

RECORD OF PROCEEDINGS

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MINUTES OF A REGULAR  
MEETING OF THE BOARD OF DIRECTORS OF  
THE FOREST VIEW ACRES WATER DISTRICT  
AND THE BOARD OF DIRECTORS OF THE  
WATER ACTIVITY ENTERPRISE  
HELD  
JANUARY 28, 2010

A regular meeting of the Board of Directors of the Forest View Acres Water District and the Board of Directors of the Water Activity Enterprise (referred to hereafter as "Board") was held on Thursday, January 28, 2010, at 6:00 p.m., at the Monument Sanitation District, 130 2<sup>nd</sup> Street, Monument, Colorado. This meeting was open to the public.

ATTENDANCE

In attendance were Directors:

Eugene Ashe  
Anne Bevis  
Steven Keefer  
Eckehart Zimmerman

Absent was Richard Crocker whose absence was excused.

Also in attendance were:

Joel Meggers; Community Resource Services ("CRS")  
Erik Taneler; SouthWest Water Company  
Gary Welp; RG Engineering  
Rick Goncalves; RG Engineering

ADMINISTRATIVE  
MATTERS

Director Bevis called the meeting to order at 6:07 p.m. Mr. Meggers distributed for the Board's approval the proposed agenda. Following discussion, upon motion duly made by Director Ashe and seconded by Director Zimmerman, vote was taken and the agenda was approved unanimously.

MINUTES

The Board reviewed the minutes of the September 24, 2009 regular board meeting. Director Ashe moved the minutes be approved as presented. Upon a second by Director Zimmermann, vote was taken and motion carried unanimously. The Board also reviewed

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the minutes of the November 18, 2009 special meeting. Director Zimmerman moved the minutes be approved as presented. Upon a second by Director Ashe, vote was taken and motion carried unanimously.

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ELECTION ITEMS    Election Resolution - Mr. Meggers presented the Election Resolution to the Board. Following discussion the Board asked that the walk-in voting locations be removed from the document. Director Zimmerman moved the Resolution be approved as amended. Upon a second by Director Keefer, vote was taken and motion carried unanimously.

Self Nomination Form – The Board reviewed the Self Nomination Form.

Election Timeline – The Board reviewed the Election Timeline.

LEGAL ITEMS    Wilde Property Update – The Board reviewed the judgment from the court and after discussion, the Board decided to pursue appeal.

1985 Agreement and the 2004 Amendment – The Board decided to have a work session meeting in February in place of the regular meeting to review and discuss this item.

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### OPERATIONS REPORT

Monthly Operations Report - Mr. Tameler presented the November/December operations report for the Board's review, a copy of which is attached to these minutes and incorporated herein. Mr. Tameler reported that the Surface Water Treatment Plant is functioning with the new filters. However, production is down, between 70 to 50 gallons per minute. Erik reported that he is currently researching the drop in production.

Sanitary Survey of Community Water System – Mr. Tameler presented the report for the Board's review, a copy of which is attached to these minutes and incorporated herein. Southwest Water Company was directed to submit a proposal of implementing corrective action by February 6, 2010.

Review of Monthly Production Report – Mr. Meggers presented and reviewed the Monthly Production Report with the Board.

SWTP Improvements by RG Engineering – Mr. Goncalves distributed drawings and presented improvement options to the

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Surface Water Treatment Plant to address pressure issues. A copy of this report is attached to these minutes and incorporated herein.

Removal and Replacement of SWTP Filters by Aqueous – Mr. Tameyer reported that the filters are installed and the work is complete.

Valves and Flow Meters Project -- This item was deferred.

Update on Field Inspection of Potential Unauthorized Taps – Mr. Meggers distributed Mr. Tudor's letter for the Board's review. This issue was deferred so the board could read and evaluate his letter.

Proposal from RG Consulting to Produce a Digital and Paper Boundary Map to DOLA – Mr. Goncalves presented their proposal. Director Ashe moved the Board approve the proposal. Upon second by Director Zimmerman, vote was taken and motion carried unanimously. Project is to be completed by February 25, 2010.

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### DIRECTOR'S ITEMS

Update of Mount Herman Natural Gas Drilling – Director Bevis reported that US Forest Service plans to do a full environmental assessment for the proposed natural gas drilling and assurance that FVAWD wells and water resources would be include in any of the water testing and analysis that would be conducted in relation to this proposed project.

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### CAPITAL ITEMS

Update on Design and Implementation of Infrastructure Repairs and Upgrades – Mr. Goncalves presented the report for the Board's review. A copy of the report is attached to these minutes and incorporated herein.

Storage Tank Improvement Project – Gary Welp of RG Consulting Engineers stated that the project is on hold until completion of the transmission line.

Transmission Line Realignment – Mr. Welp distributed summary timeline of all projects. He reported that the design is 80% complete and is currently under review by the county. They are in the process of pursuing easements.

Booster Pump Station Modification – Mr. Goncalves presented drawings of the design. He explained how this project provides needed system redundancy.

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OTHER BUSINESS No other business was brought before the Board.

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### FINANCIAL MATTERS

#### Payment of Claims

Mr. Meggers requested that the Board consider payment of the claims represented by check numbers 2409 - 2427, totaling \$64,757.39. Director Ashe moved that the Board approve the payment of claims as presented. Upon second by Director Zimmerman, vote was taken and motion carried unanimously.

#### Financial Statements

The Board reviewed the financial statements for the period ending December 31, 2009. The Board accepted the unaudited financial statements as presented.

#### Review End of Year 2009 Financial Statements

The Board reviewed the financial statements for the period ending December 31, 2009. The Board accepted the unaudited financial statements as presented.

Review and Adopt Fee Resolution for 2010 – The Board reviewed the Fee Resolution. Direct Ashe moved to accept as presented. Upon second by Director Zimmerman, vote was taken and motion carried unanimously.

2009 Audit Engagement Letter - The Board considered the engagement letter of Schilling & Company to perform the District's 2009 audit. Director Keefer moved that Board approve the engagement letter with Schilling & Company. Upon second by Director Zimmerman, vote was taken and motion was carried unanimously.

Review and Discuss Transitioning Checking Account to New Bank – The Board directed staff to pursue electronic deposit with US Bank.

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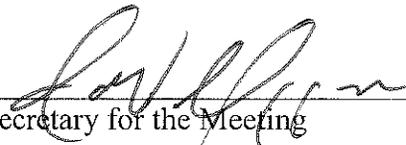
### ADJOURNMENT

There being no further business to come before the Board, upon motion duly made by Director Ashe, seconded by Director Zimmerman, the meeting was adjourned at 8:35 p.m.

RECORD OF PROCEEDINGS

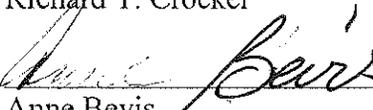
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Respectfully submitted,

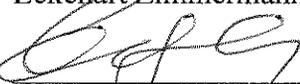
  
Secretary for the Meeting

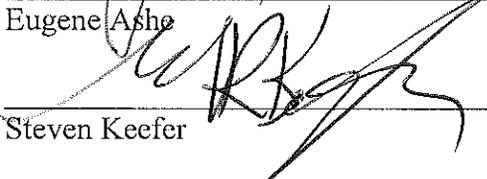
THESE MINUTES ARE APPROVED AS THE OFFICIAL  
JANUARY 28, 2010 MINUTES OF THE FOREST VIEW  
ACRES WATER DISTRICT BY THE BOARD OF DIRECTORS  
SIGNING BELOW:

  
Richard T. Crocker

  
Anne Bevis

  
Eckehart Zimmermann

  
Eugene Ashe

  
Steven Keefer

## **Forest View Acres Water District**

Operations Report – January 28, 2010

Prepared by Erik Tameler, Southwest Water Co.

### **Sampling:**

- The required samples were collected for Routine Coliform. Received results are inside the yellow folder in the Arapahoe treatment plant.

### **Treatment Plants:**

Arapahoe Water Plant:

- Has been operating normally. Currently off-line.

Transmission Line/Booster Station:

- Normal Operation.

Surface Water Plant:

- The new filters have been installed and the media in the secondary filters was replenished. The secondary filter backwash rate valve was not functioning properly and was also repaired while Aqueous Solution was on site. The plant is running very well, requiring backwashing only every second day.
- HACH annual Service for the turbidimeters is scheduled for Friday, Jan. 22.

### **Distribution system:**

- No breaks or leaks reported.

### **Miscellaneous:**

- The report for the CDPHE Sanitary survey was received. There is primarily one item that needs to be addressed. The backflow device in the Surface Plant will have to be replaced as has been the assumption since it was originally inspected by Dutchman Backflow in 2008. In addition to this, there were several items requiring responses, primarily for clarification. A detailed response to the survey is being prepared.
- Snow removal was contracted through Sharpest Cut Landscaping.

# STATE OF COLORADO

Bill Ritter, Jr., Governor  
Martha E. Rudolph, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S.      Laboratory Services Division  
Denver, Colorado 80246-1530      8100 Lowry Blvd.  
Phone (303) 692-2000      Denver, Colorado 80230-6928  
TDD Line (303) 691-7700      (303) 692-3090  
Located in Glendale, Colorado

<http://www.cdphe.state.co.us>

PUEBLO REGIONAL OFFICE  
4718 North Elizabeth St. – Suite B  
Pueblo, Colorado 81008-2054  
Phone (719) 545-4650 FAX (719) 543-8441



Colorado Department  
of Public Health  
and Environment

***CERTIFIED MAIL #7007 1490 0000 5427 7777  
RETURN RECEIPT REQUESTED***

January 7, 2010

Joel Meggars  
Forest View Acres Water District (WD)  
3855 N Lewiston St  
Ste 140  
Aurora, CO 80011

Subject: Sanitary Survey of Community Water System; Forest View Acres WD Public Water System  
Identification (PWSID) No. CO0121250  
El Paso County

Dear Mr. Meggars,

This letter serves to report the results of the sanitary survey conducted by the Engineering Section of the Water Quality Control Division ("the Division") on the above-referenced facility on December 4, 2009. The assistance that Erik Tameler provided was very helpful and is greatly appreciated.

## **Parties Present**

Name	Organization
Monique Morey	CDPHE-WQCD-ES-Pueblo
Erik Tameler	Southwest Water Company

## **Significant Deficiencies**

The following items are significant deficiencies that require immediate attention:

### **LIMBAUGH SWTP01**

#### **1. Treatment**

##### **CROSS CONNECTION OTHER OBSERVATION; Other cross connection observation**

The surface water treatment plant (SWTP) has an existing double check valve backflow preventer that separates unfiltered water from finished water. Considering that the purpose of this backflow prevention device is to prevent unfiltered surface water from mixing with finished water, the Division's assessment of the degree of hazard indicates that a reduced pressure principle backflow preventer is required rather than the existing double check valve. As soon as possible, the water system must replace the double check valve with a reduced pressure principle backflow prevention device that can be tested. The replacement device must be tested by a certified cross-connection control technician at the time of installation and at least annually thereafter. The results shall be included in the water system's cross-connection control program records. For additional information

on this subject, the EPA website has a Cross-Connection Control Manual available at <http://www.epa.gov/OGWDW/crossconnection.html>. In addition, information on Colorado's cross-connection programs can be obtained via the Internet at [www.backflow.org](http://www.backflow.org) or [www.bpecc.org](http://www.bpecc.org).

#### **Minor Deficiencies**

The following items are minor deficiencies that require corrective action:

#### **LIMBAUGH SWTP01**

##### **2. Treatment**

#### **OTHER TREATMENT OBSERVATIONS; Inspector identified treatment observation**

The surface water treatment plant (SWTP) was not in operation at the time of the site visit. The water system has ordered two replacement EPD filters that were being shipped at the time and also plans to add new equipment that will shut down the SWTP when there are turbidity excursions. Please note that modifications to the treatment process of an existing waterworks (not including replacement in-kind) require prior approval by the Division. Prior to resuming production of treated water with the surface water treatment plant, the water system should contact the Division to review the disinfection contact time (CT) and microbial log inactivation calculations. Depending on the current configuration of the distribution system, the water system may need to make modifications to the system in order to achieve the required CT and log inactivation.

#### **STORAGE TANK**

##### **3. Finished Water Storage**

#### **STORAGE CORROSION PROTECTION; The storage facility is not protected against corrosion. DCPWS Appendix I 1.0.16**

During the site visit, it was noted that the storage tank inspection done in October 2007 found that the interior floor and ceiling of the storage tank was suffering from corrosion. It is reasonable to conclude that the condition of the storage tank has continued to deteriorate since 2007. The water system should evaluate the appropriate maintenance and repairs needed and schedule such as soon as possible. It is also recommended that the water system evaluate whether the storage tank requires protection against corrosion, such as by cathodic protective devices or protective coatings. Changes to the coatings in tanks or the construction of new storage tanks must be approved by the Division prior to construction. Please note that the design criteria requires that all chemical additives or materials that come into contact with the drinking water must be certified for use with potable water under NSF Standard 60 or 61, respectively, or another third-party testing organization.

#### **LIMBAUGH SWTP01**

##### **4. Treatment**

#### **NON ANSI NSF MATERIALS OR AWWA STDS; Chemicals and materials in contact with the water must be ANSI-NSF Standard 60 or 61 certified, respectively. DCPWS 1.2.11, 7.20**

At the time of the sanitary survey, it was noted that the water system was using some orange buckets as chemical storage tanks that may not have NSF or other third-party testing organization approval for use with potable water. The water system should confirm that all chemicals and chemical storage tanks are NSF or other third-party testing organization certified for use with potable water.

#### **CHLORINATION FOR ARAPAHOE WELL**

##### **5. Treatment**

#### **NON ANSI NSF MATERIALS OR AWWA STDS; Chemicals and materials in contact with the water must be ANSI-NSF Standard 60 or 61 certified, respectively. DCPWS 1.2.11, 7.20**

At the time of the sanitary survey, it could not be visually confirmed that the hypochlorite chemical being used had NSF or other third-party testing organization approval for use with potable water.

The operator was confident that the hypochlorite chemical was approved for use with potable water. The water system should confirm that all chemicals and chemical storage tanks are NSF or other third-party testing organization certified for use with potable water.

6. **M&R and Data Verification**

**RECORD KEEPING; System does not maintain records according to the minimum requirements. This is an alleged violation of CPDWR 1.6.3.**

Although the operator was able to produce most of the records required to be maintained by the water system per the CPDWR, some of the older records required to be available could not be located at the time of the site visit. The water system needs to locate and organize all of the records that it is required to maintain per Article 1.6.3 of the CPDWR.

7. **System Management and Operation**

**OPERATION & MAINTENANCE PLAN; System does not have a documented Operations and Maintenance Plan.**

The water system would benefit from drafting and implementing an Operation and Maintenance (O&M) Plan and Log to assist in identifying, accomplishing and documenting routine and emergency operation, replacement, maintenance and repair tasks. It is recommended that this include written standard operating procedures (SOPs) for the operation and maintenance of the water system. Written documentation of the established practices will promote consistent application of practices and procedures. The system's O&M Plan should also include a documented list of responsibilities and any appropriate equipment manuals. In addition to the standard O&M Plan, manufacturers' literature for all pieces of equipment, as well as the as-built plans of the facility, should be on site or readily available. The water system already has some SOPs for plant start-up, shut-down, routine maintenance, etc. The water system could start its written O&M Plan by compiling copies of its SOPs into a three-ring binder.

This letter is your notification that the deficiencies and/or alleged violations of the Colorado Primary Drinking Water Regulations (CPDWR) listed above were noted during the inspection. Please consult the Division regarding appropriate corrective action and a schedule for implementing corrective action by February 6, 2010. This consultation may take the form of a telephone conversation, electronic mail, meeting, or other mechanism agreed to by the Division. In addition, please provide a written response addressing these issues by February 21, 2010. Your response (directed to Monique Morey, CDPHE Water Quality Control Division, Pueblo District Office, 4718 North Elizabeth, Suite B, Pueblo, CO 81008) must outline the course of action that has or will be taken and the date by which you propose to correct the deficiencies. An alleged violation of the CPDWR or a significant deficiency represents an unacceptable risk or a potential risk to health or the safe delivery of drinking water. Failure to provide a written response to alleged violations or significant deficiencies within 45 days is an alleged violation of the CPDWR Article 11.4 (c).

**Monitoring and Reporting**

**Monitoring Violations during the past year**

No monitoring violations were reported in the past year.

**Maximum Contaminant Level (MCL) Violations during the past year**

No maximum contaminant level violations were reported in the past year.

**Other Violations during the past year**

Violation Number	Violation Date	Violation Type	Compliance Period
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3008215	11/11/2009	MONTHLY COMB FLTR EFFLUENT (IESWTR/LT1)	09/01/2009 - 09/30/2009
3008214	05/27/2009	MONTHLY COMB FLTR EFFLUENT (IESWTR/LT1)	04/01/2009 - 04/30/2009

During the inspection, the issues/violations identified above were discussed. If you have been responding to the Compliance Assurance (CA) Section regarding these matters, please continue that effort to resolve the issues.

**Other Observations/Recommendations/Comments**

The following observations, recommendations, compliance assistance, and comments will enable your system to better conform to the requirements of applicable design criteria or other industry standards:

8. **M&R and Data Verification**

**OTHER MR&D OBSERVATIONS; Inspector identified MR&D observation.**

At the time of the site visit, the system's turbidimeters were overdue for their annual calibration. The surface water treatment plant was not in operation at the time. Prior to resuming production of drinking water from the surface water treatment plant, the turbidimeters must be calibrated according to the manufacturer's recommendations using primary standards and calibrated annually thereafter. The system should consult with the manufacturer to ensure that the instruments are calibrated correctly and that the calibration standards for that particular turbidimeter have not expired. The results of the calibration procedure(s) should be recorded in an operations logbook maintained at the water treatment facility.

**STORAGE TANK**

9. **Finished Water Storage**

**STORAGE MAINTENANCE WATER SUPPLY; System does not have procedures to sustain the water supply and adequate water pressure when the storage facility is out of service for maintenance.**

The water system does not have a procedure for taking the storage tank offline and isolating it from the distribution system for maintenance. The storage tank pressurizes the distribution system and also provides the water required for backwashing the filters. The storage tank is in need of maintenance to repair the corrosion that was identified by the inspection performed in October 2007. The water system is in the process of developing a plan to take the storage tank offline for the needed repairs. The water system is strongly encouraged to make it a priority to address this issue before it becomes an emergency situation.

**STORAGE TANK**

10. **Finished Water Storage**

**OVERFLOW DRAIN OR AIR VENT SCREENING; Storage facility openings must have a 24 mesh non-corrodible screen or flap valve to prevent entrance of contaminants. DCPWS Appendix I, 1.0.5, 1.0.6, 1.0.8**

Due to the weather conditions at the time of the sanitary survey, it was not possible to go to the location of the storage tank to inspect it. The storage tank air vent(s) and overflow pipe are required to have a non-corrodible, 24-mesh screen. The water system should assure that the storage tank openings (overflow outlets, air vent(s), etc.) are properly screened by inspecting them as soon as possible. Fine-mesh screens are necessary to keep out insects and other foreign material. However, fine-mesh screens can become clogged and clogged vents have led to imploded tanks. Therefore, fine-mesh screens must be designed to "give way" or fail in order to protect the tank from collapsing if a vacuum occurs.

## STORAGE TANK

### 11. Finished Water Storage

**STORAGE STRUCTURE AND COATING INSPECTIONS; In addition to routine and annual inspections, a thorough structural and coating inspection should be performed every 5 years by a NACE certified inspector using AWWA D101-53 standards.**

In addition to the thorough structural and coating inspection that should be performed approximately every 3 to 5 years, it is recommended that the water system develop and implement a program of routine and annual storage tank inspections. During the routine (daily, weekly, monthly) visits, the inspector should check the water level in the tank, control functions, the condition of the overflow pipe, and security. For facilities with easy access to the roof, the vent and hatch should also be inspected. The exterior and interior of the tank should be inspected more thoroughly during annual inspections. It is recommended that the water system develop a checklist for the routine and annual inspections and maintain records to document the inspections and maintenance performed.

## DISTRIBUTION SYSTEM

### 12. Distribution System

**FAILURE PRONE PIPING MATERIALS; The distribution system piping materials may be subject to failure or the piping is past its useful lifetime.**

The operator in responsible charge estimates that the system experiences 4 to 6 line breaks per year as frequently as 1 break per month at times. A letter dated May 22, 2007 from the WQCD to the Forest View Acres WD regarding a large leak in the transmission line that provides treated ground water from the Arapahoe well to the booster station noted that "The transmission line may have fractured due to high water pressure going through line that was not rated for water pressures of 100 psi." This same letter also stated that "Using water line not rated for high pressure may result in more water line breaks in the future. It is highly recommended that the District assess the infrastructure of the water system distribution system and begin formulating a plan for upgrading as necessary." It is recommended that the water system evaluate the condition of the transmission main and distribution system and develop a comprehensive plan to replace those portions that are past the useful lifetime and/or constructed of failure prone materials. It is also recommended that the water system evaluate whether it would be beneficial to install pressure reducing valves (PRVs) to reduce the pressure in portions of the distribution system.

## DISTRIBUTION SYSTEM

### 13. Distribution System

**UNACCOUNTED FOR WATER; System does not have measures for determining the percentage of unaccounted for water. DCPWS Appendix I, 2.10**

The water system occasionally discovers unknown connections to the distribution system which affect its ability to accurately account for the water usage in the system. This is another reason that it would be beneficial for the water system to upgrade the distribution system.

### 14. M&R and Data Verification

**OTHER MR&D OBSERVATIONS; Inspector identified MR&D observation.**

At the time of the site visit, the operator was unable to produce the system's well permits for review. The system should locate the well permits for all three wells and maintain copies of them on the premises along with the rest of the system's records.

## ARAPAHOE WELL

### 15. Source

**SRC GE OTHER SOURCE OBSERVATIONS; Inspector identified source observation.**

Your system will need to comply with the new Ground Water Rule (GWR) that became effective December 1, 2009. If it is determined that the system is drawing water from a susceptible aquifer and not treating to a 4-log inactivation or removal of viruses, the GWR will require monthly

sampling and testing of the source water (raw well water) for E-coli, enterococci, or coliphage. It is recommended that the system review the new rule and the disinfection contact time guidance document available on the internet at:

[http://www.cdphe.state.co.us/wq/engineering/pdf/LogInactivationBrochure\\_2009.pdf](http://www.cdphe.state.co.us/wq/engineering/pdf/LogInactivationBrochure_2009.pdf) to determine whether the required disinfection contact time between the location of disinfectant application and the location of the first consumer tap will be sufficient to meet the virus inactivation or removal requirements of the GWR. Please contact the Division with any questions. The Ground Water Rule Manager, Brian Pickle, can be contacted at 303-692-3527. Please note that Article 1.11.2 of the CPDWR requires the Division's approval of plans and specifications prior to making improvements to or modifying the treatment process of an existing waterworks.

#### DAWSON WELL NO 2

16. **Source**

**SRC GE OTHER SOURCE OBSERVATIONS; Inspector identified source observation.**

The Dawson Well No. 2 has been drilled but does not have a pump installed and is not connected to the Forest View Acres WD. The well is artesian. It is recommended that the water system ensure that the well is appropriately protected from contamination and vandalism. Please note that the addition of a new source to an existing waterworks requires prior approval by the Division.

#### PUMP STATION

17. **Pump/pumping facility and control**

**OTHER PUMP FACILITIES OBSERVATIONS; Inspector identified pump facilities observation.**

There are two vertical turbine pumps located at the system's pump station. One is a 15 HP pump and one is a 7.5 HP pump. It is recommended that the system evaluate whether the smaller pump would be capable of meeting the system's maximum demands without dangerous overloading if the larger pump were out of service for an extended period of time.

#### PUMP STATION

18. **Pump/pumping facility and control**

**AUXILIARY POWER; An independent source of power is not available for use during outages, which may become a critical issue if outages are frequent or if storage capacity is limited. DCPWS 9.14**

It is recommended that the water system evaluate its need for an independent source of power such as a portable backup generator. Two separate electric power companies supply different portions of the water system's facilities. In general, the ground water treatment plant is supplied by IREA and the booster pump station and the surface water treatment plant are supplied by Mountain View.

Potentially, under the right set of circumstances, only one power company outage could prevent the water system from having the ability to produce any treated water. The operator estimates that the system would have approximately 2 or 3 days supply of water in the storage tank during peak demand in the summer or approximately 1 week supply of water during the winter.

#### CHLORINATION FOR ARAPAHOE WELL

19. **Treatment**

**OTHER TREATMENT OBSERVATIONS; Inspector identified treatment observation**

The Division and the water system tested the free chlorine at the entry point to the distribution system at the Ground Water Treatment Plant. The Division measured a free chlorine residual of 0.50 mg/L and the system measured a free chlorine residual of 0.30 mg/L.

20. **Operator Compliance with State Requirements**

**OTHER OPERATOR COMPLIANCE OBSERVATIONS; Inspector identified operator compliance observation.**

Erik Tameler operates the Forest View Acres WD water system and holds a Class "B" water treatment certification and a Class "1" water distribution system certification. The Forest View Acres WD water system is required to be under the responsible charge of at least a Class "B" water treatment plant operator and a Class "1" distribution system operator. Mr. Tameler's certifications meet or exceed the requirements of Regulation 100.

The following facilities were reviewed during the inspection and no deficiencies, comments, or recommendations were made.

- Chlorination For Dawson Well No 1
- Dawson Well No 1
- Limbaugh Creek

#### **Drinking Water System Description**

The Forest View Acres WD community water treatment system, located near Palmer Lake, CO, consists of one (1) active well, two (2) inactive wells, one (1) surface water source (LIMBAUGH CREEK), two treatment plants, one booster pump station, one storage tank and the distribution system. The two inactive wells are Dawson Well No. 1 and No. 2. Dawson Well No. 2 is artesian and has not been equipped with a pump or a pitless adapter/unit and is not connected to the water system. The Arapahoe Well (1720 ft deep) serves the Ground Water Treatment Plant, which consists of pre-hypochlorination with 10% liquid sodium hypochlorite, pre-permanganate and three (3) greensand filters for iron removal. The iron concentration in the untreated Arapahoe Well groundwater is ~ 2 to 4 ppm. The backwash from the greensand filters goes to the local wastewater collection system and has an adequate air gap. A transmission line provides treated ground water to the booster pump station which pumps the water to the 250,000 gallon storage tank which floats on the distribution system.

The surface water source, Limbaugh Creek, provides raw water by gravity flow through a pipeline to the Limbaugh Surface Water Treatment Plant (SWTP), which consists of three (3) primary pressure filters and two (2) secondary pressure filters (direct filtration). The SWTP was not in operation at the time of the sanitary survey. A bypass has been installed so that the intake does not freeze during the winter when the SWTP is not in operation. All of the filters have garnet sand media designed to float into the waste line during a backwash when it loses angularity and mass. The operator must periodically add new media to replace the lost media. First, an inorganic coagulant/filter aid, polyaluminum chloride (PAC), is injected prior to an in-line static mixer, after which 10% liquid sodium hypochlorite is injected prior to the three primary filters. More PAC is injected after the primary filters, followed by another in-line static mixer and the two secondary filters. The finished water is metered and pumped to the distribution system/storage tank. The filter backwash uses finished water. The finished water flows through a double check valve backflow preventer into the pipeline to the primary filters. The backwash and filter-to-waste water flows by gravity to a concrete lined backwash basin with cattails and other vegetation growing in it. In the past, the backwash was recycled after settling and pumped back to the head of the SWTP. The system has not recently been recycling the backwash water. Typically, the SWTP operates completely by gravity flow from Limbaugh Creek through the SWTP to the distribution system/storage tank, which the system prefers because of the energy and cost savings. Two manually operated secondary pumps are available for finished water pumping if needed depending on the flow in the creek and the demand for finished water.

The water system installed a new turbidimeter sometime in the spring of 2009. At about the same time, the water system experienced a period of high surface water runoff in the creek that caused high influent turbidities which subsequently resulted in the water system's April 2009 turbidity violation. The SWTP was taken out of production from April 23, 2009 until July 9, 2009. The water system had another turbidity violation in November 2009 resulting in the SWTP again being taken out production on approximately Nov. 7, 2009.

Because one of the primary pressure filters in the SWTP was breached and in response to the water system's recent turbidity violations, the water system has ordered two new pressure filters to replace two of the primary pressure filters and also plans to add new equipment that will shut down the SWTP when there are turbidity excursions.

Inventory codes from SWIFT

- GWTP01/CHLORINATION FOR ARAPAHOE WELL
  - DISINFECTION
    - 423 HYPOCHLORINATION, PRE
  - GREENSAND FILTRATION
    - 560 PERMANGANATE, PRE
    - 343 GREENSAND FILTRATION, IRON REMOVAL
- LIMBAUGH SWTP01
  - DISINFECTION
    - 423 HYPOCHLORINATION, PRE
  - DIRECT FILTRATION
    - 240 COAGULATION; PARTICULATE REMOVAL
    - 344 PRESSURE SAND FILTRATION; PARTICULATE REMOVAL

**Reminders**

- Article 1.11.2 (Prior Approval Required) requires the Department's approval prior to commencement of construction of any improvements, treatment process modifications, or the addition of new water sources.
- The CPDWR contains specific requirements for recordkeeping. Some records must be kept for as long as twelve years.
- Most regulations, guidance documents, and forms are available via Internet on the Department's website. Please link to [www.cdphe.state.co.us/wq](http://www.cdphe.state.co.us/wq) for further information. You can link directly to the Engineering Section's webpages at <http://www.cdphe.state.co.us/wq/engineering/techhom.html> and to the Drinking Water Program webpages at <http://www.cdphe.state.co.us/wq/drinkingwater/index.html>

**Information Regarding Impoundment Facilities:**

The backwash and the filter-to-waste water from the surface water filtration equipment at the surface water treatment plant discharges adjacent to the building into a concrete lined backwash pond where it evaporates or overflows and dissipates into the ground or discharges to surface water (waters of the state).

Regarding these types of impoundments, the Colorado Department of Public Health and Environment has currently revised its procedure in regard to the requirement for permitting discharges in situations similar to yours, as summarized in the document "Water Quality Control Division and Hazardous Materials and Waste Management Division Solid Waste Program Coordination on Regulation of Groundwater Impacts Under SB-181" available at: [http://www.cdphe.state.co.us/wq/PermitsUnit/Industrial/SB181\\_SWWQCoordination.pdf](http://www.cdphe.state.co.us/wq/PermitsUnit/Industrial/SB181_SWWQCoordination.pdf). The Division regulates facilities that are discharging waste waters through land application or otherwise discharging wastewater to the ground, while the Hazardous Materials and Waste Management Division regulates facilities that are discharging into surface impoundments, even those designed for purposeful seepage.

There are a number of other public water systems that are impacted by the impoundment issue and the Department is initiating an internal workgroup to evaluate the issue, define appropriate regulatory requirements, and develop guidance for systems. Once this workgroup has completed its evaluation, additional information will be provided to the system regarding necessary measures to achieve compliance with applicable requirements. Please contact Charles Johnson with the Hazardous Materials and Waste Management Division at 303-692-3348 to discuss the regulatory requirements for impoundments.

Joel Meggars  
Forest View Acres WD  
January 7, 2010  
Page 9

Attached to this letter you will find a Customer Satisfaction Survey. We would greatly appreciate it if you would take a few moments to complete this survey and return it to us. Simply fill out the form, fold it according to the directions and drop it in the mail. The postage is already paid.

If you have any questions, please contact me by phone at (719) 545-4650 ext. 16 or via e-mail at [monique.morey@state.co.us](mailto:monique.morey@state.co.us) . Thank you for your time and cooperation.

Sincerely,



Monique Morey, E.I.T.  
Engineering Section  
Water Quality Control Division  
Colorado Department of Public Health and Environment

Enclosure: Customer Satisfaction Survey

cc: Erik Tameler, Facility Operator, Southwest Water Company  
El Paso County Health Department

ec: Betsy Beaver, WQCD Operator Certification Program

## Water Quality Control Division – Engineering Section Inspection Customer Survey

The Engineering Section of the Water Quality Control Division performs facility inspections to ensure compliance and provide technical assistance to regulated systems in Colorado. This survey is intended to gain information from you about our strengths and to identify areas needing improvement. This survey is being sent to you in an effort to provide us with information we can use to improve our efforts and provide better services to the public.

We would appreciate your response by completing this form and returning it to us. The form includes prepaid return postage. Please tape it closed before mailing. We encourage using the comment section to provide additional information that might be of help to us. Providing your name will help us to specifically recognize excellence and address issues, but anonymous submissions will be processed and included in all survey evaluations. Thank you for your time.

Project Name: \_\_\_\_\_

Responder Name and Title: \_\_\_\_\_

Email or Phone Number: \_\_\_\_\_

Inspection Type: (circle)    *Wastewater*                      *Drinking Water*                      *Both*

**For each item identified below, circle the number to the right that best applies to your experience. Rate each of the following items from 1 to 5 using the rating scale below:**

1 – Very low                      2 – Low                      3 – Acceptable                      4 – Good                      5 – Excellent

Inspector preparation, including knowledge of prior inspection reports and your facility.	1	2	3	4	5
Complete inspection, including full facility tour and records review.	1	2	3	4	5
Quality of communication with Inspector, including discussion of issues prior to Inspector leaving.	1	2	3	4	5
Courtesy and professionalism of Inspector.	1	2	3	4	5
Clarity of the inspection letter.	1	2	3	4	5
Value of the inspection process.	1	2	3	4	5
Degree to which you would be inclined to speak positively of your experience.	1	2	3	4	5
Overall level of satisfaction with the inspection process.	1	2	3	4	5

**The Water Quality Control Division’s website is available to provide regulatory information. The website address is: <http://www.cdphe.state.co.us/wq/engineering/techhom.html>**

Have you accessed our website?                       Yes     No

If so, was our website helpful?                       Yes     No     N/A

**Comments:** \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Please tape closed before mailing.





# **RG CONSULTING ENGINEERS, INC. MEMO**

1331 17th St., Suite 710, Denver, Colorado 80202 (303) 293-8107 • (303) 293-8106 (FAX)

DATE: January 20, 2010  
TO: Forest View Acres Water District  
FROM: Gary E. Welp, P.E., CFM  
Dmitry Tepo, EI  
RE: Project Status Report

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## **Transmission Line**

The Arapahoe Transmission Line Construction Plans are presently in review by the El Paso County Transportation Department.

Legal Exhibits and Legal Descriptions are being prepared for the 50-foot construction easement across the Nevis Properties. A 15-foot permanent easement will be conveyed after the line has been installed.

The Project Specifications are 90-percent complete and final revisions will be made based upon El Paso County comment and the timing of the secured construction easements.

The timing of the Project bidding will depend upon the responses from El Paso County and the secured construction easements.

### Monthly Billing:

Billing Period: October 1-31, 2009	\$18,604
Billing Period: November 1-30, 2009	\$12,029
Billing Period: December 1-31, 2009	\$ 5,445
Billing Period: January 1-31, 2010	\$ 8,000 (expected)
Billing Period: February 1-28, 2010	\$ 8,000 (expected)
Billing Period: March 1-31, 2010	\$ 7,000 (expected)
Billing Period: April 1-30, 2010	\$ 7,000 (expected)
Billing Period: May 1-31, 2010	\$ 5,000 (expected)

## **Booster Pump Station Upgrades**

RGCE has developed a booster pump operation scenario with the storage tank offline and produced a cost estimate for that scenario (attached). RGCE has also completed preliminary drawings for the upgrades. CDPHE's District Engineer stated that a CDPHE review will not be necessary for the pump station upgrades but they will want to see specifications on the paint used to coat the storage tank.

### **Water Treatment Plant Improvements**

RGCE has produced a preliminary design, drawings, and specifications for these improvements. We are currently waiting on a sand sample analysis results to finalize the strainer selection. After these results are received, the drawings and specifications will be finalized and submitted to CDPHE for approval.

### **Control System Investigation (SCADA)**

RGCE has coordinated with the controls system vendor and operator to outline the existing equipment and discuss possible control system scenarios. RGCE is coordinating with the control system vendor to schedule a site visit coinciding with another project to avoid paying for an additional site visit by the vendor. It appears that the vendor's presence will be necessary during the booster pump station upgrade construction, which will enable the vendor to inspect other facilities to provide a control system cost estimate.

**Forest View Acres Water District**  
**Booster Pump Station Improvements**  
 Preliminary Construction Cost Estimate  
 RGCE Job No.: 944.0011  
 Date: January 2010  
 Calc'd by: DVT

**Table 2: Preliminary Construction Cost Estimate**

Task	Description	Quantity	Unit	Unit Cost	Total Cost
1	Rent Two 2,500-Gallon Water Tanks <sup>1</sup>	1	LS	\$ 1,400	\$ 1,400
2	Piping Modifications & Valve Upgrades <sup>2</sup>	1	LS	\$ 10,000	\$ 10,000
3	Controls Modification Design and Installation	1	LS	\$ 2,000	\$ 2,000
<i>Construction Subtotal</i>					\$ 13,400
<i>Contingency (20%)</i>					\$ 2,700
<b>Total Project Cost</b>					<b>\$ 16,100</b>

**Notes:**

1. Can purchase a 5,000-gallon tank from Tank Equipment for \$3,200, instead of renting.
2. Piping and valve modifications include piping to connect two tanks and upsize drains, upgrading pressure sustaining valves to pressure sustaining and pressure reducing, relocating existing relief valve and installing a new relief valve.

Forest View Acres  
Design and Construction Timeline  
Water Line Replacement

