



CONSTRUCTION WARRANTY & DESIGN STANDARDS

DS-19-033

April 2, 2019

Background

- ❑ On February 5, 2019 City Council made a motion of direction to discuss extending the warranty period for infrastructure
- ❑ On February 19, 2019 City Council gave further direction to look at extended warranty versus enhanced design standards
- ❑ This discussion outlines cost impacts and how design standards can be enhanced

Warranty

- The City requires bonds to guarantee workmanship and cover any defective materials during the warranty period
 - ▣ Failures due to poor workmanship or defective materials tend to happen quickly, sometimes immediately
- Warranties do not guarantee that the design standards, plans, and materials used were appropriate for the work
 - ▣ These failures tend to occur over time, and shorten the design life
- 1-year bond approximately 2.5% of construction cost
- 2-year bond approximately 2x the cost of 1-year bond

Extended Warranty

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- Staff contacted 10 bonding companies to gather information on 5-year bonds
 - ▣ Typically 5x the cost of 1-year bond
 - ▣ May only be willing to issue on a yearly renewal basis
 - ▣ Only available to certain contractors with longer history and high financial stability
- Bonding Capacity
 - ▣ Based on contractor's financial history
 - ▣ Ties up their capacity for extended time
 - ▣ Less willing to bid on our jobs since it limits future work; less bids = increased costs

Warranty – Benchmark Research

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City	Warranty Period
Abilene	1-Year
Amarillo	1-Year
Beaumont	1-Year
Belton	2-Year
Copperas Cove	1-Year
Harker Heights	1-Year
Killeen	1-Year*
Lampasas	1-Year
Lubbock	1-Year
McAllen	1-Year
Mesquite	1-Year
Pasadena	1-Year
Temple	1-Year
Waco	1-Year

* 2-Year Warranty for Drainage Infrastructure

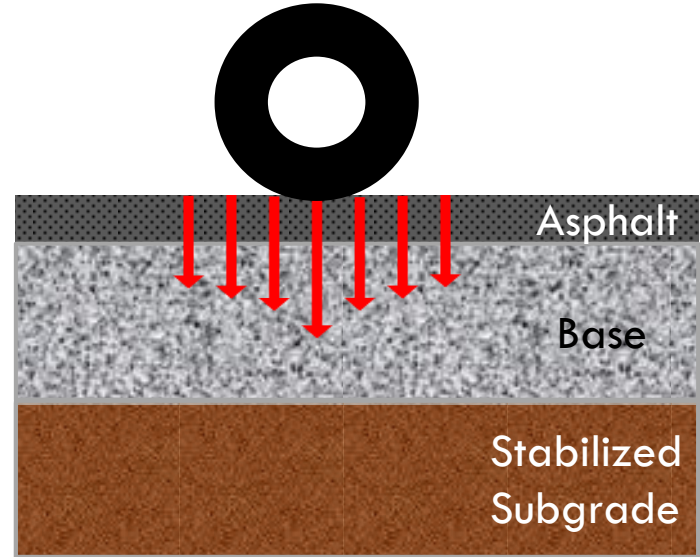
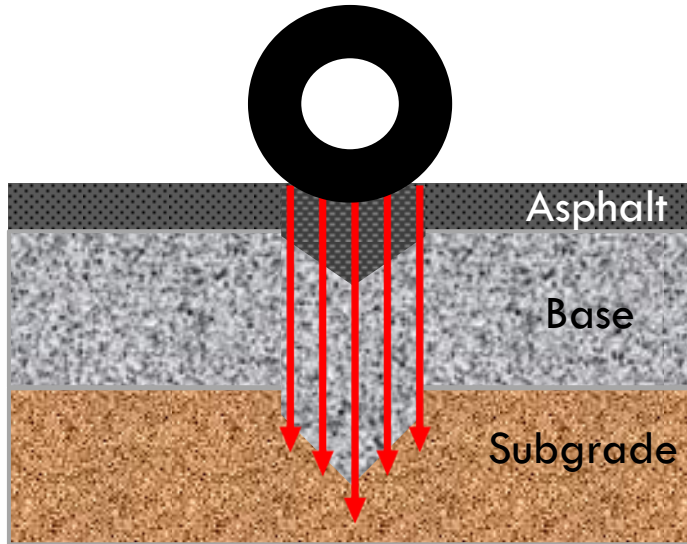
City Manager Comments

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- Extended Warranty vs Design Standards

Design Standards

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Subgrade After Stabilization

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Design Standards— Benchmark Research

	Stabilized Subgrade	Base	HMAC Surface
Killeen	Not Required	Pavement Design Manual	
Copperas Cove	Not Required	Pavement Design Manual	
Harker Heights	Required for Clay Soils	Flexible Pavement Design Manual	
Temple	Geotechnical Report Required		
Waco	Geotechnical Report Required		
Belton	Geotechnical Report Required		
Round Rock*	8-Inch	10-Inch	1.5-Inch
Denton	12-Inch	6-Inch	2-Inch
College Station	6-Inch	6-Inch	2-Inch

*Varies based on soil classification

Design Standards- Residential Street (1,000 LF)

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	City of Killeen	Benchmark
HMAC Surface	1.5-Inches	2-Inches
Base	12.5-Inches*	8-Inches
Stabilized Subgrade	-	6-Inches
Estimated Cost	\$133,550	\$130,282

*Depth varies based on soil conditions

Warranty vs Design Standards

	City of Killeen	Benchmark
Construction Cost	\$133,550	\$130,282
1-Year Bond	\$3,339	\$3,257
2-Year Bond	\$6,678	\$6,514
5- Year Bond	\$16,695	-
Geotechnical Design	-	\$15,634

Discussion

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- Move forward with warranty option?
- Move forward with design standards?
- Further discussion?