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**FINAL  
FACILITY PLAN**

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JEFFERSON COUNTY, IDAHO

**Morning View Water Company  
Jefferson County, Idaho**

SUBMITTED BY

**ASPEN ENGINEERING, INC.**



August 2010

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## CHAPTER 1

# Summary

### Introduction

The Morning View Water Company (MVWC) has contracted with Aspen Engineering to complete a Facility Plan in accordance with the Consent Order from the Department of Environmental Quality. The consent order identified multiple deficiencies including insufficient pressure, significant amounts of sand, non-flushable dead end mains, and operator licensing. Each of the eight items listed in the consent order, required action from Morning View Water Company. A detailed facility plan (this report) is listed as requirement 9d in the consent order. MVWC has completed all of the items listed in the consent order in addition to complying with items listed in recent sanitary surveys.

The findings of this study are summarized below:

### Water Requirements

The population serviced by MVWC is approximately 250 people via approximately 100 active individual connections. Morning View Water Company's historical average daily demand (ADD) for the years 2005 through 2008 was 170,750 gallons.

As an un-metered community, MVWC's ADD consumptive values are very high (2.6 to 3.0 times) in comparison with metered communities. It is recommended that MVWC implement conservation measures including individual meters and a tiered rate structure. The ADD water use for the 2008 year is 178,560 gallons, with an MDD of 446,400 gallons and a peak hour demand (PHD) of 535,685 gallons. Water demand projections for the end of the 3-year study period (2011) are 184,000 gallons for ADD, 460,000 gallons for MDD, and 800,000 for PHD.

### Supply

MVWC currently utilizes groundwater as its sole source of water. The groundwater is supplied by two wells. Both wells are located on a single lot and are separated by a distance of 100 feet. Both wells lie within the Company's platted service area. Total pumping capacity of the two active production wells is estimated at 600 gpm or 864,000 gallons per day.

The current firm capacity (largest well out of service) of the Company's production wells is 200 gpm or 288,000 gallons per day. Current firm capacity does not meet PHD or MDD flow requirements and an additional well is needed immediately.

### Storage

The only storage in MVWC's water system provided in the two air over water pressure tanks at the pump building and has no practical/useable quantity.

## **Distribution**

The distribution system is composed of both 4 inch and 6-inch main lines. These mains are exclusively class 200 PVC. Future expansions should continue to incorporate similar materials throughout the distribution system. The water system does not have fire hydrants, and the distribution mains are adequate to supply domestic flows.

## **Water Quality and Regulations**

All of Morning View's water is supplied by groundwater wells. Water quality is good, and compliance with both State and Federal regulations for contaminants is currently being maintained. Currently, There is no water treatment available or provided at the MVWC facilities. Lack of adequate pressure during the irrigation season has been and still is a large concern for the system. Compliance with current regulations is also an issue as discussed in Chapter two.

Federal drinking water regulations proposed or promulgated by the Environmental Protection Agency (EP A) as part of the mandates of the Safe Drinking Water Act (SDWA) Amendments must be met and certain new regulations are in effect and future regulations are anticipated to be finalized within the next few years.

## **Capital Improvement Program**

Currently there are no capital improvements planned for the system. However, a new well with adequate capacity to meet the firm ADD demand must be planned and completed within the next three years. The estimated cost to complete the new well and pump is \$150,000. Additionally it is recommended that backup power generation and/or storage be provided in order to prevent depressurization events during power outages.

## **Recommendations/Conclusions**

Providing and maintaining adequate system pressure is the first priority for the MVWC water system. System operating pressures were adjusted in late July of 2008 to 50 psi min and 75 psi max. Pressure monitoring data collected November 13-20, 2008 indicates adequate pressures are being maintained in system indicating the low pressures are due to the increased demand during the irrigation season.

Installation of meters to promote water conservation should be the first capital improvement to the system. Implementation of a tiered rate structure, after installation of the meters, will further aid conservation efforts and reduce the ADD.

If adequate pressures are still not maintained then installation of variable frequency drives (VFD) should be installed first on the main well and secondarily on the smaller well. This will eliminate the need for the air over water pressure tanks and will provide a much tighter range for pressure fluctuation.

In summary, the following items have been addressed by Morning View Water Company:

- Maintain a minimum of 40 psi throughout the system
  - a. Adjust pressure settings.
  - b. Eliminate all individual booster pumps. (Only one could be verified)
  - c. Install VFD - still required after meter installation if needed.
- Install screening at end of discharge pipe from well house (west side) and provide a minimum clearance of 12 inches above the ground. (2003 Sanitary Survey Requirement).
- Clean out well house (2003 Sanitary Survey Requirement).
  - a. remove all hazardous materials.
  - b. remove all non-water related items.
  - c. organize items on shelves.
  - d. remove all old/used/worn out parts and equipment.
- Secure underground vault - provide locking cover to vault (1997 & 2003 Sanitary Survey Requirement).
- Remove the threads from sample tap located in well house (2003 Sanitary Survey Requirement).
- Cleanup well lot
  - a. mow/cut down all weeds
  - b. fill in hole next to well #2
  - c. remove trash, wood, and debris
  - d. fill in hole where sand separator is purged and pour concrete pad or provide rip rap to prevent future erosion.

Ultimately, the system cannot meet the firm pumping capacity requirements and an additional water source, including water rights, is needed to provide adequate capacity. Installation of backup power generation is also recommended in order to maintain system usefulness during outages from the primary power source.

## CHAPTER 2

### **Introduction**

The Morning View Water Company (MVWC) is a privately held public water system that is currently regulated by the Idaho Public Utilities Commission. The system services approximately 100 single family residences in an unincorporated area of Jefferson County Idaho. The intended purpose of this report is to provide an assessment of the existing water system and provide recommendations to maintain and improve the facilities.

The following topics are contained in the report:

- Existing System (Chapter 3)
- Water Requirements (Chapter 4)
- Water Supply and Storage (Chapter 5)
- Distribution (Chapter 6)
- Water Quality and Regulations (Chapter 7)
- Capital Improvement Plan (Chapter 8)

The report covers the current configuration of the water system as well as a projection of three years from now when the system will likely be completely finished - i.e. all interior lots sold and occupied. As a reference for construction time frame, in 2002 the system serviced approximately 65 connections.

### **History**

In October 2007, MVWC entered into an agreement with the State of Idaho Department of Environmental Quality (DEQ) known as a consent order. The order made arrangements for MVWC to complete eight action items to come into compliance with current state and federal drinking water regulations. The eight items requiring MVWC action are:

- a. Correct and report deficiencies noted from the October 2003 sanitary survey and schedule a new sanitary survey with DEQ.
- b. Provide quarterly public notices to each residence on the system informing them of the DEQ's dis-approval of the system.
- c. Submit a written plan to DEQ detailing how MVWC will maintain 40 psi throughout the distribution system
- d. Complete a detailed facility plan in accordance with IDAPA 58.01.08.502
- e. Contract with a licensed operator.
- f. Submit a sampling plan addressing how MVWC will monitor the distribution system for bacteria.
- g. Sample four times for sand and report sampling results to DEQ or install a DEQ approved sand separator.
- h. Install adequate means of flushing dead-end mains.

MVWC has taken the following actions in response to the consent order action items. Records of such actions are included in Appendix A.

- a. Cleanup at the well lot and pump house has been completed and a draft cross-connection control plan has been submitted. The overflow piping still needs to have a screen covering and the erosion at the sand separator discharge needs to be filled in. All other items listed previously has been completed.
- b. Quarterly notices have been sent.
- c. Pump control settings have been changed to 50 psi (low) and 75 psi (high) to improve system pressures. DEQ pressure monitoring showing minimum pressures above 20 psi during the irrigation season has been established and a minimum pressure of 40 psi during the non-irrigation season has been maintained.
- d. Final Facility Plan submitted by Aspen Engineering to DEQ on April 13, 2009.
- e. Nolan Gneiting completed the requirements to update and make current his Idaho Drinking Water Operators license.
- f. MVWC submitted a "System Sampling Plan" to DEQ in March of 2008.
- g. Installation of a sand separator in the pump building is complete and separator is currently in operation.
- h. All dead-end mains have been fitted with flushing hydrants.

**Current Assets**

Current assets of MVWC include two deep wells, a 30' x 32' wood frame pump house, and 2.5 miles of distribution lines. The pump house encloses two 900 gallon tanks, a 40 gallon air compressor, meters, valves, and piping. Two Furnas brand pump controllers are also located in the pump house. The following table presents the various components and their anticipated useful life and replacement data.

Morning View Water Company - Capital Replacement				
Item	Date Installed	Anticipated Life Cycle	Replacement Date	Replacement Cost
30 well pump	July 2007	15 years	2022	\$12,000
10 well pump	July 2007	15 years	2022	\$8,000
900 gallon galvanized storage tanks	1998	30 years	2028	\$7,500 Ea

Motor Controllers	2002	10 years	2012	\$5,000 Ea
Well House	1998	40 years	2038	\$50,000
Flushing Hydrants	2007	20 years	2027	\$300 Ea

**Operations/Administration**

MVWC maintains an office located at 3996 East 200 N Rigby, Idaho. The office handles billings, customer service, complaints, notifications to its customers and correspondence with DEQ and the Idaho Public Utilities Commission (IPUC). Office personnel document each occurrence and have a complete recording of customers and correspondence. The office is operated Monday through Friday 8 am to 3 pm. In order to be responsive to customers needs, a 24 hour answering service (Ideal Answering -Roberts Idaho 228-2094) takes calls during weekends and off business hours. Their goal is to “keep our customers aware of what we are here for, and that is to serve them in the best way we can and to let them know the extent of the management of MVWC.”

In case of emergencies or outages, Nolan Gneiting, “Owner/Operator” is first contacted. If he is not available, Denise Kynoch, “Office Manager” is contacted. In the event the owner becomes incapable of carrying out his responsibilities, Dawn Gneiting would step in to handle the water system’s operation. Contracting with a certified Idaho Water operator would also be required.

Operations plans include a daily check of the well house with written record keeping of water pressure, pressure tank air levels, flow rate and flow totalization. The sand separator is flushed daily to minimize sand in the distribution system.

**Rates**

Currently, the MVWC rate structure is regulated by IPUC. The IPUC has recently conducted several audits of the company’s books and is in the process of completing an audit to support a either a rate increase or billing surcharge to help fund water service meters and installation of the meters.

## CHAPTER 3

### **Existing System**

The existing MVWC water system includes two wells and approximately 11,000 feet of six inch diameter class 200 PVC water main. 2,300 feet of four inch diameter, class 200 PVC is also included on the system. A map of the system and its features is shown in Appendix B.

The current service area for the MVWC includes 109 acres located in the Morning View Acres Divisions 1, 2, 3, and 4. Division No. 1 of Country Grove Estates Mobile Home Subdivision is also included on the system. There are currently 106 connections to single family residences. Residences include site constructed homes (stick built), mobile trailer homes, and manufactured homes on permanent foundations.

Lot sizes range from one quarter of an acre to just over one acre in area. The smaller lots are typically occupied by either mobile trailer houses or manufactured homes. Stick built single family residences generally occupy the larger lots.

Future growth within the existing service area boundary will include water service connections to 25 lots in the stick built divisions, as well as an additional 22 trailer lots in Division 4 of Morning View Acres. This will make a total of 149 individual connections to the system. It is estimated that the system will be fully developed within the next three years.

### **Supply**

Well 1 - The main well for the MVWC water system is 12 inch diameter well approximately 120' deep. The well is located on "well lot" at the northwest corner of Division No. 3. The well lot comprises 1.64 acres. The well log for this well shows it was completed in July 1996 and is cased to a depth of 118 feet. This well has not been pump tested and the actual well capacity is unknown. Currently a 30 horsepower submersible pump is installed in the well.

Well 2 - The backup well is a six inch diameter well that is 120 feet deep. According to the well log, this well has a surface seal 18 feet deep and was constructed in June 1986. No pump test data is available and a 10 horsepower submersible pump services the well.

Both wells feed into a central pump house via separate pitless adapters and buried six inch diameter pipes. The pump building accommodates two 900 gallon, air over water, pressure tanks which then feed into the distribution system. Both well pumps are single speed pumps and are equipped with soft start motor controllers to prevent water hammer and extend the life of the pumps.

Water quantities are monitored using a totalizer/flow meter located in the pump house. The meter reads the instantaneous flow through the meter as well as providing the total quantity passing the meter (totalizer). No individual well meters are installed and it is not possible to determine individual well production, only total water production can be recorded. The water

quality of these two wells currently meets drinking water regulations. Chapter 7 includes dialog of compliance with drinking water regulations.

Two 900 gallon galvanized water tanks are installed in the pump house. The two tanks are maintained between half and two-thirds full of water with pressurized air occupying the top portion of the tanks. The tanks are about ten years old and are in good shape with no rust or leaks showing. The estimated useful life of the tanks is at least another ten years.

A third well is located on within the platted subdivision on Lot 5 in Division 3 of Morning View Acres. This well currently does not meet State Rules for Public Drinking Water Systems and is not connected to the distribution system. In order to use Well 3 in the system, the Company would need to conduct a 24-hour pump test on the well to verify long-term sustainable yield, compliance with water quality standards, and provide a satisfactory well seal thus meeting the current well construction standards. After completing the required tests and obtaining DEQ approval, the next step would be to construct a new well house using current construction standards.

### **Treatment**

The only treatment currently in operation for the company's water supply is to separate sand from the well production water. The sand separator consists of a centrifugal type separator with raw water being fed into the unit, centrifugal action then separates the heavier sand particles which fall to the bottom of the unit and treated water is returned to the top of the unit and put into the distribution system. The unit operates manually and the only maintenance required is to purge the solids from the bottom chamber of the unit on a periodic basis. A determination of how often this is required can be made by flushing the solids into a bucket and then measuring the amount of sand produced per unit of water. It is likely the unit will operate at peak efficiency with only weekly or bi-weekly purging. No other treatment or treatment equipment is provided or necessary.

For emergency circumstances manual dosing of the individual wells would be required to treat a bacteriological outbreak, should one occur. The Company may want to purchase an emergency chlorination system to provide emergency disinfection capabilities.

### **Pressure Zone**

The entire system is served by a single pressure zone. System pressures throughout the development are established by the pressure switch setting at the pump house building on the well lot. Most recently, the pressure settings have been adjusted to operate between 43 and 67 psi. This pressure is measured at the pump building and customer pressures at the point of use will vary due to friction losses and the variation in demand especially during peak demand hours. The pressure settings at the pump building could be adjusted to provide only a ten pound differential. This would increase the lowest pressures without compromising fittings and other equipment due to increased high end pressures. Monitoring of the well pumps to ensure the

minimum run time is still met would be required. Generally during the irrigation, water demands will easily provide for adequate pump run time.

Based on the information obtained from pressure monitoring, the system usually operates above the minimum pressure of 40 psi except during the irrigation season. It appears that the system undergoes abrupt pressure changes each day as irrigation systems begin operation. The previously held notion of individual booster pumps coming online and degrading the pressure to surrounding areas has been dispelled as only one booster pump could be found and the operation thereof has been extremely limited according to the homeowner.

Aspen Engineering conducted a survey of customers suspected of having individual booster pumps and found only one that is currently installed. It is still our recommendation that all individual booster pumps be eliminated from the system. If acceptable pressure ranges cannot be maintained, it is recommended that a variable frequency drive (VFD) be installed in the pump house for each of the submersible well pumps. The VFD can be set to maintain 60 psi and so long as the pumps can keep up with demand, operating pressures will remain constant within 3-4 psi.

### **Standby Power**

Currently there is no standby power or emergency power generation equipment at the MVWC system. In the event of an area wide power failure, no water production is realized and the system pressures will drop to zero as users draw a limited amount (less than 500 gallons) of water supplied by the two pressure tanks.

It was estimated by MVWC personnel that power outages account for system shutdown 3-4 times per year. Typically outages occur during strong weather events such as high winds or heavy thunder showers. Loss of power for more than a couple of minutes during the irrigation season results in a depressurization of the system.

### **Storage**

The only storage in MVWC's water system provided in the two air over water pressure tanks at the pump building and has no practical/useable quantity

### **Telemetry System**

There is no telemetry system installed at the MVWC water system. The two wells are operated by an automatic pressure switch located in the pump house and both wells respond simultaneously.

### **Distribution System**

Water distribution for the Morning View system includes approximately 11,000 feet of six inch

pipe and 2,300 feet of 4" pipe. All of the pipe consists of class 200 polyvinyl chloride (PVC). A map of the existing water distribution system is presented in Appendix B. Recently, three flushing hydrants at the dead end mains were installed . There are no fire hydrants on the system.

Service connections are exclusively one inch and are typically polyethylene. There are twelve control valves within the distribution system, four of which are four inch valves controlling flow to the two four inch diameter loops - one at the east end of the system and the other from the two cul-de-sacs on 3950 East. The maximum number of residents on one continuous, isolatable loop is at 178 North where there are 32 trailers on one loop. Generally there are adequate valves to isolate ten to twelve homes without interrupting water service to others.

Periodic flushing of the dead-ends should be completed. A written plan identifying when each location is/was flushed and the results of the flushing (i.e. water conditions, turbidity, etc) should be included in the operations. Dead end mains should be flushed at least twice per year.

Cross-connection contamination of the distribution system is controlled by the use of backflow prevention devices, generally consisting of a double-check valve. Check devices are required to be inspected and tested after the initial installation with written verification given to the either the owner/operator or the office manager. Periodic testing of the valves is not currently part of the operation plan and should be implemented. The cost of testing each device should be charged to the home-owner. Records showing the location of the device, along with the test date and results should be kept on a master plan at the office. The proposed cross connection control plan has been submitted to DEQ.

## CHAPTER 4

# Water Requirements

This chapter is to summarize the current water system demands and project future water use for 3 and 20-year planning horizons. This includes a description of historical water use and forecasting estimates developed to project future water use.

### Definition of Terms

#### Demand

Demand refers to the total system demand, which is that quantity of water obtained from the water supply source during a given time period required to meet the needs of domestic use, lawn irrigation, system losses, and miscellaneous applications. Demands are normally discussed and quantified in terms of flow rates, such as gallons per minute (gpm) or gallons per day (gpd). Flow rates can be described in any terms involving a given volume of water delivered during a specific time. Flow rates pertinent for the analysis and design of water systems are as follows: Average Day Demand (ADD): the total volume of water delivered to the system in a year, divided by 365 days.

Maximum Month Demand (MMD): the average rate of water delivered to the system during the month of greatest demand during the year.

Maximum Day Demand (MDD): the rate of water delivered to the system during the day of highest demand during the year.

Peak Hour Demand (PHD): the rate of water delivered to the system during the hour of highest demand during the year.

These demands are typically presented in units of mgd. The following conversion factors may be used to express rate of demand in other terms:

1 mgd = 694 gpm = 1.55 cubic feet per second (cfs)

1 gpm = 60 gallons per hour (gph) = 1,440 gpd

1 cfs = 450 gpm = 0.648 mgd

Volumetric conversions are:

1 cubic foot (cf) = 7.481 gallons (gal)

1 gallon = 0.134 cubic feet (cf)

The concept of per capita demand provides a convenient method of comparing water use by different water systems or areas served by the system. The per capita demand is obtained by dividing the total system demand by the total population served. Differences in climate, type of development, and water use trends influence the per capita demand for different water systems.

## Consumption

Consumption refers to the actual volume of water used by customers measured at their connections to the water distribution system. Consumption is typically measured in gallons. The MVWC water service connections are currently not metered. Customers pay a flat rate according to the size of the lot being serviced. One acres lots are charged \$49.48/month, one-half acre lot fees are \$40.94 and smaller lots are \$32.41. Each of the listed fees include a monthly fee of \$5.00 to establish a contingency fund for emergency repairs. The owners should consider adding customer meters to promote conservation and help leverage the available water supply to meet current demands. The addition of meters would also allow the Company to quantify unaccounted-for-water in the system, discussed later in this chapter. Metering in some cases is a requirement to obtain different sources of funding to finance improvements, including state and federal grants.

## Peaking Factors

The relationships between the ADD and other demand parameters, such as the MDD, MMD, and PHD, are expressed as peaking factors. Typical peaking factors include the ratios of MDD to ADD, MMD to ADD, and PHD to ADD.

## Water Production

Available historical water production data is presented in Appendix E. The available historical data includes limited readings for both Well 1 and 2 during the period.

Year	ADD (gallons)
2006	171,306
2007	162,394
2008	178,562
Average	170,754

Based on historical averages from Table 4-1 and using recent hourly well production data recorded on July 25, 2006, an MDD ( $PF_{MDD}$ ) peaking factor of 2.5 will be used in this study. A value of 3.0 will be used as the PHD peaking factor ( $PF_{PHD}$ ).

## **Per Connection Demand**

The population serviced by MVWC is approximately 225 people via approximately 100 active individual connections. Morning View Water Company's historical average daily demand (ADD) for the years 2006 through 2007 was 167,000 gallons.

As an un-metered community, MVWC's ADD consumptive values are very high (2.9 to 3.4 times) in comparison with metered communities. MVWC should consider conservation measures such as customer meters as well as a tiered rate structure. The ADD water use for the current year (2008) is estimated at 165,000 gallons, with an MDD of 412,500 gallons and a peak hour demand (PHD) of 495,000 gallons. Water demand projections for the end of the 3-year study period (2011) when full build out is realized are 217,800 gallons for ADD, 544,500 gallons for MDD, and 653,400 for PHD. Comparing Morning View's ADD with the metered communities of Rexburg, Caldwell and Meridian shows the per connection water demand is quite high. In the referenced communities the average per connection ADD is 580 gallons compared with 1,668 gallons for MVWC.

Per capita ADD consumption for these communities ranges from 170 to 200 gpdpc. Assuming 225 people per connection as in Morning View, this equates to 742 gpd per connection. The state ADD as reported by USGS for public water systems in Idaho for the year 2000 was 260 gpdpc or using 2.9 people per connection, 754 gpd per connection. Morning View's average demand rate is 1668 gpd per connection.

Morning View's customer base is exclusively residential. Given the rather insignificant demand currently exerted by other uses, future water demand is estimated in this report solely on the residential growth projected for the area.

## **“Unaccounted-For” Water**

“Unaccounted-for” water is the difference between the volume of water produced and the volume of water sold to customers. Because the system is currently not metered, a comparison of production and water sales cannot be made. Unaccounted-for-water in a metered community is typically the result of system leakage or unmetered customers.

## **Demand Projections**

### **Population Projections**

Land uses surrounding the MVWC system is generally residential, single family homes. The area immediately south of the platted subdivision has been platted and developed as single family homes with individual wells. Immediately north is undeveloped land that has a potential to be connected to the system if economic conditions are favorable. Economic variables include

rate structure, cost of development, and prevailing land prices.

Under the current system layout, it has been estimated that an additional sixteen stick built homes will be added to the system as the remainder of the lots are sold and built on in Divisions one through three of Morning View Acres. Also, sixteen more trailer sites are in Morning View Acres, Division No 4. This will increase the total number of connections to 132 for the entire system. No other growth has been estimated.

### **Future Water Demands**

Currently, the MVWC system accommodates 225 people via 100 connections. Ultimately it is conceived that the state average of 2.9 people per connection will be served via the same 100 connections plus the addition 16 lots in Divisions 1-3 and 16 more lots in Division 4 making a total of 132 connections and 383 people. It is anticipated that the 32 additional lots will be built out by the end of the year in 2011 - three years from now. Producing the following results:

#### **• Current Estimated**

ADD = 165,000 gpd

MDD = 412,500 gpd

PHD = 495,000 gpd

#### **• 3- Year Planning Horizon**

ADD in 2011 = 217,800 gpd

MDD in 2011 = 544,500 gpd

PHD in 2011 = 653,400 gpd

#### **• 20- Year Planning Horizon**

ADD in 2026 = 280,867 gpd

MDD in 2026 = 702,166 gpd

PHD in 2026 = 842,600 gpd

While these projected water demands provide a basis for planning purposes and are used in other portions of this report, they must be considered estimates. If growth from outside development is allowed, then significant increases from the predicted annual rates will occur and demands will be much higher than predicted. Unit demand patterns may also change and these patterns would influence water needs for the community. Therefore, the projected demands should be compared each year to actual demands. The timing for recommended improvements can then be adjusted as needed.

## CHAPTER 5

# Water Supply and Storage

Topics covered in this chapter include water rights, and anticipated water supply and storage needs for the 3-year and 20-year planning horizons.

### Water Rights

Table 5-1 contains water rights information for the MVWC. Refer to Appendix C for a copy of the current water rights information. A water right permit is the authorization necessary from the Idaho Department of Water Resources (IDWR) to begin construction of withdrawal facilities and begin using water. A license is only issued once water has been used and documentation of use is submitted and approved by the IDWR. A water rights permit does not guarantee water for the appropriator. A decreed right is a water right that has been adjudicated by the court. Under the prior-appropriation doctrine, the water right authorizes diversions of water only to the extent that water is available.

TABLE 5-1					
Morning View Water Company - Water Rights					
Source	Pumping Rate (gpm)	Priority Date	Right No.	Stage	Water Right cfs (gpm)
Both Wells	650	10/10/1995	25-7593	License	0.79 (355)

### Water Supply and Storage Requirements

Currently the only storage provided in the MVWC system is in the two 900 gallon pressure tanks located in the pump house. This provides for a total storage capacity of 900 to 1200 gallons. However, this water is not immediately accessible to the distribution system because it requires pressurized air to push the tanks contents into the system. This could be done manually but an automatic air delivery system would make this water available during outages or emergencies, thus increasing the available water before complete depletion is realized.

### Water Supply Criteria

The following is a list of key criteria outlined in the Idaho Rules for Public Drinking Water Systems used to determine the timing and development of new water supply wells, storage, and emergency power generation capability for the MVWC water system.

- The water system must have a sufficient number of water supply wells with backup power to satisfy ADD or emergency storage equal to one day's ADD.
- The water system must have enough firm pumping capacity to satisfy MDD.
- Firm pumping capacity combined with additional storage must be sufficient to supply

- **Peak Hour Demand.**
- Total system capacity including supply and storage must be sufficient to meet MDD while maintaining a 40 psi residual throughout the system.

In this report, **firm pumping capacity** is defined as the production capacity of the water supply wells in the system with the largest well out of service.

This chapter explores these criteria using the water demand projections listed in above, to determine the capital improvements needed for the water system during the 3-year and 20-year plan horizons.

### **Criterion 1: Emergency Power Required to Satisfy ADD**

The first criterion involving ADD is used as a means of determining the emergency power requirements for the MVWC water system during the 3-year and 20-year planning horizons. A comparison of the available supply capacity of Well 1 (720,000 gpd), which is not equipped with backup power, suggests that the MVWC water system currently does not have sufficient backup power to supply ADD requirements now or for the projected 20 year horizon.

#### **Criterion 1 Summary: Anticipated Emergency Power Requirements**

Emergency backup power is currently needed.

### **Criterion 2: Firm Well Production Capacity Required to Satisfy MDD**

The second criterion involving MDD during the 20-year planning period is used to determine well supply requirements for the Morning View water system.

Current firm pumping capacity totals approximately 200 gpm or 288,000 gpd. MDD requirements for current, 3 year, and 20 year are 412,500, 544,500, and 702,166 respectively. Existing supply will not satisfy these MDD requirements. In order to meet this criteria, the Company will need an additional 90 gpm to meet current demands, 180 gpm to meet 3-year demands, and 287 gpm to meet the 20-year demands.

#### **Criterion 2 Summary: Anticipated Firm Capacity Requirements to Satisfy MDD**

The Company will need to obtain additional water rights and construct a new well immediately with a capacity of nearly 100 gpm similar to Well 1. Or, Well 3 will need to be upgraded immediately with a capacity of 100 gpm to meet the current demand.

### **Criterion 3 Well Capacity and Storage Must to Satisfy PHD**

The following is a list of assumptions that are used to calculate required well capacity and storage volume required under these criteria:

- The PHD must be supplied for up to 8 hours.
- Firm well capacity is not less than MDD.

Using this set of assumptions in conjunction with the MDD and PHD values cited earlier, the storage needed to satisfy equalization, also referred to as peaking requirements:

0.17 MG of total storage required (Current).

0.22 MG of total storage required by 2011

0.28 MG of total storage required by 2026

## CHAPTER 6

# Distribution

This chapter describes the capacity of MVWC's water distribution system. The distribution system was evaluated under existing and future conditions.

### Regulations

The Idaho DEQ has regulatory authority over public water systems in Idaho. In general, DEQ's rules govern the quality of water distributed, but not the manner in which it is distributed. However, the rules do contain basic construction standards and some of these apply to distribution systems.

Significant rules for the distribution system analysis are summarized as follows:

- Distribution piping and the supply system shall be designed and installed so that the pressure measured shall not be reduced below 40 pounds per square inch (psi) during maximum hourly demand conditions.
- Distribution piping and the supply system shall be designed and installed so that the pressure measured shall not be reduced below 20 pounds per square inch (psi) during maximum hourly demand conditions (including fire flow).
- Wherever possible, dead ends shall be minimized by looping. Where dead ends are installed, blow-offs of adequate size shall be provided for flushing.
- Wherever possible, booster pumps shall take suction from reservoirs to avoid the potential for negative pressures on the suction line, which could result when the pump suction is directly connected to a distribution main. Pumps that take suction from distribution mains shall be provided with a low-pressure cutoff switch on the suction side set at no less than 5 psi.

### Peak Hour Demand Under Normal Operating Conditions

The PHD condition represents the average demand rate during the highest hour of water use for the entire year. This is an extreme condition, but one that the system must be able to supply. Since PHD has been estimated according to projected growth, the actual occurrence in the system may be higher. It is also true that demands greater than MDD and approaching the peak hour value will occur several times during a year.

The estimated 2008 PHD for the system is 495, 000 gpd. PHD can be provided in the system with adequate pressures (Adequate means that pressures are maintained above 40 psi). Pressures under the current PHD can be maintained above 40 psi. As water demand increases under peak conditions, pipeline velocity can begin to be a problem; however,

no pipes in the system exhibited velocities significantly greater than 4 fps. In summary, no deficiencies were identified under current PHD.

### **Maximum Day Demand Under Normal Operating Conditions**

The MDD condition represents the average demand rate over the highest day of water use during the entire year. The water system must be designed to equal or exceed the MDD on a firm capacity basis. When MDD is modeled under normal operating conditions, the distribution system can provide water at adequate pressures.

The estimated MDD for 2008 is 412,500 gpd. No pipeline velocities greater than 4 fps were identified and system pressures should remain above 40 psi.

### **Current System Evaluation**

Current system demands have historically produced low pressures as shown by the pressure survey and the numerous customer complaints. Based on the information given by the operator and observation at the pump building the system appears to be capable of producing the required flow at adequate pressures except during the irrigation season. It is recommended to monitor pressures any location experiencing low pressure again during the 2009 irrigation season particularly after the installation of the water meters.

## CHAPTER 7

# Water Quality and Regulations

This chapter includes relevant water quality regulation information for MVWC's reference, with an accompanying description of how pertinent regulations affects the administration and operation of the system. Surface water regulations are not discussed, as it is not anticipated that Morning View will be utilizing surface water to meet current or future demands. As discussed in previous chapters, the water system relies solely on groundwater as its source of water. Generally, the quality of the groundwater is good, meeting current Federal- and State-established regulatory limits for inorganic chemicals (IOCs), synthetic organic compounds (SOCs), volatile organic chemical (VOCs), lead and copper, coliform, arsenic, and fluoride.

Sand in the water has been the primary water quality complaint and the only consent order action item. Chapter 2 of this report identifies both DEQ's requirements and MVWC's compliance with the consent order. With the installation of the current sand separator, the sand problem appears to be taken care of. Continued monitoring as well as quantification of sand in the production water should be completed. Quantifying the amount of sand produced and determining the capacity of the sand separator will likely reduce the amount of operator maintenance required and provide tangible data for evaluation by the Company and regulators.

## CHAPTER 8

# Capital Improvement Program

Recommended improvements from previous chapters are shown below and summarized in this chapter, along with estimates of costs. Improvements are grouped chronologically according to 3-year, and 20-year planning horizons.

### **Cost Estimating**

Cost estimates for proposed improvements presented are Order-of-Magnitude cost estimates. The American Association of Cost Engineers (AACE) defines Order-of-Magnitude cost estimates as estimates made without detailed engineering data. These estimates may be developed using cost curves, scale-up or scale-down factors, or an approximate ratio. AACE defines the accuracy for this level of estimate as plus 50 percent to minus 30 percent.

The cost estimates presented below have been prepared for guidance in project evaluation and implementation from the information available at the time of the estimate. The final costs of the project will depend on actual labor and material costs, competitive market conditions, final project costs, implementation schedule and other variable factors. As a result, the final project costs will vary from the estimate presented herein. Because of this, project feasibility and funding needs must be carefully reviewed prior to making specific financial decisions to help ensure proper project evaluation and adequate funding.

### **Water Meters**

Purchase and installation of individual meters for each residence is based on a 3/4" meter, meter base. Currently 95 of the 105 connections currently have a meter box with idler. Administrative, engineering, contingency, and legal fees are expected to be an additional 25%. The anticipated cost of the installed meters for the MVWC is \$200 each x 105 customers = \$21,000.

### **Variable Frequency Drives**

The cost to purchase and install VFDs for both of the two wells is based on three phase power and 10hp and 30 hp pumps for the wells. Estimated cost for the VFD's is \$10,000.

### **Backup Power Generator**

Natural gas or diesel generated power to run the submersible pumps and controllers at the pump building will require an 80 to 100 KW generator. Anticipated cost for purchase and installation of the generator including concrete pad and weather enclosure is \$40,000.

### **Drill Water Supply Well**

The cost to drill a new well assumes 12-inch diameter open hole production well 200 feet deep. The estimate includes costs for a pilot hole and final production well, and assumes the Company owns the well lot. A 30 percent allowance for contingency, engineering, administration, and legal cost is included in the estimate. The estimated cost to drill a new water supply well is \$150,000.

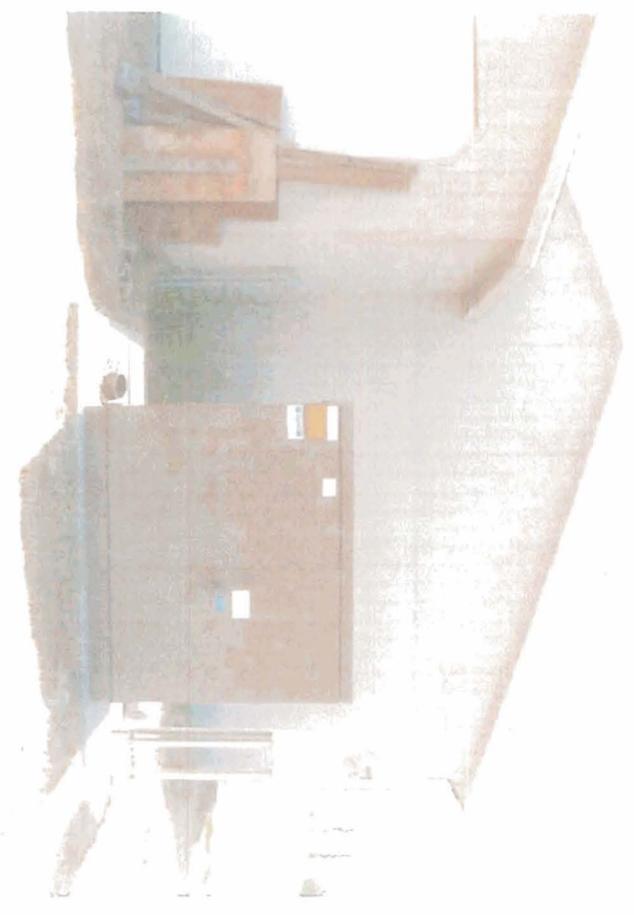
### **Schedule**

The anticipated construction schedule will be based on obtaining adequate funding. The time frame begins when funding is implemented with the following milestones:

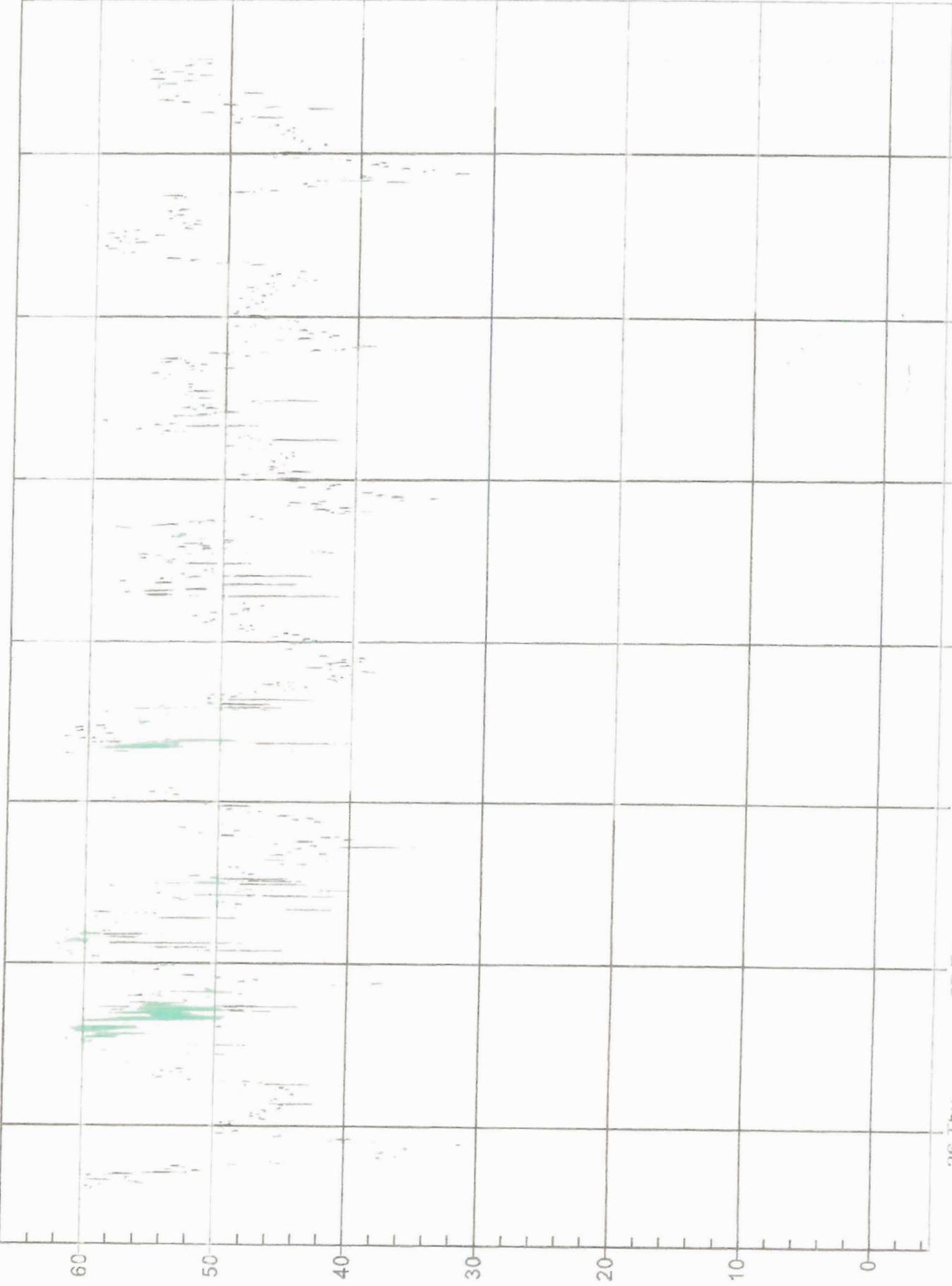
- 30 days complete design.
- 60 days DEQ approval of Design
- 75 days Drilling of new well begins
- 90 days Meters and VFD's purchased  
and construction of well house begins
- 100 days pump testing of new well
- 120 days Well and well house completed
- 120 days Meters and VFD's installed

# Appendix A

Consent Order Documents

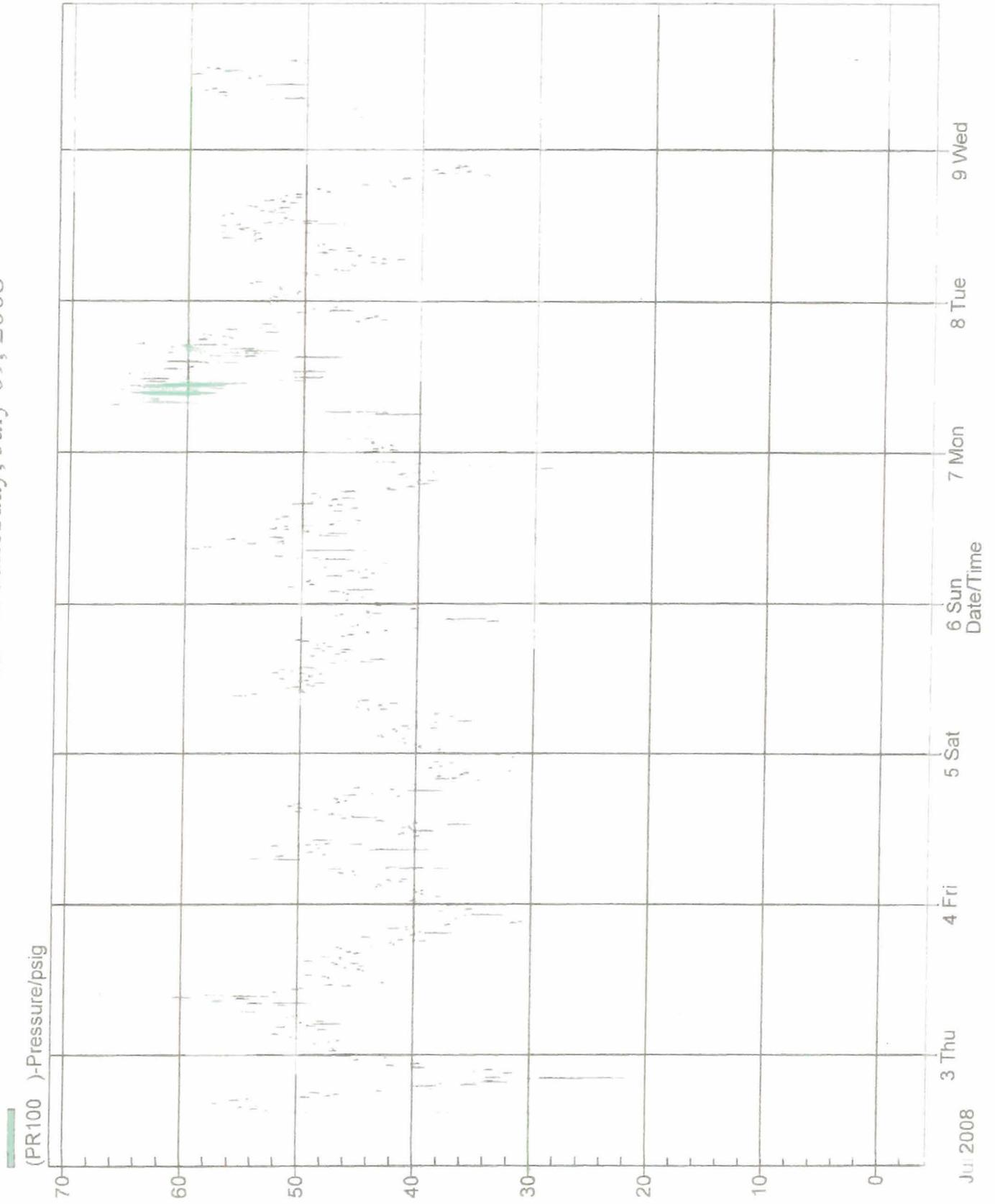


(PR100 )-Pressure/psig



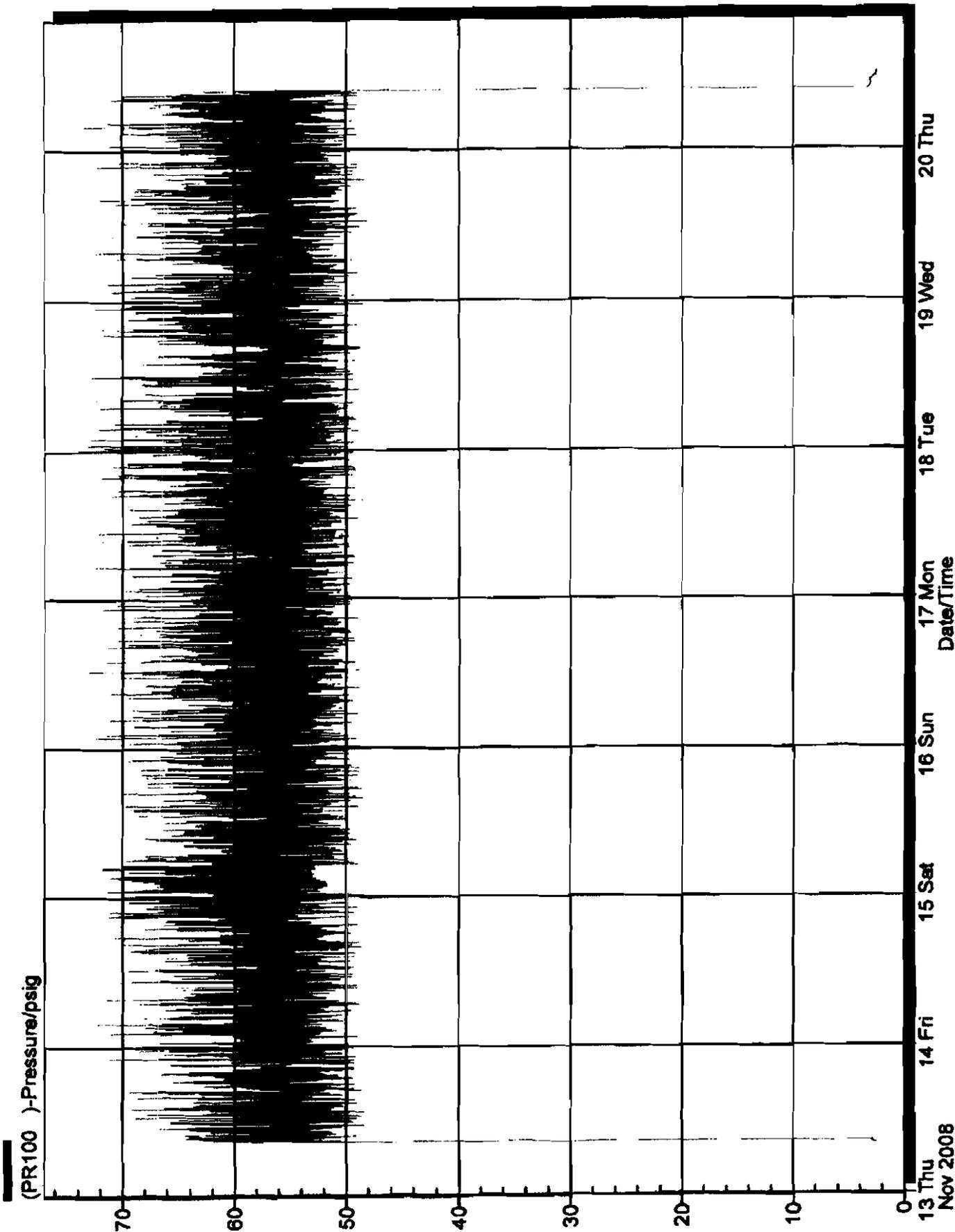
26 Thu 27 Fri 28 Sat 29 Sun 30 Mon 1 Tue 2 Wed

# Downloaded Data - Wednesday, July 09, 2008



188 N 3950 E

# Downloaded Data - Thursday, November 20, 2008



February 29, 2008

DEQ  
900 N Skyline  
Idaho Falls, ID 83402

As discussed in today's meeting with Rochelle Mason and Greg Eager, I am requesting a time extension to finish competing with the requirements of the Morning View Consent Order Items:

1. 9d. I am working with Ryan Loftus, PE, to contract out his engineering services to draft and complete a facility planning study per item 9d.
2. I made and sent payment of \$450 for the assessed penalty in the consent order on February 29, 2008 to the DEQ state office.
3. I set the well pump controls at 43 psi and 67 psi, respectively. I am taking pressure readings in the system to assess the water system improvements made last summer to make sure pressure requirements are being met. The study results will be incorporated into the facility planning study by my engineer, Ryan Loftus.
4. Five flushing valves were installed on the dead ends and I will take picture and send them to DEQ for documentation.
5. As soon as the snow melts, I will contact Rochelle to arrange a sanitary survey.
6. I drafted a sample plan but forgot to bring it so I will sent it to DEQ next week.

Please extend my deadlines to April 15, 2008 so I can complete the requirements.

Thank you



MORNING VIEW CO-IDAHO PUBLIC UTILITIES  
PO BOX 598  
RIGBY, ID 83442-0598

October 24, 2007

Karen Andrus  
177 N 3950 E  
Rigby, ID 83442

Dear Ms. Karen Andrus,

The purpose of this notice is to inform you that Morning View public drinking water system has been "disapproved" by the Department of Environmental Quality. Notice of Violation was issued September 12, 2007.

The violations cited by the DEQ are as follows.

1 - IDAPA 58.01.08.552.01.b.ii

b. Pressure

ii. Any public water system constructed or significantly modified after July 1, 1985, shall maintain a minimum pressure of forty (40) psi throughout the distribution system, during peak hourly demand conditions. Excluding fire flow, measured at the service connection or along the property line adjacent to the consumer's premises.

2 - IDAPA 58.01.08.552.014.b.v (Idaho Rules for Public Drinking Water Systems)

b. Pressure

v. When pressures within the system are known to have fallen below twenty (20) psi, the water system must provide public notice and disinfect the system.

3 - IDAPA 58.01.08.554.01.a (Idaho Rules for Public Drinking Water Systems)

01. Licensed Operator Required

a. Owners of all community and no transient non-community public drinking water systems must place the direct supervision of their drinking water system, including each treatment facility and/or distribution system, under the responsible charge of a properly licensed operator.

To let you know where we are with these violations.

Points 1. and 2. Water pressure has been restored. We check and record well reading no less that every other day. Our pressure readings are between 45 and 70 psi. When our pressure falls to 45 psi, the pump cycles and brings the psi back up to 70.

Point 3. Morning View Water has retained a licensed operator until we can get our license reinstated.

Morning View is working with DEQ to achieve full compliance with the Idaho Rules for Public Drinking Water Systems and will continue to keep customers informed.

We would like to assure you that we have been taking water samples though out the time of low pressure, and the reports were all within normal range.

Sincerely,

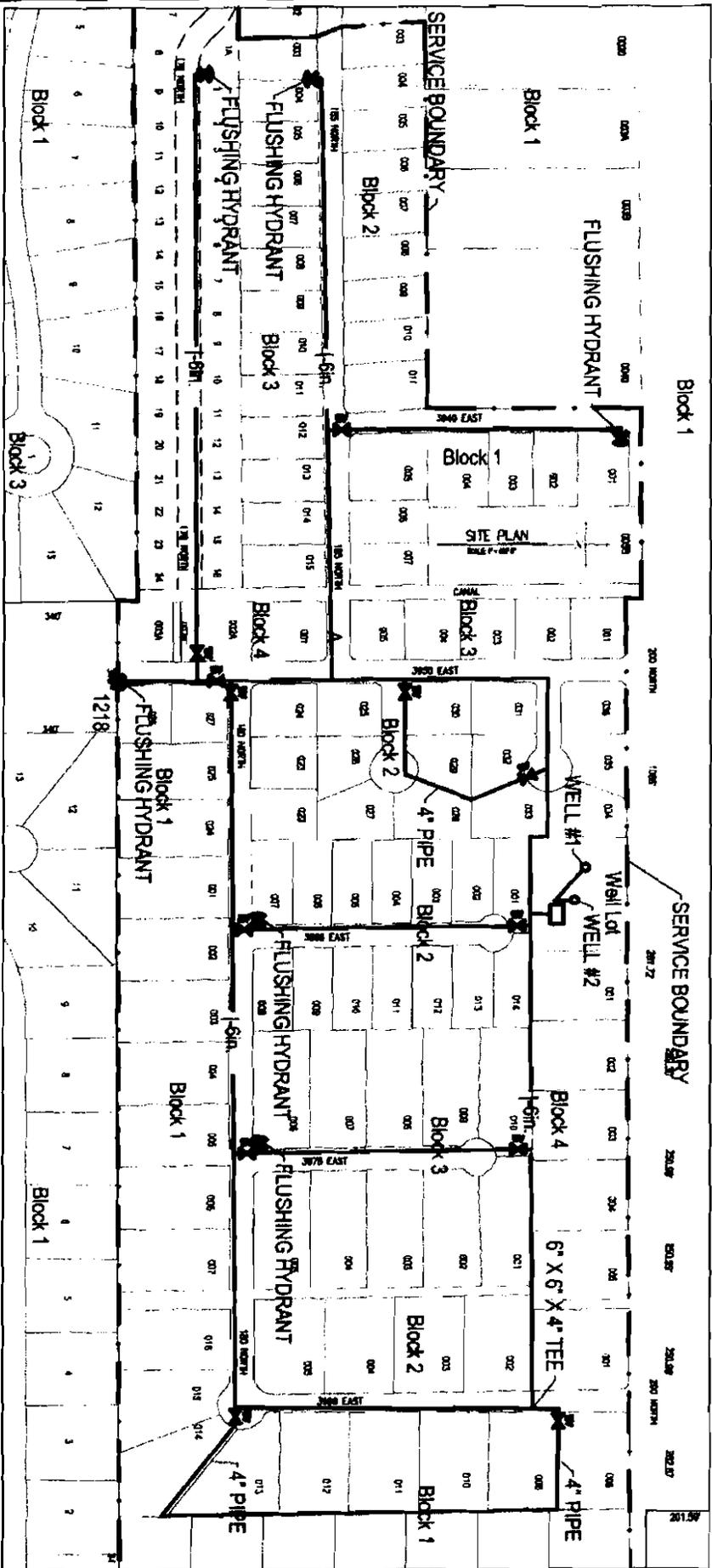
Nolan Gneiting  
Operator  
MORNING VIEW CO-IDAHO PUBLIC UTILITIES

# System Sampling Plan

## Morning View Water Co., Inc. Community Water System

### System Information

<b>System Name</b>	Morning View Water Co. Inc. Community Water System.
<b>System Classification</b>	Morning View Water Co., Inc. system is a Community Water System.
<b>ID #</b>	State System ID: 7260063
<b>Source Type</b>	The Morning View Water System is supplied by two separate groundwater wells, named wells #1 (Idaho ID AET030) and #2 (Idaho ID AET029).
<b>Population Served</b>	Morning View Water Co., Inc. Community System serves approximately 300 persons.
<b>Service Connection</b>	Morning View Water Co., Inc Community System presently has approximately 100 residential and 3 facility connections.
<b>Daily Production</b>	Typical production at Morning View Water Co., Inc is approximately 173,000 gallons per day.
<b>Introduction</b>	Morning View Water Co., Inc Community Water System serves all residents in the upper and lower neighborhoods of the Community.
<b>Source</b>	The Morning View Water Co., Inc Community system is supplied by two wells located on the site. Wells are relatively shallow (120-130 feet) in gravelly soils with high static levels (40-60 feet) affected by a high, variable water table and seasonal conditions.
<b>Treatment - Disinfection</b>	No Treatments or disinfectants required.
<b>Treatment - Corrosion Control</b>	
<b>Storage: Reservoirs</b>	The 140,000 gallon concrete standpipe reservoir shows some external evidence of effervescence and seepage and has recently been repaired. A replacement reservoir is planned.
<b>Special Note:</b>	System pressures were reportedly quite low: 40-65 psi. This may be related to the reservoir conditions and/or operating levels. Action to identify the cause is being addressed.



1:0

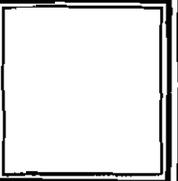
DATE	2008.023
BY	B/A/08
PROJECT	
SCALE	
DATE	
BY	
PROJECT	
SCALE	
DATE	
BY	
PROJECT	
SCALE	

Nolan Gneiting  
 Morning View Water System  
 Bonneville County Idaho

# FLUSHING HYDRANTS

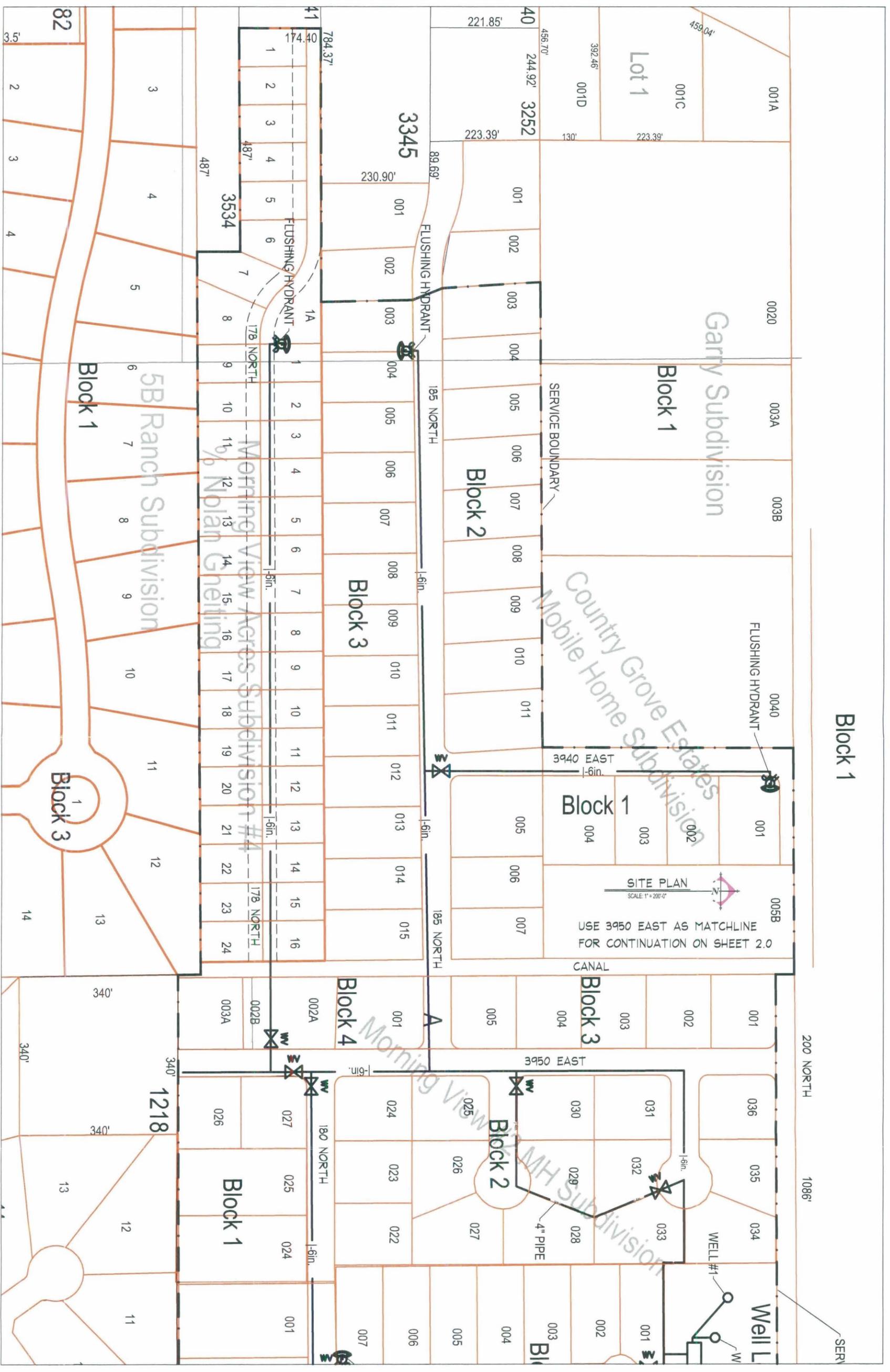


**Aspen Engineering, Inc.**  
 10727 N. Yellowstone Hwy.  
 Idaho Falls, Idaho 83401  
 Phone (208) 542-1911



# Appendix B

Maps



Block 1

200 NORTH 1086'

SITE PLAN  
SCALE: 1" = 200'  
USE 3950 EAST AS MATCHLINE  
FOR CONTINUATION ON SHEET 2.0

**Aspen Engineering, Inc.**  
10727 N. Yellowstone Hwy.  
Idaho Falls, Idaho 83401  
Phone (208) 542-1911



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by any information storage  
retrieval system, without  
prior written permission  
from Aspen Engineering, Inc.  
Violations will be prosecuted.

NOLAN GNEITING  
MORNING VIEW WATER SYSTEM  
JEFFERSON COUNTY Idaho  
**MV WATER SYSTEM**

JOB NO. 2008.025  
DATE 8/1/08  
DESIGNED BY JZM  
CHECKED BY JRL  
REVISIONS

SHEET NO. 1.0  
OF 2



# Appendix C

Water Rights

IDAHO DEPARTMENT OF WATER RESOURCES  
Water Permit Report 25-7593

WATER RIGHT NUMBER: 25-7593

<u>Owner Type</u>	<u>Name and Address</u>
Current Owner	MORNINGVIEW WATER CO INC 462 12TH ST IDAHO FALLS, ID 83401 (208)745-0029

Priority Date: 10/10/1995

Basis:

Status: Active

<u>Source</u>	<u>Tributary</u>
GROUND WATER	

<u>Beneficial Use</u>	<u>From</u> <u>To</u>	<u>Diversion Rate</u>	<u>Annual Volume</u>
DOMESTIC	1/01 to 12/31	0.330 CFS	
IRRIGATION	4/01 to 11/01	0.460 CFS	
	<u>Total Diversion:</u>	0.790 CFS	

Location of Point(s) of Diversion

GROUND WATER	NE1/4NE1/4	Sec. 30, Twp 04N, Rge 39E, B.M.
JEFFERSON County		
GROUND WATER	NW1/4NE1/4	Sec. 30, Twp 04N, Rge 39E, B.M.
JEFFERSON County		

Place of Use

IRRIGATION

Twp Rge Sec	NE	NW	SW	SE	Totals
04N 39E 30	NE   NW   SW   SE	23.0			
	14.0 9.0				

Total Acres: 23

DOMESTIC same as IRRIGATION

Conditions of Approval:

1. 26A Project construction shall commence within one year from the date of permit issuance and shall proceed diligently to completion unless it can be shown to the satisfaction of the Director of the Department of Water Resources that delays were due to circumstances over which permit holder had no control.
2. 048 The use of water under this right shall not give rise to any claim against the holder of a senior water right based upon the theories of forfeiture, abandonment, adverse possession, waiver, equitable estoppel, estoppel by laches or customary preference.
3. 049 The Director retains jurisdiction of the right to incorporate the use into a water district, require streamflow augmentation or other action needed to protect prior surface water and groundwater rights.

Close

IDAHO DEPARTMENT OF WATER RESOURCES  
Water Permit Report

04/12/2007

WATER RIGHT NO. 25-7593

Owner Type	Name and Address
Current Owner	MORNINGVIEW WATER CO INC 462 12TH ST IDAHO FALLS, ID 83401

Priority Date: 10/10/1995

Status: Active

Source	Tributary
GROUND WATER	

Beneficial Use	From	To	Diversion Rate	Volume
IRRIGATION	4/01	11/01	0.46 CFS	
DOMESTIC	1/01	12/31	0.33 CFS	
Total Diversion			0.79 CFS	

Location of Point(s) of Diversion:

GROUND WATER	NENE	Sec. 30	Township 04N	Range 39E	JEFFERSON County
GROUND WATER	NWNE	Sec. 30	Township 04N	Range 39E	JEFFERSON County

Place(s) of use:

Place of Use Legal Description: IRRIGATION JEFFERSON County

Township	Range	Section	Lot	Tract	Acres									

04N	39E	30		NENE	14		NWNE	9						
-----	-----	----	--	------	----	--	------	---	--	--	--	--	--	--

Place of Use Legal Description: DOMESTIC same as IRRIGATION

Total Acres: 23

Conditions of Approval:

1.	26A	Project construction shall commence within one year from the date of permit issuance and shall proceed diligently to completion unless it can be shown to the satisfaction of the Director of the Department of Water Resources that delays were due to circumstances over which permit holder had no control.
2.	048	The use of water under this right shall not give rise to any claim against the holder of a senior water right based upon the theories of forfeiture, abandonment, adverse possession, waiver, equitable estoppel, estoppel by laches or customary preference.
3.	049	The Director retains jurisdiction of the right to incorporate the use into a water district, require streamflow augmentation or other action needed to protect prior surface water and groundwater rights.
4.	01C	A flow measurement port or other device as specified by the Department shall be installed by the right holder to provide for the installation of measuring equipment and the determination of the rate of diversion by the Department.
5.	03A	The rate of diversion of water for irrigation under this right and all other water rights on the same land shall not exceed 0.02 cubic feet per second for each acre of land.
6.	004	The issuance of this right does not grant any right-of-way or easement across the land of another.
7.		Domestic use is for 48 homes.
8.	046	Right holder shall comply with the drilling permit requirements of Section 42-235, Idaho Code.

Dates:

Proof Due Date: 07/01/1994

Proof Made Date: 10/10/1995

Approved Date: 07/15/1991

Moratorium Expiration Date:

Enlargement Use Priority Date:

Enlargement Statute Priority Date:

Application Received Date: 05/14/1991

Protest Deadline Date:

Number of Protests: 0

Field Exam Date: 7/29/1998

Date Sent to State Off: 4/30/2002

Date Received at State Off: 5/6/2002

Field Exam Remark:

Other Information:

State or Federal:

**Water Right Report**

Page 1 of 1

**Owner Name Connector:**  
**Water District Number:**  
**Generic Max Rate per Acre:**  
**Generic Max Volume per Acre:**  
**Swan Falls Trust or Nontrust:**  
**Swan Falls Dismissed:**  
**DLE Act Number:**  
**Cary Act Number:**  
**Mitigation Plan: False**

**Close**

290-00  
RECEIVED  
JUL 31 2007  
Department of Water Resources  
Eastern Region

STATE OF IDAHO  
DEPARTMENT OF WATER RESOURCES  
**APPLICATION FOR PERMIT**

To appropriate the public waters of the State of Idaho

1. Name of Applicant Morningview Water Company Inc Phone 208 745-0029  
Mailing address 462 12<sup>th</sup> Street Idaho Falls Idaho

2. Source of water supply Ground Water which is a tributary of \_\_\_\_\_

3. Location of point of diversion is Township 4N Range 39E Sec. 30, in the \_\_\_\_\_ 1/4,  
NW 1/4, NE 1/4, Govt. Lot \_\_\_\_\_, B.M., Jefferson County;  
additional points of diversion if any: 2 wells - NW NE Sec 30 T4N R39E

4. Water will be used for the following purposes:  
Amount 1.80 for Domestic purposes from 1 Jan to 31 Dec (both dates inclusive)  
(cfs or acre-feet per annum)  
Amount \_\_\_\_\_ for \_\_\_\_\_ purposes from \_\_\_\_\_ to \_\_\_\_\_ (both dates inclusive)  
(cfs or acre-feet per annum)  
Amount \_\_\_\_\_ for \_\_\_\_\_ purposes from \_\_\_\_\_ to \_\_\_\_\_ (both dates inclusive)  
(cfs or acre-feet per annum)  
Amount \_\_\_\_\_ for \_\_\_\_\_ purposes from \_\_\_\_\_ to \_\_\_\_\_ (both dates inclusive)  
(cfs or acre-feet per annum)  
Amount \_\_\_\_\_ for \_\_\_\_\_ purposes from \_\_\_\_\_ to \_\_\_\_\_ (both dates inclusive)  
(cfs or acre-feet per annum)  
Amount \_\_\_\_\_ for \_\_\_\_\_ purposes from \_\_\_\_\_ to \_\_\_\_\_ (both dates inclusive)  
(cfs or acre-feet per annum)

5. Total quantity to be appropriated is (a) 1.80 and/or (b) 808 gpm  
cubic feet per second acre feet per annum

6. Proposed diverting works:  
a. Describe type and size of devices used to divert water from the source 3 wells - pumps - distribution system for 120 homes  
b. Height of storage dam \_\_\_\_\_ feet; active reservoir capacity \_\_\_\_\_ acre-feet; total reservoir capacity \_\_\_\_\_ acre-feet  
c. Proposed well diameter is \_\_\_\_\_ inches; proposed depth of well is \_\_\_\_\_ feet  
d. Is ground water with a temperature of greater than 85°F being sought? N/A  
e. If well is already drilled, when? \_\_\_\_\_; Drilling firm See attached well logs  
Well was drilled for (well owner) \_\_\_\_\_; Drilling Permit No. \_\_\_\_\_

7. Time required for completion of works and application of water to proposed beneficial use is .5 years (minimum 1 year)

8. Description of proposed uses (if irrigation only, go to item 9):  
a. Hydropower; show total feet of head and proposed capacity in kW.  
b. Stockwatering; list number and kind of livestock.  
c. Municipal; show name of municipality.  
d. Domestic; show number of households.  
e. Other; describe fully. 120 households 1/2 acre of lawn/garden per home.

Stamp: JUL 25 2007

# Appendix D

Well Logs





STATE OF IDAHO  
DEPARTMENT OF WATER RESOURCES  
**WELL DRILLER'S REPORT**

USE TYPEWRITER OR  
BALLPOINT PEN

State law requires that this report be filed with the Director, Department of Water Resources within 30 days after the completion or abandonment of the well.

**RECORDED**  
JUN 17 1981  
Department of Water Resources  
Eastern District Office

1. WELL OWNER

Name Walter Amittay  
Address Riggs Idaho  
Owner's Permit No. \_\_\_\_\_

7. WATER LEVEL

Static water level 55 feet below land surface  
Flowing?  Yes  No G.P.M. flow \_\_\_\_\_  
Artesian closed-in pressure \_\_\_\_\_ p.s.i.  
Controlled by:  Valve  Cap  Plug  
Temperature \_\_\_\_\_ OF. Quality \_\_\_\_\_

2. NATURE OF WORK

New well  Deepened  Replacement  
 Abandoned (describe method of abandoning) \_\_\_\_\_

8. WELL TEST DATA

Pump  Bailor  Air  Other \_\_\_\_\_

Discharge G.P.M.	Pumping Level	Hours Pumped

3. PROPOSED USE

Domestic  Irrigation  Test  Municipal  
 Industrial  Stock  Waste Disposal or Injection  
 Other \_\_\_\_\_ (specify type)

9. LITHOLOGIC LOG

Hole Diam.	Depth		Material	Water	
	From	To		Yes	No
10"	0	5	Top Soil		X
10"	5	15	Chalk rock		X
12"	15	30	"		X
12"	30	50	"		X
12"	50	62	"	X	
12"	62	95	Gravel	X	
12"	95	96	Small gravel	X	
12"	95	115	"	X	
12"	115	150	"	X	
12"	130	150	"	X	

4. METHOD DRILLED

Rotary  Air  Hydraulic  Reverse rotary  
 Cable  Dug  Other \_\_\_\_\_

5. WELL CONSTRUCTION

Casing schedule:  Steel  Concrete  Other \_\_\_\_\_

Thickness	Diameter	From	To
100 inches	12 inches	1	150 feet

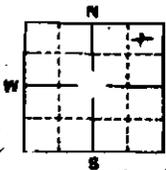
Was casing drive shoe used?  Yes  No  
Was a packer or seal used?  Yes  No  
Perforated?  Yes  No  
How perforated?  Factory  Knife  Torch  
Size of perforation 1/8 inches by 4 inches

Number	From	To
140 perforations	95 feet	132 feet

Well screen installed?  Yes  No  
Manufacturer's name \_\_\_\_\_  
Type \_\_\_\_\_ Model No. \_\_\_\_\_  
Diameter \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
Diameter \_\_\_\_\_ Slot size \_\_\_\_\_ Set from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
Gravel packed?  Yes  No  Size of gravel \_\_\_\_\_  
Placed from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
Surface seal depth 18' Material used in seal:  Cement grout  
 Puddling clay  Well cuttings  
Sealing procedure used:  Slurry pit  Temp. surface casing  
 Overbars to seal depth  
Method of joining casing:  Threaded  Welded  Solvent Weld  
 Cemented between strata

6. LOCATION OF WELL

Sketch map location must agree with written location.



Subdivision Name Marysville  
Acres  
Lot No. \_\_\_\_\_ Block No. \_\_\_\_\_

County NE  
NE Sec. 30, T. 4 N. R. 39 E. N.

10. Work started Jun 15-80 finished Jun 20-81

11. DRILLERS CERTIFICATION

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Firm Name Walter Amittay Firm No. 335  
Address Riggs Idaho Date Jun 20-81  
Signed by (Firm Official) Walter Amittay  
and  
(Operator) Walter Amittay

# Appendix E

Water Production Data

**Morning View Water Co., Inc.**  
 An Idaho PUC Regulated Company  
 3996 E. 200 North  
 P.O. Box 598  
 Rigby, Idaho 83442

Office: 208-745-0029

Fax: 208-745-0041

	Date	Start Reading	End Reading	Total	# of services	Gals. Per Household
<b>January</b>	12/31/05		245212000		89	
<b>February</b>	1/31/06		247856000	2644000	90	29378
<b>March</b>	3/1/06		250017000	2161000	91	23747
<b>April</b>	4/2/06		252361000	2344000	94	24936
<b>May</b>	5/31/06		261014000	8653000	95	91084
<b>June</b>	6/30/06		270303000	9289000	95	97779
<b>July</b>	7/31/06		283604000	13301000	97	137124
<b>August</b>	8/31/06		296210000	12606000	99	127333
<b>September</b>	10/2/06		303056000	6846000	99	691512
<b>October</b>	10/31/06		304775000	1719000	99	17364
<b>November</b>	11/30/06		30612000	1347000	98	13745
<b>December</b>	1/2/07		307739000	1617000	98	16500

MORNING VIEW WATER CO., INC  
 AN IDAHO PUC REGULATED COMPANY  
 3996 E. 200 NORTH  
 RIGBY, IDAHO 83442  
 208-745-0029

	Date	Start	End	Total	# of	Gallons per	Avrg Gallons Daily
		Reading	Reading		Services	Household	
January	1/2/07	307,739,000	309,138,000	1,399,000	98	14,276	48,241
February	1/31/07	309,138,000	310,519,000	1,381,000	98	14,092	53,115
March	2/26/07	310,519,000	312,123,000	1,604,000	94	17,064	51,742
April	3/30/07	312,123,000	316,036,000	3,913,000	95	41,189	126,226
May	4/30/07	316,036,000	324,005,000	7,969,000	95	83,884	249,031
June	6/1/07	324,005,000	333,890,000	9,885,000	96	102,969	318,871
July	7/2/07	333,890,000	345,054,000	11,164,000	96	116,292	384,966
August	8/1/07	345,054,000	355,147,000	10,093,000	100	100,930	336,433
September	8/31/07	355,147,000	361,907,000	6,760,000	99	68,283	218,065
October	10/1/07	361,907,000	364,263,000	2,356,000	101	23,327	73,625
November	11/2/07	364,263,000	365,821,000	1,558,000	102	15,275	48,688
December	12/5/07	365,821,000	367,013,000	1,192,000	99	12,040	79,467
	12/31/07	367,013,000					
<b>total</b>		<b>59,274,000</b>		<b>59,274,000</b>	<b>97.75</b>	<b>50,802</b>	<b>165,706</b>
					Yrly Avrg	Yrly Avrg	Yrly Average

**SECTION II Water Level Information (Optional data if available)**

Depth to water. Record the date, if the pump was on or off, or if other nearby pumps were on.

Static Water Level (pump off, water level stable): \_\_\_\_\_ ft. Date \_\_\_\_\_

Dynamic Water Level (pump on): \_\_\_\_\_ ft. Date \_\_\_\_\_

**Section III Rate of flow and volume diverted (REQUIRED DATA)**

Meter information:

Make \_\_\_\_\_ Model No. \_\_\_\_\_ Serial No. \_\_\_\_\_

Does the meter totalizer measure in acre-feet or gallons? (circle one) What is the multiplier? \_\_\_\_\_

Does the meter rate of flow indicator show gpm or cfs? (circle one) What is the multiplier? \_\_\_\_\_

For meters without rate of flow indicators, check here  and see page 4 for meter information and rate measurement methods.

Reading of the meter totalizer, flow rate and discharge pressure should be taken and recorded once each month on or near the same date. Please provide the actual totalizer reading and not the total volume since last reading.

Date (date of reading)	Dec <sup>01</sup> 21 Totalizer 361012 Reading	Flow Rate (circle: cfs or gpm)	Discharge Pressure
January (31)	368590000	370-400	50-65
February (29)	370142000	370-400	50-65
March (31)	371474000	370-400	50-65
April (30)	373360000	370-400	50-65
May (30)	376267000	370-400	50-70
June (30)	381048000	370-400	50-70
July (31)	401777000	375-400	50-75
August (29)	414852000	370-400	50-75
September (29)	426975000	370-400	50-75
October (30)	429986000	370-400	50-75
November (28)	430626000	350-400	50-75
December (31)	432182000	350-400	50-75

Do totalizer and flow readings above include meter multipliers? Yes No

Total Acre-feet \_\_\_\_\_ OR Total Gallons 65175000  
(there are 325,850 gallons per acre-foot)

Calculations or Comments (If flow meter was installed, calibrated, or replaced during this reporting year, Please note the date.)

*Copy*

# Appendix F

Water Company Documents

1D7260063

**Morning View Water Co., Inc.**  
An Idaho PUC Regulated Company  
3996 E. 200 North  
P.O. Box 598  
Rigby, Idaho 83442

RECEIVED  
FEB 26 2008  
DEQ-IDAHO FALLS

Office: 208-745-0029

Fax: 208-745-0041

February 25, 2008

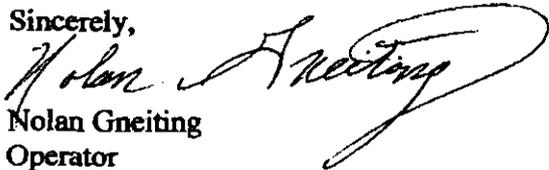
Rochelle Mason  
Department of Environmental Quality  
900 N. Skyline Dr.  
Suite B  
Idaho Falls, Idaho 83402

Dear Rochelle,

This letter is to inform you that the Rocky Mountain had a power outage on Sunday February 24, 2008. This outage affected over 1700 people in Jefferson County. We were one of the sites that lost power. It took just over one hour for the power company to complete repairs and restore power.

As soon as the power was restored, Nolan Gneiting went to the well house and flushed and reset the system.

Sincerely,

  
Nolan Gneiting  
Operator

cc/file  
faxed 2/25/08

SCANNED  
FEB 26 2008

RECEIVED  
APR 11 2008  
DEQ-IDAHO FALLS

**Morning View Water Co., Inc.**  
An Idaho PUC Regulated Company  
3996 E. 200 North  
P.O. Box 598  
Rigby, Idaho 83442

Office: 208-745-0029

Fax: 208-745-0041

April 10, 2008

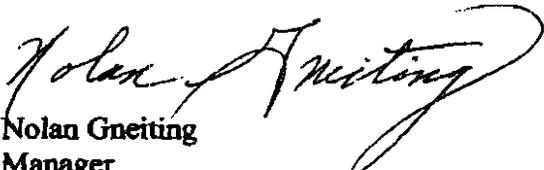
Department of Environmental Quality  
900 North Skyline Dr.  
Suite B  
Idaho Falls, Idaho 83402

Rochelle Mason,

As you have requested, the pressure on the water system has been set-up to cycle and 50 pounds low and 75 pounds high. However, in the past this has blown out some of the water systems in the manufactured home addition. Most of these are plumbed with 3/8" diameter PEX pipe and the friction loss is really high, and the pipe is of extremely low quality. Because of this potential damage we are denying any liability on our part for water damage with-in the trailers.

Should you have any problem with this, please contact me at 745-0029

Regards,

  
Nolan Gneiting  
Manager  
Morning View Water Co., Inc.

cc/file

SCANNED  
APR 11 2008

**Morning View Homes**

---

From: "Morning View Homes" <morningviewhomes@qwest.net>  
To: "Rochelle Mason" <Rochelle.Mason@deq.idaho.gov>  
Sent: Monday, July 23, 2007 8:51 AM  
Subject: DEQ Mandate

RECEIVED

JUL 24 2007

DEQ-IDAHO FALLS

ATTENTION: Rochelle Mason

REGARDING: Morning View Water Co., Inc.

July 23, 2007

Please be advised that as of July 20, 2007 at 3:30 p.m., well #2 was fully functional.

The following was done to accomplish this:

1. The old pump and motor has been removed from the well casing.
2. The pump and the motor have been replaced.
3. The system has been converted to a three phase electrical system.
4. The leaks have been repaired and the well has been chlorinated.

We believe we are in compliance with the DEQ mandate, dated July 6, 2007, and inside the time frame allotted.

Thank You

*Nolan Gnetting*  
Nolan Gnetting  
Operations Manager

copy on file

cc - *Bob Smith*  
cc - *Melinda Harper*  
cc - *Idaho Public Utilities Commission*

SCANNED

JUL 24 2007

7/23/2007

Morning View Water Company  
Final Facility Plan  
Addendum  
May 20, 2009

The following items should be considered along with the original report submitted to DEQ April 13, 2009 and reference the items listed in the Attorney General's letter dated April 29, 2009 addressed to Mr. Robert Harris.

Item 1 - There are currently 106 connections to the system according to the Morning View Water Company.

Items 3&4 - Current pump settings are 50 psi and 70 psi and have been set since May 8, 2009 according to the Morning View Water Company. The Company has not gathered any pressure data as of this date.

Item 5 - Because the system does not include fire protection the minimum allowable pressure is 40 psi. The statement on page 18 should be amended from 20 psi to 40 psi.

Item 6 - Based on the historical water usage data, the system is capable of meeting the PHD of 344 gpm. The true peak hour demand of the system may be greater than the assumed peaking factor of three provided.

# Appendix G

Environmental Information Document

## Environmental Information Document

**Applicant Information:** Morning View Water Company  
Physical Address: 3996 E 200 North - Rigby, ID 83442  
Mailing Address: P.O. Box 598 - Rigby, ID 83442  
Project Number 2010.021

**Project Contact Information:** Rob Harris  
Holden Kidwell Hahn & Crapo, PLLC  
P.O. Box 50130 - Idaho Falls, ID 83402  
Phone 208-523-0620

### ESTIMATED PROJECT COSTS:

Distribution System (meters)	\$50,000
Treatment Facility	\$0
Reservoir	\$0
Pumping Stations (VFD, Backup Generator)	\$50,000
New Well (pump testing & new pump sta)	\$175,000

### FUNDING:

DEQ:	\$15,000 (match)
OTHER:	\$260,000 (loan)
TOTAL:	\$275,000

### ESTIMATED USER COSTS:

The existing user charge ranges from \$32.41 to \$49.48 per month and the debt service charge is \$0 per month. This project would increase the user charge by approximately \$7 per month and debt service charge by \$7 per month. The total monthly cost per household after the project is in operation will therefore range from \$39.41 to \$56.48 per month. If a grant is used to reduce the loan amount by \$60,000 then the cost to customers will be approximately \$5.75.

### ABSTRACT:

The environmental impact of this project is very slight. Existing meter pits are in place for all but 10 of the service connections and the largest impact will be drilling a new well. The overall area expected to be impacted will be approximately 50' x 50' around the new well. Pump testing the new well can be accomplished by pumping the water into the existing irrigation ditch. Approx. 300 s.f. will be disturbed for the ten new meter pits.

## **Purpose and Need for the Project:**

Morning view water company has operated under a consent order since October 2007 due to lack of adequate pressure, sand complaints, and other compliance issues. The current system cannot meet the maximum day demand resulting in system pressures below the required 40 psi.

## **Alternatives:**

The facility plan completed in April of 2009 contains the following statements:

- Providing and maintaining adequate system pressure is the first priority for the MVWC water system. System operating pressures were adjusted in late July of 2008 to 50 psi min and 75 psi max. Pressure monitoring data collected November 13-20, 2008 indicates adequate pressures are being maintained in system indicating the low pressures are due to the increased demand during the irrigation season.

Installation of meters to promote water conservation should be the first capital improvement to the system. Implementation of a tiered rate structure, after installation of the meters, will further aid conservation efforts and reduce the ADD.

If adequate pressures are still not maintained then installation of variable frequency drives (VFD) should be installed first on the main well and secondarily on the smaller well. This will eliminate the need for the air over water pressure tanks and will provide a much tighter range for pressure fluctuation.

- Ultimately, the system cannot meet the firm pumping capacity requirements and an additional water source, including water rights, is needed to provide adequate capacity. Installation of backup power generation is also recommended in order to maintain system usefulness during outages from the primary power source

During the summer of 2009, the system did not maintain a minimum pressure of 40 psi and it became apparent that variable frequency drives are needed to maintain tighter pressure control. Further the system does not comply with the firm pumping capacity requirements. Additional water rights have been secured and the installation of both backup power and a new well (additional source) are included as part of this project.

The No Action alternative is not a viable solution to maintain public health and comply with current regulations.

The previously implemented low-cost alternatives have not produced adequate results.

The alternative of drilling a new well and converting the old air over water tanks to VFD controls appears to be the best and most cost-effective solution for the following reasons:

- Firm pumping capacity requirements necessitate new well with pumping station

- Sand volume in existing well prevents additional pumping.
- Antiquated air over water tanks require daily maintenance.

### **Affected Environment**

The project planning area will include drilling a new well on a new well lot at least 100' x 100'. The entire well lot will not be affected as only a small portion is needed to drill the well and dispose the cuttings. It is estimated that an area of 50'x50' may be affected. In addition to the well a new well house (motor control house) will be constructed near the new well. The new building will be approximately 12'x15'. The building will accommodate the new VFD, pressure tank, piping, metering, sampling taps, and electrical panels and transformers.

Other areas with environmental impact will include the residential lots that do not have an existing meter pit already installed. This will affect 10 of the 105 connections where a new meter pit will need to be installed. The estimated area of disturbance for each meter pit is 30 square feet (3'x10'), making the entire disturbed area for the meter pits - 300 s.f.

There are no planned changes to the distribution system, storage facilities, or treatment facilities at this time.

This project is not part of any regional plan.

The construction schedule will be as follows with the following time frame following the approval of funding:

- 30 days complete design.
- 60 days DEQ approval of Design
- 75 days Drilling of new well begins
- 90 days Meters and VFD's purchased  
and construction of well house begins
- 100 days pump testing of new well
- 120 days Well and well house completed
- 120 days Meters and VFD's installed

Flow projections are included in the Facility plan with 3 year and 20 year projections. The 20 year projection predicts an increase of 70% based on "fill-in" growth of the remaining undeveloped ground. Inclusion of conservation methods (metering) was not included in the facility plan study by the estimated current usage has been predicted to drop by approximately 18% after meters are installed.

There are no natural or man-made features relating to environmental impacts that have been identified.

### **Physical Aspects (Topography, Geology and Soils)**

There are no steep slopes, shrink-swell soils or other geographic features that would adversely affect the construction of the facilities.

There are no unique geological features that will be affected.

There are no hazardous areas that will affect construction or development.

There are no unusual or unique meteorological constraints in the planning area that would result in an air quality problem.

There are no unusual or unique meteorological constraints in the planning area that would affect the feasibility of the proposed alternative.

### **Population**

The growth rate is currently zero for the project development area due to the 2007 Consent Order requirements. The projected growth rate for the 20 year planning period is less than 5%.

The plans call for sufficient extra capacity to supply the remaining vacant lots.

### **Economics and Social Profile**

Documentation shows the water company does not have sufficient capital to fund the project without incurring debt. One landowner will benefit substantially from the project - the owner of the vacant lots within the existing service boundary. The facilities will not adversely affect land values. There are no poor or disadvantaged groups that will be adversely affected by the project.

### **Land Use**

There are no plans for a DWTP but the facilities are compatible with the local land use.

Inhabited areas will not be adversely affected by the project.

New development will not have adverse affects on older or existing land uses.

This project will not result in or contribute to changes in land use for mining recreation, industrial or energy development.

### **Flood Plain Development.**

The attached Firmette documents the project will not be located in the 100 year floodplain.

### **Wetlands**

There are no wetlands in the impacted area of construction or development.

## **Wild and Scenic Rivers**

The planning area does not contain any wild or scenic river designation.

## **Cultural Resources**

The state of Idaho Historic Preservation Officer has not been consulted to determine if there are any properties in the planning area which are listed or eligible for listing on the National Register of Historic Places?

Discussion: The entire planning area has been previously subdivided and platted with the majority of the area already developed.

## **Flora and Fauna**

The U.S. Fish and Wildlife Service has not completed a threatened and endangered species evaluation of the proposed project site. There are no designated threatened or endangered species or habitats in the planning area. The project will not have direct or indirect adverse affects on any species or habitats including fish and wildlife, migratory routes, wintering areas or calving areas. The planning area does not include a sensitive habitat area designated by any agency.

## **Recreation and Open Space**

The project will not eliminate or modify recreational open space, parks, or areas of recognized scenic or recreational value.

## **Agricultural Lands**

The planning area does not contain agricultural land and it does not contain environmentally significant agricultural land as defined by EPA policy.

## **Air Quality**

Direct air emissions from the project will include drill rig, backhoe, and air compressor motors which will all meet federal and state standards. The project itself (after construction) will include the back-up generator which will be a propane fired generator that will cause some noise but can be attenuated to reasonable levels using shielding and distance. No nuisance odors will be produced.

## **Energy**

No additional cost-effective measures have been identified to reduce energy consumption or increase energy recovery for this project.

## **Regionalization**

There are no jurisdictional disputes or controversy over the project. Morning View Water company is a privately held company operating in Jefferson County Idaho under the regulation of both IDEQ and IPUC. There are no intermunicipal agreements to be signed or discussed on this project.

## **Maps, Charts and Tables**

Maps, Charts and Tables are used in the Facility Plan to show the existing features of the Morning View System. The maps and charts show the project features.

## **Environmental Impacts of Proposed Project**

As listed previously, the environmental impacts of the proposed project includes:

The project planning area will include drilling a new well on a new well lot at least 100' x 100'. The entire well lot will not be affected as only a small portion is needed to drill the well and dispose the cuttings. It is estimated that an area of 50'x50' may be affected. In addition to the well a new well house (motor control house) will be constructed near the new well. The new building will be approximately 12'x15'. The building will accommodate the new VFD, pressure tank, piping, metering, sampling taps, and electrical panels and transformers.

Other areas with environmental impact will include the residential lots that do not have an existing meter pit already installed. This will affect 10 of the 105 connections where a new meter pit will need to be installed. The estimated area of disturbance for each meter pit is 30 square feet (3'x10'), making the entire disturbed area for the meter pits - 300 s.f.

## **Means to Mitigate Adverse Environmental Impacts**

The environmental impacts of this project are minimal. No measures to mitigate the impacts have been listed or included.

**Public Participation**

A public meeting was held June 33, 2009 at the Rigby City Library. Notice was sent to all system users in their June bills mailed June 3, 2009. Concerns from both the public and state/federal agencies have been included in the final facility plan.

**References Consulted**

The final facility plan was the only reference document consulted in preparation of the EID.

**Mailing List**

A mailing list has not been included in the EID.