

## Fort Bend County Engineering Street Acceptance Guidance

This guidance document is prepared for use by Fort Bend County staff, Developers, Engineers, and Contractors to provide understanding and clarity of County pavement requirements for acceptance of public roadways into County Maintenance. The General Acceptance Procedures can be found in the Fort Bend County Regulations of Subdivisions, Section 6 – Acceptance of Improvements within Subdivisions. This document provides guidance on when local, residential pavement can be repaired and when it will be replaced.

- These guidelines pertain to local residential streets only.
- Compliance with all specifications (County, City, or project specific approved by Fort Bend County Engineering) is required. Designated Project Engineer shall notify Fort Bend County Construction Inspectors of deficiencies that are not within the specification limits as soon as the deficiency becomes known but in no case more than 24 hours after the construction activity. Examples include proof rolling, subgrade density, and concrete placement. **These guidelines do not relieve the developer, engineer, or contractor from adhering applicable specifications and standards.**
- Membrane curing compound shall be applied as soon as possible in compliance with the manufacturer's recommendations.
- Sawing shall take place when concrete strength is acceptable for sawing and in compliance with the specifications without creating excessive raveling along the sawcut.
- An approved injected epoxy sealant will be used to seal cracks.. All sealants shall be applied in strict adherence to manufacturer's application recommendations.
- Bird Baths – If there is related pavement cracking at a bird bath location, the pavement will be removed and replaced. If lifting is chosen as a repair method for a bird bath, with no related cracking, and the pavement is cracked as a result of the lifting, removal and replacement of the pavement will be required.
- Where pavement is to be removed and replaced, the material below the subgrade shall be deemed suitable by an approved lab.
  - Before replacing concrete, provide lab report for density, moisture, lime percentage, lime depth, and other related analysis of subgrade to Fort Bend County. Lab report shall be sealed by a Registered Texas Engineer and include recommendations for over-excavation of subgrade material, subgrade treatment, or other mitigation needed to address pavement cracking issues.
  - When subgrade is removed, new subgrade shall be Cement Stabilized Sand (2 sack/cy, compacted) or as recommended by the lab report, whichever is more stringent. Epoxy dowels into holes drilled into the existing pavement (#4 rebar, minimum of 24" oc/ew or match existing, whichever is more stringent).
  - Provide a maintenance bond for areas of pavement replacement for an additional year.

The following elements are covered in this document:

- Pavement cracking
- Bird Baths
- Construction practices that contribute to pavement failure

# Fort Bend County Engineering Street Acceptance Guidance

## Pavement Cracking



Half-moon cracking is caused by inadequate backfill compaction around manholes. Address utility backfill issue and then remove and replace pavement.



When corner cracking within 10 feet of expansion joint occurs, remove and replace pavement.

## Fort Bend County Engineering Street Acceptance Guidance



Multiple cracks may be sealed using an approved injected epoxy sealant at the beginning of the one year maintenance period. Panels will be re-evaluated at the end of the maintenance period to determine the effectiveness of this treatment. If minor additional pavement movement has reopened or lengthened cracks, resealing will be required. If there is significant additional cracking or vertical movement is observed, pavement replacement will be required. **All sealants must be applied in strict compliance with manufacturer's recommendations.**



Longitudinal cracks can be sealed under some conditions as long as there is not an associated bird bath. Excessive width, vertical movement at the crack, or associated bird bath will require pavement replacement.



## Fort Bend County Engineering Street Acceptance Guidance



Lateral cracks can be sealed under most conditions. Excessive width, raveling, or vertical movement at the crack will require pavement replacement.

# Fort Bend County Engineering Street Acceptance Guidance

## Bird Baths

The following images are of bird baths that would require correction. Correction may be pavement removal and replacement, light grinding, lifting, or removal of obstruction (i.e. joint sealant). The extent of pavement removal will be determined in the field with Fort Bend County Engineering staff based on location of bird bath, joints, cracks, inlets, or other items.

Light grinding may be done within 6 inches of the curb, no more than ¼ inch in depth, and within 15 feet of the expansion joint. Grinding in the center of the panel or for the entire panel is not acceptable.



Bird bath extends into driving lane; pavement replacement is required.



Bird bath has significant length and depth. Lifting, light grinding, or removal of joint sealant obstruction may be acceptable based on field conditions.



## Fort Bend County Engineering Street Acceptance Guidance



Bird bath has significant length, width, and depth. Lifting or pavement replacement is required.

The following image is of bird baths that would not require significant pavement corrective measures.



Bird baths which are relatively small in length, width, and depth do not require pavement replacement or lifting. Allowable width is approximately 12 inches. Allowable depth is approximately  $\frac{1}{4}$  inch.



## Fort Bend County Engineering Street Acceptance Guidance

### Construction practices that contribute to pavement failure

The information below is to assist developers, engineers, contractors, and inspectors on identifying conditions that may lead to inadequate pavement structures and costly pavement replacement upon construction completion.



Subgrade is too dry.



Subgrade is too dry.



## Fort Bend County Engineering Street Acceptance Guidance



Possible deficiencies in subgrade and base include: Inadequate proof rolling or improper mixing of lime for subgrade, not extending lime mixture to edges of proposed limits of the stabilized subgrade, calculating lime for a 6 inch subgrade and mixing it 8 or more inches deep.



Concrete under headers at expansion joints does not allow expansion to occur correctly.



## Fort Bend County Engineering Street Acceptance Guidance



Misaligned dowels



Misaligned dowels



## Fort Bend County Engineering Street Acceptance Guidance



Membrane curing compound not applied to pavement



Inadequate curing compound



## Fort Bend County Engineering Street Acceptance Guidance



Silt fence or irrigation is placed directly behind curb cuts through subgrade and impacts lateral support.



Excavation under or near pavement



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Not saw cutting within specified time (photo shows 4 day old concrete with no sawcuts)



Equipment operating on pavement with inadequate cure time