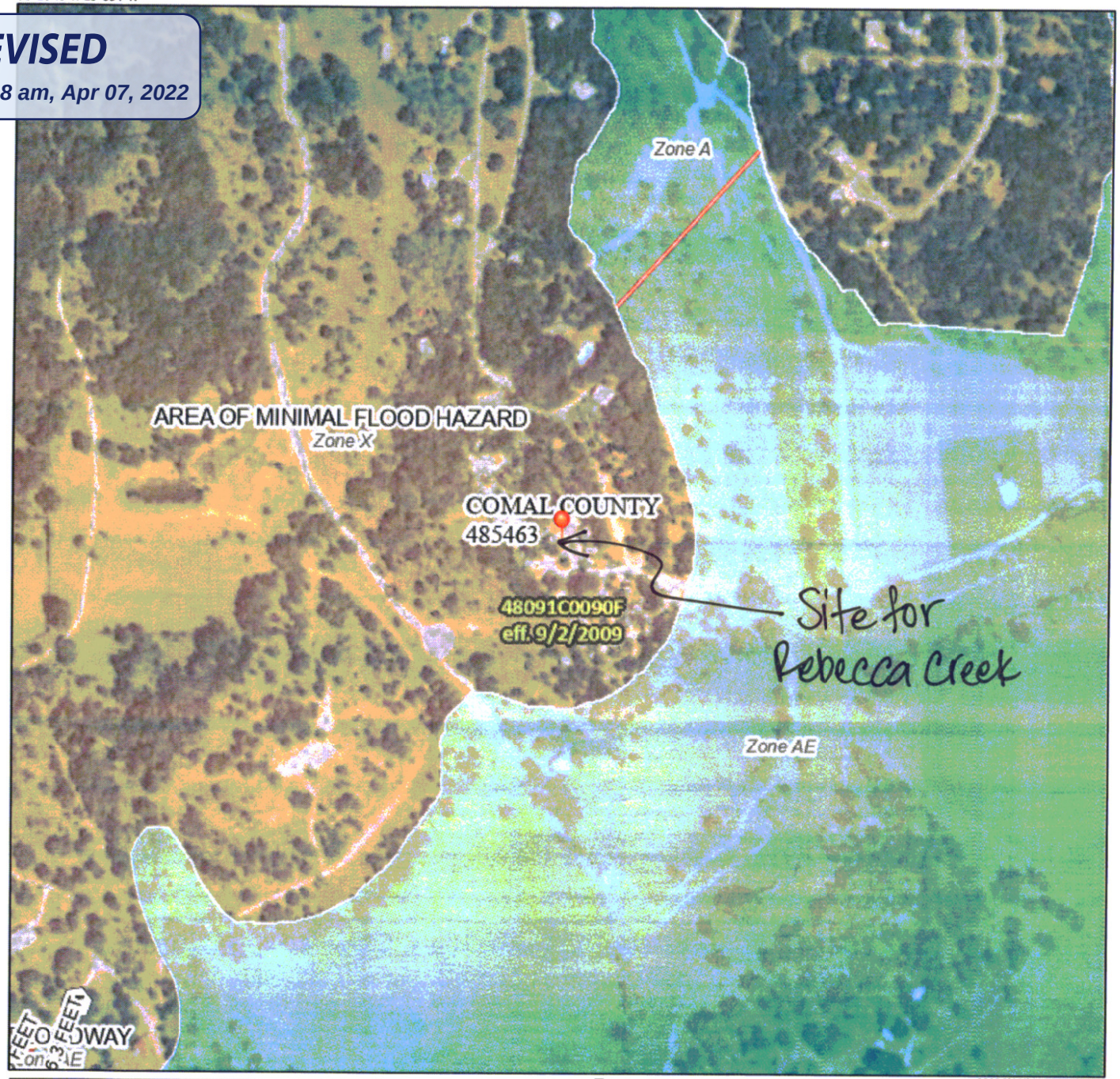
Data Zoom 14-3

National Flood Hazard Layer FIRMette

FEMA

98°20'48"W 29°55'7"N

REVISED
11:18 am, Apr 07, 2022



0 250 500 1,000 1,500 2,000 Feet 1:6,000

98°20'10"W 29°54'36"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/30/2021 at 4:13 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

My Title Company of Texas

GT# 2020248-RB

WARRANTY DEED WITH VENDOR'S LIEN

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OR ALL OF THE FOLLOWING INFORMATION FROM ANY INSTRUMENT THAT TRANSFERS AN INTEREST IN REAL PROPERTY BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

Date: April 15, 2021

Grantor: RAFAEL DE LEON, an unmarried man

Grantor's Address: 3660 Tanglewood Trl, Spring Branch, TX 78070

Grantee: REBECCA CREEK CAMPGROUNDS, LLC

Grantee's Address: 3660 Tanglewood Trl, Spring Branch, TX 78070

Consideration: TEN AND NO/100 DOLLARS ($10.00) and other good and valuable consideration, and a note of even date herewith, executed by Grantee, payable to the order of Grantor (the "Note"). It is secured by a vendor's lien retained in this deed and by a deed of trust of even date from Grantee to MATTHEW J. BADDERS, Trustee.

Property (including any improvements):

Tract 1: Being **14.23 acres** of land out of the Charles Murhardt Survey, Abstract No. 404, Comal County, Texas, and being further described by metes and bounds in **Exhibit "A"** attached.

Tract 2: Being **2.0 acres** of land out of the Charles Murhardt Survey, Abstract No. 404, Comal County, Texas, and being further described by metes and bounds in **Exhibit "B"**, attached.

Reservations from Conveyance; Exceptions to Conveyance and Warranty:

This conveyance is made and accepted subject to conditions, restrictions, and easements appearing of record, if any, in Comal County, Texas, which affect the hereinabove described property; and

Conveyance:

Grantor, for the Consideration and subject to the Reservations from Conveyance and Exceptions to Conveyance and Warranty, grants, sells, and conveys to Grantee the Property, together with all and singular the rights and

appurtenances thereto in any way belonging, to have and hold it to Grantee and Grantee's heirs, successors, and assigns forever. Grantor binds Grantor and Grantor's heirs and successors to warrant and forever defend all and singular the Property to Grantee and Grantee's heirs, successors, and assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to the Reservations from Conveyance and the Exceptions to Conveyance and Warranty.

The vendor's lien against and superior title to the Property are retained until each note described is fully paid according to its terms, at which time this deed will become absolute.

This conveyance is made **subject to** the prior lien ("Underlying Lien") of a deed of trust recorded as Instrument Number 201506025975, Real Property Records of Comal County, Texas, to EDWARD L. LETTE, Trustee thereunder, which secures payment of a promissory note ("Underlying Lien Debt") in the original principal amount of FOUR HUNDRED AND SIXTY-FIVE THOUSAND DOLLARS ($465,000.00). Grantee in this deed does not assume payment of that Underlying Lien Debt; provided, however, that any payments advanced by Grantee applied directly to the Underlying Lien Debt principal shall be applied to reduce the principal balance of the Note. As further consideration Grantor promises to keep and perform all of the covenants and obligations of the grantor named in the Underlying Lien deed of trust and to indemnify, defend, and hold Grantee harmless against any damages caused by Grantor's breach of its obligation under the Underlying Lien Debt and related documents, as long as Grantee is not in default on the Underlying Lien Debt and documents relating to it.

When the context requires, singular nouns and pronouns include the plural.

EXECUTED this the 15 day of April, 2021.

Rafael de Leon
RAFAEL DE LEON

STATE OF TEXAS §
BEXAR §
COUNTY OF ~~COMAL~~ §

This instrument was acknowledged before me on the 15 day of April, 2021, by RAFAEL DE LEON.

THERESA ANN WERNETTE
Notary Public, State of Texas
Comm. Expires 05-05-2022
Notary ID 5146360

Notary Public, State of Texas

Exhibit A

METES & BOUNDS DESCRIPTION

OF A 14.23 (CALLED 14.15) ACRE TRACT OF LAND OUT OF THE CHARLES MURHARDT SURVEY, ABSTRACT NO. 404, COMAL COUNTY, TEXAS, BEING THE SAME TRACT OF LAND AS DESCRIBED IN A DEED FROM ROEDERER ENTERPRISES, LLC TO RICHARD ROEDERER IN DOCUMENT NO. 200906004161, OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS, SAID TRACT BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING at a found ½" iron rod in the cul-de-sac of Tanglewood Trail (a 50' Public R.O.W.) for the most westerly northeast corner of the herein described tract, the southeast corner of Lot 1R and 5, Cypress Cove Subdivision Section One, as recorded in Vol. 1, Pg. 45, Map and Plat Records of Comal County, Texas, said rod being a point of curvature;

THENCE along and with a non-tangent curve to the left with the following parameters:

Radius: 67.00 feet
Arc Length: 130.98 feet
Chord Length: 111.10 feet
Chord Bearing: South 73°24'34" East
Delta Angle: 112°00'24"
To a set ½" iron rod for an angle point, the northwest corner of a 30' Ingress-Egress Easement as recorded in Vol. 296, Pg. 130, Deed Records of Comal County, Texas, the northwest corner of a called 1.31 acre tract as described in a deed to Chapel in the Cove recorded in Vol. 334, Pg. 331, Deed Records of Comal County, Texas;

THENCE along and with said easement, South 48°57'00" East, a distance of 35.73 feet to a set ½" iron rod for a point of curvature;

THENCE along and with a tangent curve to the left with the following parameters:

Radius: 221.50 feet
Arc Length: 93.17 feet
Chord Length: 92.48 feet
Chord Bearing: South 61°00'00" East
Delta Angle: 24°06'00"
To a set ½" iron rod for a point of reverse curvature;

THENCE along and with a tangent curve to the right with the following parameters:

Radius: 205.27 feet
Arc Length: 196.27 feet
Chord Length: 188.88 feet
Chord Bearing: South 45°39'30" East
Delta Angle: 54°47'00"
To a set ½" iron rod for a point of tangency;

THENCE continuing along and with said easement, South 20°25'31" East, a distance of 388.07 feet (called South 18°16'00" East, a distance of 399.55 feet) to a set ½" iron rod for an angle point of the herein described tract, a point in the north boundary line of Water Plant No. 1, as recorded in Vol. 296, Pg. 125, Deed Records of Comal County, Texas;

THENCE along and with the common boundary line of the herein described tract and said Water Plant No. 1, the following courses and distances:

South 61°41'00" West, a distance of 31.53 feet to a set ½" iron rod for an angle point of the herein described tract, the northwest corner of said Water Plant No. 1;

South 28°50'00" East, a distance of 59.77 feet to a set ½" iron rod for an angle point of the herein described tract, the southwest corner of said Water Plant No. 1;

North 62°20'00" East, a distance of 60.12 feet to a set ½" iron rod for an angle point of the herein described tract, the southeast corner of said Water Plant No. 1;

North 27°02'52" West, a distance of 60.46 feet to a set ½" iron rod for an angle point of the herein described tract, the intersection of said 30' easement and said Water Plant No. 1;

THENCE along the common boundary of the herein described tract and said 1.31 Acre Tract, the following courses and distances:

North 18°16'00" West, a distance of 139.52 feet to a found ½" iron rod for an angle point;

South 45°40'30" East, a distance of 57.57 feet (called South 45°39'00" East, a distance of 57.53 feet) to a found ½" iron rod for an angle point;

South 51°41'46" East, a distance of 107.75 feet (called South 51°48'00" East, a distance of 107.56 feet) to a found ½" iron rod for an angle point;

North 05°47'32" West, a distance of 113.27 feet (called North 05°53'40" West, a distance of 113.05 feet) to a found ½" iron rod for an angle point;

North 11°48'30" West, a distance of 143.52 feet (called North 11°43'40" West, a distance of 143.30 feet) to a found ½" iron rod for an angle point;

North 07°28'24" West, a distance of 190.98 feet (called North 07°27'40" West, a distance of 191.21 feet) to a found ½" iron rod for an angle point;

North 11°18'10" West, a distance of 183.08 feet (called North 11°20'40" West, a distance of 183.01 feet) to a found ½" iron rod for the most easterly northwest corner of the herein described tract, an angle point of said 1.31 Acre Tract;

North 89°29'40" East, a distance of 377.90 feet (called North 89°29'58" East, a distance of 378.05 feet) to a found pipe for the northeast corner of the herein described tract, the most easterly southeast corner of said 1.31 Acre Tract, a point in the banks of the Guadalupe River (Canyon Lake);

THENCE along and with the meanders of said River, the following courses and distances:

South 00°31'15" East, a distance of 250.63 feet (called South 00°30'00" East, a distance of 250.48 feet) to a found concrete monument for an angle point;

South 09°59'06" East, a distance of 550.91 feet (called South 09°59'33" East, a distance of 550.70 feet) to a found ½" iron rod for the southeast corner of the herein described tract;

South 78°35'52" West, a distance of 60.88 feet to a point of reference for an angle point;

South 59°51'12" West, a distance of 527.23 feet (called South 59°48'24" West, a distance of 527.36 feet) to a found ½" iron rod for the southwest corner of the herein described tract, the most easterly corner of Lot 123, Cascada at Canyon Lake Unit 2, as recorded in Doc. No. 201203035725, Official Public Records of Comal County, Texas;

THENCE with the common boundary of the herein described tract and said Cascada Tract, North 33°44'42" West, a distance of 663.84 feet (called North 33°45'26" West, a distance of 663.95 feet) to a found ½" iron rod for an angle point;

THENCE continuing along and with said boundary, North 29°11'00" West, a distance of 513.55 feet (called North 29°11'00" West, a distance of 513.74 feet) to a found 60d nail for the northwest corner of the herein described tract, the southwest corner of said Lot 1R and Lot 5, Cypress Cove Section One;

THENCE along and with the common boundary of the herein described tract and said Lot 1R and 5, North 89°58'56" East, a distance of 166.95 feet (called East, a distance of 167.08 feet) to the **POINT OF BEGINNING** and containing 14.23 acres, more or less.

STATE OF TEXAS §

June 25, 2015

COUNTY OF BEXAR §

It is hereby certified that the above description was prepared from an actual survey on the ground of the described tract made under my supervision.

Roy John Ronnfeldt,
Registered Professional Land Surveyor
Registration No. 3520

EXHIBIT "B"

FIELD NOTES DESCRIBING
2.0 ACRES OF LAND
IN COMAL COUNTY, TEXAS

Being 2.0 acres of land situated within the Charles Murhardt Survey Number 48, Abstract 404, Comal County, Texas. Said 2.0 acres of land being that same property, called Tract 2, as described in Warranty Deed of Assumption dated September 13, 1983, Grantor: Howard D. Spandau, Grantee: James R. Borlack and wife, Celia G. Borlack, recorded in volume 352, page 17 of the Deed Records of Comal County, Texas. A plat of survey has been prepared to accompany these field notes. The bearings recited herein are based on the hereinabove Tract 2 recorded in volume 352, page 17. Said 2.0 acres of land being more particularly described as follows:

BEGINNING at a found iron pin being the northwest corner of this herein described 2.0 acres of land, from which a found iron pin being the west corner of Lot 82, Cypress Cove Subdivision, Section 5, bears, as a reference, North 30°18'22" West, 731.34 feet. Said Cypress Cove Subdivision, Section 5, being as recorded in volume 1, page 77 of the Map and Plat Records of Comal County, Texas;

THENCE North 87°00'16" East, 298.86 feet to a found iron pin being the northeast corner of this herein described 2.0 acre tract of land;

THENCE South 02°44'09" East, (record bearing South 02°59'30" East), 220.89 feet to a found iron pin being the southeast corner of this herein described 2.0 acre tract of land;

THENCE South 53°12'59" West, 69.96 feet to a found iron pin;

THENCE South 66°59'51" West, (basis of bearings), 256.34 feet to a found iron pin being the southwest corner of this herein described 2.0 acre tract of land;

THENCE North 02°48'19" West, (record bearing North 02°59'30" West), 347.50 feet to the Place of Beginning and containing 2.0 acres of land in Comal County, Texas according to an actual survey made on the ground under my supervision on April 14, 2004.

FILED AND RECORDED

Instrument Number: *201506025974*

Recording Fee: 54.00

Number Of Pages: 9

Filing and Recording Date: 07/01/2015 3:53PM

Deputy: KELLI JOHNSTON

I hereby certify that this instrument was FILED on the date and time stamped hereon and RECORDED in the OFFICIAL PUBLIC RECORDS of Comal County, Texas.

COUNTY COURT OF COMAL COUNTY, TEXAS

Bobbie Koepp

Bobbie Koepp, County Clerk
Comal County, Texas

NOTICE: It is a crime to intentionally or knowingly file a fraudulent court record or instrument with the clerk.

DO NOT DESTROY - *Warning, this document is part of the Official Public Record.*

Filed and Recorded
Official Public Records
Bobbie Koepp, County Clerk
Comal County, Texas
04/23/2021 04:14:52 PM
KATB 8 Pages(s)
202106021927

Bobbie Koepp

Luna Environmental
4222 FM 482
New Braunfels, TX 78132

(830) 312-8776

sherrie@lunaenvironmental.com

System #4

Printed:6/21/2023

Permit: 113611

Site: 3660 Tanglewood Trail, Spring Branch, TX 78070

Main Phone: 8308854035

Michelle Wertheim
3660 Tanglewood Trail
Spring Branch, TX 78070

Agency: Comal County
County: Comal

System Info: MFG: Brand:
Treatment Type: Aerobic
Disposal Type: Drip Emitters
Customer ID: 8512
Insp ID: 29340

Visit Details <--------->

Visit Date: 6/15/2023
Entered By: Nicole Loria
Scheduled Date:
Contract Starts:
Entered On: 6/21/2023
Contract Ends:

Visit Results

Service Type: Initial Inspection

Method: Grab
License #
Expires
Technician: Ryan Seidensticker
Provider: Luna Environmental, LLC
☑ Service Completed

Aerators: Operational
Filters: Operational
Irrigation Pumps: Operational
Disinfection Device: Operational
Sludge Level Tank 1: 12
Sludge Level Tank 2: N/A
Sludge Level Tank 4: 4

Tank Lid / Riser: Secured
Insp. Port / Plug: Secured
Electric Circuits: Operational
Distribution System: Operational
Drip/Sprayfield Veg: Operational

Alarm: Operational
PSI Pressure: 2.2

Comments

- Scum on pretreatment 4 -showed maint man how to clean filter and backwash field-checked complete system -Previous company had Timer set for 1 time for 10min a day, reset for every 2 hours- Technician Secured the Tank Lid and/or Riser prior to leaving location. - Inspection Port Plug was noted as Secured prior to leaving. - Copy emailed to the customer on 6/21/2023.

Luna Environmental Service Agreement

(Formerly AMS & PS Septic Supply)

Agreement

I. General: This work for Hire Agreement (hereinafter referred to as "Agreement") is entered into by and between the Client and Luna Environmental, LLC (hereinafter referred to as Contractor), located at 4222 FM 482 New Braunfels, Texas 78132, (830-312-8776) or (830-850-0080). By this agreement, Contractor agrees to render services, as described herein, and Client agrees to fulfill his/her/ their responsibilities under the agreement as described herein.

II. Effective Dates: If this is an Initial Install Contract, the contract will be for three years and BEGINS when the License To Operate (LTO) has been issued. A 30-day written notice is required if there is a cancellation before the year of the agreement is up. The written notice will be sent to the local regulatory Agency and any of the agreement unused funds is non-refundable.

III. Contractor or Client, if choosing to terminate the contract, must give the other party and the local regulatory Agency written notice Thirty (30) Days prior to the ending of the Contract.

IV. Services by Contractor: Contractor will provide the following services (Referred to as the "Services").

1. In compliance with the Local Regulatory Agency and Manufacture's requirements, inspect and perform routine maintenance and upkeep on all parts within the On-Site Sewage Facility (hereafter referred to as the "OSSF") three times per year. The contractor does not provide chlorine. Client is solely responsible for maintaining the chlorine in the chlorinator at all times.
2. Contractor will provide a weatherproof tag on the control panel containing company name, phone number and inspection dates.
3. Contractor will do inspections 3 times a year, every 4 months.
4. Contractor will report all findings to the appropriate regulatory and authority and to the Client, as required by both the State's On-Site rules and the local Agency's rules. All findings must be reported to local Agency's within 14 days, email is acceptable.
5. The contractor's inspection will include the following: Effluent Quality (Color, Turbidity, overflow and Odor), Alarm Function Filters, Operation of Effluent Pump and Chlorine Availability in the

Chlorinator, (BOD and TSS Annually on Commercial Accounts, Client is responsible for charges for test)

6. Contractor will respond to client calls and complaints, regarding visual or audible alarms, suspicious conditions and or problems that might confront the Client within 48 hours, excluding weekend and holidays. The Contractor will maintain a 24-hour answering service at 830-312-8776. The unscheduled responses may be billed to the client at a going rate.

V. Clients Responsibilities:

1. Maintain Chlorinator and Proper Chlorine supply, if OSSF is equipped with.
2. Provide all necessary lawn or yard maintenance and remove all obstacles, including dogs and other animals as needed to allow the OSSF to function properly and to allow the Contractor easy and safe access to all parts of the OSSF.
3. Immediately notify the Contractor of any alarms or problems with, including failure of the OSSF.
4. Provide for pumping of the tanks, generally every 3 years or as suggested by the Contractor at Clients own expense.
5. Upon receiving a written notification of services needed from the Contractor, it becomes the Client's responsibility to contact the Contractor to authorize the service.
6. Contractor will not be responsible for any warranty work; Client must contact the Installer for Warranty Problems.
7. Not allow the backwash from water treatment of water conditioning equipment to enter the OSSF.
8. Maintain site drainage to prevent adverse effects on OSSF.
9. Promptly and fully pay Contractor’s Bills, Fees or invoices as described herein.

VI. Contractor will schedule with client, dates to perform the above-described Services of repairs. If Contractor is not able to access the site on the date of appointment, a charge of $75.00 will be billed if the inspection for repairs is not able to be completed and are required to be scheduled on another date. The contractor requires access to the OSSF electrical and physical components, including tanks, by means of man ways or risers for the purpose of evaluation of system and equipment as required by the manufacturer and /or rules. If such man ways or risers are not in place, excavation together with other labor and materials will be required and be billed to the Client an additional service at a rate of $75.00 per hour plus materials billed at list process. Excavated soil is to be replaced as best as reasonably possible.

VII. Payments: The fee for this agreement only covers the Services described herein. This fee does not cover equipment or labor supplied for non-warranty repairs or for charges for unscheduled Client request trips to the Client's site of pumping of the OSSF. Payments not received within 30 days from the date will be subject to a $30.00 late penalty and or a 1.5% carrying charge, whichever is greater, in addition to reasonable attorney's fees. All cost of collection incurred by contractor in collection of any unpaid debt. By signing this contract, the Client is authorizing the Contractor to remove any parts which were installed but not paid for at the end of 30 days. The Client is still responsible for any labor costs associated with the installation and removal of said parts. Invoice due when service is completed. The contract fee is $450.00.

VIII. Severability: If any provision of this agreement shall be considered to be invalid or unenforceable for any reason the remaining provisions shall continue to be held valid and enforceable. If a court finds that any provision of the agreement is invalid or unenforceable, by limiting such provision it would become valid and enforceable, then such provision shall be deemed to be written, construed and enforced as so limited.

Client

Print Name: Rebecca Creek Campgrounds

Signature: DocuSigned by: C7EC28FE1F3D4CA...

Client Address: 3660 Tanglewood Trail Spring Branch, TX 78070

Client Phone Number: 830-885-4035

Email Address: rebeccacreekcampgrounds@gmail.com

Contractor Luna Environmental LLC:

MP Signature: Ryan Seidensticker

MP NUMBER: 0001708

Contract Date: 06/15/2023 to 06/15/2025 County: Comal

Permit #: 113611

Luna Environmental
9595 Ranch Rd 12
Wimberley, TX 78676
(855) 560-9909

BILL TO:

Rebecca Creek Campgrounds
3660 Tanglewood Trail
Spring Branch, TX 78070
United States

SHIP TO:

Rebecca Creek Campgrounds
3660 Tanglewood Trail
Spring Branch, TX 78070
United States

Billing Type	Invoice
Billing Number	00005068
PO Number	Repair
Billing Date	2/29/2024
Billing Due Date	2/29/2024
Billing Terms	Due upon receipt
Amount Due	**$771.56**

PAY ONLINE

ITEM	DESCRIPTION	QUANTITY	UNIT PRICE	SUB-TOTAL	TAX AMOUNT	TOTAL
Labor	Service Call	1.00	$95.00	$95.00	$0.00	$95.00
Parts	Spray pump	1.00	$625.00	$625.00	$51.56	$676.56

Sub-Total	**$720.00**
Sales Tax	**$51.56**
Total	**$771.56**
Amount Paid	($0.00)
Credit Amount	($0.00)
Amount Due	**$771.56**

Please make checks payable to:

Luna Environmental, LLC
9595 Ranch Rd 12
Wimberley, TX 78676

Account & Contact Information

Account	Rebecca Creek Campgrounds	Prepared By	Sherrie Vukela
Phone	(830) 222-6003	Phone	(855) 560-9909
Address	3660 Tanglewood Trail Spring Branch, TX 78070 United States	Company Address	9595 Ranch Rd 12 Suite #1 Wimberley, TX 78676

System Details

Asset	Rebecca Creek Campgrounds # 1	Description	

Appointment Information

Scheduled Start	6/4/2025, 10:54 AM	Appointment Number	SA-43921
Subject	Repair	Description	Check system -

Work Details

Work Type	Service Call	Work Order Number	00180339

Service Results

System 1 (the closest system to the front of the property) is the reason we were called out. The county inspector came by on a nuisance call from the nearby church. System 1 was overflowing onto the church property. County inspector also noted that many lids were missing screws.
Upon arrival, customer had already pulled out and cleaned filters, allowing to the system to pump down and resume normal activity. I confirmed that floats and timer were functional as well. If drainage problem persists (assuming the clogged filters were not the culprit), the reason will be due to drain field lines running to close to the road. This means the solution will be to re position and design the drain field.

System 2 is in the middle of the rv park. System 2 has no power running to the EQ tanks control panel. Determined problem to be a resulted of blown wiring inside the conduit. Customer confirmed that they reached out to an electrician and will run new power lines to control panel to fix problem.

System 3 is the bottom left system on the topography map listed in county permit records. This system was off upon arrival. It was determined that some of the local kids turned system off on accident. Upon supplying power to system, noted that filters were clogged. Drip filter was cleaned. Pump filter still needs to be pulled out and cleaned. Customer confirmed that they are going to use a sump pump to get water levels down so they can pull out and clean pump

filter.

System 4 is bottom right on topography map.
Nothing notably wrong with system 4 at the moment.

Service fee
95$

Next inspection should be due in July/august.

Services

Service	Subject	Description	Quantity	Unit Price	Total Price
Service Call	Service Call	System 1 (the closest system to the front of the property) is the reason we were called out. The county inspector came by on a nuisance call from the nearby church. System 1 was overflowing onto the church property. County inspector also noted that many lids were missing screws. Upon arrival, customer had already pulled out and cleaned filters, allowing to the system to pump down and resume normal activity. I confirmed that floats and timer were functional as well. If drainage problem persists (assuming the clogged filters were not the culprit), the reason will be due to drain field lines running to close to the road. This means the solution will be to re position and design the drain field. System 2 is in the middle of the rv park. System 2 has no power running to the EQ tanks control panel. Determined problem to be a resulted of blown wiring inside the conduit. Customer confirmed that they reached out to an electrician and will run new power lines to control panel to fix problem. System 3 is the bottom left system on the topography map listed in county permit records. This system was off upon arrival. It was determined that some of the local kids turned system off on accident. Upon supplying power to system, noted that filters were clogged. Drip filter was cleaned. Pump filter still needs to be pulled out and cleaned. Customer confirmed that they are going to use a sump pump to get water levels down so they can pull out and clean pump filter. System 4 is bottom right on topography map. Nothing notably wrong with system 4 at the moment.	1.00	$95.00	$95.00

Parts & Material

Product	Description	Quantity	Unit Price	Subtotal	Tax Amount	Total

Total Services	$95.00
Total Parts/Materials	$0.00
Total	$95.00

Customer Signature

Signature

Signed By

Type Customer

Date

Ph: (210)330-8402
Ph: (210)919-0170

Maintenance Contract

THIS CONTRACT is made and entered into on July 8th 2025, by and between Valdes Drilling LLC (the "Service Company"), whose address is 11235 US HWY 181 S, San Antonio, Texas 78223 and Rebecca Creek Campgrounds ("Customer"), whose address is 3660 Tanglewood Trl, Spring Branch TX 78070. System #4 (113611)

WHEREAS Service Company is a company engaged in the business of servicing and maintaining Commercial and residential septic installations, and maintenance providing tanks. and is willing to provide such services to Customer as per the terms herein.

1. 12 inspections a year/service calls (at least one every month), for a total of 12 over the one yearnperiod including inspection, adjustment and servicing of the mechanical, electrical and other applicable component parts to ensure proper function. This includes inspecting the control panel, air pumps, air filters, diffuser operation. Any alarm situation affecting the proper function of the Aerobic process will be addressed within a 48-hour time Frame. Repair work on non-warranty parts will include price for parts & labor. The prices will be quoted before the work is performed.

2. An effluent quality inspection consisting of a visual check for color, turbidity, scum overflow and examination for odors.

3. If any improper operation is observed, which cannot be corrected at the time of the service visit, you will be notified immediately in writing of the conditions and estimated date of correction.

5. Any additional visits, inspections or sample collection required by specific Municipalities, Water/River Authorities, and County Agencies the TCEQ or any other authorized regulatory agency in your jurisdiction will be covered by this policy.

IMPORTANT: The Homeowners Manual must be strictly followed or warranties are subject to invalidation. Pumping of sludge build-up, repairs/ labor and materials, or any abuse of the system is not covered by this policy and will result in additional charges.

ACCESS BY CONTRACTOR

The Contractor Or anyone authorized by the Contractor may enter the property at reasonable times without prior notice for the purpose of the above described Services. The contractor may access the System components including the tanks by means of excavation for the purpose of evaluations if necessary.

2. Trained Employees

Trained personnel directly employed and supervised by the Service Company will perform all services required by the terms of this Contract. The Service Company agrees that each of its employees will be properly qualified and will use reasonable care in the performance of his or her duties.

3. Working Hours

(a) The services required of the Service Company under this Contract, including emergency service, shall be performed during the regular working hours of its regular working days, consisting of Monday to Saturday, Anytime, except as provided in (b) immediately below.

(b) If the Customer requests that the Service Company perform any of its services at times other than during its regular working hours, then for the services performed outside the regular working hours ("overtime hours"), the Customer shall be charged at $200.00 per hour as adjusted periodically to compensate for changes in the cost of labor.

4. Contract Price

(a) The Customer shall pay the Service Company at the rate of $950.00 (one time payment). for the one year of service to be performed under this Contract.

(b) The amount specified in (a) above shall be adjusted annually to reflect any changes in the Service Company's cost of labor. 0 percentage of the contract price shall be increased or decreased on each anniversary of the commencement date of service under this Contract with the percentage of increase or decrease in the straight-time hourly cost (which means the straight-time hourly labor rate, including fringe benefits) for the month within which the anniversary of the commencement of service under this Contract falls as compared with the straight-time hourly cost for the month within which the commencement date of service under this Contract falls.

(c) The amount specified in (a) above shall be adjusted annually to reflect any changes in the costs of the parts, equipment, and materials supplied by the Service Company under this Contract. 5 percentage of the contract price shall be increased or decreased on each anniversary of the commencement date of service under this Contract by the percentage of increase or decrease in the costs of the parts, equipment, and materials.(d)

6. Term of Contract

The term of this Contract shall commence on the start date of signature date and shall continues in full force and effect until it is terminated. Either party, by giving 7 days' written notice to the other party, may terminate this Contract either at the completion. or at the end of any subsequent year. In any event, this Contract shall be in effect for a minimum of 1 year.

7. Miscellaneous Provisions

(a) Applicable Law: This Contract shall be construed under and in accordance with the laws of the Texas, and all obligations of the parties created under this Contract are performable in Comal County, Texas.

(b) Parties Bound: This Contract shall be binding on and inure to the benefit of the parties to this Contract and their respective heirs, executors, administrators, legal representatives, successors and assigns as permitted by this Contract.

(c) Legal Construction: In the event any one or more of the provisions contained in this Contract shall for any reason be held invalid, illegal, or unenforceable in any respect, that invalidity, illegality, or unenforceability shall not affect any other provision. This Contract shall be construed as if the invalid, illegal, or unenforceable provision had never been contained in it.

(d) Prior Contracts Superseded: This Contract constitutes the sole and only Contract of the parties and supersedes any prior understandings or written or oral Contracts between the parties respecting the subject matter of this Contract.

(e) Amendments. This Contract may be amended by the parties only by a written Contract.

(f) Attorneys' Fees: If any action at law or in equity is brought to enforce or interpret the provisions of this Contract, the prevailing party will be entitled to reasonable attorneys' fees in addition to any other relief to which that party may be entitled.

8. Signatures

This Contract shall be signed on behalf of Valdes Drilling LLC by Julio Valdes #MP0002736, its Owner, and on behalf of Rebecca Creek Campgrounds, Property Owner: Michelle.

SERVICE COMPANY

Valdes Drilling LLC

By: _____

Julio Valdes #MP0002736, its Owner

Date: 7-8-2025

CUSTOMER

Michelle Wertheimer

By: _____

Rebecca Creek Campgrounds , its Property Owner

Date: 7-8-25