

**EDAP Cost per Connection  
Benchmark**

**Item A.7**

**Board Policy No. 2013-007**



# TEXAS WATER DEVELOPMENT BOARD



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**TO:** Board Members

**THROUGH:** Greg Kuchy, Deputy Executive Administrator, PFCA  
Amanda Lavin, Associate Deputy Executive Administrator, PFCA

**FROM:** Mark D. Hall, Director, Project Engineering and Review Division, PFCA  
Mireya Loewe, Project Lead, EDAP, PFCA

**DATE:** October 20, 2008

**SUBJECT:** Economically Distressed Areas Program  
Cost per Connection Benchmarks for Water and Wastewater Projects

**ACTION REQUESTED**

Approve an adjustment to the Economically Distressed Areas Program Cost per Connection benchmarks for water and wastewater projects to reflect the impacts of inflation.

**BACKGROUND**

In September 1996, the Texas Water Development Board (Board) adopted for the first time Cost per Connection (CPC) benchmarks for projects funded through the Economically Distressed Areas Program (EDAP). This action was taken after a review of existing EDAP average project costs, estimated costs of projects in facility planning, and similar project costs funded through other programs or funding agencies. The analysis also considered input obtained from engineering and financial consultants. These CPC benchmarks have not changed since their initial adoption in 1996.

**The CPC Benchmarks are:**

- \$10,000 per connection for water only projects
- \$12,000 per connection for wastewater only projects
- \$20,000 per connection for combined water and wastewater projects

**The CPC Calculation is:** EDAP Project Cost / Number of EDAP Connections

*Project Cost* – Includes only costs associated with the EDAP portion of a project (construction, professional fees, etc.) net of any hook-up (service laterals) costs included in the proposed Board funding commitment. Not included in the calculation are project costs funded from other sources.

*Number of Connections* – Includes only those EDAP connections anticipated to be connected at the time the project completes construction.

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Documentation from the 1996 analysis states, "As the TWDB continues to implement the EDAP, the average cost per connection will likely increase." This was anticipated due to a number of factors, including: newer projects tending to be rural in nature and generally having lower dwelling density; locations being more remote; projects being new startup systems; and a projected increase in project labor and materials due to inflation.

In January 2005, staff presented an item to the Board recommending an adjustment to the CPC benchmarks based on inflation. At that time, a number of existing stalled projects were ready to move forward and were requesting project cost increases. Available EDAP funds were limited and appropriations to sell additional EDAP bonds were not yet approved. In order to ensure that limited funds were available to complete existing projects, the Board chose not to approve an adjustment to the benchmark, but to consider requests by existing projects on a case-by-case basis.

Attachment No. 1 shows the historical CPCs for projects funded by the EDAP from the year 2004 to the present. The attachment shows that from 2004 to 2006, funding requests were predominantly for increases to existing projects. In addition to seeing funding increases in 2006 and 2007, the Board began to receive funding requests for the various phases of projects: Planning, Acquisition, Design, or Construction (PAD/C). Also, in 2007 the CPC began to exceed the established benchmarks on multiple projects. Attachment No. 1 shows that the average CPC for 2007 exceeded all of the current CPC benchmarks. The CPC for 2008 is lower. However, most of the funding requests are associated with pre-construction phases of the project (PAD). Staff expects that as applicants return to request funding for the 2008 projects, we will likely see higher CPC numbers as more accurate cost estimates are developed. So far only one project, the City of Roma, has returned to request funding for Construction after the Board funded Acquisition and Design in June 2007. Roma's CPC increased to \$11,877 in May 2008 from the CPC of \$9,850 that was estimated in June 2007. However, the CPC remained within the existing benchmark.

#### **ADJUSTING FOR INFLATION**

Since the original benchmark was established in 1996, staff evaluated the inflationary impacts on the CPC benchmarks by using the Engineering News Record (ENR) Construction Cost Index (CCI). The ENR CCI is widely used in the construction industry. This calculation represents changes in labor and materials; including steel, cement, and lumber. The index shows an increase in costs of 51.74% over the last twelve years and estimates annual inflation to be 4.28%. Staff believes that the ENR is representative of the type of projects that the Board funds and recommends that the ENR CCI be used to estimate inflation.

Applying the ENR Construction Cost Index of 51.74% to the Board CPC benchmark would have the following results:

	Existing CPC Benchmark (Adopted in 1996)	CPC Benchmark based on ENR Construction Cost Index (+51.74%)	Proposed CPC Benchmark based on ENR Construction Cost Index (Rounded to \$1,000)	Change
Water	\$10,000	\$15,174	\$15,000	\$ 5,000
Wastewater	\$12,000	\$18,209	\$18,000	\$ 6,000
Combined Water & Wastewater	\$20,000	\$30,348	\$30,000	\$10,000

Currently, the Board has a combined benchmark for when both water and wastewater are funded under one commitment. The combined benchmark is intended to reflect savings that are realized through economies of scale, such as costs associated with combined planning or with associated fees (e.g., bond counsel and financial advisors) that cover all aspects of the project. The addition of the combined benchmark gives the Board another evaluative tool to use when economies of scale are present in a proposed project. When economies of scale are not present on a project, the Board would be able to also use the individual benchmarks to evaluate a project. Staff will identify for the Board when the combined benchmark will be applicable.

#### **CUSTOMER INPUT**

Staff has received comments from customers recommending that the CPC be adjusted for inflation, given that the existing benchmarks were established twelve years ago.

#### **CONCLUSION**

Staff believes that an adjustment to the CPC for inflation would allow the CPC to more closely represent expected costs on EDAP projects as they proceed to construction funding, as evidenced by the costs identified on Attachment No. 1 for the year 2007.

#### **RECOMMENDATION**

Staff recommends that the EDAP CPC be adjusted by the ENR Construction Cost Index to \$15,000 for water projects, \$18,000 for wastewater projects, and a combined water and wastewater benchmark of \$30,000.

**Attachment 1**

**Historic Cost Per Connection - EDAP Projects (assorted by date)**

Applicant	Commitment Date	P, A, D, &/or C	Type (W./W.W.)*	Cost Per Connection		
				W.	W.W.	Total
<b>2004</b>						
Mission, City of	April-04	Increase	W.W. 1st time service.	N/A	\$8,644	N/A
South Newton WSC	April-04	Increase	W. & W.W. 1st time service.	\$5,960	\$9,330	\$15,290
Pecos City, Town of	August-04	Increase	W.W. 1st time service.	N/A	\$15,287	N/A
Skidmore, City of	December-04	Change of Scope	W. & W.W. 1st time service.	\$8,595	\$8,695	\$17,290
				<b>2004 Average</b>	<b>\$7,278</b>	<b>\$10,489</b>
<b>2005</b>						
Roma, City of	May-05	Increase	W. & W.W. system improvements.	\$1,082	\$8,353	\$9,435
Batesville WSC	October-05	Increase	W. & W.W. system improvements.	\$440	\$5,848	\$6,287
Roma, City of	November-05	Increase	W. system improvements.	\$1,038	N/A	N/A
				<b>2005 Average</b>	<b>\$853</b>	<b>\$7,101</b>
<b>2006</b>						
Brownsville, City of (VH/VE/El Salado)	November-06	Increase	W.W. 1st time service.	N/A	\$11,903	N/A
Zavala WCID #1	December-06	PAD	W. & W.W. (change of scope)	\$1,986	\$6,079	\$8,065
				<b>2006 Average</b>	<b>\$1,986</b>	<b>\$8,991</b>
<b>2007</b>						
El Paso County Tornillo WID	January-07	Increase	W.W. 1st time service.	N/A	\$28,715	N/A
Odem, City of	February-07	PADC	W. & W.W. 1st time service.	\$7,565	\$22,291	\$30,486
Roma, City of	June-07	AD	W.W. 1st time service.	N/A	\$9,850	N/A
Donna, City of	October-07	AD	W.W. 1st time service.	N/A	\$12,863	N/A
Laredo, City of	October-07	Increase	W. & W.W. system improvements.	\$17,404	\$10,641	\$28,045
Moore WSC	November-07	Increase	W.W. 1st time service.	N/A	\$11,863	N/A
				<b>2007 Average</b>	<b>\$12,485</b>	<b>\$16,037</b>

Applicant	Commitment Date	P, A, D, &/or C	Type (W./W.W.)*	Cost Per Connection		
				W.	W.W.	Total
<b>2008</b>						
South Newton WSC	January-08	Increase	W.W. increase for hook-ups	N/A	\$9,631	N/A
Groveton, City of	February-08	P	W. New Supply	N/A	N/A	N/A
Brownsville, City of (802-511)	April-08	PAD	W.W. 1st time service.	N/A	\$16,026	N/A
Eagle Pass, City of	April-08	Increase	W. & W.W. System Improvements	\$7,495	\$7,307	\$14,802
Olmito WSC	April-08	PAD	W.W. 1st time service.	N/A	\$18,039	N/A
Brownsville, City of (Villa Nueva)	May-08	PAD	W.W. 1st time service.	N/A	\$22,091	N/A
Nueces River Authority (City of Leakey)	May-08	P	W. & W.W. Improvements	N/A	N/A	N/A
Roma, City of	May-08	C	W.W. 1st time service. (Follow-up on June-07 item)	N/A	\$11,877	N/A
La Joya WSC	July-08	PAD	W.W. 1st time service.	N/A	\$7,421	N/A
La Feria, City of	July-08	PADC	W. & W.W. Improvements	\$12,984	\$4,470	\$17,454
Richland SUD	August-08	P	W. System Improvements	N/A	N/A	N/A
La Grulla	October-08	AD	W.W. 1st time service.	N/A	\$17,271	N/A
Bedias	October-08	PAD	W.W. 1st time service.	N/A	\$20,933	N/A
Kerr County (Center Point)	October-08	P	W.W. 1st time service.	N/A	N/A	N/A
UGRA (Center Point)	October-08	P	W. 1st time service.	N/A	N/A	N/A
<b>2008 Average</b>				<b>\$10,240</b>	<b>\$13,507</b>	<b>\$16,128</b>
<b>2004-2008 Average</b>				<b>\$6,455</b>	<b>\$9,522</b>	<b>\$16,350</b>

\*W. = Water Project

W.W. = Wastewater Project

W.&W.W. = Water and Wastewater Project