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MASTER WASTEWATER REPORT

FOR

CP LAKIN PARK

GOODYEAR, ARIZONA

Prepared For:
CLARIUS PARTNERS
60 E. Rio Salado Parkway, Suite 9060
Tempe, AZ 85281

CITY OF Goodyear

Approved by City of Goodyear

10/27/2020

20-60000021 - LAKIN PARK PHASE 1

Prepared By:
HILGARTWILSON, LLC
2141 E. Highland Avenue, Suite 250
Phoenix, AZ 85016
Phone: (602) 490-0535
Fax: (602) 325-0161

May 2020
Project No. 1981.02

MASTER WASTEWATER REPORT
FOR
CP LAKIN PARK

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1.0 INTRODUCTION

1.1 Project Location

CP Lakin Park (the Project) is a proposed industrial development located along Cotton Lane, south of Maricopa County Route 85 (MC-85) and the Union Pacific Railroad (UPRR) in Goodyear, Arizona. The Project consists of approximately 696 acres in portions of Sections 25 and 26 of Township 1 North, Range 2 West of the Gila and Salt River Baseline and Meridian. The property is bound by MC-85 and the UPRR to the north, the future State Route 30 (SR-30) Freeway alignment and the Gila River to the south, and undeveloped agricultural land to the east and west. Figure 1 in Appendix A provides a vicinity map for the Project.

1.2 General Description

At build-out, CP Lakin Park will consist of approximately 535 acres of industrial and commercial development and approximately 184 high-density residential units. CP Lakin Park will also contain right-of-way for the future SR-30 Freeway alignment as well as other developed open space. CP Lakin Park is anticipated to be developed in up to seven or more phases. Each phase may consist of multiple parcels with varying land uses.

The Project is located within the City of Goodyear wastewater service area and is situated within the City's Water Planning Area 2 (WPA2). The site and surrounding area generally slope to the south-southwest at approximately 0.2 percent. The wastewater system infrastructure discussed in this report required for the Project will tie into existing City of Goodyear wastewater system infrastructure and will be owned and operated by the City of Goodyear.

1.3 Purpose of Report

This Master Wastewater Report has been prepared in support of the rezoning application for the Project and will become the basis for a Water and Wastewater Service Agreement between the Developer and the City of Goodyear when such agreement is required by the City. This agreement will specify terms and requirements for water and wastewater service to the development. All development projects shall be responsible for determining their specific wastewater system needs. Services for proposed developments shall not be provided at the expense of existing customers.

The purpose of this Master Wastewater Report is to identify and evaluate the proposed wastewater system infrastructure for serving CP Lakin Park in accordance with the design criteria established in the City of Goodyear *2016 Integrated Water Master Plan* (Carollo 2016) and Chapter 6 of the City of Goodyear *Engineering Design Standards and Policies Manual* (Goodyear 2017). This Master Wastewater Report discusses the existing wastewater infrastructure within the Project vicinity and identifies anticipated average daily wastewater flows and peak flows. It also identifies anticipated sewer main sizes and alignments for the Project and presents results from a hydraulic model of the proposed wastewater infrastructure.

1.4 Existing Conditions

The Project site is currently undeveloped agricultural land that is actively being farmed. The site and surrounding area generally slope to the south-southwest at a rate of 0.2 percent. Cotton Lane and the Buckeye Canal generally bisect the site from north to south and from east to west, respectively. The site contains an existing Flood Control District of Maricopa County (FCDMC) drainage structure, irrigation canals, high-voltage electrical transmission lines, a natural gas line, as well as various easements for electrical, drainage, and other utilities throughout the Project. There are also a few small residential homes to support farming operations in the area as well as an existing 96-inch regional effluent line parallel to the Buckeye Canal that serves the Palo Verde Nuclear Generating Station. Additionally, the overall Project will be impacted by the future alignment of the SR-30 Freeway as shown in Figure 2 in Appendix A.

2.0 PROJECTED WASTEWATER FLOWS

2.1 City of Goodyear Wastewater Flow Criteria

The proposed wastewater collection system for the Project has been prepared consistent with the design criteria provided in the City of Goodyear *2016 Integrated Water Master Plan* (Carollo 2016) and Chapter 6 of the City of Goodyear *Engineering Design Standards and Policies Manual* (Goodyear 2017). A summary of the wastewater flow factors and peaking factors from the design criteria are shown in Table 1 below.

TABLE 1
WASTEWATER FLOW FACTORS[1]

Category		Value	Unit
Average Daily Flow			
	Residential (2-4 DU/ac)	144	gpd/DU
	Residential (4-6 DU/ac)	129	gpd/DU
	Residential (10-20 DU/ac)	124	gpd/DU
	Community Commercial	951	gpad
	General Industrial	1,087	gpad
Peaking Factor			
	Peak Dry Weather Flow	2.89	x Average Daily Flow
Peak Capacity[2]			
	8- to 12-inch sewer mains (not less than)	1,000	gpd/DU (flowing full)

Notes:
1. Demand criteria based on the City of Goodyear *2016 Integrated Water Master Plan* (Carollo 2016) and the City of Goodyear *Engineering Design Standards and Policies Manual* (Goodyear 2017).
2. Peak capacity calculations are for 8-inch to 12-inch sewer mains only. Only residential parcels utilize peak capacity calculations. Other land uses including commercial and industrial remain peaked at 2.89 x Average Daily Flow.

2.2 Wastewater Flow Calculations

Anticipated wastewater flows for the Project have been calculated in accordance with the design criteria listed in Table 1. It is anticipated that the wastewater infrastructure for the Project will need to convey wastewater flows generated from future offsite developments located east of the Project and north of the Buckeye Canal. The contributing offsite area anticipated to convey wastewater flows through the Project can be seen in Figure 3 in Appendix A. The projected wastewater flows for the Project and offsite developments are summarized by parcel and phase in Tables 2 and 3 below, respectively. Table B.1 in Appendix B provides more detailed flow calculations for the Project.

TABLE 2
TOTAL WASTEWATER FLOW SUMMARY

Parcel	Average Daily Flow		Peak Flow		Peak Capacity[1]	
	gpd	gpm	gpd	gpm	gpd	gpm
1	11,522	8.0	33,299	23.1	33,299	23.1
2	85,330	59.3	246,602	171.3	246,602	171.3
3	22,816	15.8	65,938	45.8	184,000	127.8
4	57,068	39.6	164,925	114.5	164,925	114.5
5	8,913	6.2	25,760	17.9	25,760	17.9
6	15,218	10.6	43,980	30.5	43,980	30.5
7	8,261	5.7	23,875	16.6	23,875	16.6
8	71,633	49.7	207,020	143.8	207,020	143.8
9	9,674	6.7	27,959	19.4	27,959	19.4
10	34,784	24.2	100,526	69.8	100,526	69.8
11	0	0.0	0	0.0	0	0.0
12	106,309	73.8	307,232	213.4	307,232	213.4
13	30,871	21.4	89,217	62.0	89,217	62.0
14	54,350	37.7	157,072	109.1	157,072	109.1
15	0	0.0	0	0.0	0	0.0
OFFSITE	188,901	131.2	545,925	379.1	904,677	628.2
TOTAL	**705,650**	**490.0**	**2,039,329**	**1,416.2**	**2,516,143**	**1,747.3**

Notes:
1. Peak capacity calculations are for 8-inch to 12-inch sewer mains only. Only residential parcels utilize peak capacity calculations. Other land uses including commercial and industrial remain peaked at 2.89 x Average Daily Flow.

TABLE 3
WASTEWATER FLOW SUMMARY BY PHASE

Phase	Average Daily Flow		Peak Flow		Peak Capacity[1]	
	gpd	gpm	gpd	gpm	gpd	gpm
1	119,668	83.1	345,840	240.2	463,901	322.2
2	81,199	56.4	234,665	163.0	234,665	163.0
3	79,895	55.5	230,895	160.3	230,895	160.3
4	44,458	30.9	128,484	89.2	128,484	89.2
5	106,309	73.8	307,232	213.4	307,232	213.4
6	85,221	59.2	246,288	171.0	246,288	171.0
7	0	0.0	0	0.0	0	0.0
OFFSITE	188,901	131.2	545,925	379.1	904,677	628.2
TOTAL	**705,650**	**490.0**	**2,039,329**	**1,416.2**	**2,516,143**	**1,747.3**

Notes:
1. Peak capacity calculations are for 8-inch to 12-inch sewer mains only. Only residential parcels utilize peak capacity calculations. Other land uses including commercial and industrial remain peaked at 2.89 x Average Daily Flow.

3.0 EXISTING SEWER SYSTEM

3.1 Existing Wastewater System Infrastructure

The existing wastewater collection system is located within the Goodyear Water Reclamation Facility (WRF) sewer basin as identified in Figure 4.1 of the City of Goodyear *2016 Integrated Water Master Plan* (Carollo 2016). Existing wastewater infrastructure immediately adjacent to the Project consists of 8-inch and 12-inch gravity sewer mains located north of, and parallel to, the UPRR. These sewer mains collect wastewater flows from the nearby Rubbermaid manufacturing facility located north of the Project and flow east to the existing Rubbermaid Lift Station located north of MC-85 and east of Cotton Lane. The lift station lifts the wastewater flows into a shallower existing 12-inch gravity sewer main, which continues east. Flows are eventually treated at the Goodyear WRF. In preliminary discussions with the City, the Rubbermaid Lift Station is currently at capacity of its design flow of 220 gpm per Table 4.1 of the City of Goodyear *2016 Integrated Water Master Plan* (Carollo 2016).

In addition to the sewer mains and lift station, there is also an existing 54-inch sewer main located along Elwood Street, north of the Project. This 54-inch sewer main flows east along Elwood Street then south along the 159th Avenue alignment and outfalls to the Goodyear WRF. The existing wastewater collection system near the Project is shown in Figure 2 in Appendix A. Proposed sewer mains and infrastructure anticipated to serve the Project and connect to the City's existing system are discussed in Section 4.2 of this report.

3.2 Wastewater Treatment

As mentioned previously, the Project is located within the Goodyear WRF sewer basin. As such, wastewater flows generated by the Project will be conveyed to the Goodyear WRF located along 157th Avenue just north of the Buckeye Irrigation District Canal. Per the City's *2016 Integrated Water Master Plan* (Carollo 2016), the Goodyear WRF has a current treatment capacity of 4.0 MGD; however, the City is in the process of expanding the treatment capacity to 6.0 MGD.

4.0 SYSTEM IMPROVEMENTS

4.1 City of Goodyear Design Criteria

The wastewater collection system design criteria is presented in Table 4 below and is based on the design criteria provided in the City of Goodyear *2016 Integrated Water Master Plan* (Carollo 2016) and Chapter 6 of the City of Goodyear *Engineering Design Standards and Policies Manual* (Goodyear 2017).

TABLE 4 WASTEWATER SYSTEM DESIGN CRITERIA[1]			
Category		Value	Unit
System Layout			
	Minimum Sewer Depth of Cover – Private	4.0	ft
	Minimum Sewer Depth of Cover – Public	6.0	ft
	Minimum Pipe Diameter	8	inches
	Maximum Manhole Spacing (dia. 8"-15")	400	ft
	Maximum Manhole Spacing (dia. 18" & larger)	500	ft
	Manhole Invert Drop (30-60° direction change)	0.1'	Drop across manhole
	Manhole Invert Drop (> 60° direction change)	0.2'	Drop across manhole
System Performance			
	Manning's Roughness Coefficient (n)	0.013	
	Minimum Full-Flow Velocity – 8" & 10" sewers	2.0	fps
	Minimum Full-Flow Velocity ≥ 12" sewers	2.5	fps
	Maximum Velocity	9.0	fps
	Sewer Capacity Ratio (d/D, max at peak flow)	0.65	
	Peak Capacity – 8" to 12" sewers (not less than)	1,000	gpd/DU (flowing full)
	Force Main Velocity Requirements	4-6	fps
Minimum Pipe Slopes			
	8-inch	0.0033	ft/ft
	10-inch	0.0025	ft/ft
	12-inch	0.0031	ft/ft
	15-inch	0.0023	ft/ft
	18-inch	0.0018	ft/ft

Notes:
1) Design criteria based on the City of Goodyear *2016 Integrated Water Master Plan* (Carollo 2016) and the City of Goodyear *Engineering Design Standards and Policies Manual* (Goodyear 2017).

4.2 Proposed Wastewater System Improvements

The proposed wastewater system for the Project at build-out is shown in Figure 2 in Appendix A. The sewer system is comprised of 8-inch to 12-inch gravity sewer mains that generally flow east (west of Cotton Lane) and west (east of Cotton lane) to one of two proposed lift stations identified for the Project.

The system layout is designed using parcel boundaries, proposed and potential collector roadway alignments, existing ground elevation data from an aerial topo, recent survey data, and City of Goodyear quarter section maps that identified existing sewer infrastructure adjacent to the Project area. The system layout is optimized to minimize sewer depths where possible and to facilitate the proposed phasing. Certain sewer alignments were also identified and set at a sufficient depth in order to serve the offsite area (See Figure 3 in Appendix A) or to cross underneath existing topographic features such as the FCDMC drainage structure, the irrigation and

drainage canals in Phase 2, the Buckeye Canal, and the existing 96-inch regional effluent line. The alignments and crossings of these sewer mains will be refined as each parcel develops to ensure separation distances between the existing features and proposed sewer mains are in accordance with all applicable City of Goodyear design criteria. The overall system layout is conceptual and will be refined as each individual parcel develops.

Based on the existing topography, the Project will require a regional lift station to pump wastewater flows generated by the Project to the existing 54-inch gravity sewer main located in Elwood Street. A previous iteration of the City's Master Plan, the *2007 Integrated Water Master Plan* (Black & Veatch 2008), identified the Lakin lift station to serve the area with a planned capacity of 2.5 MGD. However, based on development within the surrounding region and discussions with the City, it was determined that the contributing sewer area to be served by the Lakin lift station has since been reduced to serve the area as shown in Figure 3 in Appendix A. The lift station is proposed to be located near the southeast corner of Parcel 2. From there, a proposed force main will convey wastewater flows to the existing 54-inch sewer main along Elwood Street. Final alignment and sizing of the forcemain will be determined during final design as the Project develops. It is anticipated that this lift station will be owned and operated by the City of Goodyear and will be designed in accordance with all applicable City and state design criteria.

A second lift station is proposed to be located within the western region of Parcel 12. This lift station will collect flows from Parcel 12 and pump them to a shallower gravity sewer main located within Parcel 10. From there, flows will be conveyed via gravity through Parcel 10, Parcel 9, and Parcel 5 to the regional lift station mentioned previously, where they will be pumped to the existing 54-inch sewer main in Elwood Street. It is anticipated that this second lift station will be privately owned. As an alternative to this lift station, an 8-inch gravity sewer main may be constructed underneath State Route 30 in lieu of the proposed force main. Should a gravity sewer main be the preferred method of providing sewer service to Parcel 12, the downstream sewer mains at the connection manhole in Parcel 10 will need to be lowered by upwards of 13-feet through Parcel 9 and Parcel 5. In addition, the 12-inch sewer main proposed through Parcel 5 will require lowering by approximately 5-feet, ultimately lowering the lowest invert into the regional lift station and, in turn, the regional lift station wet well floor by the same 5-feet.

The anticipated flows to each of the two lift stations are listed in Table 5. The exact locations, pumping and wet well capacities, and other design aspects of each lift station will be determined during the design stage of the applicable parcels.

TABLE 5
LIFT STATION CAPACITY REQUIREMENTS

Lift Station ID	Average Daily Flow		Peak Flow	
	gpd	gpm	gpd	gpm
Lakin LS 1	705,650	490.0	2,039,329	1,416.2
Lakin LS 2	106,309	73.8	307,232	213.4

Preliminary force main sizing for the public regional lift station (Lakin LS 1) based on the anticipated wastewater flows generated from the Project and offsite area is shown in Table 6 below. It is anticipated that each lift station for the Project will have a dual force main for redundancy and sized with the phased development of the Project to maintain velocities between 4 to 6 fps, as required by the City of Goodyear.

TABLE 6
PRELIMINARY FORCE MAIN SIZING

Phases 1-2 (Peak Flow = 403.1 gpm)		Buildout (Peak Flow = 1,416.2 gpm)	
Diameter (in)	Velocity (fps)	Diameter (in)	Velocity (fps)
4	10.3	4	36.2
6	**4.6**	6	16.1
8	2.6	8	9.1
12	1.1	12	**4.0**

As shown in Table 6, it is anticipated that the Project will require at minimum 6-inch and 12-inch force mains to be installed concurrently to convey wastewater flows from the public Lakin LS 1 to the existing 54-inch gravity sewer main located in Elwood Street. As mentioned previously, the final alignment and sizing of the force mains and the final phasing of the lift station and force mains will be determined during final design as the Project develops and will be coordinated with the City of Goodyear.

5.0 SEWER MODEL/CALCULATIONS

5.1 Design Methodology

The proposed wastewater collection system was modeled using Bentley SewerCAD V8i by Bentley Systems, Inc. The wastewater flows shown in Table B.1 in Appendix B were distributed to individual manholes throughout the collection system to provide an appropriate distribution of average daily flow and peak flow within the system. The wastewater loading for a given parcel and/or dwelling unit is generally applied to the next upstream manhole to account for flows that enter the system at multiple points within a pipe segment, thus ensuring the entire pipe segment has sufficient capacity to convey the anticipated flow.

The proposed wastewater collection system shown in Figure 2 in Appendix A was designed to meet the design criteria as specified in Table 4, discussed in Section 4.2, and represents the wastewater collection system's backbone trunk mains. The sewer main alignments within individual parcels are conceptual and will be determined at the time of each parcel's design.

The hydraulic model of the proposed wastewater collection system was optimized using existing topography and the proposed land use plan to determine the best sewer alignments while minimizing pipe depths. Pipes were assumed to have a Manning's n value of 0.013 and were designed to have a peak capacity of not less than 1,000 gpd/DU for 8-inch to 12-inch sewer mains serving residential

developments. For sewer mains larger than 12-inches, the normal depth of flow within the pipe shall not exceed 65 percent of the pipe diameter during peak flow conditions. Cover requirement over the pipe has been raised to 7-feet while all manholes have been given a drop of 0.1 feet across the manhole to ensure flexibility during final design as the actual sewer main alignments become known.

5.2 Hydraulic Model Results

Detailed hydraulic model results for the proposed wastewater collection system are included in Appendix C. The hydraulic model results show that the proposed wastewater collection system for the Project will adequately convey the projected peak flow through the parcels and to the outfall locations of the proposed public and private lift stations located in Parcels 2 and 12, respectively.

In accordance with the City's current design criteria, the sewer mains between 8 and 18 inches in diameter are anticipated to be either DIP, PVC, or VCP, as approved by the City of Goodyear. Final invert and rim elevations will be determined at the time of final design. Pipe slopes shall also be refined during final design, as final grades are known, to increase and optimize pipe velocities where possible.

5.3 Wastewater Collection System Phasing

The Project will be developed in up to seven or more phases. The wastewater system infrastructure will also be constructed in phases as required to serve each phase of development. For any given phase, the downstream sewer mains required to serve that phase will be constructed at the same time as the sewer mains within that phase. Furthermore, all downstream sewer mains that are installed will be sized for build-out conditions. Figure 2 in Appendix A shows the proposed backbone wastewater collection system infrastructure at build-out. Figure 4 in Appendix A shows the proposed phasing for the Project while Table 3 in Section 2.2 summarizes the wastewater flows for each phase. More detailed calculations are included in Table B.1 in Appendix B.

6.0 CONCLUSIONS

The proposed wastewater collection system will adequately serve the Project. This Master Wastewater Report has determined that:

- The projected average daily flow, peak flow, and peak capacity generated by the Project and offsite area is approximately 705,650 gpd (490.0 gpm), 2,039,329 gpd (1,416.2 gpm), and 2,516,143 gpd (1,747.3 gpm), respectively.
- The proposed onsite wastewater collection system consists of 8-inch to 12-inch gravity mains and is designed to meet the criteria outlined in Table 4 of this report.
- Two lift stations are proposed for the Project due to the existing topography. The sizing for each lift station will be refined during the design phase. Eliminating the second lift station would require gravity sewer mains to be installed upwards of 38 feet deep in some areas.
- The hydraulic model results in Appendix C show that the onsite sewer mains have sufficient capacity to convey the anticipated wastewater flows from the Project.

- The Project is anticipated to be developed in up to seven or more phases. The wastewater collection system will also be constructed in phases as required to serve each phase of development. The downstream sewer mains required to serve that phase will be constructed at the same time as the sewer mains within that phase and will be sized for build-out conditions.

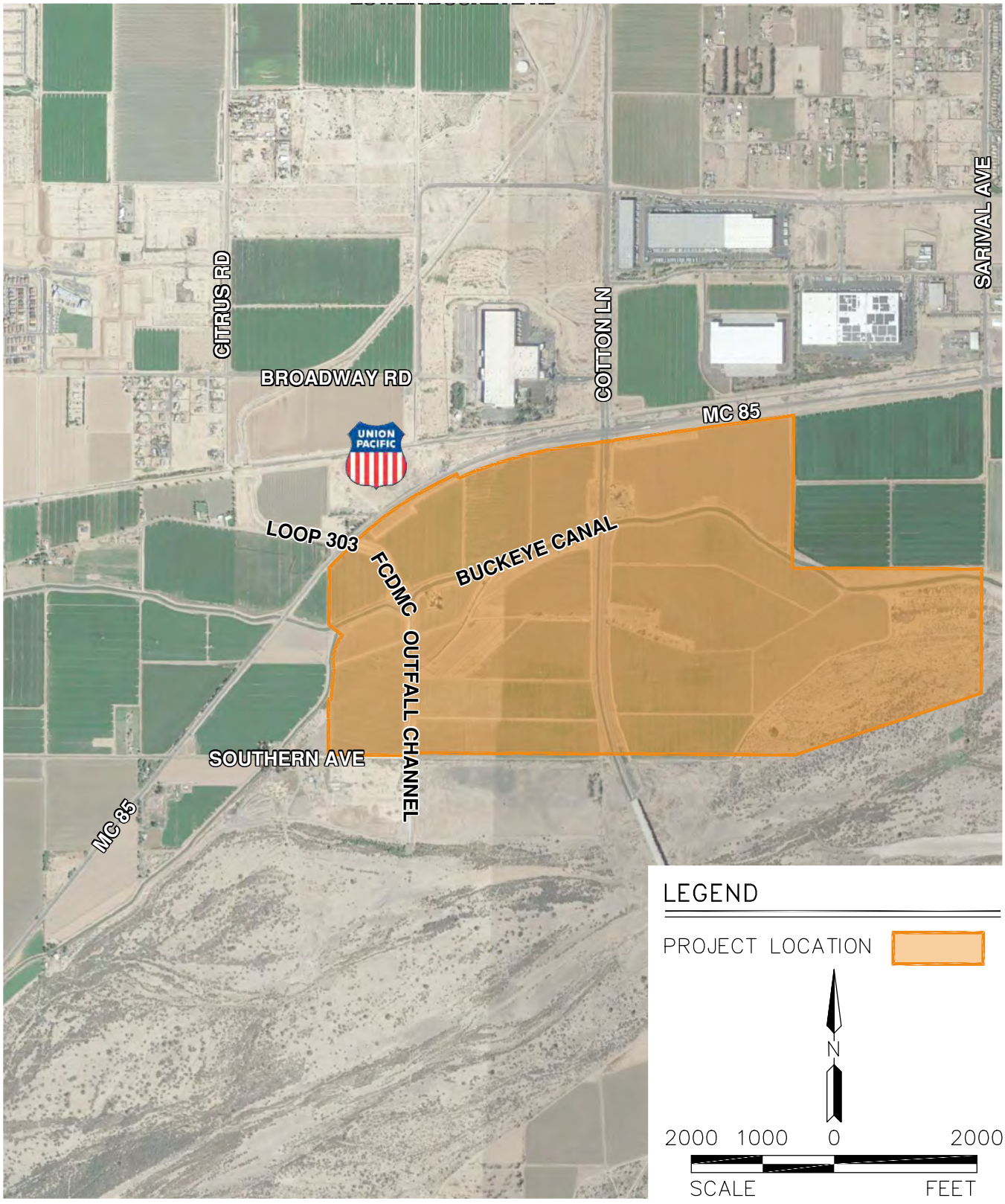
7.0 REFERENCES

Carollo Engineers (2016). *City of Goodyear 2016 Integrated Water Master Plan*. November 2016, Goodyear, AZ.

City of Goodyear (2017). *City of Goodyear Engineering Design Standards and Policies Manual*. September 2017, Goodyear, AZ.

Black & Veatch (2008). *City of Goodyear 2007 Integrated Water Master Plan*. June 2008, Goodyear, AZ.

APPENDIX A
FIGURES



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CHECKED BY:	AT

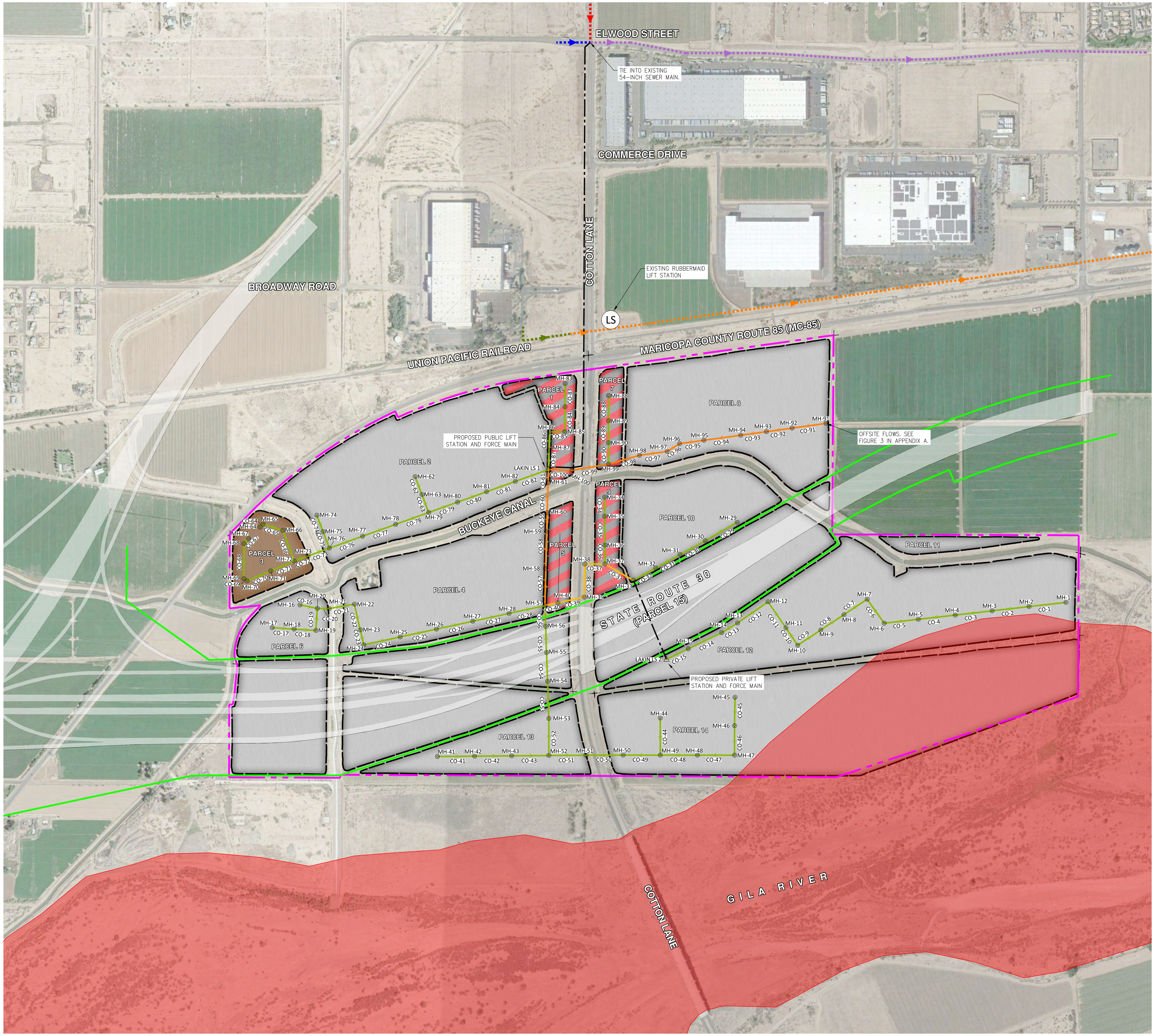
CP LAKIN PARK

SWC/SEC OF MC85 & COTTON LANE
CITY OF GOODYEAR, ARIZONA

FIG 1: VICINITY MAP

HILGARTWILSON
2141 E. HIGHLAND AVE., STE. 250
PHOENIX, AZ 85016
P: 602.490.0535 / F: 602.368.2436

U:\1900\1981\1981.02 - Clarius Partners\REPORTS\DRAINAGE\Master Drainage Report\Exhibits\1981 FIG 1 - Vicinity Map.dwg 7/9/2019 3:01 PM



LEGEND

PROPERTY BOUNDARY	
PROPOSED SEWER MAIN	
EXISTING SEWER MAIN	
PROPOSED FORCE MAIN	
SEWER MANHOLE	
SEWER OUTFALL	
EXISTING LIFT STATION	LS
FEMA FLOODWAY	

SEWER PIPE SIZES

- 8-INCH
- 10-INCH
- 12-INCH
- 15-INCH
- 18-INCH
- 30-INCH
- 54-INCH

NOTES:

1. ENTIRE PROJECT IS LOCATED WITHIN THE GOODYEAR WRF SEWER BASIN.
2. SEE FIGURE 3 IN APPENDIX A FOR CONTRIBUTING OFFSITE SEWER AREA.
3. SEWER MAIN AND FORCE MAIN ALIGNMENTS SHOWN ARE CONCEPTUAL AND WILL BE REFINED AS EACH PARCEL DEVELOPS.

NOT FOR CONSTRUCTION
MAY 2020

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SCALE FEET

REV.:

HILGARTWILSON
ENGINEER | PLAN | SURVEY | MANAGE
2141 E. HIGHLAND AVE., STE. 250 | P: 602.490.0535 / F: 602.368.2436
PHOENIX, AZ 85016 www.hilgartwilson.com

CP LAKIN PARK

COTTON LANE & MARICOPA COUNTY ROUTE 85 (MC-85)
GOODYEAR, ARIZONA

FIG 2: WASTEWATER SYSTEM IMPROVEMENTS

HILGARTWILSON
PROJ NO.: 1981.02
DATE: MAY 2020
SCALE: 1"=500'
DRAWN: MAJ
DESIGNED: MAJ
APPROVED: ZS

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LEGEND

LAKIN PROPERTY

LIFT STATION (LS)

DIRECTION OF SEWER FLOW

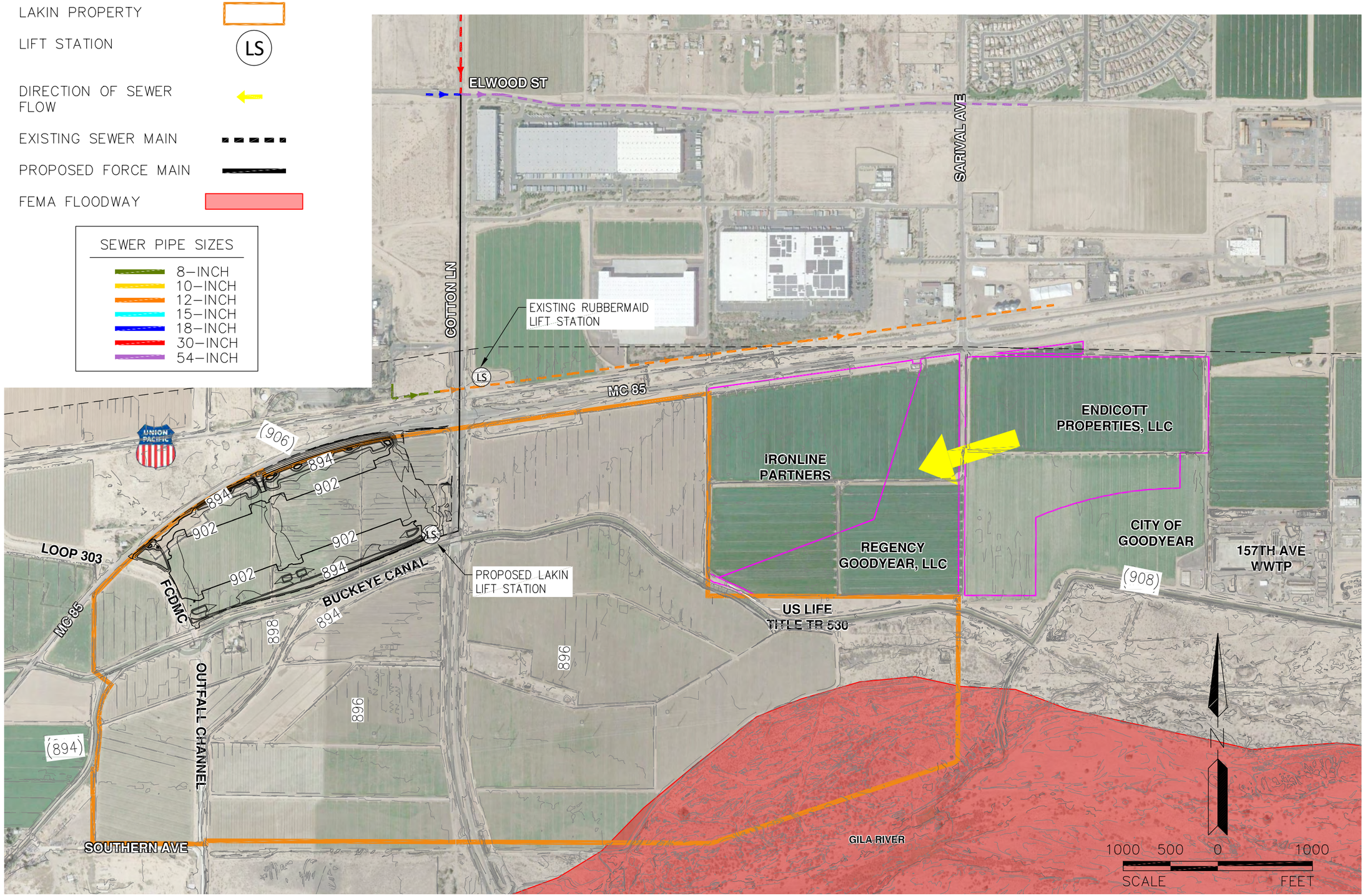
EXISTING SEWER MAIN

PROPOSED FORCE MAIN

FEMA FLOODWAY

SEWER PIPE SIZES

- 8–INCH
- 10–INCH
- 12–INCH
- 15–INCH
- 18–INCH
- 30–INCH
- 54–INCH



HILGARTWILSON
2141 E. HIGHLAND AVE., STE. 250
PHOENIX, AZ 85016
P: 602.490.0535 / F: 602.368.2436

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GOODYEAR, ARIZONA

FIG 3: OFFSITE SEWER AREA

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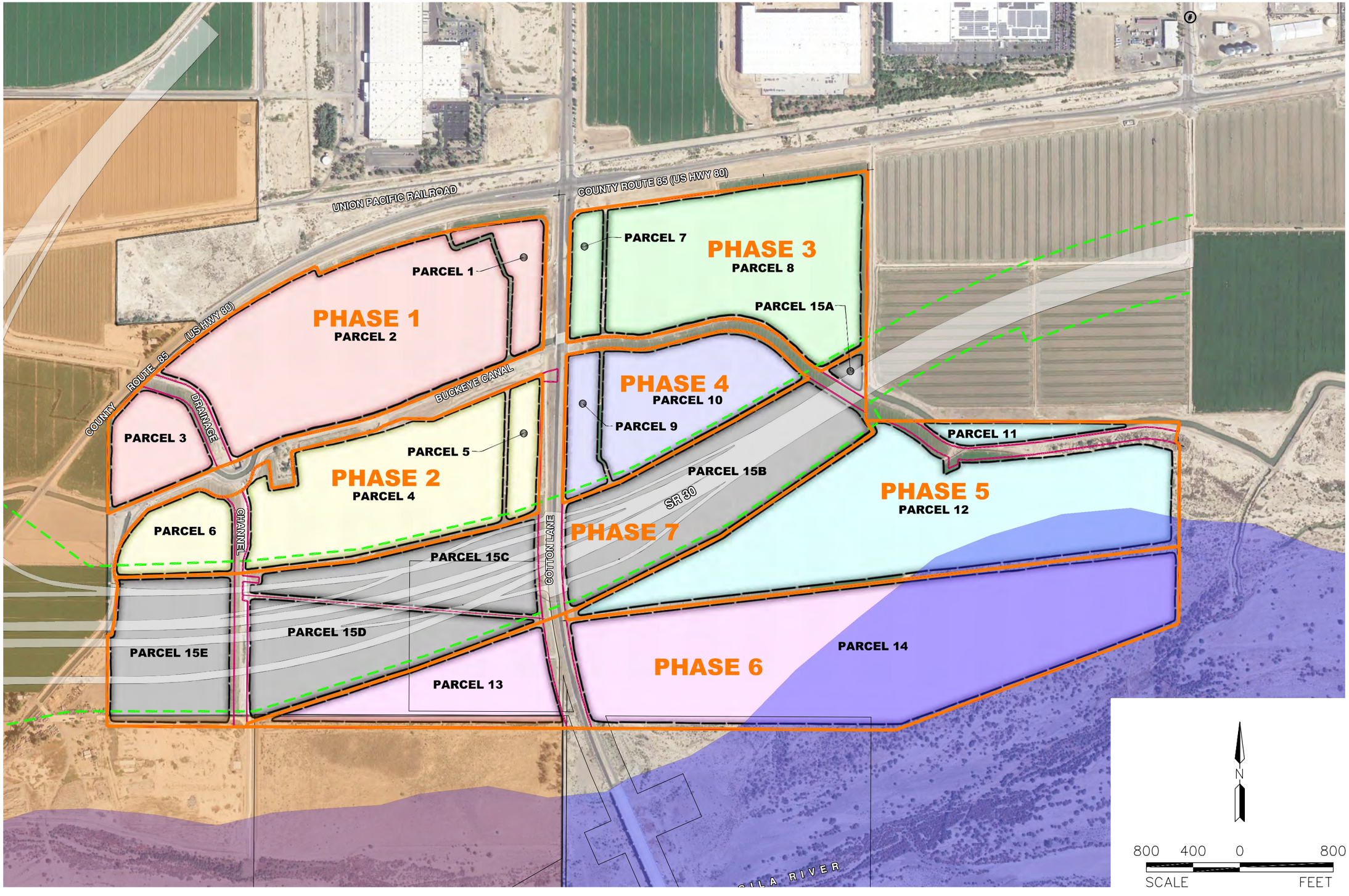

HILGARTWILSON
2141 E. HIGHLAND AVE., STE. 250
PHOENIX, AZ 85016
P: 602.490.0535 / F: 602.368.2436

CP LAKIN PARK

SWC/SEC OF MC85 & COTTON LANE
CITY OF GOODYEAR, ARIZONA

FIG 4: PHASE MAP

PROJ. NO.:	1981.02
DATE:	JUL 2019
SCALE:	1" = 800'
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CHECKED BY:	MI

APPENDIX B
TABLES

Table B.1 - Wastewater Flow Calculations

CP LAKIN PARK

Goodyear, Arizona

May, 2020

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Phase	Parcel	Land Use[2]	Area (ac)	Dwelling Units	Density (DU/ac)	Average Daily Flow (gpd)	Average Daily Flow (gpm)	Peak Flow (gpd)	Peak Flow (gpm)	Peak Capacity (gpd)	Peak Capacity (gpm)
ONSITE											
1	1	Commercial / Industrial	10.6	-	-	11,522	8.0	33,299	23.1	33,299	23.1
	2	Industrial	78.5	-	-	85,330	59.3	246,602	171.3	246,602	171.3
	3	Residential	15.4	184	11.9	22,816	15.8	65,938	45.8	184,000	127.8
Phase 1 Subtotal			***104.5***	***184***	***-***	***119,668***	***83.1***	***345,840***	***240.2***	***463,901***	***322.2***
2	4	Industrial	52.5	-	-	57,068	39.6	164,925	114.5	164,925	114.5
	5	Commercial / Industrial	8.2	-	-	8,913	6.2	25,760	17.9	25,760	17.9
	6	Industrial	14.0	-	-	15,218	10.6	43,980	30.5	43,980	30.5
Phase 2 Subtotal			***74.7***	***0***	***-***	***81,199***	***56.4***	***234,665***	***163.0***	***234,665***	***163.0***
3	7	Commercial / Industrial	7.6	-	-	8,261	5.7	23,875	16.6	23,875	16.6
	8	Industrial	65.9	-	-	71,633	49.7	207,020	143.8	207,020	143.8
Phase 3 Subtotal			***73.5***	***0***	***-***	***79,895***	***55.5***	***230,895***	***160.3***	***230,895***	***160.3***
4	9	Commercial / Industrial	8.9	-	-	9,674	6.7	27,959	19.4	27,959	19.4
	10	Industrial	32.0	-	-	34,784	24.2	100,526	69.8	100,526	69.8
Phase 4 Subtotal			***40.9***	***0***	***-***	***44,458***	***30.9***	***128,484***	***89.2***	***128,484***	***89.2***
5	11	Industrial[5]	7.1	-	-	0	0.0	0	0.0	0	0.0
	12	Industrial	97.8	-	-	106,309	73.8	307,232	213.4	307,232	213.4
Phase 5 Subtotal			***104.9***	***0***	***-***	***106,309***	***73.8***	***307,232***	***213.4***	***307,232***	***213.4***
6	13	Industrial	28.4	-	-	30,871	21.4	89,217	62.0	89,217	62.0
	14	Industrial[6]	123.5	-	-	54,350	37.7	157,072	109.1	157,072	109.1
Phase 6 Subtotal			***151.9***	***0***	***-***	***85,221***	***59.2***	***246,288***	***171.0***	***246,288***	***171.0***
7	15	Freeway	145.2	-	-	0	0.0	0	0.0	0	0.0
Phase 7 Subtotal			***145.2***	***0***	***-***	***0***	***0.0***	***0***	***0.0***	***0***	***0.0***
ONSITE SUBTOTAL			***695.6***	***184***	***-***	***516,749***	***358.9***	***1,493,404***	***1,037.1***	***1,611,466***	***1,119.1***
OFFSITE											
OFFSITE[4]	500-84-153	Residential	82.0	328	4.0	42,312	29.4	122,282	84.9	328,000	227.8
	500-84-154	Residential	60.2	241	4.0	31,089	21.6	89,847	62.4	241,000	167.4
	500-84-013A	Residential	0.6	3	4.0	387	0.3	1,118	0.8	3,000	2.1
	500-83-002K	Industrial	104.4	-	-	113,483	78.8	327,965	227.8	327,965	227.8
	500-06-033A	Industrial	1.5	-	-	1,631	1.1	4,712	3.3	4,712	3.3
OFFSITE SUBTOTAL			***248.7***	***572***	***-***	***188,901***	***131.2***	***545,925***	***379.1***	***904,677***	***628.2***
GRAND TOTAL			***944.3***	***756***	***-***	***705,650***	***490.0***	***2,039,329***	***1,416.2***	***2,516,143***	***1,747.3***

Notes:

1. Design criteria based on City of Goodyear's *Engineering Design Standards and Policies Manual - 2017 Edition.*
2. Wastewater flows for flex land use parcels (Parcels 1, 5, 7, and 9) assume the more conservative land use wastewater flow factor of General Industrial.
3. Equivalent Dwelling Unit calculations for non-residential land uses are based on 144 gpd/DU.
4. Offsite parcels are anticipated to include the area generally east of Parcel 8, south of MC-85, north of the Buckeye Canal, and west of the City of Goodyear properties. See Figure 3 in Appendix A for more information. Assumed Land Uses obtained from Figure 2.2 - Land Use Plan, from the City of Goodyear 2016 Integrated Water Master Plan. Assuming 4.0 DU/ac density for residential land use.
5. Parcel 11 is a remnant parcel and is not anticipated to be developed.
6. Approximately 50.0 acres of Parcel 14 is available for industrial development as the remainder of the parcel area lies within the Gila River floodway. Therefore, wastewater flow calculations for Parcel 14 are based on the 50.0 acre area.
7. Peak Capacity calculations only apply to residential parcels. Commerical, Industrial, and all other land uses remain peaked at 2.89 x Average Daily Flow.

Flow Factors:

Residential (2-4 DU/ac):	144	gpd/DU
Residential (4-6 DU/ac):	129	gpd/DU
Residential (10-20 DU/ac):	124	gpd/DU
Community Commercial:	951	gpad
General Industrial:	1,087	gpad

Peaking Factors[7]:

Peak Flow:	2.89	x Average Daily Flow	
Peak Capacity (8 to 12-inch Sewer Lines):	1,000	gpd/DU	*(Not less than when flowing full)*

APPENDIX C
HYDRAULIC MODEL RESULTS

AVERAGE DAILY FLOWS

Label	Diam (in)	Mannin g's n	Length (ft)	Slope (ft/ft)	Start Node	Invert (Start) (ft)	Cover (Start) (ft)	Stop Node	Invert (Stop) (ft)	Cover (Stop) (ft)	Flow (gal/day)	Velocity at Flow (ft/s)	Flow / Capacity (Design) (%)	Capacity (Design) (gal/day)	Depth / Diam (%)	Capacity (Full Flow) (gal/day)
CO-1	8.0	0.013	400.0	0.0033	MH-1	892.50	7.00	MH-2	891.18	7.82	0	0.00	0.0	339,352	(N/A)	448,636
CO-2	8.0	0.013	400.0	0.0033	MH-2	891.08	7.92	MH-3	889.76	9.32	10,631	0.83	3.1	339,352	10.6	448,636
CO-3	8.0	0.013	400.0	0.0033	MH-3	889.66	9.42	MH-4	888.34	9.89	21,262	1.02	6.3	339,352	14.8	448,636
CO-4	8.0	0.013	400.0	0.0033	MH-4	888.24	9.99	MH-5	886.92	10.72	31,893	1.15	9.4	339,352	18.0	448,636
CO-5	8.0	0.013	369.5	0.0033	MH-5	886.82	10.82	MH-6	885.60	11.86	42,523	1.25	12.5	339,352	20.8	448,636
CO-6	8.0	0.013	316.6	0.0033	MH-6	885.50	11.96	MH-7	884.46	12.99	53,154	1.34	15.7	339,352	23.2	448,636
CO-7	8.0	0.013	300.0	0.0033	MH-7	884.36	13.09	MH-8	883.37	13.72	63,785	1.41	18.8	339,352	25.5	448,636
CO-8	8.0	0.013	299.5	0.0033	MH-8	883.27	13.82	MH-9	882.28	14.43	74,416	1.47	21.9	339,352	27.6	448,636
CO-9	8.0	0.013	297.7	0.0033	MH-9	882.18	14.53	MH-10	881.20	15.11	85,047	1.53	25.1	339,352	29.5	448,636
CO-10	8.0	0.013	227.4	0.0033	MH-10	881.10	15.21	MH-11	880.35	15.61	95,678	1.58	28.2	339,352	31.4	448,636
CO-11	8.0	0.013	339.5	0.0033	MH-11	880.25	15.71	MH-12	879.13	16.33	106,309	1.63	31.3	339,352	33.1	448,636
CO-12	8.0	0.013	400.0	0.0033	MH-12	879.03	16.43	MH-13	877.71	17.87	106,309	1.63	31.3	339,352	33.1	448,636
CO-13	8.0	0.013	199.6	0.0033	MH-13	877.61	17.97	MH-14	876.95	18.71	106,309	1.63	31.3	339,352	33.1	448,636
CO-14	8.0	0.013	400.0	0.0033	MH-14	876.85	18.81	MH-15	875.53	20.41	106,309	1.63	31.3	339,352	33.1	448,636
CO-15	8.0	0.013	260.1	0.0033	MH-15	875.43	20.51	LAKIN LS 2	874.57	20.92	106,309	1.63	31.3	339,352	33.1	448,636
CO-16	8.0	0.013	191.2	0.0033	MH-16	889.86	7.00	MH-20	889.23	7.45	3,044	0.56	0.9	339,352	5.9	448,636
CO-17	8.0	0.013	235.7	0.0033	MH-17	889.70	7.00	MH-18	888.92	7.73	3,044	0.56	0.9	339,352	5.9	448,636
CO-18	8.0	0.013	235.7	0.0033	MH-18	888.82	7.83	MH-19	888.04	8.62	6,087	0.70	1.8	339,352	8.1	448,636
CO-19	8.0	0.013	238.1	0.0033	MH-19	887.94	8.72	MH-20	887.16	9.53	9,131	0.79	2.7	339,352	9.9	448,636
CO-20	8.0	0.013	127.4	0.0033	MH-20	887.06	9.63	MH-21	886.64	9.93	15,218	0.92	4.5	339,352	12.6	448,636
CO-21	8.0	0.013	275.7	0.0033	MH-21	886.54	10.03	MH-22	885.63	11.02	15,218	0.92	4.5	339,352	12.6	448,636
CO-22	8.0	0.013	284.4	0.0033	MH-22	885.53	11.12	MH-23	884.59	9.60	23,371	1.05	6.9	339,352	15.5	448,636
CO-23	8.0	0.013	164.8	0.0033	MH-23	884.49	9.70	MH-24	883.94	10.44	31,523	1.15	9.3	339,352	17.9	448,636
CO-24	8.0	0.013	400.0	0.0033	MH-24	883.84	10.54	MH-25	882.52	8.89	39,676	1.23	11.7	339,352	20.1	448,636
CO-25	8.0	0.013	400.0	0.0033	MH-25	882.42	8.99	MH-26	881.10	10.41	47,828	1.30	14.1	339,352	22.0	448,636
CO-26	8.0	0.013	400.0	0.0033	MH-26	881.00	10.51	MH-27	879.68	15.12	55,981	1.36	16.5	339,352	23.8	448,636
CO-27	8.0	0.013	400.0	0.0033	MH-27	879.58	15.22	MH-28	878.26	16.91	64,133	1.41	18.9	339,352	25.5	448,636
CO-28	8.0	0.013	397.5	0.0033	MH-28	878.16	17.01	MH-57	876.85	18.94	72,286	1.46	21.3	339,352	27.2	448,636
CO-29	8.0	0.013	397.7	0.0037	MH-29	889.17	7.00	MH-30	887.68	7.00	8,696	0.81	2.4	360,440	9.4	476,514
CO-30	8.0	0.013	309.3	0.0033	MH-30	887.58	7.10	MH-31	886.56	8.00	17,392	0.96	5.1	339,352	13.4	448,636
CO-31	8.0	0.013	299.3	0.0033	MH-31	886.46	8.10	MH-32	885.48	8.55	26,088	1.08	7.7	339,352	16.4	448,636
CO-32	8.0	0.013	274.0	0.0033	MH-32	885.38	8.65	MH-33	884.47	9.91	34,784	1.18	10.3	339,352	18.8	448,636
CO-33	10.0	0.013	353.9	0.0025	MH-33	884.21	10.01	MH-37	883.32	10.52	141,093	1.57	26.3	535,538	30.3	708,001
CO-34	8.0	0.013	206.1	0.0033	MH-34	888.98	7.00	MH-35	888.30	7.28	2,419	0.53	0.7	339,352	5.3	448,636
CO-35	8.0	0.013	310.1	0.0041	MH-35	888.20	7.38	MH-36	886.94	7.00	4,837	0.70	1.3	376,490	7.0	497,734
CO-36	8.0	0.013	203.5	0.0033	MH-36	886.84	7.10	MH-37	886.17	7.84	7,256	0.74	2.1	339,352	8.9	448,636
CO-37	10.0	0.013	217.1	0.0025	MH-37	883.22	10.62	MH-38	882.68	22.22	150,767	1.60	28.2	535,538	31.3	708,001
CO-38	10.0	0.013	356.2	0.0025	MH-38	882.58	22.32	MH-39	881.69	21.34	150,767	1.60	28.2	535,538	31.3	708,001
CO-39	10.0	0.013	288.1	0.0025	MH-39	881.59	21.44	MH-40	880.87	16.54	150,767	1.60	28.2	535,538	31.3	708,001

Label	Diam (in)	Mannin g's n	Length (ft)	Slope (ft/ft)	Start Node	Invert (Start) (ft)	Cover (Start) (ft)	Stop Node	Invert (Stop) (ft)	Cover (Stop) (ft)	Flow (gal/day)	Velocity at Flow (ft/s)	Flow / Capacity (Design) (%)	Capacity (Design) (gal/day)	Depth / Diam (%)	Capacity (Full Flow) (gal/day)
CO-40	10.0	0.013	141.6	0.0025	MH-40	880.77	16.64	MH-57	880.41	15.21	150,767	1.60	28.2	535,538	31.3	708,001
CO-41	8.0	0.013	400.0	0.0033	MH-41	883.18	7.00	MH-42	881.86	8.56	6,174	0.71	1.8	339,352	8.2	448,636
CO-42	8.0	0.013	400.0	0.0033	MH-42	881.76	8.66	MH-43	880.44	10.30	12,348	0.87	3.6	339,352	11.4	448,636
CO-43	8.0	0.013	400.0	0.0036	MH-43	880.34	10.40	MH-52	878.89	12.31	18,522	1.01	5.2	355,779	13.5	470,353
CO-44	8.0	0.013	400.0	0.0034	MH-44	887.29	7.00	MH-49	885.94	7.00	10,870	0.84	3.2	343,187	10.7	453,705
CO-45	8.0	0.013	305.0	0.0036	MH-45	888.22	7.00	MH-46	887.13	7.00	10,870	0.86	3.1	353,147	10.5	466,873
CO-46	8.0	0.013	317.5	0.0033	MH-46	887.03	7.10	MH-47	885.99	7.61	10,870	0.83	3.2	339,352	10.7	448,636
CO-47	8.0	0.013	400.0	0.0033	MH-47	885.89	7.71	MH-48	884.57	8.62	21,740	1.03	6.4	339,352	15.0	448,636
CO-48	8.0	0.013	400.0	0.0033	MH-48	884.47	8.72	MH-49	883.15	9.80	32,610	1.16	9.6	339,352	18.3	448,636
CO-49	8.0	0.013	400.0	0.0033	MH-49	883.05	9.90	MH-50	881.73	10.92	43,480	1.26	12.8	339,352	21.0	448,636
CO-50	8.0	0.013	400.0	0.0033	MH-50	881.63	11.02	MH-51	880.31	12.20	54,350	1.34	16.0	339,352	23.5	448,636
CO-51	8.0	0.013	400.0	0.0033	MH-51	880.21	12.30	MH-52	878.89	12.31	54,350	1.34	16.0	339,352	23.5	448,636
CO-52	8.0	0.013	400.0	0.0033	MH-52	878.79	12.41	MH-53	877.47	15.99	79,047	1.50	23.3	339,352	28.4	448,636
CO-53	8.0	0.013	399.7	0.0033	MH-53	877.37	16.09	MH-54	876.05	17.42	85,221	1.53	25.1	339,352	29.5	448,636
CO-54	8.0	0.013	308.9	0.0033	MH-54	875.95	17.52	MH-55	874.93	19.88	85,221	1.53	25.1	339,352	29.5	448,636
CO-55	8.0	0.013	282.4	0.0033	MH-55	874.83	19.98	MH-56	873.90	21.37	85,221	1.53	25.1	339,352	29.5	448,636
CO-56	8.0	0.013	223.4	0.0033	MH-56	873.80	21.47	MH-57	873.06	22.74	85,221	1.53	25.1	339,352	29.5	448,636
CO-57	12.0	0.013	400.0	0.0031	MH-57	872.62	22.84	MH-58	871.38	22.11	308,273	2.08	31.8	969,730	33.4	1,282,020
CO-58	12.0	0.013	399.7	0.0031	MH-58	871.28	22.21	MH-59	870.05	22.56	312,730	2.08	32.2	969,730	33.7	1,282,020
CO-59	12.0	0.013	201.1	0.0031	MH-59	869.95	22.66	MH-60	869.32	24.67	317,187	2.09	32.7	969,730	33.9	1,282,020
CO-60	12.0	0.013	322.4	0.0031	MH-60	869.22	24.77	MH-61	868.22	32.74	317,187	2.09	32.7	969,730	33.9	1,282,020
CO-61	12.0	0.013	141.4	0.0031	MH-61	868.12	32.84	LAKIN LS 1	867.68	33.87	317,187	2.09	32.7	969,730	33.9	1,282,020
CO-62	8.0	0.013	206.5	0.0033	MH-62	893.66	7.00	MH-63	892.98	7.04	8,533	0.77	2.5	339,352	9.6	448,636
CO-63	8.0	0.013	206.5	0.0033	MH-63	892.88	7.14	MH-79	892.20	7.06	17,066	0.96	5.0	339,352	13.3	448,636
CO-64	8.0	0.013	47.2	0.0033	MH-64	890.11	7.00	MH-65	889.95	7.22	2,604	0.54	0.8	339,352	5.5	448,636
CO-65	8.0	0.013	223.2	0.0033	MH-65	889.85	7.32	MH-66	889.12	8.11	5,084	0.66	1.5	339,352	7.5	448,636
CO-66	8.0	0.013	353.3	0.0033	MH-66	889.02	8.21	MH-72	887.85	8.94	7,564	0.75	2.2	339,352	9.0	448,636
CO-67	8.0	0.013	72.8	0.0033	MH-67	889.91	7.00	MH-68	889.67	7.17	2,604	0.54	0.8	339,352	5.5	448,636
CO-68	8.0	0.013	377.3	0.0033	MH-68	889.57	7.27	MH-69	888.33	8.19	5,084	0.66	1.5	339,352	7.5	448,636
CO-69	8.0	0.013	41.8	0.0033	MH-69	888.23	8.29	MH-70	888.09	8.43	7,564	0.75	2.2	339,352	9.0	448,636
CO-70	8.0	0.013	276.1	0.0033	MH-70	887.99	8.53	MH-71	887.08	9.62	10,044	0.81	3.0	339,352	10.3	448,636
CO-71	8.0	0.013	276.1	0.0033	MH-71	886.98	9.72	MH-72	886.07	10.72	12,772	0.88	3.8	339,352	11.6	448,636
CO-72	8.0	0.013	158.2	0.0033	MH-72	885.97	10.82	MH-73	885.45	11.00	22,816	1.04	6.7	339,352	15.3	448,636
CO-73	8.0	0.013	244.3	0.0033	MH-73	885.35	11.10	MH-76	884.54	12.63	22,816	1.04	6.7	339,352	15.3	448,636
CO-74	8.0	0.013	189.7	0.0033	MH-74	890.54	7.00	MH-75	889.91	7.41	8,533	0.77	2.5	339,352	9.6	448,636
CO-75	8.0	0.013	189.7	0.0033	MH-75	889.81	7.51	MH-76	889.19	7.98	17,066	0.96	5.0	339,352	13.3	448,636
CO-76	8.0	0.013	378.6	0.0033	MH-76	884.44	12.73	MH-77	883.19	14.31	39,882	1.23	11.8	339,352	20.1	448,636
CO-77	8.0	0.013	378.6	0.0033	MH-77	883.09	14.41	MH-78	881.84	16.14	48,415	1.30	14.3	339,352	22.2	448,636
CO-78	8.0	0.013	378.6	0.0033	MH-78	881.74	16.24	MH-79	880.49	18.77	56,948	1.36	16.8	339,352	24.1	448,636

Label	Diam (in)	Mannin g's n	Length (ft)	Slope (ft/ft)	Start Node	Invert (Start) (ft)	Cover (Start) (ft)	Stop Node	Invert (Stop) (ft)	Cover (Stop) (ft)	Flow (gal/day)	Velocity at Flow (ft/s)	Flow / Capacity (Design) (%)	Capacity (Design) (gal/day)	Depth / Diam (%)	Capacity (Full Flow) (gal/day)
CO-79	8.0	0.013	330.2	0.0033	MH-79	880.39	18.87	MH-80	879.30	20.64	82,547	1.51	24.3	339,352	29.1	448,636
CO-80	8.0	0.013	330.2	0.0033	MH-80	879.20	20.74	MH-81	878.11	22.65	91,080	1.56	26.8	339,352	30.6	448,636
CO-81	8.0	0.013	330.2	0.0033	MH-81	878.01	22.75	MH-82	876.92	24.56	99,613	1.60	29.4	339,352	32.1	448,636
CO-82	8.0	0.013	378.1	0.0033	MH-82	876.82	24.66	LAKIN LS 1	875.57	26.31	108,146	1.64	31.9	339,352	33.4	448,636
CO-83	8.0	0.013	250.1	0.0047	MH-83	898.89	7.00	MH-84	897.71	7.00	2,881	0.63	0.7	405,443	5.3	536,011
CO-84	8.0	0.013	267.8	0.0047	MH-84	897.61	7.10	MH-85	896.36	7.00	5,761	0.77	1.4	404,489	7.3	534,749
CO-85	8.0	0.013	163.5	0.0033	MH-85	896.26	7.10	MH-86	895.72	7.98	8,642	0.78	2.5	339,352	9.7	448,636
CO-86	8.0	0.013	195.4	0.0033	MH-86	895.62	8.08	MH-87	894.97	7.92	8,642	0.78	2.5	339,352	9.7	448,636
CO-87	8.0	0.013	209.9	0.0033	MH-87	894.87	8.02	LAKIN LS 1	894.18	7.70	11,522	0.85	3.4	339,352	11.0	448,636
CO-88	8.0	0.013	269.8	0.0033	MH-88	899.24	7.00	MH-89	898.35	7.53	2,065	0.50	0.6	339,352	4.9	448,636
CO-89	8.0	0.013	236.7	0.0033	MH-89	898.25	7.63	MH-90	897.47	8.59	4,131	0.62	1.2	339,352	6.8	448,636
CO-90	8.0	0.013	230.9	0.0033	MH-90	897.37	8.69	MH-99	896.61	7.63	6,196	0.71	1.8	339,352	8.2	448,636
CO-91	12.0	0.013	370.0	0.0031	MH-91	886.00	14.81	MH-92	884.85	16.46	188,901	1.81	19.5	969,730	25.9	1,282,020
CO-92	12.0	0.013	279.6	0.0031	MH-92	884.75	16.56	MH-93	883.89	17.96	188,901	1.81	19.5	969,730	25.9	1,282,020
CO-93	12.0	0.013	279.6	0.0031	MH-93	883.79	18.06	MH-94	882.92	19.43	203,228	1.85	21.0	969,730	26.9	1,282,020
CO-94	12.0	0.013	400.0	0.0031	MH-94	882.65	19.69	MH-95	881.41	21.55	217,555	1.88	22.4	969,730	27.9	1,282,020
CO-95	12.0	0.013	264.6	0.0031	MH-95	881.31	21.65	MH-96	880.49	22.86	231,881	1.91	23.9	969,730	28.8	1,282,020
CO-96	12.0	0.013	156.5	0.0031	MH-96	880.39	22.96	MH-97	879.91	23.51	246,208	1.95	25.4	969,730	29.7	1,282,020
CO-97	12.0	0.013	301.0	0.0031	MH-97	879.81	23.61	MH-98	878.87	25.12	246,208	1.95	25.4	969,730	29.7	1,282,020
CO-98	12.0	0.013	348.0	0.0031	MH-98	878.77	25.22	MH-99	877.70	26.21	260,535	1.98	26.9	969,730	30.6	1,282,020
CO-99	12.0	0.013	398.5	0.0031	MH-99	877.60	26.31	MH-100	876.36	25.93	268,796	2.00	27.7	969,730	31.1	1,282,020
CO-100	12.0	0.013	254.8	0.0031	MH-100	876.26	26.03	LAKIN LS 1	875.47	26.08	268,796	2.00	27.7	969,730	31.1	1,282,020

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Depth (Structure) (ft)	Flow (Total Out) (gal/day)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
MH-1	900.17	892.50	7.67	0	892.50	892.50
MH-2	899.67	891.08	8.59	10,631	891.15	891.15
MH-3	899.75	889.66	10.08	21,262	889.76	889.76
MH-4	898.90	888.24	10.65	31,893	888.36	888.36
MH-5	898.31	886.82	11.49	42,523	886.96	886.96
MH-6	898.13	885.50	12.62	53,154	885.66	885.66
MH-7	898.12	884.36	13.76	63,785	884.53	884.53
MH-8	897.75	883.27	14.48	74,416	883.45	883.45
MH-9	897.38	882.18	15.19	85,047	882.38	882.38
MH-10	896.97	881.10	15.87	95,678	881.31	881.31
MH-11	896.62	880.25	16.37	106,309	880.47	880.47
MH-12	896.13	879.03	17.10	106,309	879.25	879.25
MH-13	896.25	877.61	18.64	106,309	877.83	877.83
MH-14	896.32	876.85	19.47	106,309	877.07	877.07
MH-15	896.61	875.43	21.18	106,309	875.65	875.65
MH-16	897.53	889.86	7.67	3,044	889.90	889.90
MH-17	897.36	889.70	7.67	3,044	889.74	889.74
MH-18	897.32	888.82	8.50	6,087	888.87	888.87
MH-19	897.33	887.94	9.39	9,131	888.01	888.01
MH-20	897.35	887.06	10.29	15,218	887.14	887.14
MH-21	897.24	886.54	10.70	15,218	886.62	886.62
MH-22	897.31	885.53	11.79	23,371	885.63	885.63
MH-23	894.85	884.49	10.36	31,523	884.61	884.61
MH-24	895.05	883.84	11.21	39,676	883.98	883.98
MH-25	892.08	882.42	9.65	47,828	882.57	882.57
MH-26	892.18	881.00	11.18	55,981	881.16	881.16
MH-27	895.47	879.58	15.89	64,133	879.75	879.75
MH-28	895.84	878.16	17.67	72,286	878.35	878.35
MH-29	896.83	889.17	7.67	8,696	889.23	889.23
MH-30	895.35	887.58	7.77	17,392	887.67	887.67
MH-31	895.23	886.46	8.76	26,088	886.57	886.57
MH-32	894.69	885.38	9.31	34,784	885.50	885.50
MH-33	895.05	884.21	10.85	141,093	884.46	884.46
MH-34	896.65	888.98	7.67	2,419	889.01	889.01
MH-35	896.25	888.20	8.05	4,837	888.25	888.25
MH-36	894.61	886.84	7.77	7,256	886.90	886.90
MH-37	894.68	883.22	11.45	150,767	883.48	883.48
MH-38	905.73	882.58	23.15	150,767	882.84	882.84
MH-39	903.86	881.59	22.27	150,767	881.85	881.85
MH-40	898.24	880.77	17.47	150,767	881.03	881.03
MH-41	890.84	883.18	7.67	6,174	883.23	883.23
MH-42	891.08	881.76	9.32	12,348	881.83	881.83
MH-43	891.40	880.34	11.06	18,522	880.43	880.43
MH-44	894.96	887.29	7.67	10,870	887.36	887.36
MH-45	895.89	888.22	7.67	10,870	888.29	888.29
MH-46	894.80	887.03	7.77	10,870	887.10	887.10
MH-47	894.26	885.89	8.37	21,740	885.99	885.99
MH-48	893.85	884.47	9.38	32,610	884.59	884.59
MH-49	893.61	883.05	10.56	43,480	883.19	883.19

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Depth (Structure) (ft)	Flow (Total Out) (gal/day)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
MH-50	893.31	881.63	11.68	54,350	881.78	881.78
MH-51	893.17	880.21	12.96	54,350	880.36	880.36
MH-52	891.86	878.79	13.07	79,047	878.97	878.97
MH-53	894.12	877.37	16.75	85,221	877.56	877.56
MH-54	894.13	875.95	18.18	85,221	876.14	876.14
MH-55	895.48	874.83	20.65	85,221	875.02	875.02
MH-56	895.93	873.80	22.13	85,221	873.99	873.99
MH-57	896.46	872.62	23.84	308,273	872.96	872.96
MH-58	894.50	871.28	23.21	312,730	871.62	871.62
MH-59	893.60	869.95	23.66	317,187	870.28	870.28
MH-60	894.99	869.22	25.77	317,187	869.56	869.56
MH-61	901.97	868.12	33.84	317,187	868.46	868.46
MH-62	901.33	893.66	7.67	8,533	893.73	893.73
MH-63	900.68	892.88	7.80	17,066	892.97	892.97
MH-64	897.77	890.11	7.67	2,604	890.14	890.14
MH-65	897.84	889.85	7.99	5,084	889.90	889.90
MH-66	897.90	889.02	8.88	7,564	889.08	889.08
MH-67	897.58	889.91	7.67	2,604	889.95	889.95
MH-68	897.51	889.57	7.94	5,084	889.62	889.62
MH-69	897.19	888.23	8.96	7,564	888.29	888.29
MH-70	897.19	887.99	9.20	10,044	888.06	888.06
MH-71	897.37	886.98	10.39	12,772	887.06	887.06
MH-72	897.46	885.97	11.49	22,816	886.07	886.07
MH-73	897.12	885.35	11.77	22,816	885.45	885.45
MH-74	898.21	890.54	7.67	8,533	890.60	890.60
MH-75	898.00	889.81	8.18	17,066	889.90	889.90
MH-76	897.83	884.44	13.39	39,882	884.57	884.57
MH-77	898.16	883.09	15.07	48,415	883.24	883.24
MH-78	898.65	881.74	16.91	56,948	881.90	881.90
MH-79	899.93	880.39	19.54	82,547	880.59	880.59
MH-80	900.61	879.20	21.41	91,080	879.41	879.41
MH-81	901.42	878.01	23.41	99,613	878.23	878.23
MH-82	902.15	876.82	25.32	108,146	877.04	877.04
MH-83	906.56	898.89	7.67	2,881	898.93	898.93
MH-84	905.38	897.61	7.77	5,761	897.66	897.66
MH-85	904.03	896.26	7.77	8,642	896.32	896.32
MH-86	904.37	895.62	8.75	8,642	895.68	895.68
MH-87	903.56	894.87	8.69	11,522	894.95	894.95
MH-88	906.91	899.24	7.67	2,065	899.27	899.27
MH-89	906.54	898.25	8.29	4,131	898.29	898.29
MH-90	906.73	897.37	9.36	6,196	897.42	897.42
MH-91	901.81	886.00	15.81	188,901	886.26	886.26
MH-92	902.31	884.75	17.56	188,901	885.01	885.01
MH-93	902.85	883.79	19.06	203,228	884.06	884.06
MH-94	903.35	882.65	20.69	217,555	882.93	882.93
MH-95	903.96	881.31	22.65	231,881	881.60	881.60
MH-96	904.35	880.39	23.96	246,208	880.69	880.69
MH-97	904.42	879.81	24.61	246,208	880.10	880.10
MH-98	904.99	878.77	26.22	260,535	879.08	879.08

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Depth (Structure) (ft)	Flow (Total Out) (gal/day)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
MH-99	904.91	877.60	27.31	268,796	877.91	877.91
MH-100	903.29	876.26	27.03	268,796	876.57	876.57

FlexTable: Outfall Table

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Hydraulic Grade (ft)	Flow (Total Out) (gal/day)
LAKIN LS 1	902.55	867.68	894.24	705,650
LAKIN LS 2	896.16	874.57	874.76	106,309

PEAK FLOW
(PEAKING FACTOR = 2.89 x AVERAGE DAILY FLOW)

Label	Diam (in)	Mannin g's n	Length (ft)	Slope (ft/ft)	Start Node	Invert (Start) (ft)	Cover (Start) (ft)	Stop Node	Invert (Stop) (ft)	Cover (Stop) (ft)	Flow (gal/day)	Velocity at Flow (ft/s)	Flow / Capacity (Design) (%)	Capacity (Design) (gal/day)	Depth / Diam (%)	Capacity (Full Flow) (gal/day)
CO-1	8.0	0.013	400.0	0.0033	MH-1	892.50	7.00	MH-2	891.18	7.82	0	0.00	0.0	339,352	(N/A)	448,636
CO-2	8.0	0.013	400.0	0.0033	MH-2	891.08	7.92	MH-3	889.76	9.32	30,723	1.14	9.1	339,352	17.7	448,636
CO-3	8.0	0.013	400.0	0.0033	MH-3	889.66	9.42	MH-4	888.34	9.89	61,446	1.39	18.1	339,352	25.0	448,636
CO-4	8.0	0.013	400.0	0.0033	MH-4	888.24	9.99	MH-5	886.92	10.72	92,170	1.56	27.2	339,352	30.8	448,636
CO-5	8.0	0.013	369.5	0.0033	MH-5	886.82	10.82	MH-6	885.60	11.86	122,893	1.69	36.2	339,352	35.8	448,636
CO-6	8.0	0.013	316.6	0.0033	MH-6	885.50	11.96	MH-7	884.46	12.99	153,616	1.80	45.3	339,352	40.4	448,636
CO-7	8.0	0.013	300.0	0.0033	MH-7	884.36	13.09	MH-8	883.37	13.72	184,339	1.89	54.3	339,352	44.6	448,636
CO-8	8.0	0.013	299.5	0.0033	MH-8	883.27	13.82	MH-9	882.28	14.43	215,062	1.97	63.4	339,352	48.8	448,636
CO-9	8.0	0.013	297.7	0.0033	MH-9	882.18	14.53	MH-10	881.20	15.11	245,785	2.03	72.4	339,352	52.8	448,636
CO-10	8.0	0.013	227.4	0.0033	MH-10	881.10	15.21	MH-11	880.35	15.61	276,509	2.09	81.5	339,352	56.8	448,636
CO-11	8.0	0.013	339.5	0.0033	MH-11	880.25	15.71	MH-12	879.13	16.33	307,232	2.14	90.5	339,352	60.8	448,636
CO-12	8.0	0.013	400.0	0.0033	MH-12	879.03	16.43	MH-13	877.71	17.87	307,232	2.14	90.5	339,352	60.8	448,636
CO-13	8.0	0.013	199.6	0.0033	MH-13	877.61	17.97	MH-14	876.95	18.71	307,232	2.14	90.5	339,352	60.8	448,636
CO-14	8.0	0.013	400.0	0.0033	MH-14	876.85	18.81	MH-15	875.53	20.41	307,232	2.14	90.5	339,352	60.8	448,636
CO-15	8.0	0.013	260.1	0.0033	MH-15	875.43	20.51	LAKIN LS 2	874.57	20.92	307,232	2.14	90.5	339,352	60.8	448,636
CO-16	8.0	0.013	191.2	0.0033	MH-16	889.86	7.00	MH-20	889.23	7.45	8,796	0.78	2.6	339,352	9.7	448,636
CO-17	8.0	0.013	235.7	0.0033	MH-17	889.70	7.00	MH-18	888.92	7.73	8,796	0.78	2.6	339,352	9.7	448,636
CO-18	8.0	0.013	235.7	0.0033	MH-18	888.82	7.83	MH-19	888.04	8.62	17,592	0.96	5.2	339,352	13.5	448,636
CO-19	8.0	0.013	238.1	0.0033	MH-19	887.94	8.72	MH-20	887.16	9.53	26,388	1.09	7.8	339,352	16.5	448,636
CO-20	8.0	0.013	127.4	0.0033	MH-20	887.06	9.63	MH-21	886.64	9.93	43,980	1.26	13.0	339,352	21.1	448,636
CO-21	8.0	0.013	275.7	0.0033	MH-21	886.54	10.03	MH-22	885.63	11.02	43,980	1.26	13.0	339,352	21.1	448,636
CO-22	8.0	0.013	284.4	0.0033	MH-22	885.53	11.12	MH-23	884.59	9.60	67,541	1.43	19.9	339,352	26.2	448,636
CO-23	8.0	0.013	164.8	0.0033	MH-23	884.49	9.70	MH-24	883.94	10.44	91,101	1.56	26.8	339,352	30.6	448,636
CO-24	8.0	0.013	400.0	0.0033	MH-24	883.84	10.54	MH-25	882.52	8.89	114,662	1.66	33.8	339,352	34.5	448,636
CO-25	8.0	0.013	400.0	0.0033	MH-25	882.42	8.99	MH-26	881.10	10.41	138,223	1.75	40.7	339,352	38.1	448,636
CO-26	8.0	0.013	400.0	0.0033	MH-26	881.00	10.51	MH-27	879.68	15.12	161,784	1.83	47.7	339,352	41.5	448,636
CO-27	8.0	0.013	400.0	0.0033	MH-27	879.58	15.22	MH-28	878.26	16.91	185,344	1.90	54.6	339,352	44.8	448,636
CO-28	8.0	0.013	397.5	0.0033	MH-28	878.16	17.01	MH-57	876.85	18.94	208,905	1.95	61.6	339,352	48.0	448,636
CO-29	8.0	0.013	397.7	0.0037	MH-29	889.17	7.00	MH-30	887.68	7.00	25,131	1.12	7.0	360,440	15.6	476,514
CO-30	8.0	0.013	309.3	0.0033	MH-30	887.58	7.10	MH-31	886.56	8.00	50,263	1.31	14.8	339,352	22.6	448,636
CO-31	8.0	0.013	299.3	0.0033	MH-31	886.46	8.10	MH-32	885.48	8.55	75,394	1.48	22.2	339,352	27.7	448,636
CO-32	8.0	0.013	274.0	0.0033	MH-32	885.38	8.65	MH-33	884.47	9.91	100,526	1.61	29.6	339,352	32.1	448,636
CO-33	10.0	0.013	353.9	0.0025	MH-33	884.21	10.01	MH-37	883.32	10.52	407,758	2.08	76.1	535,538	54.4	708,001
CO-34	8.0	0.013	206.1	0.0033	MH-34	888.98	7.00	MH-35	888.30	7.28	6,990	0.73	2.1	339,352	8.7	448,636
CO-35	8.0	0.013	310.1	0.0041	MH-35	888.20	7.38	MH-36	886.94	7.00	13,979	0.97	3.7	376,490	11.5	497,734
CO-36	8.0	0.013	203.5	0.0033	MH-36	886.84	7.10	MH-37	886.17	7.84	20,969	1.02	6.2	339,352	14.7	448,636
CO-37	10.0	0.013	217.1	0.0025	MH-37	883.22	10.62	MH-38	882.68	22.22	435,716	2.11	81.4	535,538	56.7	708,001
CO-38	10.0	0.013	356.2	0.0025	MH-38	882.58	22.32	MH-39	881.69	21.34	435,716	2.11	81.4	535,538	56.7	708,001
CO-39	10.0	0.013	288.1	0.0025	MH-39	881.59	21.44	MH-40	880.87	16.54	435,716	2.11	81.4	535,538	56.7	708,001

Label	Diam (in)	Mannin g's n	Length (ft)	Slope (ft/ft)	Start Node	Invert (Start) (ft)	Cover (Start) (ft)	Stop Node	Invert (Stop) (ft)	Cover (Stop) (ft)	Flow (gal/day)	Velocity at Flow (ft/s)	Flow / Capacity (Design) (%)	Capacity (Design) (gal/day)	Depth / Diam (%)	Capacity (Full Flow) (gal/day)
CO-40	10.0	0.013	141.6	0.0025	MH-40	880.77	16.64	MH-57	880.41	15.21	435,716	2.11	81.4	535,538	56.7	708,001
CO-41	8.0	0.013	400.0	0.0033	MH-41	883.18	7.00	MH-42	881.86	8.56	17,843	0.97	5.3	339,352	13.6	448,636
CO-42	8.0	0.013	400.0	0.0033	MH-42	881.76	8.66	MH-43	880.44	10.30	35,687	1.19	10.5	339,352	19.0	448,636
CO-43	8.0	0.013	400.0	0.0036	MH-43	880.34	10.40	MH-52	878.89	12.31	53,530	1.38	15.0	355,779	22.8	470,353
CO-44	8.0	0.013	400.0	0.0034	MH-44	887.29	7.00	MH-49	885.94	7.00	31,414	1.15	9.2	343,187	17.8	453,705
CO-45	8.0	0.013	305.0	0.0036	MH-45	888.22	7.00	MH-46	887.13	7.00	31,414	1.18	8.9	353,147	17.6	466,873
CO-46	8.0	0.013	317.5	0.0033	MH-46	887.03	7.10	MH-47	885.99	7.61	31,414	1.15	9.3	339,352	17.9	448,636
CO-47	8.0	0.013	400.0	0.0033	MH-47	885.89	7.71	MH-48	884.57	8.62	62,829	1.40	18.5	339,352	25.3	448,636
CO-48	8.0	0.013	400.0	0.0033	MH-48	884.47	8.72	MH-49	883.15	9.80	94,243	1.57	27.8	339,352	31.1	448,636
CO-49	8.0	0.013	400.0	0.0033	MH-49	883.05	9.90	MH-50	881.73	10.92	125,657	1.70	37.0	339,352	36.2	448,636
CO-50	8.0	0.013	400.0	0.0033	MH-50	881.63	11.02	MH-51	880.31	12.20	157,071	1.81	46.3	339,352	40.8	448,636
CO-51	8.0	0.013	400.0	0.0033	MH-51	880.21	12.30	MH-52	878.89	12.31	157,071	1.81	46.3	339,352	40.8	448,636
CO-52	8.0	0.013	400.0	0.0033	MH-52	878.79	12.41	MH-53	877.47	15.99	228,445	2.00	67.3	339,352	50.5	448,636
CO-53	8.0	0.013	399.7	0.0033	MH-53	877.37	16.09	MH-54	876.05	17.42	246,288	2.04	72.6	339,352	52.9	448,636
CO-54	8.0	0.013	308.9	0.0033	MH-54	875.95	17.52	MH-55	874.93	19.88	246,288	2.04	72.6	339,352	52.9	448,636
CO-55	8.0	0.013	282.4	0.0033	MH-55	874.83	19.98	MH-56	873.90	21.37	246,288	2.04	72.6	339,352	52.9	448,636
CO-56	8.0	0.013	223.4	0.0033	MH-56	873.80	21.47	MH-57	873.06	22.74	246,288	2.04	72.6	339,352	52.9	448,636
CO-57	12.0	0.013	400.0	0.0031	MH-57	872.62	22.84	MH-58	871.38	22.11	890,910	2.73	91.9	969,730	61.4	1,282,020
CO-58	12.0	0.013	399.7	0.0031	MH-58	871.28	22.21	MH-59	870.05	22.56	903,789	2.74	93.2	969,730	62.0	1,282,020
CO-59	12.0	0.013	201.1	0.0031	MH-59	869.95	22.66	MH-60	869.32	24.67	916,669	2.74	94.5	969,730	62.6	1,282,020
CO-60	12.0	0.013	322.4	0.0031	MH-60	869.22	24.77	MH-61	868.22	32.74	916,669	2.74	94.5	969,730	62.6	1,282,020
CO-61	12.0	0.013	141.4	0.0031	MH-61	868.12	32.84	LAKIN LS 1	867.68	33.87	916,669	2.74	94.5	969,730	62.6	1,282,020
CO-62	8.0	0.013	206.5	0.0033	MH-62	893.66	7.00	MH-63	892.98	7.04	24,660	1.07	7.3	339,352	15.9	448,636
CO-63	8.0	0.013	206.5	0.0033	MH-63	892.88	7.14	MH-79	892.20	7.06	49,320	1.31	14.5	339,352	22.4	448,636
CO-64	8.0	0.013	47.2	0.0033	MH-64	890.11	7.00	MH-65	889.95	7.22	7,526	0.75	2.2	339,352	9.0	448,636
CO-65	8.0	0.013	223.2	0.0033	MH-65	889.85	7.32	MH-66	889.12	8.11	14,693	0.91	4.3	339,352	12.4	448,636
CO-66	8.0	0.013	353.3	0.0033	MH-66	889.02	8.21	MH-72	887.85	8.94	21,860	1.03	6.4	339,352	15.0	448,636
CO-67	8.0	0.013	72.8	0.0033	MH-67	889.91	7.00	MH-68	889.67	7.17	7,526	0.75	2.2	339,352	9.0	448,636
CO-68	8.0	0.013	377.3	0.0033	MH-68	889.57	7.27	MH-69	888.33	8.19	14,693	0.91	4.3	339,352	12.4	448,636
CO-69	8.0	0.013	41.8	0.0033	MH-69	888.23	8.29	MH-70	888.09	8.43	21,860	1.03	6.4	339,352	15.0	448,636
CO-70	8.0	0.013	276.1	0.0033	MH-70	887.99	8.53	MH-71	887.08	9.62	29,027	1.12	8.6	339,352	17.2	448,636
CO-71	8.0	0.013	276.1	0.0033	MH-71	886.98	9.72	MH-72	886.07	10.72	36,911	1.20	10.9	339,352	19.4	448,636
CO-72	8.0	0.013	158.2	0.0033	MH-72	885.97	10.82	MH-73	885.45	11.00	65,938	1.42	19.4	339,352	25.9	448,636
CO-73	8.0	0.013	244.3	0.0033	MH-73	885.35	11.10	MH-76	884.54	12.63	65,938	1.42	19.4	339,352	25.9	448,636
CO-74	8.0	0.013	189.7	0.0033	MH-74	890.54	7.00	MH-75	889.91	7.41	24,660	1.07	7.3	339,352	15.9	448,636
CO-75	8.0	0.013	189.7	0.0033	MH-75	889.81	7.51	MH-76	889.19	7.98	49,320	1.31	14.5	339,352	22.4	448,636
CO-76	8.0	0.013	378.6	0.0033	MH-76	884.44	12.73	MH-77	883.19	14.31	115,259	1.66	34.0	339,352	34.6	448,636
CO-77	8.0	0.013	378.6	0.0033	MH-77	883.09	14.41	MH-78	881.84	16.14	139,919	1.76	41.2	339,352	38.3	448,636
CO-78	8.0	0.013	378.6	0.0033	MH-78	881.74	16.24	MH-79	880.49	18.77	164,579	1.84	48.5	339,352	41.9	448,636

Label	Diam (in)	Mannin g's n	Length (ft)	Slope (ft/ft)	Start Node	Invert (Start) (ft)	Cover (Start) (ft)	Stop Node	Invert (Stop) (ft)	Cover (Stop) (ft)	Flow (gal/day)	Velocity at Flow (ft/s)	Flow / Capacity (Design) (%)	Capacity (Design) (gal/day)	Depth / Diam (%)	Capacity (Full Flow) (gal/day)
CO-79	8.0	0.013	330.2	0.0033	MH-79	880.39	18.87	MH-80	879.30	20.64	238,560	2.02	70.3	339,352	51.9	448,636
CO-80	8.0	0.013	330.2	0.0033	MH-80	879.20	20.74	MH-81	878.11	22.65	263,220	2.07	77.6	339,352	55.1	448,636
CO-81	8.0	0.013	330.2	0.0033	MH-81	878.01	22.75	MH-82	876.92	24.56	287,880	2.11	84.8	339,352	58.3	448,636
CO-82	8.0	0.013	378.1	0.0033	MH-82	876.82	24.66	LAKIN LS 1	875.57	26.31	312,540	2.15	92.1	339,352	61.5	448,636
CO-83	8.0	0.013	250.1	0.0047	MH-83	898.89	7.00	MH-84	897.71	7.00	8,325	0.87	2.1	405,443	8.7	536,011
CO-84	8.0	0.013	267.8	0.0047	MH-84	897.61	7.10	MH-85	896.36	7.00	16,650	1.07	4.1	404,489	12.1	534,749
CO-85	8.0	0.013	163.5	0.0033	MH-85	896.26	7.10	MH-86	895.72	7.98	24,974	1.07	7.4	339,352	16.0	448,636
CO-86	8.0	0.013	195.4	0.0033	MH-86	895.62	8.08	MH-87	894.97	7.92	24,974	1.07	7.4	339,352	16.0	448,636
CO-87	8.0	0.013	209.9	0.0033	MH-87	894.87	8.02	LAKIN LS 1	894.18	7.70	33,299	1.16	9.8	339,352	18.5	448,636
CO-88	8.0	0.013	269.8	0.0033	MH-88	899.24	7.00	MH-89	898.35	7.53	5,969	0.70	1.8	339,352	8.0	448,636
CO-89	8.0	0.013	236.7	0.0033	MH-89	898.25	7.63	MH-90	897.47	8.59	11,937	0.86	3.5	339,352	11.2	448,636
CO-90	8.0	0.013	230.9	0.0033	MH-90	897.37	8.69	MH-99	896.61	7.63	17,906	0.97	5.3	339,352	13.6	448,636
CO-91	12.0	0.013	370.0	0.0031	MH-91	886.00	14.81	MH-92	884.85	16.46	545,925	2.43	56.3	969,730	45.5	1,282,020
CO-92	12.0	0.013	279.6	0.0031	MH-92	884.75	16.56	MH-93	883.89	17.96	545,925	2.43	56.3	969,730	45.5	1,282,020
CO-93	12.0	0.013	279.6	0.0031	MH-93	883.79	18.06	MH-94	882.92	19.43	587,329	2.47	60.6	969,730	47.5	1,282,020
CO-94	12.0	0.013	400.0	0.0031	MH-94	882.65	19.69	MH-95	881.41	21.55	628,733	2.51	64.8	969,730	49.4	1,282,020
CO-95	12.0	0.013	264.6	0.0031	MH-95	881.31	21.65	MH-96	880.49	22.86	670,137	2.55	69.1	969,730	51.3	1,282,020
CO-96	12.0	0.013	156.5	0.0031	MH-96	880.39	22.96	MH-97	879.91	23.51	711,541	2.59	73.4	969,730	53.2	1,282,020
CO-97	12.0	0.013	301.0	0.0031	MH-97	879.81	23.61	MH-98	878.87	25.12	711,541	2.59	73.4	969,730	53.2	1,282,020
CO-98	12.0	0.013	348.0	0.0031	MH-98	878.77	25.22	MH-99	877.70	26.21	752,945	2.63	77.6	969,730	55.1	1,282,020
CO-99	12.0	0.013	398.5	0.0031	MH-99	877.60	26.31	MH-100	876.36	25.93	776,820	2.65	80.1	969,730	56.2	1,282,020
CO-100	12.0	0.013	254.8	0.0031	MH-100	876.26	26.03	LAKIN LS 1	875.47	26.08	776,820	2.65	80.1	969,730	56.2	1,282,020

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Depth (Structure) (ft)	Flow (Total Out) (gal/day)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
MH-1	900.17	892.50	7.67	0	892.50	892.50
MH-2	899.67	891.08	8.59	30,723	891.20	891.20
MH-3	899.75	889.66	10.08	61,446	889.83	889.83
MH-4	898.90	888.24	10.65	92,170	888.45	888.45
MH-5	898.31	886.82	11.49	122,893	887.06	887.06
MH-6	898.13	885.50	12.62	153,616	885.77	885.77
MH-7	898.12	884.36	13.76	184,339	884.66	884.66
MH-8	897.75	883.27	14.48	215,062	883.59	883.59
MH-9	897.38	882.18	15.19	245,785	882.53	882.53
MH-10	896.97	881.10	15.87	276,509	881.48	881.48
MH-11	896.62	880.25	16.37	307,232	880.65	880.65
MH-12	896.13	879.03	17.10	307,232	879.43	879.43
MH-13	896.25	877.61	18.64	307,232	878.01	878.01
MH-14	896.32	876.85	19.47	307,232	877.25	877.25
MH-15	896.61	875.43	21.18	307,232	875.83	875.83
MH-16	897.53	889.86	7.67	8,796	889.93	889.93
MH-17	897.36	889.70	7.67	8,796	889.76	889.76
MH-18	897.32	888.82	8.50	17,592	888.91	888.91
MH-19	897.33	887.94	9.39	26,388	888.05	888.05
MH-20	897.35	887.06	10.29	43,980	887.20	887.20
MH-21	897.24	886.54	10.70	43,980	886.68	886.68
MH-22	897.31	885.53	11.79	67,541	885.70	885.70
MH-23	894.85	884.49	10.36	91,101	884.69	884.69
MH-24	895.05	883.84	11.21	114,662	884.07	884.07
MH-25	892.08	882.42	9.65	138,223	882.68	882.68
MH-26	892.18	881.00	11.18	161,784	881.28	881.28
MH-27	895.47	879.58	15.89	185,344	879.88	879.88
MH-28	895.84	878.16	17.67	208,905	878.48	878.48
MH-29	896.83	889.17	7.67	25,131	889.27	889.27
MH-30	895.35	887.58	7.77	50,263	887.74	887.74
MH-31	895.23	886.46	8.76	75,394	886.65	886.65
MH-32	894.69	885.38	9.31	100,526	885.59	885.59
MH-33	895.05	884.21	10.85	407,758	884.66	884.66
MH-34	896.65	888.98	7.67	6,990	889.04	889.04
MH-35	896.25	888.20	8.05	13,979	888.28	888.28
MH-36	894.61	886.84	7.77	20,969	886.94	886.94
MH-37	894.68	883.22	11.45	435,716	883.69	883.69
MH-38	905.73	882.58	23.15	435,716	883.05	883.05
MH-39	903.86	881.59	22.27	435,716	882.06	882.06
MH-40	898.24	880.77	17.47	435,716	881.24	881.24
MH-41	890.84	883.18	7.67	17,843	883.27	883.27
MH-42	891.08	881.76	9.32	35,687	881.88	881.88
MH-43	891.40	880.34	11.06	53,530	880.49	880.49
MH-44	894.96	887.29	7.67	31,414	887.41	887.41
MH-45	895.89	888.22	7.67	31,414	888.34	888.34
MH-46	894.80	887.03	7.77	31,414	887.15	887.15
MH-47	894.26	885.89	8.37	62,829	886.05	886.05
MH-48	893.85	884.47	9.38	94,243	884.67	884.67
MH-49	893.61	883.05	10.56	125,657	883.29	883.29

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Depth (Structure) (ft)	Flow (Total Out) (gal/day)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
MH-50	893.31	881.63	11.68	157,071	881.90	881.90
MH-51	893.17	880.21	12.96	157,071	880.48	880.48
MH-52	891.86	878.79	13.07	228,445	879.12	879.12
MH-53	894.12	877.37	16.75	246,288	877.72	877.72
MH-54	894.13	875.95	18.18	246,288	876.30	876.30
MH-55	895.48	874.83	20.65	246,288	875.18	875.18
MH-56	895.93	873.80	22.13	246,288	874.15	874.15
MH-57	896.46	872.62	23.84	890,910	873.24	873.24
MH-58	894.50	871.28	23.21	903,789	871.90	871.90
MH-59	893.60	869.95	23.66	916,669	870.57	870.57
MH-60	894.99	869.22	25.77	916,669	869.85	869.85
MH-61	901.97	868.12	33.84	916,669	868.75	868.75
MH-62	901.33	893.66	7.67	24,660	893.77	893.77
MH-63	900.68	892.88	7.80	49,320	893.03	893.03
MH-64	897.77	890.11	7.67	7,526	890.17	890.17
MH-65	897.84	889.85	7.99	14,693	889.93	889.93
MH-66	897.90	889.02	8.88	21,860	889.12	889.12
MH-67	897.58	889.91	7.67	7,526	889.97	889.97
MH-68	897.51	889.57	7.94	14,693	889.66	889.66
MH-69	897.19	888.23	8.96	21,860	888.33	888.33
MH-70	897.19	887.99	9.20	29,027	888.11	888.11
MH-71	897.37	886.98	10.39	36,911	887.11	887.11
MH-72	897.46	885.97	11.49	65,938	886.14	886.14
MH-73	897.12	885.35	11.77	65,938	885.52	885.52
MH-74	898.21	890.54	7.67	24,660	890.65	890.65
MH-75	898.00	889.81	8.18	49,320	889.96	889.96
MH-76	897.83	884.44	13.39	115,259	884.67	884.67
MH-77	898.16	883.09	15.07	139,919	883.35	883.35
MH-78	898.65	881.74	16.91	164,579	882.02	882.02
MH-79	899.93	880.39	19.54	238,560	880.74	880.74
MH-80	900.61	879.20	21.41	263,220	879.57	879.57
MH-81	901.42	878.01	23.41	287,880	878.40	878.40
MH-82	902.15	876.82	25.32	312,540	877.23	877.23
MH-83	906.56	898.89	7.67	8,325	898.95	898.95
MH-84	905.38	897.61	7.77	16,650	897.69	897.69
MH-85	904.03	896.26	7.77	24,974	896.37	896.37
MH-86	904.37	895.62	8.75	24,974	895.73	895.73
MH-87	903.56	894.87	8.69	33,299	895.00	895.00
MH-88	906.91	899.24	7.67	5,969	899.29	899.29
MH-89	906.54	898.25	8.29	11,937	898.32	898.32
MH-90	906.73	897.37	9.36	17,906	897.46	897.46
MH-91	901.81	886.00	15.81	545,925	886.46	886.46
MH-92	902.31	884.75	17.56	545,925	885.21	885.21
MH-93	902.85	883.79	19.06	587,329	884.26	884.26
MH-94	903.35	882.65	20.69	628,733	883.15	883.15
MH-95	903.96	881.31	22.65	670,137	881.83	881.83
MH-96	904.35	880.39	23.96	711,541	880.92	880.92
MH-97	904.42	879.81	24.61	711,541	880.34	880.34
MH-98	904.99	878.77	26.22	752,945	879.33	879.33

FlexTable: Manhole Table

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Depth (Structure) (ft)	Flow (Total Out) (gal/day)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
MH-99	904.91	877.60	27.31	776,820	878.16	878.16
MH-100	903.29	876.26	27.03	776,820	876.82	876.82

FlexTable: Outfall Table

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Hydraulic Grade (ft)	Flow (Total Out) (gal/day)
LAKIN LS 1	902.55	867.68	894.28	2,039,329
LAKIN LS 2	896.16	874.57	874.89	307,232

PEAK CAPACITY
(8-INCH TO 12-INCH SEWER MAINS)

Label	Diam (in)	Mannin g's n	Length (ft)	Slope (ft/ft)	Start Node	Invert (Start) (ft)	Cover (Start) (ft)	Stop Node	Invert (Stop) (ft)	Cover (Stop) (ft)	Flow (gal/day)	Velocity at Flow (ft/s)	Flow / Capacity (Design) (%)	Capacity (Design) (gal/day)	Depth / Diam (%)	Capacity (Full Flow) (gal/day)
CO-1	8.0	0.013	400.0	0.0033	MH-1	892.50	7.00	MH-2	891.18	7.82	0	0.00	0.0	448,636	(N/A)	448,636
CO-2	8.0	0.013	400.0	0.0033	MH-2	891.08	7.92	MH-3	889.76	9.32	30,723	1.14	6.8	448,636	17.7	448,636
CO-3	8.0	0.013	400.0	0.0033	MH-3	889.66	9.42	MH-4	888.34	9.89	61,446	1.39	13.7	448,636	25.0	448,636
CO-4	8.0	0.013	400.0	0.0033	MH-4	888.24	9.99	MH-5	886.92	10.72	92,170	1.56	20.5	448,636	30.8	448,636
CO-5	8.0	0.013	369.5	0.0033	MH-5	886.82	10.82	MH-6	885.60	11.86	122,893	1.69	27.4	448,636	35.8	448,636
CO-6	8.0	0.013	316.6	0.0033	MH-6	885.50	11.96	MH-7	884.46	12.99	153,616	1.80	34.2	448,636	40.4	448,636
CO-7	8.0	0.013	300.0	0.0033	MH-7	884.36	13.09	MH-8	883.37	13.72	184,339	1.89	41.1	448,636	44.6	448,636
CO-8	8.0	0.013	299.5	0.0033	MH-8	883.27	13.82	MH-9	882.28	14.43	215,062	1.97	47.9	448,636	48.8	448,636
CO-9	8.0	0.013	297.7	0.0033	MH-9	882.18	14.53	MH-10	881.20	15.11	245,785	2.03	54.8	448,636	52.8	448,636
CO-10	8.0	0.013	227.4	0.0033	MH-10	881.10	15.21	MH-11	880.35	15.61	276,509	2.09	61.6	448,636	56.8	448,636
CO-11	8.0	0.013	339.5	0.0033	MH-11	880.25	15.71	MH-12	879.13	16.33	307,232	2.14	68.5	448,636	60.8	448,636
CO-12	8.0	0.013	400.0	0.0033	MH-12	879.03	16.43	MH-13	877.71	17.87	307,232	2.14	68.5	448,636	60.8	448,636
CO-13	8.0	0.013	199.6	0.0033	MH-13	877.61	17.97	MH-14	876.95	18.71	307,232	2.14	68.5	448,636	60.8	448,636
CO-14	8.0	0.013	400.0	0.0033	MH-14	876.85	18.81	MH-15	875.53	20.41	307,232	2.14	68.5	448,636	60.8	448,636
CO-15	8.0	0.013	260.1	0.0033	MH-15	875.43	20.51	LAKIN LS 2	874.57	20.92	307,232	2.14	68.5	448,636	60.8	448,636
CO-16	8.0	0.013	191.2	0.0033	MH-16	889.86	7.00	MH-20	889.23	7.45	8,796	0.78	2.0	448,636	9.7	448,636
CO-17	8.0	0.013	235.7	0.0033	MH-17	889.70	7.00	MH-18	888.92	7.73	8,796	0.78	2.0	448,636	9.7	448,636
CO-18	8.0	0.013	235.7	0.0033	MH-18	888.82	7.83	MH-19	888.04	8.62	17,592	0.96	3.9	448,636	13.5	448,636
CO-19	8.0	0.013	238.1	0.0033	MH-19	887.94	8.72	MH-20	887.16	9.53	26,388	1.09	5.9	448,636	16.5	448,636
CO-20	8.0	0.013	127.4	0.0033	MH-20	887.06	9.63	MH-21	886.64	9.93	43,980	1.26	9.8	448,636	21.1	448,636
CO-21	8.0	0.013	275.7	0.0033	MH-21	886.54	10.03	MH-22	885.63	11.02	43,980	1.26	9.8	448,636	21.1	448,636
CO-22	8.0	0.013	284.4	0.0033	MH-22	885.53	11.12	MH-23	884.59	9.60	67,541	1.43	15.1	448,636	26.2	448,636
CO-23	8.0	0.013	164.8	0.0033	MH-23	884.49	9.70	MH-24	883.94	10.44	91,101	1.56	20.3	448,636	30.6	448,636
CO-24	8.0	0.013	400.0	0.0033	MH-24	883.84	10.54	MH-25	882.52	8.89	114,662	1.66	25.6	448,636	34.5	448,636
CO-25	8.0	0.013	400.0	0.0033	MH-25	882.42	8.99	MH-26	881.10	10.41	138,223	1.75	30.8	448,636	38.1	448,636
CO-26	8.0	0.013	400.0	0.0033	MH-26	881.00	10.51	MH-27	879.68	15.12	161,784	1.83	36.1	448,636	41.5	448,636
CO-27	8.0	0.013	400.0	0.0033	MH-27	879.58	15.22	MH-28	878.26	16.91	185,344	1.90	41.3	448,636	44.8	448,636
CO-28	8.0	0.013	397.5	0.0033	MH-28	878.16	17.01	MH-57	876.85	18.94	208,905	1.95	46.6	448,636	48.0	448,636
CO-29	8.0	0.013	397.7	0.0037	MH-29	889.17	7.00	MH-30	887.68	7.00	25,131	1.12	5.3	476,514	15.6	476,514
CO-30	8.0	0.013	309.3	0.0033	MH-30	887.58	7.10	MH-31	886.56	8.00	50,263	1.31	11.2	448,636	22.6	448,636
CO-31	8.0	0.013	299.3	0.0033	MH-31	886.46	8.10	MH-32	885.48	8.55	75,394	1.48	16.8	448,636	27.7	448,636
CO-32	8.0	0.013	274.0	0.0033	MH-32	885.38	8.65	MH-33	884.47	9.91	100,526	1.61	22.4	448,636	32.1	448,636
CO-33	10.0	0.013	353.9	0.0025	MH-33	884.21	10.01	MH-37	883.32	10.52	407,758	2.08	57.6	708,001	54.4	708,001
CO-34	8.0	0.013	206.1	0.0033	MH-34	888.98	7.00	MH-35	888.30	7.28	6,990	0.73	1.6	448,636	8.7	448,636
CO-35	8.0	0.013	310.1	0.0041	MH-35	888.20	7.38	MH-36	886.94	7.00	13,979	0.97	2.8	497,734	11.5	497,734
CO-36	8.0	0.013	203.5	0.0033	MH-36	886.84	7.10	MH-37	886.17	7.84	20,969	1.02	4.7	448,636	14.7	448,636
CO-37	10.0	0.013	217.1	0.0025	MH-37	883.22	10.62	MH-38	882.68	22.22	435,716	2.11	61.5	708,001	56.7	708,001
CO-38	10.0	0.013	356.2	0.0025	MH-38	882.58	22.32	MH-39	881.69	21.34	435,716	2.11	61.5	708,001	56.7	708,001
CO-39	10.0	0.013	288.1	0.0025	MH-39	881.59	21.44	MH-40	880.87	16.54	435,716	2.11	61.5	708,001	56.7	708,001

Label	Diam (in)	Mannin g's n	Length (ft)	Slope (ft/ft)	Start Node	Invert (Start) (ft)	Cover (Start) (ft)	Stop Node	Invert (Stop) (ft)	Cover (Stop) (ft)	Flow (gal/day)	Velocity at Flow (ft/s)	Flow / Capacity (Design) (%)	Capacity (Design) (gal/day)	Depth / Diam (%)	Capacity (Full Flow) (gal/day)
CO-40	10.0	0.013	141.6	0.0025	MH-40	880.77	16.64	MH-57	880.41	15.21	435,716	2.11	61.5	708,001	56.7	708,001
CO-41	8.0	0.013	400.0	0.0033	MH-41	883.18	7.00	MH-42	881.86	8.56	17,843	0.97	4.0	448,636	13.6	448,636
CO-42	8.0	0.013	400.0	0.0033	MH-42	881.76	8.66	MH-43	880.44	10.30	35,687	1.19	8.0	448,636	19.0	448,636
CO-43	8.0	0.013	400.0	0.0036	MH-43	880.34	10.40	MH-52	878.89	12.31	53,530	1.38	11.4	470,353	22.8	470,353
CO-44	8.0	0.013	400.0	0.0034	MH-44	887.29	7.00	MH-49	885.94	7.00	31,414	1.15	6.9	453,705	17.8	453,705
CO-45	8.0	0.013	305.0	0.0036	MH-45	888.22	7.00	MH-46	887.13	7.00	31,414	1.18	6.7	466,873	17.6	466,873
CO-46	8.0	0.013	317.5	0.0033	MH-46	887.03	7.10	MH-47	885.99	7.61	31,414	1.15	7.0	448,636	17.9	448,636
CO-47	8.0	0.013	400.0	0.0033	MH-47	885.89	7.71	MH-48	884.57	8.62	62,829	1.40	14.0	448,636	25.3	448,636
CO-48	8.0	0.013	400.0	0.0033	MH-48	884.47	8.72	MH-49	883.15	9.80	94,243	1.57	21.0	448,636	31.1	448,636
CO-49	8.0	0.013	400.0	0.0033	MH-49	883.05	9.90	MH-50	881.73	10.92	125,657	1.70	28.0	448,636	36.2	448,636
CO-50	8.0	0.013	400.0	0.0033	MH-50	881.63	11.02	MH-51	880.31	12.20	157,071	1.81	35.0	448,636	40.8	448,636
CO-51	8.0	0.013	400.0	0.0033	MH-51	880.21	12.30	MH-52	878.89	12.31	157,071	1.81	35.0	448,636	40.8	448,636
CO-52	8.0	0.013	400.0	0.0033	MH-52	878.79	12.41	MH-53	877.47	15.99	228,445	2.00	50.9	448,636	50.5	448,636
CO-53	8.0	0.013	399.7	0.0033	MH-53	877.37	16.09	MH-54	876.05	17.42	246,288	2.04	54.9	448,636	52.9	448,636
CO-54	8.0	0.013	308.9	0.0033	MH-54	875.95	17.52	MH-55	874.93	19.88	246,288	2.04	54.9	448,636	52.9	448,636
CO-55	8.0	0.013	282.4	0.0033	MH-55	874.83	19.98	MH-56	873.90	21.37	246,288	2.04	54.9	448,636	52.9	448,636
CO-56	8.0	0.013	223.4	0.0033	MH-56	873.80	21.47	MH-57	873.06	22.74	246,288	2.04	54.9	448,636	52.9	448,636
CO-57	12.0	0.013	400.0	0.0031	MH-57	872.62	22.84	MH-58	871.38	22.11	890,910	2.73	69.5	1,282,020	61.4	1,282,020
CO-58	12.0	0.013	399.7	0.0031	MH-58	871.28	22.21	MH-59	870.05	22.56	903,789	2.74	70.5	1,282,020	62.0	1,282,020
CO-59	12.0	0.013	201.1	0.0031	MH-59	869.95	22.66	MH-60	869.32	24.67	916,669	2.74	71.5	1,282,020	62.6	1,282,020
CO-60	12.0	0.013	322.4	0.0031	MH-60	869.22	24.77	MH-61	868.22	32.74	916,669	2.74	71.5	1,282,020	62.6	1,282,020
CO-61	12.0	0.013	141.4	0.0031	MH-61	868.12	32.84	LAKIN LS 1	867.68	33.87	916,669	2.74	71.5	1,282,020	62.6	1,282,020
CO-62	8.0	0.013	206.5	0.0033	MH-62	893.66	7.00	MH-63	892.98	7.04	24,660	1.07	5.5	448,636	15.9	448,636
CO-63	8.0	0.013	206.5	0.0033	MH-63	892.88	7.14	MH-79	892.20	7.06	49,320	1.31	11.0	448,636	22.4	448,636
CO-64	8.0	0.013	47.2	0.0033	MH-64	890.11	7.00	MH-65	889.95	7.22	21,000	1.02	4.7	448,636	14.7	448,636
CO-65	8.0	0.013	223.2	0.0033	MH-65	889.85	7.32	MH-66	889.12	8.11	41,000	1.24	9.1	448,636	20.4	448,636
CO-66	8.0	0.013	353.3	0.0033	MH-66	889.02	8.21	MH-72	887.85	8.94	61,000	1.39	13.6	448,636	24.9	448,636
CO-67	8.0	0.013	72.8	0.0033	MH-67	889.91	7.00	MH-68	889.67	7.17	21,000	1.02	4.7	448,636	14.7	448,636
CO-68	8.0	0.013	377.3	0.0033	MH-68	889.57	7.27	MH-69	888.33	8.19	41,000	1.24	9.1	448,636	20.4	448,636
CO-69	8.0	0.013	41.8	0.0033	MH-69	888.23	8.29	MH-70	888.09	8.43	61,000	1.39	13.6	448,636	24.9	448,636
CO-70	8.0	0.013	276.1	0.0033	MH-70	887.99	8.53	MH-71	887.08	9.62	81,000	1.51	18.1	448,636	28.7	448,636
CO-71	8.0	0.013	276.1	0.0033	MH-71	886.98	9.72	MH-72	886.07	10.72	103,000	1.62	23.0	448,636	32.6	448,636
CO-72	8.0	0.013	158.2	0.0033	MH-72	885.97	10.82	MH-73	885.45	11.00	184,000	1.89	41.0	448,636	44.6	448,636
CO-73	8.0	0.013	244.3	0.0033	MH-73	885.35	11.10	MH-76	884.54	12.63	184,000	1.89	41.0	448,636	44.6	448,636
CO-74	8.0	0.013	189.7	0.0033	MH-74	890.54	7.00	MH-75	889.91	7.41	24,660	1.07	5.5	448,636	15.9	448,636
CO-75	8.0	0.013	189.7	0.0033	MH-75	889.81	7.51	MH-76	889.19	7.98	49,320	1.31	11.0	448,636	22.4	448,636
CO-76	8.0	0.013	378.6	0.0033	MH-76	884.44	12.73	MH-77	883.19	14.31	233,321	2.01	52.0	448,636	51.2	448,636
CO-77	8.0	0.013	378.6	0.0033	MH-77	883.09	14.41	MH-78	881.84	16.14	257,981	2.06	57.5	448,636	54.4	448,636
CO-78	8.0	0.013	378.6	0.0033	MH-78	881.74	16.24	MH-79	880.49	18.77	282,641	2.10	63.0	448,636	57.6	448,636

Label	Diam (in)	Mannin g's n	Length (ft)	Slope (ft/ft)	Start Node	Invert (Start) (ft)	Cover (Start) (ft)	Stop Node	Invert (Stop) (ft)	Cover (Stop) (ft)	Flow (gal/day)	Velocity at Flow (ft/s)	Flow / Capacity (Design) (%)	Capacity (Design) (gal/day)	Depth / Diam (%)	Capacity (Full Flow) (gal/day)
CO-79	8.0	0.013	330.2	0.0033	MH-79	880.39	18.87	MH-80	879.30	20.64	356,622	2.21	79.5	448,636	67.4	448,636
CO-80	8.0	0.013	330.2	0.0033	MH-80	879.20	20.74	MH-81	878.11	22.65	381,282	2.23	85.0	448,636	70.8	448,636
CO-81	8.0	0.013	330.2	0.0033	MH-81	878.01	22.75	MH-82	876.92	24.56	405,942	2.25	90.5	448,636	74.5	448,636
CO-82	8.0	0.013	378.1	0.0033	MH-82	876.82	24.66	LAKIN LS 1	875.57	26.31	430,602	2.26	96.0	448,636	78.6	448,636
CO-83	8.0	0.013	250.1	0.0047	MH-83	898.89	7.00	MH-84	897.71	7.00	8,325	0.87	1.6	536,011	8.7	536,011
CO-84	8.0	0.013	267.8	0.0047	MH-84	897.61	7.10	MH-85	896.36	7.00	16,650	1.07	3.1	534,749	12.1	534,749
CO-85	8.0	0.013	163.5	0.0033	MH-85	896.26	7.10	MH-86	895.72	7.98	24,974	1.07	5.6	448,636	16.0	448,636
CO-86	8.0	0.013	195.4	0.0033	MH-86	895.62	8.08	MH-87	894.97	7.92	24,974	1.07	5.6	448,636	16.0	448,636
CO-87	8.0	0.013	209.9	0.0033	MH-87	894.87	8.02	LAKIN LS 1	894.18	7.70	33,299	1.16	7.4	448,636	18.5	448,636
CO-88	8.0	0.013	269.8	0.0033	MH-88	899.24	7.00	MH-89	898.35	7.53	5,969	0.70	1.3	448,636	8.0	448,636
CO-89	8.0	0.013	236.7	0.0033	MH-89	898.25	7.63	MH-90	897.47	8.59	11,937	0.86	2.7	448,636	11.2	448,636
CO-90	8.0	0.013	230.9	0.0033	MH-90	897.37	8.69	MH-99	896.61	7.63	17,906	0.97	4.0	448,636	13.6	448,636
CO-91	12.0	0.013	370.0	0.0031	MH-91	886.00	14.81	MH-92	884.85	16.46	904,677	2.74	93.3	969,730	62.0	1,282,020
CO-92	12.0	0.013	279.6	0.0031	MH-92	884.75	16.56	MH-93	883.89	17.96	904,677	2.74	93.3	969,730	62.0	1,282,020
CO-93	12.0	0.013	279.6	0.0031	MH-93	883.79	18.06	MH-94	882.92	19.43	946,081	2.76	97.6	969,730	63.9	1,282,020
CO-94	12.0	0.013	400.0	0.0031	MH-94	882.65	19.69	MH-95	881.41	21.55	987,486	2.79	77.0	1,282,020	65.8	1,282,020
CO-95	12.0	0.013	264.6	0.0031	MH-95	881.31	21.65	MH-96	880.49	22.86	1,028,890	2.81	80.3	1,282,020	67.8	1,282,020
CO-96	12.0	0.013	156.5	0.0031	MH-96	880.39	22.96	MH-97	879.91	23.51	1,070,294	2.83	83.5	1,282,020	69.9	1,282,020
CO-97	12.0	0.013	301.0	0.0031	MH-97	879.81	23.61	MH-98	878.87	25.12	1,070,294	2.83	83.5	1,282,020	69.9	1,282,020
CO-98	12.0	0.013	348.0	0.0031	MH-98	878.77	25.22	MH-99	877.70	26.21	1,111,698	2.84	86.7	1,282,020	71.9	1,282,020
CO-99	12.0	0.013	398.5	0.0031	MH-99	877.60	26.31	MH-100	876.36	25.93	1,135,573	2.85	88.6	1,282,020	73.2	1,282,020
CO-100	12.0	0.013	254.8	0.0031	MH-100	876.26	26.03	LAKIN LS 1	875.47	26.08	1,135,573	2.85	88.6	1,282,020	73.2	1,282,020

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Depth (Structure) (ft)	Flow (Total Out) (gal/day)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
MH-1	900.17	892.50	7.67	0	892.50	892.50
MH-2	899.67	891.08	8.59	30,723	891.20	891.20
MH-3	899.75	889.66	10.08	61,446	889.83	889.83
MH-4	898.90	888.24	10.65	92,170	888.45	888.45
MH-5	898.31	886.82	11.49	122,893	887.06	887.06
MH-6	898.13	885.50	12.62	153,616	885.77	885.77
MH-7	898.12	884.36	13.76	184,339	884.66	884.66
MH-8	897.75	883.27	14.48	215,062	883.59	883.59
MH-9	897.38	882.18	15.19	245,785	882.53	882.53
MH-10	896.97	881.10	15.87	276,509	881.48	881.48
MH-11	896.62	880.25	16.37	307,232	880.65	880.65
MH-12	896.13	879.03	17.10	307,232	879.43	879.43
MH-13	896.25	877.61	18.64	307,232	878.01	878.01
MH-14	896.32	876.85	19.47	307,232	877.25	877.25
MH-15	896.61	875.43	21.18	307,232	875.83	875.83
MH-16	897.53	889.86	7.67	8,796	889.93	889.93
MH-17	897.36	889.70	7.67	8,796	889.76	889.76
MH-18	897.32	888.82	8.50	17,592	888.91	888.91
MH-19	897.33	887.94	9.39	26,388	888.05	888.05
MH-20	897.35	887.06	10.29	43,980	887.20	887.20
MH-21	897.24	886.54	10.70	43,980	886.68	886.68
MH-22	897.31	885.53	11.79	67,541	885.70	885.70
MH-23	894.85	884.49	10.36	91,101	884.69	884.69
MH-24	895.05	883.84	11.21	114,662	884.07	884.07
MH-25	892.08	882.42	9.65	138,223	882.68	882.68
MH-26	892.18	881.00	11.18	161,784	881.28	881.28
MH-27	895.47	879.58	15.89	185,344	879.88	879.88
MH-28	895.84	878.16	17.67	208,905	878.48	878.48
MH-29	896.83	889.17	7.67	25,131	889.27	889.27
MH-30	895.35	887.58	7.77	50,263	887.74	887.74
MH-31	895.23	886.46	8.76	75,394	886.65	886.65
MH-32	894.69	885.38	9.31	100,526	885.59	885.59
MH-33	895.05	884.21	10.85	407,758	884.66	884.66
MH-34	896.65	888.98	7.67	6,990	889.04	889.04
MH-35	896.25	888.20	8.05	13,979	888.28	888.28
MH-36	894.61	886.84	7.77	20,969	886.94	886.94
MH-37	894.68	883.22	11.45	435,716	883.69	883.69
MH-38	905.73	882.58	23.15	435,716	883.05	883.05
MH-39	903.86	881.59	22.27	435,716	882.06	882.06
MH-40	898.24	880.77	17.47	435,716	881.24	881.24
MH-41	890.84	883.18	7.67	17,843	883.27	883.27
MH-42	891.08	881.76	9.32	35,687	881.88	881.88
MH-43	891.40	880.34	11.06	53,530	880.49	880.49
MH-44	894.96	887.29	7.67	31,414	887.41	887.41
MH-45	895.89	888.22	7.67	31,414	888.34	888.34
MH-46	894.80	887.03	7.77	31,414	887.15	887.15
MH-47	894.26	885.89	8.37	62,829	886.05	886.05
MH-48	893.85	884.47	9.38	94,243	884.67	884.67
MH-49	893.61	883.05	10.56	125,657	883.29	883.29

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Depth (Structure) (ft)	Flow (Total Out) (gal/day)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
MH-50	893.31	881.63	11.68	157,071	881.90	881.90
MH-51	893.17	880.21	12.96	157,071	880.48	880.48
MH-52	891.86	878.79	13.07	228,445	879.12	879.12
MH-53	894.12	877.37	16.75	246,288	877.72	877.72
MH-54	894.13	875.95	18.18	246,288	876.30	876.30
MH-55	895.48	874.83	20.65	246,288	875.18	875.18
MH-56	895.93	873.80	22.13	246,288	874.15	874.15
MH-57	896.46	872.62	23.84	890,910	873.24	873.24
MH-58	894.50	871.28	23.21	903,789	871.90	871.90
MH-59	893.60	869.95	23.66	916,669	870.57	870.57
MH-60	894.99	869.22	25.77	916,669	869.85	869.85
MH-61	901.97	868.12	33.84	916,669	868.75	868.75
MH-62	901.33	893.66	7.67	24,660	893.77	893.77
MH-63	900.68	892.88	7.80	49,320	893.03	893.03
MH-64	897.77	890.11	7.67	21,000	890.21	890.21
MH-65	897.84	889.85	7.99	41,000	889.99	889.99
MH-66	897.90	889.02	8.88	61,000	889.18	889.18
MH-67	897.58	889.91	7.67	21,000	890.01	890.01
MH-68	897.51	889.57	7.94	41,000	889.71	889.71
MH-69	897.19	888.23	8.96	61,000	888.39	888.39
MH-70	897.19	887.99	9.20	81,000	888.18	888.18
MH-71	897.37	886.98	10.39	103,000	887.20	887.20
MH-72	897.46	885.97	11.49	184,000	886.27	886.27
MH-73	897.12	885.35	11.77	184,000	885.64	885.64
MH-74	898.21	890.54	7.67	24,660	890.65	890.65
MH-75	898.00	889.81	8.18	49,320	889.96	889.96
MH-76	897.83	884.44	13.39	233,321	884.78	884.78
MH-77	898.16	883.09	15.07	257,981	883.45	883.45
MH-78	898.65	881.74	16.91	282,641	882.12	882.12
MH-79	899.93	880.39	19.54	356,622	880.84	880.84
MH-80	900.61	879.20	21.41	381,282	879.67	879.67
MH-81	901.42	878.01	23.41	405,942	878.51	878.51
MH-82	902.15	876.82	25.32	430,602	877.35	877.35
MH-83	906.56	898.89	7.67	8,325	898.95	898.95
MH-84	905.38	897.61	7.77	16,650	897.69	897.69
MH-85	904.03	896.26	7.77	24,974	896.37	896.37
MH-86	904.37	895.62	8.75	24,974	895.73	895.73
MH-87	903.56	894.87	8.69	33,299	895.00	895.00
MH-88	906.91	899.24	7.67	5,969	899.29	899.29
MH-89	906.54	898.25	8.29	11,937	898.32	898.32
MH-90	906.73	897.37	9.36	17,906	897.46	897.46
MH-91	901.81	886.00	15.81	904,677	886.62	886.62
MH-92	902.31	884.75	17.56	904,677	885.37	885.37
MH-93	902.85	883.79	19.06	946,081	884.43	884.43
MH-94	903.35	882.65	20.69	987,486	883.31	883.31
MH-95	903.96	881.31	22.65	1,028,890	881.99	881.99
MH-96	904.35	880.39	23.96	1,070,294	881.09	881.09
MH-97	904.42	879.81	24.61	1,070,294	880.51	880.51
MH-98	904.99	878.77	26.22	1,111,698	879.49	879.49

FlexTable: Manhole Table

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Depth (Structure) (ft)	Flow (Total Out) (gal/day)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
MH-99	904.91	877.60	27.31	1,135,573	878.33	878.33
MH-100	903.29	876.26	27.03	1,135,573	876.99	876.99

FlexTable: Outfall Table

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Hydraulic Grade (ft)	Flow (Total Out) (gal/day)
LAKIN LS 1	902.55	867.68	894.28	2,516,143
LAKIN LS 2	896.16	874.57	874.89	307,232