



Mr. Nate Smith, City Administrator
City of Fairfield
839 E. Commerce Street
Fairfield, Texas 75480

October 12, 2021

RE: 2021 Street Rehabilitation Full Reconstruction Justification

Mr. Smith:

Below you will find a justification of Hayter Engineering's recommendation to fully reconstruct a majority of the streets.

A site visit was conducted on August 31st, 2021, by Kevin Vanhoozier, P.E. and Zachariah Smith, E.I.T. to evaluate the streets requested. A meeting was held with Clyde Woods, Public Works Director on site to determine the most appropriate method to rehabilitate the streets. It was agreed that if evidence of road base failure was present, full reconstruction of that portion would be required.

The project engineers carefully examined every street for its overall condition. Several pavement failures, such as reflection cracking and fatigue cracking, were noted in almost every street segment. In the attached document titled "*Understanding pavement distress in asphalt overlays*", the American Asphalt Institute describes reflection cracking as "stresses generated from lower pavement layers that are transmitted to the surface of the pavement. When an overlay is placed on a cracked pavement, imperfections from below will appear." In addition, Fatigue cracking (otherwise known as alligator cracking) is "essentially a failed pavement segment that needs rehabilitation. Overlooking the condition of the existing pavement can lead to a significantly reduced lifespan of a new overlay."

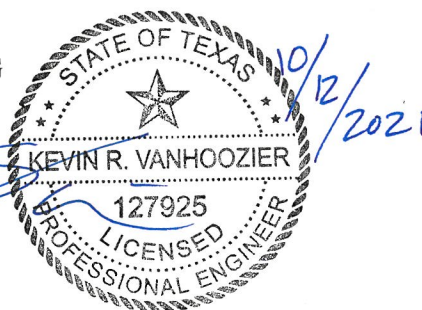
As a result, Hayter Engineering recommended completing a full reconstruction on the entirety of 14 of the streets, which would address the base failure present. Four of the streets had segments have been overlaid in recent years, and there was not significant evidence of base failure. Therefore, these streets were of sufficient quality to not require a full reconstruction.

If you have any questions, please do not hesitate to call (903.785.0303) or email (KevinVanhoozier@haytereng.com).

Sincerely,

HAYTER ENGINEERING

Kevin R. Vanhoozier, P.E.
Project Manager



Practical Infrastructure **Solutions**

4445 SE Loop 286 | Paris, TX 75460 | haytereng.com

TxEng F-315 | TxSurv F-10028600 | OSBPE/LS #603 | ASBPE #2521 | LA #EF6529

Texas | Oklahoma | Arkansas | Louisiana