

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

Ident. No. 37-21400

Appl. # 71668

APPLICATION FOR PERMIT

AMENDED

To appropriate the public waters of the State of Idaho

AMENDED

1. Name of applicant Picabo Livestock Company - Picabo Water System Phone (208) 788-3530
Post Office address P.O. Box 638 Picabo, ID 83348
2. Source of water supply Groundwater which is a tributary of N/A
3. Location of point of diversion is SW 1/4 of SW 1/4 of 1/4, Govt. Lot 1/4
Sec. 27 Township 01S Range 20E B.M. Blaine County; additional
points of diversion, if any: SW 1/4 SE 1/4 Sec 27 T.01S R.20E - Backup Well
4. Water will be used for the following purposes:
Amount 0.94 1.00 1.00 cfs for Municipal purposes from 1/01 to 12/31 (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)
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Amount for purposes from to (both dates inclusive)
(cfs or acre-feet per annum)
5. Total quantity being appropriated is (a) 0.94 1.00 and/or (b) 71.0 83.0
cubic feet per second acre-feet per annum
6. Proposed diverting works:
a. Description of ditches, flumes, pumps, headgates, etc. 20 hp deep well pump in 12"
diameter well to 50,000 gallon storage tank
b. Height of storage dam feet; active reservoir capacity acre-feet; total
reservoir capacity acre-feet; period of year when water will be diverted to storage:
 to inclusive.
c. Proposed well diameter is 12" inches; proposed depth of well is 142' feet
d. Is groundwater with a temperature of greater than 85 degrees being sought? No
e. If well is already drilled, when? Yes 9/2001; Drilling firm Eaton Drilling & Pump;
Well was drilled for (well owner) Picabo Livestock Company Permit No. 340741
7. Time required for completion of works and application of water to proposed beneficial use is 1 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. N/A
c. Municipal; show name of municipality. City of Picabo
d. Domestic; show number of households 60 households & 8 commercial lots at full buildout;
e. Other; describe fully.

9. Description of place of use:

- a. If water is for irrigation, indicate acreage in each subdivision in the tabulation below.
- b. If water is used for other purposes, place a symbol of the use (example: D for Domestic) in the corresponding place of use below. See instructions for standard symbols.

TWP	RANGE	SEC	NE 1/4				NW 1/4				SW 1/4				SE 1/4				TOTALS
			NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	NE 1/4	NW 1/4	SW 1/4	SE 1/4	
01S	20E	27									M	M	M	M	M	M	M	M	
01S	20E	26										M	M	M					

Total number of acres to be irrigated N/A

10. Describe any other water rights used for the same purposes as described above. 37-11628, 37-7455

11. a. Who owns the property at the point of diversion? Picabo Land and Livestock
- b. Who owns the land to be irrigated or place of use? N/A - Individual owners - Picabo, ID
- c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing: Owner of water system

12.. Remarks: Water system owned by Picabo Livestock Company and operated by Picabo Water System. System has historically been regulated by IDEQ to assure drinking water quality standards are met. See attached narrative.

13. MAP OF PROPOSED PROJECT ATTACHED X show clearly the proposed point of diversion, place of use, section number, township and range number.

BE IT KNOWN that the undersigned hereby makes this application for permit to appropriate the public waters of the State of Idaho as herein set forth.



(Applicant)

Received by _____ Date _____ Time _____ Preliminary check by _____

Fee \$ _____ Received by _____ # _____ Date _____

Publication prepared by _____ Date _____ Published in _____

Publication approved _____ Date _____

Picabo Land & Livestock – Picabo Water System
Permit Application Narrative

Prepared by: Jeffrey S. Rau, P.E.
Brockway Engineering, PLLC
Amended February 21, 2003

The City of Picabo is an unincorporated city within Blaine County, Idaho. Domestic water has historically been provided to residents via a privately owned distribution system and individual lot service connections. The system is comprised of a looped buried distribution main connected to a 50,000 gallon elevated storage tank. The system and tank are owned by Picabo Livestock Company and are operated by an entity called Picabo Water System. Picabo Water System is responsible for the maintenance of the system, water use fees, and compliance with IDEQ requirements for a public water system. The original system including the elevated storage tank was constructed in 1907 and has undergone several improvements and pipeline replacement projects since.

Water is supplied to the system by a 20 horsepower pump located in a 12" diameter municipal well near the base of the storage tank. This well was drilled as a replacement well in 2001 to replace a smaller well which had a history of e-coli contamination. The well site and well construction have been approved by IDEQ as a municipal well. The 20 hp submersible pump is rated at 450 gpm and pumps directly to the elevated storage tank. In-line chlorination is done on the supply line to the tank from the well. The well pump is activated based on the tank level and currently is activated at a storage tank level of 10,000 gallons. The well pump shut off point is based on a storage level in the tank of 43,500 gallons. New recommended operating levels in the tank will activate the well pump at 36,000 gallons which will allow the system to provide the required 750 gpm fire flow for a period of 2 hours. A 10 hp booster pump with variable frequency drive is located in the pump house at the base of the storage tank and maintains a pressure in-town of a constant 50 psi. The pressure distribution system is comprised of buried 6" and 4" PVC pressure main with individual service connections. The individual service connections are not individually metered.

A second well located in-town acts as a back-up water supply to the system. The well is directly plumbed into the distribution main and does not pass through the chlorination system or storage tank prior to use. The well is isolated from the system via a buried gate valve and remains shut down at all times except for during periods of mechanical breakdown or maintenance at the main well site.

The distribution system currently has service connections to 24 residential customers, 2 commercial customers, and the Blaine County Park. Maximum build out for the system is anticipated to be 60 residential and 8 commercial customers. The only other use on the system is the supply of drinking water to 2,000 head of yearling cattle located at the Picabo Land & Livestock Feedlot located near the storage tank. Stockwater from the

system to this facility is provided under a separate water right claim (A37-11628) and is not a part of this municipal water right application.

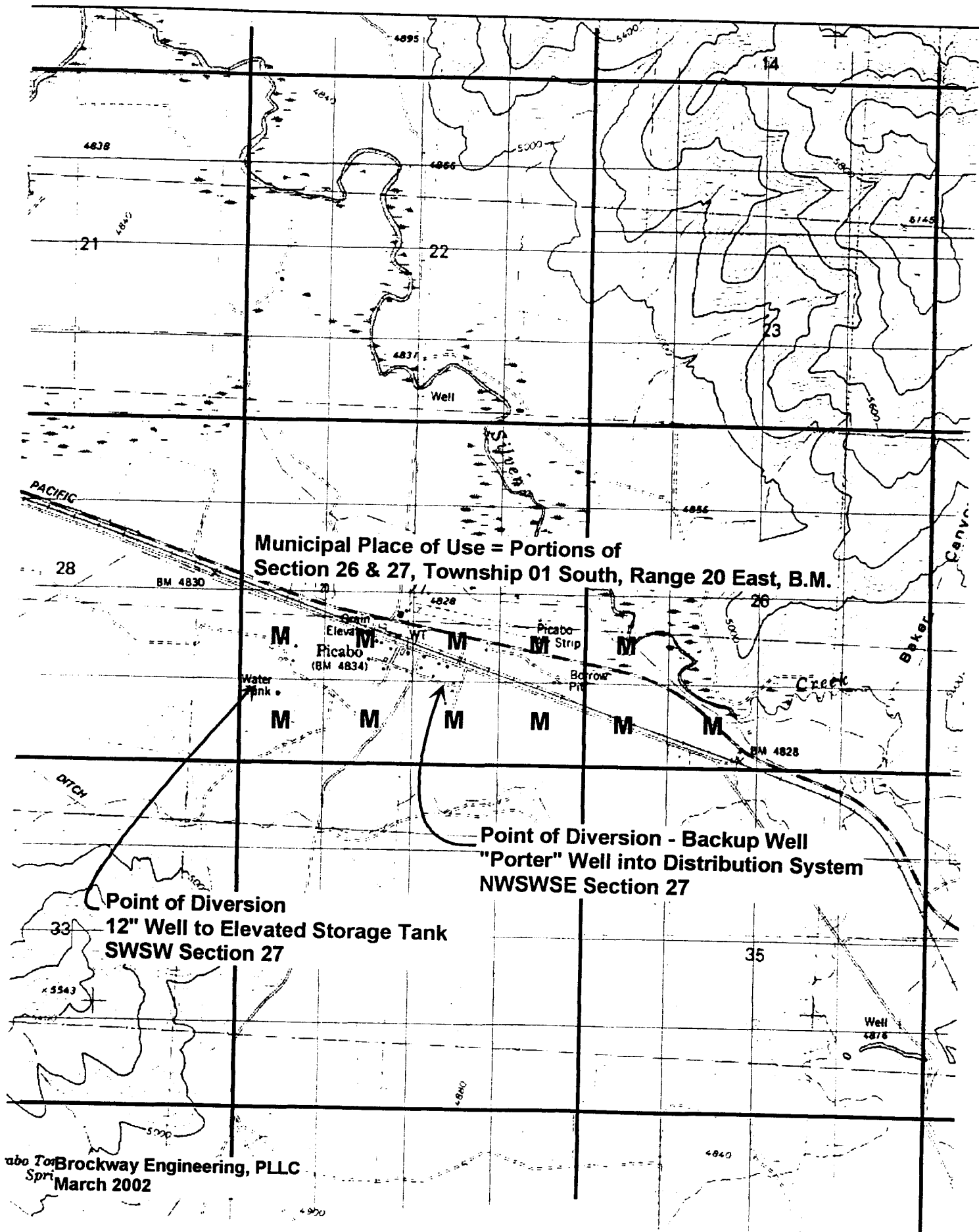
Historical diversion of water to this system has been under Water Right #37-7455 which is for 0.06 cfs & 12 AFA for Domestic Use. This right has a 9/2/1975 priority date and a listed beneficial use of Domestic. A water right transfer has been filed to incorporate this right with the system..

Fire flow from the system is provided from fire hydrants located throughout the distribution network. The required fire flow, based on the system capacity, is 750 gpm for a period of 2 hours. Assuming the 450 gpm pump is operating during a fire event, a minimum of 36,000 gallons storage is required to make up the 300 gpm difference over the 2 hour period. It is recommended that the deep well supply pump will activate when the storage in the tank has reached a level of 36,000 gallons.

The deep well pump has a design point of 450 gpm @ 234 feet of TDH. ***The combination of the permit (0.94 cfs) and water right 37-7455 (0.06 cfs) account for this diversion capacity.*** To calculate the annual diversion volume under this permit, estimates were made of the annual diversion based on full build out of the system. Assuming full build out, in-house domestic use 23.5 AFA, domestic irrigation will require 35.9 AFA, and the commercial connections will require 22.4 AFA. The city park which is approximately 200' x 100' has historically been irrigated from this system since the early 1980's and it would require approximately 1.2 AFA. Using these values, the total diversion volume is anticipated to be 83.0 ac-ft/year which is reflected on the ***permit application (71.0 AFA) and the pending water right transfer of 37-7455 (12 AFA)***. A copy of the calculation is included with this submittal.

Beyond what has been historically irrigated under this system, water under this municipal permit will not be used to irrigate any new parks, ball fields, or cemeteries. The use under this permit application falls within those allowed for new municipal water rights allowed under the moratorium.

Application for Permit
Picabo Livestock Company - Picabo Water System



Picabo Land & Livestock - Picabo Water System Anticipated Water Use Calculations

Domestic Connections

# of Domestic connections	60	at full build out.	
Average Occupancy	3.5		
Mean Usage	100	gpcd (Fair and Geyer, 1958)	
Total In-House Domestic Use	23.5	ac-ft	
Average Irrigation / Lot	10,000	sq ft	
Average Annual Turf IR	795	mm	(Allen & Brockway, 1983)
Irrigation Required per Lot	0.599	ac-ft/lot	
Total Required for Lot Irrigation	35.9	ac-ft	
Historical Park Irrigation	0.46	ac	
Park Irrigation Requirement	1.2	ac-ft	

Commercial Connections

# of Commercial Connections	8	at full build out	
Allowable Volume/Day	2500	gpd per connection	
Allowable Diversion Volume	22.4	ac-ft	

Total Permit Requirement 83.0 ac-ft

Note: Park = 20,000 square feet and has historically been irrigated from the system since its construction in the early 1980's.