

**NOTICE OF MEETING
PLANNING COMMISSION**

TYPE OF MEETING

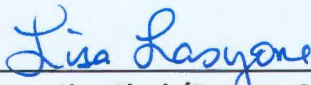
REGULAR MEETING	(X)	RESCHEDULED REGULAR MEETING	()
SPECIAL MEETING	()	CONTINUED OR RECONVENED MEETING	()

DATE: 6-4-2025 **TIME:** 1:30 P.M. **PLACE OF MEETING:**
Commission Chambers
City Hall, 16 W. 9th Street
Shawnee, OK 74801

To be completed by person filing notice:

NAME: Diana Hood
TITLE: City Planner
ADDRESS: 16 W. 9th Street
Shawnee, OK 74801
PHONE: (405) 878-1672

Filed in the office of the municipal clerk at 2:50 ^{PM} ~~a.m.~~ on 05-29-2025.

SIGNED: 
City Clerk/Deputy Clerk

=====

FOR CITY CLERK'S OFFICE USE ONLY

DATE NOTICE RELEASED TO NEWS MEDIA: 05-29-2025
PERSON FILING NOTICE: Diana Hood
NOTICE VERIFIED BY: 

DRAFT

AGENDA
PLANNING COMMISSION
JUNE 4, 2025 AT 1:30 PM
COMMISSION CHAMBERS AT CITY HALL
16 WEST 9TH STREET
SHAWNEE, OKLAHOMA

Official action can only be taken on items which appear on the agenda. The public body may adopt, approve, ratify, deny, defer, recommend, amend, strike, or continue any agenda item. When more information is needed to act on an item, the public body may refer the matter to Staff or back to Committee or the recommending body. Under certain circumstances, items are deferred to a future date or stricken from the agenda entirely.

CALL TO ORDER

DECLARATION OF QUORUM

1. Consideration of approval of the Minutes from the May 7, 2025, regular meeting.
2. Consideration of a request for a Final Plat for Shawnee Marketplace, Phase 3 | Case No. FPL01-25 | Applicant: Brady Ali Properties, LLC
3. Public Hearing and Consideration of a request to rezone from R-1 (Low Density Residential) to R-2 (Medium Density Residential), Case RZ02-25, Applicant: Salazar Homes, Inc./Allen Engineering Services, Inc.
4. Community Development Department Updates
5. Commissioners Comments
6. Adjournment

Respectfully submitted,

Rian Harkins, Secretary

The City of Shawnee encourages participation from its citizens in public meetings. If participation is not possible due to a disability, notify the City Clerk, in writing, at least forty-eight hours prior to the scheduled meeting, and necessary accommodations will be made. (ADA 28 CFR 36)

PLANNING COMMISSION MINUTES

DATE: May 7, 2025

MINUTES

The Planning Commission of the City of Shawnee, County of Pottawatomie, State of Oklahoma, met in person for a regular meeting on May 7, 2025, at 1:30 p.m., according to notice duly posted as prescribed by law.

Chair Barrett called the meeting to order at **1:30 p.m.** Community Development Director Rian Harkins called Roll and stated a quorum was present.

The following Commissioners were present:

Present: Johnson, Porter, Barrett, Reese, Alexander < Hayes (arrived at 1:34 pm)

Absent: Hembree

Item 1. Consideration of approval of the minutes from the regular meeting on February 5, 2025. Chair Barrett asked for questions or corrections to the minutes.

Commissioner Johnson made a motion to **Approve** the minutes as presented, which Commissioner Reese seconded. Motion **passed 5-0-0.**

Aye: Johnson, Barrett, Reese, Porter, Alexander,

Nay: None

Abstain: None

Item 2. Consideration of a request for a Preliminary Plat for Shawnee Twin Lakes – No. 1, Phase 3

Case No. PPL01-25 | Applicant: City of Shawnee

Background

The subject property is located to the northwest of the intersection of Highway 102 and Clearpond Road in Sections 14, 15, and 23, Township 10 North, Range 2 East. The property is zoned TL (Twin Lakes), with similar zoning to the north, west, and south, with a small section of C-2 (Regional Commercial) to the north-northwest. The property to the east across Highway 102 is not within the corporate limits of the city and has no zoning designation.

Discussion

Findings and Facts:

- Staff has reviewed the document and finds it sufficient, including the City Engineer and the Fire Marshal

Options:

- Recommending Approval of Case No. PPL01-25, Preliminary Plat for Shawnee Twin Lakes – No. 1, Phase 3 as presented.
- Recommending Denial of the application for PPL01-25, Preliminary Plat for Shawnee Twin Lakes – No. 1, Phase 3 as presented.
- Recommending Deferral of Case No. PPL01-25 with a request for additional and specific information to a certain date.

Recommendation: Based on the Findings and Facts, staff recommends that the Planning Commission recommend to the City Commission **APPROVAL** of **PPL01-25** for the Preliminary Plat of Shawnee Twin Lakes – No. 1, Phase 3

This application will be heard at the City Commission meeting on Monday, June 16, at 6:00 pm. Staff noted that the Preliminary Plat does not require a public hearing.

Commissioner Johnson made a motion to recommend the **APPROVAL** of **Case No. PPL01-25** which Commissioner Alexander seconded.

Motion **passed 6-0-0.**

Aye: Reese, Johnson, Porter, Alexander, Barrett, Hayes

Nay: None

Abstain: None

Item 4. Community Development Update

Community Development Director Harkins noted that staff is beginning contract negotiations for a housing study and CDBG Consolidated Plan. Staff is hosting a one-day workshop for the Oklahoma Chapter of the American Planning Association and presenting three sessions at the workshop.

Item 5. Planning Commissioners' Comments

Commissioners expressed excitement and interest in various projects and events happening in the community.

Item 6. Adjournment

The meeting adjourned at **1:51 p.m.**

Chair/Vice-Chair

Date

Community Development Director

Date



Planning Commission Meeting – 6.4.2025 – City of Shawnee, Oklahoma

Staff Report | FPL01-25 | Shawnee Marketplace Phase 3

Date: May 27, 2025
To: Shawnee Planning Commission
From: Diana Hood, City Planner
Subject: Consideration of a request for a Final Plat for Shawnee Marketplace Phase 3
Case No. FPL01-25 | Applicant: Brady Ali Properties, LLC

Background

The subject property is located to the northwest of the intersection of North Kickapoo Street and West 45th Street in Section 36, Township 11 North, Range 3 East. The property is zoned C-2 (Regional Commercial) with a PUD overlay, with similar zoning to the north and northwest. To the west, east, and southeast lies C-2, with R-1 (Low Density Residential) to the south and southwest.

Discussion

Findings and Facts:

- Staff has reviewed the document and finds no issue with the layout of lots or access to roadways
- Easements and Improvement plans have not been submitted for review

Options:

- Recommending Approval of Case No. FPL01-25, Final Plat for Shawnee Marketplace Phase 3 as presented.
- Recommending Approval of Case No. FPL01-25 with certain conditions or restrictions.
- Recommending Denial of the application for FPL01-25 as presented.
- Recommending Deferral of Case No. FPL01-25 with a request for additional and specific information to a certain date.

Recommendation: Based on the Findings and Facts, staff recommends that the Planning Commission recommend to the City Commission **APPROVAL WITH CONDITIONS** of **FPL01-25** for the Final Plat of Shawnee Marketplace Phase 3. Staff recommends that approval be conditional upon the Easements and Improvement plans be provided at or before the building permit application.

This application will be heard at the City Commission meeting on Monday, June 16, at 6:00 pm.

Shawnee Marketplace, Phase 2 4700 Marketplace Boulevard Drainage Report

Prepared For:

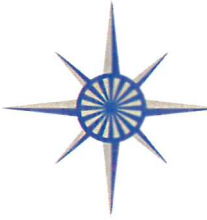
Brady Ali Properties, L.L.C.
10601 S. Western Avenue
Oklahoma City, Oklahoma 73170

AES Project No. 5826.3
Rev. December 27, 2022



Allen
Engineering
Services, Inc.

AES Wins



Allen Engineering Services, Inc.

*Penn Park Center, Building C
1601 SW 89th Street, Suite C-200
Oklahoma City, Oklahoma 73159*

December 27, 2022

Mr. Ali Ghaniabadi
Brady Ali Properties, L.L.C.
10601 S. Western Avenue
Oklahoma City Oklahoma 73170

**Re: Shawnee Marketplace, Phase 2
4700 Marketplace Boulevard
Shawnee, Oklahoma 74804
Drainage Report
Project No. 5526.3**

Dear Mr. Ghaniabadi:

In accordance with your request, Allen Engineering Services, Inc. is pleased to submit this revised Drainage Report for the above referenced project.

Purpose

The purpose of this study is to analyze the existing stormwater runoff and the increased runoff generated by the proposed improvements. Included in this report are recommendations for stormwater detention.

Project Location and Existing Conditions

The project site is located at 4700 Marketplace Boulevard in Shawnee, Oklahoma. Phase 1 of the Shawnee Marketplace development drains to two detention basins. One is located to the North along the Interstate 40 service road and a second (Detention Basin B) located to the South of the Hobby Lobby store. The outflow from Detention Basin B is to an existing ditch that flows South to an existing 5' by 5' Reinforced Concrete Box (5' x 5' RCB) at the Southwest corner of Plaza Drive and Marketplace Boulevard. The existing site for Phase 2 drains to the existing ditch and to the 5' x 5' RCB.

Proposed Improvements

Proposed is to construct Phase 2 of the Shawnee Marketplace retail shopping center, including approximately 41,000 square feet of commercial/retail buildings with parking.

*Tel: (405) 840-9901
Fax: (405) 681-4881*

Proposed is to regrade the existing Detention Basin B and excavate a new detention basin at the existing 5' x 5' RCB located at the Southwest corner of Marketplace Boulevard and Plaza Drive. The existing headwall of the 5' x 5' RCB will be removed and a box type inlet with a Cipoletti constructed as one of the walls will provide outlet control structure to reduce the total outflow to less than the current flow through the 5' x' RCB..

Analysis Method

Existing and developed runoffs were calculated using the rational method and are provided in Appendix A.

The existing Detention B and the existing ditch along Marketplace Boulevard that drains to the existing 5' by 5' were analyzed using Civil 3D 2021 Hydraflow Hydrographs Extension with the modified rational method. Results for the existing conditions are provided in Appendix B. Below is a summary of the existing conditions:

Existing Detention Summary

Storm Event	Inflow (c.f.s.)	Outflow (c.f.s.)	Water Surface Elev.
<u>2-Year</u>			
Detention Basin B	27.06	3.58	1024.07
5' x 5' RCB	173.35	170.74	1014.14
<u>5-Year</u>			
Detention Basin B	31.90	4.09	1024.51
5' x 5' RCB	227.26	215.50	1014.94
<u>10-Year</u>			
Detention Basin B	42.84	4.08	1024.50
5' x 5' RCB	262.40	239.42	1015.45
<u>25-Year</u>			
Detention Basin B	52.93	4.31	1024.70
5' x 5' RCB	317.32	270.71	1016.19
<u>50-Year</u>			
Detention Basin B	60.01	4.55	1024.90
5' x 5' RCB	365.95	290.10	1016.69
<u>100-Year</u>			
Detention Basin B	73.82	4.34	1024.72
5' x 5' RCB	419.41	305.72	1017.13

The regraded Detention Basin B and new detention basin with the Cipoletti weir were analyzed in the same manner. Results for the developed conditions are provided in Appendix C. Below is a summary of the developed conditions:

Developed Detention Summary

Storm Event	Inflow (c.f.s.)	Outflow (c.f.s.)	Water Surface Elev.	Decrease Outflow (%)
<u>2-Year</u>				
Detention Basin B1	13.57	13.59	1025.41	
Detention Basin B2	27.08	25.04	1022.99	
Cipoletti Weir	245.36	164.88	1015.46	(3.4%)
<u>5-Year</u>				
Detention Basin B1	16.00	15.99	1026.54	
Detention Basin B2	33.72	28.93	1023.91	
Cipoletti Weir	290.02	196.18	1016.36	(9.0%)
<u>10-Year</u>				
Detention Basin B1	21.05	18.38	1027.86	
Detention Basin B2	39.65	30.96	1024.44	
Cipoletti Weir	339.39	219.02	1016.91	(8.5%)
<u>25-Year</u>				
Detention Basin B1	26.54	19.51	1028.55	
Detention Basin B2	46.21	32.66	1024.91	
Cipoletti Weir	398.39	252.62	1017.57	(6.7%)
<u>50-Year</u>				
Detention Basin B1	30.09	20.21	1029.00	
Detention Basin B2	50.47	33.70	1025.21	
Cipoletti Weir	447.91	278.49	1018.03	(4.0%)
<u>100-Year</u>				
Detention Basin B1	37.02	20.49	1029.18	
Detention Basin B2	55.83	34.30	1025.39	
Cipoletti Weir	499.15	301.56	1018.41	(1.4%)

The results represent a varying decrease in runoff through the Cipoletti weir at the 5' x 5' RCB. The outlet of the 5' x 5' RCB is to an unimproved ditch to the East of the Chick-fil-A fast food restaurant, which is Tributary No.1 to Tributary No.2 to Rock Creek. The Base Flood Elevation at the outlet of the 5' x 5' RCB is approximate elevation 1009, which is approximately eight feet lower than the parking lot of the Chick-fil-A fast food restaurant.

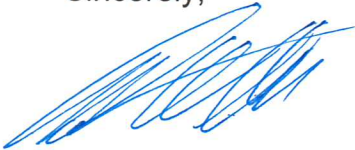
Storm Sewer Analysis Method

Civil 3D 2021 Hydraflow Storm Sewer Extension was used to analyze Storm Sewer Lines B and C and results are provided in Appendix D. The results indicate that the Hydraulic Grade Line (HGL) for the full-pipe flow will be lower than the grate inlet elevation. The curb inlet design sizes were determined using the City of Oklahoma City's Inlet Capacity table, which is provided in Appendix E.

Storm Sewer Line A pipe sizes were determined by the existing pipe size at the existing upstream connection and the outlet pipes for Detention Basins B1 and B2 provide outlet control for the detention basins. Detention Basins B1 and B2 were analyzed using Civil 3D 2021 Hydraflow Hydrographs Extension and the results are included with the Storm Routing Reports in Appendix D.

Please feel free to call me if you have any questions or need additional information.

Sincerely,



Charles W. Allen, P.E.



Appendix

Appendix A – Historic and Developed Conditions

Appendix B – 2, 5, 10, 25, 50 & 100-Year Storm Routing and
Detention Basin Reservoir Report
Existing Pond B & Channel

Appendix C – 2, 5, 10, 25, 50 & 100-Year Storm Routing and
Detention Basin Reservoir Report
Revised Ponds B1 & B2 and New Pond with Cipoletti Weir

Appendix D – 100-Year Storm Sewer Analysis
Storm Lines B & D

Appendix E – City of Oklahoma City's
Inlet Capacity Table

Appendix A

Historic and Developed Conditions

Existing Runoff to Pond B

Area				
DA #1 Site - Commercial (C = 0.95)	447,558 S.F.		10.27	Acres
	447,558 S.F.		10.27	Acres
Change in Elevation	High Point	Low Point		
	1035.0	1030.0	5.0	Feet
Overland Slope		S =	1.7%	
Travel Length & Retardance Factor		"K"		
Pavement	Parking Lot	0.372	300	Feet
				Feet
				Feet
	$K_{(Comp)} =$	0.372	300	Feet
Change in Elevation	High Point	Low Point		
	1.0	0.0	1.0	Feet
Channel Slope		S =	100.0%	
Channel	Curbed Street	0.0035		Feet
	Concrete Lined Channel	0.0060		Feet
	Sodded Swale	0.0080		Feet
	Bar Ditch	0.0120	1	Feet
	$K_{(Comp)} =$	0.0120	1	Feet
Modified Runoff Coefficient	"C"	Area		Percentage
Commercial	0.95	10.27		100.0%
Apartment	0.85			0.0%
Multi-Family	0.80			0.0%
Single Family Residential	0.70			0.0%
Lots Less Than 2 Acres	0.60			0.0%
Undeveloped, Pasture & Cultivated	0.50			0.0%
C =	0.95	10.27		100.0%
Time _(Overland) $T_c = K (L^{0.37} / S^{0.2})$		$T_{Overland} =$	7.0	Minutes
Time _(Channel) $T_c = K (L^{0.5} / S^{0.385})$		$T_{Channel} =$	0.0	Minutes
		$T_{Total} =$	7.0	Minutes
			10.0	Used
Intensity (in/hr)	Allowable Runoff $Q = C I A$			
$i_{100} =$	8.66	$Q_{100} =$	84.57	CFS
$i_{50} =$	7.94	$Q_{50} =$	77.52	CFS
$i_{25} =$	7.18	$Q_{25} =$	70.03	CFS
$i_{10} =$	6.25	$Q_{10} =$	60.99	CFS
$i_5 =$	5.63	$Q_5 =$	54.92	CFS
$i_2 =$	4.88	$Q_2 =$	47.60	CFS

Existing Runoff to 5' x5' RCB

Area				
Shawnee Marketplace, Phase 2 (C = 0.50)	178,332	S.F.	4.09	Acres
Plaza Drive Extension (C = 0.50)	38,865	S.F.	0.89	Acres
Future S. of Plaza Drive (C = 0.50)	678,385	S.F.	15.57	Acres
Offsite West - Undeveloped (C = 0.50)	380,646	S.F.	8.74	Acres
Offsite CVS - Commercial (C = 0.95)	106,753	S.F.	2.45	Acres
S. of 45th Street (W) - Residential (C = 0.70)	603,025	S.F.	13.84	Acres
S. of 45th Street (E) - Residential (C = 0.70)	1,477,231	S.F.	33.91	Acres
S. of 45th Street (E) - Commercial (C = 0.95)	446,416	S.F.	10.25	Acres
	3,909,653	S.F.	89.75	Acres

Change in Elevation	High Point	Low Point		
	1060.0	1054.0	6.0	Feet
Overland Slope		S =	3.0%	
Travel Length & Retardance Factor		"K"		
	Grass	1.000	200	Feet
				Feet
				Feet
				Feet
	$K_{(Comp)} =$	1.000	200	Feet

Change in Elevation	High Point	Low Point		
	1054.0	1008.1	45.9	Feet
Channel Slope		S =	1.3%	
Channel	Curbed Street	0.0035	2,575	Feet
	Concrete Lined Channel	0.0060		Feet
	Sodded Swale	0.0080		Feet
	Bar Ditch	0.0120	1,060	Feet
	$K_{(Comp)} =$	0.0060	3,635	Feet

Modified Runoff Coefficient	"C"	Area	Percentage
Commercial	0.95	12.70	14.1%
Apartment	0.85		0.0%
Multi-Family	0.80		0.0%
Single Family Residential	0.70	47.76	53.2%
Lots Less Than 2 Acres	0.60		0.0%
Undeveloped, Pasture & Cultivated	0.50	29.30	32.6%
C =	0.67	89.75	100.0%

Time _(Overland) $T_c = K (L^{0.37} / S^{0.2})$	$T_{Overland} =$	14.3	Minutes
Time _(Channel) $T_c = K (L^{0.5} / S^{0.385})$	$T_{Channel} =$	1.9	Minutes
	$T_{Total} =$	16.3	Minutes

Intensity (in/hr)	Allowable Runoff Q = C I A		
$i_{100} = 7.35$	$Q_{100} =$	441.89	CFS
$i_{50} = 6.71$	$Q_{50} =$	403.77	CFS
$i_{25} = 6.06$	$Q_{25} =$	364.30	CFS
$i_{10} = 5.24$	$Q_{10} =$	315.21	CFS
$i_5 = 4.67$	$Q_5 =$	281.07	CFS
$i_2 = 4.02$	$Q_2 =$	241.82	CFS

Developed Runoff to 5' x5' RCB

Area				
Shawnee Marketplace, Phase 2 (C = 0.95)	178,332	S.F.	4.09	Acres
Plaza Drive Extension (C = 0.95)	38,865	S.F.	0.89	Acres
Future S. of Plaza Drive (C = 0.50)	678,385	S.F.	15.57	Acres
Offsite West - Undeveloped (C = 0.50)	380,646	S.F.	8.74	Acres
Offsite CVS - Commercial (C = 0.95)	106,753	S.F.	2.45	Acres
S. of 45th Street (W) - Residential (C = 0.70)	603,025	S.F.	13.84	Acres
S. of 45th Street (E) - Residential (C = 0.70)	1,477,231	S.F.	33.91	Acres
S. of 45th Street (E) - Commercial (C = 0.95)	446,416	S.F.	10.25	Acres
	3,909,653	S.F.	89.75	Acres

Change in Elevation	High Point	Low Point		
	1060.0	1054.0	6.0	Feet
Overland Slope		S =	3.0%	
Travel Length & Retardance Factor		"K"		
	Grass	1.000	200	Feet
				Feet
				Feet
				Feet
	$K_{(Comp)} =$	1.000	200	Feet

Change in Elevation	High Point	Low Point		
	1054.0	1008.1	45.9	Feet
Channel Slope		S =	1.3%	
Channel	Curbed Street	0.0035	2,575	Feet
	Concrete Lined Channel	0.0060		Feet
	Sodded Swale	0.0080		Feet
	Bar Ditch	0.0120	1,060	Feet
	$K_{(Comp)} =$	0.0060	3,635	Feet

Modified Runoff Coefficient	"C"	Area	Percentage
Commercial	0.95	17.69	19.7%
Apartment	0.85		0.0%
Multi-Family	0.80		0.0%
Single Family Residential	0.70	47.76	53.2%
Lots Less Than 2 Acres	0.60		0.0%
Undeveloped, Pasture & Cultivated	0.50	24.31	27.1%
C =	0.70	89.75	100.0%

Time _(Overland) $T_c = K (L^{0.37} / S^{0.2})$	$T_{Overland} =$	14.3	Minutes
Time _(Channel) $T_c = K (L^{0.5} / S^{0.385})$	$T_{Channel} =$	1.9	Minutes
	$T_{Total} =$	16.3	Minutes

Intensity (in/hr)	Allowable Runoff Q = C I A		
$i_{100} = 7.35$	$Q_{100} =$	458.38	CFS
$i_{50} = 6.71$	$Q_{50} =$	418.84	CFS
$i_{25} = 6.06$	$Q_{25} =$	377.89	CFS
$i_{10} = 5.24$	$Q_{10} =$	326.97	CFS
$i_5 = 4.67$	$Q_5 =$	291.55	CFS
$i_2 = 4.02$	$Q_2 =$	250.84	CFS

Future Runoff to 5' x5' RCB

Area				
Shawnee Marketplace, Phase 2 (C = 0.95)	178,332	S.F.	4.09	Acres
Plaza Drive Extension (C = 0.95)	38,865	S.F.	0.89	Acres
Future S. of Plaza Drive (C = 0.95)	678,385	S.F.	15.57	Acres
Offsite West - Undeveloped (C = 0.50)	380,646	S.F.	8.74	Acres
Offsite CVS - Commercial (C = 0.95)	106,753	S.F.	2.45	Acres
S. of 45th Street (W) - Residential (C = 0.70)	603,025	S.F.	13.84	Acres
S. of 45th Street (E) - Residential (C = 0.70)	1,477,231	S.F.	33.91	Acres
S. of 45th Street (E) - Commercial (C = 0.95)	446,416	S.F.	10.25	Acres
	3,909,653	S.F.	89.75	Acres

Change in Elevation	High Point	Low Point		
	1060.0	1054.0	6.0	Feet
Overland Slope		S =	3.0%	
Travel Length & Retardance Factor		"K"		
	Grass	1.000	200	Feet
				Feet
				Feet
				Feet
	$K_{(Comp)} =$	1.000	200	Feet

Change in Elevation	High Point	Low Point		
	1054.0	1008.1	45.9	Feet
Channel Slope		S =	1.3%	
Channel	Curbed Street	0.0035	2,575	Feet
	Concrete Lined Channel	0.0060		Feet
	Sodded Swale	0.0080		Feet
	Bar Ditch	0.0120	1,060	Feet
	$K_{(Comp)} =$	0.0060	3,635	Feet

Modified Runoff Coefficient	"C"	Area	Percentage
Commercial	0.95	33.26	37.1%
Apartment	0.85		0.0%
Multi-Family	0.80		0.0%
Single Family Residential	0.70	47.76	53.2%
Lots Less Than 2 Acres	0.60		0.0%
Undeveloped, Pasture & Cultivated	0.50	8.74	9.7%
C =	0.77	89.75	100.0%

Time _(Overland) $T_c = K (L^{0.37} / S^{0.2})$	$T_{Overland} =$	14.3	Minutes
Time _(Channel) $T_c = K (L^{0.5} / S^{0.385})$	$T_{Channel} =$	1.9	Minutes
	$T_{Total} =$	16.3	Minutes

Intensity (in/hr)	Allowable Runoff Q = C I A		
$i_{100} = 7.35$	$Q_{100} =$	509.87	CFS
$i_{50} = 6.71$	$Q_{50} =$	465.89	CFS
$i_{25} = 6.06$	$Q_{25} =$	420.34	CFS
$i_{10} = 5.24$	$Q_{10} =$	363.70	CFS
$i_5 = 4.67$	$Q_5 =$	324.30	CFS
$i_2 = 4.02$	$Q_2 =$	279.02	CFS

Developed Runoff to Pond B1

Area				
Site - Commercial (C = 0.95)	224,502 S.F.		5.15	Acres
	224,502 S.F.		5.15	Acres
Change in Elevation	High Point 1035.0	Low Point 1030.0	5.0	Feet
Overland Slope		S =	0.9%	
Travel Length & Retardance Factor		"K"		
Pavement	Parking Lot	0.372	575	Feet
				Feet
				Feet
	$K_{(Comp)} =$	0.372	575	Feet
Change in Elevation	High Point 1.0	Low Point 0.0	1.0	Feet
Channel Slope		S =	100.0%	
Channel	Curbed Street	0.0035		Feet
	Concrete Lined Channel	0.0060		Feet
	Sodded Swale	0.0080		Feet
	Bar Ditch	0.0120	1	Feet
	$K_{(Comp)} =$	0.0120	1	Feet
Modified Runoff Coefficient	"C"	Area		Percentage
Commercial	0.95	5.15		100.0%
Apartment	0.85			0.0%
Multi-Family	0.80			0.0%
Single Family Residential	0.70			0.0%
Lots Less Than 2 Acres	0.60			0.0%
Undeveloped, Pasture & Cultivated	0.50			0.0%
C =	0.95	5.15		100.0%
Time _(Overland) $T_c = K (L^{0.37} / S^{0.2})$		$T_{Overland} =$	10.1	Minutes
Time _(Channel) $T_c = K (L^{0.5} / S^{0.385})$		$T_{Channel} =$	0.0	Minutes
		$T_{Total} =$	10.1	Minutes
			10.0	Used
Intensity (in/hr)	Allowable Runoff $Q = C I A$			
$i_{100} =$	8.66	$Q_{100} =$	42.42	CFS
$i_{50} =$	7.94	$Q_{50} =$	38.89	CFS
$i_{25} =$	7.18	$Q_{25} =$	35.13	CFS
$i_{10} =$	6.25	$Q_{10} =$	30.59	CFS
$i_5 =$	5.63	$Q_5 =$	27.55	CFS
$i_2 =$	4.88	$Q_2 =$	23.88	CFS

Developed Runoff to Pond B2

Area				
Site - Commercial (C = 0.95)	240,046 S.F.		5.51	Acres
	240,046 S.F.		5.51	Acres
Change in Elevation	High Point 1035.0	Low Point 1030.0	5.0	Feet
Overland Slope		S =	0.9%	
Travel Length & Retardance Factor		"K"		
Pavement	Parking Lot	0.372	575	Feet
				Feet
				Feet
	$K_{(Comp)} =$	0.372	575	Feet
Change in Elevation	High Point 1.0	Low Point 0.0	1.0	Feet
Channel Slope		S =	100.0%	
Channel	Curbed Street	0.0035		Feet
	Concrete Lined Channel	0.0060		Feet
	Sodded Swale	0.0080		Feet
	Bar Ditch	0.0120	1	Feet
	$K_{(Comp)} =$	0.0120	1	Feet
Modified Runoff Coefficient	"C"	Area		Percentage
Commercial	0.95	5.51		100.0%
Apartment	0.85			0.0%
Multi-Family	0.80			0.0%
Single Family Residential	0.70			0.0%
Lots Less Than 2 Acres	0.60			0.0%
Undeveloped, Pasture & Cultivated	0.50			0.0%
C =	0.95	5.51		100.0%
Time _(Overland) $T_c = K (L^{0.37} / S^{0.2})$		$T_{Overland} =$	10.1	Minutes
Time _(Channel) $T_c = K (L^{0.5} / S^{0.385})$		$T_{Channel} =$	0.0	Minutes
		$T_{Total} =$	10.1	Minutes
			10.0	Used
Intensity (in/hr)	Allowable Runoff $Q = C I A$			
$i_{100} =$	8.66	$Q_{100} =$	45.36	CFS
$i_{50} =$	7.94	$Q_{50} =$	41.58	CFS
$i_{25} =$	7.18	$Q_{25} =$	37.56	CFS
$i_{10} =$	6.25	$Q_{10} =$	32.71	CFS
$i_5 =$	5.63	$Q_5 =$	29.45	CFS
$i_2 =$	4.88	$Q_2 =$	25.53	CFS

Overland Flow to Curb Inlet B-8 & Pipe B-8 to B7

Area				
Site - Commercial (C = 0.95)	3,829 S.F.		0.09	Acres
	3,829 S.F.		0.09	Acres
Change in Elevation	High Point 1026.7	Low Point 1024.0	2.7	Feet
Overland Slope		S =	3.9%	
Travel Length & Retardance Factor Pavement	Parking Lot	"K" 0.372	70	Feet
				Feet
				Feet
	$K_{(Comp)} =$	0.372	70	Feet

Change in Elevation	High Point 1.0	Low Point 0.0	1.0	Feet
Channel Slope		S =	100.0%	
Channel	Curbed Street	0.0035		Feet
	Concrete Lined Channel	0.0060		Feet
	Sodded Swale	0.0080		Feet
	Bar Ditch	0.0120	1	Feet
	$K_{(Comp)} =$	0.0120	1	Feet

Modified Runoff Coefficient	"C"	Area	Percentage
Commercial	0.95	0.09	100.0%
Apartment	0.85		0.0%
Multi-Family	0.80		0.0%
Single Family Residential	0.70		0.0%
Lots Less Than 2 Acres	0.60		0.0%
Undeveloped, Pasture & Cultivated	0.50		0.0%
C =	0.95	0.09	100.0%

Time _(Overland) $T_c = K (L^{0.37} / S^{0.2})$	$T_{Overland} =$	3.4	Minutes
Time _(Channel) $T_c = K (L^{0.5} / S^{0.385})$	$T_{Channel} =$	0.0	Minutes
	$T_{Total} =$	3.4	Minutes

			5.0	Used
Intensity (in/hr)	Runoff Q = C I A	Det. B2 Outflow	Total Flow	
$i_{100} = 10.20$	$Q_{100} = 0.85$	33.56	34.41	CFS
$i_{50} = 9.38$	$Q_{50} = 0.78$	32.95	33.73	CFS
$i_{25} = 8.48$	$Q_{25} = 0.71$	31.75	32.46	CFS
$i_{10} = 7.44$	$Q_{10} = 0.62$	30.14	30.76	CFS
$i_5 = 6.77$	$Q_5 = 0.57$	28.31	28.88	CFS
$i_2 = 5.89$	$Q_2 = 0.49$	25.04	25.53	CFS

Overland Flow to Curb Inlet B-7

Area				
Site - Commercial (C = 0.95)	39,027 S.F.		0.90	Acres
	39,027 S.F.		0.90	Acres
Change in Elevation	High Point 1029.5	Low Point 1021.5	8.0	Feet
Overland Slope		S =	3.2%	
Travel Length & Retardance Factor Pavement	Parking Lot	"K" 0.372	250	Feet
				Feet
				Feet
	$K_{(Comp)} =$	0.372	250	Feet
Change in Elevation	High Point 1.0	Low Point 0.0	1.0	Feet
Channel Slope		S =	100.0%	
Channel	Curbed Street	0.0035		Feet
	Concrete Lined Channel	0.0060		Feet
	Sodded Swale	0.0080		Feet
	Bar Ditch	0.0120	1	Feet
	$K_{(Comp)} =$	0.0120	1	Feet
Modified Runoff Coefficient	"C"	Area		Percentage
Commercial	0.95	0.90		100.0%
Apartment	0.85			0.0%
Multi-Family	0.80			0.0%
Single Family Residential	0.70			0.0%
Lots Less Than 2 Acres	0.60			0.0%
Undeveloped, Pasture & Cultivated	0.50			0.0%
C =	0.95	0.90		100.0%
Time _(Overland) $T_c = K (L^{0.37} / S^{0.2})$		$T_{Overland} =$	5.7	Minutes
Time _(Channel) $T_c = K (L^{0.5} / S^{0.385})$		$T_{Channel} =$	0.0	Minutes
		$T_{Total} =$	5.7	Minutes

Intensity (in/hr)	Runoff Q = C I A		
$i_{100} =$	9.94	$Q_{100} =$	8.46 CFS
$i_{50} =$	9.14	$Q_{50} =$	7.78 CFS
$i_{25} =$	8.26	$Q_{25} =$	7.03 CFS
$i_{10} =$	7.23	$Q_{10} =$	6.16 CFS
$i_5 =$	6.58	$Q_5 =$	5.60 CFS
$i_2 =$	5.72	$Q_2 =$	4.87 CFS

Pipe B-7 to B-6

Area				
Site - Upstream	3,829	S.F.	0.09	Acres
Site - Commercial (C = 0.95)	39,027	S.F.	0.90	Acres
	42,856	S.F.	0.98	Acres

Change in Elevation	High Point	Low Point		
	1026.7	1024.0	2.7	Feet
Overland Slope		S =	3.9%	
Travel Length & Retardance Factor		"K"		
Pavement	Parking Lot	0.372	70	Feet
				Feet
				Feet
				Feet
	$K_{(Comp)} =$	0.372	70	Feet

Change in Elevation	High Point	Low Point		
	1.0	0.0	1.0	Feet
Channel Slope		S =	100.0%	
Channel	Curbed Street	0.0035		Feet
	Concrete Lined Channel	0.0060		Feet
	Sodded Swale	0.0080		Feet
	Bar Ditch	0.0120	1	Feet
	$K_{(Comp)} =$	0.0120	1	Feet

Modified Runoff Coefficient	"C"	Area	Percentage
Commercial	0.95	0.98	100.0%
Apartment	0.85		0.0%
Multi-Family	0.80		0.0%
Single Family Residential	0.70		0.0%
Lots Less Than 2 Acres	0.60		0.0%
Undeveloped, Pasture & Cultivated	0.50		0.0%
C =	0.95	0.98	100.0%

		$T_{Overland} =$	5.0	Minutes
Time _(Pipe) at Estimated 6.0 FPS	64 Feet	$T_{Pipe} =$	0.2	Minutes
		$T_{Total} =$	5.2	Minutes

Intensity (in/hr)	Runoff Q = C I A	Det. B2 Outflow	Total Flow
$i_{100} = 10.14$	$Q_{100} = 9.47$	33.56	43.03 CFS
$i_{50} = 9.32$	$Q_{50} = 8.71$	32.95	41.66 CFS
$i_{25} = 8.42$	$Q_{25} = 7.87$	31.75	39.62 CFS
$i_{10} = 7.39$	$Q_{10} = 6.90$	30.14	37.04 CFS
$i_5 = 6.72$	$Q_5 = 6.28$	28.31	34.59 CFS
$i_2 = 5.85$	$Q_2 = 5.47$	25.04	30.51 CFS

Overland Flow to Curb Inlet B-6

Area				
Site - Commercial (C = 0.95)	15,711 S.F.		0.36	Acres
	15,711 S.F.		0.36	Acres
Change in Elevation	High Point 1028.7	Low Point 1022.0	6.7	Feet
Overland Slope		S =	2.5%	
Travel Length & Retardance Factor		"K"		
Pavement	Parking Lot	0.372	270	Feet
				Feet
				Feet
	$K_{(Comp)} =$	0.372	270	Feet
Change in Elevation	High Point 1.0	Low Point 0.0	1.0	Feet
Channel Slope		S =	100.0%	
Channel	Curbed Street	0.0035		Feet
	Concrete Lined Channel	0.0060		Feet
	Sodded Swale	0.0080		Feet
	Bar Ditch	0.0120	1	Feet
	$K_{(Comp)} =$	0.0120	1	Feet
Modified Runoff Coefficient	"C"	Area		Percentage
Commercial	0.95	0.36		100.0%
Apartment	0.85			0.0%
Multi-Family	0.80			0.0%
Single Family Residential	0.70			0.0%
Lots Less Than 2 Acres	0.60			0.0%
Undeveloped, Pasture & Cultivated	0.50			0.0%
C =	0.95	0.36		100.0%
Time _(Overland) $T_c = K (L^{0.37} / S^{0.2})$		$T_{Overland} =$	6.2	Minutes
Time _(Channel) $T_c = K (L^{0.5} / S^{0.385})$		$T_{Channel} =$	0.0	Minutes
		$T_{Total} =$	6.2	Minutes

Intensity (in/hr)	Runoff Q = C I A		
$i_{100} =$ 9.78	$Q_{100} =$	3.35	CFS
$i_{50} =$ 8.99	$Q_{50} =$	3.08	CFS
$i_{25} =$ 8.12	$Q_{25} =$	2.78	CFS
$i_{10} =$ 7.11	$Q_{10} =$	2.44	CFS
$i_5 =$ 6.45	$Q_5 =$	2.21	CFS
$i_2 =$ 5.61	$Q_2 =$	1.92	CFS

Pipe B-6 to B-5

Area				
Site - Upstream	42,856	S.F.	0.98	Acres
Site - Commercial (C = 0.95)	15,711	S.F.	0.36	Acres
	58,567	S.F.	1.34	Acres

Change in Elevation	High Point	Low Point		
	1026.7	1024.0	2.7	Feet
Overland Slope		S =	3.9%	
Travel Length & Retardance Factor		"K"		
Pavement	Parking Lot	0.372	70	Feet
				Feet
				Feet
				Feet
	$K_{(Comp)} =$	0.372	70	Feet

Change in Elevation	High Point	Low Point		
	1.0	0.0	1.0	Feet
Channel Slope		S =	100.0%	
Channel	Curbed Street	0.0035		Feet
	Concrete Lined Channel	0.0060		Feet
	Sodded Swale	0.0080		Feet
	Bar Ditch	0.0120	1	Feet
	$K_{(Comp)} =$	0.0120	1	Feet

Modified Runoff Coefficient	"C"	Area	Percentage
Commercial	0.95	1.34	100.0%
Apartment	0.85		0.0%
Multi-Family	0.80		0.0%
Single Family Residential	0.70		0.0%
Lots Less Than 2 Acres	0.60		0.0%
Undeveloped, Pasture & Cultivated	0.50		0.0%
C =	0.95	1.34	100.0%

		$T_{Overland} =$	5.2	Minutes
Time _(Pipe) at Estimated 6.0 FPS	64 Feet	$T_{Pipe} =$	0.2	Minutes
		$T_{Total} =$	5.4	Minutes

Intensity (in/hr)	Runoff Q = C I A	Det. B2 Outflow	Total Flow
$i_{100} = 10.07$	$Q_{100} = 12.86$	33.56	46.42 CFS
$i_{50} = 9.26$	$Q_{50} = 11.83$	32.95	44.78 CFS
$i_{25} = 8.37$	$Q_{25} = 10.69$	31.75	42.44 CFS
$i_{10} = 7.34$	$Q_{10} = 9.37$	30.14	39.51 CFS
$i_5 = 6.67$	$Q_5 = 8.53$	28.31	36.84 CFS
$i_2 = 5.81$	$Q_2 = 7.42$	25.04	32.46 CFS

Overland Flow to Curb Inlet B-5

Area				
Site - Commercial (C = 0.95)	10,998 S.F.		0.25	Acres
	10,998 S.F.		0.25	Acres
Change in Elevation	High Point 1028.7	Low Point 1021.0	7.7	Feet
Overland Slope		S =	3.5%	
Travel Length & Retardance Factor		"K"		
Pavement	Parking Lot	0.372	220	Feet
				Feet
				Feet
	$K_{(Comp)} =$	0.372	220	Feet
Change in Elevation	High Point 1.0	Low Point 0.0	1.0	Feet
Channel Slope		S =	100.0%	
Channel	Curbed Street	0.0035		Feet
	Concrete Lined Channel	0.0060		Feet
	Sodded Swale	0.0080		Feet
	Bar Ditch	0.0120	1	Feet
	$K_{(Comp)} =$	0.0120	1	Feet
Modified Runoff Coefficient	"C"	Area		Percentage
Commercial	0.95	0.25		100.0%
Apartment	0.85			0.0%
Multi-Family	0.80			0.0%
Single Family Residential	0.70			0.0%
Lots Less Than 2 Acres	0.60			0.0%
Undeveloped, Pasture & Cultivated	0.50			0.0%
C =	0.95	0.25		100.0%
Time _(Overland) $T_c = K (L^{0.37} / S^{0.2})$		$T_{Overland} =$	5.4	Minutes
Time _(Channel) $T_c = K (L^{0.5} / S^{0.385})$		$T_{Channel} =$	0.0	Minutes
		$T_{Total} =$	5.4	Minutes

Intensity (in/hr)	Runoff Q = C I A		
$i_{100} =$ 10.07	$Q_{100} =$	2.42	CFS
$i_{50} =$ 9.26	$Q_{50} =$	2.22	CFS
$i_{25} =$ 8.36	$Q_{25} =$	2.01	CFS
$i_{10} =$ 7.33	$Q_{10} =$	1.76	CFS
$i_5 =$ 6.67	$Q_5 =$	1.60	CFS
$i_2 =$ 5.80	$Q_2 =$	1.39	CFS

Developed Runoff to Curb Inlet D-1 & Pipe D-1 to B-5

Area				
Site - Commercial (C = 0.95)	12,348 S.F.		0.28	Acres
	12,348 S.F.		0.28	Acres
Change in Elevation	High Point 1025.8	Low Point 1019.5	6.3	Feet
Overland Slope		S =	2.4%	
Travel Length & Retardance Factor		"K"		
Pavement	Parking Lot	0.372	260	Feet
				Feet
				Feet
	$K_{(Comp)} =$	0.372	260	Feet
Change in Elevation	High Point 1.0	Low Point 0.0	1.0	Feet
Channel Slope		S =	100.0%	
Channel	Curbed Street	0.0035		Feet
	Concrete Lined Channel	0.0060		Feet
	Sodded Swale	0.0080		Feet
	Bar Ditch	0.0120	1	Feet
	$K_{(Comp)} =$	0.0120	1	Feet
Modified Runoff Coefficient	"C"	Area		Percentage
Commercial	0.95	0.28		100.0%
Apartment	0.85			0.0%
Multi-Family	0.80			0.0%
Single Family Residential	0.70			0.0%
Lots Less Than 2 Acres	0.60			0.0%
Undeveloped, Pasture & Cultivated	0.50			0.0%
C =	0.95	0.28		100.0%
Time _(Overland) $T_c = K (L^{0.37} / S^{0.2})$		$T_{Overland} =$	6.1	Minutes
Time _(Channel) $T_c = K (L^{0.5} / S^{0.385})$		$T_{Channel} =$	0.0	Minutes
		$T_{Total} =$	6.1	Minutes

Intensity (in/hr)	Runoff Q = C I A		
$i_{100} =$ 9.80	$Q_{100} =$	2.64	CFS
$i_{50} =$ 9.00	$Q_{50} =$	2.42	CFS
$i_{25} =$ 8.13	$Q_{25} =$	2.19	CFS
$i_{10} =$ 7.12	$Q_{10} =$	1.92	CFS
$i_5 =$ 6.47	$Q_5 =$	1.74	CFS
$i_2 =$ 5.62	$Q_2 =$	1.51	CFS

Pipe B-5 to B-4

Area				
Site - Upstream	70,915	S.F.	1.63	Acres
Site - Commercial (C = 0.95)	10,998	S.F.	0.25	Acres
	81,913	S.F.	1.88	Acres

Change in Elevation	High Point	Low Point		
	1026.7	1024.0	2.7	Feet
Overland Slope		S =	3.9%	
Travel Length & Retardance Factor		"K"		
Pavement	Parking Lot	0.372	70	Feet
				Feet
				Feet
				Feet
	$K_{(Comp)} =$	0.372	70	Feet

Change in Elevation	High Point	Low Point		
	1.0	0.0	1.0	Feet
Channel Slope		S =	100.0%	
Channel	Curbed Street	0.0035		Feet
	Concrete Lined Channel	0.0060		Feet
	Sodded Swale	0.0080		Feet
	Bar Ditch	0.0120	1	Feet
	$K_{(Comp)} =$	0.0120	1	Feet

Modified Runoff Coefficient	"C"	Area	Percentage
Commercial	0.95	1.88	100.0%
Apartment	0.85		0.0%
Multi-Family	0.80		0.0%
Single Family Residential	0.70		0.0%
Lots Less Than 2 Acres	0.60		0.0%
Undeveloped, Pasture & Cultivated	0.50		0.0%
C =	0.95	1.88	100.0%

		$T_{Overland} =$	5.4	Minutes
Time _(Pipe) at Estimated 6.0 FPS	64 Feet	$T_{Pipe} =$	0.2	Minutes
		$T_{Total} =$	5.5	Minutes

Intensity (in/hr)	Runoff Q = C I A	Det. B2 Outflow	Total Flow
$i_{100} = 10.01$	$Q_{100} = 17.88$	33.56	51.44 CFS
$i_{50} = 9.20$	$Q_{50} = 16.44$	32.95	49.39 CFS
$i_{25} = 8.31$	$Q_{25} = 14.85$	31.75	46.60 CFS
$i_{10} = 7.29$	$Q_{10} = 13.02$	30.14	43.16 CFS
$i_5 = 6.63$	$Q_5 = 11.84$	28.31	40.15 CFS
$i_2 = 5.76$	$Q_2 = 10.30$	25.04	35.34 CFS

Overland Flow to Curb Inlet B-4

Area				
Site - Commercial (C = 0.95)	12,158 S.F.		0.28	Acres
	12,158 S.F.		0.28	Acres
Change in Elevation	High Point 1028.3	Low Point 1019.5	8.8	Feet
Overland Slope		S =	4.2%	
Travel Length & Retardance Factor		"K"		
Pavement	Parking Lot	0.372	210	Feet
				Feet
				Feet
	$K_{(Comp)} =$	0.372	210	Feet
Change in Elevation	High Point 1.0	Low Point 0.0	1.0	Feet
Channel Slope		S =	100.0%	
Channel	Curbed Street	0.0035		Feet
	Concrete Lined Channel	0.0060		Feet
	Sodded Swale	0.0080		Feet
	Bar Ditch	0.0120	1	Feet
	$K_{(Comp)} =$	0.0120	1	Feet
Modified Runoff Coefficient	"C"	Area		Percentage
Commercial	0.95	0.28		100.0%
Apartment	0.85			0.0%
Multi-Family	0.80			0.0%
Single Family Residential	0.70			0.0%
Lots Less Than 2 Acres	0.60			0.0%
Undeveloped, Pasture & Cultivated	0.50			0.0%
C =	0.95	0.28		100.0%
Time _(Overland) $T_c = K (L^{0.37} / S^{0.2})$		$T_{Overland} =$	5.1	Minutes
Time _(Channel) $T_c = K (L^{0.5} / S^{0.385})$		$T_{Channel} =$	0.0	Minutes
		$T_{Total} =$	5.1	Minutes

Intensity (in/hr)	Runoff Q = C I A		
$i_{100} =$ 10.17	$Q_{100} =$	2.70	CFS
$i_{50} =$ 9.35	$Q_{50} =$	2.48	CFS
$i_{25} =$ 8.45	$Q_{25} =$	2.24	CFS
$i_{10} =$ 7.41	$Q_{10} =$	1.97	CFS
$i_5 =$ 6.75	$Q_5 =$	1.79	CFS
$i_2 =$ 5.87	$Q_2 =$	1.56	CFS

Pipe B-4 to B-3

Area				
Site - Upstream	81,913	S.F.	1.88	Acres
Site - Commercial (C = 0.95)	12,158	S.F.	0.28	Acres
	94,071	S.F.	2.16	Acres

Change in Elevation	High Point	Low Point		
	1026.7	1024.0	2.7	Feet
Overland Slope		S =	3.9%	
Travel Length & Retardance Factor		"K"		
Pavement	Parking Lot	0.372	70	Feet
				Feet
				Feet
				Feet
	$K_{(Comp)} =$	0.372	70	Feet

Change in Elevation	High Point	Low Point		
	1.0	0.0	1.0	Feet
Channel Slope		S =	100.0%	
Channel	Curbed Street	0.0035		Feet
	Concrete Lined Channel	0.0060		Feet
	Sodded Swale	0.0080		Feet
	Bar Ditch	0.0120	1	Feet
	$K_{(Comp)} =$	0.0120	1	Feet

Modified Runoff Coefficient	"C"	Area	Percentage
Commercial	0.95	2.16	100.0%
Apartment	0.85		0.0%
Multi-Family	0.80		0.0%
Single Family Residential	0.70		0.0%
Lots Less Than 2 Acres	0.60		0.0%
Undeveloped, Pasture & Cultivated	0.50		0.0%
C =	0.95	2.16	100.0%

		$T_{Overland} =$	6.1	Minutes
Time _(Pipe) at Estimated 6.0 FPS	119 Feet	$T_{Pipe} =$	0.3	Minutes
		$T_{Total} =$	6.5	Minutes

Intensity (in/hr)	Runoff Q = C I A		Det. B2 Outflow	Total Flow
$i_{100} =$	9.69	$Q_{100} =$ 19.88	33.56	53.44 CFS
$i_{50} =$	8.90	$Q_{50} =$ 18.26	32.95	51.21 CFS
$i_{25} =$	8.04	$Q_{25} =$ 16.50	31.75	48.25 CFS
$i_{10} =$	7.04	$Q_{10} =$ 14.44	30.14	44.58 CFS
$i_5 =$	6.39	$Q_5 =$ 13.10	28.31	41.41 CFS
$i_2 =$	5.55	$Q_2 =$ 11.39	25.04	36.43 CFS

Overland Flow to Curb Inlet B-3

Area				
Site - Commercial (C = 0.95)	74,259 S.F.		1.70	Acres
	74,259 S.F.		1.70	Acres
Change in Elevation	High Point 1030.0	Low Point 1019.0	11.0	Feet
Overland Slope		S =	1.6%	
Travel Length & Retardance Factor Pavement	Parking Lot	"K" 0.372	670	Feet
				Feet
				Feet
	$K_{(Comp)} =$	0.372	670	Feet

Change in Elevation	High Point 1.0	Low Point 0.0	1.0	Feet
Channel Slope		S =	100.0%	
Channel	Curbed Street	0.0035		Feet
	Concrete Lined Channel	0.0060		Feet
	Sodded Swale	0.0080		Feet
	Bar Ditch	0.0120	1	Feet
	$K_{(Comp)} =$	0.0120	1	Feet

Modified Runoff Coefficient	"C"	Area	Percentage
Commercial	0.95	1.70	100.0%
Apartment	0.85		0.0%
Multi-Family	0.80		0.0%
Single Family Residential	0.70		0.0%
Lots Less Than 2 Acres	0.60		0.0%
Undeveloped, Pasture & Cultivated	0.50		0.0%
C =	0.95	1.70	100.0%

Time _(Overland) $T_c = K (L^{0.37} / S^{0.2})$	$T_{Overland} =$	9.4	Minutes
Time _(Channel) $T_c = K (L^{0.5} / S^{0.385})$	$T_{Channel} =$	0.0	Minutes
	$T_{Total} =$	9.4	Minutes

Intensity (in/hr)	Runoff Q = C I A		
$i_{100} =$	8.82	$Q_{100} =$	14.28 CFS
$i_{50} =$	8.09	$Q_{50} =$	13.09 CFS
$i_{25} =$	7.30	$Q_{25} =$	11.83 CFS
$i_{10} =$	6.37	$Q_{10} =$	10.31 CFS
$i_5 =$	5.74	$Q_5 =$	9.29 CFS
$i_2 =$	4.98	$Q_2 =$	8.06 CFS

Pipe B-3 to B-2

Area				
Site - Upstream	94,071	S.F.	2.16	Acres
Site - Commercial (C = 0.95)	70,831	S.F.	1.63	Acres
	164,902	S.F.	3.79	Acres

Change in Elevation	High Point	Low Point		
	1026.7	1024.0	2.7	Feet
Overland Slope		S =	3.9%	
Travel Length & Retardance Factor		"K"		
Pavement	Parking Lot	0.372	70	Feet
				Feet
				Feet
				Feet
	$K_{(Comp)} =$	0.372	70	Feet

Change in Elevation	High Point	Low Point		
	1.0	0.0	1.0	Feet
Channel Slope		S =	100.0%	
Channel	Curbed Street	0.0035		Feet
	Concrete Lined Channel	0.0060		Feet
	Sodded Swale	0.0080		Feet
	Bar Ditch	0.0120	1	Feet
	$K_{(Comp)} =$	0.0120	1	Feet

Modified Runoff Coeficient	"C"	Area	Percentage
Commercial	0.95	3.79	100.0%
Apartment	0.85		0.0%
Multi-Family	0.80		0.0%
Single Family Residential	0.70		0.0%
Lots Less Than 2 Acres	0.60		0.0%
Undeveloped, Pasture & Cultivated	0.50		0.0%
C =	0.95	3.79	100.0%

		$T_{Overland} =$	6.5	Minutes
Time _(Pipe) at Estimated 6.0 FPS	24.5 Feet	$T_{Pipe} =$	0.1	Minutes
		$T_{Total} =$	6.5	Minutes

Intensity (in/hr)	Runoff Q = C I A		Det. B2 Outflow	Total Flow
$i_{100} =$	9.67	$Q_{100} =$ 34.76	33.56	68.32 CFS
$i_{50} =$	8.88	$Q_{50} =$ 31.93	32.95	64.88 CFS
$i_{25} =$	8.02	$Q_{25} =$ 28.85	31.75	60.60 CFS
$i_{10} =$	7.02	$Q_{10} =$ 25.25	30.14	55.39 CFS
$i_5 =$	6.37	$Q_5 =$ 22.90	28.31	51.21 CFS
$i_2 =$	5.54	$Q_2 =$ 19.91	25.04	44.95 CFS

Overland Flow to Curb Inlet B-2

Area				
Site - Commercial (C = 0.95)	16,146 S.F.		0.37	Acres
	16,146 S.F.		0.37	Acres
Change in Elevation	High Point 1027.4	Low Point 1019.0	8.4	Feet
Overland Slope		S =	1.6%	
Travel Length & Retardance Factor Pavement	Parking Lot	"K" 0.372	530	Feet
				Feet
				Feet
	$K_{(Comp)} =$	0.372	530	Feet
Change in Elevation	High Point 1.0	Low Point 0.0	1.0	Feet
Channel Slope		S =	100.0%	
Channel	Curbed Street	0.0035		Feet
	Concrete Lined Channel	0.0060		Feet
	Sodded Swale	0.0080		Feet
	Bar Ditch	0.0120	1	Feet
	$K_{(Comp)} =$	0.0120	1	Feet
Modified Runoff Coefficient	"C"	Area		Percentage
Commercial	0.95	0.37		100.0%
Apartment	0.85			0.0%
Multi-Family	0.80			0.0%
Single Family Residential	0.70			0.0%
Lots Less Than 2 Acres	0.60			0.0%
Undeveloped, Pasture & Cultivated	0.50			0.0%
C =	0.95	0.37		100.0%
Time _(Overland) $T_c = K (L^{0.37} / S^{0.2})$		$T_{Overland} =$	8.7	Minutes
Time _(Channel) $T_c = K (L^{0.5} / S^{0.385})$		$T_{Channel} =$	0.0	Minutes
		$T_{Total} =$	8.7	Minutes

Intensity (in/hr)	Runoff Q = C I A		
$i_{100} =$	9.01	$Q_{100} =$	3.17 CFS
$i_{50} =$	8.27	$Q_{50} =$	2.91 CFS
$i_{25} =$	7.47	$Q_{25} =$	2.63 CFS
$i_{10} =$	6.52	$Q_{10} =$	2.29 CFS
$i_5 =$	5.88	$Q_5 =$	2.07 CFS
$i_2 =$	5.11	$Q_2 =$	1.80 CFS

Pipe B-2 to Headwall

Area				
Site - Upstream	164,902	S.F.	3.79	Acres
Site - Commercial (C = 0.95)	16,146	S.F.	0.37	Acres
	181,048	S.F.	4.16	Acres

Change in Elevation	High Point	Low Point		
	1026.7	1024.0	2.7	Feet
Overland Slope		S =	3.9%	
Travel Length & Retardance Factor		"K"		
Pavement	Parking Lot	0.372	70	Feet
				Feet
				Feet
				Feet
	$K_{(Comp)} =$	0.372	70	Feet

Change in Elevation	High Point	Low Point		
	1.0	0.0	1.0	Feet
Channel Slope		S =	100.0%	
Channel	Curbed Street	0.0035		Feet
	Concrete Lined Channel	0.0060		Feet
	Sodded Swale	0.0080		Feet
	Bar Ditch	0.0120	1	Feet
	$K_{(Comp)} =$	0.0120	1	Feet

Modified Runoff Coefficient	"C"	Area	Percentage
Commercial	0.95	4.16	100.0%
Apartment	0.85		0.0%
Multi-Family	0.80		0.0%
Single Family Residential	0.70		0.0%
Lots Less Than 2 Acres	0.60		0.0%
Undeveloped, Pasture & Cultivated	0.50		0.0%
C =	0.95	4.16	100.0%

		$T_{Overland} =$	6.5	Minutes
Time _(Pipe) at Estimated 6.0 FPS	24 Feet	$T_{Pipe} =$	0.1	Minutes
		$T_{Total} =$	6.6	Minutes

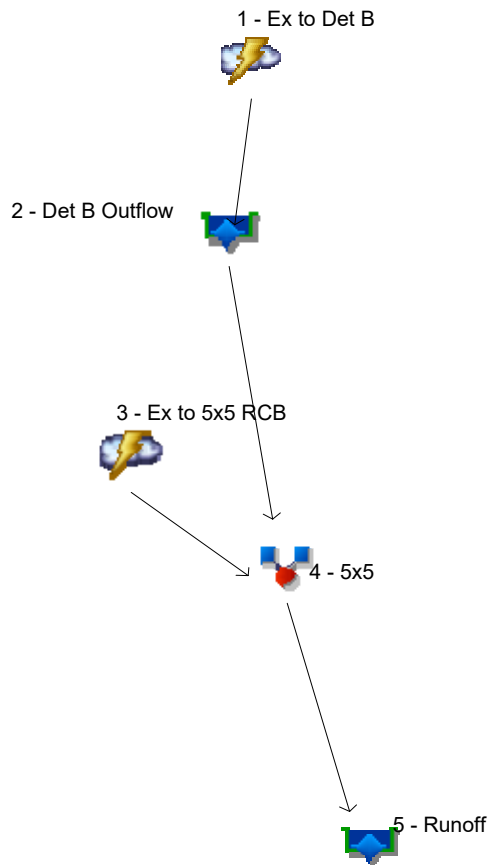
Intensity (in/hr)	Runoff Q = C I A		Det. B2 Outflow	Total Flow
$i_{100} =$	9.64	$Q_{100} =$ 38.08	33.56	71.64 CFS
$i_{50} =$	8.86	$Q_{50} =$ 34.98	32.95	67.93 CFS
$i_{25} =$	8.00	$Q_{25} =$ 31.60	31.75	63.35 CFS
$i_{10} =$	7.00	$Q_{10} =$ 27.65	30.14	57.79 CFS
$i_5 =$	6.35	$Q_5 =$ 25.08	28.31	53.39 CFS
$i_2 =$	5.52	$Q_2 =$ 21.80	25.04	46.84 CFS

Appendix B

Detention Basin
2, 5, 10, 25, 50 & 100-Year Storm Routing &
Detention Basin Reservoir
Existing Pond B & Channel

Watershed Model Schematic

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021



Legend

Hyd.	Origin	Description
1	Mod. Rational	Ex to Det B
2	Reservoir	Det B Outflow
3	Mod. Rational	Ex to 5x5 RCB
4	Combine	5x5
5	Reservoir	Runoff

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	Mod. Rational	27.06	1	10	50,503	-----	-----	-----	Ex to Det B	
2	Reservoir	3.583	1	40	50,336	1	1024.07	45,044	Det B Outflow	
3	Mod. Rational	170.16	1	16	307,111	-----	-----	-----	Ex to 5x5 RCB	
4	Combine	173.35	1	30	356,631	2, 3	-----	-----	5x5	
5	Reservoir	170.74	1	30	356,604	4	1014.14	43,157	Runoff	
Existing Pond B & Channel.gpw					Return Period: 2 Year			Monday, 09 / 19 / 2022		

Hydrograph Report

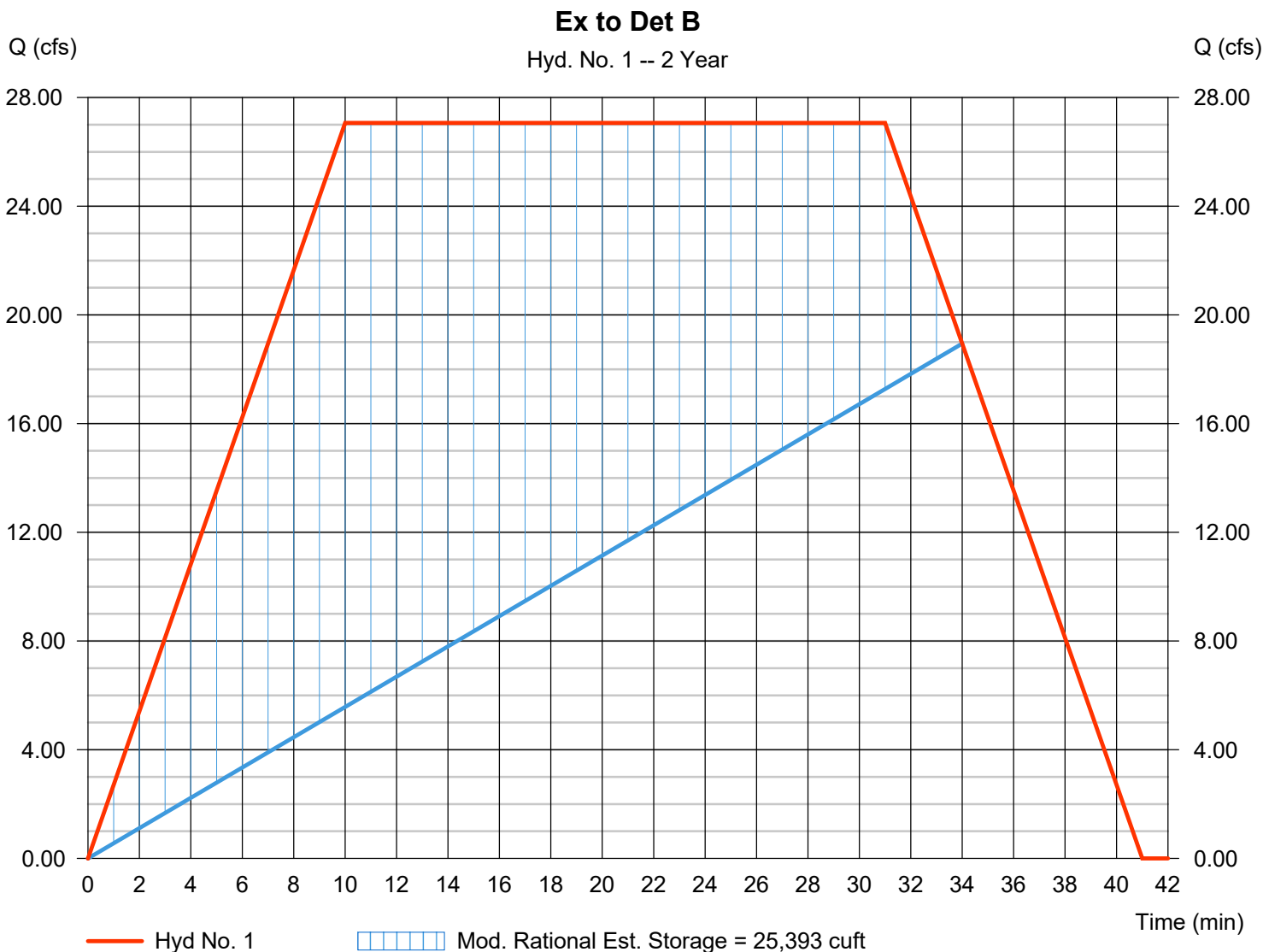
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Monday, 09 / 19 / 2022

Hyd. No. 1

Ex to Det B

Hydrograph type	= Mod. Rational	Peak discharge	= 27.06 cfs
Storm frequency	= 2 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 50,503 cuft
Drainage area	= 10.270 ac	Runoff coeff.	= 0.95
Intensity	= 2.774 in/hr	Tc by User	= 10.00 min
IDF Curve	= OKC.IDF	Storm duration	= 3.1 x Tc
Target Q	=20.00 cfs	Est. Req'd Storage	=25,393 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

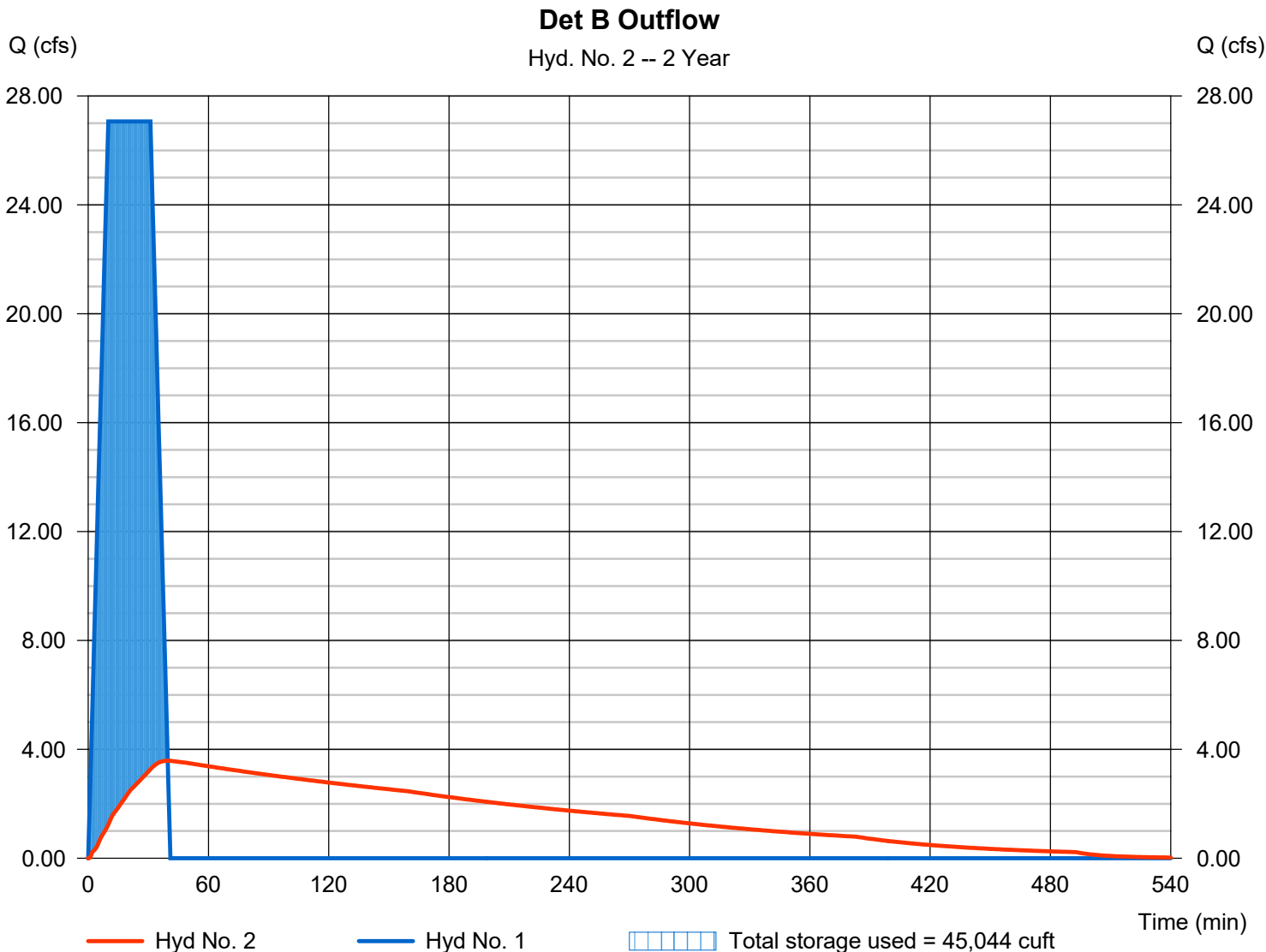
Monday, 09 / 19 / 2022

Hyd. No. 2

Det B Outflow

Hydrograph type	= Reservoir	Peak discharge	= 3.583 cfs
Storm frequency	= 2 yrs	Time to peak	= 40 min
Time interval	= 1 min	Hyd. volume	= 50,336 cuft
Inflow hyd. No.	= 1 - Ex to Det B	Max. Elevation	= 1024.07 ft
Reservoir name	= Ex Det B	Max. Storage	= 45,044 cuft

Storage Indication method used.



Pond No. 1 - Ex Det B

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 1019.24 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	1019.24	00	0	0
0.76	1020.00	1,189	301	301
1.76	1021.00	4,879	2,825	3,126
2.76	1022.00	10,510	7,516	10,642
3.76	1023.00	15,908	13,115	23,757
4.76	1024.00	23,399	19,532	43,289
5.76	1025.00	29,981	26,620	69,909

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.13	0.00	0.00	0.00
Crest El. (ft)	= 1019.24	0.00	0.00	0.00
Weir Coeff.	= 2.60	3.33	3.33	3.33
Weir Type	= Broad	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Civ A cfs	Civ B cfs	Civ C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	1019.24	---	---	---	---	0.00	---	---	---	---	---	0.000
0.76	301	1020.00	---	---	---	---	0.22	---	---	---	---	---	0.224
1.76	3,126	1021.00	---	---	---	---	0.79	---	---	---	---	---	0.789
2.76	10,642	1022.00	---	---	---	---	1.55	---	---	---	---	---	1.550
3.76	23,757	1023.00	---	---	---	---	2.46	---	---	---	---	---	2.464
4.76	43,289	1024.00	---	---	---	---	3.51	---	---	---	---	---	3.510
5.76	69,909	1025.00	---	---	---	---	4.67	---	---	---	---	---	4.673

Hydrograph Report

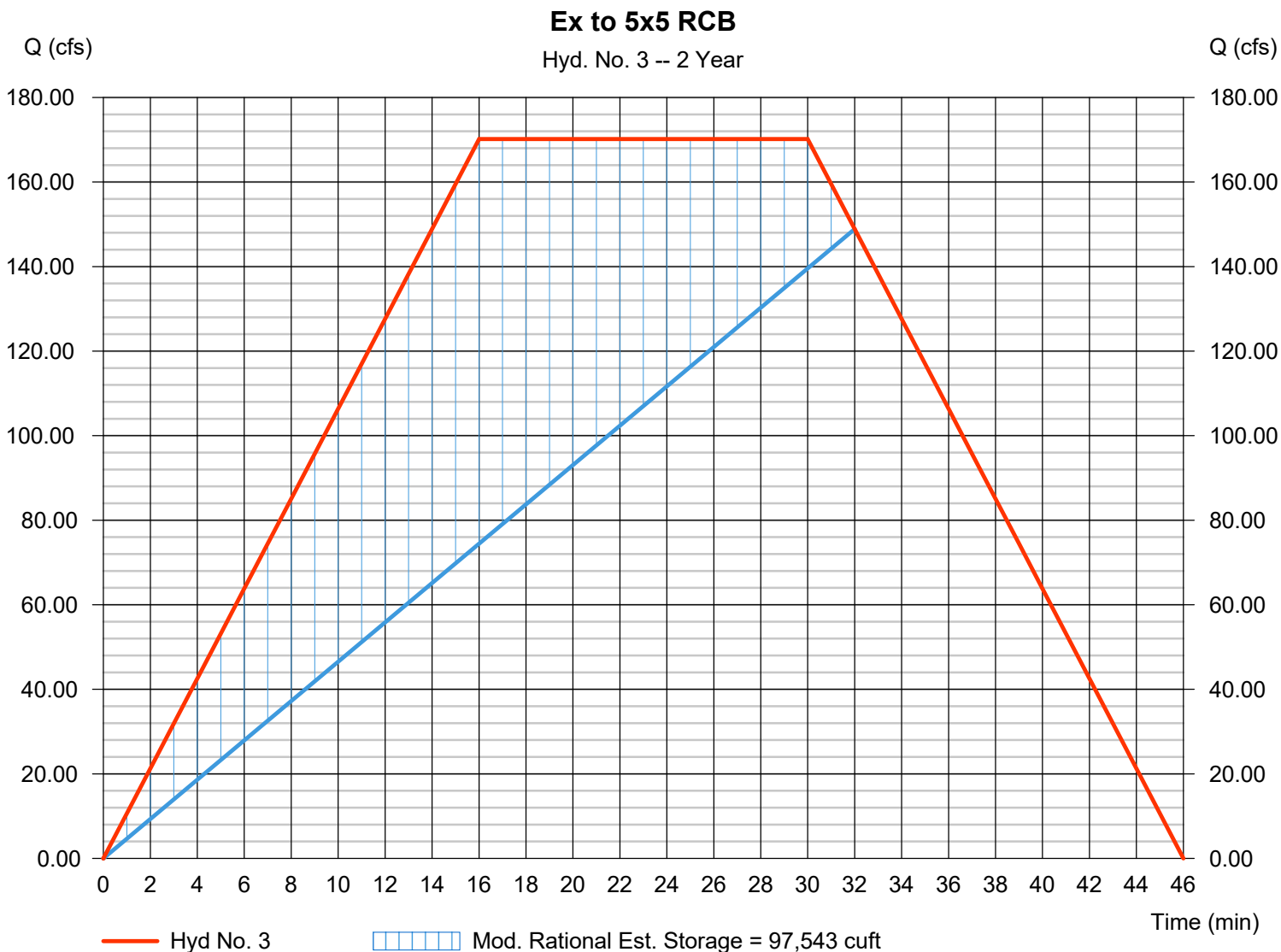
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Monday, 09 / 19 / 2022

Hyd. No. 3

Ex to 5x5 RCB

Hydrograph type	= Mod. Rational	Peak discharge	= 170.16 cfs
Storm frequency	= 2 yrs	Time to peak	= 16 min
Time interval	= 1 min	Hyd. volume	= 307,111 cuft
Drainage area	= 89.750 ac	Runoff coeff.	= 0.67
Intensity	= 2.830 in/hr	Tc by User	= 16.00 min
IDF Curve	= OKC.IDF	Storm duration	= 1.9 x Tc
Target Q	=150.00 cfs	Est. Req'd Storage	=97,543 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

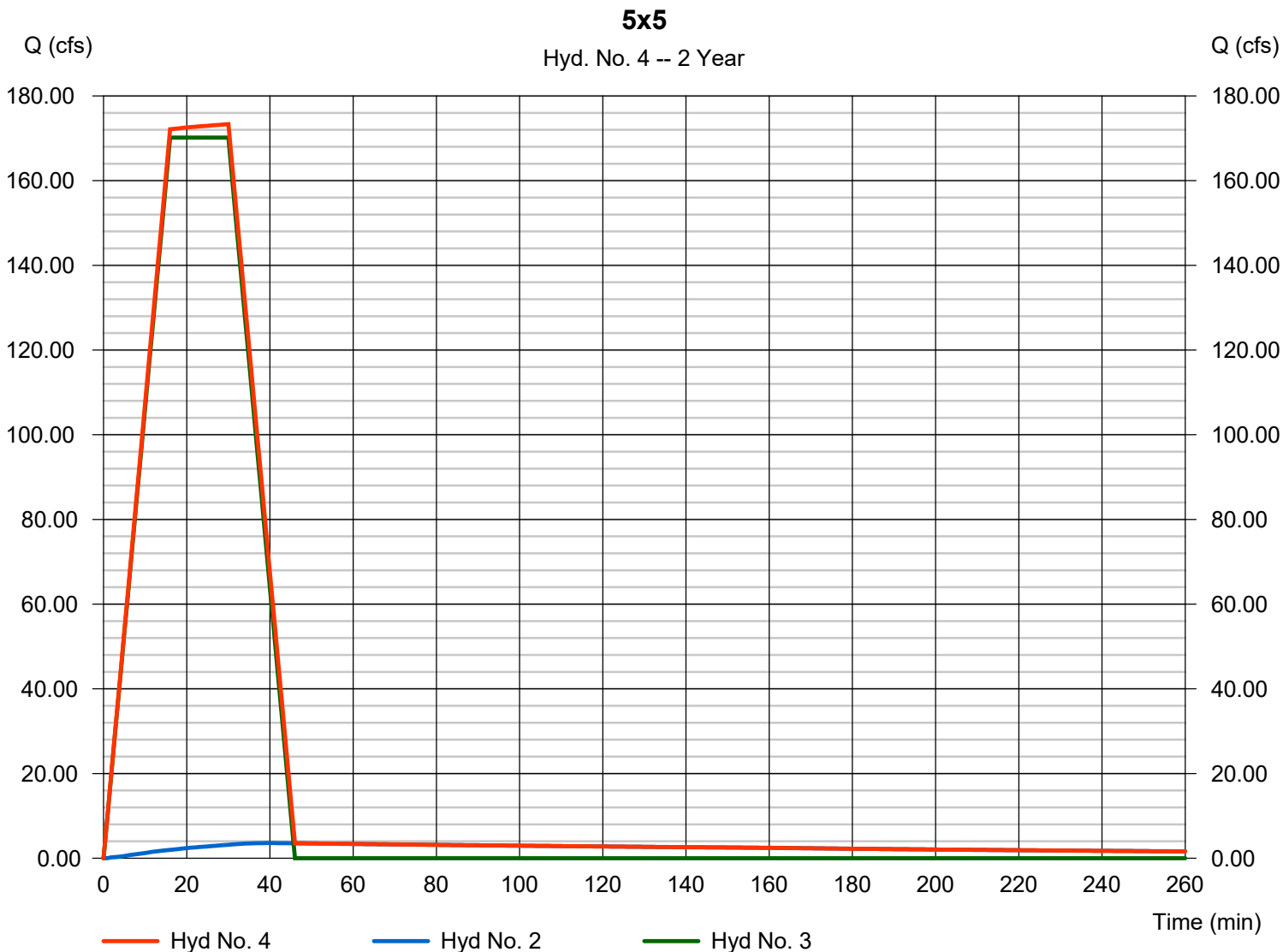
Monday, 09 / 19 / 2022

Hyd. No. 4

5x5

Hydrograph type = Combine
Storm frequency = 2 yrs
Time interval = 1 min
Inflow hyds. = 2, 3

Peak discharge = 173.35 cfs
Time to peak = 30 min
Hyd. volume = 356,631 cuft
Contrib. drain. area = 89.750 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

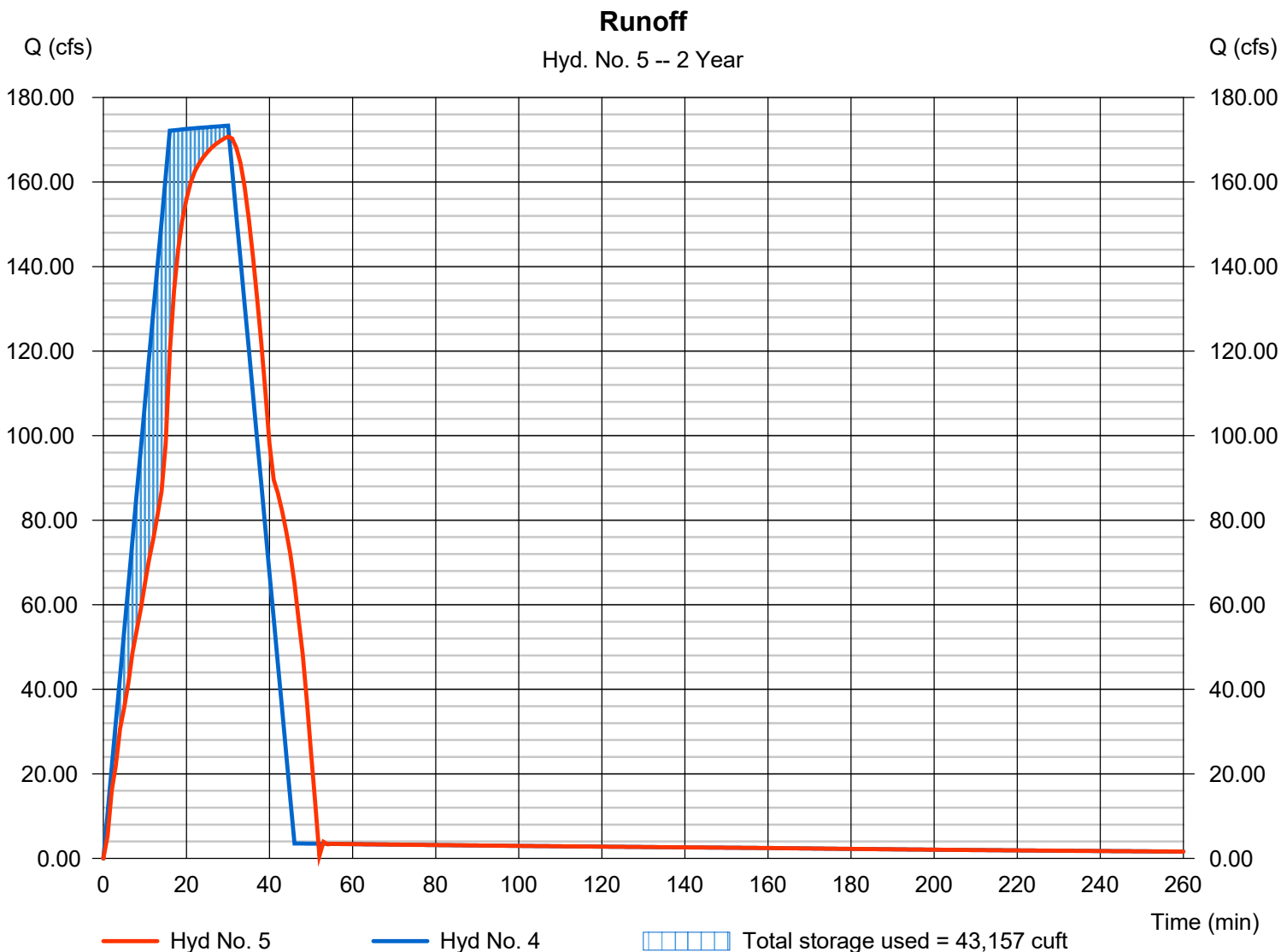
Monday, 09 / 19 / 2022

Hyd. No. 5

Runoff

Hydrograph type	= Reservoir	Peak discharge	= 170.74 cfs
Storm frequency	= 2 yrs	Time to peak	= 30 min
Time interval	= 1 min	Hyd. volume	= 356,604 cuft
Inflow hyd. No.	= 4 - 5x5	Max. Elevation	= 1014.14 ft
Reservoir name	= Ex Channel	Max. Storage	= 43,157 cuft

Storage Indication method used.



Pond Report

Pond No. 2 - Ex Channel

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 1008.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	1008.00	23	0	0
1.00	1009.00	653	266	266
2.00	1010.00	2,419	1,443	1,709
3.00	1011.00	5,505	3,857	5,566
4.00	1012.00	9,539	7,429	12,996
5.00	1013.00	13,595	11,506	24,502
6.00	1014.00	18,177	15,829	40,331
7.00	1015.00	23,102	20,588	60,919
8.00	1016.00	29,593	26,278	87,197
9.00	1017.00	38,877	34,126	121,323
10.00	1018.00	52,850	45,681	167,004

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 59.90	0.00	0.00	0.00
Span (in)	= 60.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1008.14	0.00	0.00	0.00
Length (ft)	= 100.00	0.00	0.00	0.00
Slope (%)	= 0.35	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000	(by Wet area)		
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	1008.00	0.00	---	---	---	---	---	---	---	---	---	0.00
1.00	266	1009.00	13.21 oc	---	---	---	---	---	---	---	---	---	13.21
2.00	1,709	1010.00	31.62 oc	---	---	---	---	---	---	---	---	---	31.62
3.00	5,566	1011.00	50.13 oc	---	---	---	---	---	---	---	---	---	50.13
4.00	12,996	1012.00	68.65 oc	---	---	---	---	---	---	---	---	---	68.65
5.00	24,502	1013.00	87.17 oc	---	---	---	---	---	---	---	---	---	87.17
6.00	40,331	1014.00	161.90 oc	---	---	---	---	---	---	---	---	---	161.90
7.00	60,919	1015.00	218.46 oc	---	---	---	---	---	---	---	---	---	218.46
8.00	87,197	1016.00	263.13 oc	---	---	---	---	---	---	---	---	---	263.13
9.00	121,323	1017.00	301.25 oc	---	---	---	---	---	---	---	---	---	301.25
10.00	167,004	1018.00	326.12 ic	---	---	---	---	---	---	---	---	---	326.12

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	Mod. Rational	31.90	1	10	63,357	-----	-----	-----	Ex to Det B	
2	Reservoir	4.086	1	42	63,162	1	1024.51	56,788	Det B Outflow	
3	Mod. Rational	224.07	1	16	350,626	-----	-----	-----	Ex to 5x5 RCB	
4	Combine	227.26	1	26	412,712	2, 3	-----	-----	5x5	
5	Reservoir	215.50	1	27	412,686	4	1014.94	59,698	Runoff	
Existing Pond B & Channel.gpw					Return Period: 5 Year			Monday, 09 / 19 / 2022		

Hydrograph Report

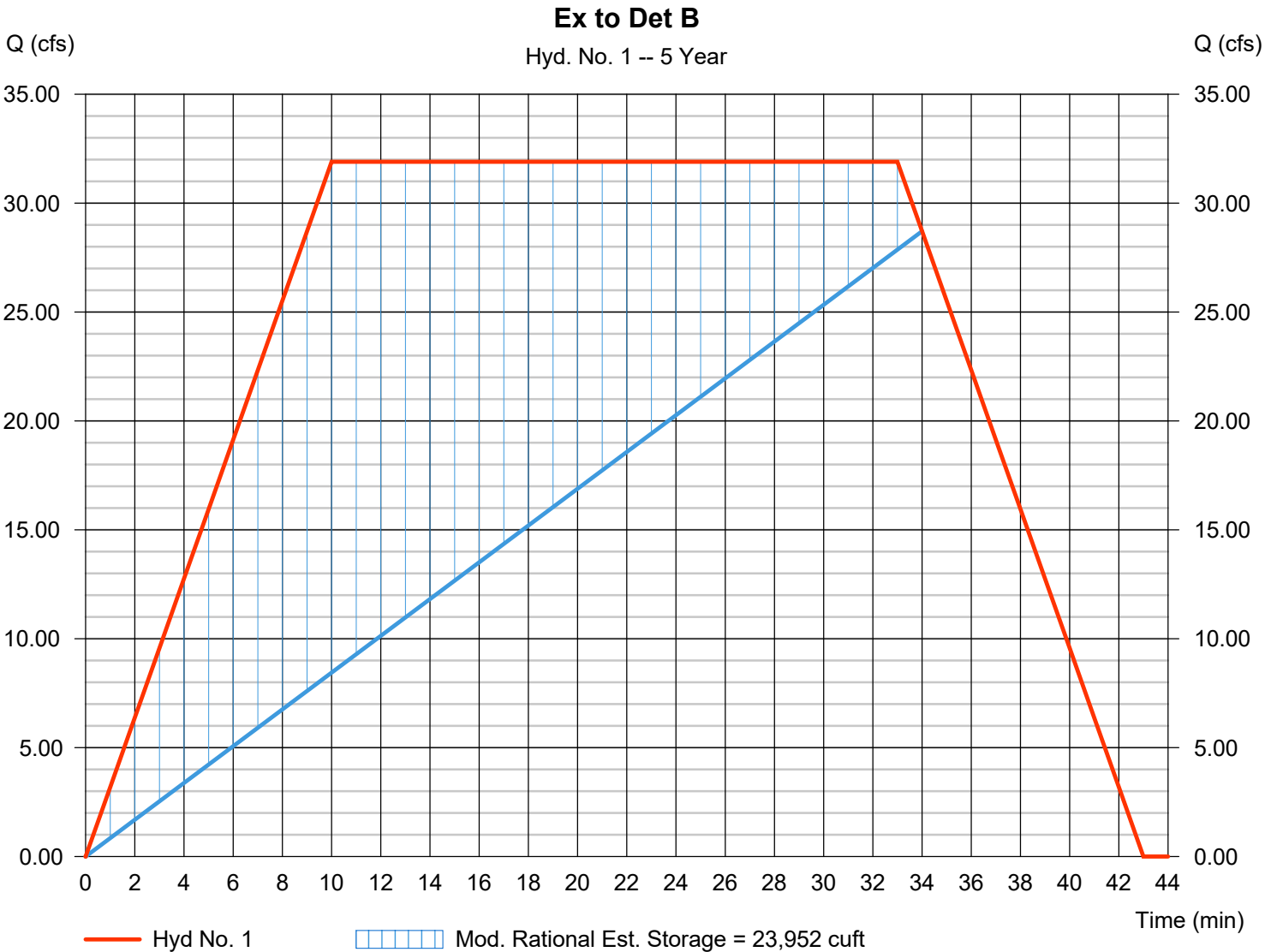
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Monday, 09 / 19 / 2022

Hyd. No. 1

Ex to Det B

Hydrograph type	= Mod. Rational	Peak discharge	= 31.90 cfs
Storm frequency	= 5 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 63,357 cuft
Drainage area	= 10.270 ac	Runoff coeff.	= 0.95
Intensity	= 3.270 in/hr	Tc by User	= 10.00 min
IDF Curve	= OKC.IDF	Storm duration	= 3.3 x Tc
Target Q	=30.00 cfs	Est. Req'd Storage	=23,952 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

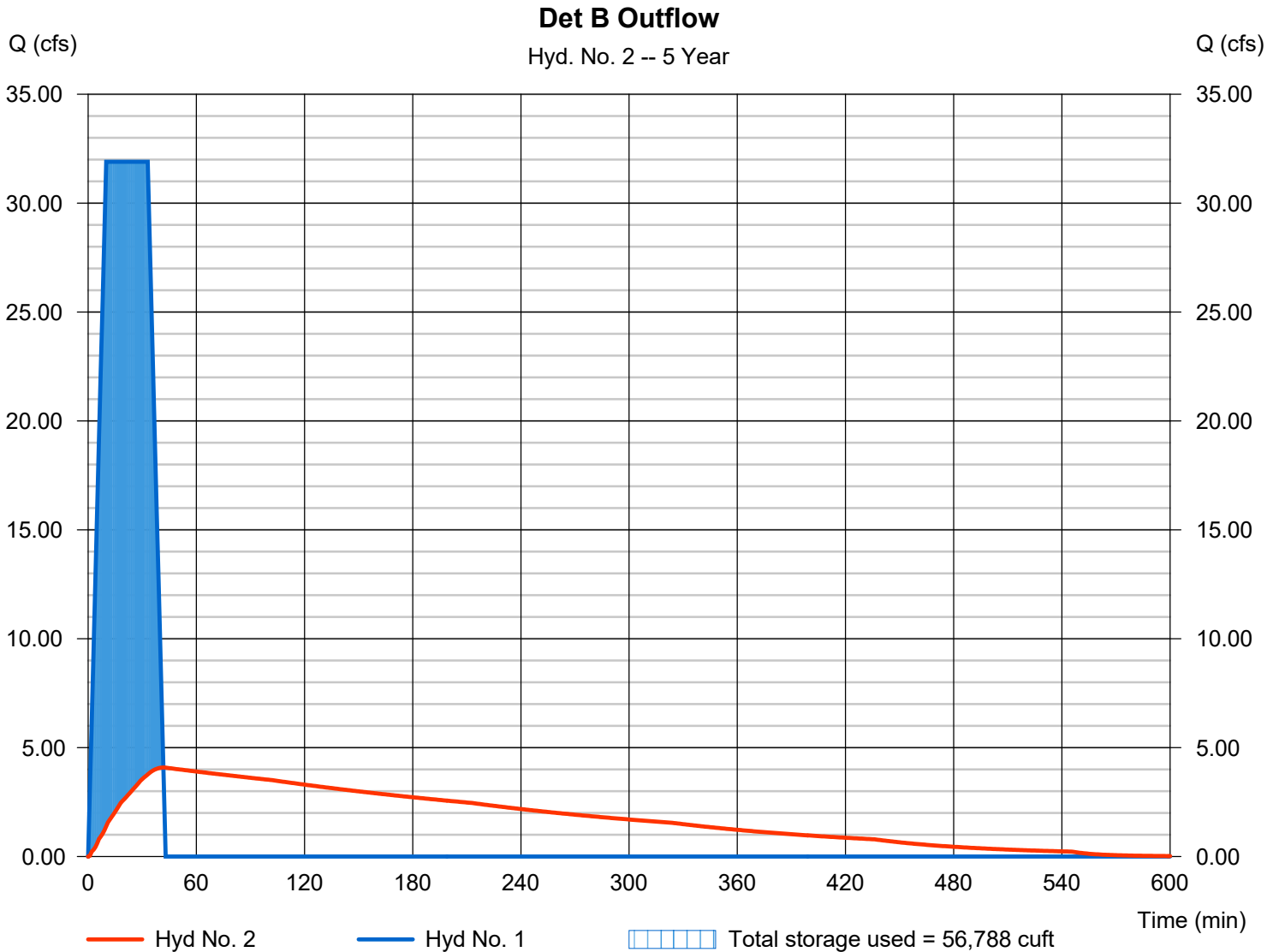
Monday, 09 / 19 / 2022

Hyd. No. 2

Det B Outflow

Hydrograph type	= Reservoir	Peak discharge	= 4.086 cfs
Storm frequency	= 5 yrs	Time to peak	= 42 min
Time interval	= 1 min	Hyd. volume	= 63,162 cuft
Inflow hyd. No.	= 1 - Ex to Det B	Max. Elevation	= 1024.51 ft
Reservoir name	= Ex Det B	Max. Storage	= 56,788 cuft

Storage Indication method used.



Hydrograph Report

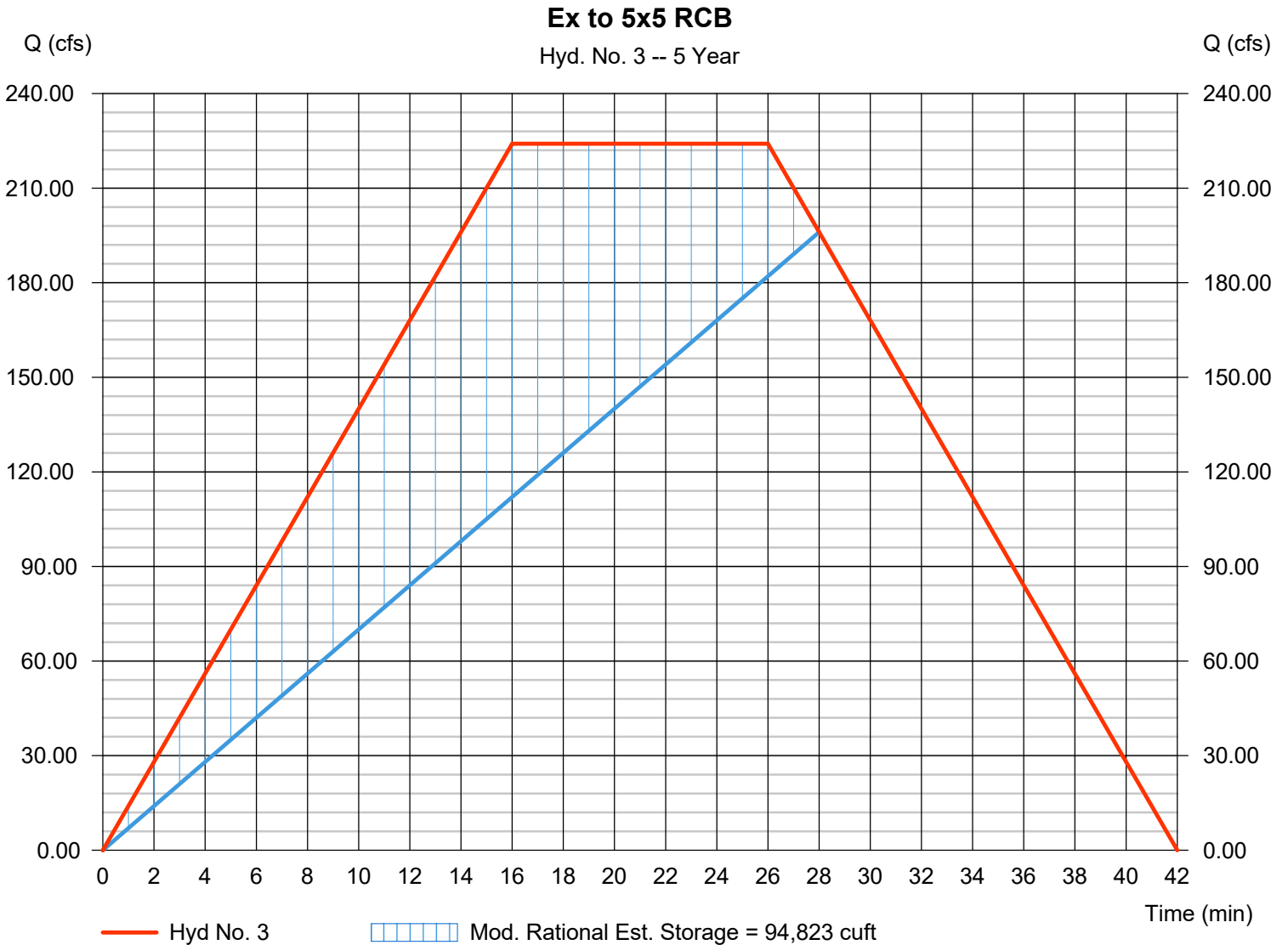
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Monday, 09 / 19 / 2022

Hyd. No. 3

Ex to 5x5 RCB

Hydrograph type	= Mod. Rational	Peak discharge	= 224.07 cfs
Storm frequency	= 5 yrs	Time to peak	= 16 min
Time interval	= 1 min	Hyd. volume	= 350,626 cuft
Drainage area	= 89.750 ac	Runoff coeff.	= 0.67
Intensity	= 3.726 in/hr	Tc by User	= 16.00 min
IDF Curve	= OKC.IDF	Storm duration	= 1.6 x Tc
Target Q	=200.00 cfs	Est. Req'd Storage	=94,823 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

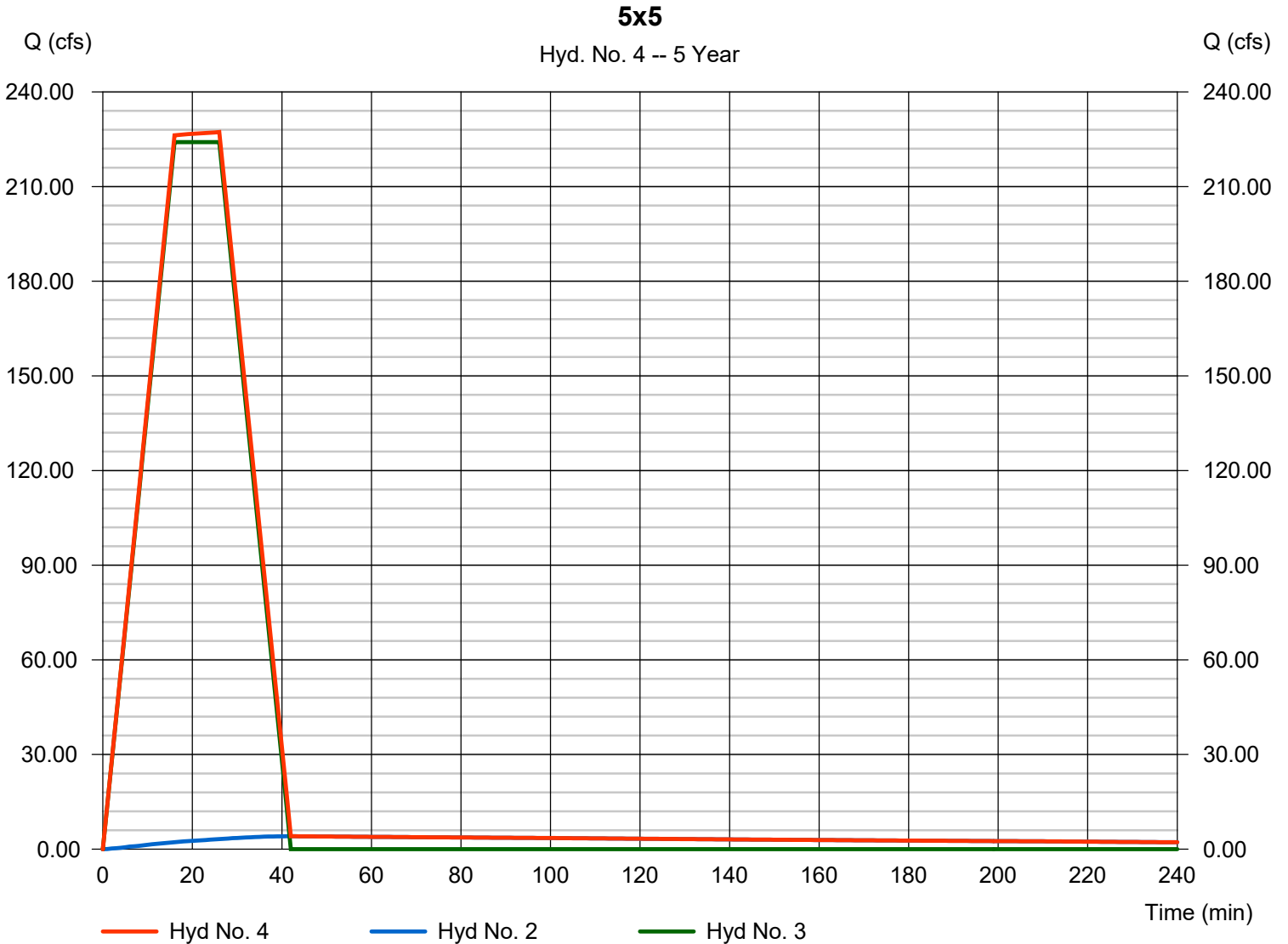
Monday, 09 / 19 / 2022

Hyd. No. 4

5x5

Hydrograph type = Combine
Storm frequency = 5 yrs
Time interval = 1 min
Inflow hyds. = 2, 3

Peak discharge = 227.26 cfs
Time to peak = 26 min
Hyd. volume = 412,712 cuft
Contrib. drain. area = 89.750 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

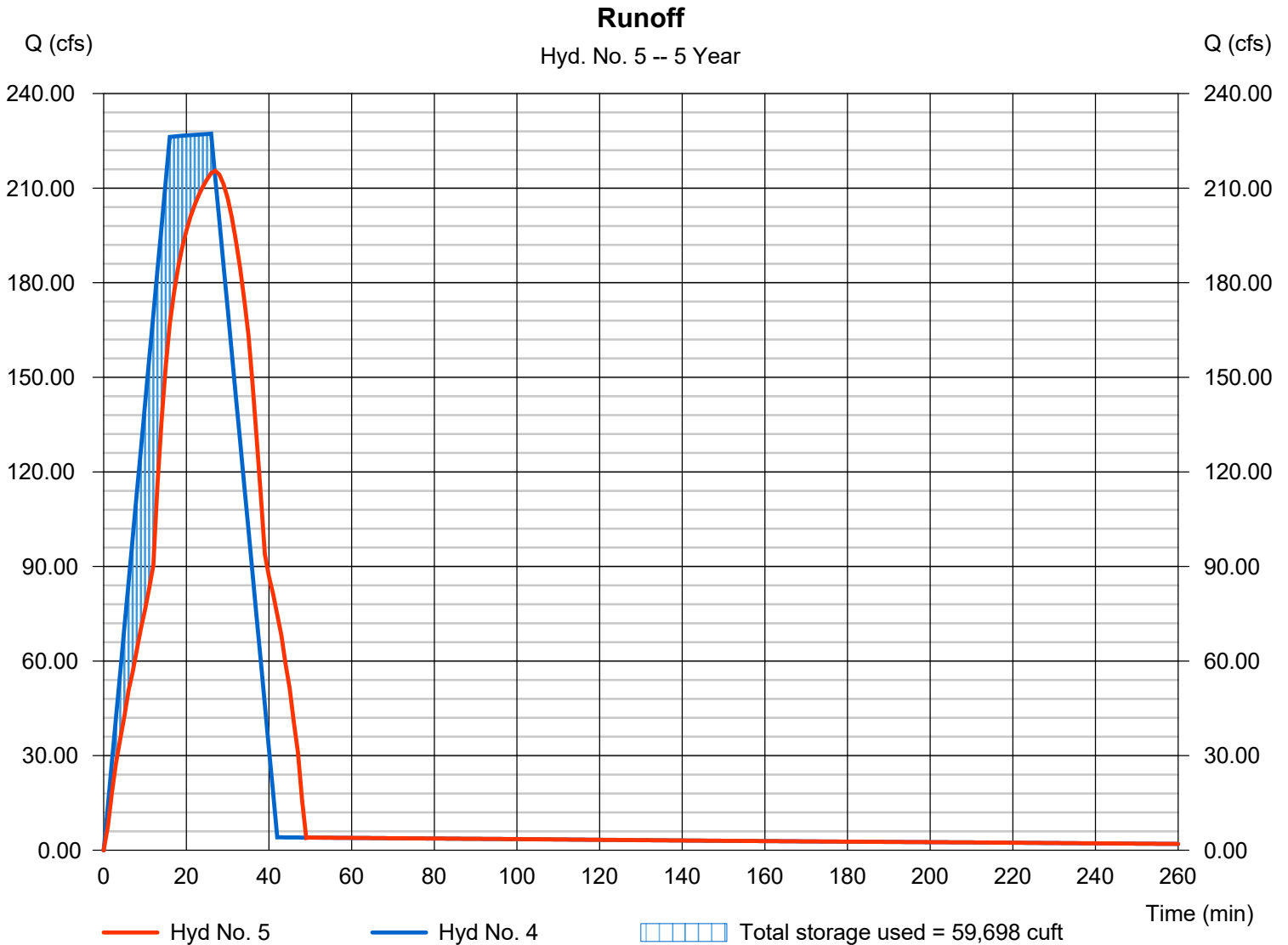
Monday, 09 / 19 / 2022

Hyd. No. 5

Runoff

Hydrograph type	= Reservoir	Peak discharge	= 215.50 cfs
Storm frequency	= 5 yrs	Time to peak	= 27 min
Time interval	= 1 min	Hyd. volume	= 412,686 cuft
Inflow hyd. No.	= 4 - 5x5	Max. Elevation	= 1014.94 ft
Reservoir name	= Ex Channel	Max. Storage	= 59,698 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	Mod. Rational	42.84	1	10	61,942	-----	-----	-----	Ex to Det B	
2	Reservoir	4.082	1	33	61,681	1	1024.50	56,694	Det B Outflow	
3	Mod. Rational	258.67	1	16	389,875	-----	-----	-----	Ex to 5x5 RCB	
4	Combine	262.40	1	25	449,693	2, 3	-----	-----	5x5	
5	Reservoir	239.42	1	26	449,666	4	1015.45	72,649	Runoff	
Existing Pond B & Channel.gpw					Return Period: 10 Year			Monday, 09 / 19 / 2022		

Hydrograph Report

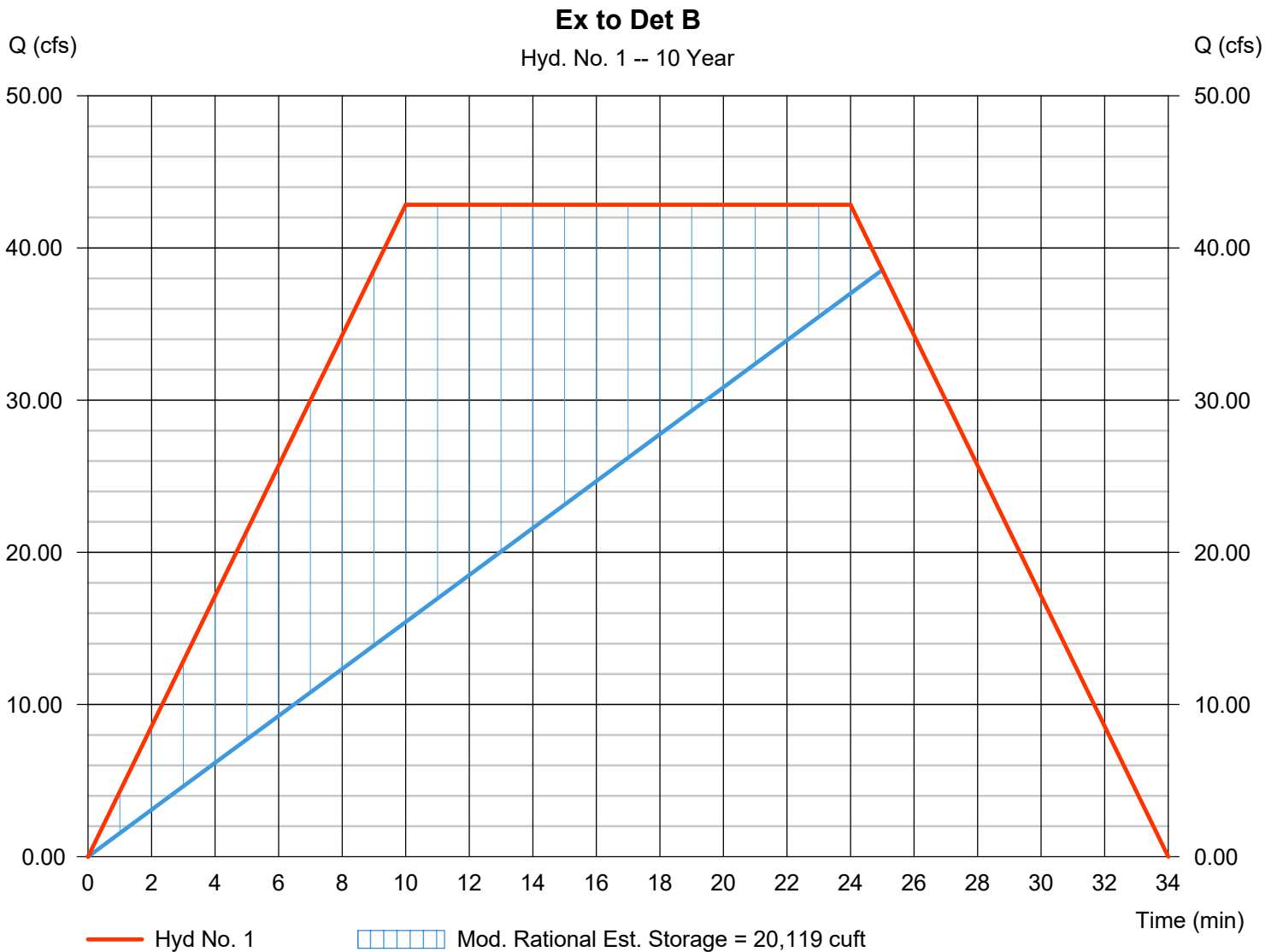
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Monday, 09 / 19 / 2022

Hyd. No. 1

Ex to Det B

Hydrograph type	= Mod. Rational	Peak discharge	= 42.84 cfs
Storm frequency	= 10 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 61,942 cuft
Drainage area	= 10.270 ac	Runoff coeff.	= 0.95
Intensity	= 4.391 in/hr	Tc by User	= 10.00 min
IDF Curve	= OKC.IDF	Storm duration	= 2.4 x Tc
Target Q	=40.00 cfs	Est. Req'd Storage	=20,119 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

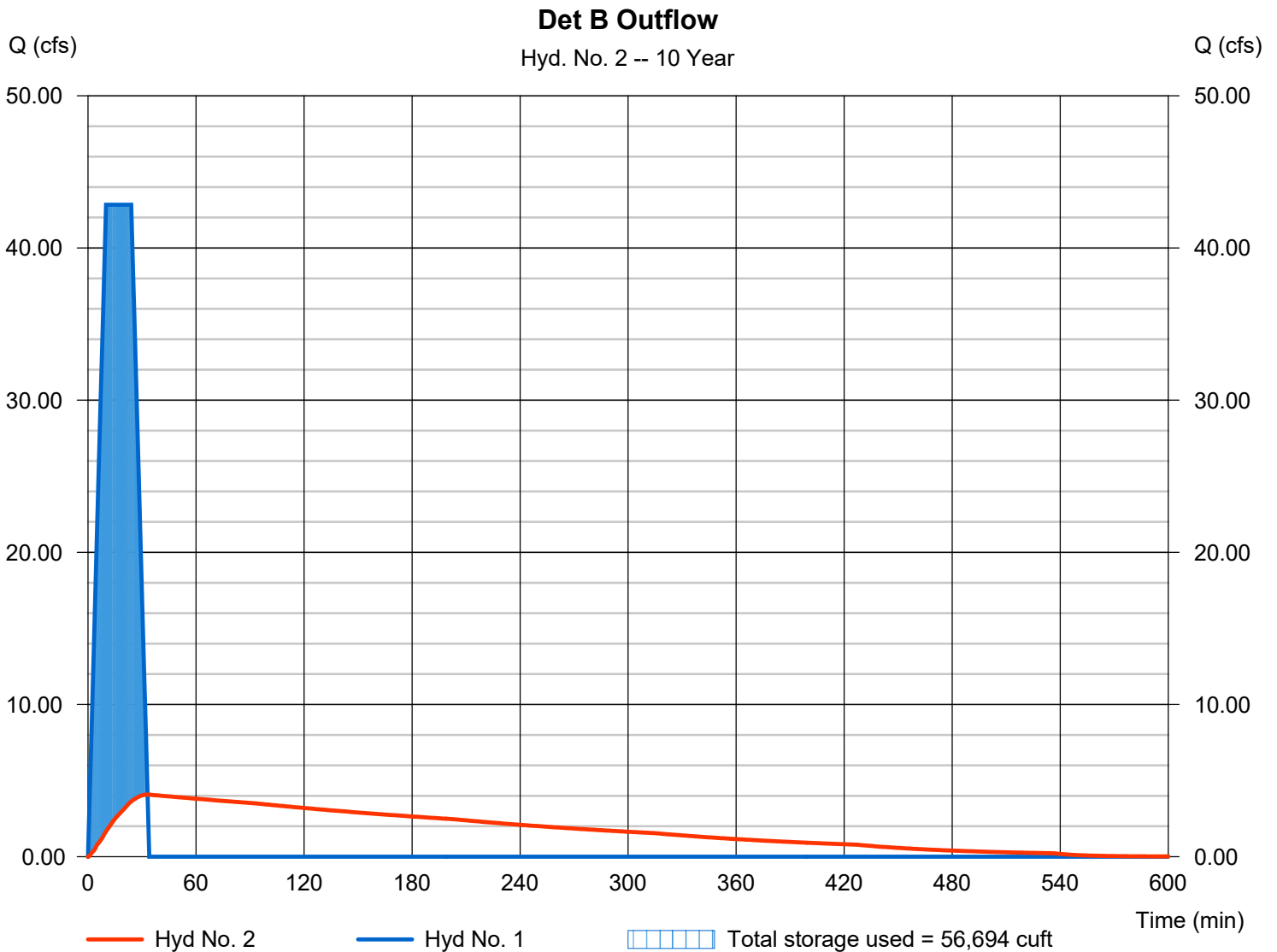
Monday, 09 / 19 / 2022

Hyd. No. 2

Det B Outflow

Hydrograph type	= Reservoir	Peak discharge	= 4.082 cfs
Storm frequency	= 10 yrs	Time to peak	= 33 min
Time interval	= 1 min	Hyd. volume	= 61,681 cuft
Inflow hyd. No.	= 1 - Ex to Det B	Max. Elevation	= 1024.50 ft
Reservoir name	= Ex Det B	Max. Storage	= 56,694 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

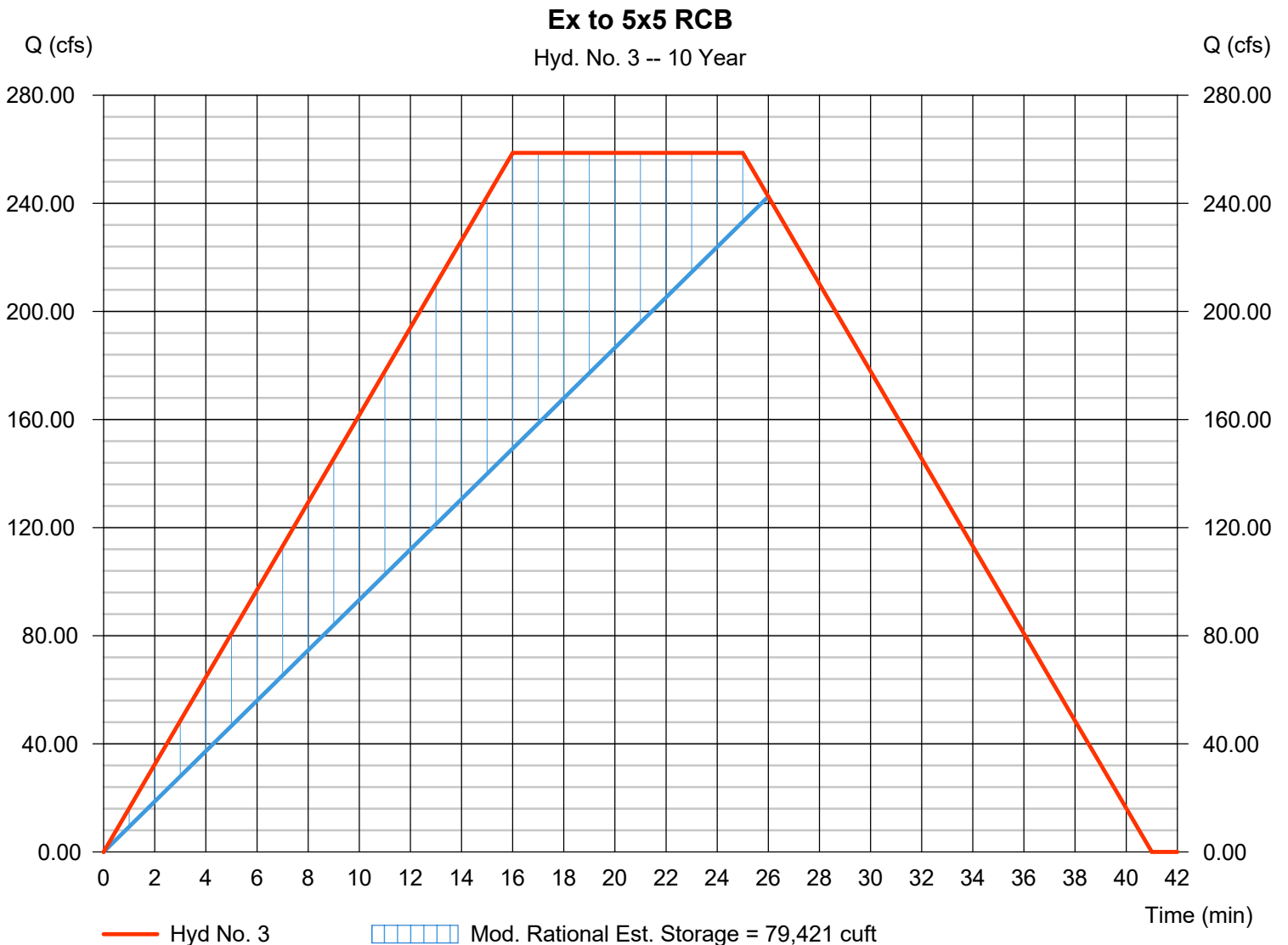
Monday, 09 / 19 / 2022

Hyd. No. 3

Ex to 5x5 RCB

Hydrograph type = Mod. Rational
 Storm frequency = 10 yrs
 Time interval = 1 min
 Drainage area = 89.750 ac
 Intensity = 4.302 in/hr
 IDF Curve = OKC.IDF
 Target Q = 250.00 cfs

Peak discharge = 258.67 cfs
 Time to peak = 16 min
 Hyd. volume = 389,875 cuft
 Runoff coeff. = 0.67
 Tc by User = 16.00 min
 Storm duration = 1.6 x Tc
 Est. Req'd Storage = 79,421 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

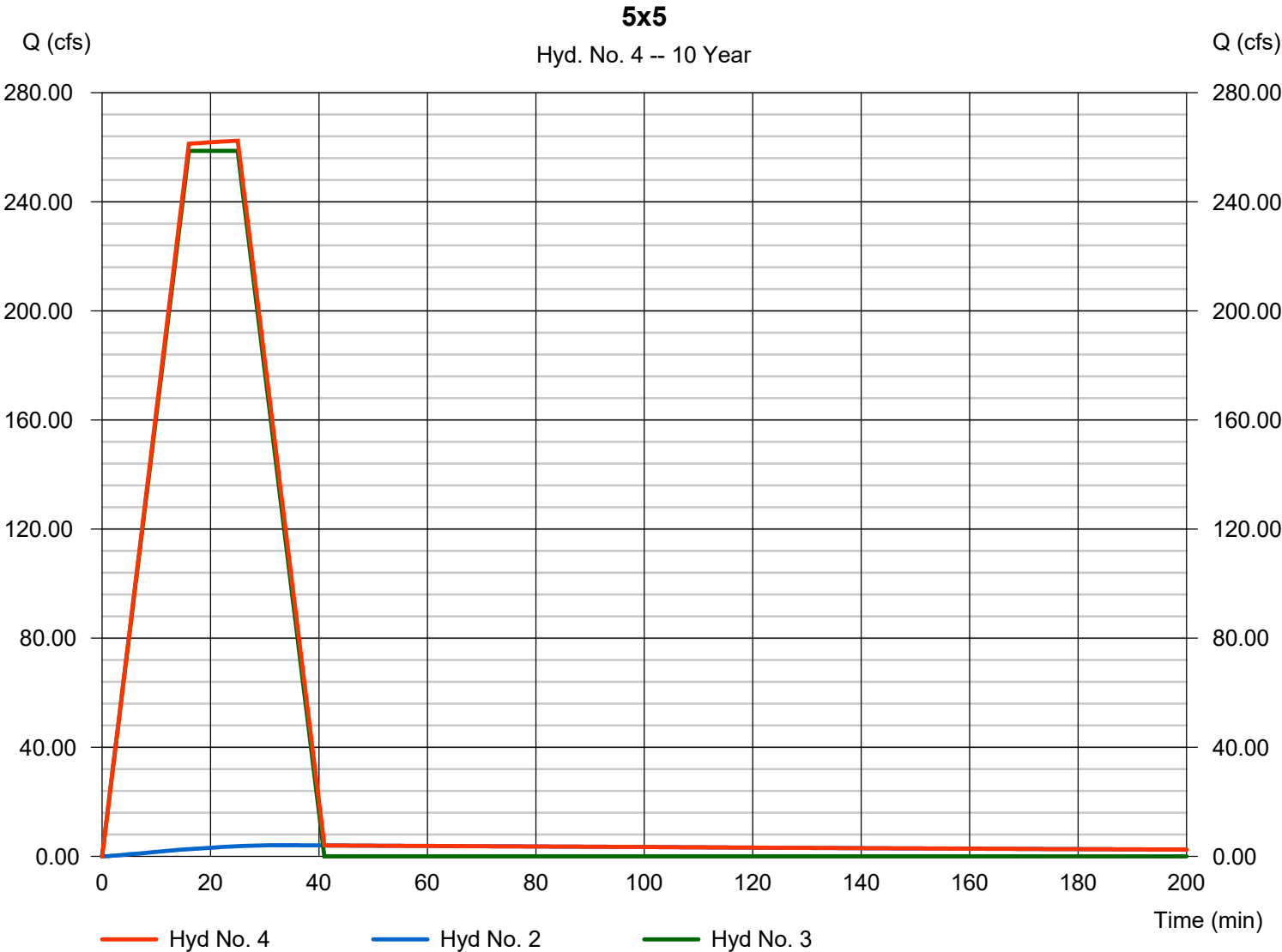
Monday, 09 / 19 / 2022

Hyd. No. 4

5x5

Hydrograph type = Combine
Storm frequency = 10 yrs
Time interval = 1 min
Inflow hyds. = 2, 3

Peak discharge = 262.40 cfs
Time to peak = 25 min
Hyd. volume = 449,693 cuft
Contrib. drain. area = 89.750 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

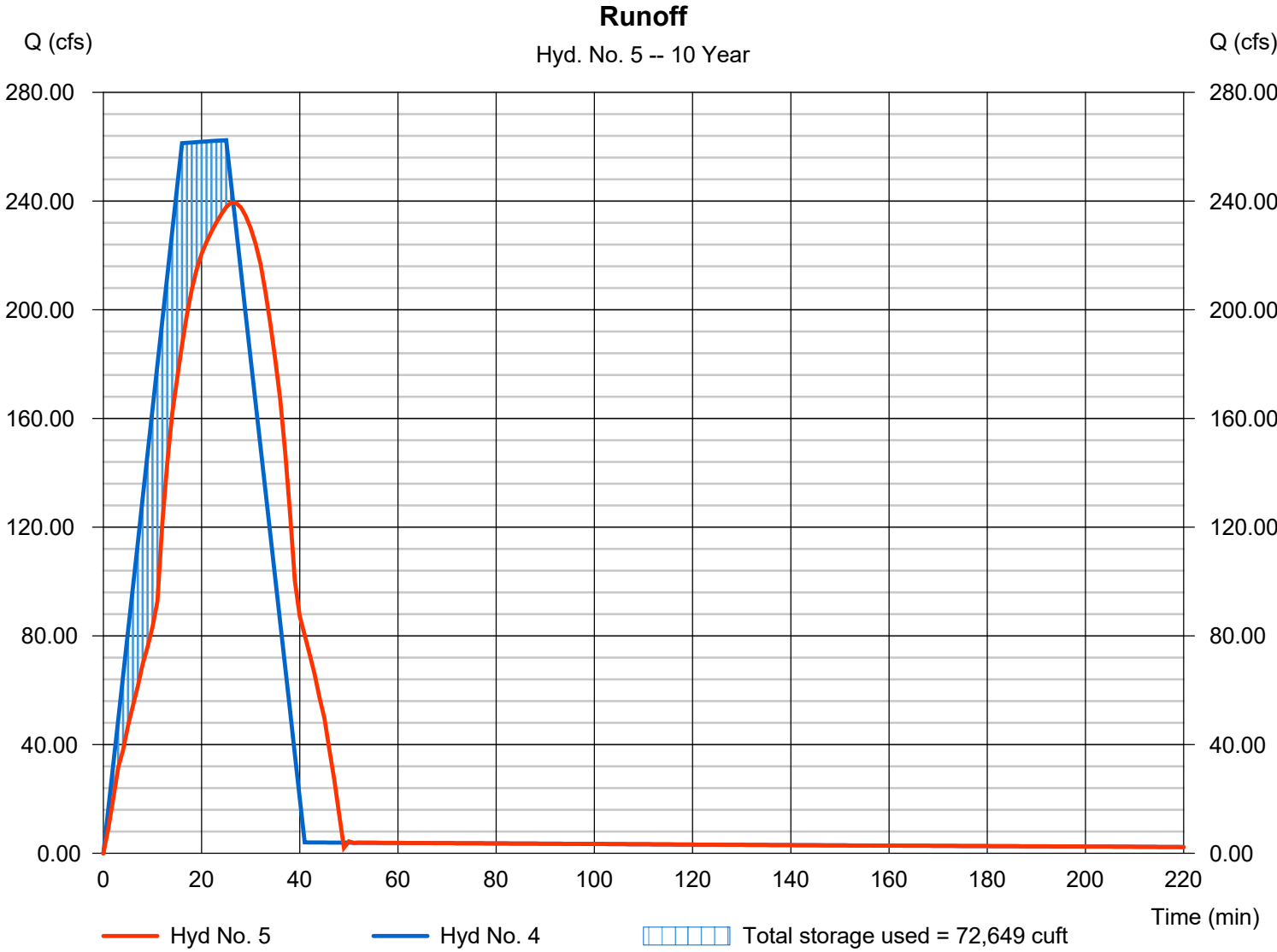
Monday, 09 / 19 / 2022

Hyd. No. 5

Runoff

Hydrograph type	= Reservoir	Peak discharge	= 239.42 cfs
Storm frequency	= 10 yrs	Time to peak	= 26 min
Time interval	= 1 min	Hyd. volume	= 449,666 cuft
Inflow hyd. No.	= 4 - 5x5	Max. Elevation	= 1015.45 ft
Reservoir name	= Ex Channel	Max. Storage	= 72,649 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	Mod. Rational	52.93	1	10	67,014	-----	-----	-----	Ex to Det B	
2	Reservoir	4.312	1	30	66,692	1	1024.70	61,908	Det B Outflow	
3	Mod. Rational	313.37	1	16	433,208	-----	-----	-----	Ex to 5x5 RCB	
4	Combine	317.32	1	23	499,148	2, 3	-----	-----	5x5	
5	Reservoir	270.71	1	25	499,121	4	1016.19	93,621	Runoff	
Existing Pond B & Channel.gpw					Return Period: 25 Year			Monday, 09 / 19 / 2022		

Hydrograph Report

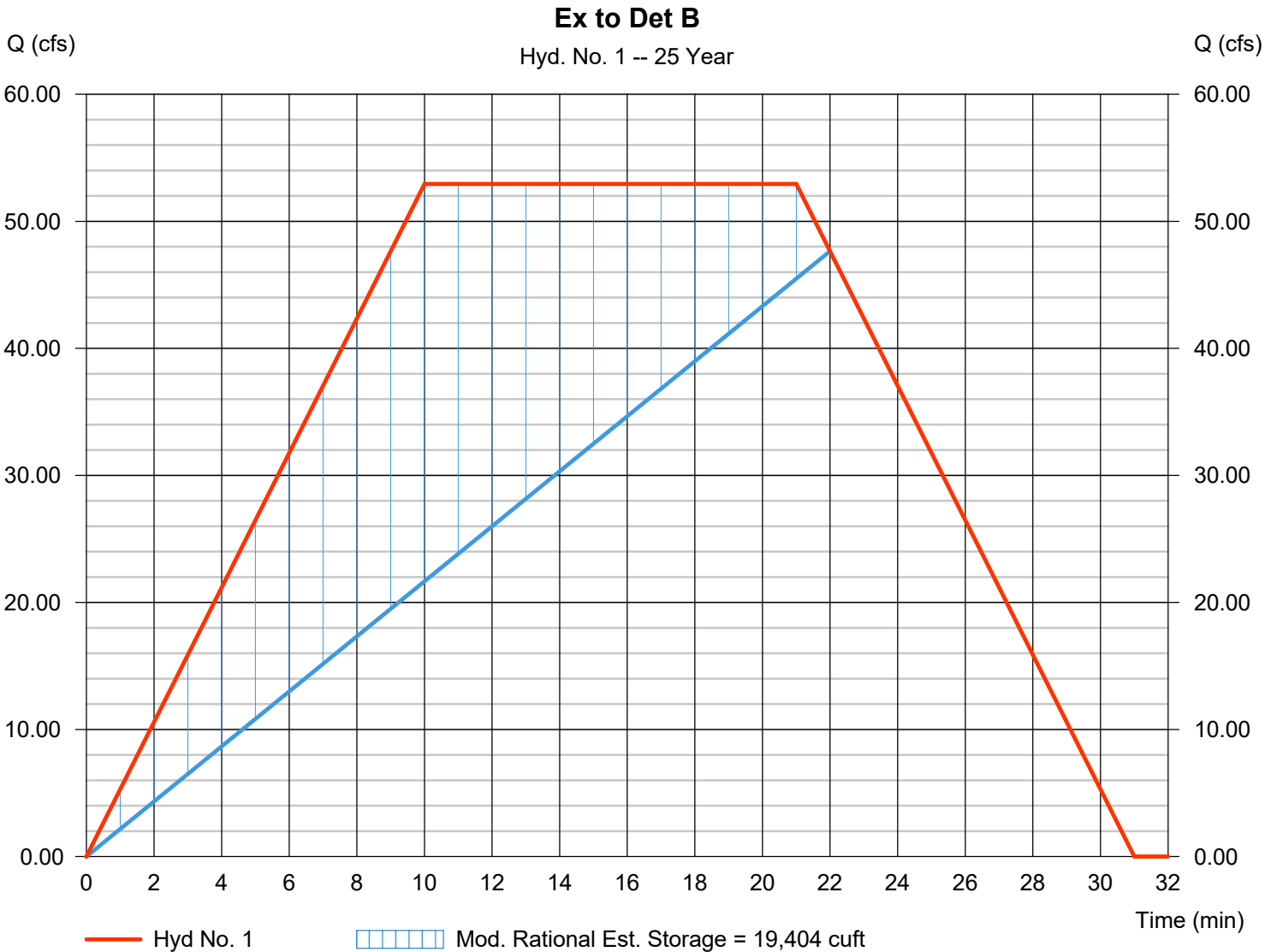
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Monday, 09 / 19 / 2022

Hyd. No. 1

Ex to Det B

Hydrograph type	= Mod. Rational	Peak discharge	= 52.93 cfs
Storm frequency	= 25 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 67,014 cuft
Drainage area	= 10.270 ac	Runoff coeff.	= 0.95
Intensity	= 5.425 in/hr	Tc by User	= 10.00 min
IDF Curve	= OKC.IDF	Storm duration	= 2.1 x Tc
Target Q	=50.00 cfs	Est. Req'd Storage	=19,404 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

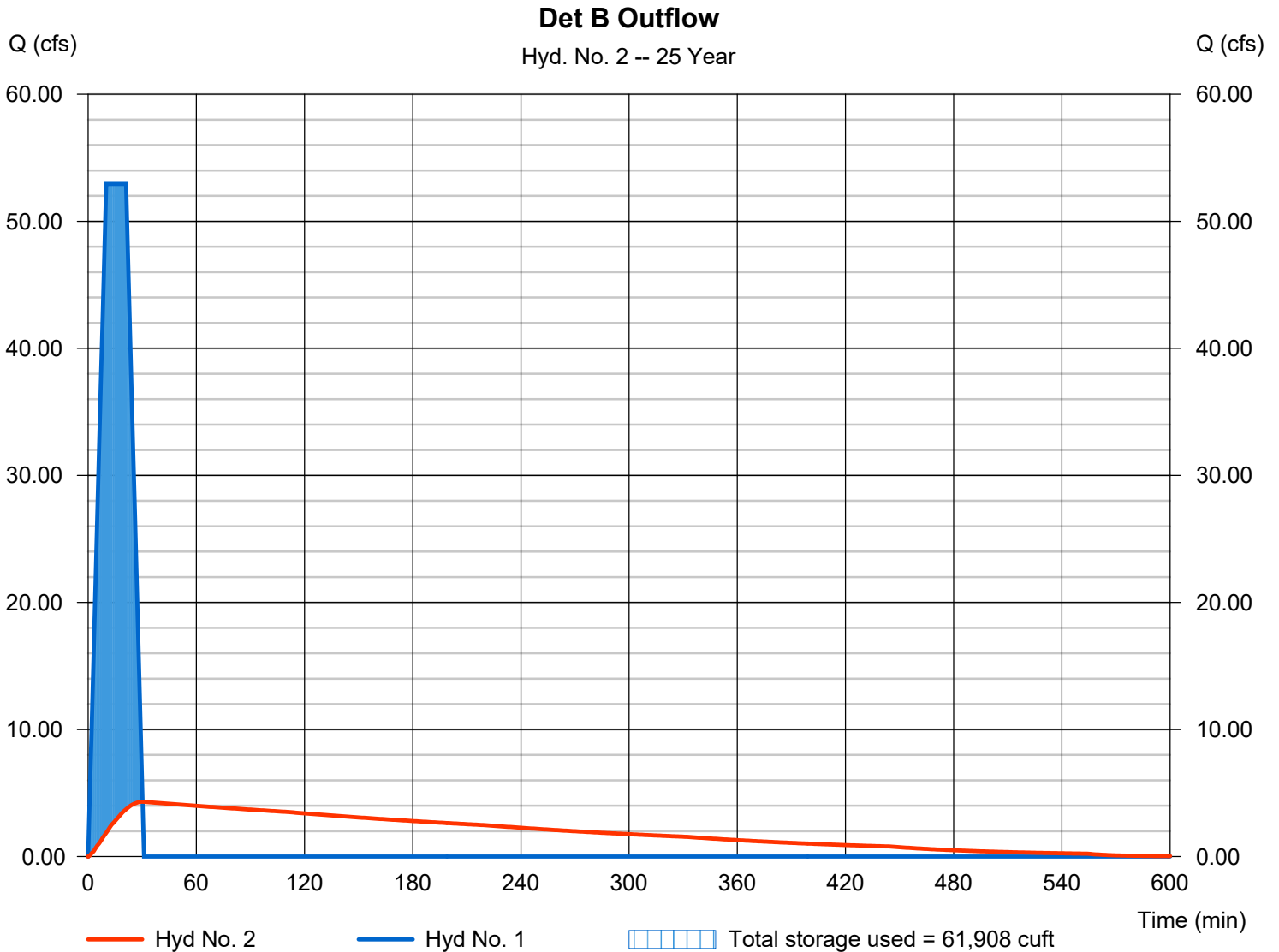
Monday, 09 / 19 / 2022

Hyd. No. 2

Det B Outflow

Hydrograph type	= Reservoir	Peak discharge	= 4.312 cfs
Storm frequency	= 25 yrs	Time to peak	= 30 min
Time interval	= 1 min	Hyd. volume	= 66,692 cuft
Inflow hyd. No.	= 1 - Ex to Det B	Max. Elevation	= 1024.70 ft
Reservoir name	= Ex Det B	Max. Storage	= 61,908 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

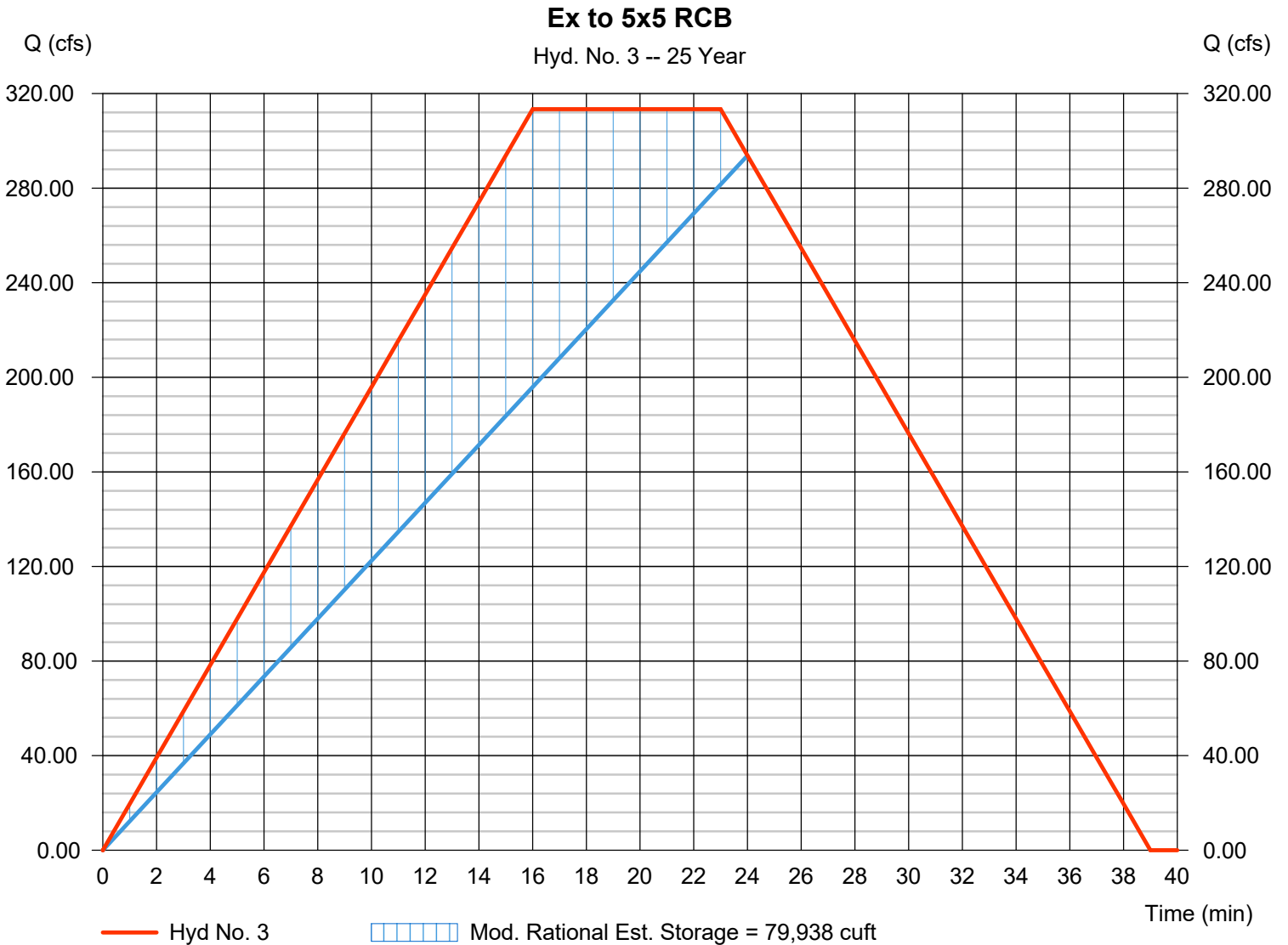
Monday, 09 / 19 / 2022

Hyd. No. 3

Ex to 5x5 RCB

Hydrograph type = Mod. Rational
 Storm frequency = 25 yrs
 Time interval = 1 min
 Drainage area = 89.750 ac
 Intensity = 5.211 in/hr
 IDF Curve = OKC.IDF
 Target Q = 300.00 cfs

Peak discharge = 313.37 cfs
 Time to peak = 16 min
 Hyd. volume = 433,208 cuft
 Runoff coeff. = 0.67
 Tc by User = 16.00 min
 Storm duration = 1.4 x Tc
 Est. Req'd Storage = 79,938 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

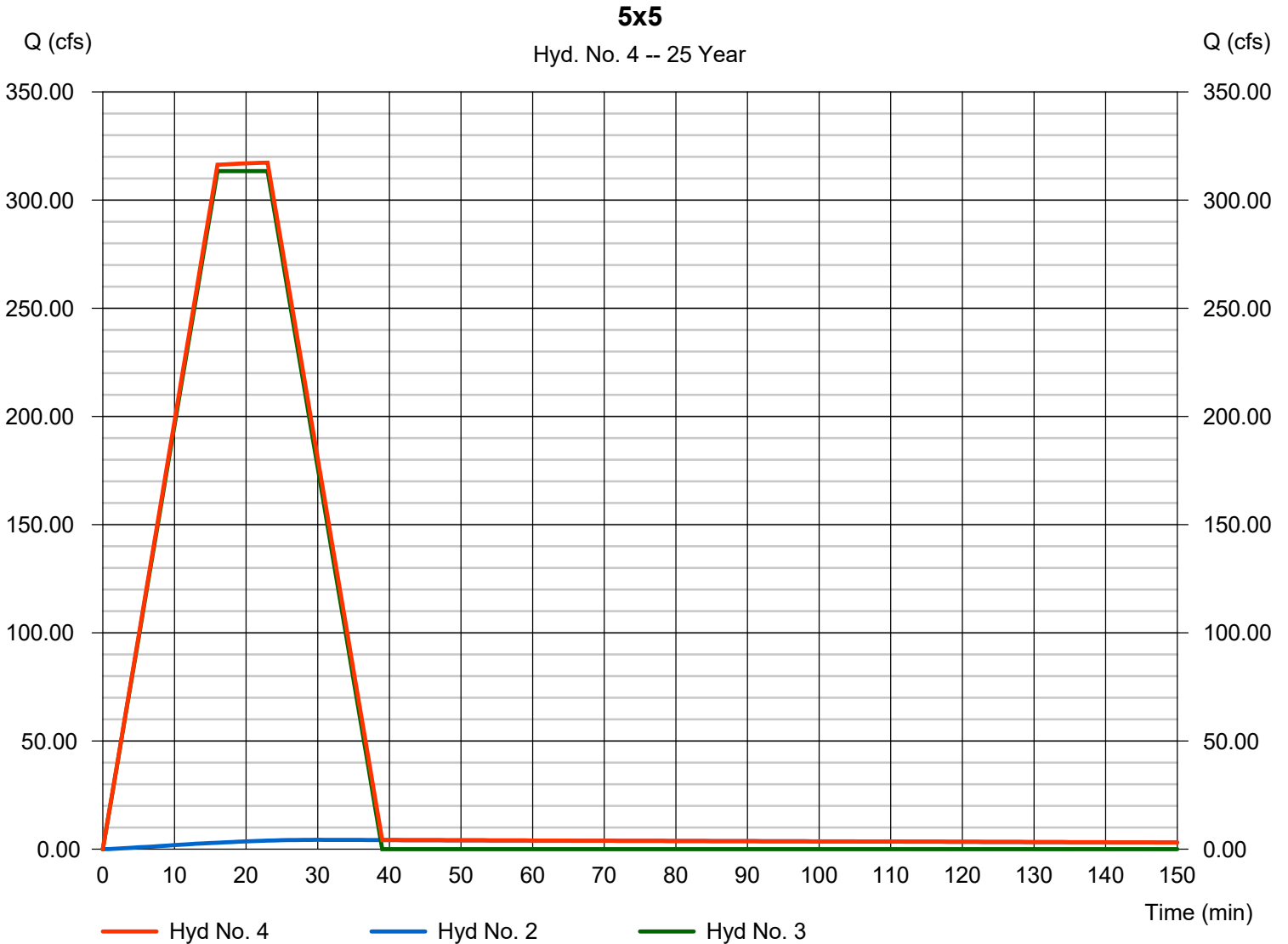
Monday, 09 / 19 / 2022

Hyd. No. 4

5x5

Hydrograph type = Combine
Storm frequency = 25 yrs
Time interval = 1 min
Inflow hyds. = 2, 3

Peak discharge = 317.32 cfs
Time to peak = 23 min
Hyd. volume = 499,148 cuft
Contrib. drain. area = 89.750 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

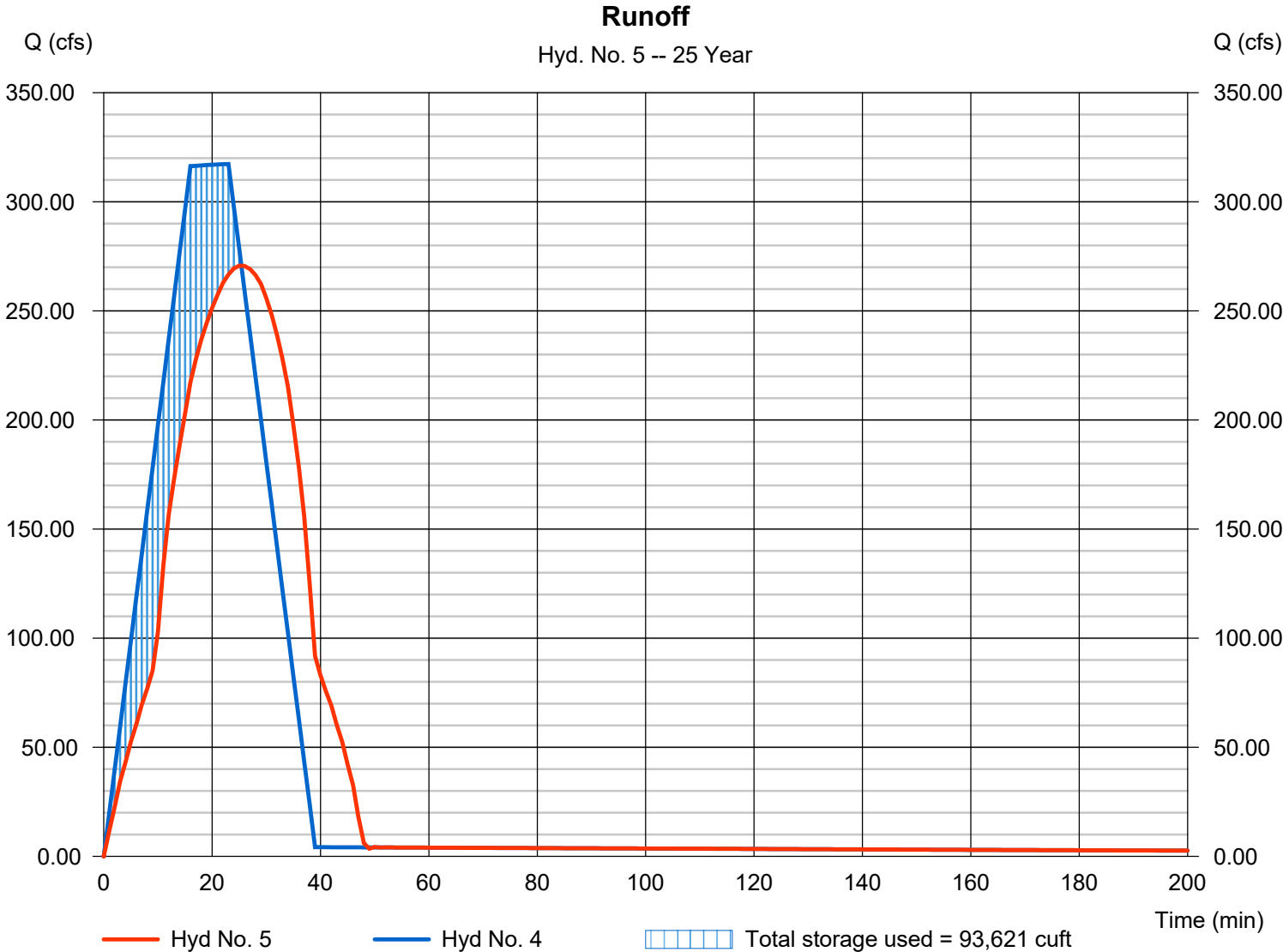
Monday, 09 / 19 / 2022

Hyd. No. 5

Runoff

Hydrograph type	= Reservoir	Peak discharge	= 270.71 cfs
Storm frequency	= 25 yrs	Time to peak	= 25 min
Time interval	= 1 min	Hyd. volume	= 499,121 cuft
Inflow hyd. No.	= 4 - 5x5	Max. Elevation	= 1016.19 ft
Reservoir name	= Ex Channel	Max. Storage	= 93,621 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	Mod. Rational	60.01	1	10	72,375	-----	-----	-----	Ex to Det B	
2	Reservoir	4.547	1	29	72,011	1	1024.90	67,143	Det B Outflow	
3	Mod. Rational	361.94	1	16	458,656	-----	-----	-----	Ex to 5x5 RCB	
4	Combine	365.95	1	21	528,061	2, 3	-----	-----	5x5	
5	Reservoir	290.10	1	24	528,035	4	1016.69	110,874	Runoff	
Existing Pond B & Channel.gpw					Return Period: 50 Year			Monday, 09 / 19 / 2022		

Hydrograph Report

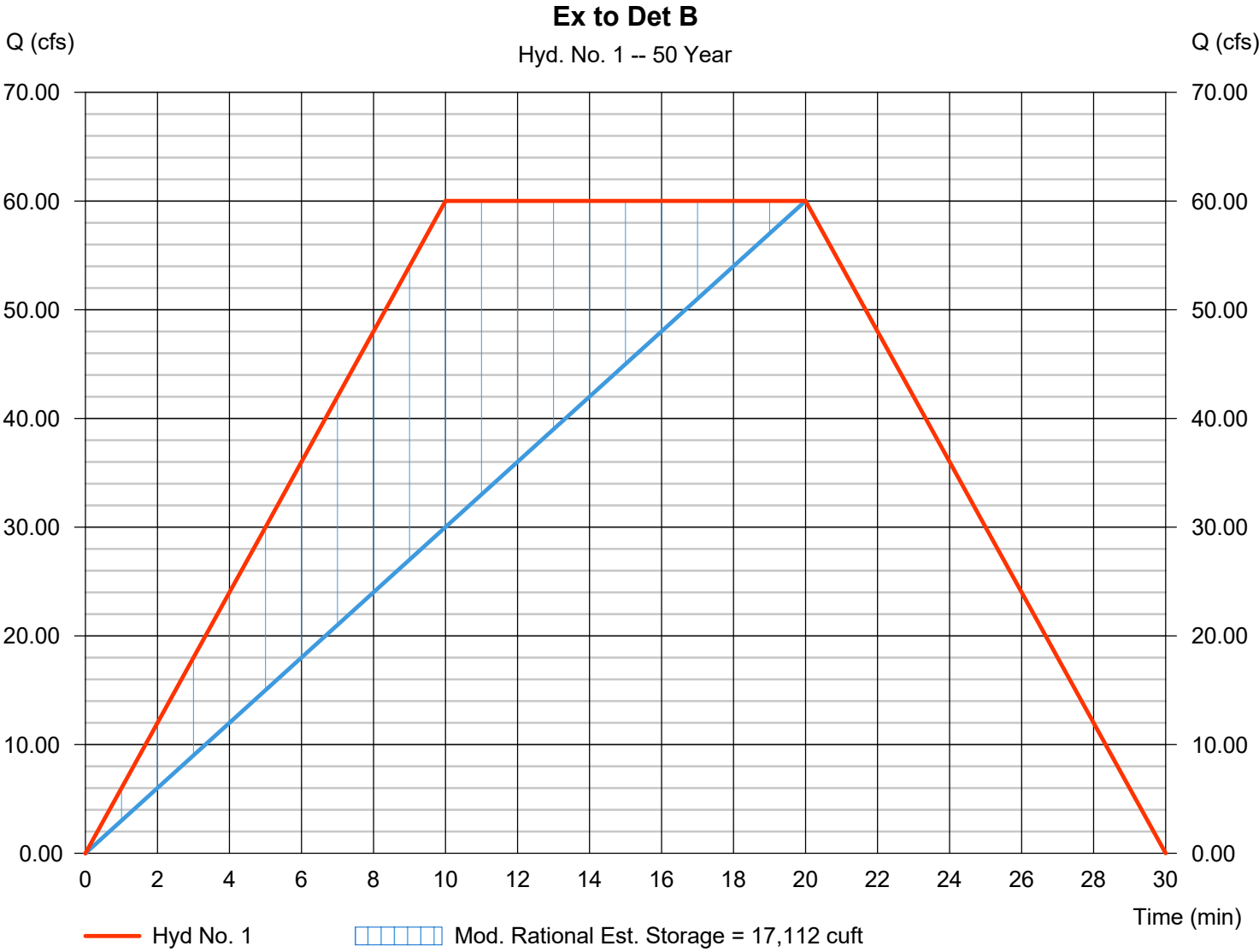
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Monday, 09 / 19 / 2022

Hyd. No. 1

Ex to Det B

Hydrograph type	= Mod. Rational	Peak discharge	= 60.01 cfs
Storm frequency	= 50 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 72,375 cuft
Drainage area	= 10.270 ac	Runoff coeff.	= 0.95
Intensity	= 6.151 in/hr	Tc by User	= 10.00 min
IDF Curve	= OKC.IDF	Storm duration	= 2.0 x Tc
Target Q	=60.00 cfs	Est. Req'd Storage	=17,112 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

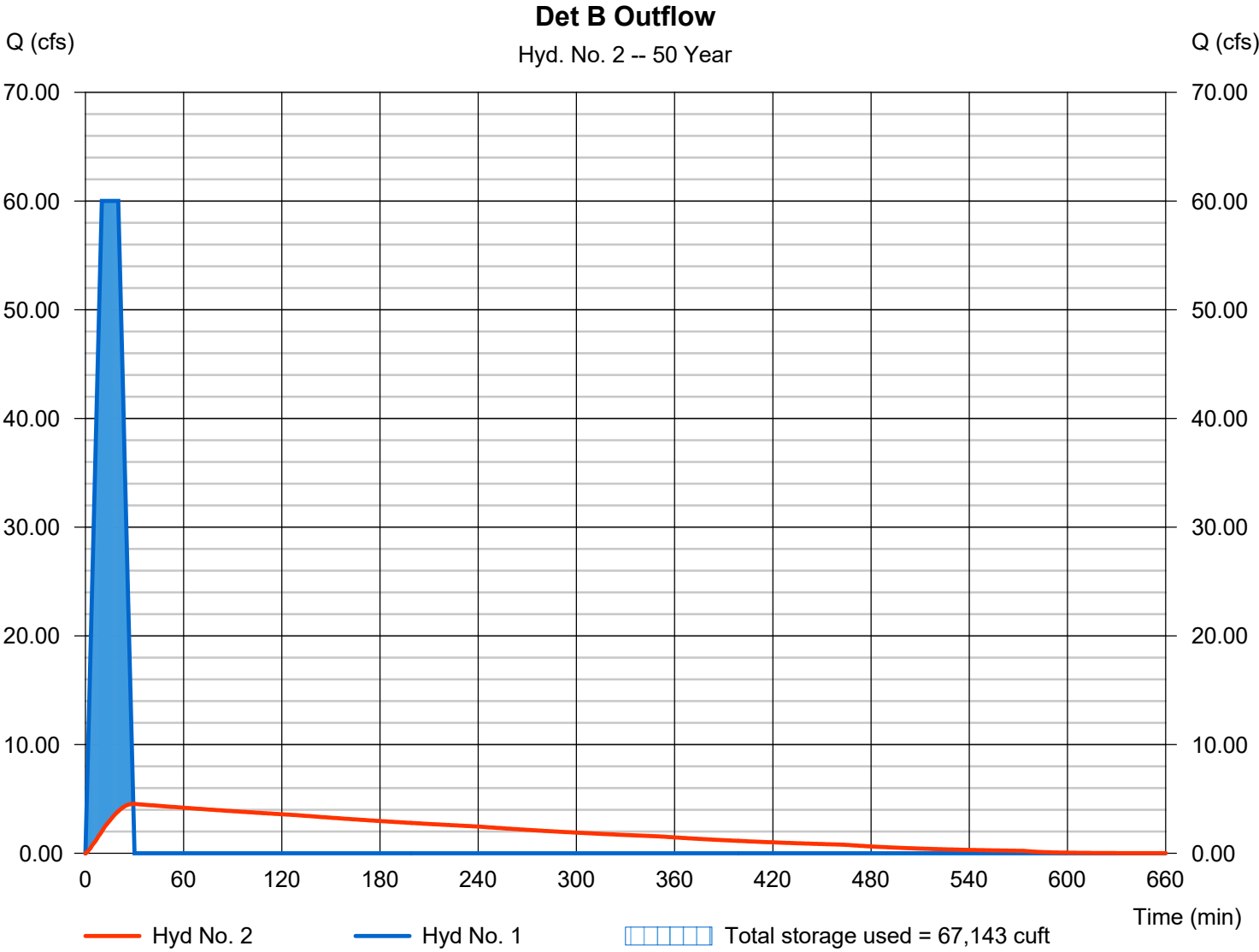
Monday, 09 / 19 / 2022

Hyd. No. 2

Det B Outflow

Hydrograph type	= Reservoir	Peak discharge	= 4.547 cfs
Storm frequency	= 50 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 72,011 cuft
Inflow hyd. No.	= 1 - Ex to Det B	Max. Elevation	= 1024.90 ft
Reservoir name	= Ex Det B	Max. Storage	= 67,143 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

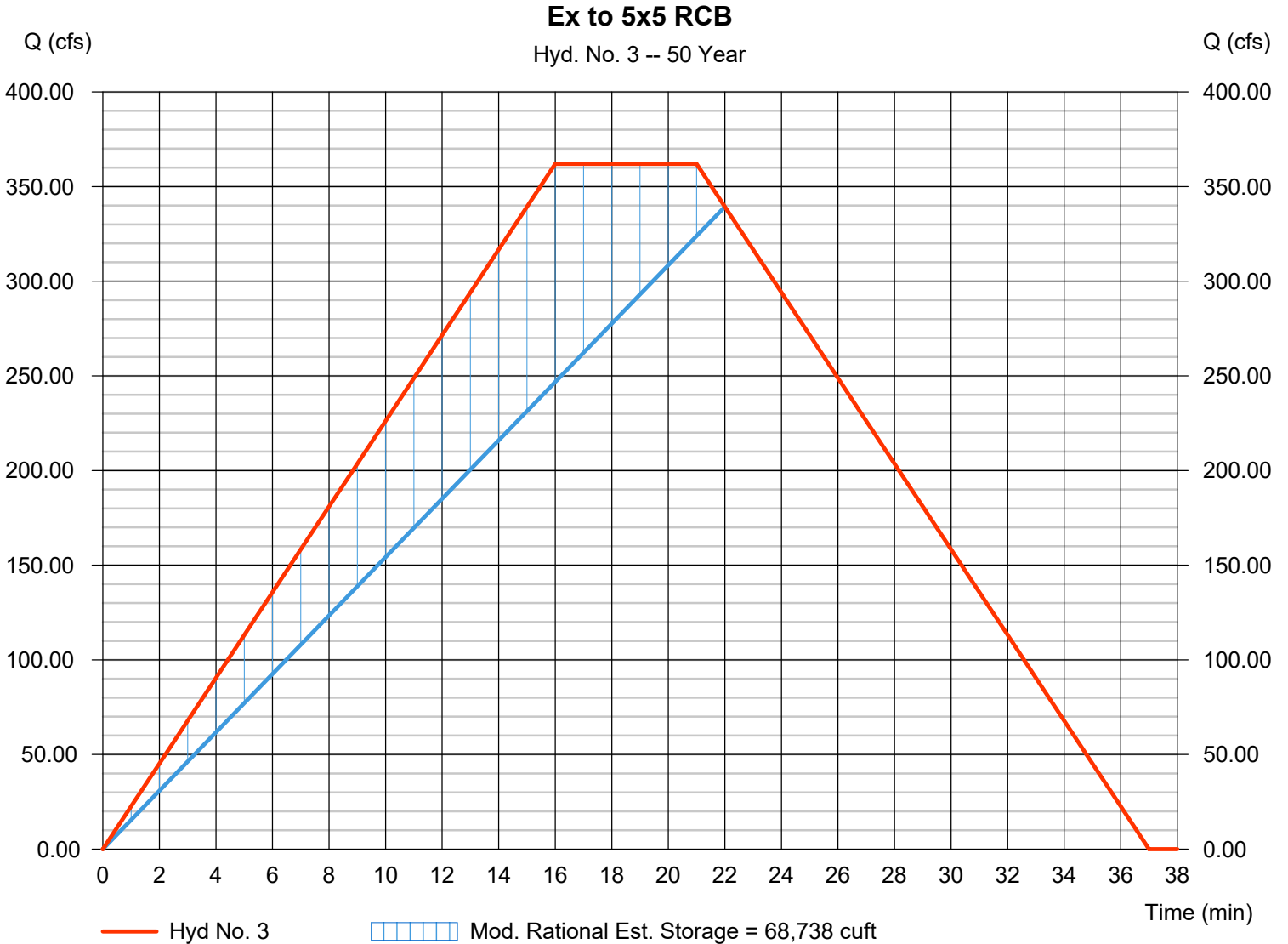
Monday, 09 / 19 / 2022

Hyd. No. 3

Ex to 5x5 RCB

Hydrograph type = Mod. Rational
Storm frequency = 50 yrs
Time interval = 1 min
Drainage area = 89.750 ac
Intensity = 6.019 in/hr
IDF Curve = OKC.IDF
Target Q = 350.00 cfs

Peak discharge = 361.94 cfs
Time to peak = 16 min
Hyd. volume = 458,656 cuft
Runoff coeff. = 0.67
Tc by User = 16.00 min
Storm duration = 1.3 x Tc
Est. Req'd Storage = 68,738 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

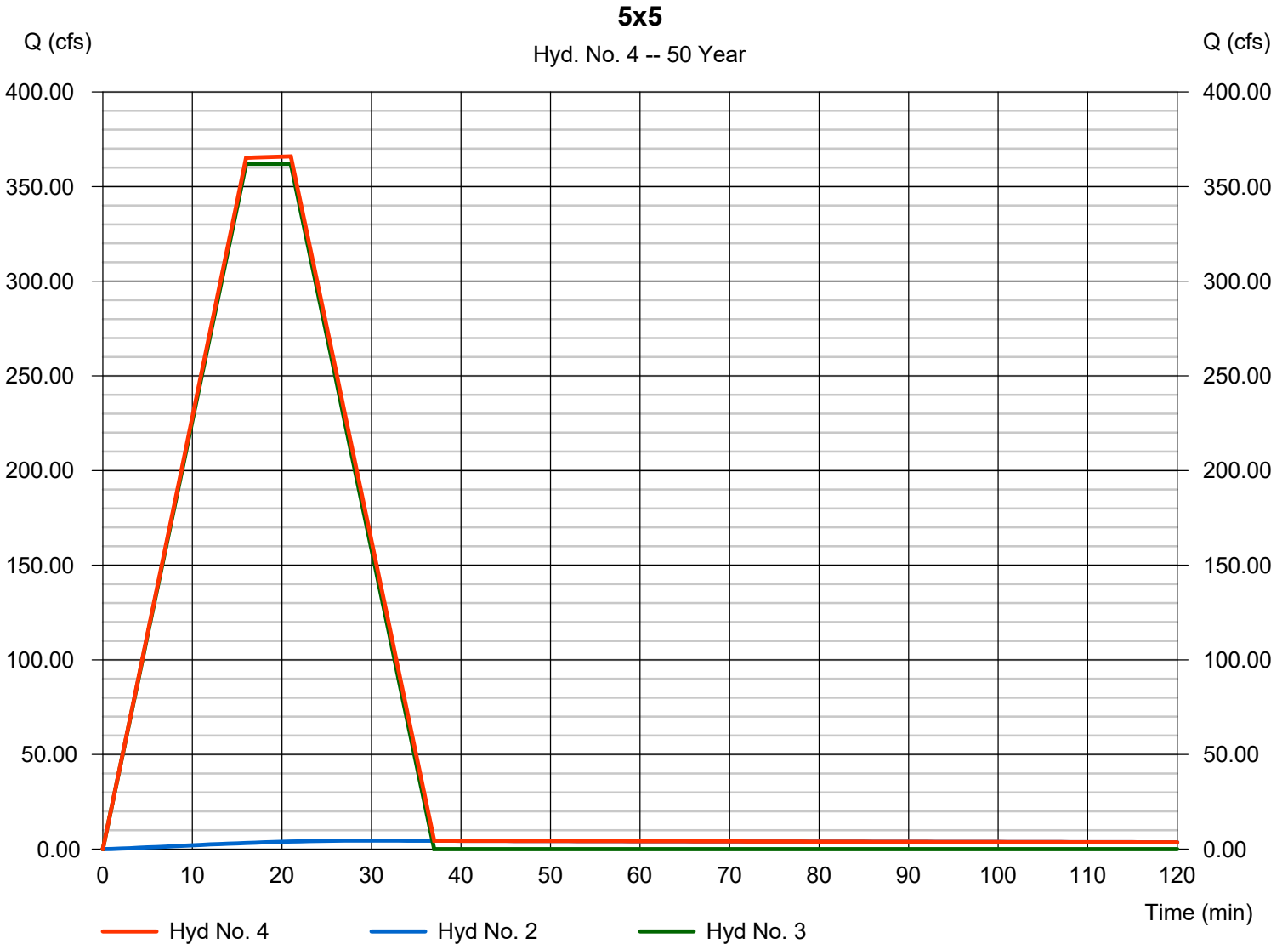
Monday, 09 / 19 / 2022

Hyd. No. 4

5x5

Hydrograph type = Combine
Storm frequency = 50 yrs
Time interval = 1 min
Inflow hyds. = 2, 3

Peak discharge = 365.95 cfs
Time to peak = 21 min
Hyd. volume = 528,061 cuft
Contrib. drain. area = 89.750 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

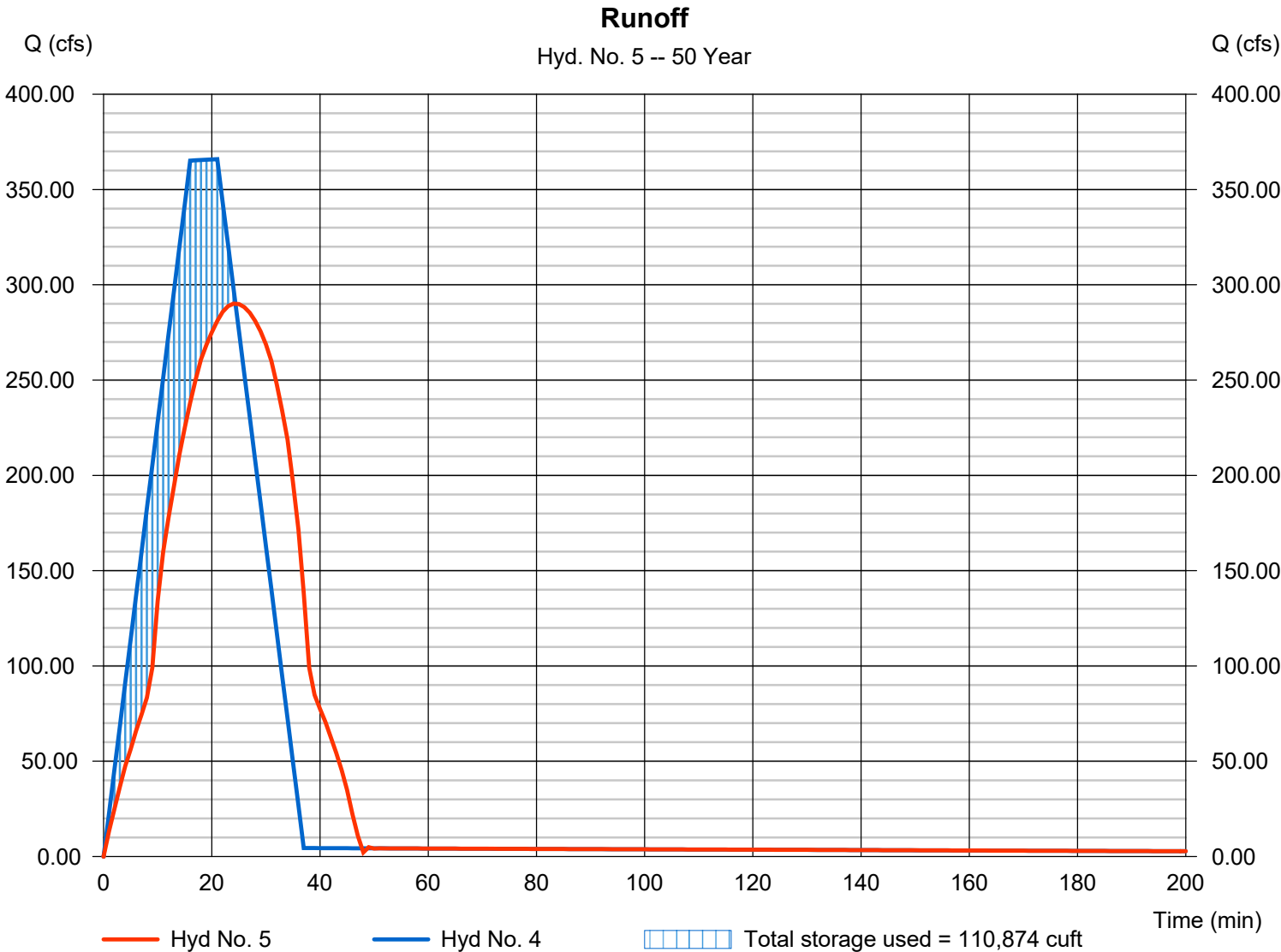
Monday, 09 / 19 / 2022

Hyd. No. 5

Runoff

Hydrograph type	= Reservoir	Peak discharge	= 290.10 cfs
Storm frequency	= 50 yrs	Time to peak	= 24 min
Time interval	= 1 min	Hyd. volume	= 528,035 cuft
Inflow hyd. No.	= 4 - 5x5	Max. Elevation	= 1016.69 ft
Reservoir name	= Ex Channel	Max. Storage	= 110,874 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description	
1	Mod. Rational	73.82	1	10	66,877	-----	-----	-----	Ex to Det B	
2	Reservoir	4.339	1	24	66,430	1	1024.72	62,532	Det B Outflow	
3	Mod. Rational	415.36	1	16	474,507	-----	-----	-----	Ex to 5x5 RCB	
4	Combine	419.41	1	19	539,940	2, 3	-----	-----	5x5	
5	Reservoir	305.73	1	23	539,912	4	1017.13	127,266	Runoff	
Existing Pond B & Channel.gpw					Return Period: 100 Year			Monday, 09 / 19 / 2022		

Hydrograph Report

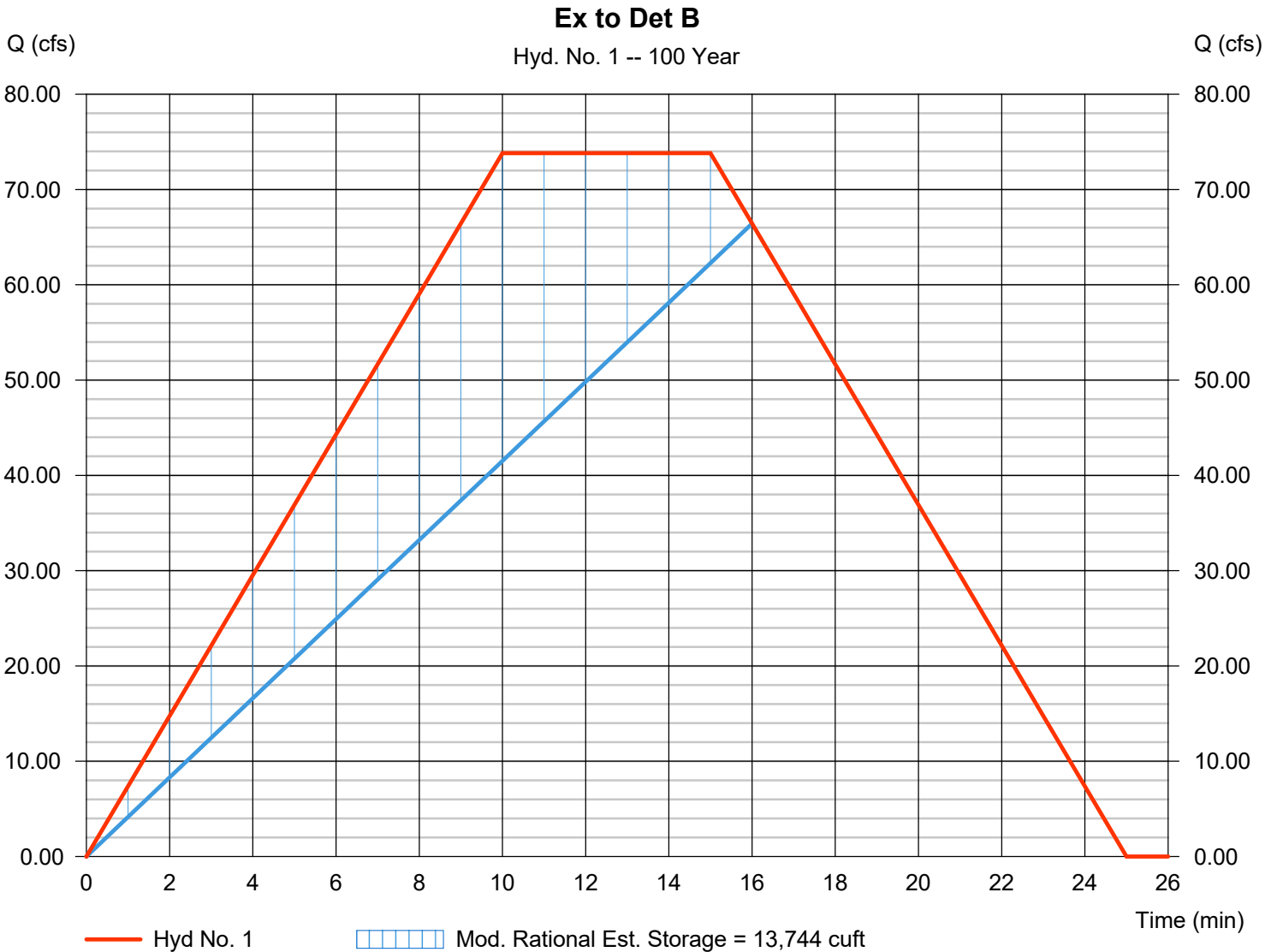
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Monday, 09 / 19 / 2022

Hyd. No. 1

Ex to Det B

Hydrograph type	= Mod. Rational	Peak discharge	= 73.82 cfs
Storm frequency	= 100 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 66,877 cuft
Drainage area	= 10.270 ac	Runoff coeff.	= 0.95
Intensity	= 7.566 in/hr	Tc by User	= 10.00 min
IDF Curve	= OKC.IDF	Storm duration	= 1.5 x Tc
Target Q	=70.00 cfs	Est. Req'd Storage	=13,744 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

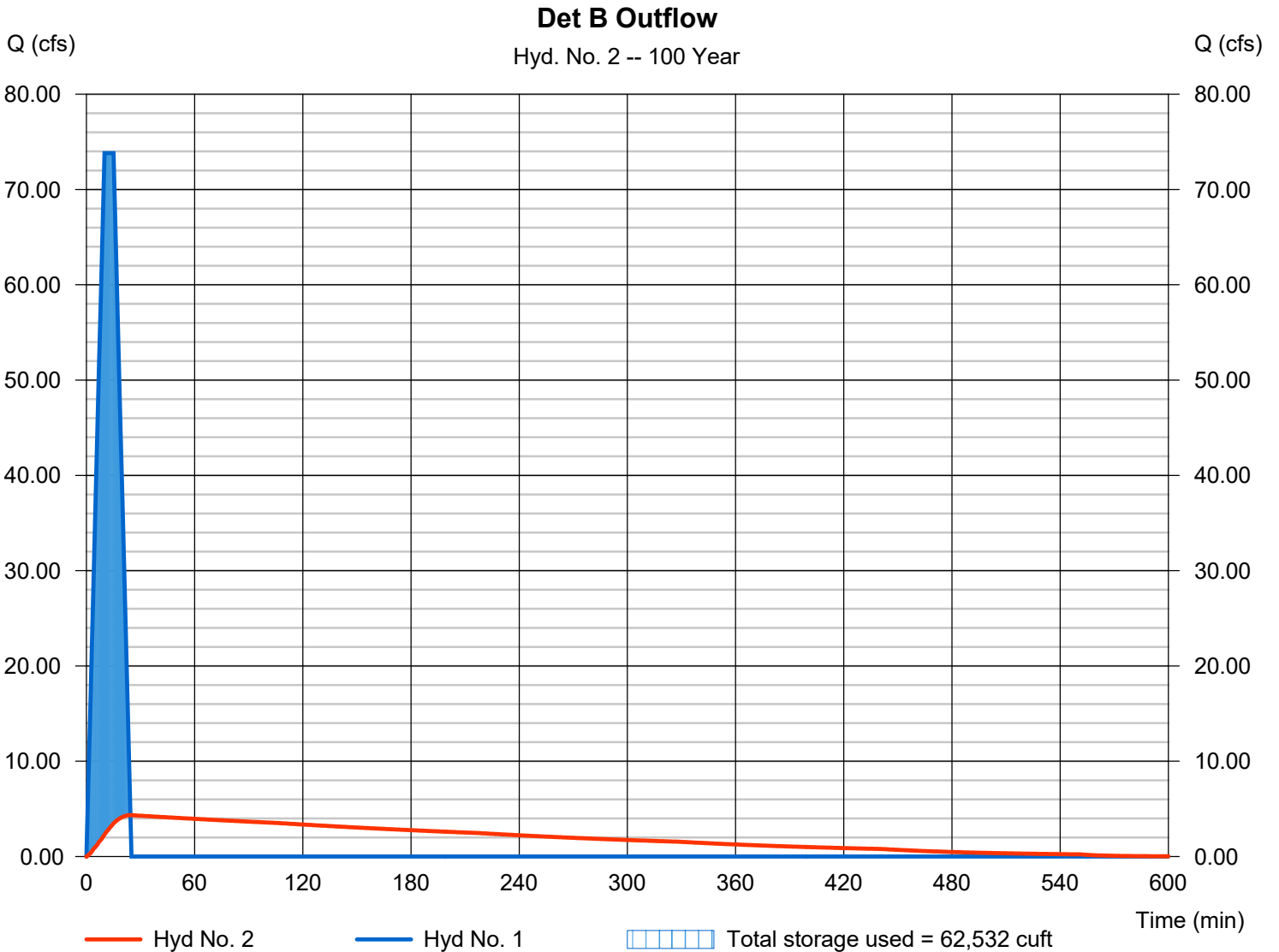
Monday, 09 / 19 / 2022

Hyd. No. 2

Det B Outflow

Hydrograph type	= Reservoir	Peak discharge	= 4.339 cfs
Storm frequency	= 100 yrs	Time to peak	= 24 min
Time interval	= 1 min	Hyd. volume	= 66,430 cuft
Inflow hyd. No.	= 1 - Ex to Det B	Max. Elevation	= 1024.72 ft
Reservoir name	= Ex Det B	Max. Storage	= 62,532 cuft

Storage Indication method used.



Hydrograph Report

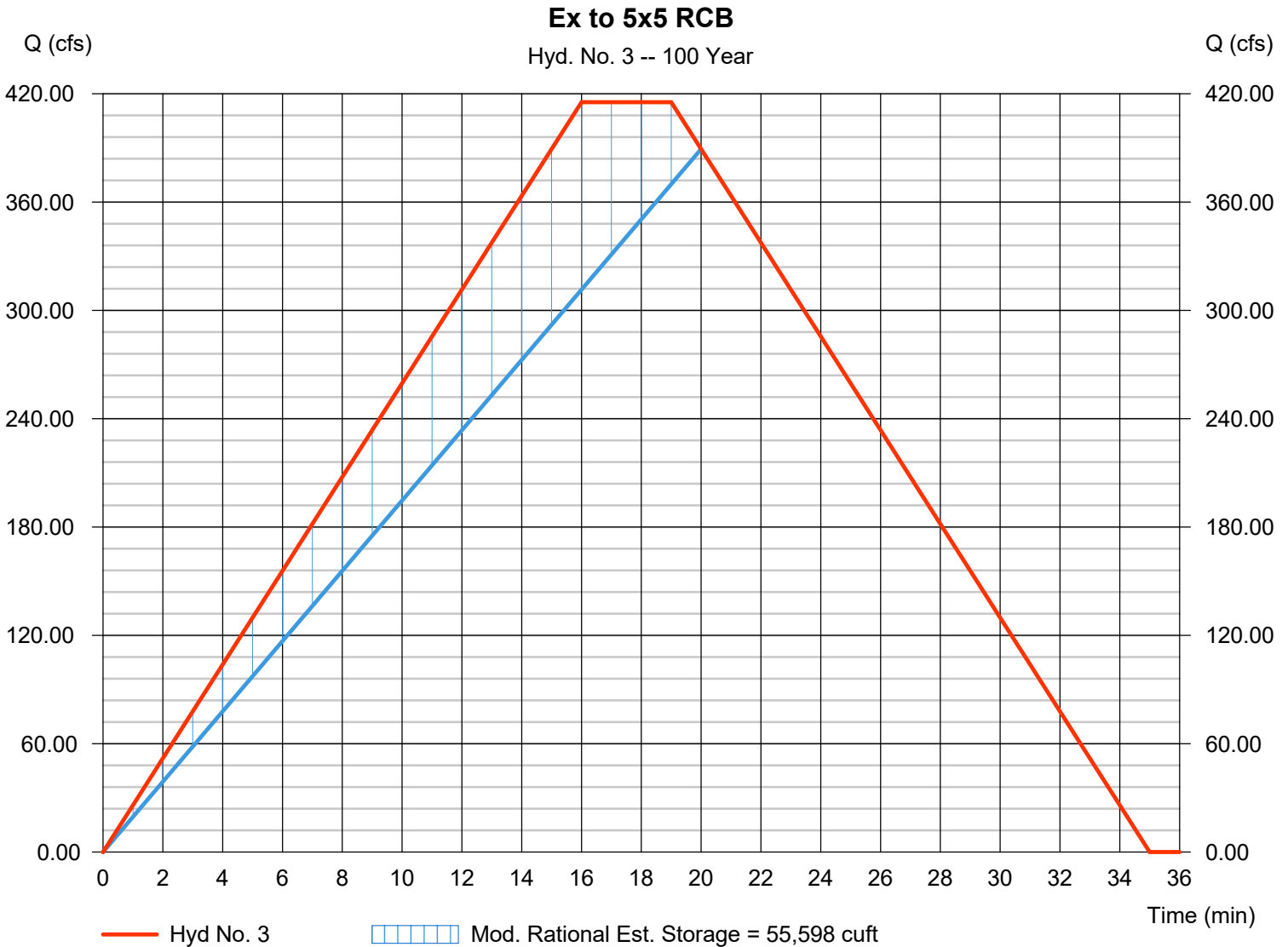
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Monday, 09 / 19 / 2022

Hyd. No. 3

Ex to 5x5 RCB

Hydrograph type	= Mod. Rational	Peak discharge	= 415.36 cfs
Storm frequency	= 100 yrs	Time to peak	= 16 min
Time interval	= 1 min	Hyd. volume	= 474,507 cuft
Drainage area	= 89.750 ac	Runoff coeff.	= 0.67
Intensity	= 6.907 in/hr	Tc by User	= 16.00 min
IDF Curve	= OKC.IDF	Storm duration	= 1.2 x Tc
Target Q	=400.00 cfs	Est. Req'd Storage	=55,598 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

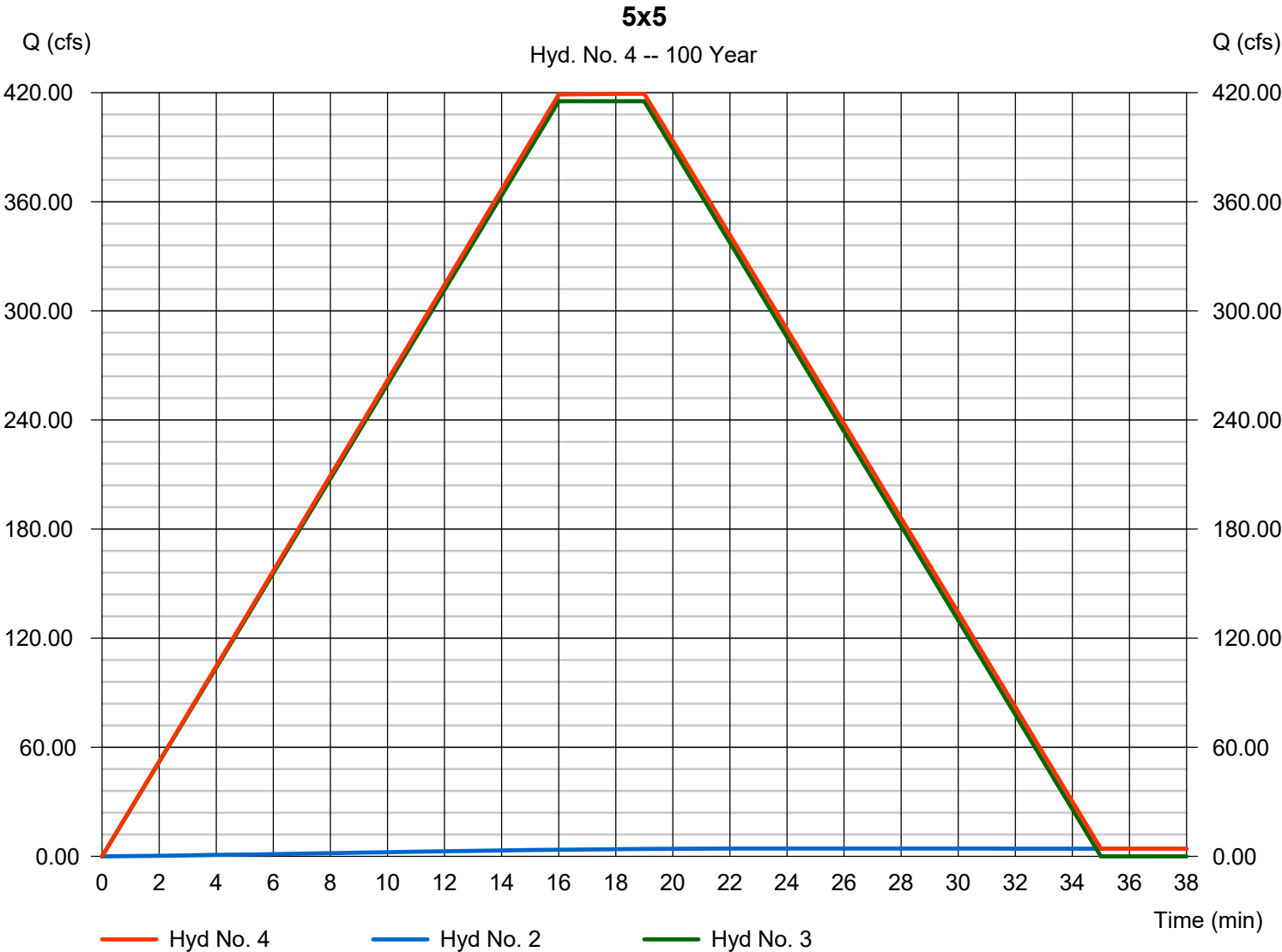
Monday, 09 / 19 / 2022

Hyd. No. 4

5x5

Hydrograph type = Combine
Storm frequency = 100 yrs
Time interval = 1 min
Inflow hyds. = 2, 3

Peak discharge = 419.41 cfs
Time to peak = 19 min
Hyd. volume = 539,940 cuft
Contrib. drain. area = 89.750 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

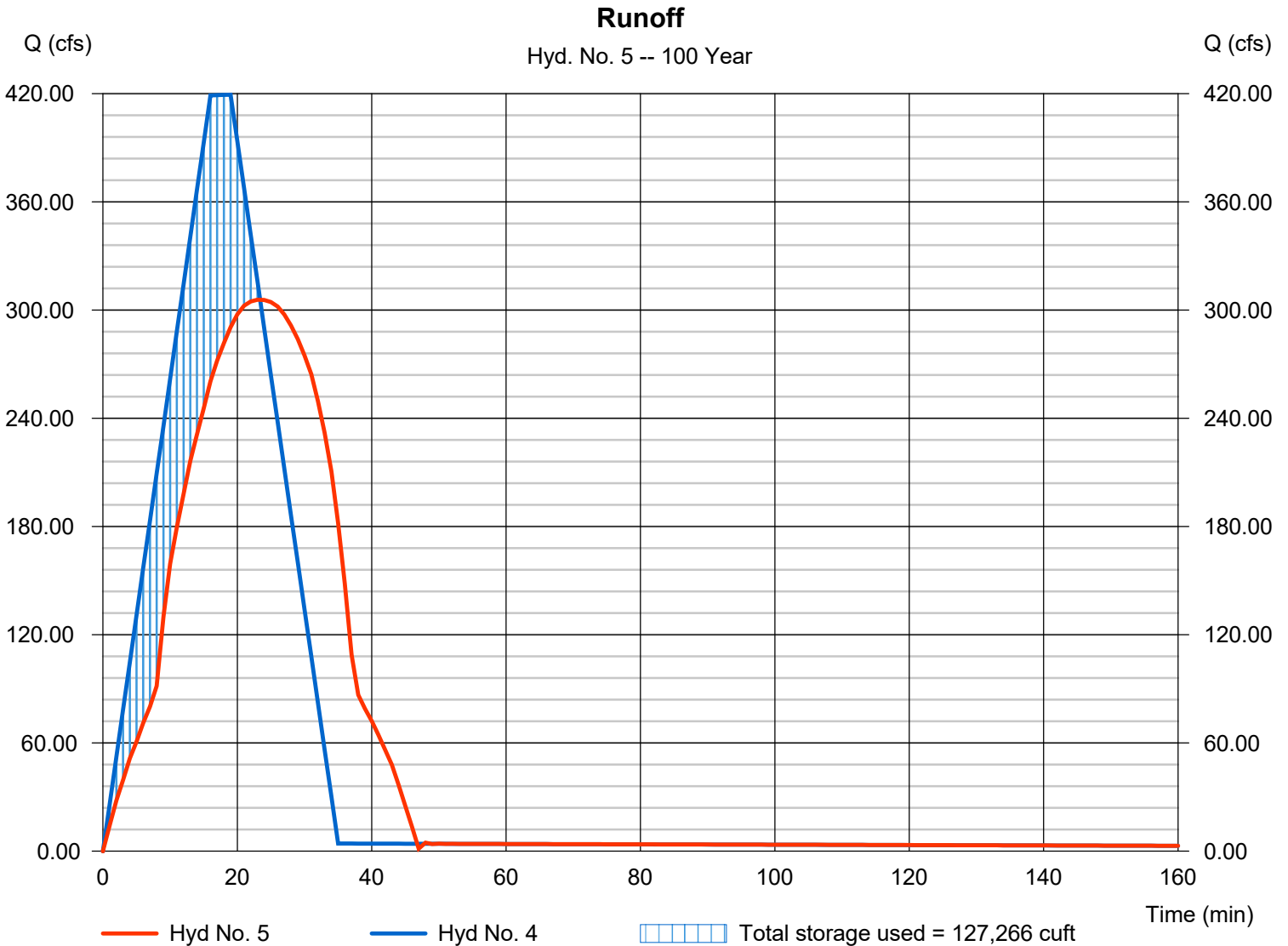
Monday, 09 / 19 / 2022

Hyd. No. 5

Runoff

Hydrograph type	= Reservoir	Peak discharge	= 305.73 cfs
Storm frequency	= 100 yrs	Time to peak	= 23 min
Time interval	= 1 min	Hyd. volume	= 539,912 cuft
Inflow hyd. No.	= 4 - 5x5	Max. Elevation	= 1017.13 ft
Reservoir name	= Ex Channel	Max. Storage	= 127,266 cuft

Storage Indication method used.



Watershed Model Schematic.....	1
2 - Year	
Summary Report.....	2
Hydrograph Reports.....	3
Hydrograph No. 1, Mod. Rational, Ex to Det B.....	3
Hydrograph No. 2, Reservoir, Det B Outflow.....	4
Pond Report - Ex Det B.....	5
Hydrograph No. 3, Mod. Rational, Ex to 5x5 RCB.....	6
Hydrograph No. 4, Combine, 5x5.....	7
Hydrograph No. 5, Reservoir, Runoff.....	8
Pond Report - Ex Channel.....	9
5 - Year	
Summary Report.....	10
Hydrograph Reports.....	11
Hydrograph No. 1, Mod. Rational, Ex to Det B.....	11
Hydrograph No. 2, Reservoir, Det B Outflow.....	12
Hydrograph No. 3, Mod. Rational, Ex to 5x5 RCB.....	13
Hydrograph No. 4, Combine, 5x5.....	14
Hydrograph No. 5, Reservoir, Runoff.....	15
10 - Year	
Summary Report.....	16
Hydrograph Reports.....	17
Hydrograph No. 1, Mod. Rational, Ex to Det B.....	17
Hydrograph No. 2, Reservoir, Det B Outflow.....	18
Hydrograph No. 3, Mod. Rational, Ex to 5x5 RCB.....	19
Hydrograph No. 4, Combine, 5x5.....	20
Hydrograph No. 5, Reservoir, Runoff.....	21
25 - Year	
Summary Report.....	22
Hydrograph Reports.....	23
Hydrograph No. 1, Mod. Rational, Ex to Det B.....	23
Hydrograph No. 2, Reservoir, Det B Outflow.....	24
Hydrograph No. 3, Mod. Rational, Ex to 5x5 RCB.....	25
Hydrograph No. 4, Combine, 5x5.....	26
Hydrograph No. 5, Reservoir, Runoff.....	27
50 - Year	
Summary Report.....	28
Hydrograph Reports.....	29
Hydrograph No. 1, Mod. Rational, Ex to Det B.....	29
Hydrograph No. 2, Reservoir, Det B Outflow.....	30
Hydrograph No. 3, Mod. Rational, Ex to 5x5 RCB.....	31
Hydrograph No. 4, Combine, 5x5.....	32
Hydrograph No. 5, Reservoir, Runoff.....	33

100 - Year

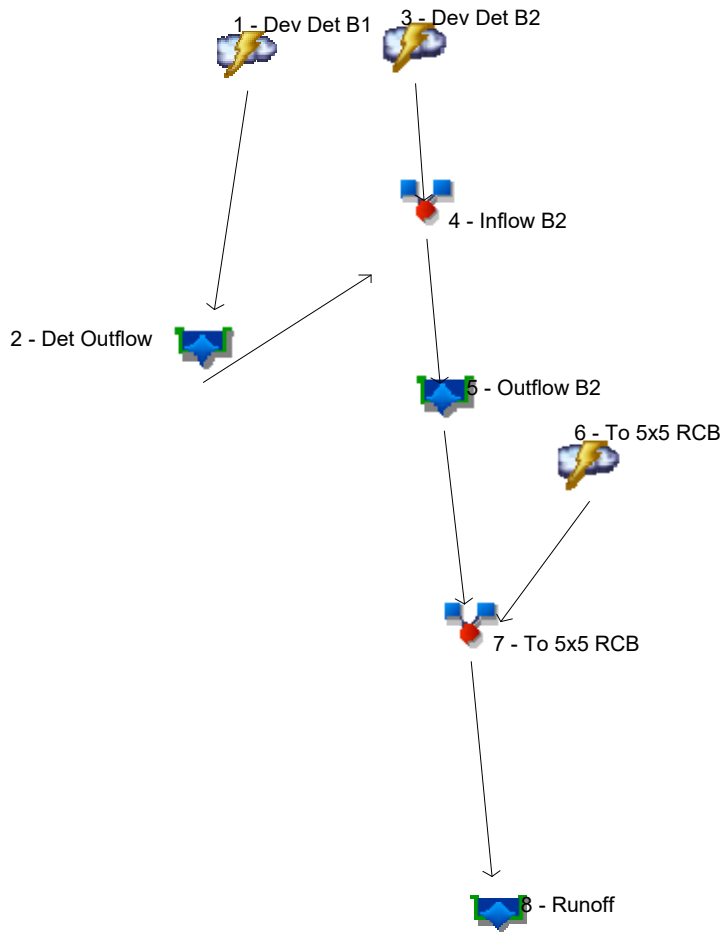
Summary Report.....	34
Hydrograph Reports.....	35
Hydrograph No. 1, Mod. Rational, Ex to Det B.....	35
Hydrograph No. 2, Reservoir, Det B Outflow.....	36
Hydrograph No. 3, Mod. Rational, Ex to 5x5 RCB.....	37
Hydrograph No. 4, Combine, 5x5.....	38
Hydrograph No. 5, Reservoir, Runoff.....	39

Appendix C

Detention Basin
2, 5, 10, 25, 50 & 100-Year Storm Routing &
Detention Basin Reservoir
Revised Ponds B1 & B2 and
New Pond with Cipoletti Weir

Watershed Model Schematic

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021



Legend

Hyd.	Origin	Description
1	Mod. Rational	Dev Det B1
2	Reservoir	Det Outflow
3	Mod. Rational	Dev Det B2
4	Combine	Inflow B2
5	Reservoir	Outflow B2
6	Mod. Rational	To 5x5 RCB
7	Combine	To 5x5 RCB
8	Reservoir	Runoff

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Mod. Rational	13.57	1	10	25,325	-----	-----	-----	Dev Det B1
2	Reservoir	13.59	1	11	25,245	1	1025.41	19.8	Det Outflow
3	Mod. Rational	13.48	1	10	28,392	-----	-----	-----	Dev Det B2
4	Combine	27.08	1	11	53,556	2, 3	-----	-----	Inflow B2
5	Reservoir	25.04	1	33	53,555	4	1022.99	8,810	Outflow B2
6	Mod. Rational	221.56	1	16	321,167	-----	-----	-----	To 5x5 RCB
7	Combine	245.36	1	24	372,596	5, 6	-----	-----	To 5x5 RCB
8	Reservoir	164.88	1	30	372,577	7	1015.46	148,719	Runoff

Hydrograph Report

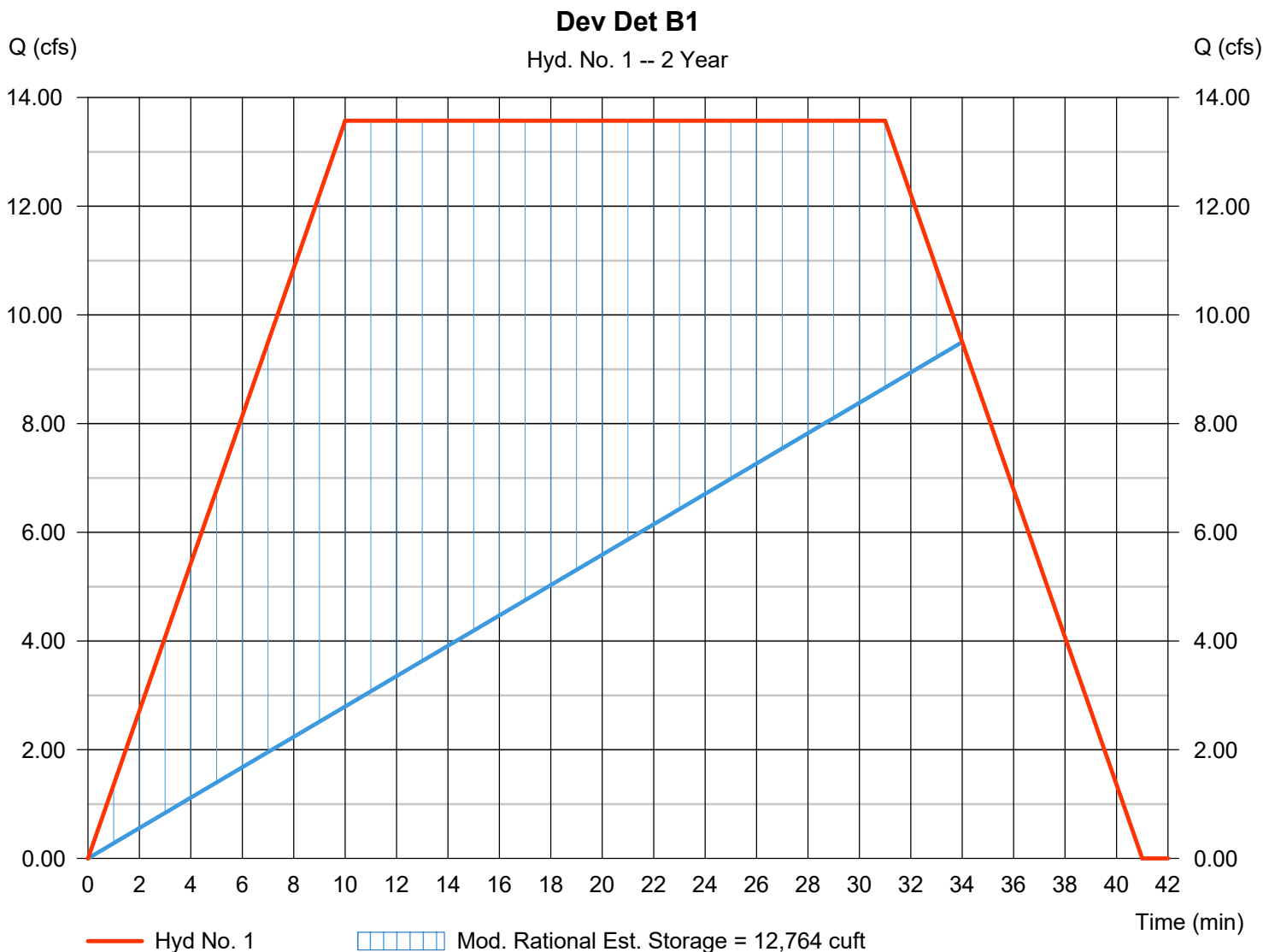
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Friday, 12 / 23 / 2022

Hyd. No. 1

Dev Det B1

Hydrograph type	= Mod. Rational	Peak discharge	= 13.57 cfs
Storm frequency	= 2 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 25,325 cuft
Drainage area	= 5.150 ac	Runoff coeff.	= 0.95
Intensity	= 2.774 in/hr	Tc by User	= 10.00 min
IDF Curve	= OKC.IDF	Storm duration	= 3.1 x Tc
Target Q	=10.00 cfs	Est. Req'd Storage	=12,764 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

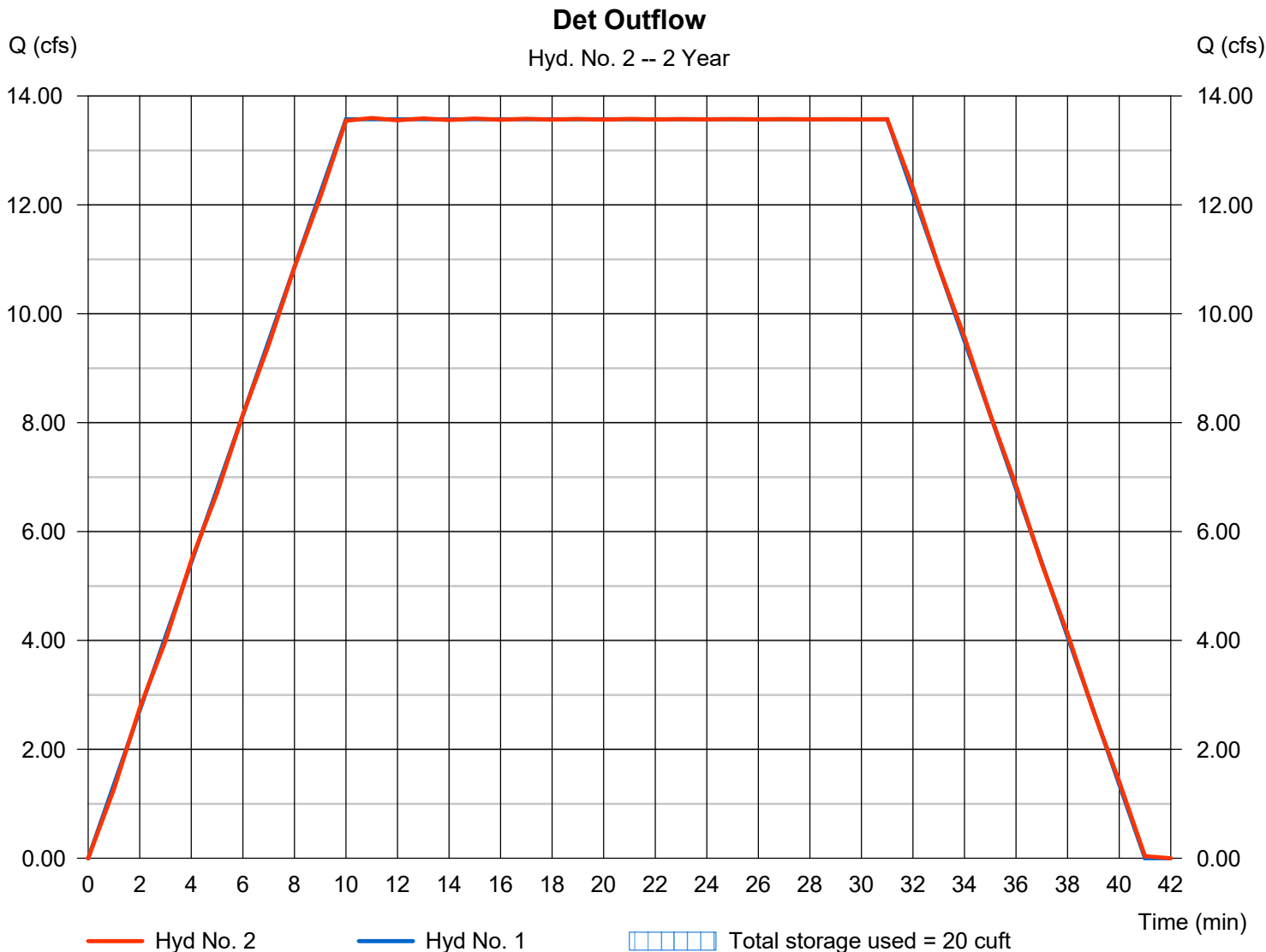
Friday, 12 / 23 / 2022

Hyd. No. 2

Det Outflow

Hydrograph type	= Reservoir	Peak discharge	= 13.59 cfs
Storm frequency	= 2 yrs	Time to peak	= 11 min
Time interval	= 1 min	Hyd. volume	= 25,245 cuft
Inflow hyd. No.	= 1 - Dev Det B1	Max. Elevation	= 1025.41 ft
Reservoir name	= Det B1	Max. Storage	= 20 cuft

Storage Indication method used.



Pond No. 1 - Det B1

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 1021.70 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	1021.70	00	0	0
4.80	1026.50	16	26	26
5.30	1027.00	2,661	481	506
6.30	1028.00	4,527	3,553	4,059
7.30	1029.00	6,484	5,476	9,534
8.30	1030.00	8,536	7,486	17,020

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 18.00	0.00	0.00	0.00
Span (in)	= 18.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1021.70	0.00	0.00	0.00
Length (ft)	= 95.80	0.00	0.00	0.00
Slope (%)	= 0.80	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000	(by Contour)		
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	1021.70	0.00	---	---	---	---	---	---	---	---	---	0.000
4.80	26	1026.50	15.91 oc	---	---	---	---	---	---	---	---	---	15.91
5.30	506	1027.00	16.86 oc	---	---	---	---	---	---	---	---	---	16.86
6.30	4,059	1028.00	18.61 oc	---	---	---	---	---	---	---	---	---	18.61
7.30	9,534	1029.00	20.21 oc	---	---	---	---	---	---	---	---	---	20.21
8.30	17,020	1030.00	21.70 oc	---	---	---	---	---	---	---	---	---	21.70

Hydrograph Report

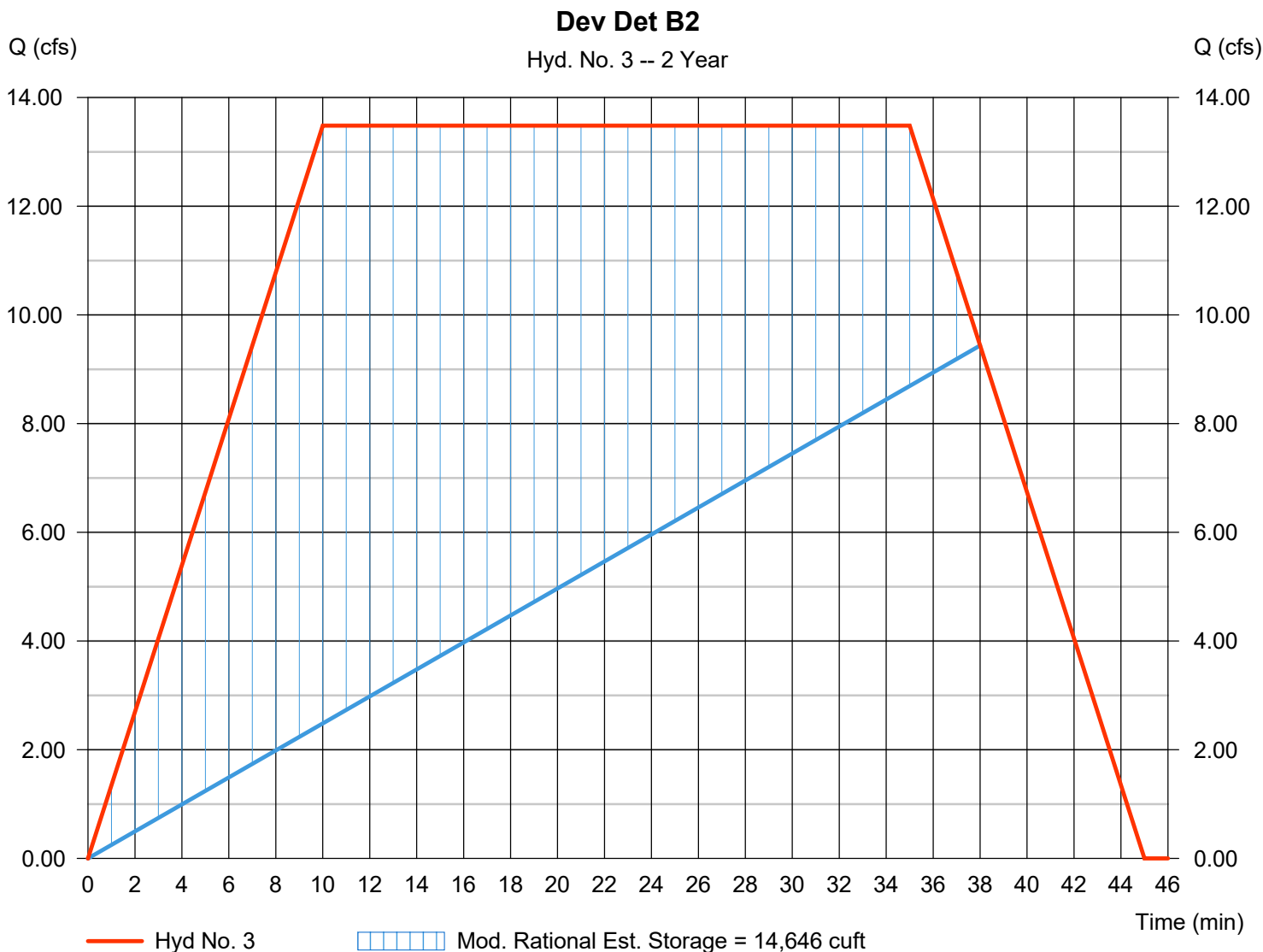
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Friday, 12 / 23 / 2022

Hyd. No. 3

Dev Det B2

Hydrograph type	= Mod. Rational	Peak discharge	= 13.48 cfs
Storm frequency	= 2 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 28,392 cuft
Drainage area	= 5.510 ac	Runoff coeff.	= 0.95
Intensity	= 2.576 in/hr	Tc by User	= 10.00 min
IDF Curve	= OKC.IDF	Storm duration	= 3.5 x Tc
Target Q	= 10.00 cfs	Est. Req'd Storage	= 14,646 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

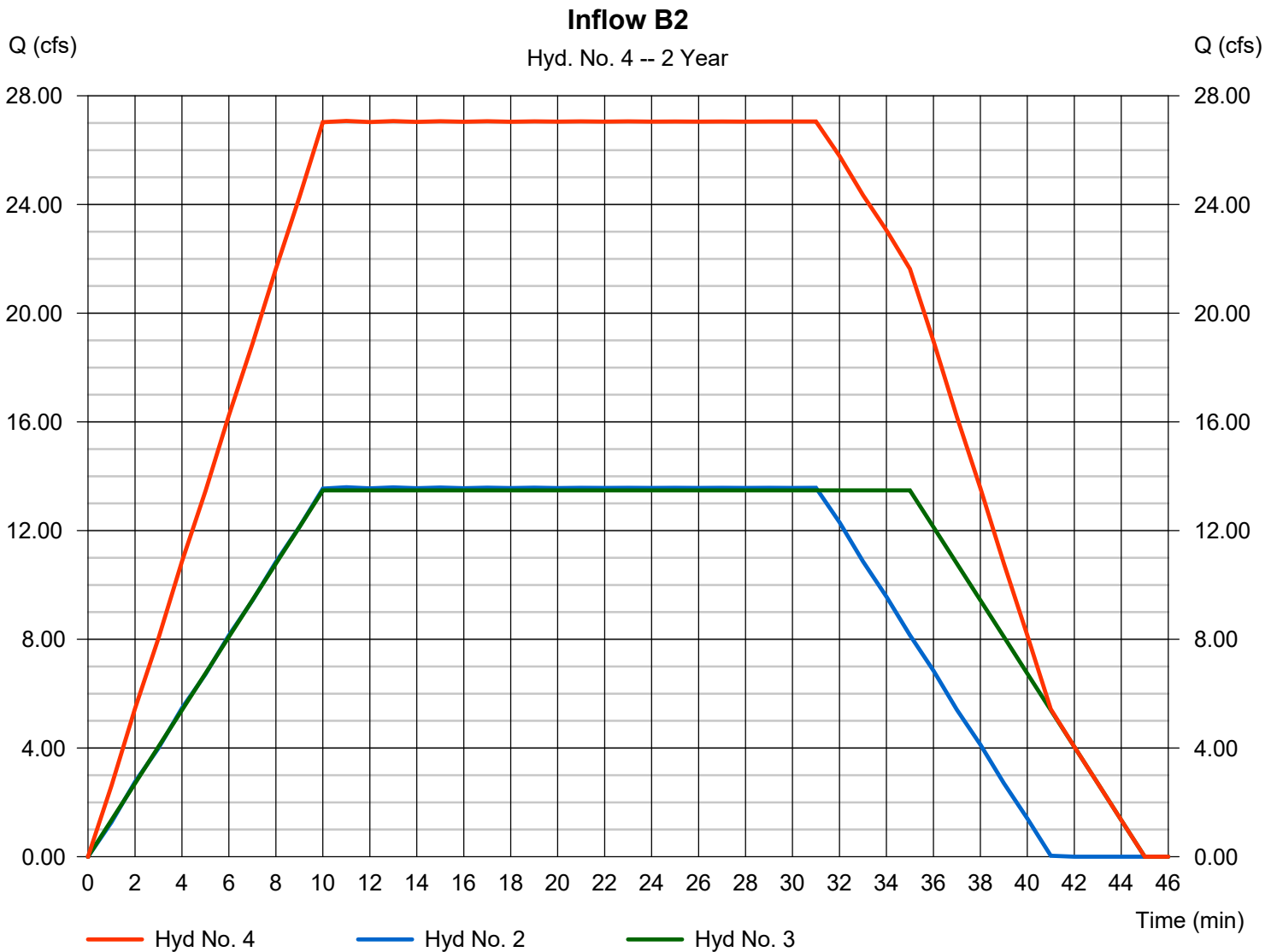
Friday, 12 / 23 / 2022

Hyd. No. 4

Inflow B2

Hydrograph type = Combine
 Storm frequency = 2 yrs
 Time interval = 1 min
 Inflow hyds. = 2, 3

Peak discharge = 27.08 cfs
 Time to peak = 11 min
 Hyd. volume = 53,556 cuft
 Contrib. drain. area = 5.510 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

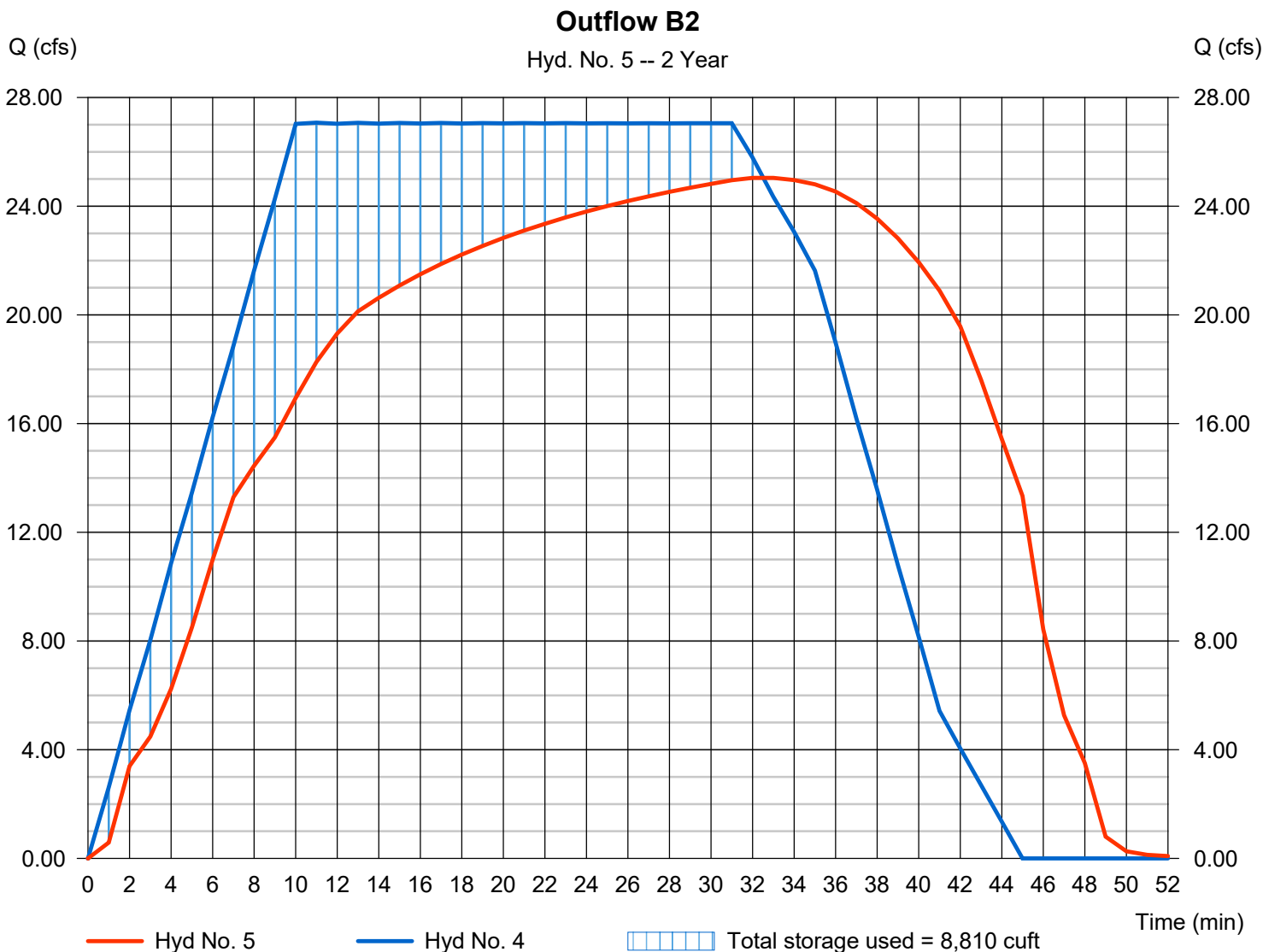
Friday, 12 / 23 / 2022

Hyd. No. 5

Outflow B2

Hydrograph type	= Reservoir	Peak discharge	= 25.04 cfs
Storm frequency	= 2 yrs	Time to peak	= 33 min
Time interval	= 1 min	Hyd. volume	= 53,555 cuft
Inflow hyd. No.	= 4 - Inflow B2	Max. Elevation	= 1022.99 ft
Reservoir name	= Det B2	Max. Storage	= 8,810 cuft

Storage Indication method used.



Pond No. 2 - Det B2

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 1019.25 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	1019.25	00	0	0
0.75	1020.00	596	149	149
1.75	1021.00	2,200	1,314	1,463
2.75	1022.00	3,630	2,885	4,348
3.75	1023.00	5,432	4,500	8,848
4.75	1024.00	7,530	6,452	15,300
5.75	1025.00	10,048	8,758	24,058
6.75	1026.00	12,683	11,339	35,397

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 24.00	0.00	0.00	0.00
Span (in)	= 24.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 1019.25	0.00	0.00	0.00
Length (ft)	= 93.60	0.00	0.00	0.00
Slope (%)	= 1.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 0.00	0.00	0.00	0.00
Crest El. (ft)	= 0.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= ---	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000	(by Wet area)		
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Civ A cfs	Civ B cfs	Civ C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	1019.25	0.00	---	---	---	---	---	---	---	---	---	0.000
0.75	149	1020.00	3.18 ic	---	---	---	---	---	---	---	---	---	3.180
1.75	1,463	1021.00	13.13 ic	---	---	---	---	---	---	---	---	---	13.13
2.75	4,348	1022.00	20.01 ic	---	---	---	---	---	---	---	---	---	20.01
3.75	8,848	1023.00	25.08 ic	---	---	---	---	---	---	---	---	---	25.08
4.75	15,300	1024.00	29.29 ic	---	---	---	---	---	---	---	---	---	29.29
5.75	24,058	1025.00	32.96 ic	---	---	---	---	---	---	---	---	---	32.96
6.75	35,397	1026.00	36.27 ic	---	---	---	---	---	---	---	---	---	36.27

Hydrograph Report

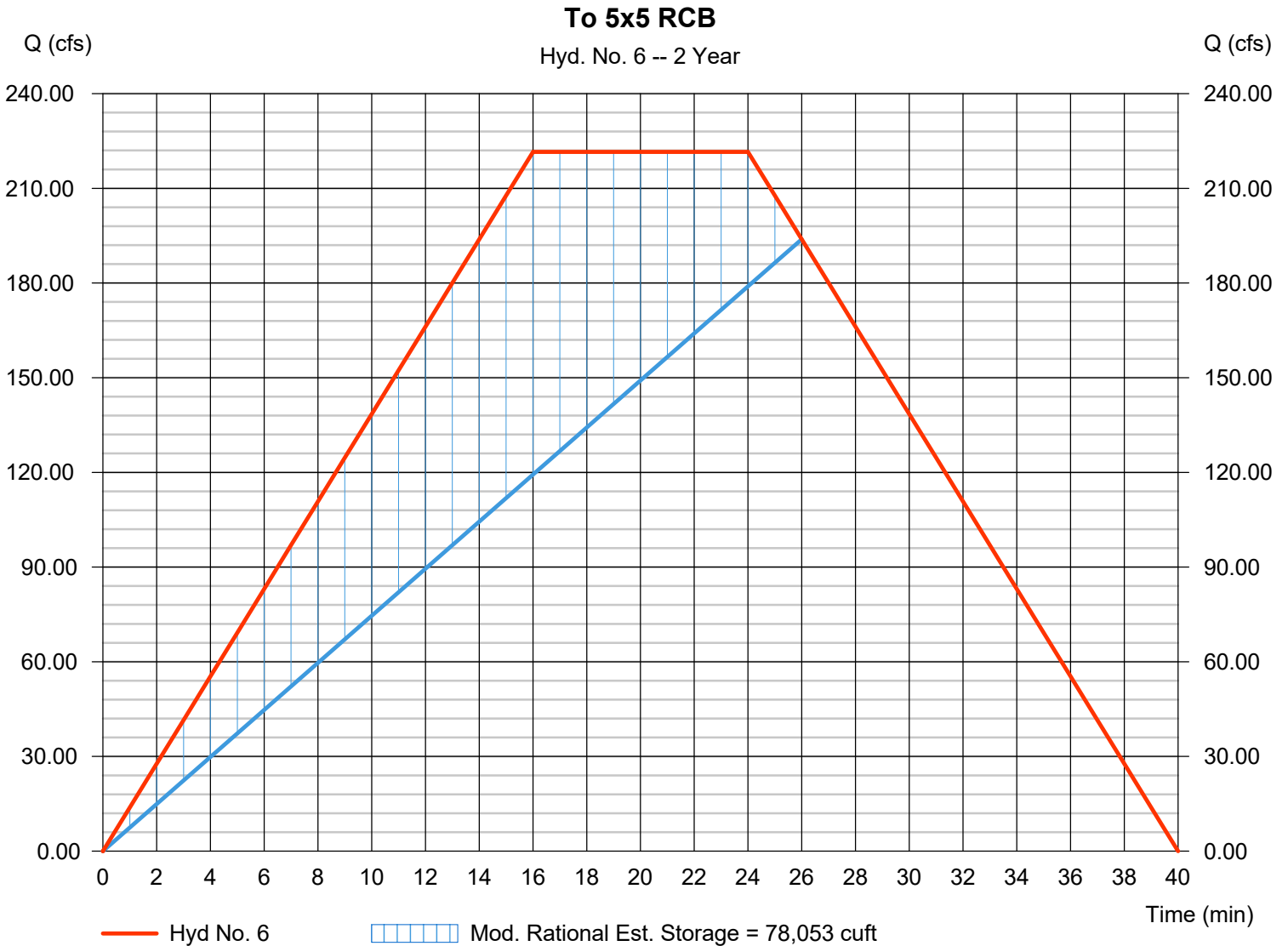
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Friday, 12 / 23 / 2022

Hyd. No. 6

To 5x5 RCB

Hydrograph type	= Mod. Rational	Peak discharge	= 221.56 cfs
Storm frequency	= 2 yrs	Time to peak	= 16 min
Time interval	= 1 min	Hyd. volume	= 321,167 cuft
Drainage area	= 89.750 ac	Runoff coeff.	= 0.77
Intensity	= 3.206 in/hr	Tc by User	= 16.00 min
IDF Curve	= OKC.IDF	Storm duration	= 1.5 x Tc
Target Q	=200.00 cfs	Est. Req'd Storage	=78,053 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Friday, 12 / 23 / 2022

Hyd. No. 7

To 5x5 RCB

Hydrograph type = Combine
Storm frequency = 2 yrs
Time interval = 1 min
Inflow hyds. = 5, 6

Peak discharge = 245.36 cfs
Time to peak = 24 min
Hyd. volume = 372,596 cuft
Contrib. drain. area = 89.750 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

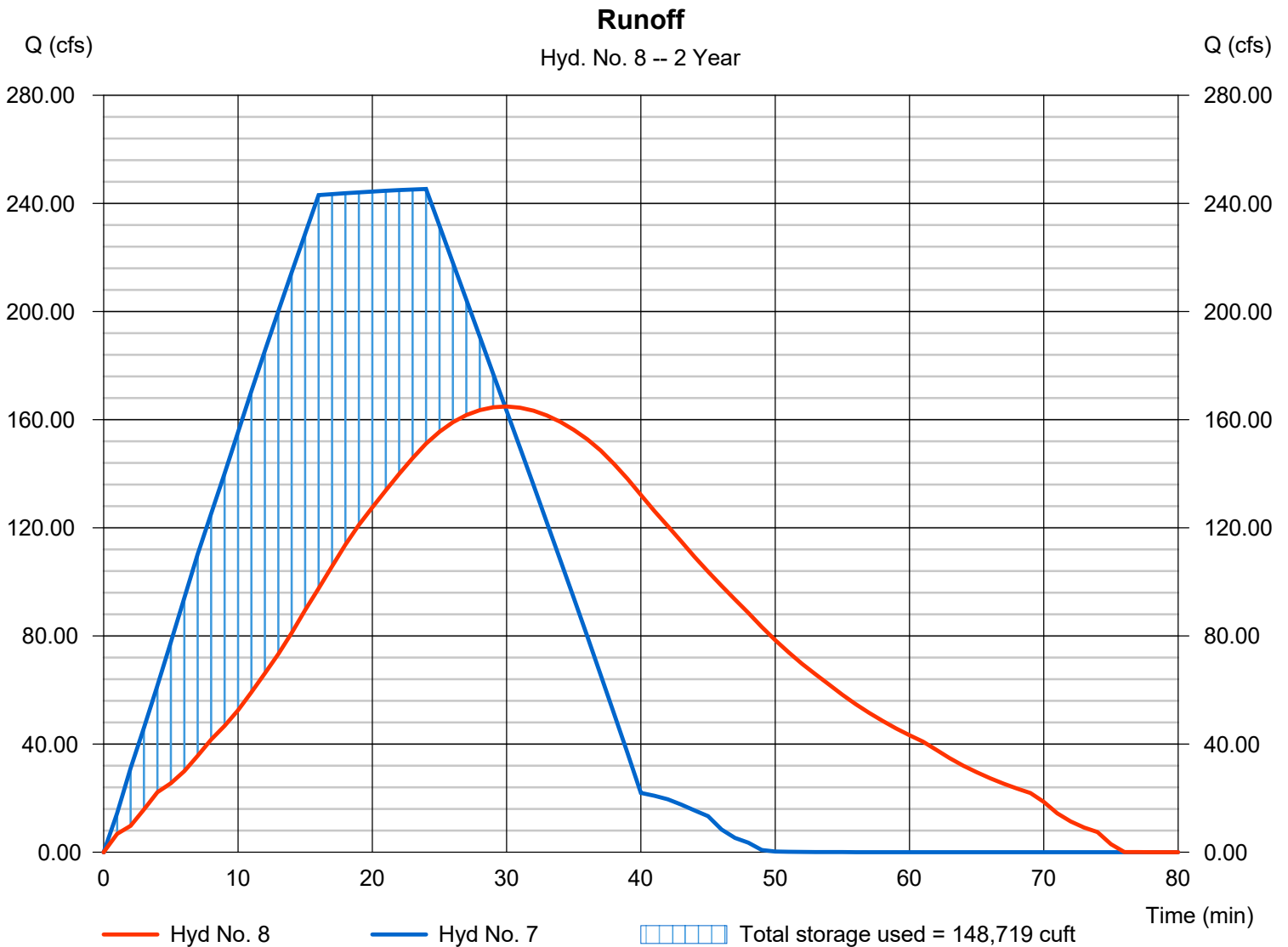
Friday, 12 / 23 / 2022

Hyd. No. 8

Runoff

Hydrograph type	= Reservoir	Peak discharge	= 164.88 cfs
Storm frequency	= 2 yrs	Time to peak	= 30 min
Time interval	= 1 min	Hyd. volume	= 372,577 cuft
Inflow hyd. No.	= 7 - To 5x5 RCB	Max. Elevation	= 1015.46 ft
Reservoir name	= Proposed	Max. Storage	= 148,719 cuft

Storage Indication method used.



Pond Report

Pond No. 3 - Proposed

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 1008.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	1008.00	23	0	0
1.00	1009.00	426	183	183
2.00	1010.00	8,664	3,670	3,853
3.00	1011.00	21,276	14,504	18,357
4.00	1012.00	24,538	22,885	41,242
5.00	1013.00	27,873	26,185	67,427
6.00	1014.00	31,648	29,738	97,165
7.00	1015.00	36,229	33,909	131,074
8.00	1016.00	40,517	38,349	169,423
9.00	1017.00	45,901	43,177	212,600
10.00	1018.00	51,646	48,740	261,341
11.00	1019.00	59,210	55,379	316,720

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 2.50	4.00	0.00	0.00
Crest El. (ft)	= 1008.14	1016.50	0.00	0.00
Weir Coeff.	= 3.33	2.60	3.33	3.33
Weir Type	= Ciplti	Broad	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Wet area)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Civ A cfs	Civ B cfs	Civ C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	1008.00	---	---	---	---	0.00	0.00	---	---	---	---	0.000
1.00	183	1009.00	---	---	---	---	6.64	0.00	---	---	---	---	6.639
2.00	3,853	1010.00	---	---	---	---	21.12	0.00	---	---	---	---	21.12
3.00	18,357	1011.00	---	---	---	---	40.27	0.00	---	---	---	---	40.27
4.00	41,242	1012.00	---	---	---	---	63.13	0.00	---	---	---	---	63.13
5.00	67,427	1013.00	---	---	---	---	89.19	0.00	---	---	---	---	89.19
6.00	97,165	1014.00	---	---	---	---	118.09	0.00	---	---	---	---	118.09
7.00	131,074	1015.00	---	---	---	---	149.58	0.00	---	---	---	---	149.58
8.00	169,423	1016.00	---	---	---	---	183.45	0.00	---	---	---	---	183.45
9.00	212,600	1017.00	---	---	---	---	219.55	3.68	---	---	---	---	223.23
10.00	261,341	1018.00	---	---	---	---	257.75	19.11	---	---	---	---	276.86
11.00	316,720	1019.00	---	---	---	---	297.94	41.11	---	---	---	---	339.05

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Mod. Rational	16.00	1	10	31,771	-----	-----	-----	Dev Det B1
2	Reservoir	15.99	1	33	31,691	1	1026.54	67.3	Det Outflow
3	Mod. Rational	17.73	1	10	33,081	-----	-----	-----	Dev Det B2
4	Combine	33.72	1	31	64,666	2, 3	-----	-----	Inflow B2
5	Reservoir	28.93	1	34	64,665	4	1023.91	14,716	Outflow B2
6	Mod. Rational	262.61	1	16	395,806	-----	-----	-----	To 5x5 RCB
7	Combine	290.02	1	25	458,581	5, 6	-----	-----	To 5x5 RCB
8	Reservoir	196.18	1	31	458,589	7	1016.36	184,953	Runoff

Hydrograph Report

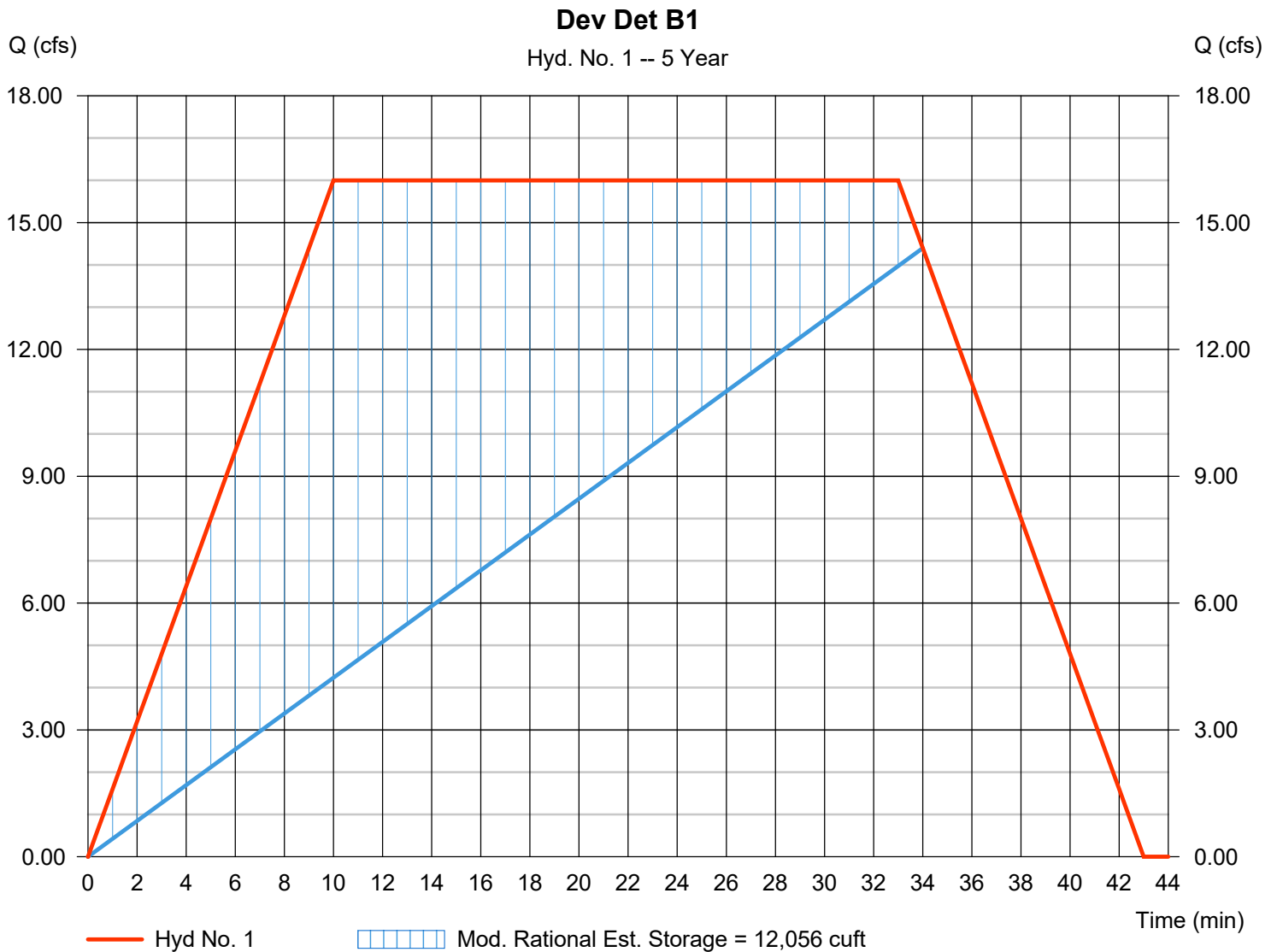
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Friday, 12 / 23 / 2022

Hyd. No. 1

Dev Det B1

Hydrograph type	= Mod. Rational	Peak discharge	= 16.00 cfs
Storm frequency	= 5 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 31,771 cuft
Drainage area	= 5.150 ac	Runoff coeff.	= 0.95
Intensity	= 3.270 in/hr	Tc by User	= 10.00 min
IDF Curve	= OKC.IDF	Storm duration	= 3.3 x Tc
Target Q	= 15.00 cfs	Est. Req'd Storage	= 12,056 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

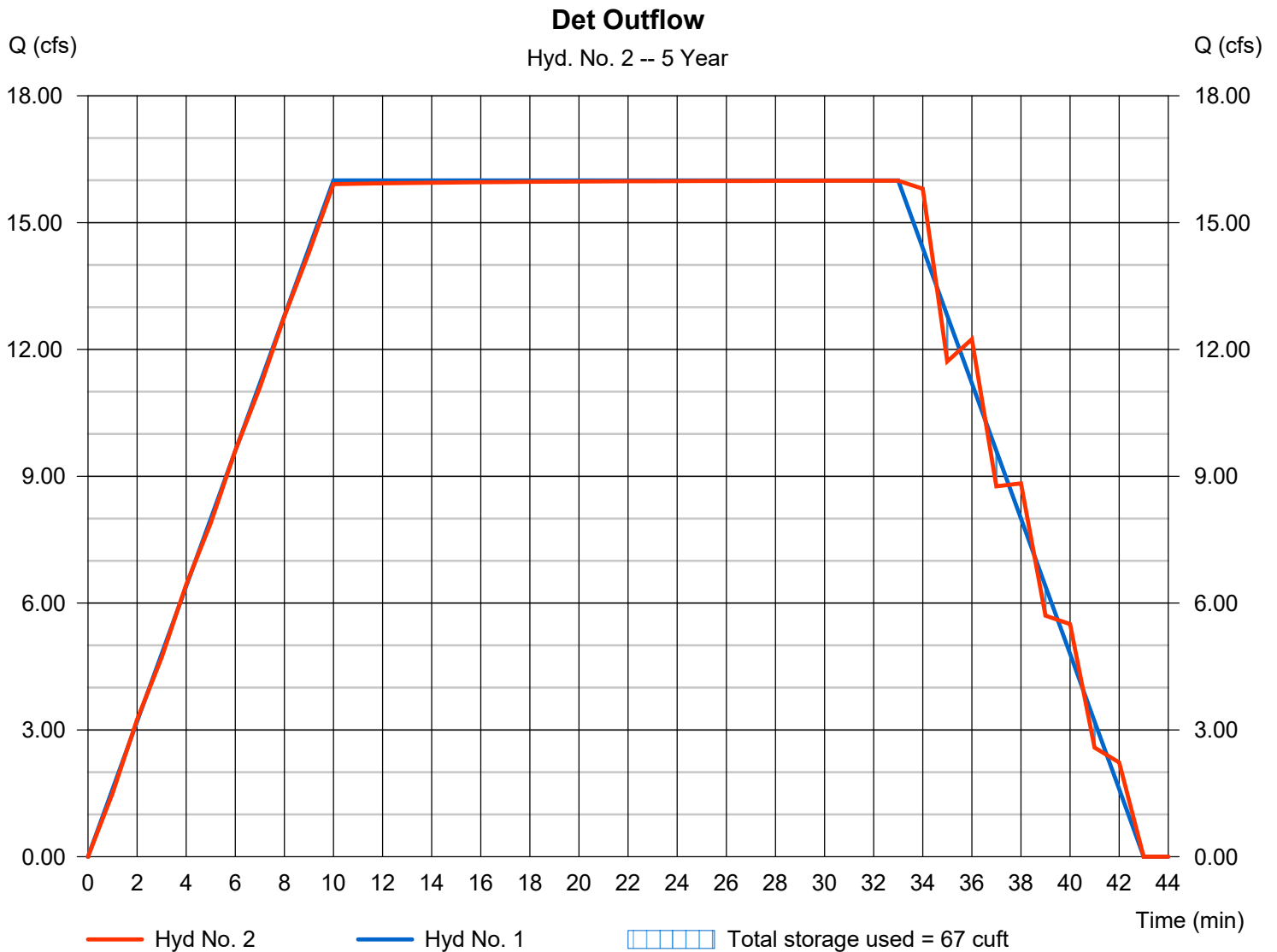
Friday, 12 / 23 / 2022

Hyd. No. 2

Det Outflow

Hydrograph type	= Reservoir	Peak discharge	= 15.99 cfs
Storm frequency	= 5 yrs	Time to peak	= 33 min
Time interval	= 1 min	Hyd. volume	= 31,691 cuft
Inflow hyd. No.	= 1 - Dev Det B1	Max. Elevation	= 1026.54 ft
Reservoir name	= Det B1	Max. Storage	= 67 cuft

Storage Indication method used.



Hydrograph Report

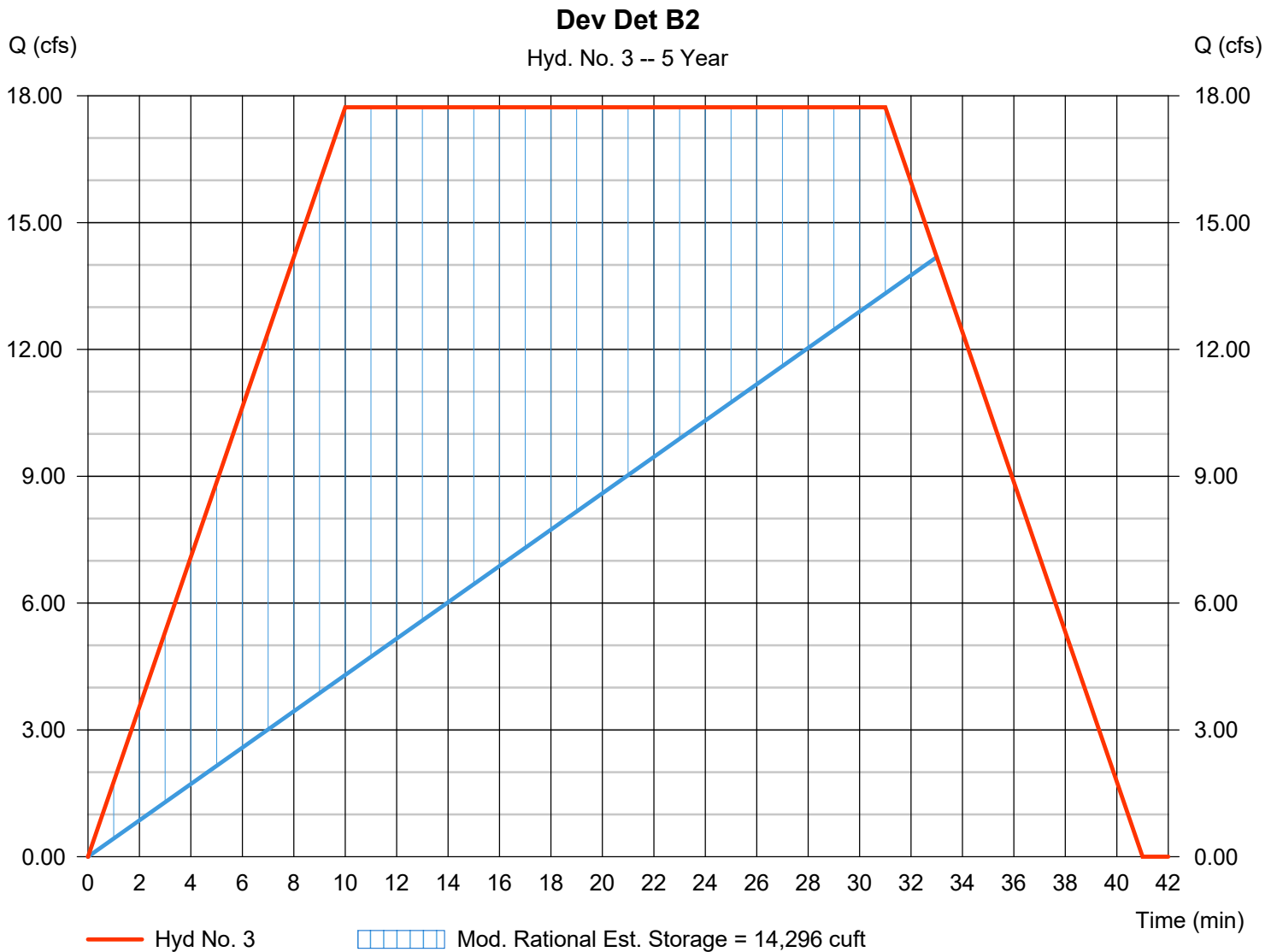
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Friday, 12 / 23 / 2022

Hyd. No. 3

Dev Det B2

Hydrograph type	= Mod. Rational	Peak discharge	= 17.73 cfs
Storm frequency	= 5 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 33,081 cuft
Drainage area	= 5.510 ac	Runoff coeff.	= 0.95
Intensity	= 3.387 in/hr	Tc by User	= 10.00 min
IDF Curve	= OKC.IDF	Storm duration	= 3.1 x Tc
Target Q	= 15.00 cfs	Est. Req'd Storage	= 14,296 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

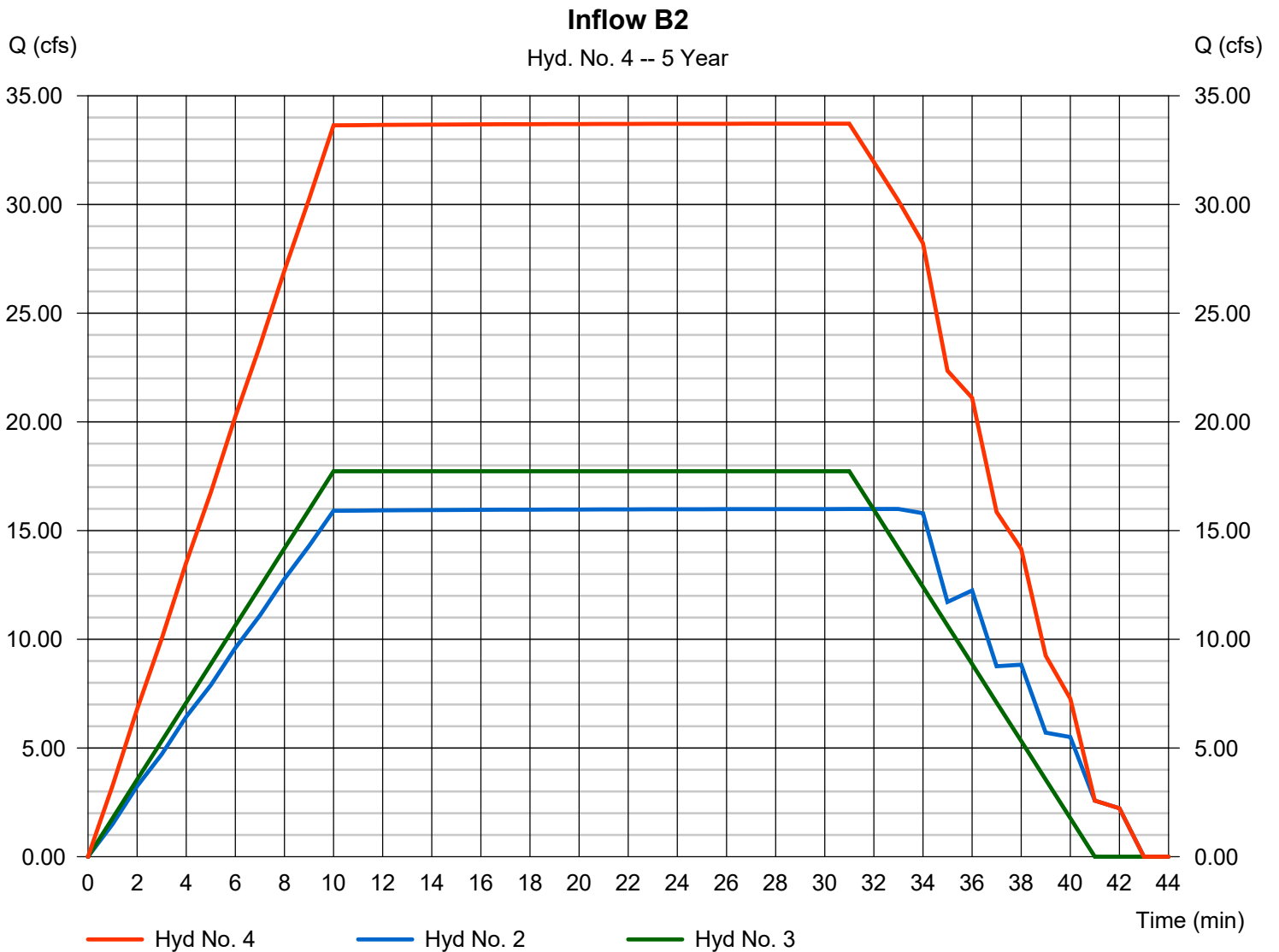
Friday, 12 / 23 / 2022

Hyd. No. 4

Inflow B2

Hydrograph type = Combine
 Storm frequency = 5 yrs
 Time interval = 1 min
 Inflow hyds. = 2, 3

Peak discharge = 33.72 cfs
 Time to peak = 31 min
 Hyd. volume = 64,666 cuft
 Contrib. drain. area = 5.510 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

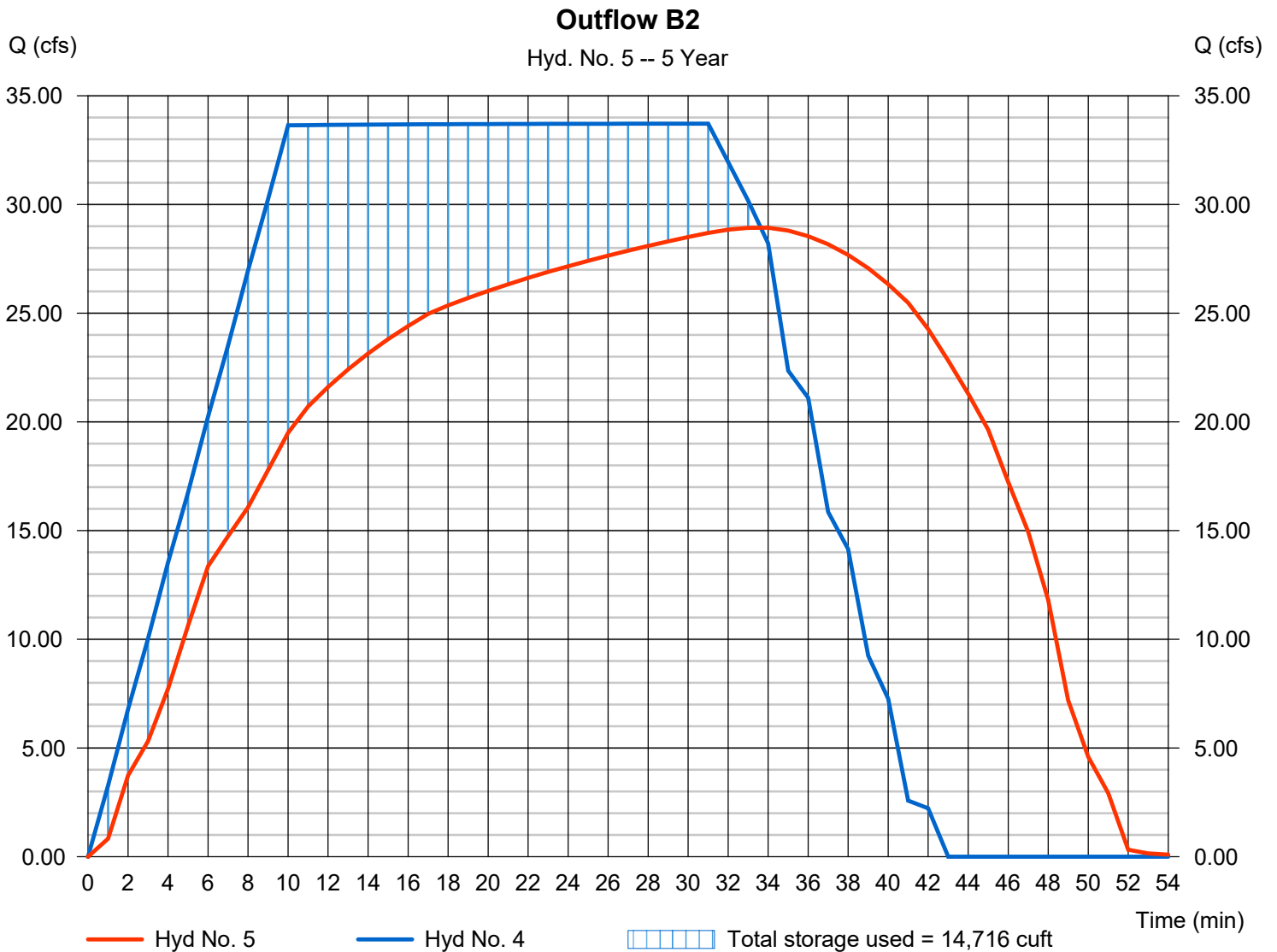
Friday, 12 / 23 / 2022

Hyd. No. 5

Outflow B2

Hydrograph type	= Reservoir	Peak discharge	= 28.93 cfs
Storm frequency	= 5 yrs	Time to peak	= 34 min
Time interval	= 1 min	Hyd. volume	= 64,665 cuft
Inflow hyd. No.	= 4 - Inflow B2	Max. Elevation	= 1023.91 ft
Reservoir name	= Det B2	Max. Storage	= 14,716 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

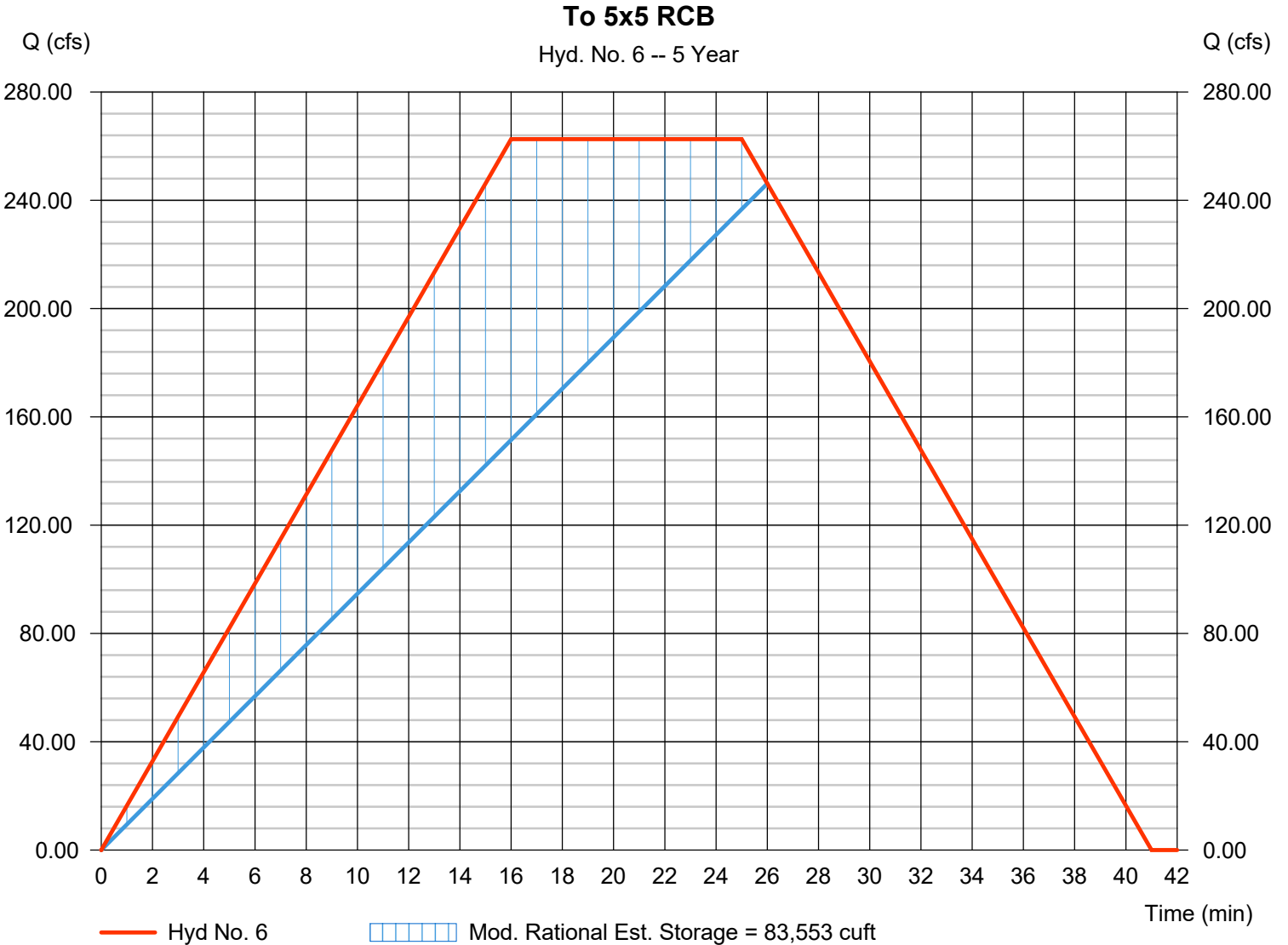
Friday, 12 / 23 / 2022

Hyd. No. 6

To 5x5 RCB

Hydrograph type = Mod. Rational
 Storm frequency = 5 yrs
 Time interval = 1 min
 Drainage area = 89.750 ac
 Intensity = 3.800 in/hr
 IDF Curve = OKC.IDF
 Target Q = 250.00 cfs

Peak discharge = 262.61 cfs
 Time to peak = 16 min
 Hyd. volume = 395,806 cuft
 Runoff coeff. = 0.77
 Tc by User = 16.00 min
 Storm duration = 1.6 x Tc
 Est. Req'd Storage = 83,553 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

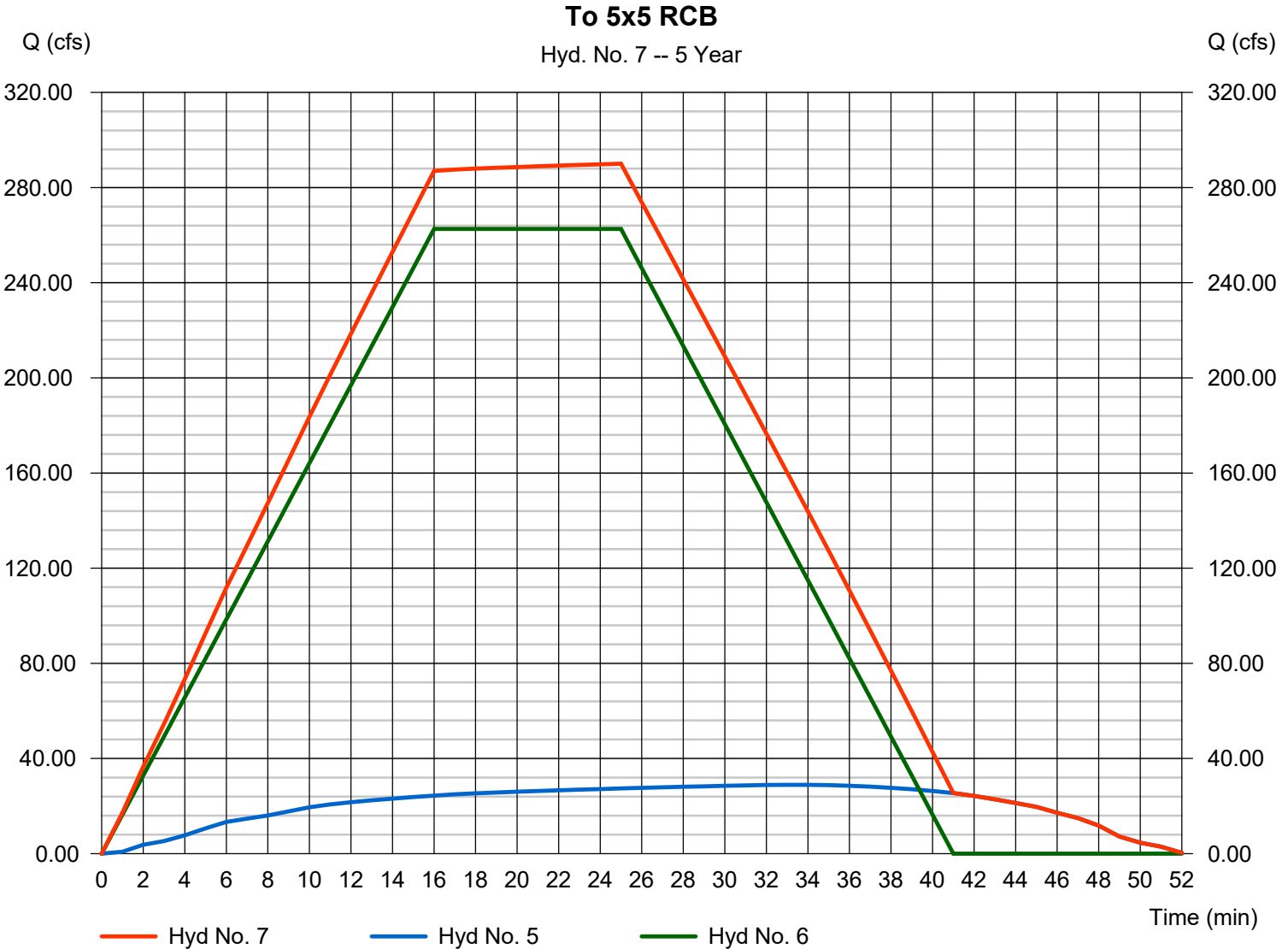
Friday, 12 / 23 / 2022

Hyd. No. 7

To 5x5 RCB

Hydrograph type = Combine
Storm frequency = 5 yrs
Time interval = 1 min
Inflow hyds. = 5, 6

Peak discharge = 290.02 cfs
Time to peak = 25 min
Hyd. volume = 458,581 cuft
Contrib. drain. area = 89.750 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

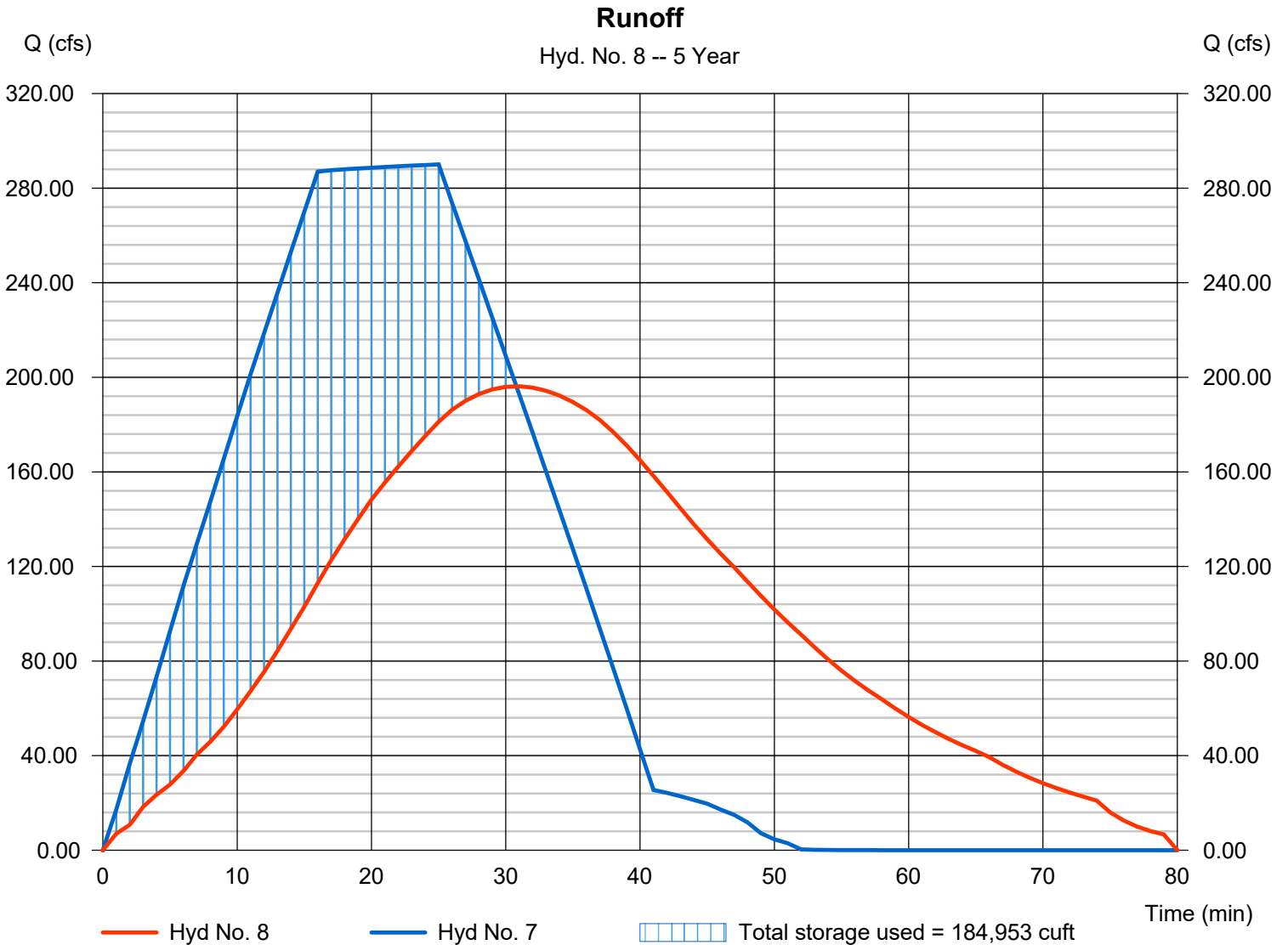
Friday, 12 / 23 / 2022

Hyd. No. 8

Runoff

Hydrograph type	= Reservoir	Peak discharge	= 196.18 cfs
Storm frequency	= 5 yrs	Time to peak	= 31 min
Time interval	= 1 min	Hyd. volume	= 458,589 cuft
Inflow hyd. No.	= 7 - To 5x5 RCB	Max. Elevation	= 1016.36 ft
Reservoir name	= Proposed	Max. Storage	= 184,953 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Mod. Rational	21.05	1	10	31,708	-----	-----	-----	Dev Det B1
2	Reservoir	18.38	1	26	31,913	1	1027.86	3,565	Det Outflow
3	Mod. Rational	21.27	1	10	35,864	-----	-----	-----	Dev Det B2
4	Combine	39.65	1	26	67,650	2, 3	-----	-----	Inflow B2
5	Reservoir	30.96	1	32	67,649	4	1024.44	19,166	Outflow B2
6	Mod. Rational	310.11	1	16	428,694	-----	-----	-----	To 5x5 RCB
7	Combine	339.39	1	23	495,599	5, 6	-----	-----	To 5x5 RCB
8	Reservoir	219.02	1	29	495,581	7	1016.91	208,783	Runoff

Hydrograph Report

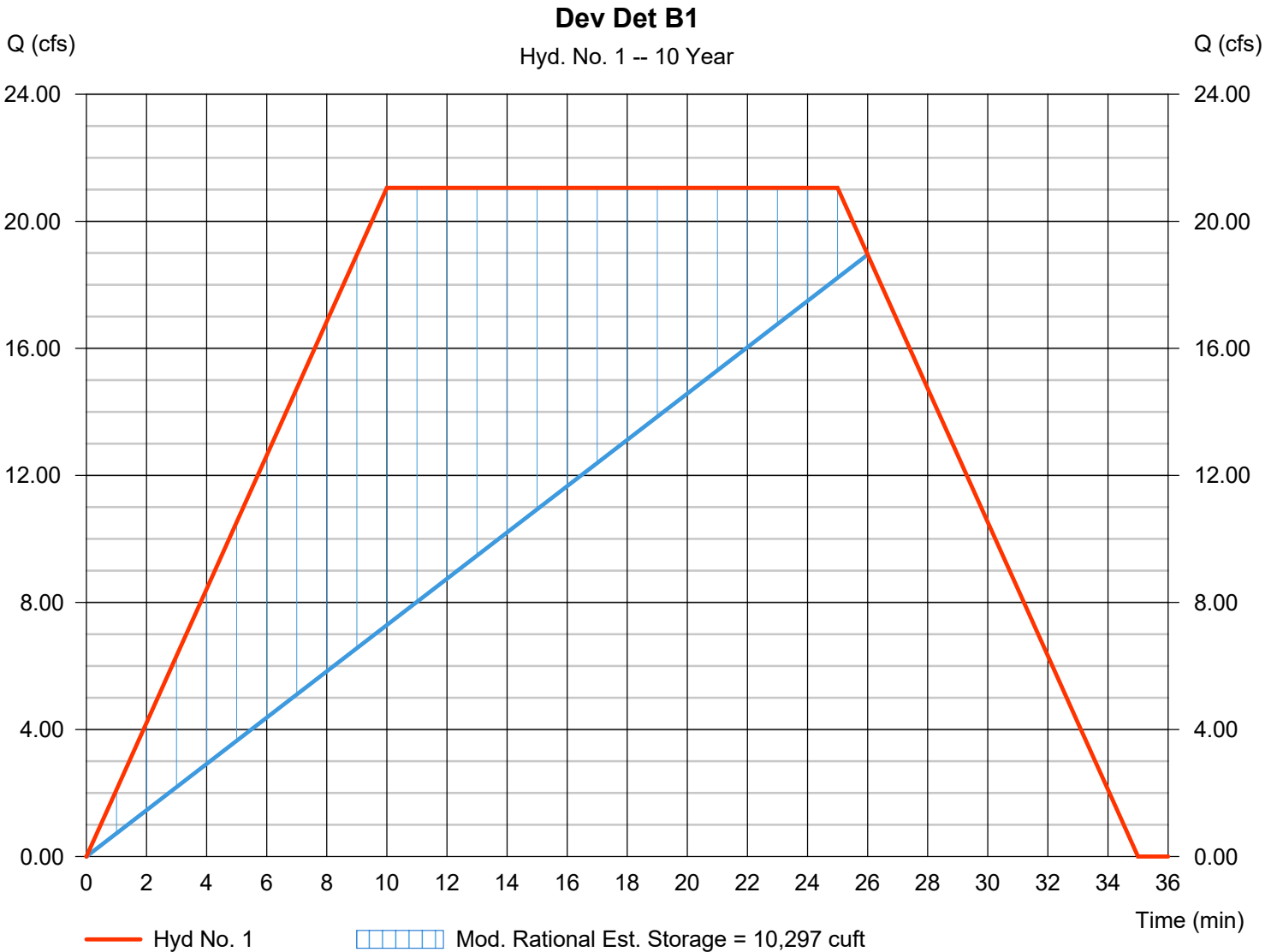
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Friday, 12 / 23 / 2022

Hyd. No. 1

Dev Det B1

Hydrograph type	= Mod. Rational	Peak discharge	= 21.05 cfs
Storm frequency	= 10 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 31,708 cuft
Drainage area	= 5.150 ac	Runoff coeff.	= 0.95
Intensity	= 4.303 in/hr	Tc by User	= 10.00 min
IDF Curve	= OKC.IDF	Storm duration	= 2.5 x Tc
Target Q	=20.00 cfs	Est. Req'd Storage	=10,297 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

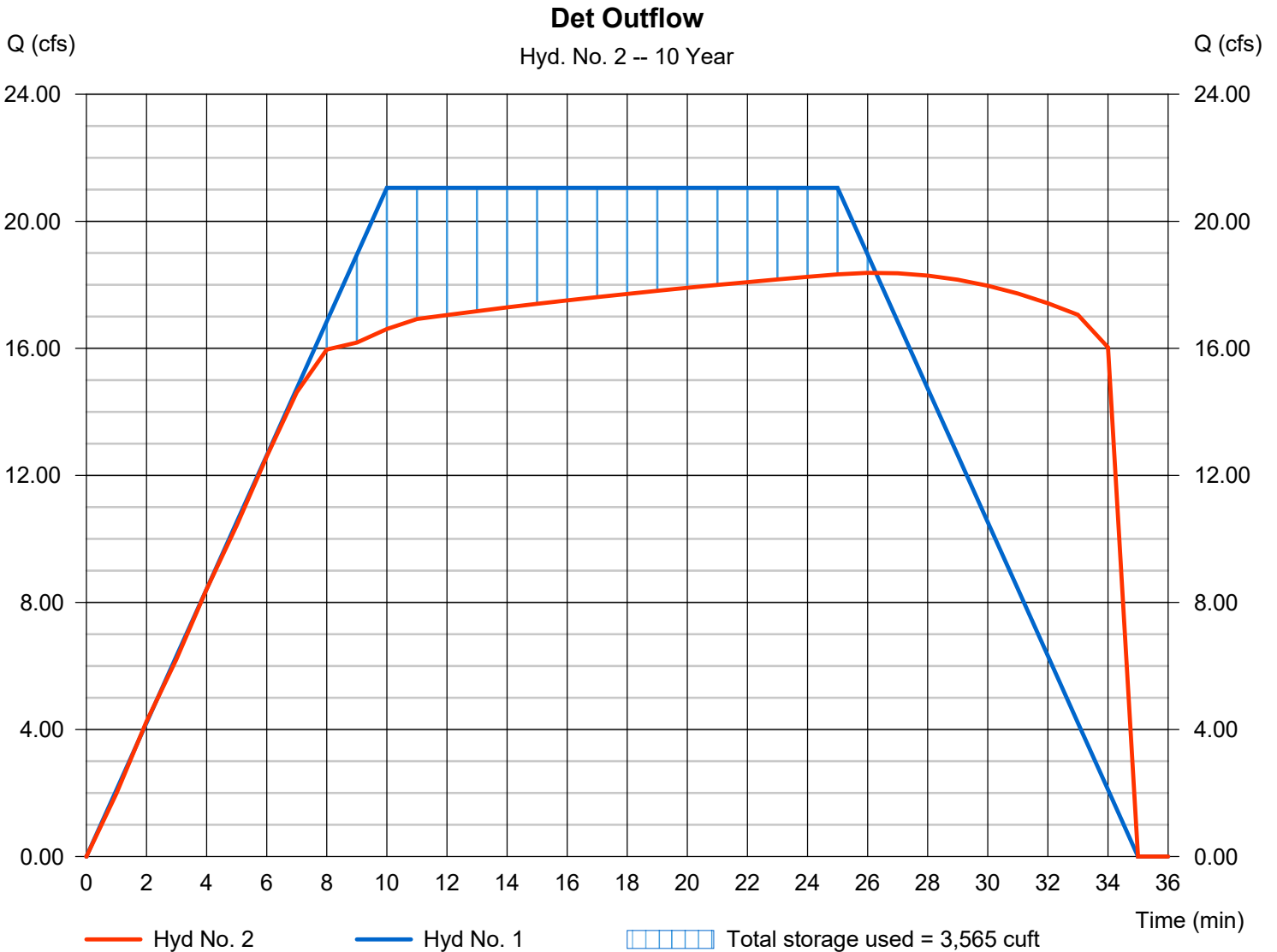
Friday, 12 / 23 / 2022

Hyd. No. 2

Det Outflow

Hydrograph type	= Reservoir	Peak discharge	= 18.38 cfs
Storm frequency	= 10 yrs	Time to peak	= 26 min
Time interval	= 1 min	Hyd. volume	= 31,913 cuft
Inflow hyd. No.	= 1 - Dev Det B1	Max. Elevation	= 1027.86 ft
Reservoir name	= Det B1	Max. Storage	= 3,565 cuft

Storage Indication method used.



Hydrograph Report

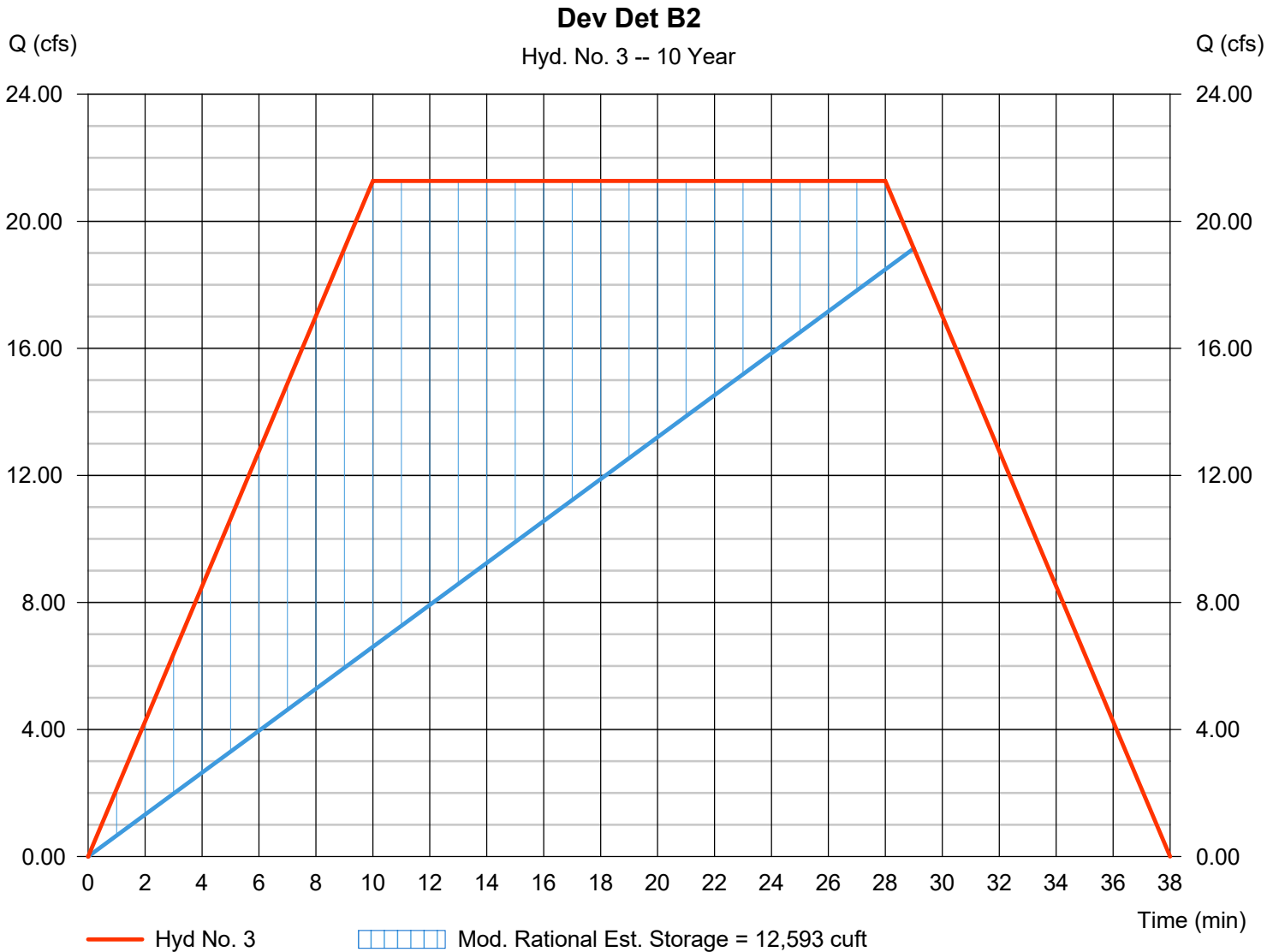
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Friday, 12 / 23 / 2022

Hyd. No. 3

Dev Det B2

Hydrograph type	= Mod. Rational	Peak discharge	= 21.27 cfs
Storm frequency	= 10 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 35,864 cuft
Drainage area	= 5.510 ac	Runoff coeff.	= 0.95
Intensity	= 4.064 in/hr	Tc by User	= 10.00 min
IDF Curve	= OKC.IDF	Storm duration	= 2.8 x Tc
Target Q	=20.00 cfs	Est. Req'd Storage	=12,593 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

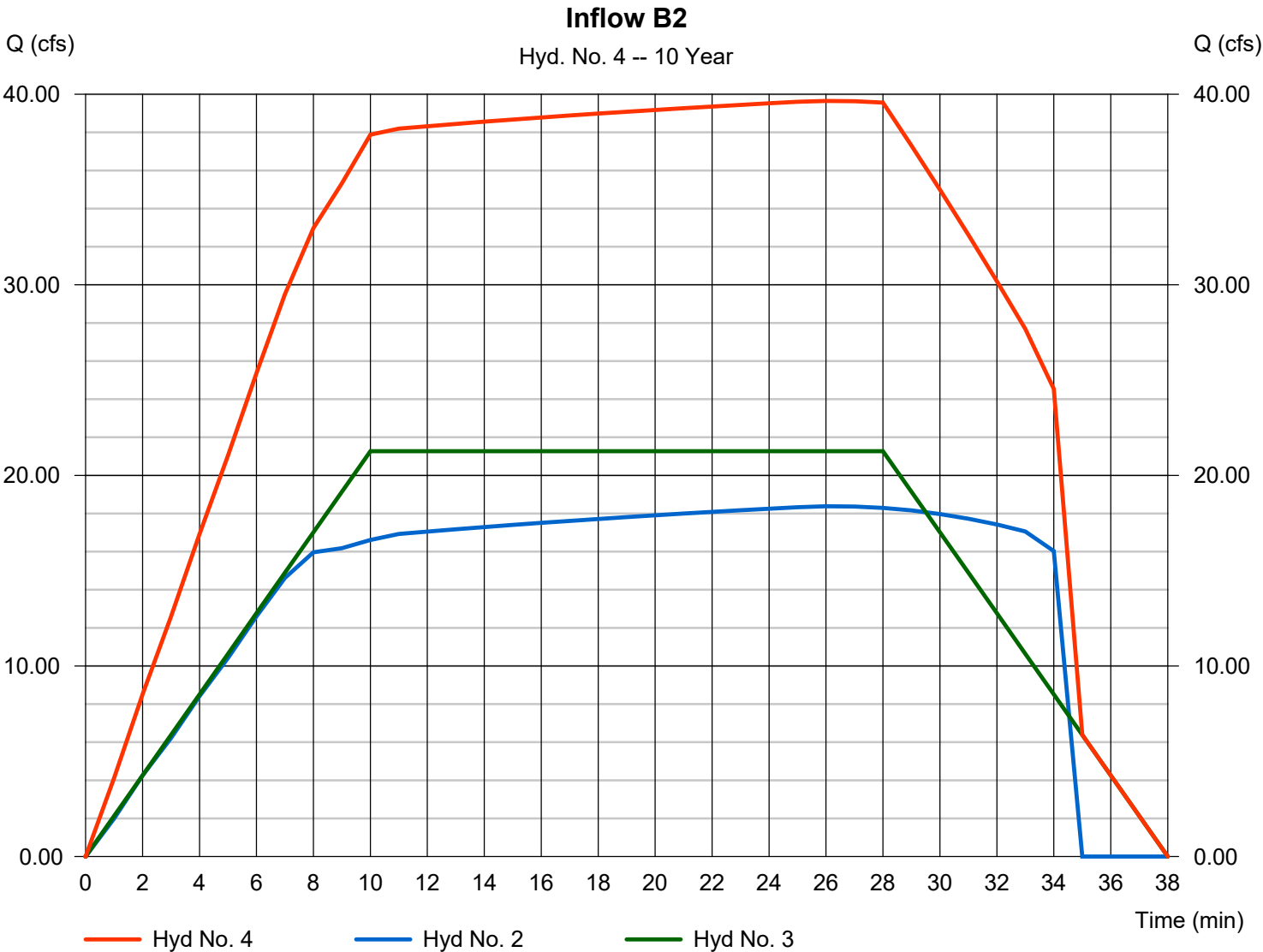
Friday, 12 / 23 / 2022

Hyd. No. 4

Inflow B2

Hydrograph type = Combine
Storm frequency = 10 yrs
Time interval = 1 min
Inflow hyds. = 2, 3

Peak discharge = 39.65 cfs
Time to peak = 26 min
Hyd. volume = 67,650 cuft
Contrib. drain. area = 5.510 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

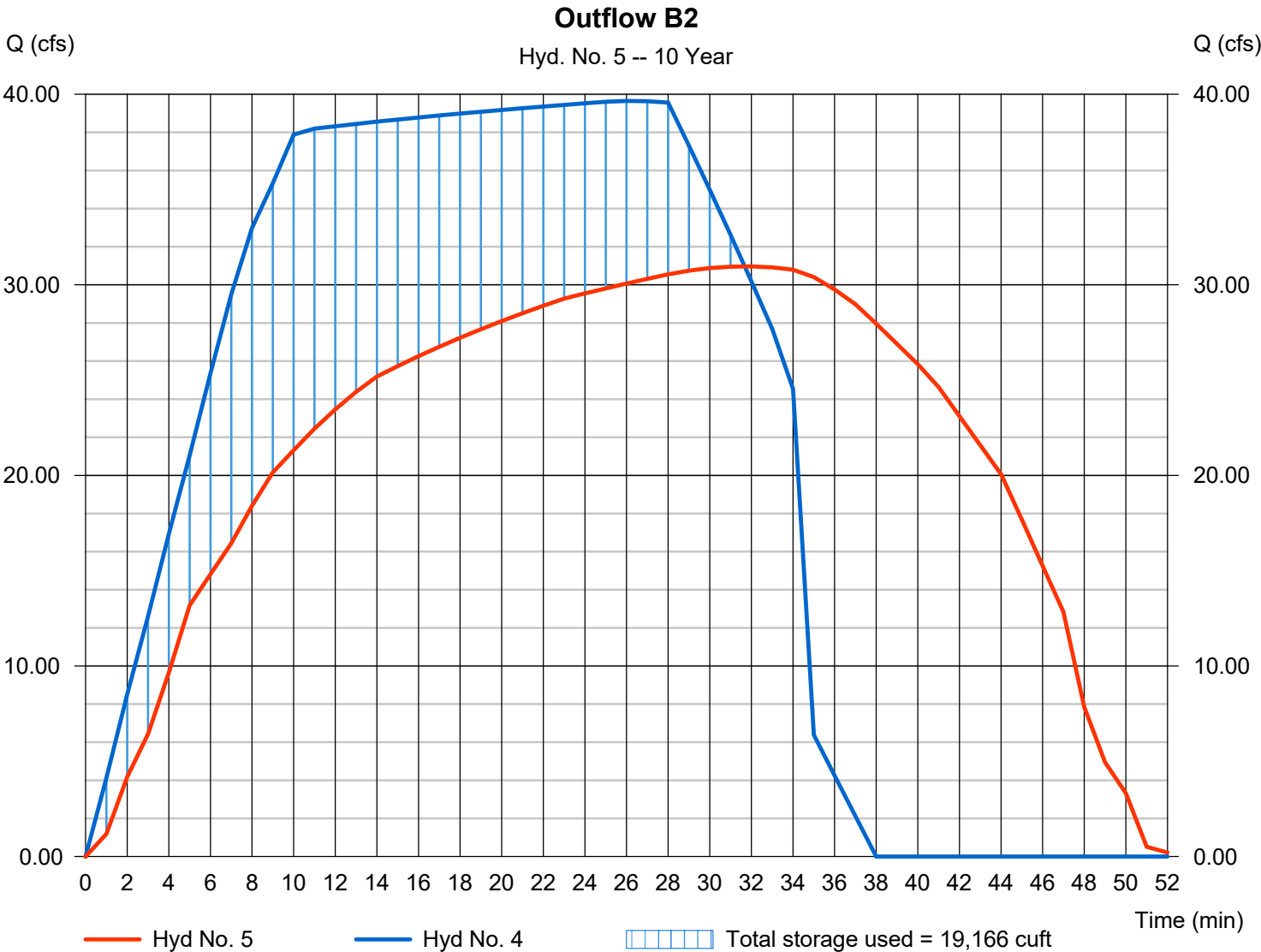
Friday, 12 / 23 / 2022

Hyd. No. 5

Outflow B2

Hydrograph type	= Reservoir	Peak discharge	= 30.96 cfs
Storm frequency	= 10 yrs	Time to peak	= 32 min
Time interval	= 1 min	Hyd. volume	= 67,649 cuft
Inflow hyd. No.	= 4 - Inflow B2	Max. Elevation	= 1024.44 ft
Reservoir name	= Det B2	Max. Storage	= 19,166 cuft

Storage Indication method used.



Hydrograph Report

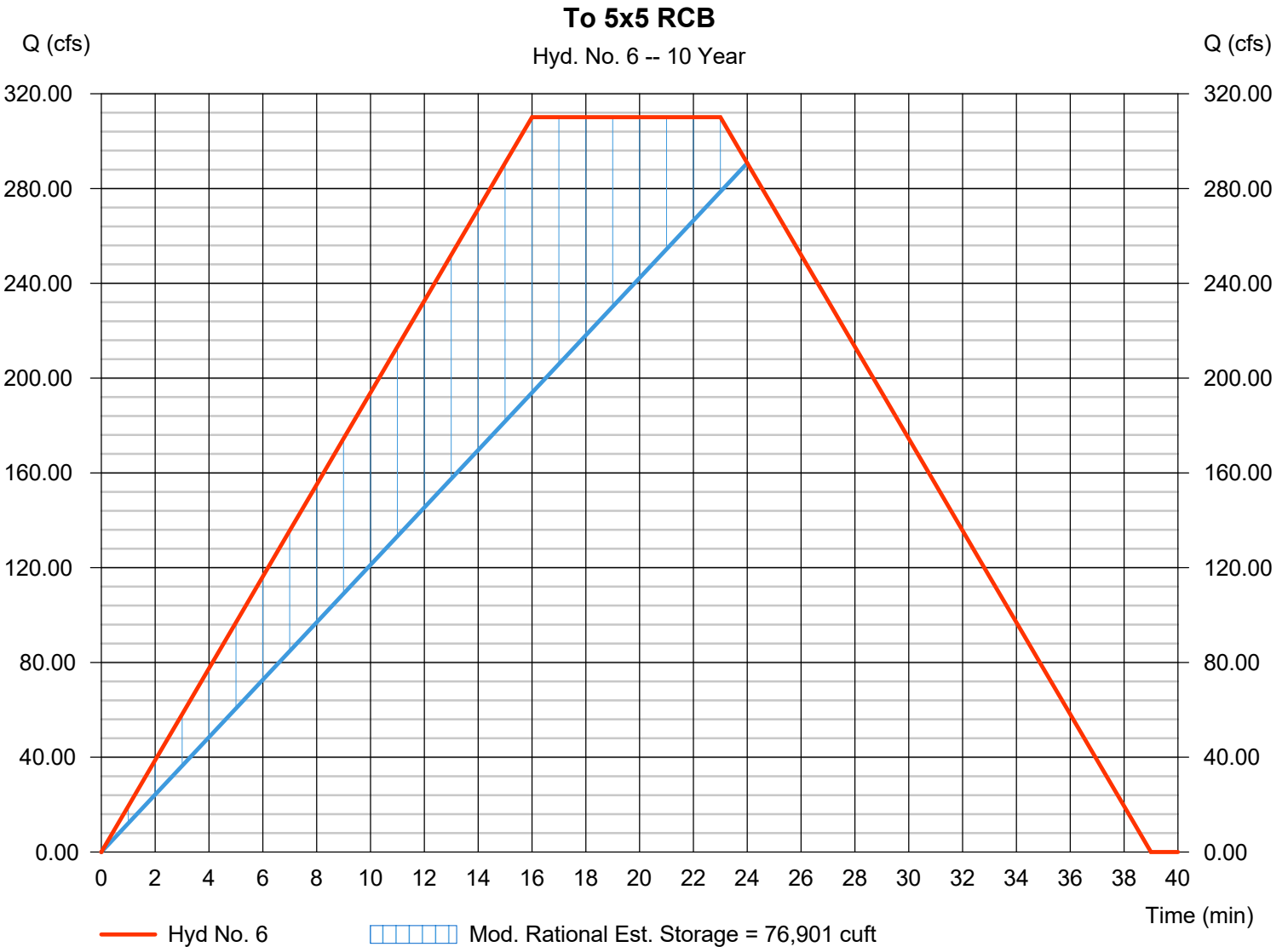
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Friday, 12 / 23 / 2022

Hyd. No. 6

To 5x5 RCB

Hydrograph type	= Mod. Rational	Peak discharge	= 310.11 cfs
Storm frequency	= 10 yrs	Time to peak	= 16 min
Time interval	= 1 min	Hyd. volume	= 428,694 cuft
Drainage area	= 89.750 ac	Runoff coeff.	= 0.77
Intensity	= 4.487 in/hr	Tc by User	= 16.00 min
IDF Curve	= OKC.IDF	Storm duration	= 1.4 x Tc
Target Q	=300.00 cfs	Est. Req'd Storage	=76,901 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

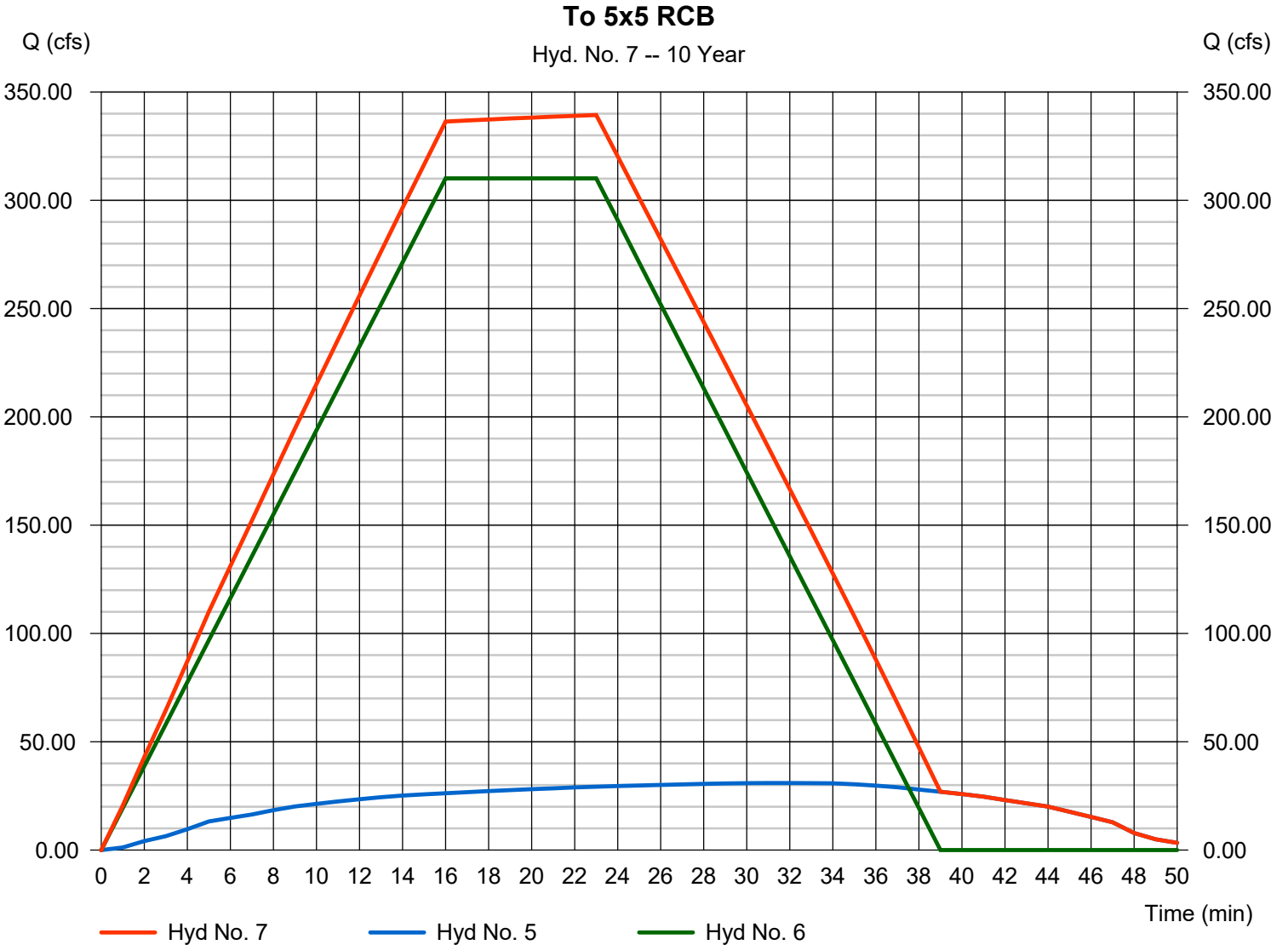
Friday, 12 / 23 / 2022

Hyd. No. 7

To 5x5 RCB

Hydrograph type = Combine
Storm frequency = 10 yrs
Time interval = 1 min
Inflow hyds. = 5, 6

Peak discharge = 339.39 cfs
Time to peak = 23 min
Hyd. volume = 495,599 cuft
Contrib. drain. area = 89.750 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

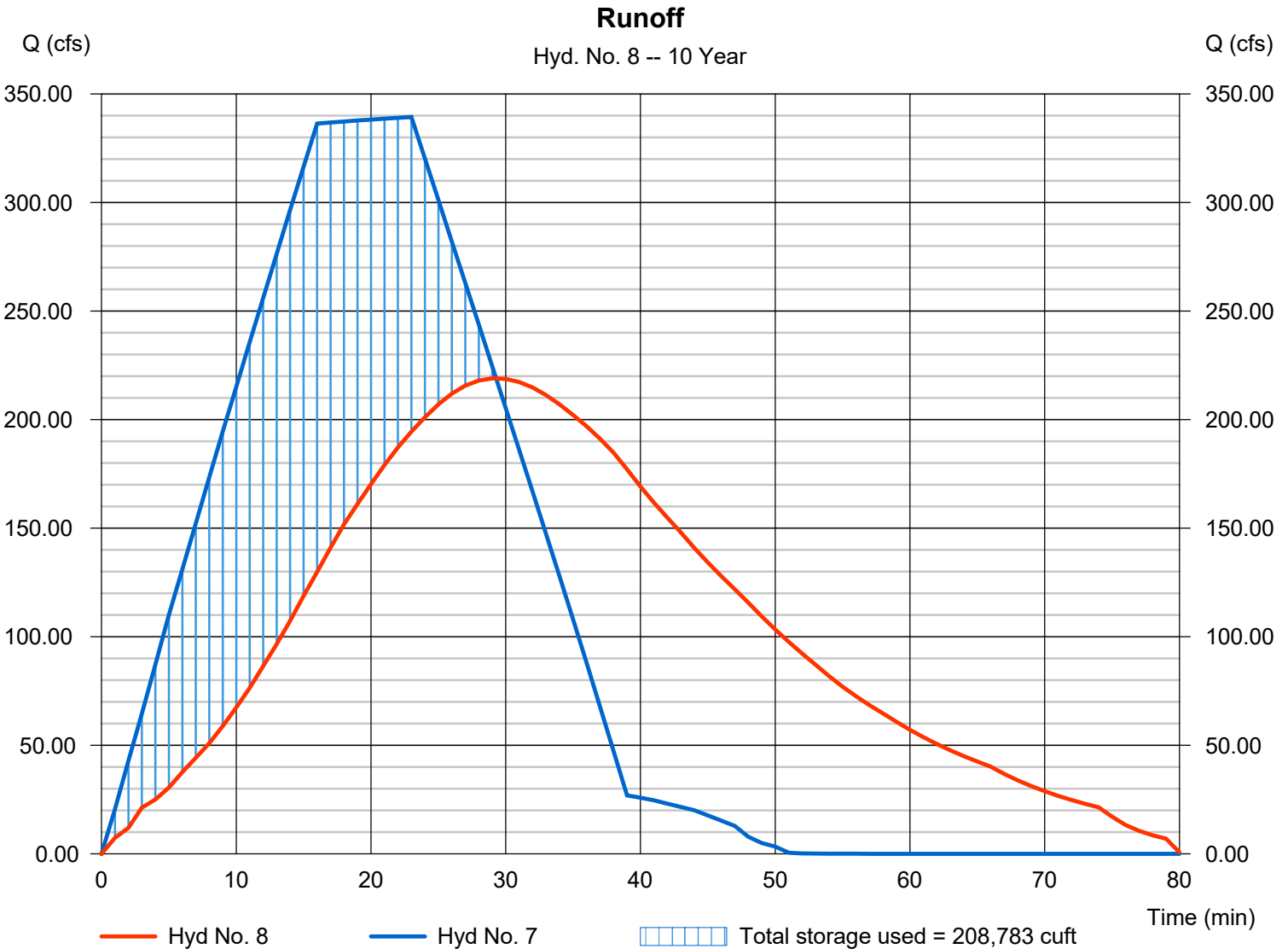
Friday, 12 / 23 / 2022

Hyd. No. 8

Runoff

Hydrograph type	= Reservoir	Peak discharge	= 219.02 cfs
Storm frequency	= 10 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 495,581 cuft
Inflow hyd. No.	= 7 - To 5x5 RCB	Max. Elevation	= 1016.91 ft
Reservoir name	= Proposed	Max. Storage	= 208,783 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Mod. Rational	26.54	1	10	33,605	-----	-----	-----	Dev Det B1
2	Reservoir	19.51	1	24	33,759	1	1028.55	7,063	Det Outflow
3	Mod. Rational	26.71	1	10	38,619	-----	-----	-----	Dev Det B2
4	Combine	46.21	1	24	72,218	2, 3	-----	-----	Inflow B2
5	Reservoir	32.66	1	29	72,217	4	1024.91	23,297	Outflow B2
6	Mod. Rational	367.30	1	16	486,599	-----	-----	-----	To 5x5 RCB
7	Combine	398.39	1	22	557,054	5, 6	-----	-----	To 5x5 RCB
8	Reservoir	252.62	1	28	557,035	7	1017.57	240,415	Runoff

Hydrograph Report

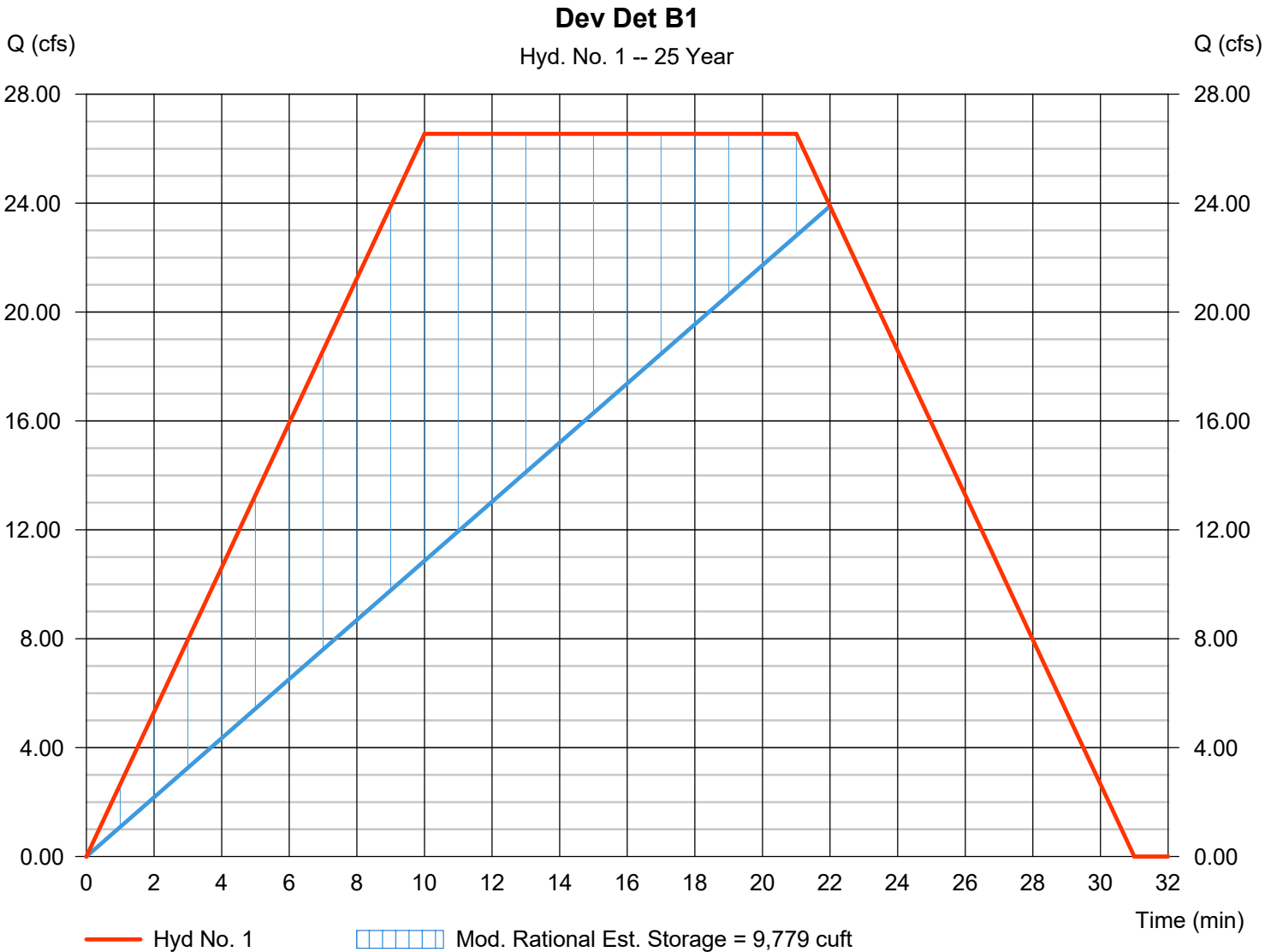
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Friday, 12 / 23 / 2022

Hyd. No. 1

Dev Det B1

Hydrograph type	= Mod. Rational	Peak discharge	= 26.54 cfs
Storm frequency	= 25 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 33,605 cuft
Drainage area	= 5.150 ac	Runoff coeff.	= 0.95
Intensity	= 5.425 in/hr	Tc by User	= 10.00 min
IDF Curve	= OKC.IDF	Storm duration	= 2.1 x Tc
Target Q	=25.00 cfs	Est. Req'd Storage	=9,779 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

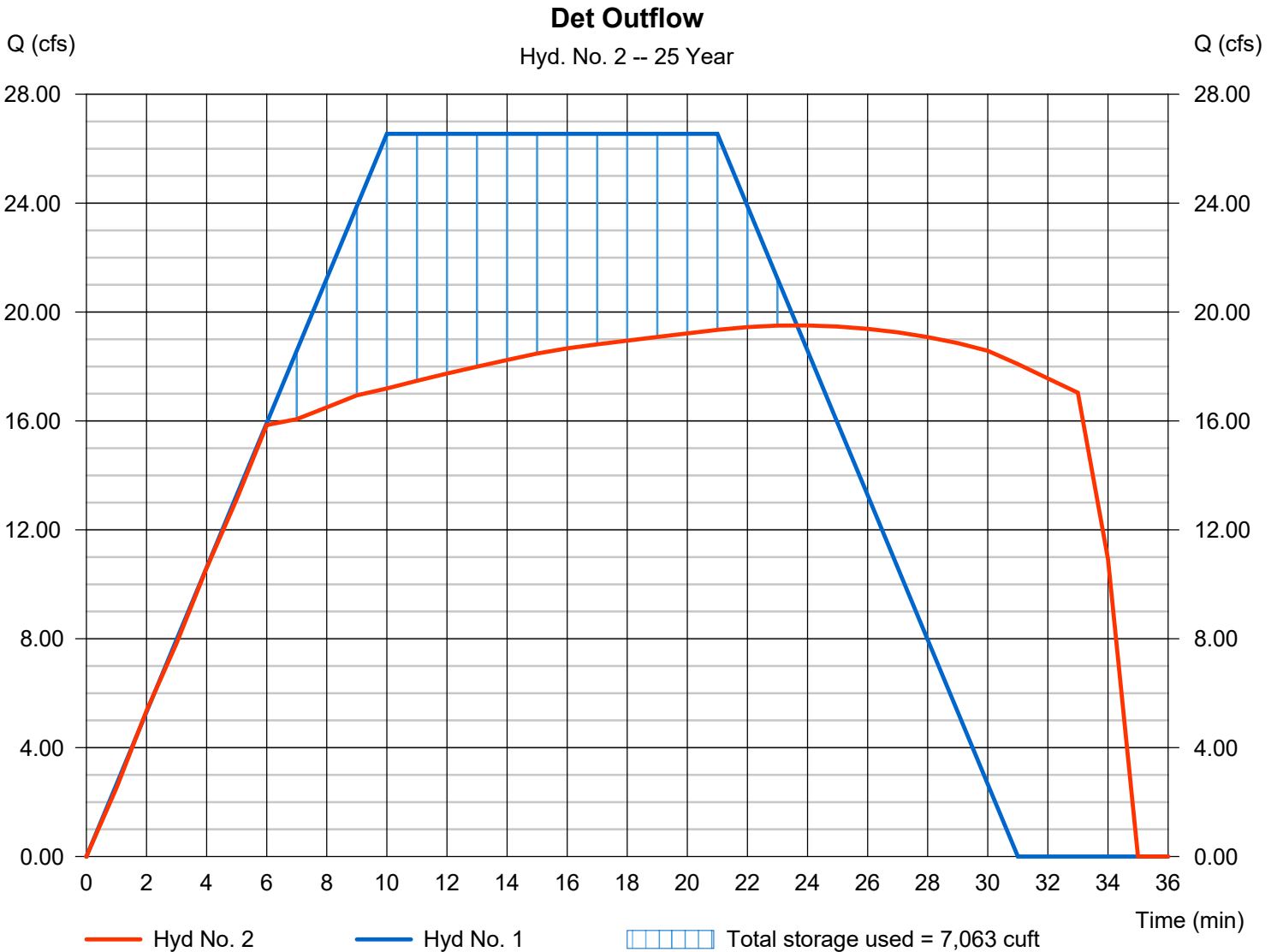
Friday, 12 / 23 / 2022

Hyd. No. 2

Det Outflow

Hydrograph type	= Reservoir	Peak discharge	= 19.51 cfs
Storm frequency	= 25 yrs	Time to peak	= 24 min
Time interval	= 1 min	Hyd. volume	= 33,759 cuft
Inflow hyd. No.	= 1 - Dev Det B1	Max. Elevation	= 1028.55 ft
Reservoir name	= Det B1	Max. Storage	= 7,063 cuft

Storage Indication method used.



Hydrograph Report

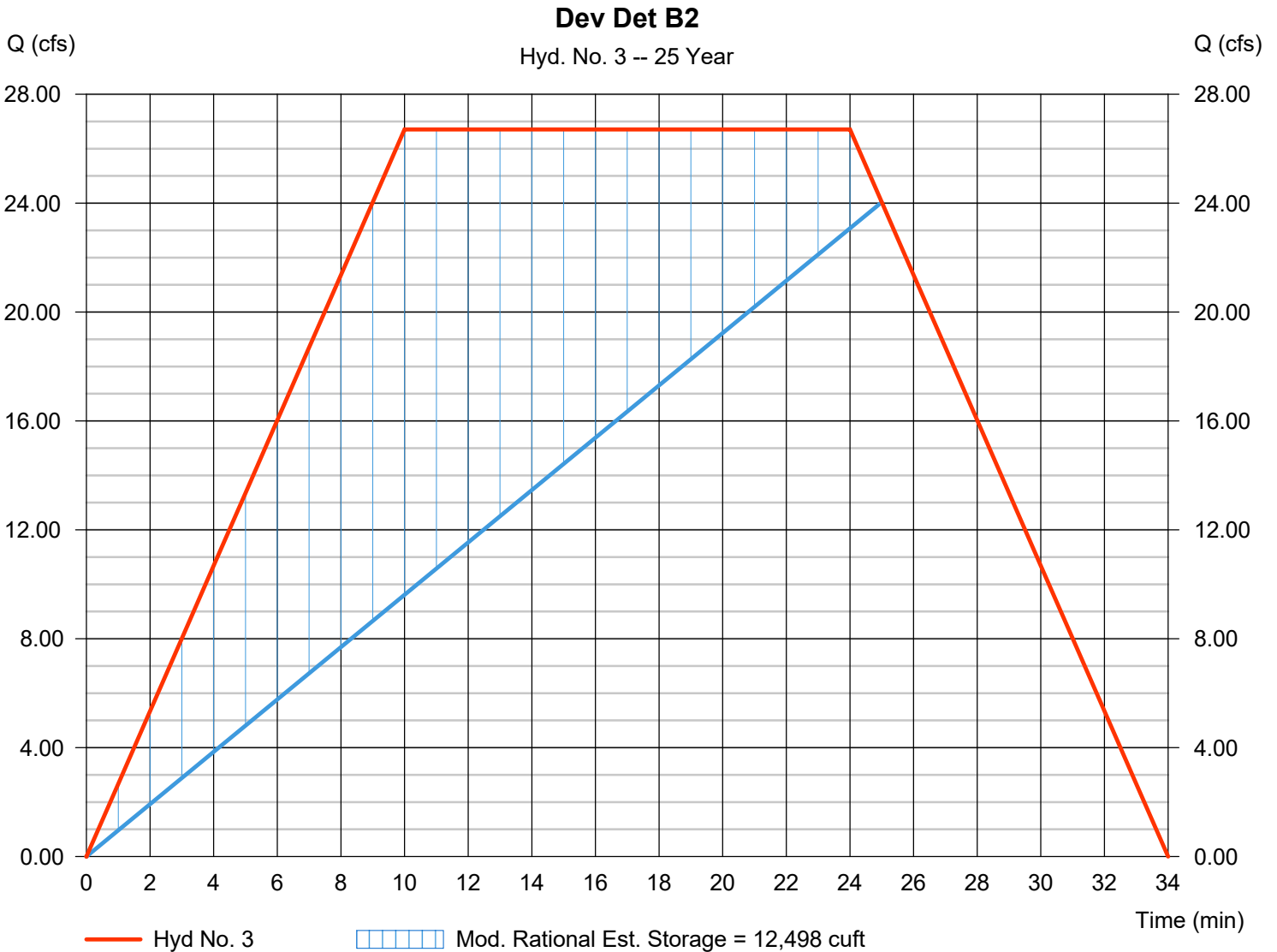
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Friday, 12 / 23 / 2022

Hyd. No. 3

Dev Det B2

Hydrograph type	= Mod. Rational	Peak discharge	= 26.71 cfs
Storm frequency	= 25 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 38,619 cuft
Drainage area	= 5.510 ac	Runoff coeff.	= 0.95
Intensity	= 5.102 in/hr	Tc by User	= 10.00 min
IDF Curve	= OKC.IDF	Storm duration	= 2.4 x Tc
Target Q	=25.00 cfs	Est. Req'd Storage	=12,498 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

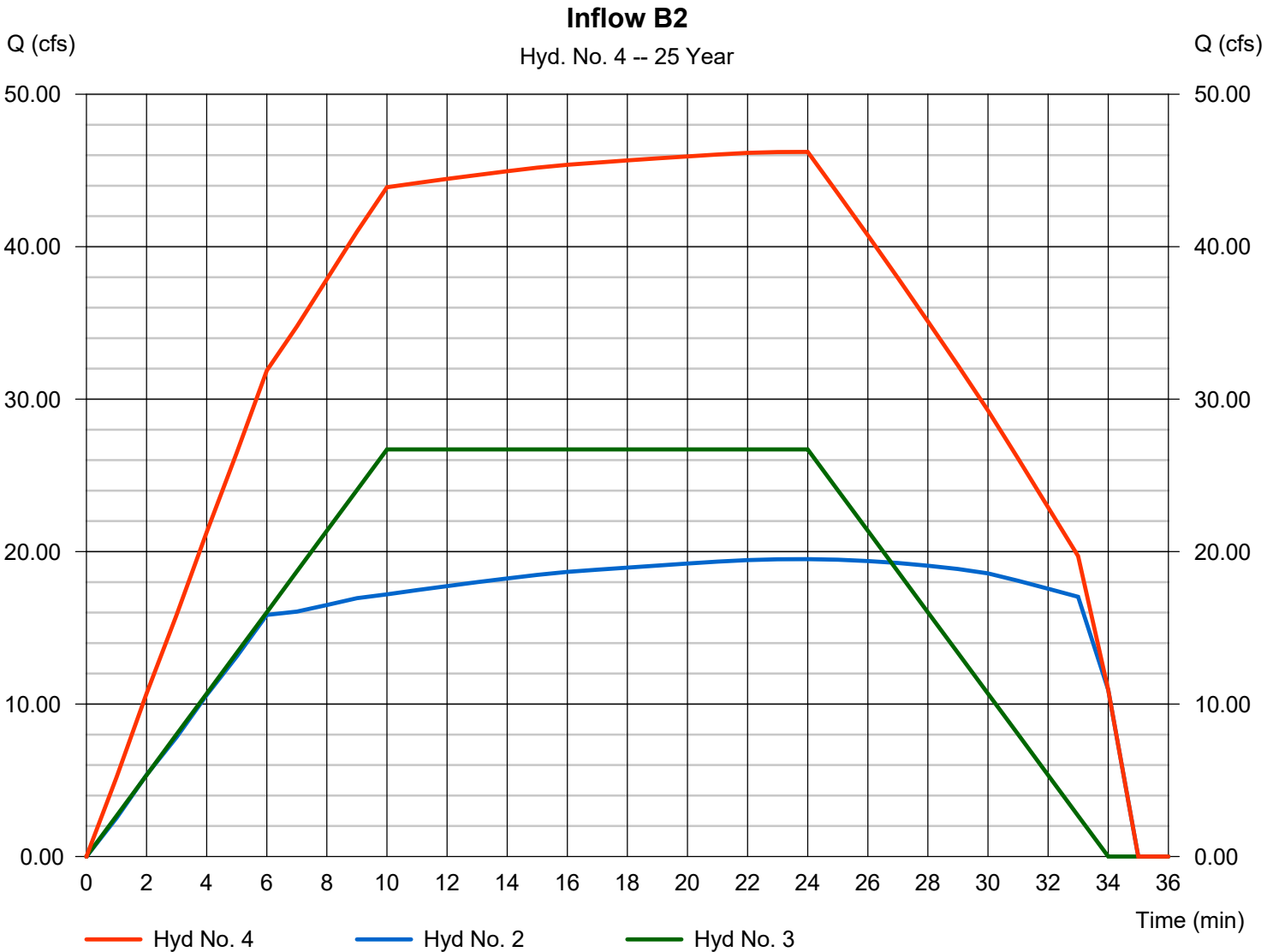
Friday, 12 / 23 / 2022

Hyd. No. 4

Inflow B2

Hydrograph type = Combine
Storm frequency = 25 yrs
Time interval = 1 min
Inflow hyds. = 2, 3

Peak discharge = 46.21 cfs
Time to peak = 24 min
Hyd. volume = 72,218 cuft
Contrib. drain. area = 5.510 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

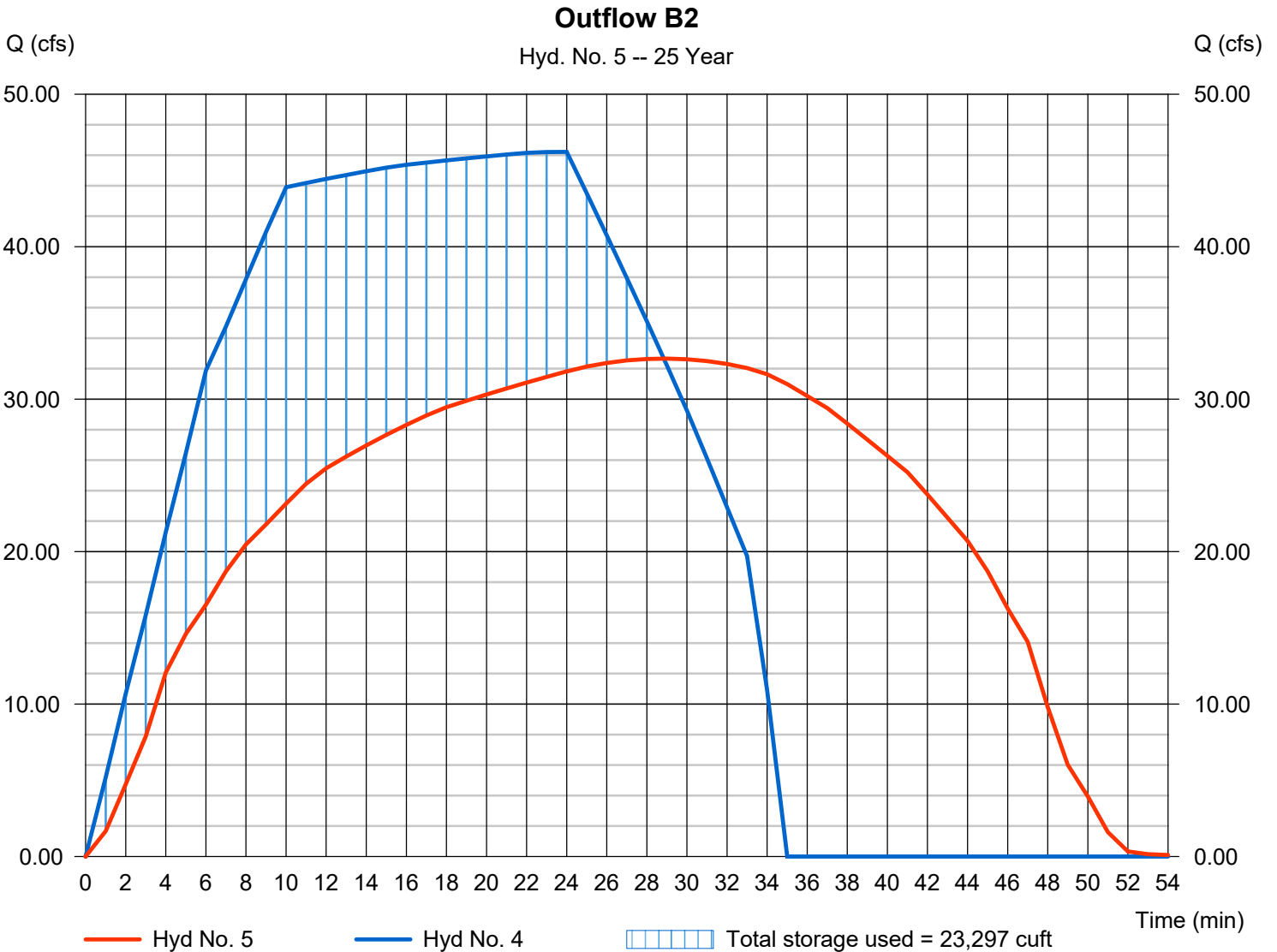
Friday, 12 / 23 / 2022

Hyd. No. 5

Outflow B2

Hydrograph type	= Reservoir	Peak discharge	= 32.66 cfs
Storm frequency	= 25 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 72,217 cuft
Inflow hyd. No.	= 4 - Inflow B2	Max. Elevation	= 1024.91 ft
Reservoir name	= Det B2	Max. Storage	= 23,297 cuft

Storage Indication method used.



Hydrograph Report

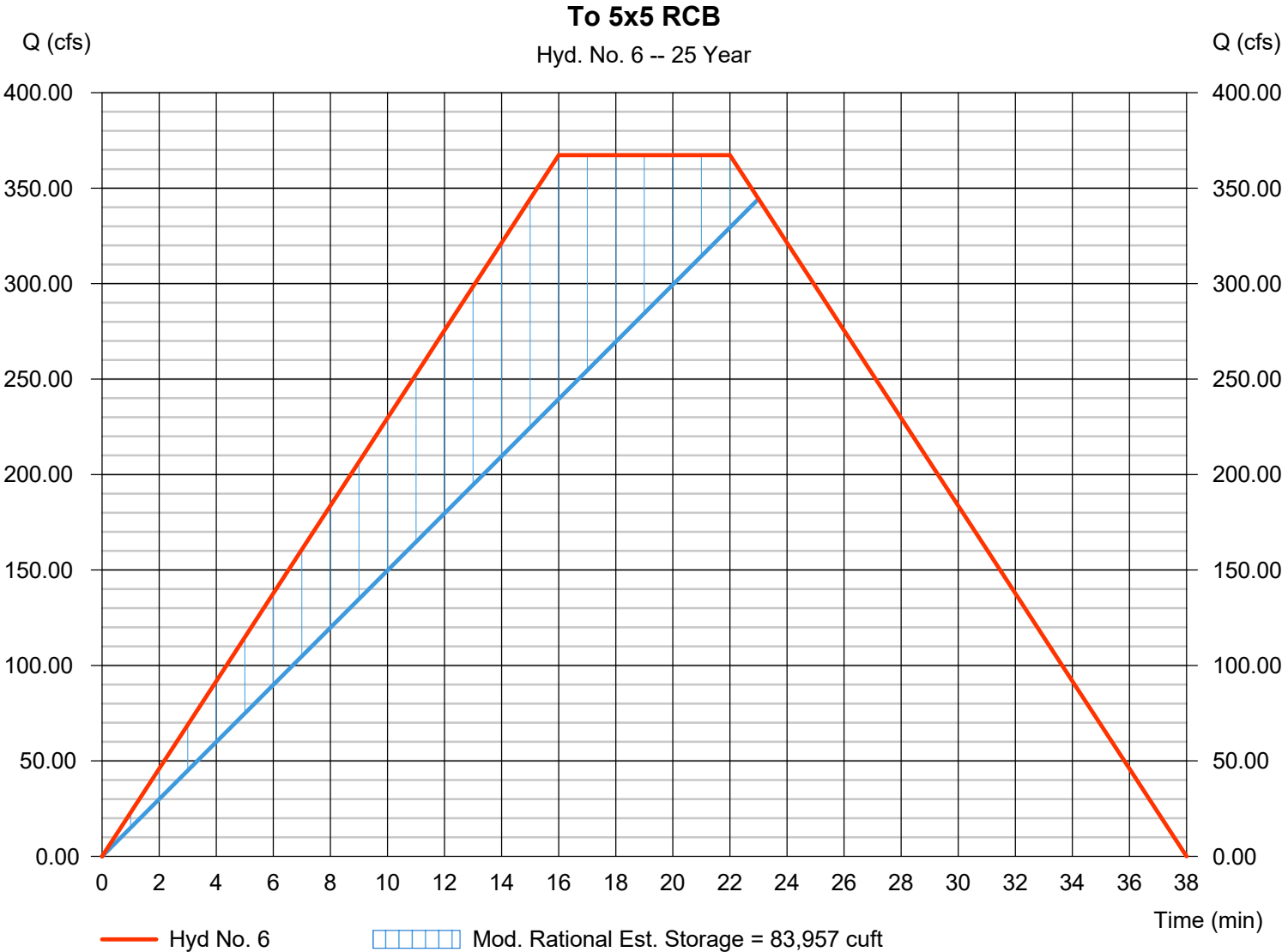
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Friday, 12 / 23 / 2022

Hyd. No. 6

To 5x5 RCB

Hydrograph type	= Mod. Rational	Peak discharge	= 367.30 cfs
Storm frequency	= 25 yrs	Time to peak	= 16 min
Time interval	= 1 min	Hyd. volume	= 486,599 cuft
Drainage area	= 89.750 ac	Runoff coeff.	= 0.77
Intensity	= 5.315 in/hr	Tc by User	= 16.00 min
IDF Curve	= OKC.IDF	Storm duration	= 1.4 x Tc
Target Q	=350.00 cfs	Est. Req'd Storage	=83,957 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

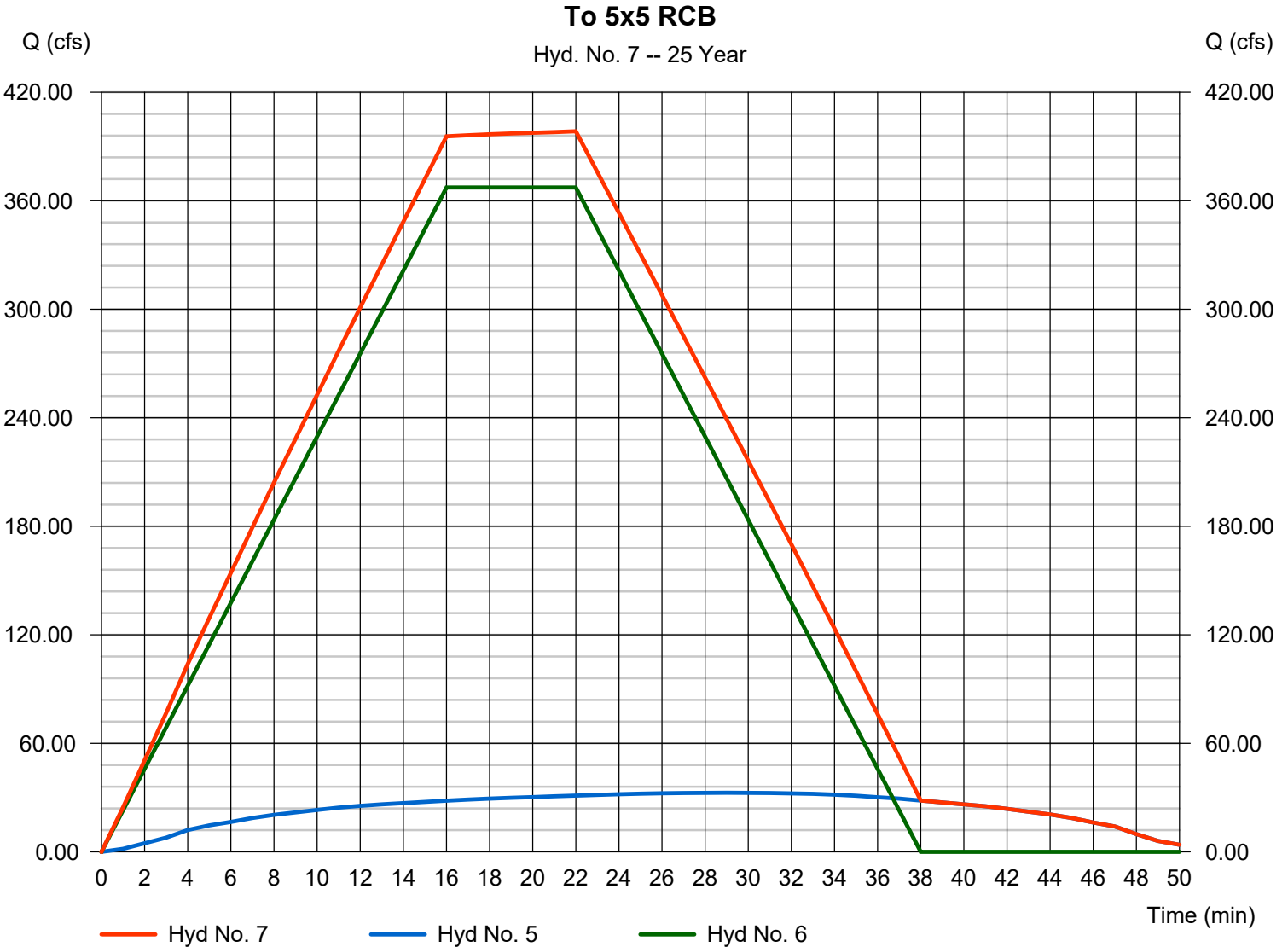
Friday, 12 / 23 / 2022

Hyd. No. 7

To 5x5 RCB

Hydrograph type = Combine
Storm frequency = 25 yrs
Time interval = 1 min
Inflow hyds. = 5, 6

Peak discharge = 398.39 cfs
Time to peak = 22 min
Hyd. volume = 557,054 cuft
Contrib. drain. area = 89.750 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

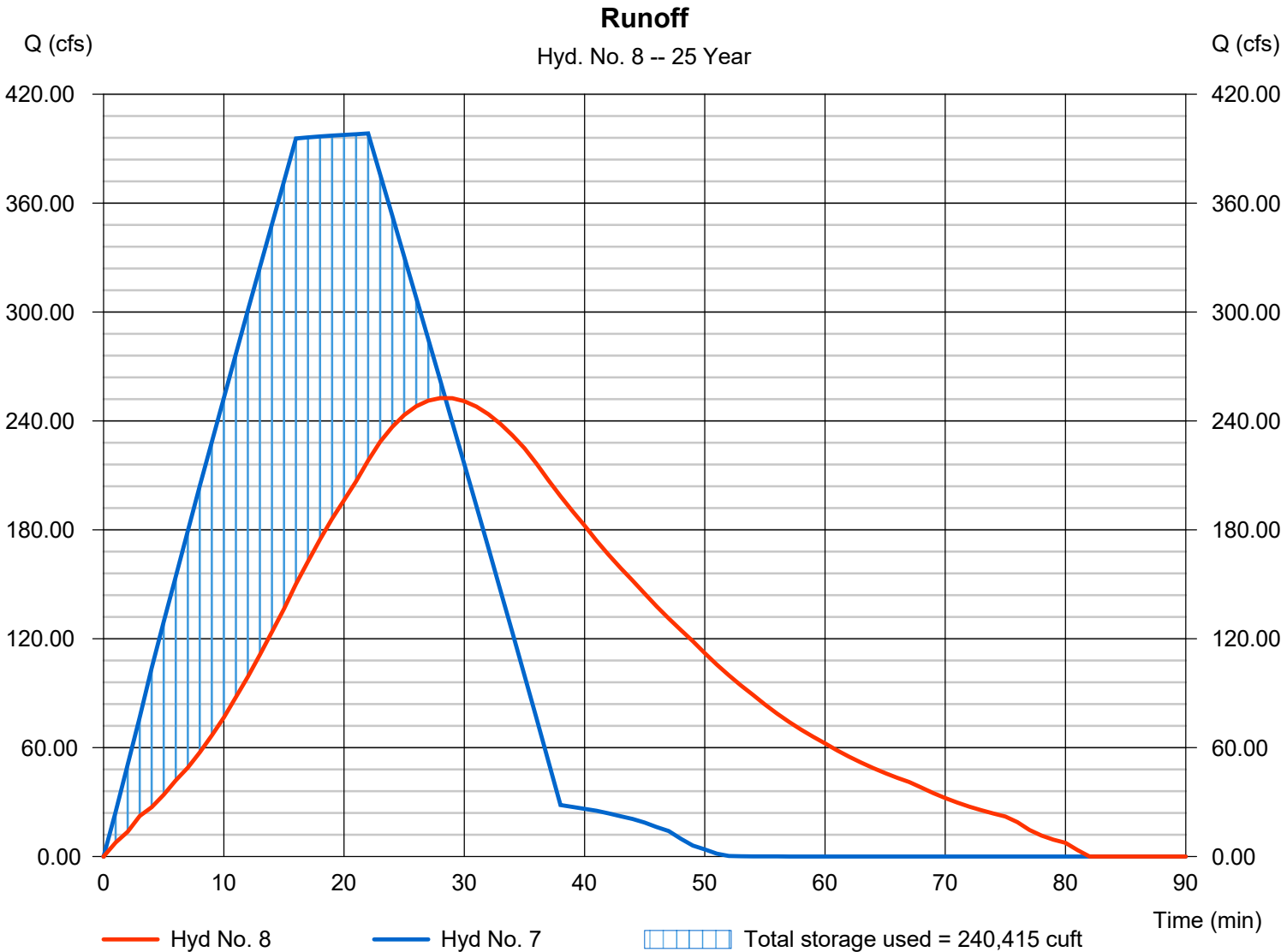
Friday, 12 / 23 / 2022

Hyd. No. 8

Runoff

Hydrograph type	= Reservoir	Peak discharge	= 252.62 cfs
Storm frequency	= 25 yrs	Time to peak	= 28 min
Time interval	= 1 min	Hyd. volume	= 557,035 cuft
Inflow hyd. No.	= 7 - To 5x5 RCB	Max. Elevation	= 1017.57 ft
Reservoir name	= Proposed	Max. Storage	= 240,415 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Mod. Rational	30.09	1	10	36,293	-----	-----	-----	Dev Det B1
2	Reservoir	20.21	1	23	36,377	1	1029.00	9,519	Det Outflow
3	Mod. Rational	30.26	1	10	41,938	-----	-----	-----	Dev Det B2
4	Combine	50.47	1	23	78,134	2, 3	-----	-----	Inflow B2
5	Reservoir	33.70	1	28	78,133	4	1025.21	26,482	Outflow B2
6	Mod. Rational	415.97	1	16	527,113	-----	-----	-----	To 5x5 RCB
7	Combine	447.91	1	21	602,251	5, 6	-----	-----	To 5x5 RCB
8	Reservoir	278.49	1	28	602,233	7	1018.03	262,884	Runoff

Hydrograph Report

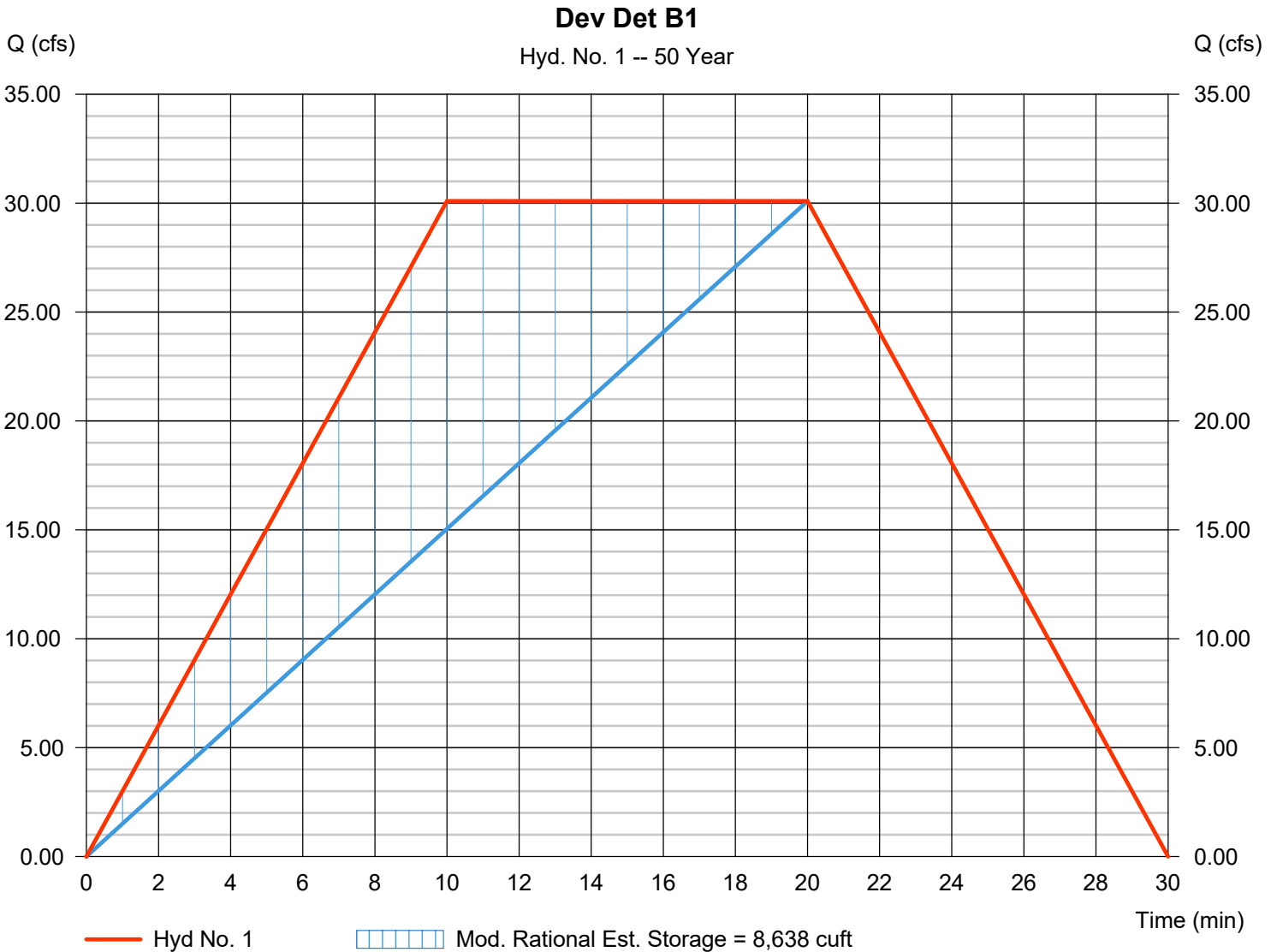
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Friday, 12 / 23 / 2022

Hyd. No. 1

Dev Det B1

Hydrograph type	= Mod. Rational	Peak discharge	= 30.09 cfs
Storm frequency	= 50 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 36,293 cuft
Drainage area	= 5.150 ac	Runoff coeff.	= 0.95
Intensity	= 6.151 in/hr	Tc by User	= 10.00 min
IDF Curve	= OKC.IDF	Storm duration	= 2.0 x Tc
Target Q	=30.00 cfs	Est. Req'd Storage	=8,638 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

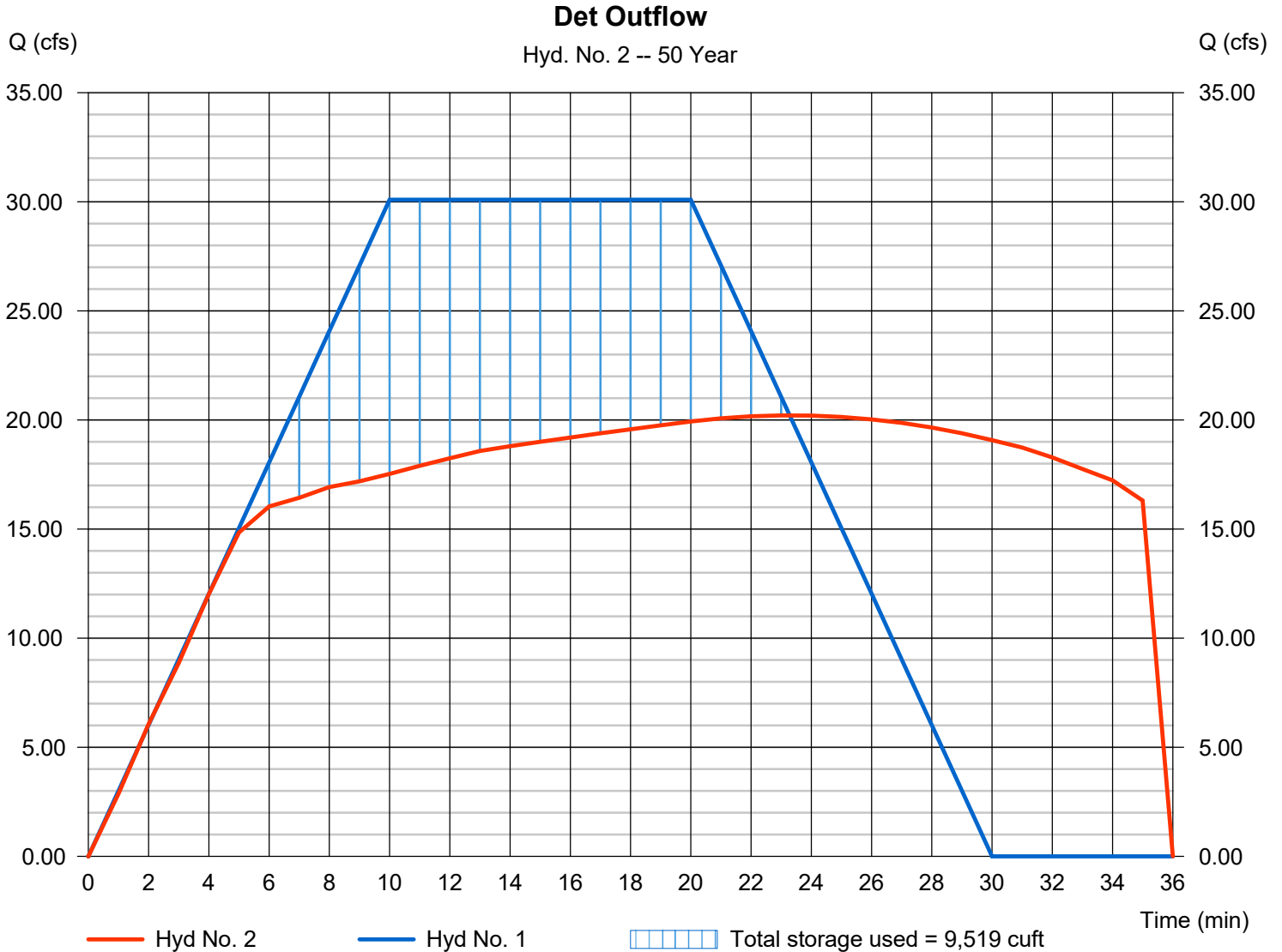
Friday, 12 / 23 / 2022

Hyd. No. 2

Det Outflow

Hydrograph type	= Reservoir	Peak discharge	= 20.21 cfs
Storm frequency	= 50 yrs	Time to peak	= 23 min
Time interval	= 1 min	Hyd. volume	= 36,377 cuft
Inflow hyd. No.	= 1 - Dev Det B1	Max. Elevation	= 1029.00 ft
Reservoir name	= Det B1	Max. Storage	= 9,519 cuft

Storage Indication method used.



Hydrograph Report

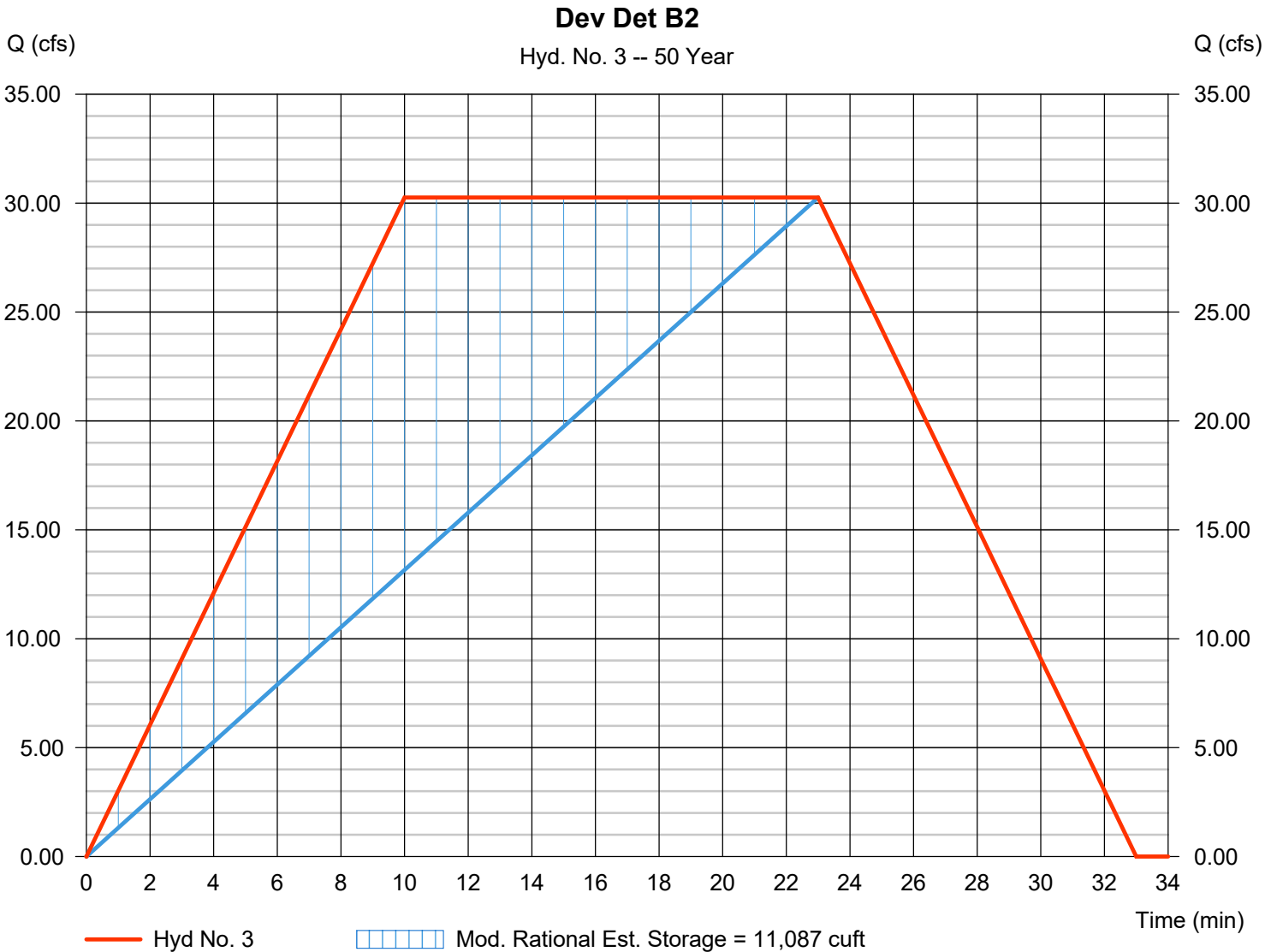
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Friday, 12 / 23 / 2022

Hyd. No. 3

Dev Det B2

Hydrograph type	= Mod. Rational	Peak discharge	= 30.26 cfs
Storm frequency	= 50 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 41,938 cuft
Drainage area	= 5.510 ac	Runoff coeff.	= 0.95
Intensity	= 5.781 in/hr	Tc by User	= 10.00 min
IDF Curve	= OKC.IDF	Storm duration	= 2.3 x Tc
Target Q	=30.00 cfs	Est. Req'd Storage	=11,087 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

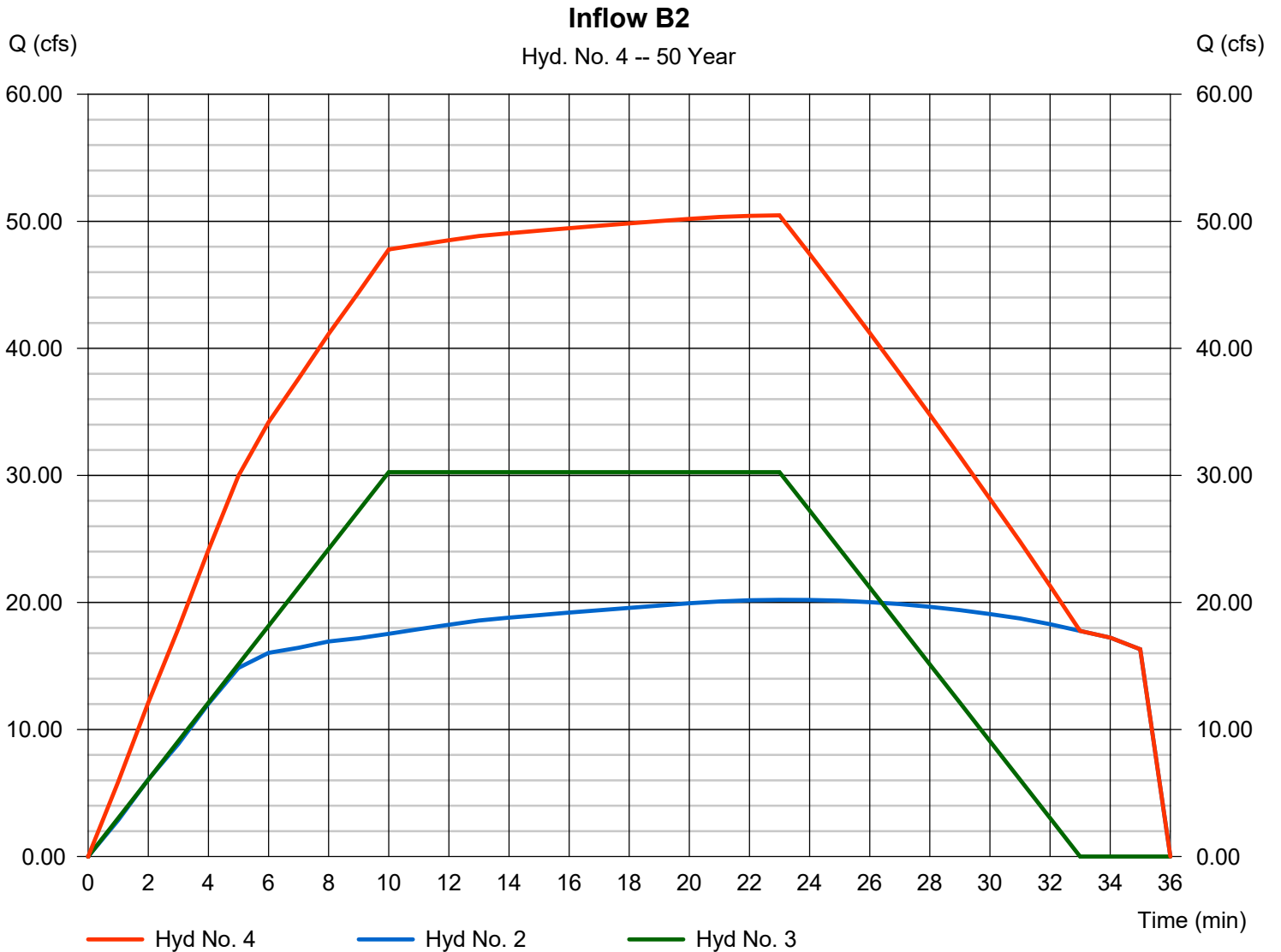
Friday, 12 / 23 / 2022

Hyd. No. 4

Inflow B2

Hydrograph type = Combine
Storm frequency = 50 yrs
Time interval = 1 min
Inflow hyds. = 2, 3

Peak discharge = 50.47 cfs
Time to peak = 23 min
Hyd. volume = 78,134 cuft
Contrib. drain. area = 5.510 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

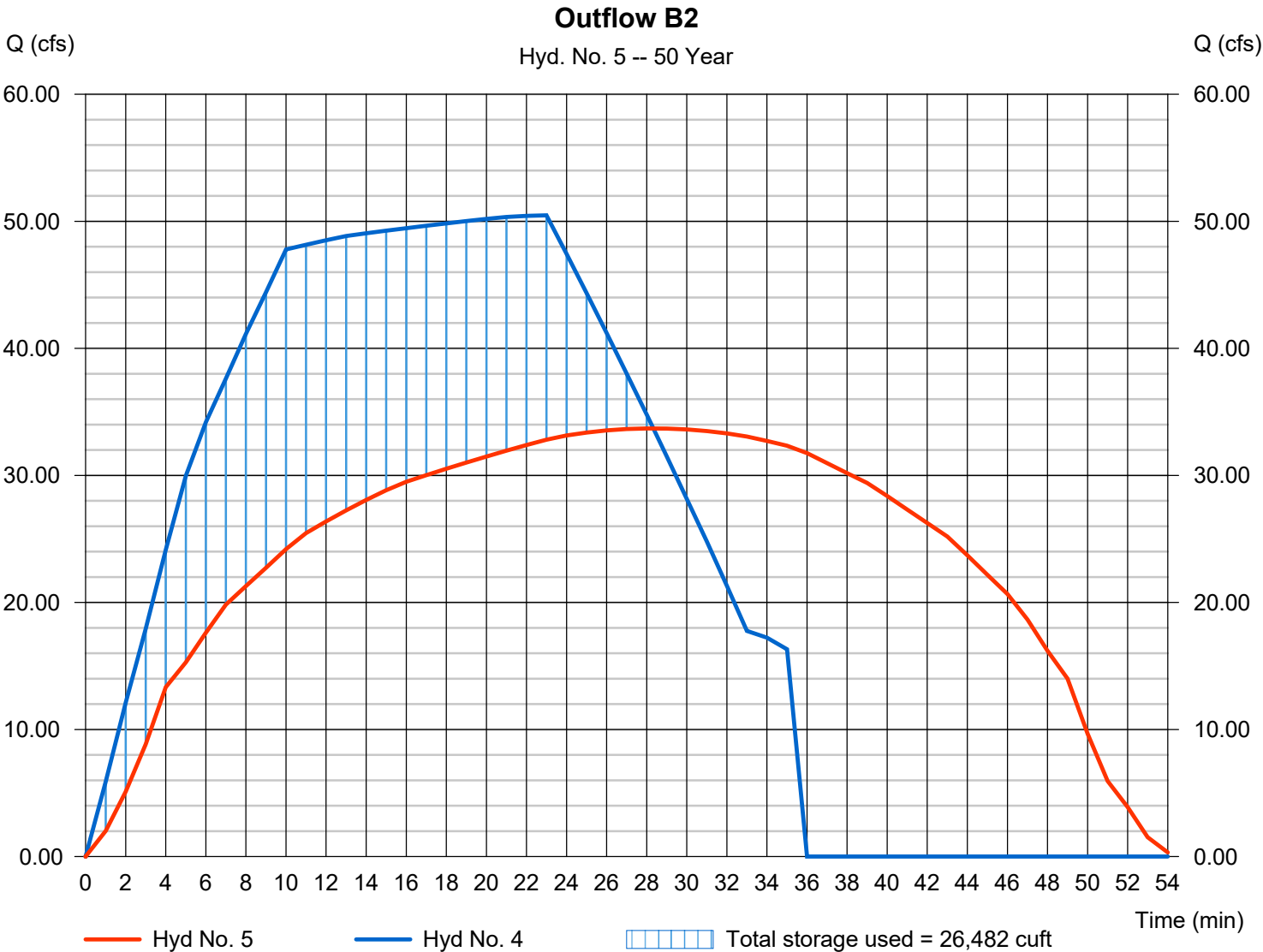
Friday, 12 / 23 / 2022

Hyd. No. 5

Outflow B2

Hydrograph type	= Reservoir	Peak discharge	= 33.70 cfs
Storm frequency	= 50 yrs	Time to peak	= 28 min
Time interval	= 1 min	Hyd. volume	= 78,133 cuft
Inflow hyd. No.	= 4 - Inflow B2	Max. Elevation	= 1025.21 ft
Reservoir name	= Det B2	Max. Storage	= 26,482 cuft

Storage Indication method used.



Hydrograph Report

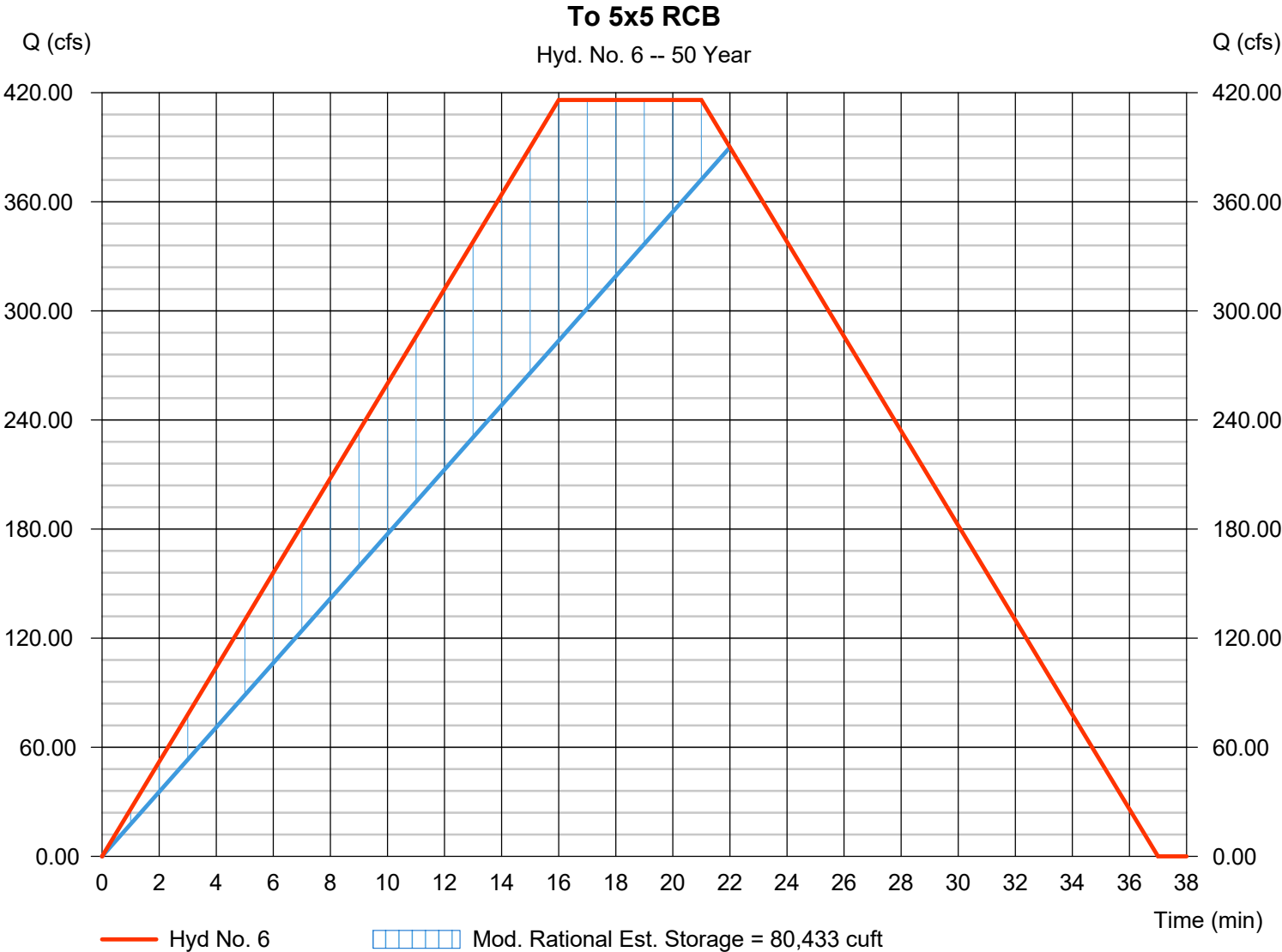
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Friday, 12 / 23 / 2022

Hyd. No. 6

To 5x5 RCB

Hydrograph type	= Mod. Rational	Peak discharge	= 415.97 cfs
Storm frequency	= 50 yrs	Time to peak	= 16 min
Time interval	= 1 min	Hyd. volume	= 527,113 cuft
Drainage area	= 89.750 ac	Runoff coeff.	= 0.77
Intensity	= 6.019 in/hr	Tc by User	= 16.00 min
IDF Curve	= OKC.IDF	Storm duration	= 1.3 x Tc
Target Q	=400.00 cfs	Est. Req'd Storage	=80,433 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

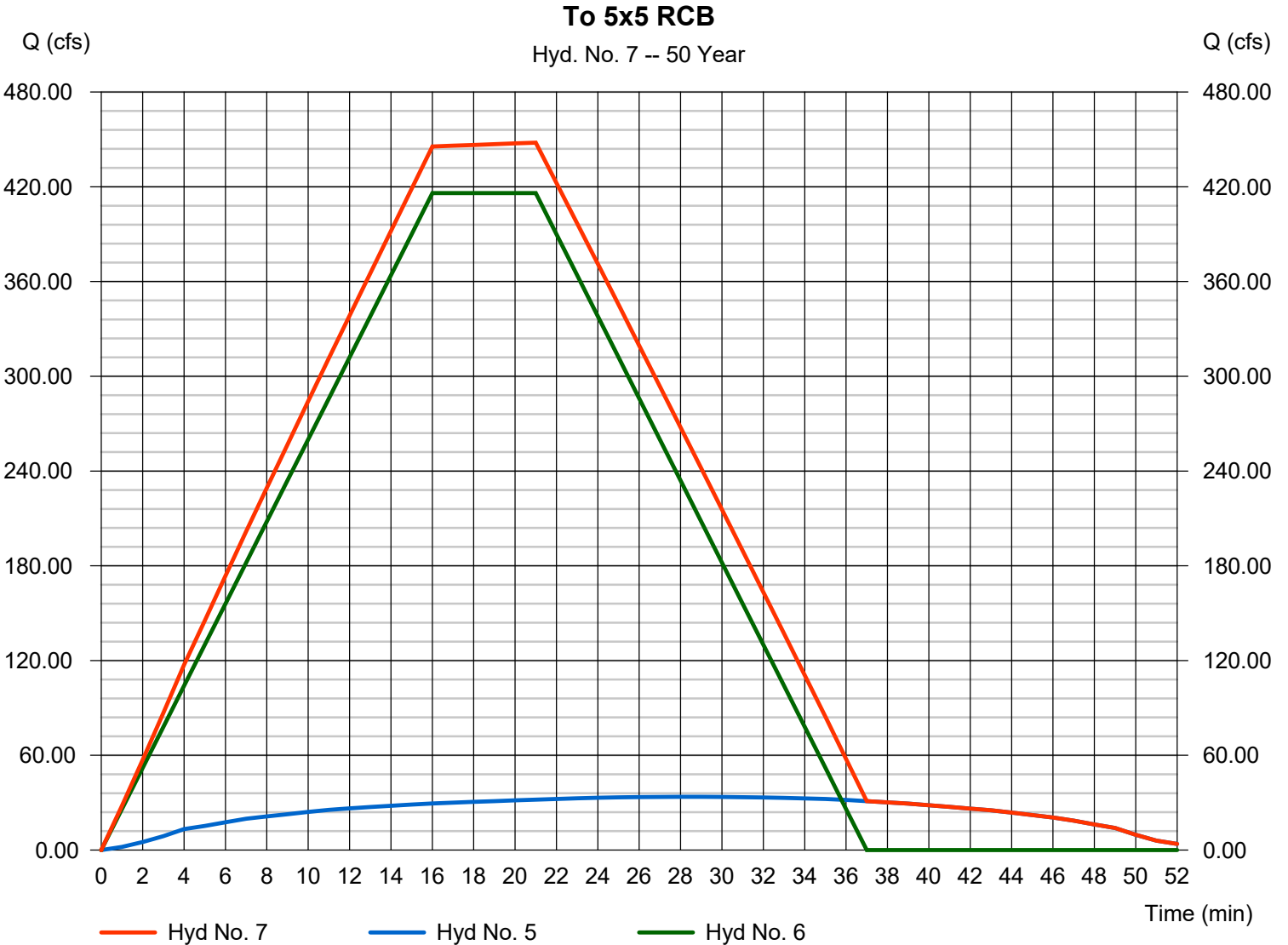
Friday, 12 / 23 / 2022

Hyd. No. 7

To 5x5 RCB

Hydrograph type = Combine
Storm frequency = 50 yrs
Time interval = 1 min
Inflow hyds. = 5, 6

Peak discharge = 447.91 cfs
Time to peak = 21 min
Hyd. volume = 602,251 cuft
Contrib. drain. area = 89.750 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

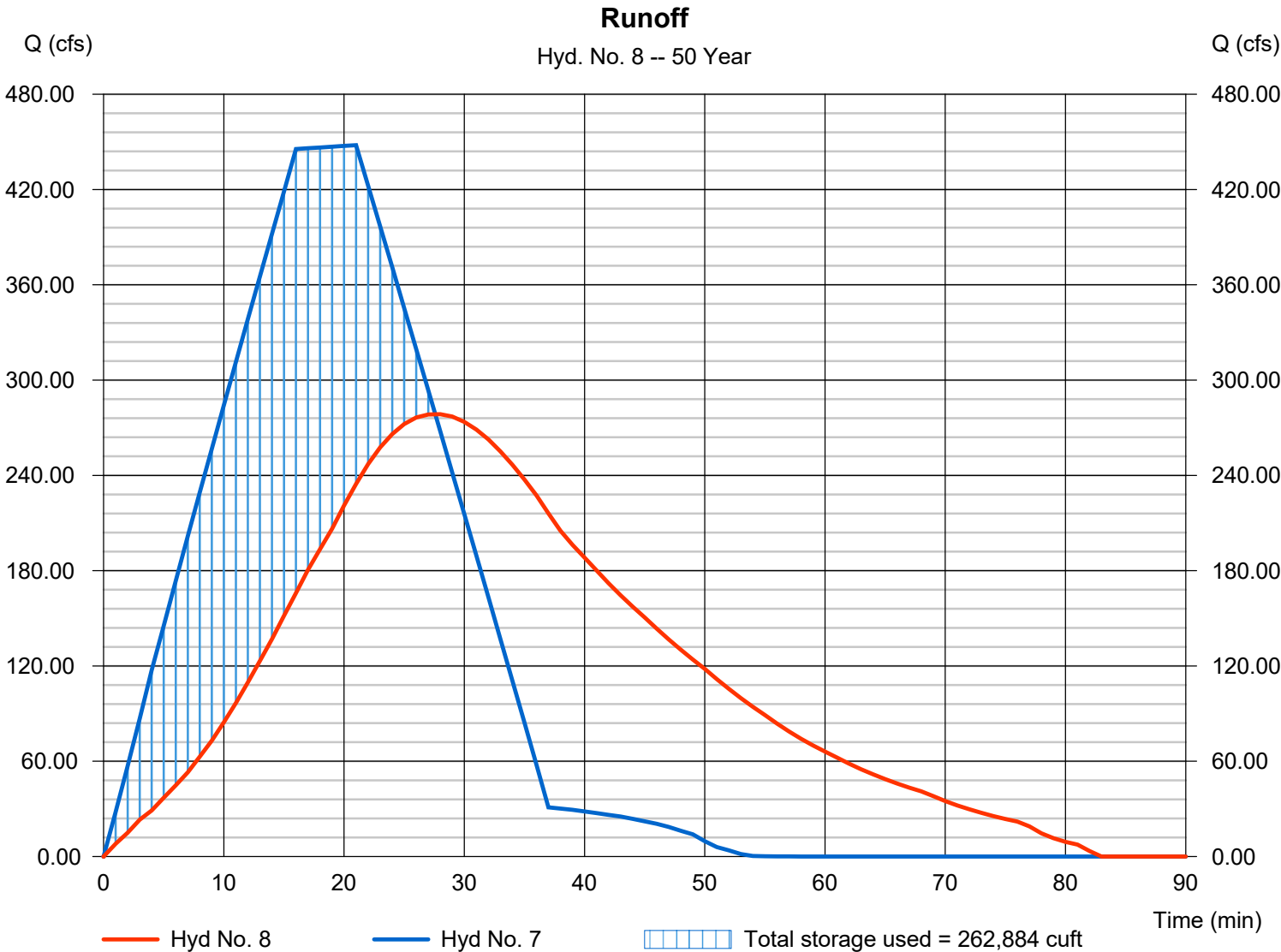
Friday, 12 / 23 / 2022

Hyd. No. 8

Runoff

Hydrograph type	= Reservoir	Peak discharge	= 278.49 cfs
Storm frequency	= 50 yrs	Time to peak	= 28 min
Time interval	= 1 min	Hyd. volume	= 602,233 cuft
Inflow hyd. No.	= 7 - To 5x5 RCB	Max. Elevation	= 1018.03 ft
Reservoir name	= Proposed	Max. Storage	= 262,884 cuft

Storage Indication method used.



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Mod. Rational	37.02	1	10	33,536	-----	-----	-----	Dev Det B1
2	Reservoir	20.49	1	19	33,679	1	1029.18	10,866	Det Outflow
3	Mod. Rational	35.34	1	10	42,625	-----	-----	-----	Dev Det B2
4	Combine	55.83	1	19	76,092	2, 3	-----	-----	Inflow B2
5	Reservoir	34.30	1	26	76,092	4	1025.39	28,512	Outflow B2
6	Mod. Rational	466.03	1	16	563,710	-----	-----	-----	To 5x5 RCB
7	Combine	499.15	1	20	635,328	5, 6	-----	-----	To 5x5 RCB
8	Reservoir	301.56	1	27	635,310	7	1018.41	284,151	Runoff
Revised Pond B & New Pond w Cipoletti Weir. Return Period: 100 Year					Friday, 12 / 23 / 2022				

Hydrograph Report

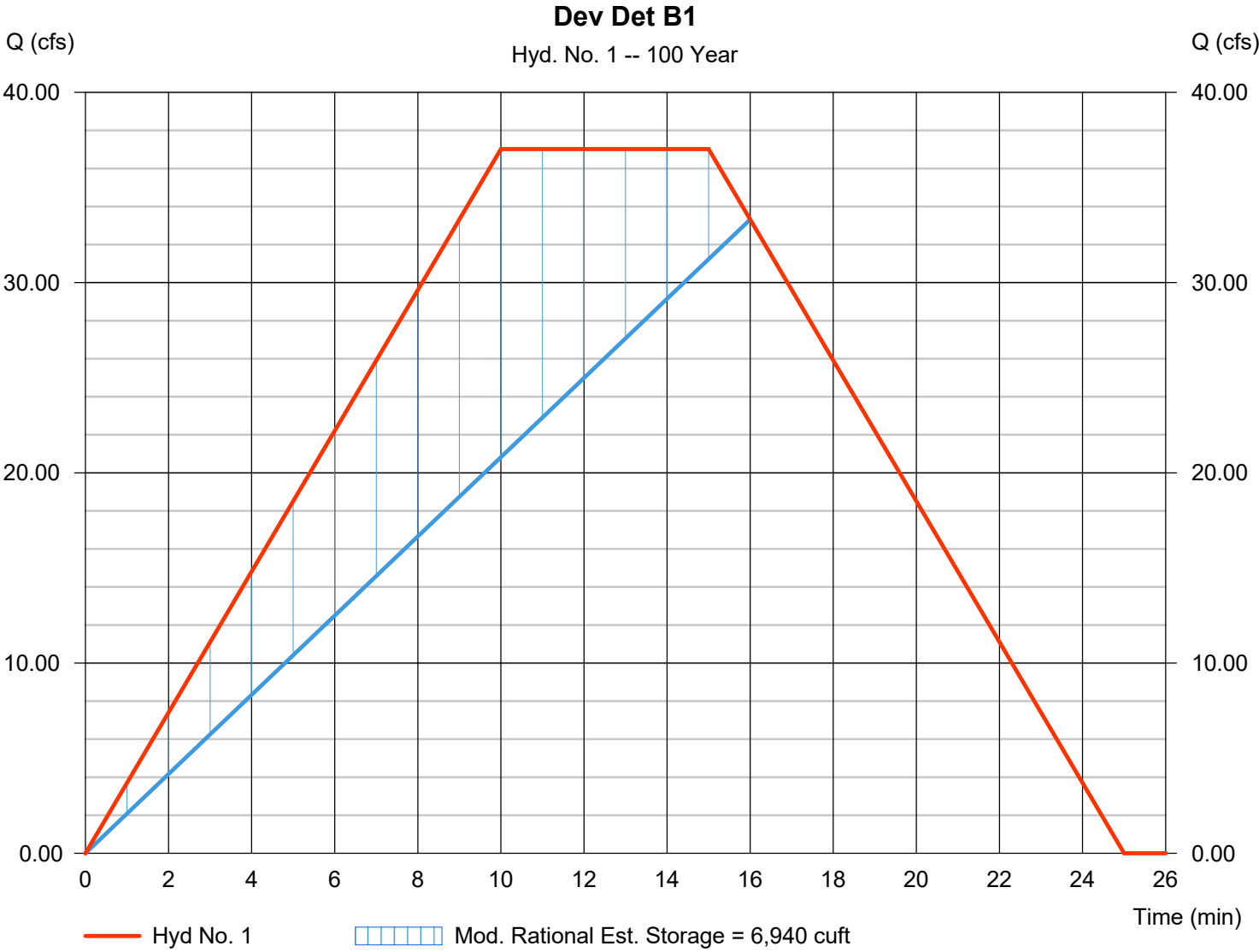
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Friday, 12 / 23 / 2022

Hyd. No. 1

Dev Det B1

Hydrograph type	= Mod. Rational	Peak discharge	= 37.02 cfs
Storm frequency	= 100 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 33,536 cuft
Drainage area	= 5.150 ac	Runoff coeff.	= 0.95
Intensity	= 7.566 in/hr	Tc by User	= 10.00 min
IDF Curve	= OKC.IDF	Storm duration	= 1.5 x Tc
Target Q	=35.00 cfs	Est. Req'd Storage	=6,940 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

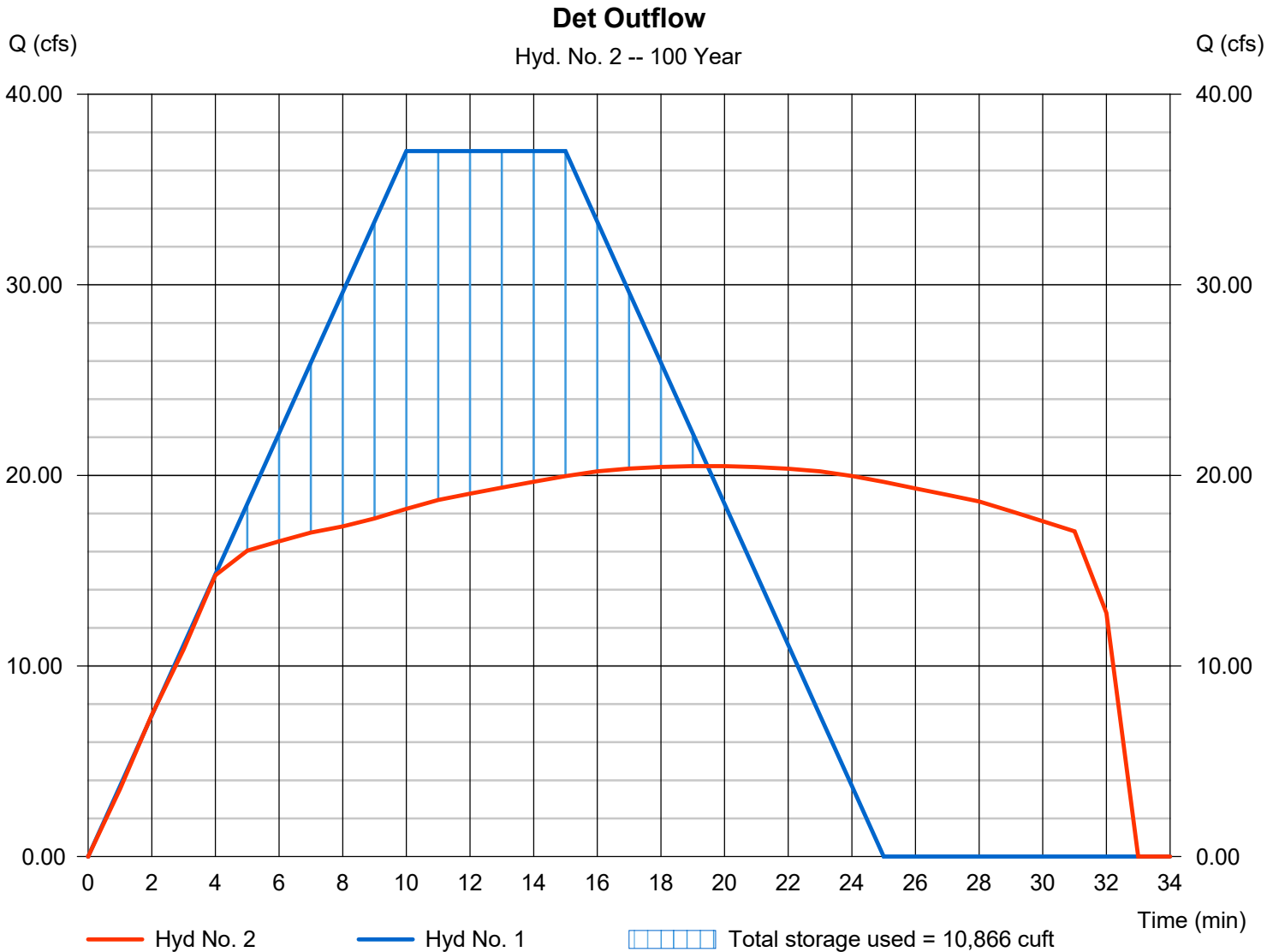
Friday, 12 / 23 / 2022

Hyd. No. 2

Det Outflow

Hydrograph type	= Reservoir	Peak discharge	= 20.49 cfs
Storm frequency	= 100 yrs	Time to peak	= 19 min
Time interval	= 1 min	Hyd. volume	= 33,679 cuft
Inflow hyd. No.	= 1 - Dev Det B1	Max. Elevation	= 1029.18 ft
Reservoir name	= Det B1	Max. Storage	= 10,866 cuft

Storage Indication method used.



Hydrograph Report

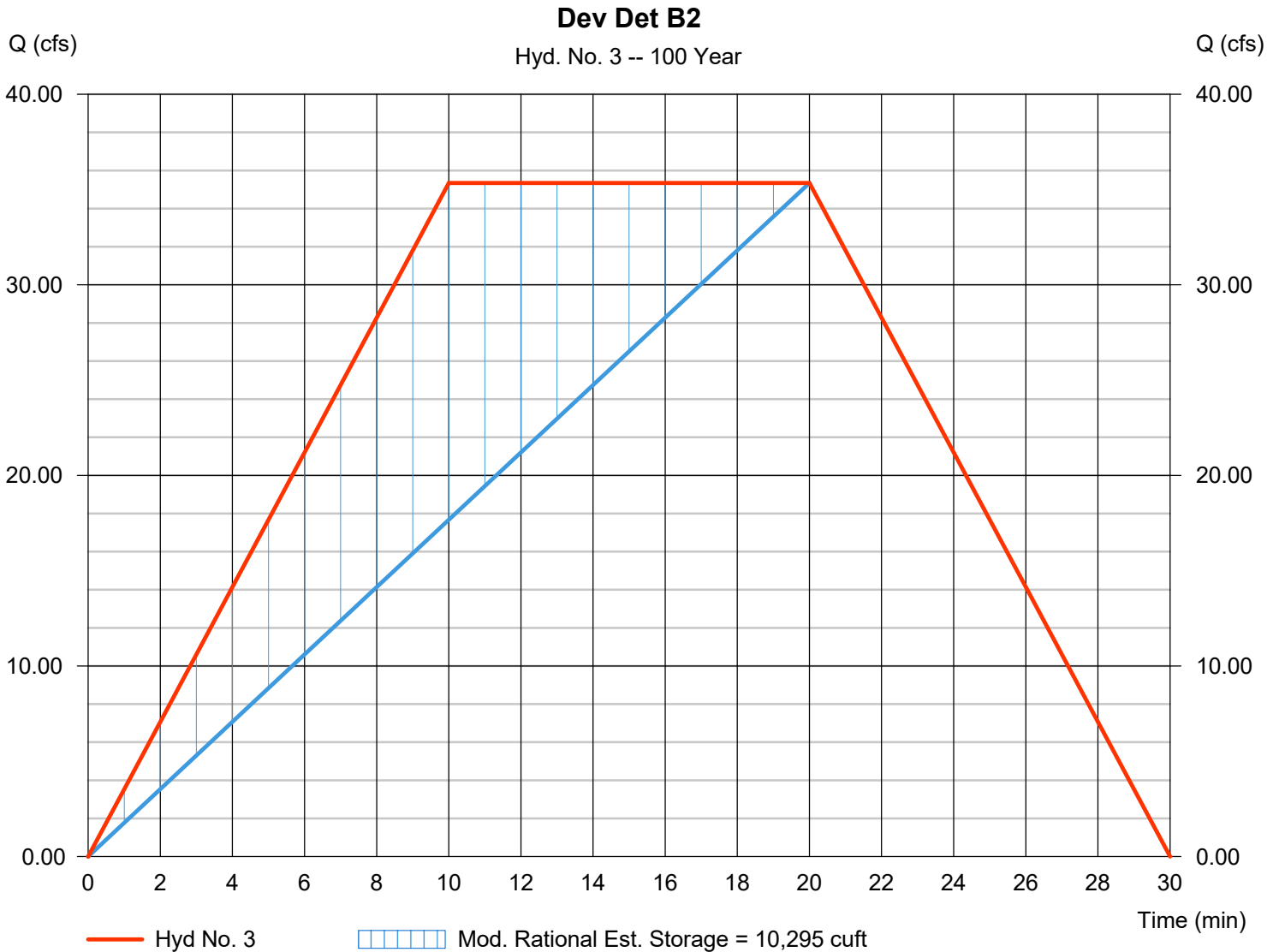
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

Friday, 12 / 23 / 2022

Hyd. No. 3

Dev Det B2

Hydrograph type	= Mod. Rational	Peak discharge	= 35.34 cfs
Storm frequency	= 100 yrs	Time to peak	= 10 min
Time interval	= 1 min	Hyd. volume	= 42,625 cuft
Drainage area	= 5.510 ac	Runoff coeff.	= 0.95
Intensity	= 6.752 in/hr	Tc by User	= 10.00 min
IDF Curve	= OKC.IDF	Storm duration	= 2.0 x Tc
Target Q	=35.00 cfs	Est. Req'd Storage	=10,295 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

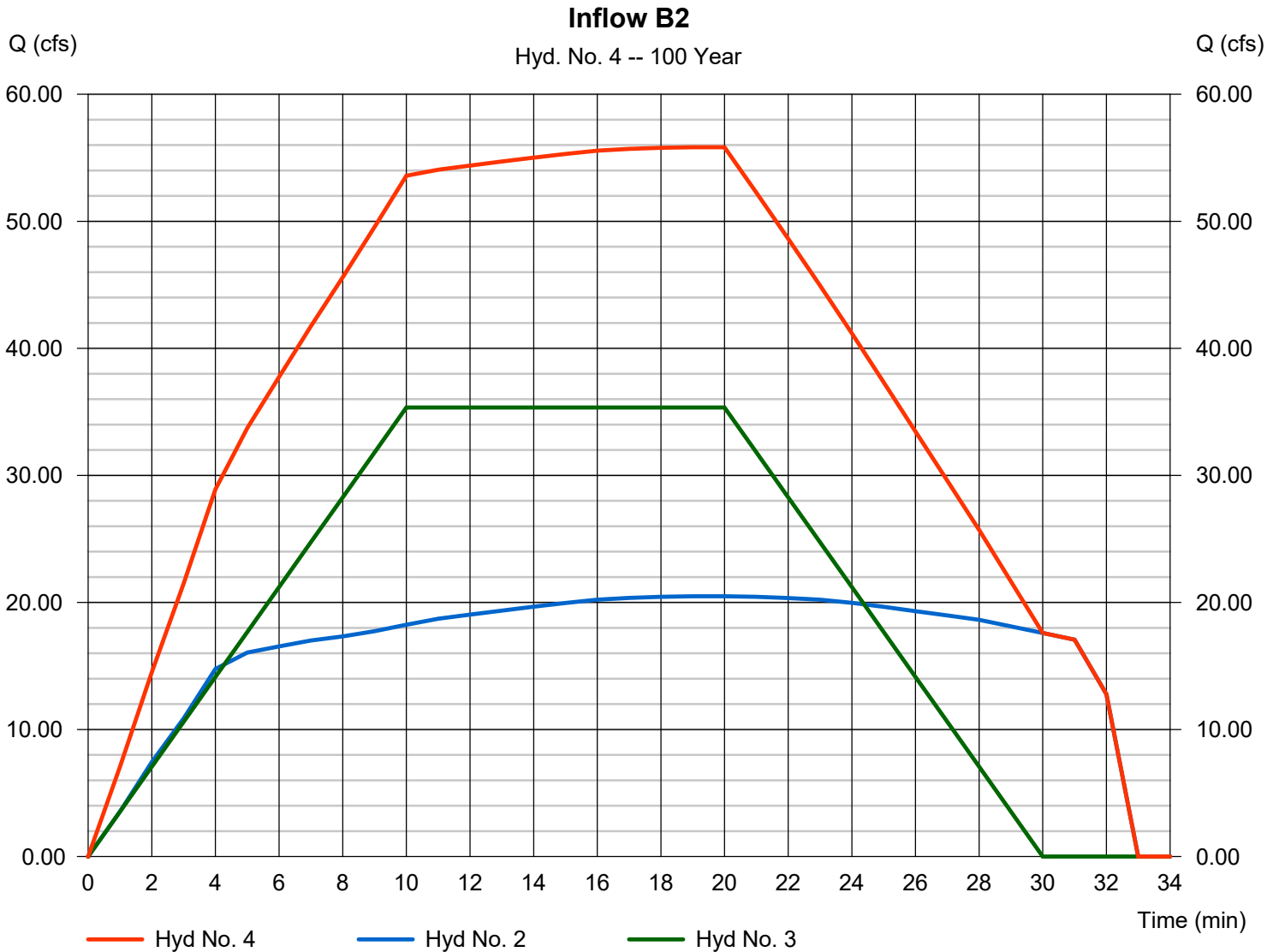
Friday, 12 / 23 / 2022

Hyd. No. 4

Inflow B2

Hydrograph type = Combine
 Storm frequency = 100 yrs
 Time interval = 1 min
 Inflow hyds. = 2, 3

Peak discharge = 55.83 cfs
 Time to peak = 19 min
 Hyd. volume = 76,092 cuft
 Contrib. drain. area = 5.510 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

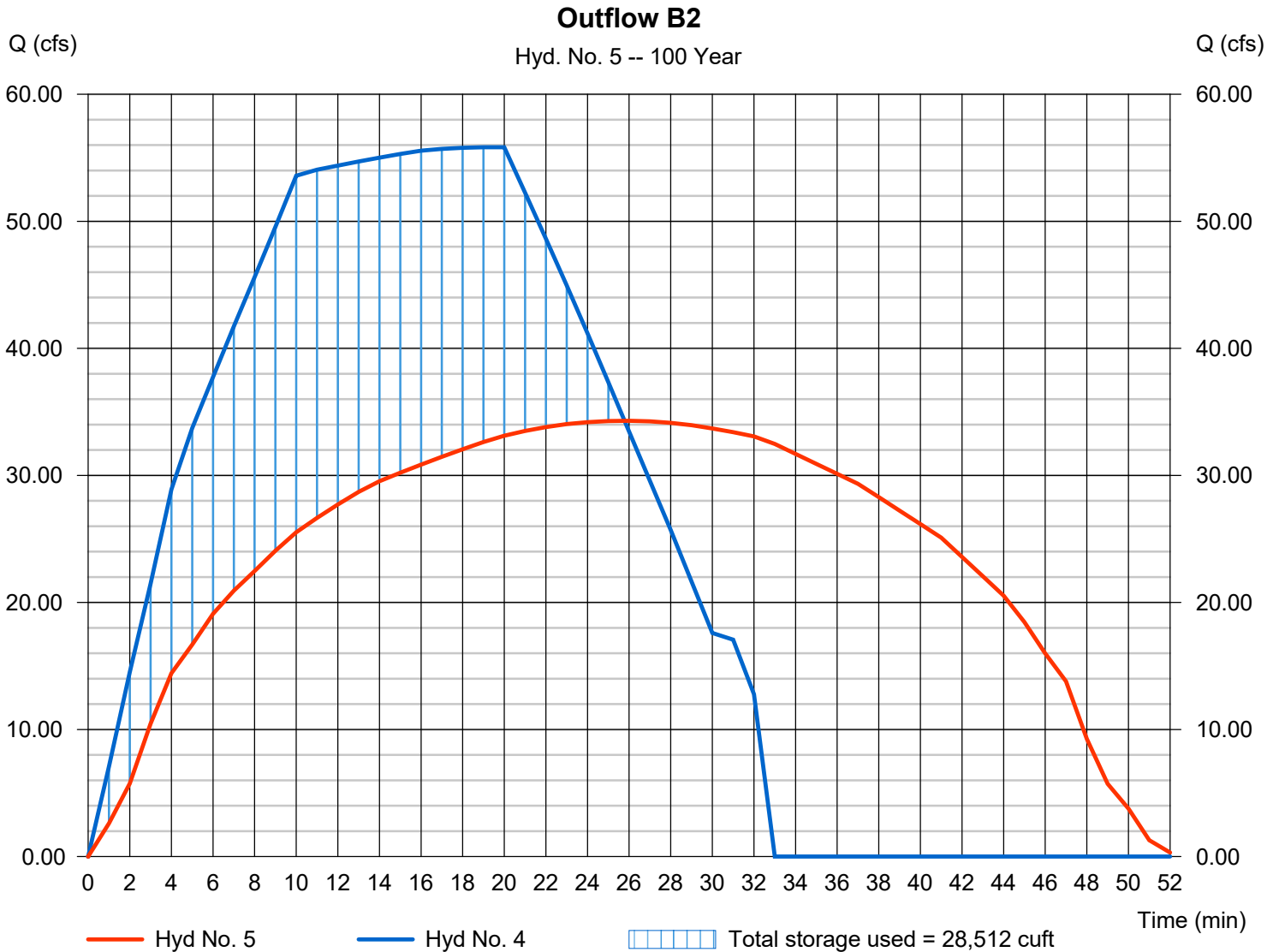
Friday, 12 / 23 / 2022

Hyd. No. 5

Outflow B2

Hydrograph type	= Reservoir	Peak discharge	= 34.30 cfs
Storm frequency	= 100 yrs	Time to peak	= 26 min
Time interval	= 1 min	Hyd. volume	= 76,092 cuft
Inflow hyd. No.	= 4 - Inflow B2	Max. Elevation	= 1025.39 ft
Reservoir name	= Det B2	Max. Storage	= 28,512 cuft

Storage Indication method used.



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

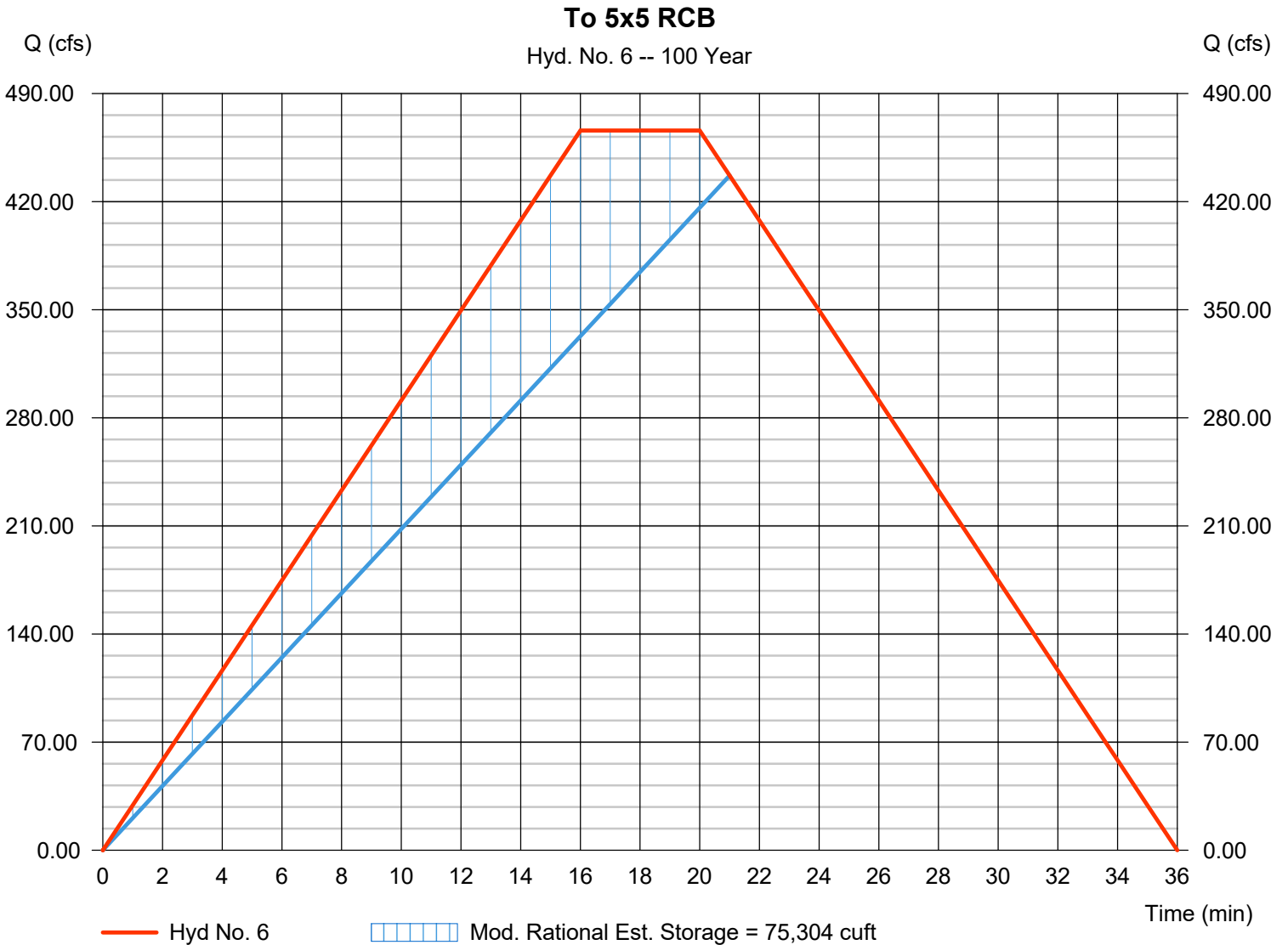
Friday, 12 / 23 / 2022

Hyd. No. 6

To 5x5 RCB

Hydrograph type = Mod. Rational
 Storm frequency = 100 yrs
 Time interval = 1 min
 Drainage area = 89.750 ac
 Intensity = 6.744 in/hr
 IDF Curve = OKC.IDF
 Target Q = 450.00 cfs

Peak discharge = 466.03 cfs
 Time to peak = 16 min
 Hyd. volume = 563,710 cuft
 Runoff coeff. = 0.77
 Tc by User = 16.00 min
 Storm duration = 1.3 x Tc
 Est. Req'd Storage = 75,304 cuft



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

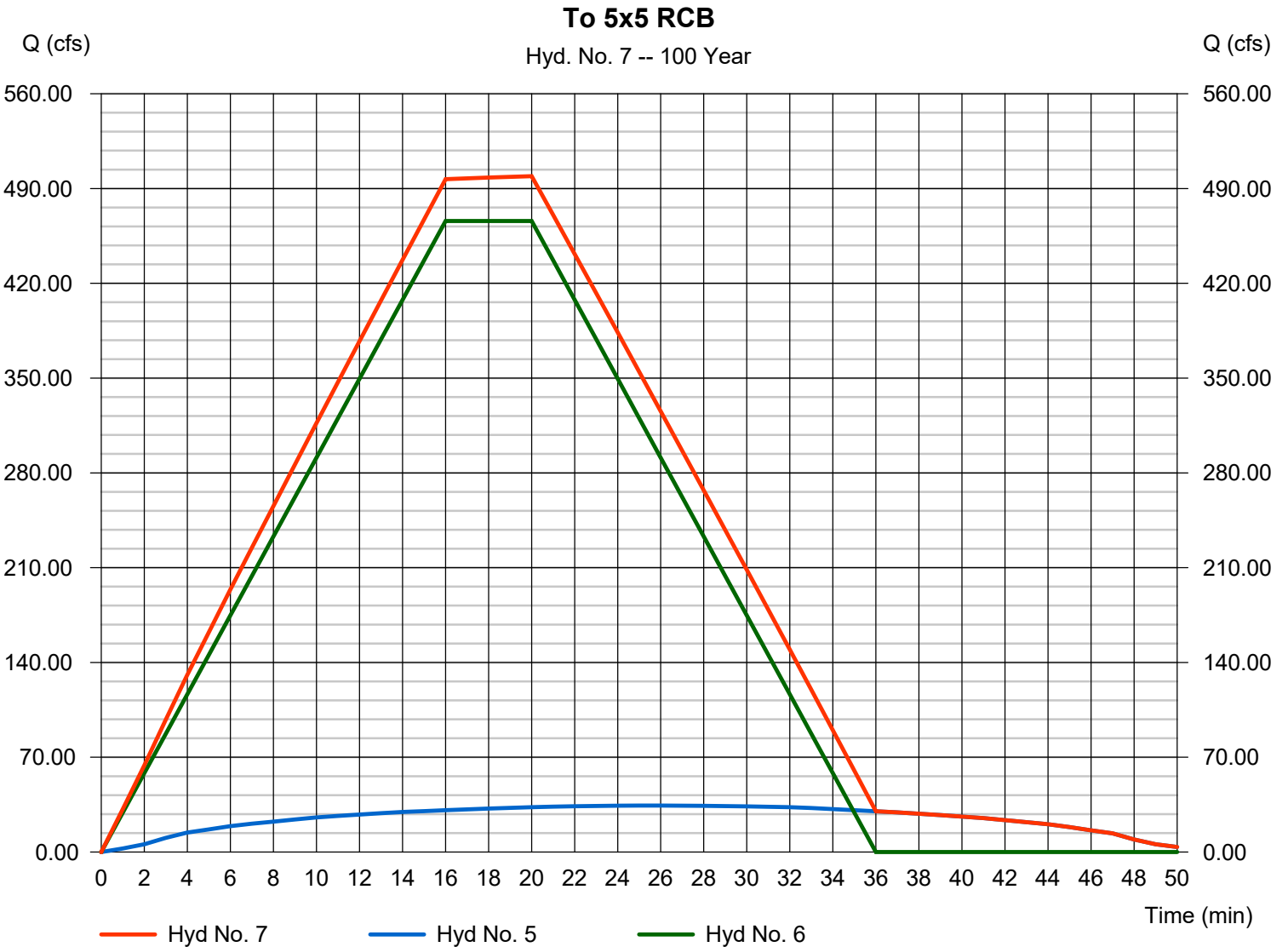
Friday, 12 / 23 / 2022

Hyd. No. 7

To 5x5 RCB

Hydrograph type = Combine
Storm frequency = 100 yrs
Time interval = 1 min
Inflow hyds. = 5, 6

Peak discharge = 499.15 cfs
Time to peak = 20 min
Hyd. volume = 635,328 cuft
Contrib. drain. area = 89.750 ac



Hydrograph Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2021

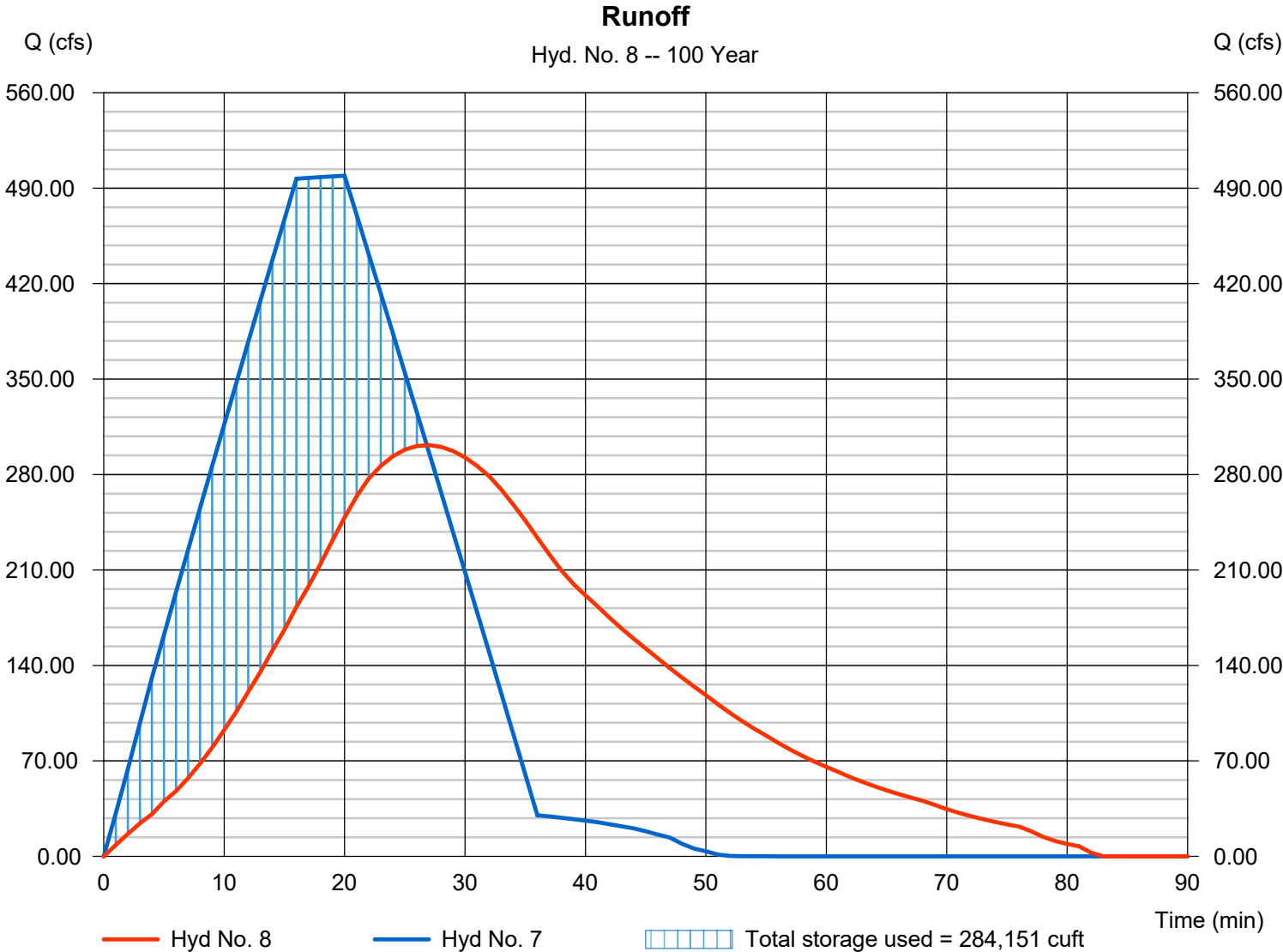
Friday, 12 / 23 / 2022

Hyd. No. 8

Runoff

Hydrograph type	= Reservoir	Peak discharge	= 301.56 cfs
Storm frequency	= 100 yrs	Time to peak	= 27 min
Time interval	= 1 min	Hyd. volume	= 635,310 cuft
Inflow hyd. No.	= 7 - To 5x5 RCB	Max. Elevation	= 1018.41 ft
Reservoir name	= Proposed	Max. Storage	= 284,151 cuft

Storage Indication method used.



Watershed Model Schematic.....	1
2 - Year	
Summary Report.....	2
Hydrograph Reports.....	3
Hydrograph No. 1, Mod. Rational, Dev Det B1.....	3
Hydrograph No. 2, Reservoir, Det Outflow.....	4
Pond Report - Det B1.....	5
Hydrograph No. 3, Mod. Rational, Dev Det B2.....	6
Hydrograph No. 4, Combine, Inflow B2.....	7
Hydrograph No. 5, Reservoir, Outflow B2.....	8
Pond Report - Det B2.....	9
Hydrograph No. 6, Mod. Rational, To 5x5 RCB.....	10
Hydrograph No. 7, Combine, To 5x5 RCB.....	11
Hydrograph No. 8, Reservoir, Runoff.....	12
Pond Report - Proposed.....	13
5 - Year	
Summary Report.....	14
Hydrograph Reports.....	15
Hydrograph No. 1, Mod. Rational, Dev Det B1.....	15
Hydrograph No. 2, Reservoir, Det Outflow.....	16
Hydrograph No. 3, Mod. Rational, Dev Det B2.....	17
Hydrograph No. 4, Combine, Inflow B2.....	18
Hydrograph No. 5, Reservoir, Outflow B2.....	19
Hydrograph No. 6, Mod. Rational, To 5x5 RCB.....	20
Hydrograph No. 7, Combine, To 5x5 RCB.....	21
Hydrograph No. 8, Reservoir, Runoff.....	22
10 - Year	
Summary Report.....	23
Hydrograph Reports.....	24
Hydrograph No. 1, Mod. Rational, Dev Det B1.....	24
Hydrograph No. 2, Reservoir, Det Outflow.....	25
Hydrograph No. 3, Mod. Rational, Dev Det B2.....	26
Hydrograph No. 4, Combine, Inflow B2.....	27
Hydrograph No. 5, Reservoir, Outflow B2.....	28
Hydrograph No. 6, Mod. Rational, To 5x5 RCB.....	29
Hydrograph No. 7, Combine, To 5x5 RCB.....	30
Hydrograph No. 8, Reservoir, Runoff.....	31
25 - Year	
Summary Report.....	32
Hydrograph Reports.....	33
Hydrograph No. 1, Mod. Rational, Dev Det B1.....	33
Hydrograph No. 2, Reservoir, Det Outflow.....	34
Hydrograph No. 3, Mod. Rational, Dev Det B2.....	35
Hydrograph No. 4, Combine, Inflow B2.....	36

Hydrograph No. 5, Reservoir, Outflow B2.....	37
Hydrograph No. 6, Mod. Rational, To 5x5 RCB.....	38
Hydrograph No. 7, Combine, To 5x5 RCB.....	39
Hydrograph No. 8, Reservoir, Runoff.....	40

50 - Year

Summary Report.....	41
Hydrograph Reports.....	42
Hydrograph No. 1, Mod. Rational, Dev Det B1.....	42
Hydrograph No. 2, Reservoir, Det Outflow.....	43
Hydrograph No. 3, Mod. Rational, Dev Det B2.....	44
Hydrograph No. 4, Combine, Inflow B2.....	45
Hydrograph No. 5, Reservoir, Outflow B2.....	46
Hydrograph No. 6, Mod. Rational, To 5x5 RCB.....	47
Hydrograph No. 7, Combine, To 5x5 RCB.....	48
Hydrograph No. 8, Reservoir, Runoff.....	49

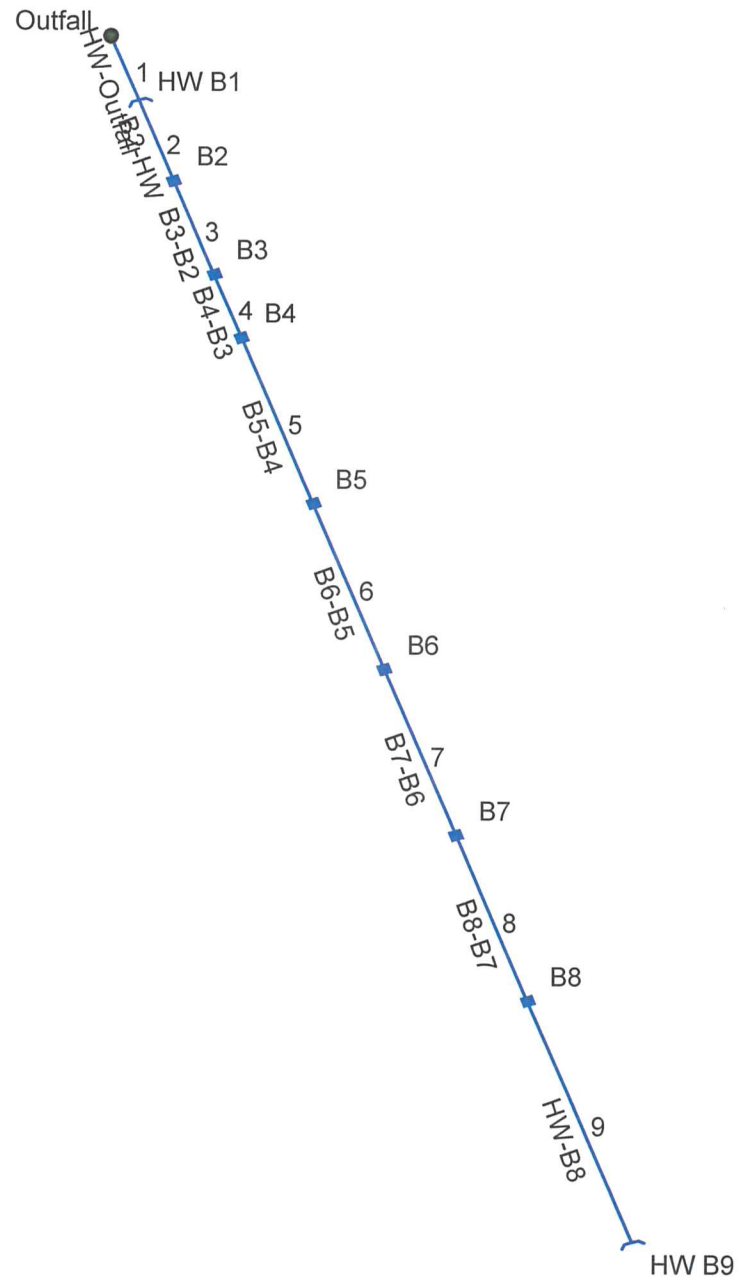
100 - Year

Summary Report.....	50
Hydrograph Reports.....	51
Hydrograph No. 1, Mod. Rational, Dev Det B1.....	51
Hydrograph No. 2, Reservoir, Det Outflow.....	52
Hydrograph No. 3, Mod. Rational, Dev Det B2.....	53
Hydrograph No. 4, Combine, Inflow B2.....	54
Hydrograph No. 5, Reservoir, Outflow B2.....	55
Hydrograph No. 6, Mod. Rational, To 5x5 RCB.....	56
Hydrograph No. 7, Combine, To 5x5 RCB.....	57
Hydrograph No. 8, Reservoir, Runoff.....	58

Appendix D

100-Year Storm Sewer Analysis
Storm Line B & D

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Project File: Storm B Rev2.stm

Number of lines: 9

Date: 12/27/2022

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	HW-Outfall	1.35	12	Cir	24.600	1008.28	1008.31	0.122	1011.72*	1011.75*	0.02	1011.77	End	OpenHeadwall
2	B2-HW	133.6	48	Cir	31.200	1008.31	1008.58	0.865	1011.77	1012.03	n/a	1012.03	1	Curb-
3	B3-B2	203.1	48	Cir	36.000	1008.58	1009.30	2.000	1012.03	1013.15	n/a	1013.15	2	Curb-
4	B4-B3	104.4	36	Cir	24.500	1010.30	1010.90	2.449	1013.15	1013.81	n/a	1013.81	3	Curb-
5	B5-B4	105.5	36	Cir	64.000	1010.90	1012.50	2.500	1013.81	1015.41	n/a	1015.41	4	Curb-
6	B6-B5	64.84	30	Cir	64.000	1013.00	1014.60	2.500	1015.41	1017.02	n/a	1017.02	5	Curb-
7	B7-B6	64.85	30	Cir	64.000	1014.60	1016.20	2.500	1017.02	1018.62	n/a	1018.62	6	Curb-
8	B8-B7	35.76	24	Cir	64.000	1016.70	1018.30	2.500	1018.62	1020.23	n/a	1020.23	7	Curb-
9	HW-B8	22.78	24	Cir	93.646	1018.30	1019.25	1.014	1020.23	1020.95	n/a	1020.95 j	8	OpenHeadwall

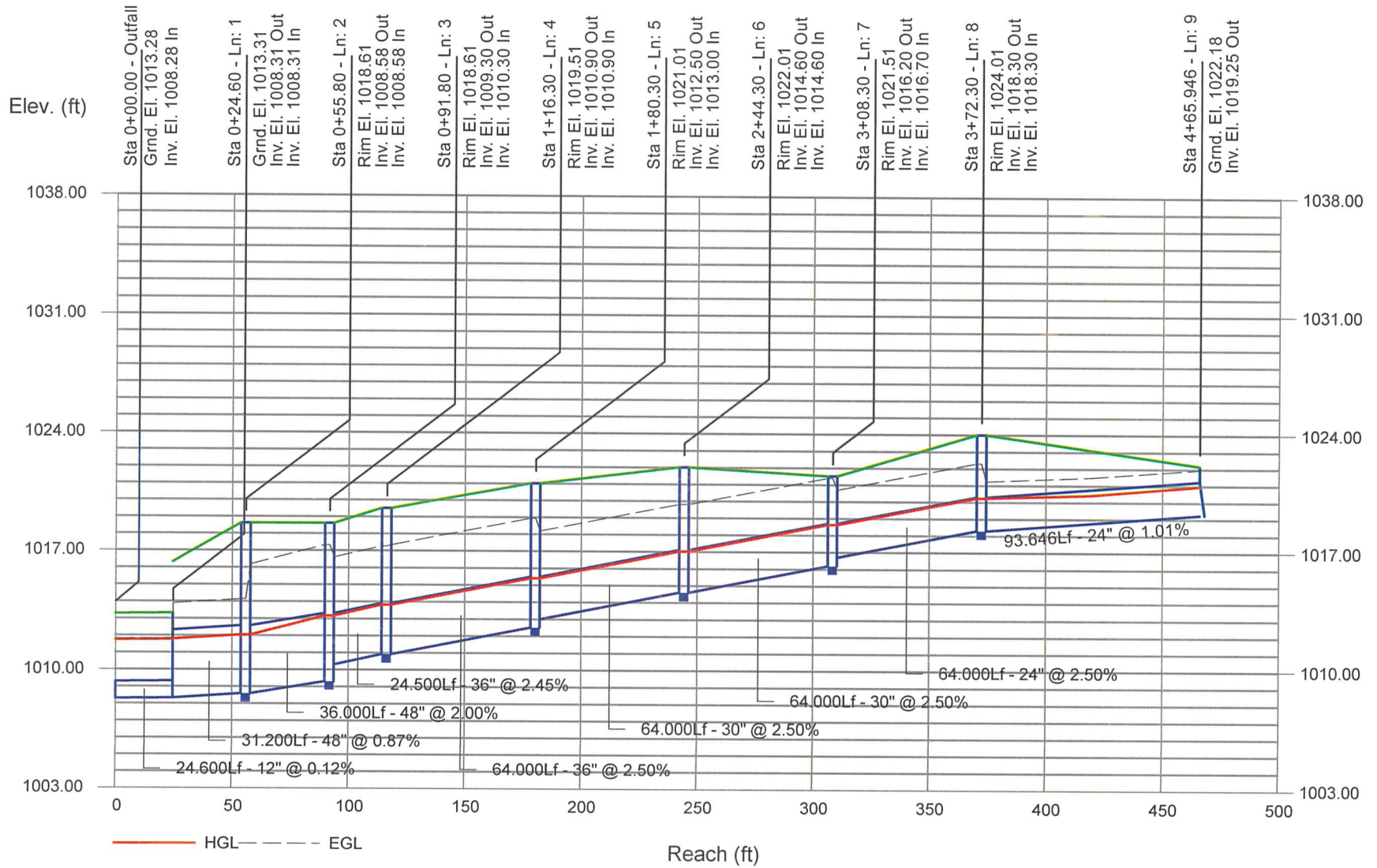
Project File: Storm B Rev2.stm

Number of lines: 9

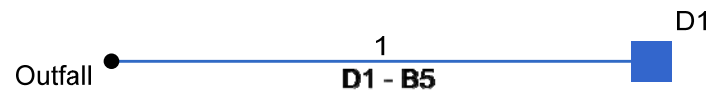
Run Date: 12/27/2022

NOTES: Return period = 100 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

Storm Sewer Profile



Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Storm Sewer Summary Report

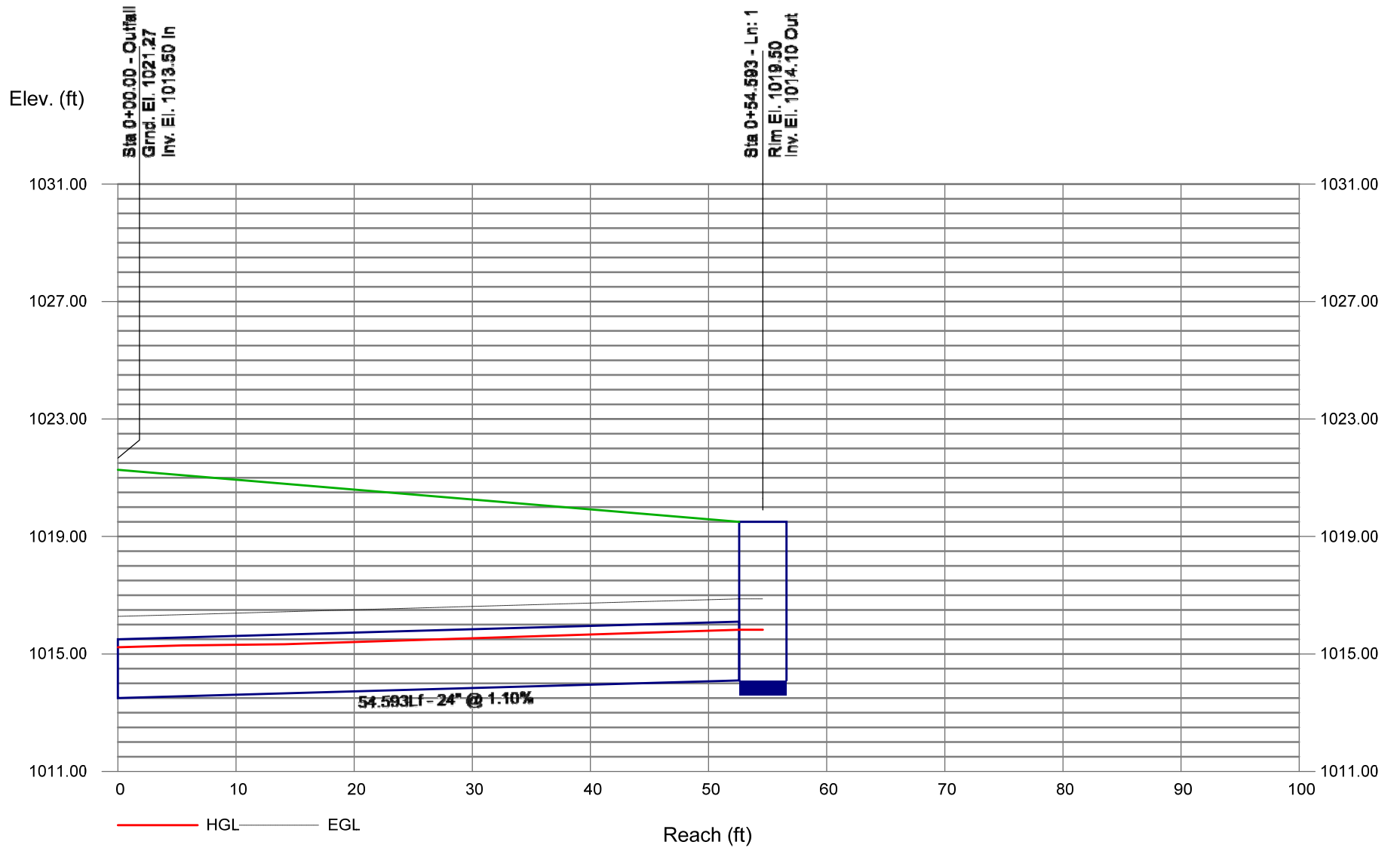
Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	D1 - B5	23.71	24	Cir	54.593	1013.50	1014.10	1.099	1015.23	1015.83	n/a	1015.83 j	End	Curb-

Project File: Storm D.stm

Number of lines: 1

Run Date: 9/25/2022

NOTES: Return period = 100 Yrs. ; j - Line contains hyd. jump.



Appendix E

City of Oklahoma City's
Inlet Capacity Table

INLET CAPACITIES

Inlet Size	Grate CFS	Curb Opening CFS	Total CFS
No. 1	1.6	2.5	4.1
No. 2	3.2	5.0	8.2
No. 2-1	3.2	10.0	13.2
No. 2-2	3.2	15.0	18.2
No. 2-3	3.2	20.0	23.2
No. 2-4	3.2	25.0	28.2
No. 2-5	3.2	30.0	33.2

SUMMARY OF QUANTITIES

ITEM #	ITEM	UNIT	QUANTITY	AS-BUILT
STORM SEWER QUANTITIES (Private)				
1.	18" RCP Pipe	LF	96	
2.	24" RCP Pipe	LF	453	
3.	30" RCP Pipe	LF	128	
4.	36" RCP Pipe	LF	89	
5.	18" Headwall	EA	1	
6.	24" Headwall	EA	1	
7.	Box Type Inlet	EA	2	
8.	Curb Inlet Design 2-0	EA	6	
10.	Curb Inlet Design 2-2	EA	2	
11.	Trickle Channel	SY	461	
12.	Aggregate Base ODOT Type "A"	CY	200	
STORM SEWER QUANTITIES (Public - Plaza Drive)				
1.	48" RCP Pipe	LF	67	
2.	48" Headwall	EA	1	
3.	Box Type Inlet w/ Cipoletti Weir	EA	1	
4.	Curb Inlet (2-2)	EA	2	
5.	Trickle Channel	SY	55	
6.	Remove Existing 5' x 5' RCB Headwall	EA	1	
7.	Flexamat	SY	36	
8.	Aggregate Base ODOT Type "A"	CY	32	

Note: See Plaza Drive Extension Plans for centerline of road grades.

Benchmark (NAVD 1988)

- BM # 994
Cut "X" on the top of curb at the Northwest corner of the Aldi's parking lot.
Elev. = 1019.36
- BM # 436
Cut "X" on the North curb return at the entrance to CVS Pharmacy from West 45th Street.
Elev. = 1029.04

Site Improvement Plans TO SERVE Shawnee Marketplace, Phase 2 4700 Marketplace Boulevard

A PART OF THE SOUTHEAST QUARTER OF SECTION 36
TOWNSHIP 11 NORTH, RANGE 3 EAST OF THE INDIAN MERIDIAN
CITY OF SHAWNEE, POTTAWATOMIE COUNTY, OKLAHOMA

GENERAL NOTES

- All construction shall be in accordance with the construction specifications of the City of Shawnee.
- The Contractor is responsible for the safety of all utilities either public or private, shown or not shown on these plans. Contact OKIE prior to construction to determine the locations of all existing utilities.
- All work not classified as a contract pay item shall be considered incidental and the cost thereof shall be included in the unit bid prices for items which are classified for payment.
- The Contractor shall be responsible for familiarizing himself with surface and sub-surface conditions. The bid prices shown in the proposal shall include costs for excavation of earth and rock, for de-watering and stabilizing unsuitable soils such as quicksand or other unsuitable materials, and for any other hazard that may be encountered.
- The Contractor shall satisfy himself concerning the accuracy of all measurements before constructing any permanent structure.
- Crushed Stone backfill shall be placed in all ditches up to ground level where lines cross under proposed or existing paving. Sand backfill shall be compacted by water jetting. The maximum pay quantity for sand backfill is that quantity required to fill a trench 2 ft. wider than the pipe from the flowline of the pipe to the pavement subgrade elevation. Any additional sand requirements are considered incidental. In order to receive payment for sand, the delivery tickets must be attached to the invoice forwarded to Allen Engineering Services Inc. for review.
- Upon completion of the work and before acceptance and final payment will be made, the Contractor shall remove from the site all machinery and equipment, and any surplus and discarded materials, rubbish, temporary structures and stumps or portions of trees. Material cleared from the site must be disposed of satisfactory.
- The Contractor is responsible for the prompt replacement and/or repair of traffic control devices and appurtenances damaged or disturbed due to construction.
- The Contractor is responsible for the replacement or repair of erosion control devices damaged during construction. The work shall be done in a timely manner.
- A copy of the Stormwater Pollution Prevention Plan must be on site at all times and made available to the inspector upon request.
- RCP with "O" rings and Aluminized Corrugated Metal Pipe with "Gaskets" shall be installed under Streets and Roadways, next to Curbs and between Houses. All Joints on RCP, RCB and CMP shall be wrapped with a two foot wide filter fabric strip around the joint and overlapping two feet.
- Construction activities that result in land disturbance of equal to or greater than one (1) Acre, or less than one (1) acre if they are part of a larger common plan of development or sale that totals at least one (1) acre must also obtain a permit from ODEQ (form 605-002a) for Storm Water Discharge from Construction Activities. This means that land disturbing of one (1) acre or more must permit with ODEQ and the City of Oklahoma City, Storm Water Quality.
- A copy of the erosion control site plan must be on site at all times and made available to the inspector upon request.
- All fill areas shall be compacted backfill to 95% Standard Proctor Density Prior to Roadway Construction.
- The Contractor is responsible for the removal of all pavement markings that will be in conflict with the proposed work.

Legal Description

All of Lot Three (3) in Block One (1) of Shawnee Marketplace, an addition to the City of Shawnee, Pottawatomie County, Oklahoma, according to the recorded plat thereof;

AND

A tract of land in the Southeast Quarter (SE/4) of Section Thirty-six (36), Township Eleven (11) North, Range Three (3) East of the Indian Meridian, Pottawatomie County, Oklahoma, being more particularly described with metes and bounds as follows:

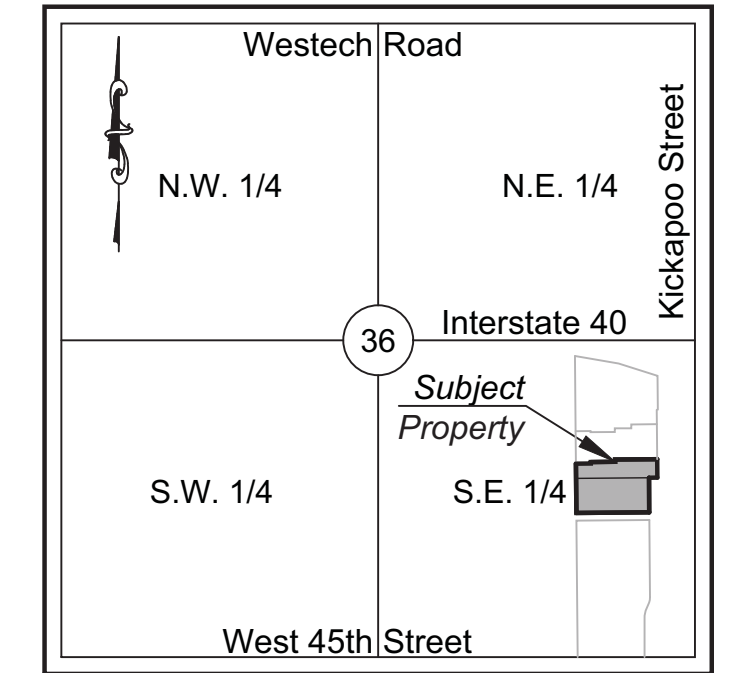
Commencing at the Southeast corner of the SE/4 of said Section 36; Thence South 89°22'30" West as the basis of bearing on the South line of said SE/4 a distance of 370.00 feet to the Southwest corner of I-40 & Kickapoo Commercial Center, Section 1; Thence North 00°30'40" West on the West line of I-40 & Kickapoo Commercial Center Section 1 and the West line of Lots Four (4) through Eight (8), Block One (1), Shawnee Marketplace, a distance of 1210.90 feet to the Point of Beginning;

Thence South 89°29'20" West and parallel to the South line of Lot Three (3), Block One (1), Shawnee Marketplace a distance of 607.26 feet; Thence North 00°30'40" West and parallel to the West line of Block One (1), Shawnee Marketplace a distance of 288.39 feet to the Southwest corner of said Lot 3, Block 1; Thence North 89°29'20" East on the South line of said Lot 3, Block 1 a distance of 607.26 feet; Thence South 00°30'40" East a distance of 288.39 feet to the Point of Beginning.

The combined description contains 271,426 square feet or 6.23 acres, more or less.

Owner / Contractor

Brady Ali Properties, L.L.C.
10601 S. Western Avenue
Oklahoma City, Oklahoma 73170



Vicinity Map
Section 36, Township 11N, Range 3E
Not To Scale

SHEET INDEX

SHEET NO.	DESCRIPTION
1	Title Sheet
C2	Existing Drainage Map
C3	Developed Drainage Map
C4	Existing Site Plan
C5	Layout Plan
C6 & C7	Grading Plan
C8	Utility Plan
C9	Storm Sewer Line A Plan & Profile
C10	Storm Sewer Line B, C & D Plan & Profile
STANDARD DRAWINGS	
C11	Standard Standard Storm Sewer Inlets, Design 2
C11	Standard Inlet Details, Design 5 & Box Type
C11	Cast-in-place Concrete Headwalls for 15" to 42" RCP
C11	Cast-in-place Concrete Headwalls for 48" to 72" RCP

ONE CALL UTILITY LOCATION NUMBER


840-5032
1-800-522-6543

This number is to be used for information on the location of all underground utilities. Contact this number and other numbers specified in the plans prior to any excavation.



SUBMITTAL DATES

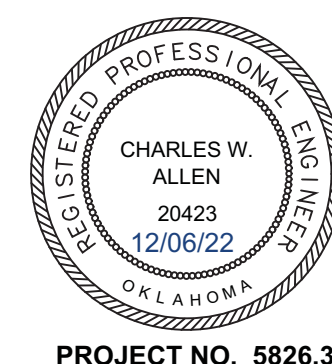
CHECK PRINT #1	Date:
CHECK PRINT #2	Date:
FINAL PLANS	Date:

PREPARED BY:
Charles W. Allen, P.E.

Date: 12/27/22

CONSTRUCTION MUST BEGIN WITHIN ONE (1) YEAR FROM THE DATE OF APPROVAL, OR THAT APPROVAL IS WITHDRAWN.

REGISTERED PROFESSIONAL ENGINEER
No.: 20423 / Renewal Date: July 31, 2023

Field Checked by:	Date:
Checked by:	Date:
Checked by:	Date:
Checked by:	Date:
Checked by:	Date:
APPROVED:	
City Engineer	Date:

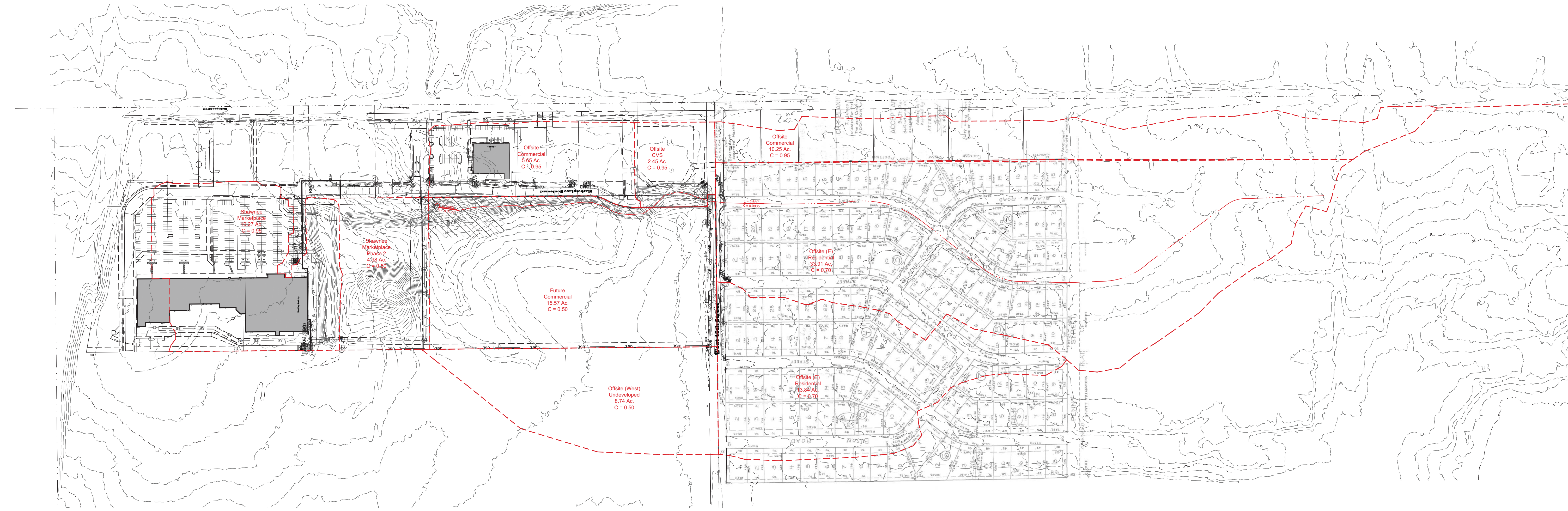


PROJECT NO. 5826.3

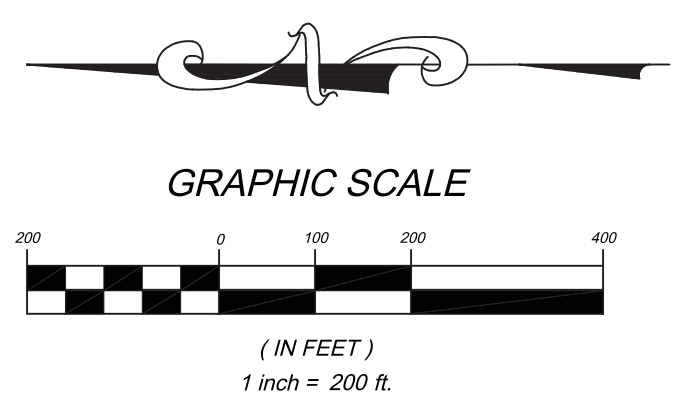
OKR10 33611



THE UTILITIES AS SHOWN ON THIS DRAWING WERE DEVELOPED FROM THE INFORMATION AVAILABLE. THIS IS NOT IMPLIED NOR INTENDED TO BE THE COMPLETE INVENTORY OF UTILITIES IN THIS AREA. IT IS THE CLIENT'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE.



THE UTILITIES AS SHOWN ON THIS DRAWING WERE DEVELOPED FROM THE INFORMATION AVAILABLE. THIS IS NOT IMPLIED NOR INTENDED TO BE THE COMPLETE INVENTORY OF UTILITIES IN THIS AREA. IT IS THE CLIENT'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE.



NO.	REVISION/ISSUE	DATE
3	City Comments	12-27-2022
2	City Comments	12-06-2022
1	City Comments	11-15-2022

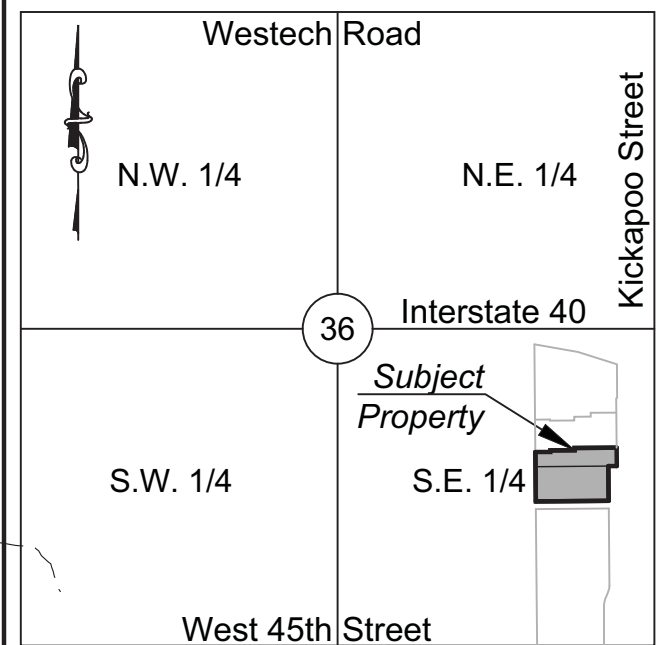
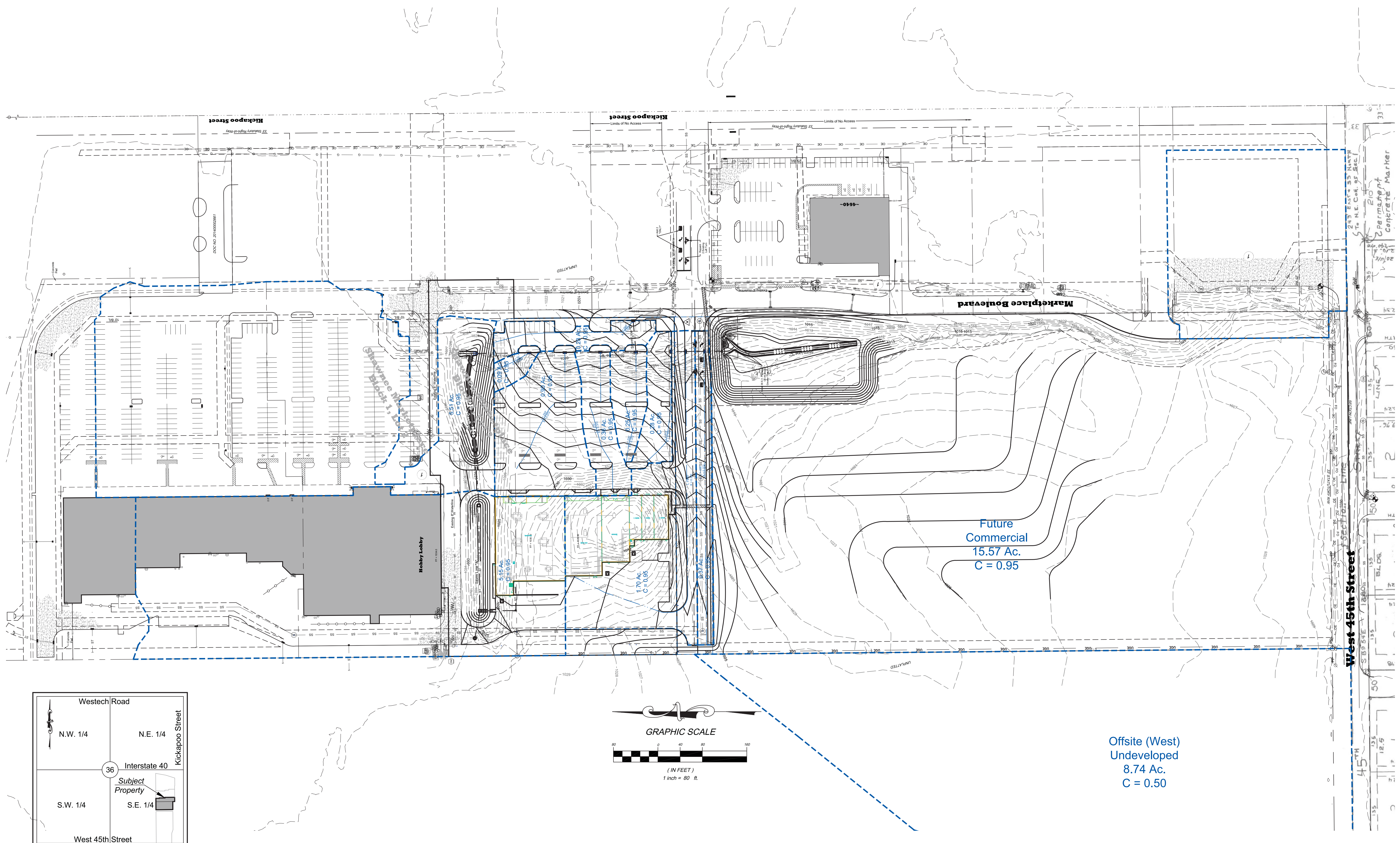
CLIENT
Brady AI Properties, L.L.C.
 10601 S. Western Avenue
 Oklahoma City, Oklahoma 73170
 (405) 732-8899

ALLEN ENGINEERING SERVICES, INC.
 1601 S.W. 89th Street, Building C, Suite 200
 Oklahoma City, Oklahoma 73159
 Tel: (405) 840-9901 • Fax: (405) 861-4481
 CA No. 4131 - June 30, 2024

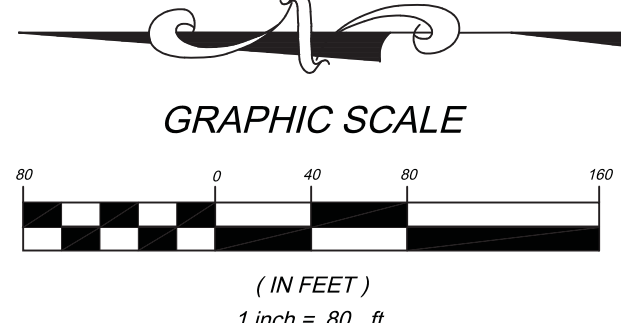
PROJECT NAME
Shawnee Marketplace, Phase 2
4700 Marketplace Boulevard
Shawnee, Oklahoma 74804
Existing Drainage Plan

PROJECT NO.	5826.3
FILE	5826-3Design
DATE	03-31-2022
DRAWN BY	JMS
CHECKED BY	CWA
FIELD CREW	H&A

SHEET
C2
 OF 11



Vicinity Map
Section 36, Township 11N, Range 3E
Not To Scale



THE UTILITIES AS SHOWN ON THIS DRAWING WERE DEVELOPED FROM THE INFORMATION AVAILABLE. THIS IS NOT IMPLIED NOR INTENDED TO BE THE COMPLETE INVENTORY OF UTILITIES IN THIS AREA. IT IS THE CLIENT'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE.

NO.	REVISION/ISSUE	DATE
1	City Comments	11-15-2022
2	City Comments	12-06-2022
3	City Comments	12-27-2022

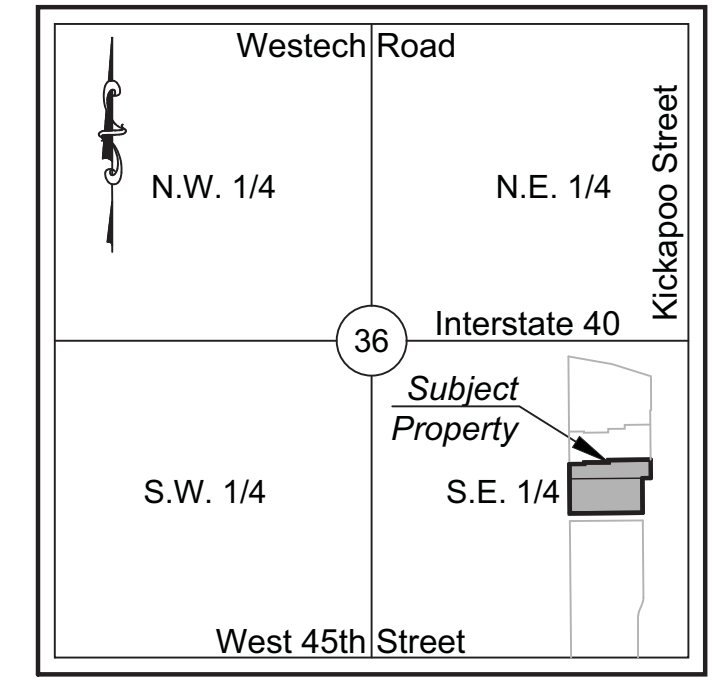
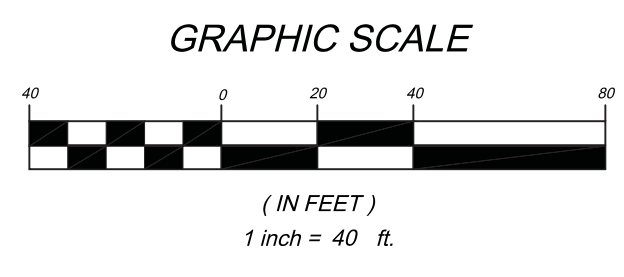
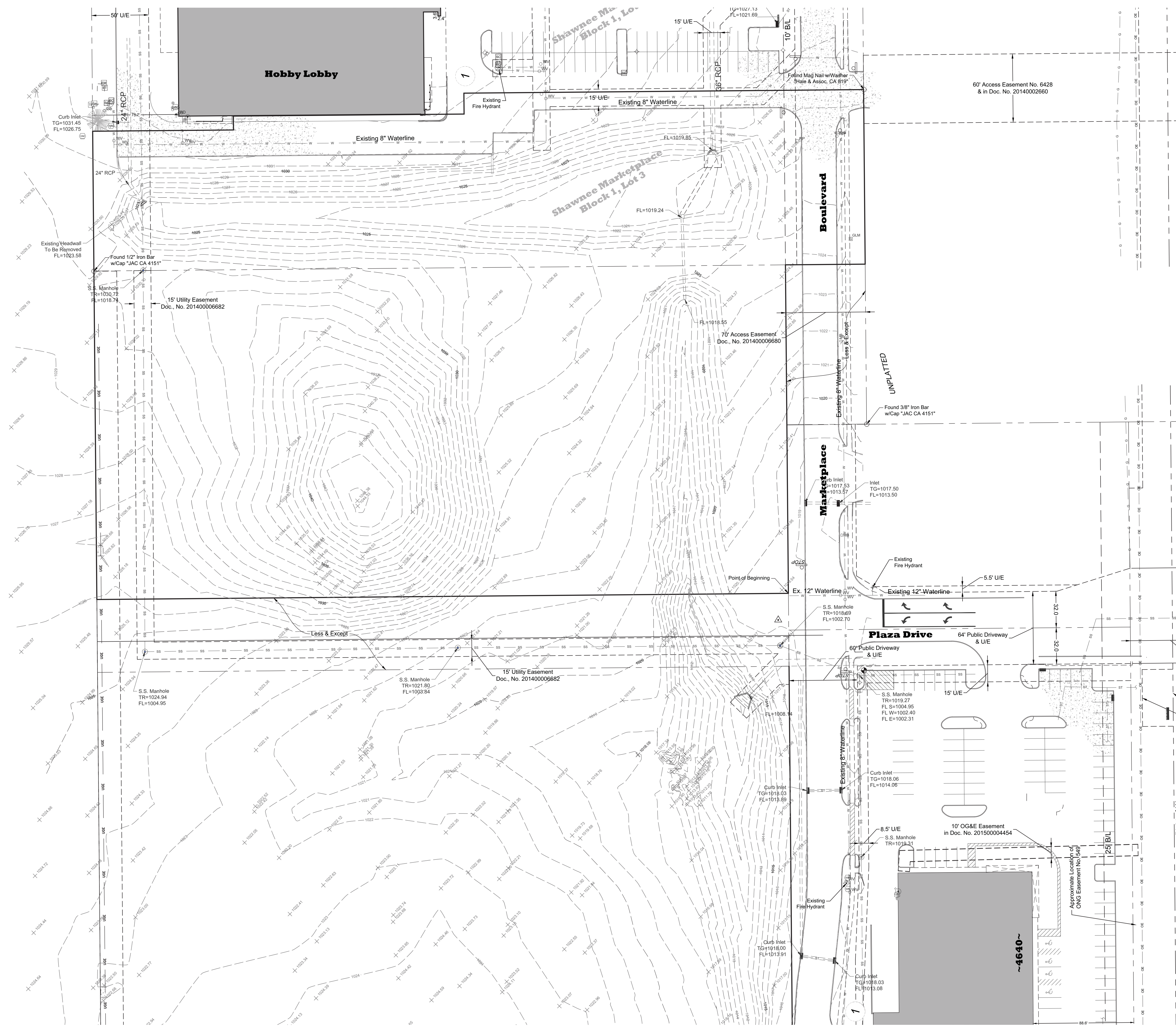
CLIENT
Brady Ai Properties, L.L.C.
10601 S. Western Avenue
Oklahoma City, Oklahoma 73170
(405) 732-8899

ALLEN ENGINEERING SERVICES, INC.
1604 S.W. 89th Street, Building C, Suite 200
Oklahoma City, Oklahoma 73159
Tel: (405) 840-9901 • Fax: (405) 861-4481
CA No. 4131 - June 30, 2024

PROJECT NAME
Shawnee Marketplace, Phase 2
4700 Marketplace Boulevard
Shawnee, Oklahoma 74804
Developed Drainage Plan

PROJECT NO.	5826.3
FILE	5826-3Design
DATE	03-31-2022
DRAWN BY	JMS
CHECKED BY	CWA
FIELD CREW	H&A

SHEET
C3
OF 11



Vicinity Map
Section 36, Township 11N, Range 3E
Not To Scale



THE UTILITIES AS SHOWN ON THIS DRAWING WERE DEVELOPED FROM THE INFORMATION AVAILABLE. THIS IS NOT IMPLIED NOR INTENDED TO BE THE COMPLETE INVENTORY OF UTILITIES IN THIS AREA. IT IS THE CLIENT'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE.

NO.	REVISION/ISSUE	DATE
3	City Comments	12-27-2022
2	City Comments	12-06-2022
1	City Comments	11-15-2022

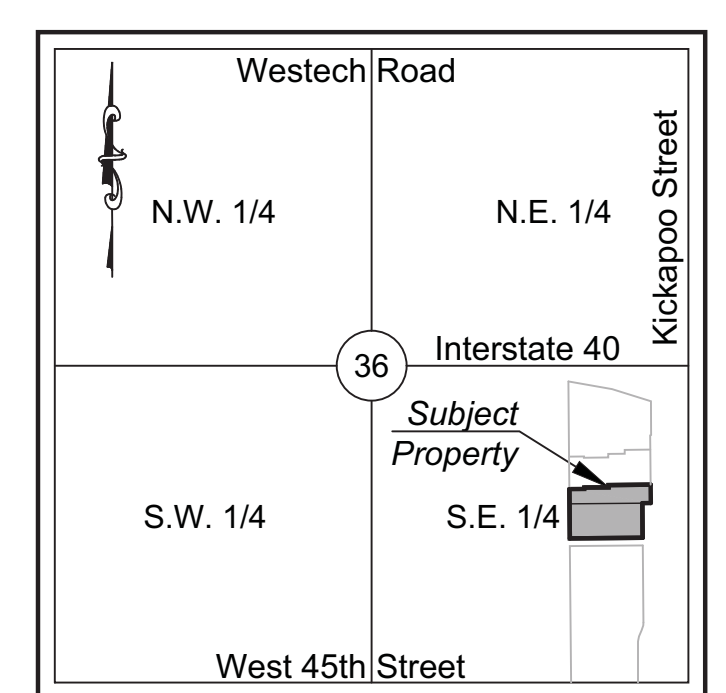
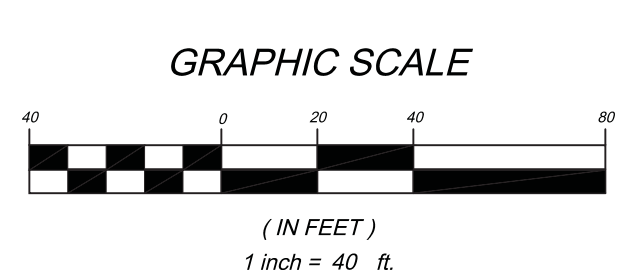
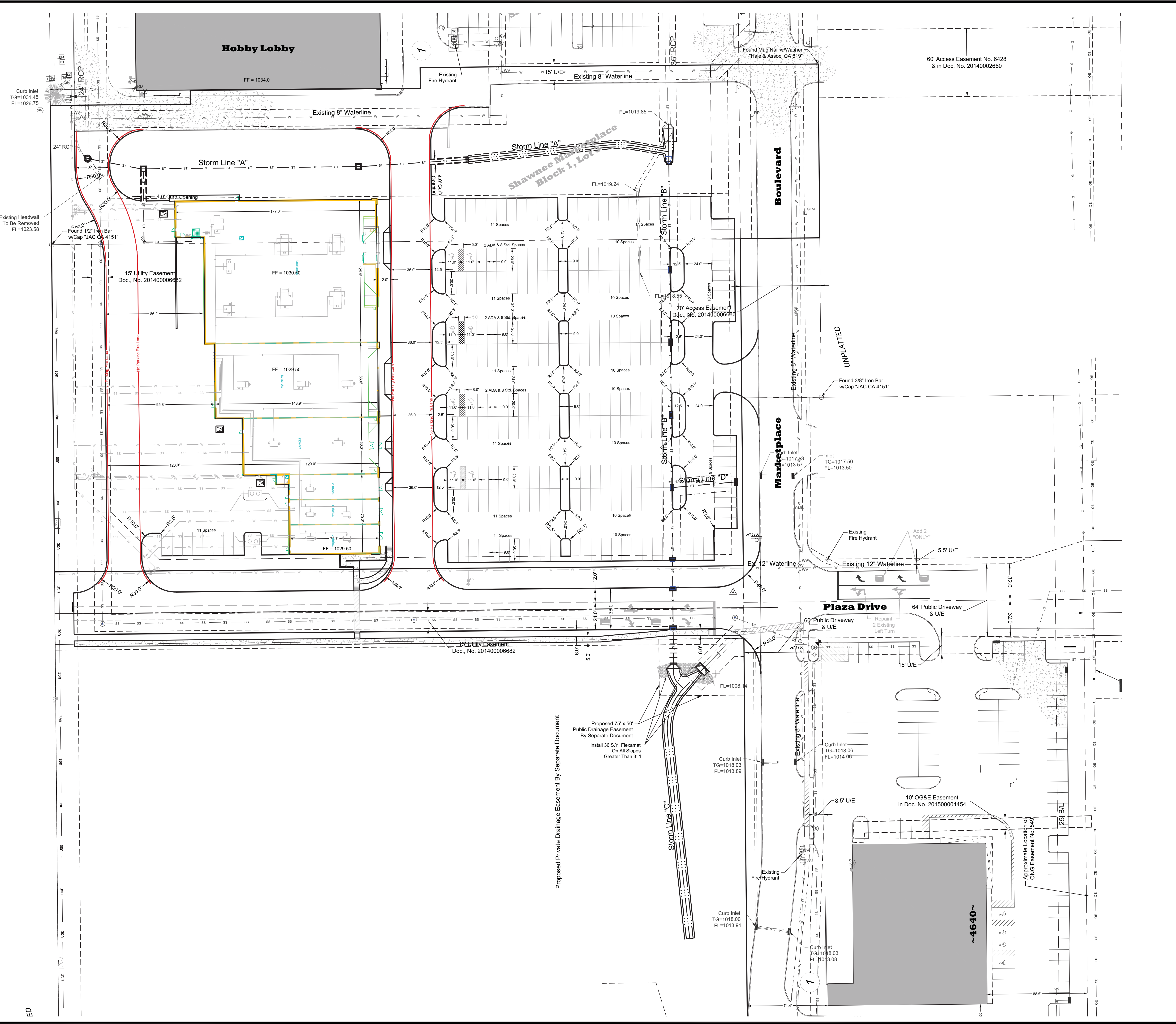
CLIENT
Brady AI Properties, L.L.C.
10601 S. Western Avenue
Oklahoma City, Oklahoma 73170
(405) 732-8899

ALLEN ENGINEERING SERVICES, INC.
1601 S.W. 89th Street, Building C, Suite 200
Oklahoma City, Oklahoma 73159
Tel: (405) 840-9901 • Fax: (405) 861-4481
CA No. 4131 - June 30, 2024

PROJECT NAME
Shawnee Marketplace, Phase 2
4700 Marketplace Boulevard
Shawnee, Oklahoma 74804
Existing Site Plan

PROJECT NO.	5826.3
FILE	5826-3Design
DATE	03-31-2022
DRAWN BY	JMS
CHECKED BY	CWA
FIELD CREW	H&A

SHEET
C4
OF 11



THE UTILITIES AS SHOWN ON THIS DRAWING WERE DEVELOPED FROM THE INFORMATION AVAILABLE. THIS IS NOT IMPLIED NOR INTENDED TO BE THE COMPLETE INVENTORY OF UTILITIES IN THIS AREA. IT IS THE CLIENT'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE.

NO.	REVISION/ISSUE	DATE
1	City Comments	11-15-2022
2	City Comments	12-06-2022
3	City Comments	12-27-2022

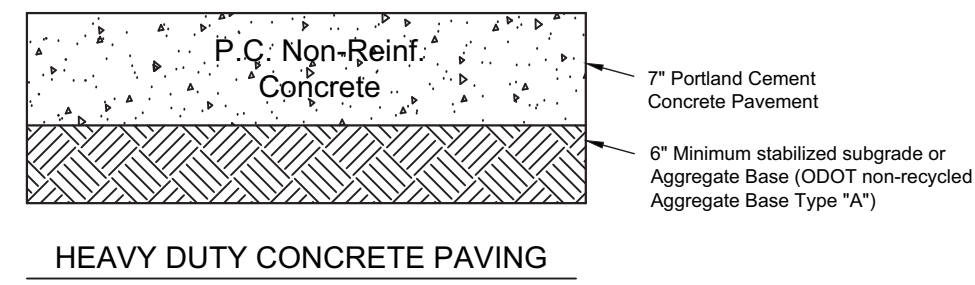
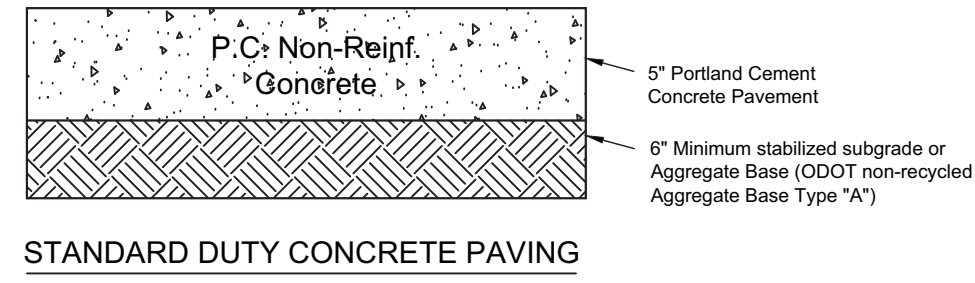
CLIENT
Brady Ai Properties, L.L.C.
10601 S. Western Avenue
Oklahoma City, Oklahoma 73170
(405) 732-8899

ALLEN ENGINEERING SERVICES, INC.
1601 S.W. 89th Street, Building C, Suite 200
Oklahoma City, Oklahoma 73159
Tel: (405) 940-9901 - Fax: (405) 691-4481
CA No. 4131 - June 30, 2024

PROJECT NAME
Shawnee Marketplace, Phase 2
4700 Marketplace Boulevard
Shawnee, Oklahoma 74804
Layout Plan

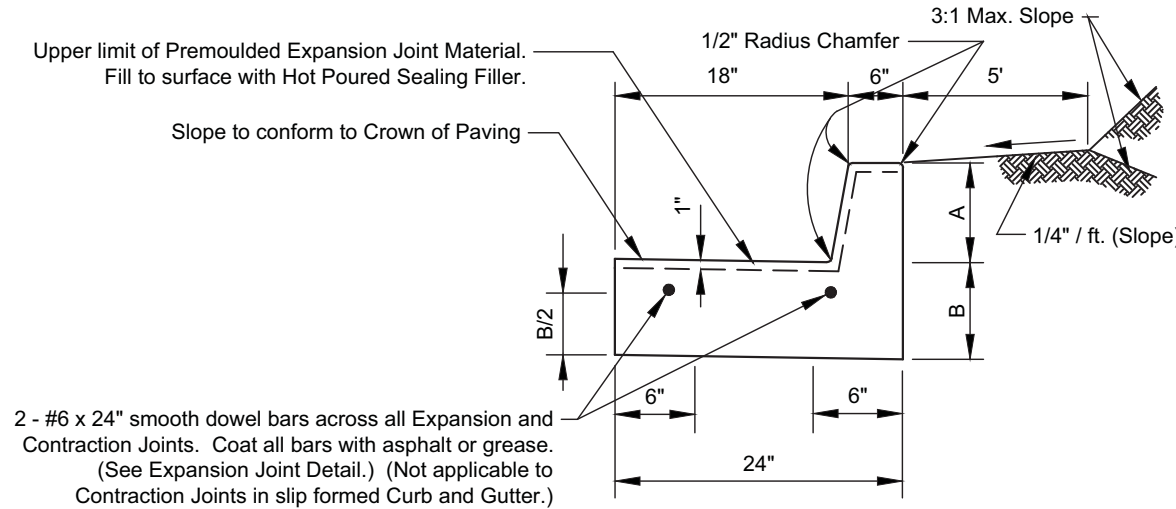
PROJECT NO.	5826.3
FILE	5826-3Design
DATE	03-31-2022
DRAWN BY	JMS
CHECKED BY	CWA
FIELD CREW	H&A

SHEET
C5
OF 11



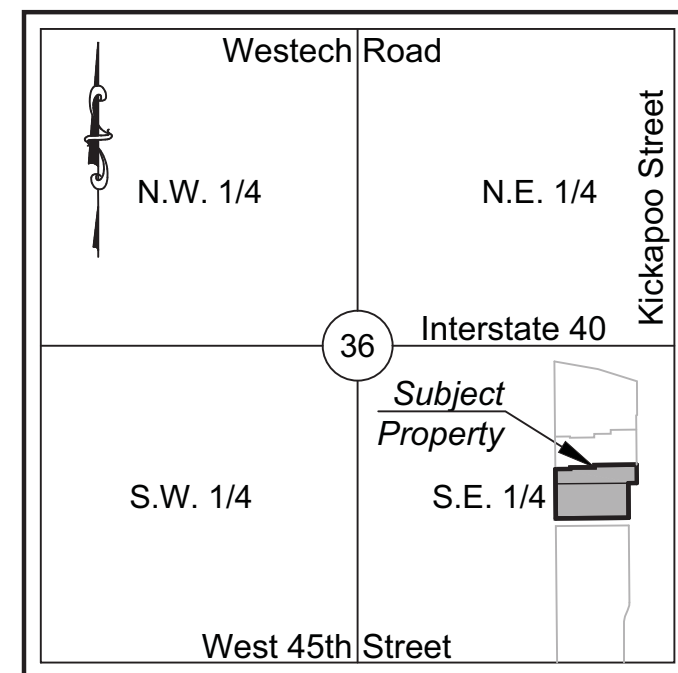
Note: Pavement shall be in accordance with the Report of Subsurface Exploration, Foundation and Pavement Recommendations dated September 2, 2022 by Burgess Engineering and Testing, Project No. 731-22153.

CONCRETE PAVEMENT

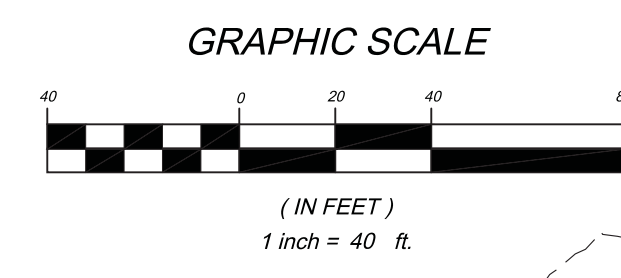
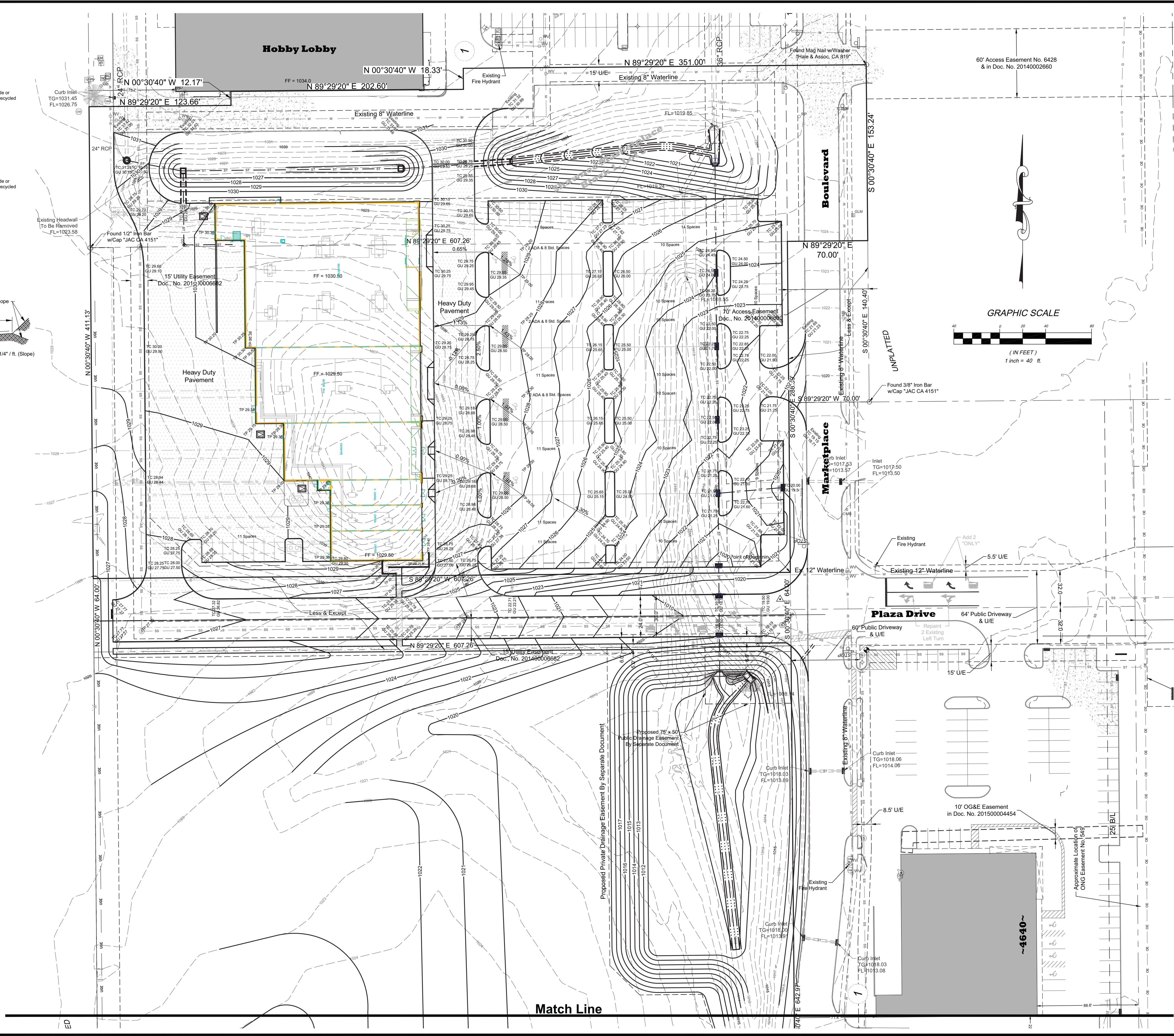


NOTE: Maximum spacing of 3/4" Expansion Joints to be 100' c/c with Contraction Joints 15' - 20' apart to match Driveway Returns. (Expansion Joint spacing, not applicable to slip formed Curb and Gutter.)

CONCRETE CURB & GUTTER DETAIL



THE UTILITIES AS SHOWN ON THIS DRAWING WERE DEVELOPED FROM THE INFORMATION AVAILABLE. THIS IS NOT IMPLIED NOR INTENDED TO BE THE COMPLETE INVENTORY OF UTILITIES IN THIS AREA. IT IS THE CLIENT'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE.



NO.	REVISION/ISSUE	DATE
1	City Comments	11-15-2022
2	City Comments	12-06-2022
3	City Comments	12-27-2022

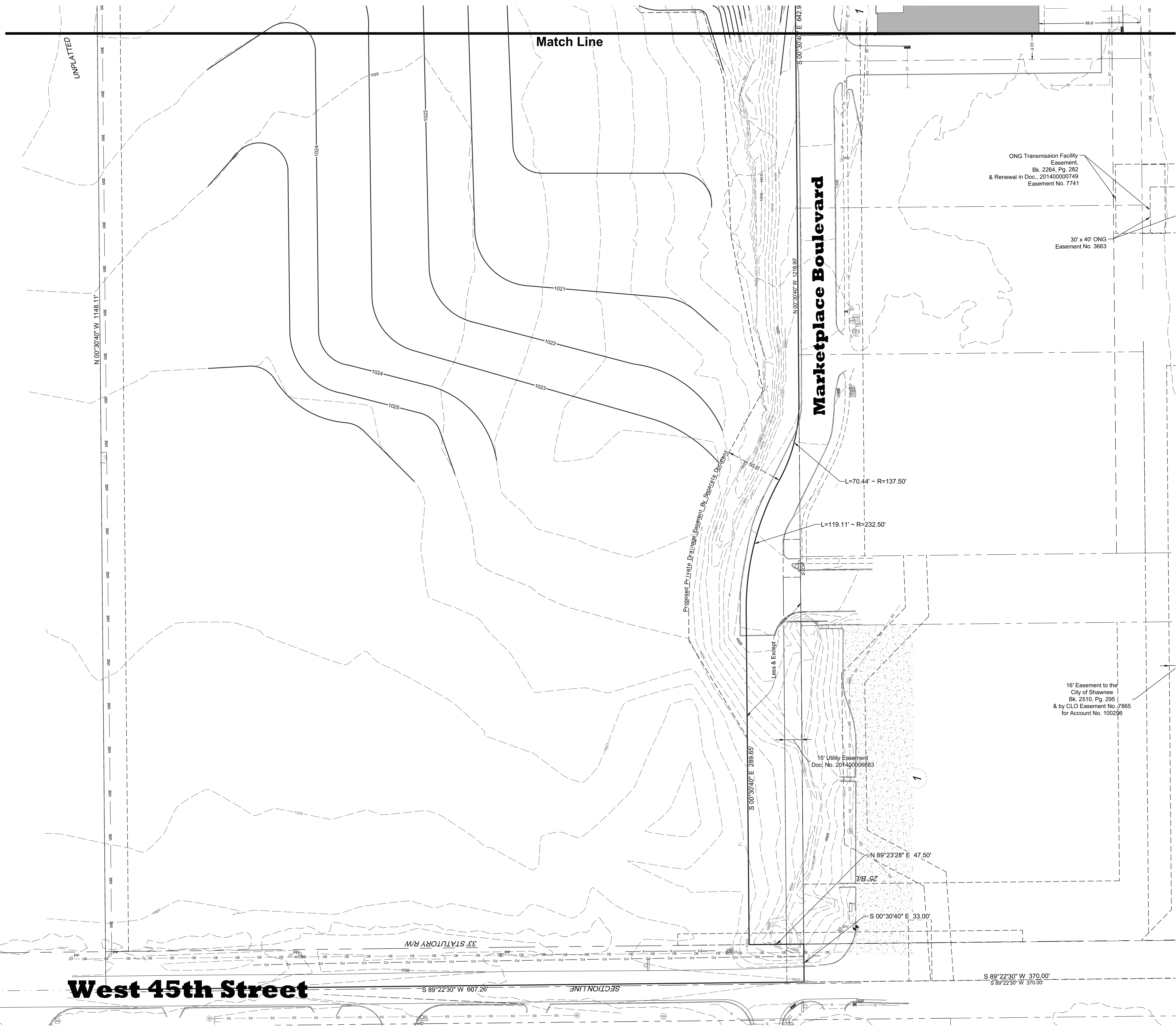
Brady All Properties, L.L.C.
10601 S. Western Avenue
Oklahoma City, Oklahoma 73170
(405) 732-8899

ALLEN ENGINEERING SERVICES, INC.
1601 S.W. 89th Street, Building C, Suite 200
Oklahoma City, Oklahoma 73159
Tel: (405) 840-9901 - Fax: (405) 861-4481
CA No. 4131 - June 30, 2024

Shawnee Marketplace, Phase 2
4700 Marketplace Boulevard
Shawnee, Oklahoma 74804
Grading Plan

PROJECT NAME	Shawnee Marketplace, Phase 2
PROJECT NO.	5826.3
FILE	5826-3Design
DATE	03-31-2022
DRAWN BY	JMS
CHECKED BY	CWA
FIELD CREW	H&A

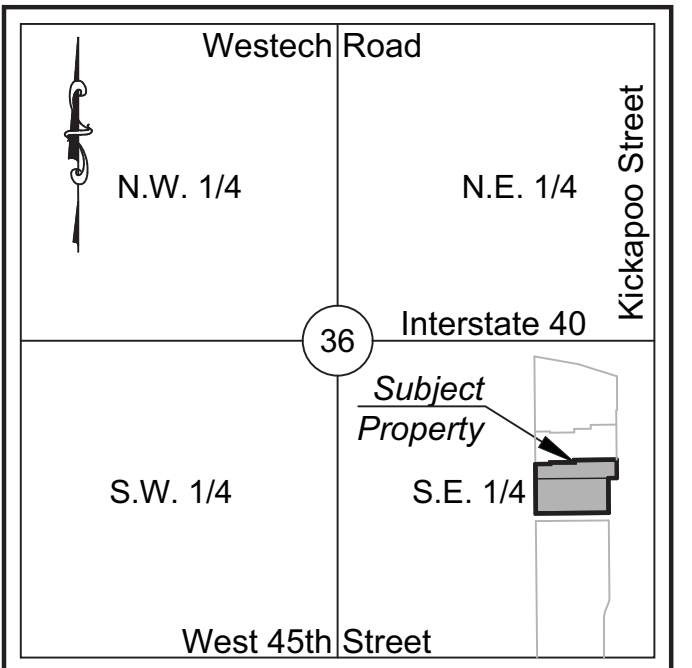
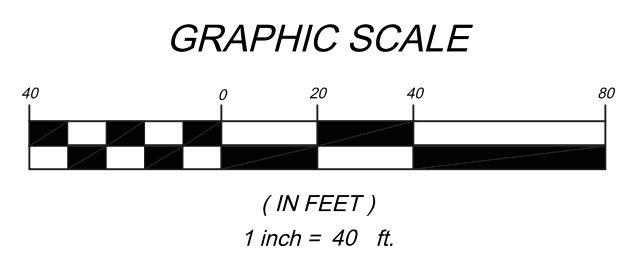
C6
OF 11



Match Line

Market Place Boulevard

West 45th Street



Vicinity Map
Section 36, Township 11N, Range 3E
Not To Scale



THE UTILITIES AS SHOWN ON THIS DRAWING WERE DEVELOPED FROM THE INFORMATION AVAILABLE. THIS IS NOT IMPLIED NOR INTENDED TO BE THE COMPLETE INVENTORY OF UTILITIES IN THIS AREA. IT IS THE CLIENT'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE.

ONG Transmission Facility Easement, Bk. 2264, Pg. 282 & Renewal in Doc. 20140000748 Easement No. 7741

30' x 40' ONG Easement No. 3653

16' Easement to the City of Shawnee Bk. 2510, Pg. 295 & by CLO Easement No. 7865 for Account No. 100296

L=70.44' ~ R=137.50'

L=119.11' ~ R=232.50'

15' Utility Easement Doc. No. 20140000683

N 89°23'28" E 47.50'

S 00°30'40" E 33.00'

S 89°22'30" W 370.00'

NO.	REVISION/ISSUE	DATE
3	City Comments	12-27-2022
2	City Comments	12-06-2022
1	City Comments	11-15-2022

CLIENT
Brady Ai Properties, L.L.C.
10601 S. Western Avenue
Oklahoma City, Oklahoma 73170
(405) 732-8899

PROJECT NAME
Shawnee Marketplace, Phase 2
4700 Marketplace Boulevard
Shawnee, Oklahoma 74804
Grading Plan

PROJECT NO.	5826.3
FILE	5826-3Design
DATE	03-31-2022
DRAWN BY	JMS
CHECKED BY	CWA
FIELD CREW	H&A

SHEET
C7
OF 11

Utility Notes

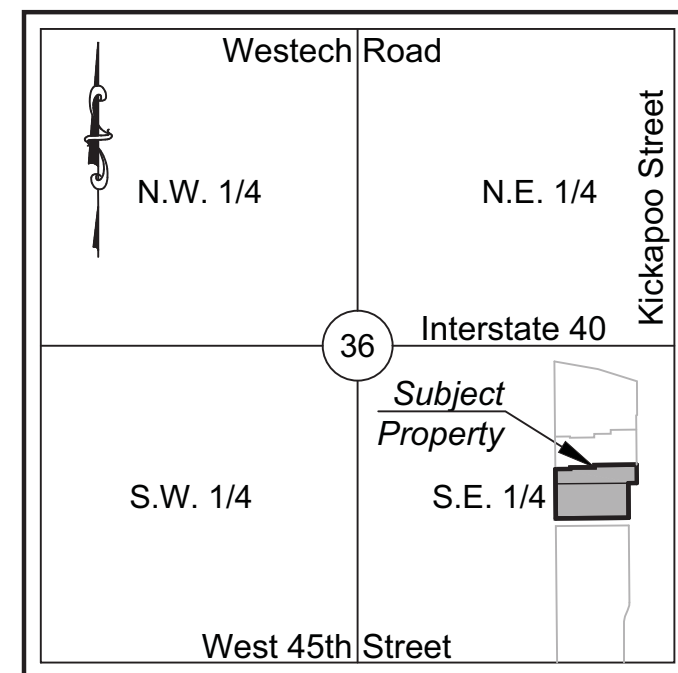
Sanitary Sewer: Contractor shall coordinate with the City of Shawnee to provide six (6) 4" sanitary sewer service to the existing 8" sanitary sewer main located along the West property line. Contractor shall install two (2) 1,000 gallon grease traps. All construction shall be in accordance with the City of Shawnee.

Water Service: Contractor shall coordinate with the City of Shawnee to provide one (1) - 2" domestic service to the North tenant space and five (5) 1" domestic services to the remaining tenant spaces and two (2) 6" private fire services with remote Fire Department Connections. All construction shall be in accordance with the City of Shawnee.

Electrical Service: Contractor shall coordinate with the local electrical provider to provide electrical service. All construction shall be in accordance with the local governing agency.

Gas Service: Contractor shall coordinate with the local gas provider to provide a new gas service. All construction shall be in accordance with the local governing agency.

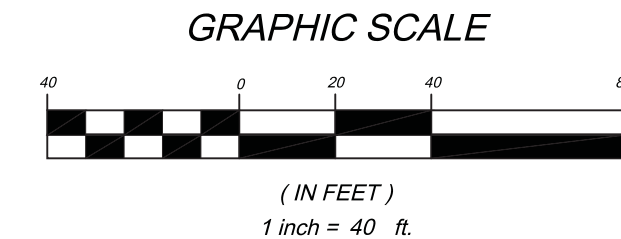
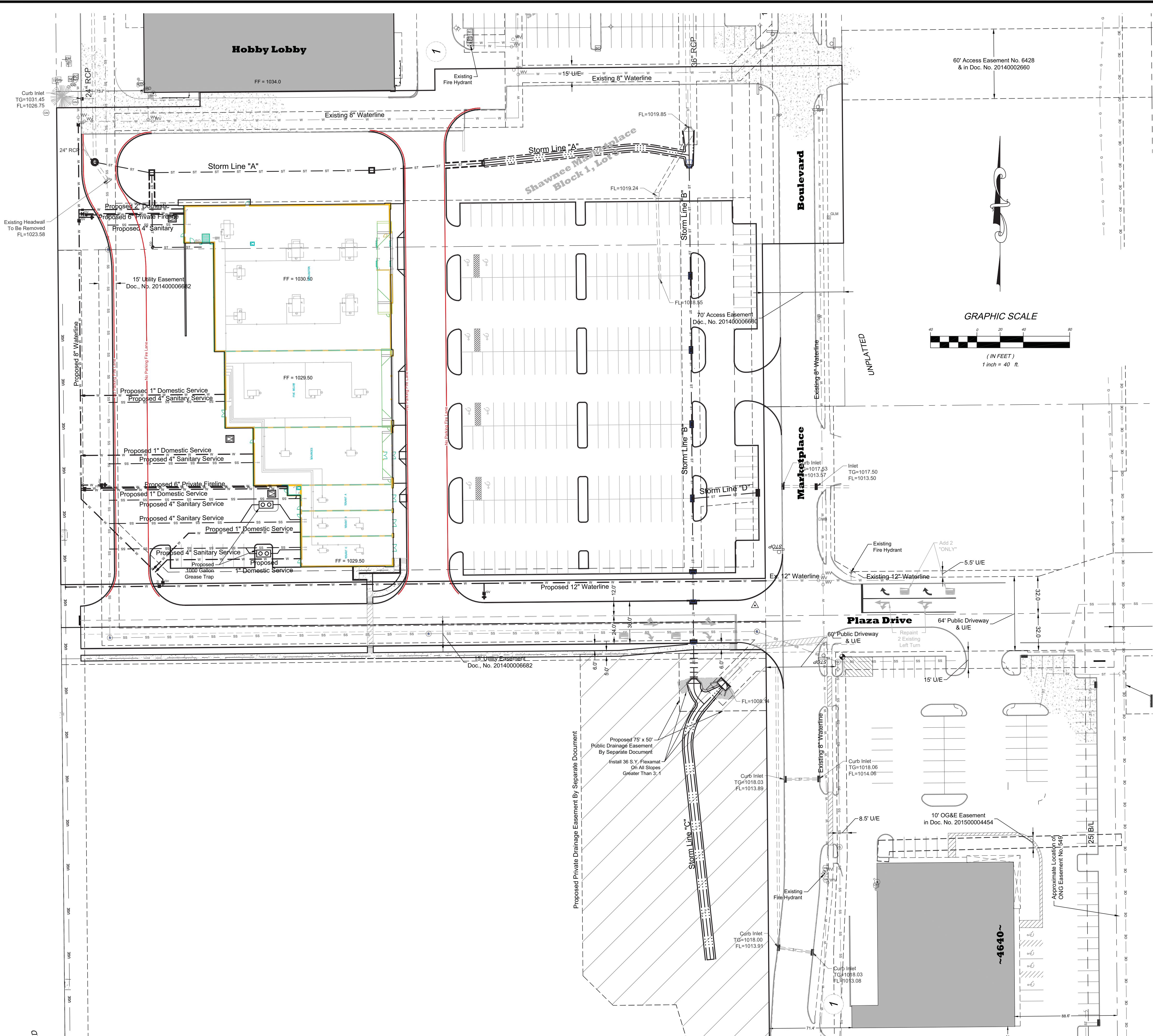
Telephone: Contractor shall coordinate with the local telephone provider to provide a telephone service. All construction shall be in accordance with the local governing agency.



Vicinity Map
Section 36, Township 11N, Range 3E
Not To Scale



THE UTILITIES AS SHOWN ON THIS DRAWING WERE DEVELOPED FROM THE INFORMATION AVAILABLE. THIS IS NOT IMPLIED NOR INTENDED TO BE THE COMPLETE INVENTORY OF UTILITIES IN THIS AREA. IT IS THE CLIENT'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE.



NO.	REVISION/ISSUE	DATE
3	City Comments	12-27-2022
2	City Comments	12-06-2022
1	City Comments	11-15-2022

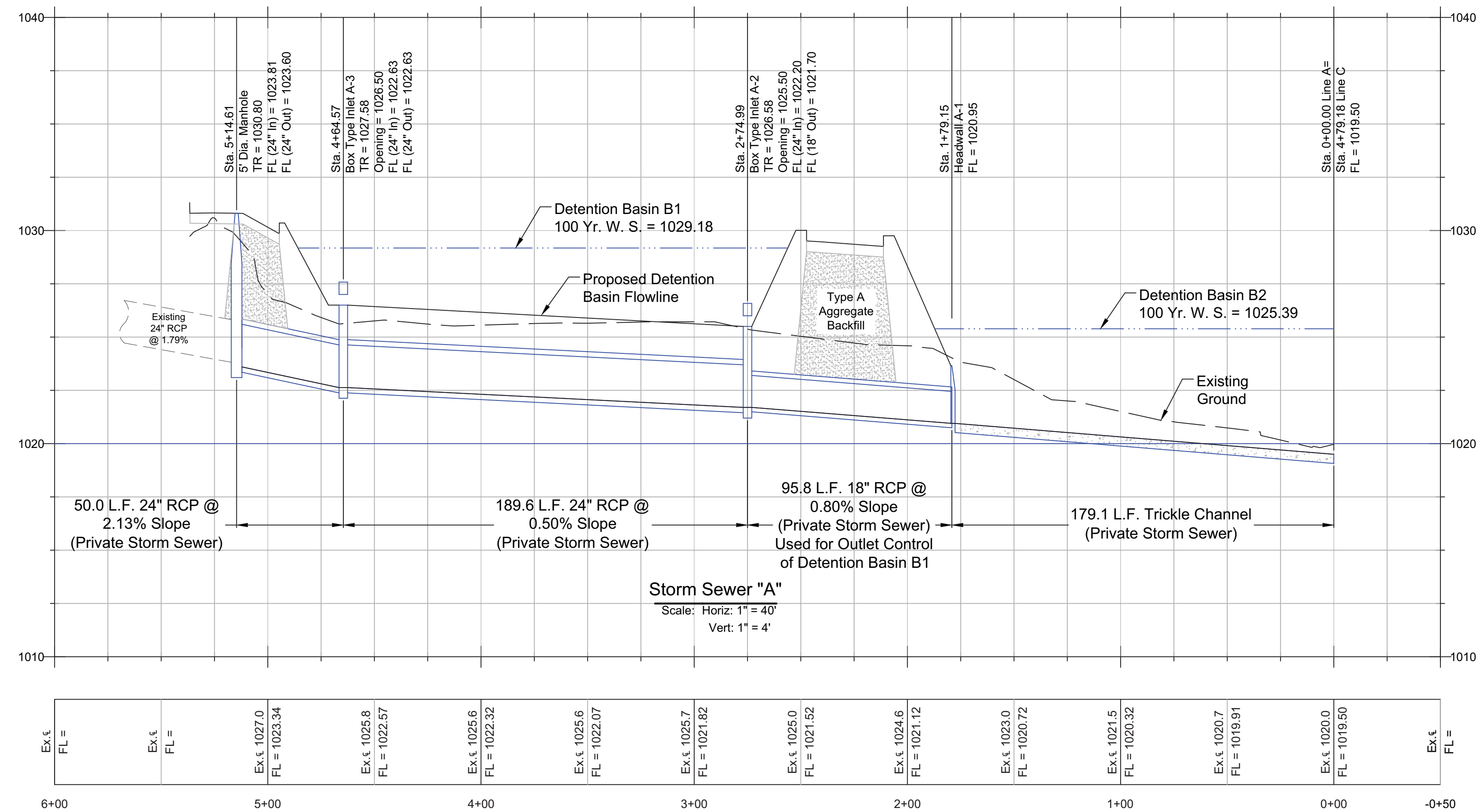
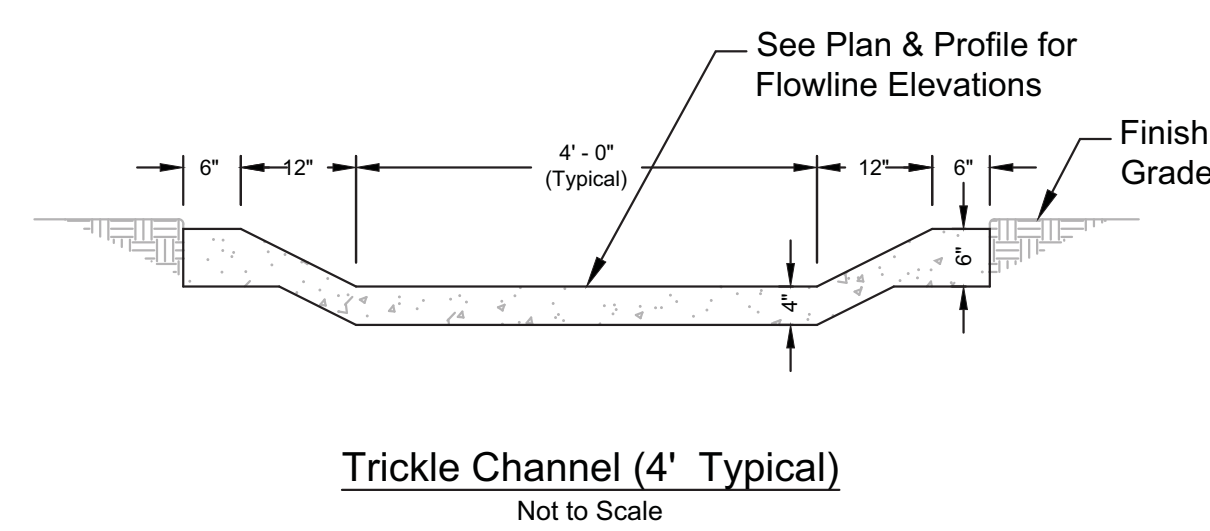
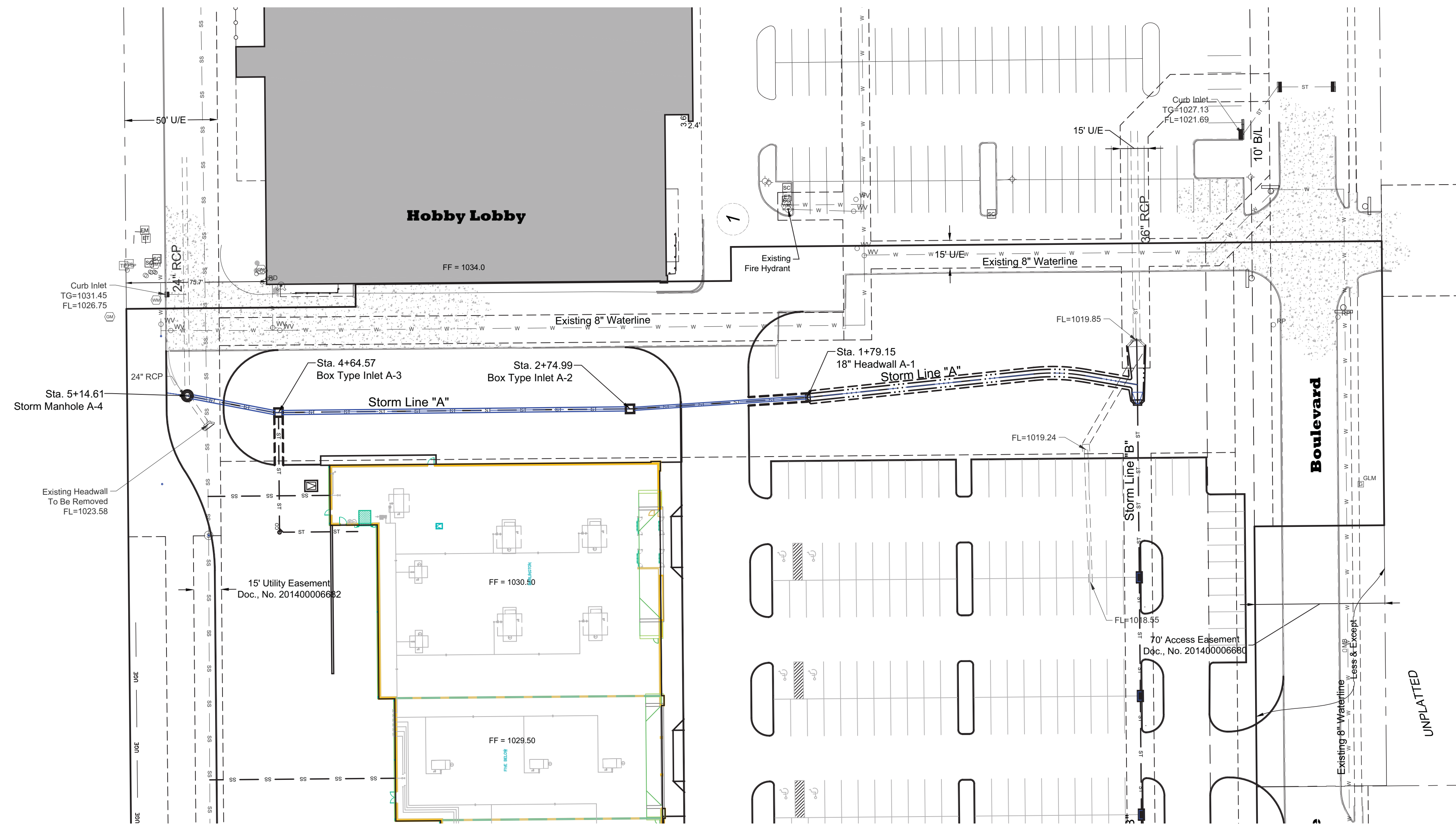
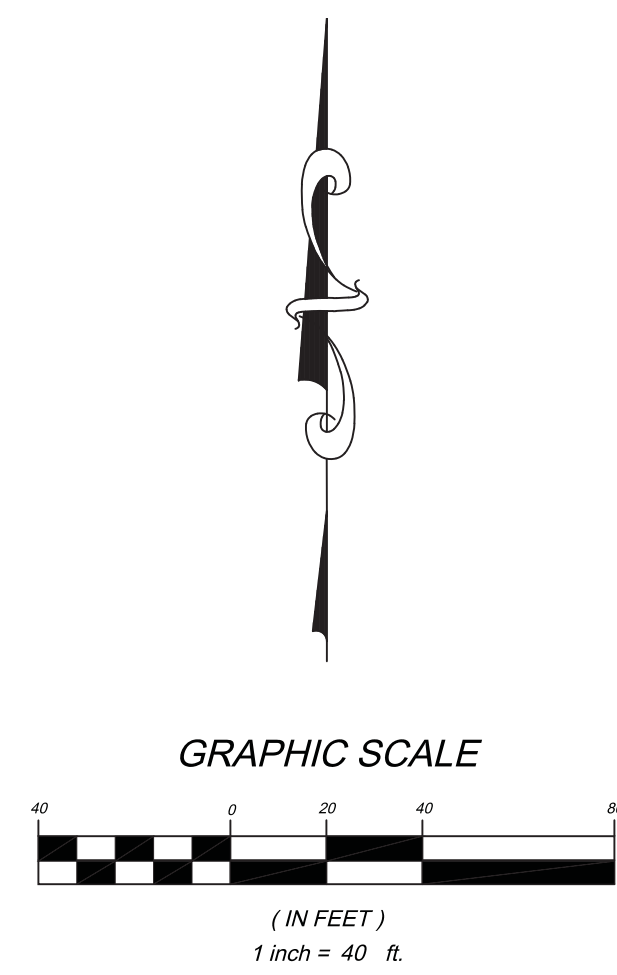
CLIENT
Brady Ali Properties, L.L.C.
10601 S. Western Avenue
Oklahoma City, Oklahoma 73170
(405) 732-8899



PROJECT NAME
Shawnee Marketplace, Phase 2
4700 Marketplace Boulevard
Shawnee, Oklahoma 74804
Utility Plan

PROJECT NO.	5826.3
FILE	5826-3Design
DATE	03-31-2022
DRAWN BY	JMS
CHECKED BY	CWA
FIELD CREW	H&A

SHEET
C8
OF 11



NO.	REVISION/ISSUE	DATE
3	City Comments	12-27-2022
2	City Comments	12-06-2022
1	City Comments	11-15-2022

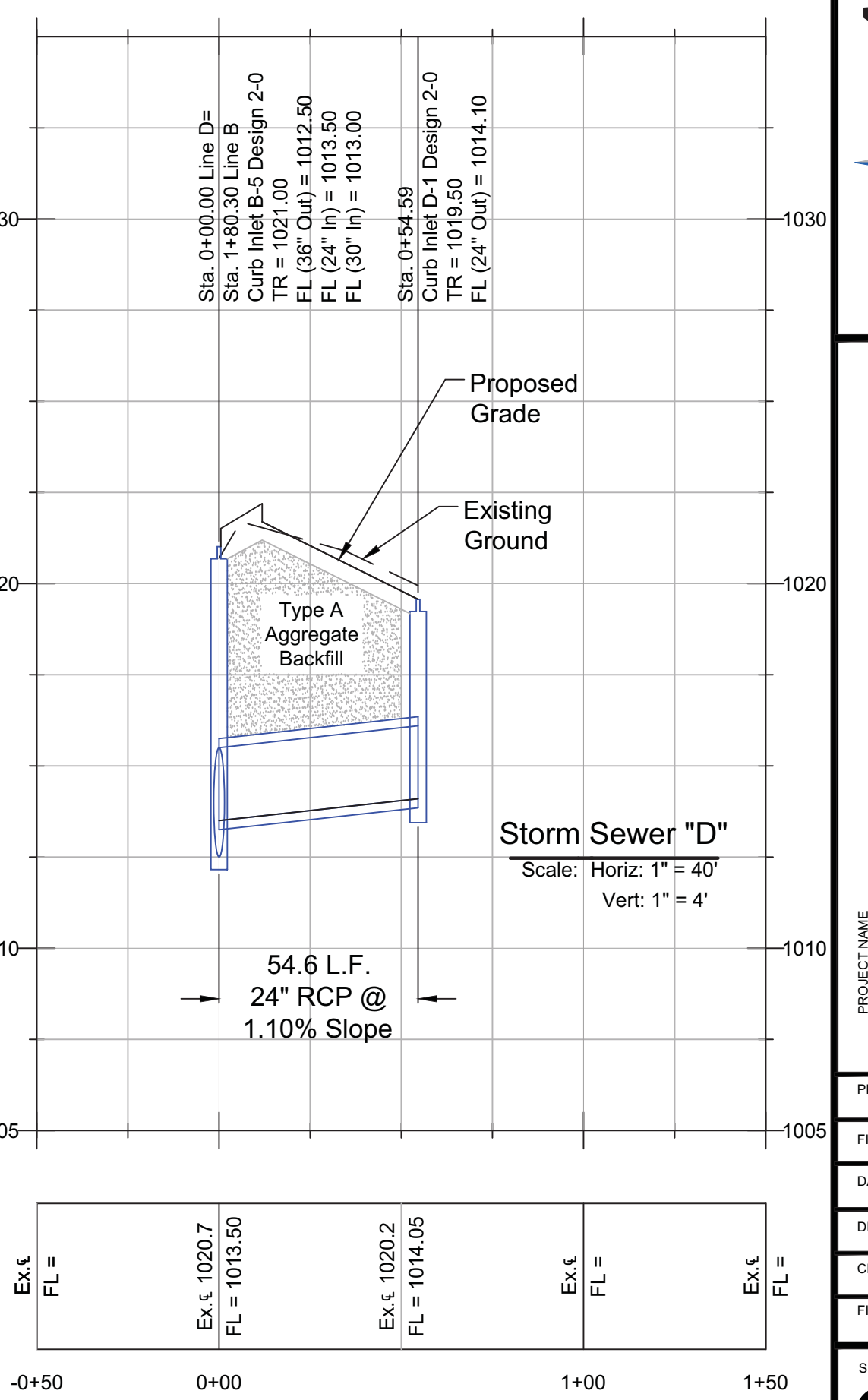
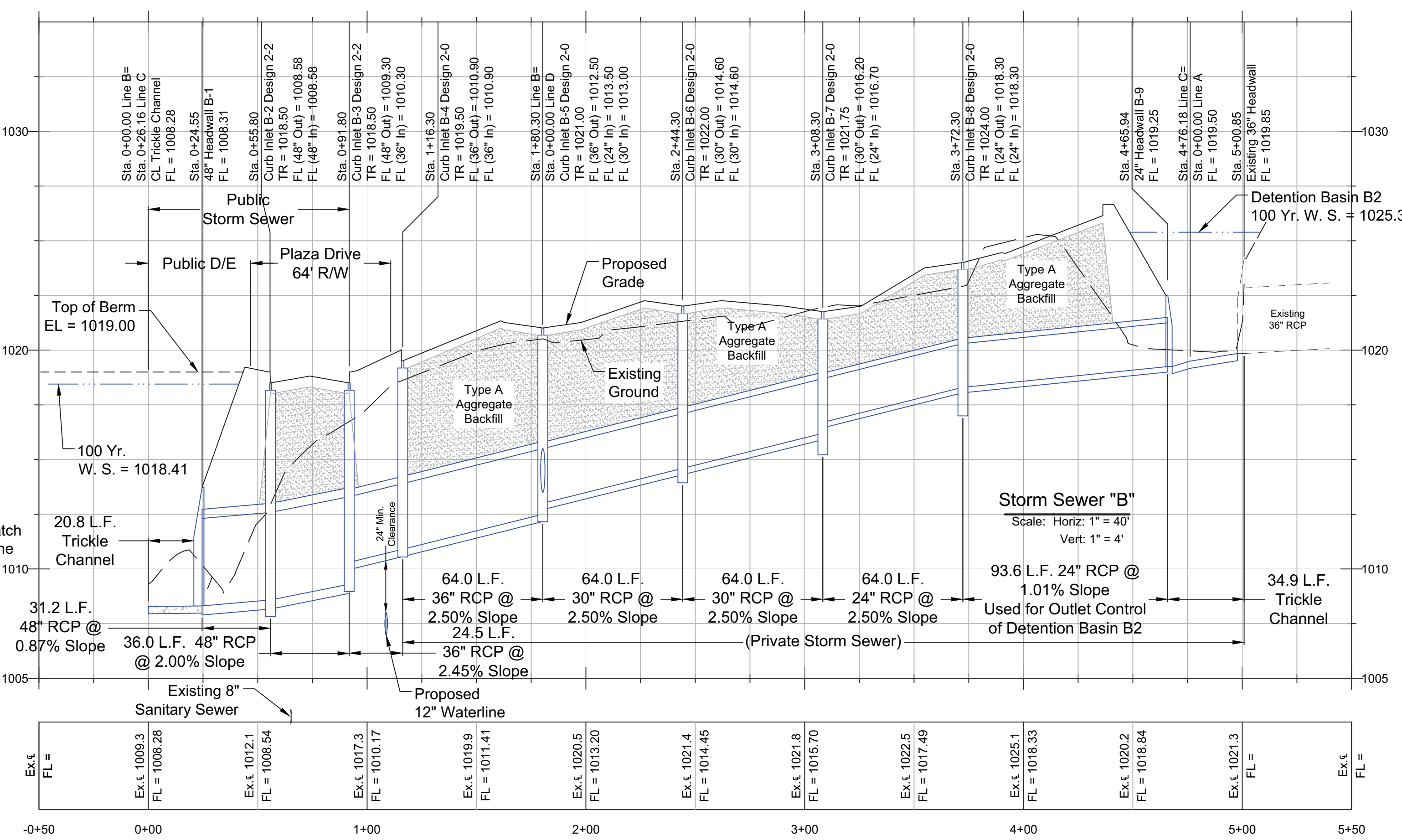
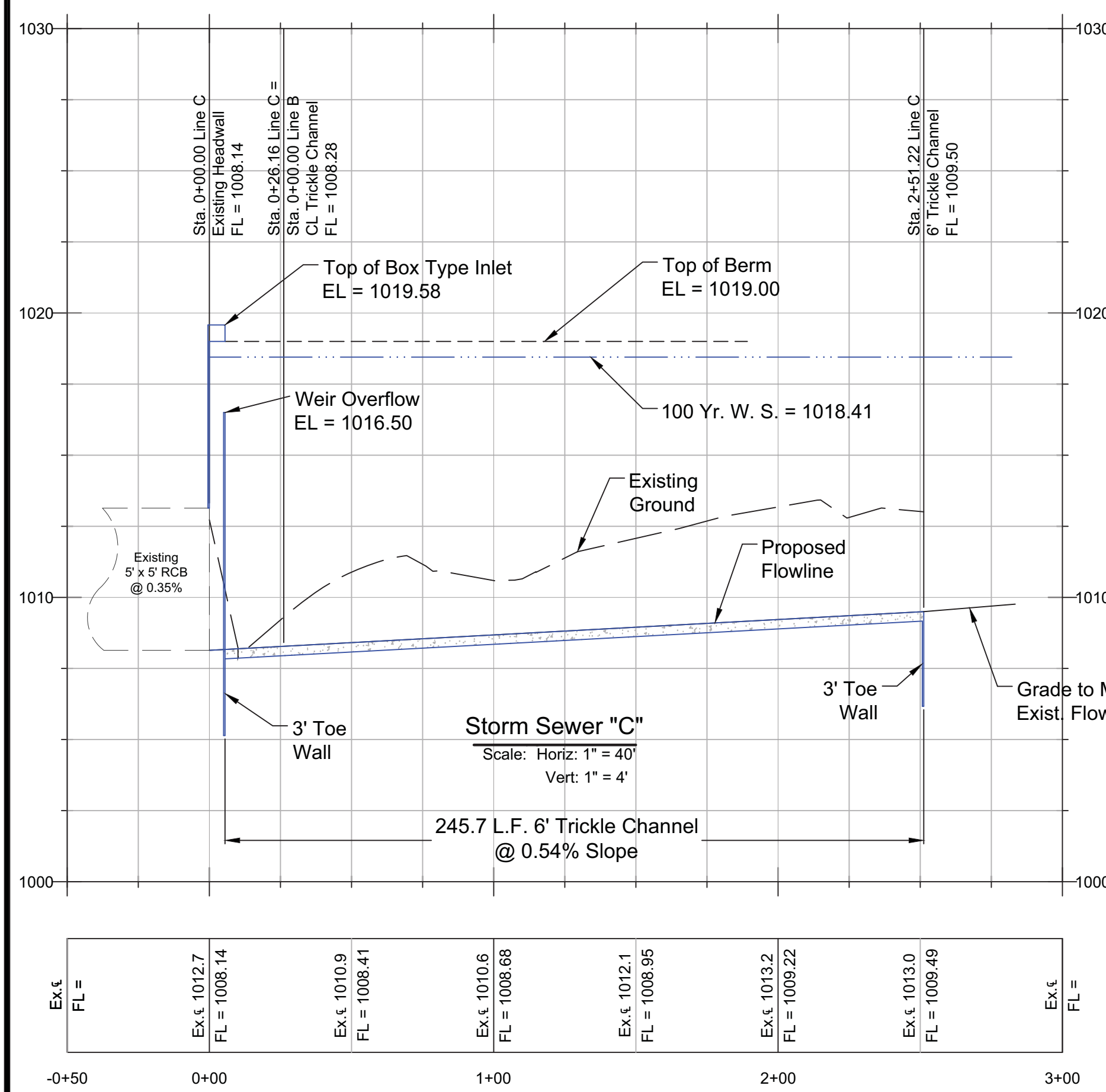
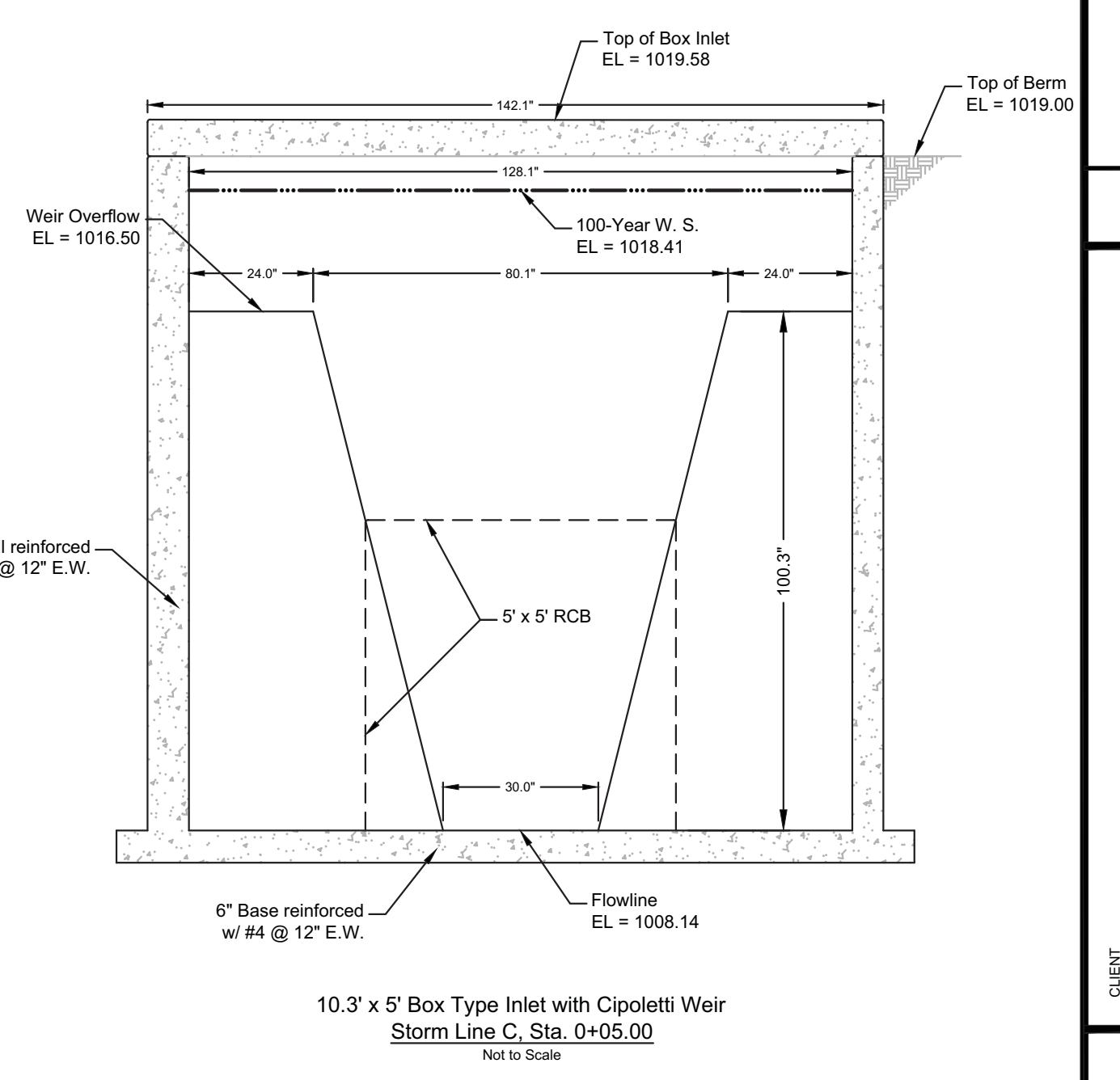
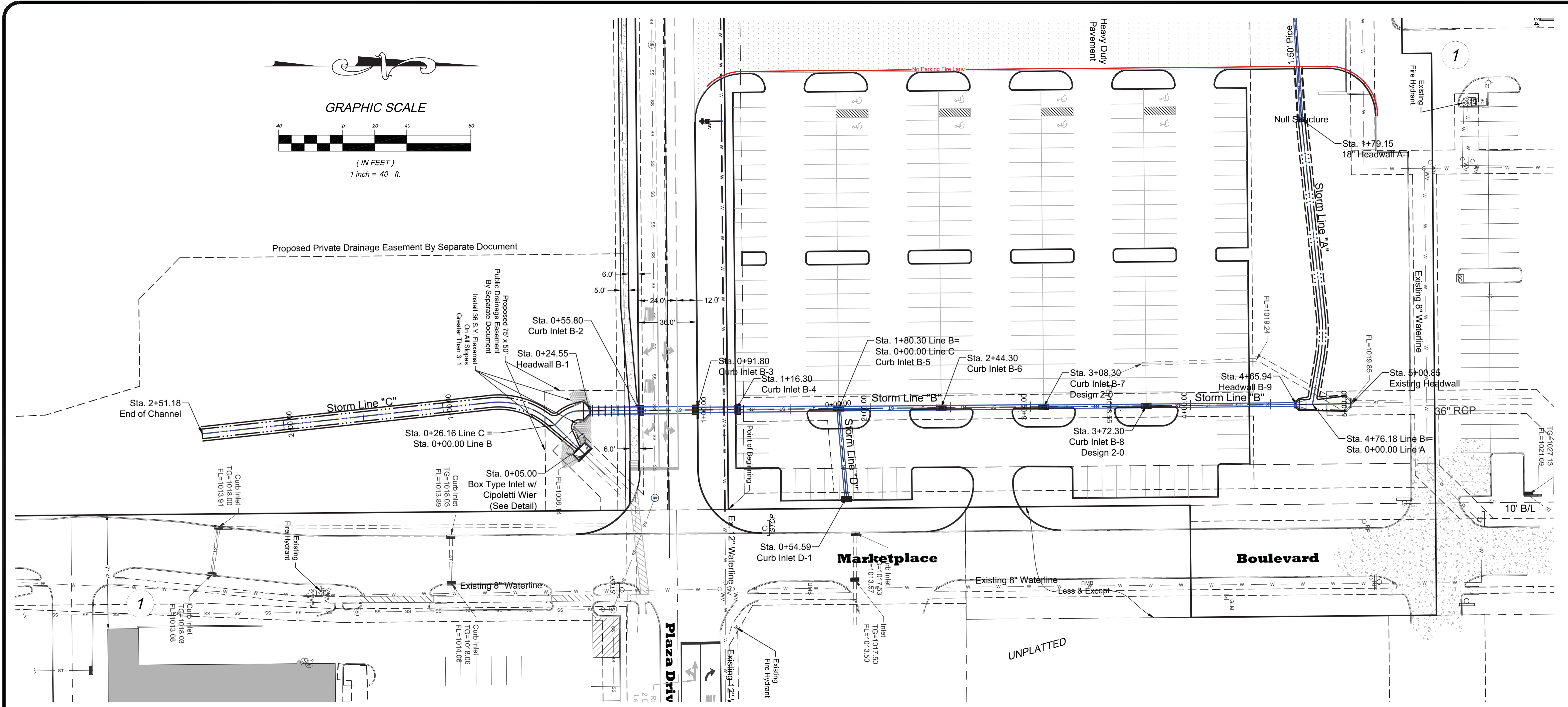
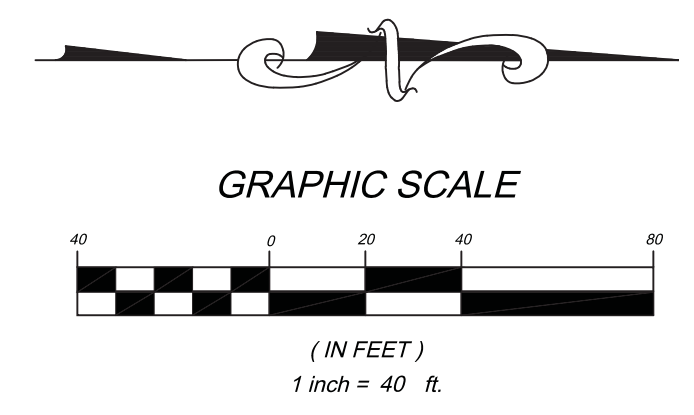
CLIENT
Brady All Properties, L.L.C.
10601 S. Western Avenue
Oklahoma City, Oklahoma 73170
(405) 732-8899

ALLEN ENGINEERING SERVICES, INC.
1601 S.W. 89th Street, Building C, Suite 200
Oklahoma City, Oklahoma 73159
Tel: (405) 840-9901 - Fax: (405) 861-4481
CA No. 41317 - June 30, 2024

PROJECT NAME
Shawnee Marketplace, Phase 2
4700 Marketplace Boulevard
Shawnee, Oklahoma 74804
Plan & Profile Storm Line A

PROJECT NO.	5826.3
FILE	5826-3Design
DATE	03-31-2022
DRAWN BY	JMS
CHECKED BY	CWA
FIELD CREW	H&A

SHEET
C9
OF 11



Ex. 1	FL =	Ex. 1	FL =	Ex. 1	FL =
10127.7	1008.14	1010.9	1008.41	1010.6	1008.86
1012.1	1008.95	1013.2	1009.22	1013.0	1009.49
1012.1	1008.95	1013.2	1009.22	1013.0	1009.49

Ex. 1	FL =	Ex. 1	FL =	Ex. 1	FL =	Ex. 1	FL =	Ex. 1	FL =
1009.3	1008.28	1012.1	1008.54	1017.3	1010.17	1019.9	1011.41	1020.5	1013.20
1021.4	1014.45	1021.8	1015.70	1022.5	1017.49	1025.1	1018.33	1020.2	1018.84
1021.3		1021.3		1021.3		1021.3		1021.3	

Ex. 1	FL =	Ex. 1	FL =	Ex. 1	FL =	Ex. 1	FL =
1020.7	1013.50	1020.2	1014.05	1021.3		1021.3	

NO.	REVISION/ISSUE	DATE
3	City Comments	12-27-2022
2	City Comments	12-06-2022
1	City Comments	11-15-2022

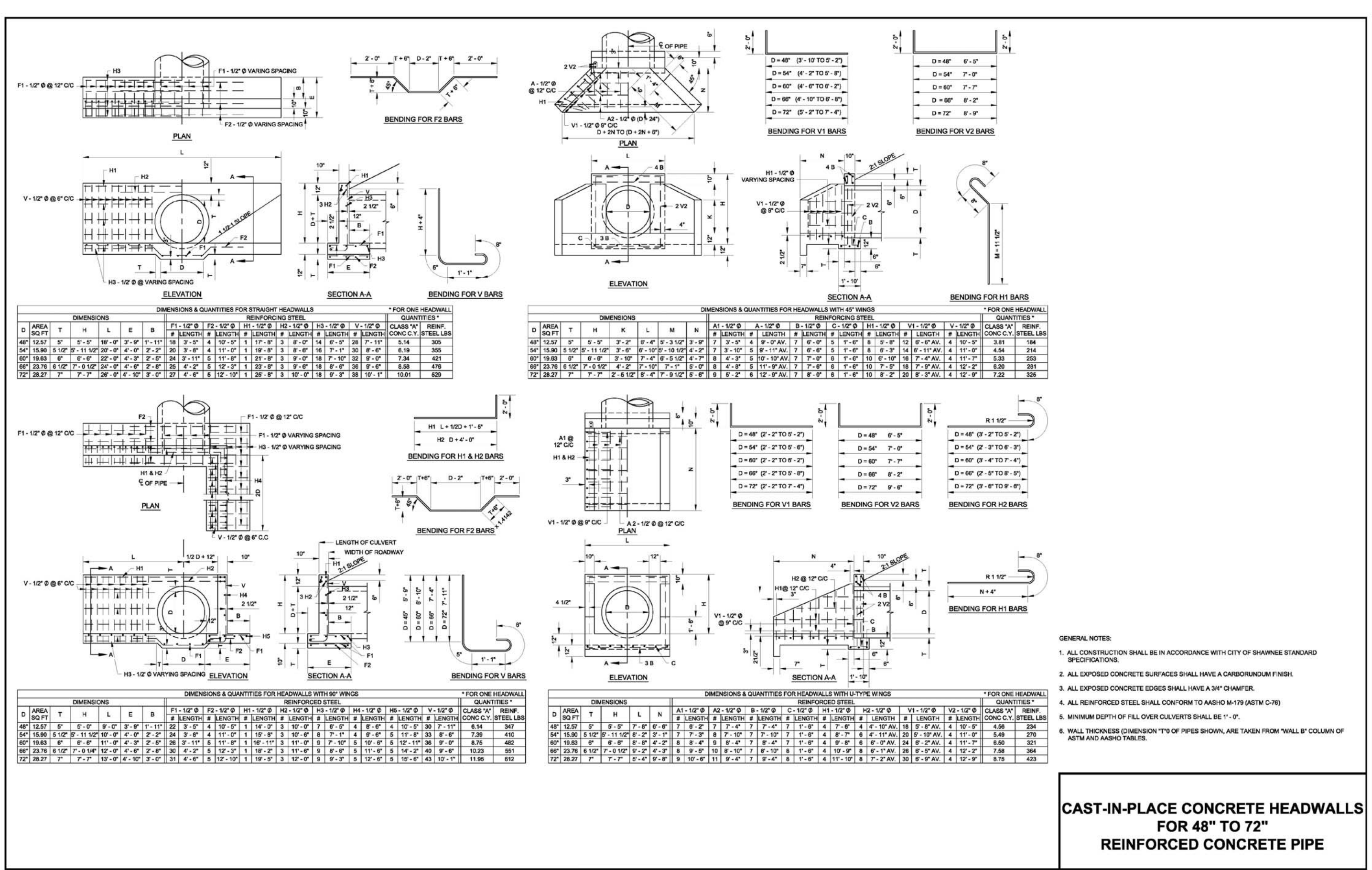
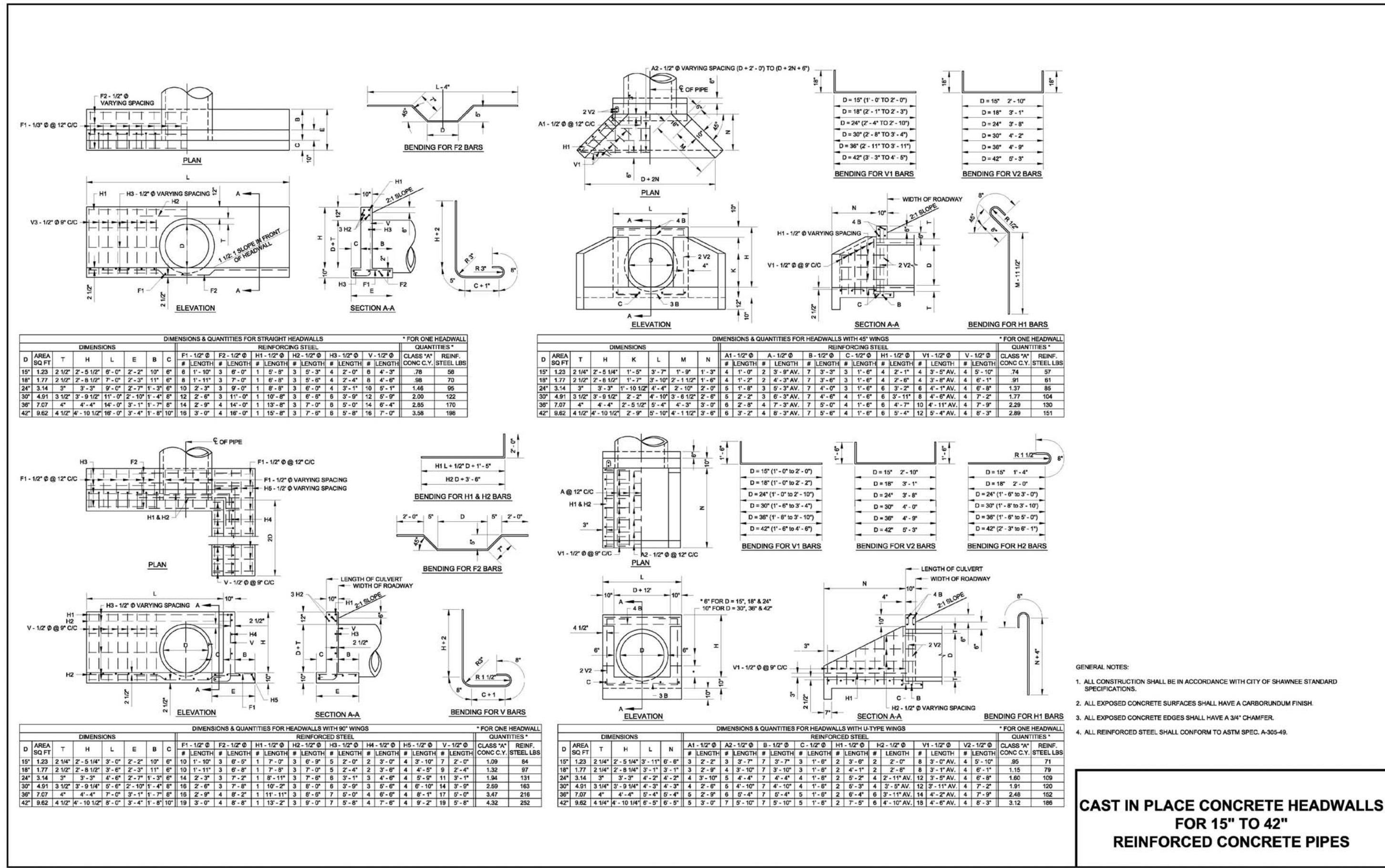
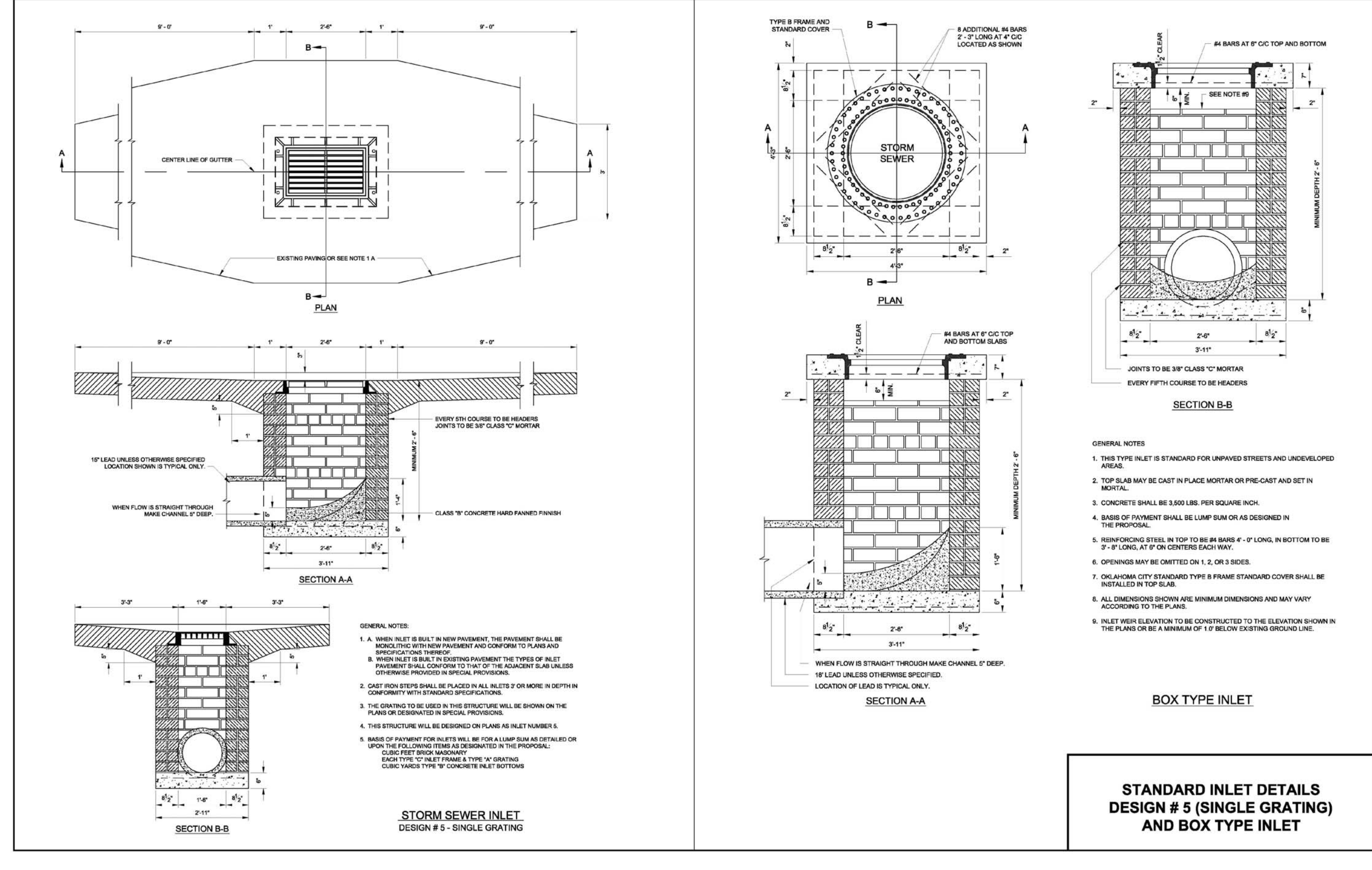
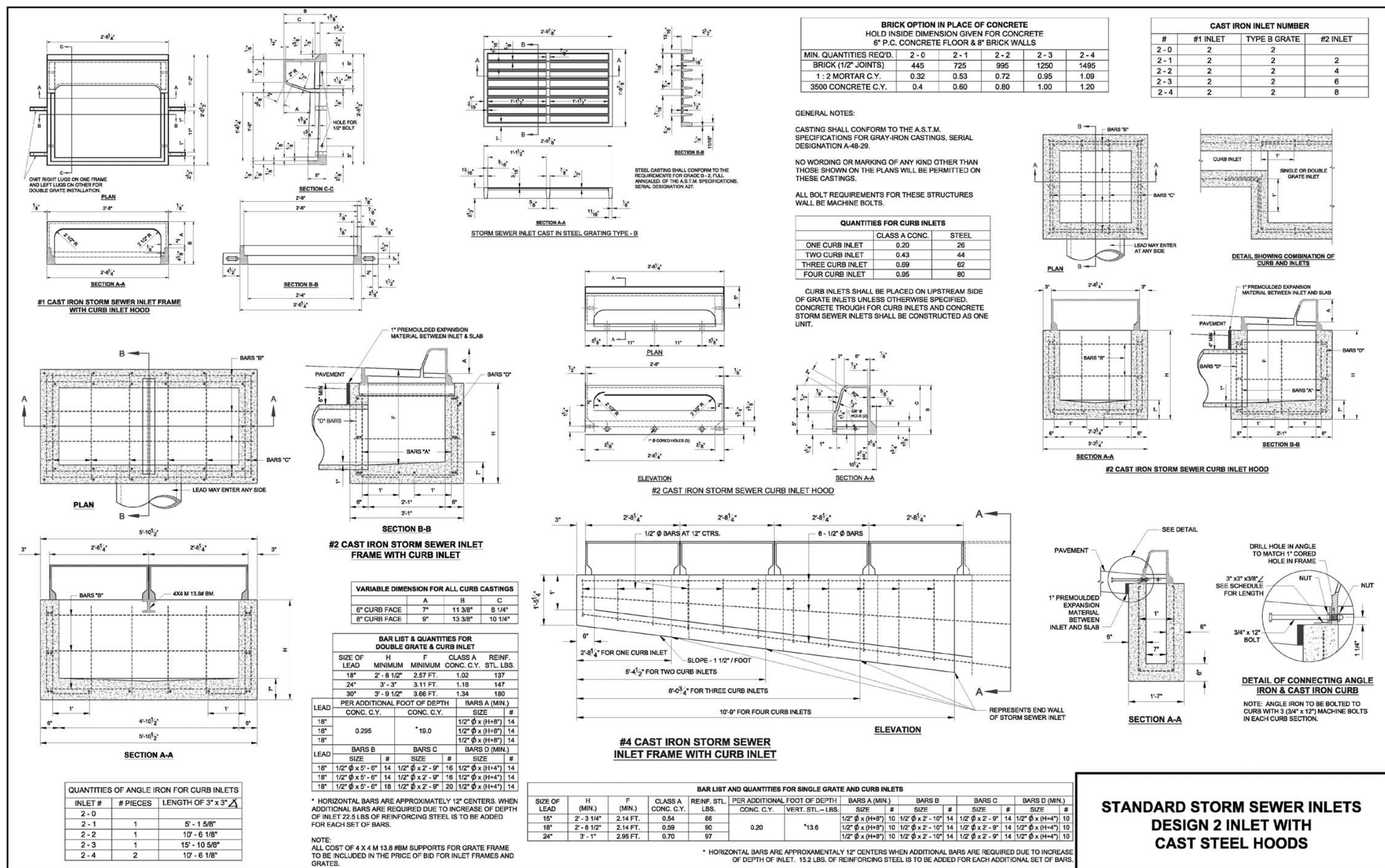
CLIENT
Brady AI Properties, L.L.C.
 10601 S. Western Avenue
 Oklahoma City, Oklahoma 73170
 (405) 732-8899

ALLEN ENGINEERING SERVICES, INC.
 1601 S.W. 89th Street, Building C, Suite 200
 Oklahoma City, Oklahoma 73159
 Tel: (405) 940-9901 - Fax: (405) 661-4481
 CA No. 41317 - June 30, 2024

PROJECT NAME
Shawnee Marketplace, Phase 2
 4700 Marketplace Boulevard
 Shawnee, Oklahoma 74804
 Plan & Profile Storm Line B, C & D

PROJECT NO.	5826.3
FILE	5826-3Design
DATE	03-31-2022
DRAWN BY	JMS
CHECKED BY	CWA
FIELD CROW	H&A

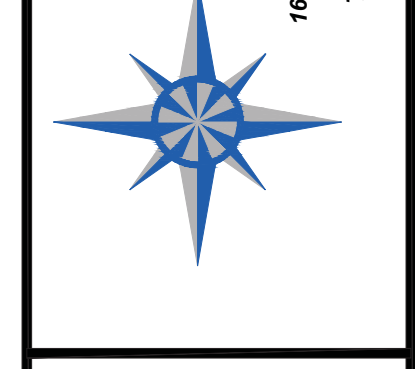
SHEET
C10
 OF 11



NO.	REVISION/ISSUE	DATE
3	City Comments	20-07-2022
2	City Comments	12-06-2022
1	City Comments	11-15-2022

CLIENT: **Brady AI Properties, L.L.C.**
 10601 S. Western Avenue
 Oklahoma City, Oklahoma 73170
 (405) 732-8899

PROJECT NAME: **Shawnee Marketplace, Phase 2**
 4700 Marketplace Boulevard
 Shawnee, Oklahoma 74804



PROJECT NO.: 5826.3
 FILE: 5826-3Design
 DATE: 03-31-2022
 DRAWN BY: JMS
 CHECKED BY: CWA
 FIELD CREW: H&A

SHEET: **C11**
 OF 11

Final Plat of:

Shawnee Marketplace, Phase 3

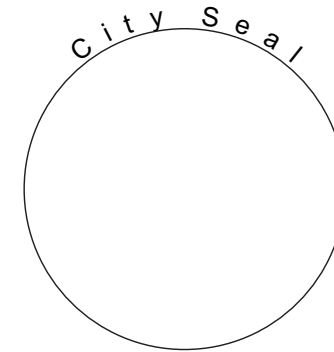
A Part of the Southeast Quarter, Section 36

Township 11 North, Range 3 East of the Indian Meridian

City of Shawnee, Pottawatomie County, Oklahoma

Planning Commission

I, _____, Chairperson of the Planning Commission of the City of Shawnee, Oklahoma, do hereby certify that the said Planning Commission approved the Final Plat of **Shawnee Marketplace, Phase 3**, an Addition to the City of Shawnee, Oklahoma, this _____ day of _____, 2025.

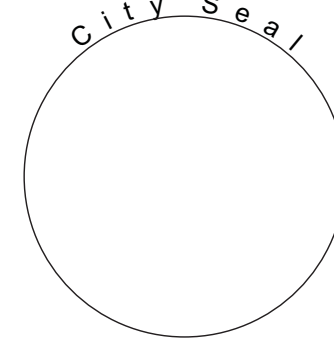


Chairperson

Acceptance of Dedication

Be it resolved by the City Council of the City of Shawnee, Oklahoma, that the dedications shown on the Final Plat of **Shawnee Marketplace, Phase 3**, an Addition to the City of Shawnee, Oklahoma, are hereby accepted.

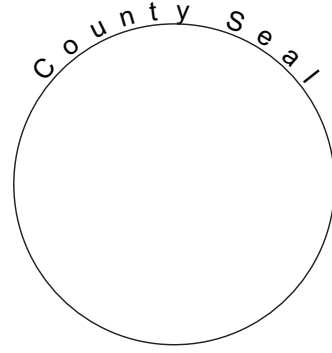
Signed by the Mayor of the City of Shawnee, Oklahoma this _____ day of _____, 2025.



Mayor

Certificate of City Clerk

I, _____, City Clerk of the City of Shawnee, Oklahoma, hereby certify that I have examined the records of said City and find that all deferred payments of unmatured installments upon special assessments have been paid in full and that there is no special assessment procedure now pending against the land shown on this Final Plat of **Shawnee Marketplace, Phase 3**

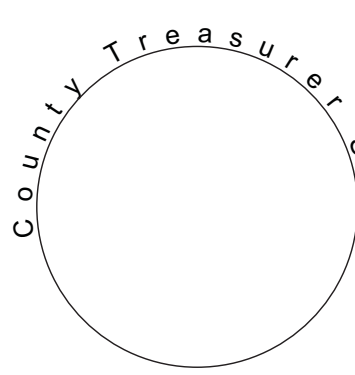


Signed by the City Clerk of the City of Shawnee, Oklahoma this _____ day of _____, 2025.

City Clerk

County Treasurer's Certificate

I, _____, do hereby certify that I am the duly elected, qualified and acting County Treasurer of Pottawatomie County, State of Oklahoma, that the tax records of said County show all taxes are paid for the year _____ and prior years on the land shown on the annexed plat, that the required statutory security has been deposited in the office of County Treasurer guaranteeing payment of the current years taxes. In witness where, said County Treasurer has caused this instrument to be executed on this _____ day of _____, 2025.

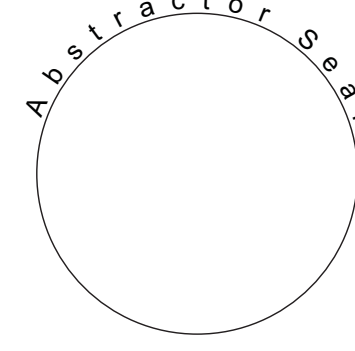


COUNTY TREASURER

Bonded Abstractor's Certificate

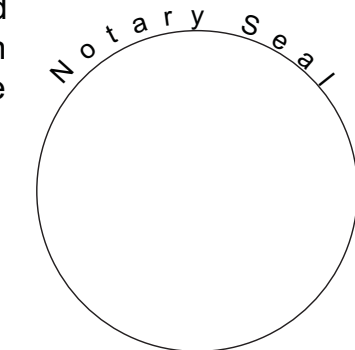
The undersigned, a duly qualified and lawfully Bonded Abstractor of titles in and for the County of Pottawatomie, State of Oklahoma, hereby certifies that the records for said County show that the land shown on the annexed plat is vested in **Brady Ali Properties, L.L.C.**, and that on the _____ day of _____, 2025, there are no actions pending or judgments of any nature against said land or the owner thereof: that the taxes are paid for the year _____ and prior years: that there are no outstanding tax sales certificates against said land and no tax deeds are issued to any persons; that there are no liens, mortgages, or encumbrances of any kind against the land included in the annexed plat except _____.

Attest: _____ President:



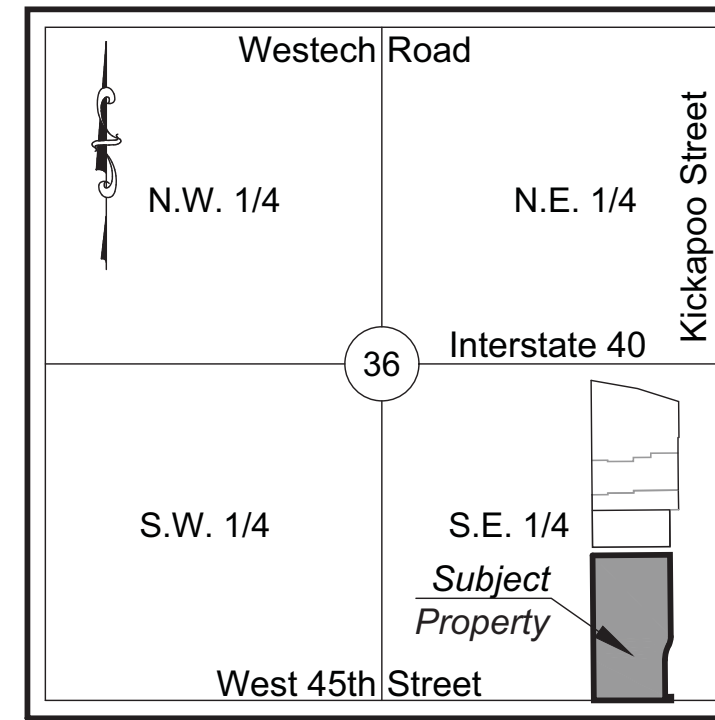
STATE OF OKLAHOMA, COUNTY OF _____, §

Before me, the undersigned, a Notary Public in and for said County and State on this _____ day of _____, 2025, personally appeared _____ to me known to be the identical Person who executed the same as his free and voluntary act and deed for the purposes set forth.



Given under my hand and seal the day and year last written.

My Commission Expires _____ Notary Public



Vicinity Map
Section 36, Township 11N, Range 3E
Not To Scale

Legal Description

A tract of land in the Southeast Quarter (SE/4) of Section Thirty-six (36), Township Eleven (11) North, Range Three (3) East of the Indian Meridian, Pottawatomie County, Oklahoma, being more particularly described with metes and bounds as follows:

Commencing at the Southeast corner of the SE/4 of said Section 36; Thence South 89°22'30" West as the basis of bearing on the South line of said SE/4 a distance of 370.00 feet to the Point of Beginning, said point being the Southwest corner of I-40 & Kickapoo Commercial Center, Section 1:

Thence continuing South 89°22'30" West on said South line a distance of 607.26 feet; Thence North 00°30'40" West and parallel to the West line of Block One (1), Shawnee Marketplace a distance of 1148.11 feet to the South Right-of-Way line of Plaza Drive; Thence North 89°29'20" East a distance of 607.26 feet to a point on the West line of Lots Five (5) through Eight (8), Block One (1), Shawnee Marketplace; Thence South 00°30'40" East on said West line of Lots 5 through 8, Block 1, Shawnee Marketplace a distance of 642.97 feet; Thence on a curve to the Right, having a Radius of 137.50 feet, a Chord Bearing of South 14°09'52" West, and a Chord Distance of 69.67 feet, for an Arc Length of 70.44 feet to a point of reverse curve; Thence on a reverse curve to the Left, having a Radius of 232.50 feet, a Chord Bearing of South 14°09'52" West, and a Chord Distance of 117.81 feet, for an Arc Length of 119.10 feet; Thence South 00°30'40" East a distance of 289.65 feet and parallel to the West line of I-40 & Kickapoo Commercial Center, Section 1; Thence North 89°23'28" East a distance of 47.50 feet; Thence South 00°30'40" East a distance of 33.00 feet to the Point of Beginning.

Notes

- This Survey meets the Oklahoma Minimum Standards for the Practice of Land Surveyors as adopted by the Oklahoma State Board of Registration for Professional Engineers and Land Surveyors; and that said Final Plat complies with the requirements of Title 11 Section 41-108 of the Oklahoma State Statutes.
- Utility Easements, Private Drainage Easements and Common Areas are to be maintained by the property owners association. No Structures, storage or material, grading, fill or other obstructions, including fences, either temporary or permanent, shall be placed within the common areas and / or drainage easements.

Owner's Certificate and Dedication

KNOWN ALL MEN BY THESE PRESENTS:

That _____, Manager of **Brady Ali Properties, L.L.C.**, does hereby certify that it is the owner of and the only person, firm, or corporation having any rights, title, or interest in and to the land shown on the annexed plat and that it has caused the same to be surveyed and platted, and that it hereby dedicates the utility easements shown hereon to the public, for the purposes of utilities, and drainage, and have cause the same to be released from all encumbrances so that the title is clear, except as shown in the abstractor's certificate.

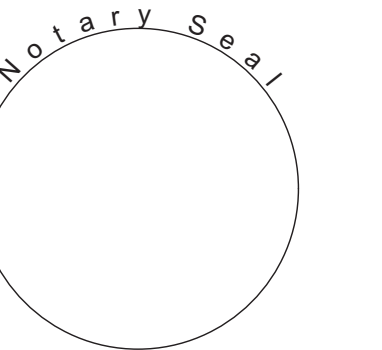
In witness whereof, the undersigned have caused this instrument to be executed this _____ day of _____, 2025. Covenants, reservations and restrictions for this addition are contained in a separate instrument.

Brady Ali Properties, L.L.C.

Manager

STATE OF OKLAHOMA, COUNTY OF OKLAHOMA, §

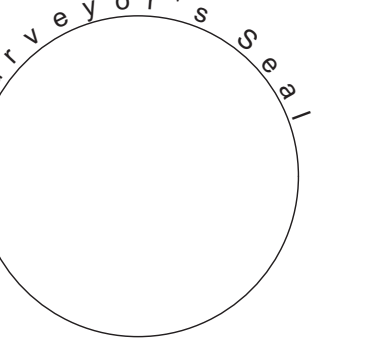
Before me, the undersigned a notary public, in and for said County and State, on this _____ day of _____, 2025, personally appeared _____, Manager of **Brady Ali Properties, L.L.C.**, to me known to be the identical person who executed the within and foregoing instrument on behalf of said company, and acknowledged to me that he executed the same as his free and voluntary act and deed and as the free and voluntary act and deed of said company, for the purposes herein set forth.



My Commission Expires _____ Notary Public

Land Surveyor's Certificate

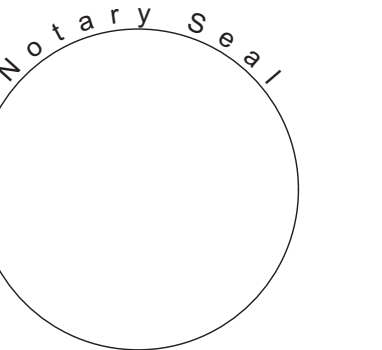
I, Curtis Lee Hale, do hereby certify that I am a Licensed Land Surveyor, and that the annexed plat correctly represents a careful survey made under my direction, and that the monuments shown hereon actually exist and their positions are correctly shown.



Curtis Lee Hale, L.S. # 1084

STATE OF OKLAHOMA, COUNTY OF OKLAHOMA, §

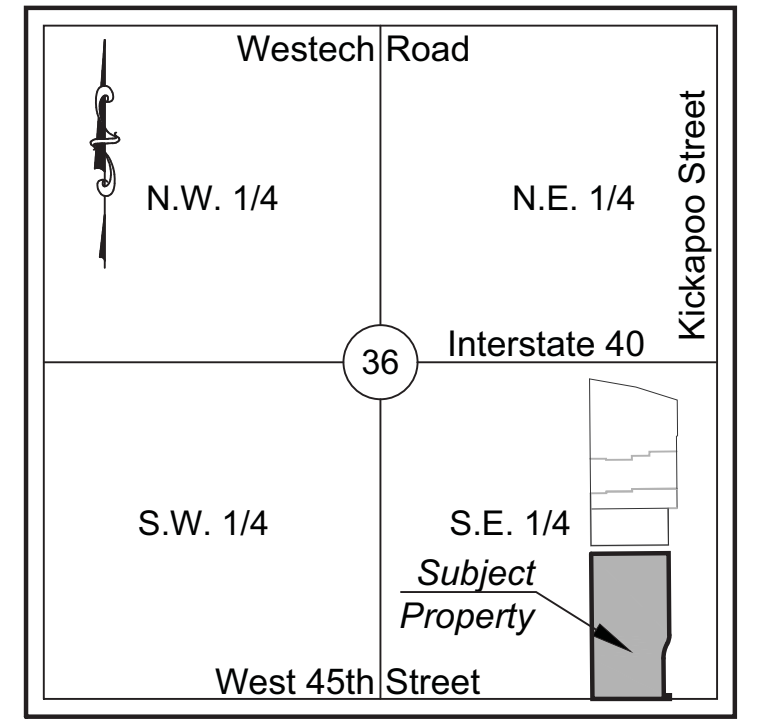
Before me, the undersigned, a Notary Public in and for said County and State, personally appeared Curtis Lee Hale, to me known to be the identical person who executed the above instrument and acknowledged to me that he executed the same as his free and voluntary act and deed. Given under my hand and seal the _____ day of _____, 2025.



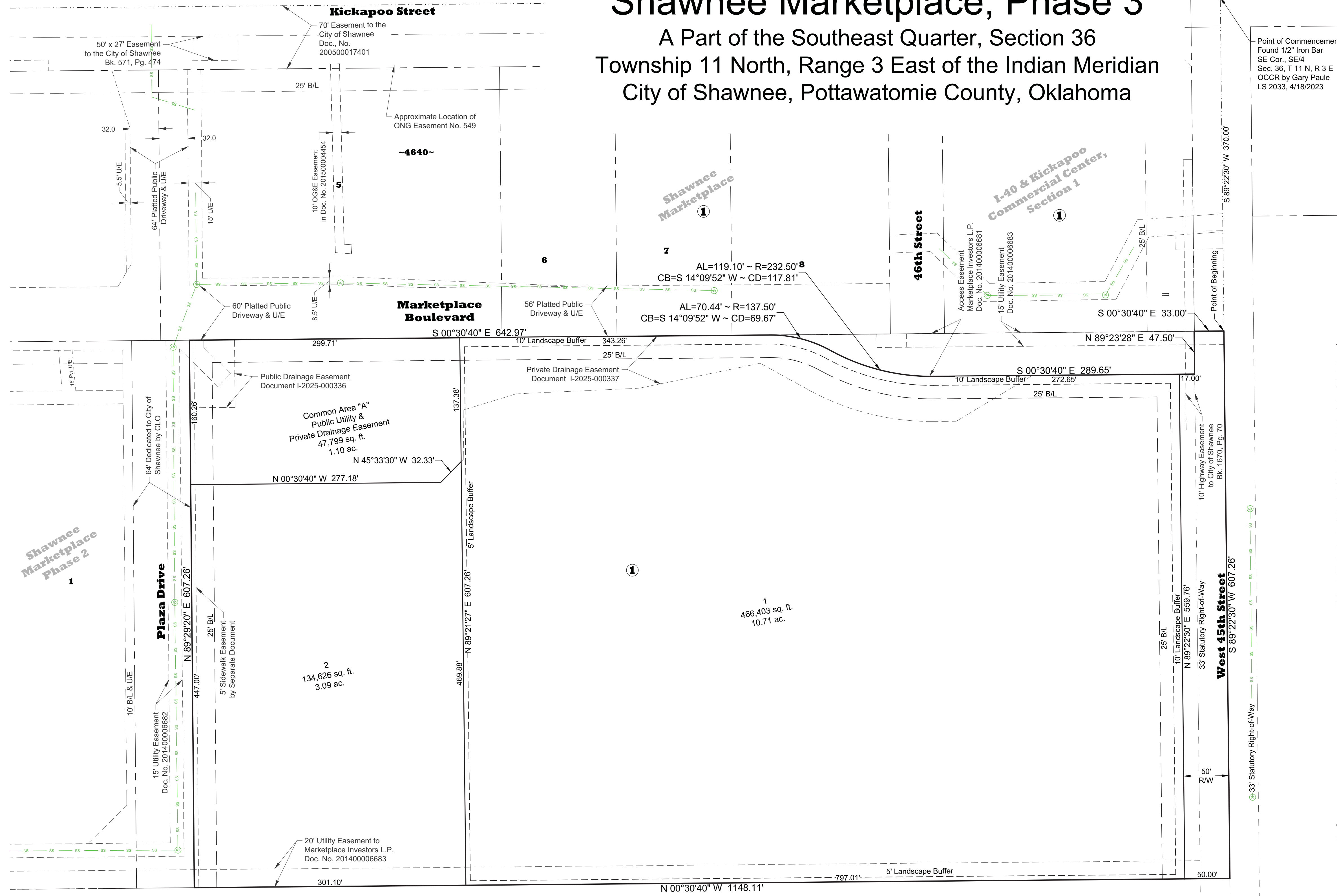
My Commission Expires _____ Notary Public

Shawnee Marketplace Phase 3
Land Surveying and Planning
1601 S.W. 89th Street, Building C, Suite 200
Oklahoma City, Oklahoma 73159
Tel.: (405) 686-0174 - Fax: (405) 681-4881
C. A.: 819 - Exp.: June 30, 2025
www.halesurvey.com
Proj. No. 5826.6

Final Plat of:
Shawnee Marketplace, Phase 3
 A Part of the Southeast Quarter, Section 36
 Township 11 North, Range 3 East of the Indian Meridian
 City of Shawnee, Pottawatomie County, Oklahoma



Vicinity Map
 Section 36, Township 11N, Range 3E
 Not To Scale



Legal Description

A tract of land in the Southeast Quarter (SE/4) of Section Thirty-six (36), Township Eleven (11) North, Range Three (3) East of the Indian Meridian, Pottawatomie County, Oklahoma, being more particularly described with metes and bounds as follows:

Commencing at the Southeast corner of the SE/4 of said Section 36; Thence South 89°22'30" West as the basis of bearing on the South line of said SE/4 a distance of 370.00 feet to the Point of Beginning, said point being the Southwest corner of I-40 & Kickapoo Commercial Center, Section 1:

Thence continuing South 89°22'30" West on said South line a distance of 607.26 feet; Thence North 00°30'40" West and parallel to the West line of Block One (1), Shawnee Marketplace a distance of 1148.11 feet to the South Right-of-Way line of Plaza Drive; Thence North 89°29'20" East a distance of 607.26 feet to a point on the West line of Lots Five (5) through Eight (8), Block One (1), Shawnee Marketplace; Thence South 00°30'40" East on said West line of Lots 5 through 8, Block 1, Shawnee Marketplace a distance of 642.97 feet; Thence on a curve to the Right, having a Radius of 137.50 feet, a Chord Bearing of South 14°09'52" West, and a Chord Distance of 70.44 feet to a point of reverse curve; Thence on a reverse curve to the Left, having a Radius of 232.50 feet, a Chord Bearing of South 14°09'52" West, and a Chord Distance of 117.81 feet, for an Arc Length of 119.10 feet; Thence South 00°30'40" East a distance of 289.65 feet and parallel to the West line of I-40 & Kickapoo Commercial Center, Section 1; Thence North 89°23'28" East a distance of 47.50 feet; Thence South 00°30'40" East a distance of 33.00 feet to the Point of Beginning.

- Notes**
1. This Survey meets the Oklahoma Minimum Standards for the Practice of Land Surveyors as adopted by the Oklahoma State Board of Registration for Professional Engineers and Land Surveyors; and that said Final Plat complies with the requirements of Title 11 Section 41-108 of the Oklahoma State Statutes.
 2. Utility Easements, Private Drainage Easements and Common Areas are to be maintained by the property owners association. No Structures, storage or material, grading, fill or other obstructions, including fences, either temporary or permanent, shall be placed within the common areas and / or drainage easements.

Unplatted

Legend	
○	MONUMENT FOUND
●	MONUMENT SET 3/8" IRON BAR WITH CAP "HALE & ASSOC. CA 819" (UNLESS OTHERWISE NOTED)
—	SUBJECT PROPERTY
—	PROPERTY LINE
---	EASEMENT LINE
---	SECTION LINE
---	RIGHT-OF-WAY LINE
BL	BUILDING LINE
UE	UTILITY EASEMENT
DE	DRAINAGE EASEMENT
RW	RIGHT-OF-WAY

Basis of Bearings:
 S 89°22'30" W, on the South line of the SE/4 Sec. 36, T 11 N, R 3 E

Graphic Scale

Found Mag Nail
 SW Cor., SE/4
 Sec. 36, T 11 N, R 3 E
 OCCR by Nathan Mayer
 LS 1757, 6/20/2011

Shawnee Marketplace Phase 3

Land Surveying and Planning
 1601 S.W. 89th Street, Building C, Suite 200
 Oklahoma City, Oklahoma 73159
 Tel.: (405) 686-0174 - Fax: (405) 681-4881
 C. A.: 819 - Exp.: June 30, 2025
 www.halesurvey.com
 Proj. No. 5826.3

FINAL PLAT APPLICATION



Planning Department

222 N. Broadway
Shawnee, OK 74801
(405) 878-1616 Fax (405) 878-1587 www.ShawneeOK.org

For Office Use Only	
Case Number:	_____
Project Number :	_____
Date Filed:	_____
Amount Paid :	_____
Receipt No.:	_____

Please provide a submittal letter, 6-24 X 36 maps, 1-8 1/2 x 14 map, 1 electronic map and filing fees upon submitting this application. Please call (405) 878-1616 with any questions.

APPLICANT Brady Ali Properties, L.L.C.
APPLICANT ADDRESS 10601 S. Western Avenue, Oklahoma City, Oklahoma 73170
APPLICANT PHONE NUMBERS Ali Ghaniabadi (405) 410-4528
EMAIL ADDRESS ali@bradyproperties.com
NAME OF PLAT Shawnee Marketplace, Phase 3
LOCATION 4600 Marketplace Boulevard, Shawnee, Oklahoma 74804
NUMBER OF ACRES 15.57 NUMBER OF LOTS 2 Lots & 1 Common Area

FOR 2 ACRE LOTS OR GREATER DEVELOPMENTS: FEE: \$225.00
PLUS **\$3.00** PER LOT UP TO FIFTY (50) LOTS - NUMBER OF LOTS 2 = \$6.00
PLUS **\$1.00** PER LOT OVER FIFTY (50) LOTS - NUMBER OF LOTS _____ = _____
TOTAL COST \$231.00

FOR LESS THAN 2 ACRE LOTS: FEE: \$225.00
PLUS **\$2.00** PER LOT UP TO FIFTY (50) LOTS - NUMBER OF LOTS _____ = _____
PLUS **\$1.00** PER LOT OVER FIFTY (50) LOTS - NUMBER OF LOTS _____ = _____
TOTAL COST _____

OWNER/DEVELOPER INFORMATION:

NAME Brady Ali Properties, L.L.C.
ADDRESS 10601 S. Western Avenue, Oklahoma City, Oklahoma 73170
CONTACT NUMBERS Ali Ghaniabadi (405) 410-4528
EMAIL ADDRESS ali@bradyproperties.com

PROJECT ENGINEER INFORMATION:

NAME Hale & Associates Survey Co., Inc.
ADDRESS P.O. Box 891747, Oklahoma City, Oklahoma 73189-1747
CONTACT NUMBERS Charles Allen (405) 686-0174
EMAIL ADDRESS callen@aeswins.com

APPLICATION, SITE PLAN, CONSTRUCTION DOCUMENTS, PAYMENT, ETC... MUST BE RECEIVED 30 DAYS PRIOR TO MEETING



Planning Commission Meeting – 6.4.2025 – City of Shawnee, Oklahoma

Staff Report | RZ02-25 | R-1 to R-2 | 1402 E 45th Street

Date: May 27, 2025

To: Shawnee Planning Commission

From: Diana Hood, City Planner

Subject: Public hearing and consideration of a request to rezone from R-1 (Low Density Residential District) to R-2 (Medium Density Residential District).
Case No. RZ02-25 | Applicant: Salazar Homes Inc./Allen Engineering Services, Inc.

Background

The subject property is located at 1402 E 45th Street and is currently zoned R-1 (Low Density Residential). The request by the applicant is to rezone the property to R-2 (Medium Density Residential). The subject property is on the northeast corner of East 45th Street and Sydney Drive.

Discussion

The subject property is zoned R-1 (Low Density Residential District) with similar zoning to the north. The parcels to the east and west are zoned TA (Transitional Agriculture). C-1 (Local Commercial) is located to the south across East 45th Street. There is no R-2 zoning in the vicinity. The applicant is currently looking to place six fourplex style dwellings on the property, with the primary road access being Sydney Drive. Fourplexes are allowed in the current R-1 zoning district with a Conditional Use Permit, and are allowed by right in the requested R-2 district.

The Comprehensive Plan Future Land Use Map (FLUM) indicates the subject property has a Medium Density Residential land use designation. This land use designation features a density of up to 12 dwelling units per acre. The Comprehensive Plan also notes that this land use designation can include a mix of lower density housing types, civic uses, and limited higher intensity uses along with connections to neighborhood commercial services. R-2 is an appropriate zoning district for this land use designation. The request would be conforming with the 2040 Comprehensive Plan. However, the requested R-2 (Medium Density Residential) Zoning District has no similar zoning in the area, and may be viewed as a case of spot-zoning. An alternative course of action would be to keep the current zoning and request a Conditional Use Permit to allow the use.

The property’s location along East 45th Street subjects it to the density of use accompanied by the increased demand for Commercial uses along the Street’s corridor. Furthermore, the anticipated future widening of 45th Street and the existing Commercial zoning in the vicinity may justify a rezoning to R-2 to both match the intensity of nearby uses and provide a transitional barrier for the existing residential subdivision to the north.

Referencing the City of Shawnee Zoning Code (Code) DIVISION 15. - Amendments; Procedures. Section 22-645. – Planning commission recommendation required. This section gives authority to the Planning Commission to make changes (amendments) to the official Zoning Map. "...be amended, supplemented, changed, modified, or repealed by ordinance, but no change shall be made until the planning commission, after notice and public hearing, files with the city commission a report and recommendation on the proposed change."

Staff completed the required public hearing notifications for this application. All property owners within 300' from the perimeter of the subject property were mailed a public hearing notification letter. Additionally, a notice of public hearing was published in The County Democrat weekly newspaper. A sign providing details and contact information was placed on the subject property.

Findings and Facts:

- The subject property is adjacent to TA, R-1, and C-1 zoning.
- The request is in conformance with the Comprehensive Plan Future Land Use Map (FLUM).
- Approval would create R-2 zoning with no other similar zoning nearby.
- There is an alternative course of action to allow the desired use.
- Notification for a public hearing was served.

Options:

- Recommending Approval of Case No. RZ02-25 to rezone from R-1 (Low Density Residential) to R-2 (Medium Density Residential) as requested by the applicant.
- Recommending Denial of the application for RZ02-25 to rezone the subject property.
- Recommending Deferral Case No. RZ02-25 with a request for additional and specific information to a certain date.
- Recommending Approval of a Conditional Use Permit for the proposed development with the following conditions: a Landscape plan and a Drainage Plan must be submitted at or before Building Permits are requested.

Recommendation: Based on the Findings and Facts, staff recommends that the Planning Commission recommend to the City Commission **APPROVAL** of **RZ02-25** to rezone the subject property from R-1 (Low Density Residential) to R-2 (Medium Density Residential).

This rezoning application will be heard at the City Commission meeting on Monday, June 16, at 6:00 pm.

OWNERSHIP LIST

ORDER NO 2925550-OK99

DATE PREPARED: April 3, 2025

EFFECTIVE DATE: March 25, 2025 at 7:30 am

OWNER	LOT	BLK	ADDITION
SALAZAR HOMES INC 209 E MAIN ST YUKON, OK 73099-0000			BEGINNING 400'W SE/C SW/4 N625.4' W132.89' S625.3' E125.6' POB (32-11N-4E)
CHANSEN RAMAH LEE 46427 GARRETTS LAKE RD SHAWNEE, OK 74804-			BEG 200'W SE/C SW/4 W200' N625.40' E200' S625.4' POB (32-11N-4E)
VU NGUYEN LLC 4612 GRACELANN SHAWNEE, OK 74804-			BEG SE/C SW W200' N625.40 FEET E200' S625.40' POB (32-11N-4E)
O'CONNOR JARALD A & PHYLLIS J JOINT REV TRUST 5 CROWNPOINT SHAWNEE, OK 74804-0000			BEG SW/C SE N335' E150' N290.4' E198.2' S625' W348.2' POB. &; BEG SE/C W/2 SE W969.5' N625.4' W348.2' N1973' E1331' S2597' POB &; BEG SE/C E/2 SW W831.4' N2554.3' E861' S2550.4' TO POB LESS 15 AC IN BK 2882 PG 18 LESS BEG SW/C W/2 SE N335' E150' S335' W150' POB &; LESS 50 AC TO BRYANT BUILDERS REC 2002-4495 &; LESS 2.87 AC REC2002-8169 &; LESS 2.87AC WD 2005-17985 (WD 2005-15833 2005-17986) &; LESS 26.12AC 2006-2235 &; LESS 18.3AC REC 2009-5599 (32-11N-4E)
GORDON COOPER AREA VOCATIONAL TECHNICAL SCHOOL 1 JOHN C BRUTON BLVD SHAWNEE, OK 74804-0000			W15 AC OF PRO DES AS BEG SE/C E/2 SW W831.4' N2554.3' E861' S2550.4' POB (32-11N-4E)
F&C REALTY LLC 1421 E 45TH ST			E1/2 NE NW (5-10N-4E)

SHAWNEE, OK 74804-			
NWH PROPERTIES LLC 1400 CLAIRE CT 15002 COKER RD SHAWNEE, OK 74801	25	3	WILDWOOD ADDITION
STROMBERG MARK JOHN & KRISTA RASHEL STROMBERG 213 ROSEMARY WAY LYNDEN, WA 98264-	26	3	WILDWOOD ADDITION
STROMBERG MARK JOHN & KRISTA RASHEL STROMBERG 213 ROSEMARY WAY LYNDEN, WA 98264-	27	3	WILDWOOD ADDITION
COOKSEY DAVID RAY & TESSA LOUISE 1406 CLAIRE CT SHAWNEE, OK 74804-	28	3	WILDWOOD ADDITION
WALTON TYNAN JAY & JAMIE 1408 CLAIRE CT SHAWNEE, OK 74804-	29	3	WILDWOOD ADDITION
WHISTLER RODGER & PENNI TRUST 1410 CLAIRE CT SHAWNEE, OK 74804	30	3	WILDWOOD ADDITION
BLAND BARBARA ANN 1412 CLAIRE CT SHAWNEE, OK 74804-	31	3	WILDWOOD ADDITION
ARMENDARIZ LOUIS MICHAEL & LORIE ANN ARMENDARIZ 1413 CLAIRE CT SHAWNEE, OK 74804-	32	3	WILDWOOD ADDITION
SMESRUD ROBERT AARON & LISA NOREEN SMESRUD 1411 CLAIRE CT SHAWNEE, OK 74804-	33	3	WILDWOOD ADDITION
HALL BENITA 1409 CLAIRE CT SHAWNEE, OK 74804	34	3	WILDWOOD ADDITION
WHISTLER RODGER & PENNI TRUST 1407 CLAIRE CT SHAWNEE, OK 74804-	35	3	WILDWOOD ADDITION
CLAY PATRICIA YVONNE 1405 CLAIRE CT	36	3	WILDWOOD ADDITION

SHAWNEE, OK 74804-			
STROMBERG MARK JOHN & KRISTA RASHEL STROMBERG 213 ROSEMARY WAY LYNDEN, WA 98264-	37	3	WILDWOOD ADDITION
RAUSCH COLEMAN HOMES OKC LLC 4058 N COLLEGE AVE STE 300 BOX FAYETTEVILLE, AR 72703-	38	3	WILDWOOD ADDITION

201800007700
Filed for Record in
POTTAWATOMIE OKLAHOMA
RAESHEL FLEWALLEN, COUNTY CLERK
07-09-2018 At 02:51 P.M.
WARR DEED 495.00

Instrument PG 1 OF 2
201800007700

Return To:
Salazar Homes, Inc.
209 E. MAIN ST.
YUKON, OK 73099



WARRANTY DEED
(OKLAHOMA STATUTORY FORM)

STATE OF OKLAHOMA
Pottawatomie County
Documentary Stamps: \$ 480.00

File No.: 2325569-SH01 (DKB)
Doc Stamps: \$480.00

Tax ID#: 0000-32-011-004-0-031-06

That **Dana Michelle Austin and Richard Allen Austin, Trustees of the Austin 2008 Revocable Trust, dated July 16, 2008**, (the "Grantor"), in consideration of the sum of TEN & NO/100-----Dollars and other valuable considerations, in hand paid, the receipt of which is hereby acknowledged, do(es) hereby, grant, bargain, sell and convey unto **Salazar Homes, Inc.**, (the "Grantee"), the following described real property and premises situated in **Pottawatomie County, State of Oklahoma**, to wit:

SURFACE ONLY:

A tract of land described as lying in the Southwest Quarter (SW/4) and in the Southeast Quarter (SE/4), being further described as commencing at the Southeast corner of the Southwest Quarter (SE/c SW/4) of Section Thirty-two (32), Township Eleven (11) North, Range Four (4) East of the Indian Meridian, Pottawatomie County, Oklahoma; thence N00°34'34"E a distance of 625.40 feet to the point of beginning; thence N00°34'34"E a distance of 714.78 feet; thence N90°00'00"E a distance of 175.43 feet to a point on a curve having a radius of 725.00 feet; thence Southeasterly along the arc of said curve to the Left, an arc distance of 10.08 feet, said curve having a cord bearing of S06°49'52"E, a cord distance of 10.08 feet; thence N90°00'00"E a distance of 131.28 feet; thence S07°35'41"E a distance of 61.38 feet; thence N79°55'00"E a distance of 160.61 feet; thence N00°34'34"E a distance of 701.20 feet; thence S89°38'26"W a distance of 474.62 feet; thence S00°34'34"W a distance of 45.94 feet; thence N89°42'29"W a distance of 548.32 feet; thence S00°05'29"E a distance of 1331.95 feet; thence N89°28'29"E a distance of 532.89 feet to the point of beginning.

AND

A tract of land described as beginning 400.00 feet S89°28'29"W of the Southeast corner of the Southwest Quarter (SE/c SW/4) of Section Thirty-two (32), Township Eleven (11) North, Range Four (4) East of the Indian Meridian, Pottawatomie County, Oklahoma; thence N00°34'34"E a distance of 625.40 feet; thence S89°28'29"W a distance of 132.89 feet; thence S00°05'29"E a distance of 625.30 feet to the South line of said SW/4; thence N89°28'29"E along said South line a distance of 125.60 feet to the point of beginning.

LESS AND EXCEPT ANY AND ALL INTEREST IN AND TO ALL OF THE OIL, GAS, COAL AND OTHER MINERALS AND ALL RIGHTS PERTAINING THERETO.

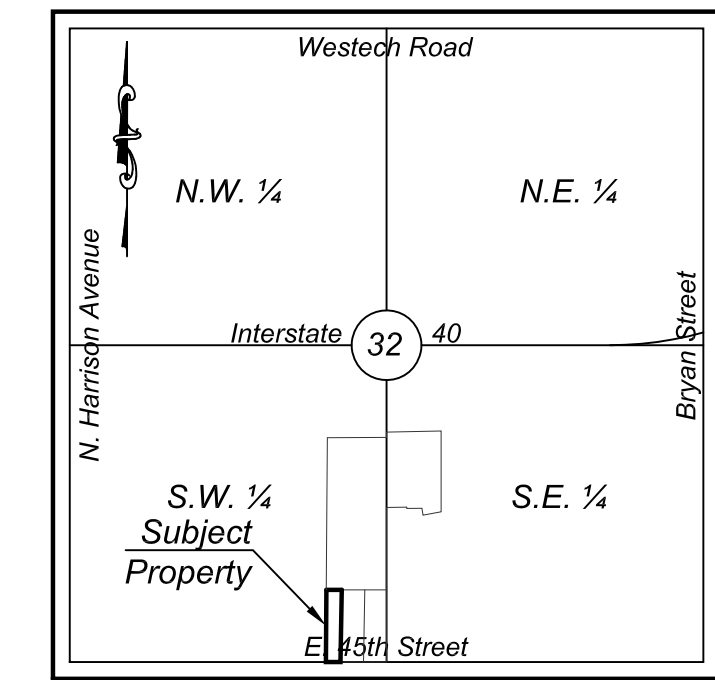
Property Address: 000 East 45th Street, Shawnee, OK 74804

Together with all the improvements thereon and the appurtenances thereunto belonging, and warrant the title to the same. LESS AND EXCEPT any interest in and to oil, gas, coal, metallic ores and other minerals therein and thereunder previously reserved or conveyed of record and all rights, interests and estates of whatsoever nature incident thereto or arising thereunder, and SUBJECT TO easements, rights of way, restrictive covenants of record.

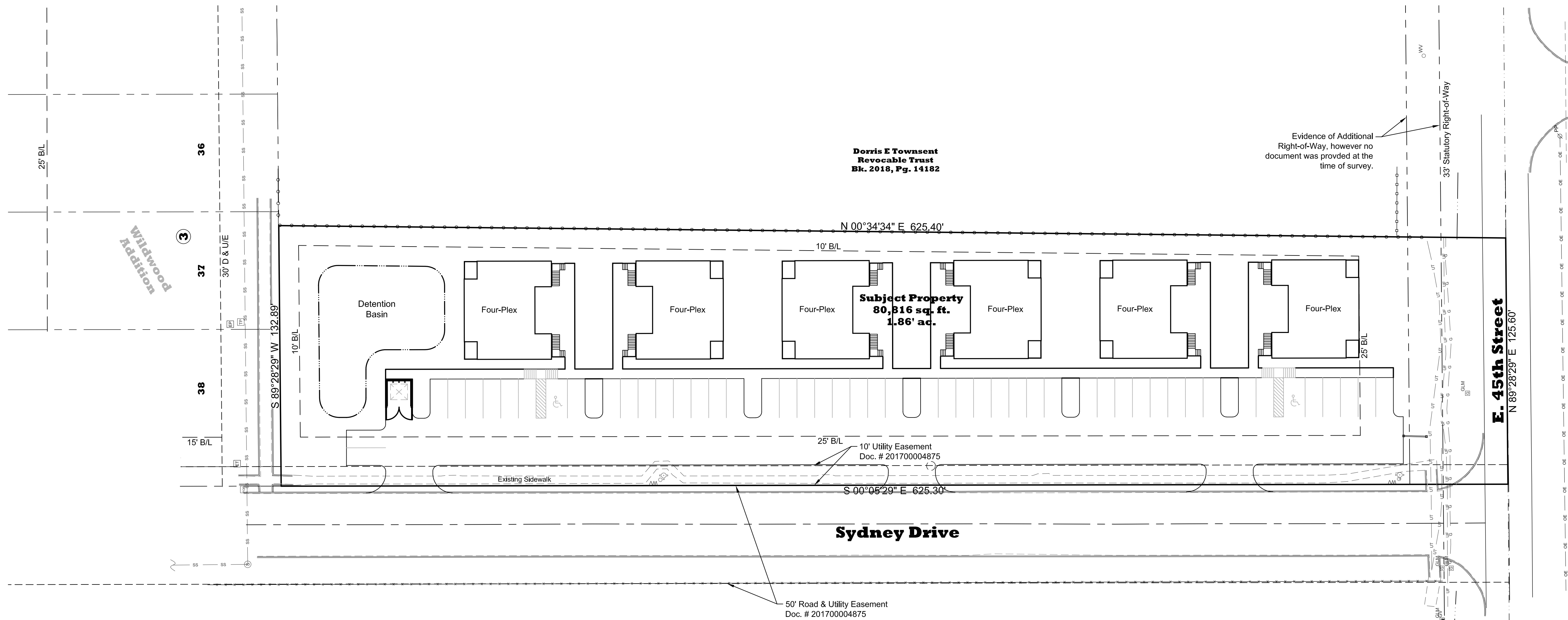
First American Title SH 2325569 / Salazar Homes, Inc

**Part of the SW/4 of Section 32
T 11 N, R 4 E, I.M.
Pottawatomie County, Oklahoma
Project No. 6645.2**

A tract of land described as beginning 400.00 feet S89°28'29"W of the Southeast corner of the Southwest Quarter (SE/C SW/4) of Section Thirty-two (32), Township Eleven (11) North, Range Four (4) East of the Indian Meridian, Pottawatomie County, Oklahoma, thence N00°34'34"E a distance of 625.40 feet; thence S89°28'29"W a distance of 132.89 feet; thence S00°05'29"E a distance of 625.30 feet to the South line of said SW/4; thence N89°28'29"E along said South line a distance of 125.00 feet to the point of beginning.



Vicinity Map
Section 32, Township 11N, Range 4E
Not To Scale



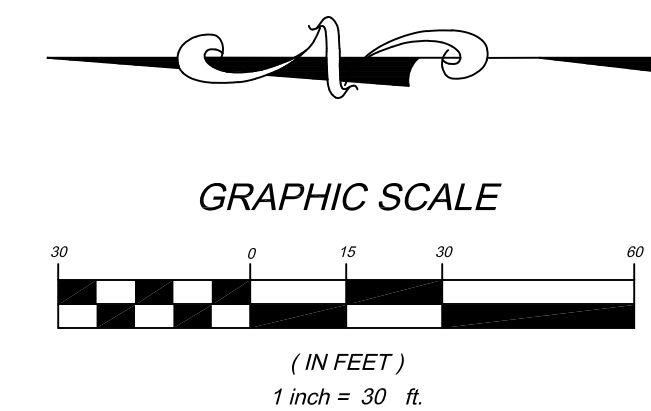
Legend	
	SUBJECT PROPERTY
	PROPERTY LINE
	RIGHT-OF-WAY LINE
	EASEMENT LINE
	SECTION LINE
	OVERHEAD ELECTRIC LINES
	UNDERGROUND GAS LINE
	UNDERGROUND TELEPHONE LINE
	UNDERGROUND FIBER OPTIC LINE
	BARBED WIRE FENCE
	CHAIN LINK FENCE
	STOCKADE FENCE
	FOUND MONUMENT
	SET MONUMENT
	POWER POLE
	TELEPHONE PEDESTAL
	WATER VALVE

Benchmark

- Control Point # 100**
Found 3/8" Iron Bar Crafton Tull Control Cap located approximately 10.3' North and 16' West of the monument set at 50' from the Southeast property corner. Elev.=1014.47
- BM #363**
Cut "X" on the corner of 6' x 6' box approximately 240.4' West and 26.7' South of the Southwest property corner. Elev.=1010.35
- BM #369**
Cut "X" on the Southwest South curb return at the property entrance on the South side of East 45th Street located approximately 41.4' South and 62.8' East of the Southeast property corner. Elev.=1019.15

Legal Description

A tract of land described as beginning 400.00 feet S89°28'29"W of the Southeast corner of the Southwest Quarter (SE/C SW/4) of Section Thirty-two (32), Township Eleven (11) North, Range Four (4) East of the Indian Meridian, Pottawatomie County, Oklahoma, thence N00°34'34"E a distance of 625.40 feet; thence S89°28'29"W a distance of 132.89 feet; thence S00°05'29"E a distance of 625.30 feet to the South line of said SW/4; thence N89°28'29"E along said South line a distance of 125.00 feet to the point of beginning.



THE UTILITIES AS SHOWN ON THIS DRAWING WERE DEVELOPED FROM THE INFORMATION AVAILABLE. THIS IS NOT IMPLIED NOR INTENDED TO BE THE COMPLETE INVENTORY OF UTILITIES IN THIS AREA. IT IS THE CLIENT'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE.

NO.	REVISION/ISSUE	DATE

CLIENT
Salazar Commercial Properties
209 E. Main Street
Yukon, Oklahoma 73099

ALLEN ENGINEERING SERVICES, INC.
1601 S.W. 89th Street, Building C, Suite 200
Oklahoma City, Oklahoma 73159
Tel: (405) 940-9901 - Fax: (405) 681-4481
CA No. 4131 - June 30, 2026

PROJECT NAME
**Part of the Southwest Quarter
Section 32, Township 11 North
Range 4 East of the Indian Meridian
Shawnee, Oklahoma
Site Plan**

PROJECT NO.	6645.2
FILE	6645-2-Design
DATE	07-29-2024
DRAWN BY	JMS
CHECKED BY	CWA
FIELD CREW	H&A

SHEET
1
OF 1

*Salazar Homes, Inc.
209 E. Main Street
Yukon, Oklahoma 73099
(405) 265-4242*

April 17, 2025

Mr. Rian Harkins
Community Development Director
City of Shawnee
222 N. Broadway
Shawnee, Oklahoma 74802

**Re: E. 45th Street & Sydney Drive
T11N, R4E, Section 32**

Dear Mr. Harkins:

This letter is to authorize Mr. Charles Allen with Allen Engineering Services, Inc. to submit for rezoning of the property referenced above on my behalf.

Please feel free to call me if you have any questions or need additional information.

Sincerely,



Miguel Salazar

PLANNING COMMISSION APPLICATION



City of Shawnee
Community Development
Department
 16 West 9th Street
 Shawnee, OK 74801
 (405) 878-1672
 Fax (405) 878-1587 www.ShawneeOK.org

For Office Use Only	
Case Number: _____	
Project Number: _____	
Date Filed: _____	

Planning Commission Secretary	

REQUEST:

<input checked="" type="checkbox"/> Rezoning <input type="checkbox"/> Conditional Use Permit	<input type="checkbox"/> Rezoning w/Conditional Use Permit <input type="checkbox"/> Planned Unit Development
---	---

I, the undersigned, do hereby respectfully make application and petition to the City Commission to amend the zoning map, and to change the zoning district of the Shawnee area, from R-1, Low Density Res. District to R-2, Medium Density Res. District, as hereinafter requested, and in support of this application, the following facts are shown:

PROPERTY LOCATION (STREET ADDRESS): Northeast corner of E. 45th Street & Sydney Drive.

LEGAL DESCRIPTION: See attached Warranty Deed.

PROPERTY OWNER (S): Salazar Homes, Inc.

PROPERTY AGENT (APPLICANT): Charles Allen c/o Allen Engineering Services, Inc.

APPLICANT'S ADDRESS: 1601 SW 89th Street, Suite C-200

CITY: Oklahoma City STATE: Oklahoma ZIP: 73159

EMAIL ADDRESS: callen@aeswins.com

TELEPHONE NUMBER: (405) 840-9901 CONTACT NUMBER: (405) 760-0292

DIMENSIONS OF PROPERTY: AREA: 1.86 Acres WIDTH: 129.75' (E-W)
 LENGTH: 625.35' (N-S) FRONTAGE: 625.30' Along Sydney Drive

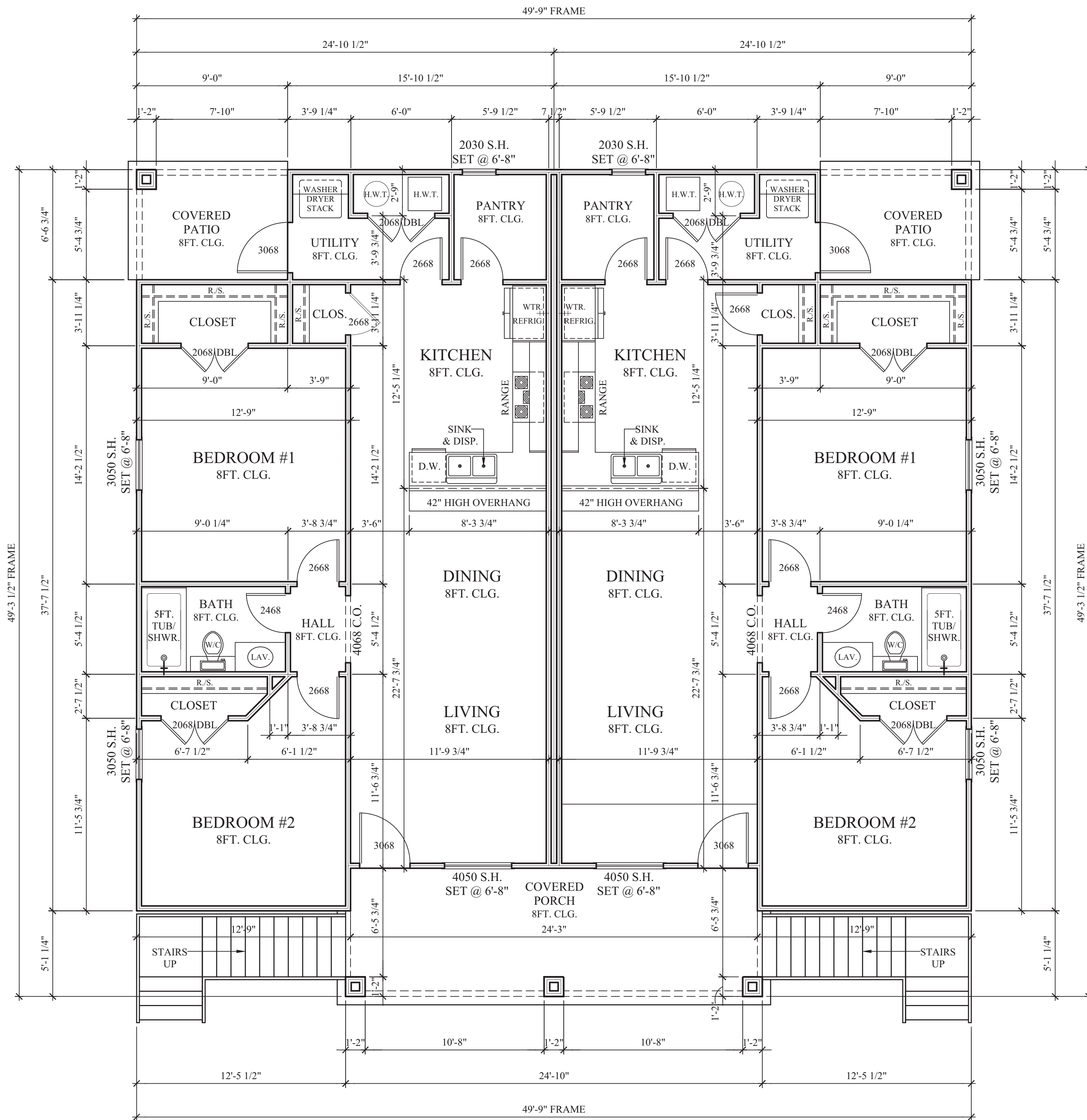
CURRENT ZONING: R-1, Low Density Residential **CURRENT USE:** Vacant Land

PROPOSED ZONING: R-2, Medium Density Res. **PROPOSED USE:** Six Four-plex Apartments

With the filing of this application, I acknowledge that I have been informed of off-street parking, fencing and paving requirements in regard to the zoning I have requested as witnessed by my signature **COMPLETED APPLICATION AND ALL CORRESPONDING DOCUMENTS MUST BE RECEIVED 30 DAYS PRIOR TO MEETING TO MAKE THE AGENDA.**

SIGNATURE OF APPLICANT

FOR STAFF USE ONLY	
REZONING &/OR C.U.P FEE \$ 350.00	PLANNED UNIT DEVELOPMENT FEE \$ 550.00
RECEIPT NO. _____	
PLANNING COMMISSION ACTION: _____	DATE: _____
CITY COMMISSION ACTION: _____	DATE: _____
PLACE ON ZONING MAP: _____	ORDINANCE NO.: _____



BLDC-2024-03795 ~ Building A
 BLDC-2024-03796 ~ Building B
 BLDC-2024-03797 ~ Building C
 BLDC-2024-03798 ~ Building D
 BLDC-2024-03799 ~ Building E
 BLDC-2024-03800 ~ Building F
 BLDC-2024-03801 ~ Building G
 SWL-2024-00378 ~ OKR1035541

ENERGY VALUES										
WALLS	CEILING	FLOOR	WINDOWS			FRONT DOORS	REAR DOORS			
R-VALUE	R-VALUE	R-VALUE	U-FACTOR	SHGC	VT	CR	U-FACTOR	SHGC	U-FACTOR	SHGC
13	30	19	0.28	0.31	0.57	62	0.20	0.7	0.13	0.0

TOTAL UNIT FOOTAGE	
TOTAL FRAME 3976	
COVERED PATIOS 236	COVERED PORCHES 386
SINGLE UNIT FOOTAGE	
LOWER FRAME 994	UPPER FRAME 994
COVERED PATIOS 59	COVERED PORCHES 193

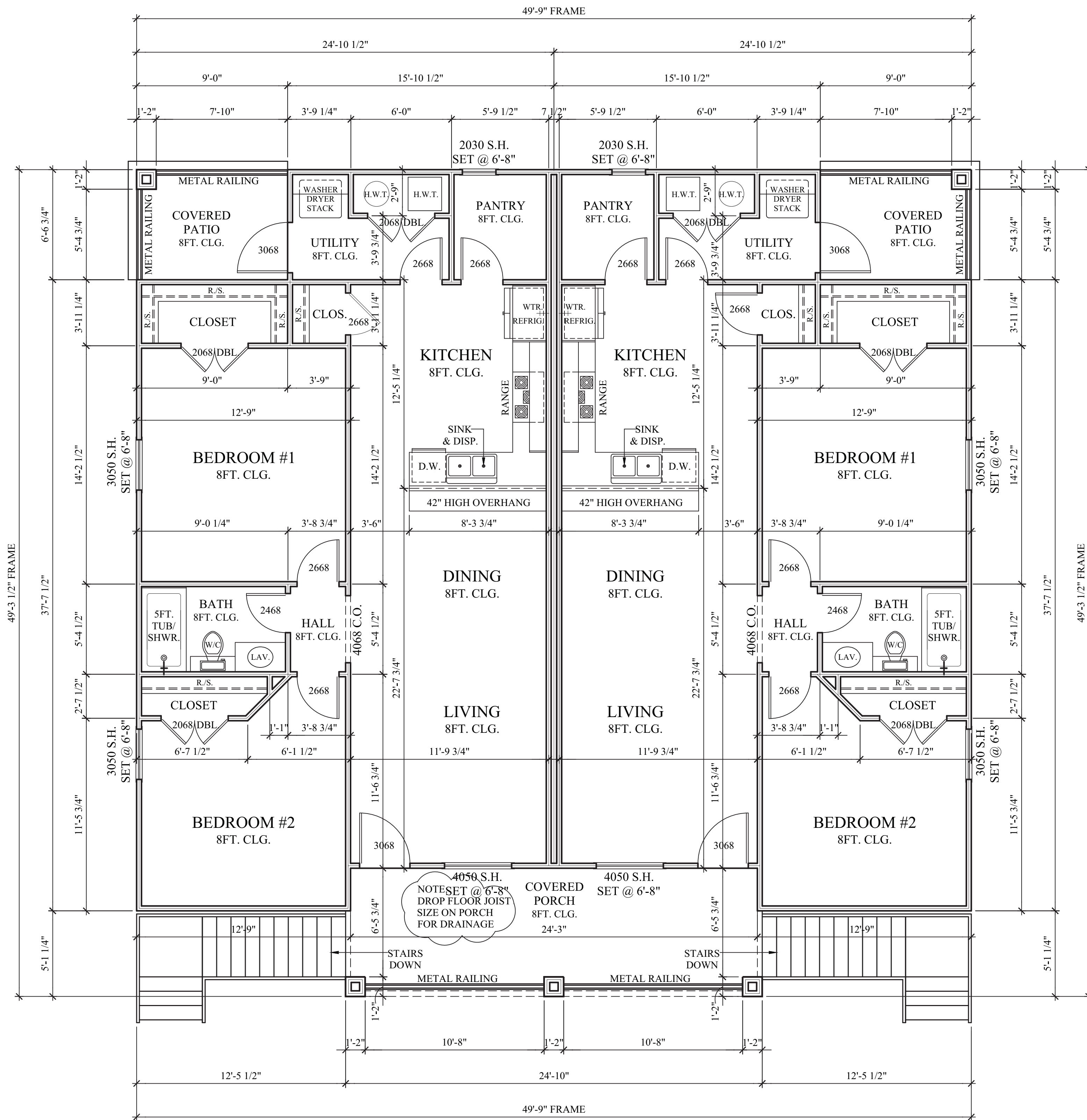
NOTICE TO PROSPECTIVE BUYERS
 FLOOR PLANS AND ELEVATIONS ARE FOR TYPICAL CONSTRUCTION PURPOSES ONLY AND MAY VARY IN SQUARE FOOTAGE AND EXTERIOR LOOKS EACH TIME THE HOME IS BUILT. PLANS ARE GENERAL GUIDES FOR CONSTRUCTION AND SERVE AS AN AID TO THE BUILDER AND WORKERS.
 ITEMS ON PLANS AND ELEVATIONS-SUCH AS DOORS AND WINDOWS-MAY BE DIFFERENT FROM THE ACTUAL STRUCTURE BEING BUILT. PROSPECTIVE OWNERS SHOULD CONFIRM WITH GENERAL CONTRACTOR OF ANY CHANGES THAT ARE MADE AFTER PERMITS ARE ISSUED FOR THIS PROJECT.
 USE DIMENSIONS DO NOT SCALE



*****NOTICE*****
 BUILDING PERMITS ARE TO BE ISSUED FOR THIS SET OF PLANS ONLY IF THE (T D) LOGO SHOWN ABOVE IS BLUE.

Salazar Comm. Properties, L.L.C.
 3800 NW 34th Street
 Oklahoma City, Oklahoma
 Construction Plans

LOWER LEVEL
 SCALE: 1/4"=1'-0"



- BLDC-2024-03795 ~ Building A
- BLDC-2024-03796 ~ Building B
- BLDC-2024-03797 ~ Building C
- BLDC-2024-03798 ~ Building D
- BLDC-2024-03799 ~ Building E
- BLDC-2024-03800 ~ Building F
- BLDC-2024-03801 ~ Building G
- SWL-2024-00378 ~ OKR1035541

ENERGY VALUES										
WALLS	CEILING	FLOOR	WINDOWS			FRONT DOORS		REAR DOORS		
R-VALUE	R-VALUE	R-VALUE	U-FACTOR	SHGC	VT	CR	U-FACTOR	SHGC	U-FACTOR	SHGC
13	30	19	0.28	0.31	0.57	62	0.20	0.7	0.13	0.0

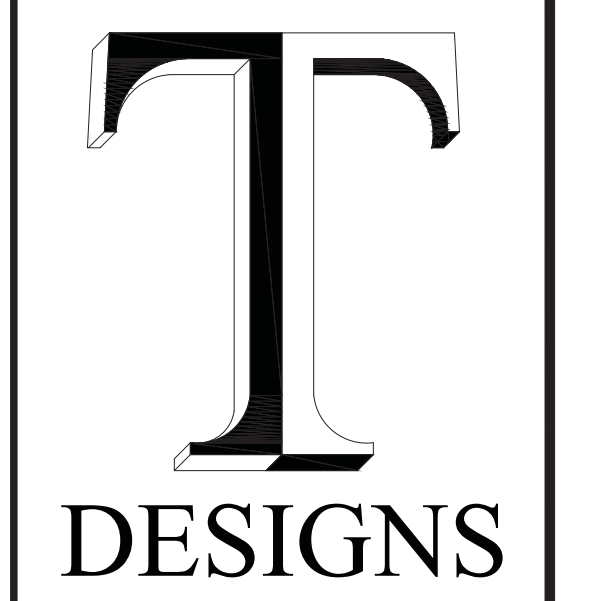
TOTAL UNIT FOOTAGE	
TOTAL FRAME	
3976	
COVERED PATIOS	COVERED PORCHES
236	386
SINGLE UNIT FOOTAGE	
LOWER FRAME	UPPER FRAME
994	994
COVERED PATIOS	COVERED PORCHES
59	193

NOTICE TO PROSPECTIVE BUYERS

FLOOR PLANS AND ELEVATIONS ARE FOR TYPICAL CONSTRUCTION PURPOSES ONLY AND MAY VARY IN SQUARE FOOTAGE AND EXTERIOR LOOKS EACH TIME THE HOME IS BUILT. PLANS ARE GENERAL GUIDES FOR CONSTRUCTION AND SERVE AS AN AID TO THE BUILDER AND WORKERS.

ITEMS ON PLANS AND ELEVATIONS-SUCH AS DOORS AND WINDOWS-MAY BE DIFFERENT FROM THE ACTUAL STRUCTURE BEING BUILT. PROSPECTIVE OWNERS SHOULD CONFIRM WITH GENERAL CONTRACTOR OF ANY CHANGES THAT ARE MADE AFTER PERMITS ARE ISSUED FOR THIS PROJECT.

USE DIMENSIONS DO NOT SCALE



*****NOTICE*****

BUILDING PERMITS ARE TO BE ISSUED FOR THIS SET OF PLANS ONLY IF THE (T D) LOGO SHOWN ABOVE IS BLUE.

Salazar Comm. Properties, L.L.C.
 3800 NW 34th Street
 Oklahoma City, Oklahoma
 Construction Plans

UPPER LEVEL
 SCALE: 1/4"=1'-0"



LEFT SIDE



FRONT VIEW

- BLDC-2024-03795 ~ Building A
- BLDC-2024-03796 ~ Building B
- BLDC-2024-03797 ~ Building C
- BLDC-2024-03798 ~ Building D
- BLDC-2024-03799 ~ Building E
- BLDC-2024-03800 ~ Building F
- BLDC-2024-03801 ~ Building G
- SWL-2024-00378 ~ OKR1035541

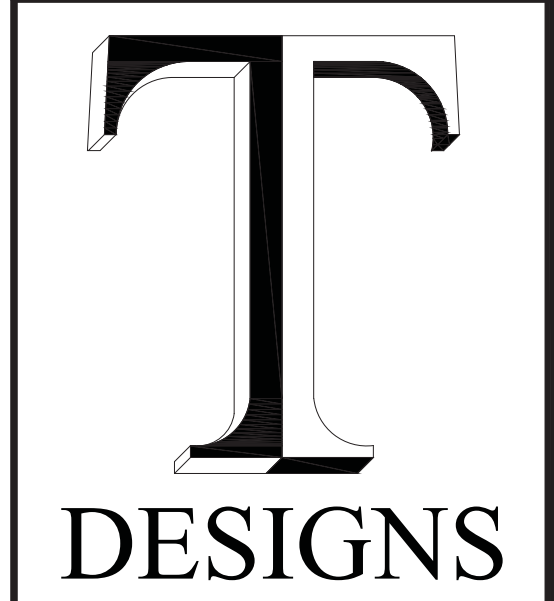
TOTAL UNIT FOOTAGE	
TOTAL FRAME	
3976	
COVERED PATIOS	COVERED PORCHES
236	386
SINGLE UNIT FOOTAGE	
LOWER FRAME	UPPER FRAME
994	994
COVERED PATIOS	COVERED PORCHES
59	193

NOTICE TO PROSPECTIVE BUYERS

FLOOR PLANS AND ELEVATIONS ARE FOR TYPICAL CONSTRUCTION PURPOSES ONLY AND MAY VARY IN SQUARE FOOTAGE AND EXTERIOR LOOKS EACH TIME THE HOME IS BUILT. PLANS ARE GENERAL GUIDES FOR CONSTRUCTION AND SERVE AS AN AID TO THE BUILDER AND WORKERS.

ITEMS ON PLANS AND ELEVATIONS SUCH AS DOORS AND WINDOWS MAY BE DIFFERENT FROM THE ACTUAL STRUCTURE BEING BUILT. PROSPECTIVE OWNERS SHOULD CONFIRM WITH GENERAL CONTRACTOR OF ANY CHANGES THAT ARE MADE AFTER PERMITS ARE ISSUED FOR THIS PROJECT.

USE DIMENSIONS DO NOT SCALE

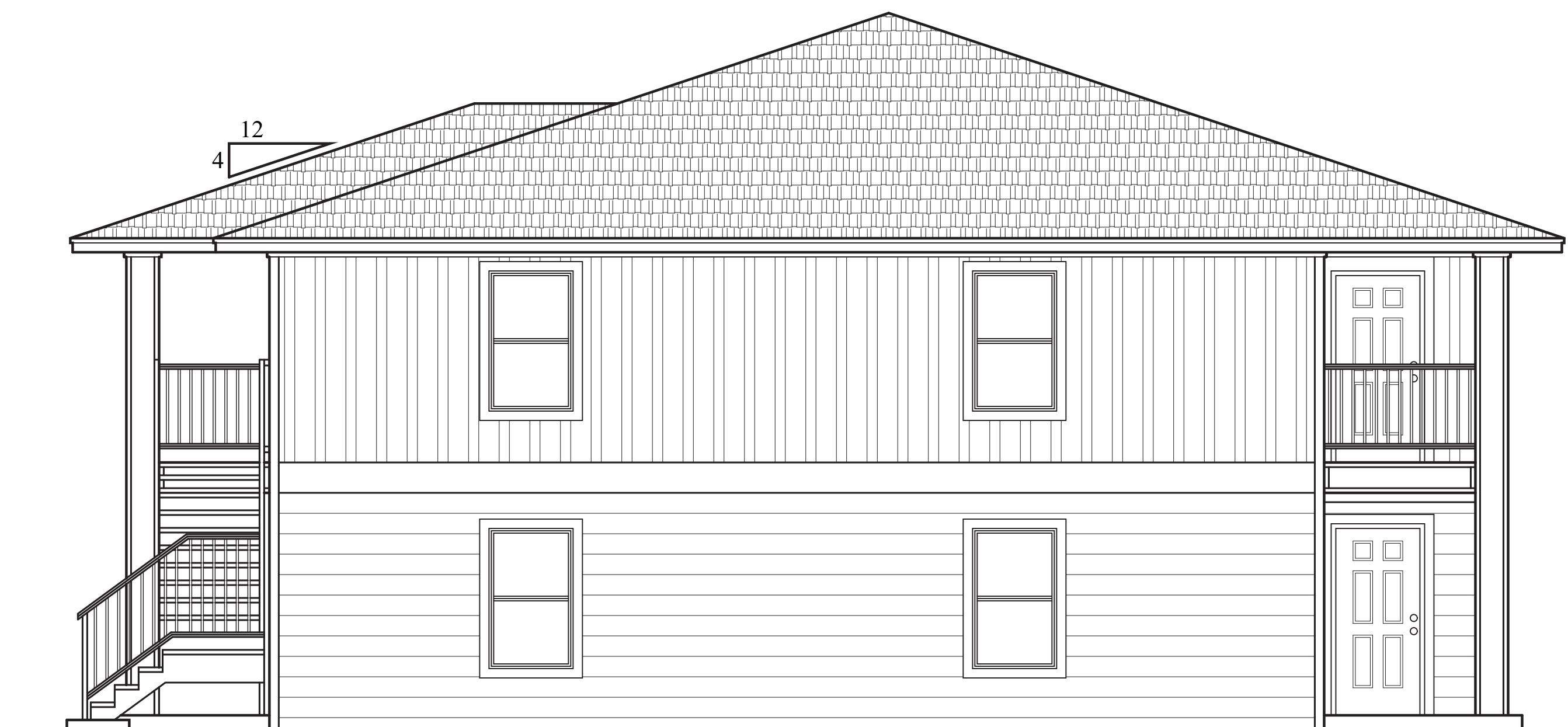


*****NOTICE*****

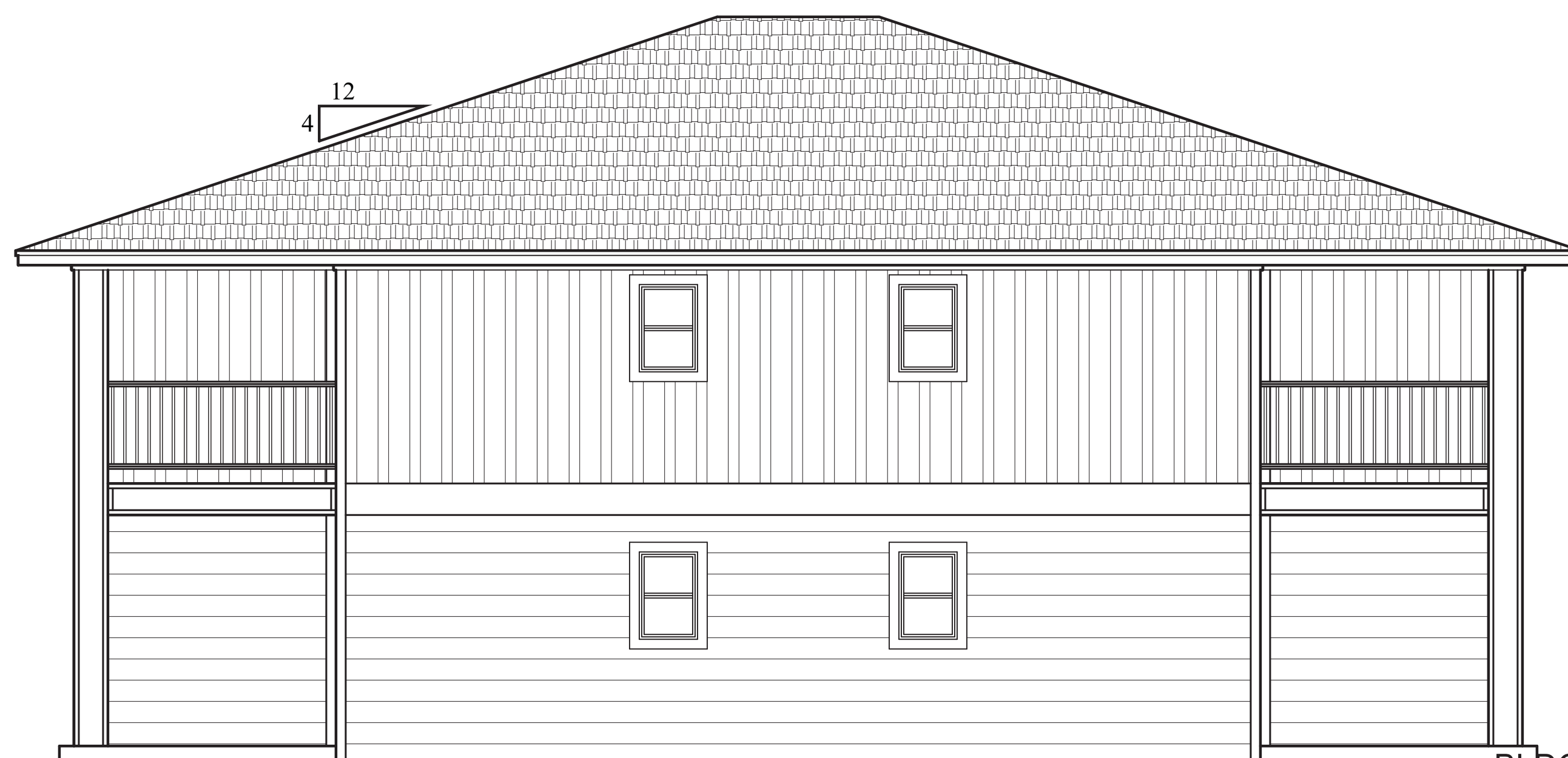
BUILDING PERMITS ARE TO BE ISSUED FOR THIS SET OF PLANS ONLY IF THE (T D) LOGO SHOWN ABOVE IS BLUE.

Salazar Comm. Properties, L.L.C.
 3800 NW 34th Street
 Oklahoma City, Oklahoma
 Construction Plans

ELEVATIONS
 SCALE: 1/4"=1'-0"



RIGHT SIDE



REAR VIEW

BLDC-2024-03795 ~ Building A
 BLDC-2024-03796 ~ Building B
 BLDC-2024-03797 ~ Building C
 BLDC-2024-03798 ~ Building D
 BLDC-2024-03799 ~ Building E
 BLDC-2024-03800 ~ Building F
 BLDC-2024-03801 ~ Building G
 SWL-2024-00378 ~ OKR1035541

TOTAL UNIT FOOTAGE
TOTAL FRAME
3976

COVERED PATIOS	COVERED PORCHES
236	386

SINGLE UNIT FOOTAGE

LOWER FRAME	UPPER FRAME
994	994

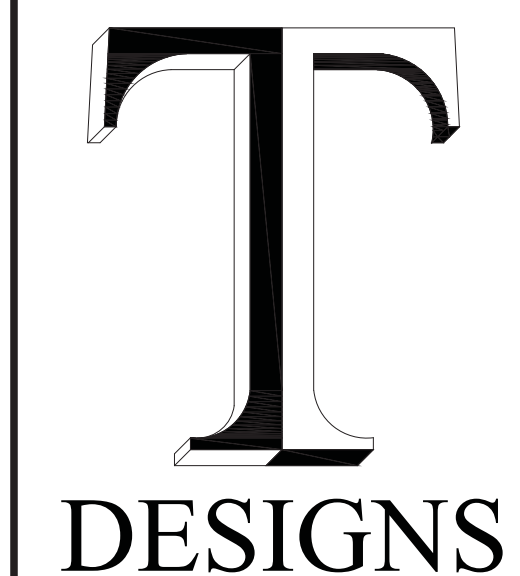
COVERED PATIOS	COVERED PORCHES
59	193

NOTICE TO PROSPECTIVE BUYERS

FLOOR PLANS AND ELEVATIONS ARE FOR TYPICAL CONSTRUCTION PURPOSES ONLY AND MAY VARY IN SQUARE FOOTAGE AND EXTERIOR LOOKS EACH TIME THE HOME IS BUILT. PLANS ARE GENERAL GUIDES FOR CONSTRUCTION AND SERVE AS AN AID TO THE BUILDER AND WORKERS.

ITEMS ON PLANS AND ELEVATIONS-SUCH AS DOORS AND WINDOWS-MAY BE DIFFERENT FROM THE ACTUAL STRUCTURE BEING BUILT. PROSPECTIVE OWNERS SHOULD CONFIRM WITH GENERAL CONTRACTOR OF ANY CHANGES THAT ARE MADE AFTER PERMITS ARE ISSUED FOR THIS PROJECT.

USE DIMENSIONS DO NOT SCALE

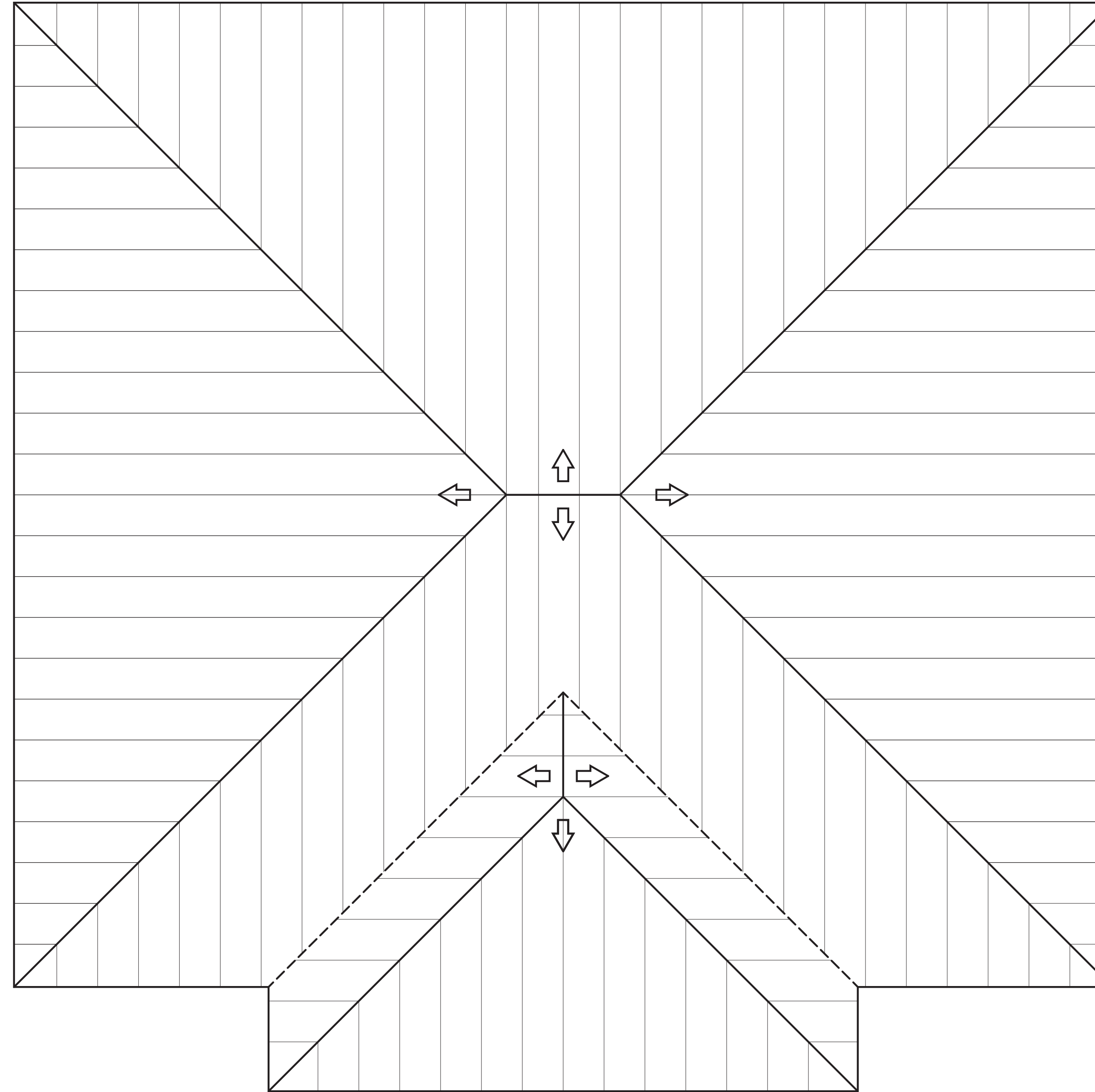


*******NOTICE*******

BUILDING PERMITS ARE TO BE ISSUED FOR THIS SET OF PLANS ONLY IF THE (T T D) LOGO SHOWN ABOVE IS BLUE.

Salazar Comm. Properties, L.L.C.
 3800 NW 34th Street
 Oklahoma City, Oklahoma
 Construction Plans

ELEVATIONS
 SCALE: 1/4"=1'-0"

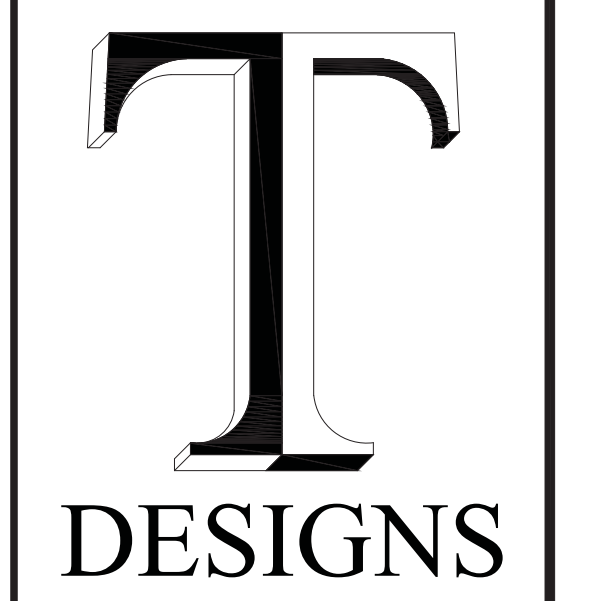


BLDC-2024-03795 ~ Building A
 BLDC-2024-03796 ~ Building B
 BLDC-2024-03797 ~ Building C
 BLDC-2024-03798 ~ Building D
 BLDC-2024-03799 ~ Building E
 BLDC-2024-03800 ~ Building F
 BLDC-2024-03801 ~ Building G
 SWL-2024-00378 ~ OKR1035541

NOTE:
 ALL ROOF 4:12 PITCH
 UNLESS OTHERWISE
 NOTED

TOTAL UNIT FOOTAGE	
TOTAL FRAME	
3976	
COVERED PATIOS	COVERED PORCHES
236	386
SINGLE UNIT FOOTAGE	
LOWER FRAME	UPPER FRAME
994	994
COVERED PATIOS	COVERED PORCHES
59	193

NOTICE TO PROSPECTIVE BUYERS
 FLOOR PLANS AND ELEVATIONS ARE FOR TYPICAL CONSTRUCTION PURPOSES ONLY AND MAY VARY IN SQUARE FOOTAGE AND EXTERIOR LOOKS EACH TIME THE HOME IS BUILT. PLANS ARE GENERAL GUIDES FOR CONSTRUCTION AND SERVE AS AN AID TO THE BUILDER AND WORKERS.
 ITEMS ON PLANS AND ELEVATIONS-SUCH AS DOORS AND WINDOWS-MAY BE DIFFERENT FROM THE ACTUAL STRUCTURE BEING BUILT. PROSPECTIVE OWNERS SHOULD CONFIRM WITH GENERAL CONTRACTOR OF ANY CHANGES THAT ARE MADE AFTER PERMITS ARE ISSUED FOR THIS PROJECT.
 USE DIMENSIONS DO NOT SCALE

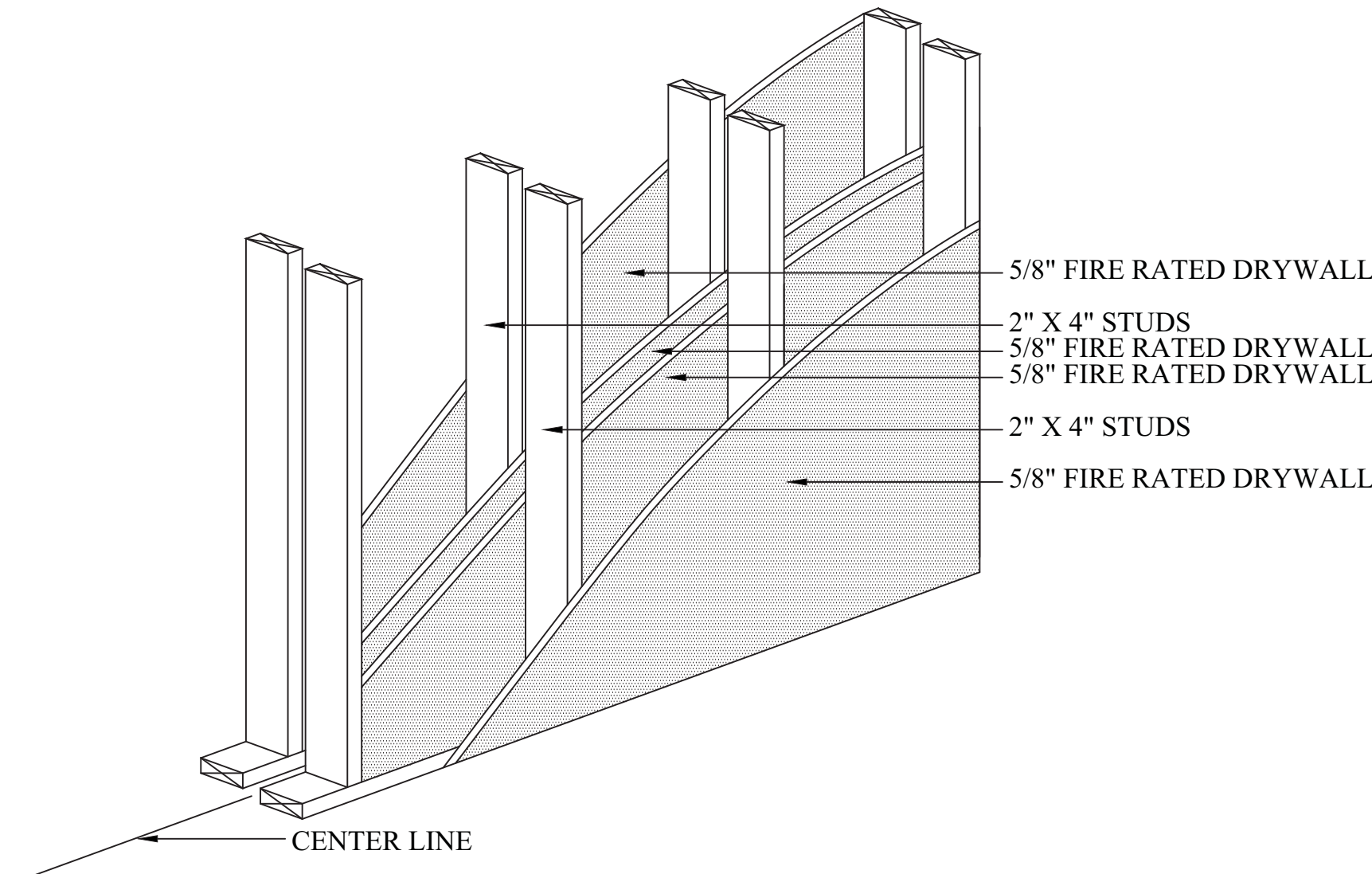


*****NOTICE*****
 BUILDING PERMITS ARE TO BE ISSUED FOR THIS SET OF PLANS ONLY IF THE (T T D) LOGO SHOWN ABOVE IS BLUE.

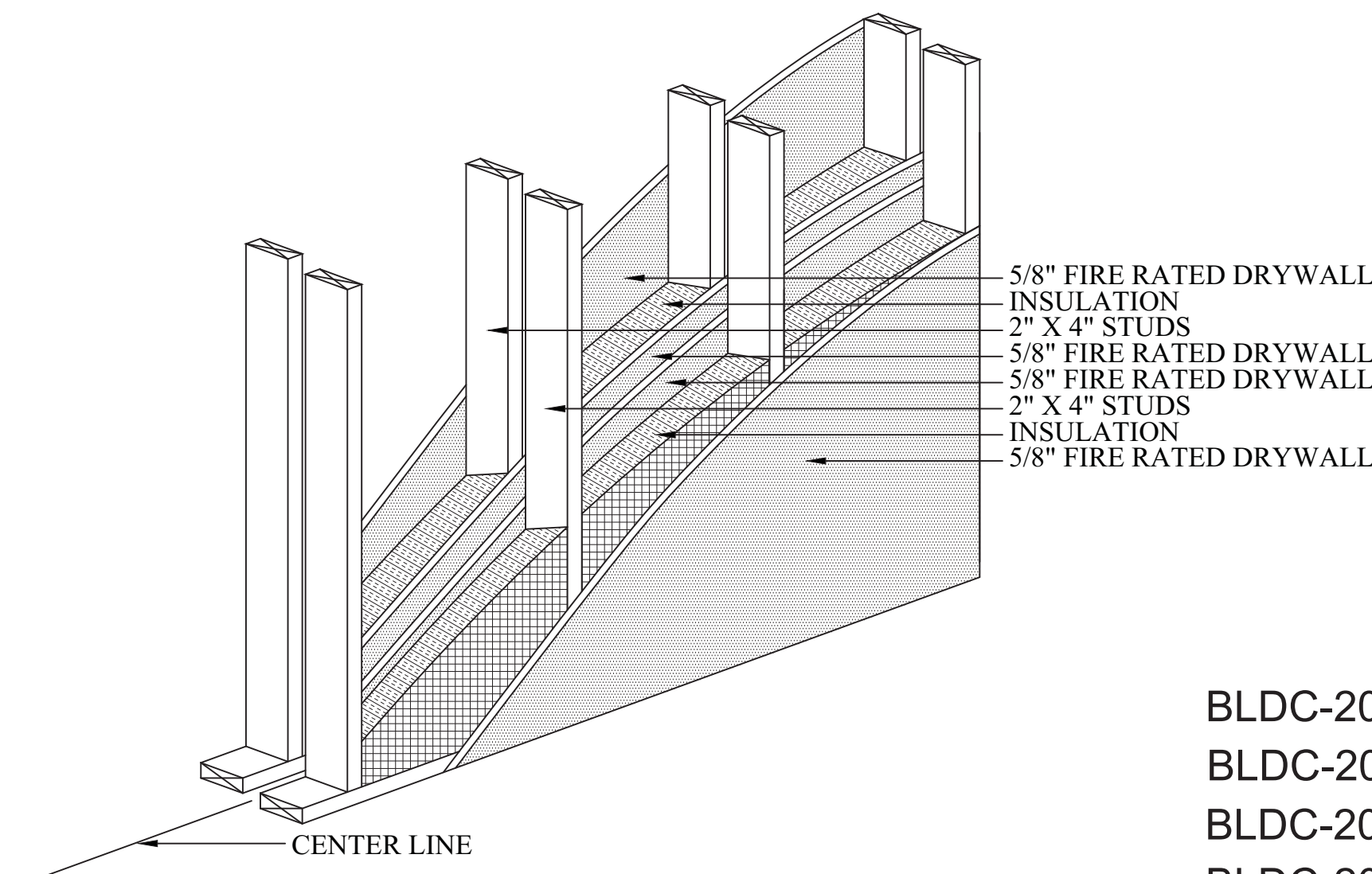
Salazar Comm. Properties, L.L.C.
 3800 NW 34th Street
 Oklahoma City, Oklahoma
 Construction Plans

ROOF PLAN
 SCALE: 1/4"=1'-0"

(ATTIC)
DOUBLE PARTITION WALL DETAIL



(LOWER LEVEL)
DOUBLE PARTITION WALL DETAIL



- BLDC-2024-03795 ~ Building A
- BLDC-2024-03796 ~ Building B
- BLDC-2024-03797 ~ Building C
- BLDC-2024-03798 ~ Building D
- BLDC-2024-03799 ~ Building E
- BLDC-2024-03800 ~ Building F
- BLDC-2024-03801 ~ Building G
- SWL-2024-00378 ~ OKR1035541

ENERGY VALUES										
WALLS	CEILING	FLOOR	WINDOWS			FRONT DOORS		REAR DOORS		
R-VALUE	R-VALUE	R-VALUE	U-FACTOR	SHGC	VT	CR	U-FACTOR	SHGC	U-FACTOR	SHGC
13	30	19	0.28	0.31	0.57	62	0.20	0.7	0.13	0.0

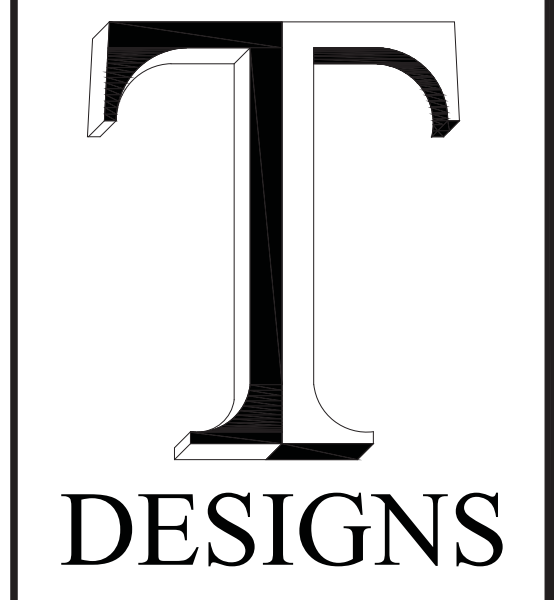
TOTAL UNIT FOOTAGE	
TOTAL FRAME 3976	
COVERED PATIOS 236	COVERED PORCHES 386
SINGLE UNIT FOOTAGE	
LOWER FRAME 994	UPPER FRAME 994
COVERED PATIOS 59	COVERED PORCHES 193

NOTICE TO PROSPECTIVE BUYERS

FLOOR PLANS AND ELEVATIONS ARE FOR TYPICAL CONSTRUCTION PURPOSES ONLY AND MAY VARY IN SQUARE FOOTAGE AND EXTERIOR LOOKS EACH TIME THE HOME IS BUILT. PLANS ARE GENERAL GUIDES FOR CONSTRUCTION AND SERVE AS AN AID TO THE BUILDER AND WORKERS.

ITEMS ON PLANS AND ELEVATIONS SUCH AS DOORS AND WINDOWS MAY BE DIFFERENT FROM THE ACTUAL STRUCTURE BEING BUILT. PROSPECTIVE OWNERS SHOULD CONFIRM WITH GENERAL CONTRACTOR OF ANY CHANGES THAT ARE MADE AFTER PERMITS ARE ISSUED FOR THIS PROJECT.

USE DIMENSIONS DO NOT SCALE



*****NOTICE*****

BUILDING PERMITS ARE TO BE ISSUED FOR THIS SET OF PLANS ONLY IF THE (T T D) LOGO SHOWN ABOVE IS BLUE.

Salazar Comm. Properties, L.L.C.
3800 NW 34th Street
Oklahoma City, Oklahoma
Construction Plans

FIRE WALLS
SCALE: 1/4"=1'-0"