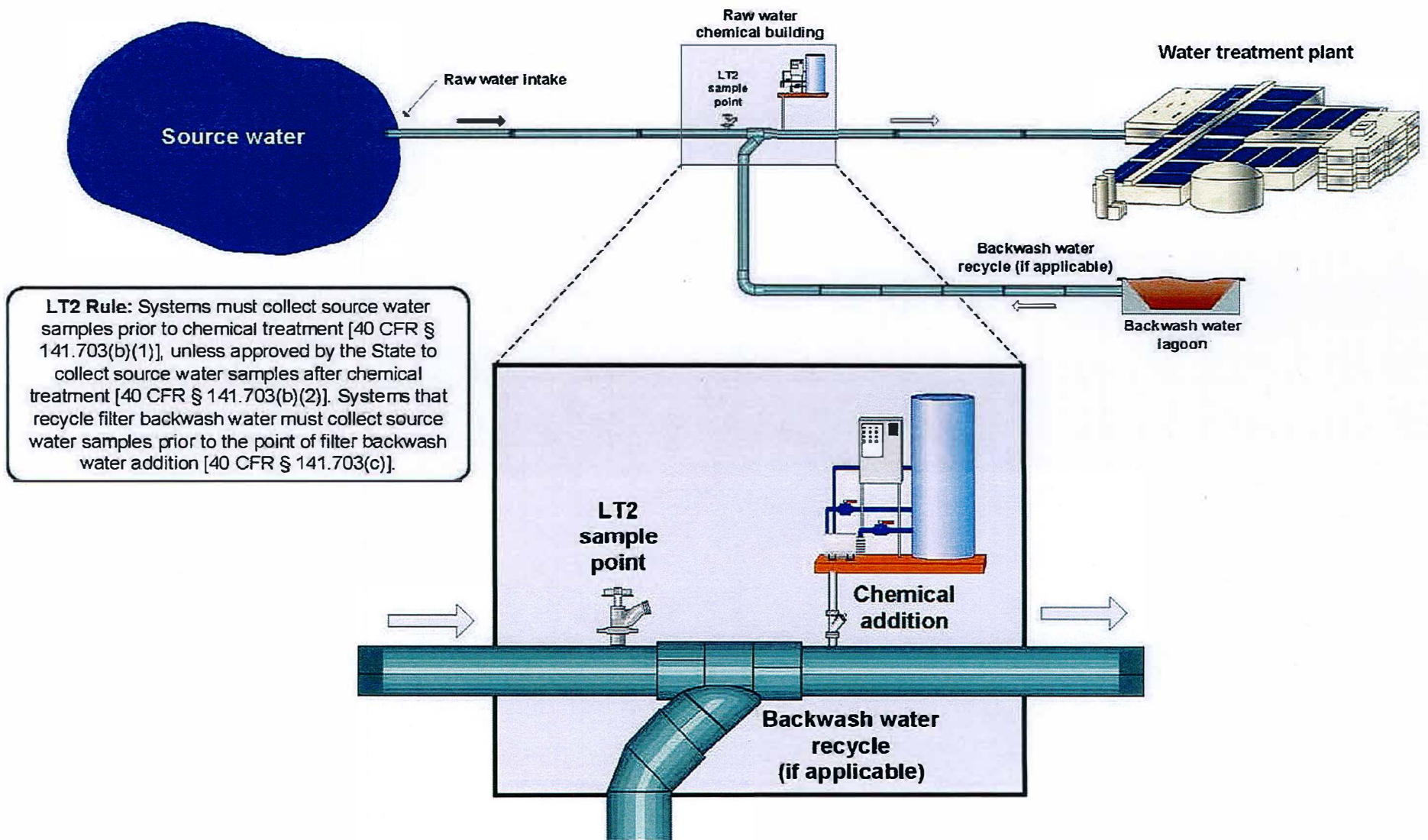
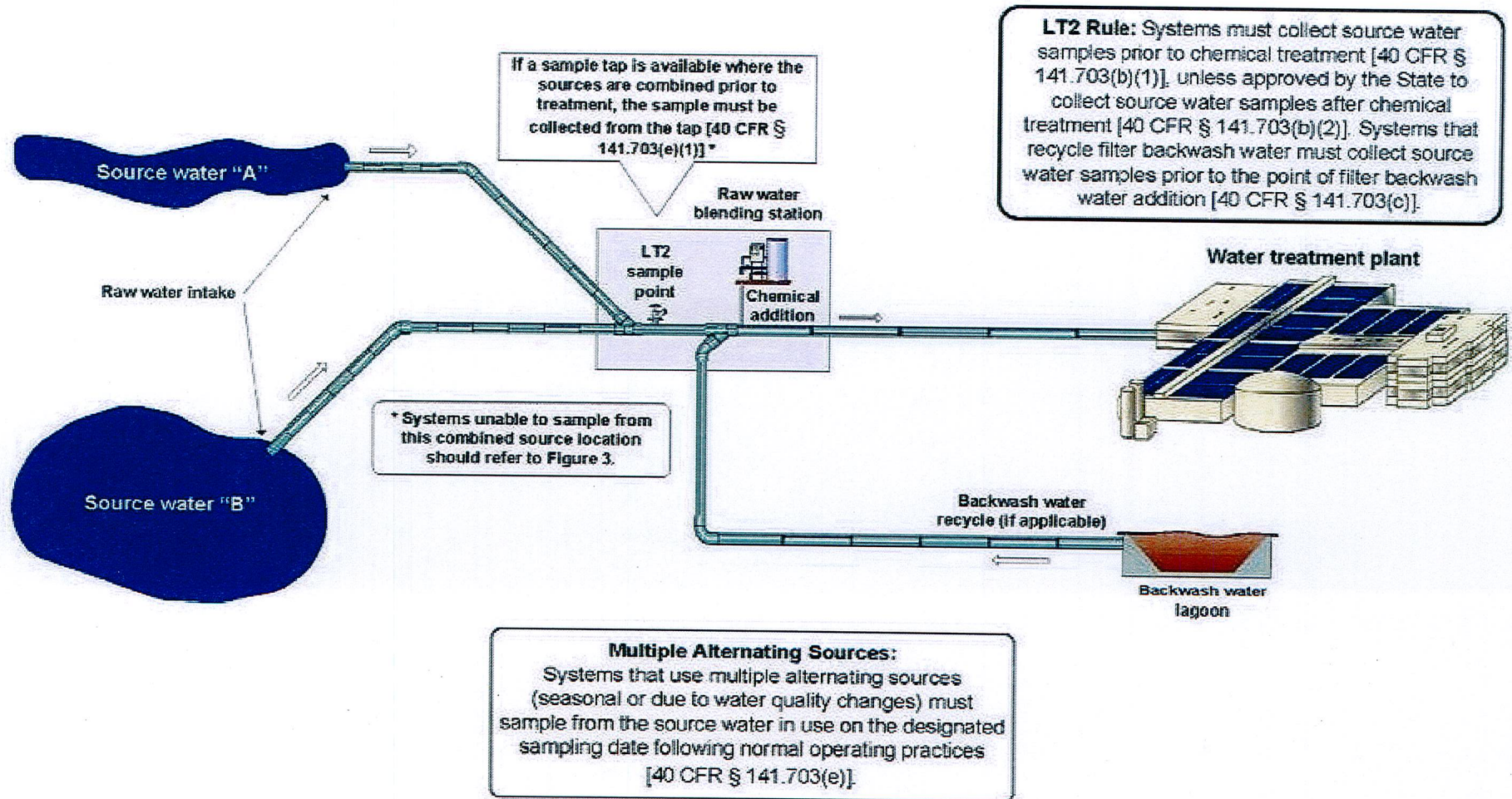


# Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) System Schematic Diagrams

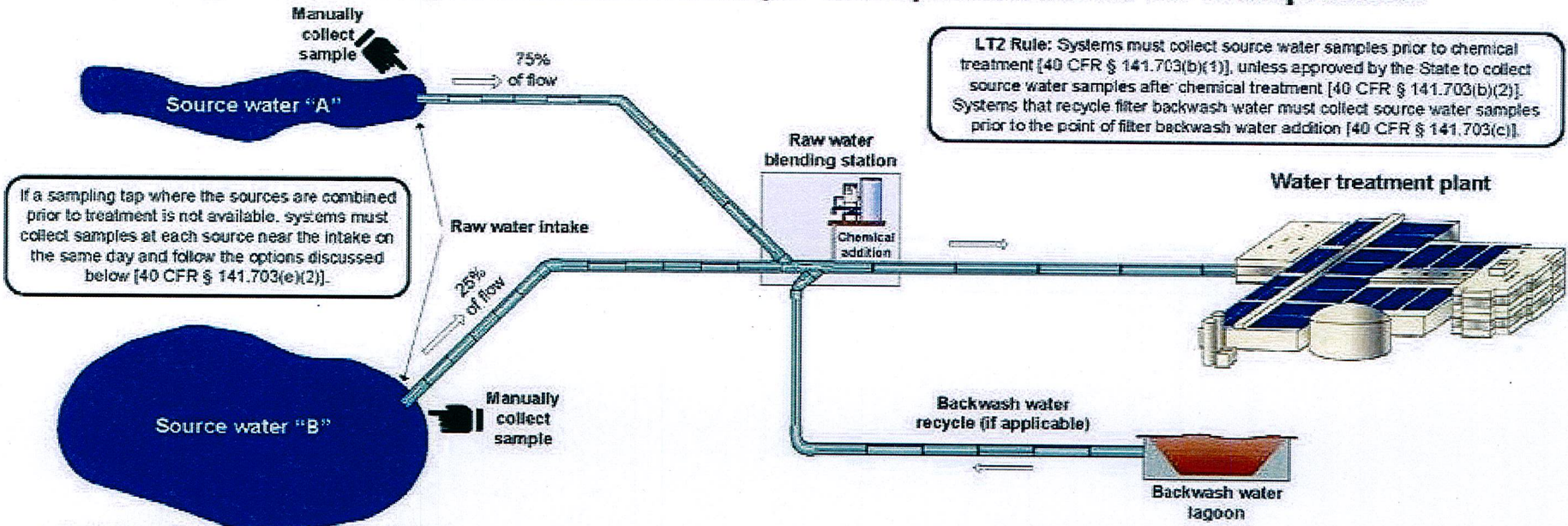
Figure 1. Sample Tap before Chemical Treatment and Backwash Water Recycle (if applicable)



**Figure 2. Multiple Sources: Sample Tap after Two Combined Sources**



**Figure 3. Multiple Sources: Two (or More) Sources to be Composited**

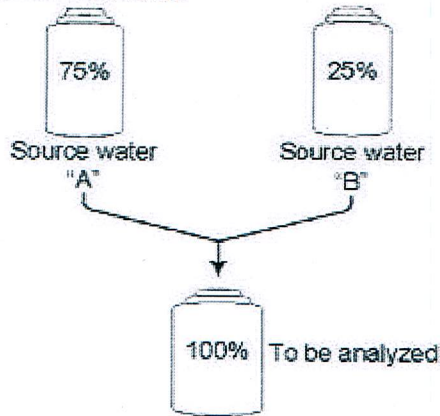


**LTZ Rule:** Systems must collect source water samples prior to chemical treatment [40 CFR § 141.703(b)(1)], unless approved by the State to collect source water samples after chemical treatment [40 CFR § 141.703(b)(2)]. Systems that recycle filter backwash water must collect source water samples prior to the point of filter backwash water addition [40 CFR § 141.703(c)].

If a sampling tap where the sources are combined prior to treatment is not available, systems must collect samples at each source near the intake on the same day and follow the options discussed below [40 CFR § 141.703(e)(2)].

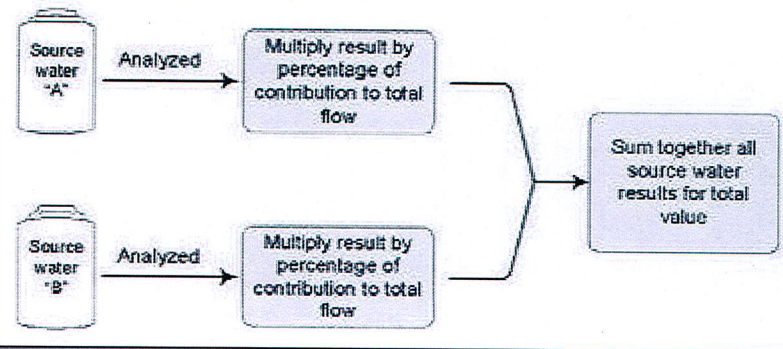
**OPTION 1 (Recommended Option):**

Collect samples manually at each source near the intake on the same day and composite them into one sample to be analyzed. The volume of sample from each source must reflect its proportion of the total plant flow at the time the samples were collected [40 CFR § 141.703(e)(2)(i)].

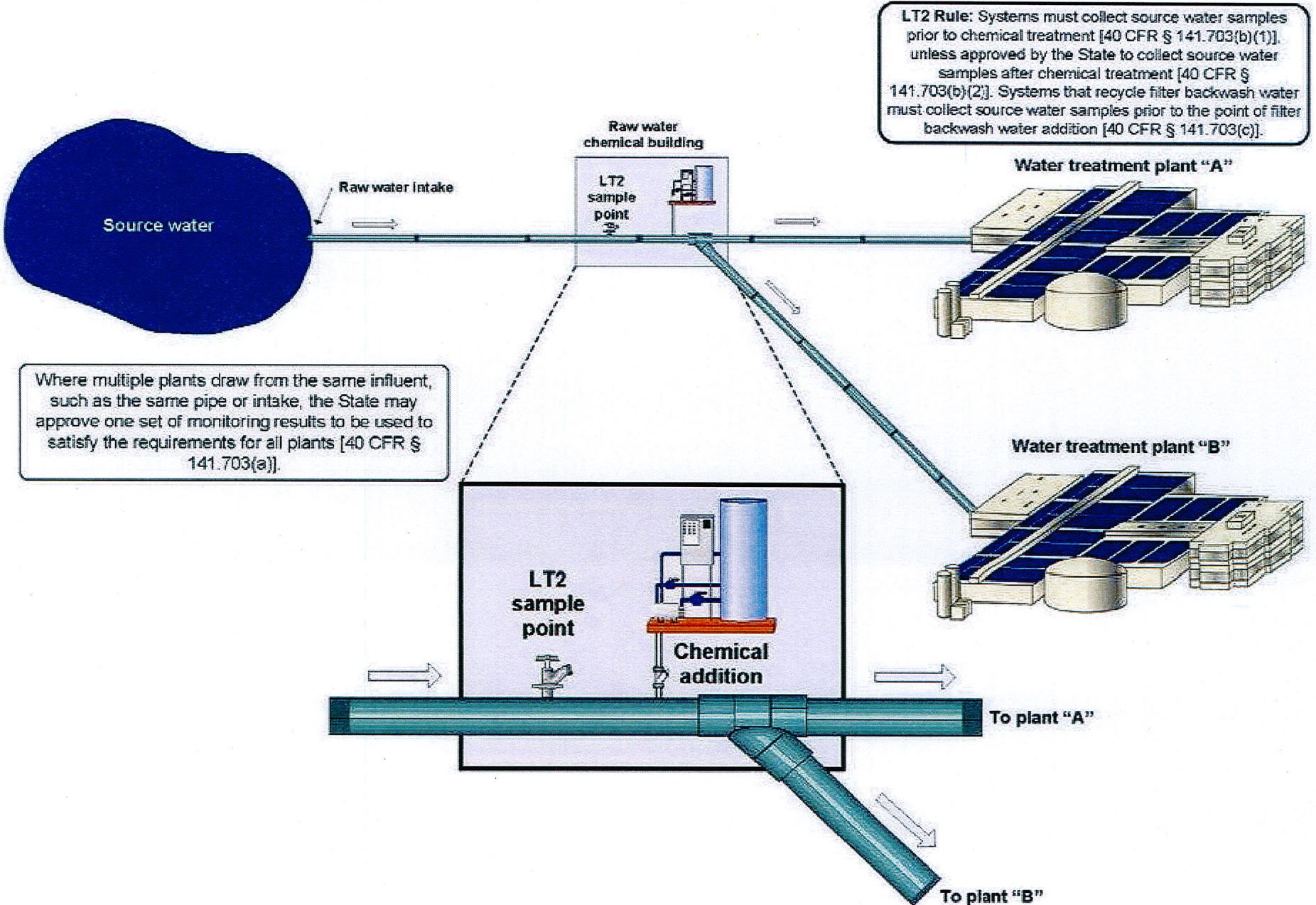


**OPTION 2:**

Collect samples manually at each source near the intake on the same day and analyze each independently, then calculate a weighted average of the analysis results. This is done by multiplying the result for each source by the percentage of its contribution to the total plant flow at the time the samples were collected, and then summing these values [40 CFR § 141.703(e)(2)(ii)].



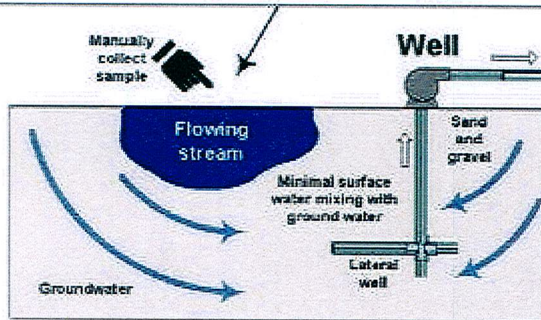
**Figure 4. Multiple Plants with the Same Influent**



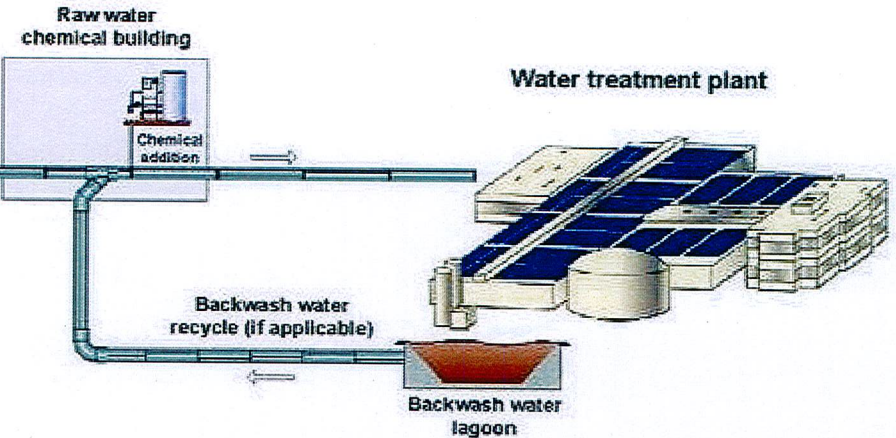
## Figure 5. Bank Filtration

The correct sampling location for systems using bank filtration differs depending on whether the bank filtered water is treated by subsequent filtration:

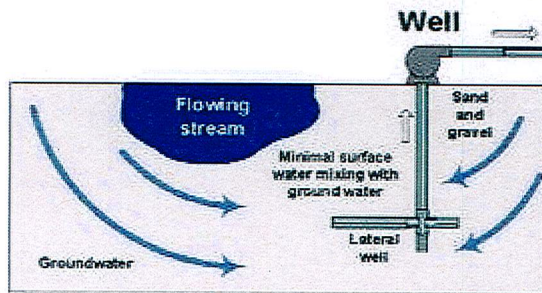
**Scenario 1:** Systems that receive *Cryptosporidium* treatment credit for bank filtration must collect source water samples in the surface water prior to bank filtration [40 CFR § 141.703(d)(1)].\*



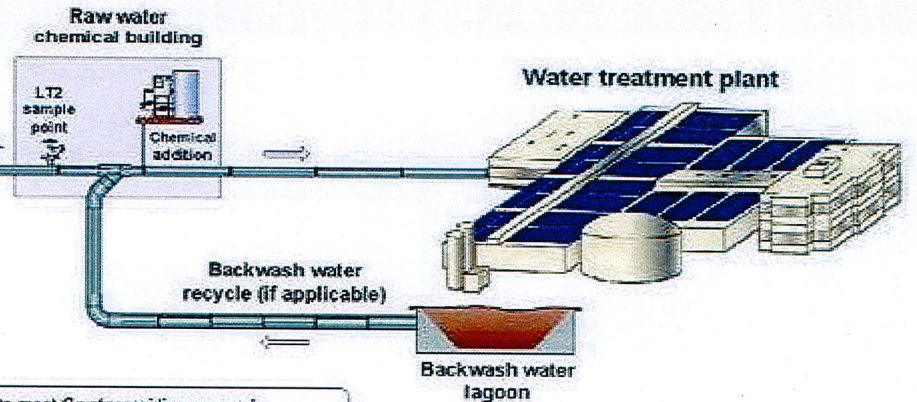
**Bank filtration cross section**



**Scenario 2:** Systems using bank filtered water that is treated by subsequent filtration must collect source water samples from the well source (i.e., after bank filtration) but before any other treatment.\*\* Use of bank filtration during monitoring should be consistent with routine operational practice. Systems collecting samples after a bank filtration process may not receive *Cryptosporidium* treatment credit for the bank filtration [40 CFR § 141.703(d)(2)].

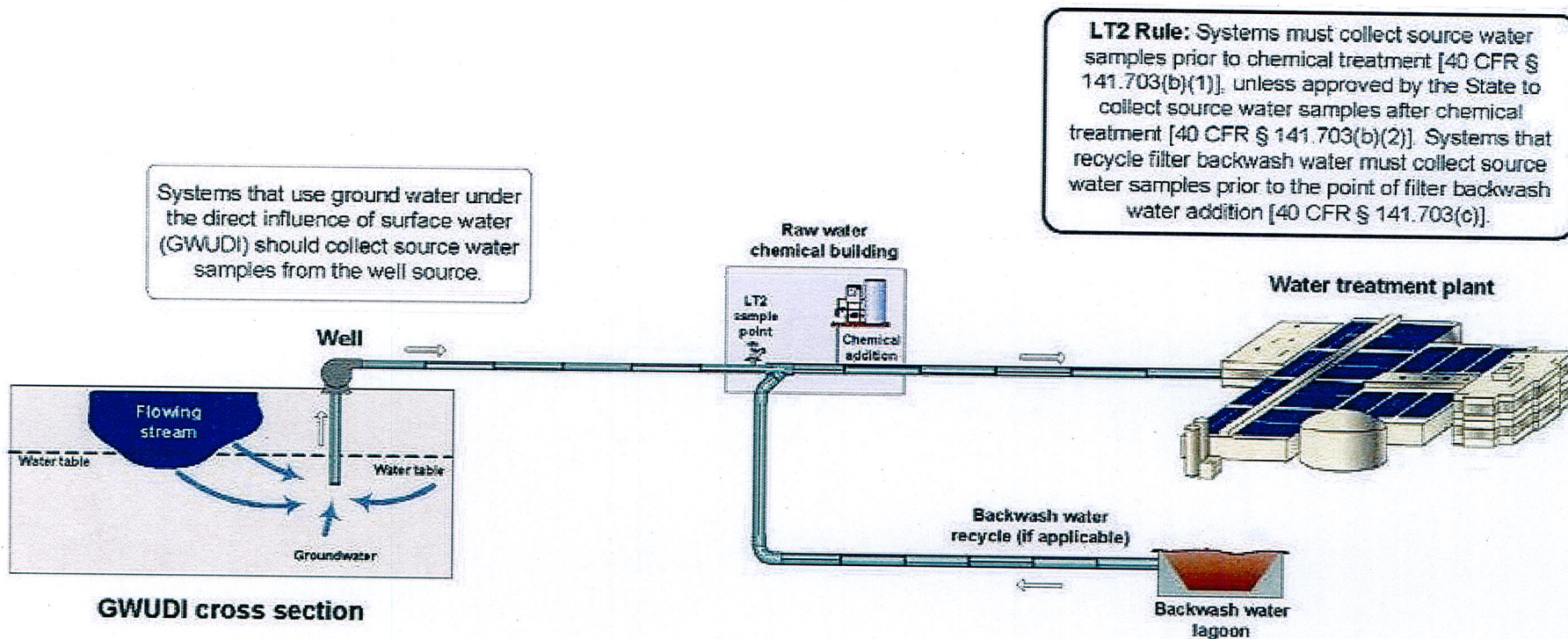


**Bank filtration cross section**



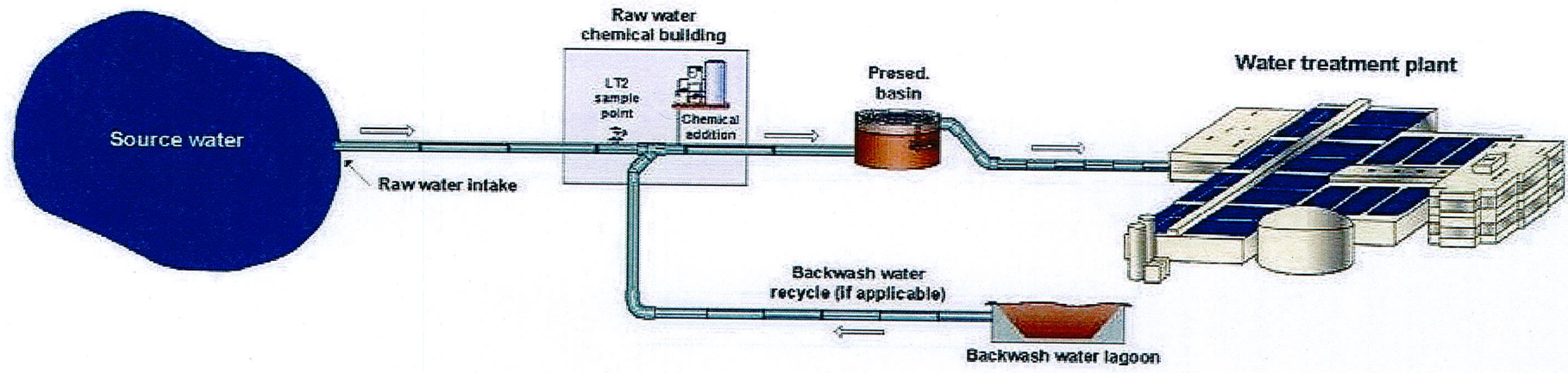
\* Refers to systems using bank filtration to meet *Cryptosporidium* removal requirements of the Interim Enhanced Surface Water Treatment Rule (IESWTR) or Long Term 1 ESWTR under 40 CFR § 141.173(b) or 40 CFR § 141.522(a).  
 \*\* Refers to systems where bank filtration serves as pretreatment to a filtration plant.

**Figure 6. Ground Water Under the Direct Influence of Surface Water (GWUDI)**

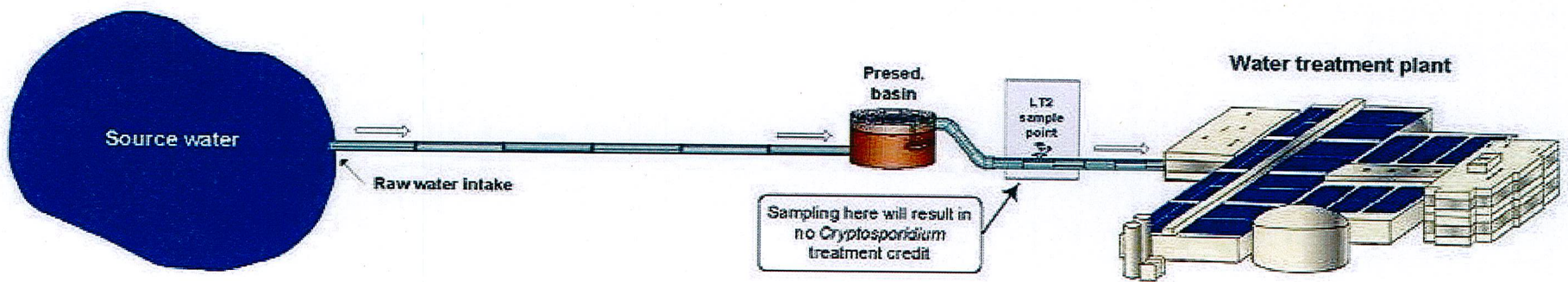


# Figure 7. Presedimentation Basin

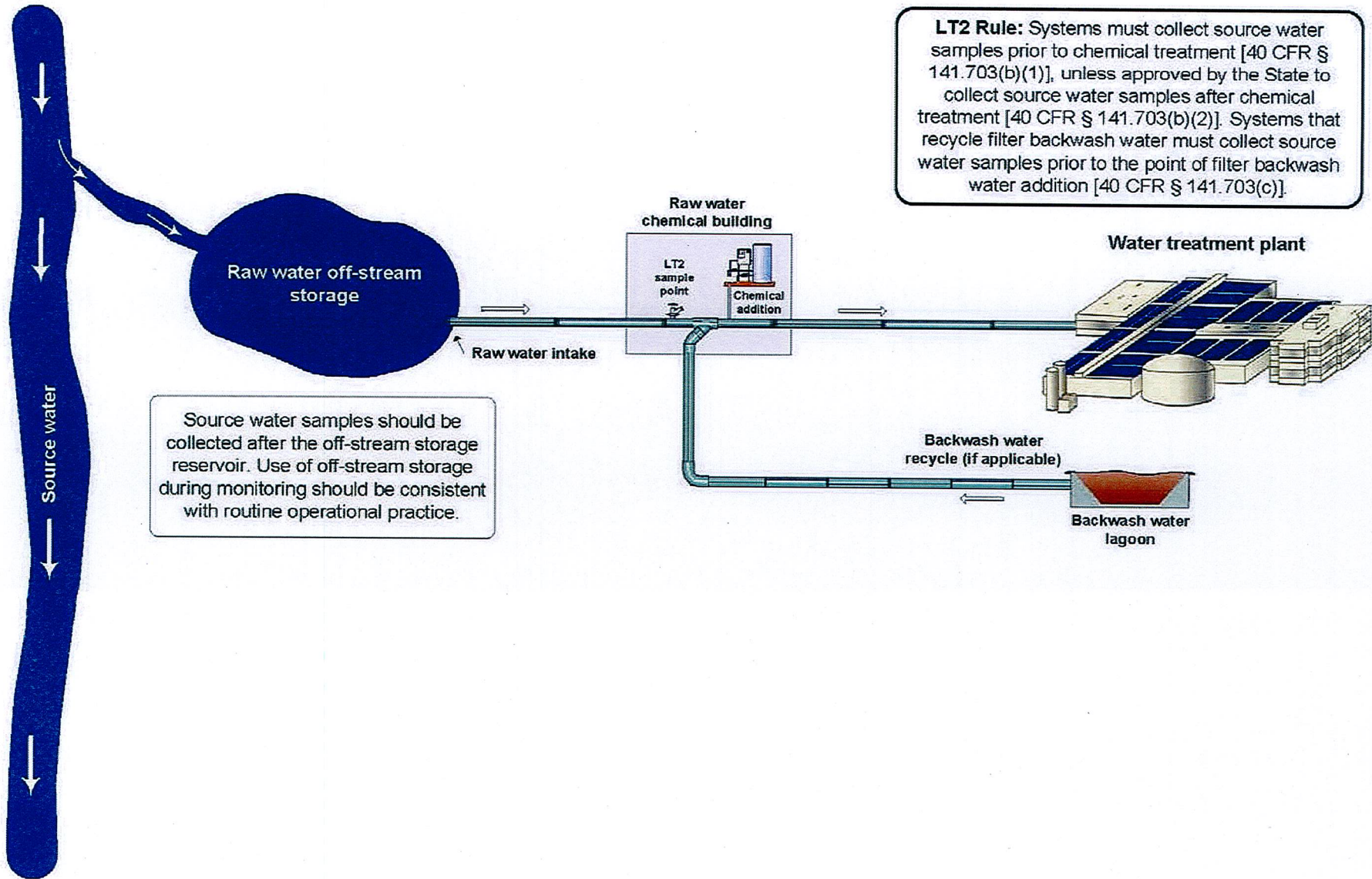
**Scenario 1:**  
Systems using a presedimentation basin with chemical addition should collect source water samples prior to chemical treatment, unless approved by the State to collect source water samples after chemical treatment. Systems that recycle filter backwash water must collect source water samples prior to the point of filter backwash water addition [40 CFR § 141.703(c)].



**Scenario 2:**  
Systems without chemical addition prior to or in a presedimentation basin, or that have been approved by the State to collect source water samples after chemical treatment, may sample after the presedimentation basin but will not receive any treatment credit for presedimentation.



**Figure 8. Raw Water Off-Stream Storage**

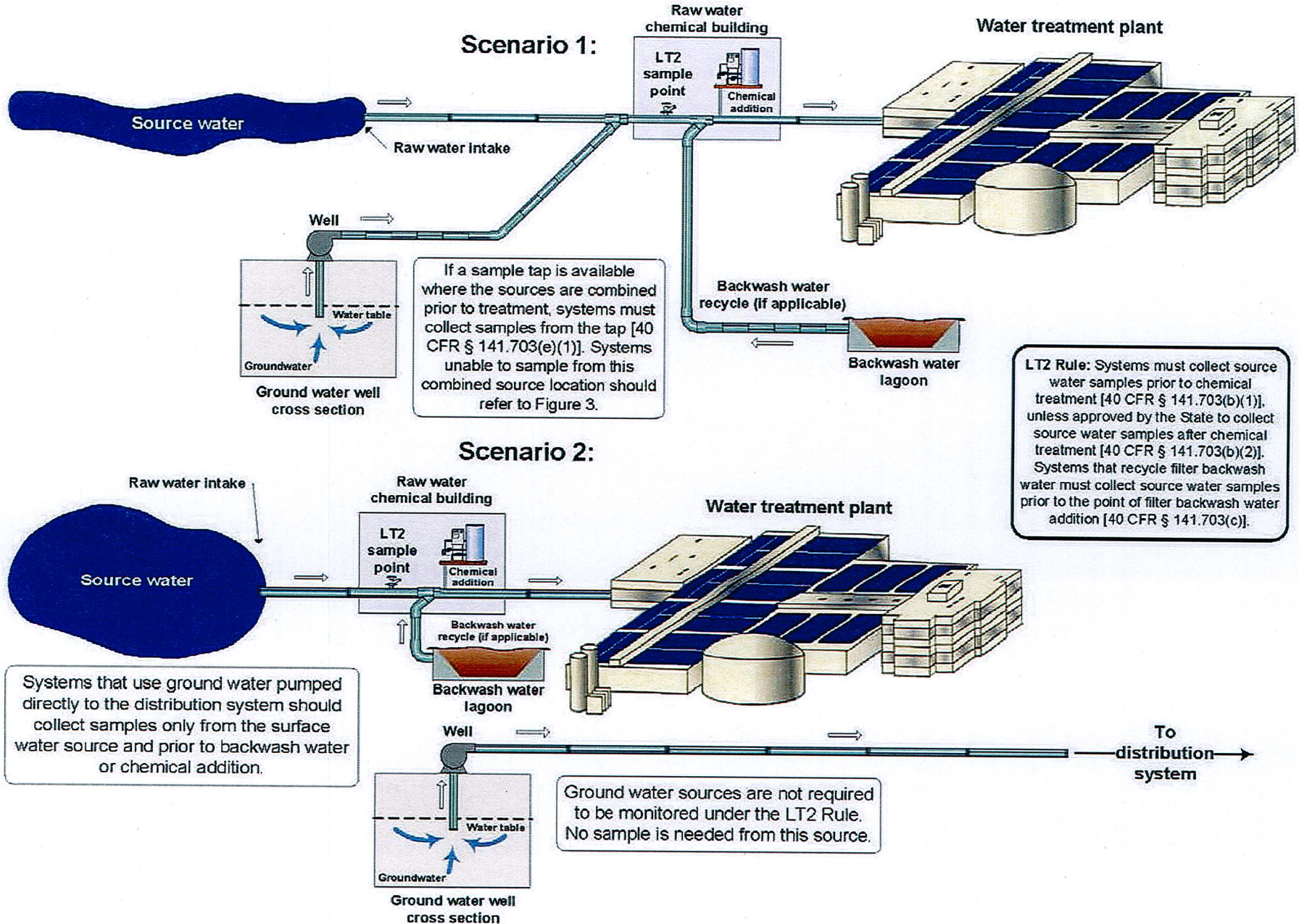


**LT2 Rule:** Systems must collect source water samples prior to chemical treatment [40 CFR § 141.703(b)(1)], unless approved by the State to collect source water samples after chemical treatment [40 CFR § 141.703(b)(2)]. Systems that recycle filter backwash water must collect source water samples prior to the point of filter backwash water addition [40 CFR § 141.703(c)].

Source water samples should be collected after the off-stream storage reservoir. Use of off-stream storage during monitoring should be consistent with routine operational practice.



**Figure 9. Mixed Source Water: Ground Water and Surface Water Sources**



## Figure 10. Blank Schematic for Submission

Public Water System (PWS) name: \_\_\_\_\_

PWS ID: \_\_\_\_\_

Water treatment plant name: \_\_\_\_\_

Water system facility ID: \_\_\_\_\_

Indicate the following on the diagram that best represents your facility type (if applicable):

1. LT2 sampling location
2. Points of chemical treatment prior to the treatment plant
3. Filter backwash water addition
4. Pretreatment processes (e.g., presedimentation basins, bank filtration)
5. Multiple source waters (show by adding additional sources)

