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Schedule II-B-3 (W) Accumulated Depreciation - Water Operations

Schedule II-B-3 (S) Accumulated Depreciation - Wastewater Operations

Schedule II-B-3 (SH) Accumulated Depreciation - Shared Plant

Schedule II-B-3(5) Accumulated Depreciation - Surplus/Deficiency Between Book and Theoretical

Schedule II-B-3(6) Accumulated Depreciation - Description of Methods and Proceedures

Schedule II-E-1 Depreciation Expense - Total Company

Schedule II-E-1 (W) Depreciation Expense - Water Operations

Schedule II-E-1(S) Depreciation Expense - Wastewater Operations

Schedule II-E-1(SH) Depreciation Expense - Shared Plant

Schedule II-E-1.1 Depreciation Methods

Schedule II-E-1.2 Changes in Depreciation Methods

Schedule II-E-1.4(W) Depreciation Studies WATER

Schedule II-E-1.4(S) Depreciation Studies WASTEWATER

Schedule II-B-3(7) Accumulated Depreciation - Affidavit

PUC DOCKET NO. 45570

APPLICATION OF MONARCH UTILITIES I, L.P. TO CHANGE RATES FOR WATER AND SEWER SERVICE	§ § §	PUBLIC UTILITY COMMISSION OF TEXAS

DIRECT TESTIMONY

OF

CARMELITHA BORDELON-TAYLOR

ON BEHALF OF

MONARCH UTILITIES I, L.P.

FEBRUARY 29, 2016

DIRECT TESTIMONY OF
CARMELITHA BORDELON-TAYLOR

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DIRECT TESTIMONY OF CARMELITHA BORDELON-TAYLOR

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Carmelitha Bordelon-Taylor. My business address is 12535 Reed Road, Sugar Land, Texas.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by SouthWest Water Company ("SouthWest") as the Texas Utilities Accounting Manager.

Q. BRIEFLY DESCRIBE YOUR PRESENT EMPLOYMENT.

A. My present responsibilities consist of management of all accounting and reporting functions for Texas Utilities.

Q. BRIEFLY DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. I received a Bachelor of Science Degree in Accounting from Northwestern State University. I have taken additional accounting courses and attended industry seminars, including several related to regulatory accounting and ratemaking.

I have been employed at SouthWest since January 2010, and was promoted to Manager of Texas Utility Accounting in January 2014. Before working at SouthWest, I held various accounting positions at a national homebuilder.

II. PURPOSE OF DIRECT TESTIMONY

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of Monarch Utilities I, L.P. ("Monarch").

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY IN THIS PROCEEDING?

A. The purpose of my direct testimony in this proceeding is to discuss accounting issues pertaining to this proceeding, including: (1) challenges brought about by Monarch being the first Class A water and wastewater utility to file a rate change application under the Public Utility Commission's ("Commission") new Rate Filing Package ("RFP"); (2) the selection of the non-fiscal test year ending June 30, 2015, and required normalization adjustments; (3) known and measurable adjustments; and (4) elimination of unregulated costs.

Q. WAS THIS TESTIMONY PREPARED BY YOU OR UNDER YOUR SUPERVISION?

A. Yes, it was.

Q. INSOFAR AS THIS TESTIMONY IS FACTUAL IN NATURE, DO YOU BELIEVE IT TO BE CORRECT?

A. Yes, I do.

Q. INSOFAR AS THIS TESTIMONY IS IN THE NATURE OF OPINION OR JUDGMENT, DOES IT REPRESENT YOUR BEST JUDGMENT?

A. Yes, it does.

Q. WHAT SCHEDULES IN THE RATE FILING PACKAGE ARE YOU SPONSORING?

A. I am sponsoring the schedules and associated workpapers shown on Attachment CBT-1.

III. CHALLENGES BROUGHT ABOUT BY THE NEW RATE FILING PACKAGE

Q. PLEASE SUMMARIZE SOME OF THE CHALLENGES FACED BY MONARCH BEING THE FIRST CLASS A WATER AND WASTEWATER UTILITY TO FILE A RATE CHANGE APPLICATION UNDER THE COMMISSION'S NEW RATE FILING PACKAGE.

A. Monarch is highly supportive of the new Rate Filing Package. Nevertheless, the timing of the rules' promulgation and the unprecedented level of information requested for water and wastewater utilities has required a monumental effort by Monarch staff. The new rules were not finalized and adopted until September 11, 2015, more than two months after the end of Monarch's test year. Much of the preparation and development of the rate case template that served as an invaluable guide throughout preparation of this filing, occurred at a time when we had only a preliminary idea as to what the ultimate Rate Filing Package would look like. Early preparation largely involved guesses, hoping our efforts would not be wasted.

We regard this rate filing very much as a test-run for the new Rate Filing Package. Hopefully, during the course of this proceeding, refinements can be made going forward as to the reasonable level of detail really needed to fulfill the RFP's underlying intent. In the meantime, we have tried to err conservatively, construing

the rules literally, and when in doubt, providing an immense amount of supporting workpapers.

IV. TEST YEAR SELECTED

Q. PLEASE DISCUSS THE TEST YEAR SELECTED FOR THIS FILING.

A. Commission rules at 16 Tex. Admin. Code § 24.3(71) (TAC) define "Test Year" as the "most recent 12-month period, beginning on the first day of a calendar or fiscal year quarter, for which operating data for a retail public utility are available." The test year we used in this filing is the year ending June 30, 2015. On April 9, 2015, Monarch attended a review meeting with Commission Staff to provide an update on preparations for this filing. At that meeting, Monarch made Staff aware of its selection of a test year ending June 30, 2015. We believe that after allowance for known and measurable changes, the selected test year is representative of costs during the period that new rates will be in effect.

V. KNOWN AND MEASURABLE ADJUSTMENTS

Q. PLEASE DEFINE KNOWN AND MEASURABLE CHANGES.

A. "Known and measurable changes" are defined by Commission rules at 16 TAC § 24.3(33) as changes that are "[v]erifiable on the record as to amount and certainty of effectuation reasonably certain to occur within 12 months of the end of the test year." Commission rules at 16 TAC § 24.31(b) allow known and measureable changes to allowable expenses. Commission rules at 16 TAC § 24.31(c)(5) allow for known and measurable additions to rate base. In the Rate Filing Package, General Instruction 3 requires that " . . . the information reported shall be based on the test

year unless otherwise directed by these instructions." General Instruction 6 allows "adjustments for known and measurable changes . . . ."

Q. PLEASE DESCRIBE THE KNOWN AND MEASURABLE CHANGES IN THIS FILING.

A. Known and measurable changes in this filing are listed in Schedule II-D-1.2, and can be summarized as follows:

1. Disposition of Blue Mound (See Direct Testimony of Robert Kelly).
2. Disposition of Midway (See Direct Testimony of Robert Kelly).
3. Weather Normalization Adjustment (See Direct Testimony of John Hutts).
4. Additional payroll due to merit increases. Normal mid-year salary increases adjusted to reflect full year.
5. Increase headcount by five employees to account for frictional vacancies.
6. Increase in audit fees based on latest increase in fees from the accounting firm PwC.
7. Decrease in lease expense due to Conroe office lease ending in August 2015.
8. Increase in shared services costs due to salary increases, also change the allocation methodology to align with the approach previously established in another jurisdiction.
9. Impute interest on intercompany receivable.

VI. RATE BASE SUMMARY

Q. PLEASE DESCRIBE MONARCH'S PROPOSED RATE BASE.

A. Monarch's rate base is summarized on Schedule II-B in the Rate Filing Package. There are several notable items on this schedule. Net plant in service represents the total amount of plant currently in service. The number is indicative of the substantial plant investment that Monarch has made, $71 million, since acquiring the system in 2004. As discussed in the Direct Testimony of Robert Kelly, the balance in accumulated depreciation represents a surplus of about $6 million that Monarch is proposing in this filing to refund over five years. As discussed in the Direct Testimony of James Warren, accumulated deferred income taxes is zero because Monarch is a limited partnership for state law purposes. Because Monarch is not a legal entity that is subject to income tax, Monarch has never calculated (and has never needed to calculate) income tax expense, either current or deferred, for purposes of its stand-alone income statement, and has not reflected accumulated deferred income taxes ("ADIT") on its stand-alone balance sheet. However, you will see that Monarch has made a $1.7 million known and measurable adjustment to impute deferred income taxes at the Monarch level.

VII. FUNCTIONALIZATION FACTORS

Q. PLEASE DESCRIBE THE FUNCTIONALIZATION FACTORS USED IN THIS PROCEEDING.

A. Rate Filing Package General Instruction 9 provides as an alternative to allocation, the use of functionalization where costs vary by function. Schedule II-F-a,c,d provides support for the functionalization that Monarch has used in this filing.

Schedule II-F-b.f provides a description of, and rationale for, the factors. Monarch has determined that meter equivalents as of December 31, 2014, which are based on representative delivery capacity of the meters as of that date and which are the most equitable and administratively efficient form of distributing shared costs in this filing. This functionalization is used wherever costs are shared between water and wastewater.

VIII. ADJUSTMENTS TO TEST YEAR BALANCES

Q. PLEASE DESCRIBE ADJUSTMENTS TO TEST YEAR BALANCES REQUIRED BY GENERAL INSTRUCTION 8.

A. Schedules II-A-2 and II-A-3 show adjustments to test year balances to remove and recast items not included in Monarch's cost of service either by statute or commission rule, or that required recasting to more properly reflect regulatory accounting. In addition, adjustments were made to reinstate costs that had been removed from test year balances due to requirements of generally accepted accounting principles, but which are includable in cost of service. The following are examples of removed, recasted, and reinstated costs:

- Examples of Removed Costs—Rate case expenses relating to prior Monarch rate cases, asset retirement obligations, parent company allocations of depreciation expense to Monarch, portions of trade association dues relating to lobbying expenses, and fines and penalties all have been removed from test year costs.
- Examples of Recasted Costs—Leases accounted for in the test year as capitalized leases have been recasted as conventional operating leases. This

avoids the need to address lease-related capital structure issues involving lease obligations, and also rate base issues involving lease assets. Asset retirement losses recorded in the test year and in prior years have been recasted pursuant to retirement accounting required by the Commission's prescribed Uniform Systems of Accounts for water and wastewater utilities. Deferred federal income taxes never before reflected in test year balances are properly reflected in this filing.

- Examples of Reinstated Costs—As discussed at greater length in the Direct Testimony of Robert Kelly, capitalized costs of an affiliate previously removed from test year balances because of a determination by SouthWest's auditor have been reinstated to properly reflect costs of Monarch capital projects.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

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Schedule II-A-2.1(S) Statement of Income - Sewer
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Schedule II-D-3.3 Industry Organization Membership Dues
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Schedule II-D-5 Summary of Research and Development Expenditures
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Schedule II-D-9.1.c Payroll Detail - General Payroll Increases
Schedule II-D-9.1.d Payroll Detail - Merit Increases and Management Salary Increases (Confidential)
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PUC DOCKET NO. 45570

APPLICATION OF MONARCH UTILITIES I, L.P. TO CHANGE RATES FOR WATER AND SEWER SERVICE	§ § §	PUBLIC UTILITY COMMISSION OF TEXAS

DIRECT TESTIMONY

OF

TIMOTHY J. WILLIFORD

ON BEHALF OF

MONARCH UTILITIES I, L.P.

FEBRUARY 29, 2016

DIRECT TESTIMONY OF
TIMOTHY J. WILLIFORD

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DIRECT TESTIMONY OF TIMOTHY J. WILLIFORD

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Timothy J. Williford. My business address is SouthWest Water Company, 1620 Grand Avenue Pkwy #140, Pflugerville, TX 78660.

Q. WHAT IS YOUR PRESENT POSITION?

A. I am the Environmental Health & Safety Manager for the Texas Utilities business segment of SouthWest Water Company ("SouthWest" or "Company").

Q. WHAT ARE YOUR RESPONSIBILITIES IN THIS POSITION?

A. I am responsible for ensuring that all Texas Utilities facilities, including Monarch Utilities I, L.P. ("Monarch"), are in compliance with environmental regulations and permits. This includes ensuring that Monarch complies with all state and federal laws and regulations regarding drinking water and wastewater treatment and disposal. I also manage the safety program for SouthWest. Additionally, I provide input on necessary capital improvements of water and wastewater facilities to maintain compliance. I am responsible for ensuring Monarch responds in a timely and appropriate manner to notices of violation and other deficiency notices from the TCEQ. My job also includes filing routine environmental and special compliance reports with the appropriate state and federal authorities.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. I received a Bachelor of Applied Arts and Science degree from Lamar University in 1999. I have "A" Water and "A" Wastewater Operator licenses. I received a Certified Safety and Health Official certificate from the Texas Engineering Extension Services and Texas A&M University in 2012.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.

A. I joined ECO Resources, which was a subsidiary of SouthWest, in July 2005. As the compliance coordinator, I ensured drinking water and wastewater reports were submitted to the Texas Commission on Environmental Quality ("TCEQ") accurately and in a timely manner. I also assisted in drinking water and wastewater inspections. I stepped into my current role, Environmental Health & Safety Manager, in 2012. I am responsible for ensuring all Texas Utilities facilities, among others, comply with state and federal regulations. My duties include tracking wastewater permits and drinking water compliance, preparing and filing compliance reports with state and federal regulatory agencies, documenting and handling notices of violation, and reporting to management. In addition, I manage the safety program for the Texas Utilities. I ensure the Company and employees comply with Occupational Safety and Health Administration ("OSHA") regulations. I am responsible for preparing OSHA reports and reporting to SouthWest management. Prior to joining ECO Resources, I worked for the TCEQ–Wastewater Permitting Section as a Pretreatment Coordinator from 2003-2005. I conducted reviews and audits of 15 Publicly Owned Treatment

Works' pretreatment programs in the state. I also reviewed and provided regulatory language for municipal permit application renewals.

In addition to my regulatory background, I have over seven years' laboratory experience. I worked for the Sabine River Authority, Environmental Services Division, from 1996-2001, beginning as a laboratory analyst and promoted to team leader for the wet chemistry section. I worked as laboratory manager for ECO Resources from 2001-2003. While working in the laboratory, I performed analysis of drinking water and wastewater. I assisted in the development of laboratory procedures and quality control manuals. As team leader and manager, I ensured analyses were conducted and reported timely and accurately, while complying with federal and state standard methods.

Q. HAVE YOU PREVIOUSLY TESTIFIED IN REGULATORY PROCEEDINGS?

A. No.

II. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I will provide testimony regarding Monarch's compliance with state and federal regulations regarding drinking water and wastewater treatment.

Q. PLEASE DESCRIBE YOUR ROLE IN THIS CASE.

A. I worked with members of Monarch's staff, management, and outside consultants in preparing the notice of the rate increase filed with the Commission. Relying on my professional background in compliance and safety, I assisted the Monarch rate team in preparing the rate package filed with the Commission.

Q. UNDER WHOSE DIRECTION AND CONTROL HAVE YOU PERFORMED THESE DUTIES?

A. Charles W. Profilet, Jr. P.E., President, Monarch Utilities I, L.P. I have also worked in cooperation and conjunction with other members of the Monarch rate team.

Q. ON WHAT DO YOU BASE YOUR OPINIONS IN YOUR TESTIMONY?

A. The opinions expressed in this testimony are based on my personal observations, including those pertaining to the Monarch rate application that is the subject of this proceeding, my interchanges with employees of Monarch and its parent corporation, as well as with the various experts who provided assistance in connection with filing the rate application. My opinions are also based on my familiarity with, and review of, documentation supporting the rate application, including but not limited to documentation relating to Monarch's rate base and the expenses incurred by Monarch. With respect to rate base specifically, I have reviewed documentation and conducted field inspections of the relevant facilities.

Q. WHAT SCHEDULES IN THE RATE FILING PACKAGE ARE YOU SPONSORING?

A. I am sponsoring the following schedules and associated workpapers: Schedules II-E-1.3(W), II-E-1.3(S), VI-1.a, VI-1.b., VI-1.c, and VI-1.d.

III. MONARCH COMPLIANCE IMPROVEMENT

Q. HAS MONARCH SEEN AN IMPROVEMENT IN QUALITY OF SERVICE?

A. Yes. When SouthWest acquired the Monarch assets and took over operations in 2004, almost every system had some type of existing deficiency and/or had been cited by the TCEQ. Shortly after SouthWest acquired the assets, we performed an internal

audit of systems that identified several deficiencies and resulted in us notifying the TCEQ. These deficiencies included failing to keep adequate records, production capacity, storage capacity, security, failing to properly maintain or operate equipment and facilities, exceeding drinking water maximum contaminant levels ("MCL"), and failing to comply with wastewater effluent limits.

In an effort to eliminate the potential public health threat and to ensure the appropriate steps were taken to achieve compliance, Monarch entered into 19 agreed orders, five compliance agreements, and two voluntary comprehensive compliance agreements with the TCEQ. The agreed orders set out the process for achieving compliance in 30 specific systems. The five compliance agreements set out the process for achieving compliance in five specific systems. The first voluntary comprehensive compliance agreement addressed the process to achieve compliance in 30 specific systems. The second voluntary compliance agreement addressed achieving compliance violations in 28 specific systems (both water and wastewater) by setting out an orderly schedule for accomplishing various tasks over a three-year period. Although a few deadlines had to be extended, Monarch worked diligently with the TCEQ staff to meet all deadlines in the compliance agreements by 2012. In the last 3 years, Monarch has not had any Category A deficiencies noted in any of the water or wastewater systems we operate.

Q. WHAT IS THE CURRENT STATUS OF COMPLIANCE FOR MONARCH?

A. Currently, there are two open Agreed Orders assigned to Monarch, both of which are associated with naturally occurring contaminants. Monarch has conducted feasibility studies in both cases and has plans in place to remedy the violations by Spring 2016.

Monarch had 32 water system inspections in 2014, in 18 of which no violations were noted. All violations with the other 14 systems have been resolved. Three wastewater inspections were performed in 2014. Violations were cited and resolved within the compliance date on two of the three inspections. No violations were cited on the third inspection.

There were 28 water system inspections in 2015, in 21 of which no violations were reported. We anticipate resolving the outstanding violations by the compliance dates on the seven systems with violations cited.

In response to the deficiencies referenced above, SouthWest has invested $71 million into Monarch's water and wastewater systems between 2005 and 2012 to ensure the service our customers receive is safe and reliable.

IV. REGULATORY BURDENS IMPOSED BY STATE AND FEDERAL REGULATIONS

Q. WHO REGULATES THE HEALTH AND SAFETY ASPECTS OF WATER AND WASTEWATER SERVICE IN TEXAS?

A. As a general proposition, two agencies regulate the safety of water and wastewater service—the federal Environmental Protection Agency ("EPA") and the TCEQ. For the most part, however, the EPA has delegated much of its regulatory authority to the states, including Texas, under the terms of the Safe Drinking Water Act and the Clean Water Act. As a result of these delegations, the TCEQ serves as the primary regulatory authority for the safety of water and wastewater service in Texas.

Q. PLEASE DESCRIBE THE STATE AND FEDERAL REGULATORY STANDARDS FOR DRINKING WATER.

A. Congress adopted the federal drinking water standards in 1974 when it enacted Title XIV of the Public Health Services Act, more commonly known as the Safe Drinking Water Act ("SDWA"). The SDWA has twice been amended, once in 1986 and again in 1996; under the SDWA, Congress authorized the EPA to promulgate federal standards to protect the public health and promote safe drinking water. The SDWA further authorized the EPA to delegate its authority thereunder to the individual states if certain requirements were met.

Initially, the EPA promulgated several drinking water standards that prescribed MCLs for drinking water. These standards regulate the level of contaminants in the drinking water. There are essentially two levels of drinking water standards, referred to as primary and secondary standards. The first level, primary standards, is designed to protect consumers and eliminate public health risks. Examples of this type of standard include MCLs for coliform and fecal bacteria, and potentially cancer-causing constituents. The second level of drinking water standards is directed toward taste and odor. Examples of this type of standard include MCLs for iron, sulfate, and manganese.

Under the terms of the SDWA, states were free to either follow the MCL standards set by the EPA or impose even higher standards for public drinking water. Although the federal drinking water standards remain in place, the EPA has since delegated much of its authority to the individual states, including Texas.

By comparison, Texas has always taken an aggressive approach to drinking water regulation. Since the 1940's, Texas has imposed stringent standards for drinking water similar to those enacted by Congress and the EPA under the SDWA. Texas was also one of the first states to require chlorination of drinking water from wells to prevent bacteria in the drinking water supply. The TCEQ is responsible for enforcing both federal and state drinking water standards in Texas, and Monarch must comply with all of these standards.

Q. PLEASE DESCRIBE THE STATE AND FEDERAL STANDARDS FOR WASTEWATER.

A. Congress adopted wastewater treatment standards in 1977 when it enacted the federal Water Pollution Control Act, more commonly referred to as the Clean Water Act ("CWA"). The CWA established a permitting process that authorized the EPA to issue permits for wastewater discharge. This permitting process is better known as the National Pollutant Discharge Elimination System ("NPDES"). Like the SDWA, Section 402(b) of the CWA authorized the EPA to delegate its NPDES permitting authority to the states if certain requirements are met. The EPA has delegated its federal permitting authority to Texas.

In addition to these federal permitting standards, the State of Texas has enacted its own permitting standards in Chapter 26 of the Water Code. In the past, a utility wanting to provide wastewater treatment services had to secure separate permits from the EPA and the TCEQ. Since the EPA delegated its permitting authority, the TCEQ enforces both the state and federal permitting standards. So, now a utility may apply to the TCEQ for a joint federal/state permit.

The wastewater treatment standards in Texas are different throughout the state depending on the particular point of discharge. For example, a wastewater treatment plant seeking to discharge into a lake or river used for public recreation and swimming will encounter higher standards for wastewater treatment than a plant seeking to discharge into a commercial body of water such as the Houston Ship Channel. While the standards may differ, the overall goal is the same—maintain public health and water quality in the receiving body of water. Monarch must comply with all of these state and federal standards. The likelihood is that discharge standards will continue to be strengthened over time, which will require continuing capital improvements making it extremely important that a well-capitalized organization like Monarch is there to make the needed improvements.

Q. PLEASE DISCUSS THE REGULATORY BURDEN IMPOSED UPON INVESTOR OWNED UTILITIES IN MEETING STATE AND FEDERAL REGULATIONS.

A. The major burden upon any investor owned utility ("IOU") is generating the large amounts of capital needed to comply, in a timely manner, with all state and federal regulations (health, safety, product or service quality, customer service, and the like).

IOUs are at a distinct disadvantage when it comes to raising capital. Private businesses generally have no access to low-cost state or federal funding programs. To my knowledge, there is only one small funding program open to IOUs. The Texas Water Development Board ("TWDB") may lend money to IOUs for system capacity improvements, but the TWDB may only make these loans from that portion of the State Revolving Water Fund directly funded by the federal government.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

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APPLICATION OF MONARCH UTILITIES I, L.P. TO CHANGE RATES FOR WATER AND SEWER SERVICE	§ § §	PUBLIC UTILITY COMMISSION OF TEXAS

DIRECT TESTIMONY

OF

CRAIG D. GOTT, P.E.

ON BEHALF OF

MONARCH UTILITIES I, L.P.

FEBRUARY 29, 2016

DIRECT TESTIMONY OF
CRAIG D. GOTT, P.E.

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PUC DOCKET NO. 45570

APPLICATION OF MONARCH UTILITIES I, L.P. TO CHANGE RATES FOR WATER AND SEWER SERVICE	§ § §	PUBLIC UTILITY COMMISSION OF TEXAS

DIRECT TESTIMONY OF CRAIG D. GOTT, P.E.

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND POSITION.

A. My name is Craig D. Gott and I am employed by Suburban Water Systems ("Suburban") as Vice President of Field Operations. Suburban is a subsidiary of SouthWest Water Company ("SouthWest").

Q. ON WHOSE BEHALF ARE YOU TESTIFYING?

A. I am testifying on behalf of Monarch Utilities I, L.P. ("Monarch"), which is also a subsidiary of SouthWest.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. I have a Bachelor of Science degree in Civil Engineering from the University of Wollongong (NSW, Australia), and Master's Degree in Business Administration (Finance) from the University of La Verne (La Verne, California). I am registered professional Civil Engineer, Water Distribution System Operator 3, and Treatment System Operator 2 in the State of California.

I have been working for Suburban since 2002. I started in the Engineering Department and was promoted to Vice President, Engineering in 2008. I transferred to lead the Field Operations Department in 2013. In my time at Suburban, I have

provided testimony for capital spending for the General Rate Case ("GRC") filed with the California Public Utilities Commission ("CPUC") in 2011 and 2014.

II. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. The purpose of my testimony is to support the reasonableness and necessity of Monarch's post October 15, 2002 recorded gross plant additions through June 30, 2015 in the amount of $74.47 million.

Q. WHY DOES YOUR TESTIMONY INCLUDE CAPITAL INVESTMENTS FOR THE PERIOD OF OCTOBER 16, 2002 TO JUNE 30, 2015?

A. In its June 20, 2003 rate order letter in *Tecon Water Company, L.P.; Application Nos. 33531-R and 33532-R, TCEQ Docket Nos. 2001-1079-UCR and 2001-1080-UCR*, the Texas Commission on Environmental Quality ("TCEQ") ordered that Tecon's original cost investment as of October 15, 2002 was $65,990,197. This testimony represents Monarch's (successor to Tecon) subsequent recorded gross plant additions through June 30, 2015 of $74.47 million. This testimony has been prepared subsequent to the closing of the June 2015 accounting period to include all known and measurable capital improvements made to June 30, 2015. [Note: can we give a specific date?]

Q. WHAT SCHEDULES IN THE RATE FILING PACKAGE ARE YOU SPONSORING?

A. I am sponsoring the schedules and associated workpapers listed in Attachment CDG-1.

III. CAPITAL ADDITIONS

Q. WHAT CAPITAL INVESTMENT IN PLANT ADDITIONS DOES MONARCH SEEK TO INCLUDE IN RATE BASE IN THIS PROCEEDING?

A. The $74,468,702.64 described above represents recorded gross original costs of plant additions and were reasonable and necessary to satisfy service area growth and reliability improvements and to address violations identified by TCEQ.

This testimony separates capital costs into those investments made in the Wastewater system, the Water system, and those Shared Assets used to support both water and wastewater operations. These costs are further separated into asset categories defined in the "Uniform System of Accounts for Class A Wastewater Utilities," and "Uniform System of Accounts for Class A Water Utilities," published in 1996 by the National Association of Regulatory Utility Commissioners ("NARUC"). In addition to discussing the general need for investment in these categories, my testimony will also address specific projects representing significant investment.

Q. WHAT APPROACH TO PROCUREMENT DOES MONARCH USE TO MAKE CAPITAL INVESTMENTS?

A. Monarch's priority for procurement is to use vendors and products that provide good value, specifically, good quality products and services at a reasonable price. Quality is of the utmost importance because the facilities involved are required to operate continuously to provide reliable and safe service to the customers while protecting the environment. Reasonable pricing is important because Monarch must prioritize the

investment of its limited capital resources to meet the needs of its customers and requirements of its regulators.

Monarch prefers to send the projects estimated at greater than $25,000 to three vendors to participate in a competitive bidding process where the most responsible low bid is chosen. This approach is not always feasible for the following reasons:

a. Monarch's water and wastewater systems are spread all over the state of Texas. There are not always three qualified bidders that work in the different parts of the state.

b. Of the limited vendors available, often the larger vendors are not interested in the smaller projects that are typical of Monarch's systems.

c. Monarch works with some trusted vendors with whom it has past experience, and has developed confidence and trust in the work product. The development of trust affords many cost and schedule savings that are not available when working with un-tested vendors.

d. Many projects are small and are duplicated in a number of locations. It is often more efficient to use one vendor to perform these tasks as it simplifies scheduling, invoicing, and project coordination. Working with a single vendor on a project that has many locations saves costs because it reduces mobilization costs.

e. The bidding process demands a significant amount of engineering and administrative resources. To minimize overhead costs and contribution to customer rates, Monarch is purposely arranged as a

lean organization that has very few engineers and administrative staff. The few engineers on staff spend most of their time investigating project sites, developing solutions, coordinating vendors, and inspecting construction. Further, the dispersed geography of Monarch's service areas result in engineers spending many hours a week driving.

Q. HAS MONARCH SEEN A SIGNIFICANT IMPROVEMENT IN QUALITY OF SERVICE?

A. Yes. When SouthWest acquired the Monarch assets and took over operations almost every system had some type of existing deficiencies and had been cited by the TCEQ. Shortly after SouthWest acquired the assets, we performed an internal audit of the systems that identified several deficiencies and resulted in us notifying the TCEQ. These deficiencies included inadequate records, inadequate production and storage capacity, security issues, improperly maintaining or operating equipment and facilities, exceeding drinking water MCLs, and not complying with wastewater effluent limits.

In an effort to eliminate the potential public health threats and to ensure the appropriate steps were taken to achieve compliance, Monarch entered into 19 agreed orders, five compliance agreements, and two voluntary comprehensive compliance agreements with the TCEQ. The agreed orders set out the process for achieving compliance in 30 specific systems. The five compliance agreements set out the process for achieving compliance in five specific systems. The first voluntary comprehensive compliance agreement addressed the process to achieve compliance in

30 specific systems. The second voluntary comprehensive compliance agreement addressed resolving compliance violations in 28 specific systems (both water and wastewater) by setting out an orderly schedule for accomplishing various tasks over a three year period. Monarch has worked diligently with the TCEQ staff to complete all items required in the compliance agreements. Monarch has not had any Category A deficiencies noted in any of its water or wastewater systems in the last three years.

In response to the deficiencies above, SouthWest has invested $74.47 million in Monarch's water and wastewater systems between 2002 and 2015 to ensure that the service our customers receive is safe and reliable. These capital expenditures included those discussed in the following sections of my testimony.

A. Wastewater ($12,335,753.35) by NARUC Account

Q. WHAT WERE THE CAPITAL INVESTMENTS MADE IN MONARCH'S WASTEWATER SYSTEM?

A. Monarch spent $12,335,753.35 on capital improvements in the Wastewater system. These costs are categorized below according to NARUC asset classification.

1. 352 Franchises ($14,998.76)

In 2014, Monarch invested $14,998.76 in its Lake Medina Shores wastewater system on Professional Engineering services to prepare documents required to renew the TCEQ wastewater operating permit.

2. 353 Land and Land Rights ($24,093)

In 2012, Monarch invested $24,093 in its Decker Hills wastewater system to acquire an easement (Lakes at Mill Creek) to provide the required buffer zone for the construction of a new treatment plant to comply with TCEQ supply requirements.

3. 354 Structures and Improvements ($3,589,705.46)

This category captures the cost of structures and improvements that are used in connection with wastewater treatment plants. Major cost items in this category are explained in greater detail, and minor cost items are grouped for more efficient discussion.

Wastewater treatment facilities are exposed to extremely corrosive and abrasive forces of the environment and the municipal wastewater stream that passes through them on a continuous basis. Further, the waste stream produces corrosive gases that also cause damage to the structural improvements that provide safe access to employees to monitor and maintain the treatment plant. Monarch has used this category to capture the cost of structural improvements related to the treatment process at the wastewater plants including installing a static mixer; constructing a wastewater treatment plant control building; rehabilitating clarifiers (weirs, drives), blowers, and stainless steel bar screens; replacing process piping; and rehabilitating baffle walls. At some plants the existing treatment facilities were replaced or rehabilitated because they had reached the end of their useful life and were unable to produce effluent that met discharged requirements.

This category also covers other structural improvements at the various plant sites related to general site improvements, and employee access and safety. These general site improvements included grading for proper storm water drainage, culvert and catch basin work, fencing for security, and building an equipment storage shed. To support the treatment process, Monarch installed concrete chemical containment structures, a flow diversion structure, and an effluent basin. To maintain safe access to plants, Monarch constructed concrete sidewalks, all weather access

driveways, and rehabilitated catwalks (grating and hand rails). Also included was installation of an eye wash station for employees to perform first aid should their eyes be exposed to chemical irritants.

The following is a more detailed description of the major investments in this category:

- In 2005, Monarch invested $693,986.56 ($608,686.86 + $85,300.56) in its Cherokee Shores wastewater system to construct a replacement wastewater treatment plant. The load on the existing plant exceeded the allowable TCEQ permitted capacity, and the old plant was corroded and structurally unsound. A failure of the structure would have resulted in discharges of untreated wastewater to the environment or would have caused harm to an operator. A replacement plant was constructed to meet capacity requirements and to provide a safe work place for operators.

- In 2008, Monarch invested $498,053.95 in its Lake Medina Shores wastewater system to upgrade and expand an existing wastewater treatment plant that was no longer in compliance with TCEQ regulations. This plant has a no discharge requirement and the effluent is land applied. The existing holding ponds had insufficient capacity and would overflow. The ponds were expanded and a liner was installed to meet required standards.

- In 2009, Monarch invested in its Harbor Point wastewater system $335,245.45 to construct a replacement wastewater treatment plant, including $65,642.22 on mechanical equipment and $63,741.98 on concrete tanks. The existing plant had reached the end of its useful life. It was severely corroded, it was leaking,

and it posed a safety hazard for employees. Further, the plant had insufficient capacity to comply with TCEQ plant loading requirements and did not effectively treat effluent to currently required parameters. A replacement plant was constructed to meet capacity requirements, to provide reliable service to customers, and to provide a safe work place for operators. Monarch's costs included $90,632.40 in 2006 for engineering consulting services to prepare plans for the construction of the replacement facility.

- In 2009, Monarch invested $319,433.03 in its Beachwood Estates wastewater system to construct a replacement concrete tank, $264,590.80 to construct an effluent discharge line, and $75,390.39 to construct site work piping, flatwork, building structures, and fencing that were part of a project to replace the existing wastewater treatment plant. The existing plant had reached the end of its useful life. It was severely corroded, it was leaking, and it posed a safety hazard for employees. Further, the plant had insufficient capacity to comply with TCEQ plant loading requirements and did not effectively treat effluent to currently required parameters. The discharge line was required to redirect the plant discharge from the Cedar Creek Lake to the Trinity River, which eliminated the need to construct equipment to filter this water further and maintain the sprinkler fields.

- In 2009, Monarch invested $322,445.77 ($212,996.65 + $109,449.12) in its Tower Terrace wastewater system to replace the treatment plant structures because the existing plant had reached the end of its useful life and had insufficient capacity to meet TCEQ capacity requirements. This project also included

the investment of $76,856.35 to install a pre-fabricated building that serves the treatment plant as both a control room and laboratory.

- In 2005, Monarch invested $186,317.67 in its Decker Hills wastewater system to rebuild the aeration basins that had fallen into disrepair and to replace the mechanical equipment that had failed.

4. 355 Power Generation Equipment ($153,130.50)

Monarch used this category to record the cost of purchasing small power generator units for various wastewater systems.

5. 360 Collection Sewers—Force ($1,387,194.88)

Unlike unpressurized Gravity sewer systems that are open to the atmosphere and depend on gravity to move wastewater, Force main sewer systems are pressurized and use pumps to move wastewater to a lift station or treatment plant. Gravity systems depend on collection pipes that slope gradually towards lift stations and treatment plants. This works well in urban and suburban areas with relatively flat terrain. However, Gravity systems installed in undulating terrain require pipes to be buried deeply to maintain a downward slope. Alternatively, Force systems are beneficial in rural areas where the terrain is undulating and where long pipe reaches cannot be installed at more shallow depths, saving on installation and maintenance costs. Grinder pumps at each customer's service lateral boost wastewater from small holding tanks into pressurized Force collection system.

Force sewers are used to lift sewage from a low elevation to higher elevation. Monarch extends existing Force sewer systems by constructing new pipelines to serve new customers in compliance with TCEQ requirements.

Force sewer pipelines are subject to deterioration due to exposure to corrosive gases emanating from sewage and damage from tree roots and ground movement. Major capital repairs were required to replace significant sections of pipeline that is damaged. Monarch replaces major sections of pipeline if these sections are observed to have reached the end of useful life. Force sewer pipelines have air vacuum valves used to admit air into the pipeline so it does not collapse structurally when negative pressure situations occur. These valves are mechanical devices with moving parts; Monarch replaces these devices when they are found by inspection to be not working.

System maps are prepared to capture the location of buried forced sewer facilities including pipelines. Monarch prepares these maps to facilitate the speedy location of facilities and to help operators understand system operation when problems such as damage or blockage occur.

Lift stations collect sewage at the low points in the system, and lift station pumps provide the pressure required to lift the sewage. Lift stations are of utmost critical importance to safe and successful operation of a wastewater system. A failing lift station will be overwhelmed with incoming flow resulting in overflow and discharge of raw sewage to the environment. Lift stations consist of a vault, pumping and electrical equipment, and personnel access equipment (ladders, vault covers, ventilation equipment, etc.). The structural and mechanical components of lift stations are exposed to harsh corrosive environments due to gases emitted from the sewage. Further, pumps are required to transmit liquid waste that contain grit and other solids that can damage rotating assemblies. Lift station rehabilitation includes

activities such as replacing pumps and valves, replacing controllers, replacing blower fans, replacing air lift equipment. Lift station structure are also recoated to mitigate the corrosive effects of sewer gases. Monarch invests capital in the rehabilitation of lift stations to ensure reliable operation.

The following is a more detailed description of the major investments in this category:

- In 2004, Monarch acquired the Carolynn Estates (Pinnacle Club) wastewater system from TECON, which included the acquisition of sewer lines for $213,777.32.
- In 2006, Monarch invested $167,883.24 in its Holiday Villages of Fork wastewater system to construct sewer lines for a new development.
- In 2007, Monarch invested $156,754.91 in its Lake Medina Shores wastewater system to construct sewer lines for a new development.
- In 2006, Monarch invested $146,806.90 in its Holiday Villages of Livingston wastewater system to construct sewer lines for a new development.
- In 2003, Monarch invested $142,074.44 in its Lake Medina Shores wastewater system to construct sewer lines for a new development.
- In 2009, Monarch invested $88,511.25 in its Holiday Villages of Livingston wastewater system to construct sewer lines for a new development.
- In 2009, Monarch invested $65,374.33 in its Lake Medina Shores wastewater system to construct sewer lines for a new development.
- This category includes $63,623.01 in CIAC/Advances for Collection Sewers - Force made by TECON and recorded in 2004.

6. 361 Collection Sewers—Gravity ($734,878.65)

Gravity collection sewer systems consists of pipes and manholes that collect sewage from customers and transport by gravity to lift stations and treatment plants.

Monarch extends existing Gravity sewer systems by constructing new pipelines to serve new customers in compliance with TCEQ requirements. It has also used this category to collect capital costs associated with the replacement of sewer pipes that are damaged by tree roots or ground movement and with the rehabilitation of manholes that were found to be deteriorated.

Also, smoke testing is a process where smoke is pumped into a sewer so that it can be observed where it leaves the system. Specifically, the smoke leaves through cracks in the lines and roof drains that are illegally connected to the wastewater system. These drains collect storm water, which is referred to as inflow and infiltration (I&I), that overwhelms the wastewater collection and treatment systems. Operators work with drain owners to disconnect them from the wastewater system. Monarch performs smoke testing when I&I is determined to be the source of excessive flows at treatment plants and lift stations. Monarch has used this category to the capture costs of performing smoke testing to identify and disconnect illegal connections to the wastewater collection to reduce inflow and infiltration.

The following is a more detailed description of the major investments in this category:

- This category includes $134,092 in CIAC/Advances for Collection Sewers - Gravity made by TECON and recorded in 2004.

- In 2005, Monarch invested $124,392.27 in its Cherokee Shores wastewater system to construct sewer lines for a new development.
- In 2006, Monarch invested $89,485 in its Decker Hills wastewater system to construct sewer lines for a new development.
- This category includes $81,000.53 in CIAC/Advances for Collection Sewers - Gravity made by TECON and recorded in 2004.
- In 2006, Monarch invested $73,064.50 in its Decker Hills wastewater system to construct sewer service lines for a new development.

7. **362 Special Collecting Structures ($151,032.02)**

Monarch used this category to record the cost of some small tanks for its Pinnacle Club and Tower Terrace wastewater systems. The major investment in this category was the $90,934.29 invested in 2006 in Monarch's Cherokee Shores wastewater plant to replace the filter media. The existing media had reached the end of its useful life and was no longer effective at removing contaminants.

8. **363 Services to customers ($4,626.22)**

This category includes the cost of service sewers from the collection sewer to the customer property or curb line. Monarch use this category to capture the cost of the replacement of a sewer service that had become inoperable.

9. **364 Flow Measuring Devices ($61,302.29)**

Section 217.33 Flow Measurement of TCEQ's Subchapter B: Treatment Facility Design Requirements mandates that treatment facilities must have a means of accurate effluent flow measurement that allows for easy inspection, calibration, and cleaning. Wastewater flows present a corrosive environment for these devices, which can deteriorate over time resulting in a failure to accurately

measure effluent flows. Monarch has used this category to capture capital costs associated with replacing flow measuring devices to comply with TCEQ requirements.

10. 367 Reuse Meters and Meter Installations ($35,793.12)

Monarch used this category to capture the costs of risers and lids for its Holiday Villages of Fork, Pinnacle Club, and wastewater systems.

11. 370 Receiving Wells ($331,324.00)

This account includes the capitalized cost of constructing, rehabilitating, and replacing wet wells at lift stations and other junction points along the wastewater collection system. Monarch has used this category to capture the cost of raising and rehabilitating manholes that had been observed to be in disrepair. New manholes are installed to connect additional developments to main trunk lines. Manholes need to be raised to suit grade preceding road resurfacing projects.

The following is a more detailed description of the major investments in this category:

- In 2009, Monarch invested $135,140.70 in its Beachwood Estates wastewater system to replace an existing sewer lift station. The existing plant, which was constructed in 1972, had deteriorated, and the buried metal walls were corroded and collapsing. Not only was this lift station unreliable, it was also a safety hazard for operators.
- Monarch invested $102,023.33 in its Tower Terrace wastewater system to construct a lift station wet well, which is part of a larger project to replace the existing wastewater treatment plant that is discussed in the Pumping Equipment section below.

12. 371 Pumping Equipment ($1,744,110.64)

This category includes capital costs for items related to wastewater lift station pumps. Lift station pumps are the vital components of the wastewater system that lift wastewater from wet wells into force mains. In a Gravity sewer system, wastewater flows downhill from customer service lines into collection pipelines and accumulates in wet wells located at low points. Lift stations boost this wastewater into force mains that deliver it to the wastewater treatment plants. Lift station pumps are mechanical devices, and they have moving parts that operate under harsh conditions. They are required to pump municipal sewage containing solids and hydrogen sulfide gases that are abrasive and corrosive to the pumps' moving parts. Over time these harsh conditions cause the pumps to fail and need replacement. Without adequate pumping, wastewater would overwhelm the lift station wet wells and would be discharged to the environment resulting in regulatory violations. In many cases, this pump replacement work was done on an emergency basis.

Pumping equipment starts and stops continuously throughout the day as wastewater accumulates in the wet wells. The reliability of a wastewater system is directly related to the condition of its lift station pumps. To ensure reliability, Monarch replaces or rehabilitates lift station pumps when they fail or when pending failure is evident when their output declines or their energy requirement increases.

Also, Monarch used this category to account for the replacement of grinder pumps. If a sewer line is pressurized (force main) or if the sewer line is located above the customer's wastewater service connection, then a pump is required to lift wastewater from a sump and to pump it into the collection pipeline. This municipal waste contains solids and hydrogen sulfide gases that are abrasive and

corrosive on the pump's moving parts. Over time these harsh conditions cause the pump to fail and need replacement. Without the pump, wastewater would be discharged to the environment or on the resident's property. Much of this work is done on an emergency basis. Monarch spent $1,119,034 on 1,120 pumps in the period in question at an average of $999.14 per pump.

The following is a more detailed description of the major investments in this category:

- In 2005, Monarch invested $84,875.16 in its Tanglewood wastewater system to replace an existing sewer lift station. The existing Smith & Loveless steel lift station was leaking sewer into the ground and had ineffective filter technology that necessitated excessive maintenance including changing out the filters 5 or 6 times a week. Workers had to climb into the lift station to perform maintenance exposing them to safety hazards from gas to potential collapse.

- In 2009, Monarch replaced a lift station in its Tower Terrace water system as part of the project to replace the treatment plant. Specifically, Monarch invested $64,046.94 to replace lift station piping and $59,022.36 to replace electrical controls.

13. <u>380 Treatment and Disposal Equipment ($3,957,506.64)</u>

This account was used to capture capital cost of apparatus, equipment, and other facilities used for the treatment of wastewater. Major cost items in this category are explained in greater detail, and minor cost items are grouped for efficient discussion.

Wastewater treatment is the application of physical and chemical processes to remove undesirable constituents and produce a product of quality that

meets TCEQ requirements. This is of the highest level of importance for wastewater utilities because undesirable water quality can cause damage to the environment. Monarch has treatment equipment that treats wastewater from its collection systems. Wastewater treatment facilities are exposed to extremely corrosive and abrasive forces of the environment and the municipal wastewater stream that passes through them on a continuous basis. Further, the waste stream produces corrosive gases that also cause damage treatment vessels and equipment. Monarch has used this category to capture the cost of replacement or rehabilitation of gate valves, mixers with rail system, clarifiers, a backflow preventer, an influent catch box, an anoxic zone nitrogen removal system, and chlorine injection pumps. These items were replaced or rehabilitated because they had reached the end of their useful life.

Wastewater system operators rely on monitoring equipment to measure water characteristics to determine treatment requirements and treatment effectiveness and to confirm that effluent water quality leaving the plant complies with TCEQ requirements. Monarch has used this category to replace pH monitors, oxygen probes, and mixed liquor probes as they reach the end of the useful life.

Oxygen is required by bacteria that live in the activated sludge process at the wastewater treatment plants. Air is continuously pumped by blowers into the water by way of air diffuser manifold piping. These beneficial microorganisms consume most of the remaining organic materials in the water, and this produces heavier particles that will settle later in the treatment process. With insufficient oxygen, the waste stream becomes anaerobic, the bacteria die, and the treatment process fails to achieve desired pollutant removal. Monarch has also used this

category to capture the capital costs of replacing blowers, air manifold headers, and blower motor starters that have reached the end of the useful life.

Finally, this category has also be used to capture the cost of replacement dosing pumps that pump chemicals such as sodium hyper-chlorite to disinfect wastewater leaving the treatment plant to meet discharge requirements to reduce the impact of bacteria on the environment.

The following is a more detailed description of the major investments in this category:

- In 2009, Monarch invested $696,255.27 in its Beachwood Estates wastewater system to install mechanical equipment in conjunction with the treatment plant replacement project discussed in the "Structures and Improvements" section.

- In 2013, Monarch invested $611,552.34 in its Decker Hills wastewater system to replace the existing wastewater treatment plant that had insufficient capacity to meet TCEQ capacity requirements and that had severe corrosion damage, which resulted in leakage. The replacement plant capacity of 230,000gal/day meets TCEQ requirements, and the new facility provides a greater level of reliability to customers and safety to operators. This project also included the investment of $176,677.35 to install treatment processing equipment and $63,397.77 for controls required to treat wastewater.

- In 2004, Monarch invested $301,057 in its Cherokee Shores wastewater system to construct static mixer improvements because the treatment

plant effluent was not meeting discharge nitrogen discharge requirements. The treatment process was modified, and a different mixer system was installed.

- In 2009, Monarch invested $207,263.04 in its Tower Terrace wastewater system to construct electrical improvements associated with the project to replace the sewer treatment plant described in the Treatment and Disposal Equipment section below. The electrical improvements were required to power blowers and pumps and to control and monitor the treatment process.

- In 2009, Monarch invested $345,380.18 ($200,027.13 + $145,353.05) in its Harbor Point wastewater system to construct submerged membrane filter units as part of the larger project to replace the wastewater treatment plant discussed in the "Structures and Improvements" section above.

- In 2004, Monarch acquired the Carolynn Estates (Pinnacle Club) wastewater system from TECON that included the acquisition of sewer treatment plant for $155,984.86.

- In 2003, Monarch invested $153,198.43 in its Lake Medina Shores wastewater system for consulting engineering services, and earth moving work to construct new spreading ponds to increase the plant's capacity to accommodate new development. Further $86,533.16 was invested for permits, engineering, and construction of a spray irrigation field required to field apply treatment plant effluent and comply with the no discharge permit.

- In 2009, Monarch invested $85,395.94 in its Tower Terrace wastewater system to replace existing yard piping at the wastewater treatment plant.

The existing pipes were failing, and there was a risk of discharging untreated water to the environment.

- In 2009, Monarch invested $66,675.71 in its Harbor Point wastewater system for electrical improvements required to monitor and control treatment equipment. The project was done in conjunction with a larger project to replace existing steel tanks that had reached the end of their useful life.
- In 2009 Monarch invested $64,359.70 in its Beachwood Estates wastewater system to control electrical improvements required to monitor and control treatment equipment. This project was done in conjunction with a larger project to replace existing steel tanks that were leaking and collapsing and that had reached the end of their useful life.

14. <u>381 Plant Sewers ($24,790.64)</u>

Oxygen is required by bacteria that live in the active sludge process at the wastewater treatment plant. Air is continuously pumped by blowers into the water. These beneficial microorganisms consume most of the remaining organic materials that are polluting the water, and this produces heavier particles that will settle later in the treatment process. With insufficient oxygen, the waste stream becomes anaerobic, the bacteria die, and the treatment process fails to achieve desired pollutant removal. Monarch has also used this category to capture the capital costs of replacing blower and blower motors.

15. <u>391 Transportation Equipment ($45,001.55)</u>

This category includes costs for equipment used in construction of repair work. Monarch has included in this category the cost for a backhoe, lawn mowers, and various trailers for transporting equipment.