



To: Chad Lulfs, PE, PS – Director of Public Works, City of Napoleon  
From: Adam C. Hoff, PE *ACH*  
CC: Toby Ernsberger – Owner, Bonafide Customs, LLC  
Date: August 4, 2020

Subject: 1353 Independence Drive, Napoleon, Ohio  
Site Drainage & Stormwater Detention

This memorandum and supporting documentation are being provided on behalf of Angel 13 Holdings, LLC, owners of 1353 Independence Drive, Napoleon, Ohio and the representatives of Bonafide Customs, LLC who currently occupy the facilities at 1353 Independence Drive.

#### BACKGROUND

The property located at 1353 Independence Drive (the “property”) was originally developed by Universal Cooperatives, Inc. of Minnesota, a chemical processing company, in the 1970’s and well prior to the City of Napoleon refining their Engineering Rules for the formalized requirements of stormwater management. The prior site development utilized a large storm outfall (estimated at 60” dia.) discharging directly to the drainage ditch along the westerly property line and a smaller pipe (estimated at 18” dia.) discharging through a small containment pond in the southwesterly corner of the site. Based upon review of available information, the property use under Universal Cooperatives was permitted as a potentially hazardous condition, based upon use, and the containment pond was provided as a protective measure in case of a chemical spill on the site, not as formally designed stormwater detention or retention. The outfall structure for the pond consists of a headwall with a discharge pipe (estimated at 12” dia.) controlled by a manually operated sluice gate. The gate is maintained in a “normally closed” position and opened by current staff following rain events to reduce water levels and avoid untidy conditions within the low-lying area. Images of the existing pond are provided below.



**Photo 1:** Pond, looking East from westerly P/L



**Photo 2:** Pond outlet structure, looking SW from easterly side of pond



The current use of the property by Bonafide Customs, LLC, as custom automotive body shop and vehicle restoration service is not subject to the same rules and requirements for EPA permitting.

Deed records and boundary surveys of the property indicate a total land area of 7.684 acres, based upon a metes and bounds description to the northerly side of Independence Drive (north line of Section 7, Liberty Twp.) and to the centerline of Enterprise Avenue (east line of Section 7, Liberty Twp.). Each of the abutting streets have dedicated rights-of-way that are equal to the northerly 60 feet and easterly 30 feet of the parcel, reducing the gross area of 7.684 acres to a net area of 6.648 acres. Copies of the site survey completed by Douglas Eis, PS, dated December 16, 2004 and recorded within the Henry County Survey Records (Vol. 30, Pg. 225) and the current deed (OR 320, Pg. 633) are provided as Attachment 1 – Parcel Records.

The current owners and operators of the property desire to fill in a portion of the existing pond to enable the placement of additional compacted stone areas for vehicle maneuvering and temporary parking. The City of Napoleon Engineering Department has requested a review and estimation of stormwater management volumes to meet the City's Engineering Rules & Regulation, updated in 2016. A copy of the letter requesting the same from the City, dated October 8, 2019, is included as Attachment 2 – City Notification.

### **DRAINAGE CALCULATIONS**

Based upon review of available online aerial imagery and GIS data, the property is developed with a combination of buildings and parking/drive areas of stone and asphalt covering just over 44% of the site. The existing pond covers approximately 16,000 square feet (SF), with an estimated side water depth available for storage of 3 feet, providing an estimated volume of 36,450 cubic feet (CF) of potential detention volume. As noted above, the net area of the property is approximately 6.648 acres. Following the processes defined within the current Engineering Rules, the original site would have required a detention pond containing just over 15,100 CF of storage if all site drainage were directed to the pond. The available storage volume within the prior existing pond exceeded the current required capacity for stormwater storage.

A site visit was conducted by Hoff Consulting Services, LLC (HCS) on July 15, 2020. It is estimated that the northerly 160' (+/-) of the prior pond has been filled with clay material generated from a nearby construction site. Images of the filled pond area are provided below.



**Photo 3:** Filled pond, looking S from northerly end of original pond



**Photo 4:** Filled pond, looking NE from westerly side of original pond



Utilizing this estimated distance of fill placed and refining the areas of the pond from available aerial imagery, it is estimated that the available storage within the pond has been reduced to 21,000 CF and still exceeds the required volumes derived for the existing site development.

Based upon an iterative evaluation of the site drainage calculations, it appears that an additional compacted stone or asphalt covering a maximum of 27,400 SF could be added to the site in the future, without requiring additional stormwater detention volume. Note, however, that current configuration of the outlet pipe as a 12" outfall will not sufficiently restrict the discharge from the site to force the required volume to be detained within the pond. Additionally, the existing outfall configuration does not meet current requirements to reduce the discharge of sediments and other contaminants in conformance with the applicable OEPA and ODNR rules. Additional analysis, design and permitting will be required to ensure the proposed modifications comply with current rules and regulations.

Copies of the site sketches and stormwater detention calculations developed by HCS are provided in Attachment 3 – Drainage Calculations. The drainage calculations were derived based upon the following key assumptions:

- Pre-Development Condition: Vacant grass/woodlands at a runoff coefficient of 0.20 for the entire net site area of 6.65 acres, exclusive of dedicated rights-of-way
- Post-Development Condition: Rooftop and parking/drive areas of 2.943 acres at a runoff coefficient of 0.9
- 2-year, 24-hour Rainfall Intensity of 2.60 inches/hour from City of Napoleon Engineering Rules
- Applicable 25-year & 50-year rainfall intensities derived from formula and figures from ODOT Location & Design Manual, Vol. 2 (See Attachment 4 – ODOT Reference)

#### QAULIFICATIONS & EXCLUSIONS

- ✓ The above information was developed based upon review of readily available documents and aerial photography. Boundary or topographic survey of the property were not part of this scope of work. Should the owner elect to move forward with additional site improvements, it is recommended to engage in discussions with City staff to ensure conformance with applicable rules for site development with the City.
- ✓ No environmental investigations were conducted within the current scope of work. A formal file review through the Ohio EPA was not completed.

Please contact me if there are any questions or concerns. Thank you!

Respectfully Submitted,

Adam C. Hoff, PE, President  
Hoff Consulting Services, LLC  
419.466.3343  
adam@hoffcsllc.com

Four (4) Attachments



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Attachment 1  
Parcel Records

AUDITORS OFFICE  
TRANSFERRED

JUL 13 2020

B6  
504

*Kevin Garringer*  
Henry County Auditor



2020002422 Pages: 3  
Filed for Record in HENRY County, Ohio  
BRANDI BADEN, Recorder  
07/13/2020 03:07 PM Recording Fees: \$42.00  
WARR DEED OR BK: 320 PG: 633 - 635

This Conveyance has been examined  
and the Grantor has complied with  
Section 319.202 of the Revised Code.  
FEE \$ 988.80  
EXEMPT \_\_\_\_\_  
Kevin Garringer, County Auditor

**WARRANTY DEED**

ELH/ksg

KNOW ALL MEN BY THESE PRESENTS THAT **Old Iron Works Holdings, LLC, an Ohio limited liability company**, by Toby C. Emsberger and Jerry S. Borstelman, its two (2) and only Members, Grantor,

for valuable consideration paid, grant(s), with general warranty covenants, to **Angel 13 Holdings, LLC, an Ohio limited liability company**, Grantee,

whose tax mailing address is 1253 Independence Drive, Napoleon, Ohio 43545, the following real property:

**See Schedule A Attached Hereto**

Grantor has caused this instrument to be executed on this 13 day of July, 2020.

**OLD IRON WORKS HOLDINGS, LLC,  
an Ohio limited liability company**


By: *Toby C. Emsberger*  
Toby C. Emsberger, Member

By: *Jerry S. Borstelman*  
Jerry S. Borstelman, Member

STATE OF OHIO, COUNTY OF HENRY: The foregoing instrument was acknowledged before me this 13 day of July, 2020, by **Old Iron Works Holdings, LLC, an Ohio limited liability company**, by **Toby C. Ernsberger and Jerry S. Borstelman, its two (2) and only Members**. This is an acknowledgment. No oath or affirmation was administered to the signer with regard to this notarial act.



ELISA L. HARMON, Atty.  
Notary Public • State of Ohio  
My Commission  
Has No Expiration Date  
Section 147.03 O. R.C.

  
\_\_\_\_\_  
Notary Public-State of Ohio

**THIS DEED HAS BEEN PREPARED AND IS BEING DELIVERED AND ACCEPTED  
WITHOUT THE BENEFIT OF A TITLE EXAMINATION.**

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This instrument prepared by RUPP, HAGANS, BOHMER, NEWTON, HARMON & ROHRS, LLP  
612 North Perry Street, Napoleon, Ohio 43545

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**SCHEDULE A**

The Land referred to herein below is situated in the County of Henry, State of Ohio, and is described as follows:

Situated in the City of Napoleon, Township of Liberty, County of Henry and State of Ohio:

A parcel of land in the Northeast Quarter (1/4) of Section 7, Liberty Township, City of Napoleon, Henry County, Ohio, more particularly described as follows:

Commencing at the Northeast corner of section 7, Liberty Township, Henry County, Ohio; thence South along the East line of Section 7 a distance of 363.53 feet to an iron pin which is the north right-of-way line of the Wabash Railroad nka Michigan Southern Railroad;

Thence 122 degrees 56 minutes southwesterly along the North right-of-way of the Wabash Railroad nka Michigan Southern Railroad a distance of 321.20 feet;

Thence 1 degree 19 minutes to the left Southwesterly along said right-of-way a distance of 200.00 feet;

Thence 1 degree 5 minutes to the left Southwesterly along said right-of-way a distance of 201.73 feet to an iron pin;

Thence 54 degrees 40 minutes North a distance of 762.20 feet to a wooden hub and the North line of Section 7;

Thence 89 degrees 46 minutes East along said North line of section 7 a distance of 600.00 feet to the place of beginning, containing 7.69 acres of land, more or less.

Tax Parcel #28-070072.0000

1. Legal highways, subsisting easements, zoning regulations, if any, and oil and gas leases and reservations, if any.
2. Taxes for the full tax year 2019, which the Grantor agrees to pay.
3. Taxes, including recoupment taxes, if any, and installments of assessments, if any, for the tax year 2020, which shall be prorated between the parties to the date of delivery of this deed.

Prior Instrument Reference: Volume 313 at Page 5016, Official Records of Henry County, Ohio.

Doc# 2020002422

**RUPP WESCHE ETAL  
PICK UP/NAPOLEON**

DESCRIPTION VERIFIED  
 HENRY COUNTY ENGINEER  
 BY: *[Signature]* DATE: 6/19/2020

Attachment 2  
City Notification





# City of Napoleon, Ohio

## Department of Public Works

255 West Riverview Avenue, P.O. Box 151

Napoleon, OH 43545

Chad E. Lulfs, P.E., P.S., Director of Public Works

Telephone: (419) 592-4010 Fax: (419) 599-8393

[www.napoleonohio.com](http://www.napoleonohio.com)

October 8, 2019

Old Iron Works Holding, L.L.C.  
1253 Independence Drive  
Napoleon, Ohio 43545

Re: Filling of Existing Detention Pond

To whom it may concern,

Per the City of Napoleon's Engineering Rules, stormwater detention is required for all properties. It appears that you are filling in your existing detention pond. You must provide revised drainage calculations to the City of Napoleon to receive permission to fill a stormwater detention facility. Please contact my office regarding this issue.

Yours truly,

Chad E. Lulfs, P.E., P.S.  
Director of Public Works  
City of Napoleon, Ohio

cc: Joel L. Mazur, City Manger  
Billy D. Harmon, City Law Director  
Jeff Rathge, Operations Superintendent  
Aron Deblin, City Construction Inspector

Attachment 3  
Drainage Calculations

# 1253 Independence Drive

BONAFIDE CUSTOMS ~ EXISTING CONDITIONS

Approx. Site Area

Gross = 7,684 Ac. (334,700 SF)

Net = 6,648 Ac. (289,600 SF)

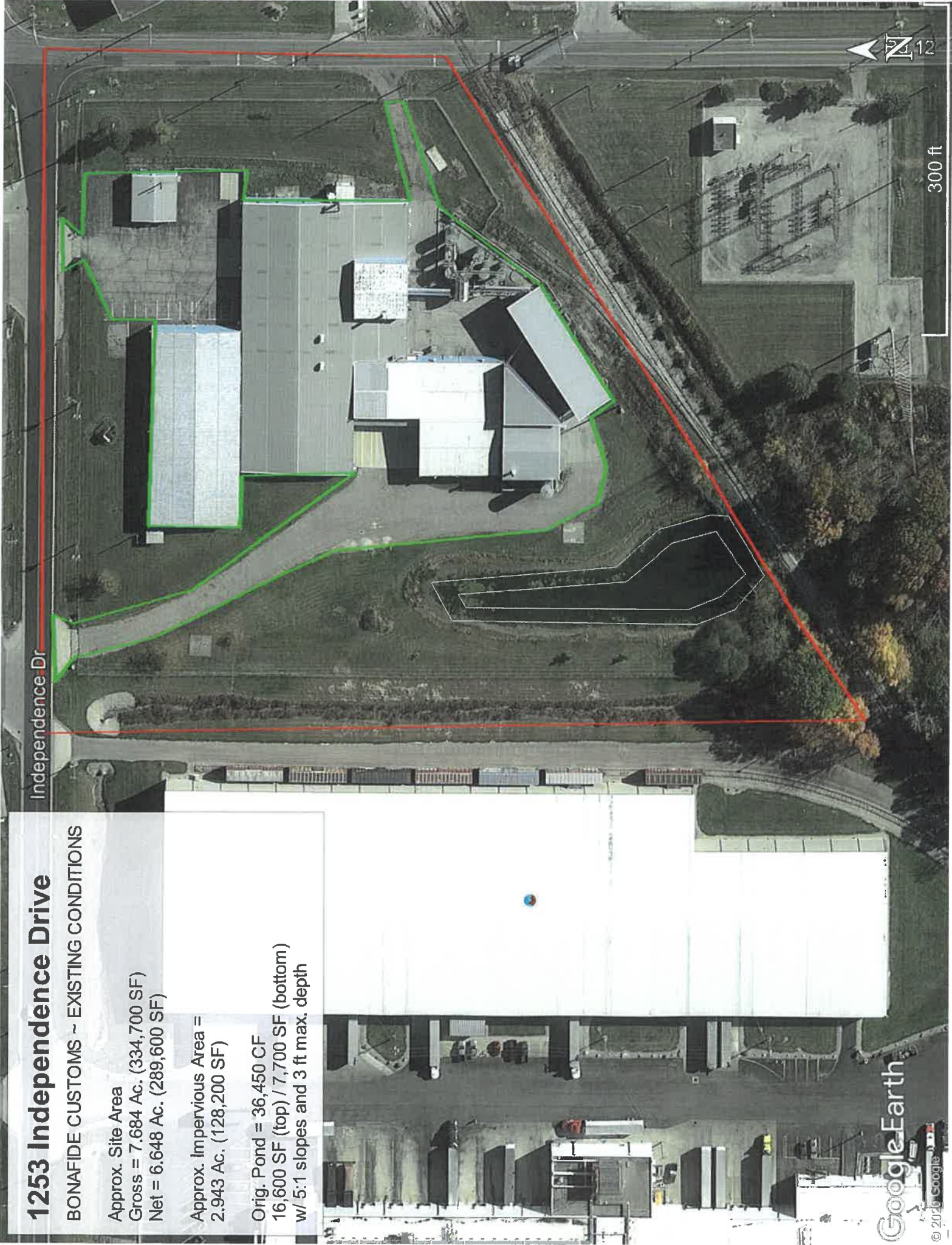
Approx. Impervious Area =

2,943 Ac. (128,200 SF)

Orig. Pond = 36,450 CF

16,600 SF (top) / 7,700 SF (bottom)

w/ 5:1 slopes and 3 ft max. depth



**STORMWATER DETENTION ESTIMATE**

<b>BY:</b>	Hoff Consulting Services, LLC
<b>DATE:</b>	22-Jul-20
<b>JOB NAME:</b>	1253 Independence Dr. (Bonafide Customs ~ Original Site Detention)
<b>JOB NO.:</b>	2020_003

<b>NET SITE AREA (SQ. FT.):</b>	289,600.00
<b>PVMT AREA (SQ. FT.):</b>	67,300.00
<b>BUILDING AREA (SQ. FT.):</b>	60,900.00
<b>TOTAL IMPERVIOUS (SQ. FT.):</b>	128,200.00
<b>NET PERVIOUS (SQ. FT.):</b>	161,400.00

Area (Ac.) = 6.65 AC  
 WT. C = Cw = 0.51 - perv = 0.20 / imperv = 0.90  
 PRE-DEV C = 0.20  
 2-YR, 24-HR I = 2.46 - Henry Co 2yr  
 PRE-DEV Q (cfs) = 3.27 = Q<sub>allowable</sub>  
 POST-DEV Q (cfs) = 8.34 CFS  
 % INCREASE IN RUNOFF = 206% (100 < % > 250)  
 CRITICAL STORM = 25 YR, 24-HR STORM

**DETENTION VOLUME CALCULATION**

tc (min)	i25 (**) (in./hr.)	Cw	A (Ac)	Qin= (150) x (Cw) x (A)	Qout= Qallow	Qin-Qout	Vol. Req'd (cu. ft.)	Max. Vol. Req'd (cu. ft.)
10.00	5.78	0.51	6.65	19.58	3.27	16.31	9,786.19	<b>15,103.75</b>
15.00	4.87	0.51	6.65	16.51	3.27	13.24	11,915.34	
20.00	4.23	0.51	6.65	14.33	3.27	11.06	13,272.54	
30.00	3.37	0.51	6.65	11.43	3.27	8.16	14,679.92	
40.00	2.82	0.51	6.65	9.56	3.27	6.29	15,103.75	
50.00	2.44	0.51	6.65	8.26	3.27	4.99	14,969.20	
60.00	2.15	0.51	6.65	7.29	3.27	4.02	14,480.23	
70.00	1.93	0.51	6.65	6.54	3.27	3.27	13,748.57	
80.00	1.75	0.51	6.65	5.95	3.27	2.68	12,841.41	
90.00	1.61	0.51	6.65	5.46	3.27	2.19	11,801.96	
100.00	1.49	0.51	6.65	5.05	3.27	1.78	10,659.50	
110.00	1.39	0.51	6.65	4.70	3.27	1.43	9,434.74	
120.00	1.30	0.51	6.65	4.40	3.27	1.13	8,142.80	

(\*\* - Rainfall intensities derived from ODOT L&D Vol. 2, Fig. 1101-2)

**ORIGINAL POND VOLUME = 36,450.00 CF**

**OK**

# 1253 Independence Drive

BONAFIDE CUSTOMS - JUL 2020 CONDITIONS

Approx. Site Area

Gross = 7.684 Ac. (334,700 SF)

Net = 6.648 Ac. (289,600 SF)

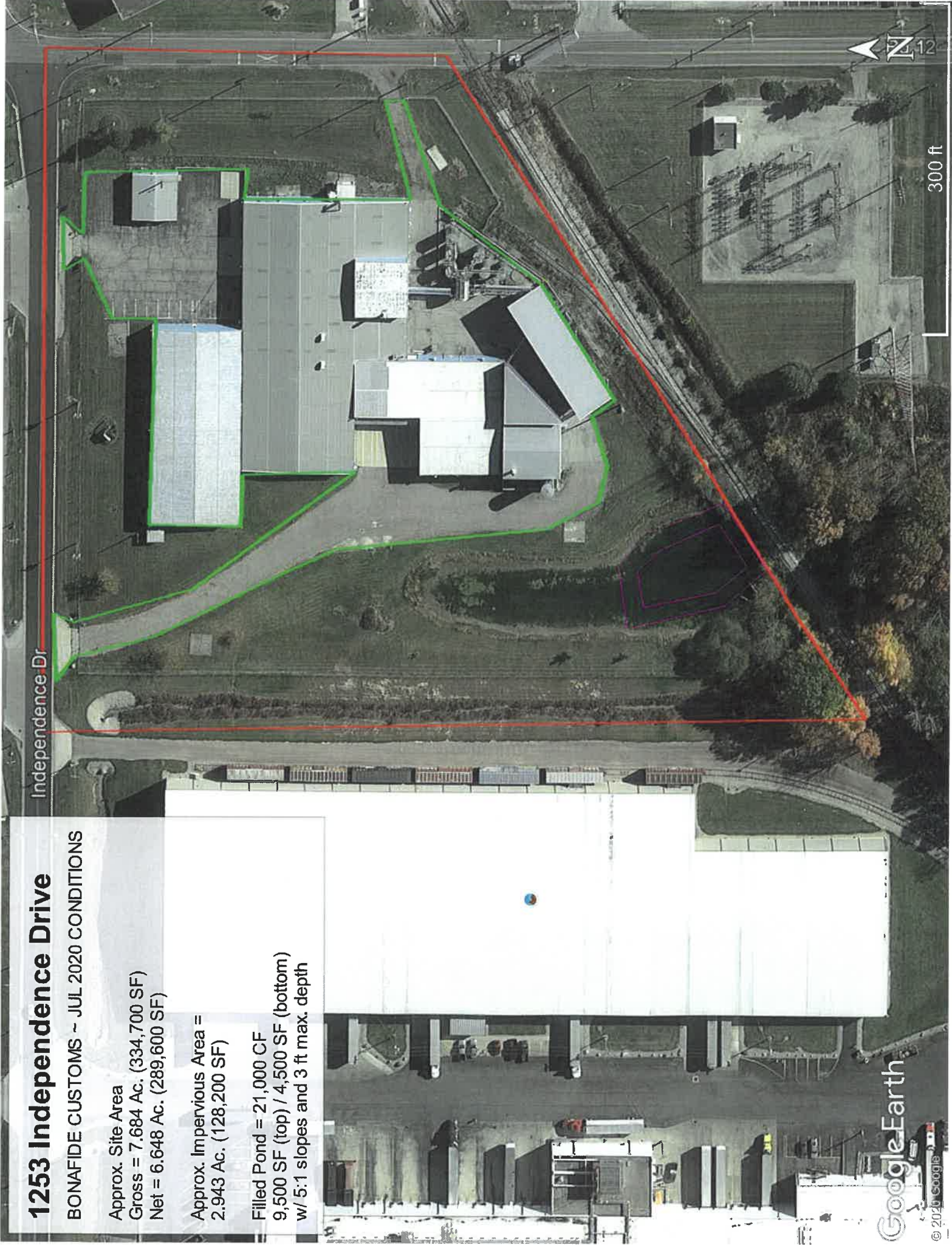
Approx. Impervious Area =

2.943 Ac. (128,200 SF)

Filled Pond = 21,000 CF

9,500 SF (top) / 4,500 SF (bottom)

w/ 5:1 slopes and 3 ft max. depth



**STORMWATER DETENTION ESTIMATE**

BY: Hoff Consulting Services, LLC DATE: 22-Jul-20  
 1253 Independence Dr.  
 (Bonafide Customs ~ July 2020 Detention) JOB NO.: 2020\_003

NET SITE AREA (SQ. FT.): 289,600.00 Area (Ac.) 6.65 AC  
 PVMT AREA (SQ. FT.): 67,300.00 WT. C = Cw = 0.51 - perv = 0.20 / imperv = 0.90  
 BUILDING AREA (SQ. FT.): 60,900.00 PRE-DEV C = 0.20  
 TOTAL IMPERVIOUS (SQ. FT.): 128,200.00 2-YR, 24-HR I = 2.46 - Henry Co 2yr  
 NET PERVIOUS (SQ. FT.): 161,400.00 PRE-DEV Q (cfs) = 3.27 = Q<sub>allowable</sub>  
 POST-DEV Q (cfs) = 8.34 CFS

% INCREASE IN RUNOFF = 206% (100 < % > 250)  
 CRITICAL STORM = 25 YR, 24-HR STORM

**DETENTION VOLUME CALCULATION**

tc (min)	i25 (**) (in./hr.)	Cw	A (Ac)	Qin= (150) x (Cw) x (A)	Qout= Qallow	Qin-Qout	Vol. Req'd (cu. ft.)	Max. Vol. Req'd (cu. ft.)
10.00	5.78	0.51	6.65	19.58	3.27	16.31	9,786.19	<b>15,103.75</b>
15.00	4.87	0.51	6.65	16.51	3.27	13.24	11,915.34	
20.00	4.23	0.51	6.65	14.33	3.27	11.06	13,272.54	
30.00	3.37	0.51	6.65	11.43	3.27	8.16	14,679.92	
40.00	2.82	0.51	6.65	9.56	3.27	6.29	15,103.75	
50.00	2.44	0.51	6.65	8.26	3.27	4.99	14,969.20	
60.00	2.15	0.51	6.65	7.29	3.27	4.02	14,480.23	
70.00	1.93	0.51	6.65	6.54	3.27	3.27	13,748.57	
80.00	1.75	0.51	6.65	5.95	3.27	2.68	12,841.41	
90.00	1.61	0.51	6.65	5.46	3.27	2.19	11,801.96	
100.00	1.49	0.51	6.65	5.05	3.27	1.78	10,659.50	
110.00	1.39	0.51	6.65	4.70	3.27	1.43	9,434.74	
120.00	1.30	0.51	6.65	4.40	3.27	1.13	8,142.80	

(\*\* - Rainfall intensities derived from ODOT L&D Vol. 2, Fig. 1101-2)

CURRENT POND VOLUME = 21,000.00 CF

**OK**

## STORMWATER DETENTION ESTIMATE

**BY:** Hoff Consulting Services, LLC  
 1253 Independence Dr.  
**JOB NAME:** (Bonafide Customs ~ Future Max. Parking Detention)

**DATE:** 22-Jul-20  
**JOB NO.:** 2020\_003

**NET SITE AREA (SQ. FT.):** 289,600.00      Area (Ac.) 6.65 AC  
**PVMT AREA (SQ. FT.):** 67,300.00      WT. C = Cw = 0.58 - perv = 0.20 / imperv = 0.90  
**BUILDING AREA (SQ. FT.):** 60,900.00      PRE-DEV C = 0.20  
**ADD'L NEW PVMT AREA (SQ. FT.):** 27,400.00      2-YR, 24-HR I = 2.46 - Henry Co 2yr  
**TOTAL IMPERVIOUS (SQ. FT.):** 155,600.00      PRE-DEV Q (cfs) = 3.27 = Q<sub>allowable</sub>  
**NET PERVIOUS (SQ. FT.):** 134,000.00      POST-DEV Q (cfs) = 9.42 CFS

% INCREASE IN RUNOFF = 250% (250 < % > 500)  
 CRITICAL STORM = 50 YR, 24-HR STORM

### DETENTION VOLUME CALCULATION

tc (min)	i50 (**)	Cw	A (Ac)	Qin= (i50) x (Cw) x (A)	Qout= Qallow	Qin-Qout	Vol. Req'd (cu. ft.)	Max. Vol. Req'd (cu. ft.)
10.00	6.32	0.58	6.65	24.22	3.27	20.95	12,568.64	<b>20,999.03</b>
15.00	5.31	0.58	6.65	20.35	3.27	17.07	15,366.90	
20.00	4.61	0.58	6.65	17.65	3.27	14.37	17,248.93	
30.00	3.68	0.58	6.65	14.09	3.27	10.82	19,482.17	
40.00	3.09	0.58	6.65	11.84	3.27	8.57	20,566.20	
50.00	2.68	0.58	6.65	10.27	3.27	7.00	20,993.46	
60.00	2.38	0.58	6.65	9.10	3.27	5.83	20,999.03	
70.00	2.14	0.58	6.65	8.20	3.27	4.93	20,712.10	
80.00	1.95	0.58	6.65	7.48	3.27	4.21	20,210.83	
90.00	1.80	0.58	6.65	6.89	3.27	3.62	19,545.87	
100.00	1.67	0.58	6.65	6.40	3.27	3.13	18,751.89	
110.00	1.56	0.58	6.65	5.98	3.27	2.71	17,853.60	
120.00	1.47	0.58	6.65	5.61	3.27	2.34	16,869.21	

(\*\* - Rainfall intensities derived from ODOT L&D Vol. 2, Fig. 1101-2)

**CURRENT POND VOLUME = 21,000.00 CF**

**OK**

Attachment 4  
ODOT Reference



# **LOCATION AND DESIGN MANUAL**



## **VOLUME TWO DRAINAGE DESIGN**

The OHIO DEPARTMENT of TRANSPORTATION

## General Notes – Figures 1101-2 through 1101-3

The Rainfall Intensity-Duration-Frequency (IDF) curves are based upon precipitation data obtained from the National Oceanic and Atmospheric Administration (NOAA) Atlas 14. The precipitation data was collected between 4/1863 to 12/2000.

Rainfall depth varies across the State with more rainfall depth present in the Southwest portion of the state and gradually decreasing towards the Northeast. IDF curves were developed for 4 regions across the State to simplify hydraulic design. The regions were determined by normalizing contours created from NOAA precipitation GIS data from the 10 year, 60 minute duration.

Federal Highway Administration Hydraulic Engineering Circular No. 12 Appendix A offers a methodology for converting I-D-F data points to an equation of the general form:

$$i = a / (t + b)^c$$

Where:  $i$  = rainfall intensity (inches/hour)  
 $t$  = time of concentration (minutes)  
 $a$  = constant  
 $b$  = constant  
 $c$  = constant

Figure 1101-2 can be expressed using the above general equation utilizing the constants shown below.

Intensity Zone (Figure 1101-3)	Frequency (Years)	Constant "a"	Constant "b"	Constant "c"
A	2	46.184	9.000	0.859
	5	56.985	10.250	0.851
	10	64.167	11.000	0.842
	25	66.528	11.000	0.811
	50	65.702	10.750	0.782
	100	64.489	10.500	0.754
B	2	47.987	9.000	0.859
	5	60.684	10.500	0.858
	10	73.126	12.000	0.863
	25	75.841	12.000	0.833
	50	65.621	10.000	0.781
	100	85.047	13.250	0.806
C	2	56.299	10.000	0.876
	5	67.933	11.000	0.869
	10	84.550	13.000	0.882
	25	95.736	14.000	0.871
	50	96.783	14.000	0.850
	100	80.436	11.500	0.794
D	2	57.448	10.000	0.876
	5	67.933	11.000	0.869
	10	79.192	12.000	0.864
	25	87.886	12.750	0.849
	50	95.169	13.500	0.839
	100	91.982	13.000	0.810

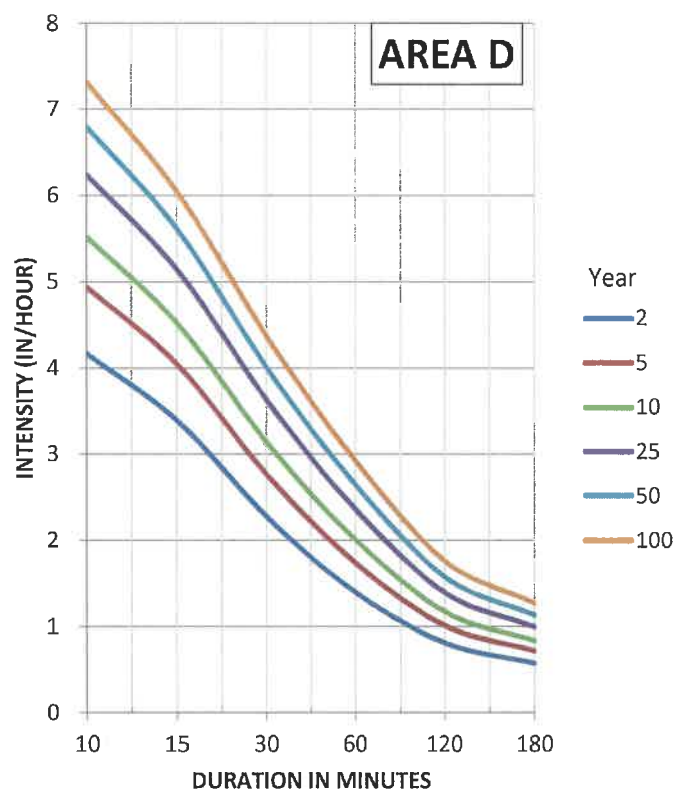
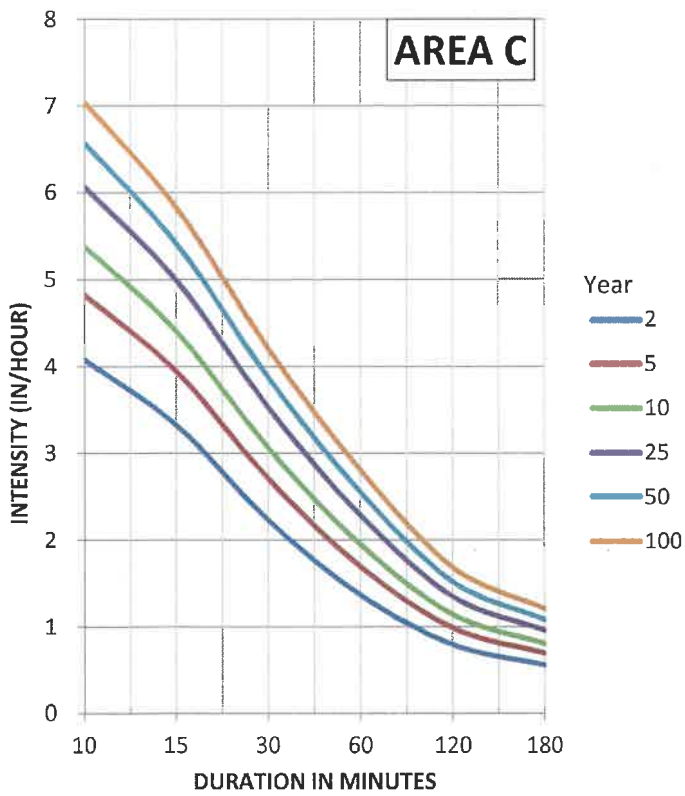
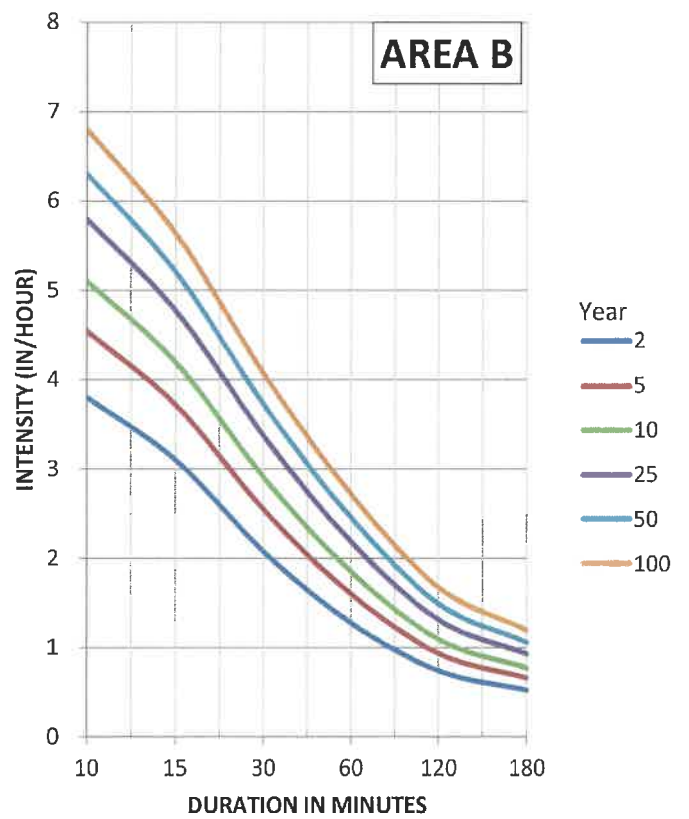
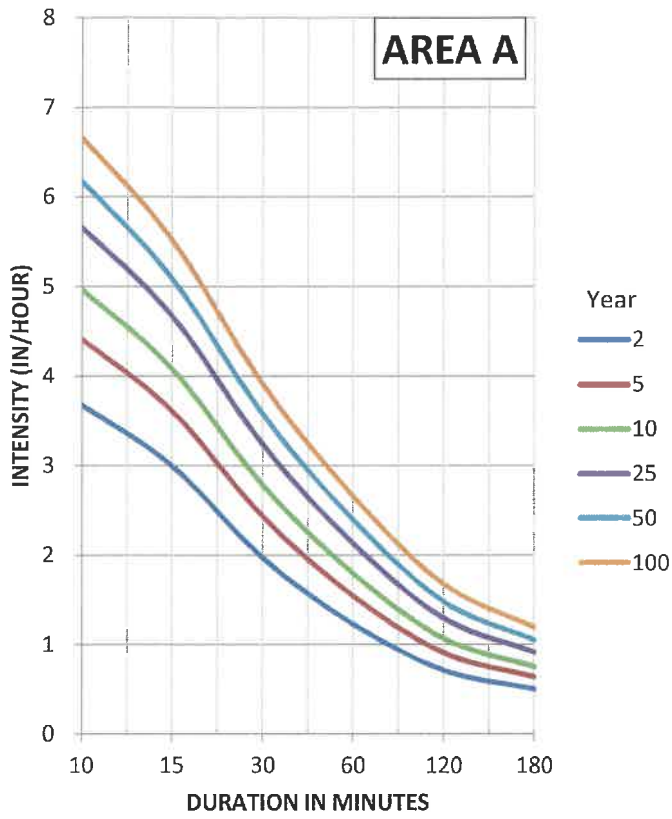
For any projects that have begun using the previous Rainfall Intensity-Duration-Frequency (IDF) curves, continue with their use through the completion of the project. The current Rainfall Intensity-Duration-Frequency (IDF) curves should be used at the start for all new projects.

# Rainfall Intensity-Frequency-Duration Curves

1101-2

Reference Section

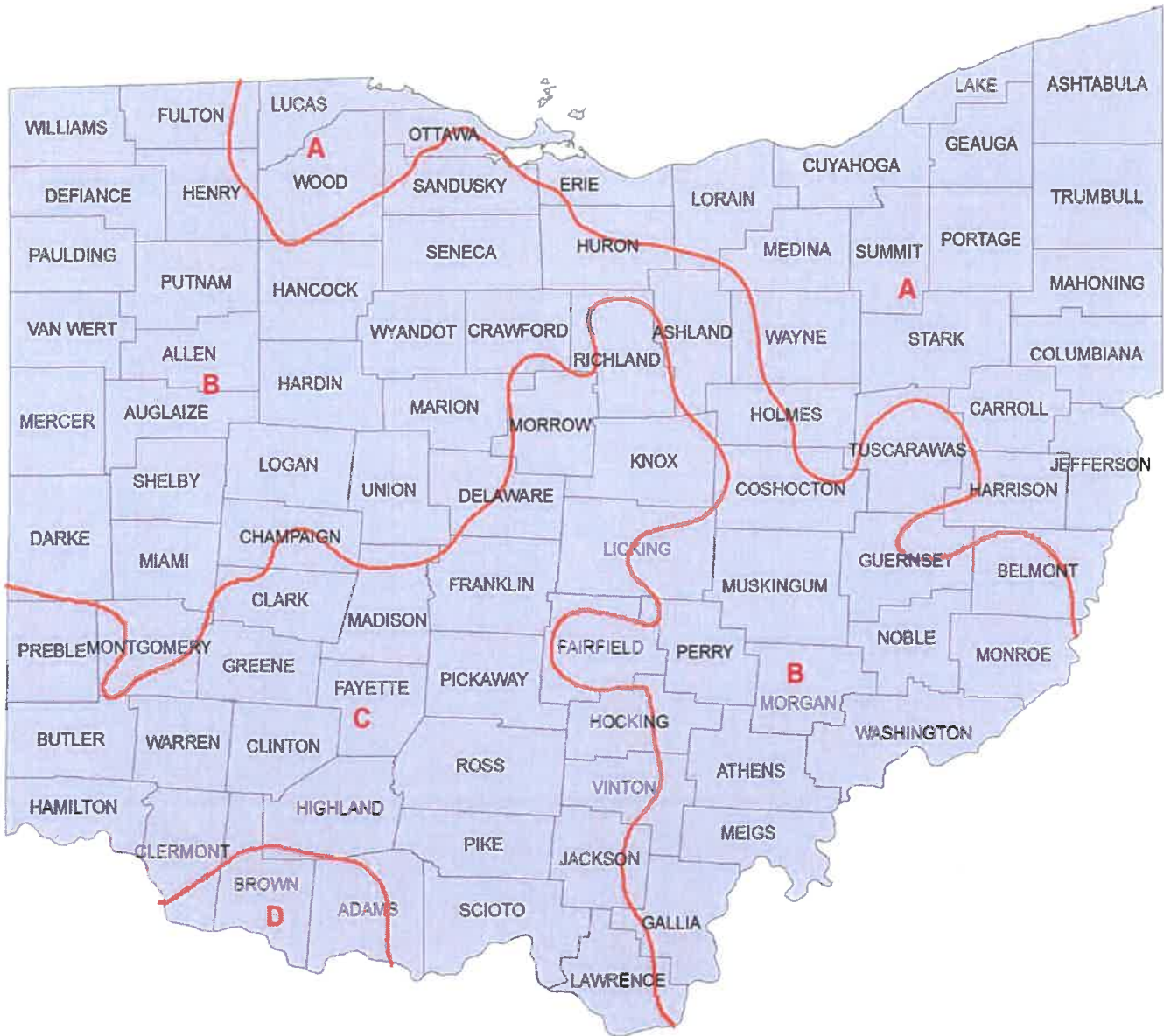
1101.2.4



Refer to General Notes - Figures 1101-2 through 1101-3

# Rainfall Intensity-Frequency-Duration Curves

1101-3  
Reference Section  
1101.2.4



Refer to General Notes - Figures 1101-2 through 1101-3