



Virginia Conservation Assistance Program

Presented by Virginia Association of Soil & Water Conservation Districts

Contract #

21-24-023

VCAP Payment Request Checklist

All Payment Requests should be submitted as a single PDF document, with this completed checklist as the first page of the submission packet.

- ☒ **Complete originally approved application package including:**
 - Part I: Applicant Contract** – as generated in Application Review, with Applicant signature
 - Part II: Technical Determination** – as generated in Application Review, with Applicant signature
 - Part III: Payment Approval** – with appropriate signatures
- ☒ **Photo documentation** of all components of the completed practice. If a representative of the District is unable to visit the site during construction, the applicant or contractor should provide photos.
- ☒ **Copies of receipts** for all material and labor paid – labeled as needed
- ☒ **Payment Request Spreadsheet** – with appropriate staff signature
- ☒ **Maintenance plan for the denoted lifespan of practice** page 11-12
- ☐ **Cost-Share Adjustment Form 7** – complete when cost-share deviates (increases or decreases) from approved amount

Any major changes to a project that alters the approved plan must be approved by the Steering Committee before work begins.



Virginia Association of Soil & Water Conservation Districts

7308 Hanover Green Drive, Suite 100

Mechanicsville, VA 23111

Office: (804) 559-0324



VCAP Application Checklist: Rainwater Harvesting

All Applications should be submitted as a single PDF document, with this completed checklist as the first page of the submission packet.

- ☒ **Part I: Applicant Contract** with Applicant's signature
- ☒ **Part II: Technical Determination** with District Staff and Director signatures
- ☒ **Applicant's W9 Form** to be kept in District files, VASWCD does not need copy
- ☒ **Photo documentation** of site and resource concern
- ☒ **Aerial map** noting practice location and outlining contributing drainage area / roof area
- ☒ **Sketch of project plan** including practice dimensions, foundation design, and overflow
- ☒ **Required Practice Sizing Calculations: cistern sizing based on 1-inch storm**
 - Practice overflow weir/pipe sizing based on 10-year storm
 - Other calculations per practice standard (structural loading, pretreatment sizing, etc.)
- ☒ **Installation requirements** including timeline, sequence and platform installation
- ☒ **Material list** and itemized cost estimates from contractor, vendor, and/or supplier
- ☒ **Site constraints** identified (utilities, right-of-way, septic, etc.)
- ☒ **Confirm local policies**, such as land disturbance, grass heights, etc.
- ☒ **Operation and maintenance plan for the 10-year lifespan of practice**
- ☒ **Water Use Plan** describing how and when water will be dispersed
- ☒ **Winterization Plan**
- ☒ **Form 6 - Ranking Sheet** completed and attached
- ☒ **Form 5 - Release Agreement** signed and attached to waive the requirement for the design plan to be certified from a licensed professional, *if applicable*



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VIRGINIA CONSERVATION ASSISTANCE PROGRAM
CONTRACT (Part I – Application for Program)

PY 2024

Application/Contract Number: 21-24-023		Application Date: 5/28/2024
First Name: Maryam Shawn Representative (if needed)		Last Name: Dadkah Achziger
Address: 609 Alma St, SE		Program Year: 2024
State: VA	City/County: Vienna, Fairfax County	
Zip code: 22180		
Telephone Number: [REDACTED]		
Email Address: [REDACTED]		

APPLICANT'S REQUEST:

I agree to install and maintain all practices receiving financial incentives according to Program Specifications required at the time of installation/ payment approval of my application by the Board of Directors of the local Soil and Water Conservation District (the "Board"). I agree to allow appropriate agency personnel or their designee access to land under my control for the purpose of evaluation, design, construction and inspection of said practice(s) from this date forward through the required lifespan. I agree to refund all or part of the cost-share financial assistance I have received if my practice(s) is/are found not to meet program specifications required at the time of installation/payment, or if the practice(s) is/are removed or not properly maintained during the lifespan of the practice(s). I understand that the sale, lease, or changed use of the property will not exempt me from fulfilling this/these requirement(s) described herein. I also understand that my period of responsibility begins with the acceptance of payment and extends through the lifespan of the practice in accordance with Program requirements. Lifespan is defined as "the number of years a BMP must be maintained in accordance with Program standards. The lifespan begins on January 1 of the calendar year following steering committee approval of payment." A BMP is subject to verification checks throughout the practice lifespan. The voluntary participation in VCAP does not relieve or relinquish me from compliance with ordinances, laws and regulations that may exist at any level of government. I understand that applying to participate in any of the above listed program does not guarantee that any or all of my request will be funded. I understand that if the practice I am requesting cost-share funding for is located within the Chesapeake Bay watershed, nutrient and sediment reduction information related to that practice will be submitted to the Virginia Department of Environmental Quality for reporting to the Chesapeake Bay Program to determine progress made towards Chesapeake Bay pollution reduction targets.

Cost-share funds are considered income. Recipients of these funds are responsible for compliance with all applicable tax requirements including requirements of the Internal Revenue Service.

REMEDIES IF THIS AGREEMENT IS BREACHED:

If my practice(s) is/are found not to meet Program Specifications required at the time of approval of my application by the Board, then I agree to refund all of the cost-share financial assistance or tax credit I have received. If the practice(s) is/are removed (in whole or in part) or not properly maintained during the lifespan of the practice(s), then I agree to refund all of the cost-share financial assistance or tax credit I have received, minus a pro rata portion of the assistance or tax credit from the number of months that my practice(s) had been previously in compliance, out of the number of months in the lifespan of the practice. Any refund shall be calculated with a penalty of 6% APR from the date of breach to the date of judgment, apart from post-judgment interest. In the event that demand is made for reimbursement and I fail or refuse to pay such reimbursement within 90 days of the demand, then I agree to pay any and all attorneys' fees for enforcement of this agreement.

Maryam Dadkah

Signature of Applicant

14-May-2024

Date



VIRGINIA CONSERVATION ASSISTANCE PROGRAM CONTRACT
(Part II – Technical Determination and SWCD Approval)

Applicant Name: Maryam Dadkah and Shawn Achziger		Representative (if needed):		Contract Number: 21-24-023	
Address: 609 Alma St, SE, Vienna		State: VA	Zip Code 22180		
Telephone Number:		Email Address:			

Resource Concern: ☐ Erosion ☐ Poor Cover ☒ Excess Runoff		Application Date: 5/28/24	
Address of BMP: 609 Alma St, SE, Vienna, VA 22180			Program Year: 2024
City/County: Town of Vienna, Fairfax County			
State: VA	Zip code: 22180		

Ranking Score: 77	Practice Code: RH	Practice Size (SF, LF, Gal): 475 gallons
GPS Coordinates: 38.90507, -77.24787		HUC: PL22 - Difficult Run
Dominant Land Use: Turf lawn	Contributing Drainage Area: 800 sq. ft.	
Impervious Area Treated: 800 sq. ft.	Impervious Area Removed:	
Are you receiving any other funding assistance for this project? Source and amount: No		

STATEMENT OF TECHNICAL NEED - I have reviewed this application and have indicated the extent authorized based on technical need. All practices are subject to verification procedures and any other quality control measures.

Daniel Schwartz 
District Employee Name

Soil Scientist
Title

5/14/2024
Date

AUTHORIZATION:

Your request form has been: ☒ Approved ☐ Not Approved

Required Completion Date: December 1, 2024

This practice must be installed and certified at the issuing SWCD by the above date.


District Authorization by (SWCD Director)

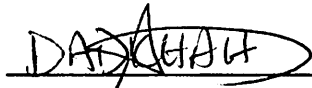
5/28/2024
Date

Cost Share Estimation:

Estimated Total Cost: \$10,203.18

Estimated Total Cost Share: \$1,900

I (the Applicant) acknowledge receipt of this document. I have received and reviewed the VCAP Program Specifications in the current VCAP Manual and agree to follow the requirements of the program as outlined therein. I understand that substantial deviation from approved projects may result in a decreased cost-share payment by the SWCD for completed projects, or portions thereof, and may result in denial of future cost-share program applications.



Signature of Applicant



4/10/2025

Date

COMMONWEALTH OF VIRGINIA:

Department of Conservation and Recreation activities and employment opportunities are available to all people regardless of race, color, religion, sex, age, national origin or political affiliation. An equal opportunity/affirmative action employer.

(Original to be retained by the SWCD. Copy with signature provided to the applicant). Date stamp: _____

Virginia Conservation Assistance Program Contract

Part II of III

Page 2 of 2

Rainwater Harvesting (RWH) Plan

Narrative/Overview:

The objective of This Rainwater Harvesting (RWH) Plan was developed per Virginia Conservation Assistance Program (VCAP) implementation and design manual for our residential home located at 609 Alma Street SE, Vienna, VA 22180. The RWH system will store rainwater for vegetable and native plants irrigation through a water pump and hose and to reduce rainwater run-off to our backyard and shed area. The benefits of the capture system will be to help with water conservation and water shed filtration happening because of irrigation of plants.

Storm water will be stored in an opaque tank which will later be dispersed to an on-site watering practice for replenishing of vegetables garden, adjacent Virginia native plant meadows, and Native Virginia flower beds surrounding the residential property. Additionally, our RHW system will help prevent existing downstream flooding in adjacent Vienna's Wildwood Park and Wolf Trap Creek by controlling runoff of rainwater during heavy storms. See ariel view of the property with storm water flow into the cistern below.

Project Specs: Upgrade current gutter system to reroute water to storage tank, places capture and storage tank to hold water, install water pump and hose for irrigation.

1. Install/upgrade/reroute current gutters to the tank and install downspout using WISY Poly Downspout Filter with adapter kit, hose, and tension ring to connect gutters to water tank.
2. A stable foundation of 6 inch thick of gravel and cobble stone will be built next to the house.
3. A 500-Gallon capture tank (48" dia. x 73" H), sized to collect 1" of rainwater will be placed under the downspout on the side of the house.
4. Water will be transferred using Grundfos SCALA2 115V Pump and hose and filtered using [1-1/4" Floating Filter](#) with 7' of food-grade suction hose.
5. Capture tank will have an installed diverter system to manage overflow. Any overflow will be diverted to Native Plant Meadow waterways.
6. The system will be disconnected of the downspout or following manufacturer guidelines for insulating spigots and pipes for winterization.

Design

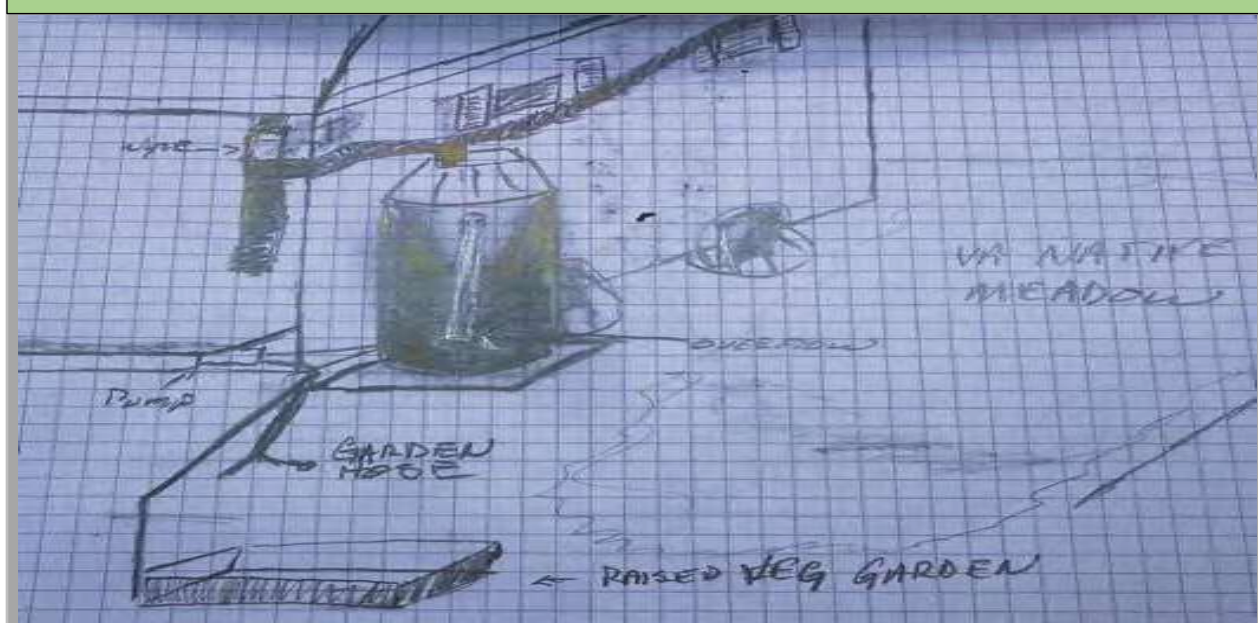
Our RWH system will capture rainwater from roof into trapezoidal gutter with 0.5% slope for 2/3 and 1% slope for 1/3 of the length for most efficient drainage. The gutter system will be equipped with covers or gutter guards to prevent debris buildup. The two downspouts on the eastern corners of the house will be routed to the cistern. The downspout will have a leaf cutter installed above a WISY poly filter above the return pipe responsible for transporting rainwater from the roof to the filter before it reaches the 500 gallon above ground storage tank. Storage tank cistern overflow will prevent backflow and use an angle-cut pipe to skim the water surface. This overflow will be diverting water using 1" check valve with twenty-five-foot hose directed to adjacent native meadow away from foundation.

The foundation of the RWH system will be a level pad, six inches in depth composed of packed gravel, 30 inches from home with a 50x50 rectangular shape. The 500-gallon above ground tank will be delivered on site pre-assembled and centered on gravel pad and installed per manufacturing instructions. Downspouts will then be connected to the WISY filter with an overflow pipe and routed to the tank for storm water storage as depicted in RWH Ariel View and Site Design graphics (below).

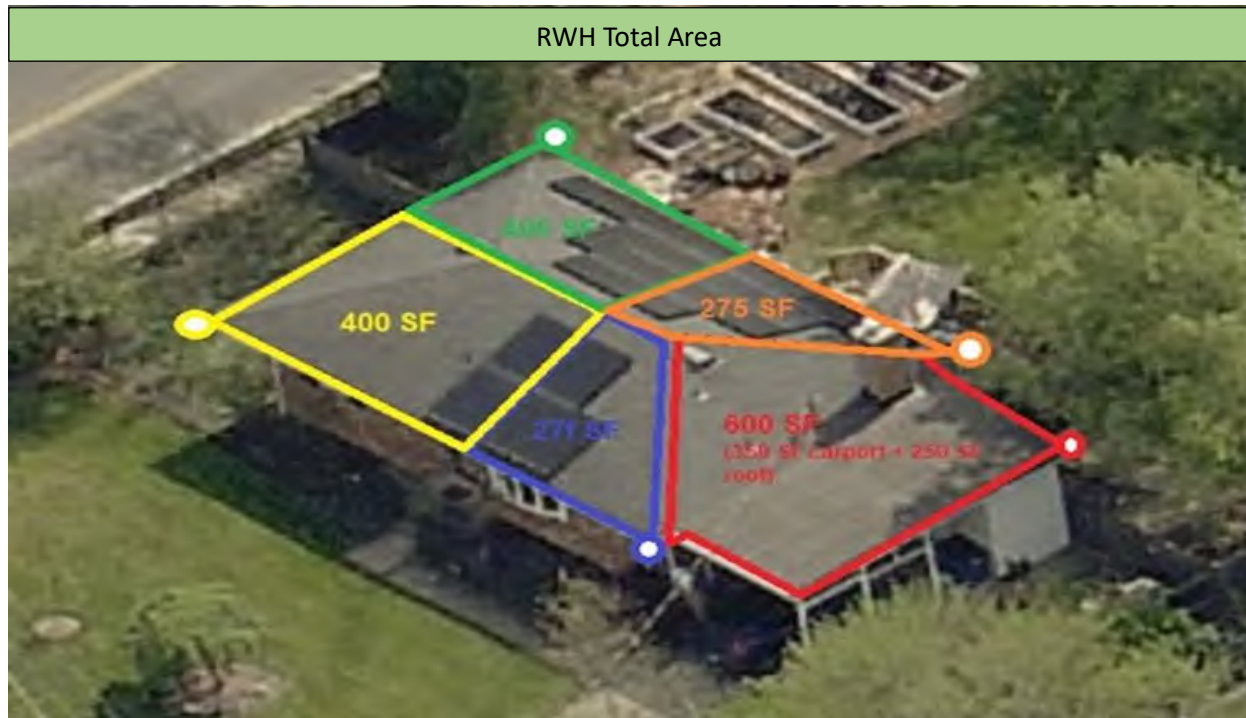
RWH Ariel View



Site Design



Sizing Calculation: RWH cistern size calculations were determined after an on-site visit from the Northern Virginia (NoVa) Soil and Water Conservation District, RWH Total Area (below) and utilizing formula found in the 8th Edition Virginia Conservation Assistance Program (VCAP) Implementation and Design Manual (page 67). Our RWH system design will intercept 800 SF (the green and yellow drainage divides on the eastern side of the roof), therefore, the cistern size needed to hold 1" rainstorm equals (Roof 800 SF x $(1/12) \times (0.96) \times (7.481 \text{ gallons / cubic ft}) = 475 \text{ gallons}$. Based on this calculation, installation of a 500-gallon tank would be the best management practice for our RWH system.



Site Constraints: The cistern will be located outside of the Resource Protection Area and Floodplain bordering the stream flowing behind the property. Miss Utility will be called, and all lines will be marked before construction begins.

Installation Requirements/Timeline

RWH Project is planned to begin on or before August 5th, 2024, with external dependency factors including approval of this plan, RMS cistern configuration, material shipping, contract labor scheduling, and weather. In total, project is expected to take twenty-one days to install, and the cistern will be put into immediate use. See Project Site (Before), page 3, and Project Site (After), page 4.

1. 05-AUG, Excellent Exteriors will upgrade our current gutter system changes to our gutters and downspouts to direct roof runoff to the cistern and install gutter guards and leaf cutter to keep out debris.
2. 06-AUG, Contractor (TBD) delivery of gravel pad supplies.
3. 06-16 AUG, Rainwater Management Solutions (RMS) delivers 500-Gallon Above Ground Modular Package (**ABG-5**)
4. 10-12 AUG, Homeowner will clear, level, and frame 5' x 5' area next to house 4' x 4' pressure treated ground contact post with geotextile fabric underlay. Homeowner will then temper ¾ inch drainage rock to a 6" thickness.

5. 19-21 AUG, per manufacture instructions, contractor (TBD) shall unpack and center ABG-5 on gravel pad. Connect WISY poly downspout filter in line with adapter kit to downspout closest to tank location. Attach 3" x 4" downspout from front downspout to 3" x 4" downspout with Y connector to reroute gutter downspouts to the tank adapter kit, hose, and tension ring to connect gutters to water tank. Install Grundfos SCALA2 115V Pump and hose and filtered using [1-1/4" Floating Filter](#) with 7' of food-grade suction hose. ABG-5 system is equipped with pre-installed diverter system to manage overflow. Any overflow will be diverted to Native Plant Meadow waterways.

Project Site (Before)



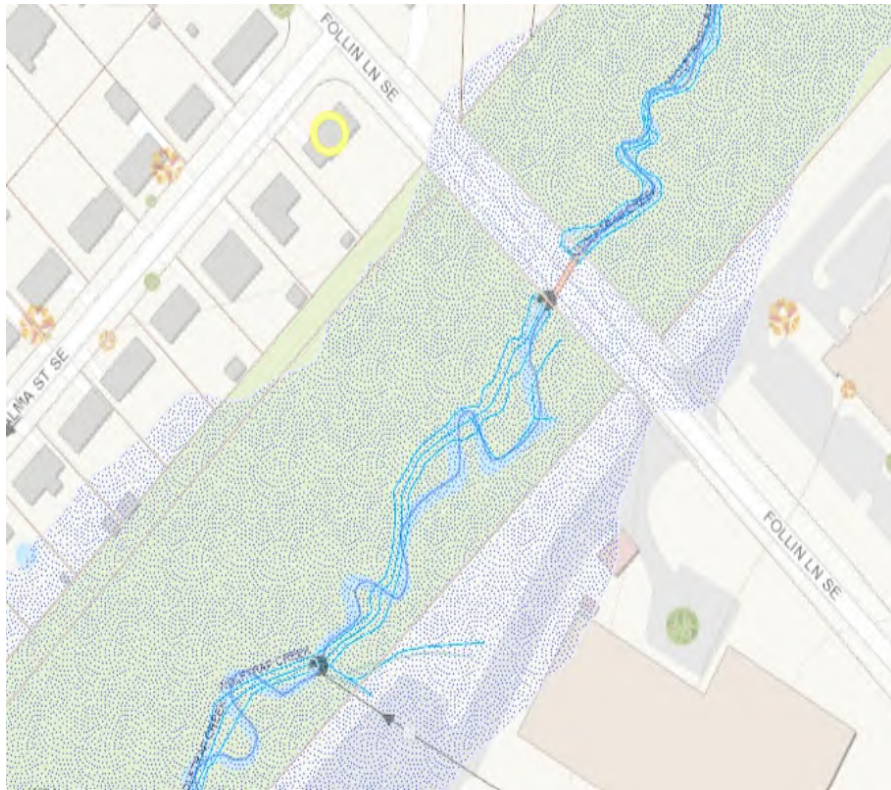
Project Site (After)



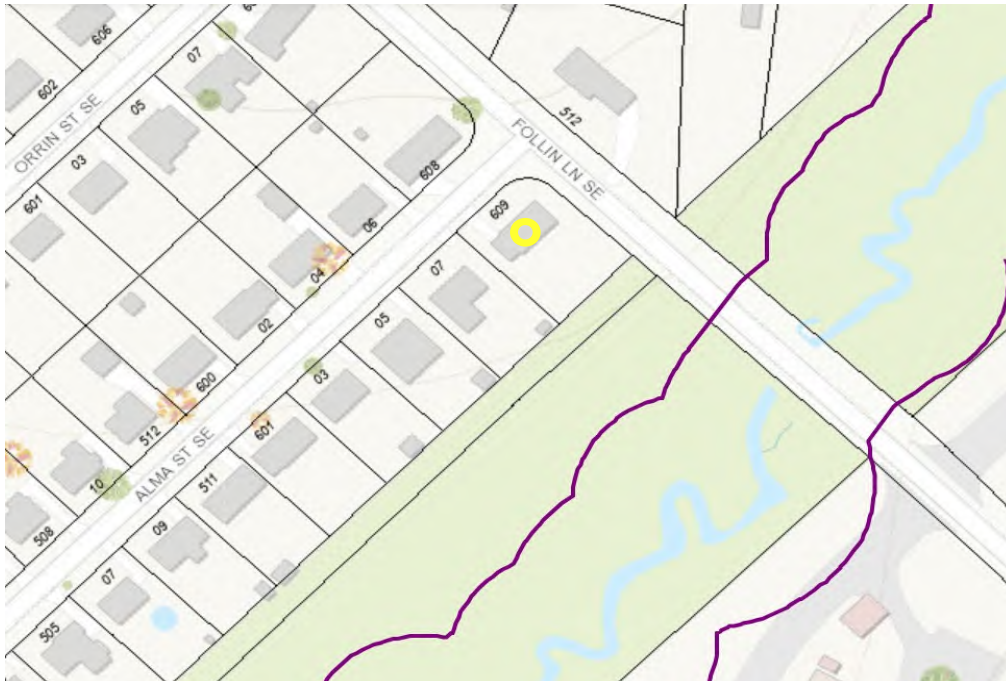
Resource Concern: Excess Runoff Pooling Along Southern Side of Property



Project Site: Floodplain Limits



Project Site: Resource Protection Area Limits



10-Year CAP Operation and Maintenance Plan

All filters will be checked quarterly and cleaned as needed. The cistern will be examined for algae growth annually when it is taken off-line for winter. The system will be disconnected of the downspout or following manufacturer guidelines for insulating spigots and pipes for winterization. Connections and hoses will be checked for leaks or other damage when the system is brought back online in spring.

Winterization Plan:

Before mid-October, the cistern will need to be completely drained as part of the winterization plan. We will first drain all stored rainwater from the tank utilizing the pump to irrigate to surrounding native trees, shrubs, and meadow. Once tank is completely drained, we will then drain all pipes from the lowest point. Winterizing pump will also need to be drained and plug removed allowing water to exit the system.

Compiled Cost estimate	
Materiel	
Rainwater Management Solutions	\$3,394.18
500-Gallon tank (48" dia. x 73" H)	
WISY Poly Downspout Filter with adapter kit, hose and tension ring	
PVC U-shaped Calming Inlet (pre-plumbed in tank by RMS)	
PVC P-Trap (pre-plumbed in tank by RMS)	
1-1/4" Floating Filter with 7' of food-grade suction hose	
protection cover	
1" check valve (quantity 2)	
Necessary tank gaskets, bulkheads, and fittings	
Expert Exteriors (Gutters)	\$5,983.00
Gutter, White, 6" K-Style	
GUTTERGUARDS, Bulldog 6"	
Y Diverter, White, AquaBarrell Downspout Y Diverter 3" x 4"	
Downspout, White, 3" x 4"	
Leaf Eater, Rain Harvesting Pty Leaf Eater Advanced Downspout Filter	
Trim board/cap, SOFFIT, FASCIA & TRIM	
Lowe's	\$826.00
Site Work, grading	
Site Work, Utility Stone Base, 6" layer	
Site Work, hauling	
Total	\$10,203.18



Rainwater Management Solutions, Inc.
2550 Shenandoah Avenue NW
Roanoke, Virginia 24017
540-375-6750

Estimate

Date	3/26/24
Estimate No.	1008-12203
Terms	
Sales Rep	AL
Project Name	

Name / Address
Shawn Achziger 609 Alma Street Vienna, Va 22180 [REDACTED]

Ship To
Shawn Achziger 609 Alma Street Vienna, Va 22180 [REDACTED]

Description	Qty
Norwesco 500 Gallon Dark Green Above Ground Tank 48" D x 73" H	1
Wisy Poly Downspout Rainwater Filter Package (White)	1
Includes: stainless steel filter insert, tension ring and hose for downspout filter, downspout converter kit for 3" x 4"	
1" Bulkhead - Double threaded polypropylene fitting (INLET FOR CLEAN WATER & OVERFLOW)	2
1 1/4" Bulkhead - Double threaded polypropylene fitting (OUTLET - FLOATING FILTER)	1
SCALA2 3-45 AVCBDF 1x115V 60Hz Automatic Water Pressure Booster Pump	1
1 1/4" brass check valve	1
1-1/4" Coarse Floating Filter with 4' Suction Hose and Male Thread Fitting - 1,200 Micron	1
Labor and Consumables for Above Ground Packages. Includes: Installment of tank inlet, overflow, and pump outlet. Installment of floating filter intake, smoothing inlet and overflow device.	1
ABG-5 Above Ground Rainwater Harvesting Package, includes: -500 gallon above-ground tank (48" Dia X 73" H) -Poly Downspout Filter with stainless steel filter insert -Downspout Converter (2"x3" or 3"x4") -20" Length of 4" S&D Pipe -Poly Mounting Bracket for Converter Kit -Tension Ring and Hose -U-shaped Calming Inlet (1" PVC) -P-Trap for Overflow (1" PVC) -1-1/4" Coarse Floating Filter with Suction Hose -Grundfos SCALA Booster Pump -1-1/4" Check Valve -Qty-2 1" Bulkhead -Qty -1 1-1/4" Bulkhead (Floating Filter)	
Shipping SUBJECT TO CHANGE..\$315 Virginia Sales Tax	1

Estimate is good for 15 days. Shipping not Included unless noted above.

Total	\$3,394.18
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Customer approval and release to order:

Engineering Firm Involved: N/A

Signature _____

Date: _____



ABG-5

Rainwater Harvesting System Submittal

500 Gallon Above Ground Package

Equipment	Page No.
Installation Schematic	2
500 Gallon Tank 48" D x 73" H	3
Rain Collection Filter	4
Downspout Adapter	5
Hose and Tension Ring	6
Floating Filter	7
Grundfos Scala 2 1x115 V – 3 / 4 HP	8
Simmons 1" Lead Free Check Valve	10

ESTIMATE



Expert Exteriors
9555 Grande Oaks Court
Vienna, VA 22181
admin@exexteriors.com
(252) 412-3560

For: Shawn Achziger
Job Address: 609 Alma Street SE
Vienna, VA 22180

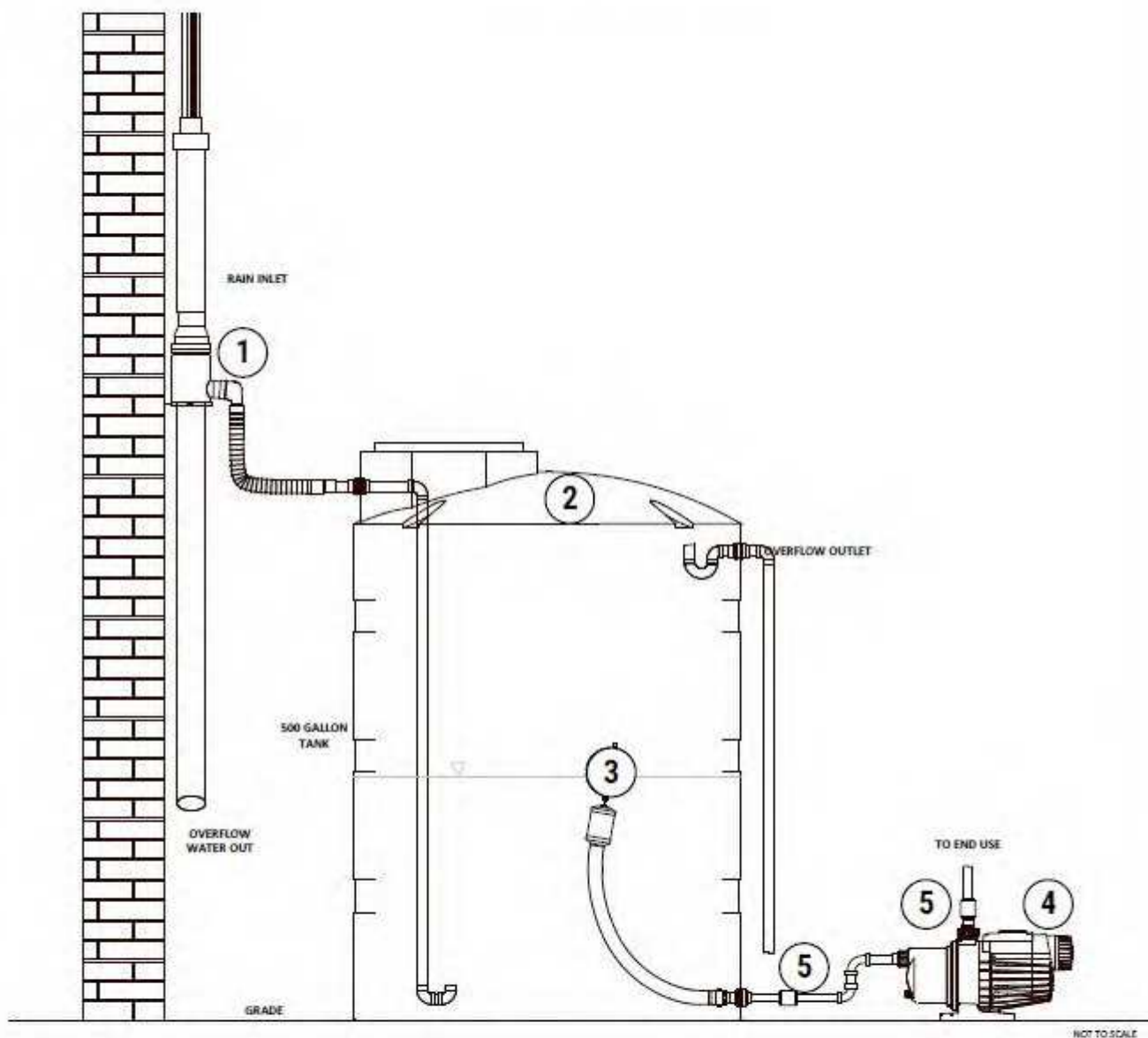
Job Id 2404-5560209-01 Estimate # 0004 Estimate Date 04/16/2024

Estimate Amount **\$5,983.00**

Contractor license # VA Class A #2705190711, MHIC #156973

#	Type	Name	(Price / Unit) x Qty	Line Total
1	MATERIALS	Gutter Trade Type: GUTTERS Color: White Description: 6" K-Style	(\$8.00 / 1) x 187.00	\$1,496.00
2	MATERIALS	Downspout Trade Type: GUTTERS Color: White Description: 3"x4"	(\$8.00 / 1) x 73.00	\$584.00
3	MATERIALS	Gutter Guard Trade Type: GUTTERGUARDS Description: Bulldog 6"	(\$6.00 / 1) x 187.00	\$1,122.00
4	MATERIALS	Y Diverter Trade Type: GUTTERS Color: White Description: AquaBarrell Downspout Y Diverter 3"x4" Free shipping https://www.aquabarrel.com/y-only-rectangular-c-31_323_324downspout-diverter-y-only-p-1001389.html	(\$55.00 / 1) x 4.00	\$220.00
5	MATERIALS	Leaf Eater Trade Type: GUTTERS Description: Rain Harvesting Pty Leaf Eater Advanced Downspout Filter (Rectangular Output) RHAD90 *includes estimated shipping costs https://www.rainharvest.com/rain-harvesting-pty-leaf-eater-advanced-downspout-filter-rectangular-output.asp	(\$65.00 / 1) x 2.00	\$130.00
6	MATERIALS	Trim board/cap Trade Type: SOFFIT, FASCIA & TRIM Description: Trim board and capping replacement.	(\$13.00 / 1) x 187.00	\$2,431.00
Total				\$5,983.00

ABG-5 INSTALLATION



RMS

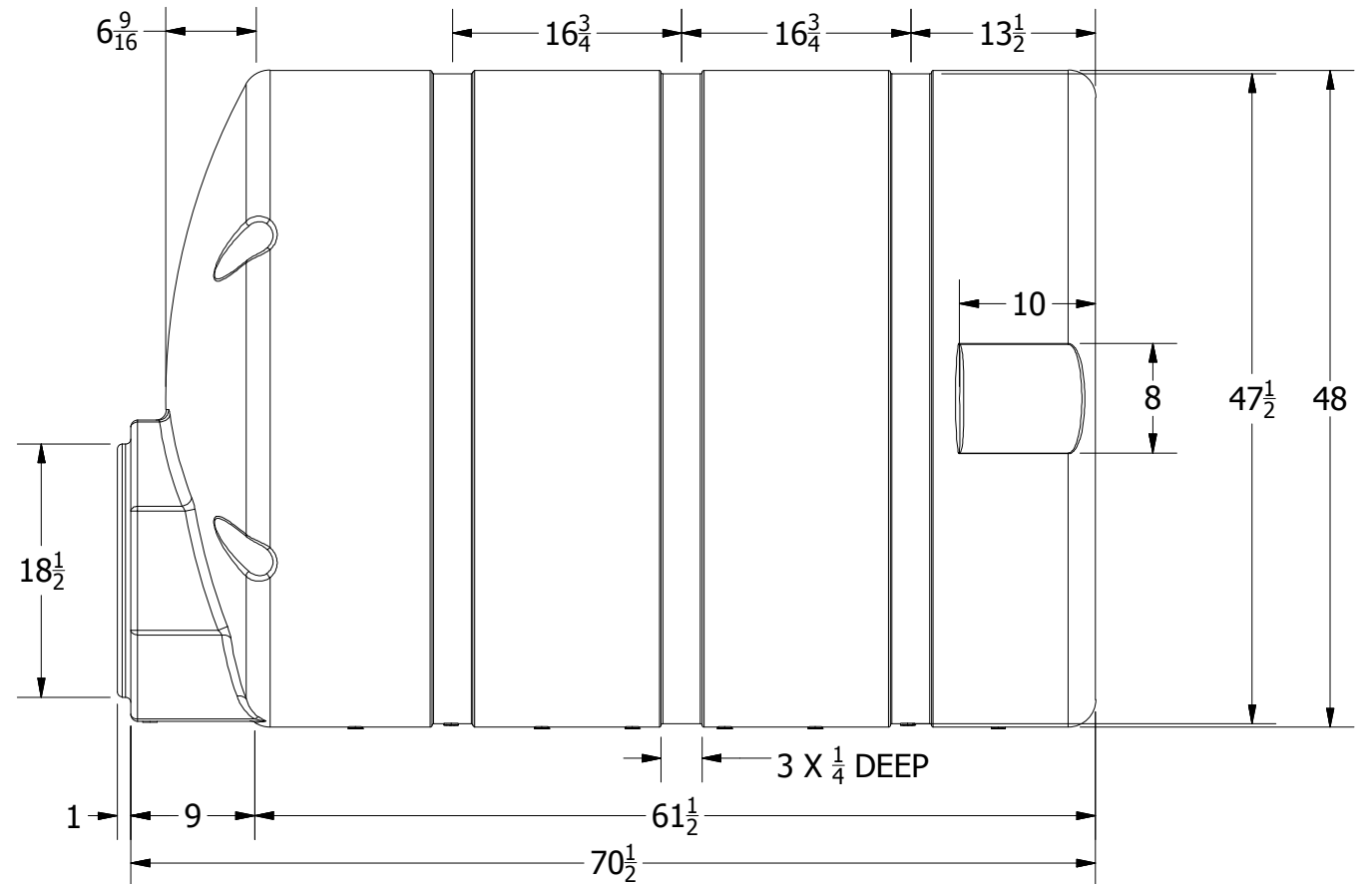
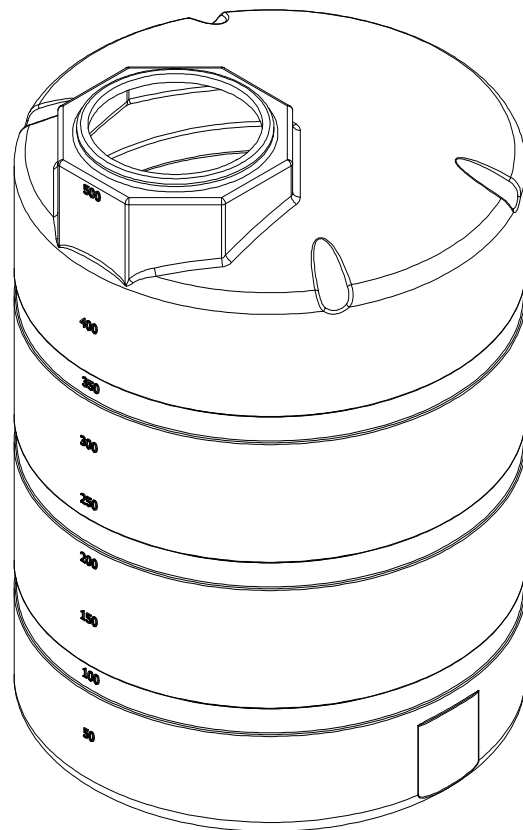
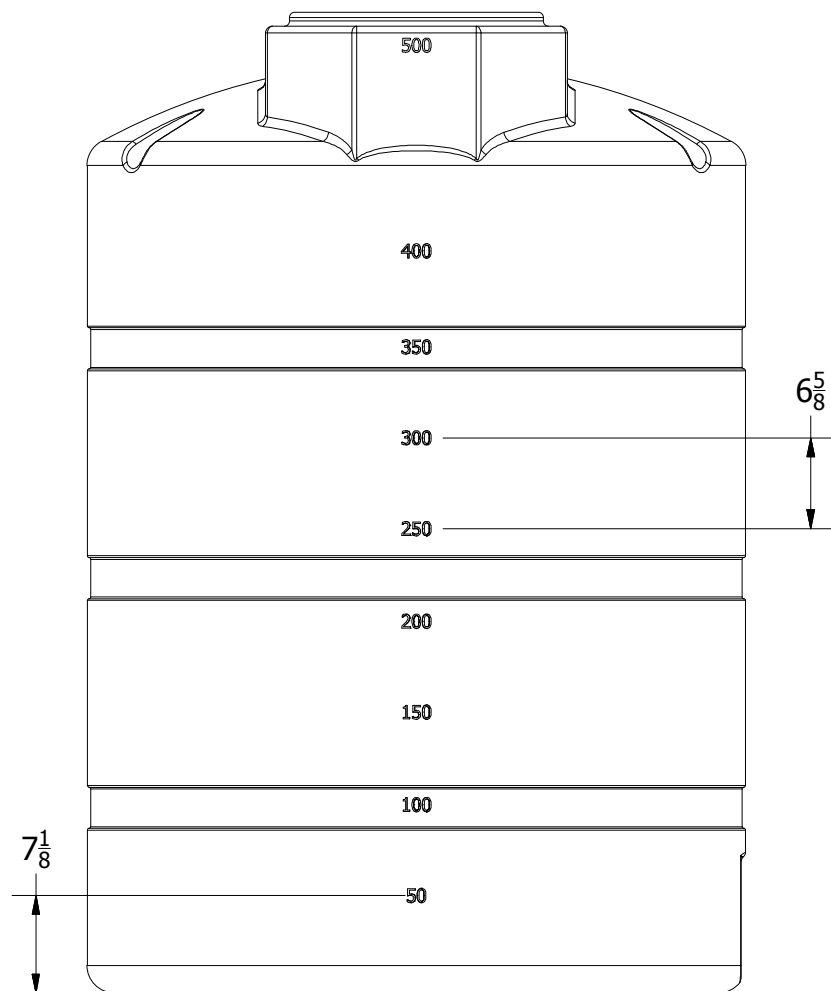
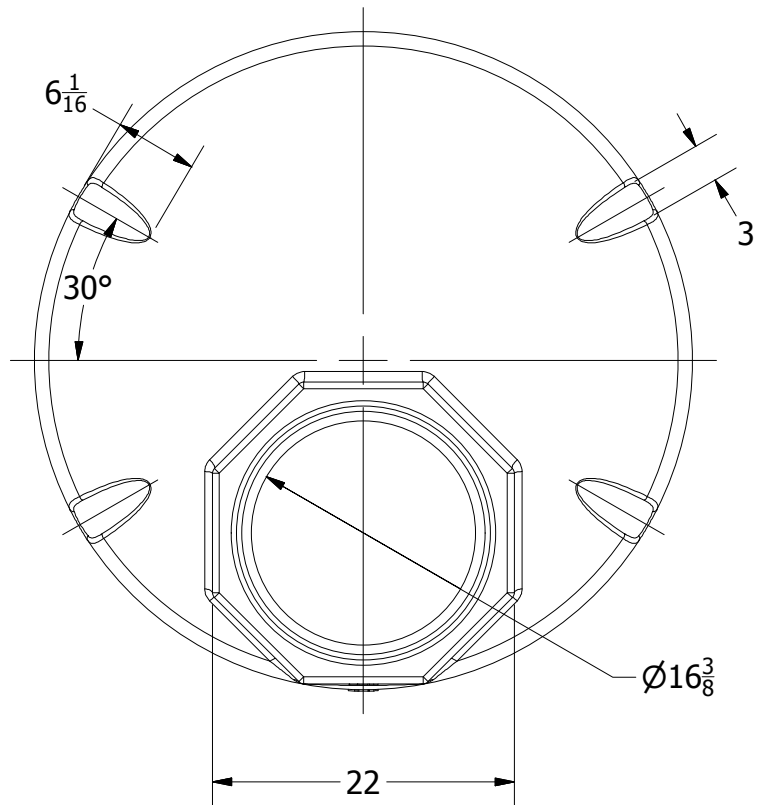
RAINWATER MANAGEMENT SOLUTIONS™

ITEM LIST

1. PVC DOWNSPOUT FILTER
2. 500-GALLON TANK
3. 1-1/4" FLOATING FILTER
4. 1 HP BOOSTER PUMP
5. CHECK VALVE

NOTES:

- RECOMMENDED USAGE: 20 GALLONS PER DAY
- RECOMMENDED COLLECTION AREA: UP TO 1,600 FT
- ITEMS PRE-PLUMBED IN 500-GALLON TANK
- INCLUDES BULKHEAD FITTINGS NECESSARY
- CONNECTIONS FROM DOWNSPOUT FILTER TO TANK MADE BY OTHERS
- CONNECTIONS FROM TANK TO PUMP MADE BY OTHERS



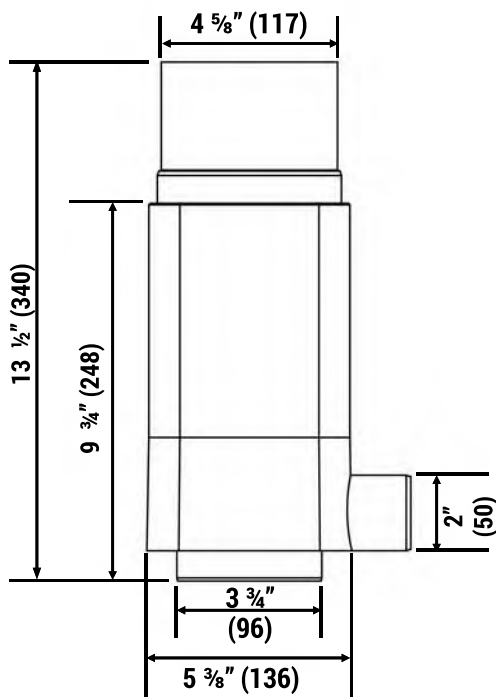
REVISION HISTORY					
REV		DESCRIPTION		DATE	AUTHOR
A		REDRAWN		1/2/1997	
B		REDRAWN		7/26/2013	Michael Holden
DRAWN Jerry Paulson		1/2/1997	 NORWESCO NORWESCO, INC. SAINT BONIFACIUS, MN TITLE 500 GALLON VERTICAL TANK		
CHECKED					
QA					
MFG					
APPROVED					
		SIZE B		DWG NO	REV B
		SCALE: 1/16		SHEET 1 OF 1	



RAIN COLLECTOR RS

The **RAIN COLLECTOR RS** connects to a single vertical, rainwater downspout and can filter and divert precipitation for storage for car washing, irrigation or other non-potable uses. The filter requires minimal maintenance due to its ability to self-clean via a constant discharge of dirt and debris. The housing is made out of UV-resistant polypropylene and the stainless steel filter provides highest quality of rainwater. It has a **maximum flow rate** of about **65 GPM** and is suitable for a roof area of up to **1,600 square feet**.

Below are the dimensions and the specifications for the Rain Collector RS:



(Dimensions in parentheses are millimeters)

FACTS:

Maximum Flow Rate:	65 GPM
Maximum Roof Area:	1,600 FT ²
Item-No:	RS4100



Regularly Furnished:

- UV-Resistant Polypropylene Housing (including: Casing Cap, Casing Extension, Filter Casing)
- Stainless Steel Fine Mesh Filter (mesh size: 280 micron)

Additional Components Available:

- Stainless Steel Blind Insert
- 2" x 3" or 3" x 4" Downspout Kit
- 1" Flexible Hose with 2" Connection for Downspout Filter Mounting Kit

Installation Note:

- Must be mounted plumb and level
- Direct installation of 90° elbow or optional 1" flexible hose (with 2" connection) on 2" outlet
- Roof area above 1,600 ft² requires multiple Rain Collector RS or use of larger capacity filter

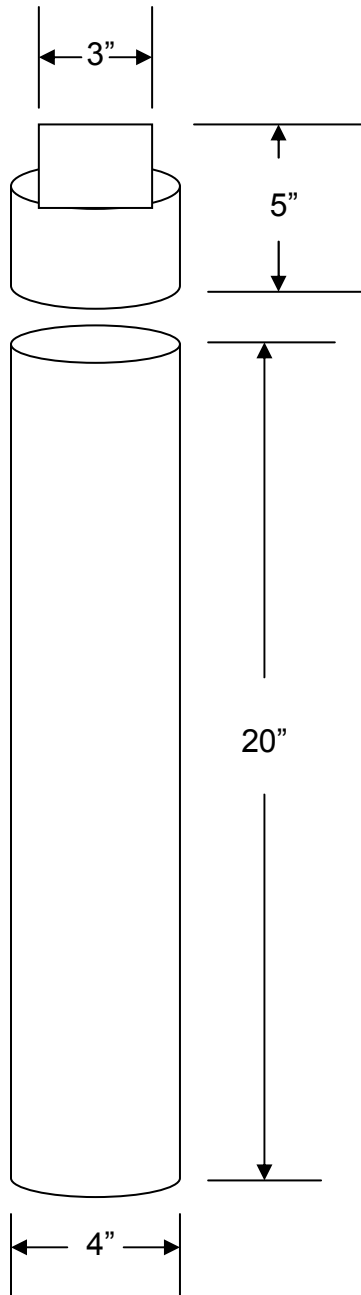
Rainwater Management Solutions
1260 W Riverside Drive
Salem, VA 24153



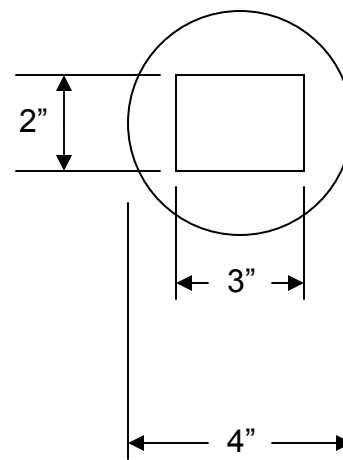
Downspout Adapter

2" X 3" and 3" X 4"

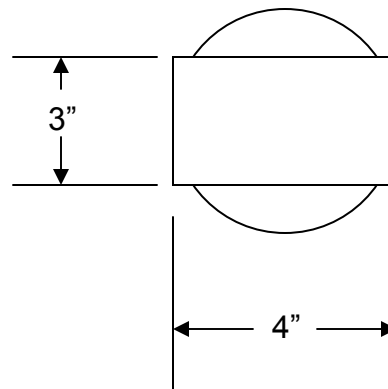
WISY Downspout Adapter to Convert Rectangle Down Spouts to 4" Round.
Adapters are available in 2" X 3" or 3" X 4". For more Details Contact RMS.



2" X 3" Adapter Top



3" X 4" Adapter Top



NOT TO SCALE

www.rainwatermanagmeent.com

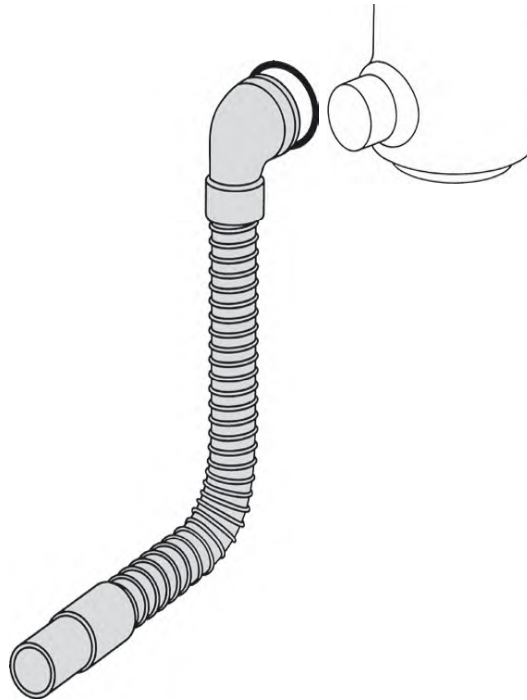
Phone (866) 653-8337



Hose and Tension Ring



Function: Used in conjunction with the WISY Downspout Filters. The Hose and Tension Ring is designed to fit the outlet of the WISY Downspout Filter on one end with a tension ring to ensure a positive seal. The Hose has a built-in 90 degree elbow which directly connects to the WISY Downspout Filter to ensure maximum efficiency through the filter. The opposite end of the Hose can be connected directly to a fitting on a cistern or can be connected to PVC pipe to extend the length if necessary to reach the cistern. The WISY Hose and Tension Ring is manufactured from UV-resistant rubber and will not be damaged being outdoors in the elements.



The total length of the WISY Hose and Tension Ring is 20". The connection end to the WISY Downspout Filter is 2" inside diameter which fits the WISY Downspout Filter's outlet, and the cistern end of the WISY Hose and Tension Ring is 1 1/4" inside diameter which will fit the outside diameter of 1" schedule 40 PVC pipe should the length of the Hose and Tension Ring need to be extended.

Rainwater Management Solutions
1260 W Riverside Drive
Salem, VA 24153



The **WISY Floating Filter** will take water from just below the surface. Water at this depth is of the highest quality in the tank, because any particulate that enters the tank either floats on the surface or settles to the bottom.

The floating filter consists of a polyethylene ball and stainless steel filter and is supplied with a standard 7 ft. length of food-grade suction hose. The nozzle connections are available in 1 1/4" and 2" sizes. The filter is available separately or as part of a kit for both submersible and booster pumps. Hose lengths greater than 7 feet are available through RMS.

COARSE FLOATING FILTER

Coarse filter housing with 1.2 mm mesh

SIZE	PART NUMBER
1"	SZ9927+
1-1/4"	SZ9928+
2"	SZ9991+



FINE FLOATING FILTER

Fine floating filter housing with 0.3 mm mesh

SIZE	PART NUMBER
1-1/4"	SZ9936+
2"	SZ9931+



Regularly furnished: Stainless Steel Floating Filter, Polyethylene Float Ball, 7' Long Food-Grade Suction Hose

SCALA2



TM06 4538 2515

General description

Grundfos SCALA2 is a fully integrated, self-priming, compact all-in-one water pump for pressure boosting in domestic applications.

SCALA2 incorporates integrated speed control enabling perfect water pressure at the taps, meaning that the pump performance will increase with increasing demand.

SCALA2 can be installed in three easy steps:

1. Connect the pipes.
2. Prime the pump.
3. Plug the pump into the power outlet and the pump will start.

Grundfos SCALA2 has all the components necessary to ensure a comfortable pressure:

- intelligent controller
- integrated speed-controlled drive
- integrated tank
- integrated sensors
- integrated non-return valve.

Features

- Adjustable constant pressure
- Low noise, < 47 dB(A) (in typical use)
- Compact
- Robust and reliable
- Easy installation and self-priming
- Dry-running protection

Applications

Grundfos SCALA2 is designed for pressure boosting in one-family houses and apartments.

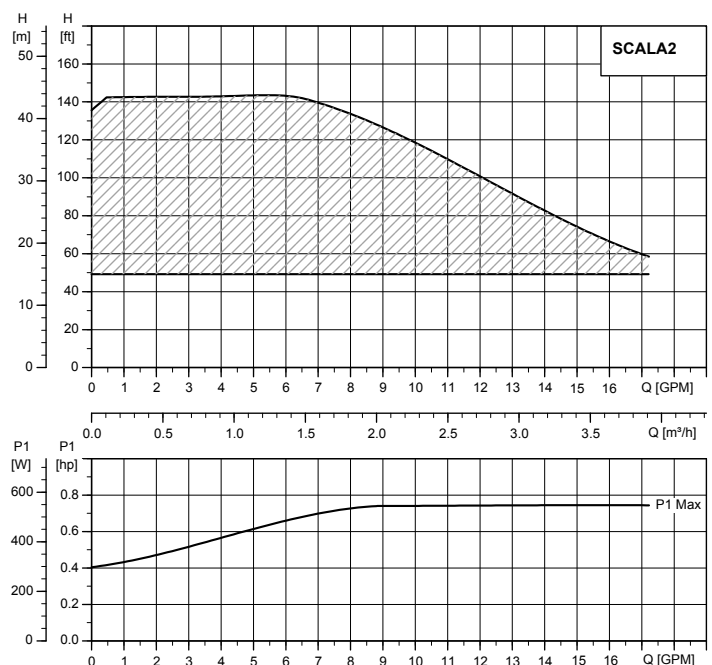
We recommend SCALA2 for the following applications:

- pressure boosting of city mains water
- pressure boosting of water from roof tank
- pressure boosting of water from break tank
- pressure boosting of water from ground tank
- water supply from shallow wells (< 26 1/4 ft / 8 m).

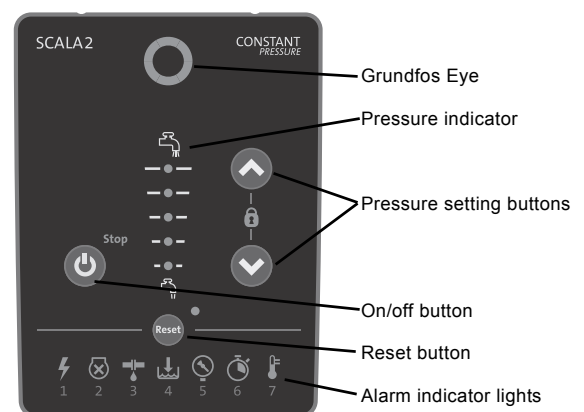
Performance

SCALA2 is suitable for houses with up to three floors and eight tapping points.

Accurate sizing of the pump can be based on the pump curve below and local norms and standards.

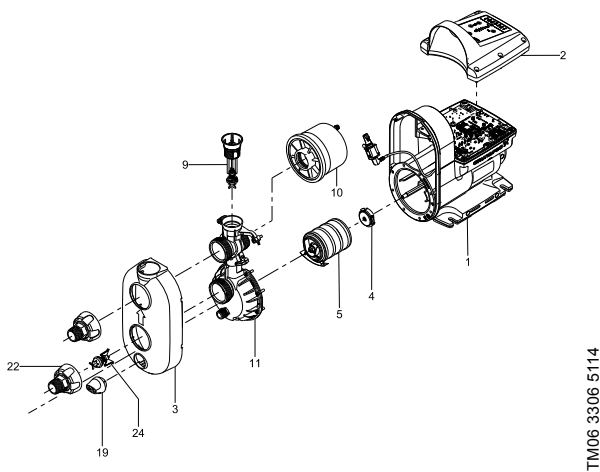


Control panel



TM06 3301 5114

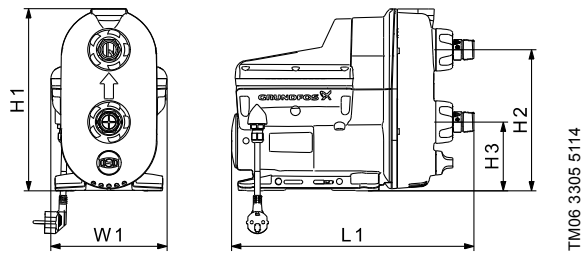
Exploded view



Materials

Pos.	Component name	Material
1	Combined pump and stator housing	Aluminium, Composite and EN 1.4301 / AISI 304
2	Control box cover	Composite
3	Pump cover	Composite
4	Shaft seal	Carbon/Ceramic
5	Chamber stack (four stages)	Composite
9	Non-return valve, outlet	Composite
10	Tank complete	Composite, Butyl and EN 1.4301/AISI 304
11	Connection part	Composite
19	Drain plug	Composite
22	Thread R 1" / NPT 1"	Composite
24	Non-return valve, inlet	Composite

Dimensional sketch



Type	H1 [mm] [inch]	H2 [mm] [inch]	H3 [mm] [inch]	W1 [mm] [inch]	L1 [mm] [inch]	Weight [kg] [lbs]
SCALA2	302 11.9	234 9.2	114 4.5	193 7.6	403 15.9	10 22

Thermal protection

SCALA2 incorporates current- and temperature-dependent motor protection.

Technical data

Type	Voltage [V] and Frequency [Hz]	I _{max} [A] and P ₁ [W]	Thread	Plug	Product number
SCALA2	1 x 208-230 60	2.3 - 2.8 550	NPT 1"	NEMA 6-15P	98562817
SCALA2	1 x 115 60	5 - 5.7 560		IEC type B, NEMA 5-15P	98562818

Operating conditions

Max. ambient temperature:	113°F (45°C) 131°F (55°C) for 1 x 200-240 V, 50 Hz models.
Max. liquid temperature:	113°F (45°C)
Max. system pressure:	145 PSI (10 bar)
Max. inlet pressure:	87 PSI (6 bar)
Max. head:	148 ft (45 m)
Enclosure rating:	NEMA 3
Pumped liquid:	Clean, fresh water and chlorinated water < 300 ppm.

Markings and approvals

Safety approvals



Drinking water approvals



Subject to alterations.

CERTIFIED LEAD FREE

500 SB Series



CERTIFIED LEAD FREE Check Valve

- Silicon bronze cast body.
 - Silicon bronze stemless poppet.
 - Female threads.
- MADE IN U.S.A.



Part No.	Size	Weight Each lbs.	Carton Quantity
501SB	1/2	.6	1
502SB	3/4	.8	1
503SB	1	1.1	1
513SB*	1	1.2	1
504SB	1 1/4	1.6	1
514SB**	1 1/4	1.7	1
505SB	1 1/2	2.1	1
506SB	2	3.7	1
507SB	2 1/2	9.8	1
508SB	3	10.8	1
509SB	4	23.6	1
510SB***	5	25.1	1
511SB	6	41.5	1

513SB* has longer threads.
514SB** has longer threads.
510SB*** has 5" male threads both ends.

CERTIFIED LEAD FREE

2500 SB Series



CERTIFIED LEAD FREE Stemless Check Valve

- Silicon bronze cast body.
 - Silicon bronze stemless poppet.
 - Female threads.
- MADE IN U.S.A.



Part No.	Size	Weight Each lbs.	Carton Quantity
2503SB	1	1.3	1
2504SB	1 1/4	1.8	1
2505SB	1 1/2	2.1	1
2506SB	2	3.7	1



CERTIFIED LEAD FREE Submersible Check Valve

- Silicon bronze cast body.
 - Silicon bronze cast poppet.
 - Female-Male threads.
- MADE IN U.S.A.



Part No.	Size FxM	Weight Each lbs.	Carton Quantity
610SB**	1 x 1 Long	1.4	1
611SB**	1 1/4 x 1 1/4 Long	2.0	1
616SB	1 x 1	1.4	1
617SB	1 x 1 1/4	1.4	1
618SB	1 1/4 x 1 1/4	1.8	1
622SB	2 x 2	3.9	1
623SB	3 x 3	10.4	1
624SB	4 x 4	22.6	1
625SB	6 x 6	41.4	1

** Extended male and female threads

*Silicon bronze components contain less than .05% (1/20 of 1%) Lead.

Check Valves furnished with Buna-N O-Ring, stainless steel spring, stainless steel washer, and stainless steel locknut.
All valves 3/4" through 1-1/2" have a working pressure of 400 psi. All valves 2" and larger have a working pressure of 600 psi.
190° F. Maximum Temperature Rating



Virginia Conservation Assistance Program

Presented by Virginia Association of Soil & Water Conservation Districts

Contract Number _____

Release Agreement for Eligible Practices VCAP Form 5

PLEASE READ CAREFULLY BEFORE SIGNING

I, Maryam Dadkhah & Shawn Achziger (*the Participant*), wish to forego a licensed professional design as required by the Virginia Conservation Assistance Program Manual for the proposed Rainwater Harvesting (BMP Description), located at 609 Alma Street SE, Vienna, VA, 22180 (Address), funded by the Northern Virginia Soil and Water Conservation District (the District).

I agree to the following:

- I verify that the design plan submitted is in accordance with the technical criteria in the applicable program standard and specifications.
- I will ensure that the Practice will be built to the design plan which was submitted and in accordance with any manufacturing instructions.
- I hereby release from all liability and hold harmless the District, any of its employees representing or related to the District, any VCAP personnel, and any volunteers or other representatives, for any personal injuries, including death, property loss, or damage in connection with any activity related to the Engineered Practice located at the location stated above.
- I hereby acknowledge that it is my responsibility to abide by any and all local code requirements, state regulations, safety regulations, and manufacturer requirements.

This contract shall be governed by the Commonwealth of Virginia in the City/County of FAIRFAX and any applicable Federal law.

Shawn Achziger
Signature of Participant

16-FEB-2024

Date

Maryam Dadkhah
Signature of District Representative

5/31/2024

Date

FY23 VCAP Practice Ranking Sheet (VCAP Form 6)

This form is to be filled out by District Staff for each application submitted for funding approval to the VCAP Steering Committee. Include the Contract Number (District 38 - CY 23 - Application Number 001), Practice Code (abbreviation), Estimated Cost, Cost-Share Requested and Resource Concern.

Contract #
Practice
Estimated Cost
Cost-Share Requested
What is the Resource Concern?

21-24-023

RH

\$10,203.19

\$1,900.00

Excess Runoff

****Please only enter data in the "Input" column. "Points Earned" will be automatically generated.****

RANKING CRITERIA	Input (1/0)	POINT VALUE	POINTS EARNED	NOTE
Resource Concern Identified and Addressed by the Selected BMP - Select One				
Erosion Impact Area (visible erosion and/or deposition); or		20	0	
Poor Vegetative Cover (Density <=75%); or		15	0	
Excess Runoff (Land cover contributes to increased runoff volume and flow rate)	1	10	10	
Ownership - Select One				
The practice is for an individual Private Residence; or	1	10	10	
The practice is for a HOA or Business or Non-Profit; or		7	0	
The practice is for a Public Park or School or Facility.		5	0	
Presence of Stormwater Management Facilities Downstream of the Site				
The site runoff is currently untreated	1	10	10	
Proximity to Stormwater Conveyance System or Waterway - Select One if applicable				
Resource Concern within 40 feet; or		20	0	
Resource Concern within 100 feet		10	0	
Slope - Select One if applicable				
The practice treats poorly vegetated or eroding slope equal to or greater than 15%; or		10	0	
The practice mitigates concentrated runoff to a slope equal to or greater than 15%		5	0	
TMDL Implementation Plan, MS4 Locality, or Comprehensive Stormwater Management Plan				
Practice addresses local sediment or nutrient goals	1	10	10	
BMP Selection				
BMP Type - Select One if applicable				
Is the proposed BMP structural (e.g. RG, DW, CW, VSC, RH, BR, IF, PP, GR)?, or	1	10	10	
Converting Impervious Surface to Conservation Landscaping, or		10	0	
Impervious Surface Removed, or		5	0	
Living Shoreline proposed on unprotected lands, or		10	0	
Living Shoreline replaces failing stabilization practices, or		5	0	
Forested Riparian Buffer (minimum 35 feet wide); or		10	0	
Vegetated Filter Strip (minimum 35 feet wide)		5	0	
Proposed BMP provides Alternative Disconnection				
Selected BMP disconnects and disperses impervious runoff		10	0	
Treatment Area (Does Not apply to LS or CL unless configured as Filter Strip with 35 feet minimum length)				
Input Impervious Area Treated in square feet; and	800	0.8	0.8	
Input Total Contributing Drainage Area in square feet	800	20.0	20.0	
Installed Area - Select One				
Input Surface Area of the Practice; or		0.0	0.0	
Input Gallons of Storage; or	475	0.5	0.5	
Input Linear Foot of Practice installed		0.0	0.0	
Application Strength				
Partnership				
Applicant is working with a partner agency or Non-Profit		5	0	
Educational Value				
Practice is publicly accessible or is part of an educational program		10	0	
Cost Effectiveness				
Cost per Impervious Area Treated (\$/SF), and	12.75	4.7	4.7	
Cost per Installed Area (\$/SF or \$/Gal or \$/LF)	20.41	0.7	0.7	
Pollutant Removal				
BMP Pollutant Removal Efficiency (EFF)	0.5			
Contributing Drainage Area Weighted Runoff Value (Rv)	0.95			
Pollutant Load (PL), Lbs Phosphorus per year	0.04	0.4	0.4	
TOTAL RANKING POINTS			77.0	



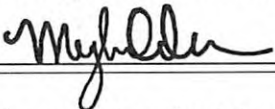
VIRGINIA CONSERVATION ASSISTANCE PROGRAM CONTRACT
(Part III – Technical Installation and Payment)

PY 2024

Applicant Name: Maryam Dadhkah and Shawn Achziger		Contract Number: 21-24-023	
Address: 609 Alma St SE, Vienna		State: VA	Zip Code 22180
Practice Code: RWH		Practice Size (SF, LF, Gal): 475 gallons	
GPS Coordinates: 38.90507, -77.24787		HUC: PL22	
Dominant Land Use: Lawn		Contributing Drainage Area: 800 SF	
Impervious Area Treated: 800 SF		Impervious Area Removed:	
Final Total Cost: \$15,176.18		Final Cost Share: \$1,900	

TECHNICIAN PRACTICE INSTALLATION CERTIFICATION:

I certify that all administrative and technical components of any practice listed above for payment and/or tax credit have been completed by an appropriately qualified individual and that each practice meets all applicable standards and specifications necessary for certification and/or payment. All practices are subject to verifications and any other quality control measures.

Name Meghan Cunha  Title Urban Conservation Specialist Date 4/8/2025

I, the Participant (Applicant), certify that the information above is true and correct. I have received and complied with all Program Specifications; and I have installed and agree to maintain this/these practice(s) as built for the practice lifespan in accordance with the Program Specifications. "Program Specifications," as used throughout this Contract, means the following documents applicable to this/these practice(s):

- VCAP Program Specifications for this practice;
- Site-specific engineering designs;
- Department of Environmental Quality Best Management Practice Clearinghouse Specifications.

The Program Specifications (together with Parts I and II of this Contract) are included and incorporated by reference within this Contract. I agree to refund all or part of the cost-share financial assistance I have received if my practice(s) is/are found not to meet Program Specifications required at the time of installation/payment or if the practice(s) is/are removed or not properly maintained during the lifespan of the practice(s). I understand and agree that this/these practice(s) are subject to verification checks and any other quality control measure throughout the practice lifespan; and if SWCD staff are unable to access the site for inspection within one month of a request to inspect the site, then this failure will create a rebuttable presumption that I am not in compliance with this Contract. I understand that the sale, lease, or changed use of the property will not exempt me from fulfilling the requirement(s) of this Contract. I also understand that my period of responsibility begins with the acceptance of payment and extends through the lifespan in accordance with program requirements. I understand that my noncompliance can result in removal from participation from the program or a reduction in cost-share funding.

I understand and agree that the District and the Virginia Association of Soil and Water Conservation Districts has permission to use any of the photos provided to publicly promote the Virginia Conservation Assistance Program. I understand that the images may be used in print publications, online, presentations, websites, and social media without royalty, fee, or other compensation. To request that photos are NOT used for purposes outlined above, initial here: _____

I understand that the approved BMP cannot be used for the purposes of Nutrient Trading or for regulatory compliance.

The Participant (Applicant) and the Soil and Water Conservation District (SWCD), in consideration for the mutual promises and exchanges described in this Contract, hereby execute this Contract, consisting of the three parts labeled Parts I, II, and III.

PARTICIPANT:

Print Name: Maryam Dadkhah
Signature: ~~DADKHAH~~ Shawn Achziger
Date: 4/10/2025

SOIL AND WATER CONSERVATION DISTRICT:

Print Name: Scott Cameron
Title: Chairman, NVSWCD BOD
Signature: Scott Cameron
Date: 4/22/2025

COMMONWEALTH OF VIRGINIA

Department of Conservation and Recreation, Division of Soil and Water Conservation, activities and employment opportunities are available to all people regardless of race, color, religion, sex, age, national origin or political affiliation. An equal opportunity/affirmative action employer.

(Original to be retained by the SWCD, Copy with Signature provided to the applicant)

Front downspout



Rear downspout



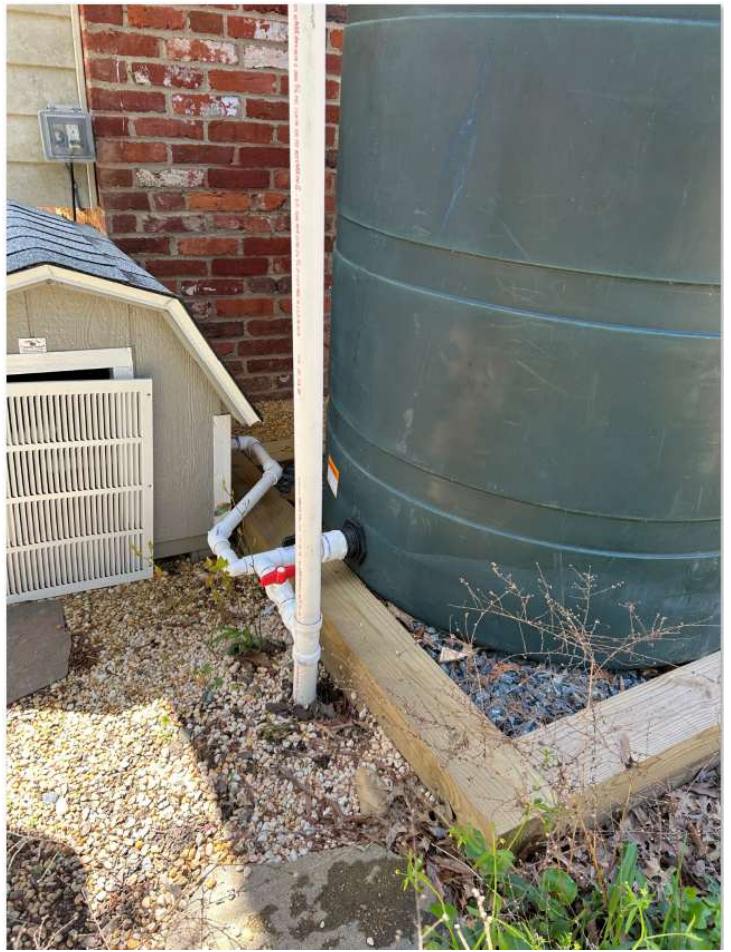
Pipe from front downspout to cistern



Inflow and overflow



Overflow buried under walkway, outflow to pump "house"



Action!



Global Plumbing, LLC
PO Box 224
Broad Run, VA 20137
+15712799584
faith@gloplumb.com
www.gloplumb.com



INVOICE

BILL TO

Shawn & Mariam Achzinger
609 Alma Street SE
Vienna, VA 22180

INVOICE # 1711

DATE 10/10/2024

DUE DATE 10/10/2024

DATE	ACTIVITY	DESCRIPTION	QTY	AMOUNT
		Achzinger Residence - Job# 00885 609 Alma Street SE Vienna, VA 22180		
	Rainwater Harvesting System			8,190.00

BALANCE DUE

\$8,190.00

Payment Options for Homeowners:
- pay with a check
- use QuickBooks Payments



Rainwater Management Solutions, Inc.
2550 Shenandoah Avenue NW
Roanoke, Virginia 24017
540-375-6750

Estimate

Date	3/26/24
Estimate No.	1008-12203
Terms	
Sales Rep	AL
Project Name	

Name / Address
Shawn Achziger 609 Alma Street Vienna, Va [REDACTED] [REDACTED]

Ship To
Shawn Achziger 609 Alma Street Vienna, Va 22180 [REDACTED]

Description	Qty
Norwesco 500 Gallon Dark Green Above Ground Tank 48" D x 73" H	1
Wisy Poly Downspout Rainwater Filter Package (White)	1
Includes: stainless steel filter insert, tension ring and hose for downspout filter, downspout converter kit for 3" x 4"	
1" Bulkhead - Double threaded polypropylene fitting (INLET FOR CLEAN WATER & OVERFLOW)	2
1 1/4" Bulkhead - Double threaded polypropylene fitting (OUTLET - FLOATING FILTER)	1
SCALA2 3-45 AVCBDF 1x115V 60Hz Automatic Water Pressure Booster Pump	1
1 1/4" brass check valve	1
1-1/4" Coarse Floating Filter with 4' Suction Hose and Male Thread Fitting - 1,200 Micron	1
Labor and Consumables for Above Ground Packages. Includes: Installment of tank inlet, overflow, and pump outlet. Installment of floating filter intake, smoothing inlet and overflow device.	1
ABG-5 Above Ground Rainwater Harvesting Package, includes: -500 gallon above-ground tank (48" Dia X 73" H) -Poly Downspout Filter with stainless steel filter insert -Downspout Converter (2"x3" or 3"x4") -20" Length of 4" S&D Pipe -Poly Mounting Bracket for Converter Kit -Tension Ring and Hose -U-shaped Calming Inlet (1" PVC) -P-Trap for Overflow (1" PVC) -1-1/4" Coarse Floating Filter with Suction Hose -Grundfos SCALA Booster Pump -1-1/4" Check Valve -Qty-2 1" Bulkhead -Qty -1 1-1/4" Bulkhead (Floating Filter)	
Shipping SUBJECT TO CHANGE..\$315 Virginia Sales Tax	1

Estimate is good for 15 days. Shipping not Included unless noted above.

Total	\$3,394.18
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Customer approval and release to order:

Engineering Firm Involved: N/A

Signature _____

Date: _____

INVOICE

Expert Exteriors LLC
3719 Hill St
Fairfax, VA 22030

admin@exexteriors.com
+1 (252) 412-3560
www.exexteriors.com



Bill to

Shawn Achziger
609 Alma Street SE
Vienna, VA 22180
United States

Ship to

Shawn Achziger
609 Alma Street SE
Vienna, VA 22180
United States

Invoice details

Invoice no.: JP-5502-55
Invoice date: 08/02/2024
Due date: 08/02/2024

#	Date	Product or service	Description	Qty	Rate	Amount
1.		Services	Shawn Achziger / 2404-5560209-01 / GUTTERS	1	\$3,592.00	\$3,592.00

Total	\$3,592.00
Payment	-\$1,284.00
Balance due	\$2,308.00

**VIRGINIA CONSERVATION ASSISTANCE PROGRAM
BMP REIMBURSEMENT REQUEST**

Check is to be made out to (SWCD): Northern VA Soil & Water Conservation District
Address: 12055 Government Center Pkwy, Suite 905, Fairfax, VA 22035

Contract Number	Practice Code	Date Inspected	SC Approval Date	Total Actual Cost	Start-Up Payment Cost	Total Approved CS	Extent Installed	CS or SUPP Payment Requested	Tech Assist Paymt
21-24-023	RWH	4/8/2025	5/31/2024	\$15,176.18		\$1,900.00	475 Gal	\$1,900.00	\$1,200.00
21-25-001	CL-3	4/10/2025	7/30/2024	\$7,393.56		\$6,339.44	1,020 SF	\$5,914.85	\$1,200.00
							TOTAL	\$7,814.85	\$2,400.00

District Representative (Print): Meghan Cunha

District Signature: 

Date: 4/11/2025

Total VCAP payment Submitted to Date of payment Check number	[amount] [Name of SWCD] [Date] [Check number]
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To be completed by District after reimbursement is received.