
APPENDIX B

Estimated System Capacity

REMAINING SYSTEM CAPACITY

The City's 2021 drinking water and PI water master plans list capacity remaining in the system as of year 2020. This document includes a high-level approximation of changes since that time. Santaquin City may wish to provide more detailed information to refine these calculations.

Changes since the master plan were produced are estimated as follows:

- As contained in data reported to the Utah Division of Water Rights, 883 units were constructed between years 2020 and 2022.
- It is estimated that approximately 300 units have been constructed in year 2023.
- Units constructed since the master plan was produced can then be calculated as $883 + 300 = 1,183$. This number was rounded to 1,200 for analysis purposes.
- The construction of the City's Zone 11W PI project removed approximately 95 acres from drinking water service (see Table 2-2 in the drinking water master plan).
- As a conservative estimate, 50 additional irrigated acres are assumed to have been constructed in Zone 11E and 50 more in other areas of the system, for a total of 100 irrigated acres in the system as a whole.

DRINKING WATER STORAGE CAPACITY

Remaining storage capacity in the drinking water system is estimated as follows:

- Storage capacity remaining at the time of the master plan was 0.31 MG (see Table 4-3).
- At the level of service, considering 1,200 units constructed and 95 irrigated acres removed, remaining storage capacity is estimated as 0.75 MG.

DRINKING WATER SOURCE CAPACITY

Remaining source capacity in the drinking water system is estimated as follows:

- Source capacity remaining at the time of the master plan was 1,198 gpm (see Table 3-4).
- At the level of service, considering 1,200 units constructed and 95 irrigated acres removed, remaining source capacity is estimated as 1,541 gpm.

DRINKING WATER SOURCE CAPACITY CONSIDERING REDUNDANCY

Remaining source capacity in the drinking water system, considering redundancy, is estimated as follows:

- Source capacity, considering redundancy, remaining at the time of the master plan was 62 gpm (see Table 3-4).
- At the level of service, considering 1,200 units constructed, a deficit in source capacity of 355 gpm is estimated, considering redundancy.

PI WATER SOURCE CAPACITY

Remaining source capacity in the PI water system is estimated as follows:

- Source capacity remaining at the time of the master plan was 90 gpm (see Table 3-6). It

Is assumed that Santaquin has been acquiring additional water shares from development to stay ahead of demand.

- Remaining pumping capacity to Zone 11E at the time of the master plan was 1,580 gpm (see Table 3-4). Considering 50 irrigated acres constructed, **remaining pumping capacity to Zone 11E is 1,180 gpm.**

PI WATER STORAGE CAPACITY

Remaining storage capacity in the PI water system is estimated as follows:

- Storage capacity remaining at the time of the master plan was 16.94 ac-ft or 5.52 MG (see Table 4-3).
- At the level of service, considering 100 irrigated acres constructed in the system, 95 irrigated acres taken off drinking water service and placed on PI service, and a new 10 ac-ft pond constructed, **remaining storage capacity is estimated as 21.43 ac-ft or 6.98 MG.**
- Storage capacity remaining in Zone 11E at the time of the master plan was 6.75 ac-ft or 2.2 MG (see table 4-3).
- At the level of service, considering 50 irrigated acres constructed in Zone 11E, **remaining storage capacity is estimated as 5.34 ac-ft or 1.74 MG.**