St. James of Jerusalem Church, Building Upgrades
1st Report
August 23, 2023
Building Improvement Committee: Wendy Goldstein and William (Coty) Keller

Executive Summary

St. James of Jerusalem in Long Beach aims to make our church accessible to all and, in the interest of caring for God's Creation, to eliminate our carbon emissions. This is the first in a set of recurring reports, designed to explain how we plan to achieve these goals, detail progress made to date, and **to solicit feedback from all stakeholders** so we can adapt and move forward.

As a mission of the Episcopal Diocese of Long Island, St. James is not an independent parish, and we do not have authority over our property or financial resources. For our plan to be realized, it must be approved by the diocesan trustees and then executed by the senior construction manager, Anthony Natale. The purpose of this series of reports is to help facilitate our goal of gaining approval from the trustees and the completion of the projects described here.

From what we know now, and these are VERY preliminary numbers, it appears that the net cost of the energy projects, before grants, could be somewhere in the range of $61,000 to $92,000. This includes a substantial amount in possible rebates, subsidies, and tax credits. The net cost of the ADA project could be somewhere in the range of $0 to $123, 600. The net cost of all our building projects, before grants, could be between $61,000 and $215,600. We will have more viable estimates in the coming months.

We want and need the buy-in of all stakeholders: St. James' Bishop's Committee, members of St. James, Bishop Provenzano, diocesan officers, supporting agencies, and contractors. Thus, we ask you all to look carefully at this report and offer feedback, suggestions, and the constructive criticism that will help us adjust our plan and move forward in a way that works for all.

How do you like it so far?
Do you have any suggestions for improvements?
Are we overlooking any costs?
Do we have the incentives right?
Can you see a grant or subsidy we have overlooked?

Please let us know. What needs to change in order to gain your support?

Whom to call with your feedback:

- ADA job and funding: Wendy Goldstein wendy@wlgcommunication.com, (516) 375-2946
- Building integrity, resiliency, sustainability jobs and funding: Coty Keller wckeller@earthlink.net, 941 627-8053
- Big picture: the Reverend Susan Bock, therealgirlpriest@yahoo.com, 566 872-7883

If we don't hear back from you, we will reach out.

Table of Contents

List of Figures and Tables

Overview

St. James of Jerusalem in Long Beach aims to make our church accessible to all and, in the interest of caring for God's Creation, to eliminate our carbon emissions.

This is the first in a set of recurring reports explaining how we plan to achieve these goals, to detail our progress made to date, and to solicit feedback from all stakeholders.

Our plan is a work in progress. The decision process is shown in the following flow diagram. We are currently gathering proposals from contractors and researching funding possibilities. This will lead to a preliminary plan for accomplishing our goals. Once the plan is completed, it must be approved by our Bishop's Committee before being presented to the diocesan trustees and to Anthony Natale. As a mission of the diocese, St. James is not an independent parish with authority over our property or financial resources. For our plan to be realized, it must be approved by the trustees and then executed by Anthony Natale.

Once the plan is approved by the trustees, the work is contracted out by Mr. Natale, whom, along with us, oversees the work. His office then pays the contractors with the funding sources described in the plan.

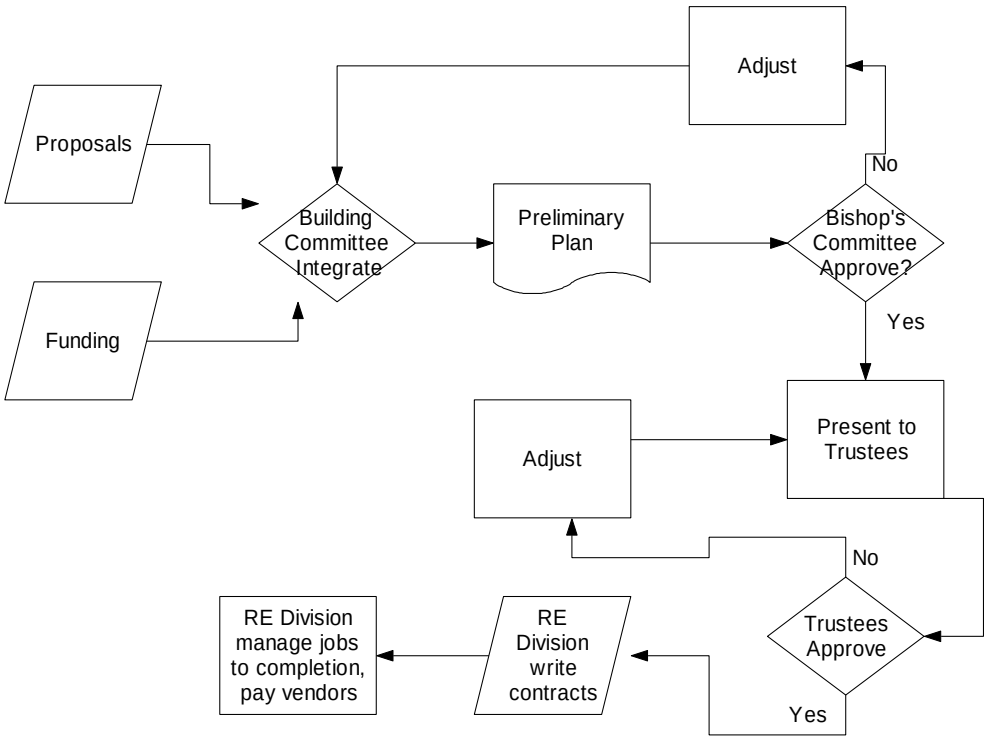


Figure 1- ADA, Emission Reduction/Elimination Decision Process

We need our Bishop's Committee, our congregation, our bishop, the diocesan staff, contractors, state agencies, financial advisers, and our sources of funding to "buy in". Constructive criticism of the developing plan is vital and necessary so we can adjust our plan and keep all the stakeholders on board.

The table of contents show how this report is organized.

- First, we will detail the progress already made towards zero-emissions. This section is titled Achievements.
- Then we will describe the scope of the work to be done in three categories:

    1. Building integrity and resiliency
    2. Accessibility,
    3. Sustainability

- From proposals received we estimate the cost and design features, insofar as possible at this stage of the plan's development.
- Next, we will describe the various sources of funding for the work, including parish resources, fundraising, grants, rebates, and state and federal programs including tax incentives *(a nonprofit that pays no taxes can get direct payments for climate mitigation projects)*.
- Then, a financial summary is presented to display the total costs and possible fundings, reflecting what information we have at this point.
- Finally, the report explains what's next in the process of assembling our plan.
- End-matters include references, our requests for proposals (RFPs), and the list of potential contractors.

Achievements
Here we will describe progress already made towards zero emissions.

- **This Fragile Earth, Our Island Home**

  First was the realization that God's creation is threatened by the climate crisis and that there are solutions. In the winter and spring of 2021, working with the Interfaith Association of Greater Long Beach, we created a program, ***This Fragile Earth, our Island Home*****.** It is a series of webinars designed to help people learn about the climate crisis – the causes, solutions, and actions to take. Our aim was to empower folks to act to reverse global warming. In doing so, we empowered ourselves to eliminate our parish emissions.

- **Creation Care Retreat**

The underlying concepts of the program were presented at the Diocese Creation Care Retreat on October 1, 2022 in a half-hour slide show: "What to do (about global warming)." Additionally, in a breakout session, A Framework for Parish Action, the emission reduction committee used the concepts and tools taught in the "This Fragile Earth" series to explain what needs to happen in a serious effort to eliminate parish emissions:

- It is important to recognize that our plan is based on the widely accepted notion that we must electrify (almost) everything, and then generate our power from ***non-emitting power sources.*** This is done with two strategies:

    1. Fuel switching, i.e., from oil and natural gas to electricity (oil/gas furnace to high efficiency electric heat pump and water heater)
    2. Generate that electricity from solar (i.e., Community solar or rooftop solar with batteries to sustain in power outages)

- We must also reduce energy consumption making the generation of 100% clean energy achievable. This is done through both behavior changes i.e., thermostat management, turning off lights when not in a room), and efficiency measures (insulation and sealing, and shifting to more efficient HVAC/appliances).

We at St. James are on a path to do all of this. Here's what we have thus far achieved in terms of tangible action.

Determining our energy conservation measures (ECMs)

A parish problem solving, decision-making process started by determining our church's footprint: counting our emissions (and keep counting them, to track progress). If we don't know the extent of the problem, we don't fully understand it, and, if we cannot measure our fossil fuel use, we won't know if we are succeeding in reducing/ eliminating them.

Next was an Energy Audit, a key step in identifying opportunities to reduce energy expenses and carbon footprint. Our energy audit included:

- The analysis of building and utility data, including study of the installed equipment and analysis of energy bills. Our energy audit used the data collected as we measured our carbon footprint.
- The survey of the real operating conditions.
- The understanding of the building-behavior and of the interactions with weather, occupancy, and operating schedules.
- The selection and the evaluation of energy conservation measures (ECMs).
- The estimation of energy-saving potential

- The identification of customer concerns and needs which it is hoped will lead to brainstorming and evaluating alternatives.

The following table lists our Energy Conservation Measures. These are the goals of our emission reduction/elimination program.

Summary of Energy Conservation Measures (ECMs) determined by Energy Audit
• Switch PSEG electric supply to Green Source option, which is nominally 100% renewable. • Heat church facility with existing mini-split heat pumps rather than gas boilers. • Increase capacity of basement mini-split and replace rectory air conditioner with a heat pump to further the progress of fuel switching. • Replace existing gas water heaters with electric heat pump water heaters for fuel switching and efficiency. • Air seal and insulate uninsulated portions (88%) of the church and rectory walls and roof to improve efficiency and comfort. • Upgrade faucets, lights, and appliances to enable fuel switching and reduce energy use.
Source: EMS Energy Audit October 2021

Table 1 ST. James' Energy Conservation Measures (ECMs)

Completed to Date

So far, we have picked the low-hanging fruit and checked off the achievable ECMs from our energy audit:

1. Switching from PSEG electric supply to Community Solar with Harvest Power, which is nominally Zero Emission.
2. Shifting to use of electic heat pumps in the church santuary, sacristy, and office instead of gas heat.
3. Managing thermostats in rectory and sanctuary to conserve energy, following EPA guidance: Set to 68 degrees when occupied during the heating season, 76 degrees in summer.
4. Replacing lighting with LED
5. Assuring all faucets are low flow

Scope of Work

In this section we will describe the jobs to be accomplished to make our church accessible to all and to eliminate our carbon emissions, that is, to achieve the ECM's described in Table 1.

The jobs are grouped into three categories:

1. Building integrity and resilience: These jobs have to do with upgrading our electrical system to manage the additional loads involved with fuel switching and protecting our equipment from flooding associated with rising seas and increasingly violent weather events.
2. Creating accessibility by providing an elevator-style lift to the sanctuary and undercroft.
3. Establish sustainability through tasks that directly impact emissions: insulation and air sealing, upgrade of heating and air conditioning systems, conversion to electric hot water heating and electric appliances. Prospects for a future solar electric generation system are included in this category.

Building integrity and resilience

Electrical Upgrade

In the spring of 2022, the Real Estate Office commissioned a study, "Master Plan for Efficiency Upgrades" which provided recommendations for electrical system upgrades including the following:

- Relocate electrical distribution from the basement to locations above the "safe" flood elevation.
- Accommodate the load-needs of any machinery associated with the disability access project and additional HVAV loads associated with fuel switching.
- Accommodate a solar PV system that will provide for our electricity needs round the clock (i.e. battery storage) and through times of lost grid power.
- Establish a new supply of 220V service to
    - Electric heat pump water heater
    - 2 stoves (rectory and church kitchen)
    - Rectory clothes drier
- EV charging station in the rectory driveway

These suggestions proved valuable in the creation of the plan to reduce/eliminate emissions.

We have solicited requests for proposals (RFPs) from local electricians to upgrade electrical service from 200 to 400 amps (to handle the additional load of space heat and hot water heat pumps and future ADA machinery) and elevate the entire electrical distribution system above design flood elevation.

We envision the creation of a utility room in the sacristy for the main electrical panel, the church sub-panel, and the telecommunications panel. Accommodations would be made for future Solar PV equipment and the electric heat pump hot water heater. There would also be a new subpanel in the Rectory.

Finally, 220v wiring would be supplied for:

1. A heat pump water heater in the sacristy
2. new electric stoves (in the rectory and church kitchen),
3. an electric drier in the rectory
4. a location for a future EV charging station in the rectory driveway.

We also want internal sub-meters to monitor the kWh use between the main panel and the rectory HVAC and rectory sub-panel.

The reason for the sub-meters is that only one electric meter currently services both buildings making it impossible to determine how much energy is being used by which building, a determination important for monitoring energy use.

Since the church and rectory are old, with original wiring dating to the 1930s, we are asking the contractors to include in their estimate the cost for replacement of any unserviceable or dangerous wiring.

The RFP for the electrical upgrade can be seen in Appendix A.

At this preliminary stage of our information gathering, **we estimate a gross cost** (before rebates, subsidies, grants, etc.) of **about $27,000** for the electrical upgrade. This estimate is based on one contractor's proposal.

It is possible that, after evaluating the final design of the new HVAV and ADA systems, we might be able to retain 200-amp service, which would reduce the cost of the electrical distribution system.

Flood Protection

While our primary aim is to mitigate climate change (The IPCC defines it as "A human intervention to reduce heat-trapping emissions or remove carbon already in the atmosphere"), we also want to adapt to global warming so we can protect our property (Adaptation is "The process of adjusting to actual or expected climate change."). Towards these ends, this project includes measures to protect our new systems against the risk of flooding.

Written into our RFPs is the requirement that all equipment must be located above design flood elevation, which was identified in the Master Plan for Efficiency Upgrades. This is higher than 8" above the church's first floor or 2'2" above the first floor of the rectory. [1]

[1] The design flood elevation at our location in Long Beach is 16." The first floor of the church has an approximate elevation of 15'-4", while the First Floor of the rectory has an approximate elevation of 13'-10". Therefore, to be above flood elevation, all equipment must be located above design flood elevation. This is higher than 8" above the church's first floor or 2'2" above the first floor of the rectory. (Source FPM Engineering and Geology, PC. 2022 "Master Plan for Efficiency Upgrades". A report prepared for the Trustees of the Estate Belonging to the Diocese of Long Island. September 20. https://www.ecopapak.org/CreationCare/MasterPlan220920.pdf).

The Master Plan for Efficiency Upgrades recommends that we provide flood-proofing measures for the outside basement entries and eliminate low vents/openings in the exterior walls. The **estimate** provided for the **basement floodproofing is $35,000**.

Local contractors, in the wake of Superstorm Sandy, were providing creative ways to floodproof Long Beach residences and businesses. The market for this kind of service has since (pardon the pun) dried up and we have been unable to locate a contractor to provide a proposal for flood proofing our basements. The importance of these protective measures is lessened somewhat by our strategy of removing all essential systems from the basements.

For now, flood protection for the basements is not part of our plan.

Accessibility

St. James of Jerusalem church seeks to reflect the wide open-hearted God we believe in, so WELCOME is our church's primary ministry. We are determined to make it possible to *welcome all who want to worship and gather with us.*

But, for now, people with various physical limitations are not able to worship in the sanctuary or join us for coffee, bible study or events in the undercroft because literally everything at St. James is *up or down stairs.*

Our dedicated leadership team has done extensive research and consulted with several experts to explore the feasibility of ramps, chair lifts, and more – both indoor and outdoor options – to determine the best way to make our church accessible.

We have secured a proposal for what we believe to be the best solution: an enclosed lift that would connect ground level from the outside of the church to both the sanctuary (approximately five feet above ground) and the undercroft (about five feet below ground).

Cost & Design Features

- 3 stops, fully-enclosed lift tower
- access to ground level, sanctuary, and undercroft
- located to the right of the church's front door
- the proposal includes electrical wiring from the electric panel to the left
    - Additional electrical work will be required in preparation for the installation. It remains to be seen if our electrical upgrade provides some, if not all of that work.
- $103,600 for lift; up to $20,000 in additional electric prep = $123,600

Funding

We consider fundraising and grants to be the major sources of capital for this project. We wonder if no-interest, or low-interest loans are available from our diocese.

Please refer to the Funding section of the report.

Sustainability

Air Sealing and Insulation

In general, we want to air seal both buildings (church and rectory) and insulate the rectory.

Insulating the church, which was suggested in the energy audit, has been reconsidered. The Master Plan for Efficiency points out that the church sanctuary is used for only a few hours each week and the energy audit concedes that insulating an old, custom-built church is expensive. The energy savings payback approaches 25 years. Meanwhile, the undercroft is used daily. However, since the meeting room is below grade, it is insulated by nature. We have therefore decided this ECM (insulating the church) is not prudent, given our limited resources.

Our specific goal is to:

1. Air Seal and Blower-Door Test both the rectory and the church

The blower-door test should be done **after** preliminary sealing (a vent in the church office ceiling, the fireplace, a gap around the vertical AC ducting in the 2nd floor closet of the rectory, aligning and weather-stripping the rectory front door **before** the rectory insulation is installed.

The contractor's task is to perform preliminary sealing, conduct the blower-door test, and then seal leaks that are discovered. The test would be conducted again after all work is done.

2. Insulate Rectory Walls (Goal R-13)

It is important to have the air sealing taken care of before the insulation is done. Walls should be done before the ceiling (attic) or basement rim joists are insulated to allow access from above and below. For the rectory walls, the best access is from the attic, which avoids drilling into the walls. Some or all wall cavities have horizontal cross beams (which they should have for fire code) and will require inside drilling below those cross beams to blow in the insulation. Basement access may be helpful, so the walls should be insulated before the rim joist is insulated.

The contractor's task is to insulate the rectory walls with cellulose blown in.

3. Improve Insulation Rectory Ceiling (Goal R-30)

The rectory ceiling has R30 fiberglass batt insulation. The insulation itself is in functional condition, but it is “faced” insulation, with integral tar paper on one side. Faced insulation is not appropriate for attics (or really anywhere else) because it blocks water vapor from escaping through the ceiling. The vapor barrier needs to be at the ceiling (by carefully sealing all wiring penetrations, duct penetrations, etc. and maintaining a continuous painted surface) and any vapor getting through the ceiling needs to be released. The facing acts as a condensation plane, trapping the moisture next to the joists and the ceiling. This facing can be carefully peeled to minimize insulation loss, which is the first step to the next - better fitting the insulation to ensure all cavities are snugly filled and that the remaining 3 inches extend above the joists without compacting. The uncovered joists should then be covered with R13 batt insulation cut into 2” strips so there is a continuous insulation blanket across the ceiling.

Blocks at fewer than two-foot intervals need to support a pair of 8-inch accesses for service personnel to walk on to reach the air handler located in the attic without stepping on the insulation and breaking through the ceiling. (See #5 below on this page: Design and Install a Walkway in the Rectory Attic, for Access to Service HVAC Air Handler and Ducting). The goal is a continuous insulation blanket with a safe, clear service path.

The contractor’s task is to remove the facing from the existing R30 insulation as described above and to better fit the insulation ensuring all cavities are snugly filled and extend 3 “above the joists without compacting, and then to cover the joists with R13 batt cut into 2” strips so there is a continuous insulation blanket across the ceiling and a safe clear service path to the HVAC ducting and air handler. The top of the access hatch would have foam board insulation to reduce heat loss.

4. Insulate Rectory Rim Joints

The rectory sits on a flooring system that rests on the basement concrete walls with perimeter beams called rim joists. This area is often left uninsulated and is often not well air sealed. Rim joists should be insulated using either spray foam or foam board pressed into the joist pocket and caulked. Since the basement is below ground and the rim joist is above ground - and of a location that is frequently penetrated with utility wires, pipes, etc., it is the most important part of the basement to insulate.

Towards the bottom of the basement wall there is diminishing insulation value due to the relatively constant temperature of the earth. For this reason, we will not insulate the basement walls.

Task: Insulate the rim joints with spray foam or foam board.

5. Design and Install a Walkway in the Rectory Attic, for Access to Service HVAC Air Handler and Ducting.

These 5 jobs, are presented to potential contractors in the RFP shown in Appendix A.

From the information we have now, we **estimate** the cost of air sealing and insulation to be **less than $15,000.** However, until more information is obtained from the potential contractors, this estimate is more like a guess.

Challenging assumption: We are in the process of evaluating a redesign of the building envelopes. The issue is described in the table. We have not yet adapted any of this but it is under consideration.

Ceiling Insulation and Building Envelopes
There are general benefits of insulating the **ceiling of the** r**ectory basement**, which could be accomplished with fiberglass batt insulation. One of the HVAC company's design team may be able to quantify the benefits of doing this as part of their capacity calculation. If so, we would certainly consider it. We are imagining R-19, 6 ½" fiberglass batts like folks have in their home crawl space and basement ceiling. Our 2021 energy audit recommended nominally insulating the c**hurch undercroft ceiling**, with R-11 fiberglass batt insulation in the available 3 ½" cavity, with an alternative of additional ceiling tiles. That space is a less captive envelope with the kitchen, restrooms, and stairway complicating its enclosure. We would consider insulating the ceiling there if the design team can quantify the benefit. We do not have the final proposal yet, but one contractor believes they can install dense pack insulation in the ceiling, above the dropdown tiles, and achieve R-30. This applies to the whole basement – meeting room, kitchen, rest rooms, and hallway (except the stairway).

Table 2- Ceiling Insulation and Building Envelopes

Heating, Ventilation and Air Conditioning (HVAC)

This work is important in the move to electrify both buildings, eliminating the use of natural gas. It will also improve resiliency to flooding by elevating all key systems above designed flood elevation. There are two parts to this work:

1. Replacing the rectory AC with a heat pump (air source or geothermal). Replacing the existing A/C with a 52,000 BTU/H heat pump for heating and cooling the rectory will do the job. The existing air handling system needs to be upgraded.

2. Increasing the capacity of the church building's mini splits. The existing three Samsung mini-split units in the basement, while suitable for cooling, do not have sufficient capacity to heat the basement (which includes, a meeting space, kitchen, two restrooms and stairs to the Sanctuary level). By contrast, the Fijitsu units servicing the main floor provide able heating, as well as cooling. We believe this is because they have about 2 ½ times the heating capacity of the Samsung units. We want to upgrade the mini splits in church basement with units (air source or geothermal). capable of providing sufficient heat as well as cooling.

   The RFP for the HVAV work is shown in Appendix A.

What is emerging are three alternatives – all geothermal (ground source), hybrid, or all air sources.

Cost Estimates are very preliminary. These are gross cost estimates before rebates, tax credits and other programs.

- Replacing the Rectory AC unit with a geothermal heat pump: **$55-60,000**
- Replacing the Rectory AC unit with an air source heat pump: $TBD
- Upgrading the Undercroft units with geothermal heat pump: $TBD-
- Upgrading the Undercroft units with geothermal heat pump: **$15-18,000**

It should be mentioned here that the geothermal heat pumps could yield a benefit from a 30% (or more) tax credit direct payment that the air source does not quality for. On the other hand, the air source heat pumps may quality for significant rebates from PSEG. See the explanations and detail in the Funding Section.

Challenging assumption: Are the undercroft mini splits working to capacity? Should we test them to make sure we are not investing without due diligence? See the table below.

According to one of the HVAC contractors, the 34,000 btu existing mini-splits should heat the basement - at least it should be close. This is based on initial measurement of the area of the conditioned spaces.

- 1,092 sq. ft.- rectory
- 2,000 sq. ft. undercroft in envelope includes stairs, baths, utility room

I spoke with the tenant who registered the complaint about the mini splits not providing ample heating. He said he only tried to use them once when the gas boiler thermostat was broken. It seems they made heat but then shut off because, in his judgment, they were too close to the ceiling where hot air was collecting.

This is not sufficient evidence for investing thousands of dollars to replace units that may not be working as designed for a reason that can be fixed. We need to fully test the output of the existing mini splits before final design decisions.

Table 3 - Must Test Undercroft Mini-splits

***Healthy Air Issue**. Prompted by an article by Anthes, Emely, The New War on Bad Air, church leadership is concerned about the quality of our air when the windows are closed. See the Table below:*

Healthy Air
These are 4 things we can do right now: Keep meeting outside, open the windows when the buildings are occupied in temperate weather (and endure a bit more heat and cold), install a MERV 13 filter, and ask for a proposal for "replacement air" in our HVAC upgrade. The article mentions new CDC ventilation updates. They include at least 5 air changes per hour of clean air in occupied spaces and filters with minimum Efficiency Reporting Value (MERV) 13. We've already upgraded the filter in the Rectory MERV 13s. Five air changes an hour will require making changes to our HVAC systems to include replacement "fresh air" from the outside, something not normally done in residences, but required by code for commercial buildings. We should investigate upgrading our systems (to 5 air changes per hour of clean air in occupied spaces) as we get proposals to upgrade our HVAC to reduce emissions. We can learn how much it will cost and factor that into our decision-making. A fresh air heat exchanger takes in outside air into a chamber where it exchanges heat or cold from a like-amount of exiting air. This system is also referred to as Heat Recovery Ventilation, and its primary benefit is that it doesn't waste all the energy invested in heated or cooled air. The stale air being exhausted transfers up to 60% of its invested energy with the incoming fresh air.

Table 4 - Healthy Air

Heat Pump Water Heater

The Church and Rectory each have their own natural gas water heater.

We plan to replace both with one electric heat pump water heater which will provide all the hot water needed, use less energy, and help us move away from the use of fossil fuels.

The RFP for the heat pump hot water heater is shown later in Appendix A, which calls for the installation in the sacristy above design flood level.

Cost of the heat pump hot water heater is estimated at about $3,400, before rebates. This is based on Home Depot's current price for the 50 gallon Rheem Pro terra (SKU1005205440),: $1863 and a plumber charging about $1500 to install.

A PSEG rebate of $1000 is possible. See the Utilities Area of the Funding section.

Replacement of Gas Appliances

The gas ovens in the rectory and church, along with the gas clothes drier in the rectory, need to be replaced with electric appliances as part of our fuel switching strategy, an opportunity for operating-cost savings because of the new high-efficiency models available.

The induction stove is a new type of cooking surface that has been gaining popularity in the past several years. It's an electric range with a smooth glass or ceramic cooktop that uses a magnetic field to heat pots and pans. The heat is generated directly in the pan, so there's no need for a burner under the pot. This type of cooking surface is fast, efficient, and far easier to clean.

A heat pump dryer is a type of condenser dryer. These dryers are extraordinarily energy efficient, as they recycle heat in the process of extracting moisture – often resulting in energy efficiency ratings of up to 6 stars (the best possible). Thanks to their gentle, highly efficient drying action, heat pump dryers have been a popular eco-friendly option in Europe and the US for many years. Such a ventless dryer would allow us to close the exhaust-hole in the rectory wall.

The RFP sent to local retailers is shown in Appendix A.

The **preliminary cost estimate is about $2,300** for induction stoves ($1,200-$1,400 each) and heat pump drier ($900) including delivery and removal of old appliances. Competitive shopping could lower the actual prices.

The average cost of an induction stove is $1,300, which is a higher price-point than gas and electric stoves. According to Rewiring America, there are ways to save, including household rebates on point-of-sale purchases. Available later in 2023 or early 2024, households can save up to $840 on an induction stove purchase. Visit their calculator to see what savings you qualify for!

Removal of Gas Equipment

After electric heat pumps and hot water is installed and running, we plan to remove the gas meter and gas boilers from the church and rectory. Gas piping and wiring should also be removed.

The RFPs sent to plumbers is shown in Appendix A

A **preliminary cost estimate is $3,500,** provided by an HVAC company. This is not binding. More information is needed for a viable estimate.

At least one subsidy is available for equipment removal from Metro Industrial Area Foundation (Metro IAF) – see the Funding section.

Rooftop Solar with Batteries

Right now, we are getting our electricity from the Community Solar program, and the emissions from our use of electrical power is nominally zero.

However, there are other benefits (besides the zero emissions we have already achieved) of adding power to our buildings, not the least of which is cost savings. An investment in rooftop solar would be offset by tax credits of at least 30%, with the possibility of another 10% for domestic content. And once the solar is generating electricity, our electric bill will be reduced dramatically. The return on investment can be estimated once we know more about the actual loads with the new heat pumps, ADA equipment, and current solar installation costs.

Another benefit from rooftop solar, if we also include battery storage, is the backup power feature which can be employed in the event the grid is lost due to a storm or other causes. Imagine another Superstorm Sandy event, only this time, St. James could be a community sanctuary, resilient to flooding and grid power loss. Thanks to the Inflation Reduction Act, battery backup costs are offset by a 30% tax credit. See the funding section.

We plan to explore rooftop solar with battery storage/back-up once other elements of the overall energy plan are clarified.

Funding

In this section we will explain the details of the various potential sources of funding.

St. James Resources

As of June 30, 2023, the balance in our building fund is $146,976. St. James has established an emergency reserve amount in the Building Fund of $80,000.

Fundraising

To fund the ADA project, we are considering two avenues:

- A Capital Campaign: Direct outreach to stakeholders including church members past and present, with 3 naming opportunities – the main exterior door to the lift, the sanctuary door to the lift, the undercroft door to the lift.
- A Go Fund Me crowdsourcing fundraiser via social media including paid boosts regionally

Grants

ADA advocacy foundations

We plan to solicit grants for the accessibility project from agencies such as **Citizens United to Remove Barriers (**C.U.R.B.) in Long Beach.

The Episcopal Church

There is a national church Creation Care Grant which, as we learned last year, uses criteria such as service to the wider Church and engagement with strategic partners such as the Long Island Progressive Coalition (LIPC).

Since it doesn't seem our project scores high in these areas, we may not spend time and energy pursuing this grant. However, we will look at next year's grants to see if the criteria have changed.

We will also investigate the Episcopal Church for a grant for our ADA project.

We do not expect any financial support from our Diocese. Bishop Provenzano announced in June 2023 that, "For the remainder of the 2023 Ministry Plan, there will be no **new** spending, new initiatives, or new grants provided from the Ministry Plan."

Episcopal Ministries of Long Island (EMLI)
A separate entity from the Diocese of LI, EMLI does consider grants for ministries. Accessibility and eliminating our carbon footprint are two primary missions of this parish.

Utility Programs and Rebates

National Grid
National Grid has a program called Home Energy Affordability Team (HEAT) Income-Eligible Program. Low-income residential customers could receive the following energy-saving products and services at no cost:

Programmable or Nest smart thermostats
Low-flow faucet aerators and showerheads
Attic insulation
Weatherstripping
Duct-sealing
Air-sealing of leaks

We have learned that this program has been scaled back for now, but more importantly, a similar beta program has been made available to non-profit organizations. The beta program is offered for now only through one insulation company (Econo Therm.

We have confirmed our eligibility for this beta program. We were visited on August 18th, 2023 by CLEAResult, contractor for National Grid to collect our information. CLEAResult informed us that they will petition National Grid for the insulation and air-sealing of our Rectory.

PSEG

PSEG is our electric utility company. It is the regional utility in Long Beach, and we have been receiving electricity from them for years, but, in 2021 we enrolled in their community solar ("Community Distributed Generation") program and began receiving most of our electricity from a third party, Harvest Power.
That solar power offsets our PSEG bills. Having said that, PSEG considers Harvest Power a 3rd party provider in their Community Distributed Generation program, and we expect to quality for PSEG's rebates until we learn otherwise.

PSEG offers two kinds of rebates:

1. Point-of-sale PSEG rebates of $1000 for the electric high efficiency heat pump hot water heater, under the Residential Appliance Rebate program.

   According to the PSEG website for Appliance Rebates, heat pump water heaters that are ENERGY STAR certified use a highly efficient heat pump to transfer heat from the surrounding air to water in the storage tank. This process uses much less power than traditional water heaters, which saves energy and cost.

   How To Get a Rebate on a Qualifying ENERGY STAR Certified Heat Pump Water Heater?
   Look for PSE&G "Instant Rebate" signage on eligible equipment while shopping at participating retailers. (We found the rebate information at Home Depot). Verify eligibility at pseg.com/InstantDiscount and receive an instant rebate coupon for use at the register or online.

   Purchases from any participating retailer qualify. The rebate form can be found here. submit a rebate form online. Rebate claims must be submitted within 90 days of purchasing a qualifying heat pump water heater.

Residential Appliance Rebate Application
Needed are: • **Electric and/or gas utility account numbers.** • **A digital/scanned copy of the original purchase receipt or invoice** showing proof of payment, equipment type and date of purchase. *Note: a packing slip or email order confirmation is not accepted as proof of purchase unless it contains all required information.* • **The model number or retailer SKU, manufacturer, serial number, and retailer name and address.** • **If a landlord or resident** applies for a rebate when the account is under someone else's name, a completed payee release form is required. A scanned copy will suffice.

This offer is limited to:

- Qualifying equipment purchased within 90 days of the application date
- Two smart thermostat rebates per account holder, per lifetime
- One rebate for each qualifying appliance per account holder, per year

**This application supports Android/Windows/Apple mobile devices and Apple/Windows-based desktops and laptops running current browser software (Microsoft Edge and above, Chrome, Firefox, and Safari).

Source: https://appliancerebate.pseg.com/

2. PSEG's Home Comfort Program offers rebates on air source heat pumps (such as we are considering to replace/upgrade the rectory AC and the undercroft mini-splits. However, rebates are only available through PSEG participating Home Comfort Partners. Eligible equipment must be purchased from AND installed by participating Home Comfort Partners (click to download the list of partners).

   The rebate on a replacement heat pump for the undercroft mini splits could be as much as $1,400 (assumes 4 tons @ $350/1200 BTU). The rebate on a whole house heat pump for the rectory could be as much as $4,000 (4 tons @ $1,000/1200 BTU).

   However, to apply for the air source heat pump, a residential load calculation is needed. The "Manual J load calculation" is a formula used to identify a building's HVAC capacity and the size of the equipment needed for heating and cooling a building. This means that HVAC contractors, technicians, and installers use ACCA Manual J load calculations to select HVAC equipment capacities. The Manual J is being done by at least one of the HVAC contractors bidding on the HVAC work.

   Another consideration: PSEG's heat pump rebates are only for air source heat pumps, not ground source (Geothermal) heat pumps. But Geothermal heat pumps come with Direct Pay 30% (+10% for domestic content) Tax Credits.

NY State Programs

Metro IAF, NYSERDA Subsidies

New York State has created a coalition to help promote reduction in use of fossil fuels through conversion of buildings to electric energy (including use of heat pumps) from oil and gas use. They are soliciting houses of worship and other community institutions to serve as demonstration projects for clean, energy-efficient heating & cooling in New York State.

The coalition includes Metro Industrial Area Foundation (IAF), and NY State Energy Research & Development Authority (NYSERDA).

According to Joe Morris, Lead Organizer of the Metro IAF Clean Energy Initiative, the focus of their programs is on disadvantaged areas. However, Metro IAF can consider projects like ours on a lower priority basis. They may help us with our project planning including our application for NYSERDA subsidies that would be:

- Up to $16,000 for planning, permitting, and contracting.
- Direct subsidy for energy savings, calculated by $75 per million BTUs saved annually by the project. Our energy audit estimates the annual savings our ECMs will yield, however the units are kWh instead of BTUs. If we undertook ALL the ECMs in our energy audit, we would save an estimated 81,113 kWh annually. Since 1kWh is 3,412 BTU, we would be eligible for an energy savings subsidy of $20,757.

Energy Savings Subsidy = $75 per million BTUs saved annually Energy Audit ECMs estimate an annual savings of 81,113 kWh 1kWh is 3,412 BTU. Here's the math if all the measures listed were done: 81,113 kWh X 3,412 = 276,758,000 BTU (or 276.76 MMTBU) 276.76 X $75 = $20,757

Table 5-Metro IAF Energy Savings Subsidy Calculation

If we do not insulate the church roof and walls, or the rectory and church basement walls, the estimated annual savings would be about 2/3 of the total savings (if all other ECMs were accomplished.) That would translate to a Metro IAF Energy Savings Subsidy of $13,930.

- Decommissioning expenses for removing fossil fuel equipment (gas boilers and hot water heaters) are funded in the $5,000-$10,000 range.

NY State Tax Incentives

While the state offers individuals and businesses tax breaks for the use of sustainable energy, non-profits don't pay taxes. So, these programs are not useful to St. James/

Federal Tax Incentives

There are two possible federal tax benefits: the 179 D Deduction and Alternative Energy Tax Credits which can be paid directly to non-profits. These are explained in detail below.

House of Worship Designer Tax incentives (179 D Deductions)

According to Charles Goulding at Energy Tax Savers, Inc in Syosset, the Energy Policy Act of 2005 (EPAct) created potential tax savings for building owners or architects and engineers based on the use of energy-efficient improvements.

The inflation Reduction Act of 2022 (IRA) gave a big boost to nonprofits, who were not able to benefit from a tax deduction. Now designers of energy systems in nonprofit buildings are allowed to claim the 179D deduction for qualifying projects.

The 179D Designer Tax Deduction was created as an incentive for designers to step up their designs to higher levels of efficiency. The IRS clearly respects those designers that are stamping drawings, for example. It was meant as a small tax deduction for the designer to ensure the building owner gets the benefit of lifelong energy savings.

The IRA increased the qualified deduction range, for projects that meet prevailing wage and apprenticeship standards, to between $2.50 and $5.00 per square foot, depending on the building's energy efficiency level. This translates to $17,500 - $35,000 for St. James if we assume our church and rectory total area is 7,000'sq (our measurement show it's a little less than that). If our contractors do not meet prevailing wage and apprenticeship requirements, the benefit dwindles to 50 cents to $1 per square foot ($3.500 to $7,000 assuming a 7,000 'square area).

Also, with the passage of the IRA, the maximum deduction would now be available every four years on a not-for-profit building.

Whether or not our contractors meet the prevailing wage and apprentice requirements makes a big difference to the benefit our designer realizes. We will want to question our potential contractors in this regard, and factor that into the selection process.

Alternative Energy – Direct Payment Tax Credits

Regular homeowners and businesses are eligible for tax credits towards their income tax. For example, if we were a tax paying entity we could get a tax credit of 30% of the cost of a heat pump water heater. But since St. James, as a non-profit organization, does not pay income tax, these sorts of tax credits are of no benefit to us.

Thanks to the Inflation Reduction Act, this 30% tax credit can be directly paid to non-profits for certain items like solar PV, including batteries. Air-source heat pumps are not included, but ground-source (geothermal) heat pumps are.

And there can be an additional 10% if the project meets the United States domestic content requirements, for a total of 40%. According to Charles Goulding at Energy Tax Savers, Inc, the guidance, as it currently stands, makes it very difficult to qualify for this bonus. Our most likely eventual credit will be 30%.

The payment we eventually receive will occur up to 15 months after the project is completed.

The cashflow impact of the AE credits for solar and geothermal systems are significant and must be taken into our consideration of alternative ways to meet our zero-emission goal.

Financial Summary

From the information we have now, we can present an estimate of the range of costs. Keep in mind these estimates are preliminary (not at all certain – more information is needed) - they may not even be in the ballpark. They also do not include grant possibilities. They are presented to show the various categories of costs, subsidies, rebates, and tax credits.

Estimates assuming ground source (geothermal) heat pumps.
As of 8/1/2023

Gross cost estimates, before grants, rebates, subsidies, tax credits

Job	**Cost Estimates**
Electrical Upgrade	$27,500
Heat Pump Water Heater	$3,363
HVAC	$56,599
Rectory	$14,550
Church Undercroft	$12,000
Air Sealing and Insulation	$15,000
Remove Natural Gas Equipment	$3,500
Replace Gas Appliances	$2,300
Gross project cost	$134,812
Tax Savers, Inc Fee	$0
Total before offsets	$134,812

Possible rebates, subsidies, tax credits	**Minimum**	**Maximum**
PSEG rebate heat pump water heater	$0	$1,000
Geothermal tax credit	$24,944.70	$33,259.60
Heat pump incentives (rebates?)	$5,015.83	$5,015.83
Designer benefits	$0	$0
National Grid beta program	$0	$15,000
Direct subsidy for energy savings.	$13931	$13,931
Decommissioning Subsidy	$0	$3,500
Induction stove rebate	$840	$1,680
Range of possible offsets	$30,801	$60,455
Net cost range before grants	$90,081	$61,426

Table 6 Calculation of the range of net costs, **before grants**, with full geothermal (ground source heat pump) HVAC

Estimates assuming geothermal in rectory, air source heat pumps Undercroft. As of 8/1/2023

Gross cost estimates, before grants, rebates, subsidies, tax credits

Job	**Cost**
Electrical Upgrade	$27,500
Heat Pump Water Heater	$3,363
HVAC	
Rectory	$57,500
Church Undercroft	$16,500
Air Sealing and Insulation	$15,000
Remove Natural Gas Equipment	$3,500
Replace Gas Appliances	$2,300
Gross project cost	$125,663
Tax Savers, Inc Fee	$0
Total before offsets	$125,663

Possible rebates, subsidies, tax credits	**Minimum**	**Maximum**
PSEG rebate heat pump water heater	$0	$1,000
Geothermal tax credit	$17,250.00	$23,000.00
PSEG rebate	$1,400.00	$5,400.00
Designer benefits	$0	$0
National Grid beta program	$0	$3,500
Direct subsidy for energy savings.	$13,931	$13,932
Decommissioning Subsidy	$ 0	$ 3,500
Induction stove rebate	$ 840	$ 1,680
Range of possible offsets	$19,490	$39,080
Net cost range before grants	$92,242	$73,652

Table 7 - Table 5 Calculation of the range of net costs, before grants, with hybrid (part ground source, part air source heat pump) HVAC

Table 8- Table 5 Calculation of the range of net costs, before grants, with full air source heat pump HVAC (Not yet available)

ADA Lift Elevator Estimates

Costs			
	$103,600	base	
	$20,000	possible electrical work	
Cost range	$103,600	to	$123,600

Funding Possibilities			
	St. James Resources		TBD
	Fundraising		TBD
	Grants		TBD
Funding range	$0	to	$123,600

Table 9- ADA Lift elevator costs and funding

From what we know now, it appears that the net cost of the energy projects before grants ***could be*** somewhere in the range of $61,000 to $92,000. The net cost of the ADA project ***could be*** somewhere in the range of $0 to $123, 600. Before grants, the net cost of all our building projects ***could be*** between $61,000 and $215,600.

We will have more viable estimates in the coming months.

What's Next

This report has shared the information gathered so far. We are moving towards the creation of a concrete plan, which will be presented to the diocesan trustees and Anthony Natale for approval.

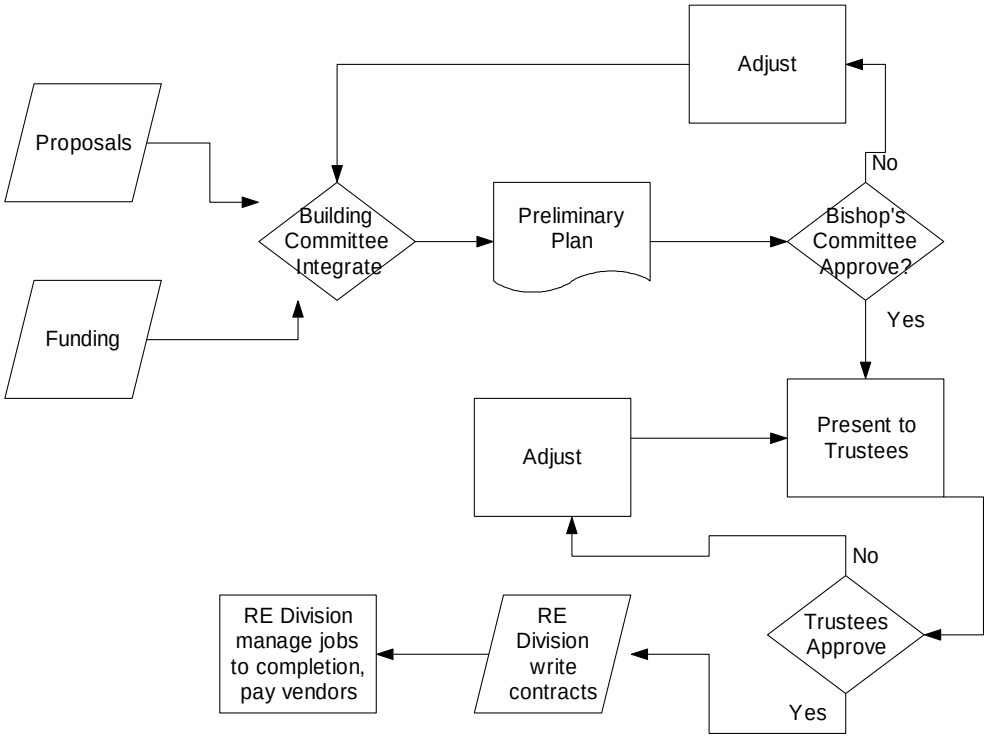
The Decision Process

St. James' building committee is in the process of gathering proposals from contractors and evaluating sources of funding. The flow diagram shows how this information will be used to create the detailed plan of what gets done, by whom, and how we propose that it be paid for.

Once the plan is complete, it will be presented to St. James' Bishop's Committee, and, once tweaked and approved, it will be presented to the diocesan trustees and Anthony Natale for approval.

Once approved by the trustees, the work is contracted out by Anthony, who oversees the work (with our help, of course – we will be involved in every step) and then pays the bills with the funding described in the plan.

Figure 2 -ADA, Emission Reduction/Elimination Decision Process



Feedback is solicited, encouraged, and needed!

We want and need the buy-in of all stakeholders: St. James' Bishops Committee, all congregants, the bishop, the diocesan staff, supporting agencies and contractors. This is why we ask you all to carefully read this report and offer feedback, suggestions, and constructive criticism, allowing us to adjust and move forward in a way that meets the needs and concerns of all stakeholders.

How do you like it so far? Have you any suggestions for improvements? Do we have the incentives right? Can you see a grant or subsidy we have overlooked? Let us know. If we don't hear from you, we will reach out.

Points of Contact

Who to call with your feedback:

- ADA job and funding: Wendy Goldstein wendy@wlgcommunication.com, (516) 375-2946
- Building integrity, resiliency, sustainability jobs and funding: Coty Keller wckeller@earthlink.net, 941 627-8053
- Big picture: the Reverend Susan Bock, therealgirlpriest@yahoo.com, 566 872-7883

Report Distribution

St. James Bishops Committee
St, James Green Team
St. James Congregation
Bishop, Diocese of Long Island
Diocese Creation Care Team (Matthew Moore, Rita Griffith, Lilo Carr Rivera, Anna Dengler)
Senior Construction Manager Anthony Natalie
Episcopal Ministries of LI (Director, Mary Beth Walsh; Communications Manager, Mary Grace Paszka)
Metro IAF (Joe Morris)
Long Island Progressive Coalition (Ryan Madden)
Energy Tax Savers, Inc. (Charles Goulding)
Energy audit author (Phil Jones)
Master Plan for Efficiency Upgrades author (Chris Schwarz)
Geothermal adviser (Billii Roberti)

Appendix A – Requests for Proposal

Request for Proposals Electrical Upgrade

Saint James Church
220 West Penn Street, Long Beach NY 11561
Point of Contact: Coty Keller wckeller@earthlink.net 941 627-8053
Updated July 3, 2023.

Background: This work is part of a project to electrify both buildings, eliminating the use of natural gas. It will also improve resiliency to flooding by elevating all electrical systems above design flood elevation.
General Scope of work: Upgrade electrical service to 400 amps (to handle additional load of space heat and hot water heat pumps and future ADA machinery) and elevate the entire electrical distribution system above design flood elevation.
Specifics:

1. We envision the creation of a utility room in the Sacristy for the **main electrical panel**, the **church sub-panel** and the **telecommunications panel**. Accommodations must be made for **future Solar PV equipment and the electric heat pump hot water heater**.
2. The job also provides a new **subpanel in the Rectory**.
3. Run **220v wiring** for
    5. Heat pump water heater in the sacristy.
    6. new electric stoves (in the Rectory and Church kitchen),
    7. an electric drier in the rectory
    8. a location for a future EV charging station in the Rectory driveway.
4. We also want **internal sub-meters** to monitor the kWh use between the main panel and the:
    - Rectory HVAC
    - Rectory sub-panel

The reason for the sub-meters is that we now have one electric meter to service to both buildings which prevents us from determining how much energy is being used by which building, which is important to monitor energy use. One way to remedy this would be to install three sub-meters on the main panel. Meters like EKM model EXD-25XDSE, for about $100 each, would likely work.
Flood resiliency. All equipment must be located above design flood elevation. This is higher than 8" above the church's first floor or 2'2" above the first floor of the Rectory. [2]
Unserviceable or dangerous wiring
Please include in your proposal the replacement of any unserviceable or dangerous wiring in the church and rectory.
Rebates and Tax Credits
Please include information on rebates and tax credits that could be applied to this situation.

[2] The design flood elevation at our location in Long Beach is 16." The first floor of the church has an approximate elevation of 15'-4", while the First Floor of the Rectory has an approximate elevation of 13'-10". Therefore, to be above flood elevation, all equipment must be located above design flood elevation. This is higher than 8" above the church's first floor or 2'2" above the first floor of the Rectory. (Source FPM Engineering and Geology, P.C. engineering report of 20 September 2022, prepared for the trustees of the estate belonging to the Diocese of Long Island).

Request for Proposals: Air Sealing and Insulation

Saint James Church
220 West Penn Street
Long Beach NY 11561
Point of Contact: Coty Keller wckeller@earthlink.net 941 627-8053
Updated 5/24/2023

Background: we want to air seal both buildings (church and rectory) and insulate the rectory.
Scope of work

1. **Air Seal and Blower Door Test- Rectory and Church**

Blower door test should be done **after** preliminary sealing (vent in church office ceiling, fireplace, gap around vertical AC ducting in 2nd floor closet of Rectory, front door which needs alignment and weather stripping, attic access, etc.) and **before** Rectory insulation is installed. Task: Perform preliminary sealing, conduct blower door test, and then seal leaks that are discovered. Conduct test again after all work is done.

2. **Insulate Rectory Walls (Goal R-13)**

It is important to have the air sealing taken care of before the insulation is done. Walls should be done before the ceiling (attic) or basement rim joists are insulated to allow access from above and below. For the rectory walls, the best access is from the attic, which avoids drilling into the walls. Some or all the wall cavities have horizontal cross beams (which they should have for fire code) and will require inside drilling below those cross beams to blow in the insulation. Basement access may be helpful; so, the walls should be insulated before the rim joist is insulated.

Task: Insulate the rectory walls with cellulose blown in.

3. **Improve insulation Rectory Ceiling (Goal R-30)**

The rectory ceiling should be done after the walls, to allow access to the walls from above.
The rectory ceiling has R30 fiberglass batt insulation. The insulation itself is in functional condition, but it is “faced” insulation, with integral tar paper on one side. Faced insulation is not appropriate for attics (or really anywhere else) because it blocks water vapor from escaping through the ceiling. The vapor barrier needs to be at the ceiling (by carefully sealing all wiring penetrations, duct penetrations, etc. and maintaining a continuous painted surface) and any vapor getting through the ceiling needs to be released. The facing acts as a condensation plane, trapping the moisture next to the joists and the ceiling. This facing can be carefully peeled to minimize insulation loss, which is the first step to the next - to better fit the insulation to ensure all cavities are snugly filled and the remaining 3 inches extend above the joists without compacting. The uncovered joists should then be covered with R13 batt insulation cut into 2” strips so there is a continuous insulation blanket across the ceiling.

Blocks at fewer than two-foot intervals need to support a pair of 8-inch accesses for service personnel to walk on, getting them to the air handler located in the attic without stepping on the insulation and breaking through the ceiling. (See #5 below, Design and Install a Walkway in the Rectory Attic, for Access to Service HVAC Air Handler and Ducting). The goal is a continuous insulation blanket with a safe clear service path.

Task: Remove the facing from the existing R30 insulation as described above. Better fit the insulation to ensure all cavities are snugly filled and extended 3 “above the joists without compacting. Cover the joists with R13 batt cut into 2” strips so there is a continuous insulation blanket across the ceiling and a safe clear service path to the HVAC ducting and air handler. The top of the access hatch should have foam board insulation to reduce heat loss.

4. **Insulate Rectory Rim Joints**

The rectory sits on a flooring system that rests on the basement concrete walls with perimeter beams called rim joists. This area is often left uninsulated and often is not well air sealed. Rim joists should be insulated using either spray foam or foam board pressed into the joist pocket and caulked. Since the basement is below ground and the rim joist is above ground and of a location that is frequently penetrated with utility wires, pipes, etc., it is actually the most important part of the basement to insulate.

Insulating towards the bottom of the basement wall has diminishing value due to the relatively constant temperature of the earth. For this reason, we will not insulate the basement walls.

Task: Insulate the rim joints with spray foam or Foam Board.

5. Design and Install a Walkway in the Rectory Attic, for Access to Service HVAC Air Handler and Ducting

Task**:** Create a simple system of 8-inch planks so service personnel can get from the access hatch in the second-floor attic to the air handler and ducting. Blocks on top of the joints, at fewer than two-foot intervals, could support the planks above the level of the insulation batts.

Rebates and Tax Credits

Please include information on rebates and tax credits that could be applied to this situation.

Request for HVAC *Proposals*
Saint James Church
220 West Penn Street
Long Beach NY 11561
Point of Contact: Coty Keller wckeller@earthlink.net 941 627-8053
Updated 7/19/2023

Background: This work is part of a project to electrify both buildings, eliminating the use of natural gas. It will also improve resiliency to flooding by elevating all key systems above design flood elevation. Our current HVAC inventory is shown on the next page.

The Church is entertaining proposals for two HVAC projects.

3. **Replacement of the Rectory AC with heat pump (air source or geothermal).** We believe that replace the existing A/C with a 52,000 BTU/H heat pump for heating and cooling the Rectory will do the job. The existing air handling system needs to be upgraded.
4. **Increase Capacity of Church Basement Mini splits.**

The existing three Samsung mini-split units, while suitable for cooling, do not have sufficient capacity to heat the church's basement (which includes, a meeting space, kitchen, two restrooms and stairs to the sanctuary level).
By contrast, the Fijitsu units, with about 2 ½ times the heating capacity of the Samsung units, servicing the main floor, provide sufficient heating as well as cooling.
We plan to upgrade the mini splits in church basement with (air source or geothermal) units capable of providing sufficient heat as well as cooling.
Flood resiliency. Insofar as possible, all equipment must be located above design flood elevation. This is higher than 8" above the church's first floor or 2'2" above the first floor of the Rectory. [3]

Geothermal proposals: please include **upgrades to the electrical system** and **domestic hot water heating**. See separate documents.

Rebates and Tax Credits
Please include information on rebates and tax credits that could be applied to this situation.

[3] The design flood elevation at our location in Long Beach is 16." The first floor of the church has an approximate elevation of 15'-4", while the First Floor of the Rectory has an approximate elevation of 13'-10". Therefore to be above flood elevation, All equipment must be located above design flood elevation. This is higher than 8" above the church's first floor or 2'2" above the first floor of the Rectory. (Source FPM Engineering and Geology, P.C. engineering report of 20 September, 2022, prepared for the trustees of the estate belonging to the Diocese of Long Island).

Request for Heat Pump Hot Water Heater Proposals

Saint James Church
220 West Penn Street
Long Beach NY 11561
Point of Contact: Coty Keller wckeller@earthlink.net 941 627-8053
Updated 6/5/2023

Background: This work is part of a project to electrify both buildings, eliminating the use of natural gas. It will also improve resiliency to flooding by elevating all electrical systems above design flood elevation.

Scope of Work: install a 50-gallon high efficiency electric heat pump hot water heater to supply the rectory and the church. It will be installed in the utility room in the Sacristy. Remove two existing gas-fired hot water heaters.

Electrical Power. 220v power will be provided to the space.

Flood resiliency. All equipment must be located above design flood elevation. This is higher than 8" above the church's first floor or 2'2" above the first floor of the rectory. [4]

Rebates and Tax Credits
Please include information on rebates and tax credits that could be applied to this situation.

[4] The design flood elevation at our location in Long Beach is 16." The first floor of the church has an approximate elevation of 15'-4", while the First Floor of the Rectory has an approximate elevation of 13'-10". Therefore to be above flood elevation, All equipment must be located above design flood elevation. This is higher than 8" above the church's first floor or 2'2" above the first floor of the Rectory. (Source FPM Engineering and Geology, P.C. engineering report of 20 September, 2022, prepared for the trustees of the estate belonging to the Diocese of Long Island).

Request for Proposals to Replace Gas Appliances

Saint James Church
220 West Penn Street
Long Beach NY 11561
Point of Contact: Coty Keller wckeller@earthlink.net 941 627-8053
Updated 3/1/2023

Scope of work: Replace gas appliances with

- Electric induction stoves for church and rectory.
- Electric heat pump drier in rectory.

220V electrical supply will be provided by the church electrical contractor.

Rebates and Tax Credits

Please include information on rebates and tax credits that could be applied to this situation.

Request for Proposals to Remove Natural Gas Equipment

Saint James Church
220 West Penn Street
Long Beach NY 11561
Point of Contact: Coty Keller wckeller@earthlink.net 941 627-8053
Updated 6/5/2023

Background: This work is part of a project to electrify both buildings, eliminating the use of natural gas. It will also improve resiliency to flooding by elevating all electrical systems above design flood elevation.

Scope of work: Remove the gas meter and gas boilers from church and rectory. Gas piping and wiring should also be removed.

Rebates and Tax Credits: Please include information on rebates and tax credits that could be applied to this situation.

Appendix B – Proposal Status: Building integrity, resiliency, sustainability jobs

RFP category	Company	Date visited church	Date Proposal Received
Electrical Upgrade			
	Bob Fink Electric	June 19	July 3
	EMS Electric	June 14	
	Lamanna Electric		
Heat Pump Water Heater			
	PGI	June 20	June 23
	McAvoy Plumbing		
	JT Snow Plumbing $ Heating	June 19	
	Seaman Plumbing & Heating		
HVAC			
	PGI	Jun 20	Jun 23
	The Cooling Company	June 14	
	Dandelion	July 17	
	Danisi Energy	August 22	
Air Sealing & Insulation			
	Econo- therm insulation	July 24	
	Cary Insulation	June 14	
Remove Natural Gas Equipment			
	McAvoy Plumbing		
	JT Snow Plumbing $ Heating	Jun 19	
	Seaman Plumbing & Heating		
Replace Gas Appliances			
	Best Buy	June 19	19-June 19
	PC Richard & Sons		
	Jay's Appliances		
	C&C Appliance Store		
	Home Depot		

Appendix C – ADA LIFT Proposal

ALPHA CARE SUPPLY
Accessibility Solutions Specialist

CONTACT:	BILL TO:	INSTALLATION:
Susan Bock 586-872-7883 Wendy 516-375-2946 wendy@wlgcommunication.com		St. James of Jerusalem Episcopal Church 22 W Penn St Long Beach, NY 11561

We hereby propose to Furnish and Install (1) Quiet Hydraulic Vertical Platform Lift by Savaria with the Following Specifications:

1. 3 Stops, Full Enclosure with Plexiglas Door, Steel Panels, Rooftop Dome and Vent Fan
2. Tower Location: Right Hand
3. Travel Height Up to: 70"
4. Entry/Exit Configuration: Straight-Through
5. Interior Non-Skid Platform Size: 36x54
6. (1) 36" x 80" Enclosure Door with Plexiglas Panels, (2) 36" x 80 Fire Rated Steel Pro Door, all With Manual Operation
7. Capacity: 750 lbs. Travel Speed: 20 Ft per Minute, 110Volt, 20 amp, 60 Hz
8. Public Building Package - ASME A18.1 Code Compliant w/ADA Hands Free Phone
9. Emergency Battery Lowering
10. Weather-Resistant Finish and Controls, Emergency Stop Switch, Audio/visual alarm
11. Continuous Pressure Keyed Call/Send Controls on Platform and All Landings (Flush Mount Call/sends)
12. Delivery, Complete Installation and Setup by Certified Accessibility Technicians

LIFT 1:**$53,000.00**

Construction Work Needed:

1. Replace window at front of building with a 36 by 80 inch exterior door Opening
2. Remove Bushes, 25 x 8 concrete path from sidewalk to building with a 3 inch pit for lift
3. Dig 50" Down to Basement and Install Door, Retaining Wall, and Sump Pump
4. Replace main entryway doors & Frame, 36 by 80 includes finishing Work.
5. Electrical Line to Lift with Outdoor GFI Outlet

$39,000.00

TOTAL: $92,000.00

OPTION 1: 1 Year Maintenance Contract	$1,100.00
OPTION 2: Automatic Door Operation 3 Doors	$6,500.00
OPTIOM 3: Clear Plexiglas Enclosure Panels	$4,000.00

Grand Total $_____

This Proposal/Sales Agreement is Dated 3/8/23

* Method used for deposit will be used for balance once lift is installed. No permits.There are no verbal agreements that are not included on this agreement. Price does not include any unforeseen obstacles inside walls/ceilings or the possible need for a structural engineer. Customer responsible for emergency phone line to lift if desired. Current Eta for delivery of lift is 8-10 weeks.

Cell 516.778.0038 | **Tel** 516.568.3010 | **Fax** 516.256.3442 | **E** Frank@alphacaresupply.com
Corporate Office | 21 Stringham Avenue | Valley Stream, NY | 11580
Suffolk County Showroom | 1361 Lincoln Avenue | Holbrook, NY | 11741 **www.AlphaCareSupply.com**