CITY OF BLANCO

PRELIMINARY INVESTIGATIONS AND REPORT WASTEWATER COLLECTION SYSTEM IMPROVEMENTS FOR PROPOSED SERVICE AREA

January 2, 2020

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EXECUTIVE SUMMARY

This technical memorandum has been prepared to identify future wastewater flows and infrastructure needs within the proposed service area outlined in Exhibit A. This memorandum focuses on the development south of Blanco River and does not include land use assumptions or flow projections north of the river or within the City limits.

In general the topography of the service area slopes west to east. The area south of Blanco River has primarily three watersheds. Exhibit B, the City's Wastewater Capital Improvement Plan (Jones-Heroy & Associates) identifies three wastewater basins that complement this topography. This exhibit identifies the need for 4 wastewater lift stations south of Blanco River. In this preliminary investigation the concept of conveying the wastewater adjacent to US Hwy. 281 was investigated.

In developing this memorandum, existing data was reviewed to assist in the development of land use projections within the proposed service area. These land use projections and associated acreage were then used to develop average, peak and wet weather wastewater flows.

This alignment would require a 15 inch gravity interceptor and two lift stations to keep the depth of the gravity interceptor from exceeding 25 feet. In this study it's assumed that the second lift station would convey wastewater under Blanco River and discharge into the existing collection system and ultimately be conveyed to the wastewater treatment plant. The scope of this study did not verify if the existing collection system north of Blanco River has the capacity to accept these additional flows.

The engineer's opinion of probable construction cost was completed for two lift stations and a gravity interceptor. The construction cost estimate includes a engineering design fee of 25 percent of the construction cost and a contingency of 25 percent. The cost estimate does not include costs for easement acquisition, topographical survey, or geotechnical investigations. The assumptions and clarifications for the study and the infrastructure needs are summarized below and explained in greater detail within the memorandum.

DESIGN PARAMETERS / ASSUMPTIONS / CONSIDERATIONS / FINDINGS

- Study area is limited to south of the Blanco River
- Proposed gravity interceptor alignment flows south to north along US Hwy. 281
- Study did not cover possible need of smaller lift stations to convey wastewater from the developed areas to the proposed alignment
- Wastewater flow generation within the City Limits was not included in this study
- This study did not verify if the existing collection system north of Blanco River has the capacity to accept additional flows identified in this study
- Cost estimate does not include costs for easement acquisition
- Infrastructure requirements
    - Lift Station 1 – 0.9 mgd
    - Lift Station 2 – 4.4 mgd
    - 15 inch Gravity Wastewater Interceptor – 15,800 linear feet
- Engineers opinion of probable construction cost $5 million
- Engineering design cost $1.25 million

BACKGROUND

This technical memorandum has been prepared to identify future wastewater flows and infrastructure needs within the proposed service area outlined in Exhibit A. This memorandum focuses on the development south of Blanco River and does not include land use assumptions or flow projections north of the river or within the City limits. The infrastructure assumptions for conveyance of the wastewater are schematic in nature with measurements taken from existing GIS platforms. The intended use of this memorandum is conceptual, no topographic survey, geotechnical investigations, or easement research has been performed in the preparation of this memorandum.

DATA REVIEW

The following maps and records were used to assist with recognizing the study boundary area and the current land use and owner information. This information was then used to develop land use assumptions and projected growth.

1. Exhibit A - City of Blanco Water and Wastewater Service Area Map (Jones-Heroy, September 2018)
2. Exhibit B - City of Blanco Wastewater Capital Improvements Plan (Jones-Heroy, September 2018)
3. Blanco County Appraisal District www.blancocad.com
4. TPDES Permit Application – City of Blanco WWTP

CITY OF BLANCO TPDES PERMIT

The City of Blanco currently operates under a 0.225 MGD Texas Pollutant Discharge Elimination System (TPDES) wastewater permit. A permit "Renewal and Major Amendment" application has been submitted to the Texas Commission on Environmental Quality (TCEQ) for review. This amendment proposes a new wastewater treatment plant on the existing site. The proposed capacities of the permit amendment are broken into three phases as noted below. Phase I, the current permitted capacity of 0.225 MGD is currently in operation.

Permit Renewal and Major Amendment
City of Blanco 0.225 MGD Wastewater Treatment Plant
TPDES Permit No.: 10549002
Engineer: Darren C. Strozewski, P.E.
Applicant: City of Blanco

Phase I	0.225 MGD (existing permit)
Phase II	0.950 MGD (Amendment)
Phase III	1.60 MGD (Amendment)

The information below is quoted from Section O "Explanation of the Need for Proposed Permit" of the permit renewal and modification application.

> *"Current City limits encompass approximately 1,400 acres of which a substantial portion is currently undeveloped or under developed. This 1,400 acres conservatively yields 1,400 wastewater service connections at one unit per acre, which equals 0.315 mgd using an average daily flow of 225 gallons per connection. In addition, the City's wastewater service area has been expanded by approximately 8,500 acres of privately owned land located adjacent to the City limits. This area is anticipated to develop as economic conditions continue to improve and when regional wastewater and water, and reclaimed water capacities are readily available from the City. The future 8,500 acre wastewater service area would conservatively yield 8,500 new wastewater service connections at one unit per acre, which equals 1.912 mgd using an average daily flow of 225 gallons per connection. Thus, the total wastewater service area capacity is 2.227 mgd.*

This statement defines the future development within the City Limits to be limited to 225 gallons per acre. This assumption does not take into account commercial or high density residential development within the City limits.

LAND USE PROJECTIONS

Land use must be identified in order to calculate projected wastewater flows. In this memorandum, the area assessed is limited to the proposed service area shown in Exhibit A and is limited to south of the Blanco River and does not take into consideration the land within the City Limits. Land use assumptions were determined based on current development, the vicinity to the City Limits, and commercial verses private ownership. In order to group like areas the proposed service area was subdivided into 14 smaller areas. For residential homes it was assumed that the larger lots 2-6 acres would vary due to topography and individual ownership, an average of 4 acres per lot was used in the calculations. A color coded Map of how these areas were zoned for the wastewater flow development are shown on Exhibit C. Appendix A shows a more detailed breakdown of each area indicating percentages of residential and commercial categories. The percentages of each type of land use are summarized on the next page.

LAND USE BREAKDOWN

Residential

Single Family Home, ¼ Acre Lots	22.8%
Single Family Home 2-6 Acre Lots	37.4%
Multi Family	7.2%

Commercial

Motel with kitchen	0.7%
Shopping Center	5.1%
Restaurant	0.4%
Office	5.0%
Industrial Building	7.9%
Kennels/Stables	2.9%

Other (no wastewater flows were generated from the following land uses)

Agriculture/Ranch/Farm	0.7%
Park Land	9.9%

WASTEWATER FLOW PROJECTIONS

The wastewater flow projections were developed based on land use and acreage. The Average Dry Weather Flows (ADWF) were developed based on guidelines by TCEQ Chapter 217, Design Organic Loadings and Flows for New Wastewater Treatment Facilities https://www.tceq.texas.gov/assets/public/legal/rules/rules/pdflib/217c.pdf , and the 10 State Standards. The developed flows used for this study are summarized below.

Average Dry Weather Flow (ADWF) (Qad)			
Residential		**Flow**	**Description**
	Single Family Home 1/4 Acre Lot	245 gpd per home	70 gpd pp, 3.5 persons per home. 1/4 acre lot
	Single Family Home 2-6 Acre Lot	280 gpd per home	80 gpd pp, 3.5 persons per home, 2-6 acre lot
	Multi Family	1,950 gpd per acre	65 gpd pp, 1.5 persons per unit, 20 units per acre
Commercial		**Flow**	**Description**
	Motel with kitchen	2,000 gpd per acre	100 gpd per unit, 20 units per acre
	Shopping Center	164 gpd per acre	12 gpd/employee, 2 gpd/2 parking spaces, 12 employees/AC, 20 parking spaces AC
	Restaurant	600 gpd per acre	3 gpd per meal, 200 meals per day
	Office	195 gpd per acre	13 gpd per employee, 15 employees per AC
	Industrial Building	104 gpd per acre	13 gpd per employee, 8 employee per AC
	Kennels/Stables	13 gpd per acre	13 gpd per employee, 1 employee per AC
	Park Land	0 gpd per acre	No wastewater service provided
Private		**Flow**	**Description**
	/Agriculture/Ranch/Farm	0 gpd per acre	No wastewater service provided

The average dry weather, peak dry weather and peak wet weather flows were calculated per the City of Austin design criteria for each area. These areas were summed accumulatively from the southern limits of the proposed service area to Blanco River and are included in Appendix B. The total accumulated flow for the proposed service area south of the river are shown below.

- Average Dry Weather Flow (ADWF) 0.5 mgd
- Peak Dry Weather Flow (PDWF) 2.2 mgd
- Peak Wet Weather Flow (PWWF) 4.4 mgd

INFRASTRUCTURE DESIGN PARAMETERS

In general the topography of the service area slopes west to east. The area south of Blanco River has primarily three watersheds, one that flows to Flat Creek, one that flows to Durham Branch and one that flows directly to the Blanco River. Flat Creek and Durham Branch ultimately confluence with the Blanco River just east and outside of the proposed service area. Exhibit B, the City's Wastewater Capital Improvement Plan (CIP) (Jones-Heroy & Associates) identifies three wastewater basins that complement this topography. The Exhibit B identifies the need for 4 wastewater lift stations south of Blanco River.

In this preliminary investigation the concept of conveying the wastewater adjacent to US Hwy. 281 was investigated. This alignment would require a Lift Station (LS 1) north of Flat Creek to convey flows over the ridge and into the next watershed that conveys flow to Durham Branch and a Lift Station (LS 2) north of Durham Branch to convey flows over the next ridge and ultimately under the Blanco River. In this study it's assumed that the discharge from LS 2 (north of Blanco River) would discharge into the existing collection system and ultimately be conveyed to the wastewater treatment plant. Exhibit D shows the schematic representation of this alignment.

If the capacity of the existing collection system (north of the river) is not sufficient a new gravity interceptor or a lift station and forcemain or combination thereof would be required. Cost for infrastructure north of Blanco River is outside the scope of this report.

- Lift Station 1 (north of Flat Creek)
    - Design flow 680 gpm
    - Submersible Duplex
    - Wet Well 12' dia. X 30' deep
    - Pumps (2) 40 HP, 460V 3 PH, 60 Hz, (680 gpm @ 100' TDH)

- Lift Station 2 (north of Durham Branch)
    - Design flow 3098 gpm
    - Submersible Triplex
    - Wet Well 24' dia. X 40' deep
    - Pumps (3) 60 HP, 460V 3 PH, 60 Hz, (2,850 gpm @ 100' TDH 2 pumps running)

Gravity interceptor flow capacities were calculated per the City of Austin and TCEQ design standards with a slope of 1%. Using this design criteria a 12 inch gravity interceptor would be required at the beginning of the alignment and it would transition into a 15 inch interceptor south of the intersection of RR 32. With this alternative depths of the gravity interceptor did not exceed 20 feet. Lift Station 2 identified at Durham Branch could possibly be replaced with a siphon however this option is not included in the scope of this study.

WATER REUSE

If the wastewater generated in this study was to be treated and returned to the same service area the TPDES permit would need to be revised and wider easements would need to be obtained to account for the required 10 foot separation from the wastewater line and surrounding water lines. The infrastructure required for this would include a new reclaimed water delivery system including pumping, elevated storage, pipe lines and associated appurtenances. The design for this system is outside the scope if this study. A conservative estimate for the construction of the pipe line only would be approximately $70 per linear foot. Using the same footage of wastewater interceptor (15,800 lf) would equate to a construction cost of $1,106,000. Costs for easement acquisition, survey, geotechnical investigations, design and the construction of the delivery system would also need to be included.

Reclaimed water line construction cost	$1.1 million*

*cost does not include design, survey, geotechnical investigations, easement acquisition or construction cost for pump station/elevated storage.

COST ESTIMATES

Engineers Opinion of Probable Construction cost is include in Appendix C. This construction cost estimate is based on the wastewater infrastructure identified in the previous section of this report. For economic and future capacity reasons a 15 inch interceptor was used for the entire reach. The construction cost estimate includes a contingency of 25 percent. A cost for engineering, survey, and geotechnical investigations was included at 25% of the construction cost.

Engineers Opinion of Probable Construction Cost	$5.6 million*
Engineering design, survey and geotechnical investigations	$1.25 million*

*cost does not include easement acquisition

EXHIBITS

Exhibit A - City of Blanco Water and Wastewater Service Area Map (Jones-Heroy, September 2018)

Exhibit B - City of Blanco Wastewater Capital Improvements Plan (Jones-Heroy, September 2018)

Exhibit C – Land Use Assumptions

APPENDICES

Appendix A – Land Use Assumptions

Appendix B – Wastewater Flow Calculations

Appendix C – Engineers Opinion of Probable Construction Cost

EXHIBIT A

City of Blanco
Water and Wastewater Service Area Map

Existing WWTP (0.225 Discharge)

Existing WW Lift Stations

Existing EST and Standpipe

Existing Wayne Smith Dam (100 acft Storage)

Existing 1.0 MGD Blanco River WTP and Dam (68 acft Storage, 600 acft/yr Supply)

Existing GST and Pump Station

Exist. 12-inch Waterline from Stallion GST (GBRA and CLWSC 0.5 MGD Delivery, 600 acft/yr Supply)

Legend:

- Blanco City Limits (~2,400 acres)
- Blanco ETJ Bndry
- Future Service Area (~8,700 acres)
- Existing WW CCN Boundary (Non-City)
- Existing Pipelines
  - Water Main (8-in or Larger)
  - Gravity WW Interceptor
  - WW Force Main
- Blanco CAD Parcel Boundary

Note: Aerial Photograph Represents 2014 Ground Conditions

0 1,500 3,000 6,000 Feet

Project Name: CCN Application
Project Number: JHA 1024-020
Version: Draft
Date: September 2018

Jones - Heroy & Associates, Inc.
2204 S. Hwy 281, Ste. D
Lampasas, Texas 76550
TBPE Registered Firm F-006320
Office: (512) 556-2300
Fax: (512) 556-5304
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EXHIBIT A

EXHIBIT B

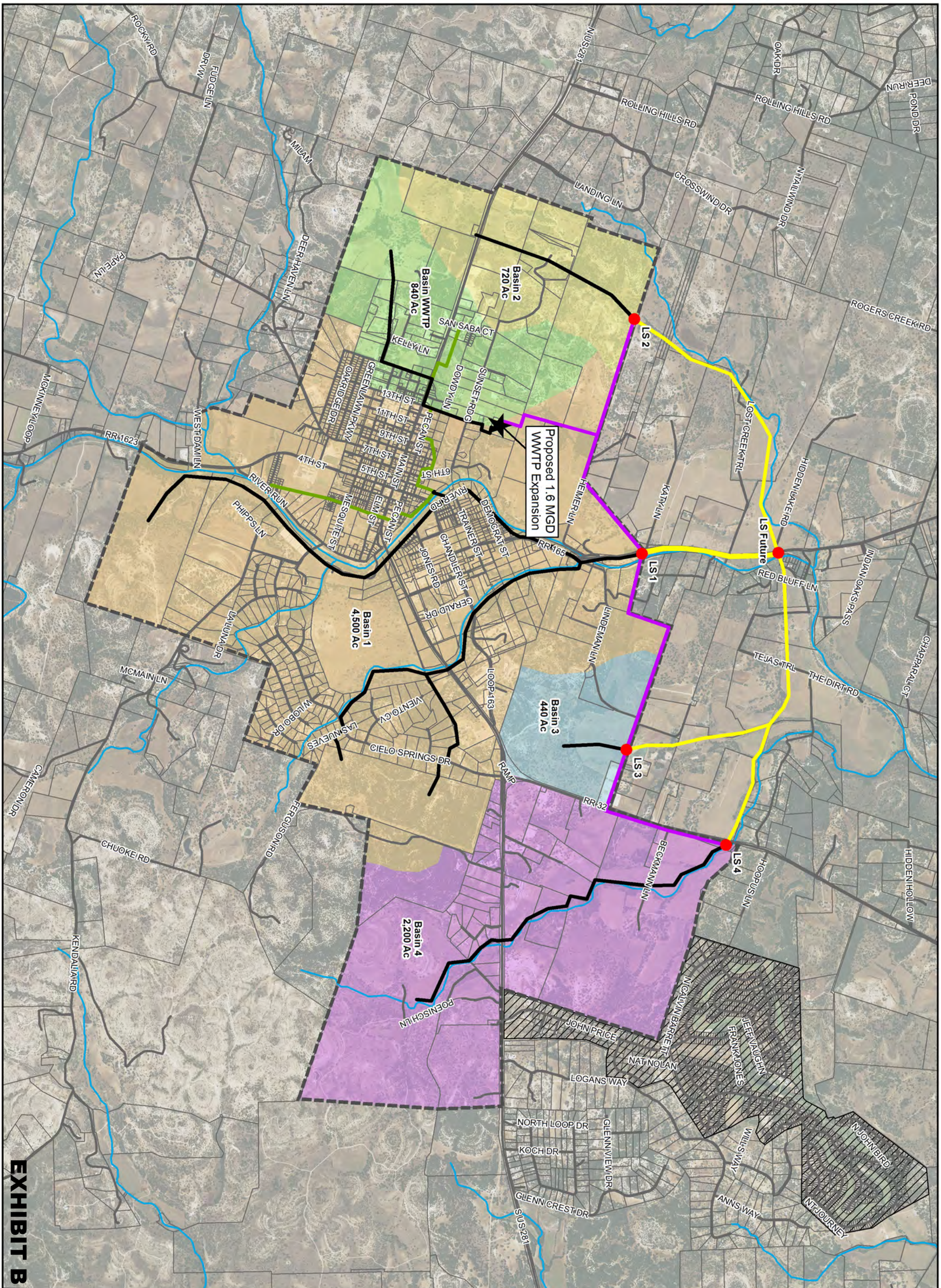

EXHIBIT B

Legend:

- Existing Gravity Interceptor
- Proposed WW Collection System
  - Gravity Interceptor
  - Force Main
  - Lift Station
  - Future Gravity Interceptor
- Blanco CAD Parcel Boundary
- Future Service Area (~8,700 acres)
- Existing Rancho Del Lago CCN

Note: Aerial Photograph Represents 2014 Ground Conditions

City of Blanco
Wastewater Capital Improvements Plan

Project Name:
CCN Application
Project Number:
JHA 1024-020
Version:
Draft
Date:
September 2018

N W E S

0 1,500 3,000 6,000 Feet

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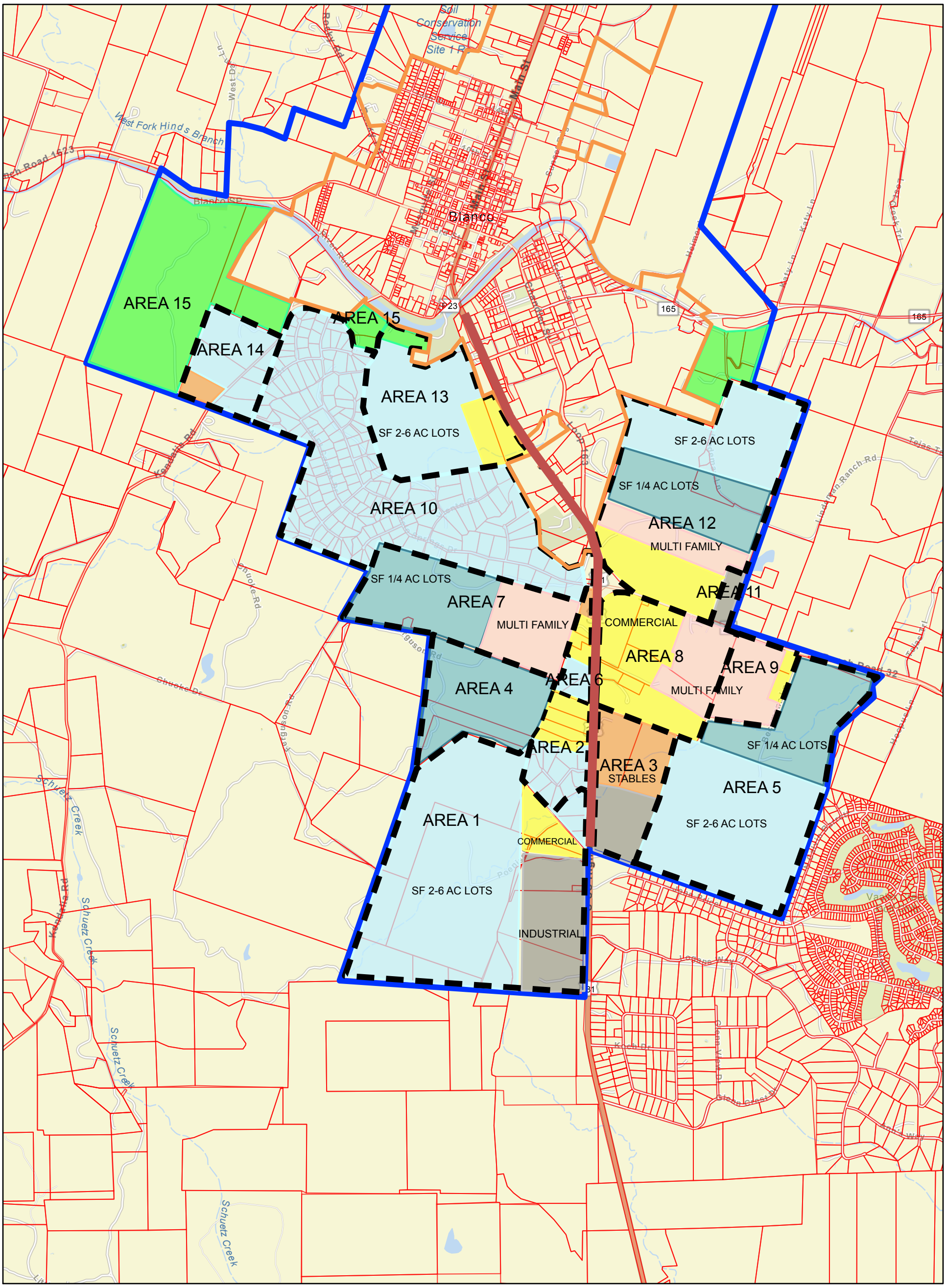
EXHIBIT C

LAND USE MAP



12/10/2019, 4:32:20 PM

1:31,279

0 0.35 0.7 1.4 mi

0 0.5 1 2 km

EXHIBIT C
LAND USE MAP

Blanco County Appraisal District, BIS Consulting - www.bisconsulting.com

Parcels

APPENDIX A

AREA 1 - HH FAMILY INVESTMENTS II LTD							
PROPERTY ID	**LEGAL DESCRIPTION**		**QTY**	**UNITS**	**PERCENT**	**PROPOSED LAND USE**	**COMMENTS**
9198	ABS A1300 SURVEY 2 1/2 PAULINE JONAS,ACRES 30.75		30.75	AC			
9197	ABS A0983 SURVEY 74 A. BECKMAN,ACRES 35.0		35.00	AC			
9199	ABS A1299 SURVEY 167 1/2 PAULINE JONAS,ACRES 12.5		12.50	AC			
9193	ABS A1070 SURVEY 81 F. VOLLMERING,ACRES 21.5		21.50	AC			
8561	ABS A1070 SURVEY 81 F. VOLLMERING,ACRES 79.91,(MO RANCH)		79.91	AC			
9189	ABS A0622 SURVEY 167 J WILSON,ACRES 316.96		316.96	AC			
8559	ABS A0582 SURVEY 168 Q.C. STEPHANS,ACRES 62.4,(MO RANCH)		62.40	AC			
2279	ABS A0582 SURVEY 168 Q.C. STEPHANS,ACRES 34.292		34.20	AC			
9200	ABS A0827 SURVEY 161 FRIEDRICH MULLER,ACRES 145.0		145.00	AC			
9195	ABS A0632 SURVEY 93 W.C. WINTERS,ACRES 42.13		42.10	AC			
3224	ABS A0582 SURVEY 168 Q.C. STEPHANS,ACRES 1.46		1.46	AC			
3225	ABS A0582 SURVEY 168 Q.C. STEPHANS,ACRES 1.375		1.30	AC			
14968	ABS A0622 SURVEY 167 J WILSON,ACRES 3.04		3.40	AC			
14969	ABS A0582 SURVEY 168 Q.C. STEPHANS,ACRES 9.16		9.16	AC			
15847	BLANCO VISTA ESTATES , LOT 01 , ACRES 5.01		5.00	AC			
15848	BLANCO VISTA ESTATES , LOT 02 , ACRES 5.01		5.00	AC			
9188	ABS A1058 SURVEY 30 AUGUST JONAS,ACRES 56.75		11.35	AC			a portion (20%) of lot in inside of proposed service area boundary
9194	ABS A0696 SURVEY 73 HENDERSON & OBRR CO.,ACRES 320.0		0.00	AC			adjacent to but outside of proposed service area boundary
9187	ABS A0333 SURVEY 724 SOPHIA JONAS,ACRES 43.0		0.00	AC			adjacent to but outside of proposed service area boundary
		Total	816.99	AC			
			122.55	AC	15%	PARK LAND	
			138.89	AC	17%	INDUSTRIAL	Frontage along US 281
			490.19	AC	60%	SF RESIDENTS, 2-6 AC LOTS	
			65.36		8%	OFFICE	
					100%		
			123	LOTS		4 AC LOTS	
AREA 2 - BLANCO VISTA ESTATES (BLANCO VISTA DR)							
PROPERTY ID	**LEGAL DESCRIPTION**		**QTY**	**UNITS**	**PERCENT**	**PROPOSED LAND USE**	**COMMENTS**
15850	BLANCO VISTA ESTATES , LOT 04 , ACRES 5.06		5.05	AC		LUXURY RESIDENTS 2-6 AC LOTS	
15851	BLANCO VISTA ESTATES , LOT 05 , ACRES 5.28		5.28	AC		LUXURY RESIDENTS 2-6 AC LOTS	
15852	BLANCO VISTA ESTATES , LOT 06 , ACRES 5.47		5.47	AC		LUXURY RESIDENTS 2-6 AC LOTS	
15853	BLANCO VISTA ESTATES , LOT 07 , ACRES 5.34		5.34	AC		LUXURY RESIDENTS 2-6 AC LOTS	
15854	BLANCO VISTA ESTATES , LOT 08 , ACRES 5.01		5.01	AC		LUXURY RESIDENTS 2-6 AC LOTS	
15855	BLANCO VISTA ESTATES , LOT 09 , ACRES 5.07		5.07	AC		LUXURY RESIDENTS 2-6 AC LOTS	
15856	BLANCO VISTA ESTATES , LOT 10 , ACRES 5.3		5.30	AC		LUXURY RESIDENTS 2-6 AC LOTS	
15857	BLANCO VISTA ESTATES , LOT 11 , ACRES 5.33		5.33	AC		LUXURY RESIDENTS 2-6 AC LOTS	
15858	BLANCO VISTA ESTATES , LOT 12 , ACRES 5.68		5.68	AC		LUXURY RESIDENTS 2-6 AC LOTS	
16146	BLANCO VISTA ESTATES , LOT 13 & 14 , ACRES 10.91		10.91	AC		LUXURY RESIDENTS 2-6 AC LOTS	
16147	?		0.00	AC		LUXURY RESIDENTS 2-6 AC LOTS	
16148	BLANCO VISTA ESTATES , LOT 15 , ACRES 11.26, Undivided Interest 42.0000		11.26	AC		OFFICE	
16149	BLANCO VISTA ESTATES , LOT 16 , ACRES 11.26, Undivided Interest 42.0000		11.26	AC		OFFICE	
16150	BLANCO VISTA ESTATES , LOT 17 , ACRES 10.0, Undivided Interest 42.00000		10.00	AC		SHOPS	
16151	BLANCO VISTA ESTATES , LOT 18 , ACRES 10.0, Undivided Interest 42.00000		10.00	AC		SHOPS	
		TOTAL	100.96	AC			
			21.20	AC	21%	OFFICES	
			21.20	AC	21%	SHOPPING	
			58.56	AC	58%	SF RESIDENTS 2-6 AC LOTS	
					100%		
			11	LOTS		EXISTING 5-10 AC LOTS	

AREA 3 - ABS A0632 SURVEY 93 W.C.WINTERS							
PROPERTY ID	**LEGAL DESCRIPTION**	**QTY**	**UNITS**	**PERCENT**	**PROPOSED LAND USE**	**COMMENTS**
14911	ABS A0632 SURVEY 93 W.C. WINTERS,ACRES 115.305	115.31	AC		STABLES	50% DEVELOPED WITH RANCH HOUSE AND STABLES
14068	ABS A0632 SURVEY 93 W.C. WINTERS,ACRES 46.92	46.92	AC		STABLES	LAND LOCKED
	TOTAL	162.23	AC			
		12.98	AC	8%	SF RESIDENTS 6 AC LOT	
		74.62	AC	46%	AGRICULTURE/STABLES	
		74.62	AC	46%	INDUSTRIAL	
				100%		
		1	LOT		EXISTING RESIDENTS	
AREA 4 - BRADLEY HARRY E ESTATE						
PROPERTY ID	**LEGAL DESCRIPTION**	**QTY**	**UNITS**	**PERCENT**	**PROPOSED LAND USE**	**COMMENTS**
4006	ABS A0827 SURVEY 161 FRIEDRICH MULLER,ACRES 15.0	15.00	AC			
14141	ABS A0970 SURVEY 2 J.W. SPEER,ACRES 59.0	59.00	AC			
14140	ABS A0314 SURVEY 1 INDIANOLO RR CO,ACRES 126.0	126.00	AC			
	TOTAL	200.00	AC			
		30.00	AC	15%	PARK LAND	
		0.00	AC	0%	OFFICE	
		170.00	AC	85%	SF RESIDENCE 1/4 AC LOTS	
				100%		
		680	LOTS		1/4 AC LOTS	
AREA 5 - BECKMANN & SMITHERMAN						
PROPERTY ID	**LEGAL DESCRIPTION**	**QTY**	**UNITS**	**PERCENT**	**PROPOSED LAND USE**	**COMMENTS**
10736	ABS A0399 SURVEY 94 JOHN McCLENCHENON,ACRES 558.63	558.63	AC			
	TOTAL	558.63	AC			
		83.79	AC	20%	PARK LAND	
		223.45	AC	40%	SF RESIDENTS 2-6 AC LOTS	
		223.45	AC	40%	SF RESIDENCE 1/4 AC LOTS	
				100%		
		894	LOTS		1/4 AC LOTS	
		56	LOTS		4 AC LOTS	
AREA 6 - ABS A0591 SURVEY 92 WM. N. TRAINER (WEST OF 281)						
PROPERTY ID	**LEGAL DESCRIPTION**	**QTY**	**UNITS**	**PERCENT**	**PROPOSED LAND USE**	**COMMENTS**
14436	ABS A0591 SURVEY 92 WM. N. TRAINER,ACRES 1.9	0.00	AC		PRIVATE ROAD	
16627	ABS A0591 SURVEY 92 WM. N. TRAINER,ACRES 11.11	11.11	AC		INDUSTRIAL WITH RESIDENTS	
4038	ABS A0591 SURVEY 92 WM. N. TRAINER,ACRES 13.76	13.76	AC		INDUSTRIAL WITH RESIDENTS	
4465	ABS A0591 SURVEY 92 WM. N. TRAINER,ACRES 6.96	6.96	AC		INDUSTRIAL WITH RESIDENTS	
10904	ABS A0591 SURVEY 92 WM. N. TRAINER,ACRES 3.913	3.91	AC		INDUSTRIAL WITH RESIDENTS	
7994	ABS A0591 SURVEY 92 WM. N. TRAINER,ACRES 6.64	6.64	AC		KENNEL WITH RESIDENTS	
	TOTAL	42.38	AC			
		0.00	AC	0%	LUXURY RESIDENTS 4 AC LOTS	
		0.00	AC	0%	SHOPPING	
		36.03	AC	85%	INDUSTRIAL	
		6	AC	15%	KENNEL	
				100%		
		5	LOTS		2-6 AC LOTS	

AREA 7 - DALEY PHILIP							
PROPERTY ID	**LEGAL DESCRIPTION**		**QTY**	**UNITS**	**PERCENT**	**PROPOSED LAND USE**	**COMMENTS**
3270	ABS A0314 SURVEY 1 INDIANOLO RR CO,ACRES 283.21		283.21	AC			
14435	ABS A0314 SURVEY 1 INDIANOLO RR CO,ACRES 8.0		8.00	AC			
		TOTAL	291.21	AC			
			0.00	AC	0%	AGRICULTURE/RANCH/FARM	
			0.00	AC	0%	LUXURY RESIDENTS, 2-6 AC LOTS	
			116.48	AC	40%	SINGLE FAMILY RESIDENTS 1/4 AC LOTS	
			116.48	AC	40%	MULTI-FAMILY RESIDENTS	
			0.00	AC	0%	MOTEL WITH KITCHEN	
			0.00	AC	0%	RESTAURANT	
			0.00	AC	0%	SHOPPING	
			0.00	AC	0%	OFFICE	
			0.00	AC	0%	INDUSTRIAL	
			0.00	AC		STABLES/KENNELS	
			58.24	AC	20%	PARK LAND	
					100%		
			466	LOTS		1/4 AC LOTS	
AREA 8 - ABS A0591 SURVEY 92 WM. N. TRAINER (EAST OF 281)							
PROPERTY ID	**LEGAL DESCRIPTION**		**QTY**	**UNITS**	**PERCENT**	**PROPOSED LAND USE**	**COMMENTS**
3811	ABS A0591 SURVEY 92 WM. N. TRAINER,ACRES 47.49		47.49	AC		OFFICE	
14200	ABS A0591 SURVEY 92 WM. N. TRAINER,ACRES 5.98		5.98	AC		SHOPPING	
6808	ABS A0591 SURVEY 92 WM. N. TRAINER,ACRES 5.0		5.00	AC		LUXURY RESIDENTS	
3950	ABS A0591 SURVEY 92 WM. N. TRAINER,ACRES 40.345, Undivided Interest		40.35	AC		SHOPPING & RESTAURANT	
19092	ABS A0591 SURVEY 92 WM. N. TRAINER,ACRES 20.0,SN1 12402584A;HUD#		20.00	AC		CHURCH (OFFICE)	
17817	ABS A0591 SURVEY 92 WM. N. TRAINER,ACRES 24.043,SN1 12402584A;HU		24.04	AC		MULTI FAMILY	
6023	ABS A0591 SURVEY 92 WM. N. TRAINER,ACRES 40.0		40.00	AC		SHOPPING AND RESTAURANT	
10714	ABS A0591 SURVEY 92 WM. N. TRAINER,ACRES 8.37		8.37	AC		MULTI FAMILY	
		TOTAL	191.23	AC			
			0.00	AC	0%	AGRICULTURE/RANCH/FARM	
			0.00	AC	0%	LUXURY RESIDENTS, 2-6 AC LOTS	
			0.00	AC	0%	SINGLE FAMILY RESIDENTS 1/4 AC LOTS	
			28.68	AC	15%	MULTI-FAMILY RESIDENTS	
			13.39	AC	7%	MOTEL WITH KITCHEN	
			5.74	AC	3%	RESTAURANT	
			57.37	AC	30%	SHOPPING	
			47.81	AC	25%	OFFICE	
			0.00	AC	0%	INDUSTRIAL	
			0.00	AC	0%	STABLES/KENNELS	
			38.25	AC	20%	PARK LAND	
					100%		
			1	LOT		6 AC LOT	

AREA 9 - ABS A0399 SURVEY JOHN McCLENCHENON							
PROPERTY ID	**LEGAL DESCRIPTION**		**QTY**	**UNITS**	**PERCENT**	**PROPOSED LAND USE**	**COMMENTS**
10752	ABS A0399 SURVEY 94 JOHN McCLENCHENON,ACRES 80.4		80.40	AC		MULTI FAMILY	
11998	ABS A0399 SURVEY 94 JOHN McCLENCHENON,ACRES 7.45		7.45			OFFICE	
13796	ABS A0399 SURVEY 94 JOHN McCLENCHENON,ACRES 5.0		5.00			OFFICE	
		TOTAL	92.85	AC			
			0.00	AC	0%	AGRICULTURE/RANCH/FARM	
			0.00	AC	0%	LUXURY RESIDENTS, 2-6 AC LOTS	
			0.00	AC	0%	SINGLE FAMILY RESIDENTS 1/4 AC LOTS	
			69.64	AC	75%	MULTI-FAMILY RESIDENTS	
			0.00	AC	0%	MOTEL WITH KITCHEN	
			0.00	AC	0%	RESTAURANT	
			0.00	AC	0%	SHOPPING	
			23.21	AC	25%	OFFICE	
			0.00	AC	0%	INDUSTRIAL	
			0.00	AC	0%	STABLES/KENNELS	
			0.00	AC	0%	PARK LAND	
					100%		
AREA 10 - CIELO SPRINGS							
PROPERTY ID	**LEGAL DESCRIPTION**		**QTY**	**UNITS**	**PERCENT**	**PROPOSED LAND USE**	**COMMENTS**
17700	CIELO SPRINGS , BLK 02 , LOT 01 , ACRES .66		0.66	AC		SHOPPING	
17701	CIELO SPRINGS , BLK 02 , LOT 02 , ACRES 5.09		5.09	AC		SHOPPING	
	SUM OF AC OF RESIDENTIAL LOTS		646	AC		LUXURY RESIDENTS, 2-6 AC LOTS	
		TOTAL	651.75	AC			
			83.57	AC	90%	LUXURY RESIDENTS, 2-6 AC LOTS	
			0.00	AC	0%	SINGLE FAMILY RESIDENTS 1/4 AC LOTS	
			0.00	AC	0%	MULTI-FAMILY RESIDENTS	
			0.00	AC	0%	MOTEL WITH KITCHEN	
			0.00	AC	0%	RESTAURANT	
			0.00	AC	0%	SHOPPING	
			9.29	AC	10%	OFFICE	
			0.00	AC	0%	INDUSTRIAL	
			0.00	AC	0%	STABLES/KENNELS	
			0.00	AC	0%	PARK LAND	
					100%		
			206	HOMES		2-6 AC LOTS	
AREA 11 - LANDSCAPING SUPPLY AT 32 & LINDEMAN LN							
PROPERTY ID	**LEGAL DESCRIPTION**		**QTY**	**UNITS**	**PERCENT**	**PROPOSED LAND USE**	**COMMENTS**
75139	ABS A0617 SURVEY 91 T.W. WEBB,ACRES 17.07	TOTAL	17.07	AC	100%	INDUSTRIAL	

AREA 12 - ABS A0634 SURVEY 90 W.C. WINTERS							
PROPERTY ID	**LEGAL DESCRIPTION**	**QTY**	**UNITS**	**PERCENT**	**PROPOSED LAND USE**	**COMMENTS**
3631	ABS A0634 SURVEY 90 W.C. WINTERS,ACRES 300.339	300.34	AC		SHOPPING, MULTI FAMILY, SF 1/4 AC LOTS	
8358	ABS A0634 SURVEY 90 W.C. WINTERS,ACRES 2.16	2.16	AC		LUXURY RESIDENTS, 4 AC LOTS	
83062	ABS A0634 SURVEY 90 W.C. WINTERS,ACRES 12.20	12.20	AC		LUXURY RESIDENTS, 4 AC LOTS	
1785	ABS A0634 SURVEY 90 W.C. WINTERS,ACRES 154.34	154.34	AC		SF 2-6 AC LOTS	
	TOTAL	469.04	AC			
		164.16	AC	35%	LUXURY RESIDENTS, 2-6 AC LOTS	
		211.07	AC	45%	SINGLE FAMILY RESIDENTS 1/4 AC LOTS	
		28.14	AC	6%	MULTI-FAMILY RESIDENTS	
		9.38	AC	2%	MOTEL WITH KITCHEN	
		9.38	AC	2%	RESTAURANT	
		46.90	AC	10%	SHOPPING	
		0.00	AC	0%	OFFICE	
		0.00	AC	0%	INDUSTRIAL	
		0.00	AC	0%	STABLES/KENNELS	
		0.00	AC	0%	PARK LAND	
				100%		
		41	LOTS		2-6 AC LOTS	
		844	LOTS		1/4 AC LOTS	
AREA 13 - SOUTH OF RIVER ADJACENT (WEST) OF 281						
PROPERTY ID	**LEGAL DESCRIPTION**	**QTY**	**UNITS**	**PERCENT**	**PROPOSED LAND USE**	**COMMENTS**
9684	ABS A0001 SURVEY 24 H EGGLESTON,ACRES 221.59	221.59	AC			
9645	ABS A0621 SURVEY 407 J.A. WOHLERS,ACRES 5.0	5	AC			
	TOTAL	226.59	AC			
		22.66	AC	10%	AGRICULTURE/RANCH/FARM	
		113.30	AC	50%	LUXURY RESIDENTS, 2-6 AC LOTS	
		45.32	AC	20%	SINGLE FAMILY RESIDENTS 1/4 AC LOTS	
		0.00	AC	0%	MULTI-FAMILY RESIDENTS	
		0.00	AC	0%	MOTEL WITH KITCHEN	
		0.00	AC	0%	RESTAURANT	
		45.32	AC	20%	SHOPPING	
		0.00	AC	0%	OFFICE	
		0.00	AC	0%	INDUSTRIAL	
		0.00	AC	0%	STABLES/KENNELS	
				100%		
AREA 14						
PROPERTY ID	**LEGAL DESCRIPTION**	**QTY**	**UNITS**	**PERCENT**	**PROPOSED LAND USE**	**COMMENTS**
9138	ABS A0004 SURVEY 25 B WILLIAMS,ACRES 46.9	46.9	AC		RESIDENTIAL	
2939	ABS A0004 SURVEY 25 B WILLIAMS,ACRES 27.34	27.34	AC		RESIDENTIAL	
11832	ABS A0004 SURVEY 25 B WILLIAMS,ACRES 15.18	15.18	AC		KENNEL/RESIDENTIAL	
10994	?	14	AC		RESIDENTIAL	
16132	ABS A0001 SURVEY 24 H EGGLESTON,ACRES 1.	12	AC		RESIDENTIAL	
25771	ABS A0001 SURVEY 24 H EGGLESTON,ACRES 5.0	5	AC		RESIDENTIAL	
10438	?	5	AC		RESIDENTIAL	
	TOTAL	125.42	AC			
		0.00	AC	0%	AGRICULTURE/RANCH/FARM	
		110.37	AC	88%	LUXURY RESIDENTS, 2-6 AC LOTS	
		0.00	AC	0%	SINGLE FAMILY RESIDENTS 1/4 AC LOTS	
		0.00	AC	0%	INDUSTRIAL	
		15.05	AC	12%	STABLES/KENNELS	
				100%		
		18	LOTS			

AREA 15 - PRIVATE RANCH OR FARM NO WW SERVICE PROVIDED							
PROPERTY ID	LEGAL DESCRIPTION		QTY	UNITS	PERCENT	PROPOSED LAND USE	COMMENTS
80983							
12083							
17573							
19745							
18774							
5127	ABS A0003 SURVEY 23 NOEL MIXON,ACRES 25.2		25.20	AC	100%	PRIVATE RANCH	
3355	ABS A0003 SURVEY 23 NOEL MIXON,ACRES 8.76		8.76	AC	100%	PRIVATE RANCH	
11236	ABS A0003 SURVEY 23 NOEL MIXON,ACRES 14.31,(RETAINS LIFE ESTATE)		14.31	AC	100%	PRIVATE RANCH	50% OF LOT IS OUTSIDE FUTURE SERVICE AREA
7266	ABS A0003 SURVEY 23 NOEL MIXON,ACRES 36.54		36.54	AC	100%	PRIVATE RANCH	50% OF LOT IS OUTSIDE FUTURE SERVICE AREA
5128	ABS A0634 SURVEY 90 W.C. WINTERS,ACRES 1.00		1.00	AC		PRIVATE RANCH	
			85.81				

APPENDIX B

AREA 1

ADWF	19,967.67	gpd	0.03089 cfs
PDWF	83,673.64	gpd	0.12946 cfs
PWWF	604,504.76	gpd	0.93531 cfs

Single Family Residential Homes, 1/4 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	245	gpd per home
Residential Area	0.00	AC
Size of lots	0.25	AC
Number of units	0	Units

ADWF = Units * 245 gpd

0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre

I&I = 0.00 gpd

Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Single Family Residential Homes, 2-6 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	280	gpd per acre
Residential Area	490.19	AC
Size of lots	4	AC
Number of units	123	Units

ADWF = Units * 280 gpd

0.44 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 1.97 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre

I&I = 367,645.50 gpd

Qpw = 367,647.47 gpd 255.15 gpm 0.56847 cfs

Multi Family Residential Homes, 20 units per AC

Average Dry Weather Flow (ADWF) (Qad)

Flow 1950 gpd per acre
Residential Area 0.00 AC

ADWF = Area * 1950 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Motel with Kitchen

Average Dry Weather Flow (ADWF) (Qad)

Flow 2000 gpd per acre
Area 0.00 AC

ADWF = Area * 2000 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Shopping Center

Average Dry Weather Flow (ADWF) (Qad)

Flow 126 gpd per acre
Area 0.00 AC

ADWF = Area * 126 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Restaurant

Average Dry Weather Flow (ADWF) (Qad)

Flow 600 gpd per acre
Area 0.00 AC

ADWF = Area * 600 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Office

Average Dry Weather Flow (ADWF) (Qad)

Flow 195 gpd per acre
Area 65.36 AC

ADWF = Area * 195 gpd
12,745.04 gpd 8.85 gpm 0.01971 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.16
Qpd = (PF*ADWF)
Qpd = 53,051.42 gpd 36.82 gpm 0.08203 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 49,019.40 gpd
Qpw = 102,070.82 gpd 70.84 gpm 0.15783 cfs

Industrial

Average Dry Weather Flow (ADWF) (Qad)

Flow 52 gpd per acre
Area 138.89 AC

ADWF = Area * 52 gpd
7,222.19 gpd 5.01 gpm 0.01117 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.24
Qpd = (PF*ADWF)
Qpd = 30,620.25 gpd 21.25 gpm 0.04735 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 104,166.23 gpd
Qpw = 134,786.48 gpd 93.54 gpm 0.20841 cfs

Stables/Kennels

Average Dry Weather Flow (ADWF) (Qad)

Flow 13 gpd per acre
Area 0.00 AC

ADWF = Area * 13 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

AREA 2

ADWF	6,805.75 gpd	0.01053 cfs
PDWF	29,361.27 gpd	0.04543 cfs
PWWF	105,081.27 gpd	0.16258 cfs

Single Family Residential Homes, 1/4 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	245	gpd per home
Residential Area	0.00	AC
Size of lots	0.25	AC
Number of units	0	Units

ADWF = Units * 245 gpd

0.00 gpd — 0.00 gpm — 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.00 gpd — 0.00 gpm — 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I — I&I = 750 gpd/acre

I&I = 0.00 gpd

Qpw = 0.00 gpd — 0.00 gpm — 0.00000 cfs

Single Family Residential Homes, 2-6 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	280	gpd per acre	
Residential Area	58.56	AC	
Size of lots	4	AC	
Number of units	11	Units	*units reduced to 11 due to existing development*

ADWF = Units * 280 gpd

0.04 gpd — 0.00 gpm — 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.18 gpd — 0.00 gpm — 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I — I&I = 750 gpd/acre

I&I = 43,917.60 gpd

Qpw = 43,917.78 gpd — 30.48 gpm — 0.06791 cfs

Multi Family Residential Homes, 20 units per AC

Average Dry Weather Flow (ADWF) (Qad)

Flow		1950	gpd per acre		
Residential Area		0.00	AC		
ADWF =	Area * 1950	gpd			
	0.00	gpd		0.00 gpm	0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)			
PF =	4.50			
Qpd =	(PF*ADWF)			
Qpd =	0.00 gpd		0.00 gpm	0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre		
I&I =	0.00 gpd			
Qpw =	0.00 gpd		0.00 gpm	0.00000 cfs

Motel with Kitchen

Average Dry Weather Flow (ADWF) (Qad)

Flow		2000	gpd per acre		
Area		0.00	AC		
ADWF =	Area * 2000	gpd			
	0.00	gpd		0.00 gpm	0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)			
PF =	4.50			
Qpd =	(PF*ADWF)			
Qpd =	0.00 gpd		0.00 gpm	0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre		
I&I =	0.00 gpd			
Qpw =	0.00 gpd		0.00 gpm	0.00000 cfs

Shopping Center

Average Dry Weather Flow (ADWF) (Qad)

Flow		126	gpd per acre		
Area		21.20	AC		
ADWF =	Area * 126	gpd			
	2,671.40	gpd		1.85 gpm	0.00413 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)			
PF =	4.34			
Qpd =	(PF*ADWF)			
Qpd =	11,585.78 gpd		8.04 gpm	0.01791 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre		
I&I =	15,901.20 gpd			
Qpw =	27,486.98 gpd		19.08 gpm	0.04250 cfs

Restaurant

Average Dry Weather Flow (ADWF) (Qad)

Flow	600	gpd per acre	
Area	0.00	AC	
ADWF =	Area * 600	gpd	
	0.00	gpd	0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)		
PF =	4.50		
Qpd =	(PF*ADWF)		
Qpd =	0.00	gpd	0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre	
I&I =	0.00	gpd	
Qpw =	0.00	gpd	0.00 gpm 0.00000 cfs

Office

Average Dry Weather Flow (ADWF) (Qad)

Flow	195	gpd per acre	
Area	21.20	AC	
ADWF =	Area * 195	gpd	
	4,134.31	gpd	2.87 gpm 0.00639 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)		
PF =	4.30		
Qpd =	(PF*ADWF)		
Qpd =	17,775.31	gpd	12.34 gpm 0.02748 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre	
I&I =	15,901.20	gpd	
Qpw =	33,676.51	gpd	23.37 gpm 0.05207 cfs

Industrial

Average Dry Weather Flow (ADWF) (Qad)

Flow	52	gpd per acre	
Area	0.00	AC	
ADWF =	Area * 52	gpd	
	0.00	gpd	0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)		
PF =	4.50		
Qpd =	(PF*ADWF)		
Qpd =	0.00	gpd	0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre	
I&I =	0.00	gpd	
Qpw =	0.00	gpd	0.00 gpm 0.00000 cfs

Stables/Kennels

Average Dry Weather Flow (ADWF) (Qad)

Flow 13 gpd per acre
Area 0.00 AC

ADWF = Area * 13 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

AREA 3

ADWF	4,850.53 gpd	0.00750 cfs
PDWF	20,975.03 gpd	0.03245 cfs
PWWF	142,643.78 gpd	0.22070 cfs

Single Family Residential Homes, 1/4 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	245	gpd per home
Residential Area	0.00	AC
Size of lots	0.25	AC
Number of units	0	Units

ADWF = Units * 245 gpd

0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre

I&I = 0.00 gpd

Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Single Family Residential Homes, 2-6 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	280	gpd per acre	
Residential Area	12.98	AC	
Size of lots	4	AC	
Number of units	1	Units	*changed to 1 due to existing development*

ADWF = Units * 280 gpd

0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.02 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre

I&I = 9,733.50 gpd

Qpw = 9,733.52 gpd 6.76 gpm 0.01505 cfs

Multi Family Residential Homes, 20 units per AC

Average Dry Weather Flow (ADWF) (Qad)

Flow		1950	gpd per acre		
Residential Area		0.00	AC		
ADWF =	Area * 1950	gpd			
	0.00	gpd		0.00 gpm	0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)			
PF =	4.50			
Qpd =	(PF*ADWF)			
Qpd =	0.00 gpd		0.00 gpm	0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre		
I&I =	0.00 gpd			
Qpw =	0.00 gpd		0.00 gpm	0.00000 cfs

Motel with Kitchen

Average Dry Weather Flow (ADWF) (Qad)

Flow		2000	gpd per acre		
Area		0.00	AC		
ADWF =	Area * 2000	gpd			
	0.00	gpd		0.00 gpm	0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)			
PF =	4.50			
Qpd =	(PF*ADWF)			
Qpd =	0.00 gpd		0.00 gpm	0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre		
I&I =	0.00 gpd			
Qpw =	0.00 gpd		0.00 gpm	0.00000 cfs

Shopping Center

Average Dry Weather Flow (ADWF) (Qad)

Flow		126	gpd per acre		
Area		0.00	AC		
ADWF =	Area * 126	gpd			
	0.00	gpd		0.00 gpm	0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)			
PF =	4.50			
Qpd =	(PF*ADWF)			
Qpd =	0.00 gpd		0.00 gpm	0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre		
I&I =	0.00 gpd			
Qpw =	0.00 gpd		0.00 gpm	0.00000 cfs

Restaurant

Average Dry Weather Flow (ADWF) (Qad)

Flow 600 gpd per acre
Area 0.00 AC

ADWF = Area * 600 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Office

Average Dry Weather Flow (ADWF) (Qad)

Flow 195 gpd per acre
Area 0.00 AC

ADWF = Area * 195 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Industrial

Average Dry Weather Flow (ADWF) (Qad)

Flow 52 gpd per acre
Area 74.62 AC

ADWF = Area * 52 gpd
3,880.42 gpd 2.69 gpm 0.00600 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.31
Qpd = (PF*ADWF)
Qpd = 16,706.65 gpd 11.59 gpm 0.02583 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 55,967.63 gpd
Qpw = 72,674.27 gpd 50.44 gpm 0.11237 cfs

Stables/Kennels

Average Dry Weather Flow (ADWF) (Qad)

Flow	13	gpd per acre
Area	74.62	AC

ADWF = Area * 13 gpd

970.11 gpd 0.67 gpm 0.00150 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.40

Qpd = (PF*ADWF)

Qpd = 4,268.37 gpd 2.96 gpm 0.00660 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre

I&I = 55,967.63 gpd

Qpw = 60,235.99 gpd 41.80 gpm 0.09314 cfs

AREA 4

ADWF	2.78 gpd	0.00000 cfs
PDWF	12.47 gpd	0.00002 cfs
PWWF	127,512.47 gpd	0.19729 cfs

Single Family Residential Homes, 1/4 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	245	gpd per home
Residential Area	170.00	AC
Size of lots	0.25	AC
Number of units	680	Units

ADWF = Units * 245 gpd

2.78 gpd — 0.00 gpm — 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.49

Qpd = (PF*ADWF)

Qpd = 12.47 gpd — 0.01 gpm — 0.00002 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I — I&I = 750 gpd/acre

I&I = 127,500.00 gpd

Qpw = 127,512.47 gpd — 88.49 gpm — 0.19716 cfs

Single Family Residential Homes, 2-6 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	280	gpd per acre
Residential Area	0.00	AC
Size of lots	4	AC
Number of units	0	Units

ADWF = Units * 280 gpd

0.00 gpd — 0.00 gpm — 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.00 gpd — 0.00 gpm — 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I — I&I = 750 gpd/acre

I&I = 0.00 gpd

Qpw = 0.00 gpd — 0.00 gpm — 0.00000 cfs

Multi Family Residential Homes, 20 units per AC

Average Dry Weather Flow (ADWF) (Qad)

Flow 1950 gpd per acre
Residential Area 0.00 AC

ADWF = Area * 1950 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Motel with Kitchen

Average Dry Weather Flow (ADWF) (Qad)

Flow 2000 gpd per acre
Area 0.00 AC

ADWF = Area * 2000 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Shopping Center

Average Dry Weather Flow (ADWF) (Qad)

Flow 126 gpd per acre
Area 0.00 AC

ADWF = Area * 126 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Restaurant

Average Dry Weather Flow (ADWF) (Qad)

Flow 600 gpd per acre
Area 0.00 AC

ADWF = Area * 600 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Office

Average Dry Weather Flow (ADWF) (Qad)

Flow 195 gpd per acre
Area 0.00 AC

ADWF = Area * 195 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Industrial

Average Dry Weather Flow (ADWF) (Qad)

Flow 52 gpd per acre
Area 0.00 AC

ADWF = Area * 52 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Stables/Kennels

Average Dry Weather Flow (ADWF) (Qad)

Flow 13 gpd per acre
Area 0.00 AC

ADWF = Area * 13 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

AREA 5

ADWF	3.85 gpd	0.00001 cfs
PDWF	17.29 gpd	0.00003 cfs
PWWF	335,195.29 gpd	0.51862 cfs

Single Family Residential Homes, 1/4 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	245	gpd per home
Residential Area	223.45	AC
Size of lots	0.25	AC
Number of units	894	Units

ADWF = Units * 245 gpd

3.65 gpd 0.00 gpm 0.00001 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.49

Qpd = (PF*ADWF)

Qpd = 16.39 gpd 0.01 gpm 0.00003 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre

I&I = 167,589.00 gpd

Qpw = 167,605.39 gpd 116.32 gpm 0.25916 cfs

Single Family Residential Homes, 2-6 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	280	gpd per acre
Residential Area	223.45	AC
Size of lots	4	AC
Number of units	56	Units

ADWF = Units * 280 gpd

0.20 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.90 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre

I&I = 167,589.00 gpd

Qpw = 167,589.90 gpd 116.31 gpm 0.25913 cfs

Multi Family Residential Homes, 20 units per AC

Average Dry Weather Flow (ADWF) (Qad)

Flow		1950	gpd per acre		
Residential Area		0.00	AC		
ADWF =	Area * 1950	gpd			
	0.00	gpd		0.00 gpm	0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)			
PF =	4.50			
Qpd =	(PF*ADWF)			
Qpd =	0.00 gpd		0.00 gpm	0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre		
I&I =	0.00 gpd			
Qpw =	0.00 gpd		0.00 gpm	0.00000 cfs

Motel with Kitchen

Average Dry Weather Flow (ADWF) (Qad)

Flow		2000	gpd per acre		
Area		0.00	AC		
ADWF =	Area * 2000	gpd			
	0.00	gpd		0.00 gpm	0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)			
PF =	4.50			
Qpd =	(PF*ADWF)			
Qpd =	0.00 gpd		0.00 gpm	0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre		
I&I =	0.00 gpd			
Qpw =	0.00 gpd		0.00 gpm	0.00000 cfs

Shopping Center

Average Dry Weather Flow (ADWF) (Qad)

Flow		126	gpd per acre		
Area		0.00	AC		
ADWF =	Area * 126	gpd			
	0.00	gpd		0.00 gpm	0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)			
PF =	4.50			
Qpd =	(PF*ADWF)			
Qpd =	0.00 gpd		0.00 gpm	0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre		
I&I =	0.00 gpd			
Qpw =	0.00 gpd		0.00 gpm	0.00000 cfs

Restaurant

Average Dry Weather Flow (ADWF) (Qad)

Flow 600 gpd per acre
Area 0.00 AC

ADWF = Area * 600 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Office

Average Dry Weather Flow (ADWF) (Qad)

Flow 195 gpd per acre
Area 0.00 AC

ADWF = Area * 195 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Industrial

Average Dry Weather Flow (ADWF) (Qad)

Flow 52 gpd per acre
Area 0.00 AC

ADWF = Area * 52 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Stables/Kennels

Average Dry Weather Flow (ADWF) (Qad)

Flow 13 gpd per acre
Area 0.00 AC

ADWF = Area * 13 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

AREA 6

ADWF	1,955.98 gpd	0.00303 cfs
PDWF	8,541.72 gpd	0.01322 cfs
PWWF	40,328.97 gpd	0.06240 cfs

Single Family Residential Homes, 1/4 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	245	gpd per home
Residential Area	0.00	AC
Size of lots	0.25	AC
Number of units	0	Units

ADWF = Units * 245 gpd

0.00 gpd — 0.00 gpm — 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.00 gpd — 0.00 gpm — 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I — I&I = 750 gpd/acre

I&I = 0.00 gpd

Qpw = 0.00 gpd — 0.00 gpm — 0.00000 cfs

Single Family Residential Homes, 2-6 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	280	gpd per acre
Residential Area	0.00	AC
Size of lots	4	AC
Number of units	0	Units

ADWF = Units * 280 gpd

0.00 gpd — 0.00 gpm — 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.00 gpd — 0.00 gpm — 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I — I&I = 750 gpd/acre

I&I = 0.00 gpd

Qpw = 0.00 gpd — 0.00 gpm — 0.00000 cfs

Multi Family Residential Homes, 20 units per AC

Average Dry Weather Flow (ADWF) (Qad)

Flow 1950 gpd per acre
Residential Area 0.00 AC

ADWF = Area * 1950 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Motel with Kitchen

Average Dry Weather Flow (ADWF) (Qad)

Flow 2000 gpd per acre
Area 0.00 AC

ADWF = Area * 2000 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Shopping Center

Average Dry Weather Flow (ADWF) (Qad)

Flow 126 gpd per acre
Area 0.00 AC

ADWF = Area * 126 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Restaurant

Average Dry Weather Flow (ADWF) (Qad)

Flow 600 gpd per acre

Area 0.00 AC

ADWF = Area * 600 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Office

Average Dry Weather Flow (ADWF) (Qad)

Flow 195 gpd per acre
Area 0.00 AC

ADWF = Area * 195 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Industrial

Average Dry Weather Flow (ADWF) (Qad)

Flow 52 gpd per acre
Area 36.03 AC

ADWF = Area * 52 gpd
1,873.33 gpd 1.30 gpm 0.00290 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.36
Qpd = (PF*ADWF)
Qpd = 8,172.27 gpd 5.67 gpm 0.01264 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 27,019.16 gpd
Qpw = 35,191.43 gpd 24.42 gpm 0.05441 cfs

Stables/Kennels

Average Dry Weather Flow (ADWF) (Qad)

Flow 13 gpd per acre
Area 6.36 AC

ADWF = Area * 13 gpd

82.65 gpd		0.06 gpm	0.00013 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.47
Qpd = (PF*ADWF)

Qpd = 369.45 gpd		0.26 gpm	0.00057 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 4,768.09 gpd

Qpw = 5,137.53 gpd		3.57 gpm	0.00794 cfs

AREA 7

ADWF	227,145.70 gpd	0.35145 cfs
PDWF	775,237.96 gpd	1.19947 cfs
PWWF	949,963.96 gpd	1.46981 cfs

Single Family Residential Homes, 1/4 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	245	gpd per home
Residential Area	116.48	AC
Size of lots	0.25	AC
Number of units	466	Units

ADWF = Units * 245 gpd

1.90 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 8.55 gpd 0.01 gpm 0.00001 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre

I&I = 87,363.00 gpd

Qpw = 87,371.55 gpd 60.64 gpm 0.13510 cfs

Single Family Residential Homes, 2-6 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	280	gpd per acre
Residential Area	0.00	AC
Size of lots	4	AC
Number of units	0	Units

ADWF = Units * 280 gpd

0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre

I&I = 0.00 gpd

Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Multi Family Residential Homes, 20 units per AC

Average Dry Weather Flow (ADWF) (Qad)

Flow 1950 gpd per acre
Residential Area 116.48 AC

ADWF = Area * 1950 gpd
227,143.80 gpd 157.64 gpm 0.35122 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 3.41
Qpd = (PF*ADWF)
Qpd = 775,229.41 gpd 538.01 gpm 1.19869 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 87,363.00 gpd
Qpw = 862,592.41 gpd 598.64 gpm 1.33377 cfs

Motel with Kitchen

Average Dry Weather Flow (ADWF) (Qad)

Flow 2000 gpd per acre
Area 0.00 AC

ADWF = Area * 2000 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Shopping Center

Average Dry Weather Flow (ADWF) (Qad)

Flow 126 gpd per acre
Area 0.00 AC

ADWF = Area * 126 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Restaurant

Average Dry Weather Flow (ADWF) (Qad)

Flow 600 gpd per acre
Area 0.00 AC

ADWF = Area * 600 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Office

Average Dry Weather Flow (ADWF) (Qad)

Flow 195 gpd per acre
Area 0.00 AC

ADWF = Area * 195 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Industrial

Average Dry Weather Flow (ADWF) (Qad)

Flow 52 gpd per acre
Area 0.00 AC

ADWF = Area * 52 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Stables/Kennels

Average Dry Weather Flow (ADWF) (Qad)

Flow 13 gpd per acre
Area 0.00 AC

ADWF = Area * 13 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

AREA 8

ADWF	102,699.00 gpd	0.15890 cfs
PDWF	408,580.99 gpd	0.63217 cfs
PWWF	523,317.79 gpd	0.80969 cfs

Single Family Residential Homes, 1/4 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	245	gpd per home
Residential Area	0.00	AC
Size of lots	0.25	AC
Number of units	0	Units

ADWF = Units * 245 gpd

0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre

I&I = 0.00 gpd

Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Single Family Residential Homes, 2-6 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	280	gpd per acre
Residential Area	0.00	AC
Size of lots	4	AC
Number of units	0	Units

ADWF = Units * 280 gpd

0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre

I&I = 0.00 gpd

Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Multi Family Residential Homes, 20 units per AC

Average Dry Weather Flow (ADWF) (Qad)

Flow 1950 gpd per acre
Residential Area 28.68 AC

ADWF = Area * 1950 gpd
55,934.19 gpd 38.82 gpm 0.08649 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 3.86
Qpd = (PF*ADWF)
Qpd = 215,934.38 gpd 149.86 gpm 0.33389 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 21,513.15 gpd
Qpw = 237,447.53 gpd 164.79 gpm 0.36715 cfs

Motel with Kitchen

Average Dry Weather Flow (ADWF) (Qad)

Flow 2000 gpd per acre
Area 13.39 AC

ADWF = Area * 2000 gpd
26,771.92 gpd 18.58 gpm 0.04140 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.03
Qpd = (PF*ADWF)
Qpd = 107,922.46 gpd 74.90 gpm 0.16687 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 10,039.47 gpd
Qpw = 117,961.93 gpd 81.87 gpm 0.18240 cfs

Shopping Center

Average Dry Weather Flow (ADWF) (Qad)

Flow 126 gpd per acre
Area 57.37 AC

ADWF = Area * 126 gpd
7,228.42 gpd 5.02 gpm 0.01118 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.24
Qpd = (PF*ADWF)
Qpd = 30,645.90 gpd 21.27 gpm 0.04739 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 43,026.30 gpd
Qpw = 73,672.20 gpd 51.13 gpm 0.11391 cfs

Restaurant

Average Dry Weather Flow (ADWF) (Qad)

Flow 600 gpd per acre
Area 5.74 AC

ADWF = Area * 600 gpd
3,442.10 gpd 2.39 gpm 0.00532 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.32
Qpd = (PF*ADWF)
Qpd = 14,856.45 gpd 10.31 gpm 0.02297 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 4,302.63 gpd
Qpw = 19,159.08 gpd 13.30 gpm 0.02962 cfs

Office

Average Dry Weather Flow (ADWF) (Qad)

Flow 195 gpd per acre
Area 47.81 AC

ADWF = Area * 195 gpd
9,322.37 gpd 6.47 gpm 0.01441 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.21
Qpd = (PF*ADWF)
Qpd = 39,221.79 gpd 27.22 gpm 0.06065 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 35,855.25 gpd
Qpw = 75,077.04 gpd 52.10 gpm 0.11609 cfs

Industrial

Average Dry Weather Flow (ADWF) (Qad)

Flow 52 gpd per acre
Area 0.00 AC

ADWF = Area * 52 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Stables/Kennels

Average Dry Weather Flow (ADWF) (Qad)

Flow 13 gpd per acre
Area 0.00 AC

ADWF = Area * 13 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

AREA 9

ADWF	140,319.56	gpd	0.21711 cfs
PDWF	507,706.82	gpd	0.78554 cfs
PWWF	577,344.32	gpd	0.89328 cfs

Single Family Residential Homes, 1/4 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	245	gpd per home
Residential Area	0.00	AC
Size of lots	0.25	AC
Number of units	0	Units

ADWF = Units * 245 gpd

0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre

I&I = 0.00 gpd

Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Single Family Residential Homes, 2-6 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	280	gpd per acre
Residential Area	0.00	AC
Size of lots	4	AC
Number of units	0	Units

ADWF = Units * 280 gpd

0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre

I&I = 0.00 gpd

Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Multi Family Residential Homes, 20 units per AC

Average Dry Weather Flow (ADWF) (Qad)

Flow 1950 gpd per acre
Residential Area 69.64 AC

ADWF = Area * 1950 gpd
135,793.13 gpd 94.24 gpm 0.20997 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 3.60
Qpd = (PF*ADWF)
Qpd = 488,285.13 gpd 338.87 gpm 0.75501 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 52,228.13 gpd
Qpw = 540,513.26 gpd 375.12 gpm 0.83576 cfs

Motel with Kitchen

Average Dry Weather Flow (ADWF) (Qad)

Flow 2000 gpd per acre
Area 0.00 AC

ADWF = Area * 2000 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Shopping Center

Average Dry Weather Flow (ADWF) (Qad)

Flow 126 gpd per acre
Area 0.00 AC

ADWF = Area * 126 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Restaurant

Average Dry Weather Flow (ADWF) (Qad)

Flow 600 gpd per acre
Area 0.00 AC

ADWF = Area * 600 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Office

Average Dry Weather Flow (ADWF) (Qad)

Flow 195 gpd per acre
Area 23.21 AC

ADWF = Area * 195 gpd
4,526.44 gpd 3.14 gpm 0.00700 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.29
Qpd = (PF*ADWF)
Qpd = 19,421.69 gpd 13.48 gpm 0.03003 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 17,409.38 gpd
Qpw = 36,831.06 gpd 25.56 gpm 0.05695 cfs

Industrial

Average Dry Weather Flow (ADWF) (Qad)

Flow 52 gpd per acre
Area 0.00 AC

ADWF = Area * 52 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Stables/Kennels

Average Dry Weather Flow (ADWF) (Qad)

Flow 13 gpd per acre
Area 0.00 AC

ADWF = Area * 13 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

AREA 10

ADWF	1,810.65 gpd	0.00280 cfs
PDWF	7,902.89 gpd	0.01223 cfs
PWWF	77,540.39 gpd	0.11997 cfs

Single Family Residential Homes, 1/4 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	245	gpd per home
Residential Area	0.00	AC
Size of lots	0.25	AC
Number of units	0	Units

ADWF = Units * 245 gpd

0.00 gpd — 0.00 gpm — 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.00 gpd — 0.00 gpm — 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I — I&I = 750 gpd/acre

I&I = 0.00 gpd

Qpw = 0.00 gpd — 0.00 gpm — 0.00000 cfs

Single Family Residential Homes, 2-6 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	280	gpd per acre
Residential Area	83.57	AC
Size of lots	4	AC
Number of units	21	Units

ADWF = Units * 280 gpd

0.07 gpd — 0.00 gpm — 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.34 gpd — 0.00 gpm — 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I — I&I = 750 gpd/acre

I&I = 62,673.75 gpd

Qpw = 62,674.09 gpd — 43.50 gpm — 0.09691 cfs

Multi Family Residential Homes, 20 units per AC

Average Dry Weather Flow (ADWF) (Qad)

Flow		1950	gpd per acre		
Residential Area		0.00	AC		
ADWF =	Area * 1950	gpd			
	0.00	gpd		0.00 gpm	0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)			
PF =	4.50			
Qpd =	(PF*ADWF)			
Qpd =	0.00 gpd		0.00 gpm	0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre		
I&I =	0.00 gpd			
Qpw =	0.00 gpd		0.00 gpm	0.00000 cfs

Motel with Kitchen

Average Dry Weather Flow (ADWF) (Qad)

Flow		2000	gpd per acre		
Area		0.00	AC		
ADWF =	Area * 2000	gpd			
	0.00	gpd		0.00 gpm	0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)			
PF =	4.50			
Qpd =	(PF*ADWF)			
Qpd =	0.00 gpd		0.00 gpm	0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre		
I&I =	0.00 gpd			
Qpw =	0.00 gpd		0.00 gpm	0.00000 cfs

Shopping Center

Average Dry Weather Flow (ADWF) (Qad)

Flow		126	gpd per acre		
Area		0.00	AC		
ADWF =	Area * 126	gpd			
	0.00	gpd		0.00 gpm	0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)			
PF =	4.50			
Qpd =	(PF*ADWF)			
Qpd =	0.00 gpd		0.00 gpm	0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre		
I&I =	0.00 gpd			
Qpw =	0.00 gpd		0.00 gpm	0.00000 cfs

Restaurant

Average Dry Weather Flow (ADWF) (Qad)

Flow 600 gpd per acre
Area 0.00 AC

ADWF = Area * 600 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Office

Average Dry Weather Flow (ADWF) (Qad)

Flow 195 gpd per acre
Area 9.29 AC

ADWF = Area * 195 gpd
1,810.58 gpd 1.26 gpm 0.00280 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.36
Qpd = (PF*ADWF)
Qpd = 7,902.56 gpd 5.48 gpm 0.01222 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 6,963.75 gpd
Qpw = 14,866.31 gpd 10.32 gpm 0.02299 cfs

Industrial

Average Dry Weather Flow (ADWF) (Qad)

Flow 52 gpd per acre
Area 0.00 AC

ADWF = Area * 52 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Stables/Kennels

Average Dry Weather Flow (ADWF) (Qad)

Flow 13 gpd per acre
Area 0.00 AC

ADWF = Area * 13 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

AREA 11

ADWF	887.64 gpd	0.00137 cfs
PDWF	3,909.28 gpd	0.00605 cfs
PWWF	16,711.78 gpd	0.02586 cfs

Single Family Residential Homes, 1/4 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	245	gpd per home
Residential Area	0.00	AC
Size of lots	0.25	AC
Number of units	0	Units

ADWF = Units * 245 gpd

0.00 gpd — 0.00 gpm — 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.00 gpd — 0.00 gpm — 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I — I&I = 750 gpd/acre

I&I = 0.00 gpd

Qpw = 0.00 gpd — 0.00 gpm — 0.00000 cfs

Single Family Residential Homes, 2-6 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	280	gpd per acre
Residential Area	0.00	AC
Size of lots	4	AC
Number of units	0	Units

ADWF = Units * 280 gpd

0.00 gpd — 0.00 gpm — 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.00 gpd — 0.00 gpm — 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I — I&I = 750 gpd/acre

I&I = 0.00 gpd

Qpw = 0.00 gpd — 0.00 gpm — 0.00000 cfs

Multi Family Residential Homes, 20 units per AC

Average Dry Weather Flow (ADWF) (Qad)

Flow		1950	gpd per acre		
Residential Area		0.00	AC		
ADWF =	Area * 1950	gpd			
	0.00	gpd		0.00 gpm	0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)			
PF =	4.50			
Qpd =	(PF*ADWF)			
Qpd =	0.00 gpd		0.00 gpm	0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre		
I&I =	0.00 gpd			
Qpw =	0.00 gpd		0.00 gpm	0.00000 cfs

Motel with Kitchen

Average Dry Weather Flow (ADWF) (Qad)

Flow		2000	gpd per acre		
Area		0.00	AC		
ADWF =	Area * 2000	gpd			
	0.00	gpd		0.00 gpm	0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)			
PF =	4.50			
Qpd =	(PF*ADWF)			
Qpd =	0.00 gpd		0.00 gpm	0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre		
I&I =	0.00 gpd			
Qpw =	0.00 gpd		0.00 gpm	0.00000 cfs

Shopping Center

Average Dry Weather Flow (ADWF) (Qad)

Flow		126	gpd per acre		
Area		0.00	AC		
ADWF =	Area * 126	gpd			
	0.00	gpd		0.00 gpm	0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)			
PF =	4.50			
Qpd =	(PF*ADWF)			
Qpd =	0.00 gpd		0.00 gpm	0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre		
I&I =	0.00 gpd			
Qpw =	0.00 gpd		0.00 gpm	0.00000 cfs

Restaurant

Average Dry Weather Flow (ADWF) (Qad)

Flow	600	gpd per acre	
Area	0.00	AC	
ADWF =	Area * 600	gpd	
	0.00	gpd	0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)		
PF =	4.50		
Qpd =	(PF*ADWF)		
Qpd =	0.00	gpd	0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre	
I&I =	0.00	gpd	
Qpw =	0.00	gpd	0.00 gpm 0.00000 cfs

Office

Average Dry Weather Flow (ADWF) (Qad)

Flow	195	gpd per acre	
Area	0.00	AC	
ADWF =	Area * 195	gpd	
	0.00	gpd	0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)		
PF =	4.50		
Qpd =	(PF*ADWF)		
Qpd =	0.00	gpd	0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre	
I&I =	0.00	gpd	
Qpw =	0.00	gpd	0.00 gpm 0.00000 cfs

Industrial

Average Dry Weather Flow (ADWF) (Qad)

Flow	52	gpd per acre	
Area	17.07	AC	
ADWF =	Area * 52	gpd	
	887.64	gpd	0.62 gpm 0.00137 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)		
PF =	4.40		
Qpd =	(PF*ADWF)		
Qpd =	3,909.28	gpd	2.71 gpm 0.00604 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre	
I&I =	12,802.50	gpd	
Qpw =	16,711.78	gpd	11.60 gpm 0.02584 cfs

Stables/Kennels

Average Dry Weather Flow (ADWF) (Qad)

Flow 13 gpd per acre
Area 0.00 AC

ADWF = Area * 13 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

AREA 12

ADWF	85,181.07 gpd		0.13179 cfs
PDWF	338,260.47 gpd		0.52337 cfs
PWWF	690,039.72 gpd		1.06765 cfs

Single Family Residential Homes, 1/4 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	245	gpd per home
Residential Area	211.07	AC
Size of lots	0.25	AC
Number of units	844	Units

ADWF = Units * 245 gpd

3.45 gpd 0.00 gpm 0.00001 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.49

Qpd = (PF*ADWF)

Qpd = 15.49 gpd 0.01 gpm 0.00002 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre

I&I = 158,300.66 gpd

Qpw = 158,316.15 gpd 109.87 gpm 0.24479 cfs

Single Family Residential Homes, 2-6 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	280	gpd per acre
Residential Area	164.16	AC
Size of lots	4	AC
Number of units	41	Units

ADWF = Units * 280 gpd

0.15 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.66 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre

I&I = 123,122.74 gpd

Qpw = 123,123.40 gpd 85.45 gpm 0.19038 cfs

Multi Family Residential Homes, 20 units per AC

Average Dry Weather Flow (ADWF) (Qad)

Flow 1950 gpd per acre
Residential Area 28.14 AC

ADWF = Area * 1950 gpd
54,877.56 gpd 38.09 gpm 0.08485 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 3.87
Qpd = (PF*ADWF)
Qpd = 212,127.94 gpd 147.22 gpm 0.32800 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 21,106.76 gpd
Qpw = 233,234.69 gpd 161.86 gpm 0.36064 cfs

Motel with Kitchen

Average Dry Weather Flow (ADWF) (Qad)

Flow 2000 gpd per acre
Area 9.38 AC

ADWF = Area * 2000 gpd
18,761.56 gpd 13.02 gpm 0.02901 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.10
Qpd = (PF*ADWF)
Qpd = 76,899.57 gpd 53.37 gpm 0.11891 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 7,035.59 gpd
Qpw = 83,935.15 gpd 58.25 gpm 0.12978 cfs

Shopping Center

Average Dry Weather Flow (ADWF) (Qad)

Flow 126 gpd per acre
Area 46.90 AC

ADWF = Area * 126 gpd
5,909.89 gpd 4.10 gpm 0.00914 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.26
Qpd = (PF*ADWF)
Qpd = 25,193.23 gpd 17.48 gpm 0.03895 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 35,177.93 gpd
Qpw = 60,371.15 gpd 41.90 gpm 0.09335 cfs

Restaurant

Average Dry Weather Flow (ADWF) (Qad)

Flow 600 gpd per acre
Area 9.38 AC

ADWF = Area * 600 gpd
5,628.47 gpd 3.91 gpm 0.00870 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.27
Qpd = (PF*ADWF)
Qpd = 24,023.59 gpd 16.67 gpm 0.03715 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 7,035.59 gpd
Qpw = 31,059.17 gpd 21.56 gpm 0.04802 cfs

Office

Average Dry Weather Flow (ADWF) (Qad)

Flow 195 gpd per acre
Area 0.00 AC

ADWF = Area * 195 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Industrial

Average Dry Weather Flow (ADWF) (Qad)

Flow 52 gpd per acre
Area 0.00 AC

ADWF = Area * 52 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Stables/Kennels

Average Dry Weather Flow (ADWF) (Qad)

Flow 13 gpd per acre
Area 0.00 AC

ADWF = Area * 13 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

AREA 13

ADWF	5,710.91 gpd	0.00884 cfs
PDWF	24,366.73 gpd	0.03770 cfs
PWWF	177,314.98 gpd	0.27435 cfs

Single Family Residential Homes, 1/4 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	245	gpd per home
Residential Area	45.32	AC
Size of lots	0.25	AC
Number of units	181	Units

ADWF = Units * 245 gpd

0.74 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 3.33 gpd 0.00 gpm 0.00001 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre

I&I = 33,988.50 gpd

Qpw = 33,991.83 gpd 23.59 gpm 0.05256 cfs

Single Family Residential Homes, 2-6 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	280	gpd per acre
Residential Area	113.30	AC
Size of lots	4	AC
Number of units	28	Units

ADWF = Units * 280 gpd

0.10 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.46 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre

I&I = 84,971.25 gpd

Qpw = 84,971.71 gpd 58.97 gpm 0.13139 cfs

Multi Family Residential Homes, 20 units per AC

Average Dry Weather Flow (ADWF) (Qad)

Flow 1950 gpd per acre
Residential Area 0.00 AC

ADWF = Area * 1950 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Motel with Kitchen

Average Dry Weather Flow (ADWF) (Qad)

Flow 2000 gpd per acre
Area 0.00 AC

ADWF = Area * 2000 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Shopping Center

Average Dry Weather Flow (ADWF) (Qad)

Flow 126 gpd per acre
Area 45.32 AC

ADWF = Area * 126 gpd
5,710.07 gpd 3.96 gpm 0.00883 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.27
Qpd = (PF*ADWF)
Qpd = 24,362.95 gpd 16.91 gpm 0.03767 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 33,988.50 gpd
Qpw = 58,351.45 gpd 40.50 gpm 0.09023 cfs

Restaurant

Average Dry Weather Flow (ADWF) (Qad)

Flow 600 gpd per acre
Area 0.00 AC

ADWF = Area * 600 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Office

Average Dry Weather Flow (ADWF) (Qad)

Flow 195 gpd per acre
Area 0.00 AC

ADWF = Area * 195 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Industrial

Average Dry Weather Flow (ADWF) (Qad)

Flow 52 gpd per acre
Area 0.00 AC

ADWF = Area * 52 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Stables/Kennels

Average Dry Weather Flow (ADWF) (Qad)

Flow 13 gpd per acre
Area 0.00 AC

ADWF = Area * 13 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

AREA 14

ADWF	195.75 gpd	0.00030 cfs
PDWF	871.96 gpd	0.00135 cfs
PWWF	94,936.96 gpd	0.14689 cfs

Single Family Residential Homes, 1/4 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	245	gpd per home
Residential Area	0.00	AC
Size of lots	0.25	AC
Number of units	0	Units

ADWF = Units * 245 gpd

0.00 gpd — 0.00 gpm — 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.00 gpd — 0.00 gpm — 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I — I&I = 750 gpd/acre

I&I = 0.00 gpd

Qpw = 0.00 gpd — 0.00 gpm — 0.00000 cfs

Single Family Residential Homes, 2-6 AC lots

Average Dry Weather Flow (ADWF) (Qad)

Flow	280	gpd per acre
Residential Area	110.37	AC
Size of lots	4	AC
Number of units	28	Units

ADWF = Units * 280 gpd

0.10 gpd — 0.00 gpm — 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)

PF = 4.50

Qpd = (PF*ADWF)

Qpd = 0.44 gpd — 0.00 gpm — 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I — I&I = 750 gpd/acre

I&I = 82,777.20 gpd

Qpw = 82,777.64 gpd — 57.45 gpm — 0.12799 cfs

Multi Family Residential Homes, 20 units per AC

Average Dry Weather Flow (ADWF) (Qad)

Flow		1950	gpd per acre		
Residential Area		0.00	AC		
ADWF =	Area * 1950	gpd			
	0.00	gpd		0.00 gpm	0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)			
PF =	4.50			
Qpd =	(PF*ADWF)			
Qpd =	0.00 gpd		0.00 gpm	0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre		
I&I =	0.00 gpd			
Qpw =	0.00 gpd		0.00 gpm	0.00000 cfs

Motel with Kitchen

Average Dry Weather Flow (ADWF) (Qad)

Flow		2000	gpd per acre		
Area		0.00	AC		
ADWF =	Area * 2000	gpd			
	0.00	gpd		0.00 gpm	0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)			
PF =	4.50			
Qpd =	(PF*ADWF)			
Qpd =	0.00 gpd		0.00 gpm	0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre		
I&I =	0.00 gpd			
Qpw =	0.00 gpd		0.00 gpm	0.00000 cfs

Shopping Center

Average Dry Weather Flow (ADWF) (Qad)

Flow		126	gpd per acre		
Area		0.00	AC		
ADWF =	Area * 126	gpd			
	0.00	gpd		0.00 gpm	0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF =	(18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)			
PF =	4.50			
Qpd =	(PF*ADWF)			
Qpd =	0.00 gpd		0.00 gpm	0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw =	PDWF+ I&I	I&I = 750 gpd/acre		
I&I =	0.00 gpd			
Qpw =	0.00 gpd		0.00 gpm	0.00000 cfs

Restaurant

Average Dry Weather Flow (ADWF) (Qad)

Flow 600 gpd per acre
Area 0.00 AC

ADWF = Area * 600 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Office

Average Dry Weather Flow (ADWF) (Qad)

Flow 195 gpd per acre
Area 0.00 AC

ADWF = Area * 195 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Industrial

Average Dry Weather Flow (ADWF) (Qad)

Flow 52 gpd per acre
Area 0.00 AC

ADWF = Area * 52 gpd
0.00 gpd 0.00 gpm 0.00000 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.50
Qpd = (PF*ADWF)
Qpd = 0.00 gpd 0.00 gpm 0.00000 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 0.00 gpd
Qpw = 0.00 gpd 0.00 gpm 0.00000 cfs

Stables/Kennels

Average Dry Weather Flow (ADWF) (Qad)

Flow 13 gpd per acre
Area 15.05 AC

ADWF = Area * 13 gpd
195.66 gpd 0.14 gpm 0.00030 cfs

Peak Dry Weather Flow (PDWF) (Qpd)

PF = (18+(0.0206*ADWF)^0.5)/(4+0.0206*ADWF)^0.5)
PF = 4.45
Qpd = (PF*ADWF)
Qpd = 871.51 gpd 0.60 gpm 0.00135 cfs

Peak Wet Weather Flow (PWWF) (Qpw)

Qpw = PDWF+ I&I I&I = 750 gpd/acre
I&I = 11,287.80 gpd
Qpw = 12,159.31 gpd 8.44 gpm 0.01880 cfs

APPENDIX C

CITY OF BLANCO
WASTEWATER TRUNK MAIN
PRELIMINARY ENGINEER'S OPINION OF PROBABLE PROJECT COST

Updated: 11-18-2019

NO.	DESCRIPTION	UNIT	QTY	UNIT PRICE	AMOUNT
WASTEWATER INTERCEPTOR					
	PIPE, 15" PVC SDR 26 (ALL DEPTHS INCLUDING EXCAVATION & BACKFILL)	LF	15,800	$ 90	$ 1,422,000
	JACK & BORE , 24" PIPE 3/8" STEEL UNDER 281 (2PL)	LF	750	$ 800	$ 600,000
	STANDARD PRE-CAST MANHOLE 5 FOOT DIAMETER (EVERY 700 FT)	EA	23	$ 11,550	$ 260,700
LIFT STATION NO. 1					
	LIFT STATION DUPLEX 30' DEEP	LS	1	$ 192,050	$ 192,050
	WET WELL & PIPING				
	PUMPS (2) KSB MODEL E100-317/304XEG-S 40 HP, 460V 3 PHASE 60 HZ				
	EXPLOSION PROOF, ELEC SUBMERSIBLE PUMPS				
	50' POWER CABLES, SS LIFTING BAILS, 35' SS LIFTING CHAIN				
	48"X72" SINGLE DOOR ALUMINUM ACCESS COVER PEDESTRIAN LOADING				
	DUPLEX CONSTANT SPEED CONTROL PANEL				
	PRE-CAST VALVE VAULT	LS	1	$ 55,000	$ 55,000
	SWING CHECK VALVES 8"	EA	2	$ 3,750	$ 7,500
	PLUG VALVES 8"	EA	3	$ 1,750	$ 5,250
	2" ARAV	EA	1	$ 1,200	$ 1,200
	FLOW METER & VAULT	LS	1	$ 15,000	$ 15,000
	STANDBY GENERATOR W CONCRETE PAD	LS	1	$ 75,000	$ 75,000
	ELECTRICAL: CONTROL PANEL, ATS, MAIN DISCONNECT, SUBMERSIBLE TRANSDUCER, SCADA	LS	1	$ 70,000	$ 70,000
	PIPE, 6" DUCTILE IRON FORCE MAIN AND FITTINGS	LF	1,000	$ 100	$ 100,000
	JIB CRAIN AND TROLLEY	LS	1	$ 40,000	$ 40,000
	ASPHALT DRIVE	SY	50	$ 100	$ 5,000
	CHAIN LINK FENCE W/ 16' WIDE DBL SWING GATE	LF	240	$ 100	$ 24,000
LIFT STATION NO. 2					
	LIFT STATION TRIPLEX 40' DEEP	LS	1	$ 186,772	$ 186,772
	WET WELL & PIPING	LS	1	$ 80,000	$ 80,000
	PUMPS (3) KSB MODEL K150-317/454XEG-S 60 HP, 460V 3 PHASE 60 HZ				
	EXPLOSION PROOF, ELEC SUBMERSIBLE PUMPS				
	65' POWER CABLES, SS LIFTING BAILS, 45' SS LIFTING CHAIN				
	(3) 36"X48" SINGLE DOOR ALUMINUM ACCESS COVER PEDESTRIAN LOADING				
	DUPLEX CONSTANT SPEED CONTROL PANEL				
	PRE-CAST VALVE VAULT	LS	1	$ 55,000	$ 55,000
	SWING CHECK VALVES 8"	EA	2	$ 3,750	$ 7,500
	PLUG VALVES 8"	EA	3	$ 1,750	$ 5,250
	2" ARAV	EA	1	$ 1,200	$ 1,200
	FLOW METER & VAULT	LS	1	$ 15,000	$ 15,000
	STANDBY GENERATOR W CONCRETE PAD	LS	1	$ 75,000	$ 75,000
	ELECTRICAL: CONTROL PANEL, ATS, MAIN DISCONNECT, SUBMERSIBLE TRANSDUCER, SCADA	LS	1	$ 75,000	$ 75,000
	PIPE, 8" DUCTILE IRON FORCE MAIN AND FITTINGS	LF	1,000	$ 110	$ 110,000
	JIB CRAIN AND TROLLEY	LS	1	$ 40,000	$ 40,000
	ASPHALT DRIVE	SY	50	$ 100	$ 5,000
	CHAIN LINK FENCE W/ 16' WIDE DBL SWING GATE	LF	275	$ 100	$ 27,500
SITE CIVIL WORK					
	SITE WORK - CLEARING AND GRUBBING	LS	1	$ 78,000	$ 78,000
	SHEET SHORING AND BRACING	LS	1	$ 75,000	$ 75,000
	TRENCH EXCAVATION SAFETY SYSTEM ALL DEPTHS	LF	5,800	$ 5	$ 29,000
	SILT FENCE FOR EROSION CONTROL	LF	4,000	$ 5	$ 20,000
	NATIVE GRASSLAND SEEDING AND PLANTING	SY	4,000	$ 6	$ 24,000
	BARRICADES, SIGNS & TRAFFIC HANDLING	MON	3	$ 4,000	$ 12,000
	STABILIZED CONSTRUCTION ENTRANCE	EA	2	$ 2,000	$ 4,000
	TREE PROTECTIVE FENCING, TYPE A, CHAIN LINK FENCE, INCLUDING BOARDS FOR TREE TRUNK PROTECTION	LF	1,000	$ 5	$ 5,000
	STORM WATER POLLUTION PLAN	LS	1	$ 6,000	$ 6,000
	MOBILIZATION, BONDS, INSURANCE, SUBMITTALS, DEMOBILIZATION AND CLOSEOUT, COMPLETE IN PLACE	LS	1	$ 190,446	$ 190,446.08
	SUBTOTAL				$ 3,999,368
	CONTINGENCIES (+/- 25%)				$ 999,632
	TOTAL ESTIMATED CONSTRUCTION COST				$ 4,999,000

NOTES:

1 The Engineer has no control over the cost of labor, materials or equipment or over the Contractor(s) methods of determining prices. The engineer not and does not guarantee the proposals, bids or construction costs will not vary from the opinion of probable cost prepared by him.

2 This estimate does not include right-of-way or easement acquisition.