



September 3, 2026

Glenn Reese, P.E.
El Paso County Department of Public Works
2880 International Circle
Colorado Springs, CO 80910

**RE: My Garage at Northcrest
Permanent Control Measure (PCM) and Public Improvements Final Letter
Kiowa Project Number 23049**

Dear Glenn:

On behalf of Owner of the My Garage at Northcrest development, Kiowa Engineering hereby requests the Permanent Control Measures (PCM) and public improvements, constructed as a part of the My Garage at Northcrest development, be preliminary accepted by the County for the warranty period to begin.

The Permanent Control Measures (PCM) for My Garage at Northcrest consist of a Full Spectrum Detention basin to provide stormwater quality treatment and detention of stormwater runoff from the site. The PCM is located at the southeast corner of the property. Kiowa Engineering Corp has reviewed the as-built survey completed by Land Development Consultants, Inc (dated March 23, 2026) and completed a site visit to review the constructed improvements. The PCM provides the required storage volume and meets the required release rates, as documented by the attached as-built MHFD -Detention design form. The 5-year Peak Outflow increased slightly from 0.13 cfs to 0.20cfs resulting in a Peak Outflow to Predevelopment Ratio of 2.6. This increase in flow is not significant or impactful.

The public improvements for the project include the public sidewalks and curb ramps along Bismark Road, Canada Drive and Constitution Avenue along with two curb cuts along Canada Drive into the site and the 18-inch storm sewer pipe outfall from the outlet structure to the existing curb inlet. Kiowa Engineering has completed a site visit to review the constructed improvements.

Based upon this information, Kiowa Engineering Corporation is of the opinion the improvements associated with the Permanent Control Measures and public improvements have been constructed in substantial conformance with the approved construction plans as filed with the County titled "My Garage @ Northcrest, Commercial Construction Drawings" prepared by Kiowa Engineering Corp, dated August 2, 2024. 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 proposed improvements are in substantial conformance with the design requirements. These statements are based on a final site investigation

and a review of the field survey data.

Please feel free to contact me if there are any questions or if I may be of further assistance.

Sincerely,
Kiowa Engineering Corporation

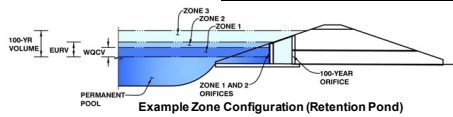


For and on behalf of Kiowa Engineering Corporation
Matthew W. Erichsen
Senior Project Manager

Attachment: As-built MHFD-Detention spreadsheet

MHFD-Detention, Version 4.06 (July 2022)

Basin ID: EDB - NW Corner Constitution Blvd & Canada Drive - Pond A - AS-BUILT



Selected BMP Type =	EDB	
Watershed Area =	3.17	acres
Watershed Length =	400	ft
Watershed Length to Centroid =	175	ft
Watershed Slope =	0.050	ft/ft
Watershed Imperviousness =	71.70%	percent
Percentage Hydrologic Soil Group A =	100.0%	percent
Percentage Hydrologic Soil Group B =	0.0%	percent
Percentage Hydrologic Soil Groups C/D =	0.0%	percent
Target WQCV Drain Time =	40.0	hours
Location for 1-hr Rainfall Depths = User Input		

Optional User Overrides

Water Quality Capture Volume (WQC) =	0.075	acre-feet
Excess Urban Runoff Volume (EUCV) =	0.290	acre-feet
2-yr Runoff Volume (P1 = 1.19 in.) =	0.188	acre-feet
5-yr Runoff Volume (P1 = 1.5 in.) =	0.245	acre-feet
10-yr Runoff Volume (P1 = 1.75 in.) =	0.291	acre-feet
25-yr Runoff Volume (P1 = 2 in.) =	0.347	acre-feet
50-yr Runoff Volume (P1 = 2.25 in.) =	0.403	acre-feet
100-yr Runoff Volume (P1 = 2.52 in.) =	0.469	acre-feet
500-yr Runoff Volume (P1 = 3.48 in.) =	0.666	acre-feet
Approximate 2-yr Detention Volume =	0.189	acre-feet
Approximate 5-yr Detention Volume =	0.247	acre-feet
Approximate 10-yr Detention Volume =	0.296	acre-feet
Approximate 25-yr Detention Volume =	0.354	acre-feet
Approximate 50-yr Detention Volume =	0.389	acre-feet
Approximate 100-yr Detention Volume =	0.423	acre-feet

	acre-feet
	acre-feet
1.19	inches
1.50	inches
1.75	inches
2.00	inches
2.25	inches
2.52	inches
3.48	inches

Zone 1 Volume (WQCV) =	0.075	acre-feet
Zone 2 Volume (EURV - Zone 1) =	0.215	acre-feet
Zone 3 (100yr + 1 / 2 WQCV - Zones 1 & 2) =	0.170	acre-feet
Total Detention Basin Volume =	0.460	acre-feet
Initial Surcharge Volume (ISV) =	user	ft ³
Initial Surcharge Depth (ISD) =	user	ft
Total Available Detention Depth (H _{total}) =	user	ft
Depth of Trickle Channel (H _{tc}) =	user	ft
Slope of Trickle Channel (S _{TC}) =	user	ft/ft
Slopes of Main Basin Sides (S _{main}) =	user	H:V
Basin Length-to-Width Ratio (R _{LW}) =	user	

Initial Surcharge Area (A_{ISV})	=	user	ft ²
Surcharge Volume Length (L_{ISV})	=	user	ft
Surcharge Volume Width (W_{ISV})	=	user	ft
Depth of Basin Floor ($H_{1,FLOOR}$)	=	user	ft
Length of Basin Floor ($L_{1,FLOOR}$)	=	user	ft
Width of Basin Floor ($W_{1,FLOOR}$)	=	user	ft
Area of Basin Floor ($A_{1,FLOOR}$)	=	user	ft ²
Volume of Basin Floor ($V_{1,FLOOR}$)	=	user	ft ³
Depth of Main Basin (H_{MAIN})	=	user	ft
Length of Main Basin (L_{MAIN})	=	user	ft
Width of Main Basin (W_{MAIN})	=	user	ft
Area of Main Basin (A_{MAIN})	=	user	ft ²
Volume of Main Basin (V_{MAIN})	=	user	ft ³
Calculated Total Basin Volume (V_{TOTAL})	=	user	acre-feet

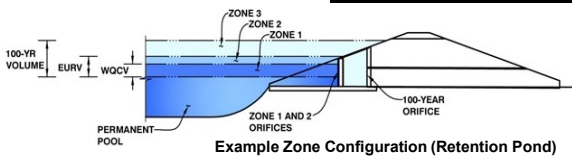
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DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.06 (July 2022)

Project: My Garage @ Northcrest Center

Basin ID: EDB - NW Corner Constitution Blvd & Canada Drive - Pond A - AS-BUILT



Example Zone Configuration (Retention Pond)

	Estimated Stage (ft)	Estimated Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	2.57	0.075	Orifice Plate
Zone 2 (EURV)	4.61	0.215	Circular Orifice
Zone 3 (100+1/2WQCV)	6.13	0.170	Weir&Pipe (Restrict)
Total (all zones)		0.460	

User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a Filtration BMP)

Underdrain Orifice Invert Depth = ft (distance below the filtration media surface)
Underdrain Orifice Diameter = inches

Calculated Parameters for Underdrain

Underdrain Orifice Area = ft²
Underdrain Orifice Centroid = feet

User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation BMP)

Calculated Parameters for Plate

Centroid of Lowest Orifice = 0.00 ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Orifice Plate = 3.73 ft (relative to basin bottom at Stage = 0 ft)
Orifice Plate: Orifice Vertical Spacing = N/A inches
Orifice Plate: Orifice Area per Row = N/A sq. inches

WQ Orifice Area per Row = N/A ft²
Elliptical Half-Width = N/A feet
Elliptical Slot Centroid = N/A feet
Elliptical Slot Area = N/A ft²

User Input: Stage and Total Area of Each Orifice Row (numbered from lowest to highest)

	Row 1 (required)	Row 2 (optional)	Row 3 (optional)	Row 4 (optional)	Row 5 (optional)	Row 6 (optional)	Row 7 (optional)	Row 8 (optional)
Stage of Orifice Centroid (ft)	0.00			1.80				
Orifice Area (sq. inches)	0.37			0.65				

	Row 9 (optional)	Row 10 (optional)	Row 11 (optional)	Row 12 (optional)	Row 13 (optional)	Row 14 (optional)	Row 15 (optional)	Row 16 (optional)
Stage of Orifice Centroid (ft)								
Orifice Area (sq. inches)								

User Input: Vertical Orifice (Circular or Rectangular)

Calculated Parameters for Vertical Orifice

Invert of Vertical Orifice = 3.00 Not Selected ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Vertical Orifice = 3.73 Not Selected ft (relative to basin bottom at Stage = 0 ft)
Vertical Orifice Diameter = 2.45 Not Selected inches

Vertical Orifice Area = 0.03 Not Selected ft²
Vertical Orifice Centroid = 0.10 Not Selected feet

User Input: Overflow Weir (Dropbox with Flat or Sloped Gate and Outlet Pipe OR Rectangular/Trapezoidal Weir and No Outlet Pipe)

Calculated Parameters for Overflow Weir

Overflow Weir Front Edge Height, H_o = 4.63 Not Selected ft (relative to basin bottom at Stage = 0 ft)
Overflow Weir Front Edge Length = 5.00 Not Selected feet
Overflow Weir Gate Slope = 3.40 Not Selected H:V
Horiz. Length of Weir Sides = 5.00 Not Selected feet
Overflow Gate Type = Close Mesh Gate Not Selected
Debris Clogging % = 50% Not Selected %

Height of Gate Upper Edge, H_t = 6.10 Not Selected feet
Overflow Weir Slope Length = 5.21 Not Selected feet
Gate Open Area / 100-yr Orifice Area = 78.78 Not Selected
Overflow Gate Open Area w/o Debris = 20.61 Not Selected ft²
Overflow Gate Open Area w/ Debris = 10.31 Not Selected ft²

User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice)

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate

Depth to Invert of Outlet Pipe = 0.08 Not Selected ft (distance below basin bottom at Stage = 0 ft)
Outlet Pipe Diameter = 18.00 Not Selected inches
Restrictor Plate Height Above Pipe Invert = 3.70 Not Selected inches

Outlet Orifice Area = 0.26 Not Selected ft²
Outlet Orifice Centroid = 0.18 Not Selected feet
Half-Central Angle of Restrictor Plate on Pipe = 0.94 Not Selected radians

User Input: Emergency Spillway (Rectangular or Trapezoidal)

Calculated Parameters for Spillway

Spillway Invert Stage = 5.55 Not Selected ft (relative to basin bottom at Stage = 0 ft)
Spillway Crest Length = 48.00 Not Selected feet
Spillway End Slopes = 4.00 Not Selected H:V
Freeboard above Max Water Surface = 1.00 Not Selected feet

Spillway Design Flow Depth = 0.18 Not Selected feet
Stage at Top of Freeboard = 6.73 Not Selected feet
Basin Area at Top of Freeboard = 0.12 Not Selected acres
Basin Volume at Top of Freeboard = 0.53 Not Selected acre-ft

Routed Hydrograph Results

The user can override the default CUHP hydrographs and runoff volumes by entering new values in the Inflow Hydrographs table (Columns W through AF).

	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
Design Storm Return Period	N/A	N/A	1.19	1.50	1.75	2.00	2.25	2.52	3.48
One-Hour Rainfall Depth (in)	N/A	N/A	0.075	0.290	0.188	0.245	0.291	0.347	0.696
CUHP Runoff Volume (acre-ft)	N/A	N/A	0.188	0.245	0.291	0.347	0.403	0.469	0.696
Inflow Hydrograph Volume (acre-ft)	N/A	N/A	0.0	0.1	0.1	1.0	1.8	3.0	6.7
CUHP Predevelopment Peak Q (cfs)	N/A	N/A	0.01	0.02	0.03	0.30	0.58	0.94	2.10
OPTIONAL Override Predevelopment Peak Q (cfs)	N/A	N/A	0.01	0.02	0.03	0.30	0.58	0.94	2.10
Predevelopment Unit Peak Flow, q (cfs/acre)	N/A	N/A	4.4	5.8	6.9	8.5	10.1	11.4	17.2
Peak Inflow Q (cfs)	N/A	N/A	0.2	0.2	0.2	0.5	1.1	2.3	8.9
Peak Outflow Q (cfs)	N/A	N/A	0.2	0.2	0.2	0.5	1.1	2.3	8.9
Ratio Peak Outflow to Predevelopment Q	N/A	N/A	N/A	2.6	2.2	0.5	0.6	0.8	1.3
Structure Controlling Flow	Plate	Vertical Orifice 1	Vertical Orifice 1	Vertical Orifice 1	Vertical Orifice 1	Overflow Weir 1	Overflow Weir 1	Overflow Weir 1	Spillway
Max Velocity through Gate 1 (fps)	N/A	N/A	N/A	N/A	N/A	0.0	0.0	0.1	0.1
Max Velocity through Gate 2 (fps)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time to Drain 97% of Inflow Volume (hours)	36	57	55	57	58	59	57	56	51
Time to Drain 99% of Inflow Volume (hours)	37	62	58	61	63	64	64	63	62
Maximum Ponding Depth (ft)	2.57	4.61	3.51	3.97	4.35	4.75	4.89	5.09	5.67
Area at Maximum Ponding Depth (acres)	0.09	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
Maximum Volume Stored (acre-ft)	0.076	0.291	0.172	0.220	0.261	0.305	0.321	0.343	0.407