

## Cole Village Demolition Energy Analysis

### **Energy Analysis:**

NMSU decommissioned Cole Village in 2017 and the facility continued utility service to this site to preserve the property in the event emergency swing space was required for the campus. This also prevented the potential for damage due to freeze and also ensured that wastewater traps within the facility didn't dry up and introduce explosive sewer gas into the space which had the potential to create a life safety liability. Street lighting power was also powered from this property and remained to maintain campus security. Water from this property also sourced fire hydrants in the area which required this utility to remain active per the NMSU Fire Chief. The energy costs listed below are the expenses associated with keeping this facility online from a utilities perspective to preserve and protect the infrastructure until demolition became viable. To achieve maximum efficiency and safety, NMSU should demolish the structures, remove all utility lines and cap at the mainline, remove all hardscape and paving, connect street security lighting to an adjacent electrical circuit and return the complex to a 13-acre greenspace for future development. This will result in an increase in water usage for Grounds care but will still deliver \$122,426 in immediate cost reductions with an annual recurring avoided cost of approximately \$135,000.

Cost Reduction							Definition: Money saved that is being spent today. True cost Take-out.
Building and Equipment Maintenance	\$0	\$0	\$0	\$0	\$657	\$657	Costs increase upon completion of the project as the area will become a 13 acre green space
Energy and Utilities	\$0	\$0	\$70,002	\$52,424	\$0	\$122,426	Reductions realized with removal of Electricity, Natural Gas, Wastewater Utilities. Increase in Domestic Water consumption due to added green space.
Staff Labor	\$0	\$0	\$0	\$0	\$0	\$0	Per definitions there are no costs in this category
Contract Labor	\$0	\$0	\$0	\$0	\$0	\$0	Per definitions there are no costs in this category
<b>Total Cost Reduction</b>	<b>\$0</b>	<b>\$0</b>	<b>\$70,002</b>	<b>\$52,424</b>	<b>\$657</b>	<b>\$123,083</b>	
Cost Avoidance							Definition: Preventing money from having to be spent that is not currently being spent today.
Building and Equipment Maintenance	\$0	\$0	\$0	\$0	\$0	\$0	There are no avoided costs as grounds care costs increase after the project returns the 13 acres to a green space
Energy and Utilities	\$0	\$0	\$74,332	\$131,217	\$135,153	\$340,702	Energy with 3% cost escalation annually if project isn't approved vs. Energy with 3% escalation and reductions associated with building demolition.
Staff Labor	\$0	\$0	\$0	\$0	\$0	\$0	Per definitions there are no costs in this category
Contract Labor	\$0	\$0	\$0	\$0	\$0	\$0	Per definitions there are no costs in this category
<b>Total Cost Avoidance</b>	<b>\$0</b>	<b>\$0</b>	<b>\$74,332</b>	<b>\$131,217</b>	<b>\$135,153</b>	<b>\$340,702</b>	
<b>Total Benefit</b>	<b>\$0</b>	<b>\$0</b>	<b>\$144,334</b>	<b>\$183,641</b>	<b>\$135,810</b>	<b>\$463,785</b>	

### **Project Benefits:**

Performing the project will remove obsolete facilities and utilities from the NMSU inventory. This reduces our campus deferred backlog, available space, while improving the safety of our utility systems. Performing this project will also reduce our utility costs and help NMSU in our efforts to become carbon neutral.

### **Project Development:**

Facilities Operations needs to be a major partner in the development of the scope. We are the subject matter experts regarding the utilities, grounds, and structures. The energy analysis was generated using utilities billing data from the AiM work order system.

## Cole Village Demolition Energy Analysis

COLE VILLAGE AIM BILLING DATA								
	FY17	FY18	FY19	FY20	FY21	FY22		
<b>DOMESTIC WATER</b>	<b>\$12,365.88</b>	<b>\$11,445.43</b>	<b>\$6,468.64</b>	<b>\$6,640.56</b>	<b>\$12,134.10</b>	<b>\$32,497.05</b>	<b>*Projected</b>	
01-Jul	\$1,781.95	\$1,029.13	\$833.04	\$315.44	\$1,579.27	\$4,028.59		
02-Aug	\$1,402.61	\$915.42	\$920.95	\$883.27	\$1,320.24	\$3,730.12		
03-Sep	\$1,206.36	\$1,360.83	\$636.04	\$772.31	\$995.25	\$3,367.43		
04-Oct	\$957.18	\$956.15	\$362.36	\$462.59	\$900.68	\$2,814.53		
05-Nov	\$505.37	\$505.78	\$227.06	\$228.82	\$508.63	\$2,387.41		
06-Dec	\$277.96	\$306.25	\$72.50	\$175.55	\$439.60	\$1,162.60		
07-Jan	\$336.54	\$435.86	\$246.15	\$192.74	\$482.97	\$1,287.52		
08-Feb	\$507.13	\$423.29	\$365.15	\$242.15	\$565.65	\$498.77		
09-Mar	\$957.92	\$850.67	\$474.09	\$330.55	\$769.77	\$2,301.71		
10-Apr	\$1,353.02	\$1,171.65	\$661.39	\$817.17	\$1,269.09	\$3,418.37		
11-May	\$1,474.11	\$1,730.09	\$813.00	\$1,078.05	\$1,817.60	\$4,000.00		
12-Jun	\$1,605.73	\$1,760.31	\$856.91	\$1,141.92	\$1,485.35	\$3,500.00		
<b>ELECTRIC ENERGY</b>	<b>\$79,258.74</b>	<b>\$69,666.81</b>	<b>\$55,321.72</b>	<b>\$50,043.93</b>	<b>\$58,510.39</b>	<b>\$70,936.95</b>		
01-Jul	\$8,737.78	\$7,142.34	\$5,915.46	\$4,748.73	\$5,781.43	\$2,771.15		
02-Aug	\$9,325.52	\$8,313.65	\$7,092.22	\$6,046.24	\$7,081.48	\$9,127.57		
03-Sep	\$8,394.51	\$7,634.60	\$6,699.27	\$5,763.04	\$5,717.25	\$8,591.63		
04-Oct	\$7,053.71	\$6,361.05	\$2,634.57	\$4,137.63	\$4,677.60	\$6,264.48		
05-Nov	\$5,447.15	\$4,771.21	\$4,086.37	\$3,776.99	\$3,866.03	\$5,240.82		
06-Dec	\$5,717.33	\$5,000.16	\$3,923.97	\$3,670.19	\$4,185.15	\$5,205.80		
07-Jan	\$6,410.64	\$5,572.68	\$4,607.42	\$3,815.29	\$4,496.39	\$5,905.47		
08-Feb	\$5,401.80	\$4,655.23	\$4,128.35	\$3,664.85	\$3,966.51	\$5,522.08		
09-Mar	\$5,243.43	\$4,667.75	\$3,863.56	\$3,459.57	\$3,932.90	\$5,564.31		
10-Apr	\$5,563.80	\$4,955.69	\$4,109.73	\$3,311.08	\$4,546.85	\$5,743.64		
11-May	\$5,842.10	\$4,816.44	\$3,860.00	\$3,626.69	\$5,033.48	\$5,500.00		
12-Jun	\$6,120.97	\$5,776.01	\$4,400.80	\$4,023.63	\$5,225.32	\$5,500.00		
<b>LP NATURAL GAS</b>	<b>\$10,163.73</b>	<b>\$9,413.49</b>	<b>\$8,539.94</b>	<b>\$4,649.06</b>	<b>\$7,979.53</b>	<b>\$10,538.34</b>		
01-Jul	\$226.21	\$190.85	\$248.11	\$131.60	\$83.07	\$131.50		
02-Aug	\$253.99	\$204.50	\$266.61	\$198.01	\$24.24	\$79.44		
03-Sep	\$397.23	\$239.26	\$164.40	\$175.37	\$150.93	\$107.93		
04-Oct	\$504.15	\$404.28	\$691.98	\$285.65	\$356.56	\$695.62		
05-Nov	\$904.08	\$1,729.55	\$641.83	\$522.69	\$1,248.28	\$1,435.12		
06-Dec	\$2,218.79	\$2,950.16	\$2,351.45	\$1,331.52	\$2,456.19	\$3,603.22		
07-Jan	\$1,283.29	\$1,754.06	\$1,376.56	\$531.18	\$1,436.07	\$2,387.68		
08-Feb	\$2,000.82	\$947.51	\$1,631.64	\$886.47	\$1,401.34	\$844.04		
09-Mar	\$1,468.26	\$273.06	\$161.94	\$135.86	\$133.10	\$210.28		
10-Apr	\$594.93	\$130.00	\$387.21	\$159.30	\$234.53	\$393.51		
11-May	\$156.07	\$376.36	\$398.23	\$138.94	\$291.28	\$400.00		
12-Jun	\$155.91	\$213.90	\$219.98	\$152.47	\$163.94	\$250.00		
<b>SEWER</b>	<b>\$13,229.74</b>	<b>\$13,212.80</b>	<b>\$15,220.43</b>	<b>\$12,540.89</b>	<b>\$15,130.21</b>	<b>\$26,158.41</b>		
01-Jul	\$1,123.21	\$814.11	\$1,001.45	\$1,032.84	\$990.85	\$1,984.95		
02-Aug	\$669.53	\$1,270.10	\$814.23	\$1,032.39	\$1,566.39	\$2,103.65		
03-Sep	\$1,376.38	\$1,277.61	\$1,465.85	\$1,610.93	\$1,339.95	\$2,663.45		
04-Oct	\$1,601.25	\$1,464.47	\$3,706.75	\$1,380.31	\$1,431.93	\$2,641.88		
05-Nov	\$1,385.70	\$1,368.51	\$1,364.12	\$1,261.59	\$1,549.71	\$2,221.83		
06-Dec	\$1,149.73	\$1,278.85	\$1,178.47	\$1,069.78	\$1,476.64	\$1,917.04		
07-Jan	\$843.04	\$924.46	\$707.96	\$720.94	\$1,298.27	\$1,831.12		
08-Feb	\$808.04	\$841.65	\$781.29	\$756.96	\$989.89	\$1,795.75		
09-Mar	\$976.46	\$1,102.04	\$914.52	\$911.72	\$1,019.54	\$2,234.98		
10-Apr	\$1,240.71	\$1,052.72	\$961.49	\$1,410.72	\$1,162.33	\$2,363.76		
11-May	\$1,009.42	\$1,066.10	\$1,109.02	\$521.86	\$1,221.07	\$2,200.00		
12-Jun	\$1,046.27	\$752.18	\$1,215.28	\$830.85	\$1,083.64	\$2,200.00		
<b>Grand Total</b>	<b>\$115,018.09</b>	<b>\$103,738.53</b>	<b>\$85,550.73</b>	<b>\$73,874.44</b>	<b>\$93,754.23</b>	<b>\$140,130.75</b>		
<b>Project Improvement Projections</b>								
	<b>Utilities Billed FY</b>	<b>FY23</b>	<b>FY24</b>	<b>FY25</b>	<b>FY26</b>			
	\$140,131	\$144,335	\$74,332	\$22,194	\$22,860			
	<b>Water Billed FY</b>	<b>FY23</b>	<b>FY24</b>	<b>FY25</b>	<b>FY26</b>			
	\$32,497	\$33,472	\$17,238	\$22,194	\$22,860			
(Building Demo (Added Green Space))								