

ATTACHMENT A

SCOPE OF WORK

CTS has completed the initial design services and solicited pricing from contracting trades for the projects included within the Scope of Work below.

CTS will provide final AS-Built drawings and facilitate all Occupancy Permits which require stamped documents by an engineer or architect registered in State of Illinois.

The Scope of Work will be installed in a neat and workmanlike manner in accordance with local codes and ASHRAE standards.

General Requirements:

CTS will meet the Village intention to have a complete turnkey installation. The bond provided for the construction of the project only covers the performance of materials and workmanship for the completion of said construction work, not the energy guarantee. As-built drawings and O&M manuals will be prepared and submitted before final payment. CTS will provide Owner Training on systems installed.

Lighting Upgrades

Scope of Services to include the following:

CTS has included replacement of the T-12 lighting with T-8 fluorescent fixtures in all facilities listed below to improve lighting levels, reduce energy consumption and reduce maintenance costs throughout the Village

- Village Hall
- Civic Center
- Recreation Center

See the attached table identifying the lighting being replaced in each facility listed above. Note: We have identified all of the areas outside of the T-12 lighting fixtures that are not being replaced by indicating a "0" under the Quantity column.

SYSTEM INFORMATION				EXISTING SYSTEM					PROPOSED SYSTEM							SAVINGS		
REL. #	BUILDING	LOCATION	EXISTING EQUIPMENT	QTY	WATTS EACH	TOTAL KW	OP HOUR	TOTAL kWh	WATTS EACH	TOTAL KW	OP HOUR	TOTAL kWh	SERIAL QTY	CONTR. DESCRIPTION	OFF %	SENS. kWh SAVINGS	kWh Reduced	1975-01-01
1	Exc Building	Recreation Building, Room 1101 - Classroom	Refrigerator Model 1 x 41, 40-5000 BTU, 120V, 60Hz, 1500W, 120/277V, 50/60Hz, 1500W, 120/277V	2	148	1.184	2700	42000	43	0.344	2700	42000	0		0%	0	0.840	1.840
2	Exc Building	Recreation Building, Room 1102 - Classroom (Emergency)	Refrigerator Model 1 x 41, 40-5000 BTU, 120V, 60Hz, 1500W, 120/277V, 50/60Hz, 1500W, 120/277V	1	148	0.248	2700	12756	43	0.045	2700	12756	0		0%	0	0.105	320
3	Exc Building	Recreation Building, Room 1103 - Classroom	Refrigerator Model 1 x 41, 40-5000 BTU, 120V, 60Hz, 1500W, 120/277V, 50/60Hz, 1500W, 120/277V	4	148	0.592	4200	49032	43	0.172	4200	49032	0		0%	0	0.410	1.000
4	Exc Building	Recreation Building, Room 1104 - Classroom	Refrigerator Model 1 x 41, 40-5000 BTU, 120V, 60Hz, 1500W, 120/277V, 50/60Hz, 1500W, 120/277V	2	148	0.296	4200	24624	43	0.090	4200	24624	0		0%	0	0.210	1.840
5	Exc Building	Recreation Building, Room 1105 - Classroom	Refrigerator Model 1 x 41, 40-5000 BTU, 120V, 60Hz, 1500W, 120/277V, 50/60Hz, 1500W, 120/277V	1	148	0.248	4200	24624	43	0.045	4200	24624	0		0%	0	0.105	320
6	Exc Building	Recreation Building, Room 1106 - Classroom	Refrigerator Model 1 x 41, 40-5000 BTU, 120V, 60Hz, 1500W, 120/277V, 50/60Hz, 1500W, 120/277V	1	148	0.248	4200	24624	43	0.045	4200	24624	0		0%	0	0.105	320
7	Exc Building	Recreation Building, Room 1107 - Classroom	Refrigerator Model 1 x 41, 40-5000 BTU, 120V, 60Hz, 1500W, 120/277V, 50/60Hz, 1500W, 120/277V	2	148	0.248	4200	24624	43	0.045	4200	24624	0		0%	0	0.105	320
8	Exc Building	Recreation Building, Room 1108 - Classroom	Refrigerator Model 1 x 41, 40-5000 BTU, 120V, 60Hz, 1500W, 120/277V, 50/60Hz, 1500W, 120/277V	2	148	0.248	4200	24624	43	0.045	4200	24624	0		0%	0	0.105	320
9	Exc Building	Recreation Building, Room 1109 - Classroom	Refrigerator Model 1 x 41, 40-5000 BTU, 120V, 60Hz, 1500W, 120/277V, 50/60Hz, 1500W, 120/277V	1	148	0.248	4200	24624	43	0.045	4200	24624	0		0%	0	0.105	320

SYSTEM INFORMATION					EXISTING SYSTEM				PROPOSED SYSTEM								SAVINGS		
Ref. #	BUILDING	LOCATION	EXISTING FIXTURE	QTY	NEW FIXTURE/RETROFIT	WATTS EACH	TOTAL kW	OP HOUR	TOTAL kWh	WATTS EACH	TOTAL kW	OP HOUR	TOTAL kWh	SEN. QTY	CONTROL DESCRIPTION	OFF %	SENS. kWh SAVINGS	kWh Reduced	kWh Reduced
19	Rec. Building	Recreation Building, Room 1115 - Women's Locker Room	Grid Tuffen, 2' x 4', 2x F34T12, (24W), Avg 75 Ballast, 120/277V, Fluorescent Lens	8	RETRO. FLUORESCENT, 40W, LP BALLAST, 2X 4" TUBE, WHITE, 180000000, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	74	0.444	4705	2131.854	81	0.152	4806	1129.548	0		0%	0	0.188	894
20	Rec. Building	Recreation Building, Room 1115 - Women's Locker Room	Grid Tuffen, 2' x 4', 2x F34T12, (24W), Avg 75 Ballast, 120/277V, Fluorescent Lens, Emergency Turret	1	RETRO. FLUORESCENT, 40W, LP BALLAST, 2X 4" TUBE, WHITE, 180000000, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	74	0.022	8700	1334.72	81	0.129	3720	1110.54	0		0%	0	0.032	215
21	Rec. Building	Recreation Building, Room 1115 - Women's Locker Room	Shp. Fixture or Spare Part included in Project	4	Shp. Not included in project	0	0.000	0	0	0	0.000	0	0	0		0%	0	0.000	0
22	Rec. Building	Recreation Building, Room 1115 - Women's Locker Room	Shp. Fixture or Spare Part included in Project	2	RETRO. FLUORESCENT, 40W, LP BALLAST, 2X 4" TUBE, WHITE, 180000000, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	74	0.148	4806	711.288	81	0.086	4806	423.735	0		0%	0	0.062	298
23	Rec. Building	Recreation Building, Room 1115 - Women's Locker Room	Shp. Fixture or Spare Part included in Project	1	RETRO. FLUORESCENT, 40W, LP BALLAST, 2X 4" TUBE, WHITE, 180000000, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	68	0.207	4806	991.602	81	0.120	4806	579.72	0		0%	0	0.087	418
24	Rec. Building	Recreation Building, Room 1114 - Women's Locker Room Storage	Industrial Hooded Fixture, 1' x 4', 2x F34T12, (24W), Avg 75 Ballast, 120/277V	1	RETRO. FLUORESCENT, 40W, LP BALLAST, 2X 4" TUBE, WHITE, 180000000, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	74	0.074	780	17.72	81	0.041	780	33.54	0		0%	0	0.033	24
25	Rec. Building	Recreation Building, Room 1112 - Men's Locker Room	Grid Tuffen, 2' x 4', 2x F34T12, (24W), Avg 75 Ballast, 120/277V, Fluorescent Lens	5	RETRO. FLUORESCENT, 40W, LP BALLAST, 2X 4" TUBE, WHITE, 180000000, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	74	0.170	4806	1776.22	81	0.215	4806	1813.23	0		0%	0	0.175	765
26	Rec. Building	Recreation Building, Room 1112 - Men's Locker Room	Grid Tuffen, 2' x 4', 2x F34T12, (24W), Avg 75 Ballast, 120/277V, Fluorescent Lens, Emergency Turret	1	RETRO. FLUORESCENT, 40W, LP BALLAST, 2X 4" TUBE, WHITE, 180000000, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	74	0.023	8700	1941.72	81	0.129	3720	1110.54	0		0%	0	0.023	215
27	Rec. Building	Recreation Building, Room 1112 - Men's Locker Room	Shp. Fixture or Spare Part included in Project	4	Shp. Not included in project	0	0.000	0	0	0	0.000	0	0	0		0%	0	0.000	0

SYSTEM INFORMATION				EXISTING SYSTEM				PROPOSED SYSTEM						SAVINGS					
Ref. #	BUILDING	LOCATION	EXISTING FEATURE	QTY	NEW FEATURE/REMARK	WATTS EACH	TOTAL KW	CP HOUR	TOTAL KWH	WATTS EACH	TOTAL KW	OF HOUR	TOTAL KWH	SEN. QTY	CONTROL DESCRIPTION	OFF %	SENS. KWH SAVINGS	KW Reduced	W% Reduced
22	Rec. Building	Recreation Building, Room L112 - Men's Locker Room	See Spec. Table 1, p. 24 F54712, 300W, 1000H Bulb, 120V/277V	1	RETN. FLUORESCENT, 430W, LP BALLAST, 28' x 4' TUBE WHITE, 3000000000, 3000000000, 3000000000 Bulb, 120V/277V	74	711.308	4800	3415.8	43	5086	4800	412.116	0		0%	0	0.003	218
23	Rec. Building	Recreation Building, Room L113 - Men's Locker Room	See Spec. Table 1, p. 24 F54712, 300W, 1000H Bulb, 120V/277V	1	RETN. FLUORESCENT, 430W, LP BALLAST, 28' x 4' TUBE WHITE, 3000000000, 3000000000, 3000000000 Bulb, 120V/277V	60	596.842	4800	2864.6	42	5086	4800	378.71	0		0%	0	0.003	422
24	Rec. Building	Recreation Building, Room L114 - Men's Locker Room	See Spec. Table 1, p. 24 F54712, 300W, 1000H Bulb, 120V/277V	1	RETN. FLUORESCENT, 430W, LP BALLAST, 28' x 4' TUBE WHITE, 3000000000, 3000000000, 3000000000 Bulb, 120V/277V	74	63.71	3600	229.356	43	5086	3600	13.54	0		0%	0	0.003	24
25	Rec. Building	Recreation Building, Room L115 - Men's Locker Room	See Spec. Table 1, p. 24 F54712, 300W, 1000H Bulb, 120V/277V	1	RETN. FLUORESCENT, 430W, LP BALLAST, 28' x 4' TUBE WHITE, 3000000000, 3000000000, 3000000000 Bulb, 120V/277V	74	355.624	3600	1282.248	42	5086	3600	308.638	0		0%	0	0.003	340
26	Rec. Building	Recreation Building, Room L116 - Men's Locker Room	See Spec. Table 1, p. 24 F54712, 300W, 1000H Bulb, 120V/277V	1	RETN. FLUORESCENT, 430W, LP BALLAST, 28' x 4' TUBE WHITE, 3000000000, 3000000000, 3000000000 Bulb, 120V/277V	74	173.16	3600	623.376	43	5086	3600	13.54	0		0%	0	0.003	48
27	Rec. Building	Recreation Building, Room L117 - Men's Locker Room	See Spec. Table 1, p. 24 F54712, 300W, 1000H Bulb, 120V/277V	1	RETN. FLUORESCENT, 430W, LP BALLAST, 28' x 4' TUBE WHITE, 3000000000, 3000000000, 3000000000 Bulb, 120V/277V	74	173.16	3600	623.376	43	5086	3600	13.54	0		0%	0	0.003	71
28	Rec. Building	Recreation Building, Room L118 - Men's Locker Room	See Spec. Table 1, p. 24 F54712, 300W, 1000H Bulb, 120V/277V	1	RETN. FLUORESCENT, 430W, LP BALLAST, 28' x 4' TUBE WHITE, 3000000000, 3000000000, 3000000000 Bulb, 120V/277V	74	711.308	4800	3415.8	43	5086	4800	412.116	0		0%	0	0.003	278
29	Rec. Building	Recreation Building, Room L119 - Men's Locker Room	See Spec. Table 1, p. 24 F54712, 300W, 1000H Bulb, 120V/277V	1	RETN. FLUORESCENT, 430W, LP BALLAST, 28' x 4' TUBE WHITE, 3000000000, 3000000000, 3000000000 Bulb, 120V/277V	74	155.168	4800	744.806	43	5086	4800	308.638	0		0%	0	0.003	218
30	Rec. Building	Recreation Building, Room L120 - Men's Locker Room	See Spec. Table 1, p. 24 F54712, 300W, 1000H Bulb, 120V/277V	4	RETN. FLUORESCENT, 430W, LP BALLAST, 28' x 4' TUBE WHITE, 3000000000, 3000000000, 3000000000 Bulb, 120V/277V	74	1442.576	4800	6923.172	43	5086	4800	412.116	0		0%	0	0.003	844

SYSTEM INFORMATION					EXISTING SYSTEM				PROPOSED SYSTEM								SAVINGS			
				QTY																
REF. #	BUILDING	LOCATION	EXISTING FIXTURE	QTY	NEW FIXTURE/RETROFIT	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	SEN. QTY	CONTROL DESCRIPTION	OFF %	SENS. KWH SAVINGS	\$/yr Reduced	kWh Reduced	
55	Rec. Building	Recreation Building, Room 107 - Women's Restroom	Recl. Troffer, 2' x 4', 2x F34T12, (1440), Mag ES Ballast, 120/277V, Promote Lens, Emergency Ballast	1	RETRO. FLUORESCENT, 40W, LP BALLAST, 2x 4' TUBE, WHITE, 340 DEGREE, 4000K, 120-277V, 20000 HOUR RATED LIFE, 5-YEAR WARRANTY	74	0.074	8760	648.14	43	0.043	8760	376.38	1	Tied in with sensor on another line	30%	111.004	\$ 0.01	18%	
56	Rec. Building	Recreation Building, Room 108 - Men's Restroom	Recl. Troffer, 2' x 4', 2x F34T12, 1440, Mag ES Ballast, 120/277V	1	RETRO. FLUORESCENT, 40W, LP BALLAST, 2x 4' TUBE, WHITE, 340 DEGREE, 4000K, 120-277V, 20000 HOUR RATED LIFE, 5-YEAR WARRANTY	74	0.223	4800	1050.962	43	0.129	4800	615.474	1	Existing Mount, Patched Infrared, Standard Range, 2-15' Sngl. Mtg, 10-20' Radial Coverage, Line Voltage 120/277V	30%	185.9402	\$ 0.01	63%	
57	Rec. Building	Recreation Building, Room 108 - Men's Restroom	Recl. Troffer, 2' x 4', 2x F34T12, (1440), Mag ES Ballast, 120/277V, Promote Lens, Emergency Ballast	1	RETRO. FLUORESCENT, 40W, LP BALLAST, 2x 4' TUBE, WHITE, 340 DEGREE, 4000K, 120-277V, 20000 HOUR RATED LIFE, 5-YEAR WARRANTY	74	0.074	8760	648.14	43	0.043	8760	376.38	1	Tied in with sensor on another line	30%	111.004	\$ 0.01	18%	
58	Rec. Building	Recreation Building, Room 105 - Classroom	Recl. Troffer, 2' x 4', 2x F34T12, (1440), Mag ES Ballast, 120/277V, Promote Lens	8	RETRO. FLUORESCENT, 40W, LP BALLAST, 2x 4' TUBE, WHITE, 340 DEGREE, 4000K, 120-277V, 20000 HOUR RATED LIFE, 5-YEAR WARRANTY	118	0.348	3760	3697.52	43	0.348	3760	1274.32	0		0%	0	\$ 0.00	1.223	
59	Rec. Building	Recreation Building, Room 105 - Classroom	Recl. Troffer, 2' x 4', 2x F34T12, (1440), Mag ES Ballast, 120/277V, Promote Lens, Emergency Ballast	1	RETRO. FLUORESCENT, 40W, LP BALLAST, 2x 4' TUBE, WHITE, 340 DEGREE, 4000K, 120-277V, 20000 HOUR RATED LIFE, 5-YEAR WARRANTY	118	0.118	8760	1033.62	43	0.045	8760	376.38	1		0%	0	\$ 0.00	657	
60	Rec. Building	Recreation Building, Room 105 - Classroom	Recl. Troffer, 2' x 4', 2x F34T12, 1440, Mag ES Ballast, 120/277V	1	RETRO. FLUORESCENT, 40W, LP BALLAST, 2x 4' TUBE, WHITE, 340 DEGREE, 4000K, 120-277V, 20000 HOUR RATED LIFE, 5-YEAR WARRANTY	74	0.148	3760	548.54	43	0.080	3760	518.63	0		0%	0	\$ 0.02	110	
61	Rec. Building	Recreation Building, Room 105 - Classroom	Site, Fixture or Space Not Included in Project	1	SMP, Not included in project	0	0.000	1	0	0	0.000	1	0	0		0%	0	\$ 0.00	0	
62	Rec. Building	Recreation Building, Room 102 - Classroom	Recl. Troffer, 2' x 4', 2x F34T12, (1440), Mag ES Ballast, 120/277V, Promote Lens	8	RETRO. FLUORESCENT, 40W, LP BALLAST, 2x 4' TUBE, WHITE, 340 DEGREE, 4000K, 120-277V, 20000 HOUR RATED LIFE, 5-YEAR WARRANTY	118	0.044	3760	3697.52	43	0.134	3760	1274.32	0		0%	0	\$ 0.00	1.221	
63	Rec. Building	Recreation Building, Room 102 - Classroom	Recl. Troffer, 2' x 4', 2x F34T12, (1440), Mag ES Ballast, 120/277V, Promote Lens, Emergency Ballast	1	RETRO. FLUORESCENT, 40W, LP BALLAST, 2x 4' TUBE, WHITE, 340 DEGREE, 4000K, 120-277V, 20000 HOUR RATED LIFE, 5-YEAR WARRANTY	118	0.118	8760	1033.62	43	0.045	8760	376.38	0		0%	0	\$ 0.00	657	

SYSTEM INFORMATION					EXISTING SYSTEM				PROPOSED SYSTEM								SAVINGS		
Ref. #	BUILDING	LOCATION	EXISTING FIXTURE	QTY	NEW FIXTURE/RETROFIT	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	SEN. QTY	CONTROL DESCRIPTION	OPT. %	SENS. KWH SAVINGS	KWH Reduced	KWH Reduced
64	Rec. Building	Recreation Building, Room 102 - Classroom	Shw. Fixtures or Space Not Included in Project	1	DLP, Not Included in Project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
65	Rec. Building	Recreation Building, Playroom - Indoor Playground	Grid Troffer, 2' x 4', 3x F34T12, (34W), Avg 15 Ballast, 320/277V, Fluorescent Lens	1	RETRO, FLUORESCENT, 40W, LP BALLAST, 2x 4' TUBE, WHITE, SEDDEDENCE, 8000K, 320-277V, 32000 HOUR RATED LIFE, 5 YEAR WARRANTY	138	0.344	4800	4513.60	43	0.344	4800	1571.20	0		0%	0	0.070	2.234
66	Rec. Building	Recreation Building, Playroom - Indoor Playground	Grid Troffer, 2' x 4', 3x F34T12, (34W), Avg 15 Ballast, 320/277V, Fluorescent Lens, Emergency Ballast	1	RETRO, FLUORESCENT, 40W, LP BALLAST, 2x 4' TUBE, WHITE, SEDDEDENCE, 8000K, 320-277V, 32000 HOUR RATED LIFE, 5 YEAR WARRANTY	138	0.338	8700	1033.68	43	0.342	8700	339.08	0		0%	0	0.075	957
67	Rec. Building	Recreation Building, Room 120 - Classroom	Grid Troffer, 2' x 4', 3x F34T12, (34W), Avg 15 Ballast, 320/277V, Fluorescent Lens	1	RETRO, FLUORESCENT, 40W, LP BALLAST, 2x 4' TUBE, WHITE, SEDDEDENCE, 8000K, 320-277V, 32000 HOUR RATED LIFE, 5 YEAR WARRANTY	138	0.344	3705	3473.52	43	0.344	3705	1274.52	0		0%	0	0.000	3.223
68	Rec. Building	Recreation Building, Room 134 - Classroom	Grid Troffer, 2' x 4', 3x F34T12, (34W), Avg 15 Ballast, 320/277V, Fluorescent Lens, Emergency Ballast	1	RETRO, FLUORESCENT, 40W, LP BALLAST, 2x 4' TUBE, WHITE, SEDDEDENCE, 8000K, 320-277V, 32000 HOUR RATED LIFE, 5 YEAR WARRANTY	138	0.338	8700	1033.68	43	0.342	8700	339.08	0		0%	0	0.075	957
69	Rec. Building	Recreation Building, Room 134 - Classroom	Shw. Fixtures or Space Not Included in Project	2	DLP, Not Included in Project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
70	Rec. Building	Recreation Building, Room 134 - Classroom	Shw. Fixtures or Space Not Included in Project	2	DLP, Not Included in Project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
71	Rec. Building	Recreation Building, Room 137 - Classroom	Grid Troffer, 2' x 4', 3x F34T12, (34W), Avg 15 Ballast, 320/277V, Fluorescent Lens	1	RETRO, FLUORESCENT, 40W, LP BALLAST, 2x 4' TUBE, WHITE, SEDDEDENCE, 8000K, 320-277V, 32000 HOUR RATED LIFE, 5 YEAR WARRANTY	138	0.344	3705	3473.52	43	0.344	3705	1274.52	0		0%	0	0.000	3.223
72	Rec. Building	Recreation Building, Room 137 - Classroom	Grid Troffer, 2' x 4', 3x F34T12, (34W), Avg 15 Ballast, 320/277V, Fluorescent Lens, Emergency Ballast	1	RETRO, FLUORESCENT, 40W, LP BALLAST, 2x 4' TUBE, WHITE, SEDDEDENCE, 8000K, 320-277V, 32000 HOUR RATED LIFE, 5 YEAR WARRANTY	138	0.338	8700	1033.68	43	0.342	8700	339.08	0		0%	0	0.075	957

SYSTEM INFORMATION					EXISTING SYSTEM				PROPOSED SYSTEM								SAVINGS		
Ref. #	BUILDING	LOCATION	EXISTING FIXTURE	QTY	NEW FIXTURE/RETROFIT	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	SENQ QTY	CONTROL DESCRIPTION	OFF %	SENS. KWH SAVINGS	KW Reduced	KWH Reduced
73	Rec. Building	Recreation Building, Room 117 - Classroom	Qty. Measure or Space Not Included in Project	1	SAP, Not Included in Project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
74	Rec. Building	Recreation Building, Room 102 - Lobby	Qty. Measure or Space Not Included in Project	1	SAP, Not Included in Project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
75	Rec. Building	Recreation Building, Room 101 - Lobby (East Ventrals)	Qty. Measure or Space Not Included in Project	1	SAP, Not Included in Project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
76	Rec. Building	Recreation Building, Room 103 - Lobby	Strip Fluores. 1' x 4', 2x F40T12/HO, HQL, Mag Ball Ballast, 120/277V	24	RETRO. FLUORESCENT, 12W, STANDARD OPER. 2x 4' T5 TUBE, WHITE, 180 DEGREE, 4000K, 120-277V, 10000 HOUR RATED LFL, 3-YEAR WARRANTY	240	5.436	4006	16609.346	120	2.700	4006	12936.624	0		0%	0	0.936	4.051
77	Rec. Building	Recreation Building, West End - Classrooms	Qty. Measure or Space Not Included in Project	30	SAP, Not Included in Project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
78	Rec. Building	Recreation Building, West End - Classrooms	Grid Troffer, 2' x 2', 2x F34T12, UFLUOREND 134W, Mag Ball Ballast, 120/277V, Prismatic Lens	30	RETRO. FLUORESCENT, 34W, UFLUOREND, 2x 2' TUBE, THINCEX RECTANGULAR, WHITE REFLECTOR, 350 DEGREE, 4000K, 120-277V, 20000 HOUR RATED LIFE, 3-YEAR WARRANTY	34	2.220	3705	8225.1	34	1.020	3705	3779.1	0		0%	0	1.200	4.435
79	Rec. Building	Recreation Building, West End - Classrooms	Qty. Measure or Space Not Included in Project	30	SAP, Not Included in Project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
80	Rec. Building	Recreation Building, West End - Corridor	Qty. Measure or Space Not Included in Project	6	SAP, Not Included in Project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
81	Rec. Building	Recreation Building, West End - Corridor	Qty. Measure or Space Not Included in Project	2	SAP, Not Included in Project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0

SYSTEM INFORMATION					EXISTING SYSTEM				PROPOSED SYSTEM								SAVINGS			
				QTY			15.75h		10356.44		55.75h	8126.08	28184.07h	1h3			12833.6400	40.0%	10356.44h	
REF. #	BUILDING	LOCATION	EXISTING FIXTURE	QTY	NEW FIXTURE/RETROFIT	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	SEN. QTY	CONTROL DESCRIPTION	OFF %	SENS. KWH SAVINGS	KWH Reduced	KWH Reduced	
91	Rec. Building	Recreation Building, Outdoor	Shop, Future or Spare Not Included in Project	1	NA, Not Included in project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0	
92	Rec. Building	Recreation Building, Outdoor	Shop, Future or Spare Not Included in Project	5	NA, Not Included in project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0	
93	Rec. Building	Recreation Building, Lake Level Outdoor	Shop, Future or Spare Not Included in Project	21	NA, Not Included in project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0	
94	Civic Center	Civic Center, Room 109 - Exhibition Hall	Shop Shop Fixture, 1' x 4', 32W, 120V/12, 34W, Mag ES Ballast, 120/277V	50	RETRO, FLUORESCENT, 40W, 1' x 4' BALLAST, 3A 3 TUBE, WHITE, 340 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	40	0.650	2340	1614.0	40	0.400	2340	936	0		0%	0	0.240	979	
95	Civic Center	Civic Center, Room 109 - Exhibition Hall	Shop Shop Fixture, 1' x 4', 32W, 120V/12, 34W, Mag ES Ballast, 120/277V	20	RETRO, FLUORESCENT, 40W, 1' x 4' BALLAST, 3A 3 TUBE, WHITE, 340 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	40	0.400	2340	936.0	40	0.400	2340	936.0	0		0%	0	0.400	1.791	
96	Civic Center	Civic Center, Room 109 - Exhibition Hall (Corner)	Shop, Future or Spare Not Included in Project	52	NA, Not Included in project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0	
97	Civic Center	Civic Center, Room 109 - Electrical Closet	Industrial Hooped Fixture, 1' x 4', 24W/34W/12, 34W, Mag ES Ballast, 120/277V	1	RETRO, FLUORESCENT, 40W, 1' x 4' BALLAST, 3A 3 TUBE, WHITE, 340 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	40	0.074	2340	175.16	40	0.043	2340	106.02	0		0%	0	0.031	77	
98	Civic Center	Civic Center, Room 109 - Electrical Closet	Industrial Hooped Fixture, 1' x 4', 24W/34W/12, 34W, Mag ES Ballast, 120/277V, Emergency Ballast	1	RETRO, FLUORESCENT, 40W, 1' x 4' BALLAST, 3A 3 TUBE, WHITE, 340 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	40	0.076	8760	640.14	40	0.043	8760	370.68	0		0%	0	0.011	171	
99	Civic Center	Civic Center, Room 120 - Storage Closet	Industrial Hooped Fixture, 1' x 4', 24W/34W/12, 34W, Mag ES Ballast, 120/277V	2	RETRO, FLUORESCENT, 40W, 1' x 4' BALLAST, 3A 3 TUBE, WHITE, 340 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	40	0.148	780	115.40	40	0.088	780	67.08	0		0%	0	0.040	48	

SYSTEM INFORMATION					EXISTING SYSTEM				PROPOSED SYSTEM							SAVINGS			
Ref. #	BUILDING	LOCATION	EXISTING FIXTURE	QTY	NEW FIXTURE, RETROFIT	WATTS EACH	TOTAL KW	OP. HOUR	TOTAL KWH	WATTS EACH	TOTAL KW	OP. HOUR	TOTAL KWH	SEN. QTY	CONTROL DESCRIPTION	OFF %	SENS. KWH SAVINGS	KWH Reduced	KWH Reduced
127	Civic Center	Civic Center, Room 113 - Men's Restroom	Gen. Sig. Fixture, 1' x 4', 2x P54112, 90W Mag ES Ballast, 120/277V	2	RETRO. FLUORESCENT, 40W, 1' x 4' BALLAST, 2x 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5 YEAR WARRANTY	40	0.138	2340	322.92	40	0.080	2340	322.92	1	Tied in with sensor on another line	30%	55.15	0.098	15%
128	Civic Center	Civic Center, Room 116 - Women's Restroom	Circ. Troffer, 2' x 4', 2x P54112 (90W), Mag ES ES Ballast, 120/277V, Pressure Lens, Emergency Ballast	1	RETRO. FLUORESCENT, 40W, 1' x 4' BALLAST, 2x 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5 YEAR WARRANTY	28	0.079	8700	648.24	40	0.043	8700	306.60	1	Ceiling Mount, Pressure Lens, Standard Range, 4' x 4' Avg Hgt, 60-80' Flood Coverage, Low Voltage, 40' Coverage area, 120/277V	30%	113.004	0.071	25%
129	Civic Center	Civic Center, Room 116 - Women's Restroom	Gen. Sig. Fixture, 1' x 4', 2x P54112, 90W Mag ES Ballast, 120/277V	1	RETRO. FLUORESCENT, 40W, 1' x 4' BALLAST, 2x 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5 YEAR WARRANTY	78	0.221	2340	519.48	40	0.119	2340	301.86	1	Tied in with sensor on another line	30%	90.538	0.093	50%
130	Civic Center	Civic Center, Room 116 - Women's Restroom	Gen. Sig. Fixture, 1' x 4', 2x P54112, 90W Mag ES Ballast, 120/277V	2	RETRO. FLUORESCENT, 40W, 1' x 4' BALLAST, 2x 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5 YEAR WARRANTY	80	0.218	2340	322.92	40	0.080	2340	322.92	1	Tied in with sensor on another line	30%	54.18	0.098	15%
131	Civic Center	Civic Center - Addition, Meeting Room A	Circ. Troffer, 2' x 4', 2x P54112, Mag ES Ballast, 120/277V, Pressure Lens	20	RETRO. FLUORESCENT, 40W, 1' x 4' BALLAST, 2x 4' TUBE, TROFFER RETROFIT KIT, WHITE REFLECTOR, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5 YEAR WARRANTY	138	1.900	1340	626.4	40	0.060	2340	2012.4	1	Corner Mounted, Wide View, Parabolic Lens, Low Voltage, 40' Coverage area	40%	305.496	2.100	5.793
132	Civic Center	Civic Center - Addition, Meeting Room B	Circ. Troffer, 2' x 4', 2x P54112, Mag ES Ballast, 120/277V, Pressure Lens	20	RETRO. FLUORESCENT, 40W, 1' x 4' BALLAST, 2x 4' TUBE, TROFFER RETROFIT KIT, WHITE REFLECTOR, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5 YEAR WARRANTY	148	1.960	1340	945.6	40	0.060	2340	2012.4	1	Corner Mounted, Wide View, Parabolic Lens, Low Voltage, 40' Coverage area	40%	305.496	2.100	6.549
133	Civic Center	Civic Center - Addition, Storage Room	Gen. Sig. Fixture, 1' x 4', 2x P54112, 90W Mag ES Ballast, 120/277V	1	RETRO. FLUORESCENT, 40W, 1' x 4' BALLAST, 2x 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5 YEAR WARRANTY	148	0.226	780	230.88	85	0.172	780	134.10	0		0%	0	0.104	33
134	Civic Center	Civic Center - Addition, Corridor	Slp. Fixture or Space Not Included in Project	5	TRIP: Not included in project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
135	Civic Center	Civic Center - Addition, Men's Bathroom	Circ. Troffer, 2' x 4', 2x P54112, Mag ES Ballast, 120/277V, Pressure Lens	1	RETRO. FLUORESCENT, 40W, 1' x 4' BALLAST, 2x 4' TUBE, TROFFER RETROFIT KIT, WHITE REFLECTOR, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5 YEAR WARRANTY	148	0.148	2340	346.32	40	0.063	2340	160.62	0		0%	0	0.045	146

SYSTEM INFORMATION					EXISTING SYSTEM				PROPOSED SYSTEM								SAVINGS		
Ref. #	BUILDING	LOCATION	EXISTING FEATURE	QTY	NEW FEATURE/RETROFIT	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	SEN. QTY	CONTROL DESCRIPTION	OFF %	SENS. KWH SAVINGS	KWH Reduced	KWH Reduced
145	Civic Center	Civic Center, Outdoor	Shop. Fixture or Space Not Included in Project	1	S&P. Not Included in project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
146	Civic Center	Civic Center, Outdoor	Shop. Fixture or Space Not Included in Project	8	S&P. Not Included in project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
147	Civic Center	Civic Center, Outdoor	Shop. Fixture or Space Not Included in Project	5	S&P. Not Included in project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
148	Village Hall	Village Hall - L. Room L001 - File Storage	Industrial Hooded Fixture, 1' x 4', 2x8 FT12, 30W, Mag. ES Ballast, 120/277V	8	RETRO. FLUORESCENT, 43W, LP BALLAST, 2X 4" TUBE, WHITE, 350 DEGREE, 4000K, 120-277V, 25000-HOUR RATED LIFE, 3-YEAR WARRANTY	34	0.392	768	461.76	43	0.516	768	368.14	0		0%	0	0.248	153
149	Village Hall	Village Hall - L. Room L001 - File Storage	Industrial Hooded Fixture, 1' x 4', 2x8 FT12, 30W, Mag. ES Ballast, 120/277V, Emergency Ballast	1	RETRO. FLUORESCENT, 43W, LP BALLAST, 2X 4" TUBE, WHITE, 350 DEGREE, 4000K, 120-277V, 25000-HOUR RATED LIFE, 3-YEAR WARRANTY	74	0.222	8760	1944.72	43	0.516	8760	1170.04	0		0%	0	1.299	815
150	Village Hall	Village Hall - L. Room L001 - Lunch Room	Shop. Fixture or Space Not Included in Project	12	S&P. Not Included in project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
151	Village Hall	Village Hall - L. Room L001 - Lunch Room	Shop. Fixture or Space Not Included in Project	5	S&P. Not Included in project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
152	Village Hall	Village Hall - L. East Stairwell	Wet Mount Fixture, 1' x 6', 4x F10T12, 30W, Mag. ES Ballast, 120/277V	1	RETRO. FLUORESCENT, 80W, LP BALLAST, 4X 8" TUBE, WHITE, 350 DEGREE, 4000K, 120-277V, 25000-HOUR RATED LIFE, 3-YEAR WARRANTY	128	0.338	2340	272.32	80	0.090	2340	187.2	0		0%	0	0.058	110
153	Village Hall	Village Hall - L. East Stairwell	Wet Mount Fixture, 1' x 6', 4x F10T12, 30W, Mag. ES Ballast, 120/277V, Emergency Ballast	1	RETRO. FLUORESCENT, 80W, LP BALLAST, 4X 8" TUBE, WHITE, 350 DEGREE, 4000K, 120-277V, 25000-HOUR RATED LIFE, 3-YEAR WARRANTY	138	0.338	8760	1208.30	80	0.090	8760	700.8	0		0%	0	0.058	308

SYSTEM INFORMATION						EXISTING SYSTEM				PROPOSED SYSTEM							SAVINGS				
				TYPE			WATTS EACH	TOTAL kW	OF HOUR	TOTAL kWh		WATTS EACH	TOTAL kW	OF HOUR	TOTAL kWh	SEAL QTY	CONTROL DESCRIPTION	OFF %	SENS. kWh SAVINGS	kWh Reduced	kWh Reduced
Ref. #	BUILDING	LOCATION	EXISTING FIXTURE	QTY	NEW FIXTURE, RETROFIT																
154	Village Hall	Village Hall - L, Mechanical Room	Industrial Hooded Fixture, 1 x 4', 2x FS4T12, 340W, Mag ES Ballast, 120V/277V	5	RETRO, FLUORESCENT, 45W, LF BALLAST, 2X 4' TUBE WHITE, LED DRIVER, 4000K, 120-277V, 28000 HOURS RATED LIFE, 5 YEAR WARRANTY	74	0.170	2340	895.9	45	0.215	2340	563.1	0	0%	0	0%	0	0.155	363	
155	Village Hall	Village Hall - L, Mechanical Room	Industrial Hooded Fixture, 1 x 4', 2x FS4T12, 340W, Mag ES Ballast, 120V/277V, Emergency Ballast	1	RETRO, FLUORESCENT, 45W, LF BALLAST, 2X 4' TUBE WHITE, LED DRIVER, 4000K, 120-277V, 28000 HOURS RATED LIFE, 5 YEAR WARRANTY	74	0.070	8760	648.24	45	0.083	8760	176.55	0	0%	0	0%	0	0.031	272	
156	Village Hall	Village Hall - L, Electrical Closet	Industrial Hooded Fixture, 1 x 4', 2x FS4T12, 340W, Mag ES Ballast, 120V/277V	5	RETRO, FLUORESCENT, 45W, LF BALLAST, 2X 4' TUBE WHITE, LED DRIVER, 4000K, 120-277V, 28000 HOURS RATED LIFE, 5 YEAR WARRANTY	74	0.170	2340	895.9	45	0.215	2340	563.1	0	0%	0	0%	0	0.155	363	
157	Village Hall	Village Hall - L, Electrical Closet	Industrial Hooded Fixture, 1 x 4', 2x FS4T12, 340W, Mag ES Ballast, 120V/277V, Emergency Ballast	1	RETRO, FLUORESCENT, 45W, LF BALLAST, 2X 4' TUBE WHITE, LED DRIVER, 4000K, 120-277V, 28000 HOURS RATED LIFE, 5 YEAR WARRANTY	74	0.070	8760	648.24	45	0.083	8760	176.55	0	0%	0	0%	0	0.031	272	
158	Village Hall	Village Hall - L, Auditor Coset	Industrial Hooded Fixture, 1 x 4', 2x FS4T12, 340W, Mag ES Ballast, 120V/277V	1	RETRO, FLUORESCENT, 45W, LF BALLAST, 2X 4' TUBE WHITE, LED DRIVER, 4000K, 120-277V, 28000 HOURS RATED LIFE, 5 YEAR WARRANTY	74	0.070	2340	176.16	45	0.083	2340	106.67	0	0%	0	0%	0	0.031	71	
159	Village Hall	Village Hall - L, Room LOBB C	Industrial Hooded Fixture, 1 x 4', 2x FS4T12, 340W, Mag ES Ballast, 120V/277V	2	RETRO, FLUORESCENT, 45W, LF BALLAST, 2X 4' TUBE WHITE, LED DRIVER, 4000K, 120-277V, 28000 HOURS RATED LIFE, 5 YEAR WARRANTY	74	0.149	2340	146.32	45	0.086	2340	103.74	0	0%	0	0%	0	0.072	145	
160	Village Hall	Village Hall - L, Room E02D - Corridor	DHJ Troffer, 2' x 4', 2x FS4T12, (340W), Mag ES Ballast, 120V/277V, Fluorescent Sensor	9	RETRO, FLUORESCENT, 45W, LF BALLAST, 2X 4' TUBE WHITE, LED DRIVER, 4000K, 120-277V, 28000 HOURS RATED LIFE, 5 YEAR WARRANTY	74	0.066	2340	156.96	45	0.107	2340	505.59	0	0%	0	0%	0	0.279	651	
161	Village Hall	Village Hall - L, Room E02D - Corridor	DHJ Troffer, 2' x 4', 2x FS4T12, (340W), Mag ES Ballast, 120V/277V, Fluorescent Sensor, Emergency Ballast	8	RETRO, FLUORESCENT, 45W, LF BALLAST, 2X 4' TUBE WHITE, LED DRIVER, 4000K, 120-277V, 28000 HOURS RATED LIFE, 5 YEAR WARRANTY	74	0.192	8760	515.52	45	0.144	8760	202.44	0	0%	0	0%	0	0.248	2,173	
162	Village Hall	Village Hall - L, Room LOBB - Men's Restroom	DHJ Troffer, 2' x 4', 2x FS4T12, (340W), Mag ES Ballast, 120V/277V, Fluorescent Sensor, Emergency Ballast	1	RETRO, FLUORESCENT, 45W, LF BALLAST, 2X 4' TUBE WHITE, LED DRIVER, 4000K, 120-277V, 28000 HOURS RATED LIFE, 5 YEAR WARRANTY	74	0.070	8760	648.24	45	0.083	8760	176.55	1	Ceiling Mount, Passive infrared PIR Motion Range, 6-15' Meters, 10-20 Andri Coverage, Line Voltage 120V/277V	100%	112.00%	0.011	385		

SYSTEM INFORMATION					EXISTING SYSTEM				PROPOSED SYSTEM							SAVINGS			
Ref. #	BUILDING	LOCATION	EXISTING FIXTURE	QTY	NEW FIXTURE/METROFIT	WATTS EACH	TOTAL kW	OP HOUR	TOTAL kWh	WATTS EACH	TOTAL kW	OP HOUR	TOTAL kWh	SEN. QTY	CONTROL DESCRIPTION	OFF %	SENS. kWh SAVINGS	kWh Reduced	kWh Reduced
163	Village Hall	Village Hall - L, Room 1006 - Men's Restroom	8in Shop Fixture, 1' x 4', 14 F34T12, 34W, Mag ES Ballast, 120/277V	1	RETRO. FLUORESCENT, 41W, LP BALLAST, 26.4" TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	38	0.262	2340	528.48	32	0.224	2340	528.48	1	Tied in with sensor on another line	30%	90.548	0.650	308
164	Village Hall	Village Hall - L, Room 1006 - Men's Restroom	8in Shop Fixture, 1' x 3', 14 F30T12, 30W Mag ES Ballast, 120/277V	1	RETRO. FLUORESCENT, 40W, LP BALLAST, 26.4" TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	38	0.067	2340	161.45	40	0.040	2340	93.6	1	Tied in with sensor on another line	30%	23.08	0.629	56
165	Village Hall	Village Hall - L, Room 1008 - Women's Restroom	Grid Fixture, 2' x 4', 24 F34T12, 34W, Mag ES Ballast, 120/277V, Triac dimmer, Emergency Ballast	1	RETRO. FLUORESCENT 43W, LP BALLAST, 26.4" TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	70	0.093	8760	648.24	41	0.043	8760	376.48	1	Leaky Module, Dimmer Infrared, Standard Range, 9-35' Mag Hgt, 120-240' Radial Coverage, Line Voltage, 120/277V	30%	114.634	0.431	389
166	Village Hall	Village Hall - L, Room 1009 - Women's Restroom	8in Shop Fixture, 1' x 4', 24 F34T12, 34W, Mag ES Ballast, 120/277V	3	RETRO. FLUORESCENT 41W, LP BALLAST, 26.4" TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	38	0.262	2340	528.48	45	0.125	2340	303.88	1	Tied in with sensor on another line	30%	70.558	0.600	203
167	Village Hall	Village Hall - L, Room 1009 - Women's Restroom	8in Shop Fixture, 1' x 3', 14 F30T12, 30W Mag ES Ballast, 120/277V	1	RETRO. FLUORESCENT, 30W, LP BALLAST, 26.4" TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	38	0.059	2340	161.45	40	0.040	2340	93.6	1	Tied in with sensor on another line	30%	23.08	0.629	56
168	Village Hall	Village Hall - L, West Stairwell	Wall Mount Fixture, 2' x 8', ac F30T12, 30W, Mag ES Ballast, 120/277V	1	RETRO. FLUORESCENT, 30W, LP BALLAST, 44.5" TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	338	0.239	2340	321.92	20	0.040	2340	187.2	0		0%	0	0.658	139
169	Village Hall	Village Hall - L, West Stairwell	Wall Mount Fixture, 2' x 6', ac F30T12, 30W, Mag ES Ballast, 120/277V, Emergency Ballast	1	RETRO. FLUORESCENT, 30W, LP BALLAST, 44.5" TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	338	0.238	8760	1208.88	20	0.081	8760	992.8	0		0%	0	0.258	309
170	Village Hall	Village Hall - L, West Storage Room (Unfinished Area)	Infrared Hooded Fixture, 2' x 4', 24 F34T12, 34W, Mag ES Ballast, 120/277V	10	RETRO. FLUORESCENT, 43W, LP BALLAST, 26.4" TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	74	1.322	738	3638.96	45	0.774	738	603.73	0		0%	0	0.558	453
171	Village Hall	Village Hall - L, West Storage Room (Unfinished Area)	Infrared Hooded Fixture, 2' x 4', 24 F34T12, 34W, Mag ES Ballast, 120/277V, Emergency Ballast	5	RETRO. FLUORESCENT 43W, LP BALLAST, 26.4" TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3-YEAR WARRANTY	74	0.170	8760	3243.2	45	0.225	8760	1883.4	0		0%	0	0.155	1,138

SYSTEM INFORMATION					EXISTING SYSTEM				PROPOSED SYSTEM							SAVINGS			
Ref. #	BUILDING	LOCATION	EXISTING FIXTURE	QTY	NEW FIXTURE/RETROFIT	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	SEN. QTY	CONTROL DESCRIPTION	OFF %	SENS. KWH SAVINGS	KW Reduced	KWH Reduced
172	Village Hall	Village Hall - E, Room L004 - Conference Room	End Troffer, 2' x 4', 30 PS4T12, Avg E1 Ballast, 120/277V, Prismatic Lens	3	RETRO FLUORESCENT, 40W, UP BALLAST, 24" TUBE, TRIPPER RETROFIT KIT, WHITE REFLECTOR, 360 DEGREE, 4000K, 120-277V, 20000 HOUR RATED LIFE, 5 YEAR WARRANTY	148	0.444	2340	1038.96	45	0.129	2340	103.96	1	Existing Mount, Parawatchware, Standard Range, 8-15' Avg Hgt, 20-30' Radial Coverage, Line Voltage 120/277V	40%	132.8380	0.315	870
173	Village Hall	Village Hall - E, Room L014 - Open Offices	End Troffer, 2' x 4', 30 PS4T12, (3400), Avg E1 Ballast, 120/277V, Prismatic Lens	11	RETRO FLUORESCENT, 40W, UP BALLAST, 24" TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 20000 HOUR RATED LIFE, 5 YEAR WARRANTY	128	1.254	3340	3589.56	45	0.549	3340	1308.06	0		0%	0	0.975	2,182
174	Village Hall	Village Hall - E, Room L014 - Open Offices	End Troffer, 2' x 4', 30 PS4T12, (3400), Avg E1 Ballast, 120/277V, Prismatic Lens, Emergency Ballast	3	RETRO FLUORESCENT, 40W, UP BALLAST, 24" TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 20000 HOUR RATED LIFE, 5 YEAR WARRANTY	128	0.384	8760	3101.04	45	0.129	8760	1195.04	0		0%	0	0.423	1,071
175	Village Hall	Village Hall - E, Room L011 - Private Office	End Troffer, 2' x 4', 30 PS4T12, Avg E1 Ballast, 120/277V, Prismatic Lens	1	RETRO FLUORESCENT, 40W, UP BALLAST, 24" TUBE, TRIPPER RETROFIT KIT, WHITE REFLECTOR, 360 DEGREE, 4000K, 120-277V, 20000 HOUR RATED LIFE, 5 YEAR WARRANTY	148	0.439	1940	692.94	45	0.088	1940	265.24	1	Existing Mount, Parawatchware, Standard Range, 8-15' Avg Hgt, 20-30' Radial Coverage, Line Voltage 120/277V	40%	84.5208	0.210	548
176	Village Hall	Village Hall - E, Room L012 - Private Office	End Troffer, 2' x 4', 30 PS4T12, (3400), Avg E1 Ballast, 120/277V, Prismatic Lens	4	RETRO FLUORESCENT, 40W, UP BALLAST, 24" TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 20000 HOUR RATED LIFE, 5 YEAR WARRANTY	76	0.248	1340	640.54	45	0.132	1340	180.58	1	Existing Mount, Parawatchware, Standard Range, 8-15' Avg Hgt, 20-30' Radial Coverage, Line Voltage 120/277V	40%	109.0416	0.234	456
177	Village Hall	Village Hall - E, Room L013 - Private Office	End Troffer, 2' x 4', 30 PS4T12, Avg E1 Ballast, 120/277V, Prismatic Lens	1	RETRO FLUORESCENT, 40W, UP BALLAST, 24" TUBE, TRIPPER RETROFIT KIT, WHITE REFLECTOR, 360 DEGREE, 4000K, 120-277V, 20000 HOUR RATED LIFE, 5 YEAR WARRANTY	148	0.292	1540	592.54	45	0.088	1540	205.24	1	Existing Mount, Parawatchware, Standard Range, 8-15' Avg Hgt, 20-30' Radial Coverage, Line Voltage 120/277V	40%	84.5208	0.210	578
178	Village Hall	Village Hall - E, Room L015 - Private Office	End Troffer, 2' x 4', 30 PS4T12, Avg E1 Ballast, 120/277V, Prismatic Lens	3	RETRO FLUORESCENT, 40W, UP BALLAST, 24" TUBE, TRIPPER RETROFIT KIT, WHITE REFLECTOR, 360 DEGREE, 4000K, 120-277V, 20000 HOUR RATED LIFE, 5 YEAR WARRANTY	148	0.448	1340	1038.96	45	0.329	1340	360.56	1	Existing Mount, Parawatchware, Standard Range, 8-15' Avg Hgt, 20-30' Radial Coverage, Line Voltage 120/277V	40%	226.7812	0.315	884
179	Village Hall	Village Hall - E, East Open Office	End Troffer, 2' x 4', 30 PS4T12, Avg E1 Ballast, 120/277V, Prismatic Lens	4	RETRO FLUORESCENT, 40W, UP BALLAST, 24" TUBE, TRIPPER RETROFIT KIT, WHITE REFLECTOR, 360 DEGREE, 4000K, 120-277V, 20000 HOUR RATED LIFE, 5 YEAR WARRANTY	148	0.888	1340	2677.92	45	0.258	1340	603.72	0		0%	0	0.439	1,474
180	Village Hall	Village Hall - E, East Private Office M1	End Troffer, 2' x 4', 30 PS4T12, Avg E1 Ballast, 120/277V, Prismatic Lens	3	RETRO FLUORESCENT, 40W, UP BALLAST, 24" TUBE, TRIPPER RETROFIT KIT, WHITE REFLECTOR, 360 DEGREE, 4000K, 120-277V, 20000 HOUR RATED LIFE, 5 YEAR WARRANTY	148	0.444	1340	1038.96	45	0.129	1340	310.96	1	Existing Mount, Parawatchware, Standard Range, 8-15' Avg Hgt, 20-30' Radial Coverage, Line Voltage 120/277V	40%	126.7812	0.215	864

SYSTEM INFORMATION					EXISTING SYSTEM				PROPOSED SYSTEM								SAVINGS		
				1718			55.792		12590.42		54.758	921.038	18164.079	185			11912.608	40.76	14756.055
Ref. #	BUILDING	LOCATION	EXISTING FIXTURE	CITY	NEW FIXTURE/RETROFIT	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	SEN. QTY	CONTROL DESCRIPTION	OFF %	SENS. KWH SAVINGS	KWH Reduced	KWH Reduced
100	Village Hall	Village Hall - 1st, Room 112 - Open Office	Grid Tuffer, 2' x 4', 24" (34712, 12445), Mag ES Ballast, 110V/277V, Prismatic Lens, Emergency Ballast	1	RETRO. FLUORESCENT, 41W, UP BALLAST, 24" TUBE, WHITE, 360/0554EE, 4000K, 120-277V, 18000 HOUR RATED LIFE, 3-YEAR WARRANTY	73	0.074	876	64.84	43	0.043	876	37.68	0		0%	0	0.03	272
101	Village Hall	Village Hall - 1st, Room 109 - Private Office	Grid Tuffer, 2' x 4', 24" (34712, 12445), Mag ES Ballast, 110V/277V, Prismatic Lens	2	RETRO. FLUORESCENT, 41W, UP BALLAST, 24" TUBE, WHITE, 360/0554EE, 4000K, 120-277V, 18000 HOUR RATED LIFE, 3-YEAR WARRANTY	73	0.148	1752	129.68	43	0.086	1752	75.36	1	Leaking Mount, Prismatic Lens, Standard Range, 8' 15" Hgt, 10-20' Radial Coverage, Line Voltage 120/277V	43%	84.3208	0.063	210
102	Village Hall	Village Hall - 1st, Room 110 - Storage	Grid Tuffer, 2' x 4', 24" (34712, 12445), Mag ES Ballast, 110V/277V, Prismatic Lens	1	RETRO. FLUORESCENT, 41W, UP BALLAST, 24" TUBE, WHITE, 360/0554EE, 4000K, 120-277V, 18000 HOUR RATED LIFE, 3-YEAR WARRANTY	73	0.074	780	57.72	43	0.043	780	33.54	0		0%	0	0.03	24
103	Village Hall	Village Hall - 1st, Room 111 - Private Office	Grid Tuffer, 2' x 4', 24" (34712, 12445), Mag ES Ballast, 110V/277V, Prismatic Lens	4	RETRO. FLUORESCENT, 41W, UP BALLAST, 24" TUBE, WHITE, 360/0554EE, 4000K, 120-277V, 18000 HOUR RATED LIFE, 3-YEAR WARRANTY	73	0.296	1344	99.64	43	0.172	1344	70.44	1	Leaking Mount, Prismatic Lens, Standard Range, 8' 15" Hgt, 10-20' Radial Coverage, Line Voltage 120/277V	43%	144.0014	0.124	450
104	Village Hall	Village Hall - 1st, Room 108 - Library	Grid Tuffer, 2' x 4', 24" (34712, 12445), Mag ES Ballast, 110V/277V, Prismatic Lens	4	RETRO. FLUORESCENT, 41W, UP BALLAST, 24" TUBE, WHITE, 360/0554EE, 4000K, 120-277V, 18000 HOUR RATED LIFE, 3-YEAR WARRANTY	73	0.296	1344	99.64	43	0.172	1344	70.44	1	Leaking Mount, Prismatic Lens, Standard Range, 8' 15" Hgt, 10-20' Radial Coverage, Line Voltage 120/277V	35%	90.372	0.124	351
105	Village Hall	Village Hall - 1st, Room 107 - File Storage	Grid Tuffer, 2' x 4', 24" (34712, 12445), Mag ES Ballast, 110V/277V, Prismatic Lens	1	RETRO. FLUORESCENT, 41W, UP BALLAST, 24" TUBE, WHITE, 360/0554EE, 4000K, 120-277V, 18000 HOUR RATED LIFE, 3-YEAR WARRANTY	73	0.074	780	57.72	43	0.043	780	33.54	0		0%	0	0.03	24
106	Village Hall	Village Hall - 1st, Room 106 - Open Office	Grid Tuffer, 2' x 4', 24" (34712, 12445), Mag ES Ballast, 110V/277V, Prismatic Lens	5	RETRO. FLUORESCENT, 41W, UP BALLAST, 24" TUBE, WHITE, 360/0554EE, 4000K, 120-277V, 18000 HOUR RATED LIFE, 3-YEAR WARRANTY	73	0.370	2340	165.8	43	0.185	2340	99.11	0		0%	0	0.355	281
107	Village Hall	Village Hall - 1st, Room 105 - Open Office	Grid Tuffer, 2' x 4', 24" (34712, 12445), Mag ES Ballast, 110V/277V, Prismatic Lens, Emergency Ballast	1	RETRO. FLUORESCENT, 41W, UP BALLAST, 24" TUBE, WHITE, 360/0554EE, 4000K, 120-277V, 18000 HOUR RATED LIFE, 3-YEAR WARRANTY	73	0.074	876	64.84	43	0.043	876	37.68	0		0%	0	0.03	272
108	Village Hall	Village Hall - 1st, Room 104 - Work Room	Grid Tuffer, 2' x 4', 24" (34712, 12445), Mag ES Ballast, 110V/277V, Prismatic Lens	1	RETRO. FLUORESCENT, 41W, UP BALLAST, 24" TUBE, WHITE, 360/0554EE, 4000K, 120-277V, 18000 HOUR RATED LIFE, 3-YEAR WARRANTY	73	0.074	2340	51.948	43	0.129	2340	100.86	0		0%	0	0.065	218

SYSTEM INFORMATION					EXISTING SYSTEM				PROPOSED SYSTEM							SAVINGS			
Ref. #	BUILDING	LOCATION	EXISTING FIXTURE	QTY	NEW FIXTURE/RETROFIT	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	SEN. QTY	CONTROL DESCRIPTION	OFF %	SENS. KWH SAVINGS	KW Reduced	KWH Reduced
109	Village Hall	Village Hall - 1st. Room 127 - File Storage	Step Fixture or Space Not Included in Project	1	N/A, Not included in project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
109	Village Hall	Village Hall - 1st. Room 128 - Open Office (Case Work Admin.)	Grid Troffer, 2' x 4', 2x F34T12, (14W), Mag ES Ballast, 120/277V, Fluorescent Lens	5	RETRO. FLUORESCENT, 43W, LP BALLAST, 2X 4" TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 25000 HOUR RATED LIFE, 5 YEAR WARRANTY	74	0.130	2300	805.0	43	0.215	2300	953.0	0		0%	0	0.130	361
110	Village Hall	Village Hall - 1st. Room 128 - Open Office (Case Work Admin.)	Grid Troffer, 2' x 4', 2x F34T12, (14W), Mag ES Ballast, 120/277V, Fluorescent Lens, Emergency Ballast	1	RETRO. FLUORESCENT, 43W, LP BALLAST, 2X 4" TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 25000 HOUR RATED LIFE, 5 YEAR WARRANTY	74	0.074	8200	602.4	43	0.043	8700	376.0	0		0%	0	0.074	272
111	Village Hall	Village Hall - 1st. Room 128 - Open Office (Case Work Admin.)	Step Fixture or Space Not Included in Project	0	N/A, Not included in project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
112	Village Hall	Village Hall - 1st. Room 118 - Private Office	Grid Troffer, 2' x 4', 2x F34T12, (14W), Mag ES Ballast, 120/277V, Fluorescent Lens	2	RETRO. FLUORESCENT, 43W, LP BALLAST, 2X 4" TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 25000 HOUR RATED LIFE, 5 YEAR WARRANTY	74	0.148	1300	345.32	43	0.086	2300	101.24	1	Ceiling Mount, Parabolic Refracted, Standard Range, 3-15' Mtg Hgt, 10-20' Radial Coverage, Line Voltage 120/277V	42%	84.5108	0.086	230
113	Village Hall	Village Hall - 1st. Room 119 - Private Office	Grid Troffer, 2' x 4', 2x F34T12, (14W), Mag ES Ballast, 120/277V, Fluorescent Lens	1	RETRO. FLUORESCENT, 43W, LP BALLAST, 2X 4" TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 25000 HOUR RATED LIFE, 5 YEAR WARRANTY	74	0.222	1300	519.48	43	0.110	2300	101.86	1	Ceiling Mount, Parabolic Refracted, Standard Range, 3-15' Mtg Hgt, 10-20' Radial Coverage, Line Voltage 120/277V	42%	126.7812	0.095	301
114	Village Hall	Village Hall - 1st. Room 120 - Private Office	Grid Troffer, 2' x 4', 2x F34T12, (14W), Mag ES Ballast, 120/277V, Fluorescent Lens	4	RETRO. FLUORESCENT, 43W, LP BALLAST, 2X 4" TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 25000 HOUR RATED LIFE, 5 YEAR WARRANTY	74	0.148	2300	345.32	43	0.086	2300	101.24	1	Ceiling Mount, Parabolic Refracted, Standard Range, 3-15' Mtg Hgt, 10-20' Radial Coverage, Line Voltage 120/277V	42%	84.5108	0.086	230
115	Village Hall	Village Hall - 1st. Room 121 - Private Office	Grid Troffer, 2' x 4', 2x F34T12, (14W), Mag ES Ballast, 120/277V, Fluorescent Lens	4	RETRO. FLUORESCENT, 43W, LP BALLAST, 2X 4" TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 25000 HOUR RATED LIFE, 5 YEAR WARRANTY	74	0.148	2300	345.32	43	0.086	2300	101.24	1	Ceiling Mount, Parabolic Refracted, Standard Range, 3-15' Mtg Hgt, 10-20' Radial Coverage, Line Voltage 120/277V	42%	84.5108	0.086	230
116	Village Hall	Village Hall - 1st. Room 122 - Private Office	Grid Troffer, 2' x 4', 2x F34T12, (14W), Mag ES Ballast, 120/277V, Fluorescent Lens	4	RETRO. FLUORESCENT, 43W, LP BALLAST, 2X 4" TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 25000 HOUR RATED LIFE, 5 YEAR WARRANTY	74	0.148	2300	345.32	43	0.086	2300	101.24	1	Ceiling Mount, Parabolic Refracted, Standard Range, 3-15' Mtg Hgt, 10-20' Radial Coverage, Line Voltage 120/277V	42%	84.5108	0.086	230

Row #	Building	Location	SYSTEM INFORMATION			EXISTING SYSTEM					PROPOSED SYSTEM					SAVINGS	
			EXISTING FIXTURE	QTY	NEW FUTURE/REPAIR	WATTS EACH	TOTAL KW	OP HOUR	TOTAL kWh	SE 7/18	TOTAL kW	OP HOUR	TOTAL kWh	SE 7/18	DIFF %	SENS. kWh SAVINGS	40% kWh Reduction
217	Village Hall	Village Hall - 1st Room 123 - Private Office	Seat/Trolley, 2 x 4, 2x F24712, 11400, Mag ES Bulb, 110/277V, Fluorescent Lense	2	SEVEN FLOUORESCENT, 430W, 1P BALLAST, 24.4 TUBE W/RE, 100 BULBS, 4000H, 110/277V, 10000 HOUR W/RE LIFE, 3-YEAR WARRANTY	34	68.8	2340	160.32	0.086	0.086	2340	201.16	0.086	40%	64.528	2.012
218	Village Hall	Village Hall - 1st Room 124 - Private Office	Seat/Trolley, 2 x 4, 2x F24712, 11400, Mag ES Bulb, 110/277V, Fluorescent Lense	2	SEVEN FLOUORESCENT, 430W, 1P BALLAST, 24.4 TUBE W/RE, 100 BULBS, 4000H, 110/277V, 10000 HOUR W/RE LIFE, 3-YEAR WARRANTY	34	68.8	2340	160.32	0.086	0.086	2340	201.16	0.086	40%	64.528	2.012
219	Village Hall	Village Hall - 1st Room 125 - Private Office	Seat/Trolley, 2 x 4, 2x F24712, 11400, Mag ES Bulb, 110/277V, Fluorescent Lense	2	SEVEN FLOUORESCENT, 430W, 1P BALLAST, 24.4 TUBE W/RE, 100 BULBS, 4000H, 110/277V, 10000 HOUR W/RE LIFE, 3-YEAR WARRANTY	34	68.8	2340	160.32	0.086	0.086	2340	201.16	0.086	40%	64.528	2.012
220	Village Hall	Village Hall - 1st Room 126 - Private Office	Seat/Trolley, 2 x 4, 2x F24712, 11400, Mag ES Bulb, 110/277V, Fluorescent Lense	2	SEVEN FLOUORESCENT, 430W, 1P BALLAST, 24.4 TUBE W/RE, 100 BULBS, 4000H, 110/277V, 10000 HOUR W/RE LIFE, 3-YEAR WARRANTY	34	68.8	2340	160.32	0.086	0.086	2340	201.16	0.086	40%	64.528	2.012
221	Village Hall	Village Hall - 1st Room 128 - Board Room	Seat/Trolley, 2 x 4, 2x F24712, 11400, Mag ES Bulb, 110/277V, Fluorescent Lense	2	SEVEN FLOUORESCENT, 430W, 1P BALLAST, 24.4 TUBE W/RE, 100 BULBS, 4000H, 110/277V, 10000 HOUR W/RE LIFE, 3-YEAR WARRANTY	34	68.8	2340	160.32	0.086	0.086	2340	201.16	0.086	40%	64.528	2.012
222	Village Hall	Village Hall - 1st Room 128 - Board Room	Seat/Trolley, 2 x 4, 2x F24712, 11400, Mag ES Bulb, 110/277V, Fluorescent Lense	2	SEVEN FLOUORESCENT, 430W, 1P BALLAST, 24.4 TUBE W/RE, 100 BULBS, 4000H, 110/277V, 10000 HOUR W/RE LIFE, 3-YEAR WARRANTY	34	68.8	2340	160.32	0.086	0.086	2340	201.16	0.086	40%	64.528	2.012
223	Village Hall	Village Hall - 1st Room 128 - Board Room	Seat/Trolley, 2 x 4, 2x F24712, 11400, Mag ES Bulb, 110/277V, Fluorescent Lense	2	SEVEN FLOUORESCENT, 430W, 1P BALLAST, 24.4 TUBE W/RE, 100 BULBS, 4000H, 110/277V, 10000 HOUR W/RE LIFE, 3-YEAR WARRANTY	34	68.8	2340	160.32	0.086	0.086	2340	201.16	0.086	40%	64.528	2.012
224	Village Hall	Village Hall - 1st Room 128 - Board Room	Seat/Trolley, 2 x 4, 2x F24712, 11400, Mag ES Bulb, 110/277V, Fluorescent Lense	2	SEVEN FLOUORESCENT, 430W, 1P BALLAST, 24.4 TUBE W/RE, 100 BULBS, 4000H, 110/277V, 10000 HOUR W/RE LIFE, 3-YEAR WARRANTY	34	68.8	2340	160.32	0.086	0.086	2340	201.16	0.086	40%	64.528	2.012
225	Village Hall	Village Hall - 1st Room 128 - Board Room	Seat/Trolley, 2 x 4, 2x F24712, 11400, Mag ES Bulb, 110/277V, Fluorescent Lense	2	SEVEN FLOUORESCENT, 430W, 1P BALLAST, 24.4 TUBE W/RE, 100 BULBS, 4000H, 110/277V, 10000 HOUR W/RE LIFE, 3-YEAR WARRANTY	34	68.8	2340	160.32	0.086	0.086	2340	201.16	0.086	40%	64.528	2.012

SYSTEM INFORMATION					EXISTING SYSTEM				PROPOSED SYSTEM							SAVINGS			
Ref. #	BUILDING	LOCATION	EXISTING FIXTURE	QTY	NEW FIXTURE/RETROFIT	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	SEEL QTY	CONTROL DESCRIPTION	OFF %	SENS. KWH SAVINGS	KW Reduced	KWh Reduced
226	Village Hall	Village Hall - 1st, Room 128 - Men's Restroom	5W Shop Fixture, 1' x 4', 2x F14T12, 3AW Mag ES Ballast, 120/277V	2	RETRO. FLUORESCENT, 45W, LP BALLAST, 2x 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5-YEAR WARRANTY	38	0.143	2340	340.32	42	0.025	2340	260.24	1	Tied in with sensor on another line	30%	60.372	0.012	20%
227	Village Hall	Village Hall - 1st, Room 128 - Men's Restroom	5W Shop Fixture, 1' x 5', 1x F16T12, 3AW Mag ES Ballast, 120/277V	1	RETRO. FLUORESCENT, 40W, LP BALLAST, 2x 5' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5-YEAR WARRANTY	39	0.057	2340	131.46	40	0.040	2340	93.6	1	Tied in with sensor on another line	30%	20.58	0.039	5%
228	Village Hall	Village Hall - 1st, Room 129 - Women's Restroom	One To Go, 2' x 4', 2x F14T12, (3AW) Mag ES Ballast, 120/277V, Fluorescent, Linear, Emergency Ballast	1	RETRO. FLUORESCENT, 45W, LP BALLAST, 2x 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5-YEAR WARRANTY	38	0.074	2340	548.34	42	0.042	2340	137.68	1	Co-Op Mount, Photocell, Standard Fixture, 2' x 5' Mag. Hgt., 10-30' Flood Coverage, Line Voltage 120/277V	30%	121.604	0.031	38%
229	Village Hall	Village Hall - 1st, Room 128 - Women's Restroom	5W Shop Fixture, 1' x 4', 2x F14T12, 3AW Mag ES Ballast, 120/277V	2	RETRO. FLUORESCENT, 45W, LP BALLAST, 2x 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5-YEAR WARRANTY	38	0.143	2340	340.32	42	0.025	2340	260.24	1	Tied in with sensor on another line	30%	60.372	0.012	20%
230	Village Hall	Village Hall - 1st, Room 128 - Women's Restroom	5W Shop Fixture, 1' x 5', 1x F16T12, 3AW Mag ES Ballast, 120/277V	1	RETRO. FLUORESCENT, 40W, LP BALLAST, 2x 5' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5-YEAR WARRANTY	39	0.057	2340	131.46	40	0.040	2340	93.6	1	Tied in with sensor on another line	30%	20.58	0.039	5%
231	Village Hall	Village Hall - 1st, Room 134A - Mail Room	One To Go, 2' x 4', 2x F14T12, (3AW) Mag ES Ballast, 120/277V, Fluorescent, Linear	7	RETRO. FLUORESCENT, 45W, LP BALLAST, 2x 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5-YEAR WARRANTY	38	0.513	2340	1242.17	42	0.305	2340	304.34	1	Co-Op Mount, 140° Beam, Infrared, Extended Range, 7' 15" Mag. Hgt., 15-30' Flood Coverage, Line Voltage 120/277V	42%	432.618	0.237	90%
232	Village Hall	Village Hall - 1st, Room 134C - Storage	One To Go, 2' x 4', 2x F14T12, (3AW) Mag ES Ballast, 120/277V, Fluorescent, Linear	1	RETRO. FLUORESCENT, 45W, LP BALLAST, 2x 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5-YEAR WARRANTY	38	0.074	2340	57.32	42	0.043	2340	13.56	0		0%	0	0.031	24
233	Village Hall	Village Hall - 1st, Room 141 - Open Office (Accounting)	One To Go, 2' x 4', 2x F14T12, (3AW) Mag ES Ballast, 120/277V, Fluorescent, Linear	1	RETRO. FLUORESCENT, 45W, LP BALLAST, 2x 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5-YEAR WARRANTY	38	0.513	2340	1242.17	42	0.305	2340	304.34	0		0%	0	0.237	50%
234	Village Hall	Village Hall - 1st, Room 141 - Open Office (Accounting)	One To Go, 2' x 4', 2x F14T12, (3AW) Mag ES Ballast, 120/277V, Fluorescent, Linear, Emergency Ballast	1	RETRO. FLUORESCENT, 45W, LP BALLAST, 2x 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5-YEAR WARRANTY	38	0.074	2340	57.32	42	0.043	2340	13.56	0		0%	0	0.031	24%

SYSTEM INFORMATION					EXISTING SYSTEM				PROPOSED SYSTEM										SAVINGS	
				3/19		Watts Each	Total kW	Op Hour	Total kWh	Watts Each	Total kW	Op Hour	Total kWh	Sen. Qty	Control Description	Off %	Sens. kWh Savings	kW Reduced	kWh Reduced	
Ref. #	Building	Location	Existing Fixture	Qty	New Fixture/Retrofit															
244	Village Hall	Village Hall - 1st, Room 142 - Open Office (Finance)	Ceiling Triflex, 2' x 4', 2x F34T12 (35W), Mag ES Ballast, 120V/177V, Prismatic Lenses	22	RETRO FLUORESCENT, 45W, LP BALLAST, 2X 4" TUBE, WHITE, 300000000, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3 YEAR WARRANTY	74	1.628	2340	3805.52	43	0.946	2340	3213.61	7		0%	0	0.622	1.305	
245	Village Hall	Village Hall - 1st, Room 142 - Computer Storage	Ceiling Triflex, 2' x 4', 2x F34T12 (35W), Mag ES Ballast, 120V/177V, Prismatic Lenses	6	RETRO FLUORESCENT, 45W, LP BALLAST, 2X 4" TUBE, WHITE, 300000000, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3 YEAR WARRANTY	74	0.444	710	246.12	43	0.278	710	101.14	3	Ceiling Mount, Patched Infrared, Standard Range, 8' 15" Avg Hgt, 10-20' Max Mt Coverage, Line Voltage 120V/177V	63%	125.7812	0.186	271	
246	Village Hall	Village Hall - 1st, Room 142 - Telephone Equipment	Ceiling Triflex, 2' x 4', 2x F34T12 (35W), Mag ES Ballast, 120V/177V, Prismatic Lenses	2	RETRO FLUORESCENT, 45W, LP BALLAST, 2X 4" TUBE, WHITE, 300000000, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3 YEAR WARRANTY	74	0.148	1340	146.12	43	0.090	2340	101.14	1	Ceiling Mount, Patched Infrared, Standard Range, 8' 15" Avg Hgt, 10-20' Max Mt Coverage, Line Voltage 120V/177V	63%	125.7812	0.052	270	
247	Village Hall	Village Hall - 1st, Room 143 - Private Office	Ceiling Triflex, 2' x 4', 2x F34T12 (35W), Mag ES Ballast, 120V/177V, Prismatic Lenses	2	RETRO FLUORESCENT, 45W, LP BALLAST, 2X 4" TUBE, WHITE, 300000000, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3 YEAR WARRANTY	74	0.148	1340	146.12	43	0.090	2340	101.14	1	Ceiling Mount, Patched Infrared, Standard Range, 8' 15" Avg Hgt, 10-20' Max Mt Coverage, Line Voltage 120V/177V	63%	84.5208	0.052	210	
248	Village Hall	Village Hall - 1st, Room 143 - Storage	Ceiling Triflex, 2' x 4', 2x F34T12 (35W), Mag ES Ballast, 120V/177V, Prismatic Lenses	3	RETRO FLUORESCENT, 45W, LP BALLAST, 2X 4" TUBE, WHITE, 300000000, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3 YEAR WARRANTY	74	0.222	710	173.54	43	0.124	710	100.60	1	Ceiling Mount, Patched Infrared, Standard Range, 8' 15" Avg Hgt, 10-20' Max Mt Coverage, Line Voltage 120V/177V	63%	61.3406	0.050	136	
249	Village Hall	Village Hall - 1st, Room 142 - Engineering Closet	Ceiling Triflex, 2' x 4', 2x F34T12 (35W), Mag ES Ballast, 120V/177V, Prismatic Lenses	8	RETRO FLUORESCENT, 45W, LP BALLAST, 2X 4" TUBE, WHITE, 300000000, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3 YEAR WARRANTY	74	0.672	4300	173.56	43	0.093	2340	190.62	4		0%	0	0.051	73	
250	Village Hall	Village Hall - 1st, West Stairwell	Wall Mount Fixture, 1' x 8', 4x F34T12, 35W, Mag ES Ballast, 120V/177V	2	RETRO FLUORESCENT, 80W, LP BALLAST, 2X 3" TUBE, WHITE, 300000000, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3 YEAR WARRANTY	138	0.238	1340	112.92	86	0.090	2340	187.2	0		0%	0	0.058	136	
251	Village Hall	Village Hall - 1st, West Stairwell	Wall Mount Fixture, 1' x 8', 4x F34T12, 35W, Mag ES Ballast, 120V/177V, Emergency Ballast	1	RETRO FLUORESCENT, 80W, LP BALLAST, 2X 3" TUBE, WHITE, 300000000, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3 YEAR WARRANTY	138	0.238	670	120.98	86	0.090	2340	190.6	0		0%	0	0.034	50	
252	Village Hall	Village Hall - 2nd, Corridor	Recessed Cloud Fixture, 4x F34T12 (35W), 2x Mag ES Ballast, 120V/177V, Recessed Acrylic Lenses	11	RETRO FLUORESCENT, 45W, LP BALLAST, 2X 4" TUBE, WHITE, 300000000, 4000K, 120-277V, 28000 HOUR RATED LIFE, 3 YEAR WARRANTY	148	1.628	2340	3805.52	48	0.946	2340	3213.61	0		0%	0	0.622	1.305	

SYSTEM INFORMATION				EXISTING SYSTEM				PROPOSED SYSTEM							SAVINGS			
REL. #	BUILDING	LOCATION	EXISTING FUTURE	QTY	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	SEAL QTY	CONTROL DESCRIPTION	OFF %	SENS-KWH SAVINGS	KW Baseload	KWH Reduced
253	Village Hall	Village Hall - 2nd Corridor	Recessed Circular, 24" F4712, 3000L, 2400K, 120V, 27W, 2000 HOUR, 3 YEAR WARRANTY	9	148	1.332	8760	11078.32	95	0.774	8760	8760.36	0		0%	0	0.522	2.280
254	Village Hall	Village Hall - 2nd Corridor	Sup. Fixture of Same Not Included in Project	1	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
255	Village Hall	Village Hall - 2nd Corridor	Sup. Fixture of Same Not Included in Project	1	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
256	Village Hall	Village Hall - 2nd Corridor	Grid Transformer, 2' x 4', 24" F4712, 3000L, 2400K, 120V, 27W, 2000 HOUR, 3 YEAR WARRANTY	1	74	0.169	1360	148.32	41	0.095	1360	1360.24	0		0%	0	0.052	345
257	Village Hall	Village Hall - 2nd Corridor	Grid Transformer, 2' x 4', 24" F4712, 3000L, 2400K, 120V, 27W, 2000 HOUR, 3 YEAR WARRANTY	1	74	0.074	8760	148.32	41	0.043	8760	1360.24	0		0%	0	0.031	333
258	Village Hall	Village Hall - 2nd Corridor (Open Office)	Grid Transformer, 2' x 4', 24" F4712, 3000L, 2400K, 120V, 27W, 2000 HOUR, 3 YEAR WARRANTY	13	144	7.488	2360	1701.42	111	6.350	2360	1675.18	0		0%	0	1.146	2794
259	Village Hall	Village Hall - 2nd Room 205 - Storage	Grid Transformer, 2' x 4', 24" F4712, 3000L, 2400K, 120V, 27W, 2000 HOUR, 3 YEAR WARRANTY	1	74	0.074	710	87.72	45	0.043	710	710.58	0		0%	0	0.020	14
260	Village Hall	Village Hall - 2nd Room 205 - Open Office	Grid Transformer, 2' x 4', 24" F4712, 3000L, 2400K, 120V, 27W, 2000 HOUR, 3 YEAR WARRANTY	23	74	1.702	2360	1308.08	41	0.205	2360	2334.26	0		0%	0	0.733	2088
261	Village Hall	Village Hall - 2nd Room 205 - Open Office	Grid Transformer, 2' x 4', 24" F4712, 3000L, 2400K, 120V, 27W, 2000 HOUR, 3 YEAR WARRANTY	1	74	0.233	8760	1044.72	41	0.119	8760	1110.08	0		0%	0	0.052	351

SYSTEM INFORMATION						EXISTING SYSTEM				PROPOSED SYSTEM								SAVINGS			
				SIZE			WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH		WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	SEN. QTY	CONTROL DESCRIPTION	OFF %	SENS. KWH SAVINGS	KWH Reduced	KWH Reduced
FAC #	BUILDING	LOCATION	EXISTING FIXTURE	QTY	NEW FIXTURE (RETRORFIT)																
171	Village Hall	Village Hall - 2nd, Room 210 - Open Office	Grid Troffer, 2' x 4', 2x F34T12, (14W), Mag ES Ballast, 120/277V, Prismatic Lens, Emergency Ballast	2	RETRO, FLUORESCENT, 43W, LF BALLAST, 2X 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5-YEAR WARRANTY	74	0.148	8760	1298.40	43	0.086	8760	763.30	0				0%	0	0.082	543
172	Village Hall	Village Hall - 2nd, Room 211 - Lunch Room	Grid Troffer, 2' x 4', 2x F34T12, (14W), Mag ES Ballast, 120/277V, Prismatic Lens	8	RETRO, FLUORESCENT, 43W, LF BALLAST, 2X 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5-YEAR WARRANTY	74	0.432	3240	1058.20	43	0.208	3240	608.72	1	LED Retrofit, Prismatic Lens, Standard Range, R-15' Mtg Hgt, 10-20' Radial Coverage, Line Voltage 120/277V	35%	211.501	0.186	647		
173	Village Hall	Village Hall - 2nd, Room 222 - Women's Restroom	Grid Troffer, 2' x 4', 2x F34T12, (14W), Mag ES Ballast, 120/277V, Prismatic Lens, Emergency Ballast	1	RETRO, FLUORESCENT, 43W, LF BALLAST, 2X 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5-YEAR WARRANTY	74	0.074	8760	648.24	43	0.043	8760	375.08	1	LED Retrofit, Prismatic Lens, Standard Range, R-15' Mtg Hgt, 10-20' Radial Coverage, Line Voltage 120/277V	30%	113.004	0.031	185		
174	Village Hall	Village Hall - 2nd, Room 222 - Women's Restroom	Grid Troffer, 2' x 4', 2x F34T12, (14W), Mag ES Ballast, 120/277V	1	RETRO, FLUORESCENT, 43W, LF BALLAST, 2X 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5-YEAR WARRANTY	74	0.222	1380	618.48	43	0.129	2340	405.86	1	Tie-in with sensor on another line	30%	80.958	0.046	309		
175	Village Hall	Village Hall - 2nd, Room 222 - Men's Restroom	Grid Troffer, 2' x 4', 2x F34T12, (14W), Mag ES Ballast, 120/277V, Prismatic Lens, Emergency Ballast	1	RETRO, FLUORESCENT, 43W, LF BALLAST, 2X 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5-YEAR WARRANTY	74	0.074	8760	648.24	43	0.043	8760	375.08	1	LED Retrofit, Prismatic Lens, Standard Range, R-15' Mtg Hgt, 10-20' Radial Coverage, Line Voltage 120/277V	30%	113.004	0.031	185		
176	Village Hall	Village Hall - 2nd, Room 222 - Men's Restroom	Grid Troffer, 2' x 4', 2x F34T12, (14W), Mag ES Ballast, 120/277V	1	RETRO, FLUORESCENT, 43W, LF BALLAST, 2X 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5-YEAR WARRANTY	74	0.222	2340	618.48	43	0.129	2340	405.86	1	Tie-in with sensor on another line	30%	80.958	0.046	309		
177	Village Hall	Village Hall - 2nd, Room 213 - Conference	Grid Troffer, 2' x 4', 2x F34T12, (14W), Mag ES Ballast, 120/277V, Prismatic Lens	8	RETRO, FLUORESCENT, 43W, LF BALLAST, 2X 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5-YEAR WARRANTY	74	0.432	3240	1058.20	43	0.208	3240	608.72	1	LED Retrofit, Prismatic Lens, Standard Range, R-15' Mtg Hgt, 10-20' Radial Coverage, Line Voltage 120/277V	44%	265.438	0.186	973		
178	Village Hall	Village Hall - 2nd, Room 218 - Storage	Individual Recessed Fixture, 1' x 4', 2x F34T12, (14W), Mag ES Ballast, 120/277V	5	RETRO, FLUORESCENT, 43W, LF BALLAST, 2X 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5-YEAR WARRANTY	74	0.370	780	288.6	43	0.115	780	307.7	0			0%	0	0.155	221	
179	Village Hall	Village Hall - 2nd, Room 218 - Storage	Individual Recessed Fixture, 1' x 4', 2x F34T12, (14W), Mag ES Ballast, 120/277V, Emergency Ballast	1	RETRO, FLUORESCENT, 43W, LF BALLAST, 2X 4' TUBE, WHITE, 360 DEGREE, 4000K, 120-277V, 28000 HOUR RATED LIFE, 5-YEAR WARRANTY	74	0.074	8760	648.24	43	0.043	8760	375.08	0			0%	0	0.031	273	

SYSTEM INFORMATION					EXISTING SYSTEM				PROPOSED SYSTEM							SAVINGS		
BUILDING	LOCATION	EXISTING FEATURE	QTY	NEW FEATURE/REMARK	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	WATTS EACH	TOTAL KW	OP HOUR	TOTAL KWH	SEN QTY	CONTROL DESCRIPTION	OFF %	SENS KWH SAVINGS	% Reduced	KWH Reduced
228	Village Hall	Village Committee - Outdoor Flag Light	3	Same, Not included in project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
229	Village Hall	Village Committee - Outdoor Amphitheatre (Canopy)	22	Same, Not included in project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
230	Village Hall	Village Committee - Outdoor Amphitheatre (High-way lights)	3	Same, Not included in project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
232	Village Hall	Village Committee - Outdoor New Site Lighting	1	Same, Not included in project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0
233	Village Hall	Village Committee - Outdoor New Site Lighting	1	Same, Not included in project	0	0.000	1	0	0	0.000	1	0	0		0%	0	0.000	0



February 28, 2017

Mr. John Ingram/Mr. Napoleon Haney
Public Works Director/Assistant Public Work Director
Village of Orland Park
15655 Ravinia Avenue
Orland Park, IL 60464

Re: T-12 Lighting Upgrades

Mr. Ingram & Mr. Haney,

Per our conversation, CTS recommends the following solution for upgrading the remaining T-12 lighting fixtures within the Village Facilities:

The turnkey solution includes engineering with architectural fees/permits/drawings, project management, performance & payment bonds, commissioning, insurance, overhead/profit, and subcontractor work completion.

Lighting Upgrades:

The following Village Buildings contain inefficient T-12 lighting fixtures. These fixtures are inefficient, difficult to maintain and no longer being manufactured. The Village would like to replace all existing T-12 fixtures throughout the Village facilities. Currently the Department of Commerce and Economic Opportunity (DCEO) has incentives for replacement. This is the last year they will be administering these incentives. The program is being turned over to the utilities after May of 2017 and it is unlikely that T-12 incentives will be provided in the future.

- Village Hall
- Civic Center
- Public Works
- Recreation Center
- Robert Davidson Center
- Cultural Arts Center
- Recreation Administration Building
- Centennial Park

CTS Recommends replacement of the T-12 lighting with T-8 fluorescent fixtures in all facilities to improve lighting levels, reduce energy consumption and reduce maintenance costs throughout the Village.

We have provided the following proposal for upgrading a portion of this lighting in 2017 as part of the Phase I project. We would plan on submitting final paperwork prior to the grant deadline of May 8, 2017.

Upgrade T-12 Lighting – Village Hall, Civic Center, & Recreation Center

CTS recommends replacement of all T-12 lighting with more efficient T-8 fixtures existing in the following facilities:

- Village Hall
- Civic Center
- Recreation Center

Total Pricing: \$198,900

Note: Grants through the DCEO Illinois Energy Now program are estimated at \$23,814. CTS will submit all necessary paperwork for preapproval and final submission on behalf of the Village.

Please contact me if you have any questions or need additional information. Thanks again.

Sincerely,

Michele A. James
CTS Account Manager
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