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February 21, 2007

Mr. Clayton Carlisle  
Town Manager  
Town Hall, 41 Elm Street  
Southbridge, Massachusetts 01550

Subject: Updated Revised Financial Analysis for Extended Agreement for  
Future Operations at Southbridge Landfill

Dear Mr. Carlisle:

As requested, Camp Dresser & McKee Inc. (CDM) has prepared this letter summarizing a review of the financial status of the proposed Extension Agreement between the Town of Southbridge and Casella Waste Services (Casella) related to the future operations of the Southbridge Landfill. This letter has been updated to incorporate the discussions at our meeting of February 7, 2007 at Town Hall with Casella and subsequent draft versions of the Agreement.

To prepare this letter, CDM reviewed a series of plans to confirm that there is adequate volume in the landfill for both the current permitted tonnage as municipal solid waste (MSW) and an expanded tonnage contemplated in the draft Agreement (January 23, 2007 version) as well as waste compaction information from both Casella and other landfill operators. CDM then used the estimated remaining life of the landfill along in each scenario along with the current financial payments and in-kind services to the Town to update the Present Value financial analysis previously completed by CDM.

### **Review of Remaining Capacity Within Existing Landfill Limits**

The proposed Extension Agreement includes two levels of landfilling into the future. The first is the conversion of the existing permitted 180,960 tons of construction and demolition waste materials into MSW. CDM was to confirm that this current tonnage as MSW can provide 20 years of capacity within the limits of the existing permits. The Extension Agreement also provides for an expanded capacity of up to 405,600 tons of MSW per year should Casella be able to extend the landfill onto additional property. As part of this effort, CDM also reviewed the existing permits for the landfill to confirm that the proposed grading will not require any further permitting from the Massachusetts Department of Environmental Protection (MassDEP).



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CDM received a series of landfill grading design plans electronically from Casella's engineering consultant. To determine the base liner grades, CDM relied on a combination of an updated November 2006 topographic survey of the active landfill areas and the proposed grades for the future liner cells once the existing hill is excavated.

Casella's engineer provided CDM with two sets of final closure grades for the existing landfill. The first reflected a peak elevation of 832 and the second showed a peak grade of 850. CDM also reviewed the existing landfill permits and approvals. This review found that the site assignment included presentations that the peak elevation was to be 848 (assumed to be 850 with the final cap). However, the permit documents for the landfill present a peak elevation of 832 for the landfill both within the written permit application and on the accompanying plans. Casella also provided recent information from the Southbridge Airport Commission and a recent landfill closure plan indicating a peak elevation of 850.

CDM used an AutoCAD based program to determine the available remaining capacity at the landfill. Our approach was to determine the volume remaining within the permitted areas to each of the peak elevations, deduct a reasonable amount for cover material (15 percent by volume) including a final cap, and determine a required density to obtain a twenty year capacity. CDM also evaluated the capacity effective utilization – defined as the total tonnage of waste divided by the total volume consumed (waste and cover materials) as a comparative measure of landfill operation efficiency. The results of CDM's analysis are summarized on the following Table 1.

**Table 1**  
**Evaluation of Required MSW Densities for 20 Years of**  
**Remaining Landfill Life Within Existing Permits and Approvals**

<b>Peak Elevation</b>	<b>Total Remaining Capacity</b>	<b>Volume Allowance for Cover Material</b>	<b>Remaining Waste Capacity for MSW</b>	<b>Tonnage for 20 Year Remaining Capacity</b>	<b>Required Density of MSW</b>	<b>Required Effective Utilization</b>
832	4,113,000 cubic yards	617,000 cubic yards	3,496,000 cubic yards	3,619,200 tons	1.03 tons per cubic yard	0.88 tons per cubic yard
850	5,199,000 cubic yards	780,000 cubic yards	4,419,000 cubic yards	3,619,200 tons	0.82 tons per cubic yard	0.70 tons per cubic yard



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CDM reviewed these calculations with Casella staff on several occasions. There was agreement on the amount of volume remaining within the reasonable accuracy of the computer program. However, there was significant discussion on the density that could be achieved for compaction with Casella presenting information that they anticipate in-place densities close to or exceeding the 0.82 tons per cubic yard MSW density required for 20 years of capacity at peak elevation of 850. Casella provided data from six sites indicating an average Effective Utilization of 0.80 with a range from 0.71 to 0.90. It should be noted that this number will vary based on the total tonnage accepted, the location of landfilling (e.g. on side slopes or areas overlying thick landfilled areas where settlement will occur) and types of waste accepted for disposal and cover material.

Based on this discussion, CDM reviewed information on several large MSW landfills - both publicly and privately operated facilities - and their actual compaction rates for MSW. Based on this review, CDM developed an average in-place MSW density of 0.75 tons per cubic yard. At 15 percent for cover material, this is an Effective Utilization of approximately 0.64 tons per cubic yard.

The following Table 2 outlines the remaining capacities in the existing approved footprints based on the two Effective Utilizations. It should be noted that the final remaining capacity is established within the current limits that can be revised as part of future permitting processes. Based on this analysis, CDM recommends that the Town:

- Have Casella verify with MassDEP and the local Board of Health that the approved final elevation for the landfill is 850.
- Monitor the filling rate at the landfill once it is fully converted to MSW to determine the site-specific Effective Utilization to allow for planning on potential future expansions or permit revisions to realize 20 years of capacity.

For the financial analysis, CDM assumed that the 850 elevation can be confirmed with both the local Board of Health and the MassDEP and that the landfill will have a 20 year remaining capacity within the existing footprint.



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**Table 2**  
**Evaluation of Remaining Landfill Life by**  
**Effective Capacity Utilizations Within Existing Permits and Approvals**

<b>Peak Elevation</b>	<b>Total Remaining Capacity</b>	<b>Annual Tonnage of MSW</b>	<b>Remaining Life at 0.80 tons per cubic yard</b>	<b>Remaining Life at 0.64 tons per cubic yard</b>
832	4,113,000 cubic yards	180,960 tons per year	18 years	15 years
850	5,199,000 cubic yards	180,960 tons per year	23 years	18 years

### **Review of Remaining Capacity within Expanded Landfill Limits**

CDM also calculated the available capacity of an expanded landfill moving across the existing road onto Casella owned property that is currently site assigned as a processing facility. Under the proposed Extension Agreement, expanding the landfill onto this area would allow for Casella to increase the daily landfilling capacity to 405,600 tons per year of MSW. It should be noted that the approval of landfilling within this area to the volumes calculated will require a significant permitting process including Environmental Impact Reports, major modifications to the site assignment and extensive wetland permitting.

CDM calculated a total of 9,395,000 cubic yards of potential capacity in the expanded areas (to elevation 850). Casella has agreed with this volume estimate. Assuming 15 percent by volume for cover material and an in-place density of 0.64 tons per cubic yard Effective Utilization for MSW, this is a total of 15 years of potential capacity within this expanded area. At the Casella Effective Utilization of 0.80 tons per cubic yard, there is a total of 18.5 years of potential landfill life at the proposed filling rates. Given the unknowns in developing this and other expansion areas and to be consistent with prior analysis, CDM assumed a 20-year life for the expanded landfill. CDM recommends that the Town re-evaluate the long-term financial implications of the proposed expansion based on its final permitted capacity.

### **Revised Financial Benefits Projects**

Based on the remaining landfill life and the details of the Extension Agreement negotiated to date, CDM has revised the previously prepared financial analyses. For this updated analysis, CDM has reviewed the following two alternatives:

- Scenario One – Landfill within the existing approved footprint to elevation 850 with an operating life of 20 years.



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- Scenario Three - Expanded landfill operations onto processing facility property to elevation 850 with an operating life of 20 years.

The current assumptions on the financial benefits of the two scenarios as outlined in the January 23, 2007 version of the Extension Agreement as amended following the recent negotiations session are summarized in the attached Table 3.

One of the most significant changes is a proposed change in the landfill gas to energy portion of the Extension Agreement. CDM reviewed the anticipated future generation of landfill gas and we concur with the estimates provided by Casella. The original proposal included a flat payment of \$150,000 per year for the proposed facility regardless of any change in tonnage. Based on discussions at the last negotiations session, Casella pulled together a proposal for payments of \$0.006 per KWhr to the Town for the operations (not escalated). Based on current market conditions, this is a reasonable amount of revenue given that Casella is assuming all costs associated with the proposed gas plant. For the purposes of the following financial analysis, CDM assumed that the \$150,000 will be in-place for Scenario One (maintaining the current tonnages) and that the \$0.006 revenue per kWhr value would be in-place for the expanded project at 405,600 tons per year of MSW. For this analysis, CDM incorporated annual payments from a financial analysis performed by Casella.

The current version of agreement ties the increases in various payments such as the Royalty Payment to the Springfield/Hartford area Consumer Price Index (CPI) without an annual cap of 2.5 percent. This is the assumption tied the financial analyses completed herein. CDM has only evaluated the base financial arrangements without any additional funds for RecycleBank, additional payments for cover material or tonnage beyond the permitted amounts.

The financial analysis for each alternative is included on the attached detailed tables. The final results are summarized in the following Table 4. Note that these analyses are all from the initial year the landfill operates and do not take into account the additional time required to obtain permits.



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**Table 4**  
**Summary of Results of Financial Analysis Operations Extension Agreement**

<b>Scenario Number</b>	<b>Description</b>	<b>Funds from Escrow to Town</b>	<b>Remaining Life of Landfill</b>	<b>Present Value of Alternative</b>
1	Current Permitted Limits to Elevation 850	\$4.5 million	20 years	\$40.3 million
2	Expanded Landfill to Elevation 850	\$4.5 million	18 years	\$61.3 million

We are available to meet with you to further discuss these findings as well as the conditions in the Extension Agreement. In the interim, please do not hesitate to contact me at (617) 452-6541 if you have any questions or require anything further.

Very truly yours,

Bruce W. Haskell, P.E.  
Camp Dresser & McKee Inc.

cc: Anna Smith, Southbridge  
John Giorgio, Kopelman and Paige

**Table 3**  
**Summary of Assumptions for Updated Financial Analysis of Extension Agreement**  
**Operation of Southbridge Landfill**  
**Camp Dresser & McKee Inc.**  
**February 21, 2007**

Scenario Number	Description of Scenario (All scenarios assume MSW)	Annual Payments <sup>1</sup>	Remaining Landfill Life-Existing Footprint	Funds Available to Town from Escrow <sup>2</sup>	Landfill Gas Royalty Payments	Responsibility for Closure and Post-Closure
1	Current Permitted Limits to Elevation 850	\$1,000,000	20 years	\$4,500,000	\$150,000 for 20 years	Casella provides financial assurance mechanism and is responsible for all costs.
2	Expanded Landfill to Elevation 850	\$2,350,000	18years <sup>3</sup>	\$4,500,000	\$.006 per kWhr generated <sup>4</sup>	

<sup>1</sup> Approximate first year Royalty Payment assuming Agreements are in-place for entire year. Increases by CPI as defined in the Agreement.

<sup>2</sup> Based on 2006 estimated balance in Escrow Account minus approximately \$1.9 million paid by Casella towards closure and post-closure to date.

<sup>3</sup> Assumed to be 20-years in financial analysis for consistency with prior evaluations.

<sup>4</sup> Used estimated revenues provided by Casella.

**Table 3 (Cont'd)**  
**Summary of Assumptions for Updated Financial Analysis of Extension Agreement**  
**Operation of Southbridge Landfill**  
**Camp Dresser & McKee Inc.**  
**February 21, 2007**

<b>Scenario Number</b>	<b>Description</b>	<b>Curbside Collection Continues<sup>5</sup></b>	<b>Free Solid Waste Disposal Continues</b>	<b>Engineering Consultant Reimbursement<sup>6</sup></b>	<b>Landfill Monitor Reimbursed<sup>7</sup></b>	<b>One-Time Legal Reimbursement</b>	<b>Roadway and Water and Sewer Line Reimbursement<sup>8</sup></b>
1	Current Permitted Limits to Elevation 850	Yes – 20 years	Yes	\$10,000 per year	\$75,000 per year	\$100,000	72% of Bond Payment (\$341,000)
2	Expanded Landfill to Elevation 850	Yes – 20 years	Yes	\$10,000 per year	\$75,000 per year	\$200,000	100% of Bond Payment (\$471,000)

<sup>5</sup> Collection is for up to 7,000 homes and is defined to include disposal of MSW.

<sup>6</sup> Amount adjusted annually by CPI as defined in the agreement.

<sup>7</sup> Landfill Monitor annual payment increases capped at 4% per year.

<sup>8</sup> Percentages and bond payments based on \$5 million construction costs and 20-year bonding period at 5.5% interest.

Town of Southbridge - Landfill Operating Agreement

Scenario 2 - Proposed Amendment to Maximize the Benefits by Transferring Capacity from Casella's Processing Facility to the Landfill Permit (No increase in Traffic or Landfill Property.)

Costs and Revenue Sources	1 2007	2 2008	3 2009	4 2010	5 2011	6 2012	7 2013	8 2014	9 2015	10 2016	11 2017	12 2018	13 2019	14 2020	15 2021	16 2022	17 2023	18 2024	19 2025	20 2026
<b>Liabilities</b>																				
Closure Payments Back to Casella	\$ (1,900,000)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Future Closure and Post-Closure Liability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Current Assets</b>																				
Existing Funds in Escrow Account	\$ 6,400,000																			
<b>Revenues</b>																				
Royalty Payments (Up to 180,960 tpy)	\$ 2,350,000	\$ 2,409,000	\$ 2,469,000	\$ 2,531,000	\$ 2,594,000	\$ 2,659,000	\$ 2,725,000	\$ 2,793,000	\$ 2,863,000	\$ 2,935,000	\$ 3,008,000	\$ 3,083,000	\$ 3,160,000	\$ 3,239,000	\$ 3,320,000	\$ 3,403,000	\$ 3,488,000	\$ 3,575,000	\$ 3,664,000	\$ 3,756,000
Landfill Monitor Reimbursement	\$ 75,000	\$ 77,000	\$ 79,000	\$ 81,000	\$ 83,000	\$ 85,000	\$ 87,000	\$ 89,000	\$ 91,000	\$ 93,000	\$ 95,000	\$ 97,000	\$ 99,000	\$ 101,000	\$ 104,000	\$ 107,000	\$ 110,000	\$ 113,000	\$ 116,000	\$ 119,000
Legal Funds	\$ 200,000																			
Electricity Credits	\$112,347	\$149,796	\$149,796	\$149,796	\$187,245	\$187,245	\$187,245	\$187,245	\$224,694	\$224,694	\$224,694	\$224,694	\$262,143	\$262,143	\$262,143	\$262,143	\$299,592	\$299,592	\$299,592	\$299,592
Engineering Assistance	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
<b>In-Kind Services</b>																				
Curbside Collection	\$ 635,000	\$ 651,000	\$ 667,000	\$ 684,000	\$ 701,000	\$ 719,000	\$ 737,000	\$ 755,000	\$ 774,000	\$ 793,000	\$ 813,000	\$ 833,000	\$ 854,000	\$ 875,000	\$ 897,000	\$ 919,000	\$ 942,000	\$ 966,000	\$ 990,000	\$ 1,015,000
Municipal Solid Waste Disposal	\$ 450,000	\$ 461,000	\$ 473,000	\$ 485,000	\$ 497,000	\$ 509,000	\$ 522,000	\$ 535,000	\$ 548,000	\$ 562,000	\$ 576,000	\$ 590,000	\$ 605,000	\$ 620,000	\$ 636,000	\$ 652,000	\$ 668,000	\$ 685,000	\$ 702,000	\$ 720,000
Access Road and Water and Sewer Payments	\$ 471,000	\$ 471,000	\$ 471,000	\$ 471,000	\$ 471,000	\$ 471,000	\$ 471,000	\$ 471,000	\$ 471,000	\$ 471,000	\$ 471,000	\$ 471,000	\$ 471,000	\$ 471,000	\$ 471,000	\$ 471,000	\$ 471,000	\$ 471,000	\$ 471,000	\$ 471,000
Total Annual Revenues	\$ 8,803,347	\$ 4,228,796	\$ 4,318,796	\$ 4,411,796	\$ 4,543,245	\$ 4,640,245	\$ 4,739,245	\$ 4,840,245	\$ 4,981,694	\$ 5,088,694	\$ 5,197,694	\$ 5,308,694	\$ 5,461,143	\$ 5,578,143	\$ 5,700,143	\$ 5,824,143	\$ 5,988,592	\$ 6,119,592	\$ 6,252,592	\$ 6,390,592
Total Present Value - 2006 Dollars	\$ 61,336,500																			
Total Contract Value	\$ 108,417,431																			

**Assumptions**

Consumer Price Index	2.5%
Normalizing Factor - Present Value	6%
Interest Rate for Borrowing	5%
Southbridge Annual Tons of Municipal Solid Waste	6,000 tons per year
Tip Fee and Haul - Out-of Town Disposal	75 per ton
Tonnage Over Existing Amount	224,640 tons per year
Existing Permitted Tons	180,960
Total Tons	405,600

Town of Southbridge - Landfill Operating Agreement  
Scenario 1 - Current Tonnage - Landfill to Elevation 850

	1 2007	2 2008	3 2009	4 2010	5 2011	6 2012	7 2013	8 2014	9 2015	10 2016	11 2017	12 2018	13 2019	14 2020	15 2021	16 2022	17 2023	18 2024	19 2025	20 2026
<b>Liabilities</b>																				
Closure Payments Back to Casella	\$ (1,900,000)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Future Closure and Post-Closure Liability	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Current Assets</b>																				
Existing Funds in Escrow Account	\$ 6,400,000																			
<b>Revenues</b>																				
Royalty Payments (up to 180,960 tpy)	\$ 1,000,000	\$ 1,025,000	\$ 1,051,000	\$ 1,077,000	\$ 1,104,000	\$ 1,132,000	\$ 1,160,000	\$ 1,189,000	\$ 1,219,000	\$ 1,249,000	\$ 1,280,000	\$ 1,312,000	\$ 1,345,000	\$ 1,379,000	\$ 1,413,000	\$ 1,448,000	\$ 1,484,000	\$ 1,521,000	\$ 1,559,000	\$ 1,598,000
Landfill Monitor Reimbursement	\$ 75,000	\$ 78,000	\$ 81,000	\$ 84,000	\$ 87,000	\$ 90,000	\$ 94,000	\$ 98,000	\$ 102,000	\$ 106,000	\$ 110,000	\$ 114,000	\$ 119,000	\$ 124,000	\$ 129,000	\$ 134,000	\$ 139,000	\$ 145,000	\$ -	\$ -
Engineering Assistance	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
Legal Funds	\$ 100,000																			
Landfill Gas Reimbursement	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000
<b>In-Kind Services</b>																				
Curbside Collection	\$ 635,000	\$ 651,000	\$ 667,000	\$ 684,000	\$ 701,000	\$ 719,000	\$ 737,000	\$ 755,000	\$ 774,000	\$ 793,000	\$ 813,000	\$ 833,000	\$ 854,000	\$ 875,000	\$ 897,000	\$ 919,000	\$ 942,000	\$ 966,000	\$ 990,000	\$ 1,015,000
Municipal Solid Waste Disposal	\$ 450,000	\$ 461,000	\$ 473,000	\$ 485,000	\$ 497,000	\$ 509,000	\$ 522,000	\$ 535,000	\$ 548,000	\$ 562,000	\$ 576,000	\$ 590,000	\$ 605,000	\$ 620,000	\$ 636,000	\$ 652,000	\$ 668,000	\$ 685,000	\$ 702,000	\$ 720,000
Access Road, Water and Sewer Construction	\$ 341,000	\$ 341,000	\$ 341,000	\$ 341,000	\$ 341,000	\$ 341,000	\$ 341,000	\$ 341,000	\$ 341,000	\$ 341,000	\$ 341,000	\$ 341,000	\$ 341,000	\$ 341,000	\$ 341,000	\$ 341,000	\$ 341,000	\$ 341,000	\$ 341,000	\$ 341,000
Total Annual Revenues	\$ 7,261,000	\$ 7,216,000	\$ 7,273,000	\$ 7,283,000	\$ 7,289,000	\$ 7,295,000	\$ 7,301,000	\$ 7,307,000	\$ 7,314,000	\$ 7,321,000	\$ 7,328,000	\$ 7,335,000	\$ 7,342,000	\$ 7,349,000	\$ 7,356,000	\$ 7,363,000	\$ 7,370,000	\$ 7,377,000	\$ 7,384,000	\$ 7,391,000
TOTAL PRESENT VALUE - 2006 Dollars	\$40,303,000																			
Total Contract Value	\$ 69,790,000																			

**Assumptions**

Consumer Price Index	2.5%
Normalizing Factor - Present Value	6.0%
Interest Rate for Borrowing	5.0%
Annual Tons of Municipal Solid Waste	6000 tons per year
Percent Roadway Paid by Casella	33%
Tip Fee and Haul - Out-of Town Disposal	75 per ton