



1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920
719.900.7220 • GallowayUS.com

December 31, 2024

Brady Shyrock, on Behalf of Galloway
1155 Kelly Johnson Blvd., Suite 305
Colorado Springs, CO 80920

RE: Constitution Storage Development; Full Spectrum Detention Pond Certification

Dear Brad Walters,

Please accept this letter as formal documentation of conformance of the Full Spectrum Detention Pond (FSD-1) for stormwater quality and detention at the Constitution Storage Development. The Constitution Storage Development (Site) is located at 2460 Canada Drive, Colorado Springs within El Paso County, Colorado. The project site is located south of Constitution Avenue, west of Canada Drive, & east of Peterson Road. The site is located in a portion of Section 05, Township 14 South, Range 65 West of the 6th Principal Meridian, County of El Paso, State of Colorado.

Survey data detailing the Full Spectrum Detention Pond (FSD-1) at the site was provided to Galloway & Company, Inc. on October 03, 2024 and updated on October 14, 2024 & December 13, 2024 by R & R Engineers-Surveyors, Inc. The pond was constructed based on the pond design prepared by Galloway, Inc. in the approved Constitution Storage Development Final Drainage Report dated July 21, 2023; Revised November 10, 2023.

WQCV Design

The WQCV has a volume of 0.074-acre feet and a depth of 2.50 feet. The WQCV has a 99% drain time of 39 hours which is slightly out of conformance with MHFD Criteria and City of Colorado Springs Criteria.

EURV, 5-Year, & 100-Year Design

Per the approved FDR, the EURV and 100-year volumes will be conveyed via the Modified CDOT Type C Outlet structure to the proposed chase outfall (S-40) located at the southeast corner of the site at the Canada Drive ROW (curb & gutter). The development provides the full spectrum detention pond to control release rates from the project site and does not exceed pre-development conditions. Treated / detained runoff is then directed to the existing western curb & gutter within the Canada Drive. Storm events larger than the 100-year storm will overtop the emergency overflow weir and free release into the proposed access drive and southeasterly towards Canada Drive in conformance with historical drainage patterns.



The water quality volume release will be controlled with an orifice plate that will release over a period of 39 hours. The full spectrum detention pond will release treated flows into the proposed chase outfall (S-40) within the Constitution Storage Development to the proposed chase outfall (S-40) located at the southeast corner of the site at the Canada Drive ROW (curb & gutter).

The FSD-1 pond provides the required storage volume and will meet required release rates.

Total area which will not be treated via the on-site facility is less than 1.0 acre and less than 20%, which of the total site, as required.

Miscellaneous

As-builts were also conducted to verify the construction of the overall pond volume / capacity. The required overall pond volume is 0.416 ac-ft. The as-built pond volume is 0.453 ac-ft, therefore it stands in substantial conformance with the approved plans.

The sidewalk chase located at the far southeastern corner of the project site as constructed is 4" smaller in width (24" wide per approved plans vs. 20" wide as-built) and is 1.5" smaller in height (6" high per approved plans vs. 4.5" high as-built). The sidewalk chase still has adequate capacity for the designed pond outflow of 0.87cfs where the normal depth for the 20" wide x 4.5" deep chase is 0.14' (1.68").

One item to note as an exclusion to this overall pond certification, there are two portions of the concrete trickle channel that were constructed below the minimum slope of 0.40% per the County DCM as reflected on the R & R Engineers-Surveyors, Inc. as-built survey (attached) shown in blue arrows. These two areas still have positive drainage and could be attributed to construction tolerances combined with swelling of soils lying beneath the concrete trickle channel.

Conclusion

In summary I, Brady Shyrock, a registered professional engineer in the State of Colorado, do hereby affirm, to the best of my knowledge, based on the as-built survey provided by R & R Engineers-Surveyors, Inc. and information provided to date by the general contractor (dcb Construction Company, Inc.), the Full Spectrum Detention Pond for Constitution Storage Development and associated drainage facilities were constructed in accordance with the design intent of the approved drainage report and construction drawings, and in accordance with local standards and specifications, regional jurisdictional design criteria and state statutes.

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 (public improvements, common improvements, site grading and paving) meet or exceed the minimum design requirements.

The facilities outlined in this certification letter provide the required WQCV, EURV, 5-Year, & 100-Year detention volumes and will meet the required release rates (as documented by the attached MHFD design form), the stage areas, elevations, and outlet dimensions.

Should you have any further questions, or require additional information, please do not hesitate to contact me at (719) 900-7220.

GALLOWAY

A handwritten signature in blue ink, appearing to read 'Brady Shyrock', with a stylized flourish at the end.

Brady Shyrock, PE
Project Manager
BradyShyrock@GallowayUS.com

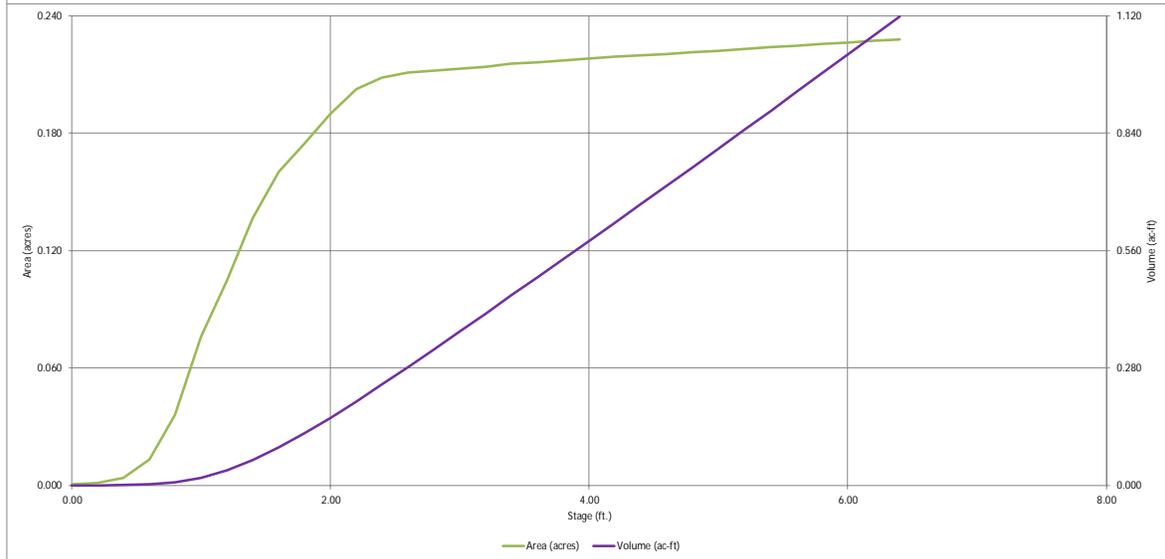
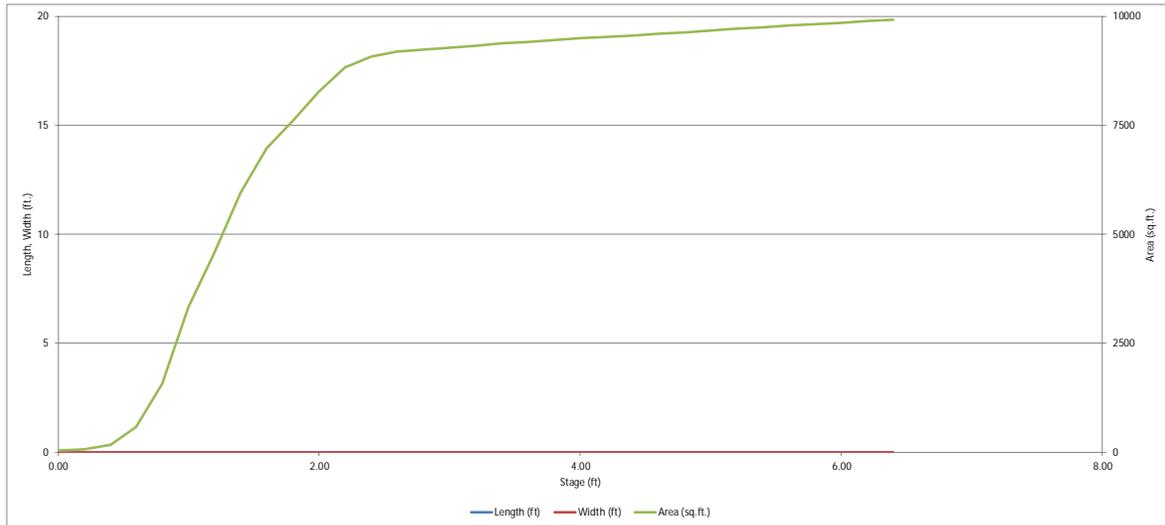
cc: John Radcliffe, PE
Principal & Regional Office Manager
JohnRadcliffe@GallowayUS.com

Attached Documents:

- MHFD WQ Detention Pond Calculations
- Approved FDR Drainage Map
- R & R Engineers-Surveyors, Inc. As-Built Survey
- As-Built Drawings

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

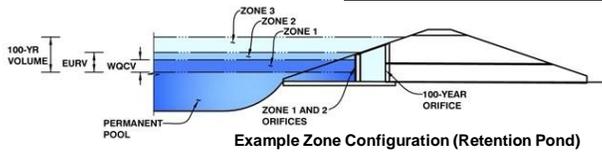
MHFD-Detention, Version 4.05 (January 2022)



DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-*Detention*, Version 4.05 (January 2022)

Project: 6855 Constitution Ave Self Storage
Basin ID: FSD-1



	Estimated Stage (ft)	Estimated Volume (ac-ft)	Outlet Type
Zone 1 (WOCV)	1.50	0.074	Orifice Plate
Zone 2 (EURV)	2.63	0.213	Orifice Plate
Zone 3 (100-year)	3.23	0.129	Weir&Pipe (Restrict)
Total (all zones)		0.416	

User Input: Orifice at Underdrain Outlet (typically used to drain WOCV 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 WOCV and/or EURV in a sedimentation BMP)

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

Calculated Parameters for Plate
WQ Orifice Area per Row = ft²
Elliptical Half-Width = feet
Elliptical Slot Centroid = feet
Elliptical Slot Area = 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	0.91	1.58	2.45				
Orifice Area (sq. inches)	0.44	0.60	0.79	0.44				

	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)

	Not Selected	Not Selected	
Invert of Vertical Orifice =	<input type="text" value="N/A"/>	<input type="text" value="N/A"/>	ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Vertical Orifice =	<input type="text" value="N/A"/>	<input type="text" value="N/A"/>	ft (relative to basin bottom at Stage = 0 ft)
Vertical Orifice Diameter =	<input type="text" value="N/A"/>	<input type="text" value="N/A"/>	inches

Calculated Parameters for Vertical Orif
Vertical Orifice Area = ft²
Vertical Orifice Centroid = feet

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

	Zone 3 Weir	Not Selected	
Overflow Weir Front Edge Height, Ho =	<input type="text" value="3.44"/>	<input type="text" value="N/A"/>	ft (relative to basin bottom at Stage = 0 ft)
Overflow Weir Front Edge Length =	<input type="text" value="2.92"/>	<input type="text" value="N/A"/>	feet
Overflow Weir Gate Slope =	<input type="text" value="0.00"/>	<input type="text" value="N/A"/>	H:V
Horiz. Length of Weir Sides =	<input type="text" value="2.92"/>	<input type="text" value="N/A"/>	feet
Overflow Gate Type =	<input type="text" value="Type C Gate"/>	<input type="text" value="N/A"/>	
Debris Clogging % =	<input type="text" value="50%"/>	<input type="text" value="N/A"/>	%

Calculated Parameters for Overflow W
Height of Gate Upper Edge, H₁ = feet
Overflow Weir Slope Length = feet
Gate Open Area / 100-yr Orifice Area = N/A
Overflow Gate Open Area w/o Debris = N/A
Overflow Gate Open Area w/ Debris = N/A

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

	Zone 3 Restrictor	Not Selected	
Depth to Invert of Outlet Pipe =	<input type="text" value="0.00"/>	<input type="text" value="N/A"/>	ft (distance below basin bottom at Stage = 0 ft)
Outlet Pipe Diameter =	<input type="text" value="12.00"/>	<input type="text" value="N/A"/>	inches
Restrictor Plate Height Above Pipe Invert =	<input type="text" value="3.12"/>	<input type="text" value="N/A"/>	inches

Calculated Parameters for Outlet Pipe w/ Flow Restriction Pl
Outlet Orifice Area = ft²
Outlet Orifice Centroid = feet
Half-Central Angle of Restrictor Plate on Pipe = degrees

User Input: Emergency Spillway (Rectangular or Trapezoidal)

Spillway Invert Stage = ft (relative to basin bottom at Stage = 0 ft)
Spillway Crest Length = feet
Spillway End Slopes = H:V
Freeboard above Max Water Surface = feet

Calculated Parameters for Spillway
Spillway Design Flow Depth = feet
Stage at Top of Freeboard = feet
Basin Area at Top of Freeboard = acres
Basin Volume at Top of Freeboard = acre-ft

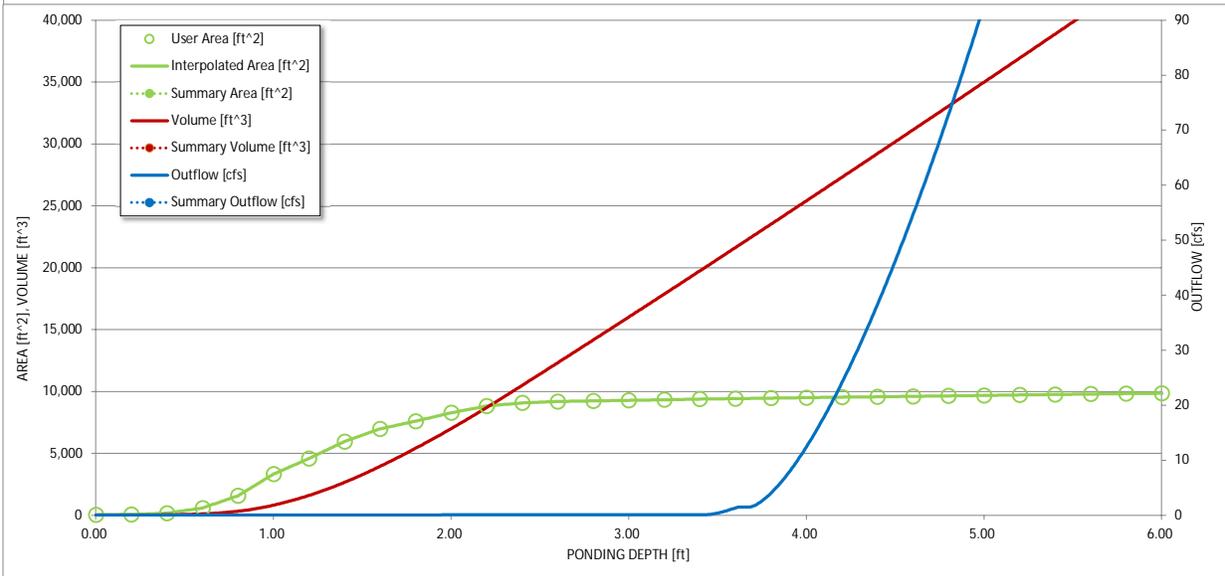
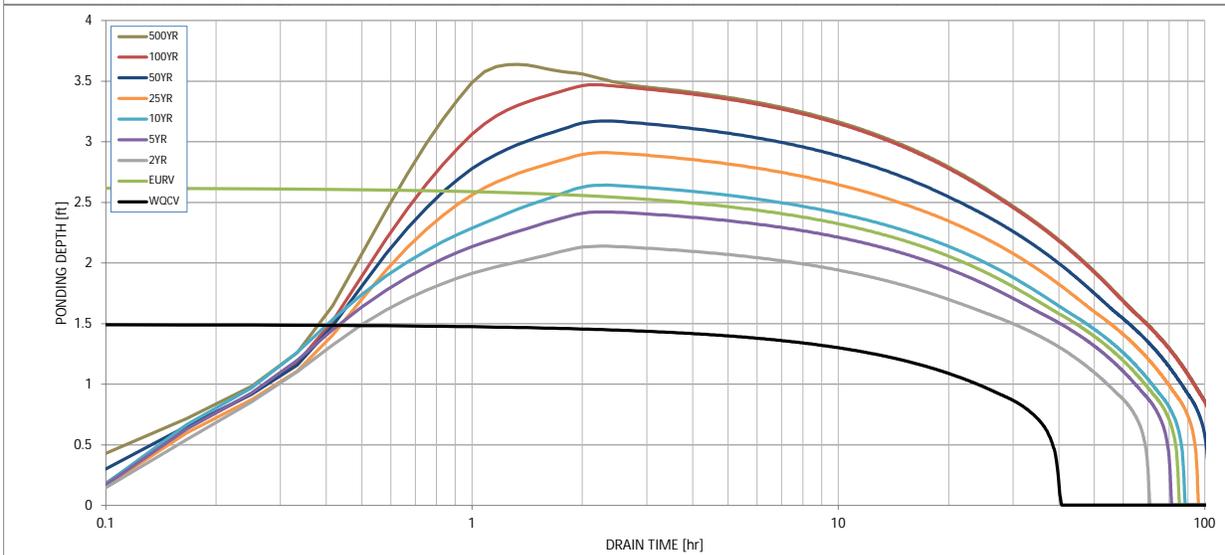
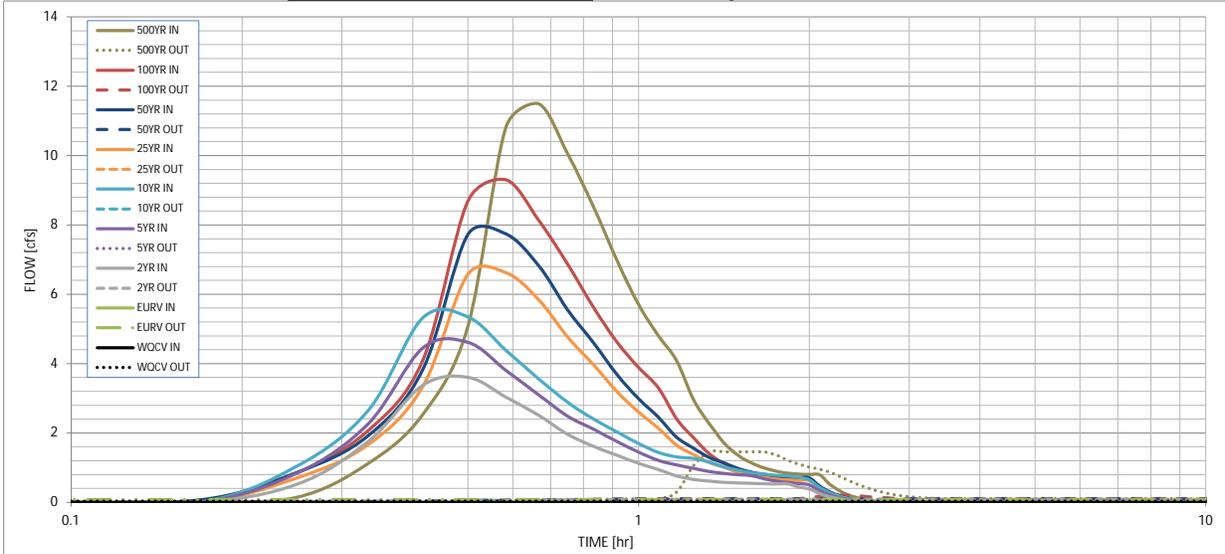
Routed Hydrograph Results

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

	WOCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Design Storm Return Period								
One-Hour Rainfall Depth (in)	N/A	N/A	1.19	1.50	1.75	2.00	2.25	2.52
CUHP Runoff Volume (acre-ft)	0.074	0.287	0.197	0.256	0.304	0.362	0.419	0.487
Inflow Hydrograph Volume (acre-ft)	N/A	N/A	0.197	0.256	0.304	0.362	0.419	0.487
CUHP Predevelopment Peak Q (cfs)	N/A	N/A	0.0	0.0	0.1	0.6	1.2	2.0
OPTIONAL Override Predevelopment Peak Q (cfs)	N/A	N/A						
Predevelopment Unit Peak Flow, q (cfs/acre)	N/A	N/A	0.01	0.016	0.022	0.20	0.40	0.65
Peak Inflow Q (cfs)	N/A	N/A	3.6	4.6	5.3	6.6	7.7	9.3
Peak Outflow Q (cfs)	0.033	0.083	0.063	0.072	0.084	0.094	0.102	0.209
Ratio Peak Outflow to Predevelopment Q	N/A	N/A	N/A	1.5	1.3	0.2	0.1	0.1
Structure Controlling Flow	Plate	Plate	Plate	Plate	Plate	Plate	Plate	Overflow Weir 1
Max Velocity through Gate 1 (fps)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.0
Max Velocity through Gate 2 (fps)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time to Drain 97% of Inflow Volume (hours)	38	76	64	73	79	85	91	96
Time to Drain 99% of Inflow Volume (hours)	39	82	68	78	85	92	98	105
Maximum Ponding Depth (ft)	1.50	2.63	2.14	2.42	2.64	2.91	3.17	3.47
Area at Maximum Ponding Depth (acres)	0.15	0.21	0.20	0.21	0.21	0.21	0.21	0.22
Maximum Volume Stored (acre-ft)	0.075	0.289	0.186	0.245	0.291	0.346	0.404	0.468

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.05 (January 2022)



S-A-V-D Chart Axis Override	X-axis	Left Y-Axis	Right Y-Axis
minimum bound			
maximum bound			

DETENTION BASIN OUTLET STRUCTURE DESIGN

Outflow Hydrograph Workbook Filename: _____

Inflow Hydrographs

The user can override the calculated inflow hydrographs from this workbook with inflow hydrographs developed in a separate program.

Time Interval	SOURCE	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP
	TIME	WQCV [cfs]	EURV [cfs]	2 Year [cfs]	5 Year [cfs]	10 Year [cfs]	25 Year [cfs]	50 Year [cfs]	100 Year [cfs]	500 Year [cfs]
5.00 min	0:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0:05:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0:10:00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.01	0.15
	0:15:00	0.00	0.00	0.52	0.85	1.05	0.70	0.86	0.85	1.11
	0:20:00	0.00	0.00	1.75	2.26	2.64	1.65	1.91	2.07	2.53
	0:25:00	0.00	0.00	3.37	4.45	5.32	3.34	3.82	4.09	5.07
	0:30:00	0.00	0.00	3.61	4.62	5.35	6.57	7.72	8.69	10.80
	0:35:00	0.00	0.00	3.03	3.81	4.39	6.62	7.74	9.30	11.49
	0:40:00	0.00	0.00	2.51	3.10	3.56	5.84	6.83	8.13	10.06
	0:45:00	0.00	0.00	1.96	2.48	2.88	4.76	5.55	6.87	8.51
	0:50:00	0.00	0.00	1.61	2.11	2.40	3.96	4.60	5.61	6.96
	0:55:00	0.00	0.00	1.35	1.75	2.02	3.18	3.68	4.61	5.70
	1:00:00	0.00	0.00	1.12	1.45	1.70	2.60	2.99	3.89	4.81
	1:05:00	0.00	0.00	0.95	1.21	1.44	2.14	2.45	3.30	4.09
	1:10:00	0.00	0.00	0.76	1.08	1.31	1.65	1.88	2.41	2.96
	1:15:00	0.00	0.00	0.66	0.98	1.27	1.37	1.56	1.86	2.27
	1:20:00	0.00	0.00	0.61	0.89	1.16	1.14	1.29	1.40	1.70
	1:25:00	0.00	0.00	0.58	0.83	1.02	1.00	1.13	1.11	1.34
	1:30:00	0.00	0.00	0.56	0.79	0.92	0.86	0.97	0.94	1.13
	1:35:00	0.00	0.00	0.55	0.77	0.86	0.77	0.87	0.83	0.99
	1:40:00	0.00	0.00	0.54	0.68	0.81	0.71	0.80	0.75	0.90
	1:45:00	0.00	0.00	0.53	0.61	0.78	0.67	0.76	0.70	0.84
	1:50:00	0.00	0.00	0.53	0.57	0.76	0.65	0.73	0.68	0.81
	1:55:00	0.00	0.00	0.44	0.54	0.72	0.63	0.71	0.67	0.80
	2:00:00	0.00	0.00	0.38	0.50	0.65	0.63	0.71	0.67	0.80
	2:05:00	0.00	0.00	0.25	0.34	0.43	0.42	0.47	0.45	0.54
	2:10:00	0.00	0.00	0.17	0.22	0.28	0.28	0.31	0.30	0.35
	2:15:00	0.00	0.00	0.11	0.14	0.18	0.18	0.20	0.19	0.23
	2:20:00	0.00	0.00	0.06	0.09	0.11	0.11	0.12	0.12	0.14
	2:25:00	0.00	0.00	0.04	0.05	0.07	0.07	0.08	0.07	0.09
	2:30:00	0.00	0.00	0.02	0.03	0.04	0.04	0.04	0.04	0.05
	2:35:00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.02	0.02
	2:40:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2:45:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2:50:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2:55:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:05:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:10:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:15:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:25:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:30:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:35:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:40:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:45:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:50:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:55:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:05:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:10:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:15:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:25:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:30:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:35:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:40:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:45:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:50:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:55:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5:05:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5:10:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5:15:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5:20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5:25:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5:30:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5:35:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5:40:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5:45:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5:50:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5:55:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

JDA_Storm Outfall Chase As-Built

Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Roughness Coefficient	0.013		MATCHES APPROVED FDR
Channel Slope	0.02000	ft/ft	MATCHES APPROVED FDR
Bottom Width	1.67	ft	= 20"
Discharge	0.87	ft ³ /s	MATCHES APPROVED FDR

Results

Normal Depth	0.14	ft	← < 4.25"; AS-BUILT CONDITION WILL CONVEY OUTFALL PEAK FLOW
Flow Area	0.23	ft ²	
Wetted Perimeter	1.94	ft	
Hydraulic Radius	0.12	ft	
Top Width	1.67	ft	
Critical Depth	0.20	ft	
Critical Slope	0.00560	ft/ft	
Velocity	3.85	ft/s	
Velocity Head	0.23	ft	
Specific Energy	0.37	ft	
Froude Number	1.85		
Flow Type		Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.14	ft
Critical Depth	0.20	ft
Channel Slope	0.02000	ft/ft
Critical Slope	0.00560	ft/ft

DETENTION POND - GRADING EXHIBIT

CONSTITUTION STORAGE - 2460 CANADA DRIVE

LOCATED IN THE NW1/4 OF SECTION 5, T.14S, R.65W, 6TH P.M.
CITY OF COLORADO SPRINGS, EL PASO COUNTY, COLORADO

LEGEND

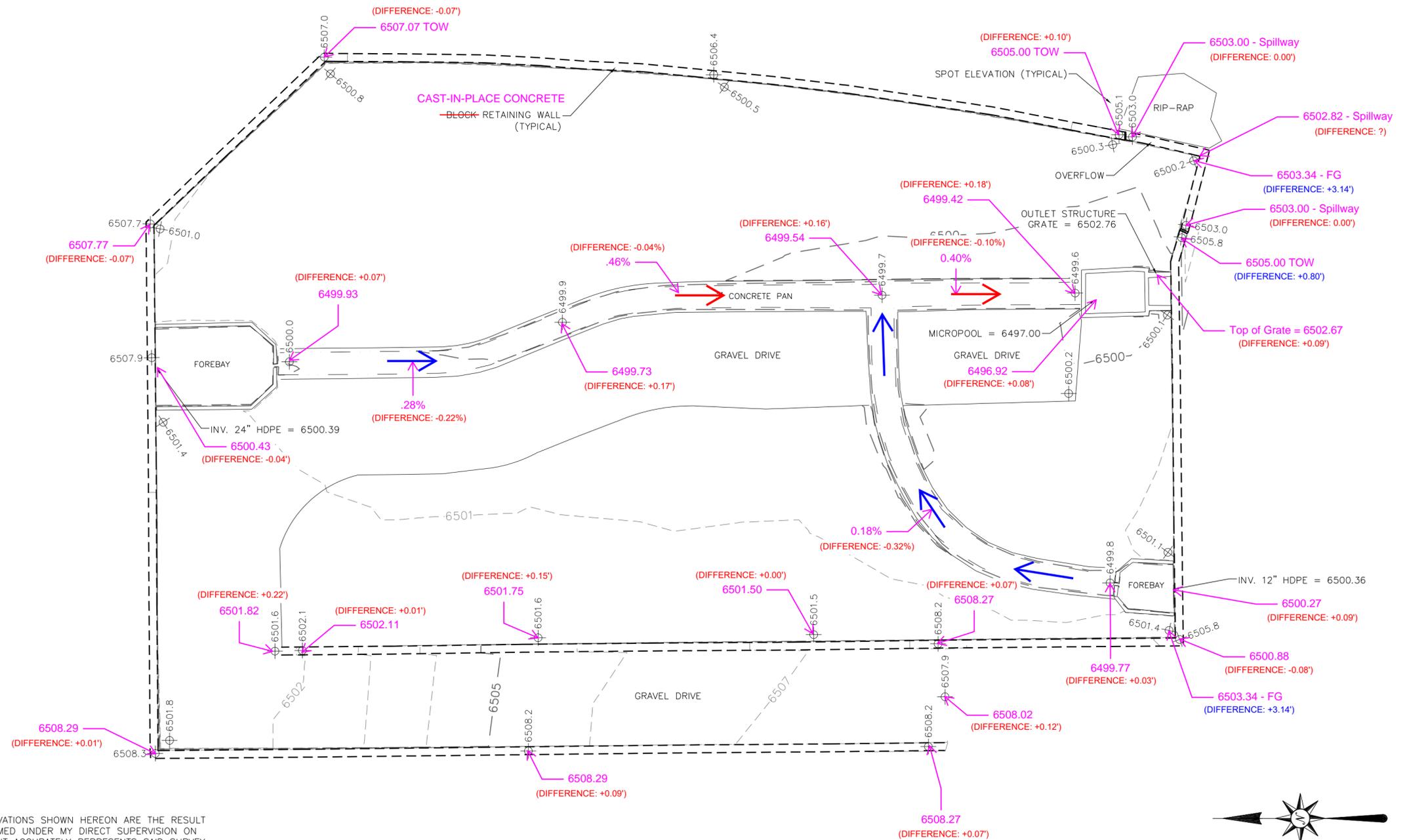
DESIGN ELEVATION

ELEVATION DIFFERENCE < 0.50'

ELEVATION DIFFERENCE >= 0.50'

ADEQUATE SLOPE →

INADEQUATE SLOPE →



SURVEY CERTIFICATION

I HEREBY CERTIFY THAT THE ELEVATIONS SHOWN HEREON ARE THE RESULT OF SURVEY FIELD WORK PERFORMED UNDER MY DIRECT SUPERVISION ON SEPTEMBER 12, 2024 AND THAT IT ACCURATELY REPRESENTS SAID SURVEY TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND IS IN ACCORDANCE WITH THE APPLICABLE STANDARDS OF PRACTICE. THIS CERTIFICATION IS NOT A GUARANTY OR WARRANTY, EITHER EXPRESSED OR IMPLIED.



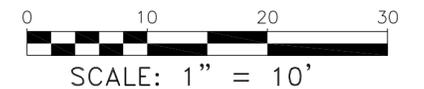
JEFFREY WEYGANDT, P.L.S.
COLORADO REG. NO. 38872
FOR, AND ON BEHALF OF:
R&R ENGINEERS-SURVEYORS, INC.

NOTES

- BENCHMARK: COLORADO SPRINGS FACILITY INFORMATION MANAGEMENT SYSTEM (FIMS) MONUMENT #SR07. ELEVATION = 6534.61 FEET (NAVD88 DATUM)

- POND VOLUMES:
18,900 CU.FT. TO ELEVATION 6502.75 (GRATE)
21,650 CU.FT. TO ELEVATION 6503.00 (OVERFLOW)

Total Pond Detention Volume = 18120.93 Cu Ft = .416 Ac Ft
100 Year Volume = 21213.69 Cu Ft = .487 Ac Ft



R&R ENGINEERS-SURVEYORS, INC.
1635 W. 13TH AVENUE, SUITE 310
DENVER, COLORADO 80204
PH: 303-753-6730
WWW.RRENGINEERS.COM

REVISIONS	File No. DC23140 POND
	Date Drawn 9/18/24
	Drawn By TPF
	Checked By JDW
	Job No. DC23140

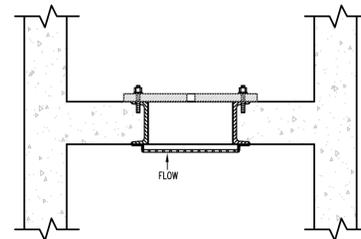
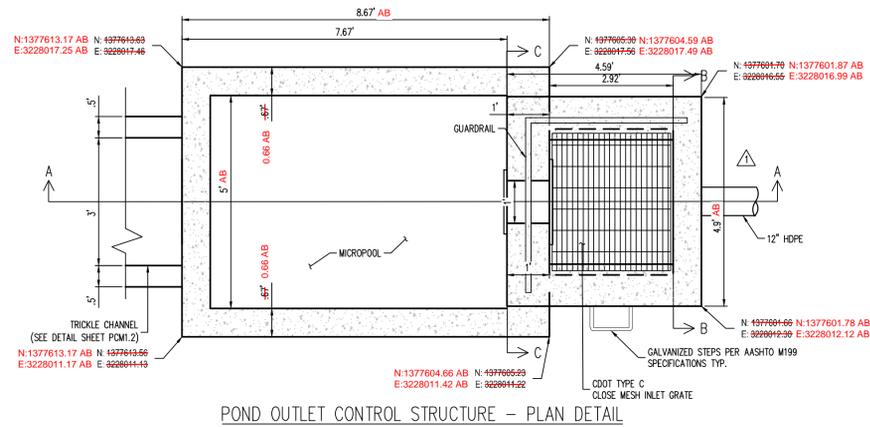
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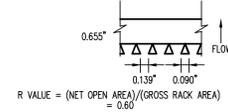
PRIVATE PERMANENT CONTROL MEASURE PLAN
 CONSTITUTION STORAGE

JOHNSON DEVELOPMENT ASSOCIATES

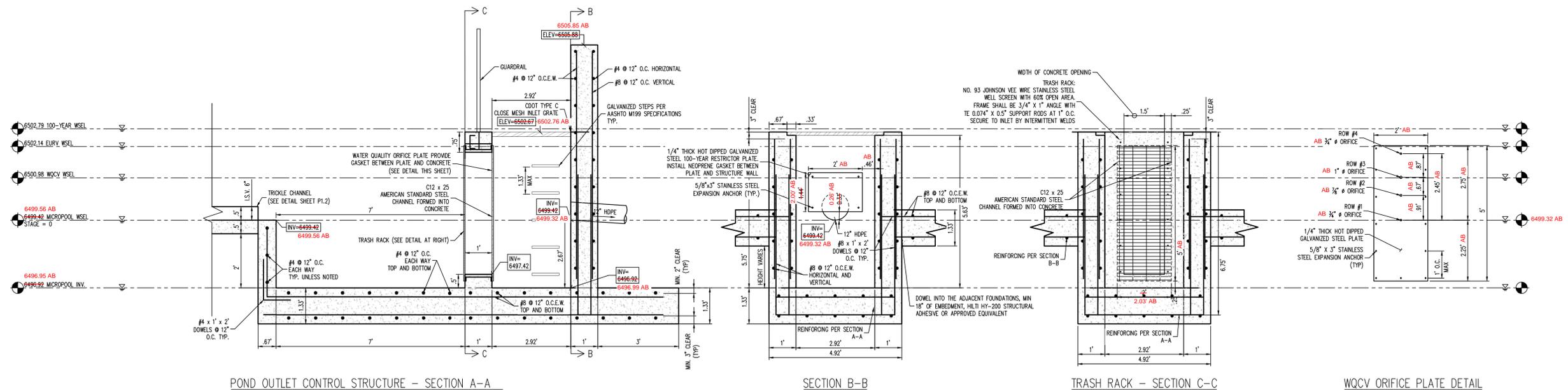
2460 CANADA DRIVE
 COLORADO SPRINGS, CO 80915



SECTION D-D
 NOT TO SCALE



TRASH RACK SECTION
 SCALE: 1" = 1'



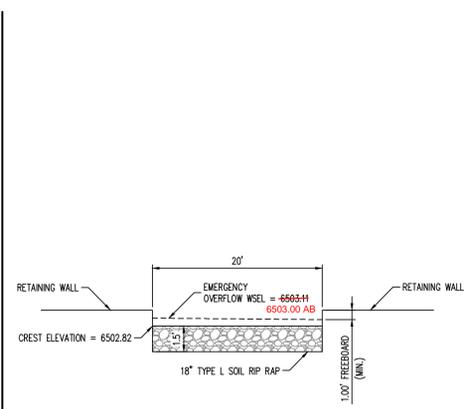
POND OUTLET CONTROL STRUCTURE - SECTION A-A

SECTION B-B

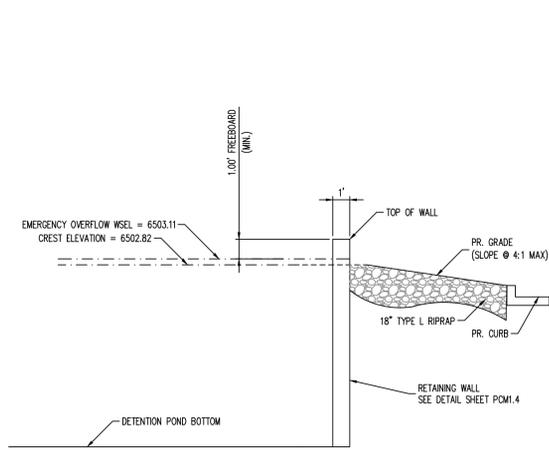
TRASH RACK - SECTION C-C

WQCV ORIFICE PLATE DETAIL

1 POND OUTLET STRUCTURE
 SCALE: 1" = 2'



2 POND 100-YEAR OVERFLOW - CROSS SECTION
 NOT TO SCALE



3 POND 100-YEAR OVERFLOW - PROFILE
 NOT TO SCALE

CERTIFICATION
 I, JEFFREY D. WEYGANDT, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THE AS-BUILT DIMENSIONS AS SHOWN, MARKED AB, ARE BASED UPON AN ACTUAL SURVEY MADE ON THE GROUND AND THAT IT ACCURATELY REPRESENTS SAID SURVEY TO THE BEST OF MY KNOWLEDGE AND BELIEF AND IS IN ACCORDANCE WITH THE APPLICABLE STANDARDS OF PRACTICE. THE FIELD WORK WAS PERFORMED UNDER MY DIRECT SUPERVISION BETWEEN SEPTEMBER 13, 2024 AND OCTOBER 11, 2024.
 THIS CERTIFICATION IS NOT A GUARANTY OR WARRANTY, EITHER EXPRESSED OR IMPLIED.



JEFFREY D. WEYGANDT, PLS
 COLORADO REG. NO. 38872
 FOR, AND ON BEHALF OF:
 R&R ENGINEERS-SURVEYORS, INC.
 1635 W. 13TH AVENUE, #310
 DENVER, CO 80204
 (303) 753-6730

#	Date	Issue / Description	Init.
1	11/10/2023	GRADING & DRAINAGE UPDATES	JDM
2	01/31/2024	GRADING LABEL UPDATES	CRD

Project No:	JDA02
Drawn By:	ASA/MRK
Checked By:	BAS
Date:	JULY 2023

MICROPOOL & OUTLET
 STRUCTURE DETAILS

