

Waste to Energy

Carroll/Frederick Partnership

Summary of Frederick BoCC meeting February 3, 2009; and, Carroll County financial prospects.

Best and Final Offers

- Best and Final Offers (BAFO) were requested from two vendors, Wheelabrator and Covanta. BAFO's criteria:
 - Based on an alternative site.
 - Required more stringent environmental performance guarantees.
 - Required firm pricing.

After careful review of all material, Wheelabrator Technologies was selected to design, build and operate the facility.

Frederick BoCC Meeting

2/3/2009

- County staff, NEA, Wheelabrator, Whiting Turner, HDR, financial advisors and attorneys.
- History leading to the project
- Project history to date
 - Site issues
 - 600/900/1500
 - Invitation to Carroll County
 - BAFO

Frederick BoCC Meeting

2/3/2009

- Briefing by attorney on various agreements
- Discussion with financial advisors regarding general obligation bond and revenue bonds and impact of put-or-pay
- Construction assurances by Whiting Turner
- Operating assurances by Wheelabrator

Evaluation of Possible WTE Locations

- The original RFP identified three possible sites for the WTE facility locations. These included:
 - Hoods Mill Landfill (Carroll County)
 - Reich's Ford Road Landfill (Frederick County)
 - McKinney Industrial Center (Frederick County)
- The McKinney site was chosen for the first proposal and an alternate site at Tuscarora was chosen for the BAFO.



The Agreements Highlights

- Memorandum of Understanding
- Energy Recovery Agreement
- Service Agreement

Memorandum of Understanding

- The MOU establishes the basis for the business relationship between Carroll County, Frederick County and the Northeast Authority (NEA).
- The proposed regional project will serve the long-term waste disposal needs of both Frederick and Carroll Counties for at least 50 years.
- The facility will be located on a site in Frederick County.
- The facility will be owned by the NEA under the direction of the Counties.
- The Facility will accept municipal solid waste, sewage sludge and other processible waste materials allowed by permit.
- It will generate electricity and recover and recycle ferrous and non-ferrous metals.

Memorandum of Understanding

- The Facility is expected to have a design capacity of 547,500 tons per year and will have a minimum processing capacity of 503,700 tons per year of waste, sewage sludge and other acceptable waste materials.
- Carroll County will be responsible for 40% of the processible waste and ash. Frederick will be responsible for 60%.
- Energy revenue will be split by the same percentages. Carroll's energy revenue will be reduced 1% each year for the first 5 years, as a host fee. This means 1%-5% of 40%.

Memorandum of Understanding

- Once all of the Facility permits are received, the NEA will develop all required financing documents.
- Certain design, engineering and equipment specification work must be done prior to submitting permit applications to the Maryland Department of the Environment and other regulatory agencies.
- Should the Counties elect not to go forward with the Project prior to financing, the NEA will stop work on the Project, and the Counties will reimburse the Vendor for actual design, engineering and permitting work performed by the Vendor but each County's obligation will not exceed \$1.5 million.
- If the financing is approved by both Counties, the NEA shall sell Revenue Bonds to finance the Facility, Both Counties must approve the Revenue Bonds sources and uses of funds prior to issuance.

Memorandum of Understanding

- In order to minimize truck traffic, Carroll County will deliver most of its waste in transfer trailers unless an emergency or other condition at its transfer station occurs, in Carroll County's reasonable discretion, which prevents such deliveries in trailers.
- Carroll County agrees to use truck routes, which are approved by Frederick County.
- In no case shall either County be responsible for paying for more than its allocated capacity, unless an agreement has been reached between the Counties.

Memorandum of Understanding

- Either or both of the Counties may choose to recover its Facility development expenses in the Revenue Bonds.
- If either county has excess capacity from its allotment (60/40) they will offer it to the partner. If the partner does not want it, it can be offered outside for comparable processible waste.
- Each County will have a predictable, long-term, reliable method of energy recovery from waste and sewage sludge as a result of the Facility development and operations.
- The Counties will have a first right of refusal to purchase the electricity, capacity, renewable energy credits and other credits generated or available.

Energy Recovery Agreement

- The Energy Recovery Agreement is a contract between Carroll County and the NEA. It addresses many of the same items in the MOU in a much more detailed form.
- Frederick will have an Energy Recovery Agreement between themselves and the NEA customized to their specific needs.
- Energy revenues, recovered material revenues (metals, ash and any other future product) and any other revenue will be credited against Facility costs and expenses on a pro-rated basis.

Service Agreement

- The service agreement is a contract between the NEA and the Vendor. However, the Counties under the NEA/County Energy Recovery Agreements have all rights and powers to direct the NEA, so they are third party beneficiaries of this Agreement.

Key Sections

- 3.1 The contract becomes effective on the date it is signed by the NEA. The NEA does not sign until the Counties sign the Energy Recovery Agreements. The contract is in effect for 20 years following the Acceptance of the Facility by the NEA. Acceptance means that the Facility is completed and has passed the Acceptance Tests and has obtained all required Permits.
- 3.2 The contract can be renewed for two additional five-year periods at the NEA's option.

Service Agreement

- 4.1 The time between the contract signing and the receipt of permits is the Development Period. The Vendor must do all engineering and design necessary to submit permit applications, submit the permit applications, and attend public hearings.
- 4.5 Termination Option during Development Period: The NEA may terminate the project with seven days notice, and in no case is Carroll County (under the ERA) obligated to reimburse the Vendor for more than \$1.5 million in substantiated costs if it chooses to terminate the project.
- 5.4 Design Risk and Permitting
 - The Vendor incurs all of the design risk
 - The Vendor must design to meet the specified contract standards
 - The Vendor is responsible for obtaining all permits

Service Agreement

6.3 Vendor Financing: The Vendor must provide \$73 million of construction commitments.

- If the cost of the Design, Permitting, Construction and Equipping of the Facility exceeds \$332 million (adjusted for inflation and deflation from the BAFO date to the start of construction), the Vendor must contribute all additional funds.

Service Agreement

- 7.1 The Vendor must construct the Facility in accordance with specified contract standards
- 7.6 The NEA may issue change orders to any and all aspects of the Facility construction.
- 7.8 Termination during Construction: The NEA has the right to terminate the agreement for cause. Upon termination, the Vendor will not be entitled to reimbursement of any of its capital contribution.
- 8.4 Acceptance Date Conditions; The Vendor will be required to demonstrate that the Facility will meet the guaranteed performance, including environmental requirements, before it can go into commercial operations.

Service Agreement

- 8.6 Unexcused Delay in Acceptance Date: The Vendor shall pay the NEA \$110,000/day for delay, plus the greater of (a) \$100/ton or (b) 125% of the then current tipping fee for every ton of Waste which had to be landfilled.
- 9.1 The Guaranteed Fixed Construction Price is \$332,000,000 as of the BAFO date and is adjusted according to a power plant construction index.
- 10.1 No Annual Waste Delivery Commitment: The NEA (Counties) has no obligation to deliver a minimum Tonnage to the Facility and shall not be liable for any damages for its failure to deliver a minimum Tonnage of Processible Waste to the Facility.

Service Agreement

- Nothing in the Service Contract shall be deemed to restrict the right of the municipalities, residents, businesses or organizations in the Counties to practice source separation for the recovery, recycling or composting of material nor the right of the NEA (Counties) to conduct, sponsor, encourage or require such source separation.
- 10.2 By-Pass Waste: If the Vendor cannot accept waste, it must transfer the Bypass Processible Waste to an alternative waste disposal site, which is a permitted facility and pay all costs.

Service Agreement

- 10.9 Hazardous Material: The Vendor shall comply with waste screening practices and procedures (Appendix 8), including the operation of a radiation detector.
 - Performance
 - 12.2 Annual Throughput Guarantee
 - 12.3 Annual Electricity Production Guarantee
 - 12.4 Environmental Guarantee
 - 12.5 Residue Guarantee
 - 12.6 Metals Recovery Guarantee
 - 12.7 Environmental Testing

Service Agreement

- 19.11 Facility Tours: The Vendor shall conduct tours of the Facility during normal business hours. The NEA may lead tours during other times.
- 19.17 Counties rights: Counties shall have specified rights under the Service Contracts. The Vendor shall indemnify, defend and hold harmless the Counties.

Permits and Schedules

- Air
- Solid Waste
- Discharge
- Site Development

Environmental Permitting

Air Quality - Federal and State

- Permitting Process Steps
 - Site analysis including:
 - Air dispersion and deposition modeling
 - Human Health Risk Assessment
 - Ecological Risk Assessment
 - Material Separation Plan (MSP) Development
 - Public meetings/comment on Site Analysis/MSP Development
 - Public hearing on draft air permit
 - Acquire NOx offsets

Environmental Permitting Solid Waste Facility

- Solid Waste Permitting:
 - Application requires detailed engineering and O&M plans
 - Includes Sewage Sludge Utilization Permit
 - Facility must be consistent with Frederick County Solid Waste Management Plan

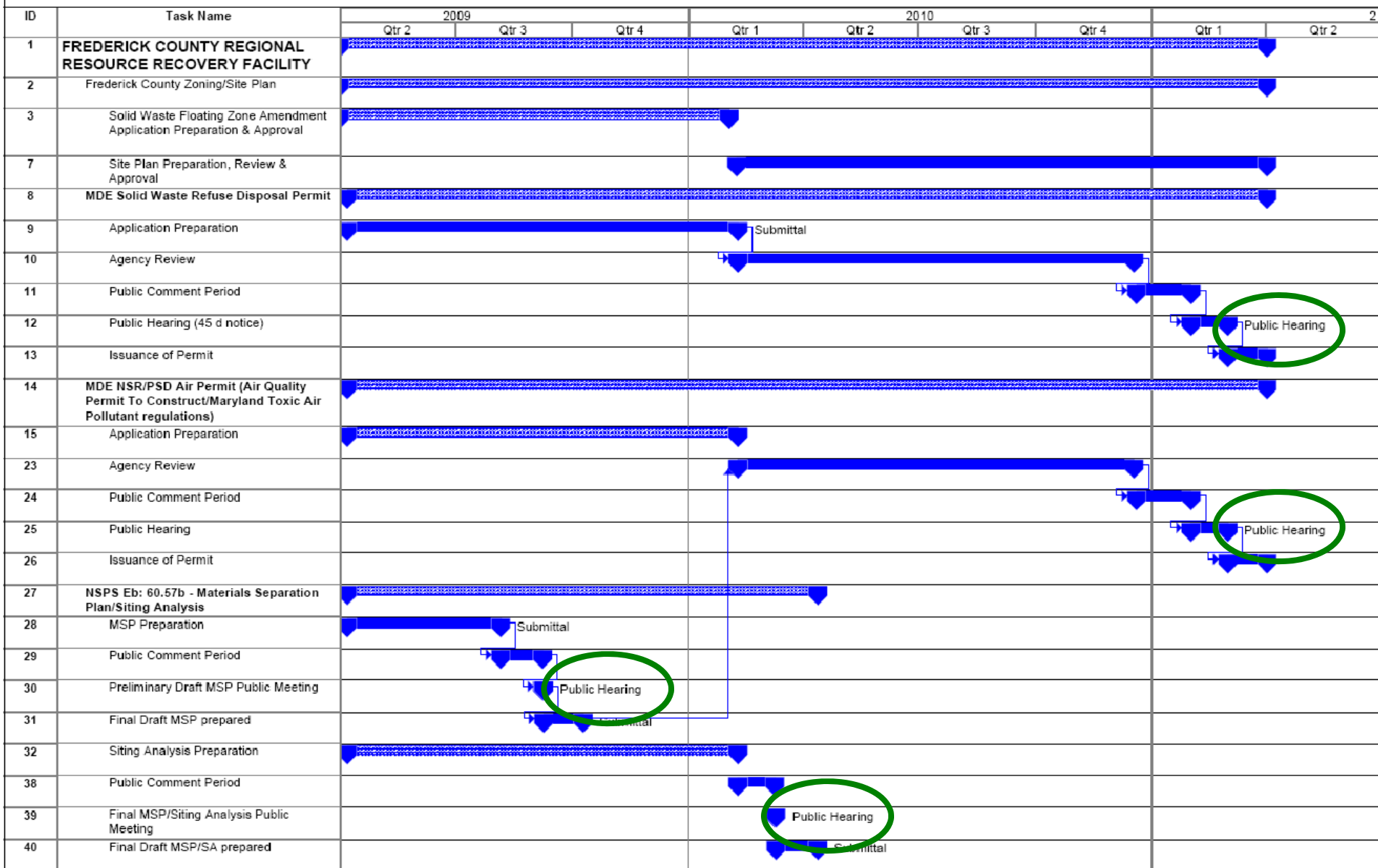
Environmental Permitting Water Discharge

- Zero discharge of process wastewater
- Cooling tower make-up will be tertiary treated water from WWTP
- Cooling tower blowdown to County's Potomac River outfall line; will meet water quality standards
- Public hearing if requested

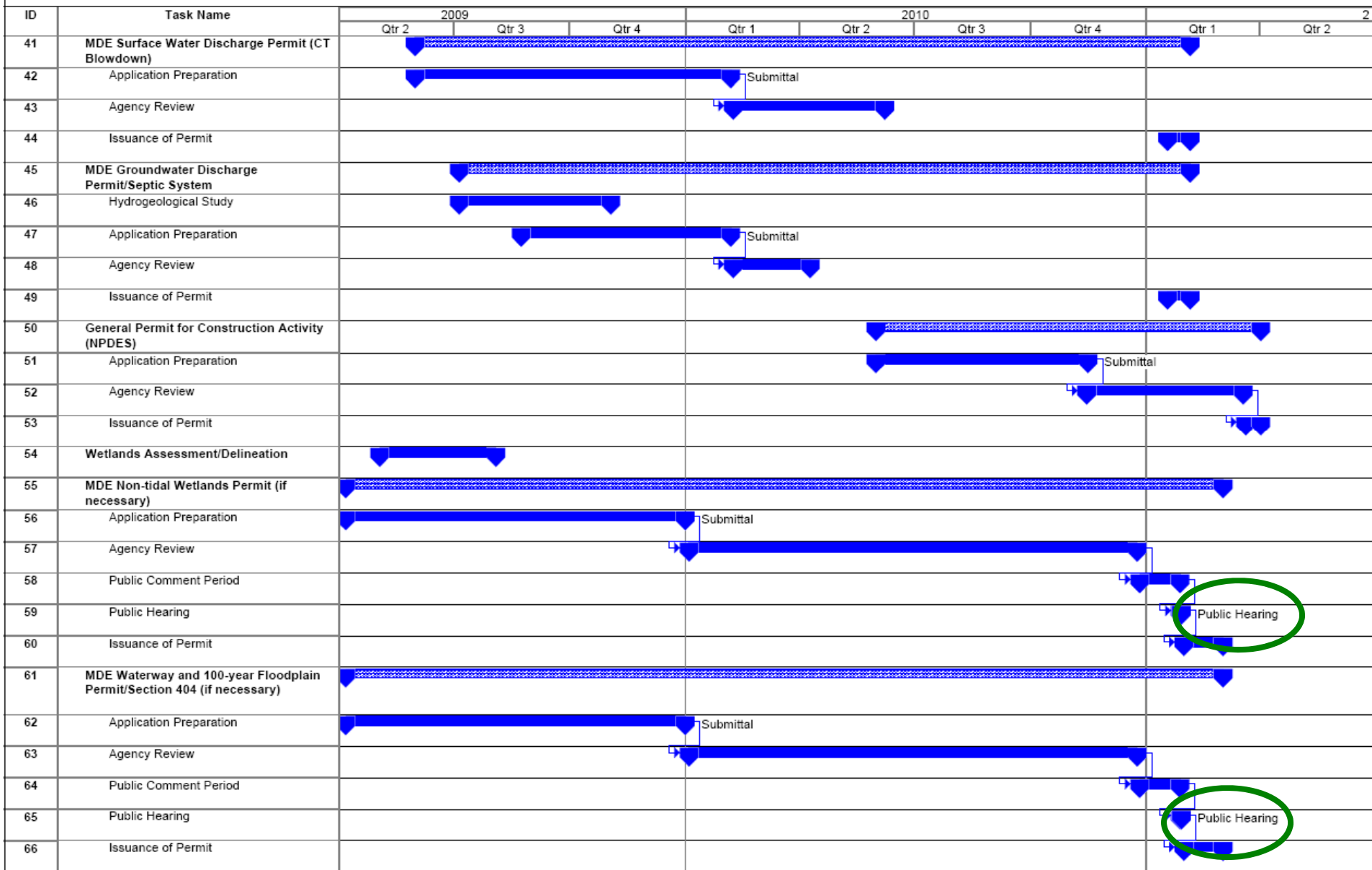
Environmental Permitting Site Development

- Site Plan approval (County Planning Requirements)
- Threatened and Endangered Species review
- Historic and archaeological resources
- Wetlands (state and federal if necessary)
- Storm water and erosion control
- FAA stack construction approval

Wheelabrator Frederick County 1500 TPD Waste-to-Energy Estimated Permitting Schedule



Wheelabrator Frederick County 1500 TPD Waste-to-Energy Estimated Permitting Schedule



Wheelabrator Frederick County 1500 TPD Waste-to-Energy Estimated Permitting Schedule



ID	Task Name	2009			2010				2011	
		Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2
67	MDE Industrial Waste Water/Stormwater General Discharge Permit									
68	Application Preparation									
69	Agency Review									
70	Issuance of Permit									
71	Erosion/Sediment Control and Stormwater Management Plan Approval									
72	Application Preparation									
73	Agency Review									
74	Issuance of Permit									
75	Misc. Permits									
76	T&E Species/arch/historical reviews									
77	FAA Notice of Construction or Alteration for Stack									

The Carroll County Part

- Cost development
- Flow Control

Carroll County Waste-to-Energy Investment @ 600 TPD Capacity

	Est* 2012	Est 2015	Actual 2015
■ WTE Capital Cost	140.0	167.8	163.2
■ WTE Expenses	22.4	24.7	31.2
■ WTE Income	11.8	13.0	17.8

In millions

* Based on 2007 preliminary pricing in 2012 dollars and inflated at 4.5% and 190,000 TPY

Carroll County Waste-to-Energy Investment @ 600 TPD Capacity

	Est 2012	Est 2015	Actual 2015
■ WTE Expenses			
■ Debt Service @30 yr	10.0	12.0	14.4
■ Annual Operating Cost	8.7	9.6	13.3
■ Transportation	<u>3.7</u>	<u>4.1</u>	<u>3.5</u>
■ Total Expense	22.4	25.7	31.2

In Millions

Carroll County Waste-to-Energy Investment @ 600 TPD Capacity

	Est 2012	Est 2015	Actual 2015
■ WTE Income			
■ Electricity	10.0	11.0	15.8
■ Other WTE Incomes	<u>1.8</u>	<u>2.0</u>	<u>2.0</u>
■ Total Income	11.8	13.0	17.8

In Millions

Carroll County Waste-to-Energy Investment @ 600 TPD Capacity

	Est 2012	Est 2015	Actual 2015
■ Difference and Additional Expenses			
■ WTE Difference	10.6	12.6	13.4
■ Local Cost	<u>7.2</u>	<u>7.5</u>	<u>6.8</u>
■ Balance	17.8	20.1	20.2

In Millions

Carroll County Waste-to-Energy Investment @ 600 TPD Capacity

	Est 2012	Est 2015	Actual 2015
■ Balance	17.8	20.1	20.2
■ Less:Non Tip Fee Income	<u>3.7</u>	<u>3.8</u>	<u>3.8</u>
■ Required Tip Fee Income	14.1	16.3	16.4

In Millions

■ Tip Fee (@190,000TPD)	74/ton	86/ton	86/ton
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Dealing with the Differences

Flow Control or Not

Givens:

Desired throughput – 201,480 tpy

Annual MSW with strong flow control - 136,000 tpy

Annual MSW today without flow control – 100,000 tpy

Excess capacity with strong flow control 65,480

Excess capacity at today's rate 101,480

Waste To Energy Cost to Process 201,480 TPY Without Transportation and County Cost

WTE Expenses	Millions
Debt Service 30 Years	\$14.4
Annual Operating Cost	13.3
Total Expense	27.7
WTE Income	
Electricity	15.8
Other Revenue	1.3
Total Revenue	17.1
Net Cost	10.6
Cost Per Ton at 201,480 Tons at Gate	\$53

Excess Capacity with Strong Flow Control

WTE Guaranteed Capacity	201,480 tpy
Annual MSW with 100% Flow Control	136,000 tpy
Capacity for Sale	65,480 tpy

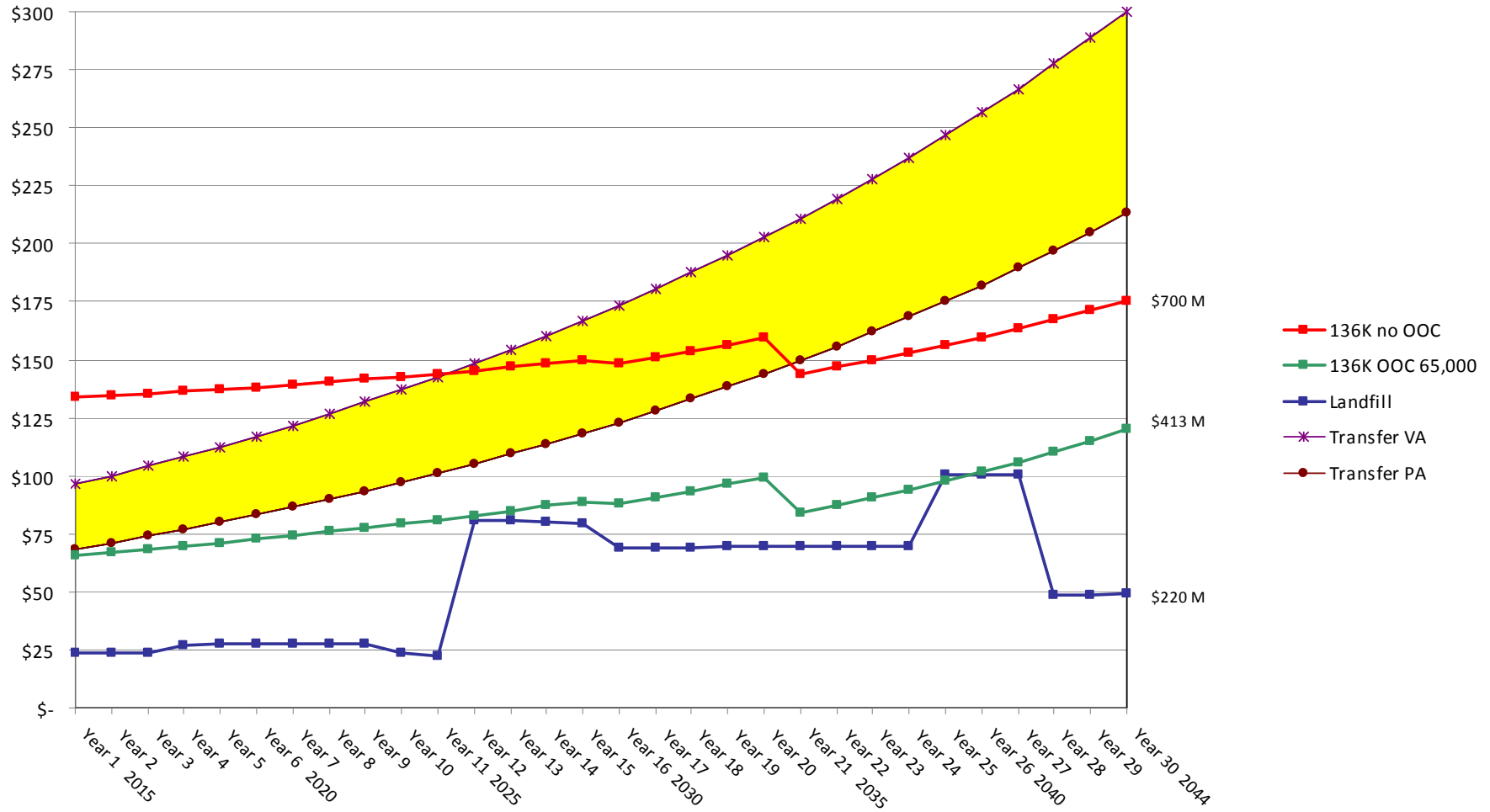
100% Flow Control

136,000 TPY of Carroll County MSW

(in Millions)

	No OOC	65K OOC
WTE Cost	\$29.9	\$30.2
WTE Income		
Electricity	10.7	15.8
Sale of Capacity	0.0	4.2
Other Revenue	1.0	1.3
Total WTE Revenue	11.7	21.3
Net Cost WTE	18.2	8.9
County Solid Waste Costs	6.8	6.8
Total Cost WTE/County	25.0	15.7
Other County Income	3.8	3.8
Net Cost WTE/County	21.2	11.9
Cost Per Ton (County Tip Fee)	\$156	\$88

100% Flow Control 136,000 TPY Carroll County MSW



Excess Capacity Without Flow Control

WTE Guaranteed Tons Capacity	201,480 tpy
Current Average Tons Produces	100,000 tpy
Capacity for Sale	101,480 tpy

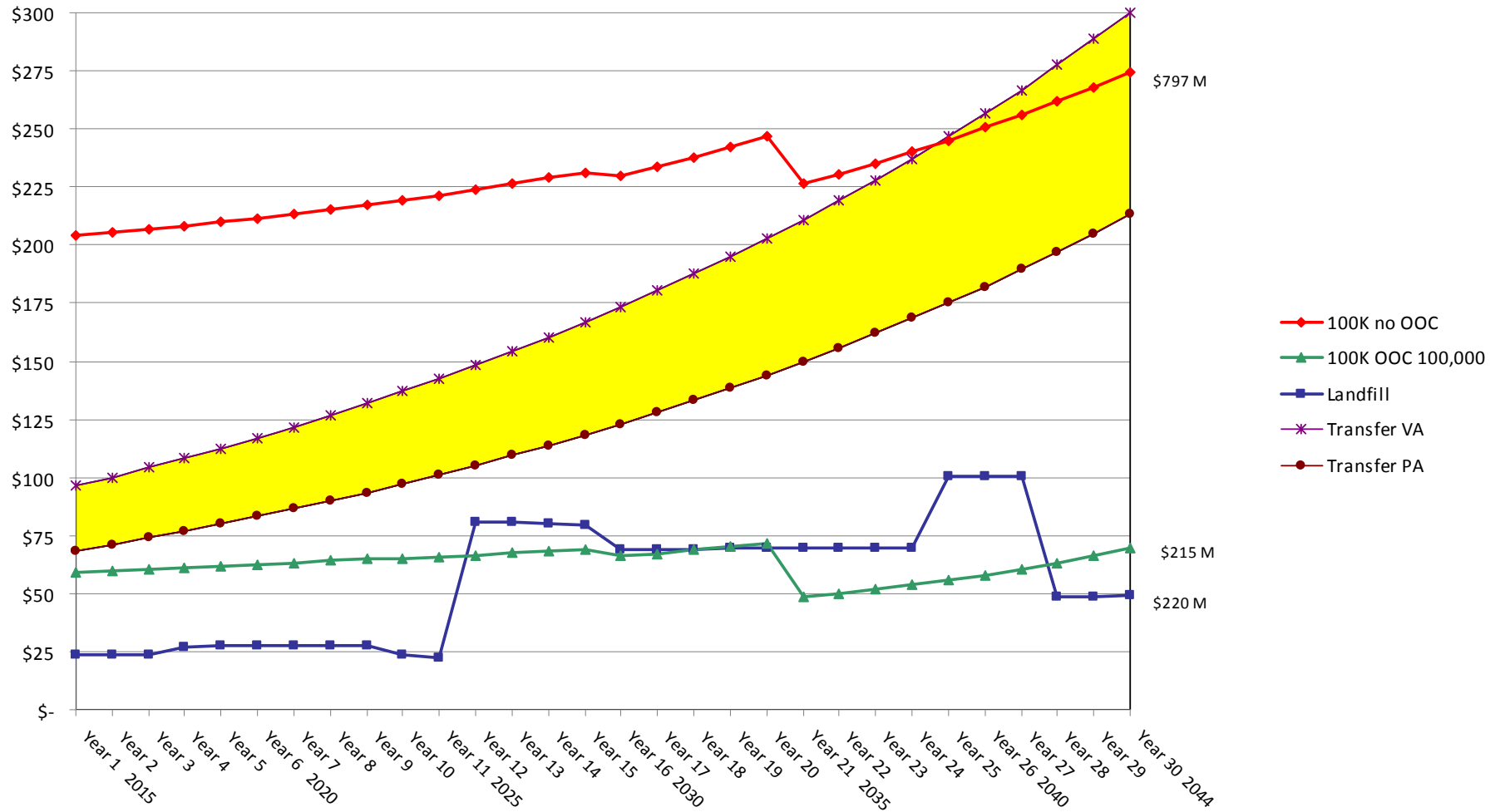
No Flow Control

100,000 TPY of Carroll County MSW

(In Millions)

	No OOC	100 OOC
WTE Cost	29.2	29.4
WTE Income		
Electricity	7.8	15.8
Sale of Capacity	0.0	6.5
Other Revenue	.9	1.3
Total WTE Revenue	8.7	23.6
Net Cost WTE	20.5	5.8
County Solid Waste Costs	6.8	6.8
Total Cost WTE/County	27.3	12.6
Other County Income	3.8	3.8
Net Cost WTE/County	23.5	8.8
Cost Per Ton (County Tip Fee)	\$235	\$88

No Flow Control 100,000 TPY of Carroll County MSW



Lowest Costs and Legacies

Lowest Cost WTE Operation

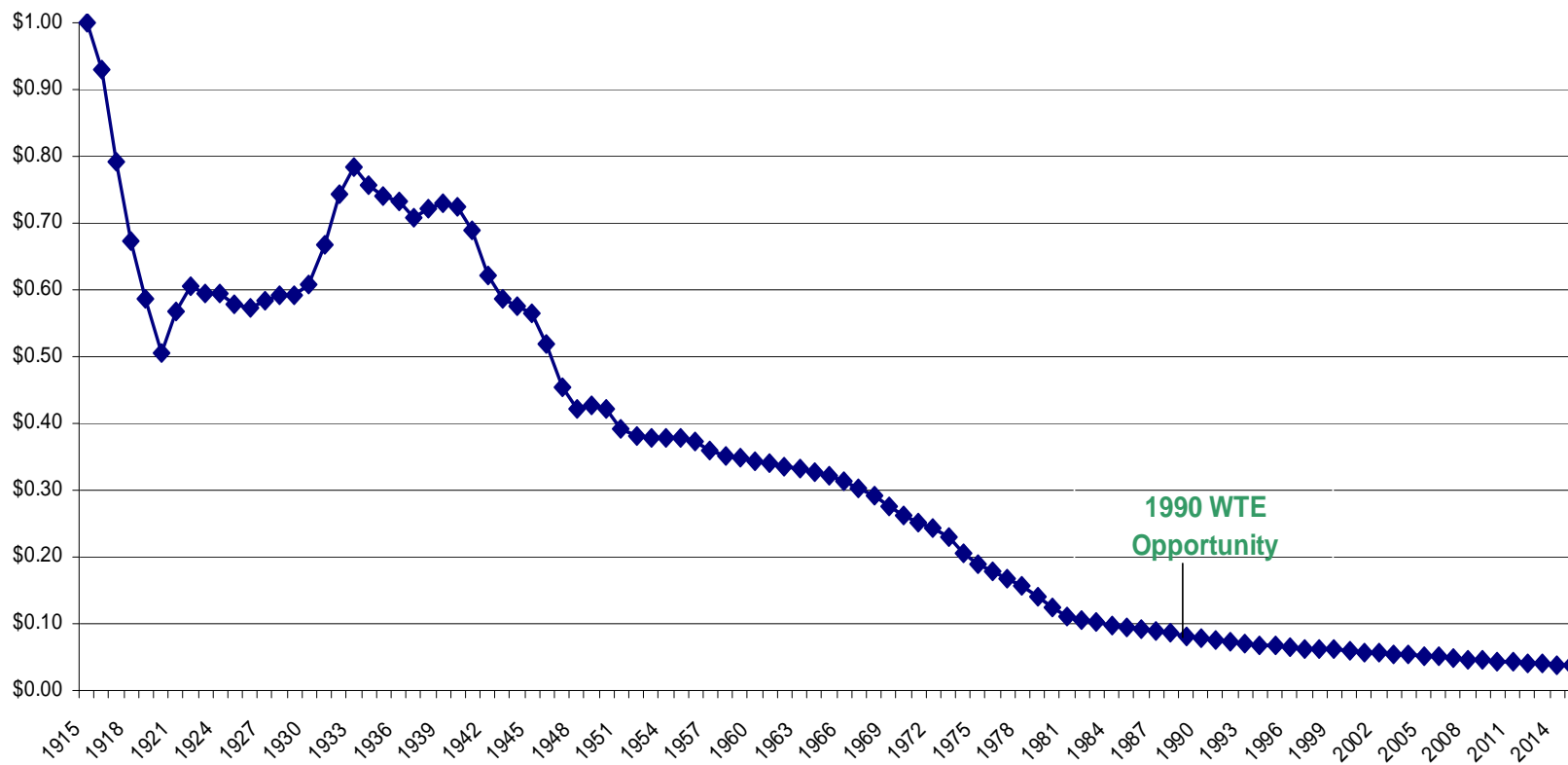
- The project planning and service period for the WTE project is 2015 to 2065, resulting in a projected 50 year facility life span before the facility requires replacement.
- Due to the long life of the facility its design capacity has been based on ensuring reliable operation and capacity to meet the Counties projected ultimate population in concert with the County's aggressive long-term recycling goals.
- Since the facility will have a certain amount of excess capacity during the early years of its operation, options exist to optimize the facility's energy output to increase electrical energy generation and waste disposal revenues, while reducing the cost per ton of waste processed.

Lowest Cost WTE Operation

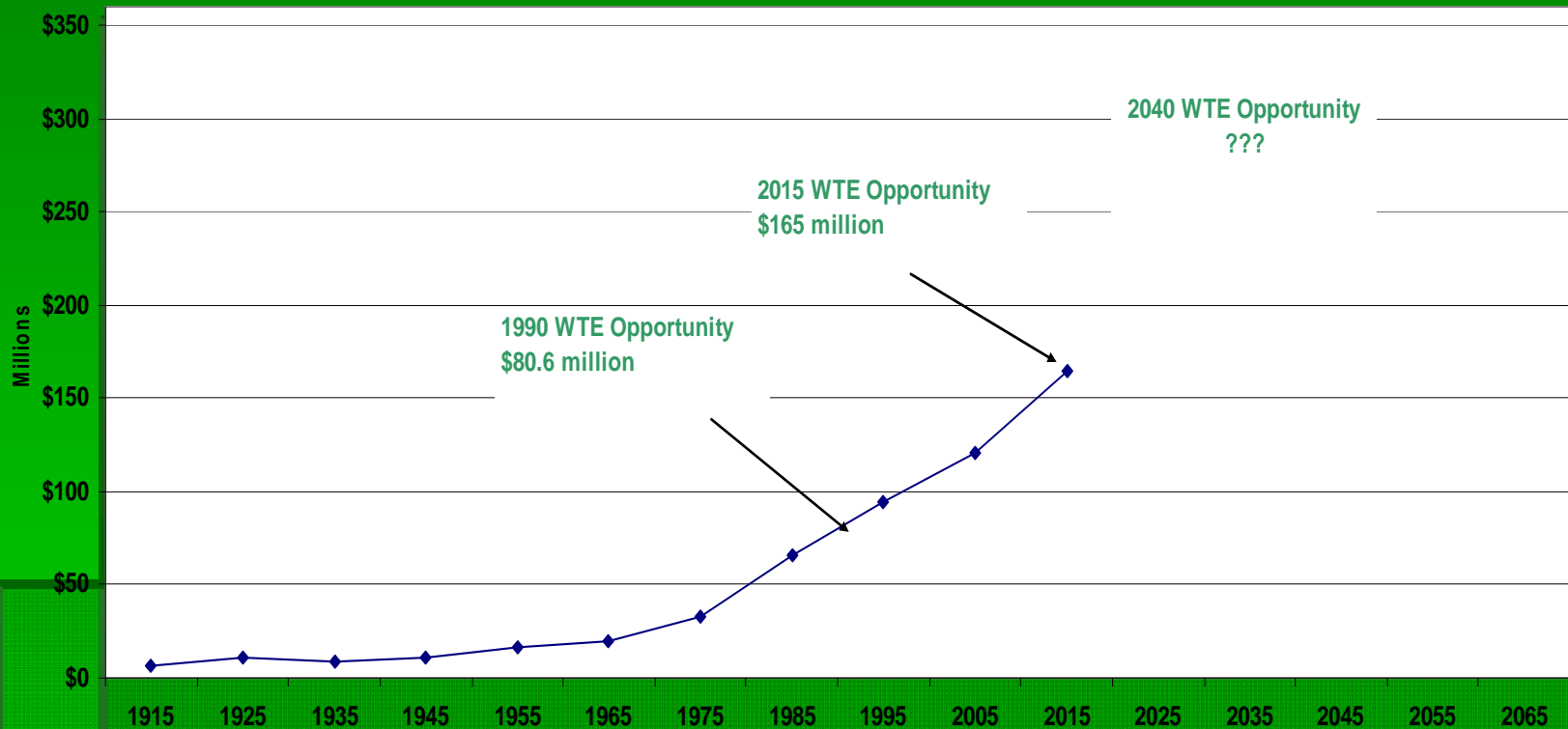
- Howard and Washington Counties have expressed an interest in accessing this reserve capacity during these years of the facility operation.
- Waste disposal arrangements with these Counties would also help ensure the lowest possible per ton disposal cost to Carroll County residents while ensuring that the maximum electrical capacity is available for purchase by Frederick and Carroll Counties for use by their Governmental operations.
- The ability to use the reserve disposal capacity and continuously operate the facility so it produces its maximum electrical energy possible is a significant attribute, which other types of important infrastructure typically cannot provide.

History of the Value of the US Dollar

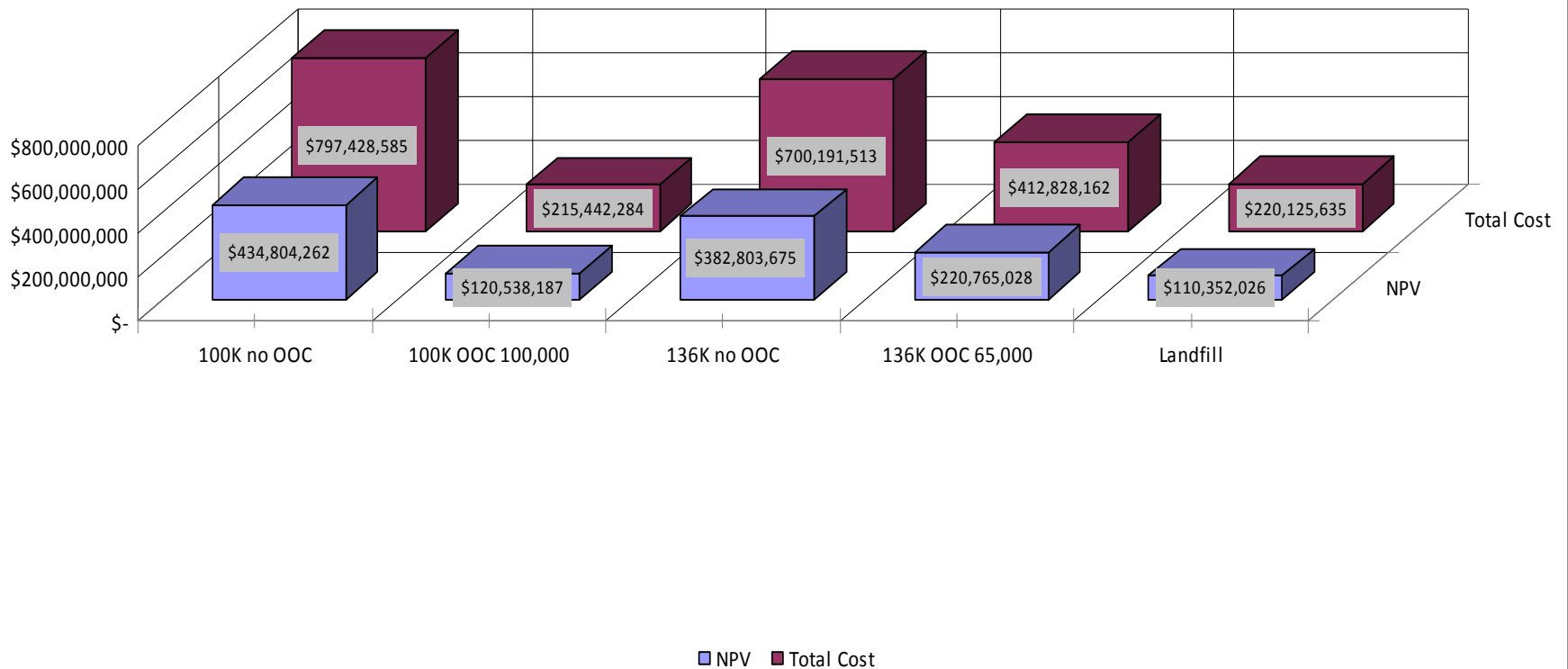
Based on the CPI



WTE Project Cost Adjusted for Inflation



Life Cycle Cost Comparisons



Next Steps

- 2/17/09 -Continuation of 2/3/09 briefing at 6:00 p.m. by Frederick BoCC
- 2/17/09 – Public hearing on project at 7:00 p.m. by Frederick BoCC and decision to go forward with Carroll County
- 2/19/09 – Public hearing on best site at 7:00 p.m. by Frederick BoCC
- ?/??/09 – Decision to go forward with design and permitting phase of project by Carroll BoCC
- ?/??/09 – Decision to seek contractual relationship with another Maryland county
- ?/??/09 – Decision on flow control approach
- ?/??/11 – Decision to go forward with construction project