



February 6, 2019

Investment Grade Audit Report

WOODLAND HILLS SCHOOL DISTRICT

Jr/Sr High School - Phase 1 GESA Project



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Overview

Reynolds Energy Services (RES) has completed the Investment Grade Audit (IGA) for Woodland Hills Jr/Sr High School. During this process, RES has analyzed the overall potential for energy and cost savings; developed detailed scopes of work; estimated pricing and savings estimates; and has compiled the financial analysis. This document summarizes the utility analysis, scope of work, and financial analysis for the project.

The goal of this project is to achieve a reduction in purchased energy and utilize the associated cost savings to pay down the cost of the planned improvements. The primary energy savings will come from converting the heating system from steam to hot water, changing the lighting system from fluorescent to LED technology, increasing the control of the HVAC system, and reducing the potential for water main breaks by replacing water mains to the building and fire hydrant supply piping. Cooling will be added to the Phase 1 work area. Adding air conditioning will increase the amount of electricity use. However, we anticipate a net electricity savings due to the LED lighting and optimized operation of the HVAC equipment with the new automatic temperature control system.

The project will consist of HVAC upgrades, plumbing upgrades, electrical upgrades, ATC upgrades, roofing replacement, window and door upgrades, and miscellaneous repairs and code compliance.

This project will be implemented under a guaranteed energy savings agreement (GESA) with a guaranteed fixed price for construction and implementation. The following pages include a summary of the key information about this project, including the utility basis for savings, a summary of the scope of work, the expected annual energy and cost savings produced from project implementation, and the financial basis for the project.

Utility Analysis

The following tables and figures illustrate the total baseline energy and water/sewer use and cost of the school. This baseline represents the projected energy and water/sewer use and costs without implementing any energy saving measures. This becomes the baseline or starting point for savings estimates and financial analysis.

The starting point for the energy audit was to assess the current annual energy and water usage of the building. To begin this process we examined and analyzed utility bills from July 2016 to June 2018. The table belows contain the annual utility summary.

TABLE: Annual Utility Summary

Building Name	Electric			Fuels		Water/Sewer		TOTAL	
	kWh	kW	\$	Mcf	\$	CCF	\$	\$	\$/sf-yr
Woodland Hills Jr-Sr High School	1,954,737	526	\$ 173,676	16,798	\$ 93,696	10,709	\$ 176,102	\$ 443,474	\$ 1.53

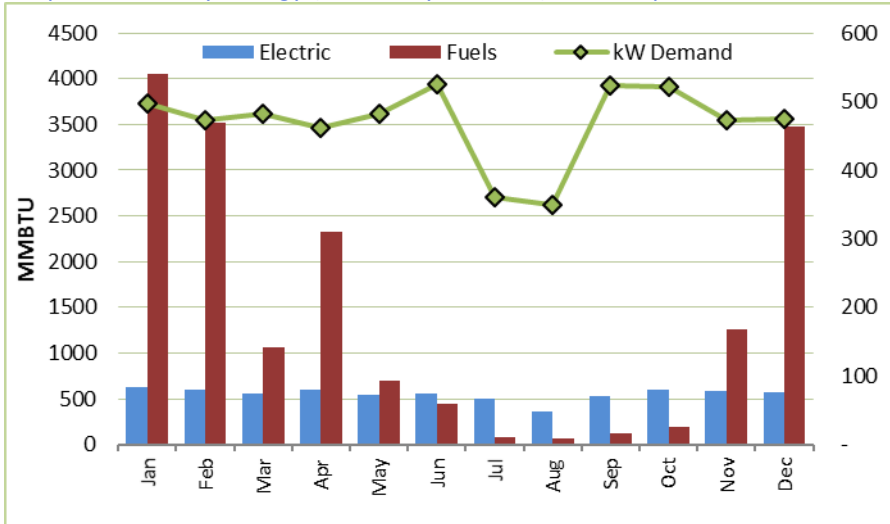
Looking more closely at the monthly energy use (next table and graph), the electric demand (kW) shows us that for June, September and October, the parts of the building that have air conditioning have those systems operating. The balance of the school year, the air conditioning systems are off. During the summer, much lower demand indicates that most of the lights in the school are off. Natural gas usage is very low in the

summer with both the heating system and domestic hot water use (hand washing, showers, and kitchen) is very low. The water/sewer usage is much higher from March to July due to water main leaks. The other months are more reflective of the actual building water usage.

Monthly Energy Consumption Profile

	Electric			Fuels		Water/Sewer		TOTAL
	kWh	kW	\$	Mcf	\$	CCF	\$	\$
Jan	186,398	497	\$ 16,065	3,937	\$ 23,586	295	\$ 12,600	\$ 52,252
Feb	176,628	472	\$ 15,270	3,416	\$ 19,735	738	\$ 22,575	\$ 57,581
Mar	163,871	483	\$ 14,502	1,029	\$ 5,745	1,165	\$ 23,291	\$ 43,538
Apr	175,316	461	\$ 15,024	2,261	\$ 12,247	1,118	\$ 25,278	\$ 52,549
May	160,748	482	\$ 14,322	683	\$ 3,809	1,114	\$ 21,299	\$ 39,429
Jun	163,677	526	\$ 14,929	427	\$ 902	1,105	\$ 20,133	\$ 35,964
Jul	148,287	360	\$ 13,526	73	\$ 473	1,125	\$ 15,533	\$ 29,533
Aug	107,235	350	\$ 10,201	63	\$ 406	577	\$ 9,819	\$ 20,426
Sep	155,600	523	\$ 14,388	126	\$ 757	79	\$ 4,618	\$ 19,763
Oct	177,189	521	\$ 15,712	186	\$ 573	167	\$ 7,009	\$ 23,293
Nov	171,484	472	\$ 14,967	1,227	\$ 6,454	373	\$ 6,812	\$ 28,234
Dec	168,306	476	\$ 14,769	3,370	\$ 19,009	351	\$ 7,135	\$ 40,913
	1,954,737	526	\$ 173,676	16,798	\$ 93,696	8,204	\$ 176,102	\$ 443,474

Graph of Monthly Energy (Electricity and Gas) Consumption Profile



Scope of Work Summary

The main goal of the IGA is to identify and develop a scope of work that maximizes savings to be leveraged toward buying down the overall cost of a renovation project. At the same time, this scope needs to meet the needs of the District, be cost effective, and fit within the project's overall financial constraints.

The following section summarizes the scope of work.

Summary of Work: This project is broken into the following categories: HVAC upgrades, plumbing upgrades, electrical upgrades, ATC upgrades, roofing replacement, window and door upgrades, and miscellaneous repairs and code compliance.

1.0 HVAC UPGRADES

- 1.1 The HVAC systems will be installed to serve the Phase 1 work areas. Central systems (the boiler plant and chiller plant) will have the capacity to serve the entire school though partial installation of these central systems may occur in Phase 1 with the balance of work occurring in Phase 2.
- 1.2 The project includes a new hot water boiler plant and chilled water plant. The boiler plant will consist of three 5000 MBH boilers (two installed in Phase 1) and two 200-ton air cooled chillers. The existing steam system (including two existing boilers) serving Phase 2 area will remain in service until the end of Phase 2.
- 1.3 Classrooms will be conditioned with new fan coil units. Ventilation air to each classroom will be delivered via dedicated outside air systems that heat, cool, and dehumidify the ventilation air.
- 1.4 The Media Center HVAC system will remain with minor modifications.
- 1.5 The Gymnasiums, Fitness Area, Weight Room and Wrestling Room will be served with new air handling systems that will heat, cool, and dehumidify.
- 1.6 The Natatorium HVAC system will be replaced.
- 1.7 New systems will be tested and balanced.

2.0 PLUMBING UPGRADES

- 2.1 Fire Protection work includes a new sprinkler system for the Phase 1 work area. A new fire line will run from Braddock Road to a new Fire Sprinkler Room near the auditorium. The work includes removing the dry chemical extinguishing systems located in first and second floor storage rooms within the Phase 1 areas.
- 2.2 The Plumbing work includes a new domestic water main from Braddock Road, new hot water, hot water return, and cold-water mains to serve the Phase 1 area, new water heaters in the Boiler Room and serving the Locker Rooms, new hot and cold-water supply piping to the new shower locations in the locker rooms, new gang bathrooms near the Wrestling Room, and to the new fixtures in the new Natatorium locker rooms.
- 2.3 A new natural gas service line will be installed from Braddock Road with a new meter set across from the current natural gas service entrance to the building.
- 2.4 New roof drains will connect to the existing storm drain piping. New overflow drains and piping will be installed.
- 2.5 New hot, cold, and gas lines will serve the existing and new Laundry Rooms. A trench drain will be added in the new Laundry Room.

3.0 ELECTRICAL UPGRADES

- 3.1 The Phase 1 work includes upgrades to power, lighting, fire alarm, data/telephone, and PA/clock systems. Except for the fire alarm and PA/clock systems, the remaining scope of work applies only to the Phase 1 work area. The fire alarm and PA/clock systems have all the front-end software and parts (control panels, controllers, routers, initiation devices, enunciation devices, clocks, speakers) for both Phase 1 and Phase 2 included in this GESA Amendment. The labor to install the fire alarm and PA/clock systems is limited to Phase 1 only. The labor for the setting and wiring devices that will be installed in Phase 2 will be part of the Phase 2 work.
- 3.2 The existing main distribution switchboards installed in 2000 are in very good condition. They will be expanded with a new 1600 amp section that will be added to the existing main distribution panel to accommodate the two new chillers.
- 3.3 The existing Federal Pacific distribution switchboard is from the 1960s will be removed. A new 208 volt, three-phase 2000 amp distribution switchboard will be installed to serve the panels that are currently feed from the Federal Pacific distribution switchboard.
- 3.4 We will install new panelboards to serve the new HVAC equipment where required. We will reuse existing panelboards where capacity exists to serve new HVAC equipment.
- 3.5 The panelboards from 1960s and their associated feeders from the main distribution switchboard will be replaced. For these 1960 era panelboards, circuit wiring will also be replaced to terminal devices such as receptacles and other end devices.
- 3.6 The existing generator is being reused.
- 3.7 All lighting will be replaced in the Phase 1 area with LED light fixtures. In the Classrooms, daylighting and dimming controls will be installed.
- 3.8 We will install a new lightning protection system for the Phase 1 roof area. This system will be extended into the Phase 2 roof area in the future.
- 3.9 Existing cameras, motion detectors, and door access locations will be maintained. During construction, ceiling-mounted devices in corridor ceilings will be temporarily reinstalled. When the new ceilings are installed, the existing security devices will be reinstalled.
- 3.10 For exterior doors that are being replaced, disconnect any security or access control devices. Secure communication wiring for future reuse. Connect security wiring to new door hardware and sensors.
- 3.11 The Data/Telephone work will include removing existing CAT 5 cables from classrooms back to the patch panel at the rack as indicated except for CAT5 cables to the classroom projectors. Provide new data network racks with patch panels in the IDF rooms. Provide new structured CAT6 cables to serve classrooms and offices.
- 3.12 We will provide a new Fire Alarm system. The existing fire alarm system will remain active through the Phase 1 construction period and remain active in the Phase 2 work area until it is replaced with the new fire alarm system. The new fire alarm system shall be a voice evacuation system. The fire alarm system shall have all the front-end software and parts for both Phase 1 and Phase 2 included in this GESA Amendment. The labor to install the fire alarm system is limited to Phase 1 only. The labor for the setting and wiring devices that will be installed in Phase 2 will be part of the Phase 2 work. After the new fire alarm system is installed, tested, determined and accepted by the authority having jurisdiction to be fully functional in Phase 1 areas, remove the existing older fire alarm system including all detection devices and notification appliances which protected these same Phase 1 areas.
- 3.13 The PA/Clock system shall have all the front-end software and parts for both Phase 1 and Phase 2 included in this GESA Amendment. The labor to install the PA/Clock system is limited to Phase 1 only. The labor for the setting and wiring devices that will be installed in Phase 2 will be part of the

Phase 2 work. The existing Phase 2 area shall remain in operation. Provide new speakers, new clocks, and new call stations. Provide new cabling as required for a complete system. Provide a new sound reinforcement system in the Auxiliary Gym as shown and as specified.

3.14 Site lighting upgrades and additions will be included in Phase 2 work.

4.0 ATC UPGRADES

- 4.1 A new ATC for both Phase 1 and Phase 2 areas is included in this GESA Agreement. The existing Siemens automatic temperature control system will be removed in Phase 1 (and maintained in operation for Phase 2). The new ATC system will be installed in the Phase 1 area until the Phase 2 area is ready for construction.
- 4.2 A new ATC system will be installed to control the boiler and chiller plants and new HVAC equipment in the Phase 1 area. Chillers, boilers, rooftop units, the natatorium equipment, the variable refrigerant flow systems along with equipment controlled by variable frequency drives will be integrated with the automatic temperature control system. Variable air volume boxes, duct coils, air handling units, fan coil units, unit ventilators, unit heaters, radiant fin-tube heaters, cabinet unit heaters, and exhaust fans will have new controllers mounted and wired for equipment control. Walk-in refrigerator and walk-in freezer temperatures will be monitored through a temperature sensor in the walk-in box.
- 4.3 The standby generator status will be monitored. The lighting system controllers will be integrated with hardwired points.
- 4.4 The automatic temperature control system will include graphics for each type of equipment and system views for chilled water and hot water systems. The automatic temperature control system will provide trending on each software and hardware point in the system.

5.0 ROOFING REPLACEMENT

- 5.1 Tear off and replace existing roofing system associated with Phase 1 construction with a new EPDM Thermoset Single-ply Roofing system. Provide new and additional wood blocking as required to accommodate additional roof insulation. We will reuse existing wood blocking found to be in good shape. Provide new sealants, copings, trim, reglets, gravel stops, expansion joint covers, pipe flashings, scuppers, flashings and counter.

6.0 WINDOW AND DOOR UPGRADES

- 6.1 Provide new lever latch sets including keying for only a very few select interior doors. Most of the existing door hardware will remain as is and not be replaced with Phase 1 construction. Provide new doors, frames and hardware at only the new door locations. The existing exterior FRP doors that were recently installed will be salvaged and reinstalled in new storefront. The existing door hardware will be salvaged and re-used as well.
- 6.2 Provide new aluminum non-operable windows, storefront and curtainwall for all exterior conditions in Phase 1.
- 6.3 Provide new flashing and new lintels at the windows which are located at the north end of the 2-story classroom wing. Note that not all windows in Phase 1 will receive new lintels and associated head flashings, we are only replacing those that at the one end of the building.
- 6.4 Modify existing marble and granite window sills as required for new windows. Provide new window sills where indicated.

- 7.0 MISCELLANEOUS REPAIRS / CODE COMPLIANCE
- 7.1 Provide up to 1000 square feet of exterior brick repointing. The intent is to provide minor repairs where needed on the building exterior. Pressure wash/clean the entire exterior of Phase 1 construction. Re-caulk vertical masonry control joints at the exterior of the building for Phase 1 construction.
- 7.2 Provide new structural steel and concrete slab on the metal deck for the new catwalk at the upper portion of the existing auxiliary gym to provide ADA accessibility to the Wrestling Room which will be located above the new natatorium Locker Rooms.
- 7.3 Provide new aluminum / glass railing at seating area of Natatorium.
- 7.4 Provide new lockers in the new Natatorium Locker Rooms on new 4” concrete bases.
- 7.5 Provide new 2-hour rated fire barrier to separate existing building into fire zones. Existing partitions in these locations will be extended up to the underside of existing metal decking. All penetrations and openings will be sealed in these locations.
- 7.6 Provide new ceramic wall and floor tile at new bathrooms and locker rooms where new fixtures will be installed.
- 7.7 Provide new interior signage at new doors and where required by code only. The existing door signage will remain as is.
- 7.8 Provide new shower and toilet partitions and urinal screens in new showers and bathrooms. Provide new mirrors in gang bathrooms. Reinstall existing toilet accessories when possible. Provide new electric hand dryers.
- 7.9 Provide new window treatments at all classroom windows in Phase 1 construction.
- 7.10 Some of the existing gym lockers and benches will be salvaged for reinstallation to new locations where indicated. Existing lockers will be installed on 2” x 4” or 2” x 6” wood bases.
- 7.11 Athletic Equipment
- 7.11.1 Provide 6 new basketball backstops with glass back boards.
- 7.11.2 Provide one new rolldown gym net at the center of the auxiliary gym.
- 7.11.3 Provide 2 new scoreboards at the competition gym and relocate those existing scoreboards to the auxiliary gym.
- 7.11.4 Provide new shot clocks where indicated.
- 7.11.5 Provide new wall mats at both the auxiliary gym and competition gym.
- 7.11.6 Provide new volleyball floor inserts at auxiliary gymnasium.
- 7.11.7 Demolish some of the existing bleachers in the auxiliary gymnasium and salvage parts for reinstallation at the bleachers that are scheduled to remain.
- 7.11.8 New wrestling mats are to be furnished and installed by the Owner.

EXCLUSIONS:

- 1.0 We have not included any millwork or casework in Phase 1.
- 2.0 Most of the existing walls will remain as is and only get minor paint patching where MEP items have been removed from the walls.
- 3.0 Existing wood doors to remain as is and not be refinished or replaced until Phase 2.
- 4.0 Chalk boards will remain as is in Phase 1.
- 5.0 Existing hall lockers to remain as is. No repairs or repainting of those lockers is included with Phase 1 construction. This scope will be considered for inclusion in Phase 2.

Other Services Included in this Energy Project

- Energy analysis and engineering
- Commissioning of HVAC systems, the automatic temperature control system, and lighting control systems
- Project management and site supervision during construction
- Bonding/Warranty
- Savings guarantee
- Performance assurance services, including monitoring of energy performance, measurement and verification of savings, and periodic reporting
- Training of district staff on operation and maintenance of new equipment, the automatic temperature control system, and lighting control systems
- Fixed price contract
- No change orders unless initiated by customer

Pricing Process

Woodland Hills School District engaged Core Architects llc and Reynolds Consulting Engineers to develop plans and specifications for Phase 1. Reynolds Energy Services engaged many trade contractors to provide pricing on installing the outlined Scope of Work. The major contractors that were invited to join the construction team are listed below. We have vetted all the contractors to ensure they have the capacity to meet the project scope and schedule.

HVAC Upgrades: Lugaila; WAE Balancing, Inc.

Plumbing Upgrades: Interstate Fire Protection; Enders Plumbing Heating Company; Reynolds Brothers

Electrical Upgrades: Bob Biter Electrical Enterprises

ATC Upgrades: Automated Logic Corporation

Roofing Replacement: Pennsylvania Roofing Systems, Inc.

Window and Door Upgrades: Glass Erectors, Inc.; Franco Masonry

Misc. Repairs / Code Compliance: Sports Floors Inc; Nello Construction; RAM Acoustical Corp

Additional subcontractors to be determined.

Savings Summary

Implementation of this project is estimated to result in annual energy and water savings totaling \$93,529, representing a 21% decrease in utility costs. A maintenance savings of \$102,000 per year is also being realized in reduced maintenance costs ranging from lamp and ballast savings to window hardware replacement savings. A breakdown of the unit and cost savings by measure is provided in the following table:

TABLE: Annual Energy and Cost Savings

EEM	ELECTRIC			FUELS		WATER/SEWER		O&M	TOTAL
	kWh	kW	\$	Mcf	\$	kgal	\$	\$	\$
1 HVAC Upgrades	(97,737)	169	\$ (3,939)	1,680	\$ 9,139	-	\$ -	\$ 12,000	\$ 17,200
2 Plumbing Upgrades	-	-	\$ -	1,680	\$ 9,139	3,213	\$ 52,831	\$ 25,000	\$ 86,969
3 Electrical Upgrades	117,284	337	\$ 10,356	-	\$ -	-	\$ -	\$ 5,000	\$ 15,356
4 ATC Upgrades	78,189	112	\$ 5,731	672	\$ 3,656	-	\$ -	\$ 25,000	\$ 34,387
5 Roofing Replacement	-	-	\$ -	336	\$ 1,828	-	\$ -	\$ 25,000	\$ 26,828
6 Window and Door Upgrades	58,642	-	\$ 3,419	252	\$ 1,371	-	\$ -	\$ 10,000	\$ 14,790
7 Misc. Repairs / Code Compliance	-	-	\$ -	-	\$ -	-	\$ -	\$ -	\$ -
TOTAL	156,379	618	\$ 15,567	4,619	\$ 25,132	3,213	\$ 52,831	\$ 102,000	\$ 195,529

Financial Summary

The following table shows the financial overview for the project in terms of estimated construction cost, resource, and operational savings. Resource savings are the total of all savings associated with utilities (e.g., electric, natural gas, water/sewer). Operational savings primarily include the maintenance costs avoided due to equipment being replaced or altogether removed.

Woodland Hills Jr-Sr High School Phase 1				
Energy Project Financial Overview				
EEM #	EEM Name	EEM Construction Cost	Annual Resource Savings	Annual Operational Savings (1)
Woodland Hills Jr-Sr High School				
1	HVAC Upgrades	\$ 9,233,752	\$ 5,200	\$ 12,000
2	Plumbing Upgrades	\$ 4,390,897	\$ 61,969	\$ 25,000
3	Electrical Upgrades	\$ 4,312,503	\$ 10,356	\$ 5,000
4	ATC Upgrades	\$ 1,482,349	\$ 9,387	\$ 25,000
5	Roofing Replacement	\$ 2,048,317	\$ 1,828	\$ 25,000
6	Window and Door Upgrades	\$ 1,971,438	\$ 4,790	\$ 10,000
7	Misc. Repairs / Code Compliance	\$ 355,439	\$ -	\$ -
Building Totals		\$ 23,794,695	\$ 93,529	\$ 102,000

Projected Cash Flow

A cash flow analysis is provided in the following table based on the current project costs and savings estimates. The cash flow assumes a 20-year term.

SCHEDULE B Cash Flow Analysis

Financed Project Cost (1): \$23,794,695
 Finance Term (years): 20
 Annualized Interest Rate: 3.750%
Accrued Construction Interest: \$ (0)

Escalation Rates by Utility & Fuel
 Electric: 3.0%
 Natural Gas: 3.0%
 Fuel Oil: 3.0%
 Water: 3.0%
 Other: 3.0%
 Operational: 3.0%
 Escalation Rates for Annual Fees: 2.5%

WOODLAND HILLS JR-SR HIGH SCHOOL PHASE 1 Guaranteed Energy Savings Contract

Year	Electric Cost Savings	Natural Gas Cost Savings	Water Cost Savings	Operational Cost Savings	Total Cost Savings	Guaranteed Savings	Avoided Capital Savings	Annual M&V Fees	Financing Payment	Net Savings	Cumulative Savings
1	\$ 15,567	\$ 25,132	\$ 52,831	\$ 102,000	\$ 195,529	\$ 191,459	\$ 1,501,452	\$ (17,266)	\$ (1,692,912)	\$ -	\$ -
2	\$ 16,034	\$ 25,886	\$ 54,416	\$ 105,060	\$ 201,395	\$ 197,203	\$ 1,511,351	\$ (15,642)	\$ (1,692,912)	\$ -	\$ -
3	\$ 16,515	\$ 26,662	\$ 56,048	\$ 108,212	\$ 207,437	\$ 203,119	\$ 1,505,826	\$ (16,033)	\$ (1,692,912)	\$ -	\$ -
4	\$ 17,010	\$ 27,462	\$ 57,730	\$ 111,458	\$ 213,660	\$ 209,213	\$ 1,500,133	\$ (16,434)	\$ (1,692,912)	\$ -	\$ -
5	\$ 17,521	\$ 28,286	\$ 59,461	\$ 114,802	\$ 220,070	\$ 215,489	\$ 1,494,268	\$ (16,845)	\$ (1,692,912)	\$ -	\$ -
6	\$ 18,046	\$ 29,135	\$ 61,245	\$ 118,246	\$ 226,672	\$ 221,954	\$ 1,488,224	\$ (17,266)	\$ (1,692,912)	\$ -	\$ -
7	\$ 18,588	\$ 30,009	\$ 63,083	\$ 121,793	\$ 233,472	\$ 228,612	\$ 1,481,997	\$ (17,698)	\$ (1,692,912)	\$ -	\$ -
8	\$ 19,145	\$ 30,909	\$ 64,975	\$ 125,447	\$ 240,476	\$ 235,471	\$ 1,475,581	\$ (18,140)	\$ (1,692,912)	\$ -	\$ -
9	\$ 19,720	\$ 31,836	\$ 66,924	\$ 129,211	\$ 247,691	\$ 242,535	\$ 1,468,970	\$ (18,594)	\$ (1,692,912)	\$ -	\$ -
10	\$ 20,311	\$ 32,791	\$ 68,932	\$ 133,087	\$ 255,121	\$ 249,811	\$ 1,462,159	\$ (19,059)	\$ (1,692,912)	\$ -	\$ -
11	\$ 20,921	\$ 33,775	\$ 71,000	\$ 137,070	\$ 263,766	\$ 258,235	\$ 1,455,581	\$ (19,535)	\$ (1,692,912)	\$ -	\$ -
12	\$ 21,548	\$ 34,788	\$ 73,130	\$ 141,163	\$ 272,529	\$ 266,868	\$ 1,448,209	\$ (20,024)	\$ (1,692,912)	\$ -	\$ -
13	\$ 22,195	\$ 35,832	\$ 75,324	\$ 145,363	\$ 281,614	\$ 275,727	\$ 1,440,232	\$ (20,524)	\$ (1,692,912)	\$ -	\$ -
14	\$ 22,860	\$ 36,907	\$ 77,584	\$ 149,668	\$ 291,039	\$ 284,717	\$ 1,431,846	\$ (21,037)	\$ (1,692,912)	\$ -	\$ -
15	\$ 23,546	\$ 38,014	\$ 79,911	\$ 154,079	\$ 299,540	\$ 293,856	\$ 1,422,946	\$ (21,563)	\$ (1,692,912)	\$ -	\$ -
16	\$ 24,253	\$ 39,154	\$ 82,308	\$ 158,596	\$ 308,257	\$ 303,143	\$ 1,413,618	\$ (22,102)	\$ (1,692,912)	\$ -	\$ -
17	\$ 24,980	\$ 40,329	\$ 84,778	\$ 163,221	\$ 317,307	\$ 312,576	\$ 1,403,846	\$ (22,655)	\$ (1,692,912)	\$ -	\$ -
18	\$ 25,730	\$ 41,539	\$ 87,321	\$ 167,944	\$ 326,934	\$ 322,158	\$ 1,393,618	\$ (23,221)	\$ (1,692,912)	\$ -	\$ -
19	\$ 26,502	\$ 42,785	\$ 89,941	\$ 172,717	\$ 336,945	\$ 327,983	\$ 1,382,946	\$ (23,802)	\$ (1,692,912)	\$ -	\$ -
20	\$ 27,297	\$ 44,069	\$ 92,639	\$ 177,546	\$ 347,551	\$ 334,076	\$ 1,371,824	\$ (24,397)	\$ (1,692,912)	\$ -	\$ -
TOTAL	\$ 418,287	\$ 675,298	\$ 1,419,580	\$ 2,136,990	\$ 4,650,155	\$ 4,540,796	\$ 29,692,007	\$ (374,571)	\$ (33,858,232)	\$ -	\$ -

- NOTES:**
1. Financed Project Cost reflects the guaranteed fixed price of the scope executed under the Guaranteed Energy Savings Agreement, including the first year of measurement and verification of savings.
 2. Avoided Capital Savings includes the amortized annual cost of capital equipment replacement or repairs that would be realized by the Owner within the lifetime of the Energy Project, but will instead be completed and financed through the Energy Project. Savings include the total costs for all design, bidding, bonding, permitting, equipment and installation labor required to complete the work.
 3. Estimated payment from Duquesne Light Act 129 rebate programs based on information published by Duquesne Light and applied to this project. Rebates are not included in the cash flow.

