

CITY OF HUXLEY

MONDAY ** JULY 29, 2019 ** CITY COUNCIL ** 5:30 P.M.

A SESSION OF THE CITY OF HUXLEY'S PLANNING AND ZONING COMMISSION

PUBLIC NOTICE IS HEREBY GIVEN THAT THE PLANNING AND ZONING COMMISSION OF THE CITY OF HUXLEY, IOWA, WILL MEET IN THE HUXLEY CITY COUNCIL CHAMBERS 515 NORTH MAIN AVE., HUXLEY, IOWA AT 5:30 P.M. ON MONDAY THE 29TH DAY OF JULY 2019 TO CONSIDER THE MATTERS ENUMERATED IN THE AGENDA BELOW:

1.0) ROLL CALL

COMMISSION AGENDA ITEMS:

2.0) MOTION TO APPROVE THE MINUTES FROM THE FOLLOWING MEETINGS:
2.1) July 10, 2019 – Meeting

3.0) PUBLIC HEARING: ON KNACKMODE REZONING REQUEST FROM C-1 NEIGHBORHOOD COMMERCIAL DISTRICT TO C-2 GENERAL COMMERCIAL DISTRICT.

- a.) Chair Opens Hearing
- b.) Discussion
- c.) Motion to Close Hearing

4.0) DISCUSSION AND RECOMMENATION ITEMS:

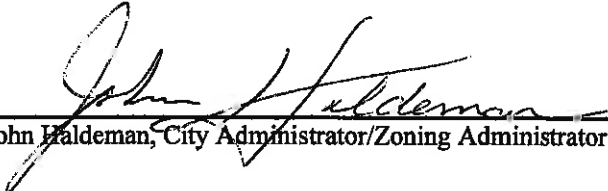
- 4.01) DISCUSSION AND POSSIBLE RECOMMENDATION FOR MEADOW LANE PRELIMINARY PLAT.
- 4.02) DISCUSSION AND POSSIBLE RECOMMENDATION FOR SITE PLAN FOR IOWA EARTH WORKS MAINTENANCE FACILITY 300 SNYDER DRIVE.
- 4.03) DISCUSSION AND POSSIBLE RECOMMENDATION FOR SITE PLAN FOR CONDOMINIUM GARAGES AT 315 SNYDER DRIVE.
- 4.04) DISCUSSION AND POSSIBLE RECOMMENDATION FOR THE KNACKMODE REZONING REQUEST.

5.0) MISCELLANEOUS

6.0) COMMENTS

7.0) ADJOURNMENT

THIS NOTICE IS HEREBY GIVEN AT LEAST 24 HOURS PRIOR TO THE COMMENCEMENT OF THE MEETING SPECIFIED ABOVE. THIS WAS DONE BY ADVISING THE NEWS MEDIA WHO HAVE FILED A REQUEST FOR NOTICE AND BY POSTING THE NOTICE ON THE FRONT WINDOW IN THE LOBBY AREA IN CITY HALL THAT IS ACCESSIBLE TO THE PUBLIC. THIS WAS ALL PURSUANT TO CHAPTER 21 OF THE CODE OF IOWA.


John Haldeman, City Administrator/Zoning Administrator



Planning and Zoning Commission Minutes

July 10th, 2019
Council Chambers
6:30 P.M.

1.0) CALL TO ORDER AND ROLL CALL:

Chairman Roger Bierbaum called the P&Z Meeting to order at 6:31 PM. P&Z members present:

Roger Bierbaum	☒	Larry Wilson	☒
Cheryl Patterson	☒	Joe Scott	☒
Mike Schonhorst	☐	Nate Easter	☒
Gordon Mosher	☐		

Staff present: John Haldeman-Zoning Administrator
Amy Kaplan-Zoning Clerk

Consultants present: Forrest Aldrich---City Engineer

Guests present: Dave Jensen, Matt Hawes, Alissa Dornink Hawes, Katie Nelson, Zach Jones, John Murphy, Shawna Murphy, Steve Quick, Lisa Pitchford, Kurt Leland, Roger Wheeler, Jill Riedemann, Wes James, Caitlin Jarden, Molly Mollman, Adam Walters, Jamie Dailey.

COMMISSION AGENDA ITEMS:

2.0) MOTION TO APPROVE THE MINUTES FROM THE FOLLOWING MEETING:

2.1) JUNE 27, 2019 REGULAR MEETING - Motion by Easter and seconded by Wilson to approve minutes. Roll was taken. 5 AYE. 0 NAY.

3.0) PUBLIC HEARING: None

4.0) DISCUSSION AND RECOMMENDATION ITEMS:

4.01) DISCUSSION AND POSSIBLE RECOMMENDATION TO CITY COUNCIL ON PROPOSED ZONING CHANGES FOR WESTVIEW

Bierbaum opened the hearing at 6:32.

Roger Wheeler gave a brief description of the proposed rezoning areas from R2 to R2A and R1 to R1A.

Motion by Scott to recommend approval to City Council that the area currently zoned R2 is rezoned to R2A, seconded by Wilson. Bierbaum, Patterson, Easter, Scott and Wilson voted yes. MCU.

knowledge that parking was not allowed on Centennial Drive. The need to restrict parking on Centennial Drive (a substandard width minor arterial) remains the same as when the City Council approved the Preliminary Plat with a 31-foot width. If parking is allowed on Centennial Drive east of US 69 then residents on other substandard width minor arterials might also request parking on their street (e.g Timberlane, Oak Blvd., West Centennial, First Street).

Motion by Bierbaum and seconded by Wilson to send a memo to council regarding parking on Centennial, east of HWY 69. The commission is opposed to allowing parking on 31-foot streets. Bierbaum, Patterson, Scott and Wilson voted yes. Easter abstained.

6.0) ADJOURNMENT – Motion by Wilson to adjourn at 8:00 PM, seconded by Scott. 5 AYE.
0 NAY.

Amy Kaplan, Zoning Clerk

Roger Bierbaum, Chairman

Date of Approval

4.01

INFORMATION



VEENSTRA & KIMM, INC.

3000 Wustown Parkway • West Des Moines, Iowa 50266-1320

515-225-8000 • 515-225-7848 (FAX) • 800-241-8000 (WATS)

July 25, 2019

John Haldeman
City Administrator
City of Huxley
515 N. Main Avenue
Huxley, Iowa 50124

HUXLEY, IOWA
MEADOW LANE
PRELIMINARY PLAT

We have reviewed the preliminary plat for Meadow Lane and find it acceptable with the following comments:

1. The installation of mid-block sidewalks running east and west through the middle of the plat between E. 4th and Meadow Lane and between Meadow Lane and Oak Boulevard needs to be evaluated.
2. Consideration needs to be given to extending Deerwood Drive and Countryside Drive to Oak Bend Road and paving Oak Bend Road and also the extension of water mains to Oak Bend Road and creating a water main loop to Prairie View Drive.
3. Consideration needs to be given to how the existing 48-inch storm sewer located north of the stormwater detention basin will be allowed to completely drain when the site east of Meadow Lane is developed.
4. Consideration needs to be given for the installation of a recreational trail along Deerwood Drive and Oak Boulevard. The 2013 Comprehensive Plan shows future trails to be installed in these locations.

John Haldeman
July 25, 2019
Page 2

If you have any questions or comments, please contact us at 225-8000.

VEENSTRA & KIMM, INC.

A handwritten signature in dark ink, appearing to read "Forrest Aldrich". The signature is fluid and cursive, with the first name "Forrest" and last name "Aldrich" clearly distinguishable.

Forrest S. Aldrich

FSA:dml
45229-040

cc: Jeff Peterson, City of Huxley (e-mail)
Steve Quick (e-mail)
Eric Cannon, Snyder & Associates, Inc. (e-mail)

DATE	07/19/19	BY	AW
REVISION	07/19/19	BY	AW
EDC	07/19/19	BY	AW
DATE	6/26/19	BY	AW
DATE	6/26/19	BY	AW

MEADOW LANE

PRELIMINARY PLAT

SNYDER & ASSOCIATES, INC.

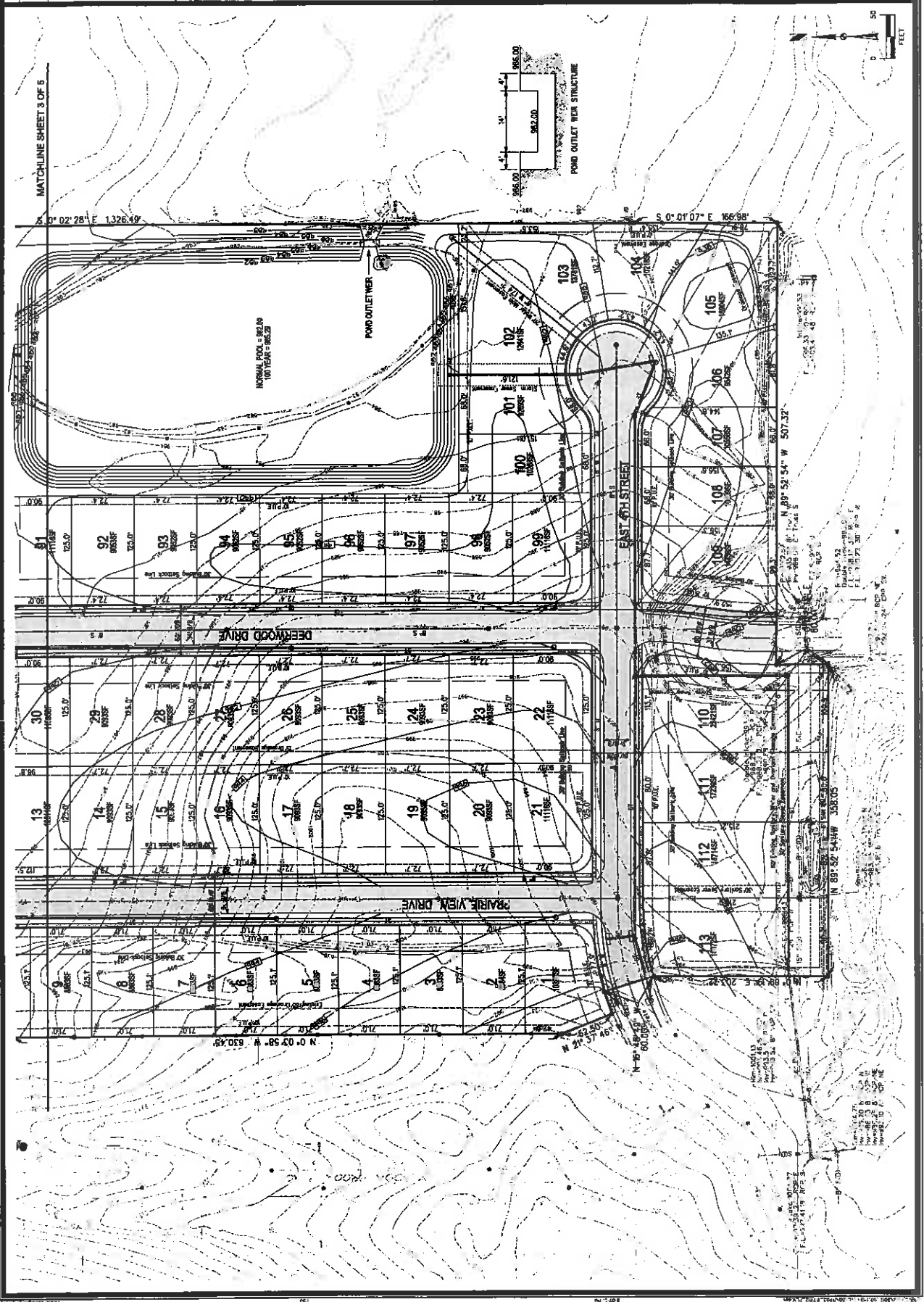
2727 S.W. SNYDER BLVD.
ANNKENY, IOWA 50223
515-994-2220 | WWW.SNYDER-ASSOCIATES.COM

HUXLEY, IA

Project No: 117.112

Sheet 3 of 5

Project No: 117.112





SNYDER & ASSOCIATES

Project No. 117.1112

Sheet 4 of 5

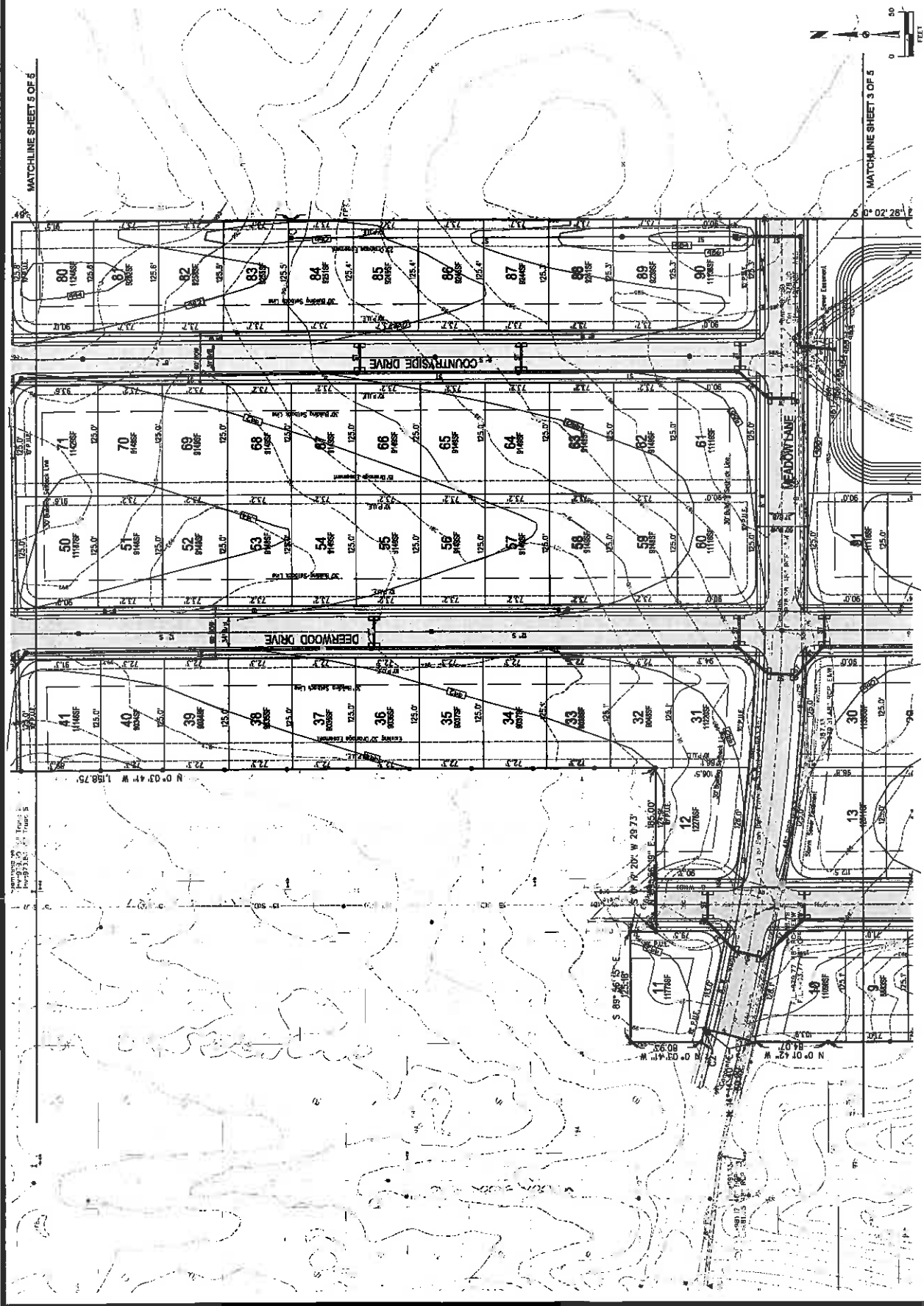
MEADOW LANE
PRELIMINARY PLAT

SNYDER & ASSOCIATES, INC.

2727 B.W. SNYDER BLVD.
ANN ARBOR, IOWA 50003
615-884-2020 | www.snyder-associates.com

HUXLEY, IA

Revised	JMM	Date	6/26/19	Sheet	4 of 5
Drawn	JMM	Checked by	EDC	Scale	1"=50'
1	REVIEWED AS PER CITY COMMENTS	DATE	07/01/19	BY	
2	REVIEWED AS PER CITY COMMENTS	DATE	07/01/19	BY	



MEADOW LANE
PRELIMINARY PLAT

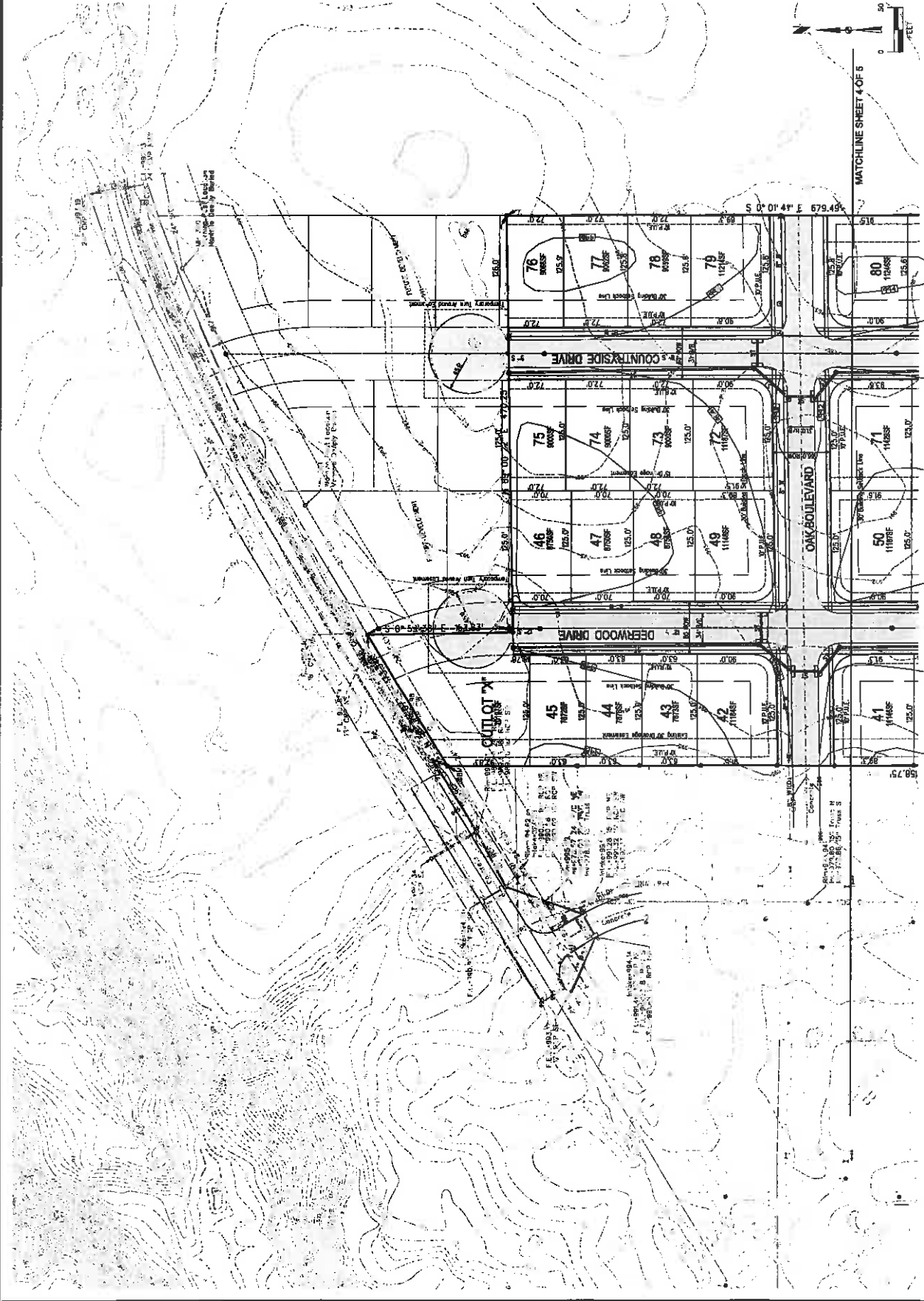
SNYDER & ASSOCIATES, INC.

2727 S.W. SNYDER BLVD.
ANKENY, IOWA 50023
2020 | www.andydassodas.com

Project No: 117,1112

Sheet 5 of 5

DATE	REVISION	REVISION	DATE	BY
07/19/19	2	REVISED AS PER COT COMMENTS	07/19/19	JMA
07/19/19	1	REVISED AS PER COT COMMENTS	07/19/19	JMA





MEADOW LANE
HUXLEY, IOWA

STORMWATER MANAGEMENT PLAN

PROJECT NO. 118.1156

July 18, 2019

	I hereby certify that this Engineering Document was prepared by me or under my direct personal supervision and that I am a duly Licensed Professional Engineer under the Laws of the State of Iowa.	
		07/18/19
	Eric D. Cannon, P.E.	Date
	License Number 18954	
	My License Renewal Date is December 31, 2019	
	<u>Drainage Study</u>	

PREPARED BY

SNYDER & ASSOCIATES, INC.
2727 SW SNYDER BLVD.
ANKENY, IOWA 50023
515-964-2020

Table of Contents

Cover Page	1
Executive Summary	3
Pre-Developed Conditions	3
Post-Developed Conditions	3
Permits	4
References	4

Executive Summary

This stormwater management plan is submitted in association with the Meadow Lane development located on Huxley, Iowa. This report will analyze the storm water features needed for the overall development. Plat 1 of the development consist of 24-single family lots with associated streets, utilities, storm sewer and detention basin. The proposed detention basin has been analyzed using the Hydraflow Hydrograph software and SCS method.

Pre-Developed Conditions

The site is 61.40 acres wherein 13.55 acres is presently developed and 47.85 acres consist of cultivated straight row crop. The overall site sheet flows east and into the existing detention basin located south of meadow lane. According to the NRCS soils report, the area contains Type C soils therefore this was used for the analysis of the site.

There is currently 39.80 acres of contributing offsite drainage areas from the adjacent west property and 18.40 acres from the Prairie Ridge development on the southeast. The Prairie Ridge development is served by its own basin. These offsite runoffs were accounted for in the proposed basin as pass through flows.

A pre-developed hydraulic model was created to determine the allowable release rates for the proposed basin using a curve number of 74 for good condition grass as per 2019 SUDAS Design Specifications. A pre-developed time of concentration of 31.5 minutes was used. The results are listed in the table below.

Table 1. Pre-developed Conditions

Drainage Area	Area (AC)	CN	Time of Concentration (mins)	5-year (cfs)	100-year (cfs)
Proposed Site	61.40	74	31.5	73.43	216.54
Offsite Drainage Areas					
West Property	39.80	72	22.0	54.11	167.35
Prairie Ridge ¹	18.40	-	15	-	8.0

1. This runoff was manually inputted to the model and was derived from the original Prairie Ridge drainage report. Refer to the detention spreadsheet included in this report for more details.

$$Q_{allowable} = 5\text{-year pre-developed} + 100\text{-year off-site drainage areas}$$

$$Q_{allowable} = 73.43 \text{ cfs} + 167.35 \text{ cfs} + 8.0 \text{ cfs}$$

$$Q_{allowable} = 248.78 \text{ cfs}$$

Post-Developed Conditions

The proposed detention basin will be constructed with Meadow Lane Plat 1 but was analyzed to provide detention for the entire development. The basin will detain for the 100-year storm event with the maximum release rate equal to the 5-year pre-developed runoff. As shown in the equation above, the allowable release rate for the site is 248.78 cfs. A post-developed

hydraulic model was created to determine the peak flows and high-water elevations for the proposed basin. A curve number of 83 was used for developed single family lots with Type C soils. To meet the detention requirements, the basin will outlet through a 14' wide weir set at the elevation of 982.00'. The results are listed in table 2 below.

Table 2. Post-Developed Conditions

	CN	Time of Concentration	5-year Storm Event		100-year Storm Event	
			Peak Flow	Elevation	Peak Flow	Elevation
Proposed Detention	83	19.6 min	65.05 cfs	983.53'	217.38 cfs	985.29

Permits

- a. An IDNR NPDES Notice of Intent General Permit #2 will be submitted by the property owner and the Storm Water Pollution Prevention Packet (SWPPP) will be created for the contractor to maintain and update as necessary.

References

- a. SUDAS Standards and Specifications
- b. Iowa Storm Water Management Manual

Hydraulic Model

Hydraflow Table of Contents

1171112_Detention.gpw

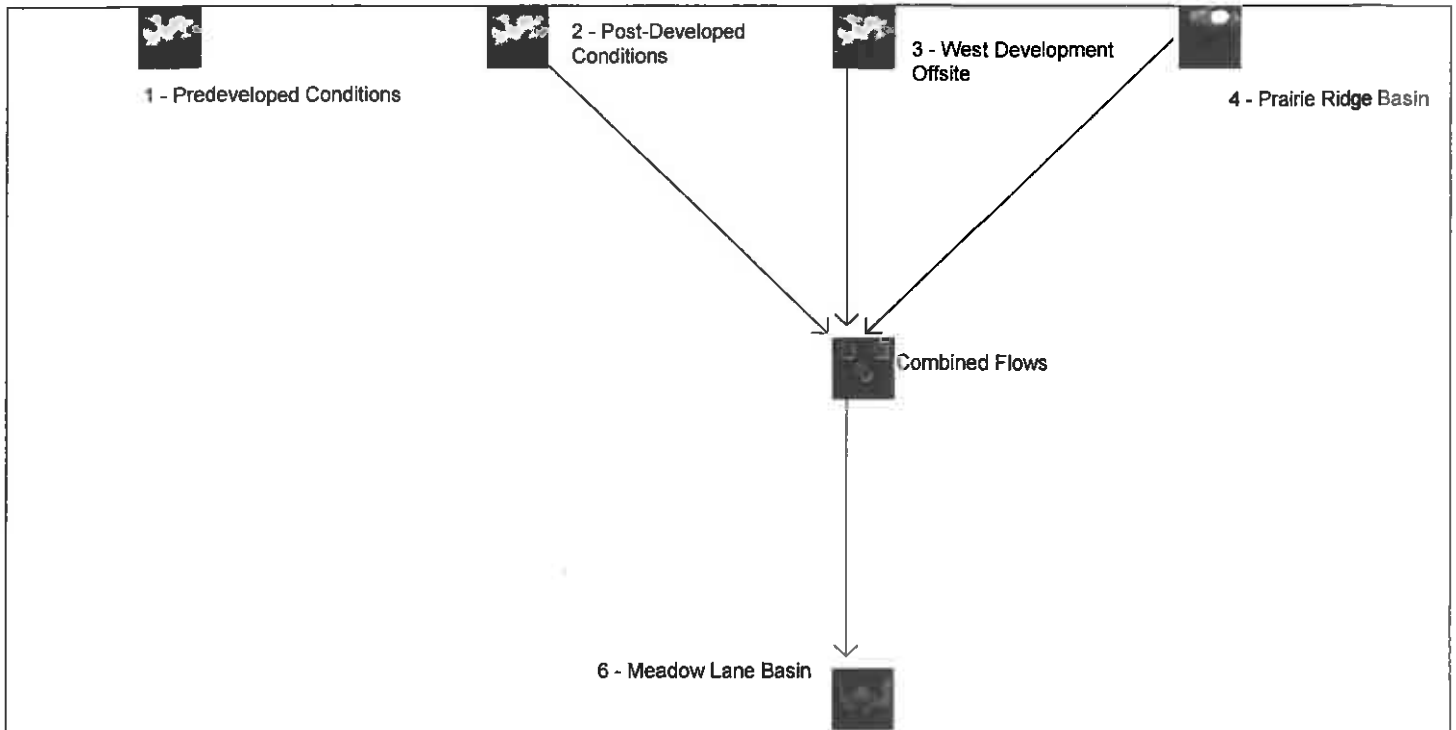
Hydraflow Hydrographs by Intelisolve v9.2

Thursday, Jul 18, 2019

Watershed Model Schematic	1
Hydrograph Return Period Recap	2
5 - Year	
Summary Report	3
Hydrograph Reports	4
Hydrograph No. 1, SCS Runoff, Predeveloped Conditions	4
TR-55 Tc Worksheet	5
Hydrograph No. 2, SCS Runoff, Post-Developed Conditions	6
TR-55 Tc Worksheet	7
Hydrograph No. 3, SCS Runoff, West Development Offsite	8
TR-55 Tc Worksheet	9
Hydrograph No. 4, Manual, Prairie Ridge Basin	10
Hydrograph No. 5, Combine, Combined Flows	11
Hydrograph No. 6, Reservoir, Meadow Lane Basin	12
Pond Report - Proposed Detention Basin	13
100 - Year	
Summary Report	14
Hydrograph Reports	15
Hydrograph No. 1, SCS Runoff, Predeveloped Conditions	15
Hydrograph No. 2, SCS Runoff, Post-Developed Conditions	16
Hydrograph No. 3, SCS Runoff, West Development Offsite	17
Hydrograph No. 4, Manual, Prairie Ridge Basin	18
Hydrograph No. 5, Combine, Combined Flows	19
Hydrograph No. 6, Reservoir, Meadow Lane Basin	20

Watershed Model Schematic

Hydraflow Hydrographs by Intelisolve v9.2



Legend

Hyd.	Origin	Description
1	SCS Runoff	Predeveloped Conditions
2	SCS Runoff	Post-Developed Conditions
3	SCS Runoff	West Development Offsite
4	Manual	Prairie Ridge Basin
5	Combine	Combined Flows
6	Reservoir	Meadow Lane Basin

Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.2

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	SCS Runoff	73.43	2	734	329,097	---	----	-----	Predeveloped Conditions
2	SCS Runoff	151.46	1	725	472,982	---	----	-----	Post-Developed Conditions
3	SCS Runoff	53.67	1	728	190,213	---	----	-----	West Development Offsite
4	Manual	0.000	1	n/a	0	---	----	-----	Prairie Ridge Basin
5	Combine	203.13	1	726	663,195	2, 3, 4	----	-----	Combined Flows
6	Reservoir	65.05	1	744	663,104	5	983.47	253,618	Meadow Lane Basin
1171112_Detention.gpw					Return Period: 5 Year			Thursday, Jul 18, 2019	

Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2

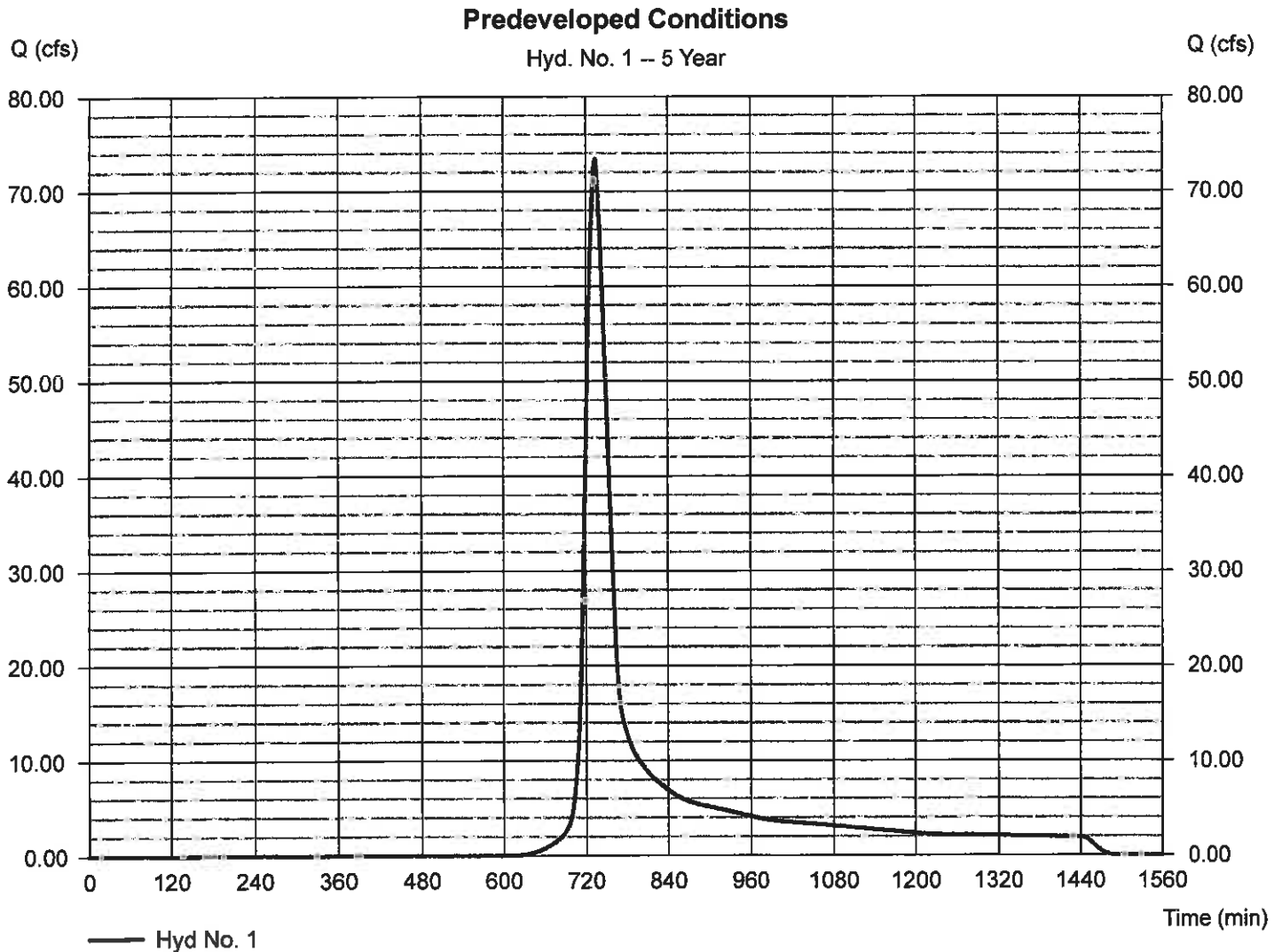
Thursday, Jul 18, 2019

Hyd. No. 1

Predeveloped Conditions

Hydrograph type = SCS Runoff
 Storm frequency = 5 yrs
 Time interval = 2 min
 Drainage area = 61.400 ac
 Basin Slope = 0.0 %
 Tc method = TR55
 Total precip. = 3.81 in
 Storm duration = 24 hrs

Peak discharge = 73.43 cfs
 Time to peak = 734 min
 Hyd. volume = 329,097 cuft
 Curve number = 74
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 31.50 min
 Distribution = Type II
 Shape factor = 484



TR55 Tc Worksheet

Hydraflow Hydrographs by Intelisolve v9.2

Hyd. No. 1

Predeveloped Conditions

<u>Description</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>Totals</u>
Sheet Flow				
Manning's n-value	= 0.130	0.011	0.011	
Flow length (ft)	= 100.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.08	0.00	0.00	
Land slope (%)	= 0.67	0.00	0.00	
Travel Time (min)	= 13.79	+ 0.00	+ 0.00	= 13.79
Shallow Concentrated Flow				
Flow length (ft)	= 1400.00	0.00	0.00	
Watercourse slope (%)	= 0.67	0.00	0.00	
Surface description	= Unpaved	Paved	Paved	
Average velocity (ft/s)	= 1.32	0.00	0.00	
Travel Time (min)	= 17.67	+ 0.00	+ 0.00	= 17.67
Channel Flow				
X sectional flow area (sqft)	= 0.00	0.00	0.00	
Wetted perimeter (ft)	= 0.00	0.00	0.00	
Channel slope (%)	= 0.00	0.00	0.00	
Manning's n-value	= 0.015	0.015	0.015	
Velocity (ft/s)	= 0.00	0.00	0.00	
Flow length (ft)	= 0.0	0.0	0.0	
Travel Time (min)	= 0.00	+ 0.00	+ 0.00	= 0.00
Total Travel Time, Tc				31.50 min

Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2

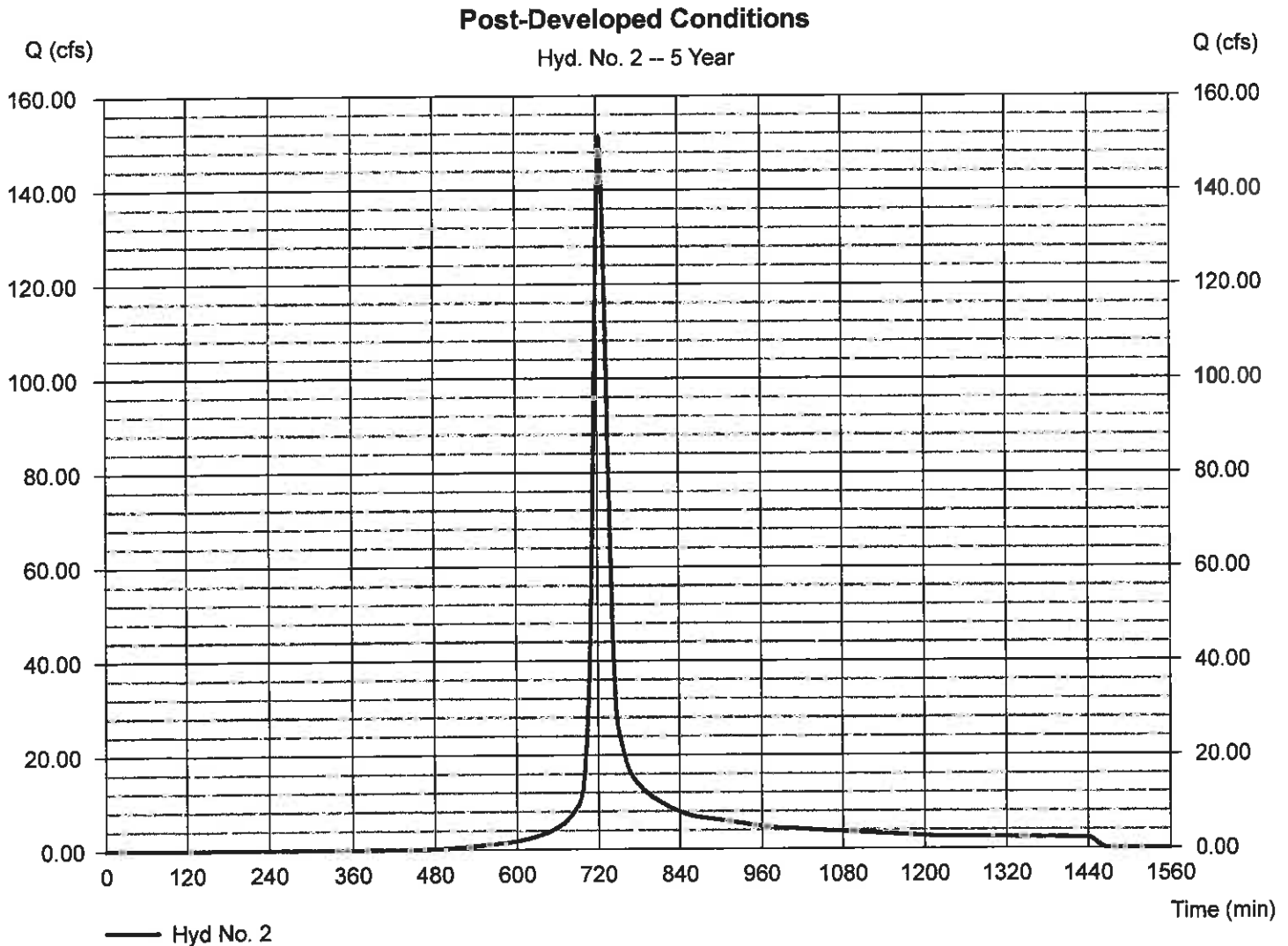
Thursday, Jul 18, 2019

Hyd. No. 2

Post-Developed Conditions

Hydrograph type = SCS Runoff
 Storm frequency = 5 yrs
 Time interval = 1 min
 Drainage area = 61.400 ac
 Basin Slope = 0.0 %
 Tc method = TR55
 Total precip. = 3.81 in
 Storm duration = 24 hrs

Peak discharge = 151.46 cfs
 Time to peak = 725 min
 Hyd. volume = 472,982 cuft
 Curve number = 83
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 19.60 min
 Distribution = Type II
 Shape factor = 484



TR55 Tc Worksheet

Hydraflow Hydrographs by Intelisolve v9.2

Hyd. No. 2

Post-Developed Conditions

<u>Description</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>Totals</u>
Sheet Flow				
Manning's n-value	= 0.240	0.011	0.011	
Flow length (ft)	= 100.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.08	0.00	0.00	
Land slope (%)	= 2.00	0.00	0.00	
Travel Time (min)	= 14.55	+ 0.00	+ 0.00	= 14.55
Shallow Concentrated Flow				
Flow length (ft)	= 210.00	0.00	0.00	
Watercourse slope (%)	= 1.00	0.00	0.00	
Surface description	= Paved	Paved	Paved	
Average velocity (ft/s)	= 2.03	0.00	0.00	
Travel Time (min)	= 1.72	+ 0.00	+ 0.00	= 1.72
Channel Flow				
X sectional flow area (sqft)	= 9.62	0.00	0.00	
Wetted perimeter (ft)	= 11.00	0.00	0.00	
Channel slope (%)	= 0.50	0.00	0.00	
Manning's n-value	= 0.013	0.015	0.015	
Velocity (ft/s)	= 7.41	0.00	0.00	
Flow length (ft)	= 1460.0	0.0	0.0	
Travel Time (min)	= 3.28	+ 0.00	+ 0.00	= 3.28
Total Travel Time, Tc				19.60 min

Hydrograph Report

Hydraflow Hydrographs by Intellisolve v9.2

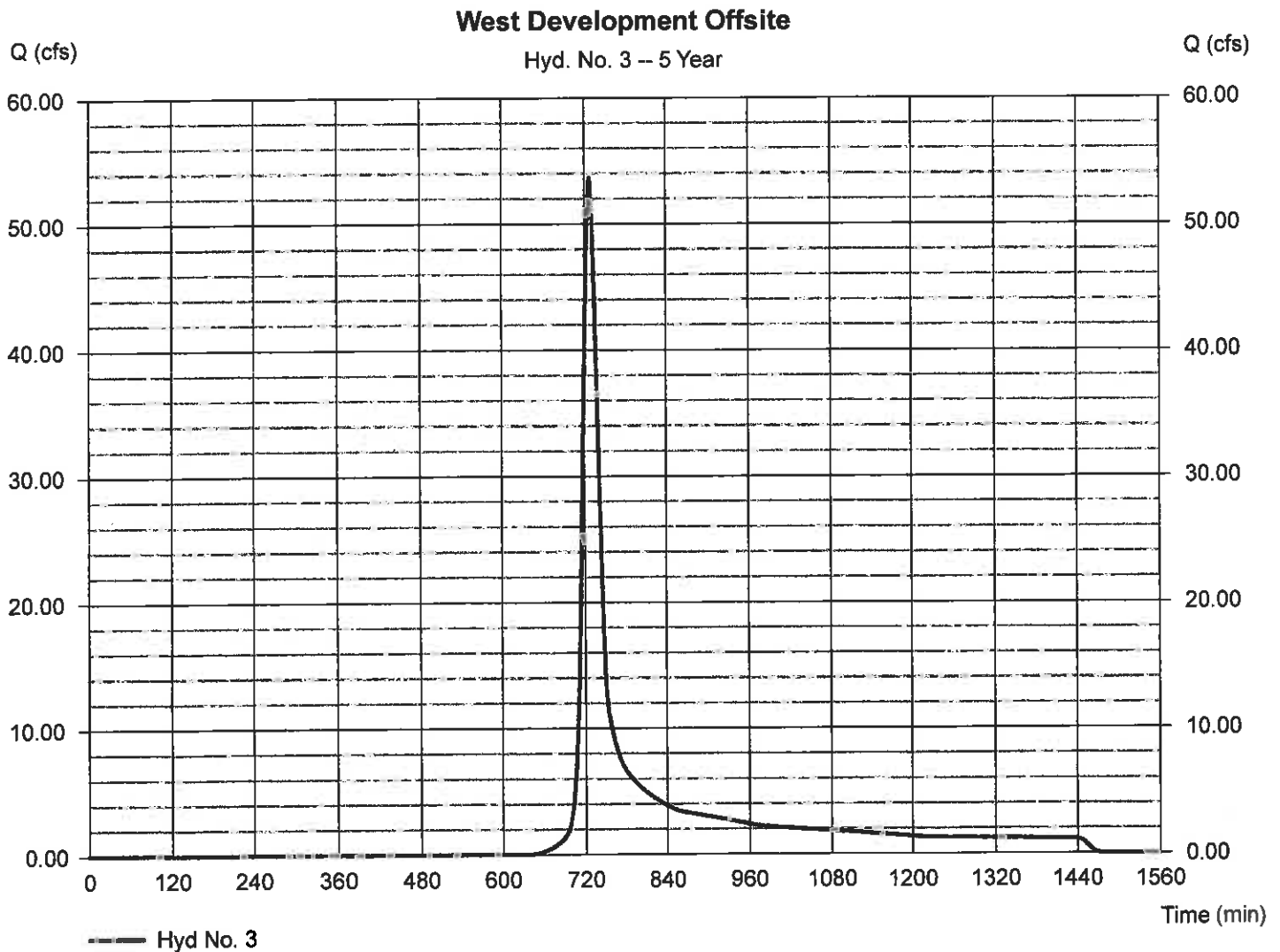
Thursday, Jul 18, 2019

Hyd. No. 3

West Development Offsite

Hydrograph type = SCS Runoff
 Storm frequency = 5 yrs
 Time interval = 1 min
 Drainage area = 39.800 ac
 Basin Slope = 0.0 %
 Tc method = TR55
 Total precip. = 3.81 in
 Storm duration = 24 hrs

Peak discharge = 53.67 cfs
 Time to peak = 728 min
 Hyd. volume = 190,213 cuft
 Curve number = 72
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 22.00 min
 Distribution = Type II
 Shape factor = 484



TR55 Tc Worksheet

Hydraflow Hydrographs by Intelisolve v9.2

Hyd. No. 3

West Development Offsite

<u>Description</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>Totals</u>
Sheet Flow				
Manning's n-value	= 0.240	0.011	0.011	
Flow length (ft)	= 100.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 3.08	0.00	0.00	
Land slope (%)	= 4.00	0.00	0.00	
Travel Time (min)	= 11.02	+	0.00	+
			0.00	= 11.02
Shallow Concentrated Flow				
Flow length (ft)	= 950.00	0.00	0.00	
Watercourse slope (%)	= 1.50	0.00	0.00	
Surface description	= Unpaved	Paved	Paved	
Average velocity (ft/s)	= 1.98	0.00	0.00	
Travel Time (min)	= 8.01	+	0.00	+
			0.00	= 8.01
Channel Flow				
X sectional flow area (sqft)	= 9.62	0.00	0.00	
Wetted perimeter (ft)	= 11.00	0.00	0.00	
Channel slope (%)	= 0.50	0.00	0.00	
Manning's n-value	= 0.013	0.015	0.015	
Velocity (ft/s)	= 7.41	0.00	0.00	
Flow length (ft)	= 1325.0	0.0	0.0	
Travel Time (min)	= 2.98	+	0.00	+
			0.00	= 2.98
Total Travel Time, Tc				22.00 min

Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2

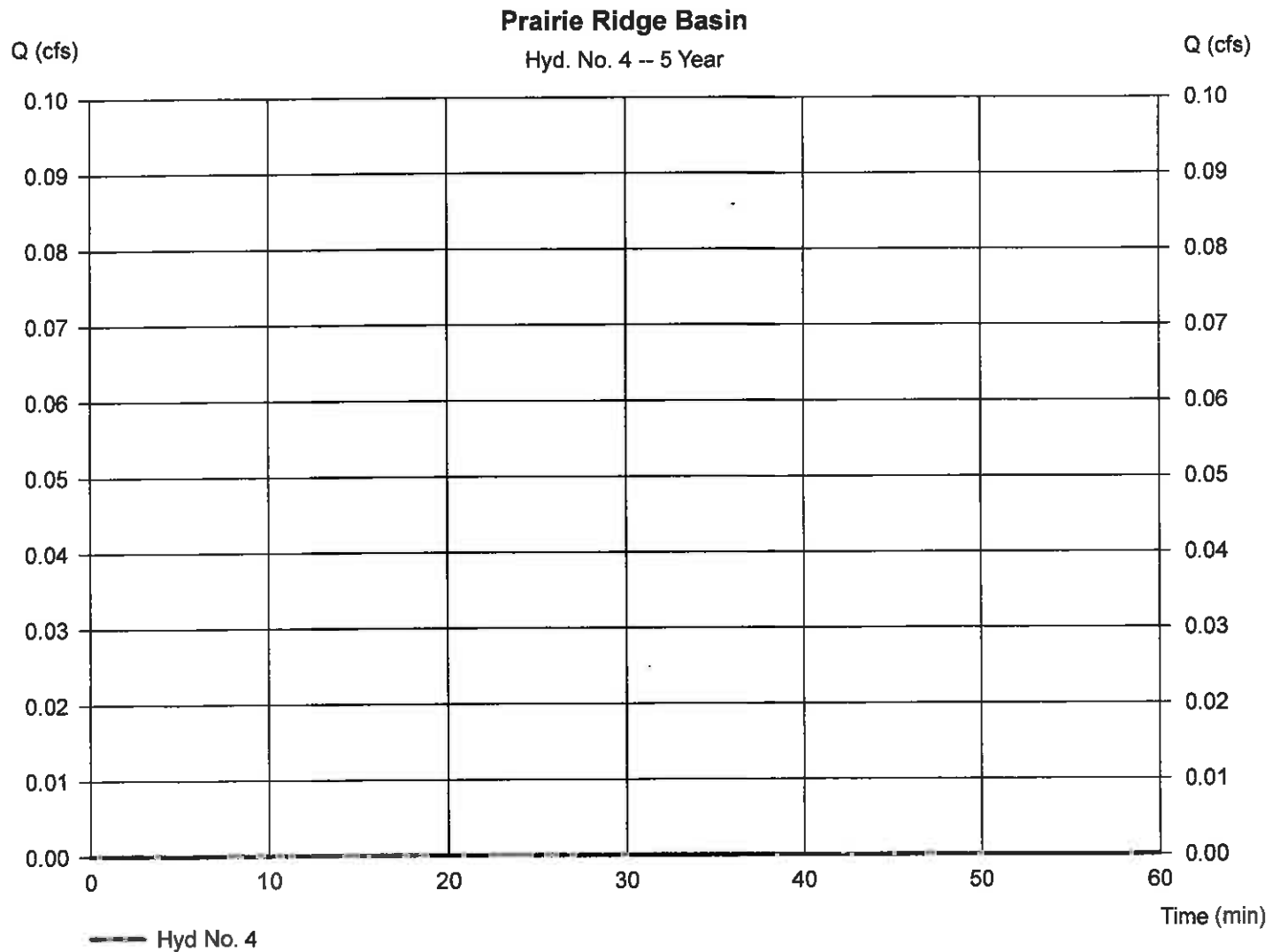
Thursday, Jul 18, 2019

Hyd. No. 4

Prairie Ridge Basin

Hydrograph type = Manual
Storm frequency = 5 yrs
Time interval = 1 min

Peak discharge = 0.000 cfs
Time to peak = n/a
Hyd. volume = 0 cuft



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2

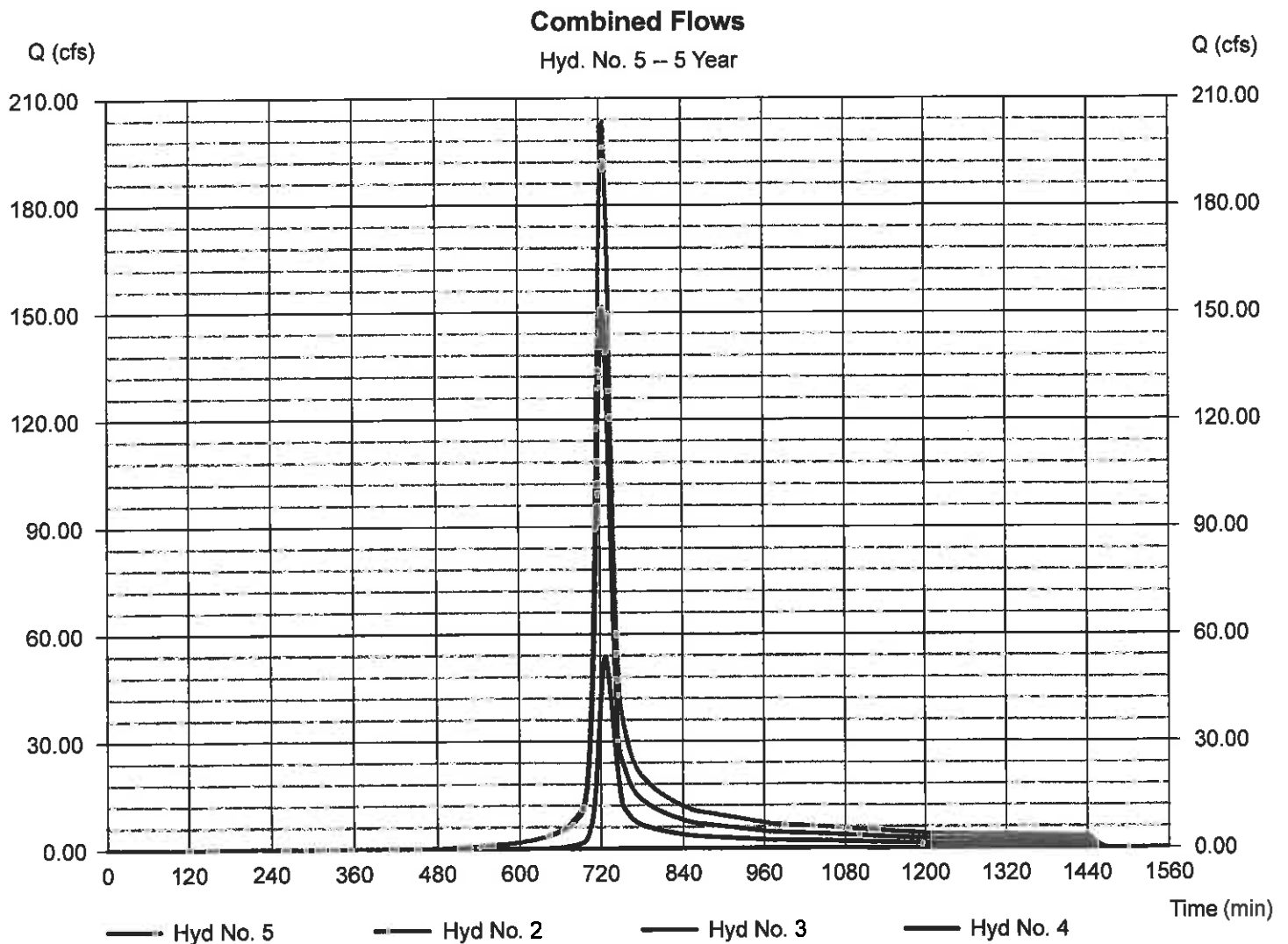
Thursday, Jul 18, 2019

Hyd. No. 5

Combined Flows

Hydrograph type = Combine
 Storm frequency = 5 yrs
 Time interval = 1 min
 Inflow hyds. = 2, 3, 4

Peak discharge = 203.13 cfs
 Time to peak = 726 min
 Hyd. volume = 663,195 cuft
 Contrib. drain. area = 101.200 ac



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2

Thursday, Jul 18, 2019

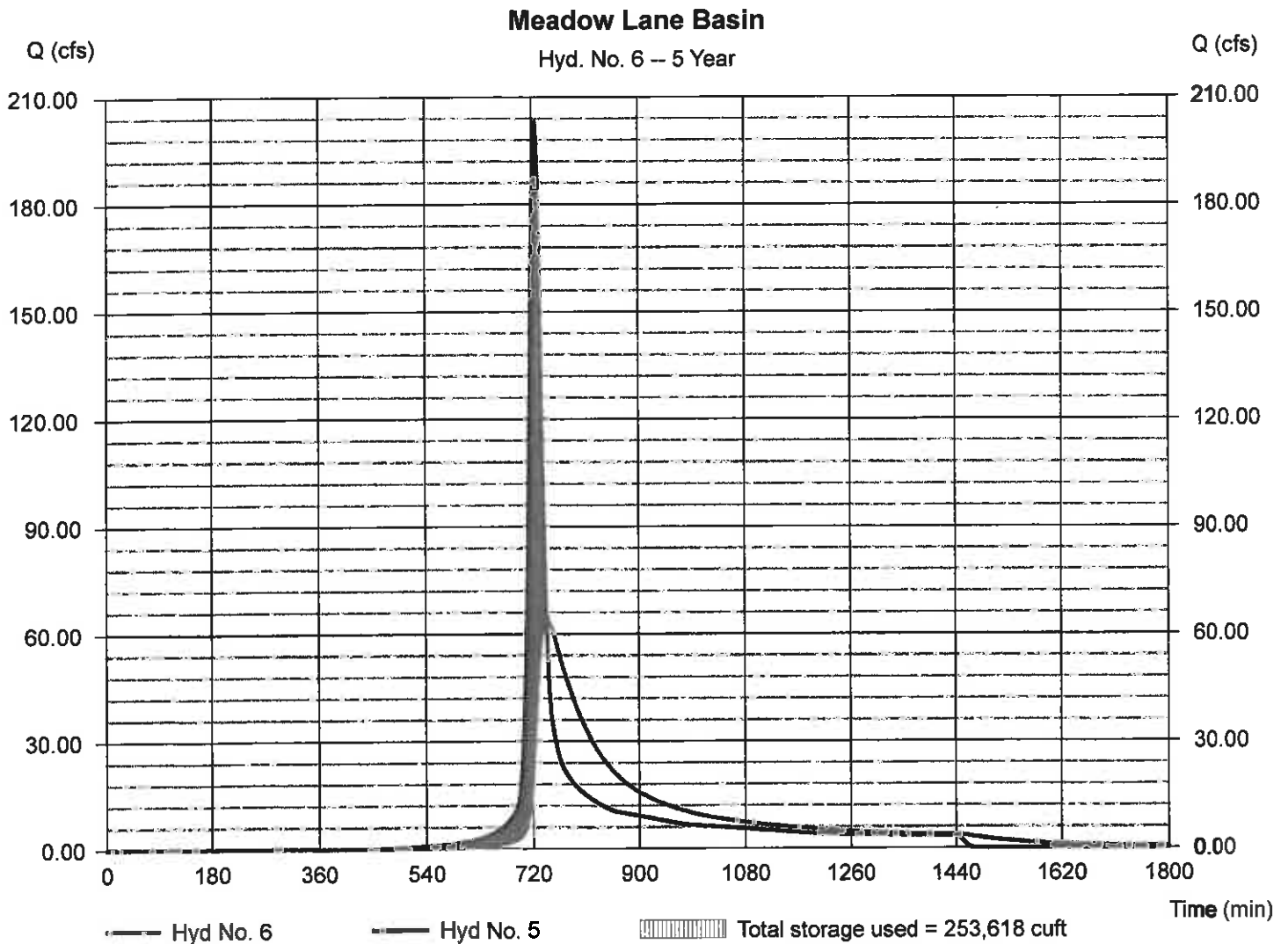
Hyd. No. 6

Meadow Lane Basin

Hydrograph type = Reservoir
 Storm frequency = 5 yrs
 Time interval = 1 min
 Inflow hyd. No. = 5 - Combined Flows
 Reservoir name = Proposed Detention Basin

Peak discharge = 65.05 cfs
 Time to peak = 744 min
 Hyd. volume = 663,104 cuft
 Max. Elevation = 983.47 ft
 Max. Storage = 253,618 cuft

Storage Indication method used.



Pond Report

13

Hydraflow Hydrographs by Intelisolve v9.2

Thursday, Jul 18, 2019

Pond No. 1 - Proposed Detention Basin

Pond Data

Contours - User-defined contour areas. Conic method used for volume calculation. Beginning Elevation = 982.00 ft

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	982.00	162,594	0	0
1.00	983.00	173,546	168,024	168,024
2.00	984.00	188,976	181,188	349,212
3.00	985.00	207,873	198,330	547,541
4.00	986.00	228,660	218,162	765,703

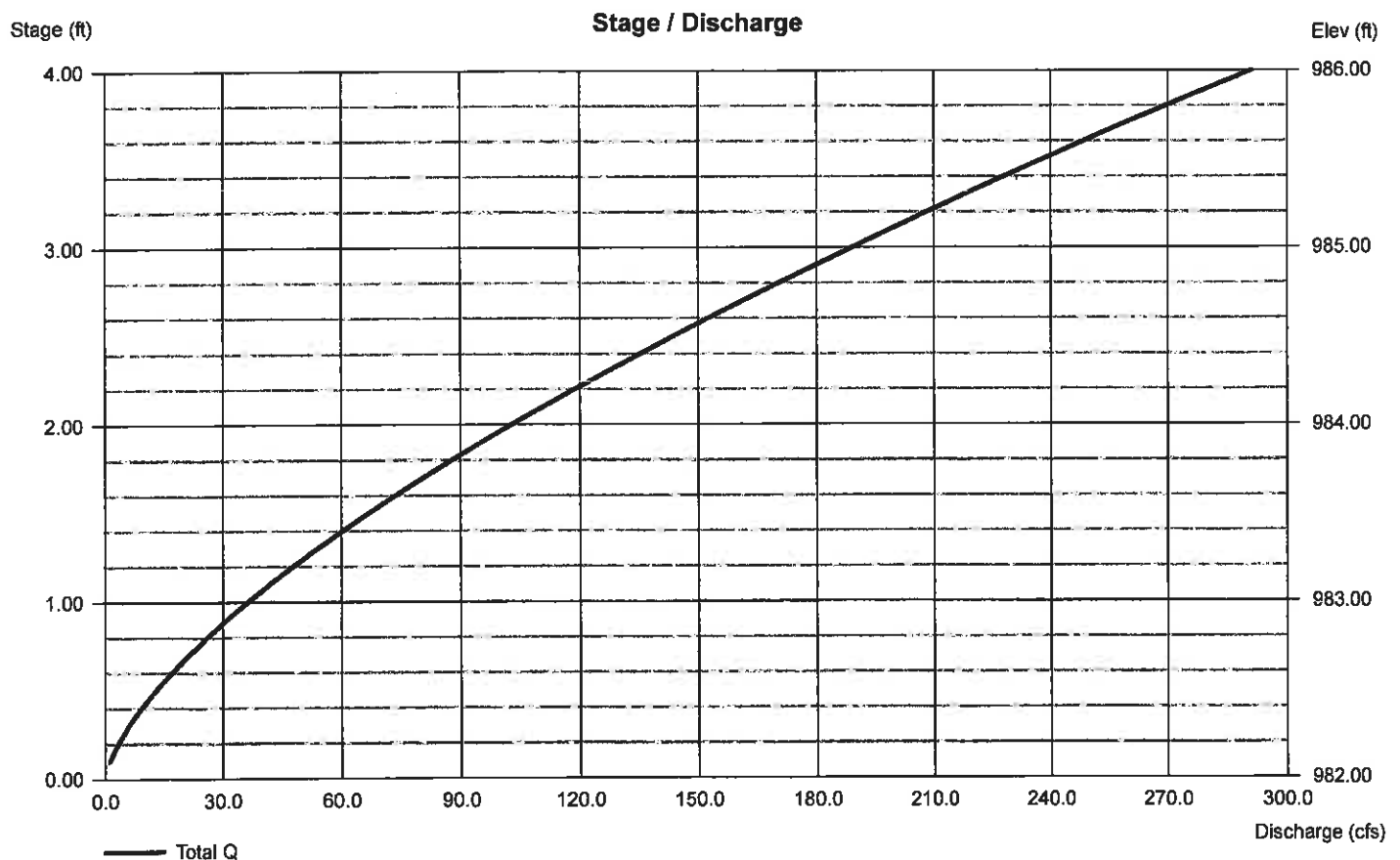
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	Inactive	0.00	0.00	0.00
Span (in)	= 12.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 982.00	0.00	0.00	0.00
Length (ft)	= 20.00	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)	= 14.00	240.00	0.00	0.00
Crest El. (ft)	= 982.00	986.00	0.00	0.00
Weir Coeff.	= 2.60	2.60	3.33	3.33
Weir Type	= Broad	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).



Hydrograph Summary Report

Hydraflow Hydrographs by Intelisolve v9.2

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	SCS Runoff	216.54	2	732	935,814	---	---	---	Predeveloped Conditions
2	SCS Runoff	359.51	1	725	1,145,868	---	---	---	Post-Developed Conditions
3	SCS Runoff	165.84	1	727	562,931	---	---	---	West Development Offsite
4	Manual	8.000	1	15	480	---	---	---	Prairie Ridge Basin
5	Combine	521.74	1	725	1,709,279	2, 3, 4	---	---	Combined Flows
6	Reservoir	217.38	1	740	1,709,158	5	985.29	611,174	Meadow Lane Basin
1171112_Detention.gpw					Return Period: 100 Year			Thursday, Jul 18, 2019	

Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2

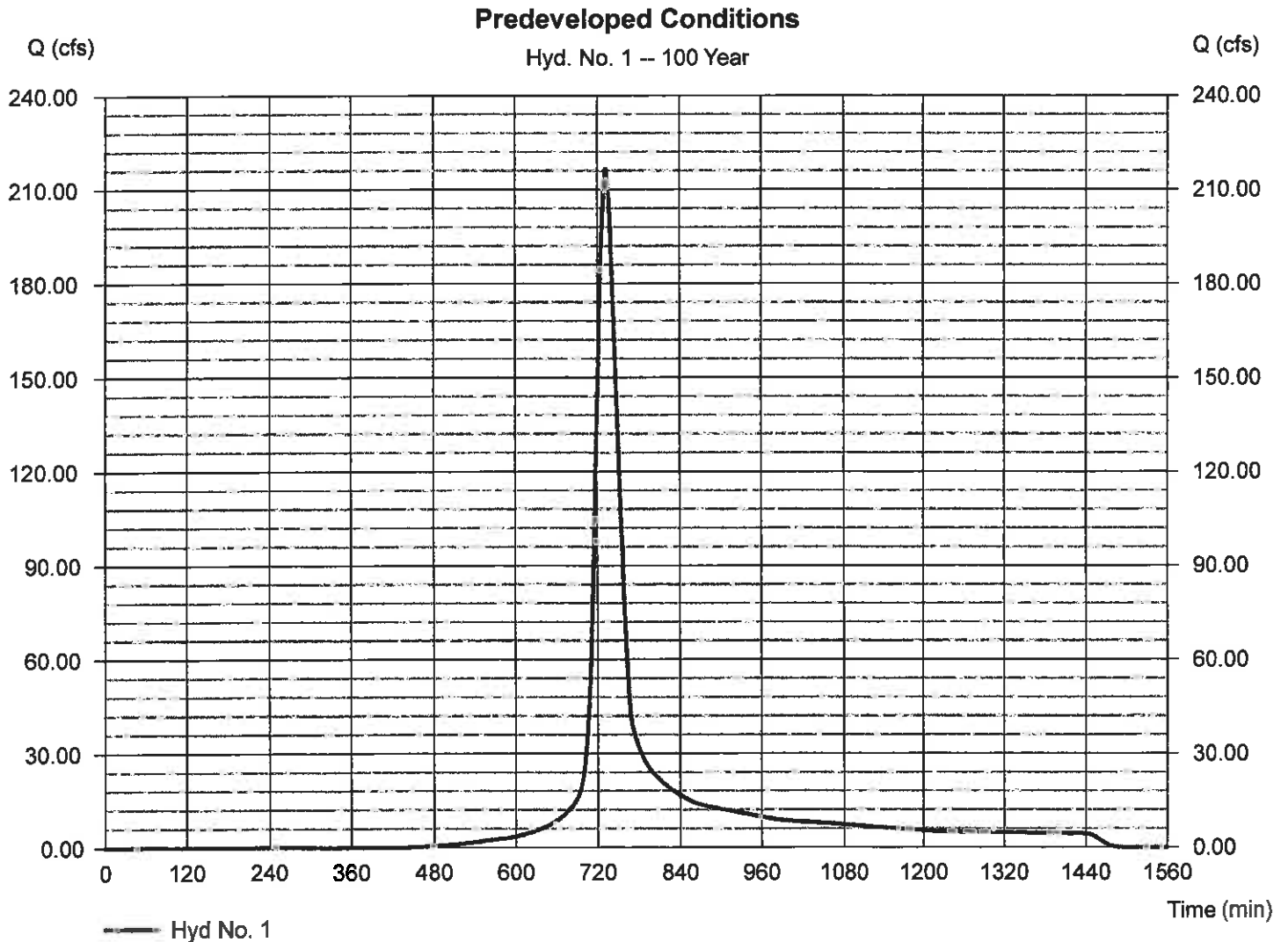
Thursday, Jul 18, 2019

Hyd. No. 1

Predeveloped Conditions

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Time interval = 2 min
 Drainage area = 61.400 ac
 Basin Slope = 0.0 %
 Tc method = TR55
 Total precip. = 7.12 in
 Storm duration = 24 hrs

Peak discharge = 216.54 cfs
 Time to peak = 732 min
 Hyd. volume = 935,814 cuft
 Curve number = 74
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 31.50 min
 Distribution = Type II
 Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2

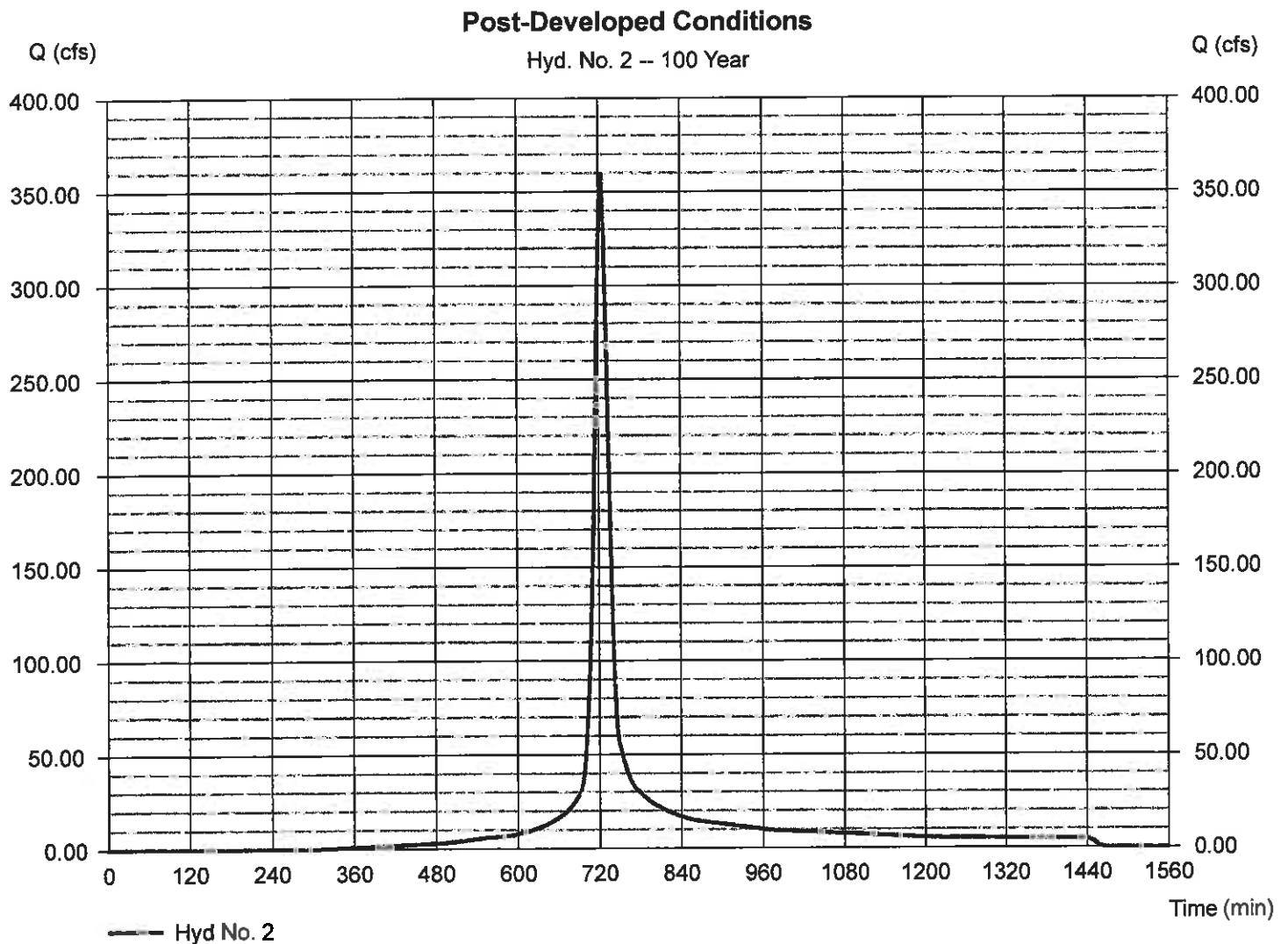
Thursday, Jul 18, 2019

Hyd. No. 2

Post-Developed Conditions

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Time interval = 1 min
 Drainage area = 61.400 ac
 Basin Slope = 0.0 %
 Tc method = TR55
 Total precip. = 7.12 in
 Storm duration = 24 hrs

Peak discharge = 359.51 cfs
 Time to peak = 725 min
 Hyd. volume = 1,145,868 cuft
 Curve number = 83
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 19.60 min
 Distribution = Type II
 Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2

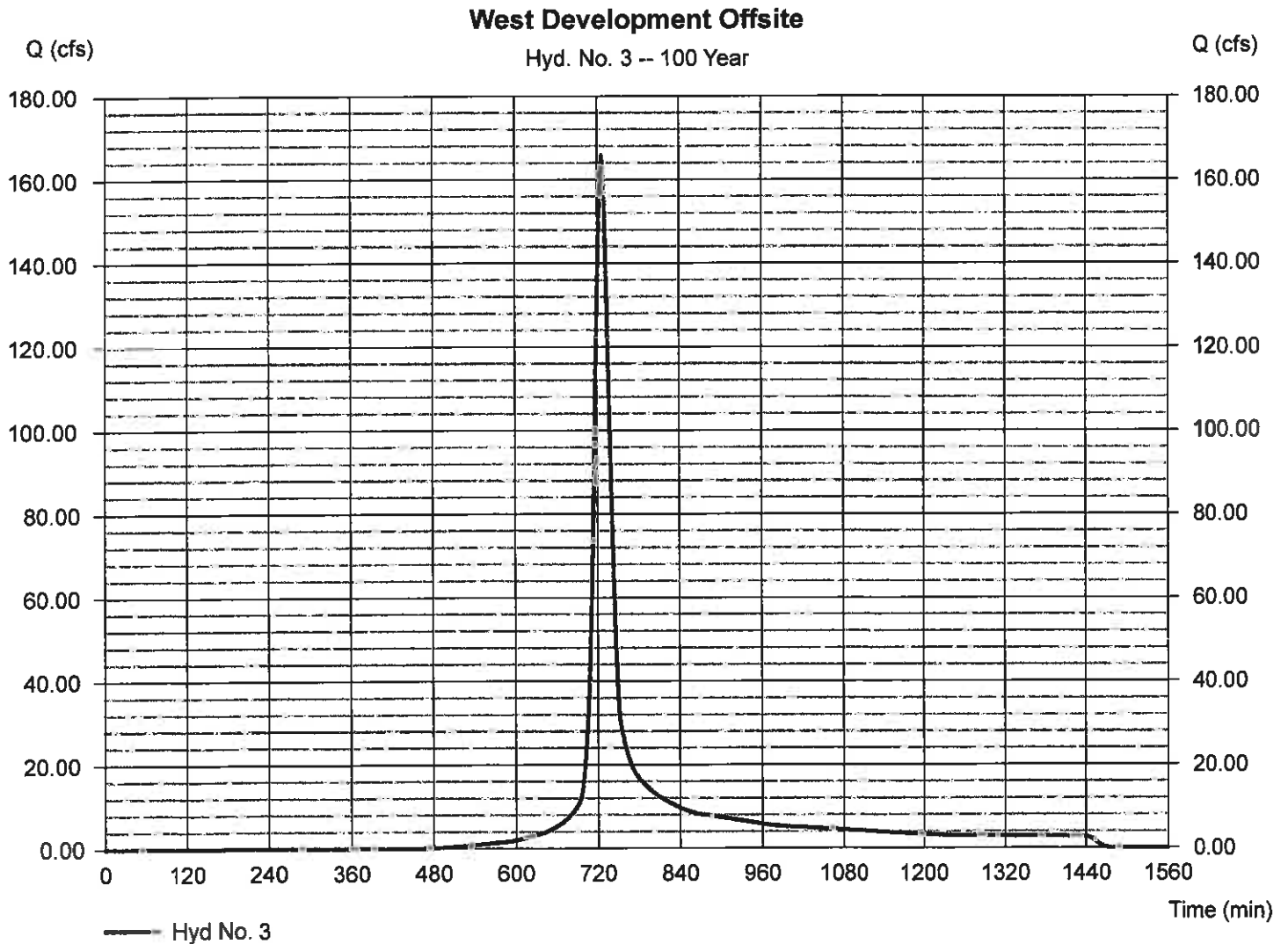
Thursday, Jul 18, 2019

Hyd. No. 3

West Development Offsite

Hydrograph type = SCS Runoff
 Storm frequency = 100 yrs
 Time interval = 1 min
 Drainage area = 39.800 ac
 Basin Slope = 0.0 %
 Tc method = TR55
 Total precip. = 7.12 in
 Storm duration = 24 hrs

Peak discharge = 165.84 cfs
 Time to peak = 727 min
 Hyd. volume = 562,931 cuft
 Curve number = 72
 Hydraulic length = 0 ft
 Time of conc. (Tc) = 22.00 min
 Distribution = Type II
 Shape factor = 484



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2

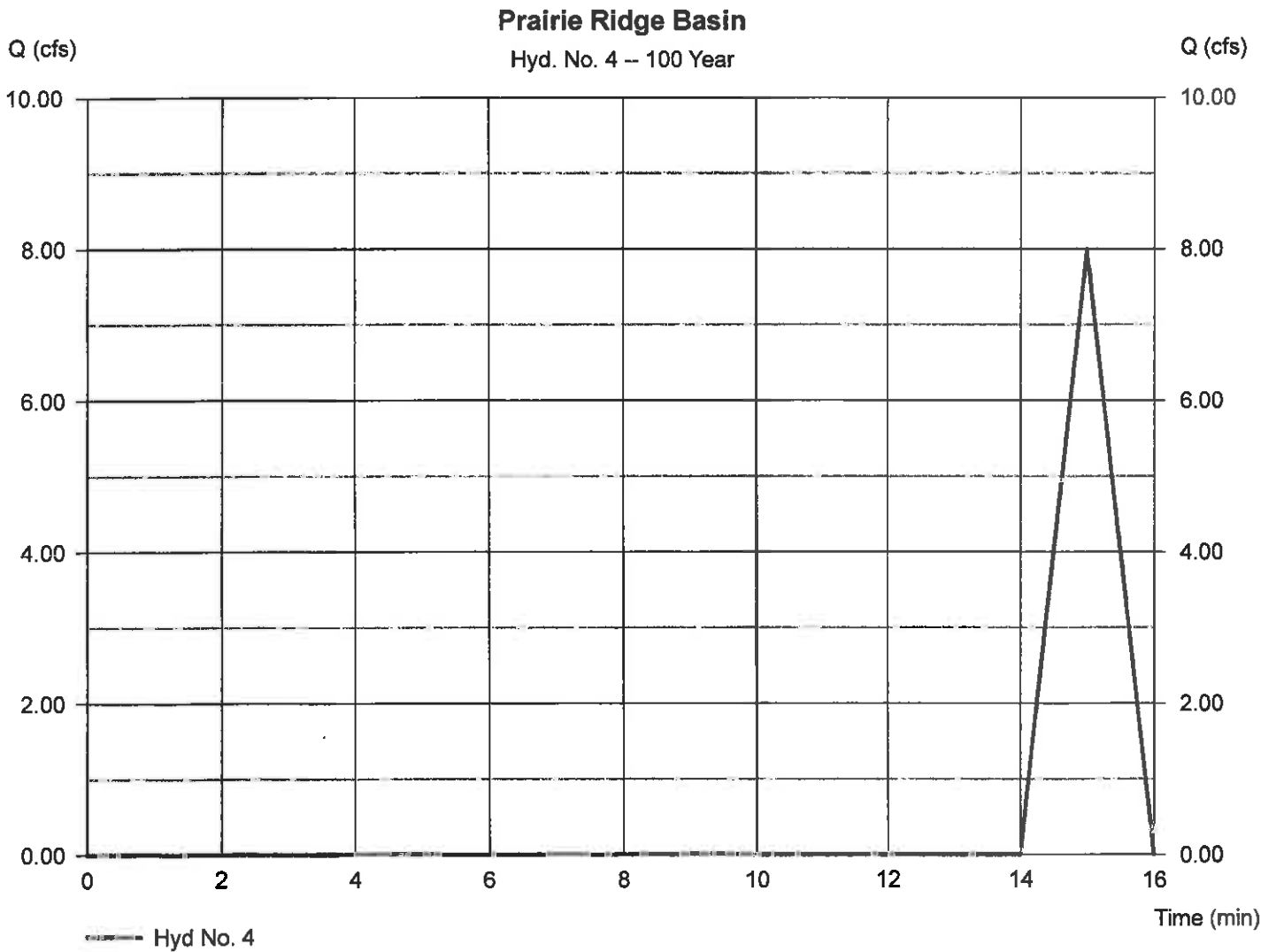
Thursday, Jul 18, 2019

Hyd. No. 4

Prairie Ridge Basin

Hydrograph type = Manual
Storm frequency = 100 yrs
Time interval = 1 min

Peak discharge = 8.000 cfs
Time to peak = 15 min
Hyd. volume = 480 cuft

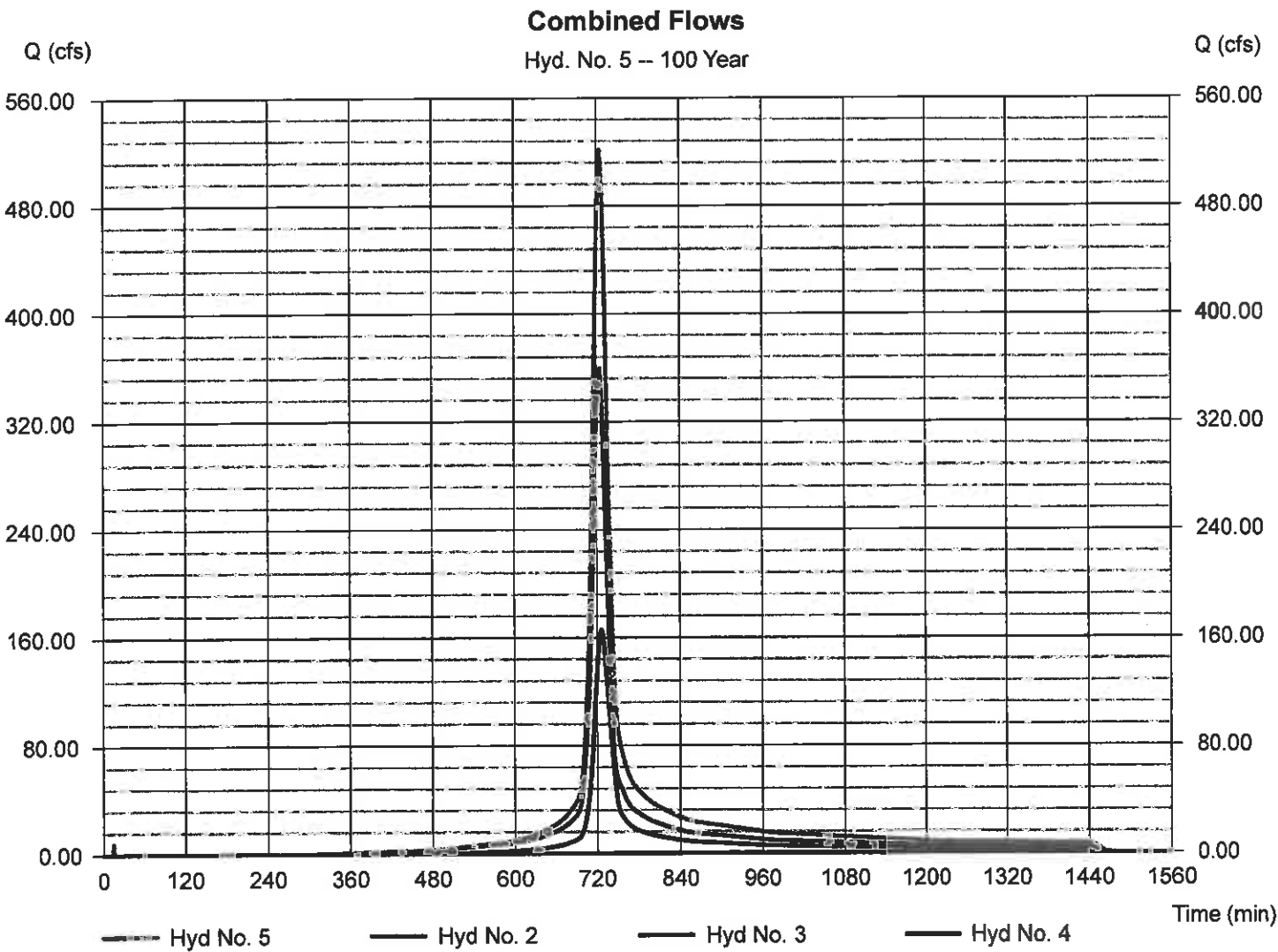


Hydrograph Report

Hyd. No. 5

Combined Flows

Hydrograph type	= Combine	Peak discharge	= 521.74 cfs
Storm frequency	= 100 yrs	Time to peak	= 725 min
Time interval	= 1 min	Hyd. volume	= 1,709,279 cuft
Inflow hyds.	= 2, 3, 4	Contrib. drain. area	= 101.200 ac



Hydrograph Report

Hydraflow Hydrographs by Intelisolve v9.2

Thursday, Jul 18, 2019

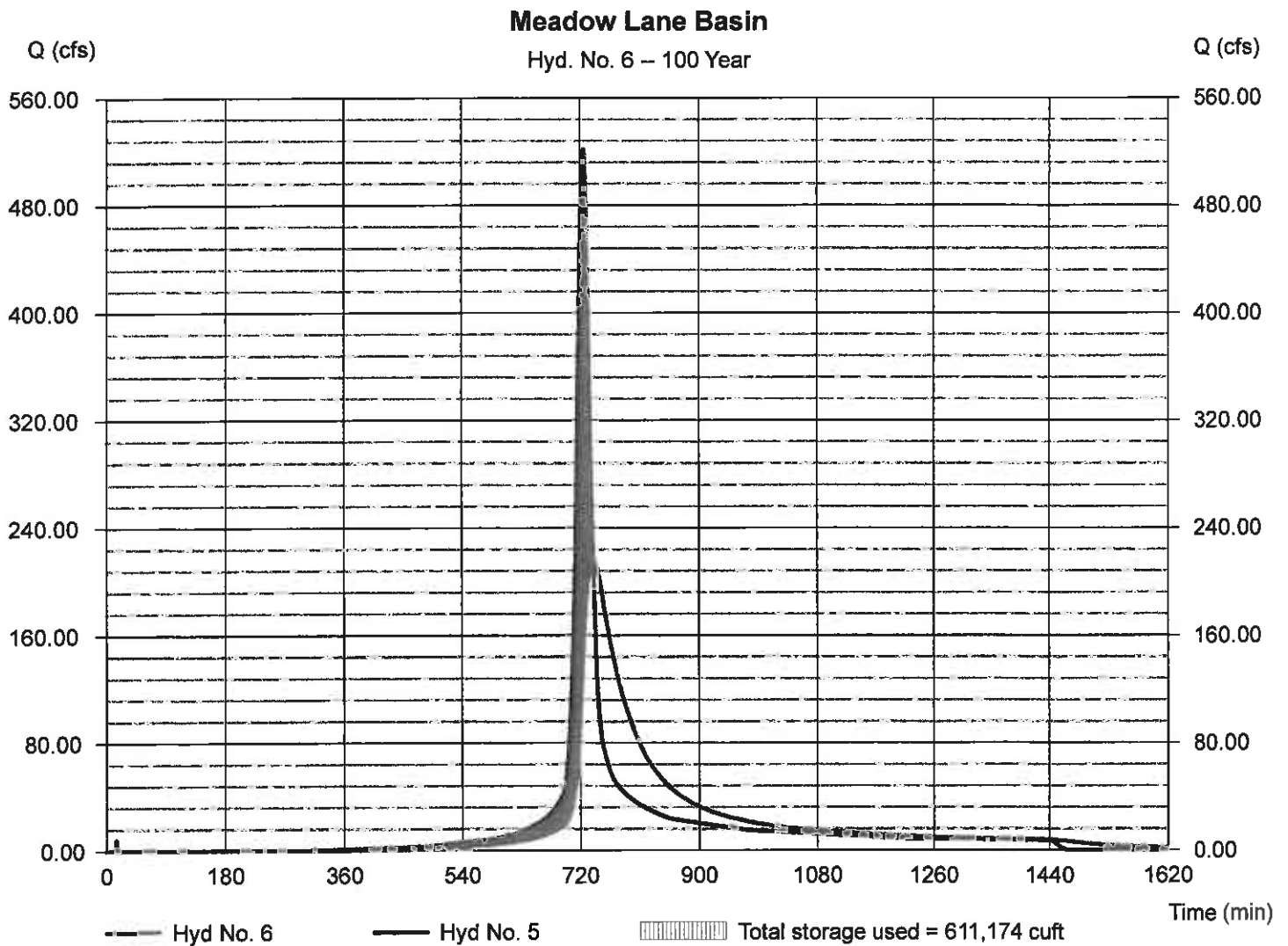
Hyd. No. 6

Meadow Lane Basin

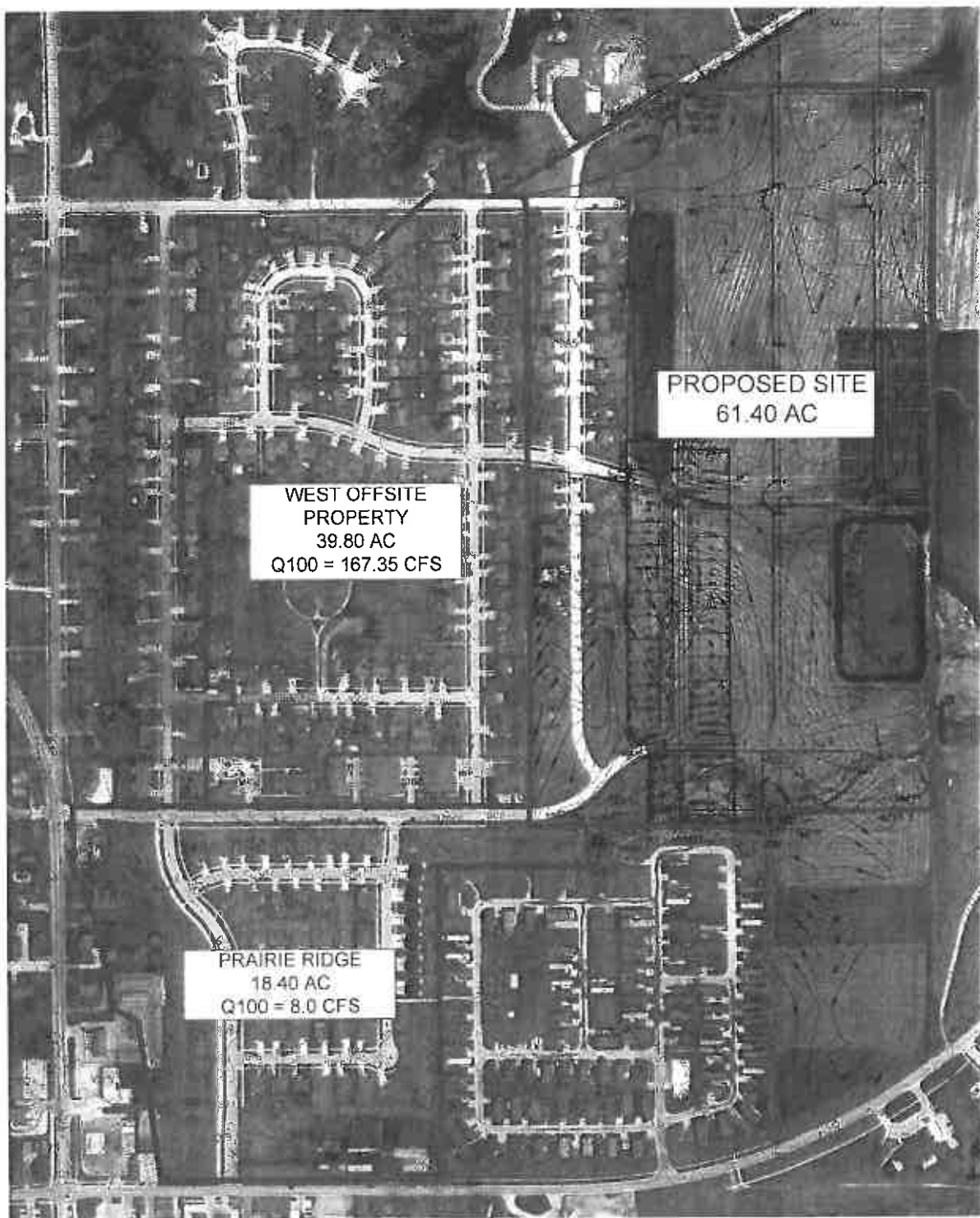
Hydrograph type = Reservoir
 Storm frequency = 100 yrs
 Time interval = 1 min
 Inflow hyd. No. = 5 - Combined Flows
 Reservoir name = Proposed Detention Basin

Peak discharge = 217.38 cfs
 Time to peak = 740 min
 Hyd. volume = 1,709,158 cuft
 Max. Elevation = 985.29 ft
 Max. Storage = 611,174 cuft

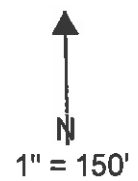
Storage Indication method used.



Drainage Maps



PROPOSED DETENTION AREA MAP



Appendix

Table 2B-2.06: Section 5 - Central Iowa
Rainfall Depth and Intensity for Various Return Periods

	Return Period															
	1 year		2 year		5 year		10 year		25 year		50 year		100 year		500 year	
Duration	D	I	D	I	D	I	D	I	D	I	D	I	D	I	D	I
5 min	0.39	4.78	0.46	5.59	0.57	6.91	0.67	8.1	0.81	9.76	0.92	11.1	1.04	12.4	1.33	15.9
10 min	0.58	3.51	0.68	4.08	0.84	5.08	0.98	5.92	1.19	7.16	1.35	8.13	1.52	9.18	1.94	11.6
15 min	0.71	2.84	0.83	3.32	1.03	4.12	1.20	4.82	1.45	5.81	1.65	6.61	1.86	7.44	2.37	9.50
30 min	0.99	1.99	1.16	2.33	1.45	2.91	1.70	3.40	2.05	4.11	2.34	4.68	2.63	5.27	3.36	6.73
1 hr	1.29	1.29	1.51	1.51	1.89	1.89	2.23	2.23	2.72	2.72	3.13	3.13	3.55	3.55	4.62	4.62
2 hr	1.58	0.79	1.85	0.92	2.33	1.16	2.76	1.38	3.39	1.69	3.91	1.95	4.46	2.23	5.88	2.94
3 hr	1.75	0.58	2.06	0.68	2.60	0.86	3.09	1.03	3.82	1.27	4.42	1.47	5.07	1.69	6.76	2.25
6 hr	2.05	0.34	2.40	0.40	3.03	0.50	3.61	0.60	4.47	0.74	5.20	0.86	5.98	0.99	8.02	1.33
12 hr	2.34	0.19	2.74	0.22	3.44	0.28	4.07	0.33	5.01	0.41	5.79	0.48	6.62	0.55	8.79	0.73
24 hr	2.67	0.11	3.08	0.12	3.81	0.15	4.46	0.18	5.44	0.22	6.26	0.26	7.12	0.29	9.37	0.39
48 hr	3.06	0.06	3.49	0.07	4.25	0.08	4.94	0.10	5.96	0.12	6.81	0.14	7.71	0.16	10.0	0.20
3 day	3.34	0.04	3.81	0.05	4.63	0.06	5.36	0.07	6.43	0.08	7.31	0.10	8.25	0.11	10.6	0.14
4 day	3.59	0.03	4.09	0.04	4.96	0.05	5.74	0.05	6.86	0.07	7.78	0.08	8.74	0.09	11.1	0.11
7 day	4.25	0.02	4.83	0.02	5.82	0.03	6.69	0.03	7.93	0.04	8.93	0.05	9.98	0.05	12.5	0.07
10 day	4.87	0.02	5.50	0.02	6.58	0.02	7.52	0.03	8.86	0.03	9.94	0.04	11.0	0.04	13.8	0.05

D = Total depth of rainfall for given storm duration (inches)

I = Rainfall intensity for given storm duration (inches/hour)

Table 2B-2.07: Section 6 - East Central Iowa
Rainfall Depth and Intensity for Various Return Periods

	Return Period															
	1 year		2 year		5 year		10 year		25 year		50 year		100 year		500 year	
Duration	D	I	D	I	D	I	D	I	D	I	D	I	D	I	D	I
5 min	0.38	4.56	0.44	5.30	0.54	6.56	0.63	7.65	0.76	9.18	0.86	10.3	0.97	11.6	1.23	14.8
10 min	0.55	3.33	0.64	3.87	0.8	4.8	0.93	5.58	1.11	6.70	1.26	7.60	1.42	8.54	1.80	10.8
15 min	0.67	2.70	0.78	3.14	0.97	3.88	1.13	4.53	1.36	5.45	1.54	6.18	1.73	6.94	2.20	8.81
30 min	0.95	1.90	1.11	2.22	1.38	2.76	1.61	3.22	1.94	3.88	2.20	4.40	2.47	4.95	3.14	6.29
1 hr	1.23	1.23	1.44	1.44	1.80	1.80	2.11	2.11	2.58	2.58	2.96	2.96	3.36	3.36	4.37	4.37
2 hr	1.51	0.75	1.77	0.88	2.22	1.11	2.62	1.31	3.22	1.61	3.71	1.85	4.24	2.12	5.60	2.80
3 hr	1.68	0.56	1.96	0.65	2.47	0.82	2.93	0.97	3.63	1.21	4.22	1.40	4.85	1.61	6.50	2.16
6 hr	1.97	0.32	2.30	0.38	2.89	0.48	3.45	0.57	4.3	0.71	5.02	0.83	5.8	0.96	7.87	1.31
12 hr	2.28	0.19	2.65	0.22	3.31	0.27	3.93	0.32	4.88	0.40	5.68	0.47	6.56	0.54	8.87	0.73
24 hr	2.60	0.10	3.01	0.12	3.75	0.15	4.42	0.18	5.44	0.22	6.29	0.26	7.22	0.30	9.64	0.40
48 hr	2.98	0.06	3.43	0.07	4.22	0.08	4.93	0.10	6.01	0.12	6.90	0.14	7.86	0.16	10.3	0.21
3 day	3.28	0.04	3.72	0.05	4.51	0.06	5.24	0.07	6.32	0.08	7.22	0.10	8.19	0.11	10.7	0.14
4 day	3.53	0.03	3.98	0.04	4.78	0.04	5.50	0.05	6.58	0.06	7.49	0.07	8.46	0.08	10.9	0.11
7 day	4.17	0.02	4.67	0.02	5.53	0.03	6.29	0.03	7.39	0.04	8.30	0.04	9.25	0.05	11.6	0.06
10 day	4.75	0.01	5.30	0.02	6.24	0.02	7.04	0.02	8.20	0.03	9.12	0.03	10.0	0.04	12.4	0.05

D = Total depth of rainfall for given storm duration (inches)

I = Rainfall intensity for given storm duration (inches/hour)

Table 2B-4.03: Runoff Curve Numbers for Urban Areas¹

Cover Type and Hydrologic Condition	Average Percent Impervious Area ²	CN's for Hydrologic Soil Group			
		A	B	C	D
Partly Developed Urban Areas (residential, established)					
Open space (lawns, parks, golf courses, cemeteries, etc.): ³					
Poor condition (grass cover < 50%)	-----	68	79	86	89
Fair condition (grass cover 50% to 75%)	-----	49	69	79	84
Good condition (grass cover >75%)	-----	39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)	-----	98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)	-----	98	98	98	98
Paved; open ditches (including right-of-way)	-----	83	89	92	93
Gravel (including right-of-way)	-----	76	85	89	91
Dirt (including right-of-way)	-----	72	82	87	89
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town homes)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing Urban Areas					
Newly graded areas (pervious areas only, no vegetation) ⁴	-----	77	86	91	94
Idle lands (CN's are determined using cover types similar to those in Table 2B-4.01)					

¹ Average runoff condition and $I_a=0.2S$ ² The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using Figures 2B-4.01 or 2B-4.02.³ CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.⁴ Composite CN's to use for the design of temporary measures during grading and construction should be computed using Figures 2B-4.01 or 2B-4.02 based upon the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

Source: NRCS National Engineering Handbook, Part 630, Chapter 9

PRAIRIE RIDGE DEVELOPMENT

PROJECT NUMBER: 110.0514

DETENTION REQUIREMENTS

D SERIES PROPOSED BASIN

PURPOSE: To develop detention volume required based on Design Engineer's Calculations.

PRECIPITATION ZONE: 5

TIME OF CONCENTRATION: 15 Min.

5 YEAR UNDEVELOPED FLOWS

DESIGN STORM	:	5 YR.
RAINFALL INTENSITY	:	3.92 in/hr
DRAINAGE AREA	:	18.40 Ac.
COEFFICIENT 'C'	:	0.45

100 YEAR DEVELOPED NONDETAINED FLOWS

DESIGN STORM RUNOFF	100 YR.
RAINFALL INTENSITY	7.12 in/hr
DRAINAGE AREA	4.66 Ac.
COEFFICIENT 'C' (COMPOSITE)	0.73

ROW	0.55	0.43 Ac.
Commercial	0.75	4.23 Ac.

DETAINED AREA

DRAINAGE AREA	18.11 Ac.
COEFFICIENT 'C' (COMPOSITE)	0.49

Offsite Building/Pavement	0.95	0.63 Ac.
Offsite Grass	0.35	0.62 Ac.
Multifamily	0.75	1.39 Ac.
Single Family	0.45	15.47 Ac.

5 YEAR UNDEVELOPED FLOW	32.46 CFS
100 YEAR DEVELOPED NONDETAINED FLOW	24.27 CFS
MAX. ALLOWABLE RELEASE RATE	8.19 CFS
ADJUSTED RELEASE RATE	8.00 CFS

STORAGE VOLUME REQUIRED:	76,459 CF	1.76 Ac-ft
WATER QUALITY VOLUME REQUIRED:	38,654 CF	0.89 Ac-ft
STORAGE VOLUME PROVIDED:	98,640 CF	2.26 Ac-ft

DURATION	(100 Year) I	C x A	Q	RUNOFF	RELEASE	STORAGE
15	7.12	8.82	62.79	56515	7200	49315
20	6.38	8.82	56.27	67522	9600	57922
30	4.90	8.82	43.22	77788	14400	63388
40	4.30	8.82	37.95	91088	19200	71888
60	3.11	8.82	27.43	98743	28800	69943
90	2.51	8.82	22.16	119659	43200	76459
120	1.92	8.82	16.89	121603	57600	64003
180	1.41	8.82	12.44	134303	86400	47903
210	1.31	8.82	11.58	145883	100800	45083
240	1.22	8.82	10.72	154377	115200	39177
270	1.12	8.82	9.86	158783	129600	30183
300	1.02	8.82	9.01	162102	144000	18102
330	0.92	8.82	8.15	161335	158400	2935
360	0.83	8.82	7.29	157481	172800	-15319
390	0.80	8.82	7.04	164828	187200	-22572
420	0.77	8.82	6.78	170856	201600	-30744
450	0.74	8.82	6.52	176164	216000	-39836
480	0.71	8.82	6.27	180553	230400	-49847

4.02

INFORMATION



July 23, 2019

Scott Renard
Fox Engineering
414 S 17th Street
Suite 107
Ames, Iowa 50010

HUXLEY, IOWA
IOWA EARTHWORKS MAINTENANCE FACILITY
SITE PLAN REVIEW

We have reviewed the site plan for Iowa Earthworks Maintenance Facility located in the Huxley Industrial Park and offer the following comments:

1. Provide SDR 23.5 pvc for the sewer service pipe material.
2. Connect sewer service with saddle into sanitary sewer main. Plug existing service connection in the manhole.
3. The depth of bury for the water service should be a minimum of 5 feet 6 inches.
4. Provide copper for the water service pipe material.
5. Provide more information on the existing water main piping layout and how the service will be connected to the main. We understand there may be an 8-inch by 8-inch cross located between the south back of street curb and the hydrant valve. The existence of the cross needs to be verified. If the cross is present, the water service should be tapped into the cap on the cross.
6. Provide a stormwater management plan for the site following the Stormwater Management Plan developed for the Huxley Industrial Park dated January 17, 2006.
7. The detention basin berm should have a side slope of 4:1 or flatter in accordance with SUDAS Design Manual Section 2G-1.F.1.a.

8. Label the storm sewer from the street manhole to the pond outlet structure as "Private".
9. Provide stormwater detention for the area south of the building or slope this area to drain northward into the north detention basins.
10. Provide 5-foot wide sidewalk along the street.
11. Provide dimensions for the boundary of the lot.
12. Provide calculations showing a minimum of 20% greenspace on the site.
13. Provide all final as-constructed plans as an electronic pdf format. Provide GIS coordinates for all as-constructed utility manholes, valve boxes, curb stops, hydrants and cleanouts in AutoCad format.
14. Provide and install Watts RPZ backflow assembly for water service inside the building.
15. Provide information on whether a fire line will be installed or not.
16. Label contacts for inspections and utilities as follows:

Water and Sewer, Keith Vitzthum, City of Huxley, 515-290-7512
Gas and Electric, Jacob Clark, Alliant Energy, 515-268-4412
Phone and Cable, Brant Strumpfer, Huxley Communications, 515-203-6716
17. Provide traffic analysis in accordance with City Ordinance 167.04.1.B. This may not be necessary depending on anticipated traffic. Please provide information on the anticipated number of truck deliveries and time of day they are anticipated. Also, the number of passenger vehicles anticipated in any given day.
18. Show P.U.E. and other easements from the Industrial Final Plat on the site plan.
19. Provide building dimensions and building square footage.
20. Provide elevation view of the building showing building dimension, height and materials.

Scott Renard
July 23, 2019
Page 3

21. Label adjacent street name.
22. Move shed along east side of the lot out of the building setback limit.
23. Determine if a fire hydrant is needed for the shed.
24. Add note that all work shall meet SUDAS.
25. In a table on the plans show the number of parking stalls required and the number of parking stalls provided.
26. All parking areas are to be surfaced with asphalt or concrete. The south lot will need to be paved with hard surfacing or have a waiver requested of the City Council.
27. Provide information on what surfacing and thickness is proposed for the driveway entrances.
28. It appears most of the parking lot is graded such that stormwater will flow west of the west driveway. The driveways need to be graded such that the stormwater flows into the detention basins and not out to the street.
29. Provide lighting plan.

If you have any questions or comments, please contact us at 515-225-8000.

VEENSTRA & KIMM, INC.



Forrest S. Aldrich

FSA:dml
45229-042

cc: John Haldeman, City of Huxley (e-mail)
Jeff Peterson, City of Huxley (e-mail)

PROJECT NO.
5233-1JB
SHEET
G3.1

NOTHING DOUBT

7000.10

CONCRETE DRIVEWAY, TYPE A

NOT TO SCALE

There are four

[illegible]

Scaling NOT TO SCALE

1-800-4-A-BOOKS, INC.

STEPS TO AVOID INJURY

— 6 OZ./YD ENGINEERING FABRIC

NOTHING DOUBT

7000.10

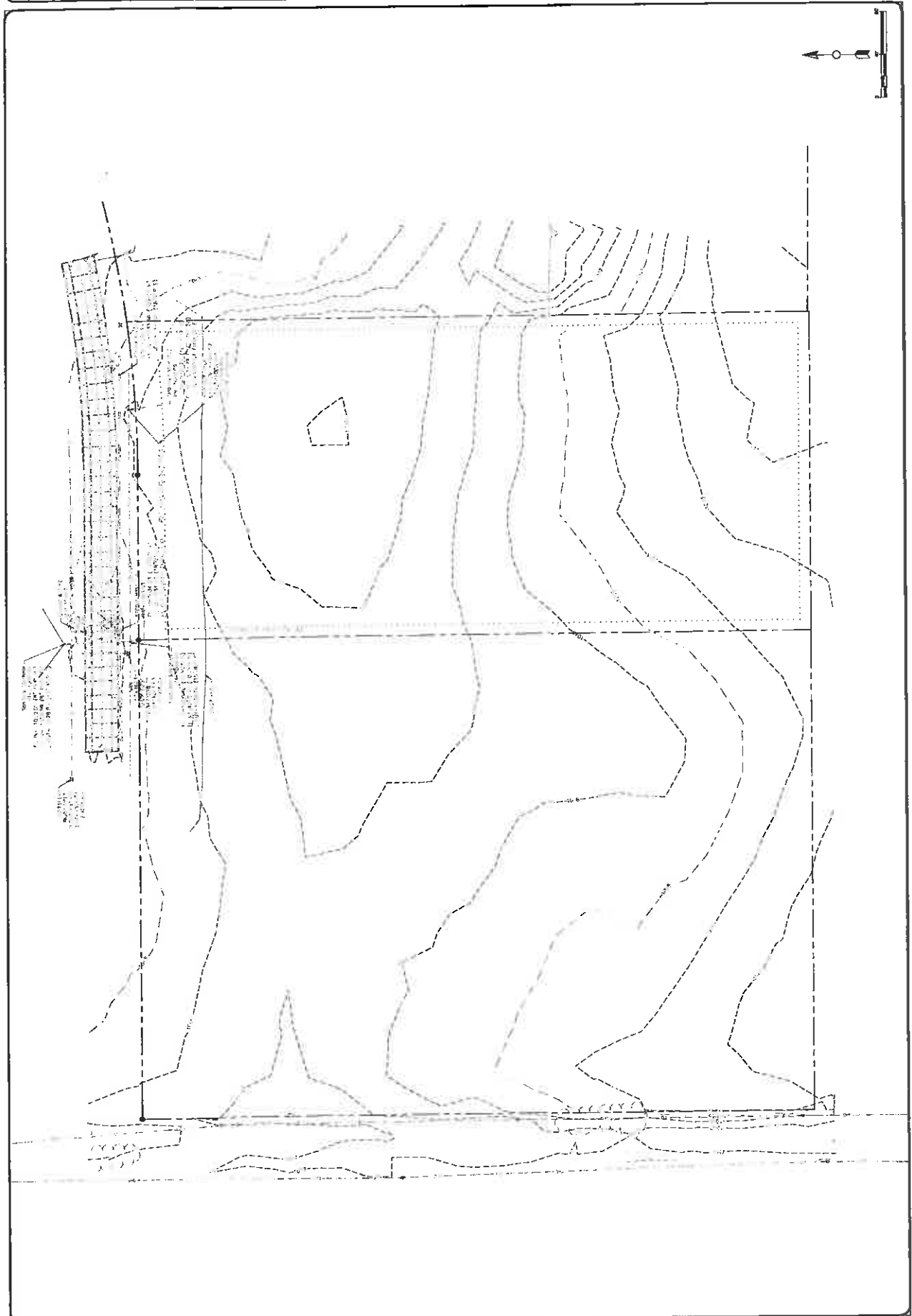
CONCRETE DRIVEWAY, TYPE A

DUSTING CONDITIONS AND REMOVAL PLAN
IOWA PARTNERSHIP MAINTENANCE FACILITY
300 SHAW DR.
MURFREESBORO, TENN.

FOX
Engineering

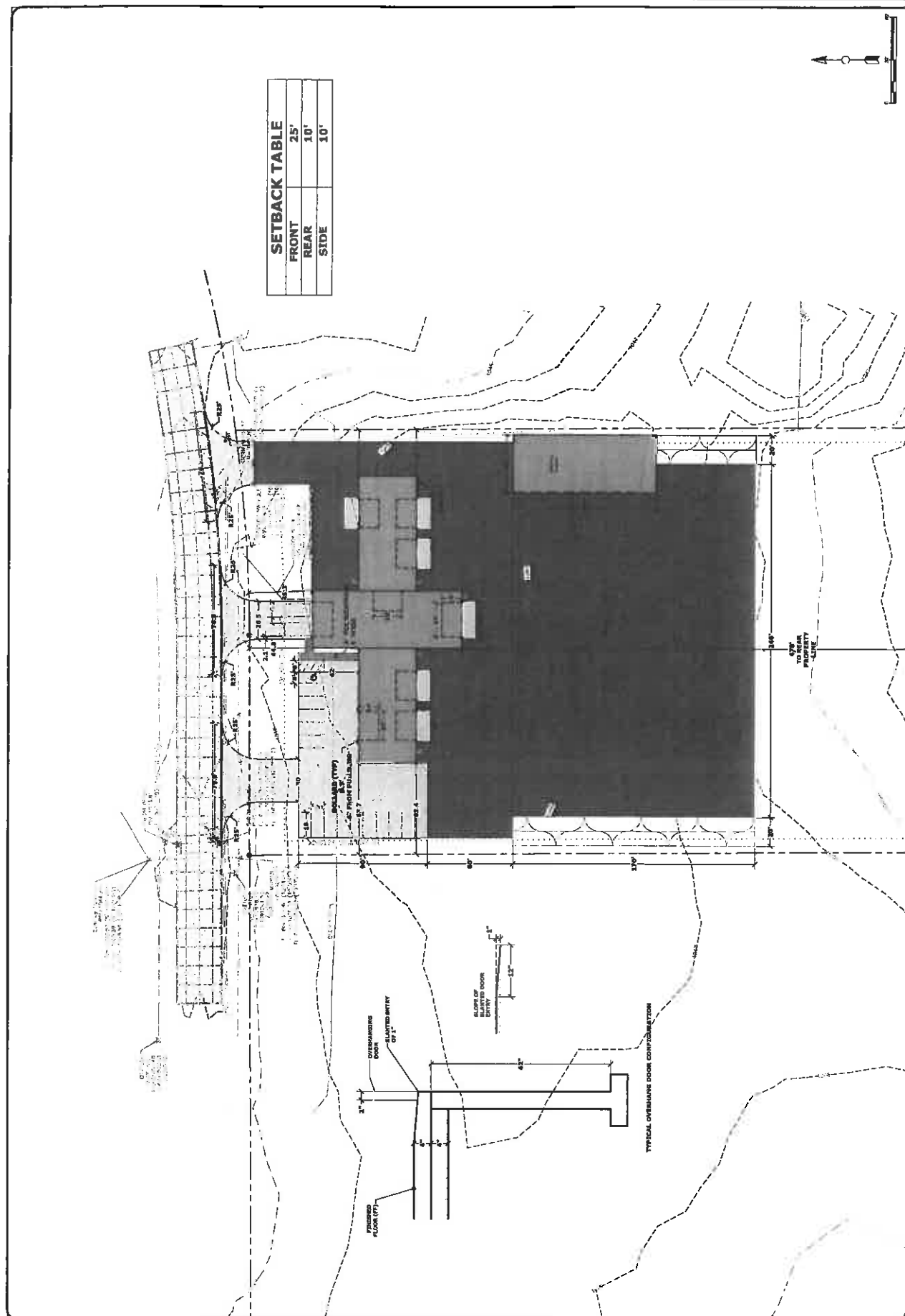
FOX Engineering Associates, Inc.
414 South 17th Street, Suite 107
Ames, Iowa 50010
Phone: (515) 233-0000
Fax: (515) 233-0103

DATE	REVISION
07/19	01
07/19	02
07/19	03
07/19	04
07/19	05
07/19	06
07/19	07
07/19	08
07/19	09
07/19	10
07/19	11
07/19	12
07/19	13
07/19	14
07/19	15
07/19	16
07/19	17
07/19	18
07/19	19
07/19	20
07/19	21
07/19	22
07/19	23
07/19	24
07/19	25
07/19	26
07/19	27
07/19	28
07/19	29
07/19	30
07/19	31
07/19	32
07/19	33
07/19	34
07/19	35
07/19	36
07/19	37
07/19	38
07/19	39
07/19	40
07/19	41
07/19	42
07/19	43
07/19	44
07/19	45
07/19	46
07/19	47
07/19	48
07/19	49
07/19	50
07/19	51
07/19	52
07/19	53
07/19	54
07/19	55
07/19	56
07/19	57
07/19	58
07/19	59
07/19	60
07/19	61
07/19	62
07/19	63
07/19	64
07/19	65
07/19	66
07/19	67
07/19	68
07/19	69
07/19	70
07/19	71
07/19	72
07/19	73
07/19	74
07/19	75
07/19	76
07/19	77
07/19	78
07/19	79
07/19	80
07/19	81
07/19	82
07/19	83
07/19	84
07/19	85
07/19	86
07/19	87
07/19	88
07/19	89
07/19	90
07/19	91
07/19	92
07/19	93
07/19	94
07/19	95
07/19	96
07/19	97
07/19	98
07/19	99
07/19	100

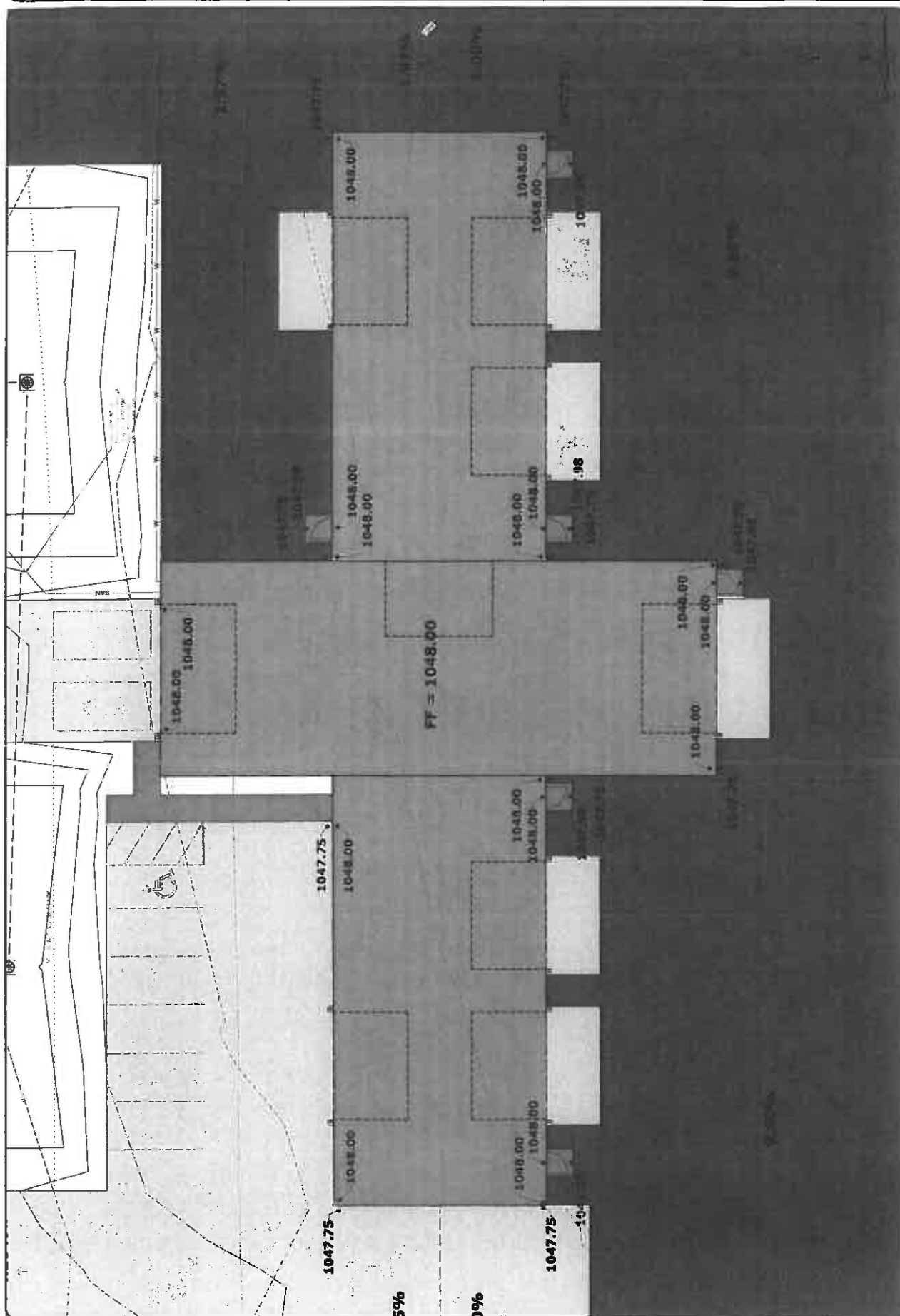


[illegible]

SETBACK TABLE	
FRONT	25'
REAR	10'
SIDE	10'

[illegible]

DATE	ADMISSION	BY	DATE
		SEA	07/99
		DRIVER	07/19
		CHASIS	07/99
		LAST UPDATE	07/99



LOT 1017 (PART)	LATITUDE HAVE	LAYOUT PLAN	CD 2
K:\GNS\5000\223-100\GNS\GNS\223-100 SITE PLAN.DWG			

4.03

INFORMATION



VEENSTRA & KIMM, INC.

3000 Westown Parkway • West Des Moines, Iowa 50266-1320

515-225-8000 • 515-225-7848 (FAX) • 800-241-8000 (WATS)

July 23, 2019

Scott Renard
Fox Engineering
414 S 17th Street
Suite 107
Ames, Iowa 50010

HUXLEY, IOWA
CONDOMINIUM GARAGES
SITE PLAN REVIEW

We have reviewed the site plan for Condominium Garages located in the Huxley Industrial Park and offer the following comments:

1. Provide pvc truss pipe for the sewer main and 8-inch sewer service pipe material.
2. Provide plan and profile for the public sewer main extension along Snyder Drive. An IDNR permit will be needed for this sewer extension.
3. The construction plans for the industrial park show a 125-foot 10-inch sewer extension stub from the west manhole on the south side of Snyder Drive. This sewer extension can be used as part of sewer extension needed for the site plan.
4. Label the sanitary sewer along Snyder Drive as "Public" and the sanitary sewers extending into the site as "Private".
5. Plug the sanitary sewer service going northwest in the manhole located on the north side of Snyder Drive.
6. The depth of bury for the water main and services should be a minimum of 5 feet 6 inches.
7. Provide copper for the water service pipe material and pvc AWWA C900 DR 18 for water main material.

8. Provide more information on the existing water main piping layout and how the new main will be connected at the existing hydrant.
9. Determine and label which mains will be public and which mains will be private. Public water mains will require an IDNR construction permit. Provide valve at private water connection to the public main.
10. Provide information on where the meters and backflow preventers will be located for each building and unit.
11. Provide a stormwater management plan for the site following the Stormwater Management Plan developed for the Huxley Industrial Park dated January 17, 2006.
12. The detention basin berm should have a side slope of 4:1 or flatter and the bottom sloped at a minimum 2% slope in accordance with SUDAS Design Manual Section 2G-1.F.1.
13. Provide 5-foot wide sidewalk along the street.
14. Provide dimensions for the boundary of the lot.
15. Provide calculations showing a minimum of 20% greenspace on the site.
16. Provide all final as-constructed plans as an electronic pdf format. Provide GIS coordinates for all as-constructed utility manholes, valve boxes, curb stops, hydrants and cleanouts in AutoCad format.
17. Provide and install Watts RPZ backflow assembly for water services inside the building units.
18. Label contacts for inspections and utilities as follows:

Water and Sewer, Keith Vitzthum, City of Huxley, 515-290-7512

Gas and Electric, Jacob Clark, Alliant Energy, 515-268-4412

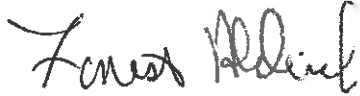
Phone and Cable, Brant Strumpfer, Huxley Communications, 515-203-6716

19. Provide traffic analysis in accordance with City Ordinance 167.04.1.B. This may not be necessary depending on anticipated traffic. Please provide information on the anticipated number of truck deliveries and time of day they are anticipated. Also, the number of passenger vehicles anticipated in any given day.
20. Show P.U.E. and other easements from the Industrial Park Final Plat on the site plan.
21. Provide building dimensions and building square footage.
22. Provide elevation view of the building showing building dimension, height and materials.
23. Public access easements will need to be provided to allow the City access to individual unit shut-off valves.
24. Install tracer wire on all water mains. Terminate in flush mount tracer wire box Valvco TWAB.
25. Label adjacent street name.
26. Add note that all work shall meet SUDAS.
27. In a table on the plans show the number of parking stalls required and the number of parking stalls provided.
28. Provide information on what surfacing and thickness is proposed for the driveway entrance.
29. Provide lighting plan.

Scott Renard
July 23, 2019
Page 4

If you have any questions or comments, please contact us at 515-225-8000.

VEENSTRA & KIMM, INC.

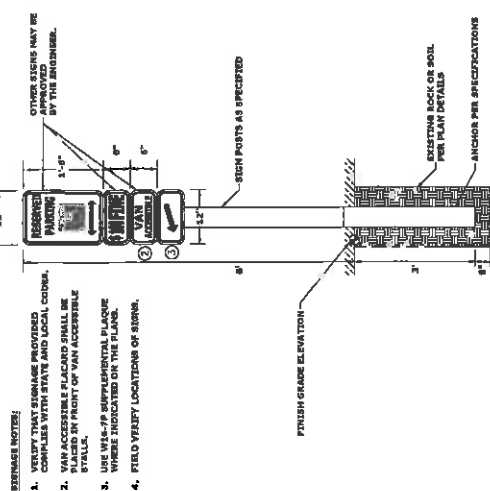
A handwritten signature in black ink, appearing to read "Forrest Aldrich". The signature is written in a cursive, flowing style.

Forrest S. Aldrich

FSA:dml
45229-043

cc: John Haldeman, City of Huxley (e-mail)
Jeff Peterson, City of Huxley (e-mail)

PLAT STATE TRAIL	LATCH PLAIN ROAD	LATCH PLAIN	011
LATCH PLAIN, MISSOURI, U.S. HIGHWAY 67, 19.27-19.58 S.W. 1/4 N.E. 1/4 S.W. 1/4			

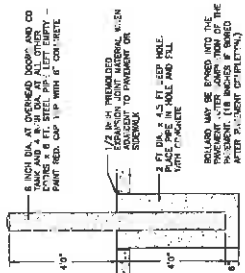


STIMULI

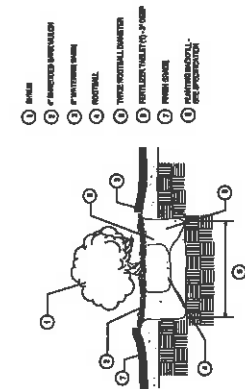
1. VERIFY THAT SIGNAGE PROVIDED COMPLIES WITH STATE AND LOCAL CODES.
2. VAN ACCESSIBLE PLACARD SHALL BE PLACED IN FRONT OF VAN ACCESSIBLE STALLS.
3. USE W84-79 SUPPLEMENTAL PLACQUE WHERE INDICATED ON THE PLANS.
4. FIELD VERIFY LOCATIONS OF SIGNS.

1 HANDICAP SIGN POST DETAIL

NOT TO SCALE

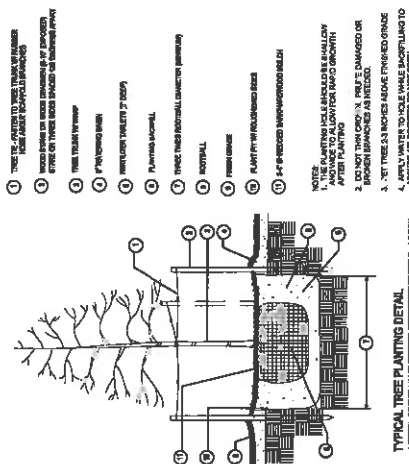
**BOLLARD/ SIGN POST DETAIL**

2 NOT TO SCALE

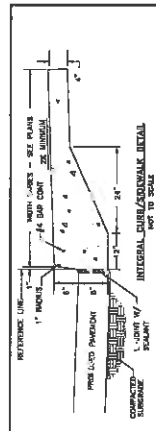


SHRUB PLANTING DETAIL

© 2000 Blackwell Science Ltd, *Journal of Internal Medicine* 247: 391–397

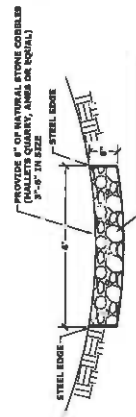


TYPICAL TREE-BRANCHING DETAIL



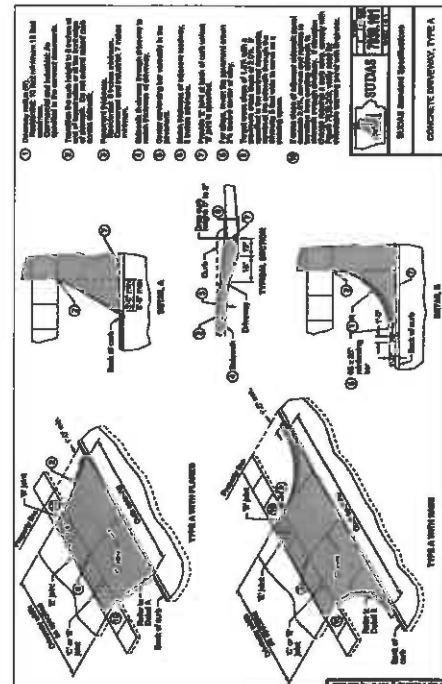
CONTROL STRUCTURE INTAKE DETAIL

NOT TO SCALE

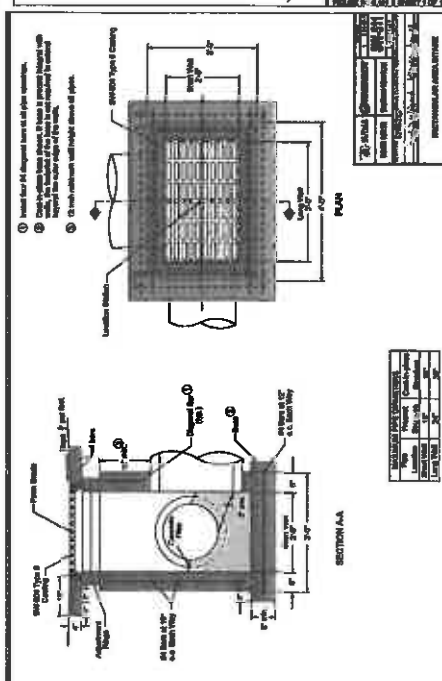


3 ROCK FLUME SECTION

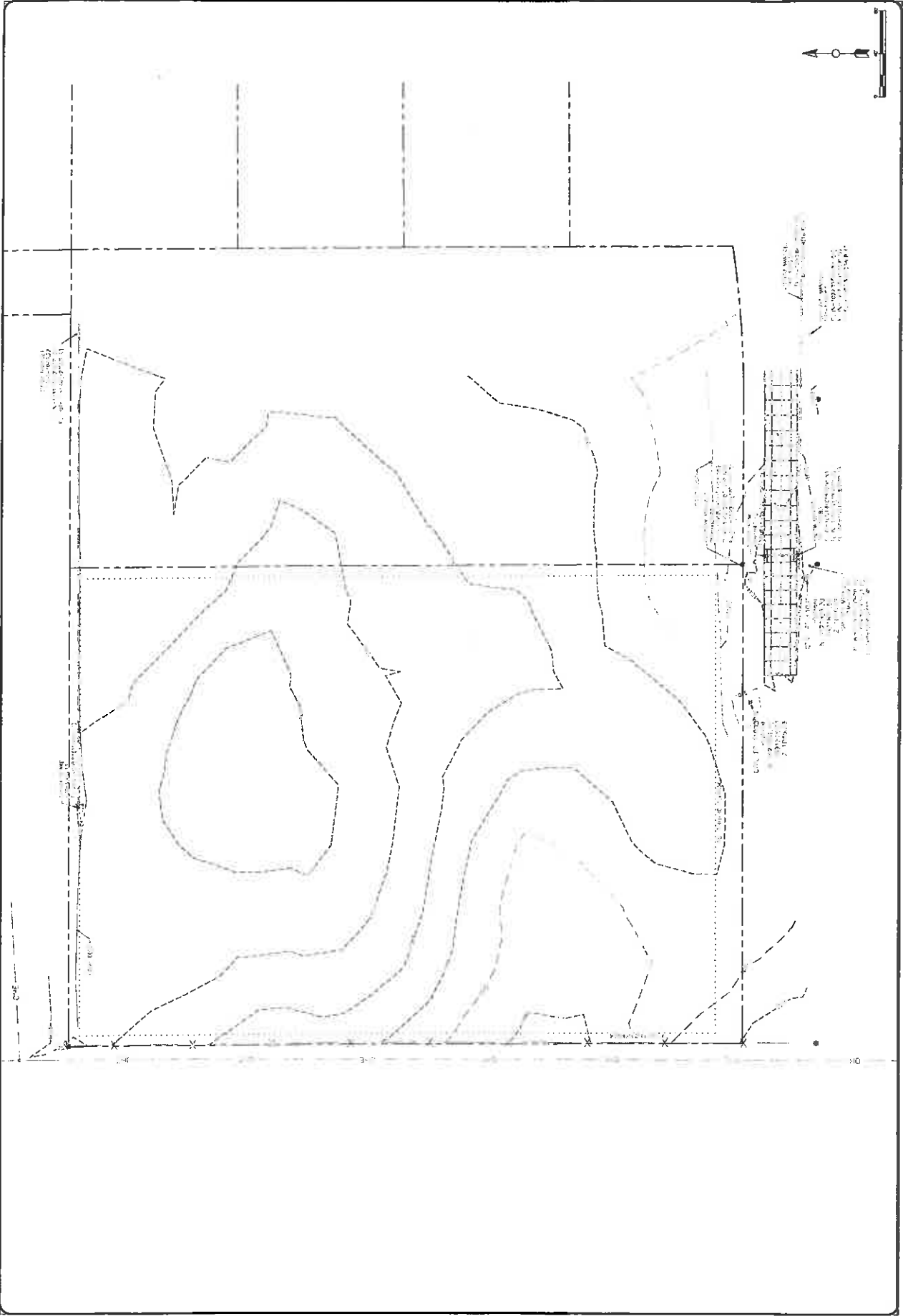
Scale: NOT TO SCALE

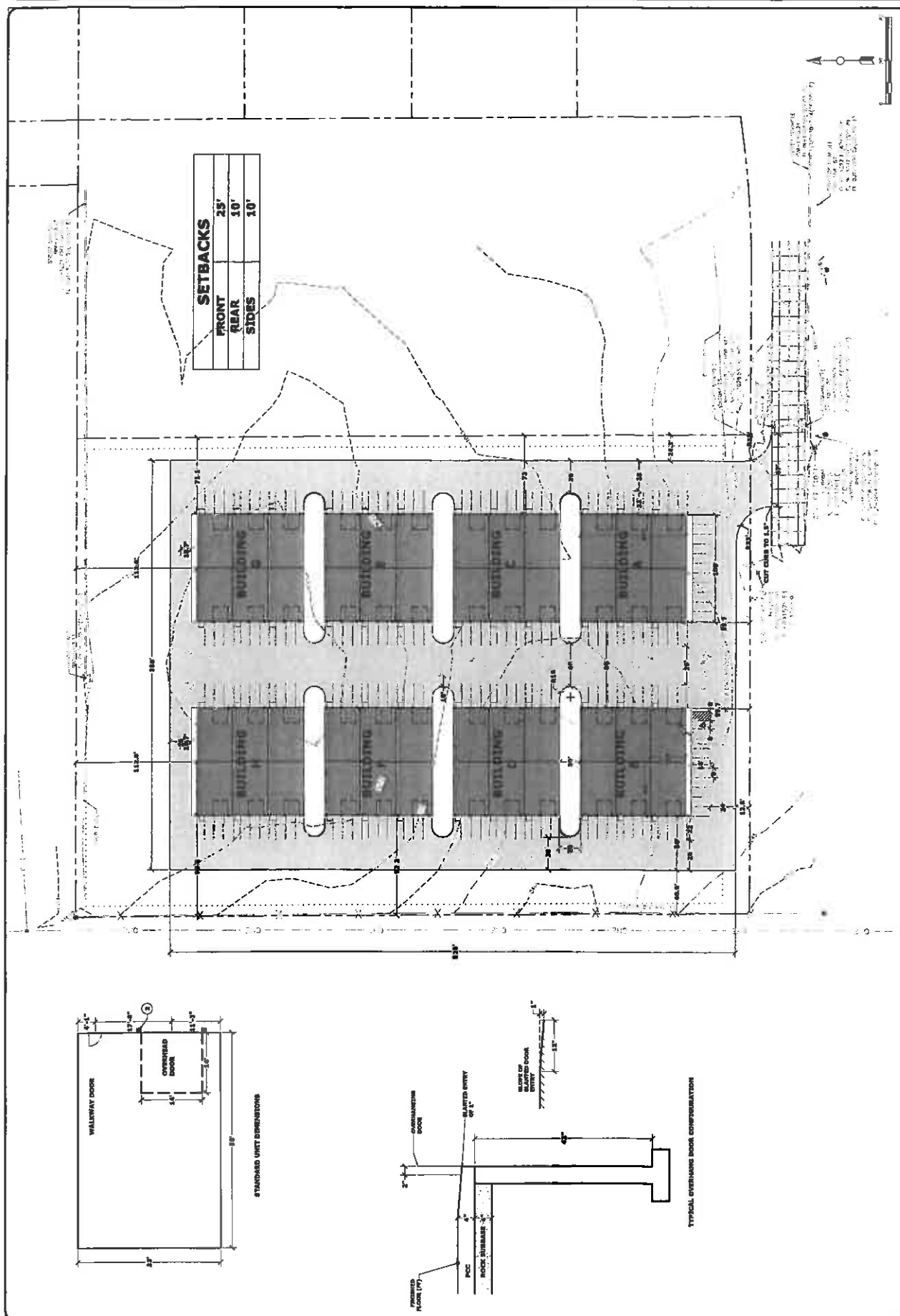


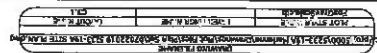
COMMUNITY AS TYPE 2 SUBSISTENCE UNIT. INTERVIEW WITH
101 WIDE HOLLOW RD. 101 WIDE HOLLOW RD. 101 WIDE HOLLOW RD.

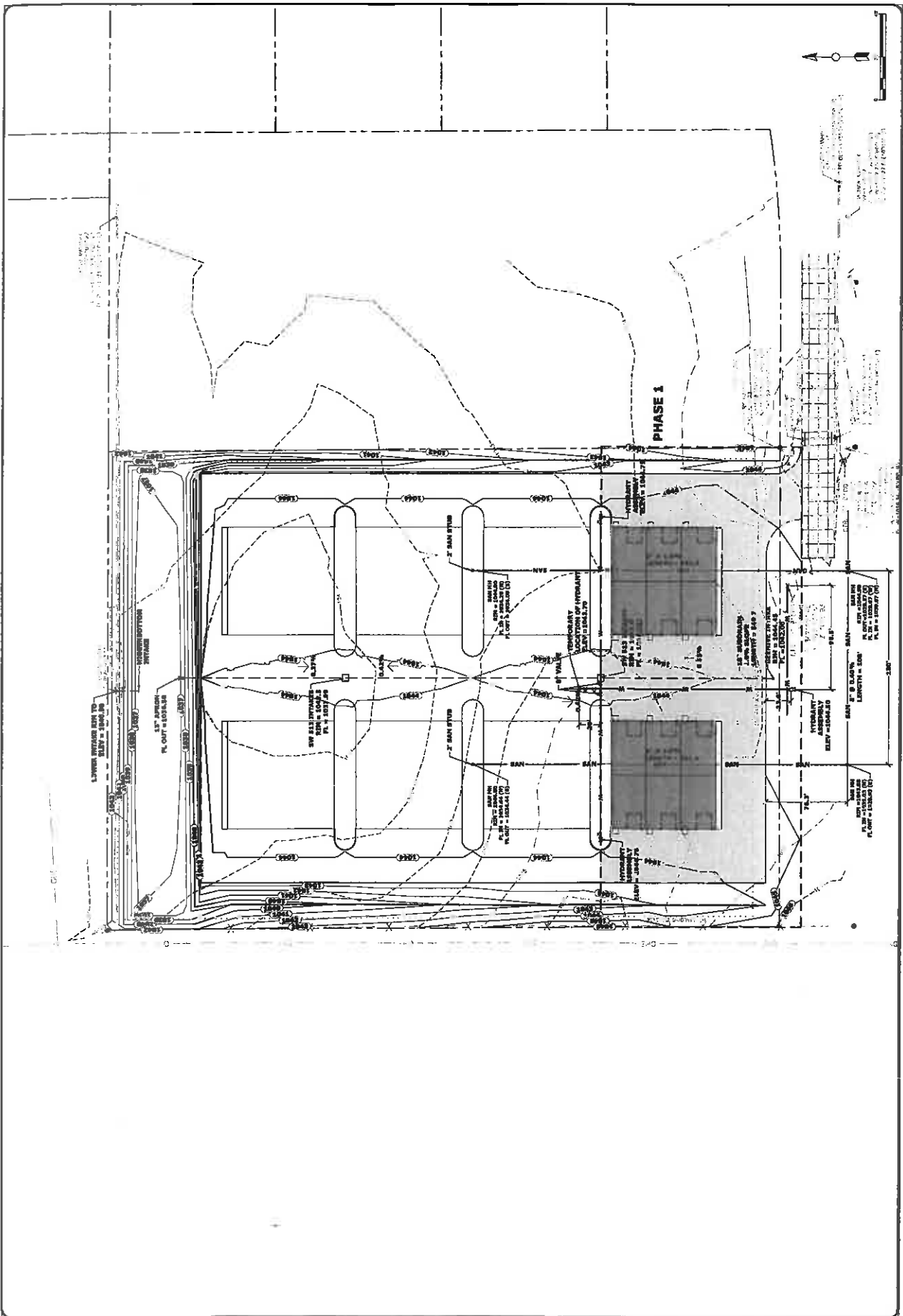


--	--









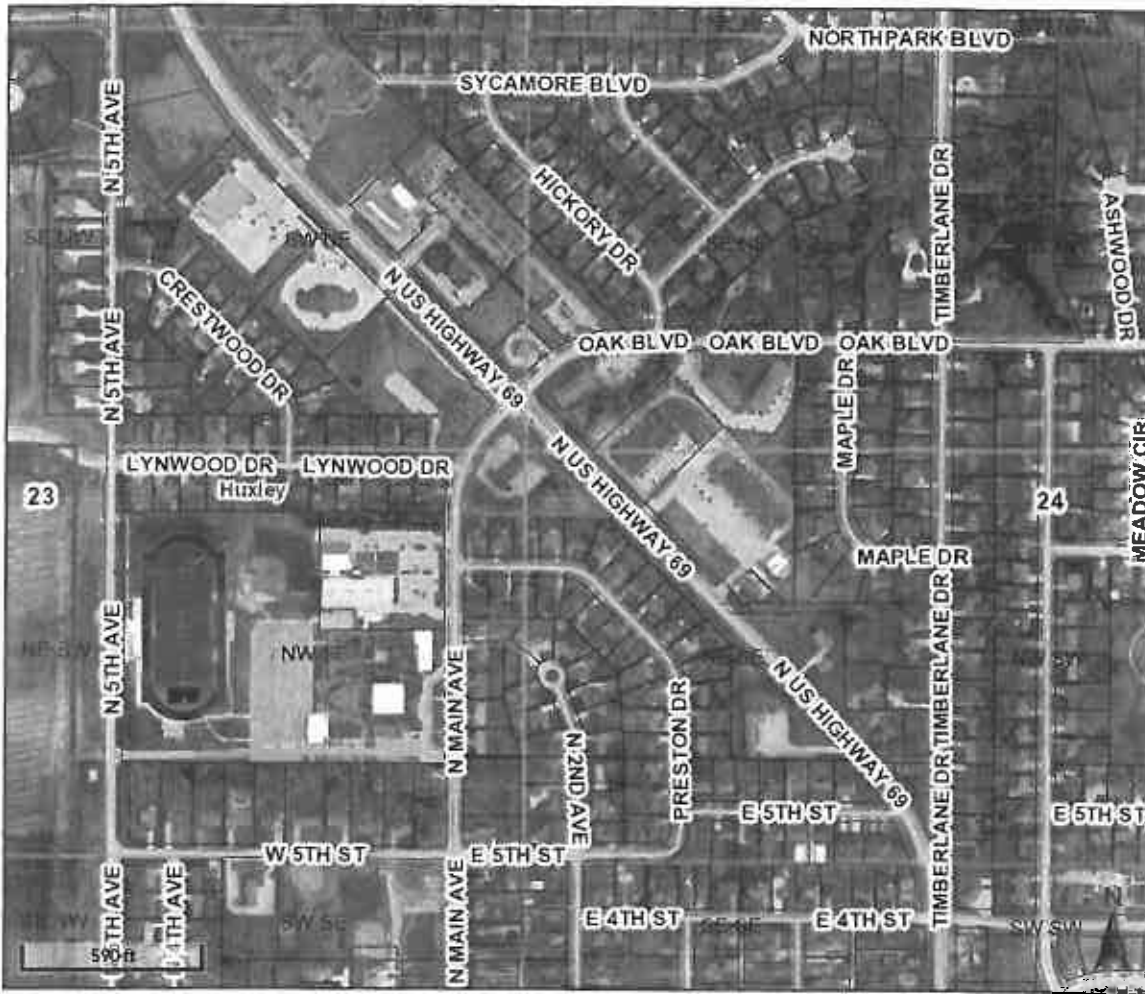
4.04

INFORMATION

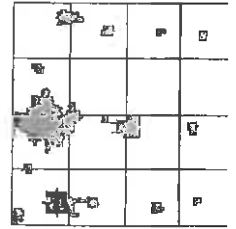


Beacon™

Story County, IA / City of Ames



Overview



Legend

- Parcels
- Lots
- Townships
- Sections
- Quarter Quarters
- Corporate Limits
- Road Centerlines

Parcel ID	1323420100	Alternate ID	1323420100	Owner Address	KNACKMODE DEVELOPMENT INC
Sec/Twp/Rng	23-82-24	Class	C - COMMERCIAL		501 9TH AVE
Property Address	602 N MAIN AVE	Acreage	n/a		SLATER IA 50244-9704
	HUXLEY				

District 06013 - HUXLEY CITY/ BALLARD SCH
Brief Tax Description LYNWOOD PARK PLAT 3 LOT:1 HUXLEY
 (Note: Not to be used on legal documents)

Concerning Assessment Parcels and Platted Lots Within the City of Ames Jurisdiction:

The solid parcel boundary lines represent the legal description as recorded and are not necessarily the official platted lot lines. Dashed lines are official platted lots. If a parcel contains dashed lines, please contact the Ames Planning & Housing Department (515-239-5400) to determine which lines can be recognized for building permit or zoning purposes. If you have questions regarding the legal description or parcel measurements, please contact the Story County Auditor's office (515-382-7210).

Date created: 7/24/2019

Last Data Uploaded: 7/24/2019 1:29:40 AM

Developed by Schneider
GEOSPATIAL

165.27 C-1 DISTRICT – NEIGHBORHOOD COMMERCIAL DISTRICT. The C-1 District is intended for small areas in or near residential neighborhoods. The zone encourages the provision of small-scale retail and service use for nearby residents. Uses are restricted in size to promote a local orientation and to limit adverse impacts on nearby residential areas. Development is intended to be pedestrian-oriented and compatible with the scale of surrounding residential areas. Parking areas are strictly regulated, to promote compatibility with the character of surrounding residential development and the intended pedestrian orientation of the uses. Residential type structures are also permitted. This district is characterized by large homes suitable for use as offices or parcels of land economically desirable for the construction of new office facilities. The uses permitted are intended to require lower volume of traffic.

1. Permitted Uses. The following uses are permitted in the C-1 District:
 - A. Professional offices and clinics.
 - B. Sale and service of goods and products conducted entirely within the building. Limited manufacturing and processing of goods is allowed, however, there must be a retail store front.
 - C. Community facilities.
 - D. Household living.
 - E. Preschools/child care centers.
 - F. Funeral homes.
2. Accessory Uses. Uses of land or structures customarily incidental and subordinate to a permitted use in the C-1 District including, but not limited to, the following:
 - A. Private garages.
 - B. Parking lots.
 - C. Temporary buildings for the uses incidental to construction work, which buildings shall be removed upon the completion or abandonment of the construction work.
3. Special Exceptions. Certain uses may be permitted in the C-1 District subject to specific conditions and requirements intended to make them compatible with and acceptable to adjacent uses:
 - A. Gasoline service stations and convenience stores that do not conduct automotive repairs or maintenance.
 - B. Special home occupations.

4. **Bulk Regulations.** The following minimum requirements shall be observed in the C-1 District:

Minimum Lot Area	Maximum Building Size	Minimum Lot Width	Minimum Front Yard	Minimum Side Yard	Minimum Rear Yard	Maximum Height
6,000 square feet	10,000 square feet	50 feet	25 feet	0 feet ¹	25 feet	principal building: 35 feet accessory building: 20 feet
¹ Unless abutting a residential lot, then minimum side yard required is 15 feet.						

5. **Performance Standards.** The following performance standards shall apply to the C-1 District:

- A. All required yards, including those which may be used for off-street parking, shall be landscaped. They shall be landscaped in accordance with Chapter 168. Any areas left in a natural state shall be properly maintained in a sightly and well-kept condition.
- B. All right-of-way shall be landscaped in accordance with Chapter 168. Any areas left in a natural state shall be properly maintained in a sightly and well-kept condition.
- C. All business shall be conducted within an enclosed yard or building, except by special exceptions.
- D. Uses in this district shall comply with all sign, landscaping and other design standards adopted by the City.

6. **Legally Existing Nonconforming Single-Family Residences.**

- A. A nonconforming, but otherwise legal, single-family residence may be reconstructed regardless of the extent to which it may have been destroyed by casualty. Section 165.09(2) shall not apply.
- B. Notwithstanding any provision in this Code of Ordinances to the contrary, the total gross floor area above grade existing immediately before destruction may be increased as a part of the bona fide reconstruction project, but by no more than 25 percent of the original area and provided that such expansion shall not expand or create any other nonconformity.
- C. The right to reconstruct consistent with this section shall be personal to the owner of the property and shall not be transferable.
- D. Notwithstanding Sections 165.08, 165.09 and 165.10, if a nonconforming, but otherwise legal, single-family residential use of the land, structure, or land and structure in combination is converted to a commercial use or ceases for any period of time (except for lawful reconstruction), the uses shall thereafter conform to the district regulations.

[The next page is 931]

165.28 C-2 DISTRICT – GENERAL COMMERCIAL DISTRICT. The C-2 District is intended and designed to provide for general retail and service commercial uses, in an efficient and compact manner. The uses permitted are intended to accommodate both the needs of the resident consumer and the traveling consumer. The C-2 District is subject to the following regulations:

1. Permitted Uses. Only the following uses of structures or land shall be permitted in the C-2 District:

- A. Any use permitted in the C-1 District except multi-family housing;
- B. Animal hospitals, veterinary clinics and kennels with indoor runs only;
- C. Antique shops;
- D. Art shops/studios;
- E. Automobile display/sales/new parts and, where in conjunction with sales, repair;
- F. Bakeries, must include retail sales and have maximum total floor space of 5,000 square feet;
- G. Barber/beauty shops;
- H. Bookstores;
- I. Commercial amusements;
- J. Confectionery stores, including ice cream or snack bars;
- K. Dance studios;
- L. Department stores;
- M. Drugstores;
- N. Dry cleaning/laundry/laundrette;
- O. Fabric stores;
- P. Florist shops, greenhouses and nurseries;
- Q. Furniture stores;
- R. Gift shops;
- S. Grocery stores, including supermarkets, health food stores, delicatessens, dairy stores, all retail only;
- T. Hardware and dry goods stores;
- U. Hobby shops;
- V. Hotels and motels;
- W. Household appliance stores;
- X. Jewelry stores and watch repair shops;
- Y. Key shops;
- Z. Leather goods stores;

- AA. Locker plants for storage and retail sales only;
- BB. Music stores/studios/record stores;
- CC. Office supply stores;
- DD. Paint and wallpaper stores;
- EE. Pet shops;
- FF. Photography stores/studios;
- GG. Plumbing/heating/air conditioning shops;
- HH. Printing and photocopying shops;
- II. Public buildings and utilities, including administrative, collection and sales offices, equipment storage buildings, and enclosed storage;
- JJ. Radio and television sales/repair shops;
- KK. Real estate, insurance and financial offices;
- LL. Service stations where pumps are at least 25 feet from street and at least 100 yards from a City well;
- MM. Restaurants and cafes;
- NN. Shoe and hat sales/repair shops;
- OO. Sporting good stores;
- PP. Tailor and dressmaking shops;
- QQ. Taverns/nightclubs;
- RR. Toy stores;
- SS. Variety stores;
- TT. Video stores;
- UU. Wholesale display and sales rooms;
- VV. School buildings used for accredited educational purposes;
- WW. Places of worship;
- XX. Any combination of the above listed uses;
- YY. Any uses determined by the Zoning Administrator to be of a similar nature to the above listed uses;
- ZZ. A residence occupied by the owner or an employee of the commercial use and that is an integral part of or contiguous to the principal commercial structure at the time of adoption of this provision;
- AAA. Storage of merchandise incidental to the principal use, but not to exceed forty percent of the floor area used for such use;
- BBB. Uses of land or structures customarily incidental and subordinate to a permitted principal use, unless otherwise excluded;
- CCC. Agricultural uses, provided that no offensive odors or dust are created.

2. **Bulk Regulations.** The following minimum requirements shall be observed in the C-2 District:

Minimum Lot Area	Minimum Front Yard	Minimum Side Yard	Minimum Rear Yard	Maximum Height
6,000 square feet	25 feet	0 feet ¹	25 feet	principal building: 35 feet accessory building: 20 feet
¹ Unless abutting a residential lot, then minimum side yard required is 15 feet. Animal hospitals, taverns and nightclubs shall have a 50-foot side yard from any adjacent R District.				

3. **Solar Access.** No structure or improvement to an existing structure shall be situated so that it shades an adjacent residence in a significant way, or interferes significantly in the use of solar devices.
4. **Other Standards.** All uses shall meet the parking, design and sign standards of this chapter.
5. **Legally Existing Nonconforming Single-Family Residences.**
- E. A nonconforming, but otherwise legal, single-family residence may be reconstructed regardless of the extent to which it may have been destroyed by casualty. Section 165.09(2) shall not apply.
- F. Notwithstanding any provision in this Code of Ordinances to the contrary, the total gross floor area above grade existing immediately before destruction may be increased as a part of the bona fide reconstruction project, but by no more than 25 percent of the original area and provided that such expansion shall not expand or create any other nonconformity.
- G. The right to reconstruct consistent with this section shall be personal to the owner of the property and shall not be transferable.
- H. Notwithstanding Sections 165.08, 165.09 and 165.10, if a nonconforming, but otherwise legal, single-family residential use of the land, structure, or land and structure in combination is converted to a commercial use or ceases for any period of time (except for lawful reconstruction), the uses shall thereafter conform to the district regulations.

[The next page is 939]

PERMITTED PRINCIPAL USES AND STRUCTURES	MINIMUM REQUIRED OFF-STREET PARKING
1. Automobiles and farm implement sales, parts, rentals and service garages	1 parking space for each 600 square feet of gross floor area
2. Banks, business and professional offices	1 parking space for every 400 square feet of gross floor area, but in no case less than 5 parking spaces
3. Bowling alleys	5 spaces for each lane
4. Churches and schools	1 parking space for every 80 square feet of principal auditorium, including balcony, if any; where no auditorium is involved, 1 parking space for each staff member
5. Clinics	1 parking space per 300 square feet of gross floor area
6. Dance hall, assembly halls	1 parking space for each 150 square feet of floor area used for dancing or assembly
7. Dwellings: Single-family dwelling Two-family dwelling to 7 units Multi-family dwelling, 8 units or more Manufactured homes in R-1 or R-2 Districts Mobile home parks	† 2 parking spaces 2 spaces per dwelling unit 1 3/4 spaces per dwelling unit 2 parking spaces 2 spaces for every mobile home lot
8. Funeral homes, mortuaries	1 parking space for each 5 seats in the principal auditorium
9. Furniture and appliances stores, household equipment or furniture repair shops	1 parking space for each 600 square feet of gross floor area
10. Hotels, motels, lodging houses	1 space for each sleeping or living unit
11. Manufacturing plants	1 parking space for each 3 employees on the maximum working shift, but in no case less than 1 space for each 500 square feet of gross floor area
12. Nursing care homes and retirement homes	1 space per 8 beds, plus 1 space per 3 employees, plus 1 space for each resident staff member
13. Offices	1 parking space per 300 square feet of gross floor area
14. Preschools/child care centers	1 parking space for each employee
15. Restaurants, taverns and night clubs	1 parking space for each 150 square feet of gross floor area
16. Retail stores, shops and supermarkets over 2,000 square feet gross floor area	1 parking space for each 300 square feet of gross floor area
17. Retail stores, shops and supermarkets under 2,000 square feet gross floor area	1 parking space for each 120 square feet of gross floor area
18. Sales and service buildings	1 parking space per 300 square feet of gross floor area
19. Theaters, assembly halls and auditoriums	1 parking space for each 6 seats
20. Wholesale establishments or warehouses	1 parking space for each 2 employees but in no case less than 1 space for each 5,000 square feet of gross floor area
21. Speculative buildings	No parking spaces shall be required until such time as the building is occupied and used, at which time the owner shall be required to provide the minimum number of parking spaces required for the use. If an original site plan was approved by the City for the building that did not show the minimum number of parking spaces required after the building became occupied and used, the owner shall submit for City approval an amended site plan showing the required number of parking spaces.
† All driveways will be hard surfaced (HMA or PCC) to garage or carport from right-of-way. All approaches within right-of-way shall be hard surfaced with PCC..	
For any building, structure or premises, the use of which is not specifically mentioned in this table, the provisions for a use which is so mentioned and to which said use is similar shall apply.	

[The next page is 1101]