Condition #39
Water Use Reduction Plan

Condition
The applicant shall submit a Water Use Reduction Plan for review and approval by the Design Review Commission and Planning Commission. The Plan shall reduce residential water use by a minimum of 33% as compared to the average daily water use for a single-family residence in the EBMUD service area from 2005-2015. The target goal shall be to reduce domestic water use by 50% against the same comparator. The Plan shall also include graywater capture to flush toilets or irrigate landscaping in common areas throughout the project (public and private). The project relies heavily on landscape screening for substantially concealment. Water supply for landscaping may be further restricted in light of the current or future drought and projections for diminishing snow pack. The goal is to establish an ongoing, reliable water supply for irrigating the project through graywater capture, reclaimed water or alternate means other than the potable water supply.

Summary
The Homes at Deer Hill is projected to reduce water consumption by 51% when compared to an average single-family home within the EMBUD water service area. The reduction will be accomplished by a combination of efficient interior plumbing fixtures, low water demand landscaping, water efficient irrigation and the use of greywater for irrigation.

Compliance
Average EBMUD daily water use: 265 GPD (source: Charles Bohlig, EBMUD)

Usage Goal: 133 GPD (265 x 50%)

Projected Interior Use: 113 GPD (see Exhibit A)

Annual Landscape Water Use: 390,000 GPY (see Exhibit B)

Greywater Applied to Landscape: 125,000 GPY (see Exhibit C)

Net Landscape Water Use: 265,000 GPY or 17 GPD per Home

Average EBMUD Single Family Home Water Use: 265 GPD
Projected Homes at Deer Hill Water Use: 130 GPD (113 + 17)

Projected Water Use Reduction: 51%

harris & sloan

2295 Gateway Oaks Dr., Sacramento, CA 95833
tel. 916.921.2441, toll free 800.877.1430, fax 916.921.2878
www.harrisandsloan.com

Structural &
Mechanical
Engineers

March 8, 2016

David R. Baker
O'Brien Homes
3572 Mount Diablo Blvd., Ste #133
Lafayette, CA 94549

RE: Deer Hill Water Savings Calculations

The information contained within this report is provided in effort to show residential water savings compared to homes built between 2005-2015 as required per the Conditions of Approval:

Water Use Reduction Plan –
The applicant shall submit a Water Use Reduction Plan for review and approval by the Design Review Commission and Planning Commission. The Plan shall reduce residential water use by a minimum of 33% as compared to the average daily water use for a single-family residence in the EBMUD service area from 2005-2015. The target goal shall be to reduce domestic water use by 50% against the same comparator. The Plan shall also include graywater capture to flush toilets or irrigate landscaping in common areas throughout the project (public and private). The project relies heavily on landscape screening for substantially concealment. Water supply for landscaping may be further restricted in light of the current or future drought and projections for diminishing snow pack. The goal is to establish an ongoing, reliable water supply for irrigating the project through graywater capture, reclaimed water or alternate means other than the potable water supply.

The condition references minimum and target water savings, but does not include a baseline from which to measure. Our office has used information provided by Charles Bohlig, Supervisor of water Conservation at EBMUD.

Water Savings Calculations assume a minimum 33% reduction is required to come from total water usage, indoor and outdoor. Our calculations provide average water usage for indoor fixtures and the resultant available water for outdoor use (shown at 33% and 50% savings). A Landscape Consultant or other qualified consultant shall provide outdoor usage calculations showing that equal or less water is used.

Sincerely,

Shawn Mayer
Harris & Sloan

harris & sloan

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tel. 916.921.2441, toll free 800.877.1430, fax 916.921.2878
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Assumed Residential Water Usage per CPC:

CPC L 801.0 Method of Calculating Water Savings: water use = (flow rate or consumption) X (duration) X (occupants) x (daily uses)				
baseline:				
toilet	1.6 gpf	1 flush	1 use male and 3 uses female	1 persons for master br and 1 person for each additional room
shower Head	2.5 gpm @ 80 psi	8 minutes	1 daily use per person	2 persons for master br and 1 person for each additional room
Lav Faucet	2.2 gpm @ 60 psi	0.25 minutes	4 daily use per person	3 persons for master br and 1 person for each additional room

Residential Water Fixture Limits (maximum flow) per 2013 CPC:

Residential Service - CGBSC 2013 - New Developments or additions:			
toilet	1.28	g/f	average flush
shower head	2	gpm	
Lav faucet	1.5	gpm	
Kitchen Faucet	1.8	gpm	
Clothes Washing	14	g/cf laundry	
Dishwasher	5	g/cy	std size

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Baseline Calculations per Proposed Design:

water savings calculator - Proposed design					
fixture	consumption	daily uses	duration	occupants	daily use
Toilet	1.28	5	1	3	19.2
Lavatory	1.5	8	0.25	3	9
Kitchen sink	1.8	6	0.25	3	8.1
Shower	2	1	8	3	48
Clothes washer	14	0.5	1	3	21
Dishwasher	5	0.5	1	3	7.5
Landscape/Outdoor**	64	-	-	-	64
*** = Proposed usage info to be provided by others*			Total Daily Volume (gallons):		176.8

EBMUD Typical Usage vs Proposed Design:

EBMUD average household use	265 gpd*	percent reduction:	33.28%
* = Based on information provided by Charles Bohlig, Supervisor of Water Conservation for EBMUD			

Proposed Design Notes:

1. All indoor fixtures based on typical 2013 Cal Green flow rates. Any fixtures may be used, provided flow rates do not exceed those listed on page 2 of this document.

2. Assumed average household is 2.8 people based on US census data, this has been rounded up to 3 for proposed design. Average usage provided by EBMUD as noted above.

3. Landscape/Outdoor usage shown above is maximum usage to meet 33% savings. Decreasing this to 19.5 gallons per day will result in 50% savings.

4. Estimated percentage reduction is intended to be the "worst case" or minimum savings, per Charles Bohlig the typical single family residential home uses between 35-50 gallons per day, per person, therefore it can be assumed that the majority of homes within this project will also use less than the total daily use shown.

GATES +ASSOCIATES LANDSCAPE ARCHITECTURE · LAND PLANNING · URBAN DESIGN

March 11, 2016

Re: The Homes at Deer Hill- Residential

To whom it may concern,

The annual irrigation water usage in our water calculation worksheet is based on our assumptions per the total landscape areas of the front yard for 44 lots. The water calculation worksheet was prepared our by irrigation consultant, Jeff Bradshaw. A water efficient landscape worksheet shall be included with hydrozone information table, water budget calculations and irrigation operation schedules.

Sincerely,

David Gates
Owner

2671 Crow Canyon Road San Ramon, California 94583 T 925.736.8176 www.dgates.com

Water calculation worksheet for the Model Water Efficienct Landscape Ordinance AB 1881

Typical front yard landscape irriagtion - Deer Hill

Total Landscape Area (sf)	44,000			KL	Landscape Coefficient				Eto	Referenced Evapotranspiration Rate		
Special Landscape Area (SLA) (Turf areas dedicated to play)	0			Ks	Species Factor				ETAF	ET Adjustment factor		
Historical Eto for project city	42.0			Kd	Density Factor				LA	Total Landscape area		
Turf Rotor Efficiency	0.75			Kmc	Microclimate Factor				0.62	Conversion factor to gallons		
Flood bubbler Irrigation Efficiency	0.81			IE	Irrigation Efficiency				SLA	Special Landscape Area		
Spray irrigation Efficiency	0.75								PR	Precipitation rate		
Drip Irrigation Efficiency	0.81			MAWA = (ETo)(0.62)[0.7 x LA + 0.3 x SLA]					PSI	Operating pressure required		
Stream Spray Efficiency	0.75								H	High water use plants		
				ETWU = (ETo)(0.62) [(PFxHA / IE) + SLA]					M	Medium water use plants		
Maximum Applied Water Use (MAWA)									L	Low water use plants		
	Eto			Conversion	ETAF	LA	1-ETAF		SLA			Gallons per year
Total landscape area	42.0			0.62	0.55	44,000	0.45		0			630,168
MAXIMUM APPLIED WATER ALLOWANCE												**630,168**

Estimated Total Water Use (ETWU)

	Plant type	Hydrozone	Irrigation method	Area (sf)	% of LA	PR	Eto	Ks	Kd	Kmc	KL	IE	Conversion	Gallons per year
	Trees	M	Bubbler	1,760	4.0%	3"	42.0	0.5	1	1	0.5	0.9	0.62	25,461
	Shrubs	L	Bubbler	11,440	26.0%	1.5"	42.0	0.3	1	1	0.3	0.9	0.62	99,299
	Groundcover	L	Subsurface Dripline	30,800	70.0%	.96"	42.0	0.3	1	1	0.3	0.9	0.62	267,344

Total area	44,000	
TOTAL WATER APPLIED		392,105
Difference between MAWA & ETWU		**238063**
% ETWU is under MAWA		38%

NOTE: THE ANNUAL IRRIGATION WATER USAGE IN THE AREA INDICATED FROM THE ATTACHED EXHIBIT.

DEER HILL RD

DEER HILL ROAD

DEER HILL ROAD

HIGHWAY 24

PLEASANT HILL ROAD

ACALANES AVENUE

SOCCER FIELD

PARKING

LOT 1 FF 414.5 PAD 413.5
LOT 2 FF 418 PAD 417
LOT 3 FF 416 PAD 415
LOT 4 FF 425 PAD 424
LOT 5 FF 422 PAD 421
LOT 6 FF 419 PAD 418
LOT 7 FF 425 PAD 424
LOT 8 FF 422 PAD 421
LOT 9 FF 421 PAD 420
LOT 10 FF 420 PAD 419
LOT 11 FF 429 PAD 428
LOT 12 FF 428 PAD 427
LOT 13 FF 426 PAD 425
LOT 14 FF 432 PAD 431
LOT 15 FF 430 PAD 429
LOT 16 FF 430 PAD 429
LOT 17 FF 427 PAD 426
LOT 18 FF 433 PAD 432
LOT 19 FF 432 PAD 431
LOT 20 FF 431 PAD 430
LOT 21 FF 428 PAD 427
LOT 22 FF 433 PAD 432
LOT 23 FF 433 PAD 432
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LOT 39 FF 423 PAD 422
LOT 40 FF 425 PAD 424
LOT 41 FF 427 PAD 426
LOT 42 FF 428 PAD 427
LOT 43 FF 428 PAD 427
LOT 44 FF 427 PAD 426

F C4.5
C C4.4
D C4.4
E C4.5
B C4.4
A C4.4
H C4.5
G C4.5

TREE LEGEND

- (E) TREE PER SURVEY
- (E) TREE TO BE REMOVED

NORTH

GRAPHIC SCALE
60 0 60 120

BKF
ENGINEERS | SURVEYORS | PLANNERS
1646 NORTH CALIFORNIA BLVD
SUITE 400
WALNUT CREEK, CA 94596
925-940-2200
925-940-2299 (FAX)

THE HOMES AT DEER HILL
TRACT #9369 VESTING TENTATIVE MAP
OVERALL GRADING PLAN

CITY OF LAFAYETTE CONTRA COSTA COUNTY CALIFORNIA

No.	Revisions

Date: 7/16/15
Scale: AS SHOWN
Design: KW
Drawn: WC
Approved: CM
Job No: 20115003

Drawing Number:
C4.0
7 OF 14

Exhibit C
Greywater Available for Landscape

Fixture	Daily Use	
Lavitory	9	
Shower	48	
	57	GPD per Home
Homes	6	
Daily	342	GPD*
Days	365	Days
Total	124,830	GPY

* Sytem Capacity is 400 GPD

Nexus eWater
104 East Avenue K-4, Suite D
Lancaster, CA 93535
Phone: 877-486-9797

	NAME	DATE
DRAWN	Andrew Hermann	April 30, 2015
CHK'D	Tom Wood	April 30, 2015

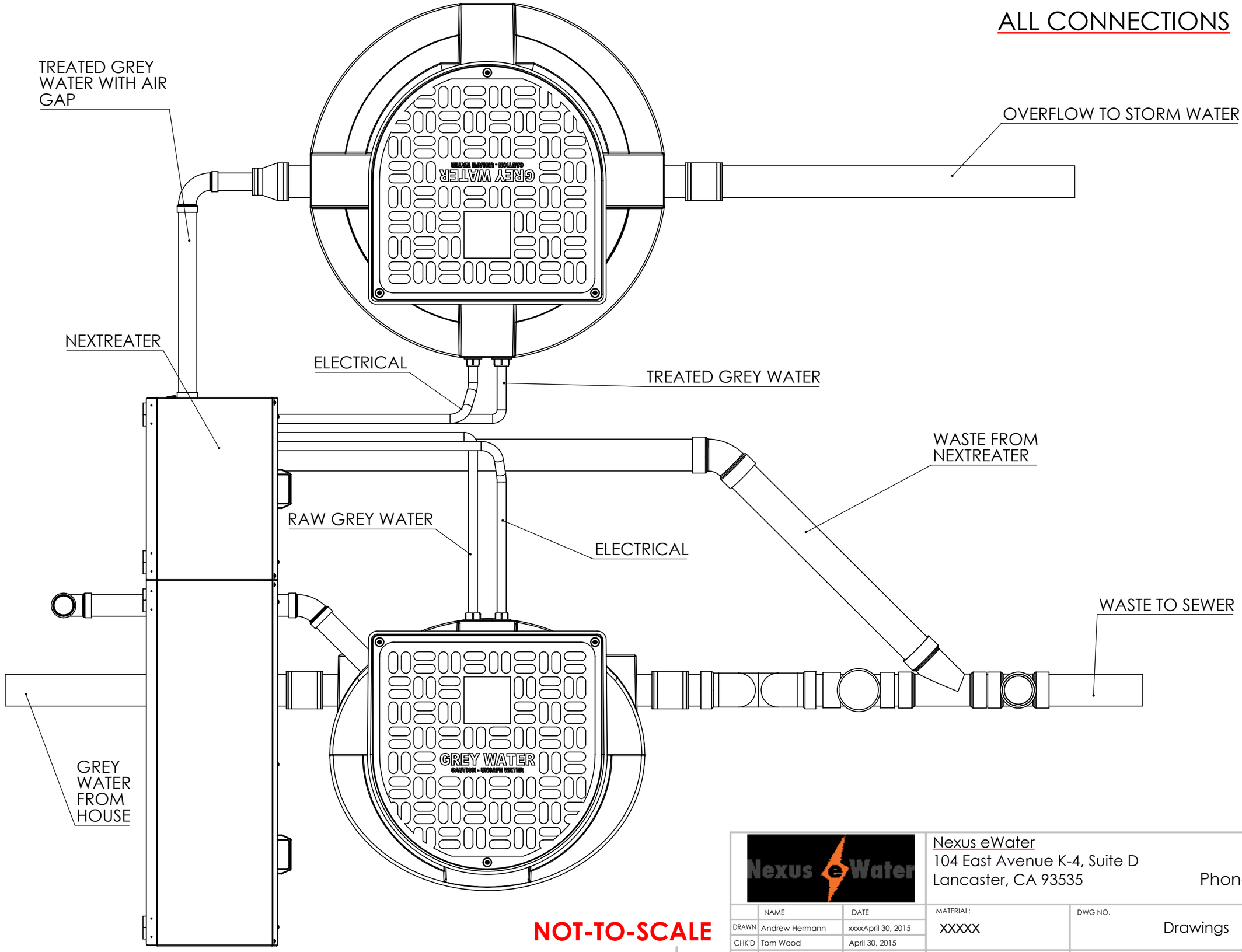
MATERIAL: XXXXX

DWG NO. Drawings

A3

DO NOT SCALE DRAWING | SCALE:1:20 | SHEET 1 OF 9

ALL CONNECTIONS



NOT-TO-SCALE

Nexus eWater
104 East Avenue K-4, Suite D
Lancaster, CA 93535
Phone: 877-486-9797

	NAME	DATE
DRAWN	Andrew Hermann	xxxxApril 30, 2015
CHK'D	Tom Wood	April 30, 2015

MATERIAL:	DWG NO.	
xxxxx	Drawings	A3

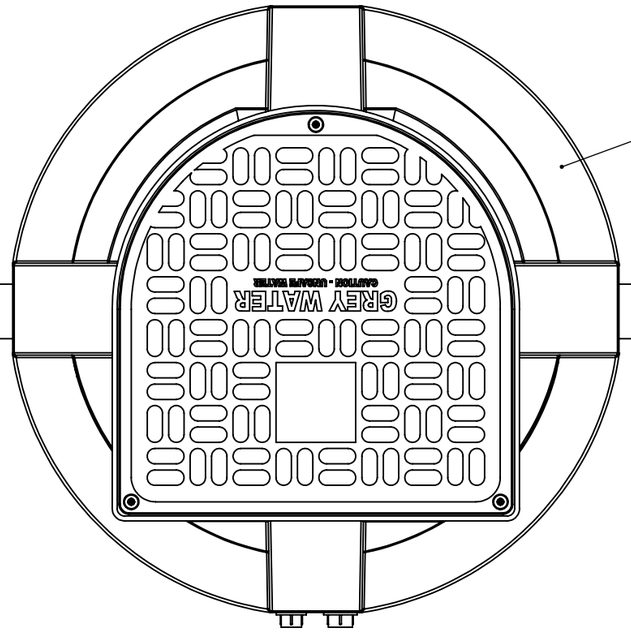
DO NOT SCALE DRAWING | SCALE:1:50 | SHEET 2 OF 9

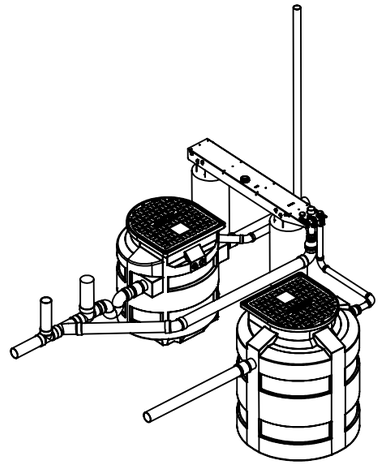
DRAINAGE CONNECTIONS

Treated Water Out
(1-1/2" DWV)
To NEXservoir

NEXSERVOIR (200G CLEAN WATER TANK)

3" OVERFLOW TO STORM WATER

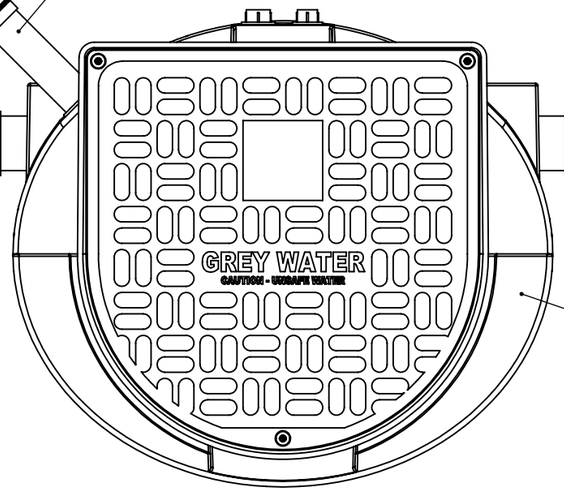




3" WASTE FROM NEXTREATER

2" VENT

GREY WATER INTAKE



NEXCOLLECTOR (75G GREY WATER TANK)

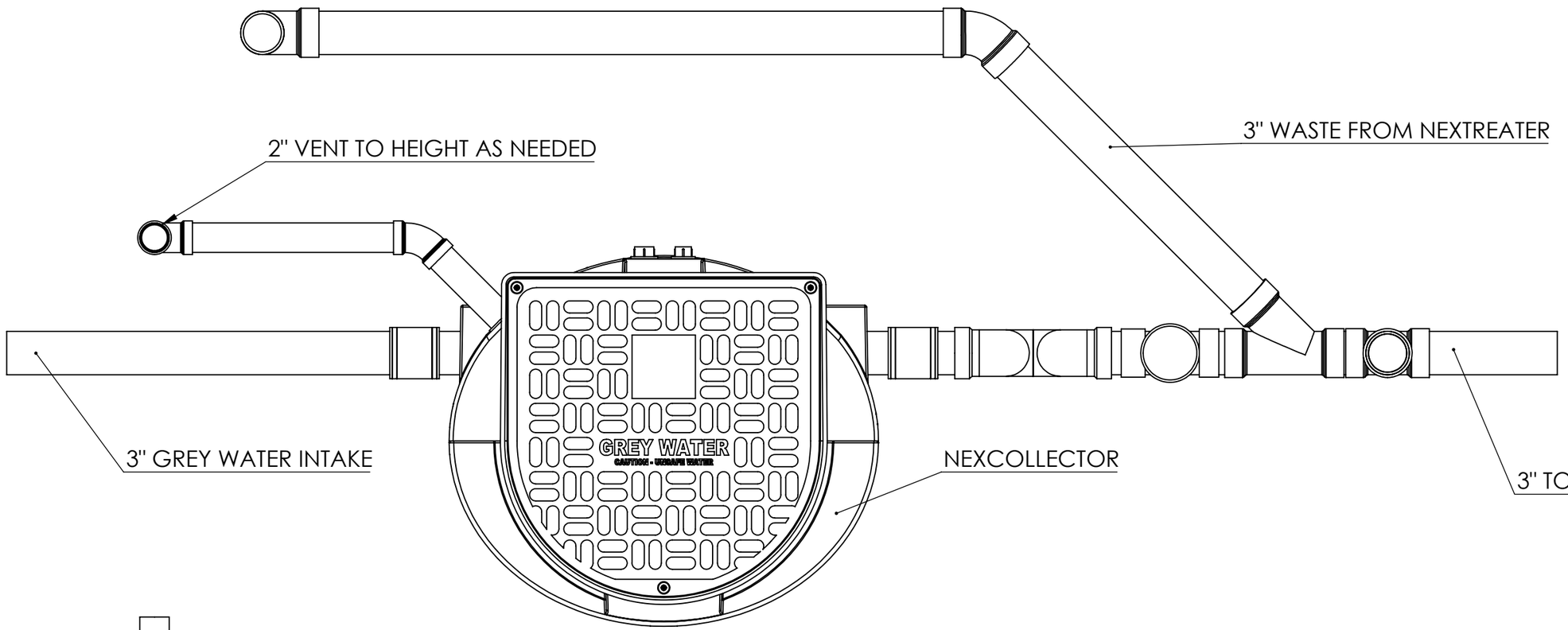
INSTALLATION BENCH

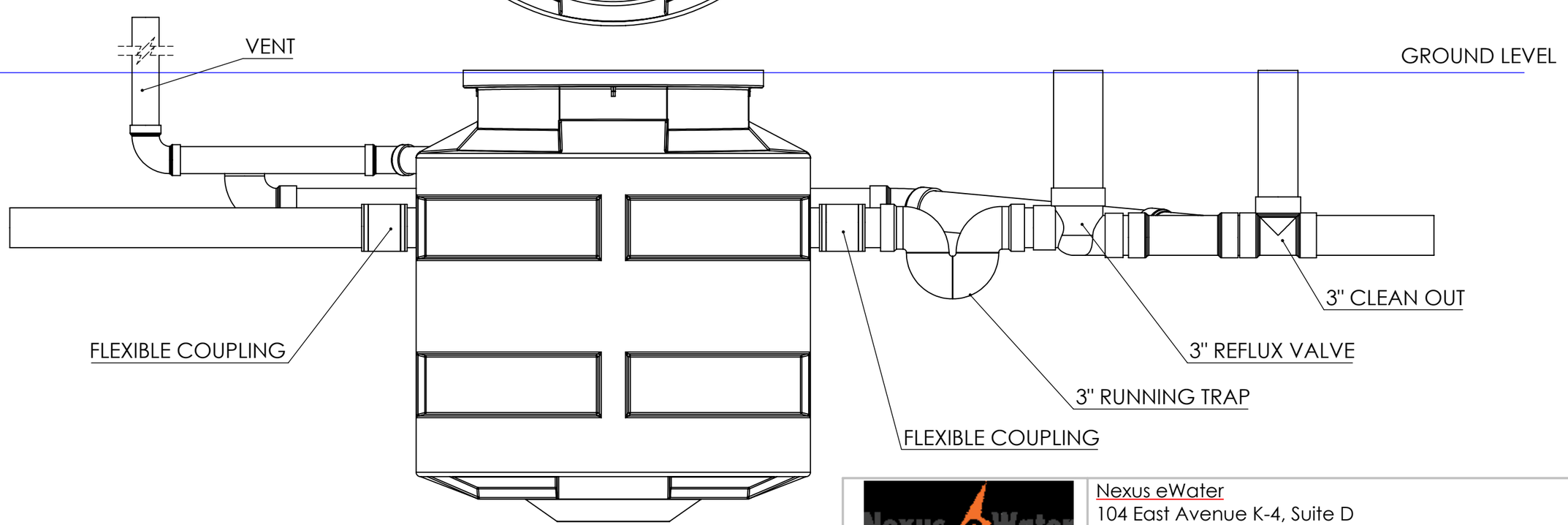
NOT-TO-SCALE

Nexus eWater
104 East Avenue K-4, Suite D
Lancaster, CA 93535
Phone: 877-486-9797

	NAME	DATE
DRAWN	Andrew Hermann	xxxxApril 30, 2015
CHK'D	Tom Wood	April 30, 2015

MATERIAL:	DWG NO.	
XXXXX	Drawings	A3
DO NOT SCALE DRAWING	SCALE:1:50	SHEET 3 OF 9





NOT-TO-SCALE

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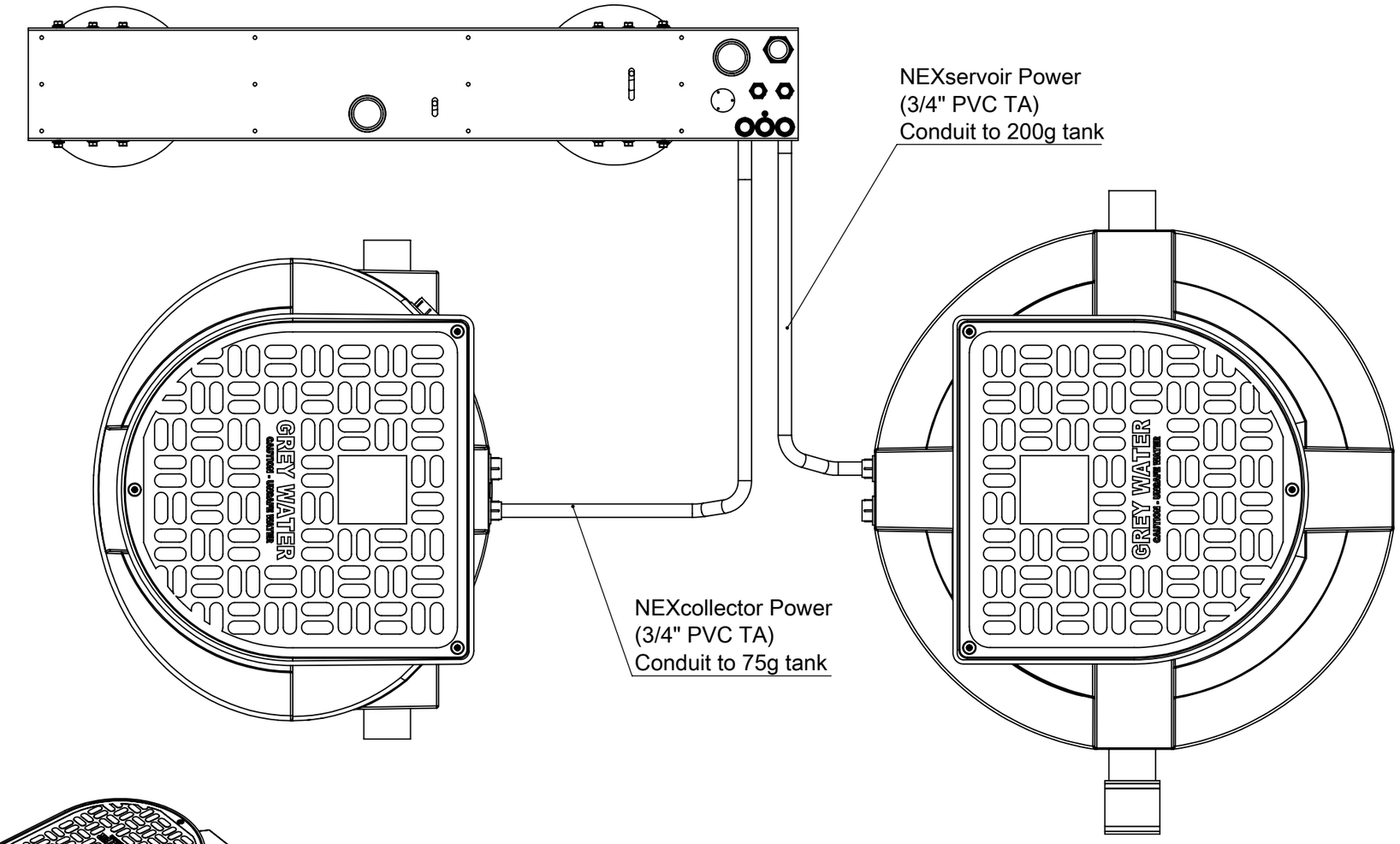
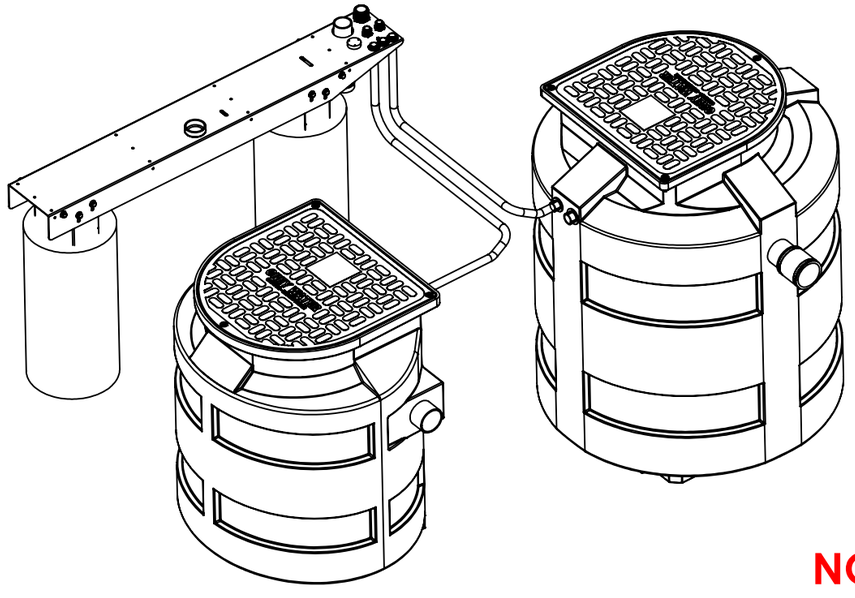
Lancaster, CA 93535
Phone: 877-486-9797

	NAME	DATE	MATERIAL:	DWG NO.	
DRAWN	Andrew Hermann	xxxxApril 30, 2015	XXXXX	Drawings	A3
CHK'D	Tom Wood	April 30, 2015			
			DO NOT SCALE DRAWING	SCALE:1:50	SHEET 4 OF 9

ELECTRICAL CONNECTIONS





NOT-TO-SCALE

Nexus eWater	Nexus eWater 104 East Avenue K-4, Suite D Lancaster, CA 93535			Phone: 877-486-9797	
	NAME	DATE	MATERIAL:	DWG NO.	A3
DRAWN	Andrew Hermann	xxxxApril 30, 2015	XXXXX	Drawings	
CHK'D	Tom Wood	April 30, 2015			
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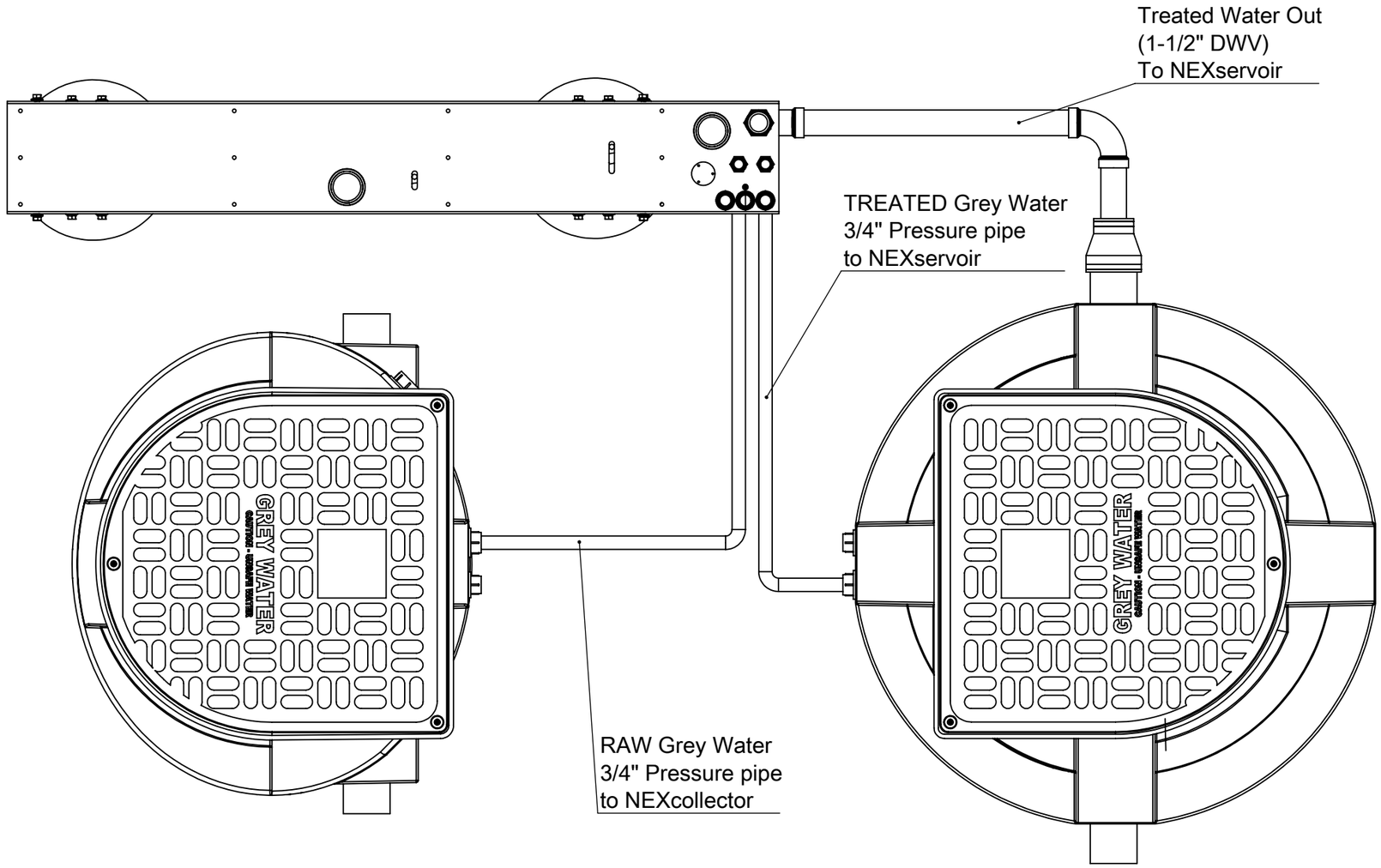
WATER CONNECTIONS



NOT-TO-SCALE

Nexus eWater	Nexus eWater 104 East Avenue K-4, Suite D Lancaster, CA 93535	Phone: 877-486-9797

	NAME	DATE	MATERIAL:	DWG NO.	
DRAWN	Andrew Hermann	April 30, 2015	XXXXX	Drawings	A3
CHK'D	Tom Wood	April 30, 2015			
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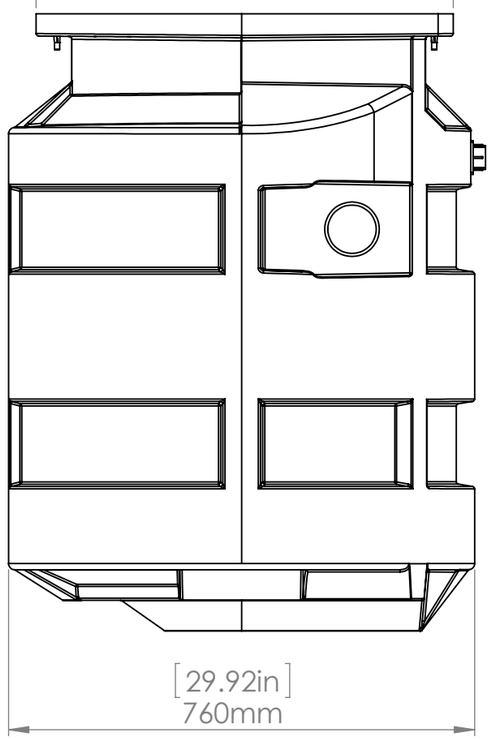
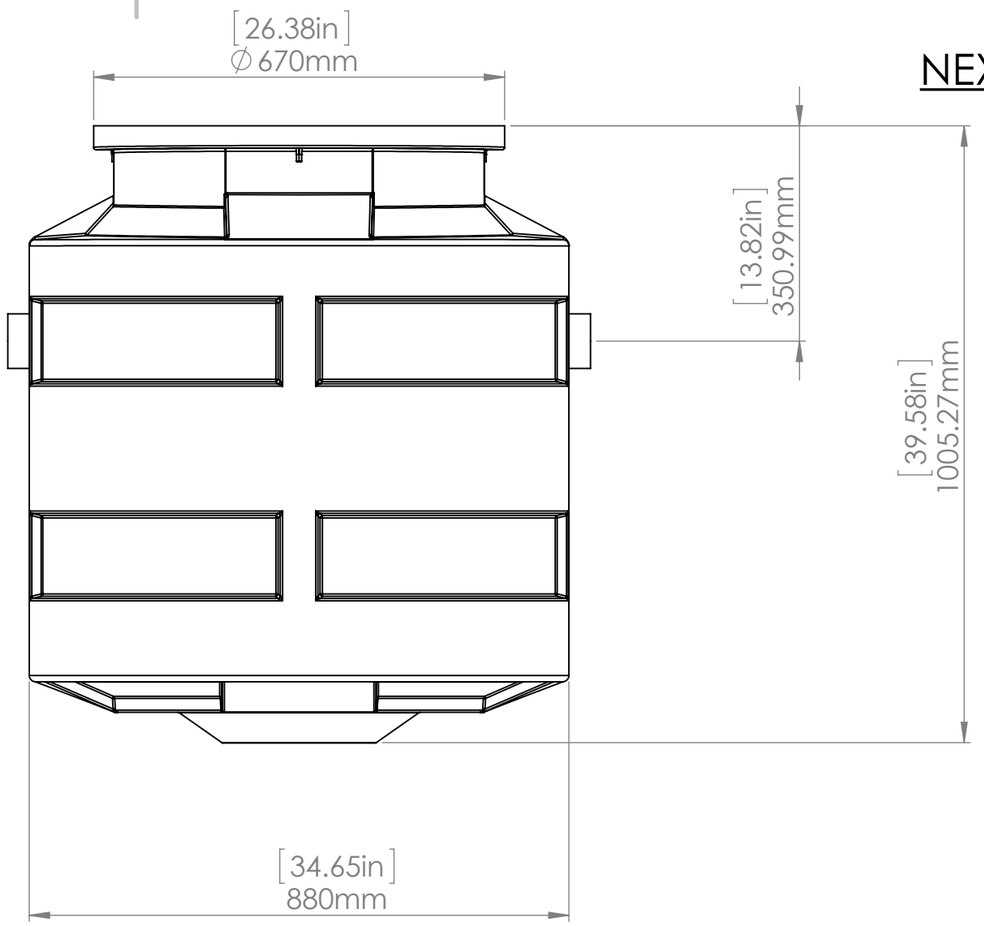
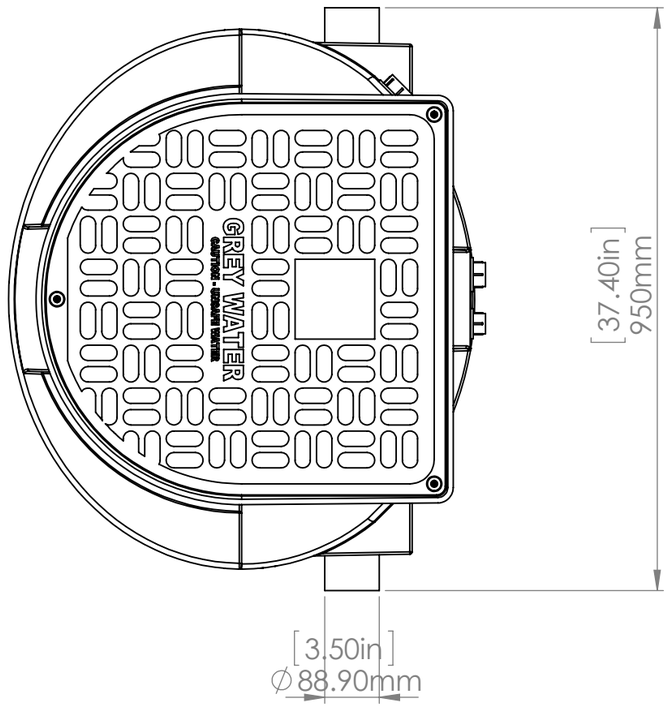
NEXCOLLECTOR







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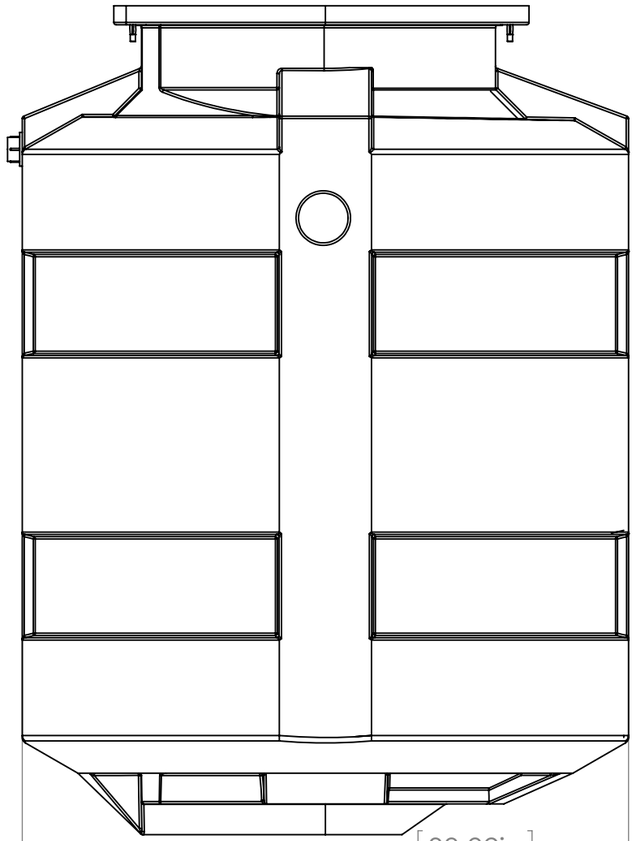
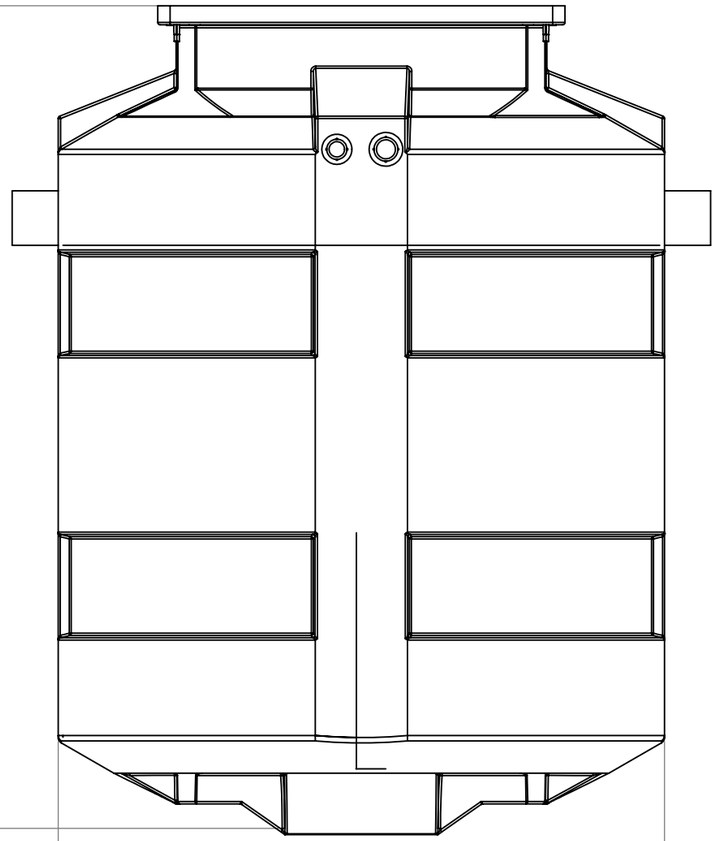
MATERIAL:	DWG NO.	
xxxxx	Drawings	A3
DO NOT SCALE DRAWING	SCALE:1:10	SHEET 7 OF 9

NEXSERVOIR





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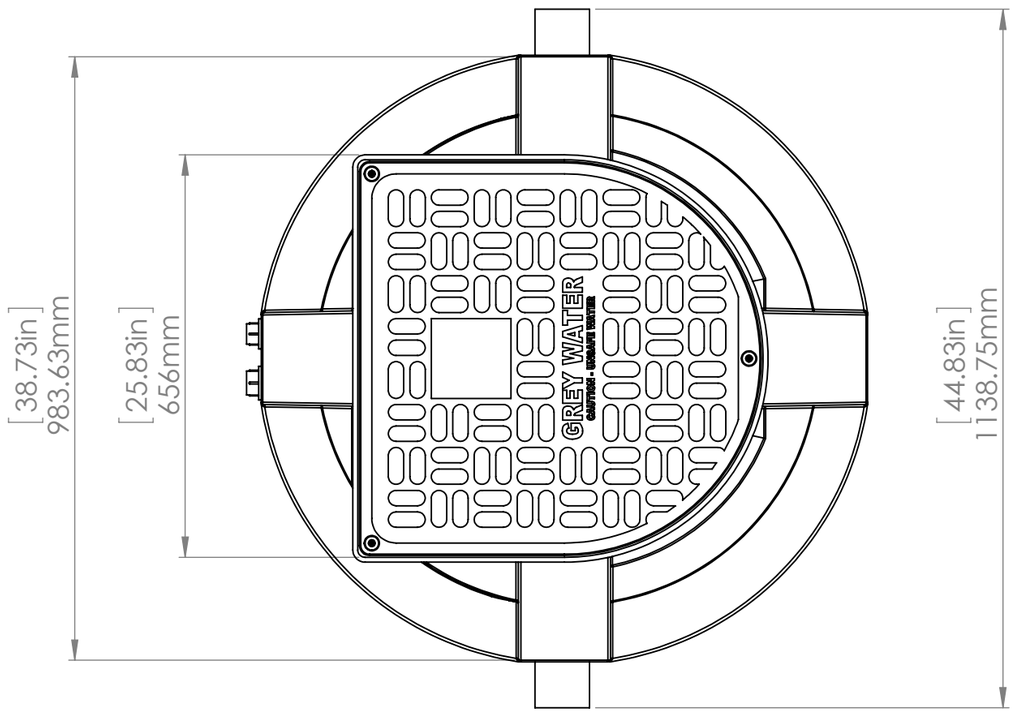

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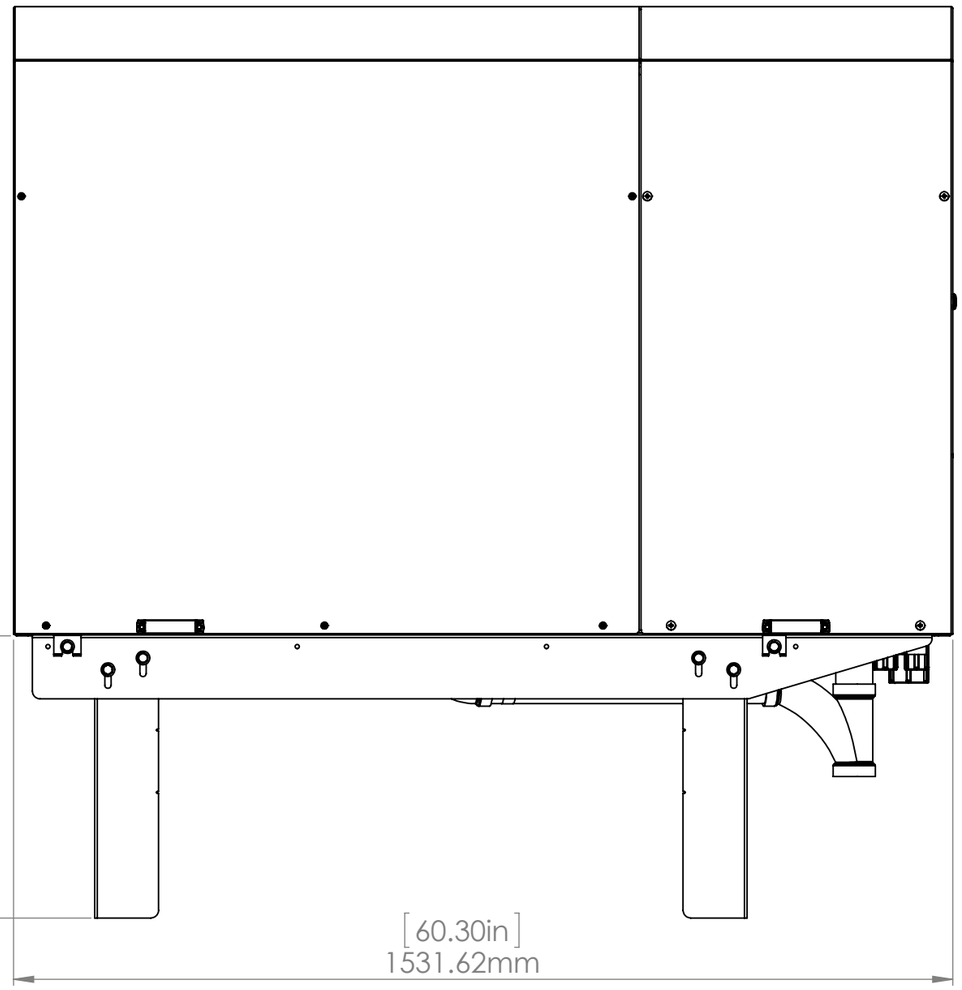
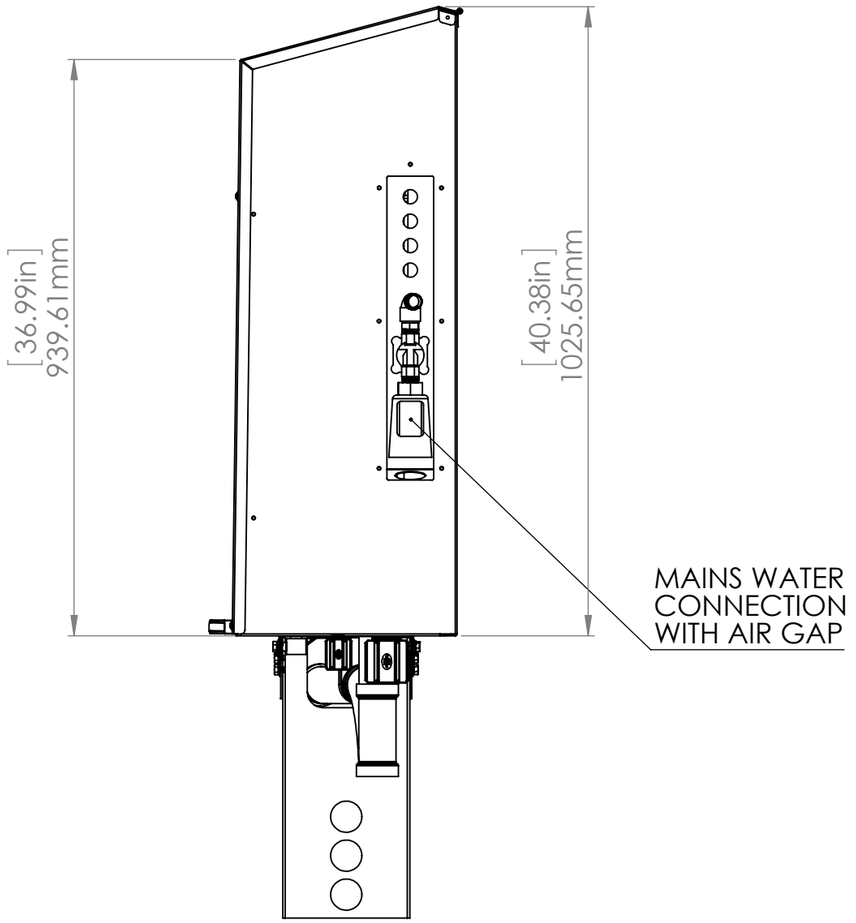
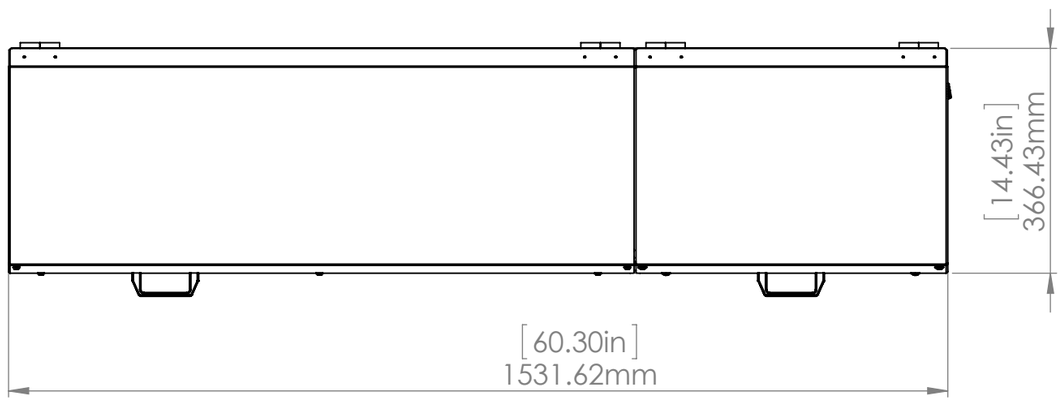
NEXTREATER







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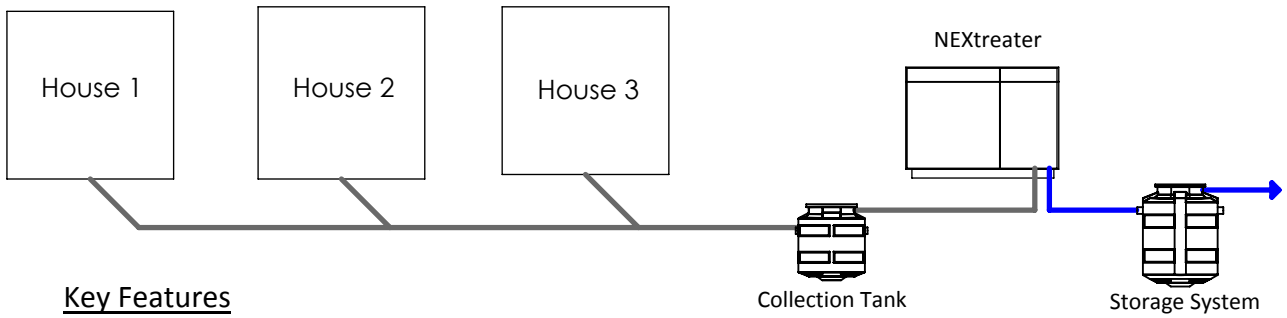
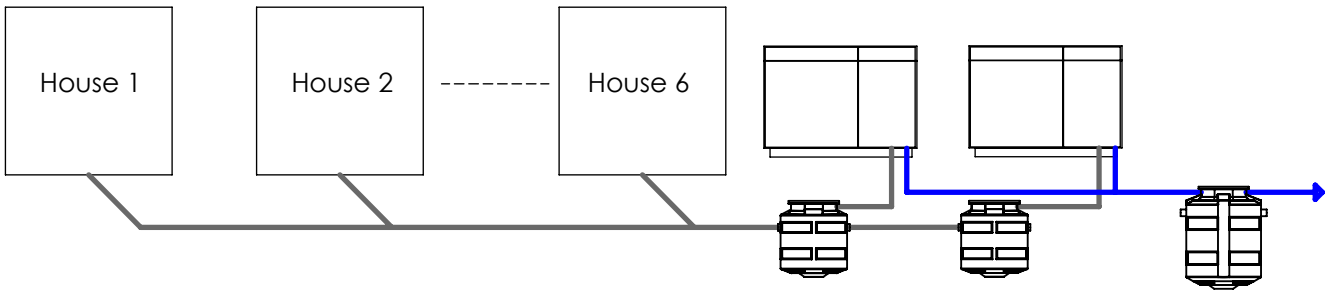
MATERIAL:	DWG NO.	
XXXXX	Drawings	A3
DO NOT SCALE DRAWING	SCALE:1:10	SHEET 9 OF 9

Multi-residential Project: Capacity 200 Gallons per day



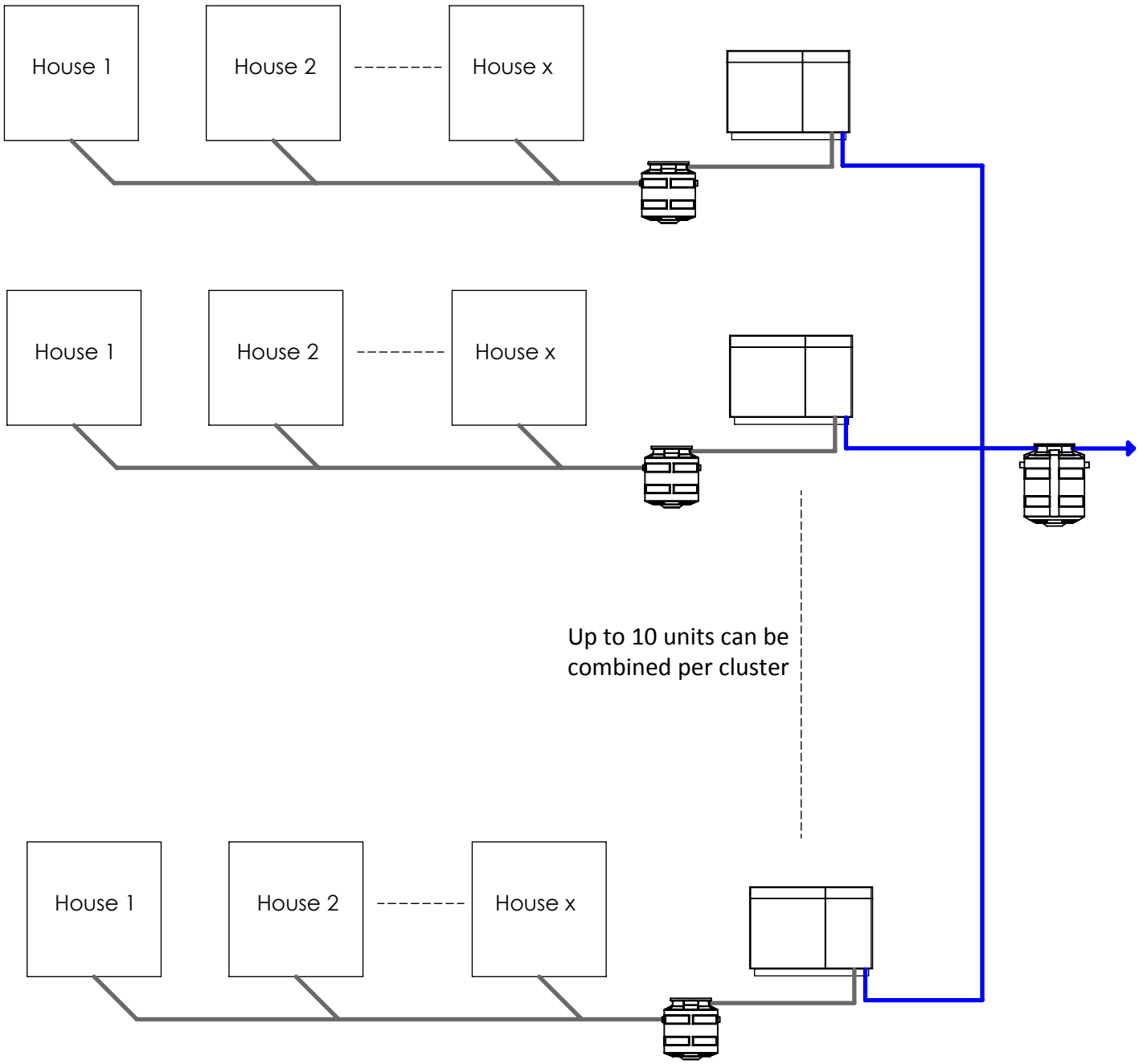
Key Features
1x Collection Tank
1x NEXtreater
Storage system with 200 gallon capacity
Up to 3 houses connected per cluster

Multi-residential Project: Capacity 400 Gallons per day



Key Features
2x Collection Tanks connected in series
2x NEXtreaters operating in parallel
Combined Storage system with different capacity options
Up to 6 houses connected per cluster

Multi-residential Project: Capacity up to 2000 Gallons per day



Key Features

Up to 10x Collection Tanks distributed throughout cluster
Up to 10x NEXtreaters located with Collection Tanks
Combined Storage system with different capacity options
Total capcity per cluster up to 2000 Gallons per day (10x 200 gallon modules)
Multiple clusters can be installed across development for increased capacity

NEXtreater

Grey water treatment system

NT200H – Horizontal Version

Owner's Manual

Pg 4 - 15

Installation, Maintenance and Service Manual

Pg 17 - 34

This grey water treatment system must be installed and serviced by an authorised person.

Please leave this guide with the householder.

May 2015, Rev 1.0

Customer Service

If you have any questions regarding the NEXtreater NT200H, please contact Nexus eWater using the following information:

Service Phone: 877-486-9797

Email: info@nexusewater.com

Website: www.nexusewater.com

US OFFICES

Lancaster, CA

104 East Avenue K-4, Suite D

Lancaster, CA 93535

Huntsville, AL

120 Holmes Avenue NE, Suite 305

Huntsville, Alabama 35801

AUS OFFICES

Canberra, Australia

Unit 9, 19-25 Kembla St,

Fyshwick ACT 2609

Contents

OWNER'S MANUAL

Thank you for buying a NEXtreater system. At Nexus eWater, we are proud of our products and trust it will serve you well for many years.

NEXtreater Information

For your convenience, write down the model number and serial number of your NEXtreater below. You will find these numbers on the data plate located on the front panel of the unit.

Model Number: NEXtreater NT200H_____

Serial Number: NT200H-_____

Purchase Date: _____

Important Information

This document provides operation, installation, service and maintenance instructions for the NEXtreater NT200H. Please contact Nexus eWater with any questions regarding this product.

ATTENTION OWNER: This document includes important information that will help you understand the operation of your NEXtreater grey water treatment system. Please retain it for future reference.

ATTENTION SERVICE AGENT: This document includes important information regarding the installation, servicing and safe operation of this product. It should be left with the homeowner near the NEXtreater. For additional copies, please contact Nexus eWater via phone or email.

Warranty Information

The NEXtreater NT200H is covered by a limited warranty set forth in the attached warranty card. Base Limited Warranty Period: 2 years

Initial Service Policy

During the first 2 years following installation, Nexus eWater shall or its authorized representative shall provide, at company's expense, the following product maintenance services: Four inspection/service visits (scheduled once every six months over the two-year period) during which the electrical, mechanical, and other applicable components of the Nexus eWater Home Water Recycler will be inspected, adjusted, and serviced. Each such service visit shall include an effluent quality inspection consisting of a visual assessment for color, turbidity, and scum overflow, and an olfactory assessment for odor.

To extend this policy further than 2 years, please contact Nexus eWater.

System Classification

This system is designed for use in a **residential** application for the purpose of treating **grey water only**, including both laundry and bathing water. The system is not warranted for use in any other application.

NSF-ANSI 350

The NEXtreater NT200H has been certified to NSF/ANSI 350 under Class R for residential applications.

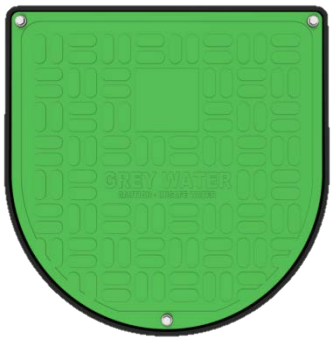
System Type:	Residential Grey Water Treatment
Model:	NEXtreater NT200H
Certification:	NSF/ANSI 350
Class:	R-(Residential)
Rated Daily Capacity:	200 gallons
Restrictions:	Treatment of residential grey water from laundry and bathing only

Treated Water Usage

The treated water from this system is appropriate to be reused onsite for restricted indoor urban water use, such as toilet and urinal flushing and outdoor unrestricted urban water use, such as surface irrigation.

The NEXtreater System

The NEXtreater NT200H is a grey water treatment system designed specifically for application in single-family homes. The NEXtreater has a design capacity of 200 gallons per day. The system comprises two major components:



NEXcollector

A 75-80 gallon buffer tank that is connected in-line with the home's grey water drainage plumbing. The tank contains a pump (controlled and powered by the NEXtreater microcontroller), which transfers raw grey water into the NEXtreater for treatment. The tank further features a passive overflow that allows grey water in excess of the system capacity to be diverted to the sewer system.

NEXtreater

An advanced grey water treatment system comprising the treatment processes described below.

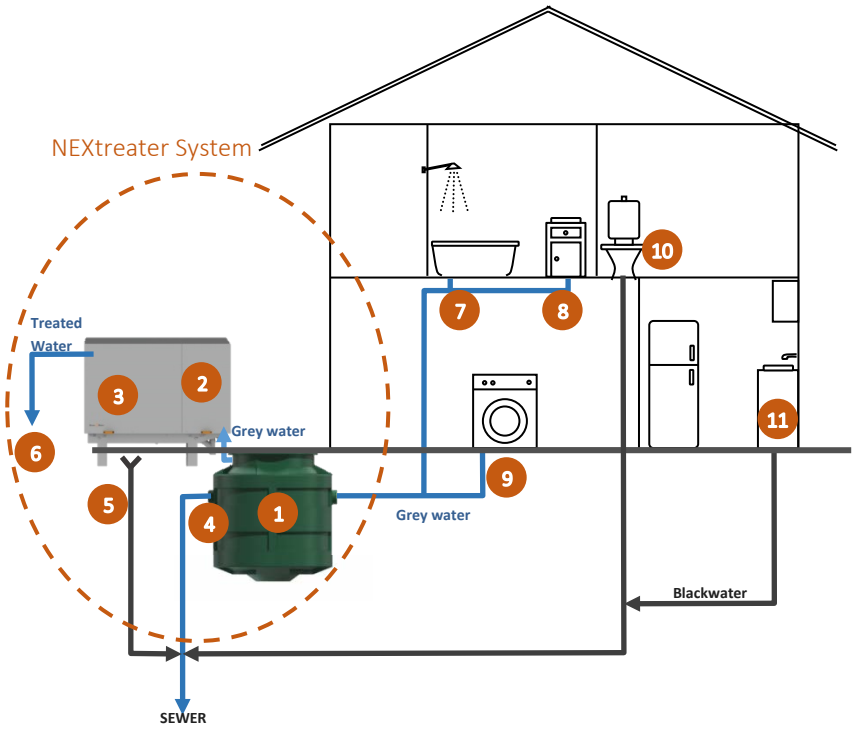
The NEXtreater NT200H uses the following principles of operation:

1. Hybrid Flotation – A combination of oxidation and air injection concentrates the grey water contaminants into a waste product that can be discharged directly to the sewer system.
2. Carbon Filtration – Following hybrid flotation, the relatively clean water is passed through a charcoal filter to remove any remaining contaminants and odors.
3. Particle Filtration – A sediment filter captures any fine particulate material before it passes through a UV sterilizer.
4. UV Sterilization – The final step is an automatic UV sterilizer to ensure the treated water is safe for storage and reuse.

The process is micro-controller controlled. The system features many automated functions including:

- Backwashing of carbon and particulate filters.
- Automatic, passive overflow of excess grey water to sewer.
- Fault detection and notification.
- Performance monitoring and reporting.

System Configuration



1	NEXcollector
2	NEXtreater
3	UV Sterilizer (inside)
4	Overflow to Sewer
5	Waste to Sewer
6	Treated Water Outlet to storage tank
7	Shower / Bath connection to NEXtreater System
8	Hand Basin connection to NEXtreater System
9	Laundry connection to NEXtreater System
10	Toilet NOT Connected to NEXtreater System
11	Kitchen NOT Connected to NEXtreater System

Automatic Bypass and Discharge to Sewer

The NEXtreater and NEXcollector components are both connected directly to the sewer system for the following reasons:

1. Discharge of the concentrated waste generated by the treatment process
2. Discharge from the automated backwashing system
3. Overflow of excess grey water from the NEXcollector.
4. Discharge of water during fault conditions

The NEXcollector has been designed such that the oldest water sitting in the tank will be the first to be removed for treatment or discharged to the sewer.

The NEXcollector will automatically discharge to sewer WITHOUT using electricity – therefore the system will remain safe during times of power outages.

The NEXcollector will automatically discharge excess grey water to the sewer under the following situations:

- The NEXcollector is full to its 80gal capacity. Any new grey water entering the tank will cause older grey water to overflow to the sewer system.
- The NEXtreater is unable to treat water due to a fault or full storage system.

What is Grey Water?

ACCEPTABLE Grey Water Fixtures

Grey water is a waste product generated by the washing of people and their clothes. It is sourced from the following residential fixtures:

- ✓ Showers
- ✓ Baths
- ✓ Washing machine outlets
- ✓ Hand basins

It is the responsibility of the installation technician to ensure that only water from these sources is connected to the grey water system. Before any changes are made to the household plumbing system, please contact Nexus eWater to ensure those changes are compatible with the NEXtreater NT200H.

DO NOT CONNECT these fixtures to the NEXtreater NT200H

The following household fixtures and appliances do not discharge grey water and are therefore NOT to be connected to the NEXtreater NT200H:

- × Toilets
- × Kitchen Sinks
- × **Laundry Basins**
- × Garbage disposals
- × Dishwashers
- × Commercial cleaning appliances
- × Pool filtration systems
- × Bidets
- × Stormwater
- × Hand basins in workshops (where excessive oils and greases are present)
- × Commercial or home business uses; such as day spas, hair salons or commercial laundries.

What can I put down the drain?

The NEXtreater NT200H has been designed using cutting edge technology and is able to treat typical grey water produce by a residential household. **It does NOT require the typical homeowner to change their usage habits or modify the soaps and detergents they use.**

Examples of waste products that can be treated by the system are:

- ✓ Washing machine water
- ✓ Shower water

- ✓ Bath water
- ✓ Hand basin water
- ✓ Typical soaps, detergents, cleaners and chemicals associated with the above, provided they are used only used as directed. Such items include:
    - ✓ hand soap,
    - ✓ body wash,
    - ✓ shampoo,
    - ✓ conditioner,
    - ✓ deodorant,
    - ✓ toothpaste,
    - ✓ shaving cream,
    - ✓ makeup (in small quantities),
    - ✓ laundry detergent,
    - ✓ fabric softener,
    - ✓ bathroom cleaners (including bleach),

DO NOT put these items down bathroom or laundry fixtures

The following items are not to be discharged directly to fixtures that are connected to the treatment system. (However it is normal that from time to time, people or clothing may be soiled with these contaminants and they will enter the treatment system during showers or laundry cycles. This should not cause a problem for the NEXtreater NC200 provided quantities are kept to a minimum).

- × Faecal waste (other than the washing of soiled clothing)
- × Food and food waste
- × Cooking oils
- × Motor oils or other petrochemicals
- × Oxidizing agents
- × Paint (or washing of paint brushes)
- × Undiluted cleaning chemicals poured directly down the drain.

In the event that these chemicals are poured down a grey water fixture, immediate press the DUMP button on the NEXtreater control panel. The system will automatically prevent any batches from being processed for a period of 24 hours until these items are flushed through the NEXcollector to sewer.

Whilst all effort has been made to create an exhaustive list, Nexus eWater reserves the right to determine if the system has been overloaded with unsuitable products in the event of a warranty claim. If in doubt please contact Nexus eWater.

Operating Instructions

Operating the NEXtreater is as simple as the following these 7 steps:

1 Is the NEXtreater connected to power?	The NEXtreater is fully automated and operates using its own internal controller. If the green STATUS light is active on the Alarm Panel, then the NEXtreater will automatically process up to 200 Gallons per day. If the STATUS light is flashing, this is great, you are treating grey water ready to be reused.
2 Are you making grey water?	If you are having regular showers and washing laundry, then you are supplying the NEXtreater with a good amount of grey water. The NEXtreater will automatically treat the first 200 gallons it receives every day. If you produce more than 200 gallons in a 24hr period, don't worry, any excess grey water will automatically overflow to sewer.
3 Are you reusing the treated water?	In most installations, the NEXtreater will be connected to a storage tank and pump so that the treated water can be reused on the garden or for flushing toilets. If you haven't used any recycled water for a while, it is likely that the storage tank is full. When this happens, the NEXtreater will stop processing and enter standby mode to save power. You can still have showers and wash laundry as normal during this time as any grey water discharged from the home will automatically go down the normal sewer.
4 What should the treated water look and smell like?	LOOK: Treated water from the NEXtreater should look almost as clear as tap water and it should not have any floating solids or particulates. SMELL: Under normal operating conditions the treated water from the NEXtreater will have no odor. It situations where is has been overloaded with detergents or if it has been inactive for a while, the treated water may have a slight organic odor – similar to a fish tank. This is perfectly normal and the treated water is still safe to be used. The smell will disappear with further batches. For further information, please contact Nexus eWater.

5 Keep an eye on the Alarm Panel to know when you are due for a service.	If the SERVICE light is illuminated, please contact Nexus eWater to arrange for a service call. The NEXtreater will continue to operate during this period however it is recommended that a service call be arranged as soon as possible.
6 What happens if the Alarm Panel is making a loud beeping sound and the fault light is active?	Your NEXtreater has detected a fault and it cannot process any more water. You will need to contact Nexus eWater immediately to arrange a service call. Details can be found on Page 2 of this document. The audible alarm can be silenced by pressing the 'Fault' button located on alarm panel. However the fault light will remain active until it has been serviced by an authorized agent. 
7 I am going away on vacation, do I need to unplug the NEXtreater?	Even if you plan to be away from home for an extended period, we suggest you leave the NEXtreater switched on, as it is designed to operate at low power and enters standby mode when there is no water flow into the system. However, if you do wish to switch the system off, you can do so by unplugging the system from the outlet. Once the system has been switched back on it will automatically restart and will be ready to operate once it has initialised.

The Alarm Panel

Light	Description
FAULT Light and button	A fault has been identified and requires further action. Button can be pressed to silence alarm. See the Troubleshooting section.
BYPASS light and button	Button can be pressed to put a temporary hold on the treatment process and bypass all incoming water for a period of time. The light will be active when in bypassing mode.
SERVICE Light	The system requires a service, see below for instructions.
STATUS Light	The system is switched on.

Customer Service

If you have any questions regarding the NEXtreater NT200H, please contact Nexus eWater using the following information:

Service Phone: 877-486-9797

Email: info@nexusewater.com

Website: www.nexusewater.com

You can also find these details on the NEXtreater Dataplate (bottom right hand corner of system).

Householder Troubleshooting

Symptom	Recommended course of action
STATUS light not illuminated, NEXtreater not operating.	Check to determine if system is plugged in at the socket. Check that the socket is active by plugging in another appliance.
STATUS light not illuminated, NEXtreater is still running	The connection between the NEXtreater and the Alarm panel has been disrupted. Please contact Nexus eWater immediately to arrange a service.
STATUS light not flashing	If the system is connected to power and the STATUS light is illuminated, the NEXtreater will automatically process water when the NEXcollector has untreated grey water available. The STATUS will only flash when a batch is being processed by the system. It is normal for the system to only process water intermittently throughout the day.
System does not appear to be processing water	The NEXtreater is very quiet and can produce water which is indistinguishable from tap water. Have you been producing grey water? If not, the system will not have any water available to process. Is there treated water available for irrigation? If the clean water storage tank is full, the NEXtreater will enter standby mode and not process any water until there is capacity available in the storage tank.
The treated water has a slight odor	It is normal that the treated water may occasionally have an aquatic smell, similar to a fish tank. If you have concerns, please contact Nexus eWater or refer to our website for more information.
The treated water smells like sewage	Check to ensure that only the items listed on Pg. 9 and 10 have been discharged down the drain. It will take about 24hrs for water to pass through the treatment process. If the smell persists, please contact Nexus eWater.
Service Light Illuminated	Contact Nexus eWater on (877) 486-9797 to arrange a service.
Fault Light Illuminated	Press to silence fault sound. Contact Nexus eWater on (877) 486-9797 to arrange a service.

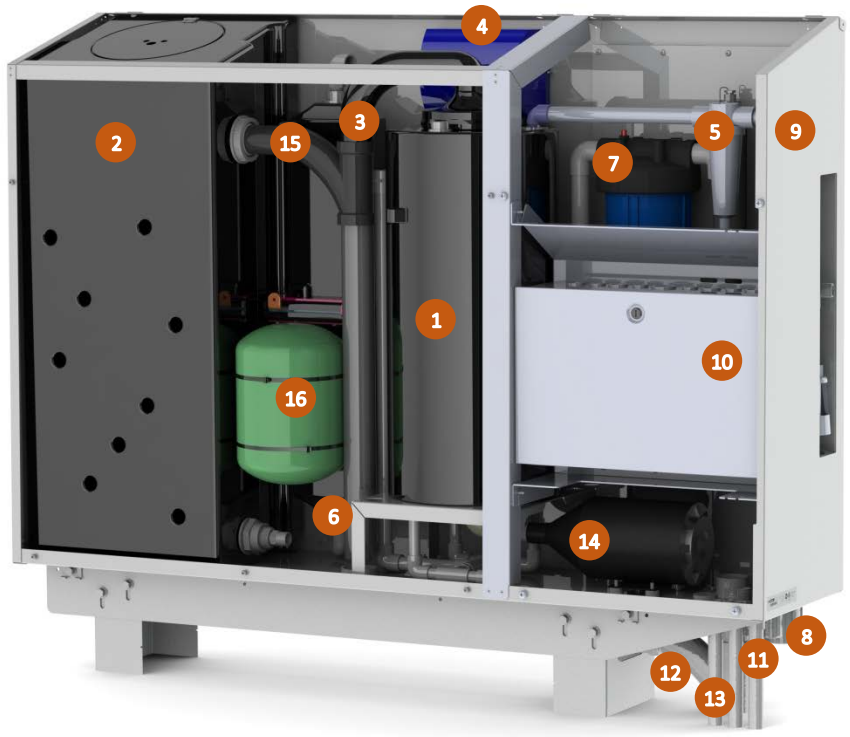
NOTES:

INSTALLATION, SERVICE AND MAINTENANCE MANUAL

This grey water treatment system should be installed in accordance with the local code authority having jurisdiction.

Caution: Only an authorized and qualified service person should install the system.

It is the responsibility of the local installer that this installation shall comply with applicable state and local regulations, including proper backflow prevention and protection against cross connections assuring protection of the public water supply.



FRONT

1	Main Chamber
2	Carbon Chamber
3	Main Chamber Overflow
4	Ozone Generator
5	Hair Filter
6	Discharge Pump
7	Sediment Filter
8	Treated water discharge

9	Frame
10	Control Panel
11	Grey water intake
12	Discharge to sewer
13	Backwash intake
14	Process Pump
15	Carbon Filter Overflow
16	Pressure Tank

Process Overview – How does the NEXtreater operate?

STEP 1: Collection of water in NEXcollector

The NEXcollector accepts grey water as it is produced by the home and stores it so that it is available for treatment as needed. It acts as a buffer to collect grey water during the morning and evening peaks, holding up to 75-80 gallons of grey water ready for treatment.

STEP 2: Transfer water from NEXcollector to NEXtreater in 10 Gallon Batches

A pump located in the NEXcollector will transfer 10 gallons of water into the NEXtreater for treatment. This will occur whenever there is untreated grey water available in the NEXcollector and the NEXtreater is ready to accept a new batch (i.e. not already processing and not in fault).

STEP 3: NEXtreater batch processing in 'Stage 1' mode for 60 mins

(Hybrid Flotation step)

Once 10 gallons has been transferred from the NEXcollector to the NEXtreater, Stage 1 processing will begin. This stage utilizes the patent pending 'hybrid flotation' method to remove soaps and contaminants from the grey water. A concentrated flow of waste will be discharged to sewer continually throughout this stage.

STEP 4: NEXtreater transfer batch into 'Stage 2' mode for 60 mins

(Carbon and particle filtration)

Following Stage 1, the partially treated water will progress to Stage 2 processing; carbon and particle filtration. Once Stage 2 processing has commenced, a new batch can be transferred into the NEXtreater for restarting of the Stage 1 process.

STEP 5: Transfer from NEXtreater through UV sterilizer to garden or storage system

Once the fully treated water has completed Stage 2 processing, it is pumped out of the NEXtreater and through the built-in UV sterilizer. It is then available for reuse. Suitable applications for the treated water include toilet flushing and garden irrigation.

1

BEFORE GETTING STARTED

For the continued safety of this appliance it must be installed, operated and maintained in accordance with the manufacturer's instructions.

Ensure the following safety instructions are read and understood before commencing installation.

It is the responsibility of the local installer that this installation shall comply with applicable state and local regulations, including proper backflow prevention and protection against cross connections assuring protection of the public water supply.

2

Choose Location for NEXcollector and NEXtreater

This grey water treatment system is approved for both indoor and outdoor installation.

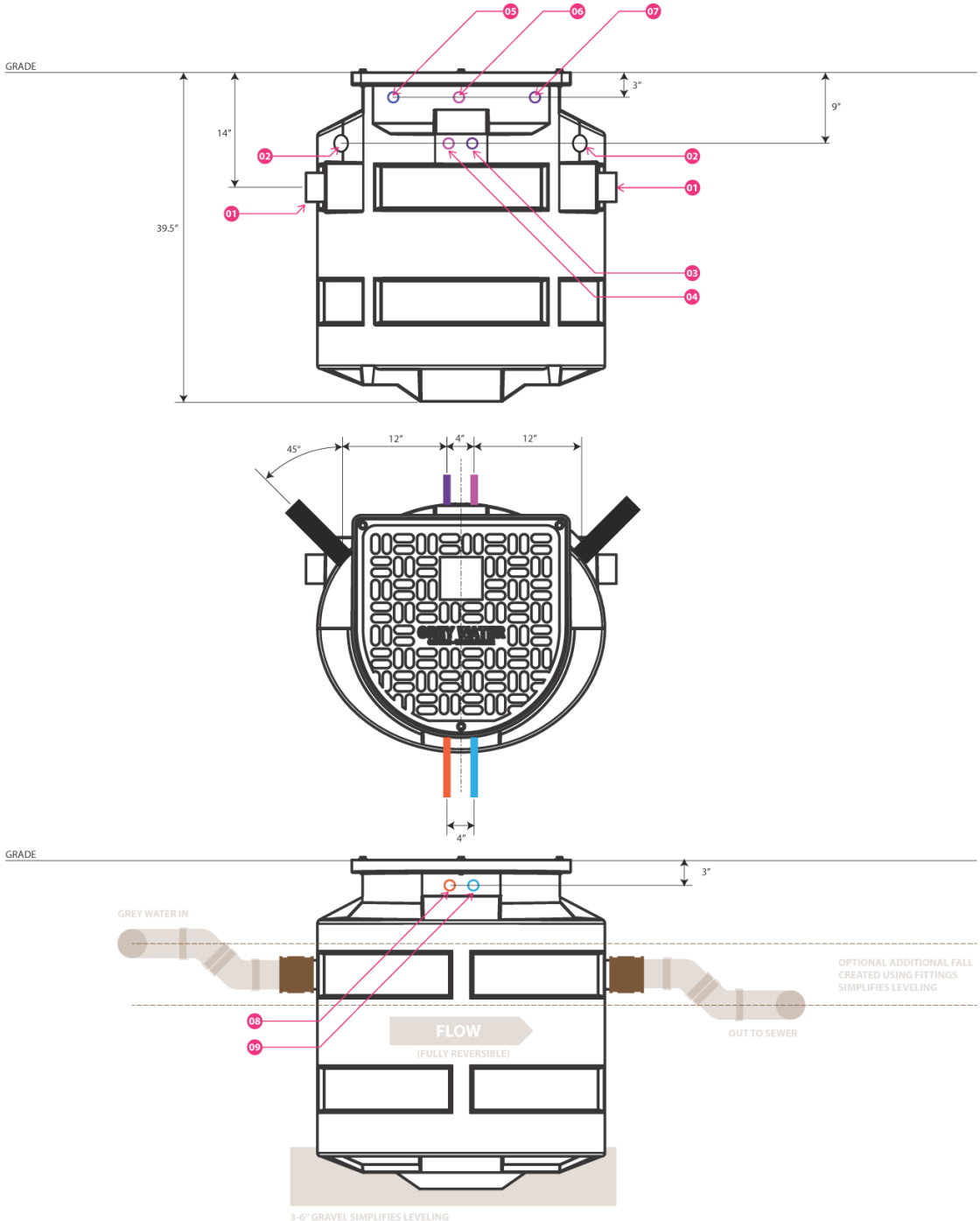
Select a location near the centre of the water piping system. The NEXtreater must be installed in a vertical position on a level surface.

Do not install the NEXtreater with any modification or alteration.

The drain and controls must be easily accessible for operation and service.

3 Install NEXcollector (See pg 45 onwards for more detail)

Install the NEXcollector below grade as follows:



NOTE
01 – INLET/OUTLET (REVERSIBLE)
02 – VENT CONNECTION (USE LEFT OR RIGHT)
03 – PUMPED GREY WATER OUT (TO NEXTREATER)
04 – 110V ELECTRICAL SUPPLY (FROM NEXTREATER)
05 – ***NOT USED, CAPPED INSIDE***
06 – ***NOT USED, CAPPED INSIDE***
07 – ***NOT USED, CAPPED INSIDE***
08 – LIQUID REF. LINE (FROM NEXHEATER)
09 – SUCTION REF. LINE (TO NEXHEATER)

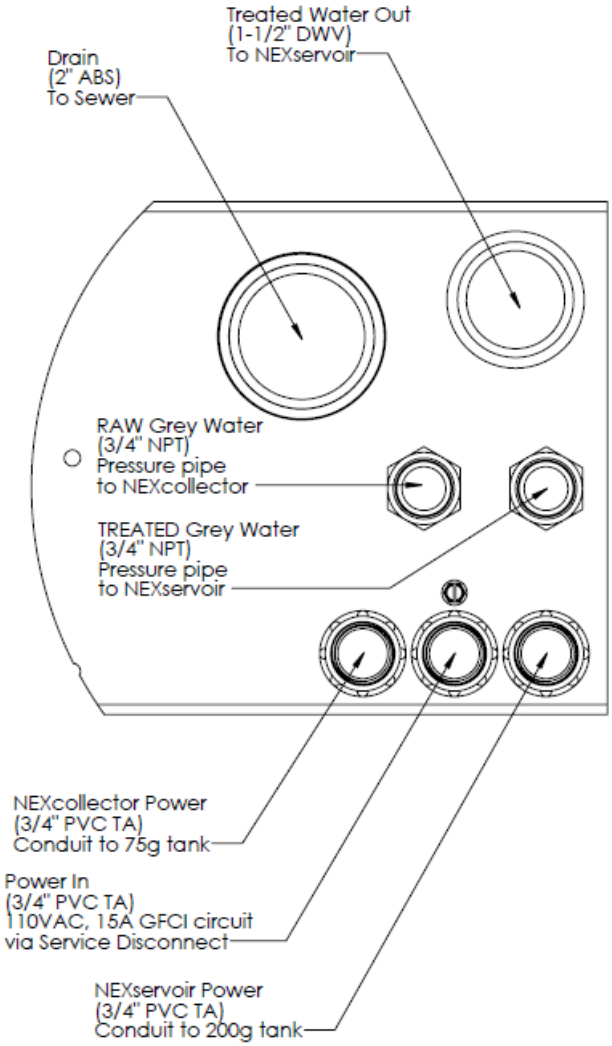
CONNECTION/SPECIFICATION
3" ABS PIPE, CONNECT WITH 3" RUBBER SLEEVE AND CLAMPS
2" FEMALE THREAD, MEMBRANE DRILLED OUT TO ACTIVATE, VENT THROUGH ROOF
3/4" FEMALE THREAD, PIPE TO NEXTREATER (SEE 'E')
3/4" FEMALE THREAD, CONDUIT TO NEXTREATER (SEE 'G')

1/2" COPPER TUBE, DRILLED AND SEALED ONSITE BY NEXUS, IN CONDUIT TO NEXHEATER (SEE 'CC')
3/8" COPPER TUBE, DRILLED AND SEALED ONSITE BY NEXUS, IN CONDUIT TO NEXHEATER (SEE 'BB')

*ALL THREADS IN US SIZES

4 Install Pre-plumbing for NEXtreater (see pg 45 onwards for more detail)

Install the pre-plumbing for the NEXtreater as follows. If the installation is subject to freezing temperatures, the water piping must be properly insulated.



5

UNPACKING SAFETY CONSIDERATIONS

WARNING - Excessive Weight Hazard

WARNING – Topple Hazard. Be careful when manoeuvring NEXtreater.

Use two or more people to move and install the NEXtreater system.

Failure to do so can result in back strain or other injury.

6

Unpacking and Removing Packaging Materials

IMPORTANT: Do not remove any permanent instructions, labels, or the data label from the NEXtreater.

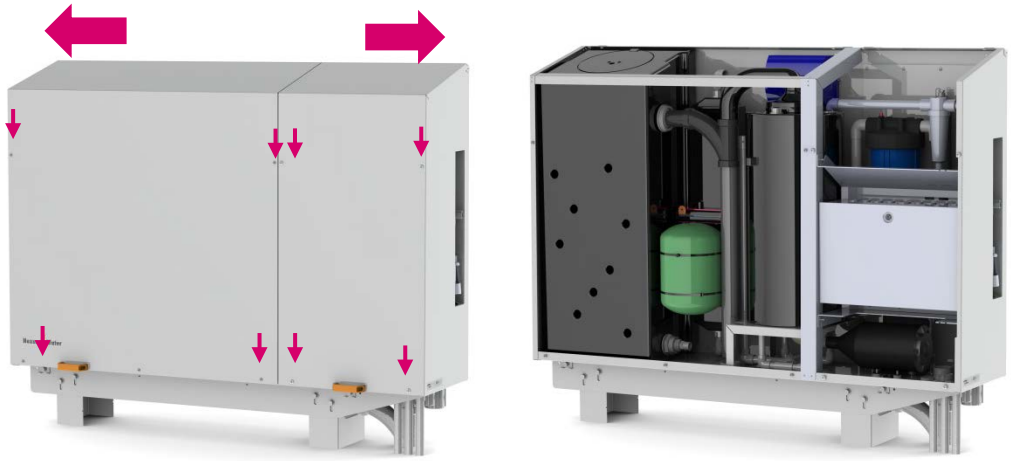
Avoid damaging the unit as follows:

- ✓ Unpack NEXtreater on level surface
- ✓ Lift or move NEXtreater by holding frame only.
- ✓ Keep NEXtreater protected from water / rain until installation is complete
- ✗ Do not drop NEXtreater

Unpacking instructions:

1. Gross weight of NEXtreater exceeds 100 pounds. Two or more people are required to off-load and transport unit around site.
2. Forklift may be used under middle of unit.
3. Remove exterior packaging and discard. After installation, dispose of/recycle all packaging materials.
4. Remove bubble wrap and place installation components aside.
5. Beware of fragile components – UV system and Control Panel. UV system is shipped inside the carbon filter. Take care when removing to avoid damage.

6. Inspect all parts for damage prior to installation and start-up.
7. Completely read all instructions before attempting to assemble and install this product.

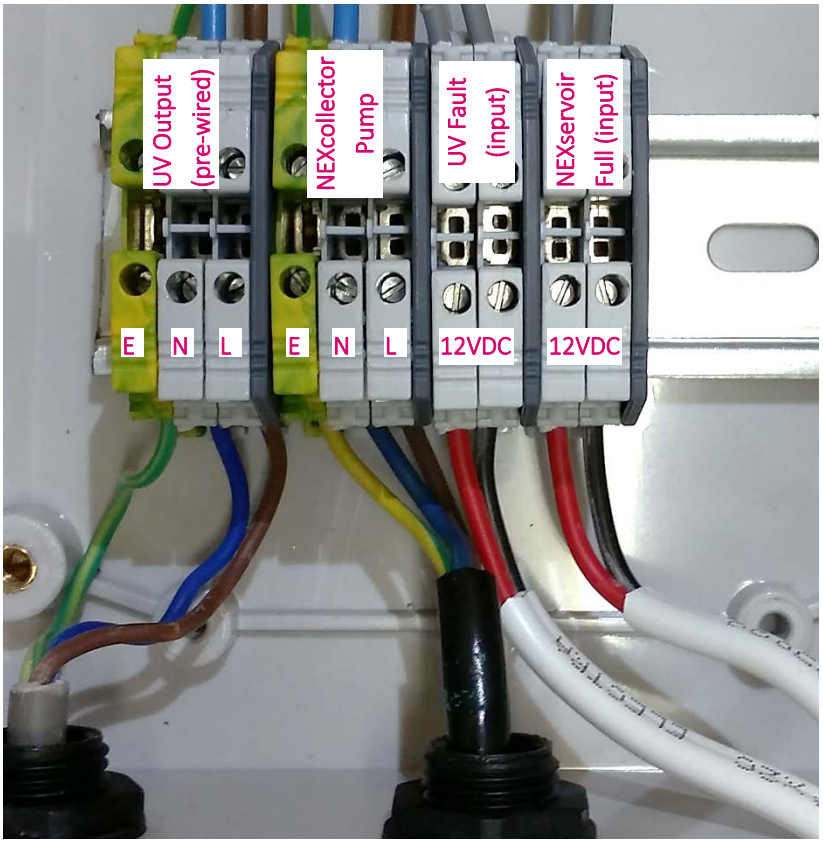
7	Remove Shrouds (if provided) from Unit 
8	Connect NEXtreater to Pre-Plumbing See pg 45 onwards for more detail

9

Electrical Connections

The NEXtreater requires that a 110VAC, 15A connection with service disconnect to be installed within 3 feet of the system.

WARNING: All electrical work shall be performed by a qualified and authorized electrician. It is the responsibility of the installer to ensure all electrical connections are per all applicable codes.



10

Start-up procedure for NEXtreater

The NEXtreater has been commissioned and leak tested in the factory prior to delivery. If you notice any leaks or unexpected behaviour during the first batch, please contact Nexus eWater. To start the NEXtreater, follow these 10 steps.

1. Remove covers from NEXtreater.
2. Remove lid from NEXcollector
3. Fill the NEXcollector with approximately 20 gallons of tap water.
4. Plug the NEXtreater into the power outlet.
5. Check that Alarm Panel is activated and power light is on.
6. NEXtreater will automatically start transferring water from the NEXcollector to the NEXtreater.
7. As water is transfers, check for leaks at all plumbing joints.
8. Once the NEXtreater has 10 gallons inside, it will automatically begin its first batch.
9. Replace covers on NEXtreater and secure lid to NEXcollector using bolts provided.
10. Introduce the homeowner to their new NEXtreater.

Maintenance

Maintenance schedule

Component	Maintenance Schedule	Replacement Schedule
Sediment Filter	Visual Inspection at 6 months	Replace at 12 months
UV Bulb	Nil	Replace at 12 months
Carbon Filter	Visual Inspection every 12 months	Replace at 5 years (to be performed by Nexus eWater)
Sediment Filter Housing	Nil	Replacement every 10 years

Instructions can be found on the following pages.

Regular Inspection Schedule

Location	Frequency	Notes
Effluent Water Quality	Visual Inspection every 6 months	Each such service visit shall include an effluent quality inspection consisting of a visual assessment for color, turbidity, and scum overflow, and an olfactory assessment for odor. Instructions can be found on following page.
NEXcollector	Visual Inspection every 12 months	**No requirement for the periodic removal of residuals from any part of the system.**
Pumps and Valves	Visual Inspection every 12 months	Replace if faulty

UV Bulb Replacement

WARNING: UV Lamps emit ultraviolet radiation that is harmful to exposed skin and eyes. Avoid direct exposure to UV light at all times. Appropriate skin and eye protection must be used.

1. Disconnect Power
2. Remove grommet and disconnect lamp from 4-pin connector
3. Remove lamp and replace.

IMPORTANT: Dispose of the old UV lamp as a hazardous waste in accordance with local, state and federal regulations. Please dispose of the used UV lamp properly.

Sediment Filter replacement

CAUTION: The rubber O-ring provides the water-tight seal between the cap and the bottom of the housing. It is important that the O-ring be properly seated in the groove below the threads of the housing, or a water leak could occur.

CAUTION: To prevent costly repairs or possible water damage the sump of plastic housings must be replaced every ten years.

1. Disconnect NEXtreater from power outlet.
2. Depress red pressure-relief button to relieve the pressure, and then twist off bottom of housing.
3. Locate and remove large O-ring, wipe clean of lubricant, and set aside.
4. Discard used filter. Rinse out bottom of housing.
5. Lubricate O-ring with clean silicone grease. Clean groove and connection point on cap. Insert O-ring back into groove and smooth into place with finger. Insert new filter into cartridge.
6. Screw bottom of housing onto the cap and tighten. Make certain cap standpipe slips into cartridge.
7. Reconnect Power to NEXtreater.
8. Check for leaks before leaving installation.

Evaluation of Water Quality

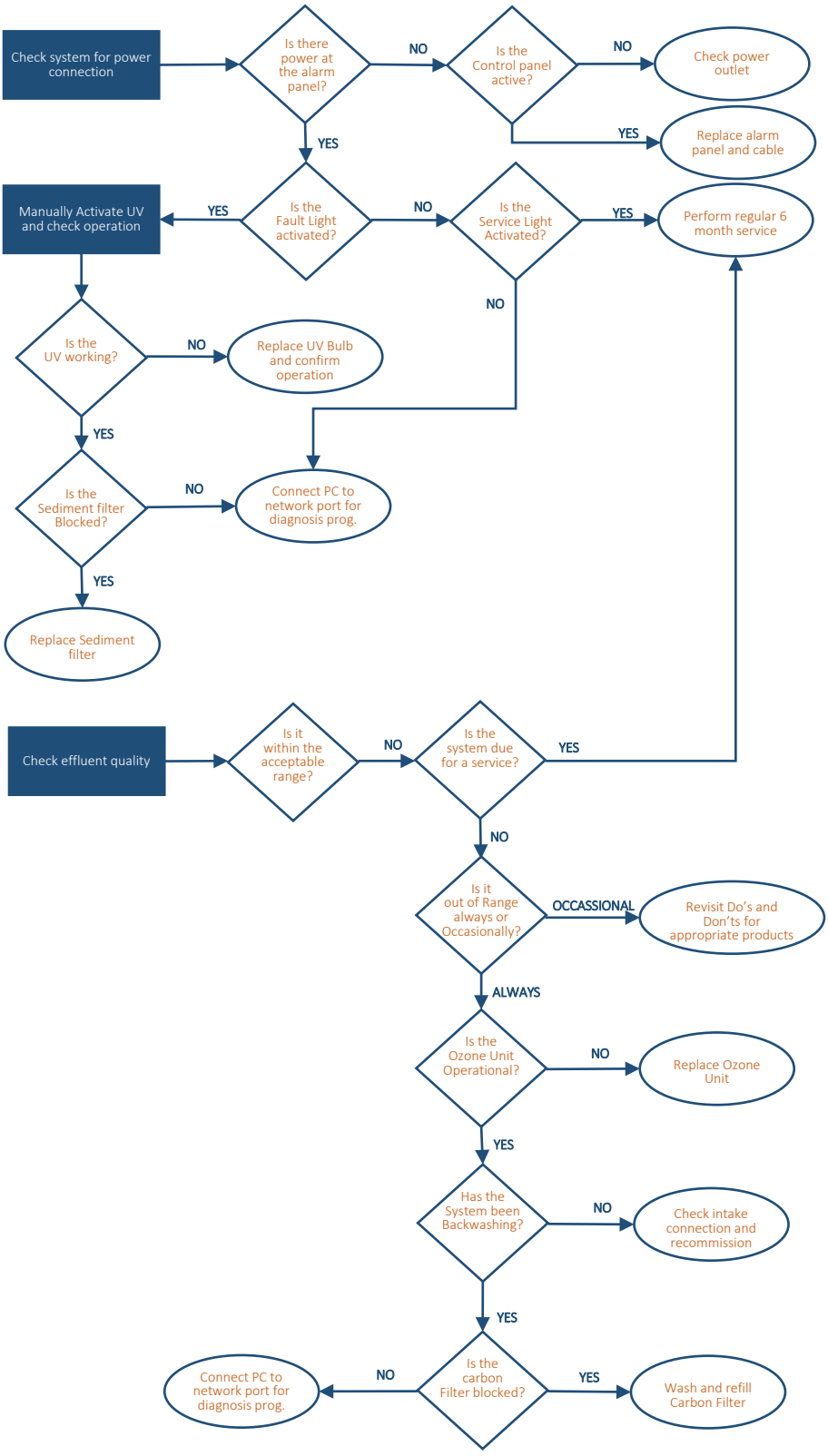
Sample to be taken from a tap on the clean water outtake from the NEXtreater shown below:

Evaluation Criteria: COLOR		
Normal	Acceptable Limit	Unacceptable Range
Clear, no color.	Slight white / grey / cloudy tint.	Distinguishable color

Evaluation Criteria: TURBIDITY		
Normal	Acceptable Limit	Unacceptable Range
Clear. <5 NTU	Slight cloudiness. Limit 10 NTU.	Greater than 10 NTU.

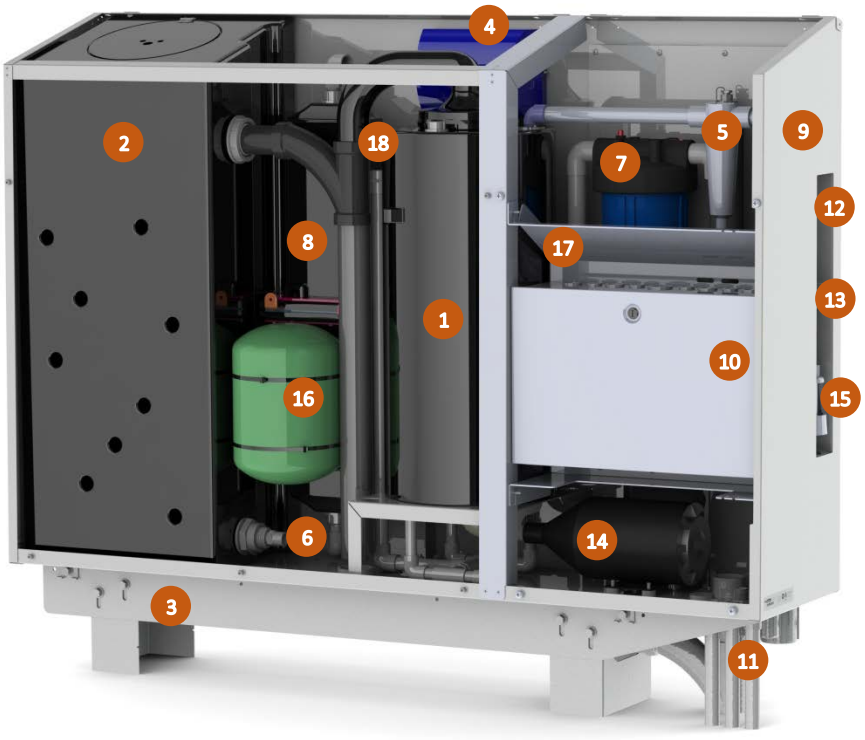
Evaluation Criteria: SCUM LAYER		
Normal	Acceptable Limit	Unacceptable Range
No solids or scum layer	No solids or scum layer	Any distinguishable solids or scum.

Evaluation Criteria: ODOR		
Normal	Acceptable Limit	Unacceptable Range
No odor.	Slight organic smell, similar to a fish tank.	Offensive or foul odor, similar to sewage.


Check system for power connection
Is there power at the alarm panel?
NO
Is the Control panel active?
NO
Check power outlet
YES
Replace alarm panel and cable
YES
Manually Activate UV and check operation
YES
Is the Fault Light activated?
NO
Is the Service Light Activated?
YES
Perform regular 6 month service
NO
Is the UV working?
NO
Replace UV Bulb and confirm operation
YES
Is the Sediment filter Blocked?
NO
Connect PC to network port for diagnosis prog.
YES
Replace Sediment filter
Check effluent quality
Is it within the acceptable range?
NO
Is the system due for a service?
YES
NO
Is it out of Range always or Occasionally?
OCCASSIONAL
Revisit Do's and Don'ts for appropriate products
ALWAYS
Is the Ozone Unit Operational?
NO
Replace Ozone Unit
YES
Has the System been Backwashing?
NO
Check intake connection and recommission
YES
Is the carbon Filter blocked?
NO
Connect PC to network port for diagnosis prog.
YES
Wash and refill Carbon Filter

System Components

ALL REPLACEMENT COMPONENTS CAN ONLY BE SOURCED DIRECTLY FROM NEXUS EWATER



FRONT

1	Bubble Column (SUB002)
2	Carbon Chamber (SUB004)
3	Installation Bench
4	Ozone Generator (OZ)
5	Hair Filter (HF)
6	Discharge Pump (CP1)
7	Sediment Filter (FH1)
8	Coagulator (CO)
9	Metal frame and cabinet

10	Control Panel (EB)
11	Intake and outtake pipes
12	Alarm Panel
13	Mains top up valve
14	Process Pump
15	Air-gap fitting (AG)
16	Pressure Tank (PT-2)
17	Valves (behind control panel)
18	Venturi

Ref. No.	Component Name	Component Design	Construction Description	Material	Proper Functioning and Fault Finding	Replacement Instructions
1 SUB002	Bubble Column		A custom designed plastic chamber where the main bubbling / foaming process is performed. It has 4x common intakes for water, 1 outtake for water and 1 outtake for foam.	HDPE	<u>Normal</u> Passive unit, no power connection. Silent, water-tight, no leaks, no cracks. <u>Faulty when:</u> Leaking (water, air or bubbles).	Not field repairable or replaceable. If faulty, contact Nexus eWater.
2 SUB004	Carbon Column		A custom designed plastic chamber to hold a quantity of granulated carbon. It has 1 port at the bottom which serves as both an intake and outtake, and 1 port at the top for overflow and backwash discharge.	HDPE, stainless steel mesh filter.	<u>Normal</u> Passive unit, no power connection. Silent, water-tight, no leaks, no cracks. <u>Faulty when:</u> Leaking (water, air or bubbles).	Not field repairable or replaceable. If faulty, contact Nexus eWater.
3 IB	Installation Bench		A custom designed metal support frame to anchor the NEXtreater to the ground and/or building foundations.	Zinc-coated steel	<u>Normal:</u> Strong, stable and structurally sound. No cracks or pitting. No signs of rust. <u>Faulty when:</u> Cracks, warping, rusting or loss of structural integrity.	Not field repairable or replaceable. If faulty, contact Nexus eWater.

Ref. No.	Component Name	Component Design	Construction Description	Material	Proper Functioning and Fault Finding	Replacement Instructions
4 OZ	Ozone Generator		An ozone generator will produce ozone which can be drawn through the venturi into the grey water.	Various.	Normal Red power light will be active when process pump is operating. Will produce Ozone at consistent rate. Faulty when: Power light is not active when commanded, or system does not produce Ozone (test using an ozone detector – provided separately).	Disconnect NEXtreater from power supplybefore performing work To replace Ozone: 1. Remove mounting screws using Size-2 Phillips head screw driver. 2. Unplug power cable from ozone generator. 3. Replace ozone system and tighten screws. 4. Plug in power to new ozone system.
5 HF	Hair Filter		The hair filter will remove hair, lint and other solid material from the grey water. It will automatically backwash after every batch.	PVC, stainless steel filter element	Normal Water-tight, no leaks, no cracks. Faulty when: Leaking (water, air or bubbles).	Disconnect NEXtreater from power supply before performing work To replace: 1. Loosen union at 3 and 4 (see left). 2. Remove head 3. Replace head and tighten unions.
6 CP1	Discharge Pump		The carbon pump will pump water out of the carbon filter, through the pleated filter, and through the UV.	Plastic housing and internal motor and electronics	Normal Water-tight, no leaks, no cracks. About 45dBA noise level. Faulty when: Leaking (water, air or	Disconnect NEXtreater from power supply before performing work To replace: 1. Loosen hose clamp at 7 and 8 (see left). 2. Remove mounting

Ref. No.	Component Name	Component Design	Construction Description	Material	Proper Functioning and Fault Finding	Replacement Instructions
					bubbles). Does not run when commanded to run.	screws using Size-2 Phillips head screw driver. 3. Remove pump 4. Replace pump and replace screws. 5. Tighten hose clamps.
7a FH1	Pleated Filter Housing		20” Filter housing with air release and removable sump.	Unplasticized PVC	<u>Normal</u> Water-tight, no leaks, no cracks. <u>Faulty when:</u> Leaking (water, air or bubbles).	**Disconnect NEXtreater from power supply before performing work** <u>To replace Sump:</u> See maintenance section. <u>To replace head:</u> 1. Remove mounting screws using ½” spanner. 2. Loosen barrel unions at 9 and 10 (see left). 3. Remove head 4. Replace head and tighten unions. 5. Replace mounting screws.
7b PF035	Pleated sediment filter		0.35um 20” pleated filter.	Polyester	See maintenance section	See maintenance section.

Ref. No.	Component Name	Component Design	Construction Description	Material	Proper Functioning and Fault Finding	Replacement Instructions
8 CO	Coagulator		A custom designed housing to hold the electro-coagulation system. It has a flow-through design which allows the water to pass evenly across the electrodes. It has 1 intake and 1 outtake for water.	HDPE	Normal Water-tight, no leaks, no cracks. Faulty when: Leaking (water, air or bubbles).	Disconnect NEXtreater from power supply before performing work To replace: 1. Loosen union at 5 and 6 (see left). 2. Remove Coagulator 3. Replace coagulator and tighten unions.
9 FR	Frame and Shroud		Folded steel frame, including pre-drill holes and brackets for mounting of other NEXtreater components.	Plain carbon steel with powder-coated finish.	Normal: Strong, stable and structurally sound. No cracks or pitting. No signs of rust. Faulty when: Cracks, warping, rusting or loss of structural integrity.	Not field repairable or replaceable. If faulty, contact Nexus eWater.
10 EB1	Electronics Box		Steel housing containing NEXtreater control system and power supply	Plain steel with power coating. Control system has various electronic components.	See trouble-shooting section	Not field repairable or replaceable. If faulty, contact Nexus eWater.
11 Pipes	Intake and outtake pipes	NA	Plumbing pipework provided by technician during installation	PVC, ABS or other.	Normal Water-tight, no leaks, no cracks. Faulty when: Leaking water	Not field repairable or replaceable. If faulty, contact Nexus eWater.

Ref. No.	Component Name	Component Design	Construction Description	Material	Proper Functioning and Fault Finding	Replacement Instructions
12 AP	Alarm Panel		A combination of lights and buttons installed in the metal cabinet. Includes alarm buzzer.	Various	STATUS light will be illuminated when power is connected. Other lights will illuminate in other operation sequences	Not field repairable or replaceable. If faulty, contact Nexus eWater.
13 MTV-#V7	Mains Top-up valve		Automatic ¾" solenoid valve to provide backup mains water supply	Noryl GTX830 Resin	<u>Normal</u> Water-tight plumbing, no leaks, no cracks. <u>Faulty when:</u> Leaking water. Valve does not open or close as required.	Not field repairable or replaceable. If faulty, contact Nexus eWater.
14 PP1	Process Pump		The process pump will run continuously throughout the treatment process. It recirculates water from the main column, through the flocculation system, through the venturi (which draws in air) and back into the main column.	Steel pump housing and plastic impeller.	<u>Normal</u> Water-tight, no leaks, no cracks. Pump will spin freely and run at approx 40dBA (at 40"). <u>Faulty when:</u> Leaking (water, air or bubbles). Pump is noisy or silent (indicating that it isn't running).	Disconnect NEXtreater from power supply before performing work <u>To replace pump:</u> 1. Loosen barrel unions 1 and 2 (see previous page). 2. Unplug pump from power cable. 3. Remove pump from NEXtreater. 4. Place new pump in situ and tighten barrel unions 5. Plug in power cable.

Ref. No.	Component Name	Component Design	Construction Description	Material	Proper Functioning and Fault Finding	Replacement Instructions
15 AG	Air gap fitting		Plastic fitting to protect mains water supply from cross-connection or syphoning of treated water	White ABS	Normal: No leaks or splashing Faulty when: Water is leaking or splashing from unit	Disconnect NEXtreater from power supply before performing work To replace air gap: 1. Twist anti-clockwise to unscrew fitting from thread mount. 2. To install new fitting, screw clockwise until secure and watertight.
16 PT-2	2 Gallon Pressure Tank		Metal pressure tank which provides consistent flow rates during backwash procedures	Steel	Normal Water-tight plumbing, no leaks, no cracks. Faulty when: Leaking water.	Disconnect NEXtreater from power supply before performing work To replace pressure tank: 1. Twist anti-clockwise to unscrew tank from thread mount. 2. To install new tank, screw clockwise until secure and watertight.
17 Multiple	2-way 15mm ball valve		Automatic 2-way 1/2” ball valve. 24VDC power.	Wetted parts: Brass housing, stainless steel ball. ABS housing and internal electronics	Normal Water-tight plumbing, no leaks, no cracks. 2-way ball valves will open and close as required. Run time is 90 secs. Faulty when: Leaking (water, air or	Disconnect NEXtreater from power supply before performing work To replace valve actuator: 1. Remove centering screw using Size-2 Phillips head screw driver. 2. Unplug power cable from valve actuator.

Ref. No.	Component Name	Component Design	Construction Description	Material	Proper Functioning and Fault Finding	Replacement Instructions
					bubbles). Valves do not open or close as required.	3. Replace valve actuator and tighten screw. 4. Plug in power cable to valve.
18 VN	Venturi		Massei Venturi 78K (equiv to 784 range), 3/4" barbed connections, ozone compatible.	Kynar (PVDF)	Normal Water-tight plumbing part, no leaks, no cracks. Faulty when: Leaking (water, air or bubbles).	Disconnect NEXtreater from power supply before performing work To replace: 1. Loosen hose clamp at 11 and 12 (see left). 2. Remove Venturi 3. Replace venturi and tighten hose clamps.

Nexus eWater
104 East Avenue K-4, Suite D
Lancaster, CA 93535
Phone: 877-486-9797

	NAME	DATE
DRAWN	Andrew Hermann	April 30, 2015
CHK'D	Tom Wood	April 30, 2015

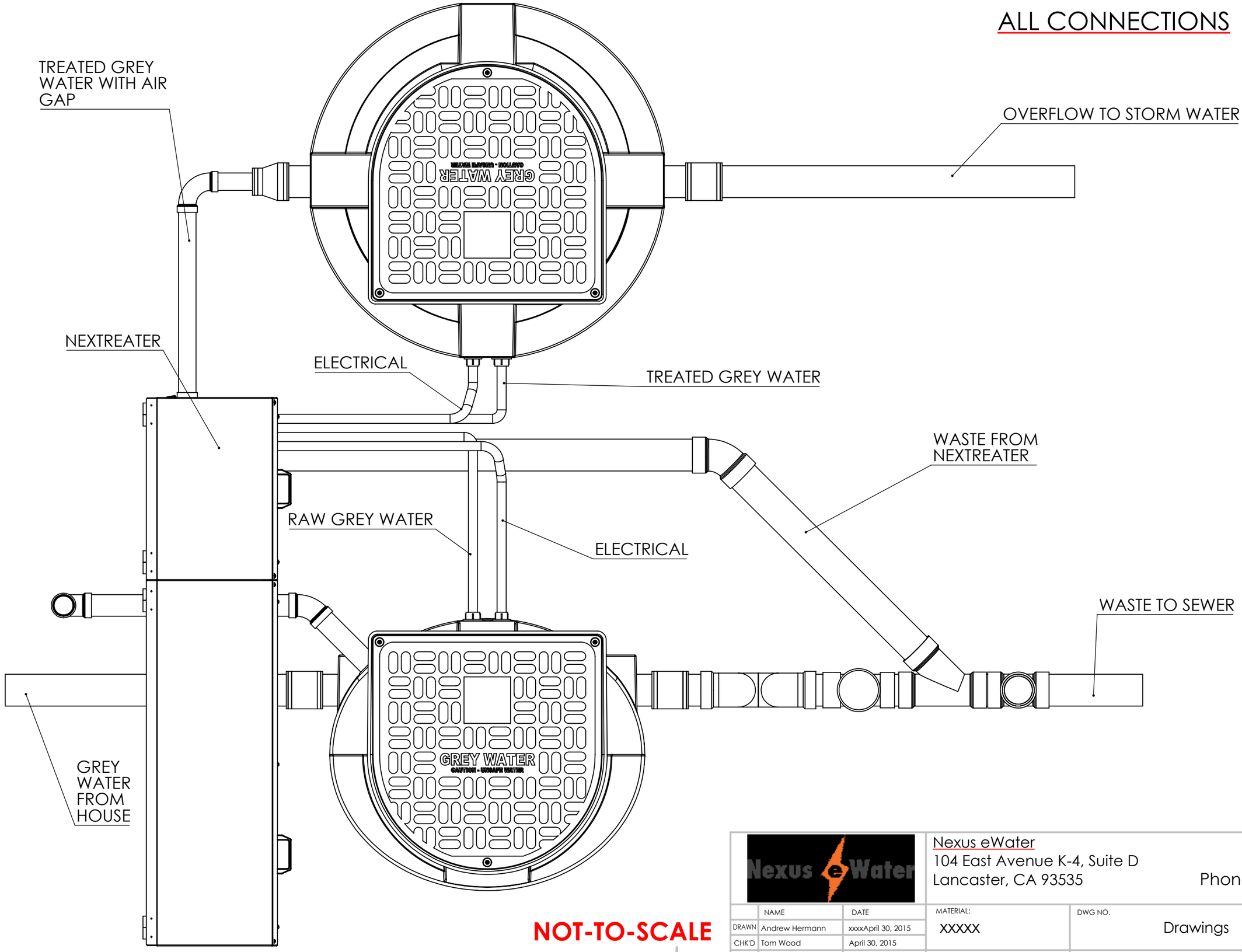
MATERIAL: XXXXX

DWG NO. Drawings

A3

DO NOT SCALE DRAWING | SCALE:1:20 | SHEET 1 OF 9

ALL CONNECTIONS



NOT-TO-SCALE

Nexus eWater
104 East Avenue K-4, Suite D
Lancaster, CA 93535
Phone: 877-486-9797

	NAME	DATE
DRAWN	Andrew Hermann	xxxxApril 30, 2015
CHK'D	Tom Wood	April 30, 2015

MATERIAL:	DWG NO.	
xxxxx	Drawings	A3

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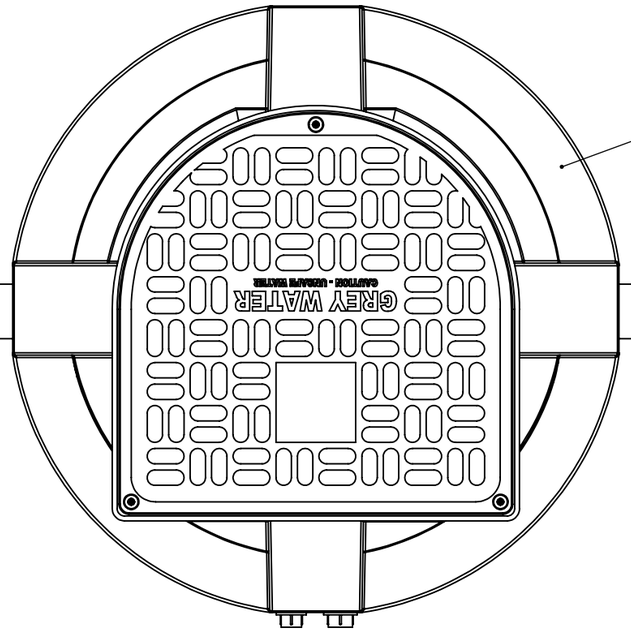
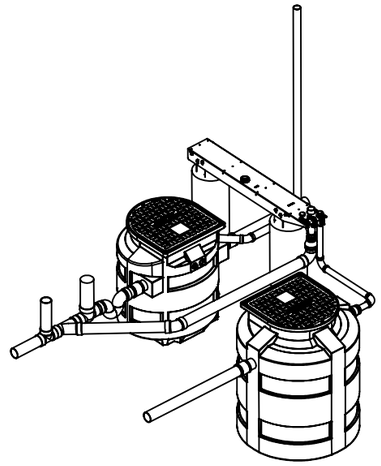
DRAINAGE CONNECTIONS

Treated Water Out
(1-1/2" DWV)
To NEXservoir

NEXSERVOIR (200G CLEAN WATER TANK)

3" OVERFLOW TO STORM WATER

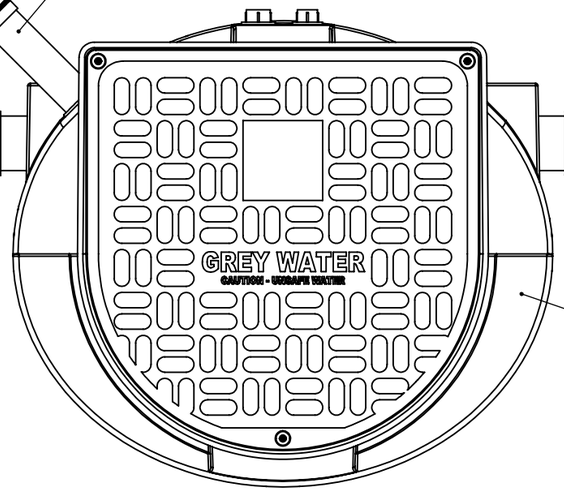




3" WASTE FROM NEXTREATER

2" VENT

GREY WATER INTAKE



NEXCOLLECTOR (75G GREY WATER TANK)

INSTALLATION BENCH

NOT-TO-SCALE

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Lancaster, CA 93535
Phone: 877-486-9797

	NAME	DATE
DRAWN	Andrew Hermann	xxxxApril 30, 2015
CHK'D	Tom Wood	April 30, 2015

MATERIAL:	DWG NO.	
XXXXX	Drawings	A3
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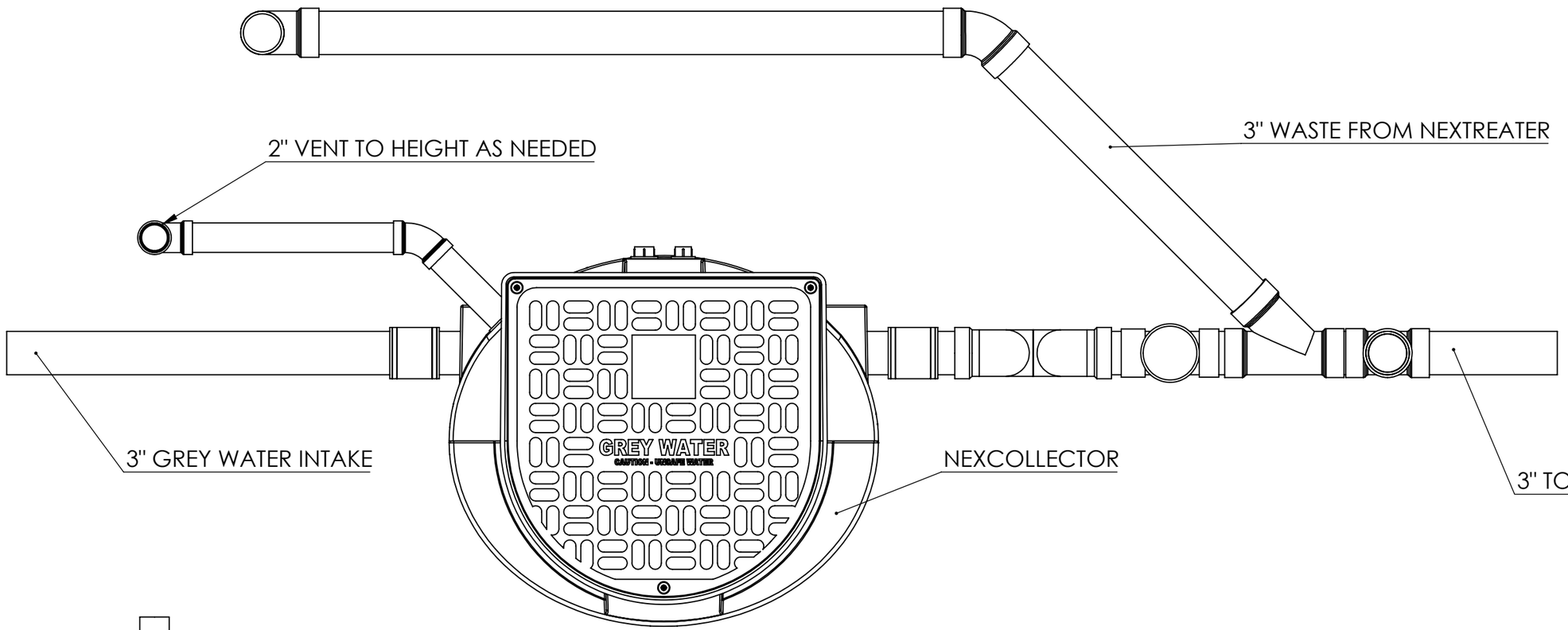

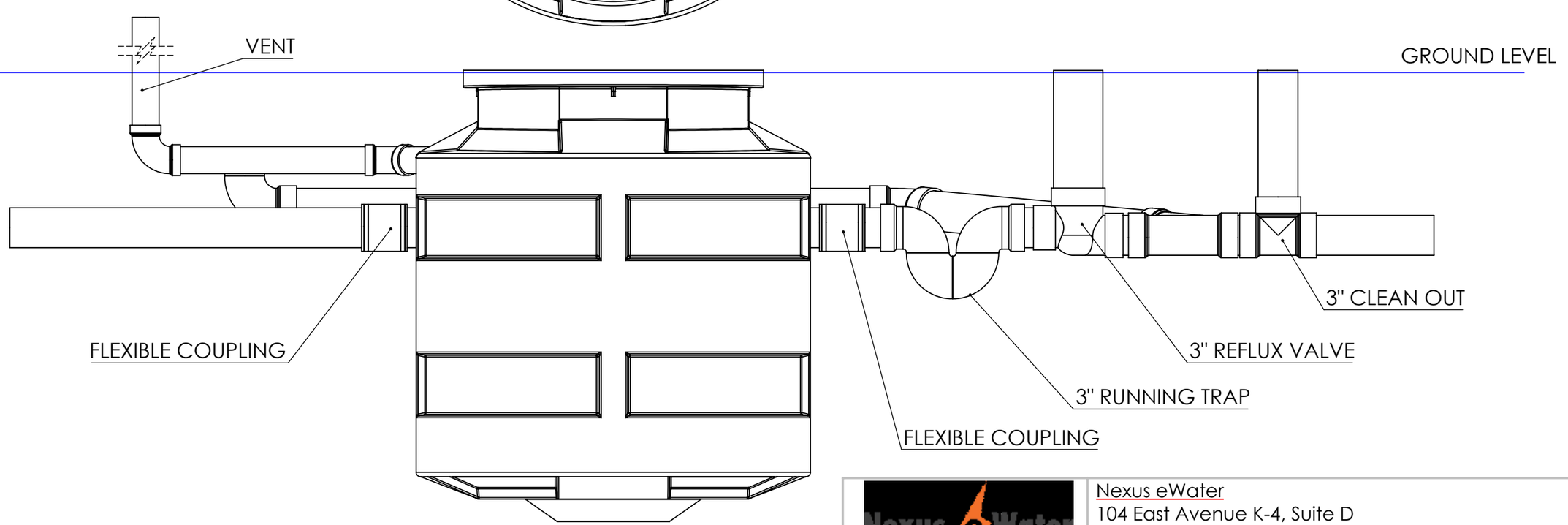

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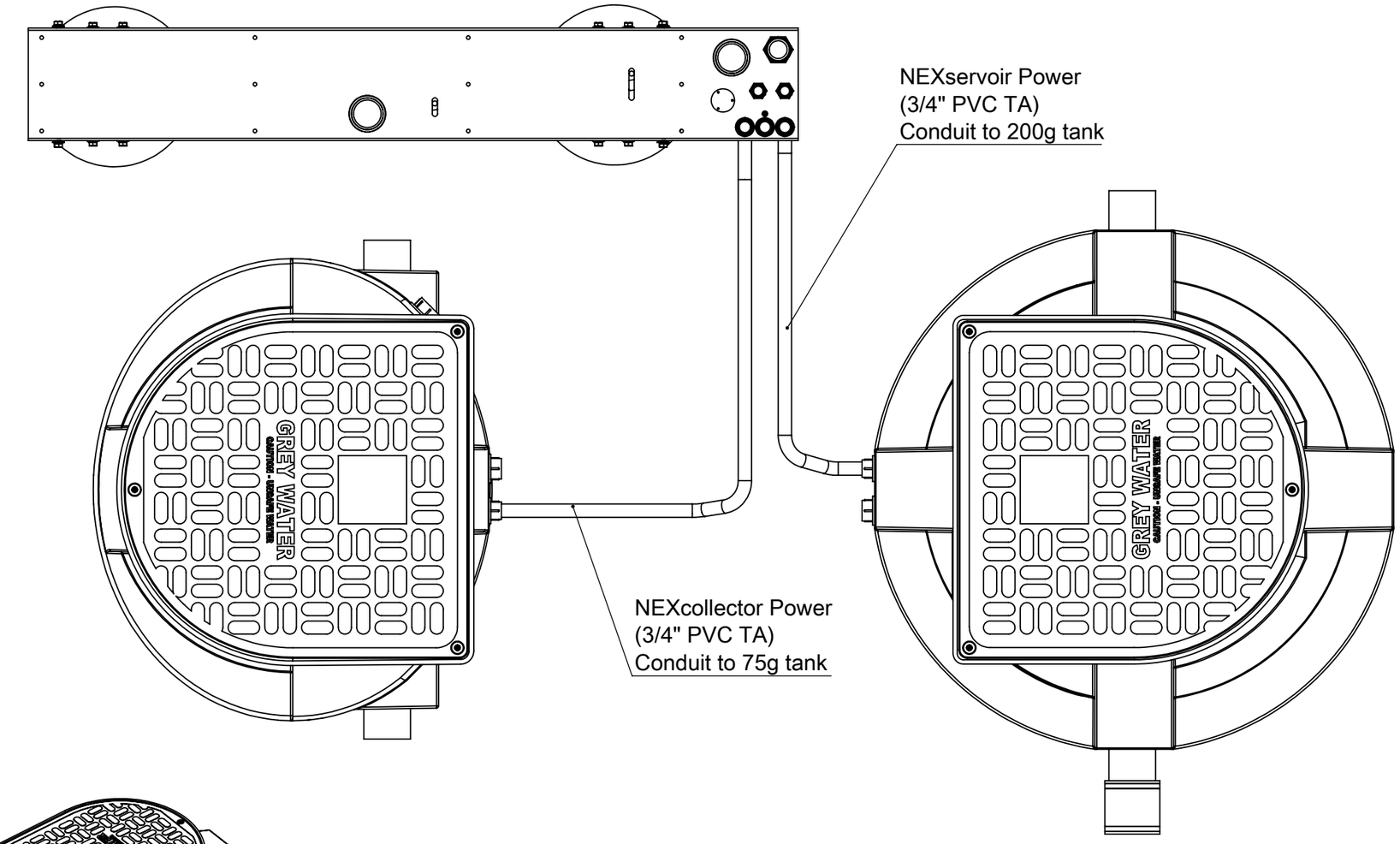
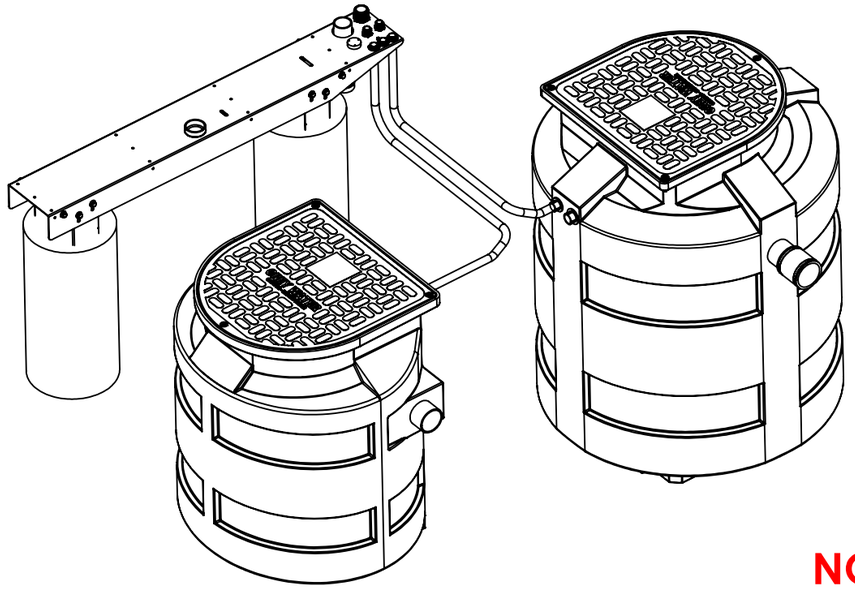
	NAME	DATE	MATERIAL:	DWG NO.	
DRAWN	Andrew Hermann	xxxxApril 30, 2015	XXXXX	Drawings	A3
CHK'D	Tom Wood	April 30, 2015			
			DO NOT SCALE DRAWING	SCALE:1:50	SHEET 4 OF 9

ELECTRICAL CONNECTIONS





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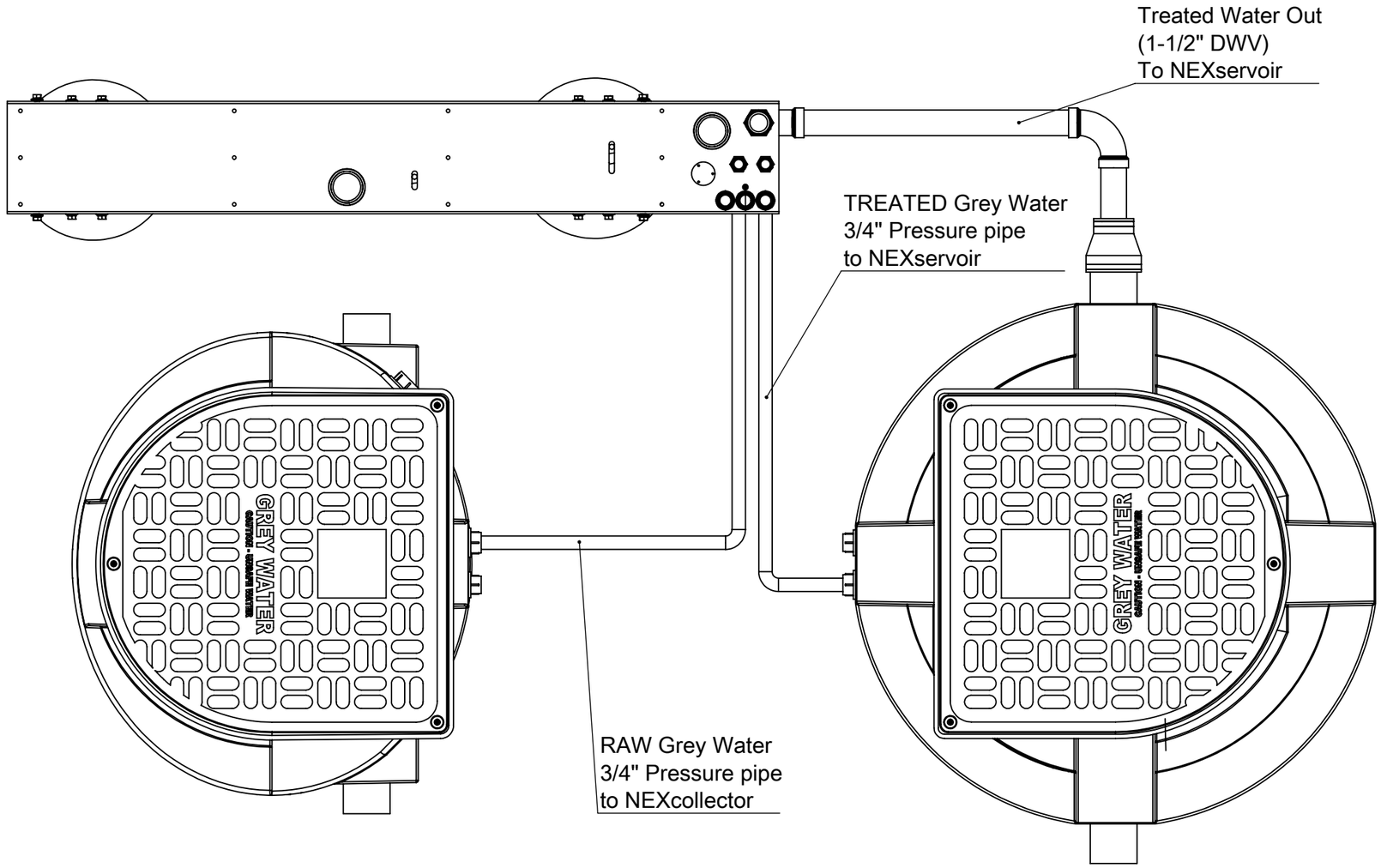
	NAME	DATE	MATERIAL:	DWG NO.	A3
DRAWN	Andrew Hermann	xxxxApril 30, 2015	XXXXX	Drawings	
CHK'D	Tom Wood	April 30, 2015			
			DO NOT SCALE DRAWING	SCALE:1:50	SHEET 5 OF 9

WATER CONNECTIONS



NOT-TO-SCALE

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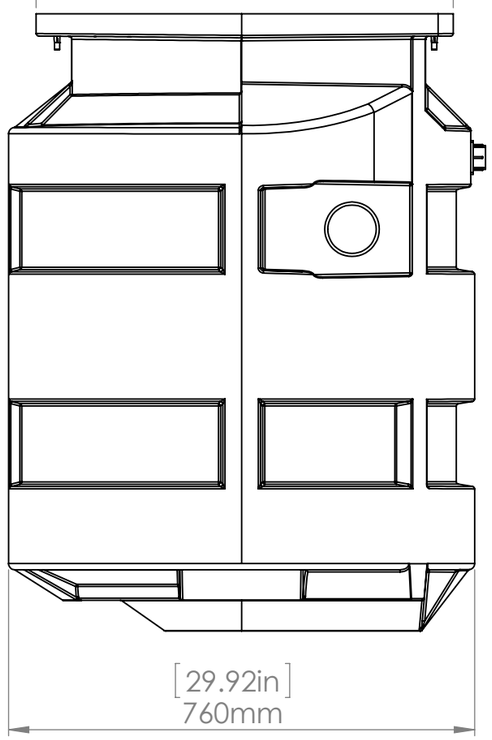
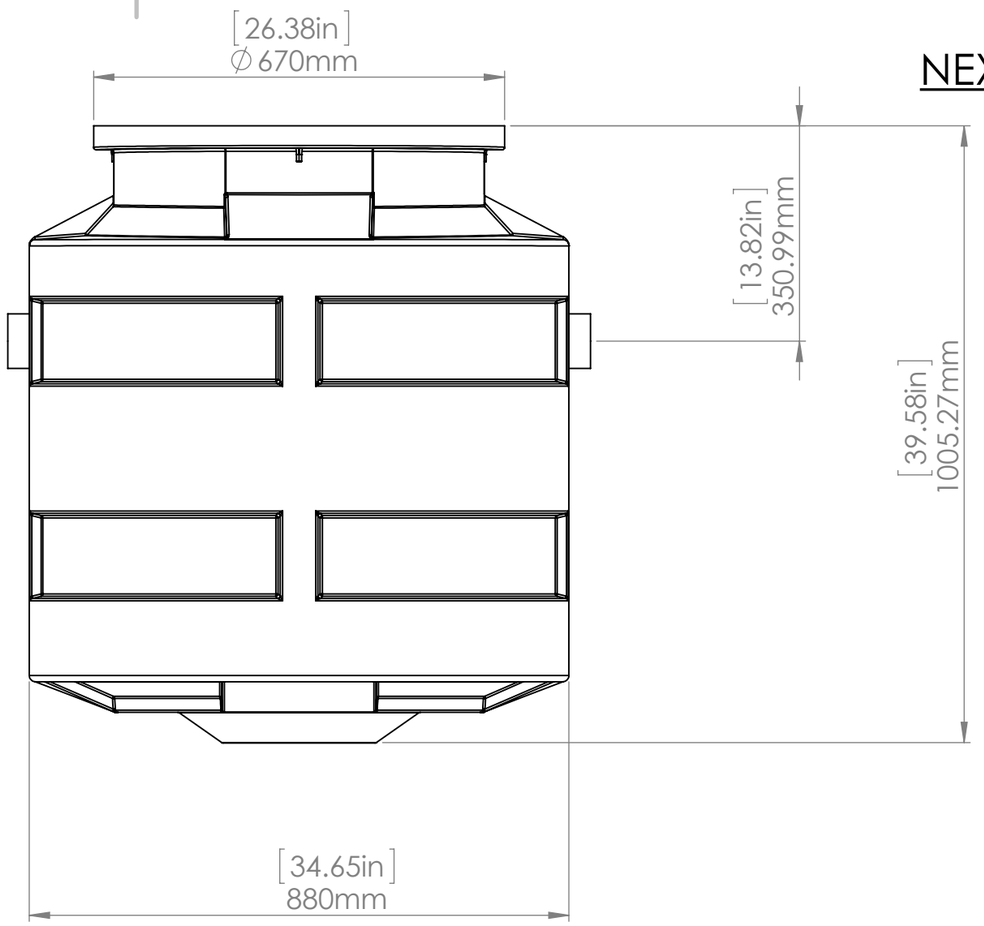
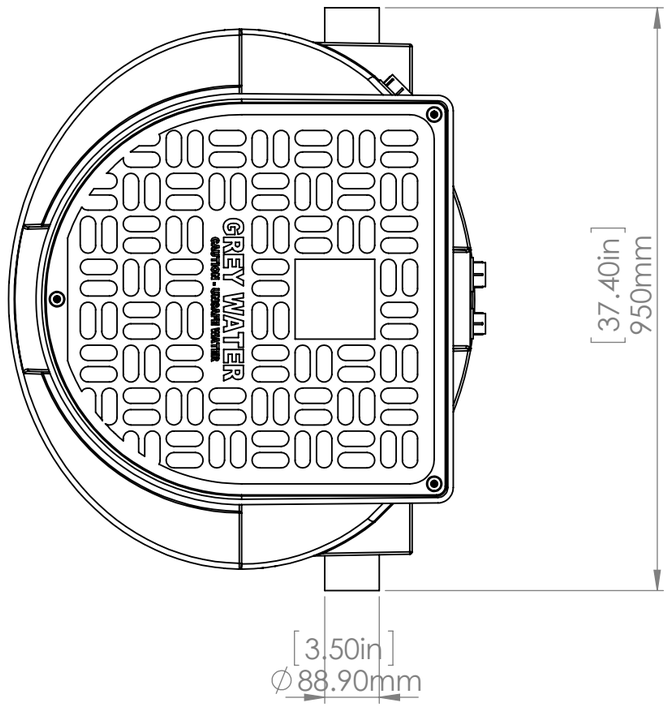
	NAME	DATE	MATERIAL:	DWG NO.	
DRAWN	Andrew Hermann	April 30, 2015	XXXXX	Drawings	A3
CHK'D	Tom Wood	April 30, 2015			
			DO NOT SCALE DRAWING	SCALE:1:10	SHEET 6 OF 9

NEXCOLLECTOR







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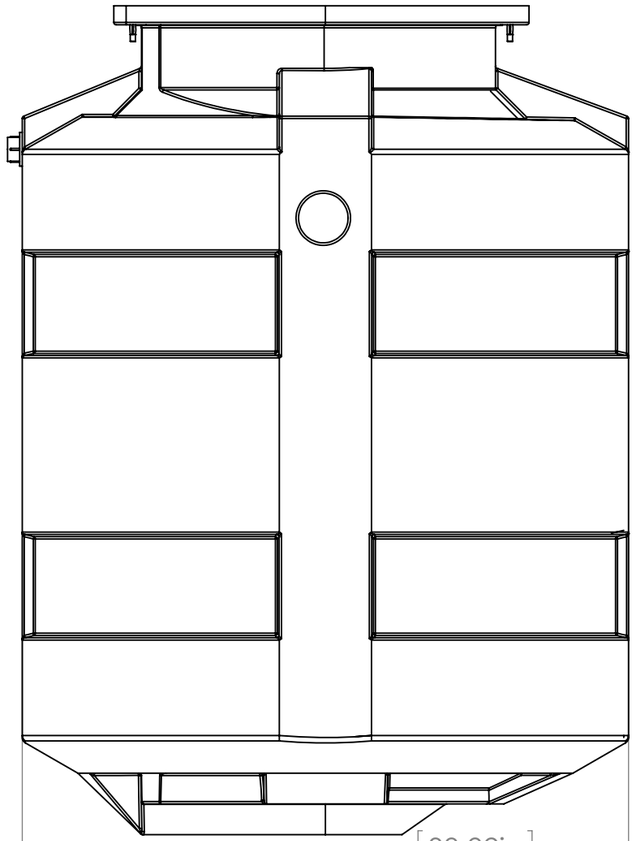
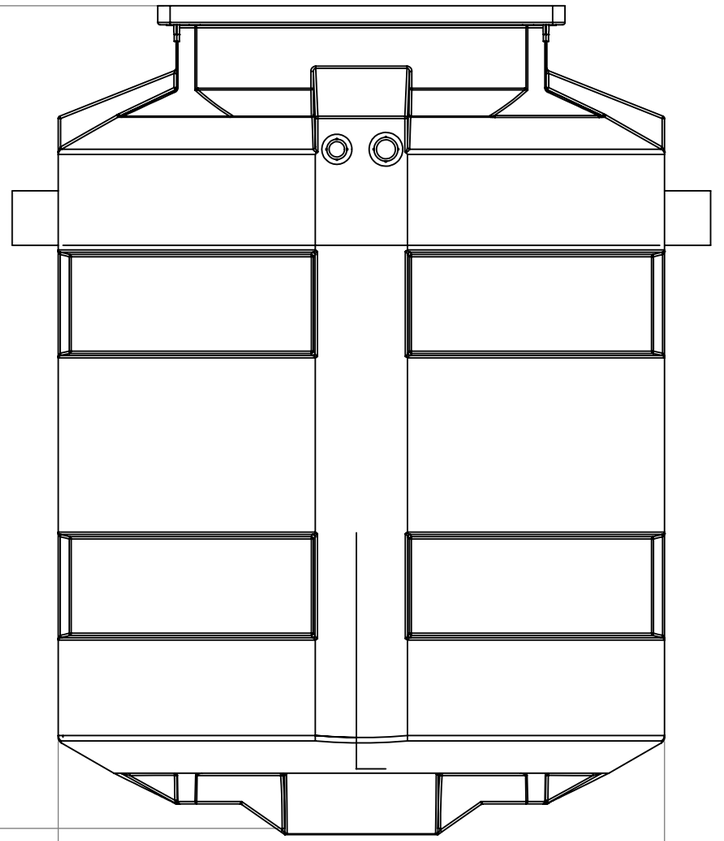
xxxxx	Drawings	A3
DO NOT SCALE DRAWING	SCALE:1:10	SHEET 7 OF 9

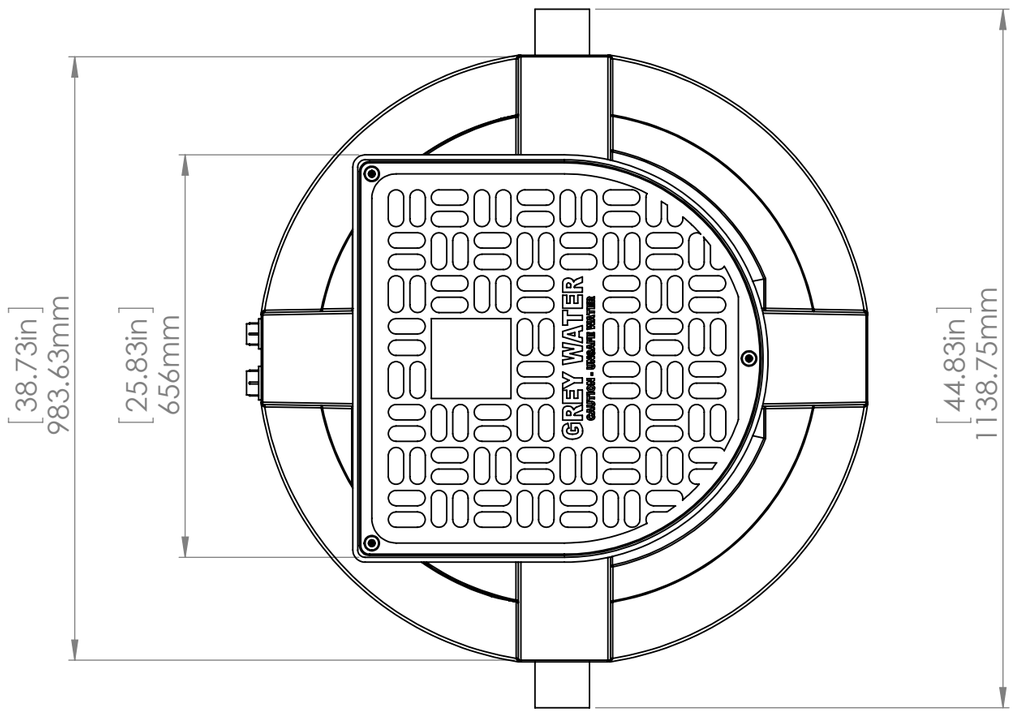
NEXSERVOIR





[38.92in]
988.69mm

[38.92in]
988.69mm



Nexus eWater
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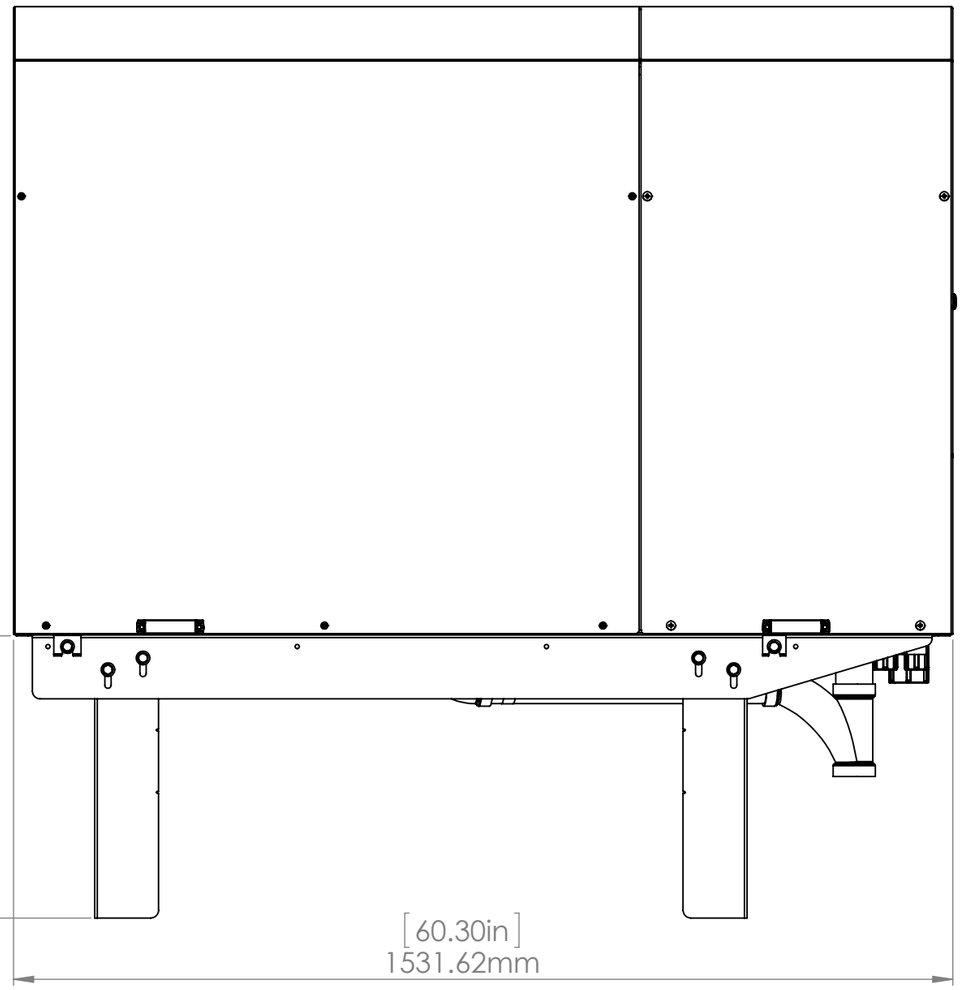
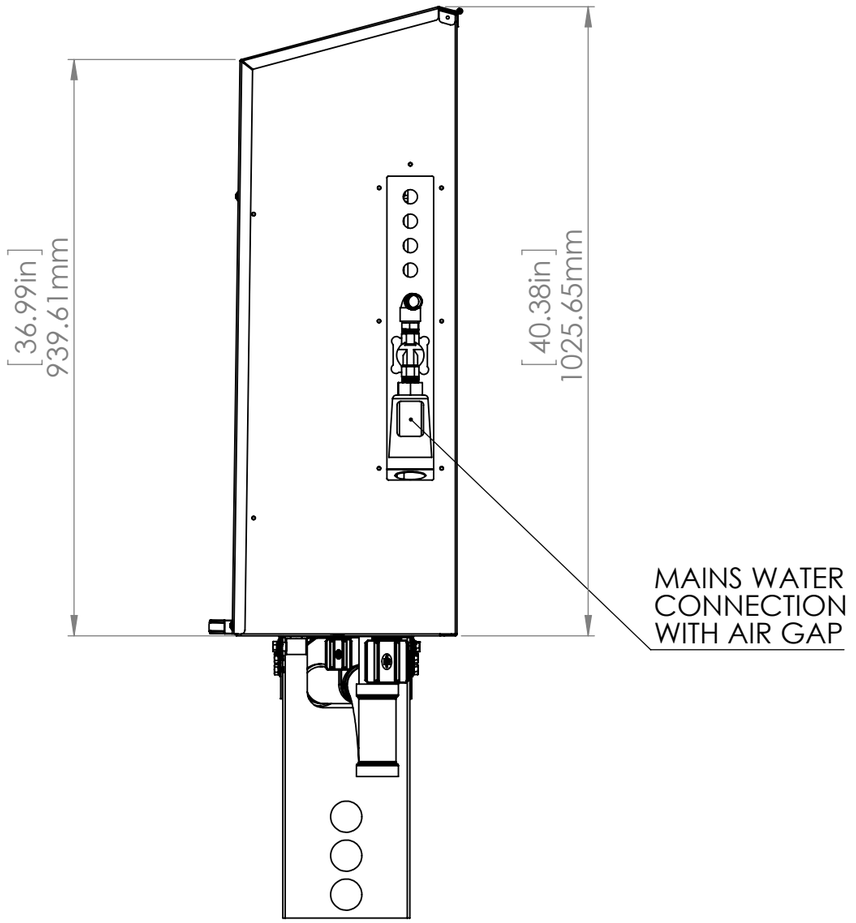
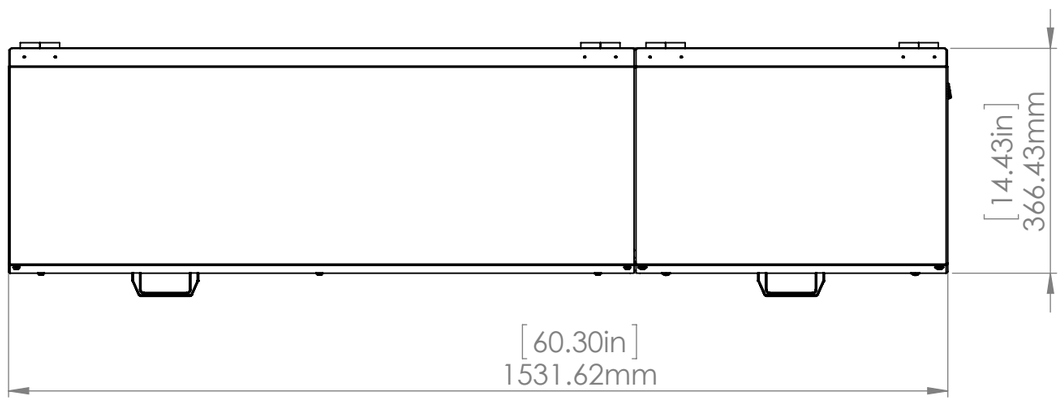
	NAME	DATE
DRAWN	Andrew Hermann	xxxxApril 30, 2015
CHK'D	Tom Wood	April 30, 2015

MATERIAL:	DWG NO.	
xxxxx	Drawings	A3
DO NOT SCALE DRAWING	SCALE:1:10	SHEET 8 OF 9

NEXTREATER







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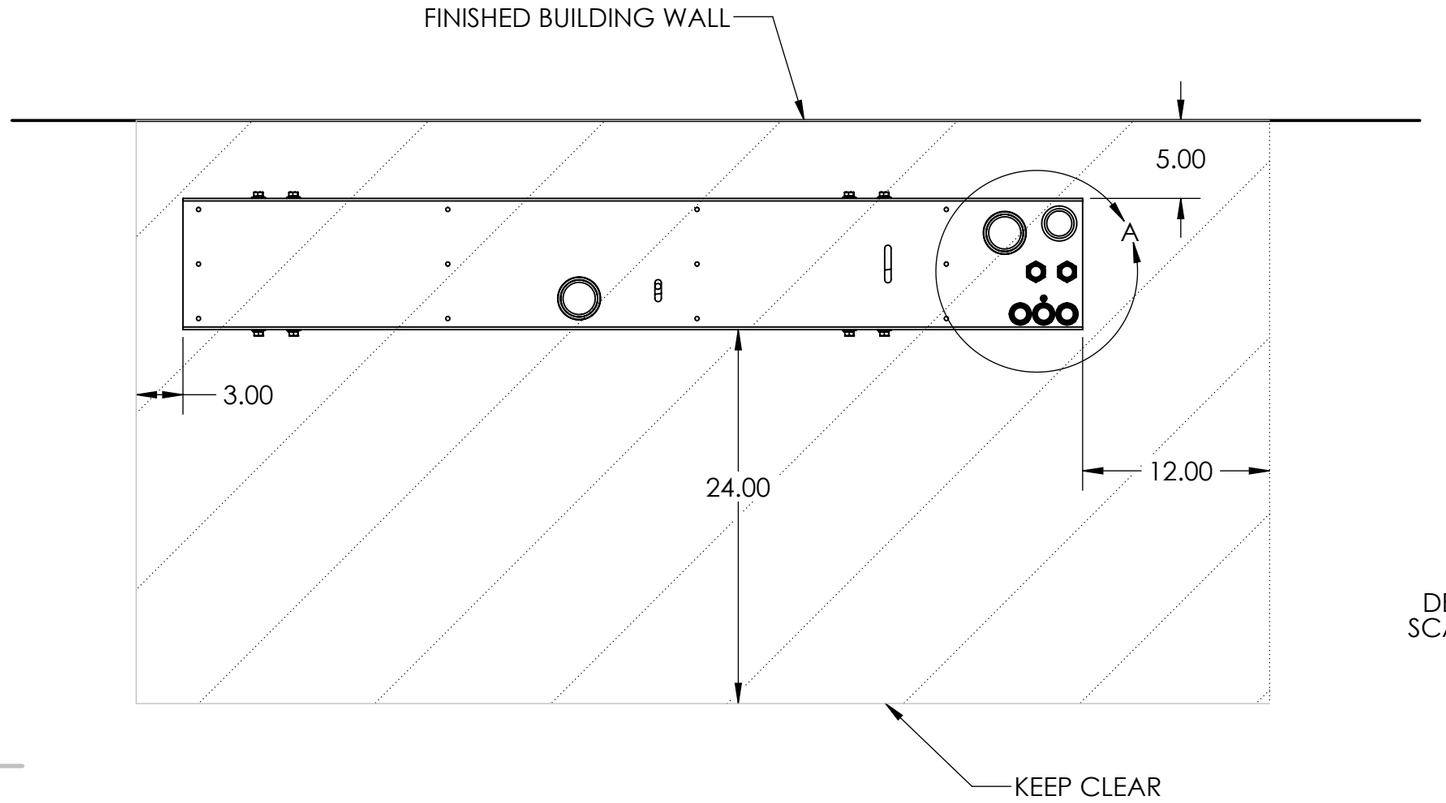
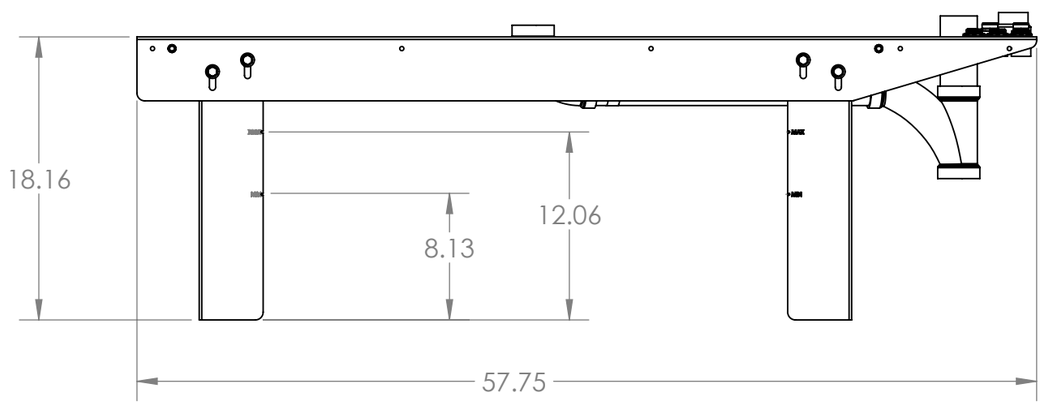
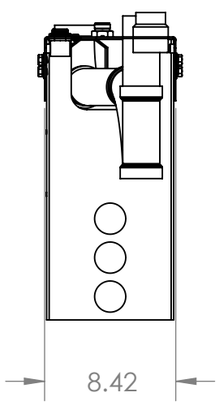
Phone: 877-486-9797

	NAME	DATE
DRAWN	Andrew Hermann	April 30, 2015
CHK'D	Tom Wood	April 30, 2015

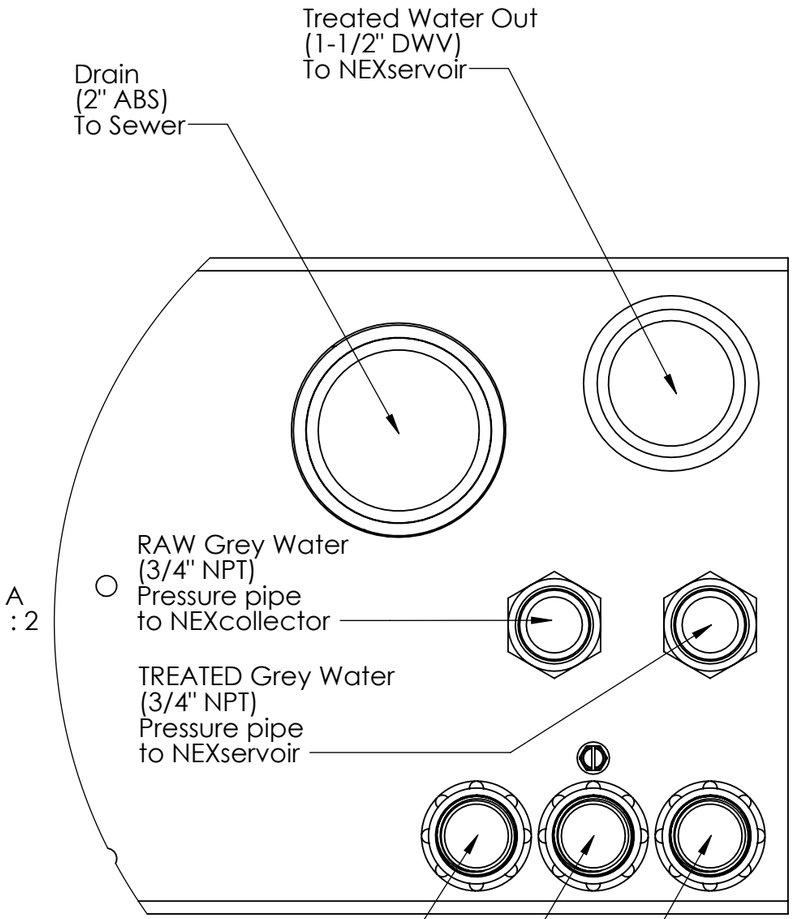
MATERIAL:	DWG NO.	
XXXXX	Drawings	A3
DO NOT SCALE DRAWING	SCALE:1:10	SHEET 9 OF 9







DETAIL A
SCALE 1 : 2



Nexus eWater
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Lancaster, CA 93535
Phone: 877-486-9797

	NAME	DATE
DRAWN	Andrew Hermann	xxxx
CHK'D	xxxx	xxxx

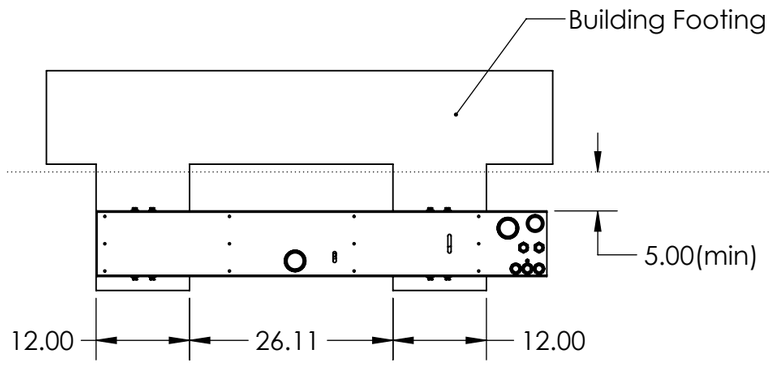
MATERIAL: xxxxx

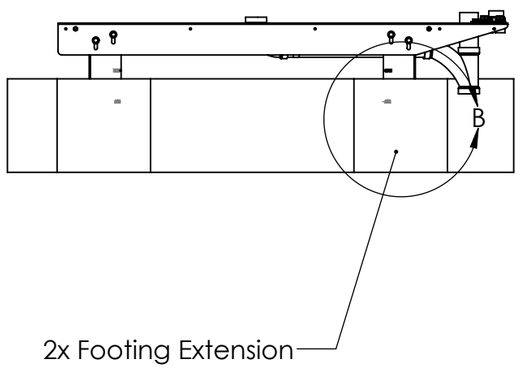
DWG NO. NEXbench 29-04-15

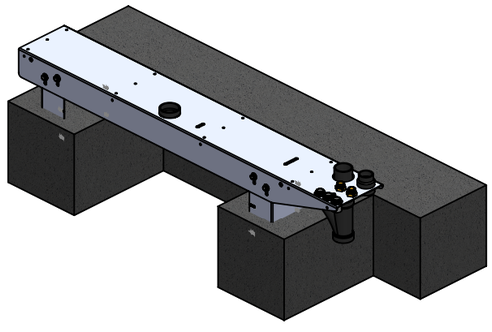
A3

DO NOT SCALE DRAWING | SCALE:1:20 | SHEET 1 OF 2

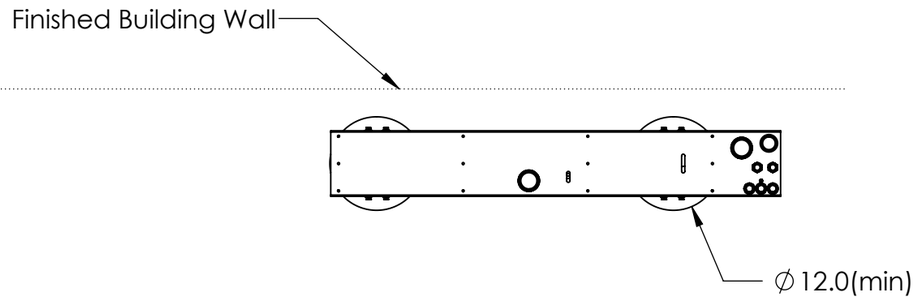
OPTION 1 - FOOTING MOUNT

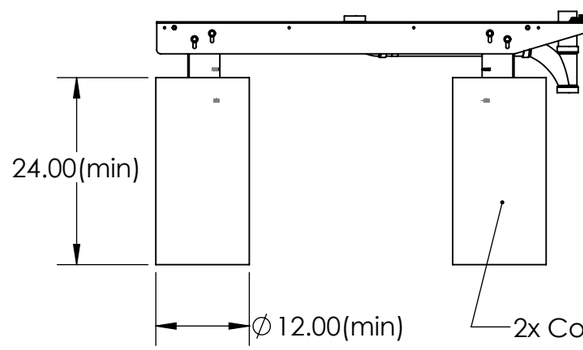


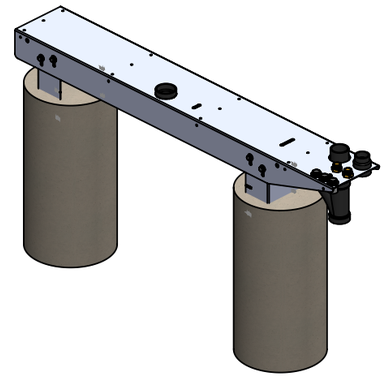




OPTION 2 - PIER MOUNT







DETAIL B
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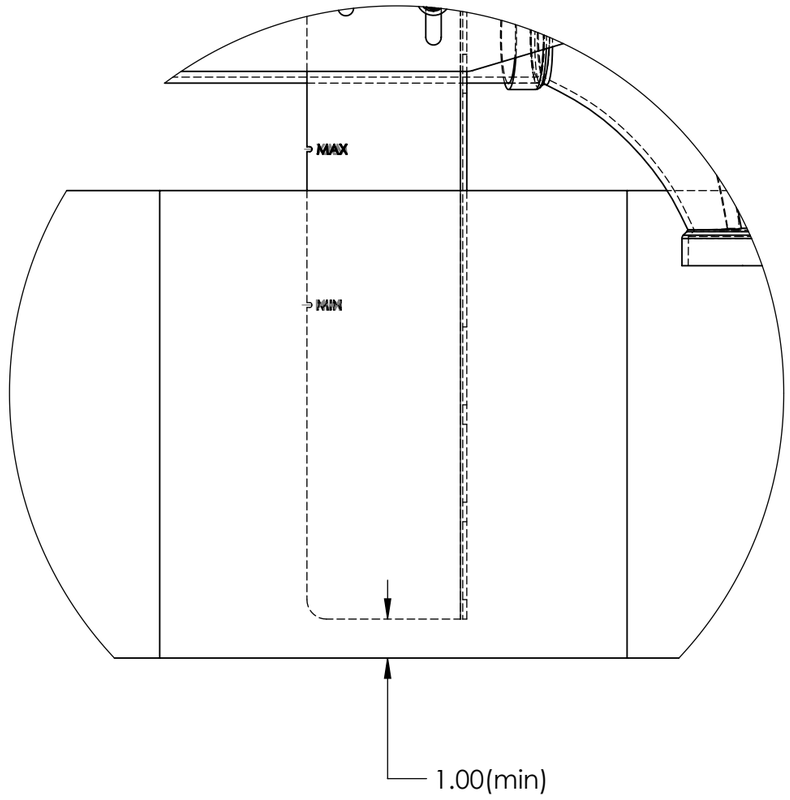
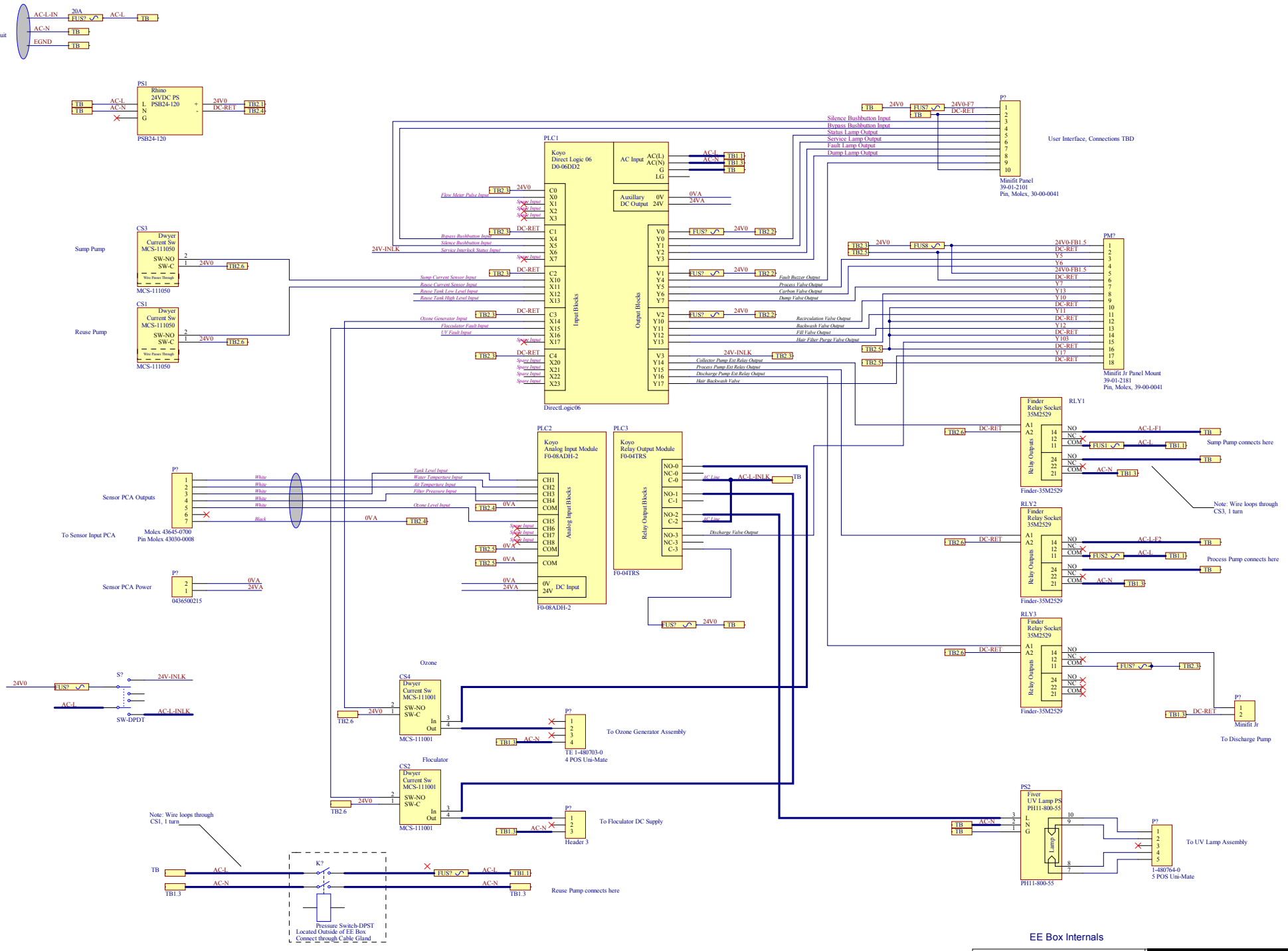


Nexus eWater	Nexus eWater 104 East Avenue K-4, Suite D Lancaster, CA 93535	Phone: 877-486-9797
	NAME / DATE	
DRAWN	Andrew Hermann / xxxx	
CHK'D	xxxx / xxxx	
MATERIAL: xxxxx	DWG NO. NEXbench 29-04-15	A3
DO NOT SCALE DRAWING	SCALE:1:20	SHEET 2 OF 2


AC Input
120VAC, 20A
From GFCI Circuit
AC-L-IN
20A
FUS?
AC-L
TB
AC-N
EGND
PS1
Rhino
24VDC PS
PSB24-120
L
N
G
24V0
DC-RET
TB2.1
TB2.4
PSB24-120
PLC1
Koyo
Direct Logic 06
D0-06DD2
AC Input
AC(L)
AC(N)
G
LG
Auxillary
DC Output
0V
24V
0VA
24VA
Input Blocks
Output Blocks
C0
X0
X1
X2
X3
C1
X4
X5
X6
X7
C2
X10
X11
X12
X13
C3
X14
X15
X16
X17
C4
X20
X21
X22
X23
V0
Y0
Y1
Y2
Y3
V1
Y4
Y5
Y6
Y7
V2
Y10
Y11
Y12
Y13
V3
Y14
Y15
Y16
Y17
DirectLogic06
Flow Meter Pulse Input
Spare Input
Bypass Bushbutton Input
Silence Bushbutton Input
Service Interlock Status Input
Sump Current Sensor Input
Reuse Current Sensor Input
Reuse Tank Low Level Input
Reuse Tank High Level Input
Ozone Generator Input
Flocculator Fault Input
UV Fault Input
Silence Bushbutton Input
Bypass Bushbutton Input
Status Lamp Output
Service Lamp Output
Fault Lamp Output
Dump Lamp Output
Fault Buzzer Output
Process Valve Output
Carbon Valve Output
Dump Valve Output
Recirculation Valve Output
Backwash Valve Output
Fill Valve Output
Hair Filter Purge Valve Output
Collector Pump Ext Relay Output
Process Pump Ext Relay Output
Discharge Pump Ext Relay Output
Hair Backwash Valve
24V-INLK
P?
Minifit Panel
39-01-2101
Pin, Molex, 30-00-0041
User Interface, Connections TBD
PM?
Minifit Jr Panel Mount
39-01-2181
Pin, Molex, 39-00-0041
24V0-F7
24V0-FB1.5
CS3
Dwyer
Current Sw
MCS-111050
SW-NO
SW-C
Wire Passes Through
Sump Pump
Reuse Pump
MCS-111050
CS1
PLC2
Koyo
Analog Input Module
F0-08ADH-2
CH1
CH2
CH3
CH4
COM
CH5
CH6
CH7
CH8
COM
DC Input
Analog Input Blocks
F0-08ADH-2
PLC3
Koyo
Relay Output Module
F0-04TRS
NO-0
NC-0
C-0
NO-1
C-1
NO-2
C-2
NO-3
NC-3
C-3
Relay Output Blocks
F0-04TRS
Tank Level Input
Water Temperture Input
Air Temperture Input
Filter Pressure Input
Ozone Level Input
Discharge Valve Output
Sensor PCA Outputs
To Sensor Input PCA
Molex 43645-0700
Pin Molex 43030-0008
Sensor PCA Power
0436500215
RLY1
RLY2
RLY3
Finder
Relay Socket
35M2529
Relay Outputs
Finder-35M2529
Sump Pump connects here
Process Pump connects here
Minifit Jr
To Discharge Pump
Note: Wire loops through
CS3, 1 turn
S?
SW-DPDT
Ozone
CS4
Dwyer
Current Sw
MCS-111001
SW-NO
SW-C
In
Out
MCS-111001
To Ozone Generator Assembly
TE 1-480703-0
4 POS Uni-Mate
Floculator
CS2
To Floculator DC Supply
Header 3
Note: Wire loops through
CS1, 1 turn
K?
Pressure Switch-DPST
Located Outside of EE Box
Connect through Cable Gland
Reuse Pump connects here
PS2
Fiver
UV Lamp PS
PH11-800-55
Lamp
PH11-800-55
To UV Lamp Assembly
1-480764-0
5 POS Uni-Mate
EE Box Internals
Title NEXtreater
Size: C
Number:*
Revision: X1
Date: 3/27/2015
Sheet 1 of 3
File: NextreaterTop.SchDoc
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Pump + -
P2
D9
Diode 1N5402
P?
1
2
Minifit Jr
39-01-3022

Process Valve, Ball type
EhcoTech
M21BV/E3BW Series
V?
V+
SW+
V-
P?
1
2
3
Minifit Jr
39-01-4030
P?
1
2
3
Minifit Jr
39-01-4036

Carbon Valve, Ball type
EhcoTech
M21BV/E3BW Series
V?
V+
SW+
V-
P?
1
2
3
Minifit Jr
39-01-4030
P?
1
2
3
Minifit Jr
39-01-4036

Dump Valve, Ball type
EhcoTech
M21BV/E3BW Series
V?
V+
SW+
V-
P?
1
2
3
Minifit Jr
39-01-4030
P?
1
2
3
Minifit Jr
39-01-4036

Hair Filter Purge Valve, Ball type
EhcoTech
M21BV/E3BW Series
V?
V+
SW+
V-
P?
1
2
3
Minifit Jr
39-01-4030
P?
1
2
3
Minifit Jr
39-01-4036

Wrap around style label. Part Number and description

2 wires into single pin

Mounts into side of electrical enclosure

J1

1	Orange
2	Violet
3	Yellow
4	Yellow
5	Orange
6	Violet
7	Yellow
8	Yellow
9	Grey
10	Violet
11	Grey
12	Violet
13	Grey
14	Violet
15	Grey
16	Violet
17	Grey
18	Violet

Minifit Jr
39-01-2180
Pin 39-00-0039

PM1

1	Orange	24V0-FB1.5
2	Violet	DC-RET
3	Yellow	Y5
4	Yellow	Y6
5	Orange	24V0-FB1.5
6	Violet	DC-RET
7	Yellow	Y7
8	Yellow	Y13
9	Grey	Y10
10	Violet	DC-RET
11	Grey	Y11
12	Violet	DC-RET
13	Grey	Y12
14	Violet	DC-RET
15	Grey	Y103
16	Violet	DC-RET
17	Grey	Y17
18	Violet	DC-RET

Minifit Jr Panel Mount
39-01-2181
Pin, Molex, 39-00-0041

Recirc Valve, Solenoid type
Backwash Valve, Solenoid type
V4
V+
V-
D4
Diode 1N5402
EhchTech
G28E-Series
P?
1
2
Minifit Jr
39-01-3022
P?
1
2
Minifit Jr
39-01-3023

V5
V+
V-
D5
Diode 1N5402
EhchTech
G28E-Series
P?
1
2
Minifit Jr
39-01-3022
P?
1
2
Minifit Jr
39-01-3023

Fill Valve, Solenoid type
EhchTech
G28E-Series
V7
V+
V-
D7
Diode 1N5402
P?
1
2
Minifit Jr
39-01-3022
P?
1
2
Minifit Jr
39-01-3023

Hair Purge Valve, Solenoid type
EhchTech
G28E-Series
V8
V+
V-
D8
Diode 1N5402
P?
1
2
Minifit Jr
39-01-3022
P?
1
2
Minifit Jr
39-01-3023

EhchTech
G28E-Series
V?
V+
V-
D?
Diode 1N5402
P?
1
2
Minifit Jr
39-01-3022
P?
1
2
Minifit Jr
39-01-3023

Pin, Molex, 39-00-0039

7	Heat Shrink type label
A/R	Wire, Stranded Red, 24AWG, UL1061 or equiv, Belden, 9984 002
A/R	Wire, Stranded White, 24AWG, UL1061 or equiv, Belden, 9984 009
A/R	Wire, Stranded Black, 24AWG, UL1061 or equiv, Belden, 9984 010
7	Insulated, 24AWG size Ferrule, American Electrical 1181034
16	Pin Molex 39-00-0039
1	Molex 39-01-2180
16	Pin Molex 39-00-0041
5	Molex 39-01-3023
3	Molex 39-01-4036

Valves Output Cable
P/N TBD

Title *			
Size: B	Number:*	Revision: *	
Date: 3/27/2015		Sheet* of *	
File: Small Outputs.SchDoc			Engineer: *