KLAND CIVIL ENGINEERS

Preliminary Water and Sewer Basis of Design Report

Don & Charlie's Hotel

7501 E. Camelback Road, Scottsdale, AZ

#K18106

CASE No. 2-ZN-2018

FINAL Basis of Design Report

☐ APPROVED

☑ APPROVED AS NOTED

☐ REVISE AND RESUBMIT

CITY OF SCOTTSDALE

SCOTTSDALE WATER

9379 E San Salvador Dr.
Scottsdale, AZ 85258

Disclaimer: If approved; the approval is granted under the condition that the final construction documents submitted for city review will match the information herein. Any subsequent changes in the water or sewer design that materially impact design criteria or standards will require re-analysis, re-submittal, and approval of a revised basis of design report prior to the plan review submission.; this approval is not a guarantee of construction document acceptance.
For questions or clarifications contact the Water Resources Planning and Engineering Department at 480-312-5685.

BY ldillon DATE 2/7/2019

02/07/2019

Address comments on next page for plan submittal.

Prepared by:

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Prepared for:

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3133 East Camelback Road, Suite 220
Phoenix, Arizona 85016

Submitted to:

City of Scottsdale
7447 E. Indian School Road
Scottsdale, Arizona 85251

Revised December 18, 2018
Revised March 24, 2018
March 8, 2018

Improvement plan requirements listed below must be incorporated and shown clearly on plans:

Wastewater:

1) Pool backwash must be routed through the building so that it enters the collection system onto Camelback Road sewer(368gpm is the final wastewater design flow which includes 100gpm for pool backwash). Alternatively, provide split of flows between 4 service connections and resubmit BOD showing that not more than 250gpm of new flow is being sent to the 8" alley sewer to the south. DS&PM 7-1.202, part G
2) All 4 sewer service lines must have a final diameter of 6-inches DS&PM 7-1.409
3) 6-feet clear must be maintained on alley sewer to south between all utilities and structures. DS&PM 7-1.402
4) Clean-outs and service lines must be per MAG 440-3 detail. DS&PM 7-1.409

Water:

5) For water main taps (fire line, domestic meter, landscape meter)onto 12" ACP pipe on Camelback Road: The section of ACP main where taps are to be performed shall be removed and replaced with mortar lined and PE bagged class 350 DIP per City standards to accommodate taps. DS&PM 6-1.408
6) A 3-inch meter and vault per City detail must be installed. A 3-ft clear dedicated easement must be provided around the vault for City access. Safe and easy City access to the meter vault (and back-flow preventer) must be provided. DS&PM 6-1.419
7) The 3-inch meter must have a minimum 3-inch service line. This shall be installed with DIP similar to City detail 2362-2. Tapping sleeve option per MAG 340 , valve per MAG 391-1 Type C. DS&PM 6-1.416, part F. Consult with plan reviewer on whether 3-inch type K soft copper tubing is an option.
8) If a new connection for the fire line is being made to an ACP water main the connection shall satisfy comment 5 and be per City details. (utility plan herein shows fire line utilizing existing 6-inch service line connected to 8-inch ACP)
9) Southeast corner of garage: the water line cannot be closer than 10 feet from the garage structure. Move water line 4ft closer to TV line to achieve 10 feet (dry utility clearance for water line is 3 feet). Alternatively, place water line in sleeve, concrete encasement, modify the footing, or providing sufficient details on the plan set to convince the reviewer that a water main break will not undermine the garage foundation e.g. bottom of foundation more than "X" feet below the water line invert. DS&PM 6-1.402, subsection 4.
10) All new water main tees must have a minimum of 2 isolation valves with no tee on the main supply leg. DS&PM 6-1.409.
11) Any abandonments of existing water or sewer service lines should be handled as-follows:
Water Services: to be abandoned at the main by the Water Department as follows: To remove the existing water service, the Water Department requires payment of a water service abandonment fee (same as installation fee) at the One Stop Shop. Provide a copy of the paid receipt of the water service abandonment fee to the Engineering Reviewer.
Sewer services: contractor to cap at the property line
12) Requirement for hydraulic modeling waived due to high static pressure and tapping of large 12-inch main. Adequate fire flow pressure proven with fire flow test. Decision and analysis to incorporate a domestic booster pump system is the responsibility of the owner and engineer.
13) Fire: Note that fire line is connected to 8-inch ACP line and hydrant flow test results done herein should not be applied to sprinkler system analysis. A separate hydrant flow test should be considered.

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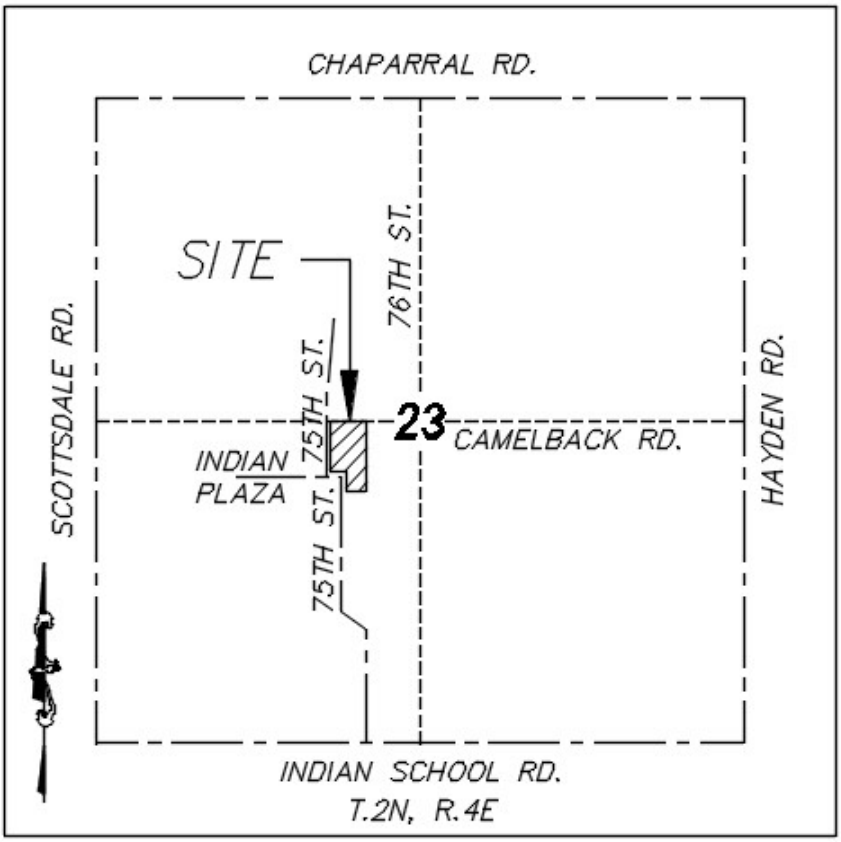
Revised December 18, 2018
Revised March 24, 2018
March 8, 2018

1. Introduction

This site is located at the southeast corner of Camelback Road and 75th Street in Scottsdale, Arizona. The project is within a portion of the southwest ¼ of Section 23, Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian in Maricopa County, Arizona. The site is currently a fully developed restaurant with surface parking, landscape and hardscape. The site is bounded on the south by an alley and commercial developments, on the east by commercial development, on the west by 75th Street and on the north by Camelback Road. The proposed 6 story hotel will consist of 181 rooms and 1 level of underground parking on approximately 0.92 net acres. The underground parking garage will extend outside of the property boundary on the east and southeast side into 75th street and Indian Plaza. The project will be responsible for relocating all the utilities impacted by the garage and site development.

The site is located within COS Q.S. 17-45 which is the City of Scottsdale water and sewer service area. There is an existing 6-inch water line on the west side of 75th street, north of Indian Plaza. The 6-inch waterline continues on the north side of Indian Plaza and the east side of 75th Street, south of Indian Plaza. This water line will be relocated outside of the proposed garage footprint. There is an 8-inch water line on the north side of the alley location on the south side of this site. This 8-inch water line will also be relocated to avoid conflicting with the garage footprint. There is an 8-inch waterline on the north side of Camelback Road and a 12-inch water line on the south side of Camelback Road. The sewer systems available around the site is a 15-inch sewer main on the north side of Camelback Road and an 8-inch sewer main in the center of the alley located on the south side of the site. An existing 4-inch sewer service is currently service the site at the northeast corner.



VICINITY MAP

N.T.S.

The exiting 6-inch public water main in Indian Plaza and 75th Street will be relocated to be outside of the garage footprint to provide a minimum of 6-feet of separation. The existing 8-inch waterline in the alley will have over 15' separation from the garage and will remain in place. In addition, the existing electric, gas and sewer line in the alley will remain. The existing fiber optic, cable and electric on the east side of 75th Street will be relocated into 75th Street. This will provide approximately 12-feet of separation between the garage footprint and the dry utilities. The existing overhead electric and cable on the south side of Camelback Road and on the east side of the site will be undergrounded. On the east side of the site, the garage footprint will be offset from the property line by 8-feet to provide for an 8-foot PUE.

2. Water System

The hotel site will be serviced with a new single 3-inch domestic water service and landscape water service. These services will be located at the northeast corner of the site and will be connected to the existing 12-inch main on the south side of Camelback Road. The existing 6-inch fire line will be used for the development if it is large enough. All existing water services that are not used for this development will be required to be removed per the City of Scottsdale requirements. New public water easements will be provided for the domestic and landscape water meters that do not fit within the right-of-way.

We have estimated the water demand for the site using The City of Scottsdale Design Standards & Polices Manual. The average daily demand was estimated at 114.03 gpm. The peak daily demand was calculated by increasing the average daily demand by a factor of 2.0, which is a total of 228.06 gpm. The peak hour demand was calculated by increasing the average daily demand by a factor of 3.5, which is a total of 399.105 gpm. The plumbing engineer has also estimated the preliminary water demands based on 2012 I.P.C. to be 786.1 fixture units at a demand of 178 gpm. Water Demand Calculations are provided in Appendix A-1 and Appendix A-5 for the Water and Sewer Plans.

The fire hydrant coverage for the site is provided by an existing fire hydrant located approximately 55-feet east of the site on Camelback Road and a fire hydrant that is being relocated to the northwest corner of Indian Plaza and 75th Street. The FDC for the hotel will be located within 150-feet of the existing fire hydrant on Camelback Road.

The total building area is 108,680 sf with a construction type of III-A. Per the 2012 International Fire Code, Appendix B, Section B105.2 the minimum fire flow is 1,500 gpm with the allowable 75% reduction. A fire flow test was conducted on the public water system adjacent to the site By Arizona Flow Testing on March 12, 2018. The test resulted in an anticipated 8,070 gpm at 20 psi. Based on this project's required fire hydrant demand of 1,500 gpm the public water system is adequate. See Appendix A-1 for the Fire Flow Demand Calculations and Appendix A-2 for Fire Hydrant Flow Test.

3. Sanitary Sewer System

The site will be serviced with 4 sewer services. Two of the sewer service will connected to the exiting 8-inch sewer main in the alley on the south side of the site. The other 2 sewer services connect to the 15-inch sewer in Camelback Road of which one is existing. The sewer service will be sized per IPC based on plumbing fixture units from the site. Based on the fixture units the 8-inch sewer service will be at a minimum slope of 0.5% and 4-inch and 6-inch sewer service will be at a minimum slope of 1% per IPC. The plumbing engineer has estimated the sewer fixture unit counts to be 1,021 per the 2012 I.P.C. Final fixture unit count and pipe sizing will be done at the time of construction document preparation.

We have also estimated the sewer discharge from the site using The City of Scottsdale Design Standards & Polices Manual. The average daily flow was estimated at 0.118 cfs. The peak discharge was calculated by increasing the average daily flow by a factor of 3.5, which is a total of 0.415 cfs. Sanitary Sewer Calculations are provided in Appendix A-3 and Appendix A-5 for the Water and Sewer Plans.

The sewer flows were monitored on the existing 8-inch sewer main in the alley, south of the site and the existing 12-inch sewer main in 6th Ave, east of 75th Street. The highest peak flow in the 8-inch sewer system was found to be 30.2 gpm. Based on city of Scottsdale quarter section maps the upstream slope from the monitored manhole was found to be the flattest at 0.500%. We used Haestad Methods, FlowMaster v7.0 to determine the depth for the total anticipated peak flow of 216.8 gpm. This is a combination of the existing peak monitored flow of 30.2 gpm and the proposed anticipated peak flow of 186.6 gpm. This resulted in a depth of 4.31-inches at approximately 53.8% full.

The highest peak flow in the 12-inch sewer system was found to be 213.38 gpm. Based on as-built plans the upstream slope from the monitored manhole was found to be the flattest at 0.448%. We used Haestad Methods, FlowMaster v7.0 to determine the depth for the total anticipated peak flow of 399.98 gpm. This is a combination of the existing peak monitored flow of 213.38 gpm and the

proposed anticipated peak flow of 186.6 gpm. This resulted in a depth of 5.08-inches at approximately 42.3% full. Both exiting sewer systems show that they have capacity for this development. See Appendix A-3 for Sanitary Sewer Calculations and A-4 for Existing Sanitary Sewer Manhole Monitoring results.

4. References

1. City of Scottsdale Design Standards & Policies Manual.

2. 2012 International Fire Code, Appendix B, Fire-Flow Requirements for Buildings

APPENDIX A-1

Water Calculations

Water Demand based on City of Scottsdale Design Standards and Policies Manual, Chapter 6

Number of units:	181
Average day demand per room:	0.63 gpm
Average day demand:	**181 x 0.63 = 114.03 gpm**
Maximum daily peaking factor:	2.0
Maximum daily demand per dwelling unit:	1.26 gpm
Maximum day demand:	**181 x 1.26 = 228.06 gpm**
Peak hour demand factor:	3.5
Peak hour demand per dwelling unit:	2.205 gpm
Peak hour demand:	**181 x 2.205 = 399.105 gpm**

The plumbing engineer has estimated the preliminary water fixture unit count to be 786.1 and a demand of 178 gpm. Based on this information the plumbing engineer has estimated needing a 3-inch domestic water meter to meet IPC fixture unit demands. Final water demands will be determined at the time of construction document preparation. In addition a separate landscape meter will be installed for landscape needs.

FIRE FLOW DEMAND

Building Area = 108,680 sf, Construction Type = III-A, Required Fire Flow = 4,750 gpm

Per 2012 International Fire Code, Appendix B, Section B105.2 a 75% reduction in the fire flow can be approved if an approved automatic sprinkler system is installed. The resulting fire flow shall not be less than the required minimum of 1,500 gpm. We are using a fire flow of 1,500 gpm since a 75% reduction would be less than the minimum required fire flow. The fire hydrant flow test in on the adjacent public water system resulted in an anticipated 8,070 gpm at 20 psi. See Appendix A-2 for Fire Hydrant Flow Test results.

APPENDIX A-2

Fire Hydrant Flow Test

Arizona Flow Testing LLC

HYDRANT FLOW TEST REPORT

Project Name:	Opwest
Project Address:	7501 East Camelback Road, Scottsdale, Arizona 85251
Arizona Flow Testing Project No.:	18090
Client Project No.:	K18106
Flow Test Permit No.:	C54857
Date and time flow test conducted:	March 12, 2018 at 9:00 AM
Data is current and reliable until:	September 12, 2018
Conducted by:	Floyd Vaughan – Arizona Flow Testing, LLC (480-250-8154)
Witnessed by:	Phil Cipolla – City of Scottsdale-Inspector (602-828-0847)

Raw Test Data

Static Pressure: **104.0 PSI**
(Measured in pounds per square inch)

Residual Pressure: **76.0 PSI**
(Measured in pounds per square inch)

Pitot Pressure: **30.0 PSI Hyd A**
24.0 PSI Hyd B
(Measured in pounds per square inch)

Diffuser Orifice Diameter: 4 Inch-Each
(Measured in inches)

Coefficient of Diffuser: 0.9

Flowing GPM**:** **4,459 GPM**
(Measured in gallons per minute)
2,354 GPM +2,105 GPM = 4,459 GPM

GPM @ 20 PSI: **8,070 GPM**

Data with 32 PSI Safety Factor

Static Pressure: **72.0 PSI**
(Measured in pounds per square inch)

Residual Pressure: **44.0 PSI**
(Measured in pounds per square inch)

Distance between hydrants: See Below

Main size: Not Provided

Flowing GPM: **4,459 GPM**

GPM @ 20 PSI**:** **6,229 GPM**

Flow Test Location
+

North

East Camelback Road

Flow Fire Hydrant B

North Civic Center Plaza

East Indian Plaza

Pressure Fire Hydrant

Project Site
7501 East Camelback Road

Flow Fire Hydrant A

APPENDIX A-3

Sanitary Sewer Calculations

Manning's Formula

8" Pipe Flowing Full

Capacity

$$Q = \frac{1.49}{n} * R^{2/3} * S^{1/2} * A$$

n = 0.013
R = 0.16667
A = 0.3490
S = 0.0050 ft/ft

Q = 0.86 cfs

Velocity

$$Q = \frac{1.49}{n} * R^{2/3} * S^{1/2}$$

n = 0.013
R = 0.16667
S = 0.0050 ft/ft

V = 2.45 fps

Sewer Demand Calculations

Average daily flow

Number of Room:	181
Average day demand per dwelling unit:	380 gpd
Average day demand:	**181 x 380 = 76,780 gpd**

Total average daily flow: **76,780 gpd = 0.118 cfs**

Peak daily flow

0.118 cfs x 3.5 = 0.415 cfs or 186.6 gpm

The site will discharge to the existing 8-inch public sewer main with 1 8-inch sewer service. The sewer services will be sized by the plumbing engineer based on the 2012 I.P.C. The plumbing engineer has estimated the preliminary sewer fixture unit count to be 1,021. Final fixture unit count will be determined at the time of construction document preparation.

Circular Channel - 8" in Alley
Worksheet for Circular Channel

Project Description	
Worksheet	Circular Channel - 8" in Alley
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Channel Depth

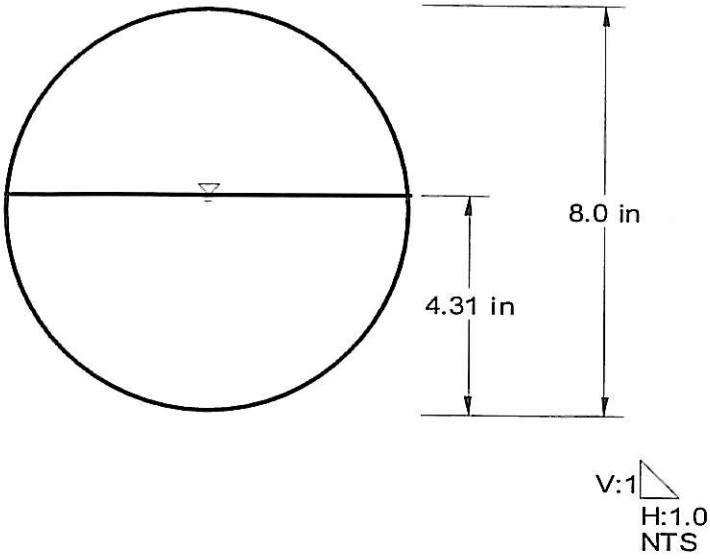
Input Data		
Mannings Coefficient	0.013	
Channel Slope	0.005000	ft/ft
Diameter	8.0	in
Discharge	216.80	gpm

Results		
Depth	4.31	in
Flow Area	27.57	in²
Wetted Perimeter	13.18	in
Top Width	7.98	in
Critical Depth	3.90	in
Percent Full	53.8	%
Critical Slope	0.006942	ft/ft
Velocity	2.52	ft/s
Velocity Head	0.10	ft
Specific Energy	5.49	in
Froude Number	0.83	
Maximum Discharge	412.53	gpm
Discharge Full	383.49	gpm
Slope Full	0.001598	ft/ft
Flow Type	Subcritical	

Circular Channel - 8" in Alley
Worksheet for Circular Channel

Project Description	
Worksheet	Circular Channel - 8" in Alley
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data		
Mannings Coefficient	0.013	
Channel Slope	0.005000	ft/ft
Depth	4.31	in
Diameter	8.0	in
Discharge	216.80	gpm



Depth (d/D) at Maximum Daily Flow:

Existing 8" Sewer Main in Alley

New development peak daily flow = 186.6 gpm

Existing peak daily flow from sewer monitoring = 30.2 gpm

Total Peak Flow = 216.8 gpm

Area of flow = 27.57 square inches

Top width of flow = 7.98 inches

Diameter of pipe = 8.0 inches

d = 27.57 / 7.98 = 3.45

D = 8.0 (Diameter of pipe)

d/D = 3.45 / 8 = 0.43 < 0.65 Allowable

Circular Channel - 12" in 6th Avenue
Worksheet for Circular Channel

Project Description	
Worksheet	Circular Channel - 12" in 6th Avenue
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Channel Depth

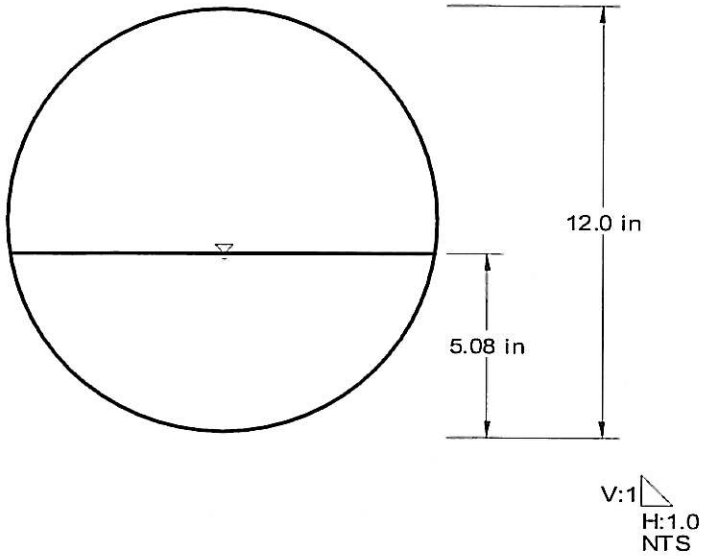
Input Data		
Mannings Coefficient	0.013	
Channel Slope	0.004480	ft/ft
Diameter	12.0	in
Discharge	399.98	gpm

Results		
Depth	5.08	in
Flow Area	45.57	in²
Wetted Perimeter	17.01	in
Top Width	11.86	in
Critical Depth	4.75	in
Percent Full	42.3	%
Critical Slope	0.005742	ft/ft
Velocity	2.82	ft/s
Velocity Head	0.12	ft
Specific Energy	6.56	in
Froude Number	0.88	
Maximum Discharge	1,151.29	gpm
Discharge Full	1,070.26	gpm
Slope Full	0.000626	ft/ft
Flow Type	Subcritical	

Circular Channel - 12" in 6th Avenue
Worksheet for Circular Channel

Project Description	
Worksheet	Circular Channel - 12" in 6th Avenue
Flow Element	Circular Channel
Method	Manning's Formula
Solve For	Channel Depth

Section Data		
Mannings Coefficient	0.013	
Channel Slope	0.004480	ft/ft
Depth	5.08	in
Diameter	12.0	in
Discharge	399.98	gpm



Depth (d/D) at Maximum Daily Flow:

Existing 12" Sewer Main 6th Ave, east of 75th Street

New development peak daily flow = 186.6 gpm

Existing peak daily flow from sewer monitoring = 213.38 gpm

Total Peak Flow = 399.98 gpm

Area of flow = 45.57 square inches

Top width of flow = 11.86 inches

Diameter of pipe = 12.0 inches

d = 45.57 / 11.86 = 3.84

D = 12.0 (Diameter of pipe)

d/D = 3.84 / 12 = 0.32 < 0.65 Allowable

APPENDIX A-4

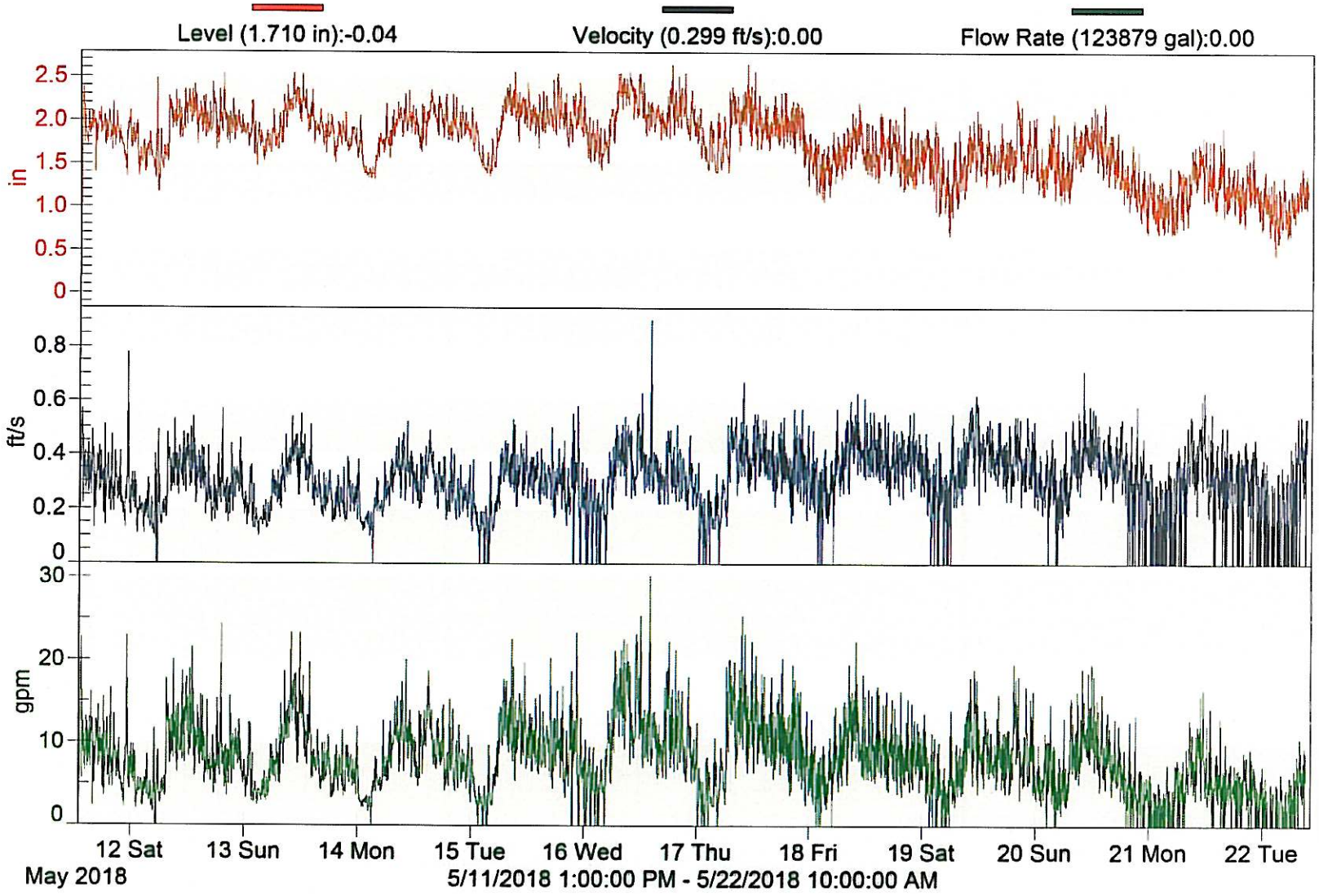
Existing Sanitary Sewer Manhole Monitoring

Charlies MH1 8" Alley

Label	Min Flow Rate	Min/Max	Max Flow Rate	Min/Max	Total Flow
Units	gpm	Date/Time	gpm	Date/Time	gal
Resolution	0.1	N/A	0.1	N/A	0.1
Significant Digits	0	N/A	0	N/A	0
5/11/2018 0:00	0	1:10:00 PM	22.9	11:15:00 PM	5725
5/12/2018 0:00	0	5:40:00 AM	24.4	7:10:00 PM	12180.5
5/13/2018 0:00	2.5	2:50:00 AM	23.3	11:50:00 AM	11629.5
5/14/2018 0:00	0	3:05:00 AM	20.1	10:15:00 AM	11770
5/15/2018 0:00	0	11:05:00 PM	23.3	10:30:00 PM	12755
5/16/2018 0:00	0	4:35:00 AM	30.2	2:05:00 PM	15298.5
5/17/2018 0:00	0	4:40:00 AM	25.4	9:45:00 AM	14093.5
5/18/2018 0:00	0	5:00:00 AM	22.3	9:55:00 AM	12024.5
5/19/2018 0:00	0	5:55:00 AM	19.6	7:30:00 PM	11060
5/20/2018 0:00	0	11:15:00 PM	19.5	11:55:00 AM	9879.5
5/21/2018 0:00	0	11:35:00 PM	16.4	11:25:00 AM	6111.58

Charlies MH1 8inch

Flowlink 5

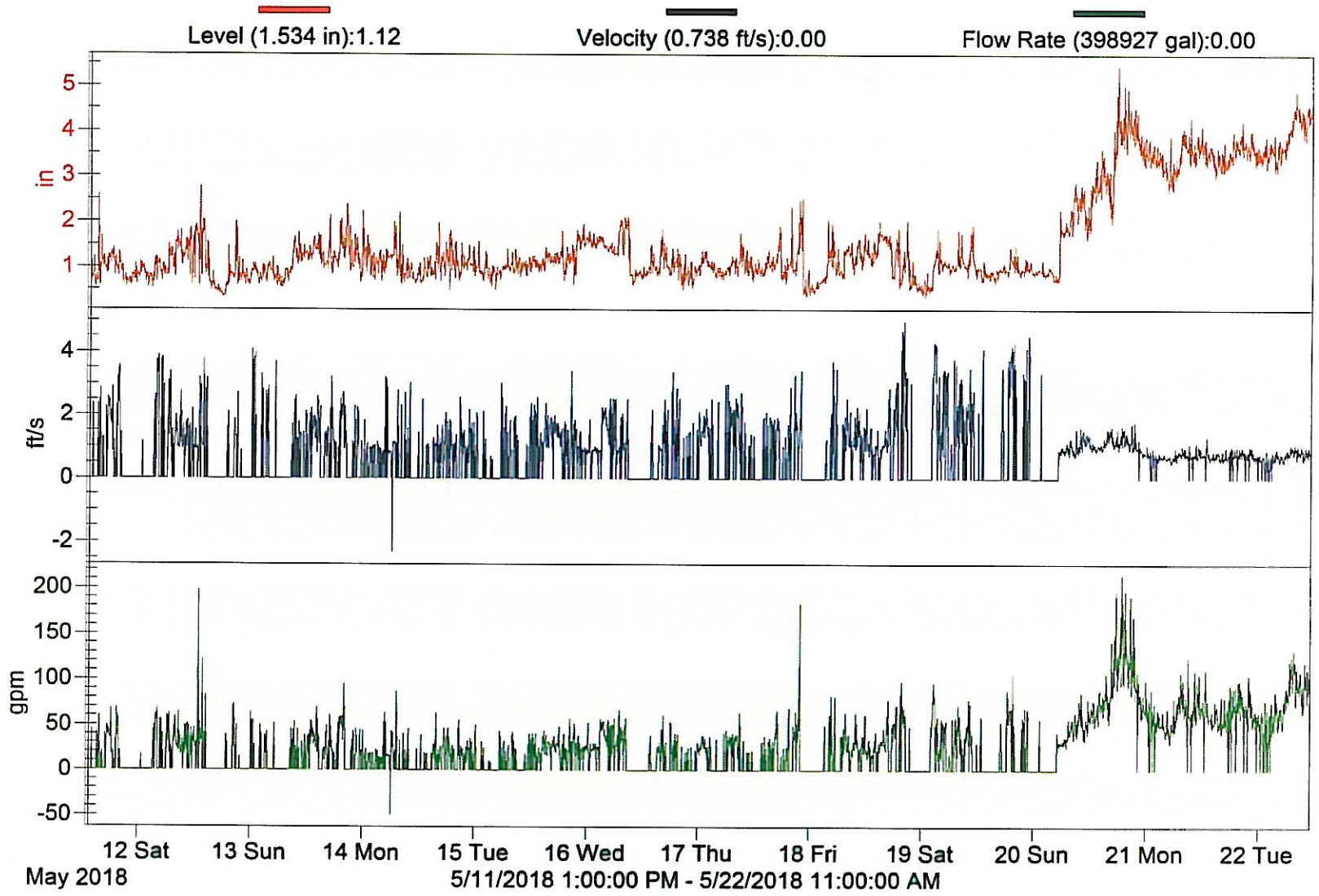


Charlies MH2 - 12" on 6th Ave

Label	Min Flow Rate	Min/Max	Max Flow Rate	Min/Max	Total Flow
Units	gpm	Date/Time	gpm	Date/Time	gal
Resolution	0.1	N/A	0.1	N/A	0.1
Significant Digits	0	N/A	0	N/A	0
5/11/2018 0:00	0	12:00:00 AM	68.779	7:35:00 PM	6326.71
5/12/2018 0:00	0	12:00:00 AM	197.598	1:05:00 PM	21357.1
5/13/2018 0:00	0	12:00:00 AM	95.135	8:10:00 PM	22199.7
5/14/2018 0:00	-49.173	6:15:00 AM	87.017	7:20:00 AM	16311.9
5/15/2018 0:00	0	11:35:00 PM	56.832	8:35:00 PM	19359.7
5/16/2018 0:00	0	12:00:00 AM	65.992	7:15:00 AM	22441.7
5/17/2018 0:00	0	12:00:00 AM	182.981	10:05:00 PM	19672.2
5/18/2018 0:00	0	12:00:00 AM	97.414	7:55:00 PM	26208.8
5/19/2018 0:00	0	12:00:00 AM	105.924	7:45:00 PM	26008.7
5/20/2018 0:00	0	10:25:00 PM	213.382	7:00:00 PM	85060.3
5/21/2018 0:00	0	11:45:00 PM	124.39	9:10:00 AM	86027.3

Charlies MH2 12inch

Flowlink 5



APPENDIX A-5

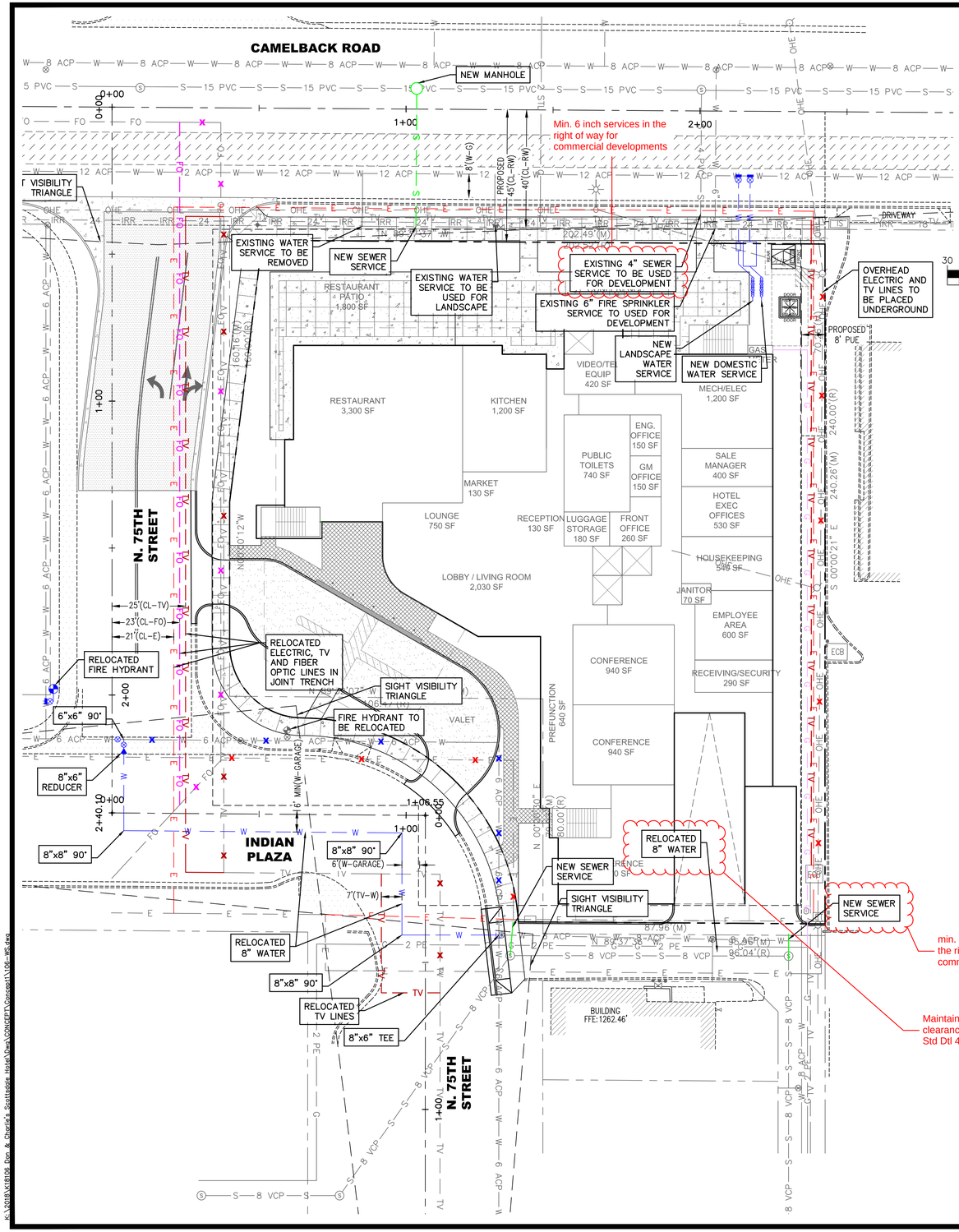
Preliminary Water And Sewer Plans

PRELIMINARY WATER AND SEWER PLAN

FOR

DON & CHARLIE'S HOTEL

A PORTION OF THE SOUTHWEST QUARTER OF SECTION 23, TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.



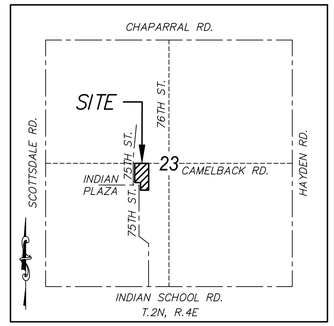
30 0 15 30

1 inch = 30 ft.

LEGEND

EXISTING	DESCRIPTION	PROPOSED	TO BE REMOVED
	CURB AND GUTTER		
	SIDEWALK		
	SINGLE CURB		
	DECORATIVE PAVERS		
	CONCRETE PAVEMENT		
	ADA WARNING STRIP		
TC:62.28 FF: 62.33 GF:62.63 PE:62.90	TOP OF CURB AND GUTTER		
	CONCRETE ELEVATION		
	PAVEMENT ELEVATION		
RIM:62.48 INV:56.84	RIM AND INVERT ELEVATION		
	WATER FITTINGS		
	WATER METER		
W	WATER LINE	W	W
	FIRE HYDRANT		
S	SEWER LINE	S	S
	SEWER MANHOLE/CLEANOUT		
SD	STORM DRAIN		
	CATCH BASIN		
	FINISHED FLOOR	FF=43.81	
G / ECB	GAS LINE/METER/VALVE	G	G
E	ELECTRIC LINE/METER	E	E
TV	CABLE/JUNCTION BOX	TV	TV
OHE	OVERHEAD ELECTRIC/POLE		OHE
	BOUNDARY LINE		
	CENTER LINE		
	EASEMENT		
IRR / IS	IRRIGATION		
FO	FIBER OPTIIC	FO	FO
	BOX CULVERT		

ADDRESS REVIEW COMMENTS ON PAGE 2 FOR PLAN SUBMITTAL.



VICINITY MAP

N.T.S.

ENGINEER

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PH: (480) 638-1100
CONTACT: MICHAEL EDWARDS

OWNER

OPWEST VENTURES LLC
3133 E CAMELBACK RD., STE 220
PHOENIX, AZ 85016
PH: (602) 672-9380
CONTACT: TYLER KENT

BASIS OF BEARING

THE NORTH LINE OF THE SOUTHWEST QUARTER OF SECTION 23, TOWNSHIP 2 NORTH, RANGE 4 EAST, USING A BEARING OF SOUTH 89 DEGREES 37 MINUTES 37 SECONDS EAST, AS SHOWN ON THE FINAL PLAT OF INDIAN PLAZA PROPERTIES, RECORDED IN BOOK 76, PAGE 20, MCR.

BENCHMARK

CITY OF SCOTTSDALE BRASS CAP IN HANDHOLE LOCATED AT THE INTERSECTION OF SCOTTSDALE ROAD AND CAMELBACK ROAD. ELEVATION=1277.619' (NAVD 88, CITY OF SCOTTSDALE DATUM)

FLOOD ZONE

ACCORDING TO THE FLOOD INSURANCE RATE MAP #04013C1770L, DATED OCTOBER 16, 2013, THIS PROPERTY IS LOCATED IN FLOOD ZONE "X" (SHADED).

LEGAL DESCRIPTION

TRACT B, INDIAN PLAZA PROPERTIES, ACCORDING TO BOOK 76 OF MAPS, PAGE 20, RECORDS OF MARICOPA COUNTY, ARIZONA.

REVISIONS

DON & CHARLIE'S HOTEL

PRELIMINARY WATER AND SEWER PLAN

KLAND CIVIL ENGINEERS

CIVIL ENGINEERING
LAND DEVELOPMENT SERVICES
LAND SURVEYING

7227 N. 16th St. Suite 217
Phoenix, Arizona 85020
PHONE: (480) 344-0480
www.klandeng.com

ENGINEER: L. KLAND
DESIGNER: C. HADERLY
CAD TECH: FITZGERALD

Registered Professional Engineer (Civil) CERTIFICATE NO. 31695 LESLIE J. KLAND Date Signed 12-18-18 ARIZONA U.S.A. Expires 09/30/21

Project No.
K18106

12-18-18

Sheet No.
PWS1
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Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

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