Tech Contractors
ENGINEERING GROUP

EI Paso County Development Services
2880 International Circle, Suite 110
Colorado Springs CO, 80910

RE: Substantial Compliance
Rain Garden
Rex Road at Falcon Regional Park
Improvement Plans Approved July 11, 2023

July 24, 2025

Tech Contractors has visually inspected the project site and completed an as-built topographic survey of the rain garden located at the southwest corner of the Rex Rd – Eastonville Rd intersection within the Falcon Regional Park and based upon our observations of the surrounding tributary area and the data collected, the rain garden has been substantially completed per all approved plans and specifications. The analysis using the attached worksheets indicates that the tributary runoff area is approximately per plan resulting in a runoff reduction similar to the initial design. The rain garden was constructed with a bottom area of approximately 1,950 sq. ft. and a top surface area of 2,815 sq. ft. providing more than the required minimum flat surface area of 381 sq. ft. Please see the chart below and attached worksheet for more detailed information.

	Minimum Flat Surface Area	Flat Surface Area	Top Surface Area	Total Volume Provided
DESIGN	381 sq. ft.	1,620 sq. ft.	2,040 sq. ft.	915 cf.
AS-BUILT	381 sq. ft.	1,950 sq. ft.	2,815 sq. ft.	1,191 cf.

As required by the ECM in Section 5.10.6.B: the site and adjacent properties (as affected by work performed under the County permit) are stable with respect to settlement and subsidence, sloughing of cut and fill slopes, revegetation or other ground cover, and that the improvements (common development improvements, site grading and paving) meet or exceed the minimum design requirements. The water quality facilities provide the required storage volume and top and bottom minimum surface areas meeting the required design, as documented by an attached worksheet form submitted with the original application.

Should you have any questions or concerns please feel free to contact me at 719-495-7444 or by email at tom@meridianranch.com

Sincerely

Thomas A. Kerby, PE
Tech Contractors
11910 Tourmaline Dr., Ste 130
Falcon, CO 80831

cc
Raul Guzman (GTL Development)
Bret Haycock (Tech Contractors)

Design Procedure Form: Runoff Reduction

UD-BMP (Version 3.07, March 2018) **Sheet 1 of 1**

Designer:	**Thomas A Kerby, PE**
Company:	**Tech Contractors**
Date:	**July 24, 2025**
Project:	**Rex Road Extension at Falcon Regional Park**
Location:	**Falcon, CO**

SITE INFORMATION (User Input in Blue Cells)

WQCV Rainfall Depth: 0.60 inches

Depth of Average Runoff Producing Storm, d_6 = 0.43 inches (for Watersheds Outside of the Denver Region, Figure 3-1 in USDCM Vol. 3)

Area Type	UIA:RPA	UIA:RPA	UIA:RPA									
Area ID	UIA/RPA1	UIA/RPA2	UIA/RPA3									
Downstream Design Point ID	G15a1	G15a1	G15a1									
Downstream BMP Type	None	None	None									
DCIA (ft^2)	--	--	--									
UIA (ft^2)	10,940	5,860	5,860									
RPA (ft^2)	3,520	1,740	1,740									
SPA (ft^2)	--	--	--									
HSG A (%)	0%	0%	0%									
HSG B (%)	100%	100%	100%									
HSG C/D (%)	0%	0%	0%									
Average Slope of RPA (ft/ft)	0.025	0.167	0.167									
UIA:RPA Interface Width (ft)	32.00	290.00	290.00									

CALCULATED RUNOFF RESULTS

Area ID	UIA/RPA1	UIA/RPA2	UIA/RPA3									
UIA:RPA Area (ft^2)	14,460	7,600	7,600									
L / W Ratio	14.12	0.09	0.09									
UIA / Area	0.7566	0.7711	0.7711									
Runoff (in)	0.09	0.14	0.14									
Runoff (ft^3)	114	91	91									
Runoff Reduction (ft^3)	342	153	153									

CALCULATED WQCV RESULTS

Area ID	UIA/RPA1	UIA/RPA2	UIA/RPA3									
WQCV (ft^3)	456	244	244									
WQCV Reduction (ft^3)	342	153	153									
WQCV Reduction (%)	75%	63%	63%									
Untreated WQCV (ft^3)	114	91	91									

CALCULATED DESIGN POINT RESULTS (sums results from all columns with the same Downstream Design Point ID)

Downstream Design Point ID	G15a1											
DCIA (ft^2)	0											
UIA (ft^2)	22,660											
RPA (ft^2)	7,000											
SPA (ft^2)	0											
Total Area (ft^2)	29,660											
Total Impervious Area (ft^2)	22,660											
WQCV (ft^3)	944											
WQCV Reduction (ft^3)	648											
WQCV Reduction (%)	69%											
Untreated WQCV (ft^3)	296											

CALCULATED SITE RESULTS (sums results from all columns in worksheet)

Total Area (ft^2)	29,660
Total Impervious Area (ft^2)	22,660
WQCV (ft^3)	944
WQCV Reduction (ft^3)	648
WQCV Reduction (%)	69%
Untreated WQCV (ft^3)	296

Design Procedure Form: Rain Garden (RG)

UD-BMP (Version 3.07, March 2018)

Designer: Thomas A Kerby, PE
Company: Tech Contractors
Date: April 9, 2025
Project: Rex Road Extension at Falcon Regional Park - AS BUILT 04/08/2025
Location: FALCON, CO

1. Basin Storage Volume		
A) Effective Imperviousness of Tributary Area, I_a (100% if all paved and roofed areas upstream of rain garden)	I_a = 97.4	%
B) Tributary Area's Imperviousness Ratio (i = I_a/100)	i = 0.974	
C) Water Quality Capture Volume (WQCV) for a 12-hour Drain Time ($WQCV= 0.8 * (0.91* i^3 - 1.19 * i^2 + 0.78 * i)$)	WQCV = 0.38	watershed inches
D) Contributing Watershed Area (including rain garden area)	Area = 19,540	sq ft
E) Water Quality Capture Volume (WQCV) Design Volume Vol = (WQCV / 12) * Area	V_{WQCV} =	cu ft
F) For Watersheds Outside of the Denver Region, Depth of Average Runoff Producing Storm	d_6 = 0.60	in
G) For Watersheds Outside of the Denver Region, Water Quality Capture Volume (WQCV) Design Volume	$V_{WQCV\ OTHER}$ = 858	cu ft
H) User Input of Water Quality Capture Volume (WQCV) Design Volume (Only if a different WQCV Design Volume is desired)	$V_{WQCV\ USER}$ =	cu ft
2. Basin Geometry		
A) WQCV Depth (12-inch maximum)	D_{WQCV} = 6	in
B) Rain Garden Side Slopes (Z = 4 min., horiz. dist per unit vertical) (Use "0" if rain garden has vertical walls)	Z = 4.00	ft / ft
C) Mimimum Flat Surface Area	A_{Min} = 381	sq ft
D) Actual Flat Surface Area	A_{Actual} = 1950	sq ft
E) Area at Design Depth (Top Surface Area)	A_{Top} = 2815	sq ft
F) Rain Garden Total Volume ($V_T= ((A_{Top} + A_{Actual}) / 2) * Depth$)	V_T= 1,191	cu ft
3. Growing Media	Choose One: (•) 18" Rain Garden Growing Media ( ) Other (Explain):	
4. Underdrain System		
A) Are underdrains provided?	Choose One: ( ) YES (•) NO	
B) Underdrain system orifice diameter for 12 hour drain time		
i) Distance From Lowest Elevation of the Storage Volume to the Center of the Orifice	y = N/A	ft
ii) Volume to Drain in 12 Hours	Vol_{12} = N/A	cu ft
iii) Orifice Diameter, 3/8" Minimum	D_O = N/A	in

Design Procedure Form: Rain Garden (RG)

Designer: Thomas A Kerby, PE
Company: Tech Contractors
Date: April 9, 2025
Project: Rex Road Extension at Falcon Regional Park - AS BUILT 04/08/2025
Location: FALCON, CO

5. Impermeable Geomembrane Liner and Geotextile Separator Fabric A) Is an impermeable liner provided due to proximity of structures or groundwater contamination?	Choose One ○ YES ○ NO
6. Inlet / Outlet Control A) Inlet Control	Choose One ○ Sheet Flow- No Energy Dissipation Required ○ Concentrated Flow- Energy Dissipation Provided
7. Vegetation	Choose One ○ Seed (Plan for frequent weed control) ○ Plantings ○ Sand Grown or Other High Infiltration Sod
8. Irrigation A) Will the rain garden be irrigated?	Choose One ○ YES ○ NO

Notes: