

**SYSTEM EVALUATION FOR PRESSURE
REDUCTION**

**Rosebrook Water Company
Bretton Woods, New Hampshire**



34 SCHOOL STREET • LITTLETON, NH 03561 • PHONE 603-444-4111 • FAX 603-444-1343 • www.horizonsengineering.com

**SYSTEM EVALUATION FOR PRESSURE REDUCTION
ROSEBROOK WATER COMPANY
BRETTON WOODS, NEW HAMPSHIRE
FOR
ABENAKI WATER COMPANY
PLAINVILLE, CT**

JULY 2016

**Project No. 16134
Horizons Engineering, Inc.**

17 Sunset Terrace
Newport, VT 05855
Ph.: 802-334-6434
Fax: 802-334-5602

34 School Street
Littleton, NH 03561
Ph: 603-444-4111
Fax: 603-444-1343
www.horizonsengineering.com

176 Newport Rd., PO Box 1825
New London, NH 03257
Ph. 603-877-0116
Fax: 603-526-4285



34 SCHOOL STREET • LITTLETON, NH 03561 • PHONE 603-444-4111 • FAX 603-444-1343 • www.horizonsengineering.com

Project No. 16134
July 15, 2016

Messrs. Donald Vaughan and Thomas Hansen
Abenaki Water Company
7 Northwest Drive
Plainville, CT 06062
(860) 747-1665

Subject: Rosebrook Water Company – System Evaluation for Pressure Reduction

Dear Mr. Vaughan and Mr. Hansen:

In accordance with our agreement dated May 11, 2016 and your Purchase Order #1926, we have completed an evaluation for the reduction in system pressures in the Rosebrook Water system in Bretton Woods, New Hampshire. This effort was completed to address significant concerns related to high system pressures and the effect those pressures have had on the system, including premature material and equipment failures and lengthy losses in potable water service and fire protection. System pressure reduction is important to improve system reliability and reduce risk for system operators, users, and the public at large.

If you have any questions or need any additional information, please feel free to call. Thank you for the opportunity to be of service.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Stephen M. LaFrance'.

Stephen M. LaFrance, P.E.
Principal Engineer
Horizons Engineering, Inc.

T:\16134 New England Service Co - Rosebrook Water\DOCS\Reports\Rosebrook Water Utility Report.doc

17 Sunset Terrace
Newport, VT 05855
Ph.: 802-334-6434
Fax: 802-334-5602

34 School Street
Littleton, NH 03561
Ph: 603-444-4111
Fax: 603-444-1343
www.horizonsengineering.com

176 Newport Rd., PO Box 1825
New London, NH 03257
Ph. 603-877-0116
Fax: 603-526-4285

TABLE OF CONTENTS

System Overview/Components.....	1
Wells and Well Field.....	1
Pump Station.....	1
Atmospheric Storage Tank.....	2
Distribution System.....	2
System Demands.....	2
System Pressures.....	2
Concerns Related to Reduction in System Pressures.....	3
Impact on existing high elevation users.....	3
Impact on existing fire flows and sprinkler flows.....	4
Impact on future development at high elevation.....	4
Conceptual Improvements for Pressure Reduction.....	5
Opinion of Probable Project Cost for Improvement Options.....	6
Conclusions and Recommendations.....	6
Scheduling of Improvements.....	7

.

APPENDICES

Appendix A-Rosebrook Water Company, Inc. - Customer Meter Size and Type

Appendix B-Site Plan Dartmouth Brook Residential Area for Bretton Woods Land Co., Inc.

Appendix C-Well Pumping/Water Usage Records 2015/2016

Appendix D-Rosebrook Water Company, Inc. - Conceptual System Improvements for Pressure Reduction

Appendix E-Opinion of Probable Project Cost

System Overview/Components

The Rosebrook Water Company, Inc. operates the Rosebrook Water System (PWS ID 0382010) to provide domestic water supply and fire suppression to users in Bretton Woods, New Hampshire. The system serves the Mount Washington Hotel and Bretton Woods Ski Resort complex as well as single and multi-family residential and small commercial customers within the service area. The Rosebrook Water System is designated by the New Hampshire Department of Environmental Services (NHDES) as a Large Community Water System (a public water system serving a population greater than 1,000 or providing flow for fire suppression). NHDES records indicate the system serves a population of 1,050 through 408 services connections. Major system components include two gravel packed production wells, a pump house, a 650,000 gallon atmospheric storage tank, and distribution piping and appurtenances.

Wells and Well Field

The system has two sand and gravel production wells located to the north of the Bretton Woods Base Lodge and to the south of Drummond Mountain Shop on Route 302.

Well #1 is a 43 foot deep gravel-packed production well with a reported yield of 322 gallons per minute and a static water level of approximately 6 feet below ground surface. Well #1 was installed in 1970 during the original construction of the water system and is located inside the pump station building. Currently Well #1 is equipped with an American Industrial 50 horsepower 10-stage vertical turbine pump. This pump has a reported pumping capacity of approximately 325 gallons per minute. As Well #1 was installed prior to adoption of NHDES Groundwater Withdrawal Rules Env-Ws 379 and 388, this well has not been assigned a permitted production volume.

Well #2 is a 52 foot deep gravel packed production well with a reported yield of 450 gallons per minute. The well is located approximately 90 feet to the southeast of the pump station. Well #2 was installed in the 1990s and received NHDES Conditional Approval in July of 2003. The well is currently equipped with a Goulds 60 horsepower, 480-volt, 3-phase pump set at 30 feet, with an estimated pumping capacity of 425 gallons per minute. NHDES has assigned Well #2 a daily permitted production volume of 540,000 gallons (375 gallons per minute based on continuous pumping)

Pump Station

The Rosebrook pump station consists of a single-story metal-framed building constructed on a concrete slab. The building is in good condition, having been rebuilt after a piping failure and flooding incident in 2008. The pump station does not contain any booster pumps or hydropneumatic storage. The well pumps are configured to operate based on water level in the atmospheric storage tank. These pumps provide the sole source of head for the system. The pump station building houses the Well #1 well head and drive motor along with a chemical feed pump for water treatment, system controls and alarms for both wells, and various tools, spare parts, and supplies.

Atmospheric Storage Tank

Atmospheric storage consists of a single partially buried cast in place concrete storage tank with a metal truss roof, constructed in the early 1970s. The tank is ninety feet in diameter and has a capacity of 650,000 gallons. The tank is located within the Bretton Woods Ski Area at an approximate elevation of 2,010 feet. Within the last 15 years the tank has undergone repairs to address deterioration of the roof, including installation of a new roof covering system of polystyrene insulation and EPDM membrane in 2012.

Distribution System

The system consists primarily of cement-lined ductile iron and C900 PVC water mains. The system contains a total of approximately 32,600 feet of water main. Service connections consist primarily of type “K” copper with brass fittings. System pressures reportedly range from 50 to 185 pounds per square inch. Service connections at lower elevations are equipped with individual pressure reducing valves. The system is equipped with fire hydrants for fire suppression and water mains appear to be adequately sized to provide fire flow. Some of the gate valves in the system (e.g. the 16 inch valve at the intersection of Route 302 and the Cog Railway Base Road) are inoperable.

System Demands

Pumping records are maintained for the two water supply wells and are provided in Appendix C. Average daily demand over the 2015 calendar year was approximately 110,000 gallons. The peak month was January with an average daily demand of 131,616 gallons and a peak pumping day of 279,900 gallons on January 31, 2015.

System Pressures

Due to the significant grade differential between the lower service areas and the operating level of the atmospheric storage tank, parts of the Rosebrook system have very high static and working pressures. As noted earlier, the storage tank is located at elevation 2010+/- . Elevations along Route 302 and the Base Road near the intersection with Route 302 are approximately 1,575, resulting in static water system pressures in excess of 180 psi. The elevation at the end of River’s Edge Road, one of the lowest points on the system, is 1570, with static pressures of nearly 190 psi.

These high system pressures have caused issues in the past including failed hydrants, isolation valves, and service connections. Although there are design and operational considerations that must be addressed with any plan to reduce system pressures, there are legitimate concerns with current operations. The high pressures are a safety concern, result in excessive wear and tear on pumping equipment, piping, and appurtenances, and lead to premature equipment and material failures. There have been several severe leaks as a result of high system pressures, including a catastrophic failure of a fitting in the well pump station that resulted in loss of potable water and fire protection throughout the system for an extended period of time. The repairs were very costly (over \$100,000) and not covered by insurance. There are also a number of valves in the

system that either do not function at all, or are only partially operable due to high system pressures.

These issues can be expected to continue and likely worsen as time goes on and system components age. These failures will at times lead to loss of potable water service and fire protection, which puts the users and residents at risk.

If system pressures can be effectively reduced, it will result in a system that is safer to operate, some operation and maintenance and pumping costs will be reduced, there will be less reliance on individual service pressure reducing valves (PRVs) for system control, and system leakage will be reduced.

Over the years there have been discussions about system modifications to reduce operating pressures. Assuming that the wells, pump station, atmospheric storage tank, and transmission main(s) remain in their present locations because of the large capital investment and cost to relocate, the installation of PRVs has been considered the most viable alternative. The installation of PRVs would require one or more booster stations to re-pressurize the system to reach existing higher elevation service connections.

The backbone of the system is the existing 16 inch diameter ductile iron transmission main the connects the well pump house on the north side of the Ammonoosuc River behind the Drummond Mountain Shop to the atmospheric storage tank to the south at the Bretton Woods Ski Area. There are a number of interconnections off this transmission main that act both as direct service connections (e.g. the Ski Lodge), as well as distribution mains to the Crawford Ridge/Presidential View/Riverfront developments, Rosebrook Townhomes, and Forest Cottages. Just outside the pump house, there is a tee to a 16 inch diameter ductile iron main the passes under Route 302 and along the Cog Railway Base Road and services the residential developments to the west as well as the Mt. Washington Hotel complex.

Concerns Related to Reduction in System Pressure

There are three primary concerns related to reducing system pressures; summarized as follows:

Impact on existing high elevation users

There are several existing residential developments at higher elevations on the system. The uppermost residential building at the Mountain View development is at a ground elevation of 1,810, which equates to a current static pressure of 85 psi. The uppermost residential building at Dartmouth Ridge Homes is at a ground elevation of 1,825, which equates to a current static pressure of 80 psi. The uppermost residential unit at Presidential Views is at a ground elevation of 1,845, which equates to a current static pressure of 70 psi.

New Hampshire Department of Environmental Services Drinking Water & Groundwater standards require a typical minimum residual pressure of 35 psi and an absolute minimum operating pressure of 20 psi (typically under rare fire flow conditions). Assuming at present that Presidential Views is the controlling development, system pressures could be lowered approximately 25 psi and still meet NHDES standards without the need to re-pump. This

estimate is based simply on relative elevations and static pressure conditions and would need to be confirmed with flow testing and hydraulic modeling.

Impact on existing fire flows and sprinkler flows

Reduction in operating pressure will reduce available fire flows throughout the system. Reductions will likely not be of consequence at lower elevations with high operating pressures, but will become more significant at the higher elevations at the ends of the system. Should the decision be made to further evaluate reductions in system pressure, hydrant flow testing and hydraulic modeling of the system at key locations such as at Presidential View, Dartmouth Ridge Homes and Stone Hill is recommended to ensure adequate fire flows are maintained. Given the high service pressures at present and the intent to provide a 100-120 psi ceiling pressure, maintenance of sufficient fire flows is not expected to be difficult.

The larger commercial buildings on the system such as the Mt. Washington Hotel, the Bretton Arms, the Golf/Nordic Center, the Bretton Woods Ski Area Base Lodge, etc. are protected by sprinkler systems that rely on the Rosebrook system for supply. These systems were originally designed based on existing system pressures. The effect of reduced system pressures should be evaluated to ensure that adequate sprinkler flows are maintained. Several calls have been placed to Mr. Kolin Bailey, Director of Engineering at Omni Hotels, for information regarding the system designs and operating parameters. A return call has not been received to date.

Impact on future development at high elevation

The Rosebrook water system was originally constructed to support development of the Bretton Woods Ski Area and associated residential and commercial development. Water main extensions and system upgrades have been made periodically to extend service to new developments and in some cases such as the extension to the Mt. Washington Hotel, to existing developments and structures that abandoned previous water supplies.

A significant amount of undeveloped land remains within the likely service area of the Rosebrook system. Plans have been developed to extend service on Crawford Ridge Road beyond the existing Presidential Views residences into the Town of Bethlehem. This development could extend up to elevation 1900, which would require all the system pressure currently provided by the system.

Plans have also been prepared for residential development to the north of the Base Road, above Dartmouth Ridge Homes. A copy of a subdivision and phasing plan prepared for Bretton Woods Land Co., LLC in 2009 can be found in Appendix B. This development extended to high elevations that also would need system pressures as they exist today. The uppermost and most northerly lot in the proposed development (DB-141) was identified as a future atmospheric storage tank location. The tank was intended to be set at the same elevation as the existing storage tank (2,010+/-) to provide additional storage and fire protection. The first phase of the development was fully designed and permitted but was not constructed due to a downturn in the economy, and remains a possibility in the future.

Conceptual Improvements for Pressure Reduction

At the direction of the system owner, a conceptual plan has been developed to reduce system pressures to a target maximum of 100 psi static. The plan maintains key components of the existing system such as the two gravel production wells, the transmission and distribution mains, and the 650,000 gallon atmospheric storage tank in the present locations to minimize disruption and project cost. The key components of the improvements are shown on the site plan in Appendix D and outlined as follows:

- Replace existing well pumps in Well #1 and Well #2 with two new well pumps capable of the same flow rates (325 gpm for Well #1 and 425 gpm for Well #2) at a discharge pressure of 100 psi. This will reduce the system pressure at the pump station from approximately 185 psi to 100 psi at a new system grade line of 1,810 +/- . The well pumps will continue to be controlled by the water level(s) in the 650,000 gallon atmospheric storage tank.
- Construct a new booster station on the existing 16 inch diameter transmission main from the pump station to the storage tank (see Storage Tank Booster Station on plan in Appendix D). This booster station is necessary to boost water from the proposed system grade line of 1,810 up to the existing storage tank elevation of 2,010 +/- . The booster station would be located adjacent to the Rosebrook Townhomes residential development at an elevation of 1,680 +/- . The station must be located below the distribution mains to Rosebrook Townhomes and Mountain Views to allow those developments to utilize the 2,010 storage tank grade line. The station would have duplex centrifugal pumps capable of 425 gallons per minute to match the output of Well #2. The booster station would be controlled by water level(s) in the atmospheric storage tank and would start and stop in conjunction with the well pumps.
- Install a bypass line and pressure reducing valve (PRV) in the Storage Tank Booster Station to allow water from the storage tank to back feed and supply the Rosebrook system. The valve would have an inlet pressure of approximately 140 psi and an outlet pressure of approximately 55 psi.
- Install a PRV (Rosebrook Townhomes PRV) on the existing 10 inch diameter PVC main on Rosebrook Lane to reduce system pressures from the 2,010 storage tank grade line to the 1,810 well pump station grade line. The valve would have an inlet pressure of approximately 120 psi and an outlet pressure of approximately 35 psi.
- Construct a new booster station (Crawford Ridge Booster Station) on the existing 12 inch diameter distribution main along Crawford Ridge Drive. This booster station is necessary to boost water from the proposed system grade line of 1,810 up to the highest user(s) in the Presidential Views development. A grade line of approximately 1,950 would be required to provide a static pressure of 45 psi at the highest user. The booster station would be located adjacent to Crawford Drive at an elevation of 1,710 +/- . The station would include multi-plex VFD centrifugal pumps and small hydropneumatic tank capable of maintaining system pressure and meeting the peak instantaneous demand of

the residential units at Presidential Views and the higher elevations of Crawford Ridge. Since there is no storage downstream of the proposed booster station, an emergency generator and automatic transfer switch is recommended to maintain water supply in the event of a power outage. The booster station would be capable of fire flows with adequately sized pumps, and would be fitted with fire hydrants upstream and downstream for bypass as an additional safety measure.

- Construct a new booster station (Mt. Washington Place Booster Station) on the existing 8 inch diameter distribution main along Hannah Loop. This booster station is necessary to boost water from the proposed system grade line of 1,810 up to the highest user(s) in the Dartmouth Ridge Homes development. A grade line of approximately 1,945 would be required to provide a static pressure of 45 psi at the highest user. The booster station would be located adjacent to Hannah Loop at an elevation of 1,680 +/- . The station would include multi-plex VFD centrifugal pumps and hydropneumatic tank capable of maintaining system pressure and meeting the peak instantaneous demand of the residential units at Dartmouth Ridge Homes and the higher elevations of Mt. Washington Place. Like the Crawford Ridge station, there is no storage downstream, so an emergency generator and automatic transfer switch is recommended to maintain water supply in the event of a power outage. The booster station would be capable of fire flows with adequately sized pumps, and would be fitted with fire hydrants upstream and downstream for bypass as an additional safety measure.
- Construct a 350 linear foot eight inch diameter water main extension from the end of Mt. Adams Lane cross country to Dartmouth Ridge Lane to connect two dead end mains. This connecting water main will provide pressure from the proposed Mt. Washington Place Booster Station to the higher users on Mt. Adams Lane and also improve water quality by removing dead ends.
- Install a new PRV at the intersection of Mt. Adams Lane and Hartford Lane to reduce system pressures from the 1,945 grade line to the 1,810 grade line. The valve would have an inlet pressure of approximately 105 psi and an outlet pressure of approximately 45 psi.

Opinion of Probable Project Cost for Improvement Options

An opinion of probable project cost has been prepared and included in Appendix E. The opinion includes an estimate of construction cost as well as a 15% contingency and an allowance for soft costs including land, legal fees, administration, and engineering.

Conclusions and Recommendations

The Rosebrook system currently operates with working pressures that are excessive. The working pressures pose a potential safety hazard and lead to premature wear and failure of equipment, piping, and appurtenances. System pressures can be reduced to a maximum of 100-120 psi with the installation of pressure reducing valves in key locations in the system. Due to

the broad elevation changes in the service area, pressure reductions must be countered with booster stations to continue to adequately serve higher elevation service connections.

The conceptual design that has been prepared envisions new well pumps and controls to reduce the system pressure at the well pump station from 185 psi to 100 psi. In addition, three booster stations and three pressure reducing valves are proposed to provide a minimum of approximately 45 psi static pressure to all existing users on the system. Finally, a 350 linear foot water main extension/connection is proposed to provide service to high elevation users in Dartmouth Brook. The total estimated cost for the proposed improvements is \$1,410,000 including contingency and soft costs.

As Rosebrook Water Company, Inc. evaluates the proposed project further, we recommend the following:

- Conduct a review of existing sprinkler system flow requirements and hydrant fire flow requirements at key locations in the system.
- Confirm interpolated elevations for the existing storage tank and proposed booster station and PRV locations.
- Determine allowable system pressure reduction through hydrant testing and hydraulic modeling.
- Investigate options for booster station locations and required land purchases.
- Prepare preliminary design for the well pumps, pressure reducing valves, booster stations, water main connection, etc. to provide desired system pressures and flows.
- Revise opinions of probable project cost for the proposed improvements based on the refined designs.

Scheduling of Improvements

The proposed improvements are inextricably linked and must be completed together for the system to function properly. The booster pump stations (Storage Tank Booster Station, Mt. Washington Place Booster Station, and Crawford Ridge Booster Station) must be installed and operational before system pressures are reduced with a change in well pumps or the installation of the PRVs. Once the stations are installed, system pressures can be maintained at the higher elevations and lowered to the maximum target pressure of 100 +/- psi in the lower elevations.

Design and permitting can be expected to take approximately 90 days to complete. Construction of the booster stations would require an additional 90 days. Well pumps and pump station modifications, PRV vault installations, and the proposed eight inch diameter water main connection on Mt. Adams Lane could be accomplished in approximately 45 days.

APPENDIX A
Rosebrook Water Company, Inc.
Customer Meter Size and Type

Rosebrook Water Company Inc.
Customer Meter Size & Type
June 17, 2016

Association/Business+	Customer	Customer Type	Register ID:	Meter Size	Meter Type	Meter Count
COMMERCIAL:	200A BW Irving Store	Commercial	08664141	5/8"	Sensus	5/8" = 361
	201 Drummonds Ski Shop	Commercial	NO REMOTE	5/8"	Sensus-old	1" = 45
	Total: 3 203 Real Estate Office/Peabody & Smith	Commercial	NO REMOTE	5/8"	Rockwell	2" = 2
						3" = 3
HOTEL & ENTITIES:	202 Hotel-Omni Mt Wash Hotel	Hotel Entity	EBCS6EB	6"	Badger	6" = 1
	BW Admin Bldg.	Hotel Entity	NO REMOTE	1"	Sensus	Total: 412
	BW Alpine Club-KITCHEN	Hotel Entity	NO REMOTE	1"	Sensus	
	BW Apline Club-BATHRM TRAILER	Hotel Entity	73296636	5/8"	Sensus	
	BW Arms	Hotel Entity	45862316	1"	Badger	
	BW Caretakers Home	Hotel Entity	ANALOG	5/8"		
	BW Fabyans	Hotel Entity	NO REMOTE	5/8"	ICE?	
	BW First Aid Bldg	Hotel Entity	NO REMOTE	5/8"	Sensus	
	BW Golf/Nordic Building	Hotel Entity	45862318	1"	Badger	
	BW O/D Pool & Cabana	Hotel Entity	63408013	2"	Sensus	
	BW Ski Area	Hotel Entity	NO REMOTE	2"		
	BW Ski Area-Maintenance Bldg	Hotel Entity	35986259	5/8"	Badger	
	BW Spa Building	Hotel Entity	02925660	3"	Sensus	
	BW Sports Club/Rosebrook Rec Center	Blg. Closed removed meter				
	BW Stables	Hotel Entity	35986245	5/8"	Badger	
	BW #337123 portable hydrant meter	Hotel Entity	337123	3"	Sportster	
	Total: 14 + 2 hydrant meters BW #337124 portable hydrant meter	Hotel Entity	337124	3"	Sportster	
CRAWFORD RIDGE:	CR01 Nelson, George & Kirsten	Active	51946552	5/8"	Sensus	
	CR02 Banks, Clarence & Maria	Active	51946535	5/8"	Sensus	
	CR03 Shumakin, Kosta & Helena	Active	51946534	5/8"	Sensus	
	CR04 Revers, Daniel & Lise	Active	51946551	5/8"	Sensus	
	CR05 Benoit, Michael & Donna	Active	51946537	5/8"	Sensus	
	CR06 Smail, Peter & Maria	Active	51946554	5/8"	Sensus	
	CR07 Milligan, Michael	Active	51946555	5/8"	Sensus	
	CR08 Hanson, Michael & Janet	Active	51946550	5/8"	Sensus	
	CR09 Relyea, Douglas & Kathleen	Active	57079494	5/8"	Sensus	
	CR10 McGloin, Jonathan & Sherry	Active	ANALOG	5/8"	Sensus	
	CR11 Foti, Alessandro	Active	63518471	5/8"	Sensus	
	CR12 Thomas, Jo-Ellen	Active	06892404	5/8"	Sensus	
	CR13 Potter, Brian & Robin	Active	55988888	5/8"	Sensus	
	CR14 Baker, Scott	Active	55988889	5/8"	Sensus	
	CR15 Southworth & Saisa	Active	13098704	5/8"	Sensus	
	CR16 Toran, Richard & Ann	Active	13213198	5/8"	Sensus	
	CR17 Falvey-Vantangoli, Karen	Active	09929294	5/8"	Sensus	

Rosebrook Water Company Inc.
Customer Meter Size & Type
June 17, 2016

Association/Business+	Customer	Customer Type	Register ID:	Meter Size	Meter Type	Meter Count
	CR18 McSherry, Stephen & Christine	Active	09980563	5/8"	Sensus	
	CR19 Farrell, Daniel & Sue	Active	63518475	5/8"	Sensus	
	CR20 Van Fleet, Bruce & Lisa	Active	09965987	5/8"	Sensus	
	CR21 Alphas Trust	Active	08635889	5/8"	Sensus	
Total: 22	CR22 Beauchesne, Bryan & Danielle	Active	08648465	5/8"	Sensus	
DARTMOUTH RIDGE:	DR01 Formisano, Ed & Mary Louise	Active	59616024	5/8"		
Single Family Homes	DR02 Birknes	Active	52214174	5/8"		
	DR03 Vaughan, Patrick & Kathleen L.	Active	52512379	5/8"		
	DR05 Oliver, Al & Connie	Active	09562834	5/8"		
	DR10 Perry & Gilmore	Active	09819852	5/8"		
	DR11 Schiess, Reed	Active	52862855	5/8"		
	DR12 Finn, Michael & Linda	Active	52214173	5/8"		
	DR13 Whitton, Richard & Barbara	Active	52214171	5/8"		
	DR16 Miller, Bode	Active	58207872	1"	Sensus	
	DR17 Manning, Robert & Donna	Active	52512383	5/8"		
	**DR17a Manning/2nd meter	Active	35986244	5/8"	Badger	
	DR20 Whalen, Charles	Active	35986241	5/8"	Badger	
	DR26 Infanti, James & Kathi	Active	62266802	1"	Sensus	
	DR27 Sullivan, Mark & Cheryl	Active	73296638	5/8"	Sensus	
Total: 15	DR29 Shea, Michael & Kathleen	Active	72933995	5/8"	Sensus	
FOREST COTTAGE:	FC01 Wirth, Cathy	Active	71003801	5/8"	Elster	
	FC02 Wirth, Theodore & Cathy	Active	ANALOG	5/8"		
	FC03 Hurley, David & Elaine	Active	57519013	5/8"		
	FC04 Torres & Foltz	Active	61135339	5/8"		
	FC05 Buras, Jennifer	Active	57519060	5/8"		
	FC06 Rose, Tony	Active	73296633	5/8"	Sensus	
	FC07 Grossman & Coyle	Active	ANALOG	5/8"		
	FC08 George, Philip & Denise	Active	7326632	5/8"	Sensus	
	FC09 Kloeblen, Steve	Active	ANALOG	5/8"		
	FC10 Luongo, Paul & Marilyn	Active	ANALOG	5/8"		
	FC11 Dunham, Donald & Joan	Active	ANALOG	5/8"		
	FC12 George, Philip & Denise	Active	ANALOG	5/8"		
	FC13 Crimmins & Robinson	Active	ANALOG	5/8"		
	FC14 George, Philip & Denise	Active	ANALOG	5/8"		
	FC15 Forrest, Michael & Janice	Active	ANALOG	5/8"		
	FC16 Dunham, Donald & Joan	Active	52512392	5/8"		
	FC17 Eland, Alan & Joanne	Active	ANALOG	5/8"		

Rosebrook Water Company Inc. Customer Meter Size & Type

June 17, 2016

Association/Business+	Customer	Customer Type	Register ID:	Meter Size	Meter Type	Meter Count
	FC18 Wilson, Robert & Joan	Active	ANALOG	5/8"	Elster	
	FC19 Johnson, Karl & Paulette	Active	71003785	5/8"		
	FC20 Barous, Frank	Active	ANALOG	5/8"		
	FC21 McMorro, Daniel & Marianne	Active	7003921	5/8"		
	FC22 Remondi, Stephen & Kristen	Active	ANALOG	5/8"		
	FC23 Grayson, John & Lori	Active	57079497	5/8"		
	FC24 Molleur, Danielle	Active	ANALOG	5/8"		
	FC25 Stevenson & Brewer	Active	ANALOG	5/8"		
	FC26 Charette, George & Karen	Active	ANALOG	5/8"		
	FC27 Gill, Kevin & Rita	Active	08659844	5/8"		
	FC28 Jones, Jay & Debra	Active	ANALOG	5/8"		
	FC29 Fournier/"F Camp Family Trust"	Active	54968898	5/8"		
	FC30 Giannelli, Tom & Andrea	Active	ANALOG	5/8"		
	FC31 Johnson, Gary	Active	ANALOG	5/8"		
	FC32 Losordo, Peter & Karen	Active	ANALOG	5/8"		
	FC33 Penacho Family Trust	Active	54968901	5/8"		
	FC34 Botsivales, Greg	Active	ANALOG	5/8"		
	FC35 Ferguson, Paul & Amy	Active	ANALOG	5/8"		
	FC36 Lees, John & Pam	Active	ANALOG	5/8"		
	FC37 Quinlan, Kevin & Joanna	Active	ANALOG	5/8"		
	FC38 Graves, John & Suzanne	Active	ANALOG	5/8"		
	FC39 Ricciardi, Bernadette	Active	ANALOG	5/8"		
	FC40 JJZM Investment Co. LLC	Active	ANALOG	5/8"		
	FC41 San Antonio, Richard & Pamela	Active	62018055	5/8"		
	FC42 Dwyer, Lawrence	Active	62018058	5/8"		
	FC43 Rani Realty Trust	Active	54968899	5/8"		
	FC44 Osborn, Jason & Karen	Active	ANALOG	5/8"		
	FC45 Mongeau, Paul & Deborah	Active	ANALOG	5/8"		
	FC46 Schaier, Warren & Sandy	Active	ANALOG	5/8"		
	FC47 Blanchard, Ronald & Diane	Active	ANALOG	5/8"		
	FC48 Murphy, Henry & Mary	Active	ANALOG	5/8"		
	FC49 Barr, James & Jane	Active	ANALOG	5/8"		
	FC50 McQueeney, Owen & Sue	Active	ANALOG	5/8"	Sensus	
	FC51 Penner, Terry & Michele	Active	72933994	5/8"		
	FC52 Miller, Jeffery & Cynthia	Active	ANALOG	5/8"		
	FC53 Squires, Bob & Robin	Active	ANALOG	5/8"		
Total: 54	FC54 Hatch, William & Marguerite	Active	61135340	5/8"	Sensus	
FAIRWAY VILLAGE:	FV01 Monica & Horan	Active	07193974	5/8"	Sensus	

Rosebrook Water Company Inc.
Customer Meter Size & Type
June 17, 2016

Association/Business+	Customer	Customer Type	Register ID:	Meter Size	Meter Type	Meter Count
	FV02 Keane, Brian & Theresa	Active	06894980	5/8"	Sensus	
	FV03 Apple, Leslie	Active	ANALOG	5/8"	Rockwell	
	FV04 Harmon, Robert & Rose Ellen	Active	ANALOG	5/8"	Rockwell	
	FV05 Keyser, Donald & Anne	Active	54949860	5/8"	Sensus	
	FV06 Dolan & Connly	Active	54949865	5/8"	Sensus	
	FV07 Mueller, Andreas & Birgit	Active	08907595	5/8"	Sensus	
	FV08 Gibson, Jay & Mary Pat	Active	07172591	5/8"	Sensus	
	FV09 Mordecai & Robbins	Active	54949862	5/8"	Sensus	
	FV10 Dirs, Albert & Elise	Active	54949863	5/8"	Sensus	
	FV11 Seager, John S. & Linda	Active	07048024	5/8"	Sensus	
	FV12 Daft, Ed & Lisa	Active	07189359	5/8"	Sensus	
	FV13 St. Sauveur, Ronald & Susan	Active	ANALOG	5/8"	Rockwell	
	FV14 Ashe, Terry & Megan	Active	ANALOG	5/8"	Rockwell	
	FV15 Early, Jim & Jane	Active	55988881	5/8"	Sensus	
	FV16 Cox, Gregory & Alisha	Active	55323173	5/8"	Sensus	
	FV17 Cary, Lee B.	Active	07208121	5/8"	Sensus	
	FV18 Cary, Lee B.	Active	07212535	5/8"	Sensus	
	FV19 Pasalic, Sandi & Sener	Active	55323169	5/8"	Sensus	
	FV20 Sweeney, John & Dianne	Active	55322348	5/8"	Sensus	
	FV21 KIGS Enterprises/Kammann	Active	ANALOG	5/8"	Sensus	
	FV22 Molloy, Tracey	Active	ANALOG	5/8"	Sensus	
	FV23 Apple, Roy & Sharon	Active	62018057	5/8"	Sensus	
	FV24 Renner & Kirsch	Active	54968897	5/8"	Sensus	
	FV25 Bauchspies, Barbara	Active	55323174	5/8"	Sensus	
	FV26 Blanche, Jeremy & Julie	Active	09519611	5/8"	Sensus	
	FV27 Poche, Michael & Marjorie	Active	ANALOG	5/8"	Rockwell	
	FV28 O'Brien, Joseph	Active	ANALOG	5/8"	Rockwell	
	FV29 Apple, Fred & Jan	Active	57518568	5/8"	Sensus	
	FV30 Grondine, Leo & Maryann	Active	57518572	5/8"	Sensus	
	FV31 Urban, Steven & Maria	Active	57409106	5/8"	Sensus	
	FV32 Polinger, Shirley	Active	54968902	5/8"	Sensus	
	FV33 Hague & Hanley	Active	ANALOG	5/8"	Rockwell	
	FV34 Haahes, Paul & Geraldyn	Active	57409105	5/8"	Sensus	
	FV35 Elwell, Leon & Carol	Active	ANALOG	5/8"	Rockwell	
	FV36 Catherine, John & Melinda	Active	73296637	5/8"	Sensus	
	FV37 Roy, David & Jessica	Active	57409109	5/8"	Sensus	
	FV38 Bencivenga, Anthony & Lynn	Active	ANALOG	5/8"	Rockwell	
	FV39 Koplowsky, Meyer	Active	ANALOG	5/8"	Rockwell	
	FV40 Koplowsky, Meyer	Active	ANALOG	5/8"	Rockwell	

Rosebrook Water Company Inc.
Customer Meter Size & Type
June 17, 2016

Association/Business+	Customer	Customer Type	Register ID:	Meter Size	Meter Type	Meter Count
	FV41 Trott, John & Tracey	Active	ANALOG	5/8"	Rockwell	
	FV42 Long & Brewer	Active	35975334	5/8"	Badger	
	FV43 Fusco, Theresa	Active	ANALOG	5/8"	Rockwell	
	FV44 Heath, Jack & Patty	Active	ANALOG	5/8"	Rockwell	
	FV45 Spinello, John A.	Active	ANALOG	5/8"	Rockwell	
	FV46 Lawson, Richard & Barbara	Active	ANALOG	5/8"	Rockwell	
	FV47 Corkery, Tim & Linda	Active	73296635	5/8"	Sensus	
	FV48 Gaudette, Eugene	Active	ANALOG	5/8"	Rockwell	
	FV49 St. Peter, Robert	Active	ANALOG	5/8"	Rockwell	
Total: 50	FV50 Latimer, Chris E. & Patricia	Active	ANALOG	5/8"	Rockwell	
MT. WASHINGTON HOMES:	MH01 Hegarty, Christopher & Joyce	Active	52862854	5/8"	Sensus	
Single Family Homes	MH03 Dopfel, Alan	Active	62266803	1"	Sensus	
	MH08 Rhodes, Matthew & Cindy	Active	62033392	1"	Sensus	
	MH12 Reynolds, Donald & Donna	Active	02623851	5/8"		
	MH14 Strasser, Allen	Active	56143451	1"	Sensus	
	MH16 Xue, Mei	Active	52862856	5/8"	Sensus	
	MH19 Woods, William & Lila	Active	52862859	5/8"	Sensus	
	MH20 Glendon, David	Active	52862857	5/8"		
Total: 9	MH21 Atkinson, Gaynor	Active	62033391	1"	Sensus	
MT. MADISON:	MM01 Griner, Gregg & Maria	Active	54884729	1"	Sensus	
	MM02 Gatton, Richard J.	Active	54884728	1"	Sensus	
	MM03 Cargill, William & Alicia	Active	54413057	1"	Sensus	
	MM04 Koplow, Meyer	Active	54413058	1"	Sensus	
	MM05 Weisman, Robert & Vanessa	Active	61116194	1"	Sensus	
	MM06 Berger, James & Lisa	Active	58207873	1"	Sensus	
	MM07 Tang & Kainz	Active	58207875	1"	Sensus	
	MM08 O'Shea, Timothy & Corinne	Active	58207876	1"	Sensus	
	MM09 Borek, Robert & Beth	Active	54884736	1"	Sensus	
Total: 10	MM10 Collins, Christopher & Sandra	Active	54884735	1"	Sensus	
MOUNTAIN VIEW:	MV101 Festa, Michael & Martha	Active	09658680	5/8"	Sensus	
fka: Rosebrook Club	MV102 Skilton, Brian & Deirdre	Active	09572422	5/8"	Sensus	
	MV103 Mueller, Paul & Deborah	Active	09572419	5/8"	Sensus	
	MV104 Atkinson, Gaynor	Active	09574445	5/8"	Sensus	
	MV201 Sullivan, Michael	Active	12949758	5/8"	Sensus	
	MV202 Ryan, Michele	Active	12811289	5/8"	Sensus	
	MV203 Donahue, John & Patricia	Active	12953265	5/8"	Sensus	

Rosebrook Water Company Inc.
Customer Meter Size & Type
June 17, 2016

Association/Business+	Customer	Customer Type	Register ID:	Meter Size	Meter Type	Meter Count
	MV204 Waugh, Scott & Kimberly	Active	12877800	5/8"	Sensus	
	MV301 Alphas, John & Sharon	Active	30267357	5/8"	Sensus	
	MV302 Smith, Joseph & Mary Jo	Active	63518480	5/8"	Sensus	
	MV303 Morris, Peter & Heather	Active	63518479	5/8"	Sensus	
	MV304 Leeman & McLaughlin	Active	30267368	5/8"	Sensus	
	MV401 Pappalardo, Karen	Active	51946553	5/8"	Sensus	
	MV402 Casey, Mark	Active	51946532	5/8"	Sensus	
Total: 15	MV403 Page & Trahan	Active	51367085	5/8"	Sensus	
MT. WASHINGTON PLACE:						
	MW01 PiSierra & O'Connor	Active	55751688	5/8"		
	MW02 Falkenberry, Stephen & Allison	Active	08635770	5/8"		
	MW03 Coffman, David & Barbara	Active	57518666	5/8"		
	MW04 Korona, John & Kathleen	Active	ANALOG	5/8"		
	MW05 Scheidemantel & Boatwright	Active	ANALOG	5/8"		
	MW06 Taylor, Kim	Active	52512396	5/8"		
	MW07 Mullins, James & Eileen	Active	ANALOG	5/8"		
	MW08 McGoldrick, Neil & Amy	Active	ANALOG	5/8"		
	MW09 Rose, Matthew & Katherine	Active	57518665	5/8"		
	MW10 Toomey, William	Active	ANALOG	5/8"		
	MW100 Smith, Winthrop	Active	09027657	5/8"		
	MW101 Wyatt, Peter & Nancy	Active	07193086	5/8"		
	MW102 Alvarez, Austin & Carol	Active	07185267	5/8"	Sensus	
	MW103 Schwartz, James	Active	07048027	5/8"	Sensus	
	MW104 McCarthy, George & Nancy	Active	ANALOG	5/8"	Sensus	
	MW104A Viens, Arthur	Active	ANALOG	5/8"	Sensus	
	MW105 Roome, Ted & Cathy	Active	ANALOG	5/8"	Sensus	
	MW106 DePierro, Peter & Christine	Active	ANALOG/CUBIC	5/8"		
	MW11 Raouf, Firas	Active	52512393	5/8"		
	MW12 Vargas	Active	ANALOG	5/8"		
	MW13 Coache, Robert & Jane	Active	ANALOG	5/8"		
	MW14 Schiess, Reed	Active	35986255	5/8"	Badger	
	MW15 Strom, Judith	Active	ANALOG	5/8"		
	MW16 Berkowitz & Cote	Active	35975279	5/8"	Badger	
	MW17 Raposa & Rothenbuhler	Active	61135341	5/8"		
	MW18 Shapiro, Ken	Active	ANALOG	5/8"		
	MW19 Turcotte, Norman & Pat	Active	ANALOG	5/8"		
	MW20 Browne, Edward & Linda	Active	ANALOG	5/8"		
	MW21 Naylor, Robert & Patricia	Active	ANALOG	5/8"		
	MW22 Gray, John	Active	ANALOG	5/8"		

Rosebrook Water Company Inc.
Customer Meter Size & Type
June 17, 2016

Association/Business+	Customer	Customer Type	Register ID:	Meter Size	Meter Type	Meter Count
	MW23 Lussier, Wayne & Karen	Active	61135342	5/8"		
	MW24 Gaff, Doug & Brenda	Active	ANALOG	5/8"		
	MW25 Keegan, Howard	Active	57518565	5/8"		
	MW26 Minahan, Madeline	Active	ANALOG	5/8"		
	MW27 Bracken, David & Katherine	Active	ANALOG	5/8"		
	MW28 Giglio Family	Active	ANALOG	5/8"		
	MW29 Barous, Dennis	Active	ANALOG	5/8"		
	MW30 Barrett, Richard & Nancy	Active	ANALOG	5/8"		
	MW31 DeChristoforo & Denictolis	Active	63518533	5/8"		
	MW32 Brownell, Thomas	Active	ANALOG	5/8"		
	MW33 Ewing, Thomas J./DEMT LLC	Active	ANALOG	5/8"		
	MW34 Camerlin, Larry & Ruth	Active	ANALOG	5/8"		
	MW35 Horrigan, James	Active	52512395	5/8"		
	MW36 Balliro-Speer, Daveen	Active	63518478	5/8"		
	MW37 Deveau, John & Loren	Active	ANALOG	5/8"		
	MW38 Hart, Sarah	Active	57519056	5/8"		
	MW39 Gagne, Roger & Deborah	Active	ANALOG	5/8"		
	MW40 Paquette, Victor & Amy	Active	ANALOG	5/8"		
	MW41 Dow & Tarter	Active	07010688	5/8"		
	MW42 Czekanski, Antoinette	Active	57519020	5/8"		
	MW43 Souza, David & Tatyana	Active	57519019	5/8"		
	MW44 Woo, Julianne	Active	ANALOG	5/8"		
	MW45 DiGregorio, John & Beverly	Active	ANALOG	5/8"		
	MW46 Churchill, Thomas	Active	ANALOG	5/8"		
	MW47 Everett, Robert & Eleanor	Active	ANALOG	5/8"		
	MW48 Formisano, Ed & Mary Louise	Active	ANALOG	5/8"		
	MW49 Sawyer, Rick & Ellen	Active	ANALOG	5/8"		
	MW50 Kendall, Kennett	Active	ANALOG	5/8"		
	MW50A Napoli & Bilotta	Active	57519016	5/8"		
	MW51 Grabeau, Ken & Ruth	Active	ANALOG	5/8"		
	MW52 Rastiello, Connie (James)	Active	ANALOG	5/8"		
	MW53 Bryant, Richard & Joanna	Active	57518570	5/8"		
	MW54 Kaufman & Kloos	Active	57518567	5/8"		
	MW55 Davies, Peter	Active	ANALOG	5/8"	Rockwell	
	MW56 Kammann & Sweeney	Active	ANALOG	5/8"		
	MW57 Towne, Leland & Judith	Active	ANALOG	5/8"		
	MW58 Yorke, Marilyn	Active	ANALOG	5/8"		
	MW59 Costello, Walter & Donna	Active	57518566	5/8"		
	MW60 Fischer, Robert & Sherry	Active	ANALOG	5/8"		

Rosebrook Water Company Inc.
Customer Meter Size & Type
June 17, 2016

Association/Business+	Customer	Customer Type	Register ID:	Meter Size	Meter Type	Meter Count
	MW61 Ricci, Thomas	Active	ANALOG	5/8"		
	MW62 Warren, Zachary & Laura	Active	ANALOG	5/8"		
	MW63 Intriore, Lisa	Active	ANALOG	5/8"		
	MW64 Santosuosso, Lewis & Sharon	Active	ANALOG	5/8"		
	MW65 Griffin, Stephen & Susana	Active	ANALOG	5/8"		
	MW66 McCarthy, Paul & Janet	Active	ANALOG	5/8"		
	MW67 Presti, Richard & Audrey	Active	ANALOG	5/8"		
	MW68 Friedman, Lee & Helen	Active	ANALOG	5/8"		
	MW69 Lee, Kevin & Priscilla	Active	ANALOG	5/8"		
	MW70 Lowe, Donald	Active	ANALOG	5/8"		
	MW71 Twohig, Mike & Laurie	Active	ANALOG	5/8"		
	MW72 Tupper, Sherry	Active	ANALOG	5/8"		
	MW73 Rubin, Steven & Kerrie	Active	71003456	5/8"	Elster	
	MW74 Pothuru & Darulova	Active	71003759	5/8"	Elster	
	MW75 Knowles, Ann	Active	ANALOG	5/8"		
	MW76 Porreca, Gregory & Jamie	Active	35975336	5/8"	Badger	
	MW77 Lane, Peter & Victoria	Active	ANALOG	5/8"		
	MW78 Jacob, Daniel & Janice	Active	52512391	5/8"		
	MW79 Knowles, Jim & Jane	Active	07185266	5/8"		
	MW80 Weber, Peter & Karen	Active	ANALOG	5/8"		
	MW81 Gregory, Nicholas & Athena	Active	07774892	5/8"		
	MW81A Hornick, James	Active	07734579	5/8"		
	MW82 Thomas, Greg & Carra Elise	Active	07792996	5/8"		
	MW83 Walsh, Michael & Betty	Active	07766582	5/8"		
	MW88 Merrill & Rosenberg	Active	ANALOG	5/8"		
	MW89 Nicoll, Robert	Active	ANALOG	5/8"		
	MW90 Lyras, Gene & Tracey	Active	ANALOG	5/8"		
	MW91 Godfrey, Tom Linda	Active	ANALOG	5/8"		
	MW92 Weir, Robert & Georgann	Active	ANALOG	5/8"		
	MW93 Konsin, John P. & Barbara Ann	Active	ANALOG	5/8"		
	MW94 Grappel & Cohen	Active	ANALOG	5/8"		
	MW95 Johnston/Rann	Active	ANALOG	5/8"		
	MW96 Lyons, Richard	Active	57518674	5/8"		
	MW97 Russell, Bob & Laura	Active	57518669	5/8"		
	MW98 Knight, Michael	Active	57518672	5/8"		
Total: 105	MW99 Kavanaugh, Peter & Mary	Active	57518673	5/8"		
PRESIDENTIAL VIEW:	PV01 Goettler, Peter & Cynthia	Active	54884733	1"	Sensus	
	PV02 Neslusan, Dennis & Jane	Active	54884730	1"	Sensus	

Rosebrook Water Company Inc.
Customer Meter Size & Type
June 17, 2016

Association/Business+	Customer	Customer Type	Register ID:	Meter Size	Meter Type	Meter Count
	PV03 PV3, LLC	Active	54884727	1"	Sensus	
	PV04 Murphy, Peter	Active	54884734	1"	Sensus	
	PV05 Pres View HOA	Active	65331928	1"	Sensus	
	PV06 Maldon, Jonathan & Andrea	Active	62033383	1"	Sensus	
	PV07 Donaghey, John & Cathy	Active	61116193	1"	Sensus	
	PV08 Falk, Alexander & Nora	Active	58207874	1"	Sensus	
	PV09 Spearman, Patrick & Jane	Active	58207877	1"	Sensus	
	PV10 Milligan & Ward	Active	59536752	1"	Sensus	
	PV11 Muise, Jason & Cristina	Active		1"	Sensus	
	PV12 Muise, Jason & Cristina	Active	71004447	1"	Elster	
	PV13 Allen, Derek & Cecilia	Active	62266804	1"	Sensus	
	PV14 Rose, Matthew & Katherine	Active	71438123	1"	Sensus	
Total: 15	PV15 Friel, Matthew & Lesli	Active	62033376	1"	Sensus	
ROSEBROOK TOWNHOMES:						
	RB01 O'Hearn, Shaun	Active	08659797	5/8"	Sensus	
	RB02 Caouette, Barry & Julie	Active	ANALOG	5/8"	Badger	
	RB03 Fuller, Peter & Mary	Active	ANALOG	5/8"	Badger	
	RB04 Jones, Mike & Linda	Active	ANALOG	5/8"	Badger	
	RB05 Van Hulle & Bunanta	Active	ANALOG	5/8"	Badger	
	RB06 Eldred, Todd & Kim	Active	10810759	5/8"	Sensus	
	RB07 Jones, Mike & Linda	Active	ANALOG	5/8"	Badger	
	RB08 Jones, Mike & Linda	Active	ANALOG	5/8"	Badger	
	RB09 Hausladen, Jennifer & Derek	Active	ANALOG	5/8"	Badger	
	RB10 Patel, Anit & Rebecca	Active	ANALOG	5/8"	Badger	
	RB11 Robie, Douglas & Dana	Active	ANALOG	5/8"	Sensus	
	RB12 DeVito, Lawrence	Active	07003922	5/8"	Sensus	
	RB13 Chung, Michael & Ava	Active	10793181	5/8"	Sensus	
	RB14 Irving, Mason & Ann	Active	ANALOG	5/8"	Badger	
	RB15 Roberts, Ernie & Paula	Active	07005133	5/8"		
	RB16 Spiller, Bert & Maria	Active	07010646	5/8"	Sensus	
	RB17 Schiller & Walrath	Active	07048029	5/8"	Sensus	
	RB18 McClenathan, Michael & Todd	Active	ANALOG	5/8"	Badger	
	RB19 Benz & Stan	Active	10798768	5/8"	Sensus	
	RB20 Jones, Mike & Linda	Active	71274465	5/8"	Badger	
	RB21 Morrow, Claudia	Active	ANALOG	5/8"	Badger	
	RB22 Rosenbaum, Brett & Heather	Active	10791994	5/8"	Sensus	
	RB23 McClenathan, Todd & Michael	Active	ANALOG	5/8"	Badger	
	RB24 Morton, David	Active	ANALOG	5/8"	Badger	
	RB25 Wilson, Tom & Vikki	Active	ANALOG	5/8"	Badger	

Rosebrook Water Company Inc.
Customer Meter Size & Type
June 17, 2016

Association/Business+	Customer	Customer Type	Register ID:	Meter Size	Meter Type	Meter Count
	RB26 Sousa, Joseph	Active	ANALOG	5/8"	Badger	
	RB27 Sylvestre, Sara	Active	ANALOG	5/8"	Badger	
Total: 28	RB28 Lane, Christopher & Deirdre w/Grace	Active	73296634	5/8"	Sensus	
RIVER FRONT:	RF01 Bergum, Erik & Leslie	Active	52862858	5/8"	Sensus	
Single Family Homes	RF02 Genimatas, Dale	Active	62018065	5/8"		
	RF03 Allen, Derek & Cecilia	Active	ANALOG	5/8"	Sensus	
	RF04 Roper, James & Lynne	Active	08658755	5/8"		
	RF05 Hardaway & Peterson	Active	71103680	5/8"	Elster	
	RF06 Wolf, Margot	Active	09507351	5/8"	Sensus	
	RF07 Kraabel, Stephen & Susan	Active	07197279	5/8"	Sensus	
	RF11 McIntire, Heidi	Active	57518670	5/8"		
Total: 9	RF12 Martin, Steven & Elizabeth	Active	52512382	5/8"	Sensus	
STICKNEY CIRCLE:	SC01 Stevenson, Todd & Janel	Active	44780878	5/8"	Badger	
	SC02 Roy, David	Active	35975230	5/8"	Badger	
	SC03 Dinneen & McGuiggan	Active	35986252	5/8"	Badger	
	SC04 Rothery, Louise	Active	36986251	5/8"	Badger	
	SC05 Smith, Jim & Barbara	Active	73296639	5/8"	Sensus	
	SC06 Sheehan, Richard & Carole	Active	35975277	5/8"	Badger	
	SC07 Sheehan, Richard & Carole	Active	35975268	5/8"	Badger	
	SC08 Bungard, Donald & Jane	Active	35986262	5/8"	Badger	
	SC09 Abramovitch, Arlene	Active	ANALOG	5/8"	Sensus	
	SC10 Bruns, Michael & Amy	Active	ANALOG	5/8"	Sensus	
	SC11 11 Stickney Circle, LLC	Active	ANALOG	5/8"	Sensus	
	SC12 Miscione, Vincent & Elizabeth	Active	ANALOG	5/8"	Sensus	
	SC13 Blanco, Ramon & Sophie	Active	02645199	5/8"	Sensus	
	SC14 Hines, David & Deborah	Active	35986246	5/8"	Badger	
	SC15 Robie, Brad	Active	ANALOG	5/8"	Sensus	
	SC16 Yamajala, Sivaram	Active	35986249	5/8"	Badger	
	SC17 Louttit, Jonathan & Marion	Active	35975215	5/8"	Badger	
	SC18 Dolan, Jim & Joan	Active	37068849	5/8"	Sensus	
	SC19 Andriolo, Joseph & Dianne	Active	35986257	5/8"	Badger	
	SC20 Gamache & Lynch	Active	37068852	5/8"	Sensus	
	SC21 Hebert, Stephen M.	Active	35986261	5/8"	Badger	
	SC22 Neville, Kevin & Lisa	Active	63518535	5/8"	Sensus	
	SC23 Owen, William & Ann Marie	Active	35789417	5/8"	Badger	
	SC24 Kelley, Michael & Dianne	Active	13099136	5/8"	Sensus	
	SC25 Balmforth, Maxon	Active	09572087	5/8"	Sensus	

Rosebrook Water Company Inc.
Customer Meter Size & Type
June 17, 2016

Association/Business+	Customer	Customer Type	Register ID:	Meter Size	Meter Type	Meter Count
	SC26 Guerin, Taylor & Carol	Active	10771404	5/8"	Sensus	
	SC27 Wright, Alan & Yoshiko	Active	10854546	5/8"	Sensus	
	SC28 Rosa, Ron & Kim	Active	35986260	5/8"	Badger	
	SC29 Coache, Robert	Active	10799097	5/8"	Sensus	
	SC30 McBunch, Bill & Jane	Active	10952311	5/8"	Sensus	
	SC31 Savini, John & Mary Kathleen	Active	35975338	5/8"	Badger	
	SC32 Chisholm, Claire	Active	35975236	5/8"	Badger	
	SC33 Juzwic, William & Mary Lou	Active	35986247	5/8"	Badger	
	SC34 Bartolini, Wilmin & Kathleen	Active	60896181	5/8"	Sensus	
	SC35 Michell, Patricia	Active	73296631	5/8"	Sensus	
	SC36 Wilson & Thompson	Active	35789415	5/8"	Badger	
	SC37 Doyle, Mary	Active	35986250	5/8"	Badger	
	SC38 Socransky, June	Active	63518476	5/8"	Sensus	
	SC39 Hartung, Kirk & Diane	Active	63518534	5/8"	Sensus	
	SC40 Stankiewicz, Jane	Active	71003716	5/8"	Elster	
	SC41 Walker, Donna	Active	35986253	5/8"	Badger	
	SC42 Raspuzzi, Christine	Active	35986243	5/8"	Badger	
	SC43 Osbahr, John & Carolyn	Active	63518477	5/8"	Sensus	
	SC44 Caterine, John & Melinda	Active	35986264	5/8"	Badger	
	SC45 Rizzolo, Anthony & Josephine	Active	35986256	5/8"	Badger	
	SC46 Costello, Matthew & Kathleen	Active	35986254	5/8"	Badger	
	SC47 Hart, Sarah	Active	35986248	5/8"	Badger	
	SC48 Yuan, Olive	Active	35986242	5/8"	Badger	
	SC BLG B WATER METER	HOA spigot	63518474	5/8"		
	SC BLG C WATER METER	HOA spigot	35975335	5/8"	Badger	
Total: 48 Cust + 3 spigots	SC BLG F WATER METER	HOA spigot	30267358	5/8"	Sensus	
STONE HILL:	SH01 Pinstein & Dassule	Active	56585496	1"	Sensus	
	SH02 Little, Brett & Cory	Active	56585495	1"	Sensus	
	SH03 Samtani & Leslie	Active	54851044	1"	Sensus	
	SH04 Smith, Tony & Chris	Active	54851043	1"	Sensus	
	SH05 Bajer Josephine	Active	54884726	1"	Sensus	
	SH06 Komari, Tony & Suzanne	Active	54884725	1"	Sensus	
	SH07 Burt, Larry & Joanna	Active	59536751	1"	Sensus	
	SH08 Oldroyd & Cronin	Active	59616023	1"	Sensus	
	SH09 Stone, Malcolm & Carol	Active	61116196	1"	Sensus	
Total: 10	SH10 Doherty, Dermot & Christine	Active	61116195	1"	Sensus	

TOTAL METERS 412 (410 CONNECTIONS & 2 PORTABLE)

APPENDIX B
Site Plan
Dartmouth Brook Residential Area
For
Bretton Woods Land Co., Inc.



LINE TABLE		
LINE	BEARING	LENGTH
L-1	N72°47'18"E	60.00'
L-2	N17°12'00"W	62.49'
L-3	N17°12'42"W	115.00'
L-4	S18°41'48"W	55.71'
L-5	S39°40'03"E	24.91'
L-6	S39°19'57"W	50.00'
L-7	N39°40'03"W	29.74'
L-8	N21°44'56"E	50.00'
L-9	S68°18'12"E	89.48'
L-10	S68°11'04"E	70.34'
L-11	N1°41'48"E	44.85'
L-12	N34°03'35"W	77.48'
L-13	N67°52'45"W	47.21'
L-14	S31°44'36"E	97.35'
L-15	S04°15'18"W	108.03'
L-16	N61°31'21"E	99.85'
L-17	N10°15'20"E	107.00'
L-18	S75°20'59"W	58.47'
L-19	S13°55'48"E	18.00'
L-20	N76°00'51"E	24.00'
L-21	S13°55'48"E	18.02'
L-22	N76°04'12"E	73.13'
L-23	S70°57'23"W	58.00'
L-24	S25°21'13"E	45.42'
L-25	N76°55'55"E	33.24'
L-26	S23°53'04"E	59.41'
L-27	S01°56'26"E	6.77'
L-28	S24°59'30"E	84.42'
L-29	S82°08'20"E	93.49'
L30	S53°41'49"W	52.02'
L31	S40°19'32"E	88.71'

CURVE TABLE					
CURVE	DELTA	RADIUS	LENGTH	CHORD BEARING	CHORD
C-1	18°48'39"	298.00'	97.84'	N07°48'22"W	97.40'
C-2	37°59'22"	164.85'	109.30'	S87°11'58"E	107.31'
C-3	43°14'00"	114.85'	86.66'	S89°46'04"E	84.62'
C-4	48°45'47"	75.21'	64.01'	N09°40'59"W	62.10'
C-5	90°00'00"	40.00'	62.83'	S58°55'48"E	56.57'
C-6	1°18'24"	1025.50'	23.39'	S19°41'49"E	23.39'
C-7	6°18'36"	967.50'	106.55'	S22°11'55"E	106.50'
C-8	57°08'49"	39.00'	38.90'	S33°33'55"E	37.31'
C-9	27°07'55"	175.00'	82.87'	N26°45'34"W	82.10'
C-10	57°08'49"	39.00'	38.90'	S53°33'55"E	37.31'
C-11	27°07'55"	175.00'	82.87'	N26°45'34"W	82.10'





34 School Street
Littleton, NH 03561
Phone 603.444.4111 - Fax 603.444.1343

**DARTMOUTH BROOK
RESIDENTIAL AREA**
FOR BRETTON WOODS LAND CO., LLC

210 MOUNT WASHINGTON DRIVE, BRETTON WOODS, NH 03575
TOWN OF CARROLL, MAP 210 LOT 5
COOS COUNTY, NEW HAMPSHIRE

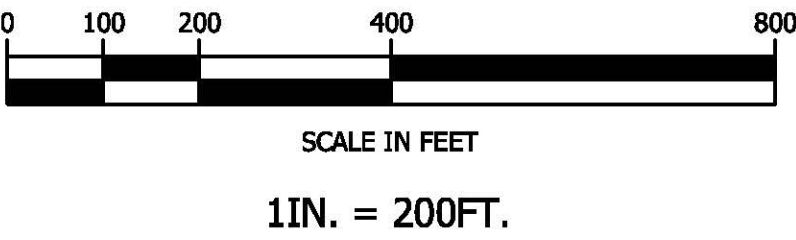
PHASE I LIMITS

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

DATE: 1-14-09	PROJECT #: 07157
SURV'D BY: SH/RL	DRAWN BY: AJN
CHECK'D BY: AJN	ARCHIVE #: H - 4644

© 2008
horizons
Engineering, Inc.
All rights reserved

SHEET 1 OF 1



APPENDIX C
Well Pumping/Water Usage Records 2015/2016

ROSEBROOK WATER SYSTEM

MONTH January

YEAR 2015

	DAY	TIME	INITIALS	RESERVOIR LEVEL	PUMP #1 HOURS	Pump #1 Gallons	PUMP #2 HOURS	Pump #2 Gallons	Totalizer Both Pumps	STATIC PSI	CL2 GAL	SODA ASH # OF 50 # BAGS
1	Thu	900	NO	10.74	5.28	106,000	3.37	90,100	196,100	200	-	-
2	Fri	900	NO	10.53	5.23	102,700	4.58	122,100	224,800	200	-	-
3	Sat	920	NO	10.78	4.34	85,700	2.63	70,100	155,800	190	-	-
4	Sun	915	NO	10.57	2.78	56,700	2.87	76,300	133,000	190	-	-
5	Mon	700	BS	11.24	0.79	15,600	1.9	50,400	66,000	190	-	-
6	Tue	700	BS	10.61	3.12	62,600	2.62	69,900	132,500	190	-	-
7	Wed	700	BS	11.08	3.04	60,900	0.38	10,200	71,100	190	-	-
8	Thu	700	BS	10.72	2.84	58,600	2.48	65,300	123,900	190	-	-
9	Fri	700	BS	11.07	1.05	18,900	4.06	107,900	127,800	190	-	-
10	Sat	730	BS	10.87	4.73	92,400	2.55	66,400	158,800	190	-	-
11	Sun	735	BS	10.65	4.8	93,000	2.29	61,800	154,800	190	-	-
12	Mon	700	BS	11.06	4.65	91,300	1.28	34,000	125,300	190	-	-
13	Tue	700	BS	11.42	2.58	51,500	0.7	17,900	69,400	190	4	12
14	Wed	700	BS	10.57	4.62	99,800	1.57	41,900	141,700	190	-	-
15	Thu	900	NO	10.78	2.79	57,300	2.44	64,900	122,200	190	-	-
16	Fri	700	BS	10.97	0.77	15,400	4.86	128,600	144,000	190	-	-
17	Sat	930	NO	10.58	6.33	131,500	3.29	87,200	218,700	190	-	-
18	Sun	940	NO	10.85	3.52	69,800	3.28	87,200	157,000	190	-	-
19	Mon	630	BS	10.59	7.2	146,800	0.46	12,300	159,100	190	-	-
20	Tue	700	BS	11.01	4.83	97,300	0.79	20,700	118,000	190	-	-
21	Wed	700	BS	11.35	3.06	62,000	0	-	62,000	190	-	-
22	Thu	700	BS	10.78	6.22	123,300	0	-	123,300	190	-	-
23	Fri	715	BS	11.22	3.66	72,200	2.17	57,800	129,800	190	-	-
24	Sat	700	BS	10.83	7.59	149,900	0.55	14,200	164,100	190	-	-
25	Sun	730	BS	10.74	6.19	123,500	0.97	25,600	149,100	190	-	-
26	Mon	735	BS	10.99	5.95	120,000	0	-	120,000	190	-	-
27	Tue	700	BS	11.26	3.36	63,200	0	-	63,200	190	5	12
28	Wed	630	BS	10.74	3.68	64,200	0	-	64,200	190	-	-
29	Thu	600	BS	10.58	5.57	102,000	0.85	22,500	124,500	190	-	-
30	Fri	840	NO	11.17	0	-	0	-	-	195	-	-
31	Sat	915	BS	8.4	14.56	279,900	0	-	279,900	195	-	-
											9	24
Totals					135.13	2,675,000	62.94	1,405,100	4,080,100			24

YEAR 2015

[illegible]

ROSEBROOK WATER SYSTEM

MONTH March

YEAR 2015

	DAY	TIME	INITIALS	RESERVOIR LEVEL	PUMP # 1 HOURS	Pump #1 Gallons	PUMP # 2 HOURS	Pump #2 Gallons	Totalizer Both Pumps	STATIC PSI	CL2 GAL	SODA ASH # OF 50 # BAGS
1	Sun	900	NO	10.9	2.72	56,100	2.46	64,800	120,900	195	-	-
2	Mon	700	BS	10.94	4.06	83,600	0	-	83,600	195	4	12
3	Tue	700	BS	10.65	2.79	57,200	2.64	69,600	126,800	195	-	-
4	Wed	700	BS	11.15	0.95	19,200	2.49	65,200	84,400	190	-	-
5	Thu	700	BS	10.76	2.65	53,300	2.42	63,500	116,800	190	-	-
6	Fri	700	BS	10.61	3.64	72,900	2.53	66,300	139,200	190	-	-
7	Sat	730	BS	10.93	4.97	99,100	3.09	81,000	180,100	190	-	-
8	Sun	900	BS	10.53	4.8	95,300	2.34	61,600	156,900	190	-	-
9	Mon	700	BS	11.09	3.17	65,100	0.5	13,000	78,100	190	-	-
10	Tue	825	BS	10.69	2.58	52,800	2.06	54,200	107,000	190	-	-
11	Wed	700	BS	11.27	0	-	2.33	60,900	60,900	190	-	-
12	Thu	700	BS	10.89	3.14	64,200	2.07	54,100	118,300	190	3	8
13	Fri	1015	NO	10.88	4.21	77,900	2.2	58,000	135,900	195	-	-

ROSEBROOK WATER SYSTEM

MONTH April

YEAR 2015

	DAY	TIME	INITIALS	RESERVOIR LEVEL	PUMP # 1 HOURS	Pump #1 Gallons	PUMP # 2 HOURS	Pump #2 Gallons	Totalizer Both Pumps	STATIC PSI	CL2 GAL	SODA ASH # OF 50 # BAGS
1	Wed	700	BS	10.72	2.87	58,400	2.33	60,300	118,700	190	-	-
2	Thu	850	NO	11.1	2.53	51,500	0	-	51,500	195	-	-
3	Fri	730	BS	11.38	0.87	17,900	2.51	66,100	84,000	190	-	-
4	Sat	730	BS	10.72	3.65	64,200	2.66	69,800	134,000	190	-	-
5	Sun	8700	BS	10.88	4.06	75,800	0	-	75,800	190	-	-
6	Mon	810	BS	10.52	3.37	54,600	2.48	64,600	119,200	190	4	12
7	Tue	850	NO	11.19	0.79	13,400	2.42	63,100	76,500	195	-	-
8	Wed	730	BS	11.17	3.89	62,900	0	-	62,900	190	-	-
9	Thu	700	BS	10.91	0.5	9,000	2.38	62,300	71,300	190	-	-
10	Fri	945	NO	10.63	4.39	71,500	2.62	42,200	113,700	190	-	-
11	Sat	850	NO	11.39	0.48	7,500	1.42	63,300	70,800	190	-	-
12	Sun	930	NO	10.53	4.45	72,900	0	-	72,900	190	-	-
13	Mon	700	BS	10.69	0	-	2.2	57,400	57,400	190	-	-
14	Tue	730	BS	10.73	3.49	60,100	0	-	60,100	190	-	-
15	Wed	840	NO	10.83	1	-	2.03	52,700	52,700	195	-	-
16	Thu	700	BS	11.11	2.3	54,300	0	-	54,300	190	-	-
17	Fri	650	BS	11.33	0	-	2.29	60,300	60,300	190	-	-
18	Sat	715	BS	11.21	3.54	67,100	0	-	67,100	190	-	-
19	Sun	520	BS	10.96	3.03	53,100	2.43	63,400	116,500	190	-	-
20	Mon	705	BS	11.38	0	-	2.33	60,900	60,900	190	-	-
21	Tue	730	BS	11.03	2.97	56,200	0	-	56,200	190	-	-
22	Wed	650	BS	11.03	0	-	2.34	61,300	61,300	190	-	-
23	Thu	644	BS	10.65	0.45	9,100	2.79	72,200	81,300	190	3	10
24	Fri	739	BS	10.69	3.64	62,200	0.89	23,200	85,400	190	-	-
25	Sat	1000	NO	10.85	3.12	54,100	1.5	39,200	93,300	190	-	-
26	Sun	1000	NO	11.01	0	-	2.26	59,000	59,000	195	-	-
27	Mon	715	BS	10.69	3.16	58,700	0	-	58,700	190	-	-
28	Tue	628	BS	10.81	0	-	1.96	51,300	51,300	190	-	-
29	Wed	655	BS	10.89	0.1	1,800	2.1	55,000	56,800	190	-	-
30	Thu	740	BS	10.95	3.62	61,900	0	-	61,900	190	-	-
Totals					62.27	1,098,200	43.94	1,147,600	2,245,800		>	22

ROSEBROOK WATER SYSTEM

MONTH May

YEAR 2015

	DAY	TIME	INITIALS	RESERVOIR LEVEL	PUMP #1 HOURS	Pump #1 Gallons	PUMP #2 HOURS	Pump #2 Gallons	Totalizer Both Pumps	STATIC PSI	CL2 GAL	SODA ASH # OF 50 # BAGS
1	Fri	642	BS	10.79	0	-	2.27	59,000	59,000	190	-	-
2	Sat	700	BS	10.51	4.06	70,600	2.1	55,000	125,600	190	-	-
3	Sun	710	BS	11.27	3.18	59,200	0	-	59,200	190	-	-
4	Mon	700	BS	10.72	0	-	2.29	59,900	59,900	190	-	-
5	Tue	630	BS	11.4	2.74	56,500	2.24	58,100	114,600	190	-	-
6	Wed	650	BS	10.79	4.13	67,200	2.2	67,900	125,100	190	-	-
7	Thu	805	NO	11.38	2.72	56,200	0.27	7,100	63,300	195	-	-
8	Fri	700	BS	11.15	1.01	19,900	2.36	62,300	82,200	190	-	-
9	Sat	910	NO	10.75	3.41	60,800	1.93	50,500	111,300	190	-	-
10	Sun	910	NO	10.84	0	-	2.27	59,800	59,800	195	-	-
11	Mon	650	BS	10.67	3.42	63,500	0	-	63,500	190	-	-
12	Tue	620	BS	10.63	2.57	53,500	2.19	57,600	111,100	190	-	-
13	Wed	631	BS	11.39	0	-	2.37	62,500	62,500	190	-	-
14	Thu	615	BS	11.21	2.97	61,700	0	-	61,700	190	-	-
15	Fri	550	BS	10.83	2.16	44,700	2.44	63,900	108,600	190	4	11
16	Sat	630	BS	11.27	0.72	14,800	2.28	59,700	74,300	190	-	-
17	Sun	700	BS	10.95	4.16	65,300	0	-	65,300	190	-	-
18	Mon	700	BS	10.61	0	-	2.27	59,700	59,700	190	-	-
19	Tue	700	BS	10.69	3.91	62,900	0	-	62,900	190	-	-
20	Wed	650	BS	10.61	2.76	52,100	2.42	63,300	115,400	190	-	-
21	Thu	656	BS	11.25	0.71	12,300	2.39	62,500	74,800	190	-	-
22	Fri	820	NO	10.69	2.5	48,100	2.48	65,100	113,200	190	-	-
23	Sat	930	NO	10.53	3.43	69,300	2.5	65,300	134,600	190	-	-
24	Sun	945	NO	10.69	6.85	106,700	0.91	23,900	130,600	195	-	-
25	Mon	900	BS	10.89	1.33	24,900	2.2	57,300	82,200	195	-	-
26	Tue	640	BS	10.95	2.14	37,200	2.55	66,100	103,300	190	-	-
27	Wed	715	BS	10.51	3.11	61,200	2.23	58,300	119,500	190	-	-
28	Thu	700	BS	10.95	5.61	90,100	0	-	90,100	190	4	11
29	Fri	600	BS	10.56	2.86	58,400	2.53	66,400	124,800	190	-	-
30	Sat	730	BS	11.19	0	-	2.41	33,000	33,000	190	-	-
31	Sun	735	BS	10.53	4.93	76,000	2.07	84,000	160,000	190	-	-
Totals					77.19	1,392,900	54.17	1,418,200	2,811,100		8	22

ROSEBROOK WATER SYSTEM

MONTH June

YEAR 2015

	DAY	TIME	INITIALS	RESERVOIR LEVEL	PUMP #1 HOURS	Pump #1 Gallons	PUMP #2 HOURS	Pump #2 Gallons	Totalizer Both Pumps	STATIC PSI	CL2 GAL	SODA ASH # OF 60 # BAGS
1	Mon	700	BS	11.41	9.98	153,900	0	-	153,900	190	-	-
2	Tue	720	BS	11.07	3.59	66,000	1.71	44,700	110,700	190	-	-
3	Wed	900	NO	10.63	0	-	0	-	-	180	-	-
4	Thu	700	BS	9.51	8.48	144,600	0	-	144,600	190	-	-
5	Fri	700	BS	10.75	3.6	62,300	0	-	62,300	190	-	-
6	Sat	930	NO	10.08	10.19	176,700	0	-	176,700	195	-	-
7	Sun	1050	NO	11.46	3.28	56,200	0	-	56,200	190	-	-
8	Mon	700	BS	11.27	0	-	0	-	-	90	4	9
9	Tue	700	BS	9.67	6.46	121,900	0	-	121,900	190	-	-
10	Wed	630	BS	10.56	5.2	90,400	0	-	90,400	190	-	-
11	Thu	640	BS	10.88	4.28	73,400	0	-	73,400	190	-	-
12	Fri	700	BS	10.63	5.83	100,300	0	-	100,300	190	-	-
13	Sat	700	BS	10.73	6.82	127,200	0	-	127,200	190	-	-
14	Sun	630	BS	11.23	4.19	66,200	0	-	66,200	190	-	-
15	Mon	645	BS	10.77	3.47	65,700	0	-	65,700	190	-	-
16	Tue	655	BS	10.64	6.25	117,900	0	-	117,900	190	-	-
17	Wed	700	BS	11.24	3.93	64,300	0	-	64,300	190	-	-
18	Thu	745	BS	10.7	6.49	116,700	0	-	116,700	190	-	-
19	Fri	930	NO	11.1	4.61	85,600	0	-	85,600	195	-	-
20	Sat	730	BS	10.97	3.82	58,200	0	-	58,200	190	-	-
21	Sun	720	BS	10.57	7.08	137,600	0	-	137,600	190	-	-
22	Mon	700	BS	11.31	4.05	63,700	0	-	63,700	190	-	-
23	Tue	630	BS	11.26	3.65	64,400	0	-	64,400	190	-	-
24	Wed	740	BS	10.81	5.21	86,300	0	-	86,300	190	-	-
25	Thu	700	BS	10.75	2.94	52,400	0	-	52,400	190	5	12
26	Fri	645	BS	9.71	25.58	414,000	0	-	414,000	190	-	-
27	Sat	730	BS	13.41	0	-	0	-	-	195	-	-
28	Sun	730	BS	11.17	0	-	0	-	-	190	-	-
29	Mon	700	BS	9.04	11.29	182,200	0	-	182,200	190	-	-
30	Tue	630	BS	10.81	0	-	0	-	-	195	-	-
Totals					160.24	2,747,100	1.71	44,700	2,791,800			21

ROSEBROOK WATER SYSTEM

MONTH July

YEAR 2015

	DAY	TIME	INITIALS	RESERVOIR LEVEL	PUMP # 1 HOURS	Pump #1 Gallons	PUMP # 2 HOURS	Pump #2 Gallons	Totalizer Both Pumps	STATIC PSI	CL2 GAL	SODA ASH # OF 60 # BAGS
1	Wed	645	BS	8.96	3.28	68,500	0	-	68,500	190	-	-
2	Thu	700	BS	8.28	6.41	127,400	0	-	127,400	190	-	-
3	Fri	740	NO	8.62	8.34	154,300	0.43	-	154,300	195	-	-
4	Sat	840	NO	8.42	0	-	0	-	-	195	-	-
5	Sun	905	NO	5.44	6.8	119,700	0	-	119,700	190	-	-
6	Mon	700	BS	5.7	9.66	165,100	0	-	165,100	190	-	-
7	Tue	600	BS	9.18	0	-	0	-	-	190	-	-
8	Wed	700	BS	6	11.39	195,100	0	-	195,100	190	-	-
9	Thu	630	BS	7.24	2.44	44,900	3.46	73,200	118,100	190	-	-
10	Fri	630	BS	7.38	0.67	11,700	7.37	196,500	208,200	195	-	-
11	Sat	700	BS	9.1	4.84	83,500	2.68	71,000	154,500	190	-	-
12	Sun	725	BS	9.02	5.3	85,000	2.16	57,500	142,500	190	-	-
13	Mon	700	BS	9.98	4.51	71,600	0	-	71,600	190	-	-
14	Tue	700	BS	9.36	3.83	62,000	2.28	60,700	122,700	190	-	-
15	Wed	700	BS	9.8	0	-	2.55	68,000	68,000	190	-	-
16	Thu	640	BS	9.07	4.12	82,500	2.47	66,000	148,500	190	3	10
17	Fri	825	NO	9.35	5.19	74,400	2.19	58,500	132,900	190	-	-
18	Sat	930	NO	9.26	4.78	80,300	2.44	65,200	145,500	195	-	-
19	Sun	910	NO	9.08	5.03	85,700	2.11	58,300	142,000	190	-	-
20	Mon	700	BS	9.66	4.17	69,100	1.09	29,400	98,500	190	-	-
21	Tue	630	BS	9.35	0	-	4.54	121,400	121,400	190	-	-
22	Wed	700	BS	9.42	4.45	74,100	2.21	59,200	133,300	195	-	-
23	Thu	635	BS	9.75	4.74	76,800	2.36	63,500	140,300	195	-	-
24	Fri	700	BS	9.98	5.13	83,300	1.35	38,200	119,500	190	-	-
25	Sat	620	BS	9.46	5.28	85,400	3.21	86,000	171,400	190	-	-
26	Sun	830	BS	9.56	4.02	68,400	1.16	30,400	95,800	190	-	-
27	Mon	630	BS	9.8	3.86	62,600	2.32	62,500	125,000	190	4	12
28	Tue	645	BS	9.82	4.62	76,600	2.45	65,800	142,400	190	-	-
29	Wed	650	BS	9.65	3.9	62,900	2.69	71,900	134,800	190	-	-
30	Thu	650	BS	9.74	5.48	90,200	1.51	40,700	130,900	190	-	-
31	Fri	900	NO	9.52	5.83	94,300	1.34	35,800	130,100	195	-	-
Totals					137.87	2,352,300	56.36	1,475,700	3,828,000		7	22

ROSEBROOK WATER SYSTEM

MONTH August

YEAR 2015

	DAY	TIME	INITIALS	RESERVOIR LEVEL	PUMP #1 HOURS	Pump #1 Gallons	PUMP #2 HOURS	Pump #2 Gallons	Totalizer Both Pumps	STATIC PSI	CL2 GAL	SODA ASH # OF 50 # BAGS
1	Sat	900	NO	9.02	1.47	24,900	4.88	131,100	156,000	190	-	-
2	Sun	915	NO	9.18	4.99	81,000	2.17	58,300	139,300	195	-	-
3	Mon	700	BS	9.63	4.9	80,300	2.1	57,300	137,600	190	-	-
4	Tue	655	BS	9.77	6.27	102,300	0	-	102,300	190	-	-
5	Wed	700	BS	9.1	6.3	100,700	2.79	74,300	175,000	190	-	-
6	Thu	630	BS	9.8	3.43	56,100	2.63	70,800	126,900	190	5	12
7	Fri	700	BS	9.85	4.05	66,400	3.92	105,600	172,000	190	-	-
8	Sat	930	BS	9.53	8.68	90,000	1.43	38,300	128,300	195	-	-
9	Sun	630	BS	9.82	2.01	80,900	2.7	72,500	153,400	190	-	-
10	Mon	700	BS	9.63	4.13	66,300	2.47	66,400	132,700	190	-	-
11	Tue	700	BS	9.76	4.24	68,900	2.53	68,200	137,100	190	-	-
12	Wed	832	BS	9.89	0	-	2.41	64,800	64,800	190	-	-
13	Thu	700	BS	9.26	5.18	84,900	2.62	70,800	155,700	190	2.5	6
14	Fri	835	NO	9.94	6.3	102,500	0.04	1,000	103,500	200	-	-
15	Sat	915	NO	9.8	6.55	108,400	2.76	74,400	182,800	195	-	-
16	Sun	930	NO	9	4.34	73,500	2.73	73,600	147,100	195	-	-
17	Mon	700	BS	9.62	4.23	72,300	2.39	64,200	136,500	190	-	-
18	Tue	700	BS	9.63	4.08	69,800	2.83	75,700	145,500	190	-	-
19	Wed	630	BS	9.6	3.82	64,500	2.88	78,200	142,700	190	-	-
20	Thu	730	BS	9.47	4.3	72,600	2.66	71,300	143,900	190	-	-
21	Fri	635	BS	9.7	4.63	78,200	2.69	72,500	150,700	190	-	-
22	Sat	730	BS	9.2	5.19	87,400	2.63	70,200	157,600	190	4	12
23	Sun	730	BS	9.18	4.5	76,200	2.86	69,300	145,500	190	-	-
24	Mon	700	BS	9.76	3.54	58,400	2.48	66,900	125,300	190	-	-
25	Tue	700	BS	9.82	0.93	16,100	2.4	65,200	81,300	190	-	-
26	Wed	650	BS	9.22	4.04	68,000	2.45	67,300	135,300	190	-	-
27	Thu	700	BS	9.51	4.35	72,500	2.34	62,600	135,100	190	-	-
28	Fri	900	NO	9.71	4.96	84,400	0.51	13,700	98,100	195	-	-
29	Sat	900	NO	9.16	4.74	81,200	2.09	56,600	137,800	195	-	-
30	Sun	910	NO	9.28	2.05	34,200	2.62	67,400	101,600	195	-	-
31	Mon	700	BS	9.58	6.35	105,900	0.02	3,800	109,700	195	-	-
Totals					134.51	2,228,800	71.73	1,932,300	4,161,100		11.5	30

ROSEBROOK WATER SYSTEM

September 2015

	DAY	TIME	INITIALS	RESERVOIR LEVEL	PUMP #1 HOURS	Pump #1 Gallons	PUMP #2 HOURS	Pump #2 Gallons	Totalizer Both Pumps	STATIC PSI	CL2 GAL	SODA ASH # OF 60 # BAGS
1	Tue	700	BS	9.76	0	-	2.22	60,200	60,200	190	5	12
2	Wed	700	BS	9.18	5.42	91,800	0	-	91,800	190	-	-
3	Thu	700	BS	9.28	3.66	62,700	2.6	70,500	133,200	190	-	-
4	Fri	700	BS	9.71	4.06	69,100	2.54	68,700	137,800	190	-	-
5	Sat	730	BS	9.63	3.96	66,900	2.95	79,600	146,500	190	-	-
6	Sun	735	BS	9.06	5.16	88,700	3.04	82,000	170,700	190	-	-
7	Mon	900	NO	9.28	0	-	2.66	72,300	72,300	195	-	-
8	Tue	800	BS	9.04	4.67	80,500	1.67	45,100	125,600	190	-	-
9	Wed	700	BS	9.7	3.69	62,800	0.86	23,200	86,000	190	-	-
10	Thu	700	BS	9.76	0.7	12,200	2.31	62,400	74,600	190	3	8
11	Fri	900	NO	9.16	3.54	61,000	2.08	56,200	117,200	190	-	-
12	Sat	915	NO	9.42	5.16	86,200	0.98	26,900	112,100	195	-	-
13	Sun	910	NO	9.34	3.44	57,500	1.6	43,100	100,600	195	-	-
14	Mon	700	BS	9.77	0.02	-	2.44	65,900	65,900	190	-	-
15	Tue	720	BS	9.33	4.3	72,000	0.87	23,500	95,500	190	-	-
16	Wed	700	BS	9.36	3.93	66,700	2.02	54,700	121,400	190	-	-
17	Thu	705	BS	9.58	3.96	66,300	0	-	66,300	190	-	-
18	Fri	1054	BS	9.06	3.63	61,300	4.71	126,600	187,900	190	-	-
19	Sat	730	BS	9.71	4.03	67,900	2.49	67,800	135,500	190	-	-
20	Sun	740	BS	9.37	0	-	2.4	64,800	64,800	190	-	-
21	Mon	700	BS	9.14	5.59	95,200	2.26	61,600	156,800	190	6	12
22	Tue	700	BS	9.6	17.46	88,000	0	-	88,000	190	-	-
23	Wed	700	BS	9.48	0.06	700	4.06	109,100	109,800	190	-	-
24	Thu	700	BS	9.77	4.21	75,900	1.4	38,200	114,100	195	-	-
25	Fri	1100	NO	9.56	3.89	66,000	1.11	29,800	95,800	195	-	-
26	Sat	1020	NO	9.2	3.84	65,900	2.42	65,600	131,500	195	-	-
27	Sun	910	NO	9.21	2.22	38,400	2.44	72,200	110,600	195	-	-
28	Mon	700	BS	9.53	2.48	41,600	2.23	64,500	96,100	190	-	-
29	Tue	700	BS	9.71	4.55	78,400	0	60,000	138,400	190	-	-
30	Wed	700	BS	9.21	0	-	2.36	4,000	4,000	190	-	-
Average					3.58	54,090	1.96	62,943	107,033			
Totals					107.61	1,622,700	59	1,588,300	3,211,000		13	32

ROSEBROOK WATER SYSTEM

MONTH October

YEAR 2015

	DAY	TIME	INITIALS	RESERVOIR LEVEL	PUMP #1 HOURS	Pump #1 Gallons	PUMP #2 HOURS	Pump #2 Gallons	Totalizer Both Pumps	STATIC PSI	CL2 GAL	SODA A9H # OF 50 # BAGS
1	Thu	700	BS	9.03	4.06	70,800	2.08	56,700	127,500	190	-	-
2	Fri	700	BS	9.71	4.4	75,600	2	53,700	129,300	190	-	-
3	Sat	750	BS	9.62	4.61	81,500	0.97	27,100	108,600	190	-	-
4	Sun	800	BS	9.08	3.57	69,800	2.57	70,000	129,800	190	-	-
6	Mon	700	BS	9.71	0	-	2.41	65,100	65,100	190	-	-
6	Tue	700	BS	9.03	4.67	78,800	2.09	56,600	135,400	190	-	-
7	Wed	700	BS	9.77	4.09	68,900	0	-	68,900	190	-	-
8	Thu	630	BS	9.31	3.34	57,700	2.26	61,000	118,700	190	-	-
9	Fri	830	NO	9.65	2.43	42,800	2.52	68,100	110,900	195	5	12
10	Sat	940	NO	9.31	4.88	83,300	2.73	73,500	156,800	190	-	-
11	Sun	915	NO	9.1	5.23	88,200	2.5	67,500	155,700	200	-	-
12	Mon	800	BS	9.42	4.65	78,900	2.12	57,100	136,000	195	-	-
13	Tue	700	BS	9.77	3.75	64,700	0	-	64,700	190	-	-
14	Wed	620	BS	9.26	3.44	68,200	2.38	64,100	122,300	190	-	-
16	Thu	700	BS	9.83	0	-	2.47	66,500	66,500	190	-	-
16	Fri	645	BS	9.27	4.58	77,100	2.14	57,800	134,900	190	-	-
17	Sat	700	BS	9.73	5.17	86,800	1.03	27,700	114,500	195	-	-
18	Sun	730	BS	9.35	4.2	71,000	1.96	52,300	123,300	190	-	-
19	Mon	700	BS	9.01	1.36	21,900	2.63	70,800	92,700	190	-	-
20	Tue	700	BS	9.33	4.24	71,300	0	-	71,300	190	-	-
21	Wed	700	BS	9.1	0.41	7,400	2.76	74,300	81,700	195	-	-
22	Thu	700	BS	9.12	4.46	74,400	2.18	58,900	133,300	190	-	-
23	Fri	830	NO	9.9	4.14	70,000	0.51	14,100	84,100	195	-	-
24	Sat	900	NO	9.43	2.15	36,900	2.81	78,400	113,300	190	-	-
26	Sun	910	NO	9.4	3.19	53,300	1.06	28,400	81,700	195	-	-
26	Mon	700	BS	9.463	3.83	64,200	1.67	45,300	109,500	190	-	-
27	Tue	700	BS	10	0.22	3,700	2.43	65,100	68,800	190	-	-
28	Wed	700	BS	9.83	4.15	68,800	0	-	68,800	190	-	-
28	Thu	700	BS	9.51	0	-	2.57	68,300	68,300	195	-	-
30	Fri	715	BS	9.73	4.49	76,700	0	-	76,700	195	-	-
31	Sat	730	BS	9.18	4.5	81,000	2.52	63,200	144,200	190	5	12
Totals					104.21	1,773,700	55.37	1,489,600	3,263,300		10	24

ROSEBROOK WATER SYSTEM

MONTH November

YEAR 2015

	DAY	TIME	INITIALS	RESERVOIR LEVEL	PUMP #1 HOURS	Pump #1 Gallons	PUMP #2 HOURS	Pump #2 Gallons	Totalizer Both Pumps	STATIC PSI	CL2 GAL	SODA ASH # OF 60 # BAGS
1	Sun	1030	BS	9.98	0.3	5,300	2.42	64,300	69,600	190	-	-
2	Mon	700	BS	9.9	4.11	72,600	0	-	72,600	190	-	-
3	Tue	600	BS	9.76	0	-	2.64	69,500	69,500	195	-	-
4	Wed	700	BS	9.36	4.03	71,000	0.97	25,600	96,600	190	-	-
5	Thu	815	NO	9.37	0	-	1.76	46,400	46,400	195	-	-
6	Fri	700	BS	9.11	4.82	87,500	2.42	63,600	151,100	195	-	-
7	Sat	910	NO	9.6	3.85	74,800	1.87	49,600	124,400	190	-	-
8	Sun	910	NO	9.63	0	-	1.2	31,900	31,900	195	-	-
9	Mon	700	BS	9.08	4.34	58,600	0	-	58,600	190	-	-
10	Tue	925	BS	9.03	0	-	2.34	62,000	62,000	195	-	-
11	Wed	700	BS	9.33	3.86	76,200	0	-	76,200	190	-	-
12	Thu	700	BS	9.41	0	-	2.5	66,100	66,100	195	-	-
13	Fri	640	BS	9.63	4.22	81,400	0	-	81,400	195	-	-
14	Sat	730	BS	9.31	3.03	67,200	2.69	71,400	128,600	195	-	-
15	Sun	730	BS	9.56	1.68	34,600	0	-	34,600	195	-	-
16	Mon	700	BS	9.2	0	-	2.45	65,100	65,100	190	-	-
17	Tue	740	BS	9.37	4.04	81,300	0	-	81,300	195	-	-
18	Wed	700	BS	9.45	0	-	2.58	68,500	68,500	195	-	-
19	Thu	700	BS	9.35	4.07	66,400	0	-	66,400	195	3	9
20	Fri	840	NO	9.31	0.13	1,200	2.6	68,700	69,900	195	-	-
21	Sat	1000	NO	9.02	4.52	93,000	2.37	62,900	155,900	195	-	-
22	Sun	910	NO	9.66	4.11	86,100	0	-	86,100	190	-	-
23	Mon	700	BS	9.66	3.55	6,200	3.03	80,000	86,200	195	-	-
24	Tue	700	BS	9.69	1.96	11,800	2.95	78,200	90,000	190	-	-
25	Wed	700	BS	9.06	5.03	42,700	2.37	62,700	105,400	190	-	-
26	Thu	705	BS	9.65	5.56	106,400	0	-	106,400	190	-	-
27	Fri	700	BS	9.03	4.66	90,900	3.18	83,900	174,800	190	-	-
28	Sat	730	BS	9.46	4.11	72,100	3.26	85,600	157,700	190	-	-
29	Sun	630	BS	9.03	5.12	31,300	2.8	73,600	104,900	190	-	-
30	Mon	700	BS	9.49	4.93	14,400	2.56	67,100	81,500	190	-	-
Totals					85.84	1,321,900	60.96	1,346,700	2,668,600		3	9

ROSEBROOK WATER SYSTEM

MONTH December

YEAR 2016

	DAY	TIME	INITIALS	RESERVOIR LEVEL	PUMP # 1 HOURS	Pump #1 Gallons	PUMP # 2 HOURS	Pump #2 Gallons	Totalizer Both Pumps	STATIC PSI	CL2 GAL	SODA ASH # OF 50 # BAGS
1	Tue	730	BS	9.58	0	-	2.48	64,800	64,800	190	-	-
2	Wed	700	BS	9.5	3.87	77,200	0	-	77,200	190	-	-
3	Thu	700	BS	9.63	0	-	2.49	65,600	65,600	190	-	-
4	Fri	900	NO	9.56	5.15	102,700	0.2	5,400	108,100	195	-	-
5	Sat	1000	NO	9.1	4.1	82,900	2.58	67,800	150,700	195	-	-
6	Sun	950	NO	9.28	0	-	2.89	76,100	76,100	200	-	-
7	Mon	630	BS	9.21	4.01	73,000	0	-	73,000	190	-	-
8	Tue	700	BS	9.18	0	-	2.84	74,500	74,500	190	5	12
9	Wed	700	BS	9.01	4.52	80,300	2.36	61,800	142,100	190	-	-
10	Thu	700	BS	10.03	3.5	71,300	0	-	71,300	195	-	-
11	Fri	700	BS	10	0	-	2.69	70,500	70,500	195	-	-
12	Sat	640	BS	9.63	4.84	99,800	2.8	75,200	175,000	195	-	-
13	Sun	730	BS	9.98	4.15	80,700	0.06	400	81,100	190	-	-
14	Mon	700	BS	9.76	0	-	2.46	64,000	64,000	190	-	-
15	Tue	705	BS	9.58	3.67	74,600	0	-	74,600	195	-	-
16	Wed	730	BS	9.85	0	-	2.4	63,300	63,300	190	-	-
17	Thu	730	BS	9.69	3.81	79,900	0	-	79,900	190	-	-
18	Fri	900	NO	9.51	1.07	14,300	2.72	71,800	86,100	195	-	-
19	Sat	900	NO	9.09	9.75	183,200	2.93	77,500	260,700	190	-	-
20	Sun	925	NO	9.09	5.32	87,600	3.03	83,600	171,200	195	-	-
21	Mon	700	BS	9.26	4.98	76,100	2.06	58,500	134,600	190	-	-
22	Tue	730	BS	9.94	4.65	86,800	0	-	86,800	195	-	-
23	Wed	700	BS	9.51	3.7	87,700	3.74	90,500	158,200	190	-	-
24	Thu	700	BS	10.45	4	66,100	0.64	17,200	83,300	190	-	-
25	Fri	800	BS	9.05	8.31	164,700	3.06	80,600	245,300	190	-	-
26	Sat	930	BS	10.55	5	101,700	0	-	101,700	195	-	-
27	Sun	730	BS	10.01	4.81	95,200	4.56	120,300	215,500	190	5	12
28	Mon	630	BS	9.69	3.23	68,800	6.82	180,100	248,900	190	-	-
29	Tue	630	BS	9.56	7.5	152,800	3.75	98,800	251,600	190	-	-
30	Wed	635	BS	10.1	6.23	127,000	3.97	104,700	231,700	195	-	-
31	Thu	700	BS	10.09	7.04	139,800	4	104,900	244,700	195	-	-
Totals					117.21	2,254,200	67.51	1,777,900	4,032,100		10	24

ROSEBROOK WATER SYSTEM

MONTH January

YEAR 2016

	DAY	TIME	INITIALS	RESERVOIR LEVEL	PUMP # 1 HOURS	Pump #1 Gallons	PUMP # 2 HOURS	Pump #2 Gallons	Totalizer Both Pumps	STATIC PSI	CL2 GAL	SODA ASH # OF 50 # BAGS
1	Fri	1000	NO	9.65	5.73	118,500	4.65	122,400	240,900	195	-	-
2	Sat	1000	NO	9.62	5.6	114,800	3.48	91,300	206,100	196	-	-
3	Sun	930	NO	9.69	5.49	114,900	3.39	89,000	203,900	190	-	-
4	Mon	815	NO	9.58	7.08	140,000	3.35	87,900	227,900	195	-	-
5	Tue	720	BS	9.51	6.96	138,000	3.58	94,200	232,200	195	-	-
6	Wed	700	BS	9.58	0	-	3.77	99,000	99,000	190	-	-
7	Thu	645	BS	9.74	0	-	5.2	137,300	137,300	190	-	-
8	Fri	700	BS	10.59	0	-	2.84	75,400	75,400	195	-	-
9	Sat	730	BS	9.51	0	-	7.19	190,300	190,300	196	-	-
10	Sun	730	BS	9.81	0	-	2.18	57,500	57,500	190	-	-
11	Mon	615	BS	9.6	0.07	1,000	8.53	225,600	226,600	196	5	12
12	Tue	700	BS	9.69	0	-	7.84	206,900	206,900	190	-	-
13	Wed	710	BS	10.49	0	-	2.49	65,900	65,900	190	-	-
14	Thu	700	BS	9.86	0	-	9.07	237,800	237,800	190	-	-
15	Fri	845	NO	10.31	0	-	5.27	138,200	138,200	196	-	-
16	Sat	930	NO	10.02	0	-	6.96	182,700	182,700	190	-	-
17	Sun	940	NO	9.71	0	-	6.14	160,200	160,200	190	-	-
18	Mon	700	BS	9.51	0	-	6.22	162,500	162,500	195	-	-
19	Tue	700	BS	9.94	0	-	4.4	123,000	123,000	195	-	-
20	Wed	700	BS	10.22	0	-	5.63	139,400	139,400	190	-	-
21	Thu	700	BS	10.36	0	-	2.63	68,900	68,900	190	-	-
22	Fri	725	BS	9.61	0	-	5.73	149,300	149,300	190	-	-
23	Sat	730	BS	9.54	0	-	9.04	214,800	214,800	190	-	-
24	Sun	740	BS	10.14	0	-	3.84	119,800	119,800	190	-	-
25	Mon	710	BS	9.83	0	-	4.91	127,500	127,500	190	6	12
26	Tue	530	BS	9.99	0	-	4.69	122,100	122,100	190	-	-
27	Wed	700	BS	10.37	0	-	3.02	80,500	80,500	195	-	-
28	Thu	705	BS	9.87	0	-	3.01	96,200	96,200	190	-	-
29	Fri	850	NO	10.06	0.07	1,000	5	129,900	130,900	195	-	-
30	Sat	910	NO	9.92	0	-	6.37	164,700	164,700	190	-	-
31	Sun	915	NO	9.81	0	-	4.91	127,100	127,100	196	-	-
Average									151,468			
Totals					31	628,200	155.33	4,067,300	4,696,600		10	24

ROSEBROOK WATER SYSTEM

MONTH February

YEAR 2016

	DAY	TIME	INITIALS	RESERVOIR LEVEL	PUMP #1 HOURS	Pump #1 Gallons	PUMP #2 HOURS	Pump #2 Gallons	Totalizer Both Pumps	STATIC PSI	CL2 GAL	SODA ASH # OF 50 # BAGS
1	Mon	710	BS	9.69	0	-	3.88	100,500	100,500	195	-	-
2	Tue	730	BS	10	0	-	3.68	95,800	95,800	190	-	-
3	Wed	850	NO	10.13	0	-	1.73	45,100	45,100	195	-	-
4	Thu	700	BS	10.01	0	-	1.9	49,400	49,400	195	-	-
5	Fri	630	BS	9.58	0	-	6.79	175,700	175,700	195	-	-
6	Sat	800	BS	10.08	0	-	6.32	163,300	163,300	190	-	-
7	Sun	740	BS	9.92	0	-	2.71	90,600	90,600	190	-	-
8	Mon	735	BS	9.53	0	-	4.91	106,400	106,400	190	-	-
9	Tue	700	BS	9.74	0	-	6.07	157,200	157,200	190	-	-
10	Wed	520	BS	9.9	0	-	1.22	45,300	45,300	190	-	-
11	Thu	700	BS	10.04	1.43	8,400	4.21	95,100	103,500	190	3	10
12	Fri	840	NO	9.74	0	-	5.04	130,300	130,300	190	-	-
13	Sat	900	NO	9.69	0	-	9.66	250,500	250,500	195	-	-
14	Sun	900	NO	9.71	0	-	7.39	190,200	190,200	195	-	-
15	Mon	700	BS	9.96	0	-	7.71	199,000	199,000	190	-	-
16	Tue	640	BS	10.05	0	-	7.21	186,600	186,600	190	-	-
17	Wed	635	BS	10.13	0	-	6.85	177,100	177,100	190	-	-
18	Thu	700	BS	10.37	0	-	6.15	158,400	158,400	190	-	-
19	Fri	700	BS	9.92	5.19	90,100	4.97	128,100	218,200	190	-	-
20	Sat	730	BS	9.71	10.89	188,900	2.58	68,700	255,600	190	-	-
21	Sun	720	BS	9.98	3	50,700	2.15	55,400	106,100	195	-	-
22	Mon	700	BS	10.29	5.39	90,700	0.62	16,000	106,700	195	-	-
23	Tue	700	BS	9.67	4.83	81,200	2.48	63,700	144,900	190	5	12
24	Wed	700	BS	9.85	3.81	64,500	2.11	67,400	131,900	190	-	-
25	Thu	700	BS	10.17	3.4	58,200	2.71	67,200	115,400	190	-	-
26	Fri	900	NO	10.06	3.21	55,200	0	-	55,200	195	-	-
27	Sat	910	NO	9.59	0	-	9.52	245,300	245,300	195	-	-
28	Sun	850	NO	9.65	0.44	7,600	6.25	135,500	143,100	190	-	-
29	Mon	700	BS	10.01	4.38	74,100	0.19	5,000	79,100	190	-	-
Totals					45.97	769,600	126.01	3,256,800	4,026,400		8	22

ROSEBROOK WATER SYSTEM

MONTH March

YEAR 2016

	DAY	TIME	INITIALS	RESERVOIR LEVEL	PUMP # 1 HOURS	Pump #1 Gallons	PUMP # 2 HOURS	Pump #2 Gallons	Totalizer Both Pumps	STATIC PSI	CL2 GAL	SODA ASH # OF 50 # BAGS
1	Tue	700	BS	9.56	3.71	62,300	2.17	66,300	128,600	190	-	-
2	Wed	700	BS	10.22	0	-	2.47	64,100	64,100	195	-	-
3	Thu	700	BS	9.56	4.62	76,900	2.18	56,300	133,200	190	-	-
4	Fri	700	BS	10.14	5.29	88,800	2.54	66,000	154,800	190	-	-
5	Sat	730	BS	10.16	7.57	176,500	1.21	28,800	205,300	190	-	-
6	Sun	740	BS	9.78	3.47	24,700	2.24	60,400	85,100	190	-	-
7	Mon	700	BS	9.98	2.59	26,400	2.38	61,200	87,600	190	5	14
8	Tue	700	BS	9.85	3.02	50,100	2.17	56,100	106,200	190	-	-
9	Wed	700	BS	10.28	3.92	64,400	0	-	64,400	190	-	-
10	Thu	700	BS	10.03	0	-	2.41	62,200	62,200	190	-	-
11	Fri	810	NO	9.6	4.81	80,100	2.31	58,400	139,500	195	-	-
12	Sat	910	NO	9.66	5.44	89,100	2.5	64,300	153,400	190	-	-
13	Sun	950	NO	9.96	5.45	89,300	2.22	67,100	146,400	190	-	-
14	Mon	700	BS	10.44	4.46	73,000	0	-	73,000	195	-	-
15	Tue	700	BS	9.93	0	-	2.38	61,300	61,300	190	-	-
16	Wed	700	BS	9.62	4.48	73,000	0	-	73,000	190	-	-
17	Thu	520	BS	9.63	3.56	58,800	2.65	68,200	127,000	190	-	-
18	Fri	700	BS	10.44	0.28	4,000	2.54	65,300	69,300	190	-	-
19	Sat	730	BS	9.66	4.6	87,500	2.56	65,900	153,400	190	-	-
20	Sun	719	BS	9.63	5.58	77,400	2.25	58,100	135,500	190	-	-
21	Mon	655	BS	10.37	3.86	62,700	0	-	62,700	190	-	-
22	Tue	630	BS	10.15	0	-	2.2	66,400	66,400	190	-	-
23	Wed	700	BS	9.66	4.22	68,700	0	-	68,700	190	-	-
24	Thu	700	BS	9.67	3.77	61,300	2.41	61,800	123,100	190	5	12
25	Fri	900	NO	10.37	0.24	3,900	2.59	66,800	70,700	195	-	-
26	Sat	910	NO	9.63	5.49	89,300	2.24	67,500	146,800	195	-	-
27	Sun	930	NO	9.69	4.75	77,100	0	-	77,100	195	-	-
28	Mon	705	BS	9.65	1.45	24,100	2.27	58,700	82,800	190	-	-
29	Tue	910	NO	9.87	2.54	41,100	0	-	41,100	195	-	-
30	Wed	630	BS	9.51	0	-	2.43	62,200	62,200	190	-	-
31	Thu	630	BS	9.67	3.92	64,000	0	-	64,000	190	-	-
Totals					103.07	1,694,300	53.32	1,384,400	3,078,700		10	26

ROSEBROOK WATER SYSTEM

MONTH April

YEAR 2016

	DAY	TIME	INITIALS	RESERVOIR LEVEL	PUMP #1 HOURS	Pump #1 Gallons	PUMP #2 HOURS	Pump #2 Gallons	Totalizer Both Pumps	STATIC PSI	CL2 GAL	SODA ASH # OF 50 # BAGS
1	Fri	700	BS	9.62	1.8	30,100	2.23	67,900	88,000	190	-	-
2	Sat	730	BS	9.96	2.31	37,500	2.22	67,000	94,500	190	-	-
3	Sun	735	BS	9.92	4.03	65,200	0	-	65,200	190	-	-
4	Mon	700	BS	10.03	0	-	2.15	55,300	65,300	190	-	-
5	Tue	700	BS	10.12	3.69	59,500	0	-	59,500	190	-	-
6	Wed	640	BS	9.99	0	-	2.02	52,400	52,400	190	-	-
7	Thu	700	BS	9.9	3.76	61,100	0	-	61,100	190	-	-
8	Fri	900	NO	9.92	0.05	700	2.29	59,300	60,000	195	-	-
9	Sat	1100	NO	9.49	3.8	61,600	2.38	60,900	122,500	195	-	-
10	Sun	900	NO	10.44	3.55	67,500	0.11	3,000	60,500	195	-	-
11	Mon	700	BS	10.45	0	-	1.02	26,100	26,100	190	-	-
12	Tue	630	BS	9.94	0	-	1.38	35,500	35,500	190	-	-
13	Wed	700	BS	9.83	0	-	2.15	55,600	55,600	190	-	-
14	Thu	700	BS	9.9	3.79	61,300	0	-	61,300	190	-	-
15	Fri	710	BS	10.17	0	-	2.28	68,600	58,600	190	-	-
16	Sat	730	BS	10.09	4.36	70,100	0	-	70,100	190	-	-
17	Sun	745	BS	9.67	0	-	3.46	89,200	89,200	190	5	14
18	Mon	900	NO	9.92	3.75	60,700	0	-	60,700	195	-	-
19	Tue	900	NO	10.01	0	-	2.15	55,200	55,200	190	-	-
20	Wed	900	NO	9.71	0	-	3.59	92,300	92,300	195	-	-
21	Thu	900	NO	10.06	0	-	3.01	77,600	77,600	195	-	-
22	Fri	930	NO	10.22	0	-	2.24	57,800	57,800	195	-	-
23	Sat	1010	NO	9.79	3.97	64,500	2.14	54,800	119,300	195	-	-
24	Sun	925	NO	10.37	3.54	56,600	0.35	9,000	65,600	195	-	-
25	Mon	900	NO	10.45	0.14	2,300	0	-	2,300	195	-	-
26	Tue	850	NO	9.58	0	-	2.26	58,200	58,200	195	-	-
27	Wed	850	NO	9.74	3.61	67,500	0	-	57,500	195	-	-
28	Thu	855	NO	9.83	0	-	2.15	54,900	54,900	190	-	-
29	Fri	900	NO	9.75	3.9	62,100	2.37	61,300	123,400	190	-	-
30	Sat	1010	NO	10.45	3.67	58,400	0.09	2,000	60,400	195	-	-
Totals					53.72	866,700	44.04	1,133,900	2,000,600		5	14

ROSEBROOK WATER SYSTEM

MONTH May

YEAR 2016

	DAY	TIME	INITIALS	RESERVOIR LEVEL	PUMP #1 HOURS	Pump #1 Gallons	PUMP #2 HOURS	Pump #2 Gallons	Totalizer Both Pumps	STATIC PSI	CL2 GAL	SODA ASH # OF 50 # BAGS
1	Sun	1010	NO	9.91	0	-	2.27	58,400	58,400	195	-	-
2	Mon	855	NO	9.65	4.34	69,400	2.52	65,000	134,400	190	-	-
3	Tue	1050	NO	10.4	3.7	59,300	0	-	59,300	190	-	-
4	Wed	900	NO	10.47	0.11	1,600	2.22	57,100	58,700	190	-	-
5	Thu	900	NO	10.27	3.63	58,200	0	-	58,200	195	-	-
6	Fri	855	NO	10	0	-	2.19	56,500	56,500	190	-	-
7	Sat	1010	NO	9.53	3.86	62,200	1.68	43,400	105,600	190	-	12
8	Sun	1005	NO	9.99	0	-	2.36	61,300	61,300	190	-	-
9	Mon	925	NO	9.74	3.79	61,300	0	-	61,300	190	5	-
10	Tue	830	NO	9.85	0	-	2.21	57,100	57,100	190	-	-
11	Wed	900	NO	9.63	3.93	62,800	1.21	31,300	94,100	190	-	1
12	Thu	855	NO	10.03	3.85	61,300	1.1	28,400	89,700	195	-	-
13	Fri	915	NO	10.45	0	-	2.11	54,500	54,500	195	-	-
14	Sat	1005	NO	9.92	4.19	67,600	0	-	67,600	195	-	1
15	Sun	1010	NO	9.81	11.84	191,600	5.13	133,000	324,600	193	-	-
16	Mon	730	NO	10	0	-	4.61	119,100	119,100	195	-	-
17	Tue	825	NO	10.27	0	-	5.08	131,400	131,400	195	-	-
18	Wed	950	NO	10.13	0	-	3.43	89,000	89,000	195	-	-
19	Thu	950	NO	10.47	0	-	2.18	56,300	56,300	195	-	-
20	Fri	935	NO	9.98	3.84	61,600	0	-	61,600	193	-	-
21	Sat	950	NO	9.351	3.44	55,400	2.41	62,400	117,800	193	-	-
22	Sun	905	NO	10.03	0	-	2.3	59,500	59,500	193	-	13
23	Mon	900	NO	9.81	3.38	53,800	0	-	53,800	195	5	-
24	Tue	850	NO	9.81	0	-	2.18	56,300	56,300	193	-	-
25	Wed	900	AG	9.77	3.54	56,800	0	-	56,800	195	-	-
26	Thu	900	AG	9.65	0.35	5,800	2.26	59,200	65,000	195	-	-
27	Fri	915	AG	9.53	3.95	64,000	2.23	58,000	122,000	195	-	1
28	Sat	915	NO	9.67	4.73	76,600	2.21	57,500	134,100	190	-	-
29	Sun	940	NO	9.821	5.66	91,700	1.73	45,500	137,200	190	-	-
30	Mon	840	NO	10.13	3.75	61,500	1.02	26,400	87,900	190	-	-
31	Tue	830	AG	10.1	0.06	200	2.27	58,100	58,300	190	-	-
Totals					75.94	1,222,700	58.91	1,524,700	2,747,400		10	28

APPENDIX D
Rosebrook Water Company, Inc. - Conceptual System
Improvements for Pressure Reduction

APPENDIX E
Opinion of Probable Project Cost



OPINION OF PROBABLE PROJECT COST
Rosebrook Water Company
System Improvements For Pressure Reduction
Prepared by Horizons Engineering, Inc.
Jul-16

<u>ITEM</u>	<u>UNITS</u>	<u>NO. UNITS</u>	<u>UNIT COST</u>	<u>TOTAL COST</u>
<i>General Conditions/Mobilization</i>	LS	1	\$5,000.00	\$5,000
<i>Well Pump Replacement</i>				
Well #1 Vertical Turbine Pump	EA	1	\$15,000.00	\$15,000
Well #2 Submersible Pump	EA	1	\$15,000.00	\$15,000
Electrical/Controls	LS	1	\$15,000.00	\$15,000
Mechanical/Piping	LS	1	\$5,000.00	\$5,000
			Subtotal	\$50,000
<i>Storage Tank Booster Station</i>				
Building (16 ft. x 18 ft.)	SF	288	\$200.00	\$57,600
Site Work/Grading	LS	1	\$35,000.00	\$35,000
Driveway/Access	LS	1	\$20,000.00	\$20,000
Electric Service	LS	1	\$25,000.00	\$25,000
Pumps/Mechanical	LS	1	\$45,000.00	\$45,000
Electrical	LS	1	\$20,000.00	\$20,000
Emergency Generator	LS	1	\$35,000.00	\$35,000
Piping/Valves	LS	1	\$35,000.00	\$35,000
Telemetry/Controls	LS	1	\$20,000.00	\$20,000
Connection to Existing	EA	2	\$2,500.00	\$5,000
Surface Restoration	LS	1	\$7,500.00	\$7,500
Erosion Control	LS	1	\$1,000.00	\$1,000
			Subtotal	\$306,100
<i>Crawford Ridge Booster Station</i>				
Building (14 ft. x 16 ft.)	SF	224	\$200.00	\$44,800
Site Work/Grading	LS	1	\$30,000.00	\$30,000
Driveway/Access	LS	1	\$10,000.00	\$10,000
Electric Service	LS	1	\$15,000.00	\$15,000
Pumps/Mechanical	LS	1	\$35,000.00	\$35,000
Electrical	LS	1	\$20,000.00	\$20,000
Emergency Generator	LS	1	\$35,000.00	\$35,000
Piping/Valves	LS	1	\$35,000.00	\$35,000
Telemetry/Controls	LS	1	\$15,000.00	\$15,000
Connection to Existing	EA	2	\$2,500.00	\$5,000
Surface Restoration	LS	1	\$5,000.00	\$5,000
Erosion Control	LS	1	\$1,000.00	\$1,000
			Subtotal	\$250,800
<i>Mt. Washington Place Booster Station</i>				
Building (14 ft. x 16 ft.)	SF	224	\$200.00	\$44,800
Site Work/Grading	LS	1	\$20,000.00	\$20,000
Driveway/Access	LS	1	\$10,000.00	\$10,000
Electric Service	LS	1	\$15,000.00	\$15,000
Pumps/Mechanical	LS	1	\$35,000.00	\$35,000
Electrical	LS	1	\$20,000.00	\$20,000
Emergency Generator	LS	1	\$35,000.00	\$35,000
Piping/Valves	LS	1	\$35,000.00	\$35,000
Telemetry/Controls	LS	1	\$15,000.00	\$15,000
Connection to Existing	EA	2	\$2,500.00	\$5,000
Surface Restoration	LS	1	\$5,000.00	\$5,000
Erosion Control	LS	1	\$1,000.00	\$1,000
			Subtotal	\$240,800
<i>Mt. Adams Lane Water Main Extension</i>				
8 Inch Ductile Iron Water Main	LF	350	\$90.00	\$31,500

Ledge Removal	CY	75	\$150.00	\$11,250
8 Inch Gate Valves	EA	2	\$2,500.00	\$5,000
Connection to Existing	EA	2	\$2,500.00	\$5,000
Pavment Replacement	LS	1	\$3,000.00	\$3,000
Hydrant	EA	1	\$5,000.00	\$5,000
Surface Restoration	LS	1	\$2,500.00	\$2,500
Erosion Control	LS	1	\$1,000.00	\$1,000
			Subtotal	\$64,250

Pressure Reducing Valves and Vaults (Rosebrook Lane, Mt. Adams Lane)

Pressure Reducing Valve Vaults	EA	2	\$10,000.00	\$20,000
Pressure Reducing Valves	EA	2	\$7,500.00	\$15,000
Gate Valves/Bypass Piping	EA	2	\$15,000.00	\$30,000
Connection to Existing	EA	2	\$2,500.00	\$5,000
Pavment Replacement	LS	1	\$5,000.00	\$5,000
Traffic Control	LS	1	\$1,500.00	\$1,500
Surface Restoration	LS	1	\$1,500.00	\$1,500
Erosion Control	LS	1	\$500.00	\$500
			Subtotal	\$78,500

Subtotal Construction Cost	\$995,450
15% Contingency	\$149,000
Total Construction Cost	\$1,144,450
Land/Easements	\$30,000
Legal	\$10,000
20% Engineering	\$229,000
Total Project Cost	\$1,413,450
ROUNDED PROJECT COST	\$1,410,000