

***Metro Nashville***  
***DISTRICT ENERGY SYSTEM***



*DES Advisory Board Meeting*  
*Second Quarter FY11*  
*February 17, 2011*



# *Agenda*

1. Call to Order
2. Review & Approval of Previous Meeting Minutes
3. Customer Sales
4. Review of DES Contractor Performance
5. Natural Gas Purchasing Status
6. FY11 Costs to Date
7. FY12 Budget Status Report
8. Capital Projects Review & Status Report Update
9. MCCC Expansion Update
10. Other Board Member Items
11. Adjourn



*1. Call to Order*

*2. Review and Approval of  
Previous Meeting Minutes*



### *3. Customer Sales*

- Table 3: Customer Cost Comparison
- Figure 3: Customer Cost Breakdown

# Metro Nashville

## DISTRICT ENERGY SYSTEM



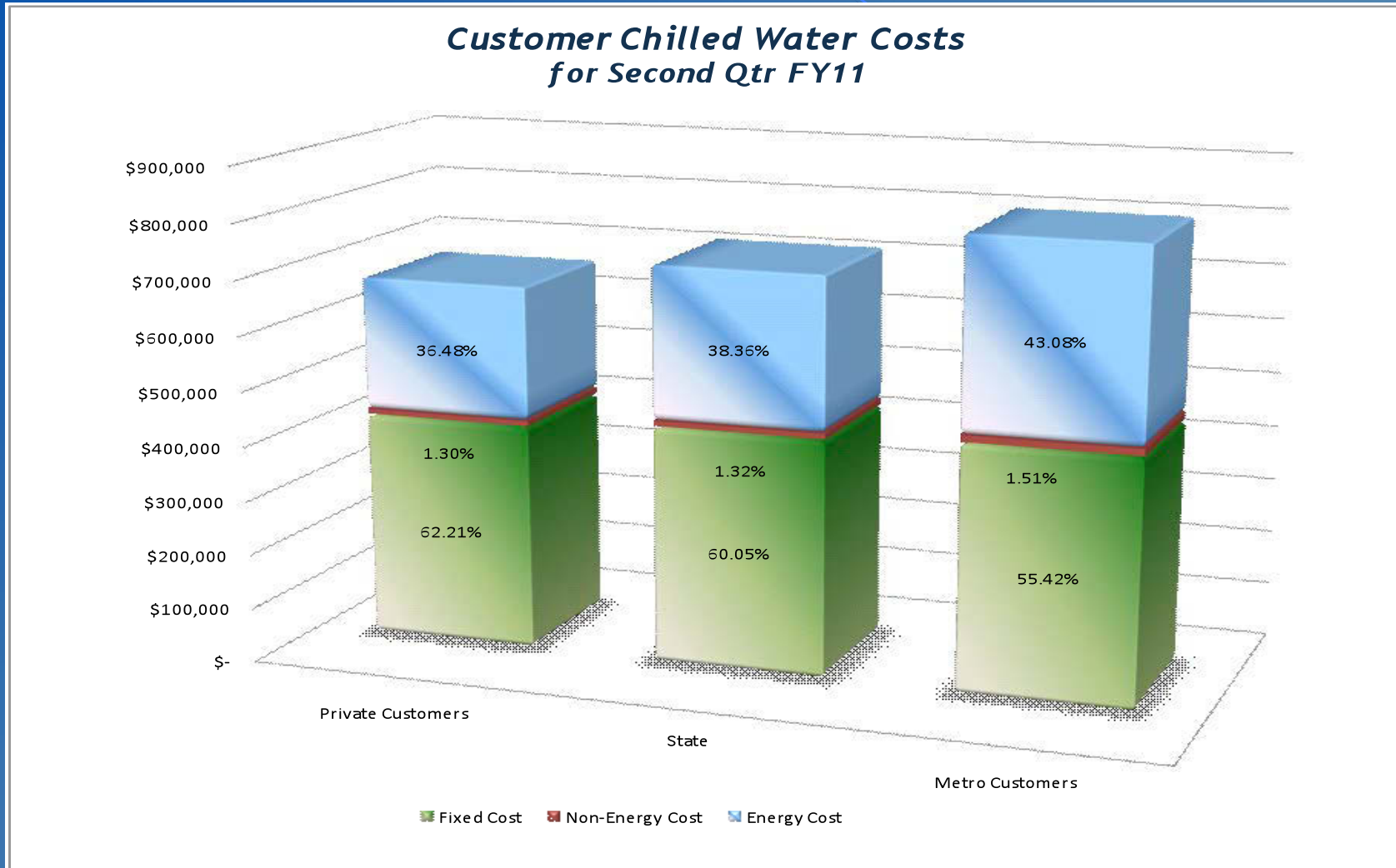
### Summary Table 3: Customer Cost Comparison for the Previous 12 Months

		Steam - Rolling 12 Month			Chilled Water - Rolling 12 Month		
		Jan 09 - Dec 09	Jan 10 - Dec 10	% Diff.	Jan 09 - Dec 09	Jan 10 - Dec 10	% Diff.
<b>Private</b>	Cost	\$ 1,943,006	\$ 1,751,057	-9.88%	\$ 3,497,253	\$ 3,729,948	6.65%
	Usage (lbs or tonhrs)	79,704,525	72,994,060	-8.42%	17,107,396	19,246,224	12.50%
	Unit Cost	\$ 24.38	\$ 23.99	-1.6%	\$ 0.204	\$ 0.194	-5.2%
<b>State</b>	Cost	\$ 2,513,307	\$ 2,267,230	-9.79%	\$ 3,190,955	\$ 3,344,044	4.80%
	Usage (lbs or tonhrs)	99,497,680	93,930,258	-5.60%	16,385,249	17,254,239	5.30%
	Unit Cost	\$ 25.26	\$ 24.14	-4.4%	\$ 0.195	\$ 0.194	-0.5%
<b>Metro</b>	Cost	\$ 2,225,105	\$ 2,006,354	-9.83%	\$ 2,967,349	\$ 3,117,595	5.06%
	Usage (lbs or tonhrs)	87,881,307	84,545,163	-3.80%	17,106,512	18,348,969	7.26%
	Unit Cost	\$ 25.32	\$ 23.73	-6.3%	\$ 0.173	\$ 0.170	-2.1%
<b>Aggregate</b>	Cost	\$ 6,681,418	\$ 6,024,641	-9.83%	\$ 9,655,557	\$ 10,191,587	5.55%
	Usage (lbs or tonhrs)	267,083,512	251,469,481	-5.85%	50,599,157	54,849,432	8.40%
	Unit Cost	\$ 25.02	\$ 23.96	-4.2%	\$ 0.191	\$ 0.186	-2.63%

\*FY09 MFA = \$3,217,986; FY10 MFA = \$2,661,553 post-True-up; MFA not included in values shown






Figure 3: Customer Cost Breakdown





## *4. Review of DES Contractor Performance*

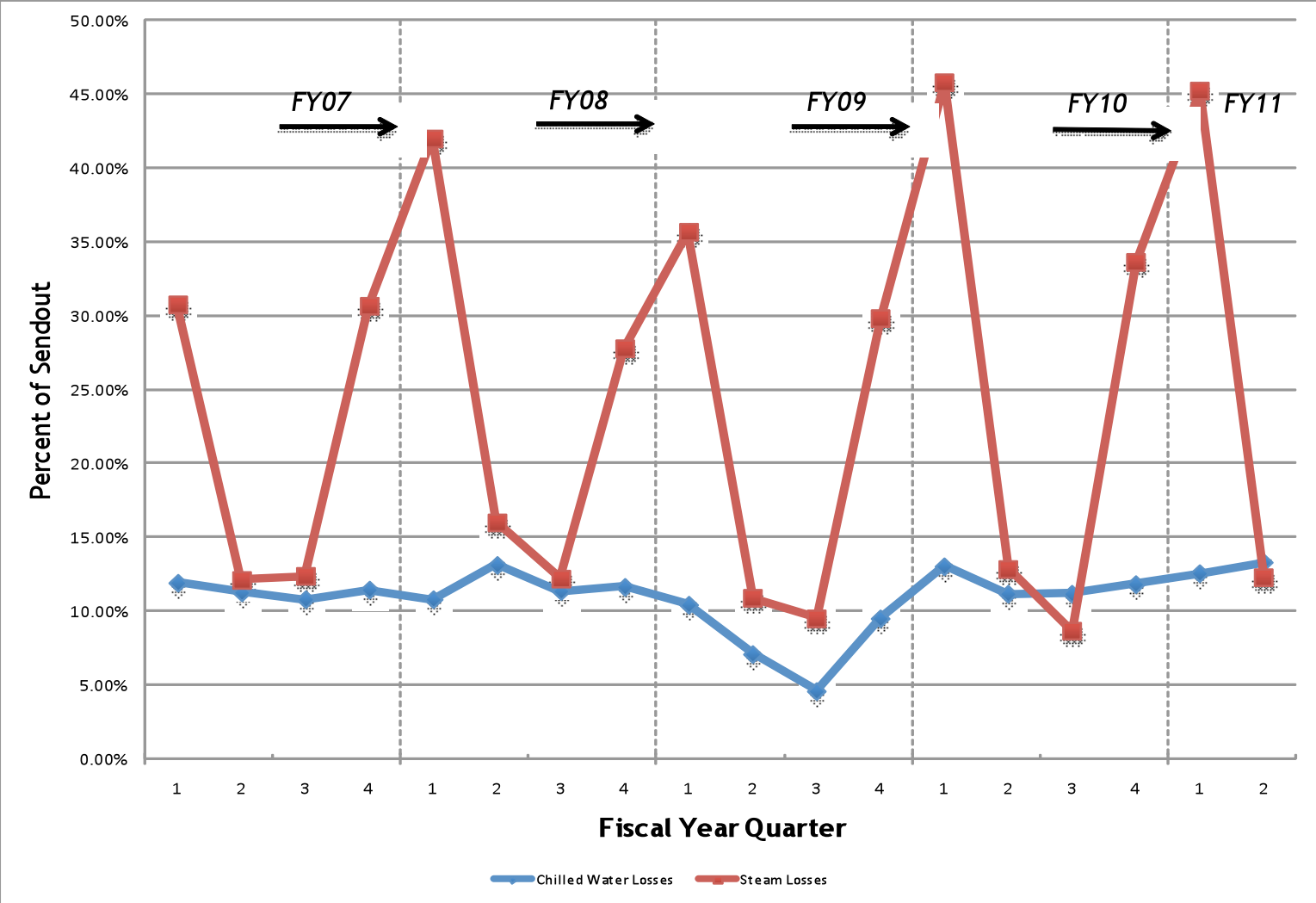
Contractor (CEPS) is in compliance with their contractual obligations for FY11.

-  Excellent Performance – No Improvement Necessary
-  Satisfactory Performance – Some Improvement Could Be Made
-  Poor Performance – Much Improvement Necessary

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## Historic Steam and CHW Losses

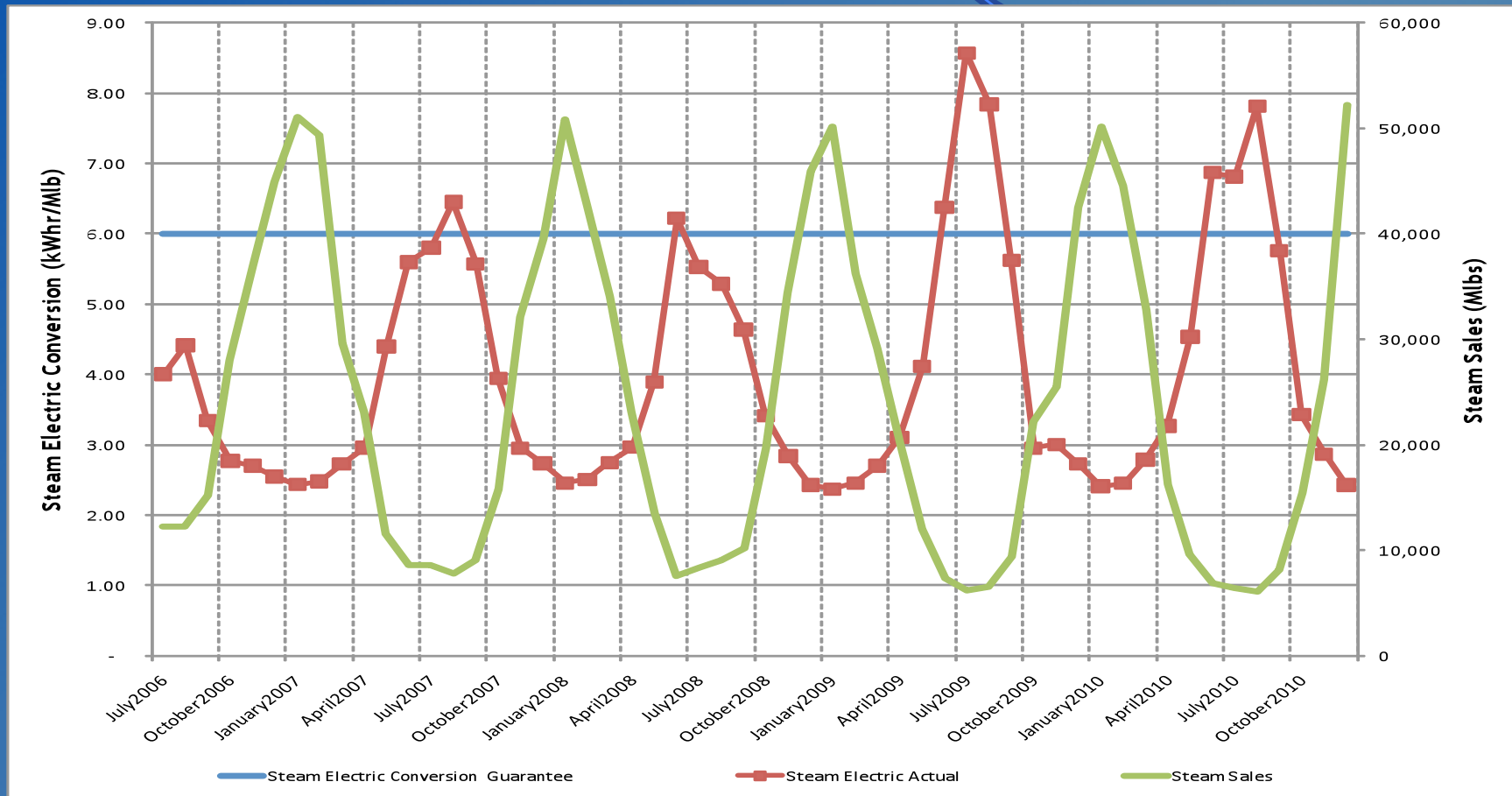




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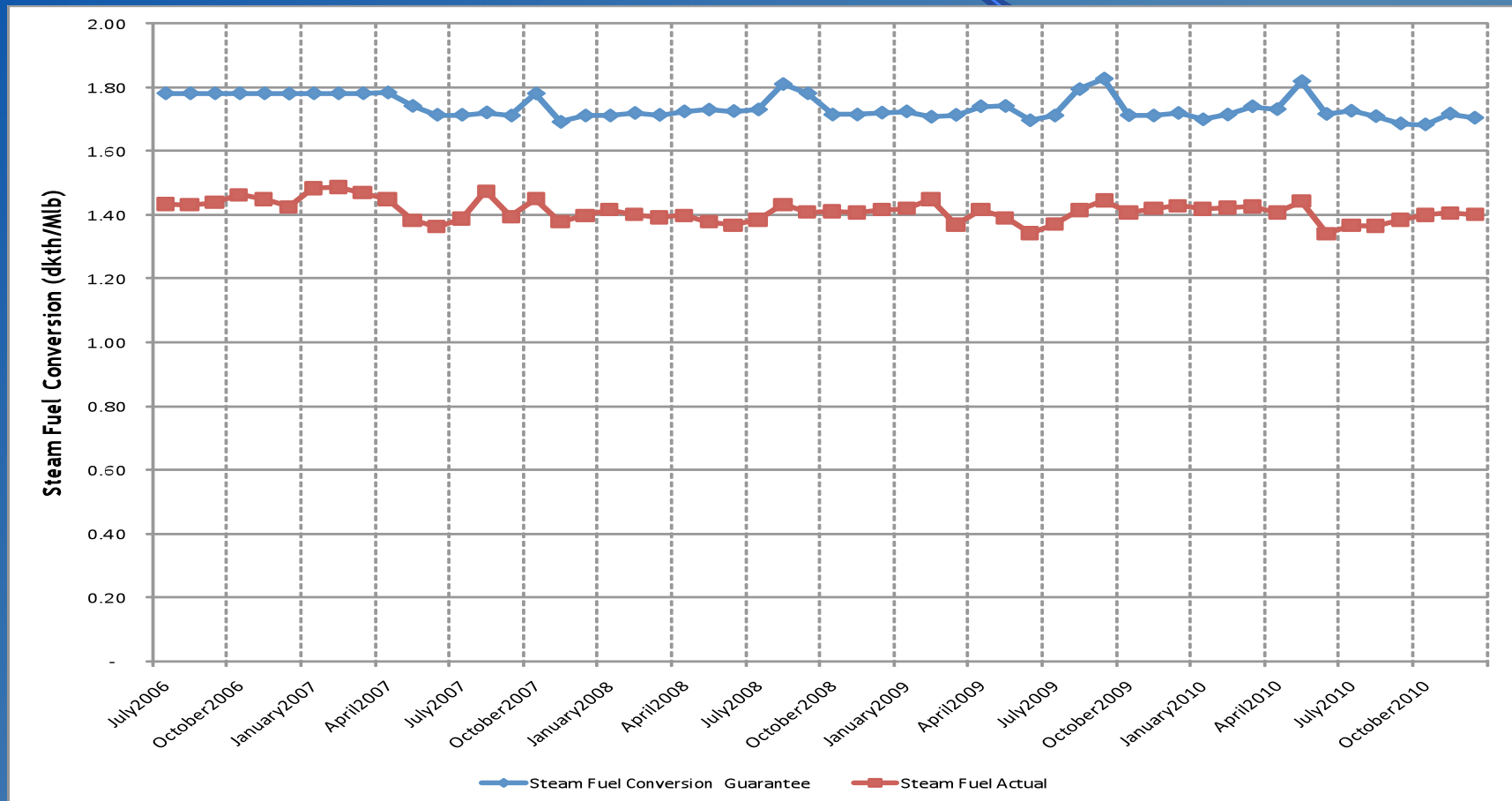
## Performance Measurement FY11: Steam Electric Conversion



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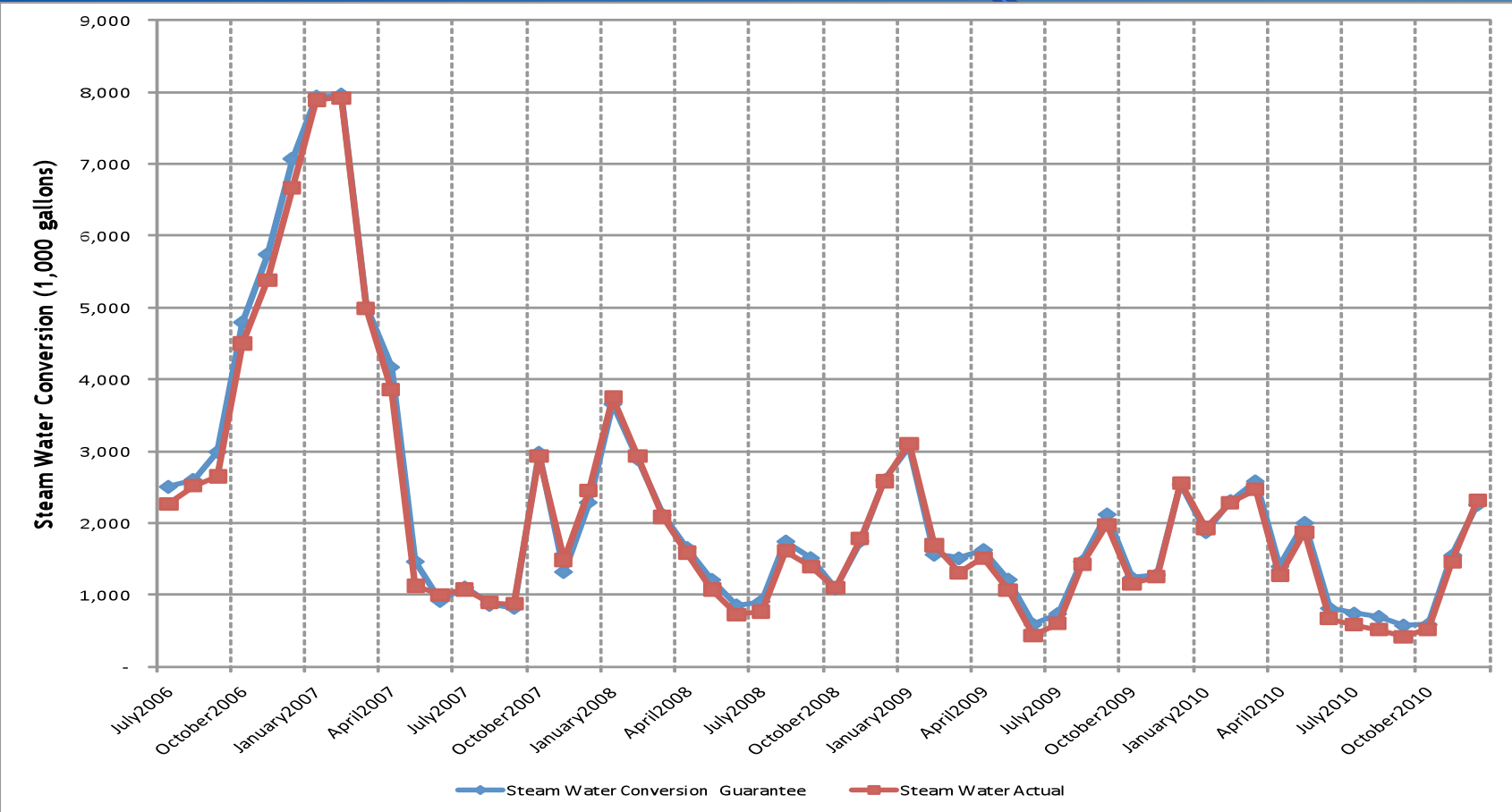
## Performance Measurement FY11: Steam Plant Efficiency



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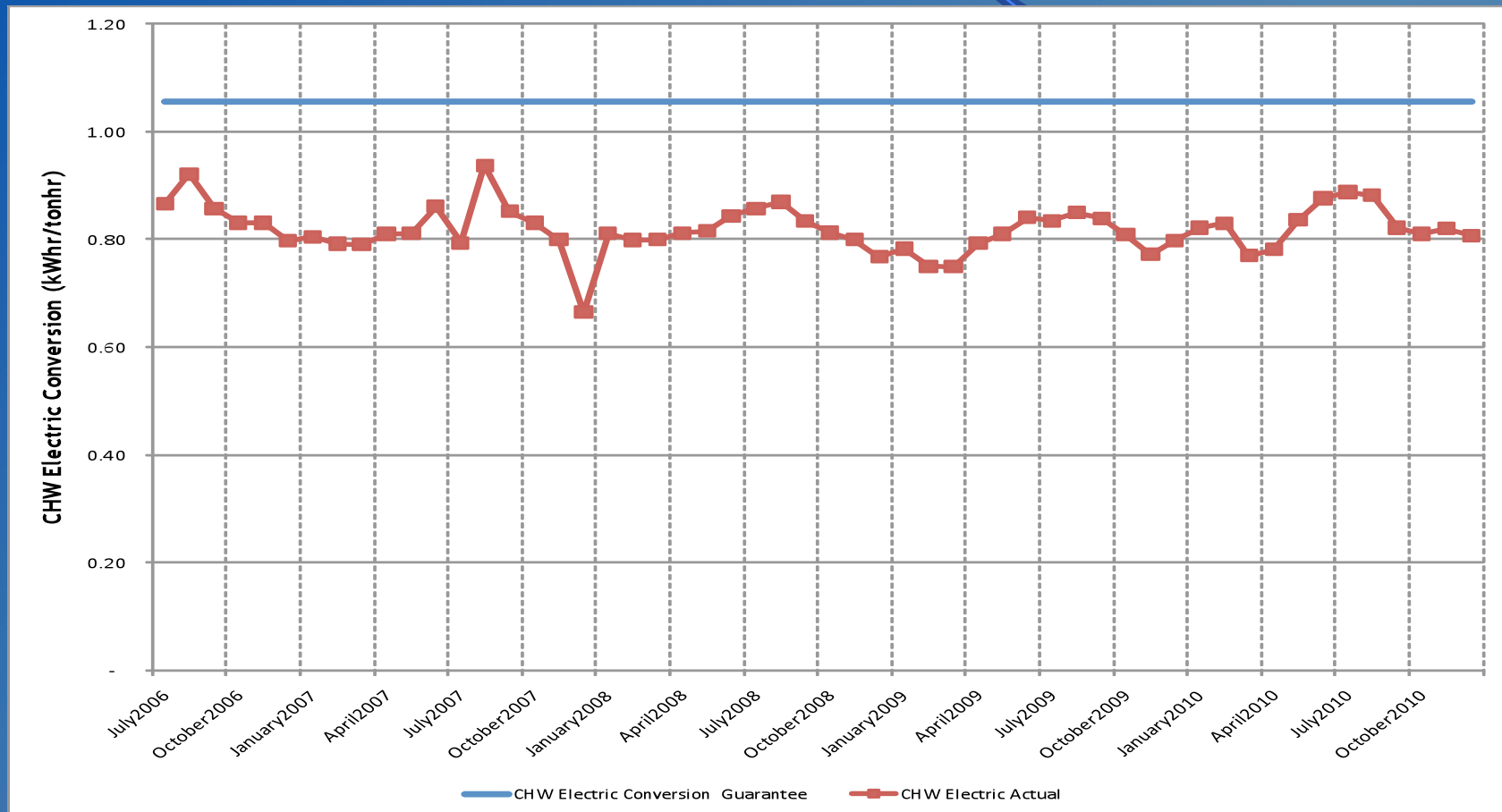


## Performance Measurement FY11: Steam Water Conversion



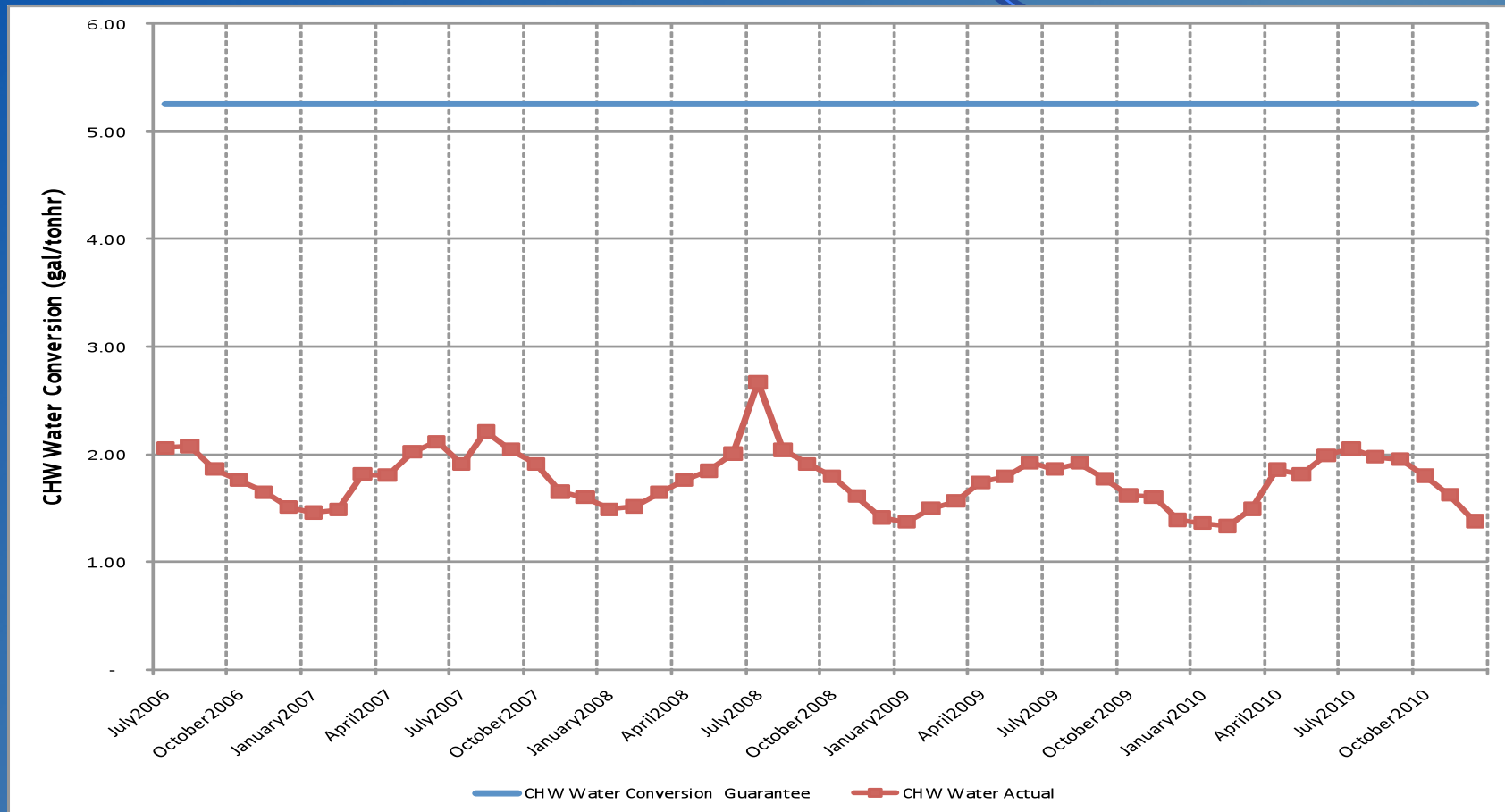


## Performance Measurement FY11: CHW Electric Conversion





## Performance Measurement FY11: CHW Water Conversion





# *Water Treatment*

- Steam and Condensate ●
  - Corrosion
  - Iron
  - Hardness
  - Chlorine/Sulfite
- Condensing Water ●
  - Conductivity
  - Biologicals
- Chilled Water ●
  - Hardness
  - Corrosion
  - Biologicals



## *EGF Walkthrough*

- Equipment Maintenance ●
- Operations ●
- Electrical ●
- Housekeeping ●
- Building Structure ●
- Building Exterior and Grounds ●



## *EDS Walkthrough*

- Vault/Tunnel Housekeeping ●
- Maintenance Items
  - Insulation Repair/Replacement ●
  - Water Infiltration ●
  - Corrosion of Structural Metal Components ●
- Safety Items ●





## *5. Natural Gas Purchasing*

- Natural Gas Purchasing Review
  - Table 5: FY11 Gas Spending & Budget Comparison
  - Figure 5: Actual and Projected Gas Cost Comparison for FY11



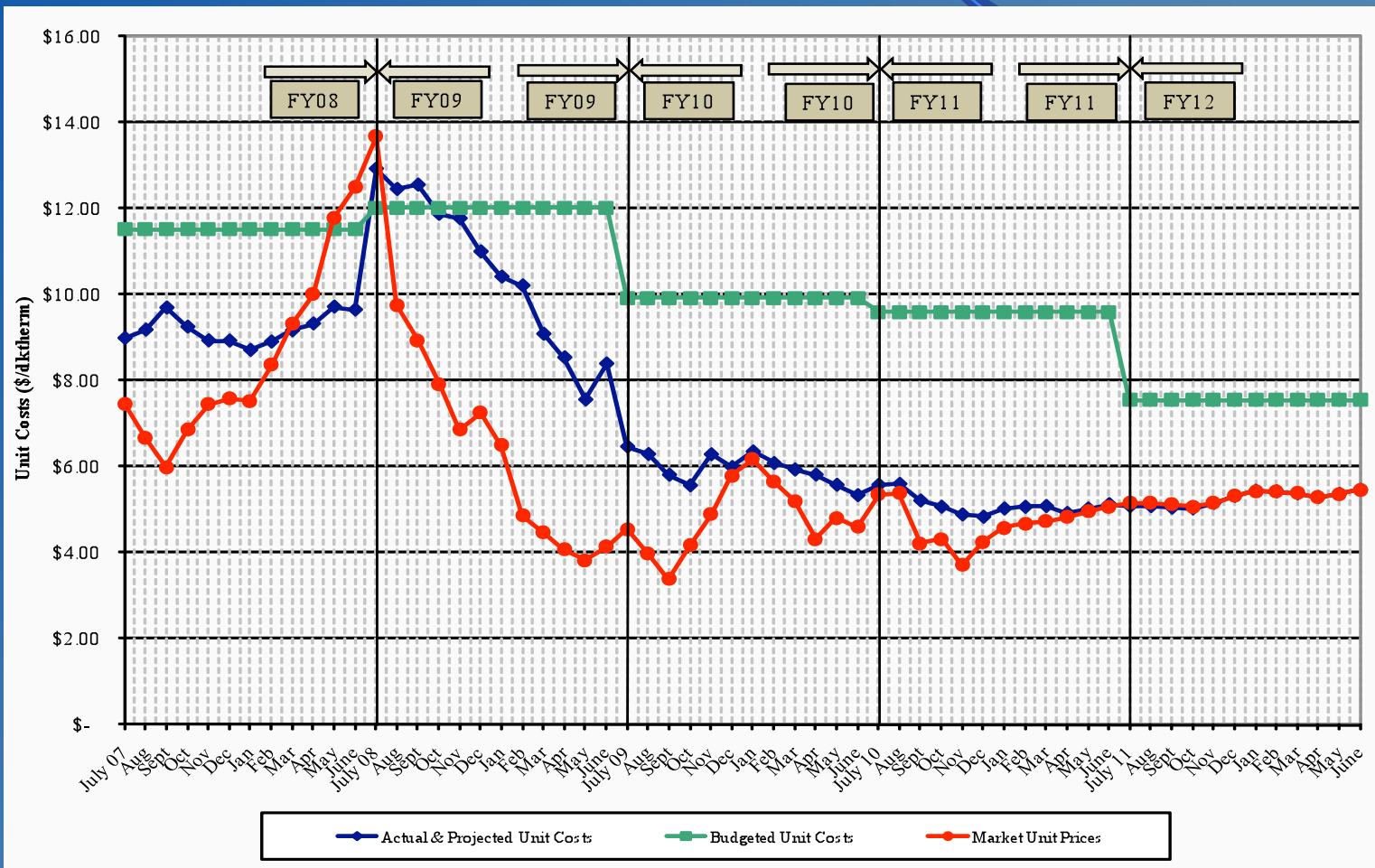
*Table 5: FY11 Gas Spending & Budget Comparison*

		<b>Actual FY11 To date (Dec 31)</b>	<b>Budget FY11</b>
Steam Sendout (Mlbs)		144,516	144,500
Fuel Use (Dth) (includes propane)	●	201,539	203,600
Plant Eff (Dth/Mlb)	●	1.395	1.409
Total Gas Cost (includes propane)	●	\$1,112,249	\$1,907,121
Unit Cost of Fuel (\$/Dth)	●	\$5.519	\$9.367

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Figure 5. Actual and Projected Gas Cost Comparison History





## 6. FY11 Costs to Date

Item	FY11 Budget	FY11 Actual to 12/31/10	Percent of Budget
FOC's	\$ 4,151,100	\$ 2,064,651	49.74%
Pass Throughs			
Non-Energy	\$ 982,600	\$ 469,024	47.73%
Water/Sewer	\$ 574,000	\$ 224,839	39.17%
Natural Gas	\$ 4,429,200	\$ 1,112,249	
Electricity	\$ 4,949,700	\$ 2,321,705	
Debt Service	\$ 5,223,000	\$ 2,389,077	45.74%
<b>Total Expenses</b>	<b>\$ 20,309,600</b>	<b>\$ 8,581,545</b>	<b>42.25%</b>
<b>Total Revenues</b>	<b>\$ 17,858,700</b>	<b>\$ 7,794,758</b>	<b>43.65%</b>
<b>Metro Funding Amount</b>	<b>\$ 2,450,900</b>	<b>\$ 786,787</b>	<b>32.10%</b>



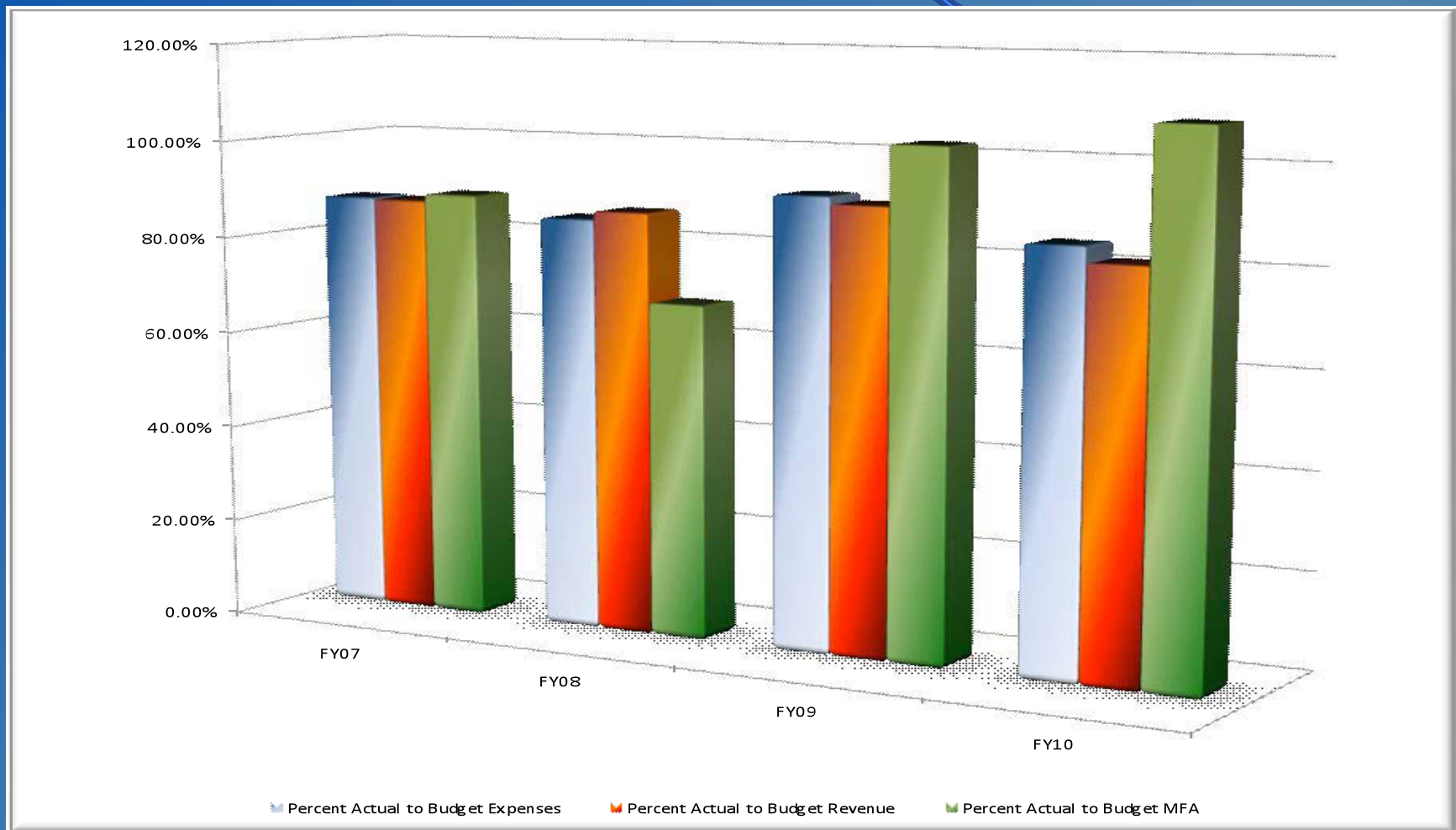
## 7. FY12 Budget Status Report

Item	FY10 Actual	FY11 Budget	FY12 Budget	Percent Change FY12 to FY10 Actual	Percent Change FY12 to FY11 Budget
FOC's	\$ 4,151,100	\$ 4,151,100	\$ 4,303,100	3.53%	3.53%
Pass Throughs					
Non-Energy	\$ 798,699	\$ 982,600	\$ 1,031,600	22.58%	4.75%
Water/Sewer	\$ 414,307	\$ 574,000	\$ 594,700	30.33%	3.48%
Natural Gas	\$ 3,152,310	\$ 4,429,200	\$ 4,429,200	28.83%	0.00%
Electricity	\$ 4,041,188	\$ 4,949,700	\$ 5,189,500	22.13%	4.62%
Debt Service	\$ 5,326,665	\$ 5,223,000	\$ 5,703,700	6.61%	8.43%
<b>Total Expenses</b>	<b>\$ 17,884,269</b>	<b>\$ 20,309,600</b>	<b>\$ 21,251,800</b>	<b>15.85%</b>	<b>4.43%</b>
<b>Total Revenues</b>	<b>\$ 15,222,716</b>	<b>\$ 17,865,500</b>	<b>\$ 18,955,500</b>	<b>19.69%</b>	<b>5.75%</b>
<b>Metro Funding Amount</b>	<b>\$ 2,661,552</b>	<b>\$ 2,444,100</b>	<b>\$ 2,296,300</b>	<b>-15.91%</b>	<b>-6.44%</b>

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## *Historic Budgeted and Actual Costs*





## 8. Capital Expenditure Update

	Spent to End of FY10	FY11 Spending	Balance to Date (02/03/11)
R&I Projects	\$976,742	\$37,096	\$600,470
2005B Bond	\$8,054,218	\$49,123	\$83,159
2007 Bond	\$2,620,771	\$0	\$237,729
2010 Bond	\$412,384	\$567,878	\$7,517,488
<b>Total</b>	<b>\$12,064,115</b>	<b>\$654,097</b>	<b>\$8,438,846</b>



# *Capital Projects Review*

## Active Capital Projects

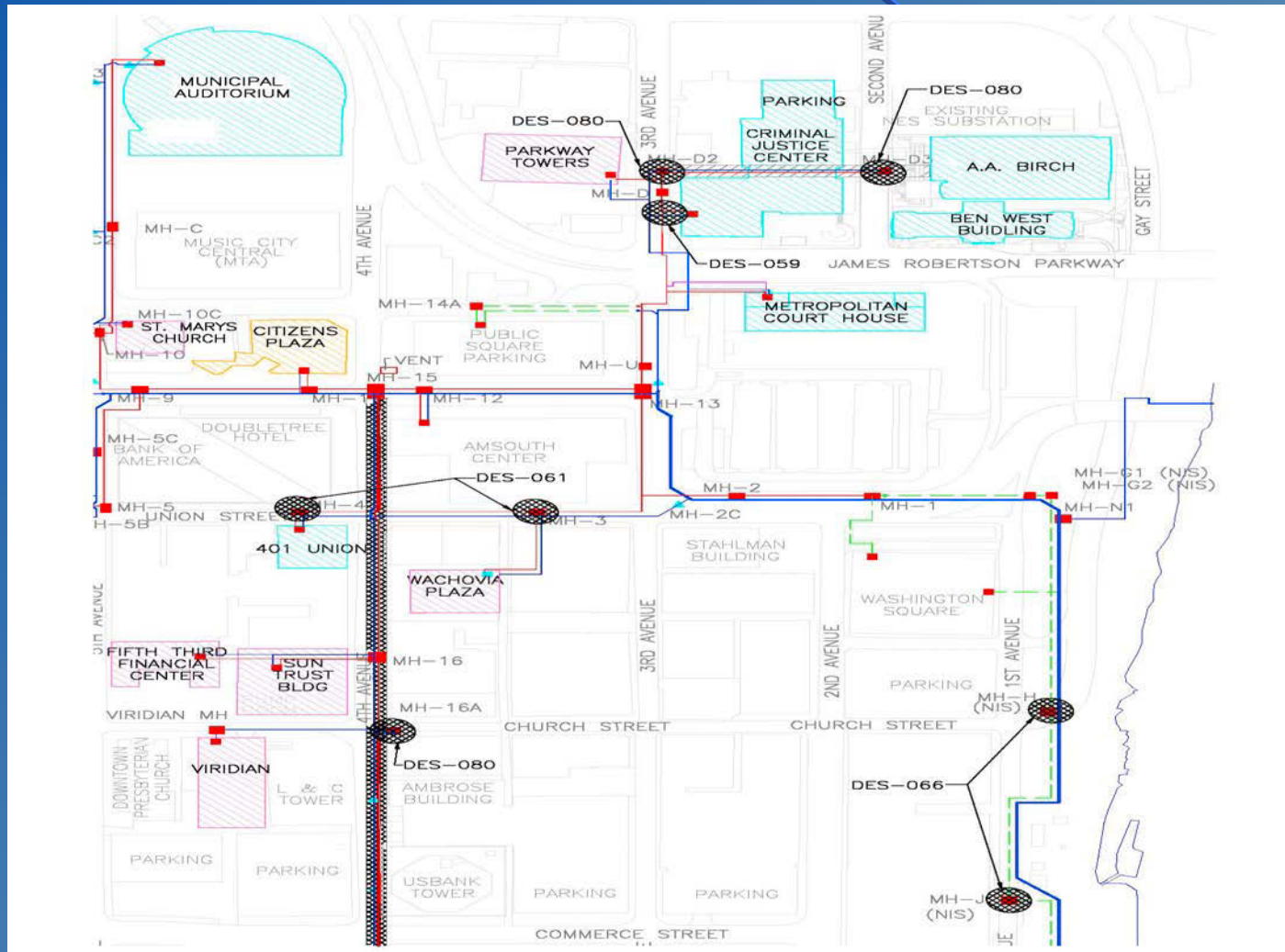
- DES 060: MH Insulation - in construction/ongoing
- DES 061: Manhole & Tunnel Steel Corrosion Repair & Prevention – in construction/ongoing
- DES 067: Tunnel Rock Rehabilitation.: Broadway, 7<sup>th</sup> & 4<sup>th</sup> Ave. – in construction; substantial completion anticipated in 3<sup>rd</sup> Qtr FY11
- DES 076: MH-S4A State Manhole Rebuild – on hold; awaiting completion of the State alternate fiber optic duct
- DES 077: Expansion of Service to the Music City CC - in construction
- DES 080: Misc. Manhole & Tunnel Safety Repairs – in design



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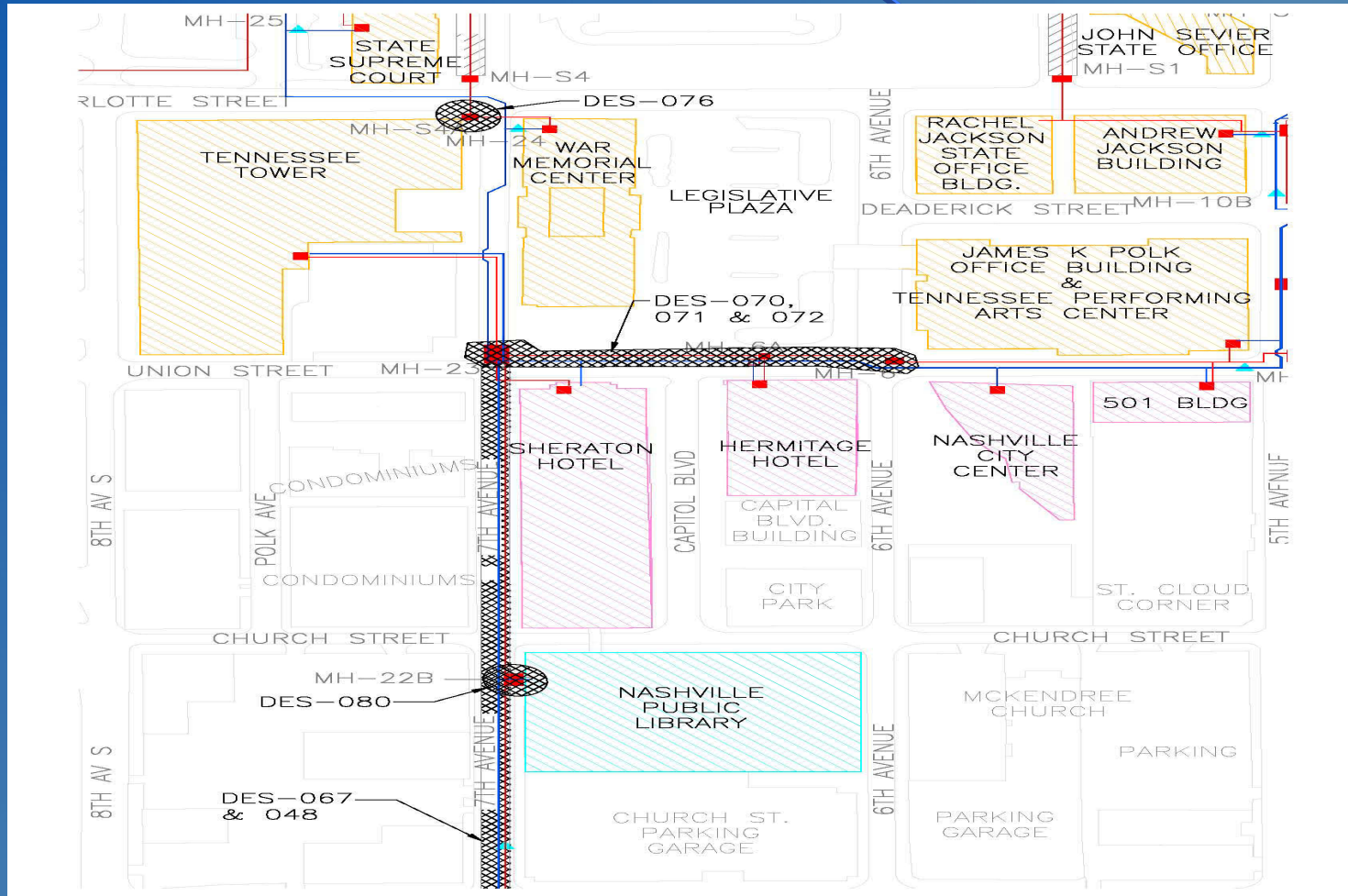
## Active Capital Projects



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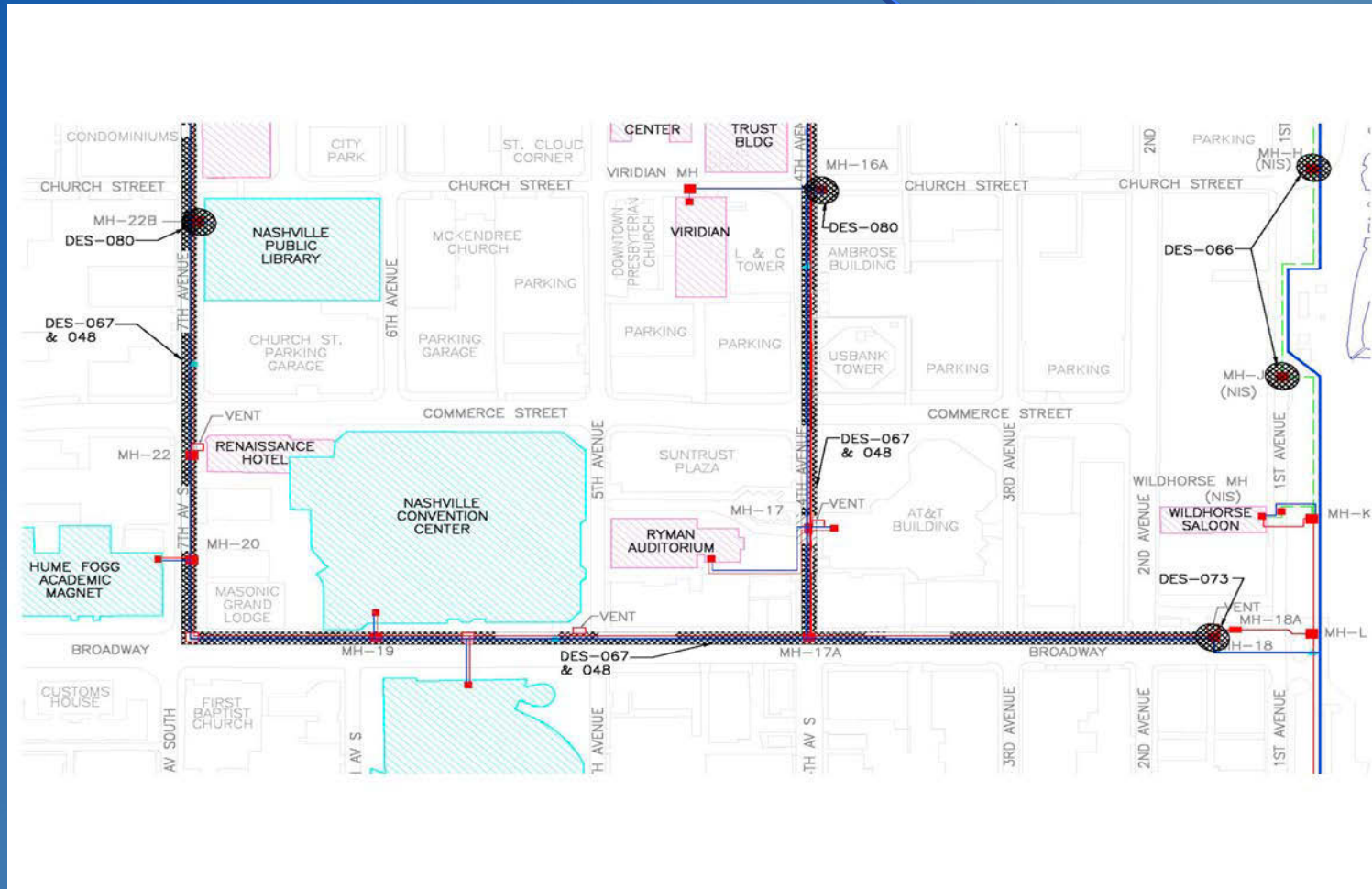
## Active Capital Projects



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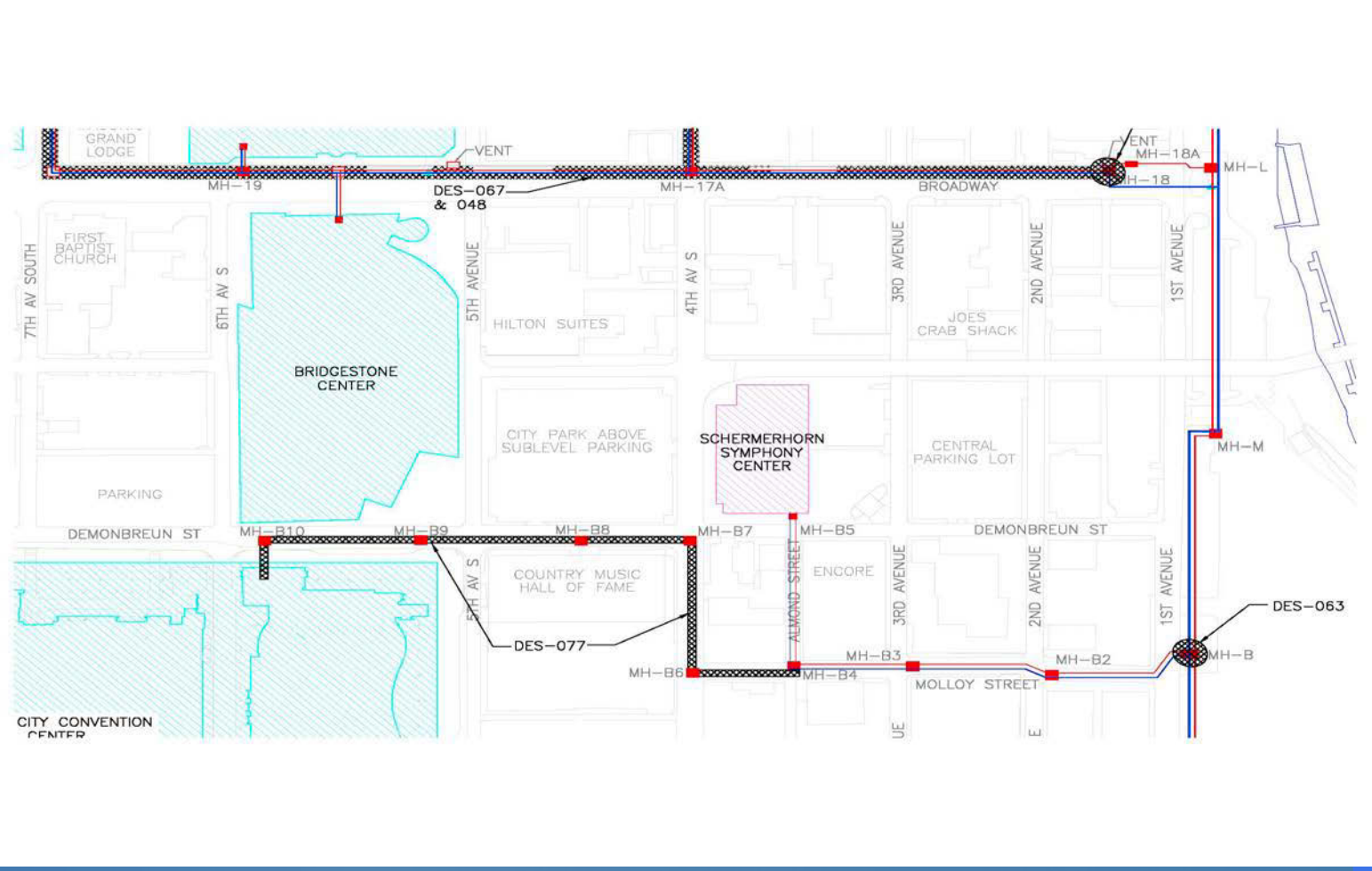
## Active Capital Projects



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## Active Capital Projects





# *Capital Projects Review*

## *Capital Projects in Close-out*

- DES 059: CJC Condensate Service Line Repair – construction completed during 1<sup>st</sup> Qtr FY11; closeout to occur in 3<sup>rd</sup> Qtr FY11
- DES 063: Manhole A, B & M Sump Pump Installation – Manhole B complete; closeout to occur in 3<sup>rd</sup> Qtr FY11
- DES 066: 1<sup>st</sup> Avenue Manhole & Steam Line Removal from Service - in closeout
- DES 073: MH-18 Platform Modification – construction completed during 2<sup>nd</sup> Qtr FY11; closeout to occur in 3<sup>rd</sup> Qtr FY11
- DES 081: Flood Related Repairs – construction complete; in closeout



# *Capital Projects Review*

## FY10-11 Proposed Projects

- DES 048: Tunnel Lighting Replacement Phase III – awaiting DES 067
- DES 070: MH 6 to 23 Condensate Line Replacement
- DES 071: Hermitage Hotel Service Modifications
- DES 072: Sheraton Hotel Steam and Condensate Replacement

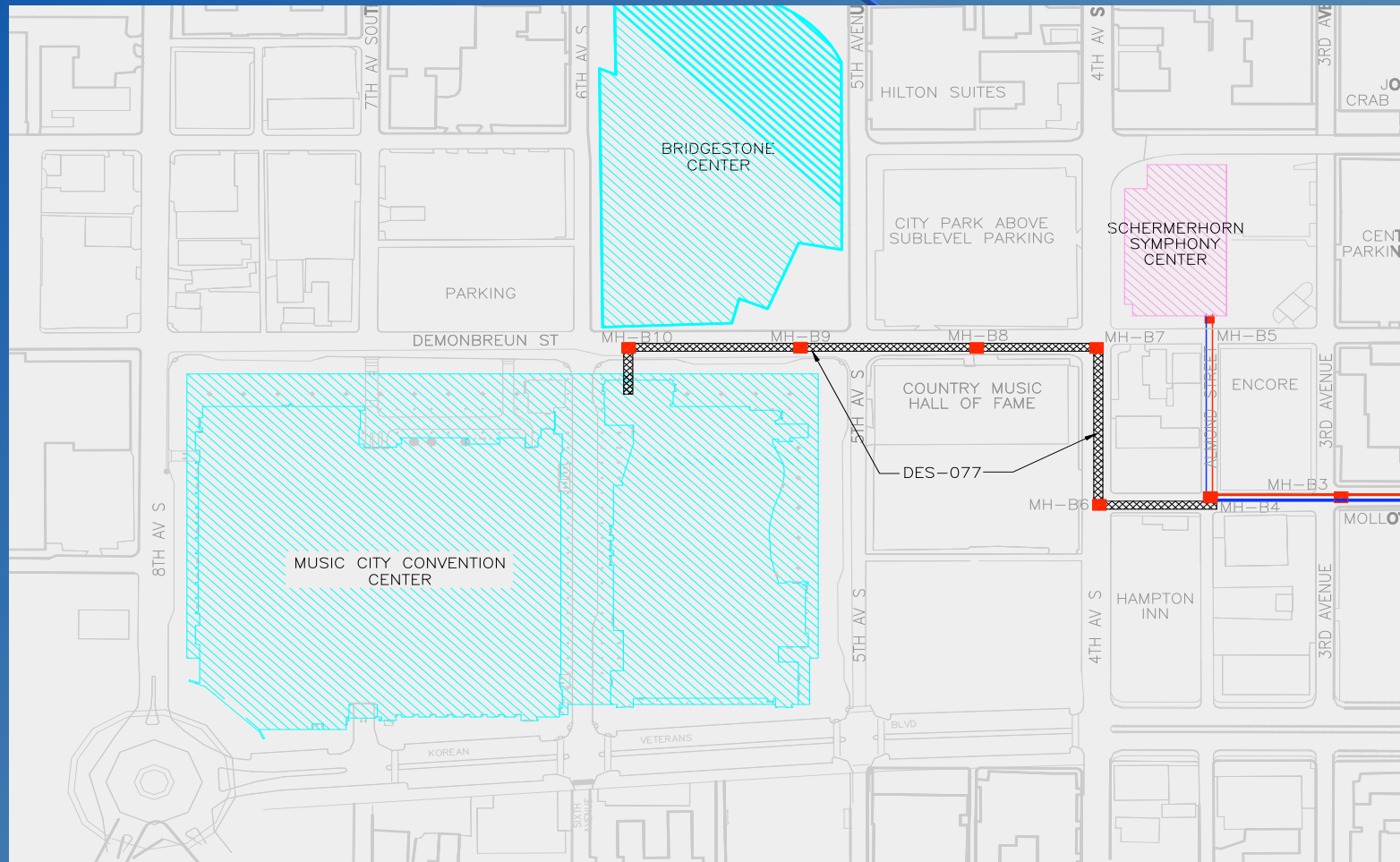


## *9. Music City Convention Center Expansion Update*

- Construction Began October 2010
- Four of Five New Vaults Set
- Direct-Buried Piping Progressing
- “Service Ready” Anticipated 04/15/2011



## *MCCC Location & Routing Plan*







# *Wall Penetration into MCCC*



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*Steam Pipe and Trench on 4<sup>th</sup> Ave S*





*MH-B6 (Base)*





*MH-B6 (Both Halves)*





*MH-B7 (Base)*





*MH-B7 (Both Halves)*



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*MH-B7*





## *10. Other Board Member Items*

*Customer Survey Form*

## *11. Adjourn*

### *Advisory Board Meeting Schedule*

- FY11 – 3<sup>rd</sup> Quarter Meeting – May 19, 2011
- FY11 – 4<sup>th</sup> Quarter Meeting – August 17, 2011
- FY12 – 1<sup>st</sup> Quarter Meeting – November 16, 2011
- FY12 – 2<sup>nd</sup> Quarter Meeting – February 16, 2012