

Prepared by:
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Date: 3-25-2022

Prepared for:
Thomas P McCann II
6275 Lake Shore Court
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Job number: 2022-02-25-Tom

DRAINAGE REPORT

for
SELF-STORAGE AREA
Located at
6275 LAKE SHORE COURT
COLORADO SPRINGS, CO 80915
(LOT 1, BLOCK 1, SEALY SUBDIVISION FILING NO.2)

This drainage report is made for the proposed self-storage area located at 6275 Lake Shore Court, Colorado Springs, CO 80915. Its purpose is to serve as certification and backup justification based on the previous drainage reports that use Sand Creek as the recipient of storm water for this development. That includes ensuring the proposed development is in line with what was proposed in the original drainage reports.

The previously developed drainage reports used in this analysis are listed below:

- Final Drainage Study for Cimarron Northwest Industrial Park by Lovejoy and Williams (1973)
- Final Drainage Study for Sealy Site by Backer-Johnson, Inc.; Job No. 870097, (November 20, 1987)

The Drainage Criteria Manual, County of El Paso, Colorado Volume 1 and 2 are used as reference document for runoff calculations in this report. The Rational Method was used in estimating storm water runoff for this project since the drainage basins are 100 acres or less. The average rainfall intensity (I), in inches per hour, is based on the assumption that the peak runoff will occur when the duration of the rainfall is equal to the time of concentration, which presents the worst-case scenario. The used runoff coefficients are highlighted in the table presented in Appendix A. The existing condition drainage plan with calculation results is presented in Appendix B of this document. In addition to the existing calculations, the designed runoff for the light industrial areas was calculated. The designed runoff plan for light industrial areas is

presented in Appendix C. The proposed condition drainage plan with calculation results is presented in Appendix D.

The comparison for this drainage report was done between the industrial conditions and the proposed conditions because the original drainage plan that serves the area of the lot was originally designed for light industrial loads. The existing conditions are unimproved, vacant land, that can't be used to represent the industrial conditions because the originally designed drainage load is able to accept greater flows than the current existing condition. When comparing the industrial condition to the proposed, it is clear that the proposed water runoff will confirm to the industrial condition and will be accepted by the drainage plan. The 5-year and 100-year total runoffs for the industrial conditions from the drainage basin A and B, draining towards the Cherokee Ridge Golf Club and 6135 Lake Shore Ct, Colorado Springs, CO 80915, are equal to the same runoffs for proposed conditions.

The proposed runoff for the drainage basin C presents the runoff increase for the proposed condition. This runoff going towards to the Lake Short Court curb and gutter and will increase the total 10-year and 100-year runoff for approximately 0.6 cfs (cubic feet per second) and approximately 1 cfs, respectively. Flow increases of this very small magnitude can easily be accommodated by Lake Short Court, which with 2.5% longitudinal slope has a 10-year capacity of approximately 48 cfs and a 100-year capacity of approximately 142 cfs.

The conclusion of this report is these flow increases of approximately 1% can be handled by the existing facilities, so no new structures will have to be installed as a result of this project.

Milan LLC

Reviewed by Civil Engineer:

A handwritten signature in blue ink, appearing to read 'Milan Jankovic', is written over a horizontal line.

Milan Jankovic, M.S., P.E

Engineer's Statement:

The attached drainage plan and report were prepared under my direction and supervision and are correct to the best of my knowledge and belief. Said drainage report has been prepared according to the criteria established by the city/county for drainage reports and said report is in conformity with the master plan of the drainage basin. I accept responsibility for any liability caused by any negligent acts, errors or omissions on my part in preparing this report.

M. Jankovic

Name

Developer's Statement:

I, Tom McCann the developer have read and will comply with all of the requirements specified in this drainage report and plan.

[Signature]

Business Name

By: Electronic Payment Systems, LLC

Title: Owner

Address: 6275 Lake Shore Court
Colorado Springs, CO 80915

EL PASO COUNTY ONLY:

Filed in accordance with Section 51.1 of the El Paso Land Development Code as amended.

Director of Public works

Date

Conditions:

CITY OF COLORADO SPRINGS ONLY:

Filed in accordance with Section 15-3-906 of the Code of the City of Colorado Springs, 1980, as amended.

City Engineer

Date

Conditions:

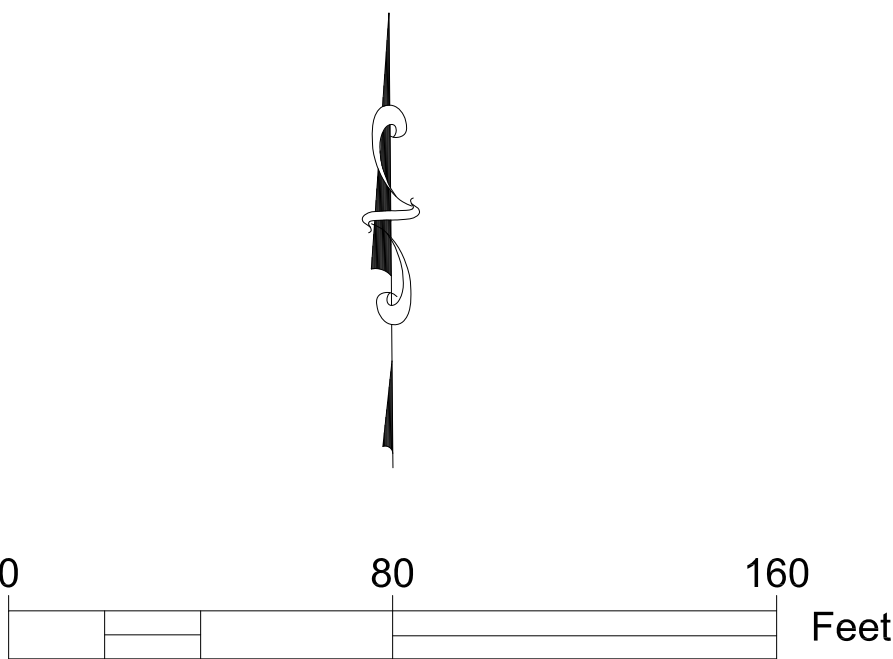
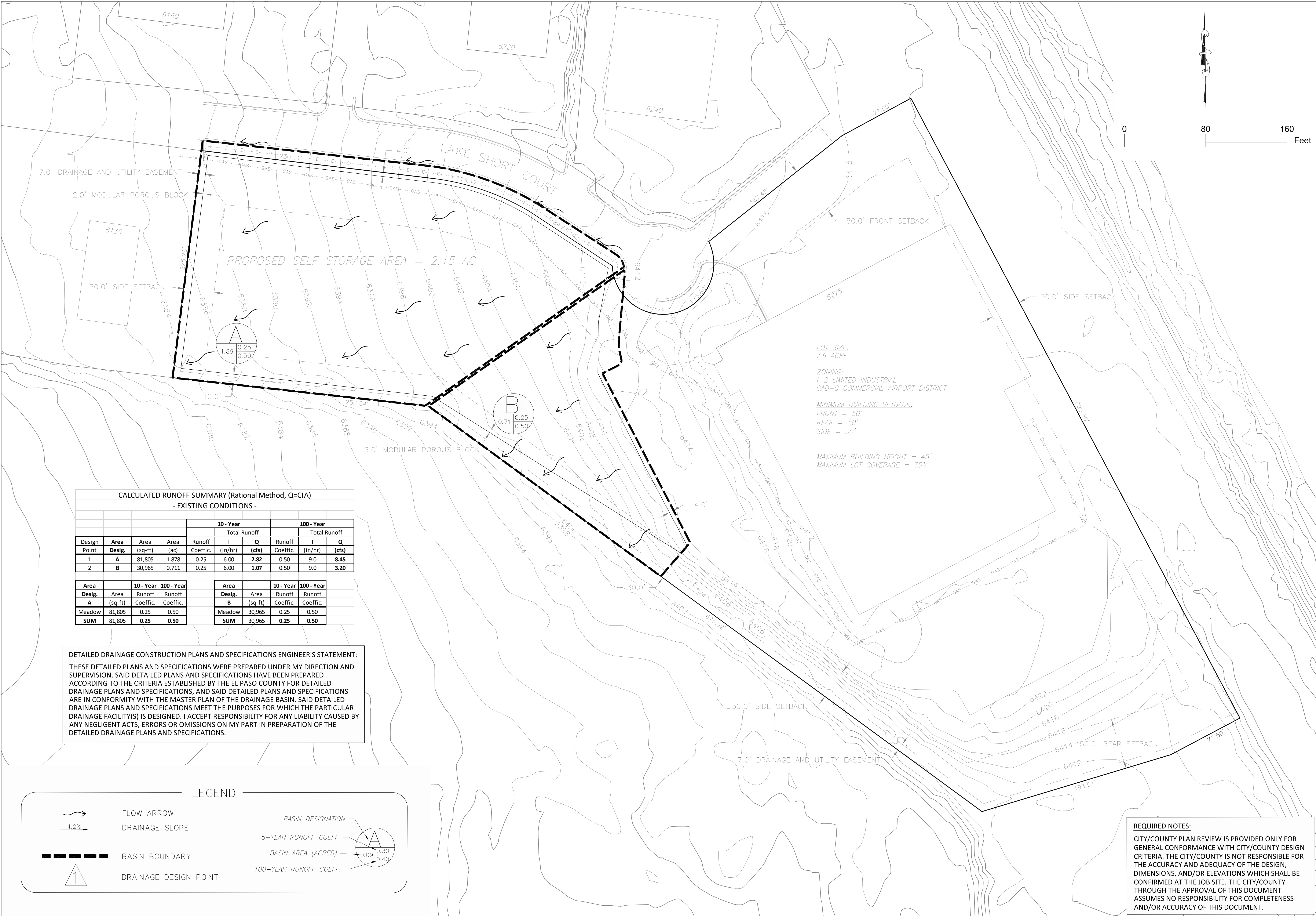


APPENDIX A

Table 6-6. Runoff Coefficients for Rational Method
(Source: UDFCD 2001)

Land Use or Surface Characteristics	Percent Impervious	Runoff Coefficients											
		2-year		5-year		10-year		25-year		50-year		100-year	
		HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D	HSG A&B	HSG C&D
Business													
Commercial Areas	95	0.79	0.80	0.81	0.82	0.83	0.84	0.85	0.87	0.87	0.88	0.88	0.89
Neighborhood Areas	70	0.45	0.49	0.49	0.53	0.53	0.57	0.58	0.62	0.60	0.65	0.62	0.68
Residential													
1/8 Acre or less	65	0.41	0.45	0.45	0.49	0.49	0.54	0.54	0.59	0.57	0.62	0.59	0.65
1/4 Acre	40	0.23	0.28	0.30	0.35	0.36	0.42	0.42	0.50	0.46	0.54	0.50	0.58
1/3 Acre	30	0.18	0.22	0.25	0.30	0.32	0.38	0.39	0.47	0.43	0.52	0.47	0.57
1/2 Acre	25	0.15	0.20	0.22	0.28	0.30	0.36	0.37	0.46	0.41	0.51	0.46	0.56
1 Acre	20	0.12	0.17	0.20	0.26	0.27	0.34	0.35	0.44	0.40	0.50	0.44	0.55
Industrial													
Light Areas	80	0.57	0.60	0.59	0.63	0.63	0.66	0.66	0.70	0.68	0.72	0.70	0.74
Heavy Areas	90	0.71	0.73	0.73	0.75	0.75	0.77	0.78	0.80	0.80	0.82	0.81	0.83
Parks and Cemeteries	7	0.05	0.09	0.12	0.19	0.20	0.29	0.30	0.40	0.34	0.46	0.39	0.52
Playgrounds	13	0.07	0.13	0.16	0.23	0.24	0.31	0.32	0.42	0.37	0.48	0.41	0.54
Railroad Yard Areas	40	0.23	0.28	0.30	0.35	0.36	0.42	0.42	0.50	0.46	0.54	0.50	0.58
Undeveloped Areas													
Historic Flow Analysis—Greenbelts, Agriculture	2	0.03	0.05	0.09	0.16	0.17	0.26	0.26	0.38	0.31	0.45	0.36	0.51
Pasture/Meadow	0	0.02	0.04	0.08	0.15	0.15	0.25	0.25	0.37	0.30	0.44	0.35	0.50
Forest	0	0.02	0.04	0.08	0.15	0.15	0.25	0.25	0.37	0.30	0.44	0.35	0.50
Exposed Rock	100	0.89	0.89	0.90	0.90	0.92	0.92	0.94	0.94	0.95	0.95	0.96	0.96
Offsite Flow Analysis (when landuse is undefined)	45	0.26	0.31	0.32	0.37	0.38	0.44	0.44	0.51	0.48	0.55	0.51	0.59
Streets													
Paved	100	0.89	0.89	0.90	0.90	0.92	0.92	0.94	0.94	0.95	0.95	0.96	0.96
Gravel	80	0.57	0.60	0.59	0.63	0.63	0.66	0.66	0.70	0.68	0.72	0.70	0.74
Drive and Walks	100	0.89	0.89	0.90	0.90	0.92	0.92	0.94	0.94	0.95	0.95	0.96	0.96
Roofs	90	0.71	0.73	0.73	0.75	0.75	0.77	0.78	0.80	0.80	0.82	0.81	0.83
Lawns	0	0.02	0.04	0.08	0.15	0.15	0.25	0.25	0.37	0.30	0.44	0.35	0.50

APPENDIX B



CALCULATED RUNOFF SUMMARY (Rational Method, Q=CIA)									
- EXISTING CONDITIONS -									
				10 - Year		100 - Year			
Design	Area	Area	Area	Runoff	Total Runoff	Runoff	Total Runoff		
Point	Desig.	(sq-ft)	(ac)	Coeff.	(in/hr)	(cfs)	Coeff.	(in/hr)	(cfs)
1	A	81,805	1.878	0.25	6.00	2.82	0.50	9.0	8.45
2	B	30,965	0.711	0.25	6.00	1.07	0.50	9.0	3.20
Area	Area	10 - Year	100 - Year			Area	Area	10 - Year	100 - Year
Desig.	Area	Runoff	Runoff	Desig.	Area	Runoff	Runoff	Desig.	Area
A	(sq-ft)	Coeff.	Coeff.	B	(sq-ft)	Coeff.	Coeff.	B	(sq-ft)
Meadow	81,805	0.25	0.50	Meadow	30,965	0.25	0.50		
SUM	81,805	0.25	0.50	SUM	30,965	0.25	0.50		

DETAILED DRAINAGE CONSTRUCTION PLANS AND SPECIFICATIONS ENGINEER'S STATEMENT:
THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID DETAILED PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE EL PASO COUNTY FOR DETAILED DRAINAGE PLANS AND SPECIFICATIONS, AND SAID DETAILED PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH THE MASTER PLAN OF THE DRAINAGE BASIN. SAID DETAILED DRAINAGE PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR DRAINAGE FACILITY(S) IS DESIGNED. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THE DETAILED DRAINAGE PLANS AND SPECIFICATIONS.

LEGEND

FLOW ARROW

DRAINAGE SLOPE

BASIN BOUNDARY

DRAINAGE DESIGN POINT

BASIN DESIGNATION

5-YEAR RUNOFF COEFF.

BASIN AREA (ACRES)

100-YEAR RUNOFF COEFF.

REQUIRED NOTES:
CITY/COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH CITY/COUNTY DESIGN CRITERIA. THE CITY/COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE CITY/COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.



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ISSUE DATE:
03/29/2022
JOB NUMBER:
2022-2-TOM
PRINTED DATE:
03/29/2022

Revision Table		City Comments	
No.	Date	Revised By	

CLIENT:
THOMAS P McCANN II
6275 Lake Shore Court
COLORADO SPRINGS, CO 80915
(303) 638-2544

TITLE:
DRAINAGE PLAN (EXISTING CONDITIONS)

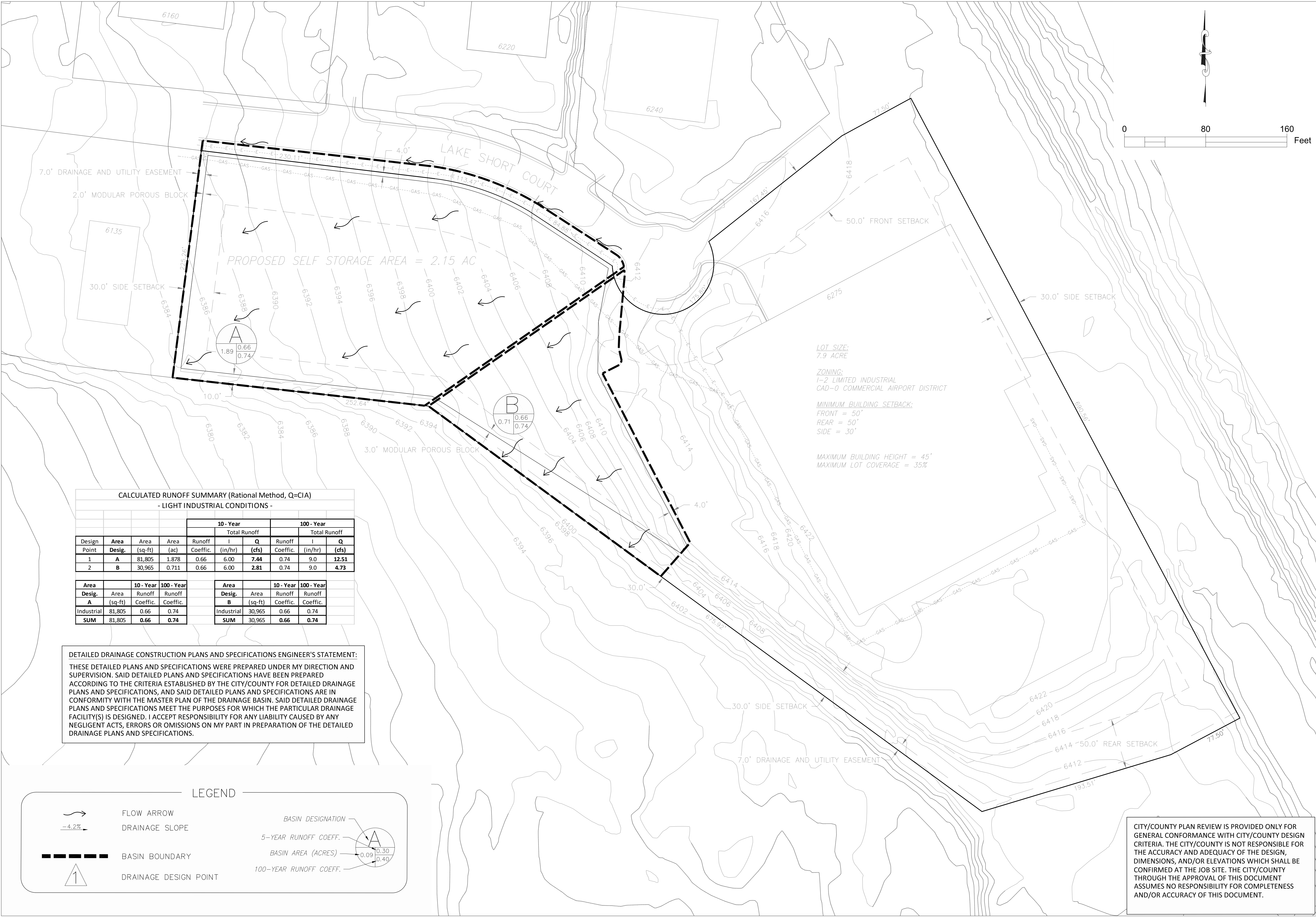
PROJECT NAME:
Self Storage Area

PROJECT ADDRESS:
**6275 Lake Shore Ct
COLORADO SPRINGS, CO 80915**

PARCEL NUMBER:
5406204034

SHEET NUMBER:
D-1

APPENDIX C



CALCULATED RUNOFF SUMMARY (Rational Method, Q=CIA)									
- LIGHT INDUSTRIAL CONDITIONS -									
				10 - Year		100 - Year			
Design	Area	Area	Area	Runoff	Total Runoff	Runoff	Total Runoff		
Point	Desig.	(sq-ft)	(ac)	Coeff.	(in/hr) (cfs)	Coeff.	(in/hr) (cfs)		
1	A	81,805	1.878	0.66	6.00 7.44	0.74	9.0 12.51		
2	B	30,965	0.711	0.66	6.00 2.81	0.74	9.0 4.73		
Area	Area	10 - Year	100 - Year			Area	Area	10 - Year	100 - Year
Desig.	Area	Runoff	Runoff	Desig.	Area	Runoff	Runoff	Desig.	Area
A	(sq-ft)	Coeff.	Coeff.	B	(sq-ft)	Coeff.	Coeff.	B	(sq-ft)
Industrial	81,805	0.66	0.74	Industrial	30,965	0.66	0.74	Industrial	30,965
SUM	81,805	0.66	0.74	SUM	30,965	0.66	0.74	SUM	30,965

DETAILED DRAINAGE CONSTRUCTION PLANS AND SPECIFICATIONS ENGINEER'S STATEMENT:
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LEGEND

FLOW ARROW

DRAINAGE SLOPE

BASIN BOUNDARY

DRAINAGE DESIGN POINT

BASIN DESIGNATION

5-YEAR RUNOFF COEFF.

BASIN AREA (ACRES)

100-YEAR RUNOFF COEFF.

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03/29/2022

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No.	Date	Revised By	Revised By

CLIENT:
THOMAS P McCANN II
6275 Lake Shore Court
COLORADO SPRINGS, CO 80915
(303) 638-2544

TITLE:
DRAINAGE PLAN (INDUSTRIAL CONDITIONS)

PROJECT NAME:
Self Storage Area

PROJECT ADDRESS:
**6275 Lake Shore Ct
COLORADO SPRINGS,
CO 80915**

PARCEL NUMBER:
5406204034

SHEET NUMBER:
D-2

APPENDIX D



NTED DATE:

03/29/2022

[illegible]

THOMAS P McCANN II
6275 Lake Shore Court
COLORADO SPRINGS, CO 80915
(303) 638-2544

• INTRODUCTION

FILE:

DRAINAGE PLAN PROPOSED CONDITIONS

PROJECT NAME:

Self Storage
Area

PROJECT ADDRESS:

6275 Lake Shore Ct
COLORADO SPRING
CO 80915

Parcel Number:

5406204034

SHEET NUMBER:

D-3

