

5.11 EIGHT MILE LINE

The Eight Mile Line may provide service to eight potential participants in the probable service boundary: Force Road Joint Powers Board, South Fork Estates, Rafter D Homeowners Association, Stone Gate Estates, Overbrook Subdivision, Bennor Subdivision, Cook Road Water District, and Eight Mile Subdivision. There are three segments that compose the Eight Mile Line. The first segment delivers water to Rafter D Homeowners Association, Overbrook Subdivision, Bennor Subdivision, and Eight Mile Subdivision (see Mapbook “Eight Mile Line 1”), the second segment delivers water to Cook Road Water District (see Mapbook “Eight Mile Line 2”), and the third segment delivers water to Stone Gate Estates, South Fork Estates, and Force Road Joint Powers Board (see Mapbook “Eight Mile Line 3”).

5.11.1 EIGHT MILE LINE 1

Eight Mile Line 1 provides service to four Eight Mile potential participants and feeds Eight Mile Line 2. The proposed Eight Mile Line 1 has one tap on the existing 10-inch City distribution system pipeline located near the intersection of Force Road and Stone Gate Avenue.

An upgrade to the existing pump station near the intersection of Force Road and Roany Road would be necessary to provide delivery capacity and pressure to the potential participants on the Eight Mile Lines 1 and 2. The preliminarily sized upgrade of an additional 1,500 gpm to the West Gillette Pump Station would provide approximately 450 ft of TDH to deliver water to the potential participants downstream.

A connection to additional potential participants on Tongue River Road and Shoher Road, which are southwest of the intersection with Interstate 90 on Force Road. A tap on Eight Mile Line 1 with an isolation valve has been provided for potential future connection.

RAFTER D HOMEOWNERS ASSOCIATION

This system is located southwest of the Gillette city limits. Rafter D Homeowners Association does not have individual water meters for its customers and disinfects their water using sodium hypochlorite. They have collected water quality data that is available.

The returned inventory form provided the following information about Rafter D Homeowners Association. A local homeowners association governs this system, reported to be in good condition. An existing pump station provides service pressure from the storage tank to the distribution system. This system does not provide fire protection and does not have standby power due to it being a gravity system. When asked, the largest issue this system faces is adequate supply due to only having one well. Table 58 presents the known existing water

system summary for Rafter D Homeowners Association. Figures 93 through 95 are photos of the existing pump station, tank, and well.

TABLE 58 RAFTER D HOMEOWNERS ASSOCIATION EXISTING SYSTEM SUMMARY

Tank	Volume (gallons)	
1	17,000	
Well	Production Rate (gpm)	
1	Not given	
Number of Existing Water Taps	Number of Planned Future Water Taps	
16	Not given	
Annual Water Usage (gallons)	Peak Day Summer Usage (gallons)	Peak Day Winter Usage (gallons)
3,085,000	24,742	4,194
Operating Pressure (psi)	Optimum Operating Pressure (psi)	
40	40	

FIGURE 93 RAFTER D HOMEOWNERS ASSOCIATION PUMP STATION



FIGURE 94 RAFTER D HOMEOWNERS ASSOCIATION PUMP STATION AND TANK



FIGURE 95 RAFTER D HOMEOWNERS ASSOCIATION WELL



The system may be connected to the City’s distribution system by the Eight Mile Line (see Mapbook “Eight Mile Line 1” – Sheet 1). One 6-inch connection of approximately 350 feet of dedicated waterlines would provide service to the existing tank. A service isolation valve would be provided on the connection line and a standard master meter and altitude valve would be required. Table 59 summarizes the future connection requirements.

**TABLE 59 RAFTER D HOMEOWNERS ASSOCIATION
FUTURE CONNECTION SUMMARY**

Class of Service	
Interim:	Future:
Class D	Class E
Delivery Requirements	
Connection Size: 6-inch	
Average Day Demand:	Peak Day Average Demand:
6 gpm	40 gpm
Preferred Delivery Point	
Connection to:	Estimated Pressure at Delivery Point:
Existing Storage Tank	200 psi (reduced by Altitude Valve into Tank)
Infrastructure Needs to Establish Connection	
Service isolation valve, standard master meter, altitude valve, and approximately 350 feet of dedicated 6-inch pipe.	

OVERBROOK SUBDIVISION

This system is located southwest of the Gillette city limits. Overbrook Subdivision has individual water meters for its customers and they disinfect their water using sodium hypochlorite. They have collected water quality data that is available.

The returned inventory form provided the following information about Overbrook Subdivision. A local Improvement & Service District governs this system which is reported to be in good condition and does not provide fire protection. An existing pump station provides service pressure from the storage tank to the distribution system. Table 60 presents the known existing water system summary for Overbrook Subdivision. Figures 96 through 98 are photos of the existing pump station, tank, and well.

TABLE 60 OVERBROOK SUBDIVISION EXISTING SYSTEM SUMMARY

Tank	Volume (gallons)	
1	36,000	
Well	Production Rate (gpm)	
1	60	
Number of Existing Water Taps	Number of Planned Future Water Taps	
23	Not given	
Annual Water Usage (gallons)	Peak Day Summer Usage (gallons)	Peak Day Winter Usage (gallons)
4,010,000	13,871	5,032
Operating Pressure (psi)	Optimum Operating Pressure (psi)	
90	80	

FIGURE 96 OVERBROOK SUBDIVISION PUMP STATION



FIGURE 97 OVERBROOK SUBDIVISION PUMP STATION AND TANK



FIGURE 98 OVERBROOK SUBDIVISION WELL



The system may be connected to the City’s distribution system by the Eight Mile Line (see Mapbook “Eight Mile Line 1” – Sheets 1 to 5). One 6-inch connection of approximately 1,100 ft of dedicated and 14,000 ft of shared waterlines would provide service to the existing tank. A service isolation valve would be provided on the connection line and a standard master meter and altitude valve would be required. Table 61 summarizes the future connection requirements.

**TABLE 61 OVERBROOK SUBDIVISION
FUTURE CONNECTION SUMMARY**

Class of Service	
Interim:	Future:
Class D	Class E
Delivery Requirements	
Connection Size: 6-inch	
Average Day Demand:	Peak Day Average Demand:
8 gpm	25 gpm
Preferred Delivery Point	
Connection to:	Estimated Pressure at Delivery Point:
Existing Storage Tank	180 psi (reduced by Altitude Valve into Tank)
Infrastructure Needs to Establish Connection	
Service isolation valve, standard master meter, altitude valve, and approximately 1,100 feet of dedicated 6-inch pipe.	

BENHOR IMPROVEMENT & SERVICE DISTRICT

This system is located southwest of the Gillette city limits. Benhor Subdivision has individual water meters for its customers and disinfects their water using chlorine gas. They have collected water quality data that is available. For the past year, readings of radionuclides above the MCL in the source water from the well have been recorded. Water Guy, LLC, the system operator, has sent notices to the users and is currently looking into the source of the elevated radium concentrations.

The returned inventory form provided the following information about Benhor Subdivision. This is a privately owned system, reported to be in good condition, does not provide fire protection and does not have standby power. An existing pump station provides service pressure from the storage tank to the distribution system. However, the system can temporarily operate by gravity from the storage tank if there is power failure. All users on this system are residential. Table 62 presents the known existing water system summary for Benhor Subdivision. Figures 99 through 101 are photos of the existing pump station, tank, and well.

When asked, the board of Benhor Improvement & Service District would like a regional system operate their system. They would not be interested in a raw water purchase, they prefer a regional system. They prefer a state or local management structure for a regional system. They have no issues that would limit their participation in a regional system.

**TABLE 62 BENHOR SUBDIVISION
EXISTING SYSTEM SUMMARY**

Tank	Volume (gallons)	
1	125,000	
Well	Production Rate (gpm)	
1	125	
Number of Existing Water Taps	Number of Planned Future Water Taps	
43	Not given	
Annual Water Usage (gallons)	Peak Day Summer Usage (gallons)	Peak Day Winter Usage (gallons)
4,419,000	48,387	18,322
Operating Pressure (psi)	Optimum Operating Pressure (psi)	
60	60	

FIGURE 99 BENNOR SUBDIVISION PUMP STATION



FIGURE 100 BENNOR SUBDIVISION PUMP STATION AND TANK



FIGURE 101 BENNOR SUBDIVISION WELL



The system may be connected to the City’s distribution system by the Eight Mile Line (see Mapbook “Eight Mile Line 1” – Sheets 1 to 6). One 6-inch connection of approximately 1,200 ft of dedicated and 14,800 ft of shared waterlines would provide service to the existing tank. A service isolation valve would be provided on the connection line and a standard master meter and altitude valve would be required. Table 63 summarizes the future connection requirements.

**TABLE 63 BENNOR SUBDIVISION
FUTURE CONNECTION SUMMARY**

Class of Service	
Interim:	Future:
Class D	Class E
Delivery Requirements	
Connection Size: 6-inch	
Average Day Demand:	Peak Day Average Demand:
9 gpm	50 gpm
Preferred Delivery Point	
Connection to:	Estimated Pressure at Delivery Point:
Existing Storage Tank	150 psi (reduced by Altitude Valve into Tank)
Infrastructure Needs to Establish Connection	
Service isolation valve, standard master meter, altitude valve, and approximately 1,200 feet of dedicated 6-inch pipe.	

EIGHT MILE SUBDIVISION

This system is located southwest of the Gillette city limits. Eight Mile subdivision has individual water meters for its customers and they disinfect their water using chlorine gas. They have collected water quality data that is available.

The returned inventory form provided the following information about Eight Mile Subdivision. A local Improvement & Service District governs the system, reported to be in fair condition. This system provides fire protection, at a rate of approximately 1,400 gpm, and is currently finishing a water well project with the Wyoming Water Development Commission (WWDC) and the systems engineer. An existing pump station provides service pressure from the storage tank to the distribution system. The billing cost of 100 dollars per month includes the costs of street maintenance. There are water quality concerns with the old well but the new well would provide adequate water quality and volume when it is finished. Table 64 presents the known existing water system summary for Eight Mile Subdivision. Figures 102 through 105 are photos of the existing pump station, tank, and well.

When asked, the board members governing this system would like a regional system to operate of their system depending on the cost. They would not be interested in raw water purchase. A new water well will be on-line within the next year. Their preferred management structure for a regional system is joint powers. Issues that would limit their participation in a regional system include cost, water quality, maintenance and future ownership of the existing infrastructure.

**TABLE 64 EIGHT MILE SUBDIVISION
EXISTING SYSTEM SUMMARY**

Tank	Volume (gallons)	
1	84,000	
Well	Production Rate (gpm)	
1	51	
Number of Existing Water Taps	Number of Planned Future Water Taps	
29	Not given	
Annual Water Usage (gallons)	Peak Day Summer Usage (gallons)	Peak Day Winter Usage (gallons)
4,612,000	23,193	7,580
Operating Pressure (psi)	Optimum Operating Pressure (psi)	
60	60	

FIGURE 102 EIGHT MILE SUBDIVISION PUMP STATION



FIGURE 103 EIGHT MILE SUBDIVISION PUMP STATION



FIGURE 104 EIGHT MILE SUBDIVISION TANK



FIGURE 105 EIGHT MILE SUBDIVISION WELL



The system may be connected to the City’s distribution system by the Eight Mile Line (see Mapbook “Eight Mile Line 1” – Sheets 1 to 9). One 6-inch connection of approximately 10,800 ft of dedicated and 15,400 ft of shared waterlines would provide service to the existing tank. A service isolation valve would be provided on the connection line and a standard master meter and altitude valve would be required. Table 65 summarizes the future connection requirements. The future class of service has been defined as Class E which would not provide fire protection to the Eight Mile Subdivision via the regional system because it would need to be pumped by the West Gillette Pump Station which would require additional fire pumps. Fire protection may continue to be provided via the existing storage tank and fire hydrants.

**TABLE 65 EIGHT MILE SUBDIVISION
FUTURE CONNECTION SUMMARY**

Class of Service	
Interim:	Future:
Class D	Class E
Delivery Requirements	
Connection Size: 6-inch	
Average Day Demand:	Peak Day Average Demand:
9 gpm	50 gpm
Preferred Delivery Point	
Connection to:	Estimated Pressure at Delivery Point:
Existing Storage Tank	125 psi (reduced by Altitude Valve into Tank)
Infrastructure Needs to Establish Connection	
Service isolation valve, standard master meter, altitude valve, and approximately 10,800 feet of dedicated 6-inch pipe.	

5.11.2 EIGHT MILE LINE 2

Eight Mile Line 2 provides service to one of the Eight Mile potential participants. The proposed Eight Mile Line 2 has one tap on Eight Mile Line 1, just downstream of the Bennor Subdivision.

COOK ROAD WATER DISTRICT

This system is located west of Gillette city limits. Cook Road Water District has individual water meters for customers and disinfects their water using chlorine gas. They have collected water quality data that is available.

The returned inventory form provided the following information about Cook Road Water District. A local Improvement & Service District governs this system, reported to be in good condition and provides fire protection. An existing pump station provides service pressure from the storage tank to the distribution system. This system does not have standby power but can be gravity fed from the storage tank during power failure. When asked, adequate supply was the largest issue that this system faces. Table 66 presents the known existing water system summary for Cook Road Water District. Figures 106 through 109 are photos of the existing pump station, tank, and well.

**TABLE 66 COOK ROAD WATER DISTRICT
EXISTING SYSTEM SUMMARY**

Tank	Volume (gallons)	
1	480,000	
Well	Production Rate (gpm)	
1	110	
Number of Existing Water Taps	Number of Planned Future Water Taps	
70	Not given	
Annual Water Usage (gallons)	Peak Day Summer Usage (gallons)	Peak Day Winter Usage (gallons)
18,321,000	145,193	18,323
Operating Pressure (psi)	Optimum Operating Pressure (psi)	
20	Not given	

FIGURE 106 COOK ROAD WATER DISTRICT PUMP STATION



FIGURE 107 COOK ROAD WATER DISTRICT PUMP STATION



FIGURE 108 COOK ROAD WATER DISTRICT TANK



FIGURE 109 COOK ROAD WATER DISTRICT WELL



The system may be connected to the City’s distribution system by the Eight Mile Line (see Mapbook “Eight Mile Line 2” – Sheets 1 to 5). One 8-inch connection of approximately 16,000 ft of dedicated and 15,400 ft of shared waterlines would provide service to the existing tank. A service isolation valve would be provided on the connection line and a standard master meter and altitude valve would be required. Table 67 summarizes the future connection requirements. The future class of service has been defined as Class F which would provide fire protection to the Cook Road Water District via the existing storage tank and fire hydrants.

TABLE 67 COOK ROAD WATER DISTRICT FUTURE CONNECTION SUMMARY

Class of Service	
Interim:	Future:
Class D	Class F
Delivery Requirements	
Connection Size: 8-inch	
Average Day Demand:	Peak Day Average Demand:
35 gpm	100 gpm
Preferred Delivery Point	
Connection to:	Estimated Pressure at Delivery Point:
Existing Storage Tank	80 psi (reduced by Altitude Valve into Tank)
Infrastructure Needs to Establish Connection	
Service isolation valve, standard master meter, altitude valve, and approximately 16,000 feet of dedicated 8-inch pipe.	

5.11.3 EIGHT MILE LINE 3

Eight Mile Line 3 provides service to three of the Eight Mile potential participants, Stone Gate Estates, South Fork Estates, and Force Road Joint Powers Board. The first tap for the proposed Eight Mile Line 3 is on the existing 10-inch City distribution system pipeline located near the intersection of Stone Gate Avenue and Stone Crest Drive for Stone Gate Estates. The second tap for the proposed Eight Mile Line 3 is on the existing 12-inch City distribution system pipeline located near the intersection of Force Road and Roany Road for South Fork Estates. The third tap for the proposed Eight Mile Line 3 is on the existing 12-inch City distribution system pipeline located near the intersection of Force Road and Blue Tick Drive for Force Road Joint Powers Board.

STONE GATE ESTATES

This system is located southwest of the Gillette city limits. Stone Gate Estates has individual water meters for customers and disinfects their water using chlorine gas. They have collected water quality data that is available.

The returned inventory form provided the following information about Stone Gate Estates. A local Improvement & Service District governs this system which is reported to be in good condition. An existing pump station provides service pressure from the storage tank to the distribution system. This system does not have standby power but can be gravity fed from the storage tank during power failure. Water quality is reported to be good. The current monthly fees which include road costs, include a base rate of \$80.00 for 20,000 gallons, \$1 per 1000 gallons for 20,000 to 30,000 gallons, \$2 per 1000 gallons for 30,000 to 50,000 gallons, and \$5 per 1000 gallons for 50,000 gallons and above. Table 68 presents the known existing water system summary for Stone Gate Estates. Figures 110 through 115 are photos of the existing pump station, tanks, and wells.

When asked, the board members governing this system were split on whether they would like a regional system to operate their system due to a lack of current provided information. They would be interested in a raw water purchase if the terms were suitable. Their preferred management structure for a regional system is joint powers. Issues that would limit their participation in a regional system include cost, water quality, maintenance and future ownership of the existing infrastructure.

**TABLE 68 STONE GATE ESTATES
EXISTING SYSTEM SUMMARY**

Tank	Volume (gallons)	
1	110,000	
2	110,000	
Well	Production Rate (gpm)	
1	61	
2	65	
Number of Existing Water Taps	Number of Planned Future Water Taps	
67	0	
Annual Water Usage (gallons)	Peak Day Summer Usage (gallons)	Peak Day Winter Usage (gallons)
14,456,000	103,032	16,903
Operating Pressure (psi)	Optimum Operating Pressure (psi)	
50	Not given	

FIGURE 110 STONE GATE ESTATES PUMP STATION



FIGURE 111 STONE GATE ESTATES PUMP STATION



FIGURE 112 STONE GATE ESTATES PUMP STATION AND TANK #1



FIGURE 113 STONE GATE ESTATES TANK #2



FIGURE 114 STONE GATE ESTATES WELL #1



FIGURE 115 STONE GATE ESTATES WELL #2



The system may be connected to the City’s distribution system by the Eight Mile Line (see Mapbook “Eight Mile Line 3” – Sheet 1). One 8-inch connection of approximately 1,330 would provide service to the existing tank. A service isolation valve would be provided on the connection line and a standard master meter and altitude valve would be required. Table 69 summarizes the future connection requirements.

**TABLE 69 STONE GATE ESTATES
FUTURE CONNECTION SUMMARY**

Class of Service	
Interim:	Future:
Class D	Class E
Delivery Requirements	
Connection Size: 8-inch	
Average Day Demand:	Peak Day Average Demand:
30 gpm	75 gpm
Preferred Delivery Point	
Connection to:	Estimated Pressure at Delivery Point:
Existing Storage Tanks	120 psi (reduced by Altitude Valve into Tank)
Infrastructure Needs to Establish Connection	
Service isolation valve, standard master meter, altitude valve, and approximately 1,330 feet of dedicated 8-inch pipe.	

SOUTH FORK ESTATES

This system is located southwest of the Gillette city limits. South Fork Estates has individual water meters for customers and disinfects their water using chlorine gas. They have collected water quality data that is available.

The returned inventory form provided the following information about South Fork Estates. A local Improvement & Service District governs the system which appears to be in good condition and does not provide fire protection. An existing pump station provides service pressure from the storage tank to the distribution system. This system does not have standby power but can be gravity fed from the storage tank during power failure. All of the users on this system are residential. Table 70 presents the known existing water system summary for South Fork Estates. Figures 116 through 118 are photos of the existing pump station, tank, and well.

**TABLE 70 SOUTH FORK ESTATES
EXISTING SYSTEM SUMMARY**

Tank	Volume (gallons)	
1	44,000	
Well	Production Rate (gpm)	
1	45	
Number of Existing Water Taps	Number of Planned Future Water Taps	
46	Not given	
Annual Water Usage (gallons)	Peak Day Summer Usage (gallons)	Peak Day Winter Usage (gallons)
6,284,000	4,345	Not given
Operating Pressure (psi)	Optimum Operating Pressure (psi)	
30-50	Not given	

FIGURE 116 SOUTH FORK ESTATES PUMP STATION



FIGURE 117 SOUTH FORK ESTATES PUMP STATION AND TANK



FIGURE 118 SOUTH FORK ESTATES WELL



The system may be connected to the City’s distribution system by the Eight Mile Line (see Mapbook “Eight Mile Line 3” – Sheet 2). One 6-inch connection of approximately 1,010 ft of dedicated line and 2,165 ft of shared line would provide service to the existing tank. A service isolation valve would be provided on the connection line and a standard master meter and altitude valve would be required. Table 71 summarizes the future connection requirements.

**TABLE 71 SOUTH FORK ESTATES
FUTURE CONNECTION SUMMARY**

Class of Service	
Interim:	Future:
Class D	Class E
Delivery Requirements	
Connection Size: 6-inch	
Average Day Demand:	Peak Day Average Demand:
12 gpm	65 gpm
Preferred Delivery Point	
Connection to:	Estimated Pressure at Delivery Point:
Existing Storage Tank	170 psi (reduced by Altitude Valve into Tank)
Infrastructure Needs to Establish Connection	
Service isolation valve, standard master meter, altitude valve, and approximately 1,010 feet of dedicated 6-inch pipe.	

FORCE ROAD JOINT POWERS BOARD

This system is located to the southwest of the Gillette city limits. An inventory form was not completed for Force Road Joint Powers Board so limited information is available about the system. An existing pump station provides service pressure from the storage tank to the distribution system. Table 72 presents the known existing water system summary for Force Road Joint Powers Board. Figures 119 through 123 are photos of the existing pump station, tank, and wells.

TABLE 72 FORCE ROAD JOINT POWERS BOARD EXISTING SYSTEM SUMMARY

Tank	Volume (gallons)	
1	Unknown	
Well	Production Rate (gpm)	
3	Unknown	
Number of Existing Water Taps	Number of Planned Future Water Taps	
Unknown	Unknown	
Annual Water Usage (gallons)	Peak Day Summer Usage (gallons)	Peak Day Winter Usage (gallons)
Unknown	Unknown	Unknown
Operating Pressure (psi)	Optimum Operating Pressure (psi)	
Unknown	Unknown	

FIGURE 119 FORCE ROAD JOINT POWERS BOARD PUMP STATION



FIGURE 120 FORCE ROAD JOINT POWERS BOARD PUMP STATION AND TANK

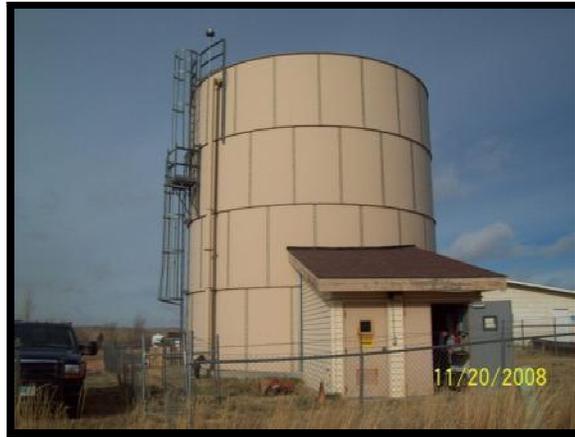


FIGURE 121 FORCE ROAD JOINT POWERS BOARD WELL #1



FIGURE 122 FORCE ROAD JOINT POWERS BOARD WELL #2



FIGURE 123 FORCE ROAD JOINT POWERS BOARD WELL #3



The system may be connected to the City’s distribution system by the Eight Mile Line (see Mapbook “Eight Mile Line 3” – Sheet 3). One 8-inch connection of approximately 2,700 ft of dedicated line and 2,165 ft of shared line would provide service to the existing tank. A service isolation valve would be provided on the connection line and a standard master meter and altitude valve would be required. No existing disinfection facilities have been inventoried; therefore a new chlorine booster station would be required at the existing pump station. Table 73 summarizes the future connection requirements.

**TABLE 73 FORCE ROAD JOINT POWERS BOARD
FUTURE CONNECTION SUMMARY**

Class of Service	
Interim:	Future:
Class D	Class E
Delivery Requirements	
Connection Size: 6-inch	
Average Day Demand:	Peak Day Average Demand:
15 gpm	40 gpm
Preferred Delivery Point	
Connection to:	Estimated Pressure at Delivery Point:
Existing Storage Tank	130 psi (reduced by Altitude Valve into Tank)
Infrastructure Needs to Establish Connection	
Service isolation valve, standard master meter, altitude valve, chlorine booster station, and approximately 2,700 feet of dedicated 8-inch pipe.	