
Water Supply 4

SURFACE WATER SUPPLY

Existing Conditions

Water Certificates of Convenience and Necessity (CCN): There are seven water CCN's in the Corridor.

The largest water providers are the City of Austin, Hornsby Bend, Manville WSC and Garfield WSC. Of these providers,two primarily obtain water from surface water sources. The City of Austin obtains drinking water from storage in Lake Travis and Hornsby Bend diverts water from the Colorado River. The rest are groundwater-based retail providers. Water infrastructure east of SH-130 is limited to support future development without substantial upgrades. Private water wells in the Corridor are numerous and the ability to quantify the exact number and location of these wells is limited due to the lack of permits and age of these wells. However, much data does exist and the Wells map on page 19 depicts the wells in the Corridor.

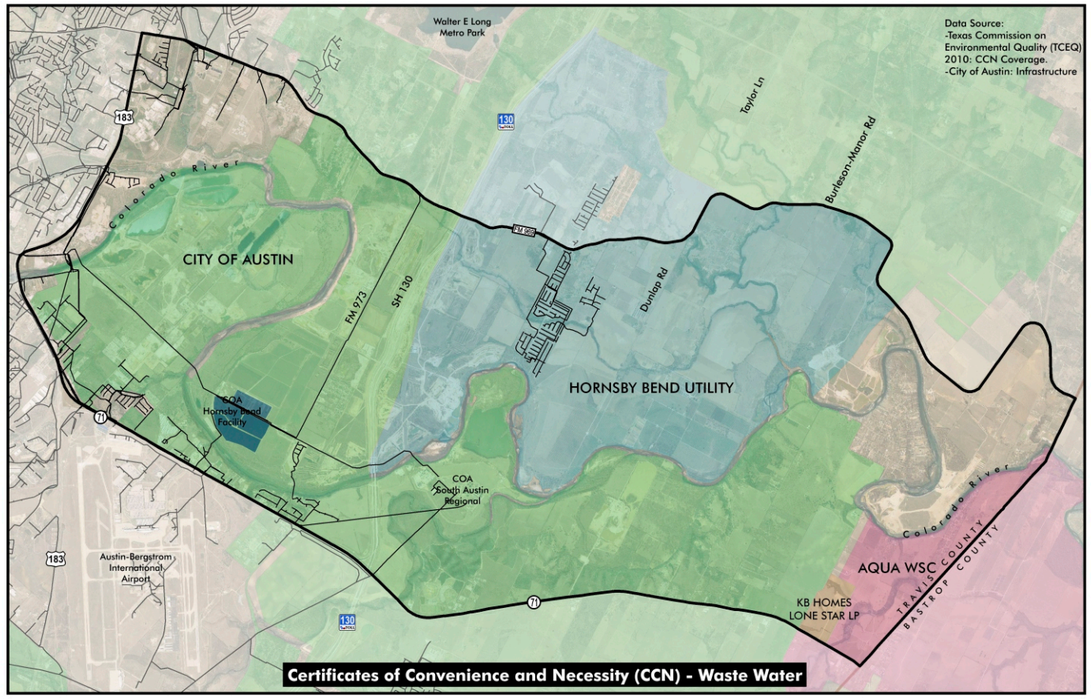
LCRA Raw Water Provider: LCRA is a wholesale raw water provider in the Corridor. There are currently seven raw water intakes in this stretch of the river diverting untreated river water to:

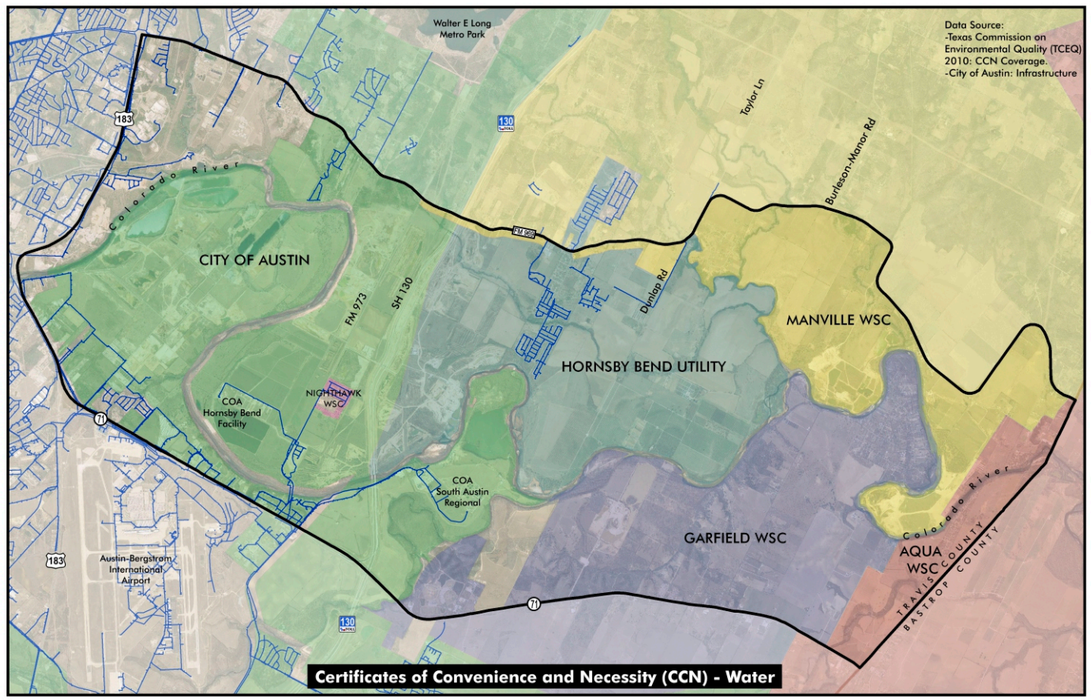
- Capital Aggregates industrial wash plant,
- City of Pflugerville raw water intake,
- Austin Energy Decker power plant,
- Austin Energy Sand Hill power plant,
- Bastrop Energy power plant,
- Travis County Southeast Metro Park, and
- Potts tree farm.

Municipal Utility Districts (MUDs): The Rio de Vida Planning and Improvement District No. 1 is currently the only MUD or other public utility district within the Corridor. This MUD was established to help facilitate post-mine reclamation as mixed-use development and open space creation within the 2,130-acre TXI Green site along SH 130.

Existing Austin Water Utility Service

West of SH 130 the Austin Water Utility (AWU) provides water service to much of the developed land with water mains generally following the existing roadways. The study area west of SH 130 is either within the City's full purpose City limits or the Austin Water Certificate of Convenience and Necessity (CCN) boundary. Water service within this area falls within AWU's Central Pressure Zone (PZ) service area. Currently potable water from both the Ullrich Water Treatment Plant and the Davis Water Treatment Plant are distributed into the Central PZ. Existing COA wastewater collection system infrastructure is generally located west of SH 130, with limited extension east of SH 130 south of the Colorado River, including the South Austin Regional Wastewater Treatment Plant. East of SH 130 the City of Austin (COA) currently has limited water and wastewater infrastructure. Much of the area east of SH 130 is within the water and wastewater CCN providers other than the City of Austin. The City of Austin water CCN east of SH 130 is on the south side of the Colorado River near SH 130 (see the Certificates of Convenience and Necessity (CCN) - Water map). East of SH 130 the City's wastewater CCN extends south of the river and extends east to within just over a mile from the eastern boundary of the Corridor project area.





Currently reclaimed water is pumped from the South Austin Regional (SAR) Wastewater Treatment Plant west to serve customers west of SAR including the Roy Kizer and Jimmy Clay golf courses.

Future Austin Water Utility Service

Water and wastewater improvements east of SH 130 within the Austin Water service area will require significant additions to both the water distribution system and wastewater collection system. Approximately 93 percent of the project study area falls within the COA full purpose or ETJ limits, with the exception of the Webberville city limits. Other entities' water CCNs and wastewater CCNs encompass much of the areas east of SH 130.

Conceptual COA water transmission mains have been planned to extend east along FM 969, north-south paralleling SH 130, as well as east of FM 973 along SH 71 but will be contingent on future development in the area. Conceptual COA wastewater main extensions into the area are currently envisioned along SH 71 east to the SH 130 corridor. Ongoing negotiations with different developments could extend these utilities further east within the limits of the City's service area. Future infrastructure improvements typically require a COA service extension request to extend the existing infrastructure or some other funding mechanism.

Additional reclaimed water system improvements are planned west of SAR to incorporate the Austin-Bergstrom International Airport and the City's Hornsby Bend Bio-solids facility and areas east of US Highway 183.

Wastewater Certificate of Convenience and Necessity (CCN): There are five wastewater CCNs in the Corridor.

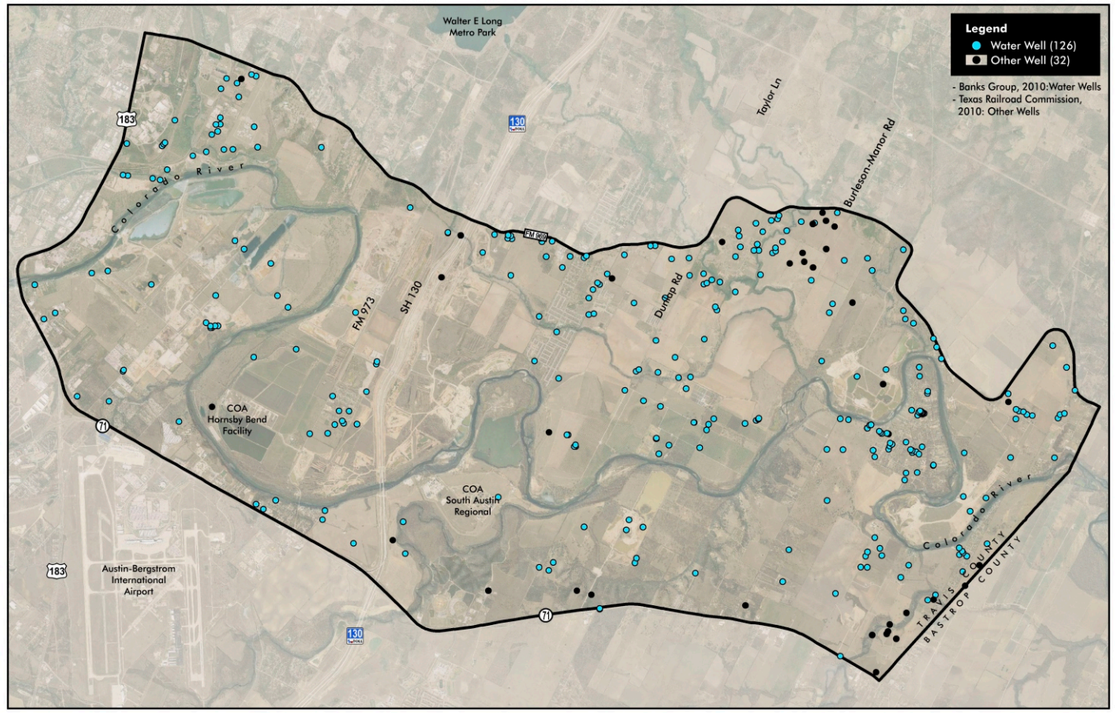
The largest wastewater providers are the City of Austin and the Hornsby Bend Utility Company, owned by Southwest Water Supply Corporation (WSC). The City of Austin has three wastewater plants in the Corridor, with the South Austin Regional Plant being the most centrally located, and potentially having the largest capacity of the three to handle future growth. Existing wastewater infrastructure is limited east of SH 130 due to the lack of an existing collection system in that area (see the Certificates of Convenience and Necessity (CCN) – Wastewater map).

Opportunities and Constraints

Nearly all the Colorado River Corridor is within certificated water service areas. This framework provides for the distribution of a safe and adequate supply of drinking water for residential and most commercial uses. The State of Texas Water Plan does not predict a shortage of water to meet the growing demands of population for the Corridor. Advantages of the corridor area include readily available and highly treated wastewater effluent for future reclamation and non-potable uses. There are two water supply planning processes in progress for the lower Colorado River basin. One is a statewide effort led by the Texas Water Development Board. Region K covers most of the Colorado River Basin. The second effort is being led by LCRA focusing on the lower Colorado River basin. The Water Supply Resource Plan developed by LCRA with stakeholder input is a planning document that includes water supply options to respond to the basins water needs over the next 90 years. More information on these efforts can be obtained from the TWDB and LCRA respectively.

Summary of Critical Issues

- Infrastructure capital expenditures for water supply will be needed to support the growing and expanding urban population in the Corridor.
- Infrastructure capital expenditures would be necessary for water supply of non-potable reclaimed wastewater to support turf and other irrigation needs from major sewage treatment facilities in the Corridor.
- Agricultural irrigation may not be cost effective when droughts occur.
- Long term water planning needs to consider the economy of scale in terms of supplying water from multiple and smaller utilities versus larger, more regionally-based utilities.



Existing Conditions

Geology and Ground Water: The surface strata over much of the Corridor consist of terrace deposits and stream or river alluvium, ranging in age from Pleistocene to Recent. The terrace deposits consist of sand, gravel, and clay, sometimes cemented with calcium carbonate. They occur at higher elevations than the more recent floodplain deposits. Thin sheets of gravel and sand representing old terraces are often found on ridges, called high gravel deposits. Stream or river alluvium is composed of up to 60 feet of unconsolidated material, chiefly gravel, sand, and silt. Underlying the terrace and alluvial strata is the Cretaceous-aged Navarro and Taylor Groups, massive beds of shale, siltstone, marl, and chalk with clay.[10]

The principal source of usable groundwater in the Corridor area is from the Colorado River alluvium and terrace deposits. This aquifer produces small to very large quantities of fresh to slightly saline ground water. The total effective annual recharge to the aquifer in Travis County is 6,000 acre-feet, principally from rainfall on the outcrop and tributary streams. The stage of the Colorado River is in constant contact with the aquifer and influences groundwater elevations and movement of groundwater through the alluvium.

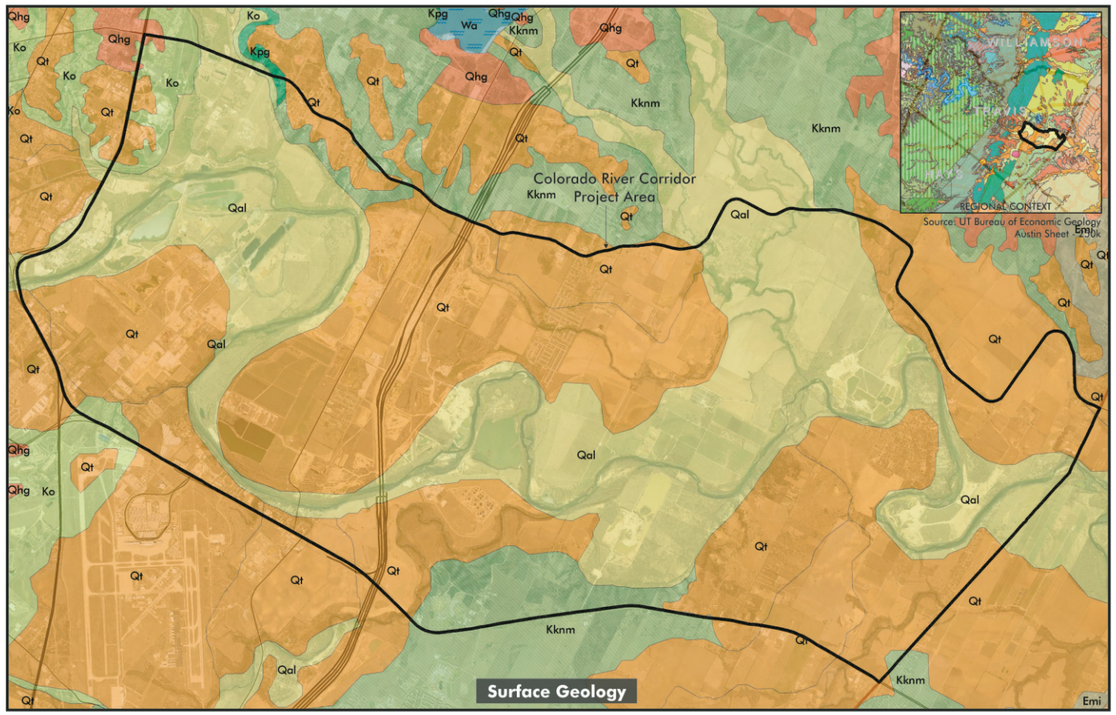
The Navarro and Taylor Groups can produce small quantities of groundwater, particularly in the weathered surface layers where fractures and shrink/swell cracking of the clay-rich surface occurs and conveys water into thin sand layers. Historically, many wells placed into these formations have since been abandoned due to unreliability.

Opportunities and Constraints

TCEQ estimated a constant annual withdrawal of groundwater from the terrace and alluvial aquifer as 5,553 acre-feet currently and into the future, recognizing the finite capacity of the system and a continued trend in the Corridor for drinking water needs to be met through surface water based distribution systems provided by water utilities. Approximately 66 percent of the groundwater withdrawn is for public drinking water supply with the remainder supplying private domestic wells, agricultural uses, and mining.[11] As a part of implementation, planners could look at the viability of projects to enhance aquifer recharge.

Summary of Critical Issues

- Groundwater supplies in the Corridor are greatly limited
- No groundwater conservation district (GCD) or similar authority is currently established to manage this limited resource.



[10] This section summarizes information from Brune, Gunnar and Duffin, Gail L. June, 1983. Report 276: Occurrence, Availability, and Quality of Ground Water in Travis County, Texas. TDWR.

[11] Bereche, Abiy K. 2005. Updated Evaluation for the Williamson, Burnet, and Northern Travis Counties Priority