



**San Antonio River Authority (River Authority)
Engineering Review Requirements
For Pipeline Crossings of Streams/Rivers (bed and banks) owned by the River Authority**

1. The overall goal of these requirements is for the applicant to design, construct and maintain pipeline infrastructure projects with minimal disruption to the bed and banks of the stream, the public and the environment. **No clearance of trees or brush is allowed on the bed and banks of the San Antonio River or any of its tributaries without prior approval by the River Authority.**
2. Streams are naturally dynamic systems and profile designs should anticipate streams to move vertically and laterally over time. Pipeline minimum depth is 20' and may be greater, as determined by River Authority staff. Lateral requirements will be established at the discretion of River Authority staff.
3. Water pipelines will be installed pursuant to 30 TAC §290.44(f)(2).
4. An "on the ground" centerline profile must be submitted for the proposed crossing. The ground shots shall be based on NAVD 1988 datum. Sufficient points to describe and capture the significant features for the creek/river at the crossing must be provided. Provide an ascii file of the point data used to create the profile based on the NAVD 1988 datum. Format for the ascii comma (delimited) file shall be northing, easting, elevation, description (N,E,Z,D). Include a detailed pipeline location (within the easement area) and the location of nearest shut-off valve. For horizontal control refer to Texas Board of Professional Land Surveyors' Survey Standards.
5. Only horizontal directional drilling or jack and bore construction methods will be considered for approval. Jack and bore sending and receiving pits must be located outside of the 10 year frequency storm limits. Additional clearance distance from the thalweg may be required by River Authority staff, depending on stream conditions or stream morphology. Approval of the FEMA Floodplain Administrator is required if operations are within the 1% chance annual storm. Directional drilling pits shall be constructed well beyond the top of bank, as determined by River Authority staff.
6. Provide the River Authority with a map documenting no activities within the 1% annual chance floodplain (100-yr) or submit a permit from the local floodplain administrator for any proposed activities within the 1% annual chance floodplain.
7. No modifications to the existing channel or floodplain will be permitted.
8. The consultant designing the crossing should assure proper depth of the utility line to prevent exposure from scouring.



9. The minimum cover requirements required by the River Authority do not release the owner from responsibility to remove and replace sections of pipe if exposed in future years. The owner shall provide periodic inspections of the pipeline alignment in future years to anticipate and communicate any potential problems to the River Authority in advance of pipe exposure. Exposed pipelines are considered a potential safety and environmental hazard risk that remain the responsibility of the pipeline owner to correct in a timely manner.
10. The river crossing easement instrument will contain provisions that require the removal of all improvements upon termination or abandonment of the river crossing.
11. In the event the pipeline is abandoned or no longer in use, the pipe should be completely removed from the stream channel or River Authority-owned bed and banks and up to 60 feet on either side of the bank. The total amount of pipe to be removed is subject to site conditions and will be established by River Authority field personnel.
12. Contact the River Authority Environmental Investigations Specialist at least 72 hours prior to any drilling activities to arrange for a field visit. The purpose of the field visit is to discuss the crossing. A representative from the pipeline and boring companies must be present. A review of site vegetation and topography will be conducted prior to beginning work.
13. Best management practices for environmental and safety contingency plans must be in place and submitted to the River Authority prior to any site work activities. Typical items include but are not limited to silt fencing, hay bales, plastic sheeting, pumps and hoses, and vacuum truck.
14. A fracture mitigation plan (FMP) must be prepared and posted on-site in the event of a leakage of drilling mud to the surface or stream bed (frac-out). All work will stop and the frac-out will be contained. SARA will determine if and when the drilling operations can resume. The on-site foreman must be competent in all aspects of the drilling activity. Contractor must be prepared to contain any lost drilling fluid. All equipment listed in the FMP shall be on site when drilling within 100 feet of the stream.
15. No drilling activities will commence within the bed and banks of any river or stream without a River Authority employee being on-site.
16. No water from any river or stream will be used in any activity without prior permit approval from the Texas Commission on Environmental Quality South Texas Watermaster.
17. The site will be cleaned up and all debris removed. Restore site to original or better condition. All debris removed will be disposed of properly.



18. Provide the River Authority with the following within 30 days of completion: Test result of the line, air or water pressure; MSDS sheets of all chemicals and products used on-site; and documentation of the actual pipeline elevations under the river (record drawings). Failure to produce close-out documentation may prohibit any and all future crossings for that company.
19. The River Authority is not responsible for any damages, property or personal, related to the crossing.
20. The River Authority's review is based upon general compliance with the contract documents only and does not infer approval of the proposed design or construction operations. Sole responsibility for correctness and safety of the design and construction operations remains with the applicant.
21. This document is subject to revisions at any time and is provided for informational purposes only.

Revised October 6, 2014