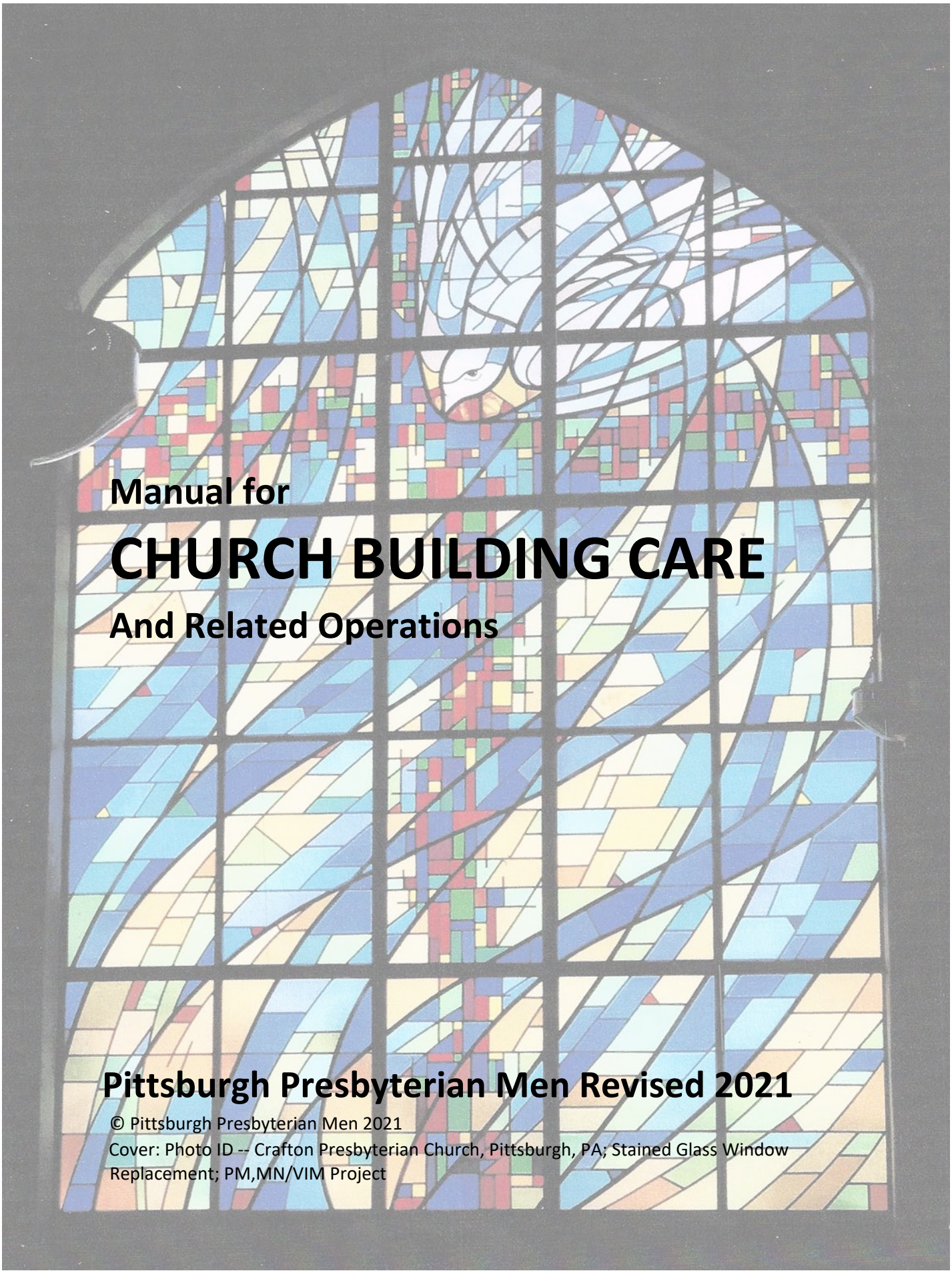

Manual for

CHURCH BUILDING CARE

And Related Operations

Pittsburgh Presbyterian Men Revised 2021

Cover: Photo ID -- Crafton Presbyterian Church, Pittsburgh, PA; Stained Glass Window Replacement; PM,MN/VIM Project

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* Revised/New Sections

** The Section C Maintenance was made available to Pittsburgh Presbytery Men through Partners for Sacred Places and was produced by the Episcopalian Church Denomination Maintenance Manual.

Section A

INTRODUCTION

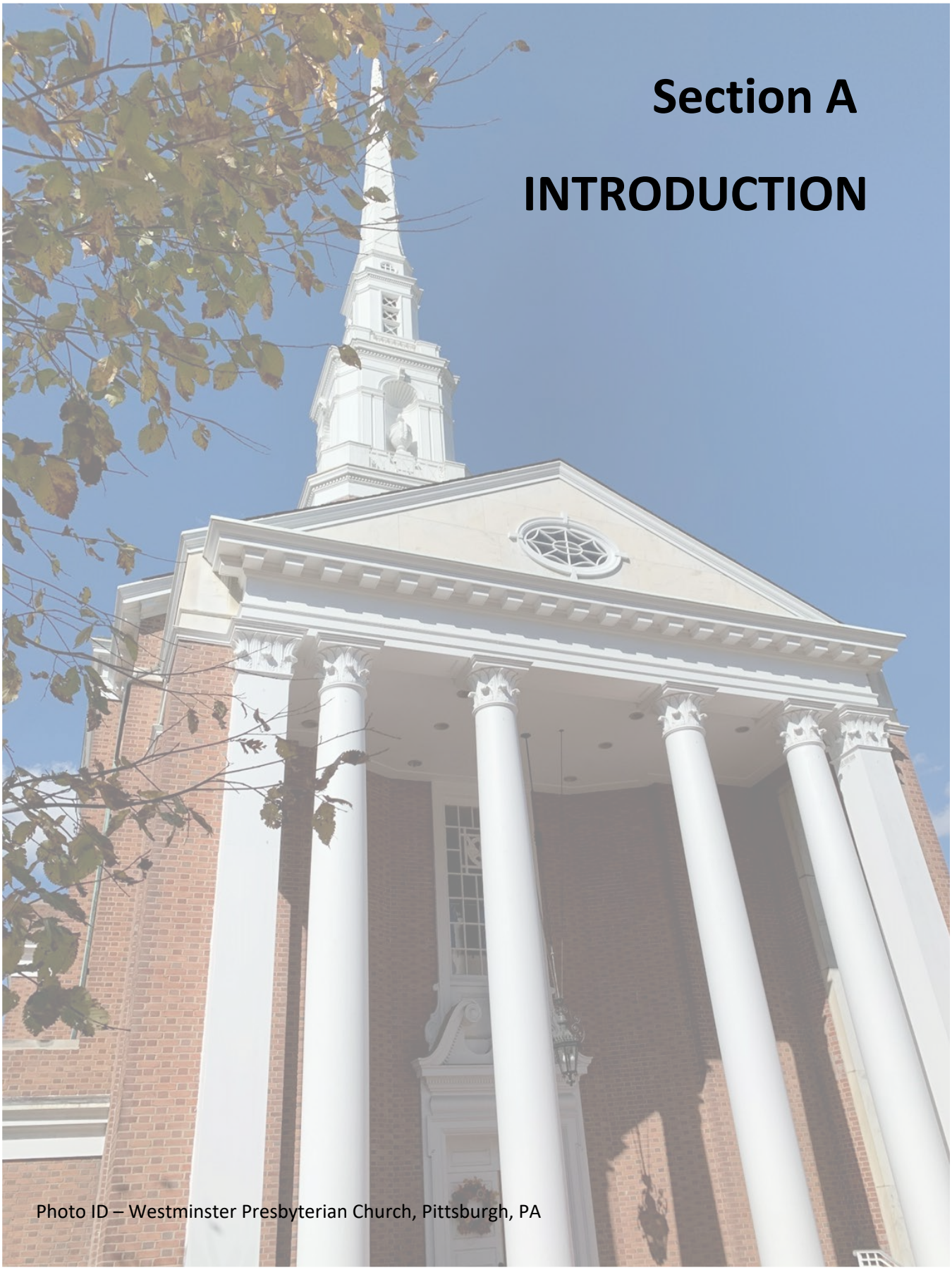

Photo ID – Westminster Presbyterian Church, Pittsburgh, PA

Letter of Affirmation

July 26, 2012

Dear Brothers and Sisters in Christ

As one pastor talking to my friends and colleagues, I am continually challenged to interpret building care to the congregations with whom I serve Jesus Christ. Many times I find this conversation diverting my attention away from topics that I have felt are more along the line of my call-like spiritual growth. However, as I have contemplated this dichotomy through the years, I have been moved to see building care as a spiritual concern.

Houses of God reflect the spiritual life in Christ's Body. They provide safe havens for Jesus Christ's worshippers that offer freedom from the dominion of worldly powers and principalities. Within Christ's sanctuaries we gather as His people to offer our gratitude for God's blessings. Without such houses of worship, we are a scattered people where gratitude to God is hidden from the world by isolation and privacy.

The value of these edifices for which we care lies in the public testimony they offer when we gather as one people, confessing our faith in Christ. That confession displays to the world Christ's reconciling love, who unites His Body in common witness to God's grace. The initiative we undertake to present a vital, living witness to the world is reflected in our care for His house of worship.

Many of us worship in sanctuaries that are expressions of nineteenth and early twentieth century faith in Jesus Christ. They stand as grand testimonies to the living Christ's empowerment of ordinary people to give glory to God. We are inheritors of their faith legacy, with all of the challenges that lie in living up to that same witness today.

Others of us lead worship in sanctuaries in small communities that express the intimacy of family fellowship gathered in Christ. Our sincerity in relationships with one another and with Christ is modeled for neighborhoods surrounding these modest houses of worship. This too, represents the personal nature of our living faith which draws others into Christ's community.

The stewardship of building care reveals our devotion to offering living places of witness to Jesus Christ. Our sanctification in Christ is visible for our communities to see. When we rise to this challenge, we convey God's hope for our communities' spiritual growth.

May Christ's blessings continue to inspire you in this public witness.

Jack Lolla

PREFACE TO INSTRUCTIONAL MANUAL

Pittsburgh Presbyterian Men, Mission Network/Volunteers in Mission is pleased to offer the Revised 2020 Instructional Manual to church officers and leaders.

This manual is to serve as resource for churches to perform maintenance inspection on a semiannual review, seasonal review, or other selected time frame for a "walk around" observation of church property and buildings. Regular reviews will enable the church leadership to be aware of future maintenance that may be required and to provide a budget of the maintenance cost which can be included in the church annul budget. Awareness of these maintenance issues can prevent surprises which may have grown into a major cost issue for the church.

The manual will also provide direction for planning and implementing new or renovation/maintenance projects. The manual highlights the importance for early consults with professionals, architects, engineers, and contractors for their insight and guidance in the initial planning stages. These early discussions can prevent misdirection of project planning and other opportunities for creative project solutions.

Regular usage of the instructional manual will provide guidance for corrective action with regard to all aspects of church building care. It will be especially valuable for Pastors, Property Chairpersons, Business Managers, and Custodians serving under the direction of the church's Session.

Inspection Checklists supplied by Contractors and Consultants are recommended as a way of determining the functionality of building structure, disciplines, equipment and systems particularly if building repairs and /or restoration are planned. However, inclusion of the checklists should not be interpreted as direction to engage for contractual services as it is PMMN/VIM policy to recommend to the church that competitive bidding practices be followed for most projects. We advise that PMMN/VIM be consulted for advice on the best contract delivery method.

Publication and availability of the Instruction Manual is our way of honoring the denomination's support for building care as expressed in "The Book of Order, Part II." The Property of the Presbyterian Church (USA), of its councils and entities, and of its congregations, is a tool for the accomplishment of the mission of Jesus Christ in the world, (G-4.0201).

The significant effort would not have come to fruition, however, without the gracious, caring support of the Synod Men's Council, Synod of the Trinity, Pittsburgh Presbytery, Partners for Sacred Places, and The Westminster Presbyterian Church Outreach Commission and its Office staff. We wish to acknowledge the devotion of those church officers and leaders of the thirty-two churches in Pittsburgh Presbytery we have been privileged to serve over the past five years and whose commitment to sound building care practices has been and is inspirational.

Eric Harrison, Project Manager, PMMN/VIM
Reverend Henk Bossers, Chairman, PMMN/VIM
Douglas Shuck, Architect, Committee Member PMMN/VIM Manual Revisions 2020

PM,MN/VIM Ministry Team Prospectus, Pittsburgh Presbytery

January 23, 2014

Volunteers in Mission – Presbyterian MEN (VIMPM) offer consulting services to congregations relating to church building repairs, maintenance and improvements. These services include:

- Appraisal of current building maintenance and repair needs
- Recommendation of reputable architects, contractors and suppliers
- Advice on organizing committees for building oversight
- Counsel on raising and sustaining sufficient funding to support building needs
- Occasional programs related to organizing for, planning and financing building care

Members of VIMPM offer their expertise in providing advice and counsel to Sessions when Sessions so request. Sessions are ultimately responsible for overseeing all building project. The Presbytery assures that the work of VIMPM is in line with Presbytery mission priorities and, through its Executive Committee, is responsible to review and approve all proposed building purchases and encumbrances.

VIMPM functions as a Ministry Team of Pittsburgh Presbytery in accordance with the Pittsburgh Presbytery Manual. As such it is self-forming under the guidance of team leaders who are approved by the Executive Committee. Members of the team are selected by team leaders based on their interest and expertise and, ideally, represent the four branches of Presbytery evenly. The team reports its work to the Executive Committee through the General Minister at least once each year. It consults with the Presbytery Business Manager concerning each congregation with which it engages and reports each congregational engagement to that congregation's Branch Minister. The General Minister and Business Manager are available to meet with the team or team leaders as needed.

Members of the leadership team my attend meetings of all branches for the purpose of engaging in informal conversation but should not expect to be given the opportunity to speak to the gathering or set up promotional displays. They may set up promotional displays at Presbytery meetings and may request from the General Minister an opportunity to speak briefly to Presbytery.

Presbyterian Men Mission Network/Volunteers in Mission Policy Statement for Volunteers & Lay Organizations

References: Manual for Church Building Care and Related Operations

I. Volunteers

The Volunteer will be a member in good standing of a Presbyterian church, Pittsburgh Presbytery. All Volunteers are welcome. Volunteers may be fully or partially employed, currently unemployed or retired. As VIM tasks are based upon construction disciplines, whether labor or management driven, experience in related craft trades and/or professionals are preferred. All services rendered will be pro bono.

A client church being served may request professional services on a fee basis of any Volunteer; however, upon an agreed-to-contract for same, Volunteers will relinquish their association with VIM for that particular assignment. While VIM Volunteers, they may not actively solicit for professional services engagement for/with a client church. Volunteers may not under any circumstances solicit for professional services where they have been granted decision-making authority by the client church or is otherwise represented in an official capacity of the client church.*

II. Lay Organizations

Where client church needs exceed pro bono craft of professional volunteer services, as in major building services repairs, whole church restoration or renovations that involved specialized materials, certifiable code conforming consulting and/or extensive project scheduling, VIM will recommend consideration of various lay organizations such as contractors, consultants, institutes, and/or foundations. These organizations may operate in conjunction with others or with VIM Volunteers as project needs (or projects need) evolve. Management of all projects is a client church responsibility.

In all cases where project budgeting and scheduling requirements are extensive and costs are substantial, VIM recommends consideration of multiples lay organizations suitable for disciplines involved, submitting bids on a competitive basis and in accordance with established American Institute of Architects' processes and documents. Under certain circumstances (for example, where the client church is unfamiliar with the field of organizations suitable for a particular discipline or where emergency conditions exist) VIM will make reference to one lay organization only, the purpose being to initiate immediate communication, both parties are then able to decide how to address problems at hand and whether or not to pursue a contractual relationship.

Client churches being served will not be obligated to accept recommendations by VIM Volunteers or Lay Organizations or to engage recommended Lay Organizations. Throughout the VIM/client church relationship, the church and its officers being served are free to consult with and/or engage contractors, service providers and consultants of its own choosing and preferences for any task(s) they may believe to be appropriate.

PM,MN/VIM Church Building & Facilities Care Assistance

Presbyterian Men,
Mission Network/
Volunteers in Mission

Greetings,

Thank you for your request for Building Care Assistance. We are hopeful that the Presbyterian Men, Mission Network/Volunteers in Mission (PMMN/VIM) will be helpful to your church.

PMMN/VIM applies its mission through employment of two components: Trade and technical volunteers, male and female, and lay organizations active commercially in the various building disciplines. Services and estimates by the volunteers are cost-free; some lay organizations may provide services at minimal or no cost but the majority will do so on a cost basis to help your church assess needed work.

In order for PMMN/VIM to meet your stated building care needs, it will require basic information regarding the extent of those needs. To begin to provide support, a "Building & Facilities Care Assistance Form" is provided. Completing the form provided on the following pages will enable PMMN/VIM to assemble the project management, volunteers and other resources in a timely fashion.

PMMN/VIM will recommend that, upon definition of the entire scope of work, agreements between the client church, PMMN/VIM and service provider(s) be executed.

We believe that proper care and upkeep of "God's house of worship" is an act of Christian stewardship. Through your church and community assets, we believe the mission of Christ can move forward to God's glory.

Thank you,

Eric Harrison

Presbyterian Men, Mission Network/Volunteers in Mission

Church Building & Facility Care Assistance Form

Presbyterian Men, Mission Network/Volunteers in Mission

<table>
<tr><td>Church Name:</td><td colspan="2"></td></tr>
<tr><td>Church Address:</td><td colspan="2"></td></tr>
<tr><td></td><td colspan="2"></td></tr>
<tr><td>Church Phone:</td><td colspan="2"></td></tr>
<tr><td>Church FAX:</td><td colspan="2"></td></tr>
<tr><td rowspan="3">Primary Contact Person Information:</td><td>Name:</td><td rowspan="2">Role at Church:</td></tr>
<tr><td>Email Address:</td></tr>
<tr><td>Mailing Address:
(if different from property address)</td><td>Phone:</td></tr>
</table>

Please provide reasons for request on next page. You may use additional pages if needed.

Why are you contacting PMMN/VIM?
Briefly list maintenance, repair or capital needs:
Are these needs part of a larger plan to alter, renovate or upgrade the building?
List available sources of funding (capital campaign, reserve funds, endowment, etc.):
Are these building and facility needs part of a larger strategic plan being considered by the leadership (e.g., five-year goal-setting plan)? If yes, please explain briefly.
Have you checked with the presbytery to see what other resources might help your church move forward in ministry (e.g. strategic planning process, stewardship assessment, discernment process, transformation grants, partnerships with area churches and community groups)? If yes, please list resources that are currently helpful or that have been helpful in the past.

NOTE: PMMN/VIM works in partnership with Pittsburgh Presbytery. The information you provide will be shared in the hope of bringing the best resources to the fore.

Please return the completed form to: PMMN/VIM
ATTN: Eric Harrison
1591 Pinehurst Drive
Pittsburgh, PA 15241

GUIDE FOR CHURCH PROPERTY MANAGEMENT

Purpose:

To provide organized interactive relationship between a group of church staff and the church's Session, the goal of which is to develop an annual plan for church building care.

Background:

PCUSA churches encounter building and property deterioration due to largely five basic causes:

- Shrinking church membership resulting in lack of funding.
- Foundations typically provide grants for the arts, other areas of specialization such as education, and community development.
- PCUSA judicatories are themselves under financial constraints.
- The Book of Order, Section G-4.02, "Church Property" does not provide guidance for church maintenance.
- With very few exceptions, PCUSA seminaries supply no instruction for church maintenance.

Lapses in Building Care Best Practices:

Church leadership can face an array of management decisions and choices when breakdowns in building structure, roofing, flashing, windows, doors, security, or malfunctions of heating, electrical, plumbing communications and A/V services occur. If corrections of these systems and choices are improperly made, time is wasted, and unwanted expenses can mount. Complex questions can then arise for which there may be no creditable answers and expert advice from consultants and contractors. Establishing a comprehensive church building care management plan will eliminate the cost of these concerns.

Committee Tasks:

- Under the direction of the Property Commission form a building inspections and maintenance team consisting of members with the necessary expertise and interests, its primary goal being to conduct regular inspections throughout the year, creating scope of work accompanied by those tasks best suited for remediation. Additionally, the team will oversee the selection process for consulting and contracting firms best qualified to address the identified issues.
- The group of church officers and leaders will meet on a regular basis, and will enable interactions between those offices that normally address building care issues, i.e. pastor, Session, property commission chair, accountant/financial manager, custodian, etc. and will generate evaluations to determine the status of the church structure and building services thru periodic building inspections.
- Establish discipline-by discipline inspections* of all building services utilizing the check list format as found in Section C Maintenance of this manual.
- Prioritize key tasks, immediate and long term. Obtain cost estimates for repairs. Prepare schedules and maintenance agreements with qualified contractors.
- Whenever possible engage qualified outside consultants.
- Develop support systems with special consultants, strategic planning, and capital campaigns.

- Consultant with architectural /engineering firms for long term restoration and /or renovation projects.
- Consult with local government planning departments regarding code reviews and approvals and compliance for life safety and ADA concerns.
- The scope of work and bid documents complete, create a Request for Proposal for distribution to qualified contractors, minimum of 3, establishing a bid due time and time to review all proposals.
- Report to Session indicating the committee's recommendation to award the contract.
- Following Sessions review and approval, notify successful contractor and return signed contract to the successful contractor, finalize schedule. Notify all unsuccessful contractors too.

Reporting:

- The Property Committee will report to Session on its ongoing tasks together with short term and long-term recommendations for repairs, and renovations with scopes of work and estimates.
- Following consulting with relevant staff and department heads, Session will report back to the Property Committee with its recommendations.
- A summary of the past years activities with proposed future projects will be included in the Annual Report presented by Session at the Annual Congregational Meeting.

References:

- Manual for CHURCH BUILDING CARE and Related Operations, 2021; American Institute of Architects, relevant documents.

* Include hazardous materials and building security disciplines

Suggested Guidelines for Church Property Committees

This is submitted by Presbyterian Men, Mission Network Volunteers in Mission
For use by the Branch Ministry Programs, Pittsburgh Presbytery

Two-Fold Goal:

- In the hope of eliminating drains on the Church Budget, Ministry and Mission, and overall programming, Pittsburgh Presbyterian Men suggests that the start of saving and reducing significant crisis future expenses a coordinated process for **identifying deficiencies** in the building structure and related building services.
- After the identification, we suggest the **intentional application** for corrective action.

Recommended Basic Tasks:

1. Session should compile a year-end report for the Congregation at its Annual Meeting from its Property Committee.
    - Property Committee Membership ought to consist of persons with backgrounds in construction, building services, industry, government and/or related fields.
    - The Property Committee should meet on a regular basis reporting to Session.
2. The Property Committee should have knowledge of its record storage.
    - Records Storage: a central filing system which should contain all relevant documentation such as prints, plans, specifications, contracts, sketches, work orders, and cost estimates preferably dating back to the time of **original** construction.
3. Contractor/Consultant Selection process when necessary:
    1. A member of the Committee should be assigned to act as the Church's Site Representative. The Church's Site representative is to provide access to the building and act as liaison between Contractors/Consultants and the Committee.
    2. The Site Representative ought to be well informed about existing conditions and building issues needing attention and out to conduct walk-throughs with authorized parties, reporting as needed to the appropriate Church Committee.
    3. Competitive bidding processes will prevail except in those situations where an emergency of safety, time or funding exist, in which case(s) an agreement may be reached after consideration of only one provider.
    4. The successful bidder will provide a complete review of the proposed Work together with cost estimate and schedule all to be summarized in the proposal. Relevant American Institute of Architects Documents descriptive of the type of Work to be undertaken ought to be utilized by all parties to the Contract(s).
4. Building Inspections – whole building inspections ought to be conducted at the direction of the Committee using checklists as provided in the Presbyterian Men's **Manual for CHURCH BUILDING CARE and Related Operations**, findings to be summarized and transmitted to Session with schedule and budget for correction action.
5. Care of existing building services – Mechanical, Electrical and Plumbing (MEP) services will be kept in good repair by usage of a Maintenance Agreement program where the

Contractor/Consultant, by agreed-to regular inspections, is made aware of any repair needs reporting on a regular basis to the Committee.

6. Planning for whole Church renovations – where Church leadership may hire an Architectural/Engineering firm, Consultants, Contractors and Sub Contractors, the Article in the Pittsburgh Presbyterian Men, **Manual for CHURCH BUILDING CARE and Related Operations, Section D Project Implementation** by Douglas L. Shuck, Retired Architect, "Recommendations for Planning and Implementing a Church Renovation" will supply helpful information for this important process.
7. For any **life safety question** concerning topics such as fire and water hazards, mold/mildew, asbestos containing material (ACM), public ingress/egress, and/or related Code compliance issues, the Property Committee should consult relevant local government offices.
8. Programming support for repairs, restorations, and/or renovations maintain updated files for:
    1. Contractors, Manufacturers/Suppliers and Consultants*
    2. Funding sources
    3. Government regulators

    *includes Architects, Engineers and Planners

9. References

- Manual for CHURCH BUILDING CARE and Related Operations, produced by Pittsburgh Presbyterian Men (PMMN/VIM)
- Guide to Preparing Design and Construction Documents for Projects, The Constructions Specifications Institute, 601 Madison Street, Alexandria, VA 22314
- American Institute of Architects, 1735 New York Avenue NW, Washington DC 20006-5292
- 800-242-3837

CHECK LISTS FOR BUILDING SERVICES, PURPOSES AND USES

As indicated in the Preface, Check Lists as supplied by qualified Service Providers are important tools for documenting the status of your building's construction, equipment, and systems. Copies extracted from the Manual for CHURCH BUILDING CARE and completed during periodic inspections will supply critical data for officers and leaders engaged in planning for, maintenance, renovations and new construction.

SECTION C MAINTENANCE

This section will provide guidance for setting up a program for periodic maintenance inspections, and identifying deferred maintenance projects and seasonal maintenance reviews. This section will also help set up a maintenance schedule for future projects of short term, intermediate term and long term duration. Establishing these schedules will also aid in establishing budgets for each of these categories which can be important for inserting into the Annual Church Budgets and planning which maintenance may be part of an annual budget, or may necessitate a future capital campaign, due to its size, and support from key member donors, external philanthropy or grants.

SECTION D PROJECT IMPLEMENTATION-PLANNING FOR REPAIRS

Data secured by inspection walk-throughs will help determine the scope of repairs and will establish the bases for cost estimating, which contractors to approach, and how to establish a work schedule.

Usage of the Check List process at regular intervals also helps identify problem areas before they result in breakdowns and thus prevents unwanted higher costs of operation for equipment and systems. The language used in the Check List method is "universal", reducing time spent with contractors and consultants

SECTION D PROJECT IMPLEMENTATION-PLANNING FOR MAINTENANCE PROJECTS, RENOVATION OR NEW CONSTRUCTION

Unlike planning for repairs/modifications where only a few construction disciplines may be involved, renovations for the church building for Ministry and Mission programs may typically involve a larger number of construction disciplines.

Transforming whole sections of the building from one primary use to another may involve substantial co-ordination of mechanical, electrical, data, audio visual, fire suppression and plumbing services. These revisions may also require a review of local building code requirements.

Data compiled from Check Lists will enable the architect and engineers to obtain a clear picture of how to graphically organize the new spaces throughout the programming, schematic design, design development and construction documents process. Check List data will be useful for the creation of the project budget and schedule. See Section D Project Implementation.

Section B

FUNDING AND DESIGN RESOURCES

PROJECT FUNDING POSSIBILITIES

The funding to support annual maintenance, deferred maintenance, future renovations and additions or new church construction can be a significant challenge for all congregations. The purpose of this section is to identify possible funding sources:

Church Annual Budget:

- Identify a budget for One Year annual maintenance and up keep as well as longer term maintenance items, 3 year, 5 year and 10 year.

Fundraising Campaign for Capital Expenses:

- Hold a project specific campaign for identified capital expenses including cost estimates or budgets for identified projects.
- Prepare a presentation for the congregation and or Session explaining the need for these projects to build momentum for the Capital Campaign.
- Consider hiring, engaging key members of the congregation or session to lead the campaign or consider hiring a professional fund raiser.

Funding Possibilities by Foundation and Grants:

Great Ends of the Church Funds

This grant is to provide funding for emergency projects which would be required to keep the church building operational to satisfy life health and safety issues, protection from weather and security.

Examples of projects may be as follows:

Roof repair, door locks, window repair, sewer line repair, bathrooms not functioning, water heater, boiler, heating and air conditioning repair, electrical power and lighting not functioning, and structure is failing, are only a few examples.

The request for funding includes filling out an application from Pittsburgh Presbytery and describing the project, estimated cost of the project, with the requester contributing a minimum of 10% of the project cost. The Presbyterian Men Committee will review the request and make a recommendation to the Executive Council of Presbytery.

The Great Ends of the Church Funds budget is $100,000.00, reviewed annually, and distributions may not reduce the fund to less than 20% of the corpus.

Snee-Reinhardt Charitable Foundation

470 Streets Run Road

Suite 401

Pittsburgh, PA

The grant is to provide funding for projects similar the Great Ends of the Church with the limitation they will provide funding for materials only, not labor.

Please go to their web site and review their current submittal requirements, www.snee-reinhardt.org or call them at 412-884-3626.

Proposals are due in their office August 1, current year, or April 1, current year and will be acted upon by their Board in the following month, September or May. It is very important to file a completed proposal with all the information they request or it will delay review or approval of your request.

Carnegie Library of Pittsburgh-Non Profit Resource Center:

foundation@carnegielibrary.org

The Foundation Center:

www.fdncenter.org

Grantmakers of Western Pennsylvania:

www.gwpa.org

Pittsburgh History and Landmarks Foundation:

phlf.org (go to top of page, select ”financing” tab)

rob@phlf.org

National Trust:

www.savingplaces.org

Partners for Sacred Places:

www.fundforsacredplaces.org

PCUSA Investment and Loan Program:

www.pilp.pcusa.org

RESOURCES FOR BUILDING PROJECTS

The following list of resources are organizations or associations that can assist churches in preparing for their project planning of maintenance, building annual, or longer term maintenance planning, programming for renovation, expansion and new construction. The resources can provide guidelines for implementing and completing the projects, programming, design, construction documents, construction management, selection of contractors, construction, and project close out. All of the resources listed may not be required for maintenance or projects.

Design:

American Institute of Architects:

AIA
1735 New York Ave. NW
Washington, D.C. 20006-5292
800-242-3837 M-F

Selection of architects.

www.aia.org

Find "contracts tab" for free preview of desired documents.

For assistance contact, AIA Pittsburgh office, 412-471-9548

Construction Support Organizations:

Construction Specifications Institute:

csimail@csinet.org

New York Landmarks Conservancy:

www.nylandmarks.org

US Green Building Council:

www.usgbc.org

Construction Related National Associations

Construction Management Association of America:

www.cmaanet.org

Construction Owners Association of America:

www.coaa.org

BUILDING/BUILDINGS AND SITE ARCHIVAL DOCUMENTATION

The following documents would be important to preserve in a dry accessible location:

Site Conditions:

1. Site Survey with metes, bounds, setbacks, easements, topography, buildings and walks, paved areas, utilities, lakes or ponds, retaining walls, landscaping, site lighting, etc.
2. Identify ADA access, parking, walks, ramps.
3. Identify Site Signage, church name, vehicle and site access signs.
4. Photos that document the site, and buildings, and date them

Buildings and Structures:

1. Archival Architectural and Engineering drawings, original building and additions and renovations
2. Local building approvals
3. Local Zoning and Planning approvals
4. State Approvals and stamped approved drawings and documents

Record Documents:

If archival architectural and engineering drawings are not available, it would be advisable to have someone create drawing of existing conditions. Architectural floor plan drawings are helpful for creating exiting plans for fire safety egress signs, planning space layouts for classes, programs, and room numbers for maintenance, wayfinding, and security. Architects, engineers, knowledgeable cad drafts people, and contractors can create these documents for a fee. The church may also have a member who may be willing to donate their services for this task.

The site drawings could be created by a surveyor, civil engineer, or other knowledgeable person. These drawings could be created for a fee or the church may also have a member who may be willing to donate their services for this task

Section C
MAINTENANCE

Photo ID – Hiland Presbyterian Church, Pittsburgh, PA; HVA/C Upgrade; PMMN/VIM Project

1.01 Introduction

What is Maintenance?

Maintenance is work done on a routine basis to protect users of a building and to assure a long life for the building. Its goal is a minimum of unexpected repairs for buildings, grounds, and equipment. A wisely implemented preventative maintenance program, designed to correct each problem as it occurs, is more cost effective than waiting until the problem reaches a magnitude where special contracts and large expenditures are required to correct it.

Why a maintenance manual?

The Architecture and Building Commission (ABC) is dedicated to assisting parishes and other Diocesan groups with the renovation, repair, operation and maintenance of their buildings, grounds, and equipment. The ABC staff has consolidated its experience, gathered over the years, in producing this manual, which is a simple yet comprehensive program of maintenance. If used on a routine basis, this manual can be a great aid in preserving properties of the Diocese.

How to use this manual

This manual is intended to be a flexible working document that can be applied to each building of a particular complex. You may wish to have one manual for each building, or you may wish to combine checklists for all buildings into a single manual. Because this manual is in a loose-leaf binder, it can be changed to suit your needs. You might find items that do not pertain to your specific situation. Inapplicable items may be omitted to save inspection time.

The **Maintenance Checklists** are organized by season because these routine tasks must be done during a certain period of the year. These items serve to remind parish and institution maintenance staffs of the various jobs to be completed. Each item should be checked off and dated as it is finished.

The **Mechanical Checklists** are also organized by season. Due to their technical nature, they have been separated from the Maintenance Checklists. A maintenance person experienced in mechanical systems may be qualified to complete these lists. Otherwise, a company specializing in the installation and maintenance of mechanical systems should be hired. Depending on the staff available, a combination of in-house and outside help may be best to perform this work.

The **Inspection Checklists** are lists organized according to building grounds, components, and equipment. These checklists require a physical inspection of the items listed once a year by the maintenance staff or by a building committee. Answer each question on the checklist by circling "Y" for yes or "N" for no. Upon completion, look at the column marked "UNSAT" (unsatisfactory). Any item indicated as being unsatisfactory (either Y or N circled in the UNSAT column) should be included in the maintenance program for the next twelve months. All these unsatisfactory items should, for greatest effectiveness, be placed on the Repair List at the end of the Section, with the most important items at the beginning. Any items circled in the "SAT" column (satisfactory) would be expected to remain in satisfactory condition for the next twelve months. These checklists should be completed in pencil so that the circled answers can be erased and redone each year. This way the same form can be reused for several years.

The **Safety Checklists** follow the same procedures as the Inspection Checklists. They are listed separately because of their special nature and because State laws frequently require that special safety conditions be checked. These checklists should be completed once a year. They should be done in pencil so that the circled answers can be erased and redone each year. This way, the same form can be reused for several years.

The last few sections consist of a glossary and forms pertaining to emergency phone numbers, building history, and service records.

Plastic pouches are included at the end of the Manual to hold equipment and service records. Records of boiler safety inspections, etc., need to be saved and the pouches provide a convenient place to keep them.

1.02 Site & Building Maintenance Review Items

Site and Landscaping:

- Driveway pot holes and deteriorating pavement; curbs
- Sidewalks, steps, and ramps, masonry pavers
- Storm, Sanitary lines; sewer manholes and inlets
- Landscaping pruning
- Site Lighting, Security Lighting
- Signage, identification and directional

Building, Exterior and Interior:

- Roofing; gutters and downspouts; flashings
- Eaves, Cornices, Dormers, Steeples
- Columns, Porches
- Painting, Wood, Siding, Trim; Metal
- Doors and Windows
- Brick Pointing
- Painting Interiors, walls, ceilings, trim,
- Staining and protective coatings
- Restrooms, Plumbing and Lighting, ADA Improvements
- Kitchens, Code up Grades, Equipment, Plumbing, Ventilation
- Floor Finishes, Tile, Carpet, Wood
- Heating A/C, and Ventilation Systems and Controls
- Electrical Lighting and Power
- A/V and Technology
- Security Systems
- Signage, Identification and Directional
- Insulation, and Energy Saving Up Grades

General Items:

- Review Local, State and Federal code and ADA up grades
- This list is designed to stimulate thinking about areas of the church grounds and buildings and is not a comprehensive list. Your church and grounds may have other features and issues which may want to be included in your review and Checklist. Annually reviewing your facilities is recommended for identifying maintenance strategies and budgeting.

GATEWAY
On Call. On Time. On Target.

Building and Grounds Maintenance Checklist

Building Exterior Maintenance	Satisfactory	Needs Attention	Not Applicable	Action To be Taken
Are roofs in good condition?	☐	☐	☐	
Is the parking lot adequately marked and lighted?	☐	☐	☐	
Is there exterior dusk-to-dawn lighting on all sides of the building?	☐	☐	☐	
Are handrails securely anchored?	☐	☐	☐	
Are fences in good repair?	☐	☐	☐	
Do openings in guardrails or between ladder rungs measure less than 3.5 inches or more	☐	☐	☐	

Hardscape Maintenance	Satisfactory	Needs Attention	Not Applicable	Action To be Taken
Are walkways kept clear of loose gravel and other foreign materials?	☐	☐	☐	
Are there any tripping hazards on the sidewalk, lawn or parking lot?	☐	☐	☐	
Are there potholes in the driveways or parking lot?	☐	☐	☐	
Are parking lot traffic signs in good condition and positioned for easy viewing?	☐	☐	☐	
Are driveway and parking lot chain barriers equipped with reflectors for visibility at night?	☐	☐	☐	
Are sidewalks and steps free of raised cracks or chips?	☐	☐	☐	
Are there tripping hazards such as exposed concrete footings, tree stumps and rocks?	☐	☐	☐	
Do all elevated surfaces such as platforms and ramps, have guardrails to prevent falls?	☐	☐	☐	

Landscape Maintenance	Satisfactory	Needs Attention	Not Applicable	Action To be Taken
All trees and shrubs are the appropriate size?	☐	☐	☐	
All dead and broken branches have been pruned out?	☐	☐	☐	
Plants exhibit no signs of disease or infestation?	☐	☐	☐	
A uniform, well defined bed edge is established?	☐	☐	☐	
Plant beds have no weeds, debris, stones or ruts?	☐	☐	☐	
All sod/grass is healthy and well established?	☐	☐	☐	
Lawn areas have no low spots, ruts, stones or debris?	☐	☐	☐	
Are play structures that are more than 30 inches high spaced at least 9 feet apart?	☐	☐	☐	
Is all equipment securely anchored?	☐	☐	☐	
Is there dangerous hardware, such as open "S" hooks or protruding bolt ends?	☐	☐	☐	
Are playgrounds equipment and surfacing in good condition?	☐	☐	☐	

Stormwater Maintenance	Satisfactory	Needs Attention	Not Applicable	Action To be Taken
All landscape areas have proper drainage that prevents excess water from standing?	☐	☐	☐	
Are all slopes and disturbed areas not actively being worked properly stabilized?	☐	☐	☐	
Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar BMPs?	☐	☐	☐	
Are perimeter controls and sediment barriers adequately installed (keyed into substrate) and maintained?	☐	☐	☐	

1.03 Frequent Systems Inspections

Elevators/Lifts

1. Review local requirements for frequency and authorized inspection contractors. Elevator manufactures and installers are normally approved inspectors. They will review operating equipment, safety and ADA features providing an inspection certificate at the completion. There will be a fee for this inspection and review the proposal of inspection for their scope of work.

Kitchen and Kitchen Equipment

1. Review local requirements for frequency and authorized inspection contractors. Food service consultants, and equipment manufacturers and installers are normally approved inspectors. They will review operating equipment, safety and ADA features providing an inspection certificate at the completion. There will be a fee for this inspection and review the proposal of inspection for their scope of work.

2. Areas to be inspected will include the following:
   National Sanitation Foundation and local plumbing and health departments will be governing agencies

   Hoods and cooking equipment
   Gas and electrical connections and safety features
   Plumbing connections
   NSF approved equipment
   Counters and portable equipment
   Finishes, ie. Floors, walls, ceilings

3. See Section E Appendix for additional food service equipment review items.

1.04 Annual Budget

Allocating a percentage of dollars for annual maintenance is as important as allocating budget for Missions, Personnel Salaries, Youth and Adult Programs, etc. The percentage should be in proportion to the size of the congregation, size of site and buildings. This will be a starting point and will need to be adjusted annually based on annual maintenance inspections.

Master Planning for major maintenance repairs may be allocated at 5-10-20 year intervals. This may require a capital campaign, special donations, or focused fundraisers. Typical major maintenance projects may be a roof replacement, boiler replacement, heating and air conditioning up grades, paving a parking lot, site lighting, window up grades, new kitchen equipment, sound system, etc.

Prayerful thought and planning is the key requirement for addressing the above issues!

2. SPRING MAINTENANCE

2.01

Building:

Date/Comments:

SITE MAINTENANCE

- Remove and dispose of all fallen treelimbs, dead shrubs, etc.
- Remove brush and weed growthadjacent to building walls.
- Reseed worn lawn areas.
- Fertilize lawn.
- Trim and prune shrubs and trees.
- Repair property damaged due to winterplowing.
- Clean all site drains.
- Obtain contract bids for summer yardcare and landscaping (if required).
- Repair potholes in parking lots anddriveways.
- Check and service playgroundequipment.
- Service lawnmowers.

SPRING MAINTENANCE

2.02

Building:

Date/Comments:

BUILDING EXTERIOR MAINTENANCE

- Install awnings.
- Remove and store storm windows and install screens as required.
- Wash windows.
- Replace cracked or missing putty.
- Replace broken window glass.
- Paint building exterior as required.

ROOF MAINTENANCE

- Clean roof valleys.
- Clean roof drains.
- Clean and secure gutters.
- Clean and secure downspouts.
- Perform necessary roof repairs.

SPRING MAINTENANCE

2.03

Building:

Date/Comments:

BUILDING INTERIOR MAINTENANCE

- Dispose of all unused books, papers,debris, etc.
- Clean windows, blinds, draperies, etc.
- Open crawl space and basement windows for summer ventilation.

MECHANICAL EQUIPMENT MAINTENANCE

- Service all pumps per manuals.
- Clean ashes from fireplaces andincinerator ash pits.
- Service all air-conditioning equipment.Remove exterior covers and store.
- Service all ventilating equipment.

ELECTRICAL EQUIPMENT MAINTENANCE

- Check and secure roof and gutter heating cables.

3. SUMMER MAINTENANCE

3.01

Building: Date/Comments:

SITE MAINTENANCE

- Remove any excessive overgrowth.
- Patch, repair and seal asphalt road andwalkway surfaces.
- Repair concrete road and walkway surfaces.
- Paint road and/or walk markings.
- Repair and paint fences.

BUILDING EXTERIOR MAINTENANCE

- Wash all dirt accumulated on building surfaces.
- Remove all ivy from building walls, monuments and fences.
- Paint building exterior as required.
- Lubricate exterior door hinges and hardware.
- Replace broken glass.
- Replace loose and disintegrated mortar.

SUMMER MAINTENANCE

3.02

Building: Date/Comments:

BUILDING INTERIOR MAINTENANCE

- Remove all rubbish, boxes, debris and combustibles from:
  - Paths of exit.
  - Doorways.
  - Stairs.
  - Under stairs.
  - Furnace and utility rooms.
  - Around flues and chimneys.
  - Around any heating equipment and heat-producing equipment.
  - Around radiators.
  - Electrical panel areas.

MECHANICAL EQUIPMENT MAINTENANCE

- Perform test on building fire sprinkler system. Service as required.
- Service heating system.
- Check boiler for any fuel leaks.
- Check openings or motorized dampers that provide combustion air to boiler room.

(continued next page)

SUMMER MAINTENANCE

3.03

Building:

Date/Comments:

MECHANICAL EQUIPMENT MAINTENANCE

- Check boiler cleanout openings, doors, etc. for air leakage and corrosion.
- Check for water leaks in boiler and in piping.
- Pump out septic tanks at least once every four years.
  Date last cleaned:

ELECTRICAL EQUIPMENT MAINTENANCE

- Replace light bulbs that have burned out.

PLUMBING MAINTENANCE

- Service well pump and water storage tank.
- Inspect and clean out grease trap.
- Repair or replace broken fixtures.
- Replace washers or packing on leaking faucets, etc.

4. FALL MAINTENANCE

4.01

Building: Date/Comments:

SITE MAINTENANCE

- Clean all site drains.
- Obtain contract bids for winter snow plowing (if required).
- Remove brush and weed growth adjacent to building walls.
- Clean and service lawn mowers.
- Check and service snow blowers and other winter equipment.

BUILDING EXTERIOR MAINTENANCE

- Cut back tree limbs resting on buildings and roofs.
- Install storm windows and weather-stripping.
- Repair and store summer screen windows.
- Replace cracked or missing caulking at doors and windows.
- Remove all exterior awnings.
- Paint building exterior as required.

FALL MAINTENANCE

4.02

Building: Date/Comments:

ROOF MAINTENANCE

- Clean roof valleys.
- Clean roof drains.
- Clean gutters.
- Clean downspouts.

BUILDING INTERIOR MAINTENANCE

- Clean radiators and air registers.
- Close crawl space and basement windows opened for summer ventilation.

MECHANICAL EQUIPMENT MAINTENANCE

- Clean chimney flues as required.
- Cover air conditioners.
- Clean boiler room of all debris.
- Check and service propane gas equipment and piping.
- Clean or replace furnace air filters.

FALL MAINTENANCE

4.03

Building: Date/Comments:

ELECTRICAL EQUIPMENT MAINTENANCE

- Test emergency lighting system.
- Test all exit lights.
- Test fire alarm system.
- Test smoke detectors. Replace batteries if necessary.
- Repair or replace non-functioning switches, receptacles and outlets.
- Replace frayed wiring.

PLUMBING MAINTENANCE

- Shut off and drain all exterior water faucets.

5. WINTER MAINTENANCE

5.01

Building: Date/Comments:

BUILDING INTERIOR MAINTENANCE

- Patch and paint damaged and faded walls and ceilings.
- Refinish damaged or peeling interior wood trim.
- Paint or refinish handrails, doors, windows, etc.
- Clean entry floors of exterior salt and sand.

MECHANICAL EQUIPMENT MAINTENANCE

- Clean or replace furnace air filters monthly during December, January, and February.
- Check water levels in boiler and blow down boiler water once weekly.
- Bleed air from radiators.

ELECTRICAL EQUIPMENT MAINTENANCE

- Clean light fixtures and replace light bulbs that have burned out.

6. MECHANICAL SYSTEMS

6.01

General

Continuous maintenance is essential for the proper operation of mechanical equipment. Without this, the equipment usually fails when it is working the hardest, usually when it is most needed. Most areas of mechanical system maintenance are best handled by those persons skilled and specially trained in the operation and maintenance of heating, ventilating, and air-conditioning equipment.

This section includes general information and procedures essential to preventative maintenance of mechanical equipment. It is designed to be used as a monitoring tool. It is suggested that the person who performs the inspections of the mechanical systems review this section of the Manual. It is also suggested that this person review the operation and maintenance instructions for each piece of equipment and add any pertinent items to the mechanical checklists that follow.

General preventative maintenance contracts should include the following:

Boiler, burners, valves, gauges, motors, pumps, compressors, fans, steam traps, ignition components, filters, safety devices, etc.

Operation of the equipment. Parts inventory.

Corrosion prevention and water treatment, especially for steam boilers.
Calibration of temperature controls.

Fuel efficiency tests.

Building: Date/Comments:

BOILER

- Clean boiler and piping internally. Swab tubes with neutral oil.
- Clean water side of steam boiler. Use pressurized water jet and scrapers to remove any scale.
- Fill boiler tubes with water.
- Clean control box of all dust.

AIR HANDLERS

- Lubricate and grease all bearings, motors, and fans.
- Adjust all V-belts for proper tension. Replace all worn belts.
- Check and clean air filters. Replace as needed.
- Clean and adjust controls that operate valves and motorized dampers.

HEAT PUMPS

- Check all control valves for proper operation.
- Inspect air filters and replace as required.

(Continued next page)

SUMMER MECHANICAL

6.03

Building:

Date/Comments:

HEAT PUMPS

- Oil and lubricate motors.
- Inspect, adjust, calibrate, and clean temperature control items.

STEAM AND HOT WATER PIPING

- Open steam traps; replace worn or inoperative parts.
- Replace valves and valve seats that are worn.
- Inspect and repair any breaks in pipe insulation.
- Inspect pipe hangers for tightness.

OIL TANK

- Clean oil strainer.
- Clean sludge from tank.

Building: Date/Comments:

BOILER

- Check operation of combustion air louvers that supply air to boiler room.
- Test boiler water quality for pH, hardness, corrosive compounds. Chemically treat as required.

BURNERS

- Clean oil strainers.
- Check draft regulators for free movement.
- Inspect induced draft fan and forced draft fan for alignment and wear on bearings.

HEAT PUMPS

- Inspect heat exchangers.
- Clean finned pipe surfaces.
- Inspect coil casings for rust; Clean and paint as required.
- Inspect heating coil tubes.
- Inspect heating coil mountings and tighten any loose bolts.

(continued next page)

FALL MECHANICAL

6.05

Building: Date/Comments:

HEAT PUMPS

- Check all control valves for proper operation.
- Inspect air filters and replace as required.
- Inspect, adjust, calibrate and clean temperature control items.

Building: Date/Comments:

BOILER

- Blow down boiler as required until clear.
- Blow down and clean strainers as required.
- Monthly test low water cutoff.
- Monthly test boiler water quality and chemically treat as required.
- Check high steam pressure limit control.
- Check low water level limit control.
- Yearly check boiler pressure relief valve.

FURNACE

- Check high temperature limit control for fan.
- Monthly clean or change air filters.

BURNERS

- Test combustion efficiency.
- Clean oil strainers.

Building: Date/Comments:

STEAM AND HOT WATER PIPING

- Inspect for steam and water leaks at valves and piping.
- Test steam traps for bypassing.
- Inspect for corrosion.

7. Inspection Checklists

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:			Comments:
_____	↑	↓	_____
Site and Grounds			
1. Are there ramps and provisions for the physically handicapped?	Y	N	
2. Are there designated parking spaces for the physically handicapped?	Y	N	
3. Has soil dropped or heaved?	N	Y	
4. Is there standing water near or against the building in any season?	N	Y	
5. Are retaining walls leaning or in need of repair?	N	Y	
6. Are fences deteriorated?	N	Y	
7. Do fence gates operate properly?	Y	N	
8. Do trees and shrubs need care?	N	Y	
Building Exterior: Foundation			
9. Do foundation walls show the following signs of decay or settlement in terms of:			
○ Large cracks?	N	Y	
○ Visible separation between top of foundation wall and building frame?	N	Y	
○ Loose, cracked or broken blocks, bricks or stones?	N	Y	
○ Soft or flaking mortar or concrete?	N	Y	
○ Foundation movement?	N	Y	
○ Water leaks?	N	Y	
○ Stains or discoloration?	N	Y	
○ Bulging or bowing?	N	Y	

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:			Comments:
_____	↑	↓	_____
Building Exterior: Foundation			
10. Are interior basement or crawl space foundation walls damp?	N	Y	
11. Are there mushroom growths, mold stains or mildew odors in basement or crawl space?	N	Y	
12. Are there insect tubes visible along the foundation walls?	N	Y	
Building Exterior: Masonry Walls			
13. Does exterior masonry show the following signs of deterioration:			
○ Cracks in walls?	N	Y	
○ Cracks over doors or windows?	N	Y	
○ Loose bricks?	N	Y	
○ Cracked bricks?	N	Y	
○ Missing bricks?	N	Y	
○ Cracked, chipped, missing mortar?	N	Y	
○ Soft or flaking mortar?	N	Y	
○ White or gray stains?	N	Y	
○ Water penetration?	N	Y	
○ Moss or algae growth?	N	Y	
○ Split brittle or missing caulking?	N	Y	
• Are weep holes in retaining walls, under window sills and other wall construction free of obstruction?	Y	N	
• Is wood molding and trim cracked, warped or rotted?	N	Y	

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:			Comments:
_____	↑	↓	_____
Building Exterior: Frame Walls			
• Is there evidence of rot or deterioration of wood sills, walls or siding?	N	Y	
• Is there evidence of water stains or water penetration into the wood?	N	Y	
• Are siding boards cracked or split?	N	Y	
• Are siding boards buckled?	N	Y	
• Are nails rusting excessively?	N	Y	
• Can a knife blade or a key be easily pushed into wood siding or structural wood member?	N	Y	
• Are exterior wood moldings cracked, missing, broken or separated from the building?	N	Y	
• Is wood badly stained?	N	Y	
• Is there evidence of the following on visible structural wood members:	N	Y	
• Severe staining or discoloration?	N	Y	
• Split or cracked wood?	N	Y	
• Crumbled or crushed wood?	N	Y	
• Piles of sawdust?	N	Y	
• Rot or deterioration?	N	Y	
• Beehives?	N	Y	
• Bird nests?	N	Y	
• Rodents?	N	Y	
• Bats?	N	Y	
• Are wall cavities insulated?	Y	N	
• Is paint blistered or peeling?	N	Y	
• Has building been painted in the last seven years?	Y	N	

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:								Comments:			
_____						↑	↓	_____			
Building Exterior: Roof, All Types											
Inspect all roofs for evidence of deterioration, weather damage and water penetration. If roof is not accessible, use binoculars. Check interior of building for evidence of water damage.											
• Are there gaps or holes around any roof penetrations, chimneys or vents?						N	Y				
• Are there signs of movement in roofing materials or flashing?						N	Y				
• Are flashings rusted or pitted?						N	Y				
• Are flashing separated, loose or missing?						N	Y				
• Are there dissimilar metals in contact?						N	Y				
• Do metal components need painting?						N	Y				
• Is caulking missing, split or deteriorated at the following:											
○ Parapets?						N	Y				
○ Copings?						N	Y				
○ Flashings?						N	Y				
○ Soffits?						N	Y				
○ Vents or chimneys?						N	Y				
○ Skylights?						N	Y				
○ Other roof penetrations?						N	Y				
• Are there any loose or broken glass panes in skylights?						N	Y				
• Has roof sagged from snow weight?						N	Y				

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:			Comments:
_____	↑	↓	_____
Is there evidence of water seepage through soffits?	N	Y	
Dies roof/attic have proper ventilation?	N	Y	
Building Exterior: Roof, All Types			
• Does the roof hatch work?	Y	N	
• Is anchorage for TV antenna secure?	Y	N	
• Is antenna adequately grounded?	Y	N	
• Is there lightning protection?	Y	N	
• IS there ice-damming as evidenced by:			
○ Mounds of ice at eaves?	N	Y	
○ Excessively long icicles?	N	Y	
Building Exterior: Build-Up Roof			
• Are there blisters, bubbles, cracks, splits or open seams in roofing membrane?	N	Y	
• Is roof pitted or worn?	N	Y	
• Is there evidence of standing water or puddles?	N	Y	
• Are roof drains clear and operating properly?	Y	N	
• Does roof feel “squishy” under foot?	N	Y	
• Can roofing felt material be seen?	N	Y	
• Are gravel stops secure?	Y	N	
• Are gravel rusted or pitted?	N	Y	
• Do expansion joints show evidence of separation or water penetration?	N	Y	

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:			Comments:
_____	↑	↓	_____
Building Exterior: Built-Up Roof			
• Is any vegetation growing through roof?	N	Y	
• Is roof over 15 years old?	N	Y	
Building Exterior: Shingle Roof			
• Are shingles loose, split, missing or broken?	N	Y	
• Are mineral granules thinned out?	N	Y	
• Are shingle edges curling or worn?	N	Y	
• Is there moss growth?	N	Y	
• Are snow slides pitted or damaged?	N	Y	
• Is roofing more than 20 years old?	N	Y	
Building Exterior: Slate Roof			
• Are there broken, missing or loose slates?	N	Y	
• Are slates worn?	N	Y	
• Do slate fasteners appear broken or rusty?	N	Y	
• Are ridge rolls loose, deteriorated or rusted?	N	Y	
• Are snow guards loose or damaged?	N	Y	
• Are there sections patched with asphalt?	N	Y	
Building Exterior: Metal Roof			
• Are metal roof sheets rusted?	N	Y	
• Are there signs of holes, pitting or cracking?	N	Y	
• Are there any open joints?	N	Y	
• Are there any defective fasteners?	N	Y	

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:			Comments:
_____	↑	↓	_____

Building Exterior: Doors and Windows			
• Are flashings over doors and windows cracked, missing or rusted?	N	Y	
• Is trim around doors and windows split, loose or deteriorated?	N	Y	
• Is caulking around door and window frames and trim cracked or missing?	N	Y	
• Are sills loose or deteriorated?	N	Y	
• Is window putty missing or cracked?	N	Y	
• Is there broken or cracked glass?	N	Y	
• Are stained glass windows bowed/warped?	N	Y	
• Do doors and windows lock properly?	Y	N	
• Is hardware defective?	N	Y	
• Are doors and windows weather-stripped?	Y	N	
• Do doors and windows operate and seal properly?	Y	N	
• Is building equipped with storm doors and storm windows?	Y	N	
• Do storm doors and windows operate properly?	Y	N	
• Do storm windows show condensation?	N	Y	
• Are there holes or tears in screens?	N	Y	
• Are screens, shutters and other exterior window attachments secure?	Y	N	
• Has finish paint or varnish deteriorated?	N	Y	

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:			Comments:
_____	↑	↓	_____
Building Exterior: Parapet Walls, Copings and Chimneys			
• Are walls cracked?	N	Y	
• Are bricks loose or spalling?	N	Y	
• Do mortar joints require pointing?	N	Y	
• Is mortar joint under coping cracked or loose?	N	Y	
• Are coping stones or metal coping loose, broken or shifted?	N	Y	
• Is coping joint open, permitting water to enter?	N	Y	
• Is flashing missing, loose or damaged?	N	Y	
• Is there evidence of moisture penetration?	N	Y	
• Do chimneys lean?	N	Y	
Building Exterior: Porches, Stairs and Balconies			
• Do porches, stairs or balconies require painting?	N	Y	
• Is porch floor structure decayed, weak or cracked?	N	Y	
• Are stair treads loose or broken?	N	Y	
• Are column bases rotted or in need of repair?	N	Y	
• Are railings broken or weak?	N	Y	
• Are balusters broken, loose or missing?	N	Y	

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:			Comments:
_____	↑	↓	_____

Building Exterior: Gutters and Downspouts			
• Are there loose, rotted or missing gutters or downspouts?	N	Y	
• Are there holes in gutters or downspouts?	N	Y	
• Do gutter or downspout joints leak?	N	Y	
• Are gutters or downspouts pitted or rusted?	N	Y	
• Do gutters or downspouts require painting?	N	Y	
• Do gutters sag or lack pitch to downspouts?	N	Y	
• Is water running down face of building?	N	Y	
• Do splash blocks or drains under downspouts divert water away from building?	Y	N	
• Are heating cables secure?	N	Y	
Building Exterior: Attachments			
• Are the following items in good condition and well secured to building:			
○ Lattices?	Y	N	
○ Columns?	Y	N	
○ Flagpoles?	Y	N	
○ Cables, wires?	Y	N	
○ Weathervanes?	Y	N	
○ Towers?	Y	N	
○ Gargoyles, sculptures?	Y	N	
○ Canopies?	Y	N	
○ Balconies?	Y	N	
○ Signs, alarms, lights?	Y	N	

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:			Comments:
_____	↑	↓	_____
○ Decorations, ornaments?	Y	N	
○ Meters?	Y	N	
Building Interior: Floors			
• Are floor joists warned, cracked or sagging?	N	Y	
• Is floor joist blocking and bridging secure?	Y	N	
• Is there visible separation between floors and walls at base trim?	N	Y	
• Do floors squeak or creak?	N	Y	
• Are floors "bouncy"?	N	Y	
• Are floors at entrances slip-resistant?	Y	N	
• Are masonry and tile floors cracked, broken or worn?	N	Y	
• Is wood flooring warped, separated or badly worn?	N	Y	
• Is carpeting loose, torn or badly worn?	N	Y	
Building Interior: Walls			
• Is there evidence of water staining?	N	Y	
• Are there cracks?	N	Y	
• Are surfaces peeling or dirty?	N	Y	
• Is wall finish buckled or loose?	N	Y	
Building Interior: Ceilings			
• Is there evidence of water staining?	N	Y	
• Are there cracks?	N	Y	
• Are surfaces peeling or dirty?	N	Y	
• Is ceiling structure sagging or separating?	N	Y	
• Is ceiling tile grid secure?	Y	N	

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:			Comments:
_____	↑	↓	_____
• Are there damaged ceiling tiles?	N	Y	
• Are light fixtures secure?	Y	N	
Building Interior: Doors and Windows			
• Are door jambs plumb?	Y	N	
• Do doors bind?	N	Y	
• Do doors have loose or missing hinges, knobs or locks?	N	Y	
• Is there evidence of condensation on or around windows?	N	Y	
• Is there evidence of mold, discoloration or deterioration around windows and doors?	N	Y	
Building Interior: Attics			
• Do rafters, floor joists and sheathing show signs of:			
○ Water stains or deterioration?	N	Y	
○ Warping?	N	Y	
○ Cracking?	N	Y	
○ Sagging?	N	Y	
• Is there evidence of water leaking into attic around any of the following roof penetrations:			
○ Vents?	N	Y	
○ Ducts?	N	Y	
○ Chimneys?	N	Y	
○ Other?	N	Y	
• Is attic floor insulated?	Y	N	
• Is there at least one square foot of vent area for every 500 square feet of attic area?	Y	N	
• Are attic fans or vents operating?	Y	N	

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:			Comments:
_____	↑	↓	_____
• Are roof rafters excessively dry? (This condition can result from overheating in summer months.)	N	Y	
• Is attic free of debris and unused combustible items?	Y	N	
• Are off-season and other materials stored neatly and away from heat sources?	Y	N	
Building Interior: Crawl Space and Basement			
• Is crawl space or basement damp, wet or water stained?	N	Y	
• Does water infiltrate through crawl space or basement walls or floor?	N	Y	
• Does water or snowmelt drain into basement from window wells?	N	Y	
• Is crawl space or basement floor cracked or disintegrated?	N	Y	
• Are crawl space or basement walls insulated?	Y	N	
• Does crawl space have wall vents?	Y	N	
• Does dirt floor of crawl space have a vapor barrier?	Y	N	

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:			Comments:
_____	↑	↓	_____

Mechanical Equipment			
• Are there water leaks at any of the following locations:			
○ Pipes?	N	Y	
○ Radiators?	N	Y	
○ Boiler?	N	Y	
○ Hot water heater?	N	Y	
○ Pumps?	N	Y	
• Has the boiler or furnace been cleaned and serviced in the past 12 months?	Y	N	
• Is the boiler insulation cracked or missing?	N	Y	
• Is the boiler more than 35 years old?	N	Y	
• Is there excessive steam or air loss at radiators?	N	Y	
• Are exposed pipes adequately insulated?	Y	N	
• Do hot air supply or return registers adjust air flow properly?	Y	N	
• Do thermostats work properly?	Y	N	
• Is the domestic hot water heater insulted?	Y	N	
• Do kitchens and bathrooms have adequate ventilation?	Y	N	

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:			Comments:
_____	↑	↓	_____
Plumbing			
• Are there water leaks at any of the following locations:			
○ Bathroom fixtures?	N	Y	
○ Faucets?	N	Y	
○ Piping?	N	Y	
• Do flush vales, faucets work properly?	Y	N	
• Are any drains or traps clogged?	N	Y	

Inspection Repair List

Unsatisfactory Items	*Date Identified*	*Date Resolved*

8. SAFETY

Buildings must be designed according to building and fire safety codes and other regulatory standards in effect at the time of construction. However, such codes and standards are continuously changing. The original construction does not have to comply with changes in the codes; however, any modifications to the original construction should comply with current codes and standards.

Who should perform safety checks?

Many communities have building inspector who is knowledgeable about current standards and their provisions for safety. The building inspector could be asked to visit the facility and prepare a written report on any safety and code violations. This type of service is generally free of charge.

Fire safety checks can be obtained by calling the local fire marshal and requesting an inspection and report. This type of inspection will cover areas such as possible fire hazards and adequacy of exits, alarm systems, fire extinguishers, etc. This service is generally usually free of charge.

An architect or engineer knowledgeable in all areas of building safety and could perform a comprehensive safety inspection. There typically is a fee for such a service.

Use of safety checklists

A safety check for compliance with current standards should be performed yearly.

The safety checklists included in this manual show the number of safety issues involved. Any unsatisfactory items should be attended to immediately. Professional advice may be required depending upon the problem involved.

Safety Checklist

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:			Comments:
_____	↑	↓	_____

Fire Safety			
• Is building equipped with:			
○ Pull station fire alarms?	Y	N	
○ Heat or smoke detectors near head-producing equipment, exist, stairways and sleeping areas?	Y	N	
○ Fire extinguishers?	Y	N	
○ Fire hoses, if applicable?	Y	N	
• Are fire extinguishers conspicuous, convenient and properly labeled?	Y	N	
• Are Class B or better fire extinguishers located in furnace rooms and storage areas where grease and flammable liquids are kept?	Y	N	
• Are Class C fire extinguishers located near electrical equipment?	Y	N	
• Are Class B-C fire extinguishers located in kitchens?	Y	N	
• Were fire extinguishers inspected with the past 12 months?	Y	N	
• Are occupants instructed in use of fire extinguishers and fire hoses?	Y	N	
• Are fire hoses in good condition?	Y	N	
• Do fire hoses have water immediately available?	Y	N	

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:			Comments:
_____	↑	↓	_____

Fire Safety			
• Are heat and smoke detectors wired to sound a central alarm?	Y	N	
• Are periodic fire drills held?	Y	N	
• Is there an accumulation of materials under stairways, in crawl space, basement, boiler room, attic, etc.?	Y	N	
• Are hazardous chemicals stored in proper containers and away from heat sources?	Y	N	
• Are off-season and unused materials stored away from heat sources?	Y	N	
• Are kitchen range hoods and exhaust ducts clean?	Y	N	
• Do kitchen range exhaust ducts terminate in a safe area?	Y	N	
• Are grease ducts and deep fryers equipped with automatic fire detectors?	Y	N	
Means of Egress from Buildings			
• Are hallways, corridors and stairways to the exterior accessible and free of obstruction?	Y	N	
• Are exit doors equipped with properly operating panic hardware?	Y	N	
• Do exit doors have padlocks or dead bolts?	Y	N	
• Do exit doors open outward?	Y	N	

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:			Comments:
_____	↑	↓	_____

Means of Egress from Buildings			
• Are all exits clearly marked with illuminated exit signs?	Y	N	
• Are hallways, corridors and stairways illuminated with emergency lights?	Y	N	
• Are windows operable and accessible as a means of exit?	Y	N	
• Are windows which exit to fire escapes operable and free of obstructions?	Y	N	
• Are the interior and exterior exit paths to and from fire escapes clear?	Y	N	
• Are fire escapes unobstructed and well secured to the building?	Y	N	
Building Interior: Stairs			
• Are stairs kept clear?	Y	N	
• Are stairs “bouncy”?	N	Y	
• Are covers on treads and landing worn or missing?	N	Y	
• Is there at least one continuous railing alone one side of all stairways?	Y	N	
• Are railings broken or weak?	N	Y	
• Are balusters broken, loose or missing?	N	Y	
• Are railings for balconies and lofts secure?	Y	N	

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:			Comments:
_____	↑	↓	_____
Miscellaneous			
• Are lights, alarms, signs and other objects attached securely to building?	Y	N	
Assembly Areas			
• Are assembly areas posted for maximum numbers of occupants?	Y	N	
Emergency Procedures			
• Is there a written plan of safe egress for occupants from building?	Y	N	
• Is there a centralized location for first aid equipment, poisoning information, etc.	Y	N	
• Is there a readily available list of emergency phone numbers?	Y	N	
• Is there a plan for initial fire fighting?			
Auto Safety			
• Are roadways, parking areas or curbs deteriorating?	N	Y	
• Are roadways and parking areas kept free or tree limbs, snow and ice?	N	Y	
• Are STOP, NO PARKING, and FIRE LANE signs unobstructed in all seasons?	Y	N	
• Are parking lots adequately illuminated?	Y	N	
Emergency Vehicles			
• Do emergency vehicles have access to the building?	Y	N	
• Are fire hydrants clearly visible and accessible?	Y	N	

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:			Comments:
_____	↑	↓	_____
Pedestrian Safety			
• Are walkways, steps and ramps deteriorated, cracked or hazardous?	N	Y	
• Are walkways kept clear of tree limbs, snow and ice?	Y	N	
• Do walkways, steps and ramps have uneven areas?	N	Y	
• Are walkways, steps and ramps adequately illuminated?	Y	N	
• Do steps and ramps have non-skid surfaces?	Y	N	
• Are there handrails on steps and ramps?	Y	N	
Playground Areas			
• Are play areas protected or locked when not in use?	Y	N	
• Are play areas free of open holes, debris, stones, broken glass, etc.?	Y	N	
• Is play equipment well maintained?	Y	N	
Boiler and Furnace Rooms			
• Are boiler, furnace and similar equipment rooms enclosed with fire-protective walls, ceilings and doors?	Y	N	
• Are boiler and furnace rooms vented?	Y	N	
• Are boiler and furnace rooms free of gas odors and foul air?	Y	N	
• Are boiler and furnace rooms free of stored materials?	Y	N	
• Are there rooms used regularly which are only accessible by walking through the boiler or furnace room?	N	Y	

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:			Comments:
_____	↑	↓	_____
Boiler and Furnace Rooms			
• Is there an emergency shutdown switch for burner?	Y	N	
• Are fan filters and grilles clean?	Y	N	
Electrical Equipment			
• Are transformers, fans and other electrical equipment protected with adequate safety barriers?	Y	N	
• Is electrical equipment in proper working order?	Y	N	
• Do fuses or circuits blow often?	N	Y	
• Is the amperage draw for any circuit beyond its capacity?	N	Y	
• Are there sufficient replacement fuses?	Y	N	
• Is building wiring in good condition?	Y	N	
• Are there any faulty electrical fixtures?	N	Y	
• Do wires on appliances and equipment show any of the following:			
○ Fraying?	N	Y	
○ Splits?	N	Y	
○ Bare wires?	N	Y	
• Do electrical outlets, switches and junction boxes have cover plates?	Y	N	
• Do exterior electrical outlets and switches have protective covers?	Y	N	
• Do all switches operate properly?	Y	N	
• Do outlets or switches feel hot to the touch?	N	Y	

Date	By	Date	By	Date	By	Date	By	Date	By	Date	By

Building:			Comments:
_____	↑	↓	_____
Electrical Equipment			
• Are there any defective or shorted outlets?	N	Y	
• Are there outlets with 4 or more items plugged into them?	N	Y	
• Are extension cords warm or hot to the touch?	N	Y	
• Do extension cords cause a tripping hazard?	N	Y	
• Do extension cords run under rugs or carpeting?	N	Y	

Safety Repair List

Unsatisfactory Items	*Date Identified*	*Date Resolved*

9. GLOSSARY

9.01

Baluster: A miniature column or other form of upright in a series, which supports a handrail, as in a balustrade.

Balustrade: A railing with support balusters.

Column: A slender vertical structural member used to support roof and floor loads.

Combustion Air: Air required for the burning of fuel.

Coping: A sheet metal, stone, concrete, tile or other covering over the top of a wall.

Counter Flashing: A second and overlapping layer of flashing where conditions are such that the first layer may not insure water tightness.

Downspout: The vertical portion of a rainwater drainage pipe. Also called leader or conductor.

Expansion Joint: A joint containing compressible materials that will absorb movement caused by thermal expansion and contraction.

Flashing: Sheet metal weather protection placed over a joint between different building materials, or between parts of a building, in such a manner that prevents water from entering.

Floor Joist: One of a series of parallel beams used to support a floor.

Gargoyle: A sculptural projection from a roof scupper to drop rainwater clear of the walls.

Gravel Stop: An angle-shaped sheet metal trim member at the edge of a roof, having a slightly raised lip to retain roof gravel surfacing material.

Panic Hardware: A type of quick-acting door opening hardware consisting of a horizontal bar on the inside of a door. By pushing against the bar, a leverage mechanism will unlatch and open the door. Such hardware is legally required for safety reasons on certain exits in public buildings.

Parapet: The top part of an exterior wall, which is above the roofline.

Plumb: A true vertical line.

Pointing: The treatment of masonry joints by troweling mortar into the joint.

Rafter: One of a series of framing members used to support a roof. Rafters are closely spaced and usually frame into a beam or bearing wall.

Ridge: The line formed at the intersection of the upper edges of two sloping roof surfaces, as opposed to a valley.

Sheathing: A material, consisting of thin boards or plywood, used to cover a wall, floor or roof surface.

Soffit: The underside of a horizontal surface which projects beyond the wall line, as in an overhanging roof.

Spalling: The cracking or flaking of particles from a surface.

Splash Block: A concrete or masonry block placed on the ground under a downspout to carry roof drainage away from a building and to prevent soil erosion.

Stair Riser: The vertical face of a stair step.

Stair Tread: The horizontal part of a stair step; the part actually stepped upon.

Vapor Barrier: Any thin membrane used to prevent the passage of water vapor, such as under a concrete slab placed upon the ground, or between the back of a wall finish and the insulation.

Valley: The intersection at the bottom of two roof planes.

Weep Hole: A hole through the bottom of a retaining wall to drain water from behind the wall, thereby preventing the build-up of hydrostatic pressure.

10. EMERGENCY PHONE NUMBERS

10.01

Contact	Name and Address	Phone
Fire Department		
Police/Sheriff		
Ambulance		
Emergency Rescue		
Animal Rescue		
Insurance		
Power Company Emergency Crew		
Gas Company Emergency Crew		
Boiler/Furnace		

11. HISTORY

11.01

Building	Year Built	Architect/Engineer	Contractor	Comments

HISTORY

11.02

Building	Year Built	Architect/Engineer	Contractor	Comments

12. SERVICE RECORDS

12.01

	Company Name, Address and Phone	Service and Repair Record
Boiler		
Boiler		
Boiler		
Boiler		
Boiler		
Boiler		

SERVICE RECORDS

12.02

	Company Name, Address and Phone	Service and Repair Record
Carpenter		
Electrician		
Fuel Oil/Gas		
Fire Safety Equipment		
Garbage Removal		
Mason		

SERVICE RECORDS

12.03

	Company Name, Address and Phone	Service and Repair Record
Plumber		
Roofer		
Snow Plow		

Section D

PROJECT IMPLEMENTATION

Photo ID: Logan's Ferry Presbyterian Church Roof Replacement; PM,MN/VIM Project

PREFACE

The following material in Section D, PROJECT IMPLEMENTATION is intended to convey three truths about church/institutional building care, management, and planning:

- When requested and supplied, professional volunteers and service providers will contribute to the success of church officers and leaders engaged in property management and planning.

- Pre-planning for building repairs and renovations, where systemic and periodic inspections regularly take place on a discipline-by-discipline basis, is an essential step prior to engagement of professional consultants in the fields of Architecture, Engineering, and /or Construction Management.

- Innovation is a constant in the building/construction industry as advanced technologies in Solar Power, Green Building/LEED, Audio Visual advances, Information Technology, and energy auditing demonstrate.

The following articles by Douglas Shuck, Emeritus AIA, and Luke Desmone, AIA, attest to the values of professional technical assistance and how it can expand possibilities and management for successful building care.

We also wish to reiterate the importance of contacting the American Institute of Architects for Architect selection criteria, and documents that can be used for Owner Architect contracts and Owner Contractor documents, as important resources. These documents are set up as a family of documents and should be coordinated in their use. The local AIA chapter can also provide assistance in obtaining and use of the documents, as well as local Architects. The address for the AIA national is listed in Section B FUNDING and DESIGN RESOURCES.

Pre-Design Services Phase: Master Planning

Architectural Master Planning is the collaborative research and decision-making process between the Architect and the Client that identifies the scope of work to be designed. Master Planning is a tool used to assist with your immediate and long-range development creating a framework or guideline that will make the Client's efforts efficient and will bring excitement to the congregation for fundraising purposes.

In the Pre-Design Services Phase, the team collaborates to identify values, goals, constraints/opportunities, and facility requirements. The process establishes a venue to identify, consider, debate, and prioritize values such as spatial relationships, functional efficiency, user comfort, building economics, safety, future growth, environmental sustainability, and visual quality. These identified values and concerns have a profound effect on the ultimate form of the project.

Our initial Pre-Design Services Phase consists of three steps: *Information Gathering, Data Analysis and Collective Documentation.* The outcome of these three steps is the establishment of the Master Plan, which will be used as a guideline for the modifications to your existing facility and creation of your new facilities.

Master Planning Team

The Master Planning Team will consist of the designated representatives from the Client and Architect as well as their consultants. The client will designate one individual from the Building Committee who shall act as the Client's representative and coordinator and who will have the authority to make final decisions on behalf of the Client. A designated Project Manager will represent the Architect and oversee all activities. The majority of the Information Gathering and Data Analysis will be performed by the project manager. Although other member of the congregation will have input in the process through designated User Group interviews, the Master Planning Team should consist of members that represent key functional areas yet be small enough to reach quick consensus.

Information Gathering

During the Information Gathering step, the Building Committee and/or Team and Architect will work collaboratively to develop a shared set of goals for the project. The goals can be established through the following:

- Observation and analysis of the existing site and known utilities.
- Observation and basic documentation of the existing facilities with a facility manager and/or user.
- Interviews with key personnel and users to establish programming (space needs).
- Research of zoning ordinances and building codes.
- Master Planning Team (group) work sessions to consider, debate and research consensus regarding the information gathered.

At the conclusion of the interviews, the Architect will compose a document that illustrates the needs/requests of the interviewees and discuss with the Master Planning Team those items to be eliminated or included in the project. Those items shall serve as the basis for the following steps. We will meet to review this document with the Master Planning Team prior to finalizing the results of the interview process.

Though meetings for this step vary for each client and project, we propose the following for this phase:

- Initial site visit for observation and documentation.
- Interview sessions with each designated User Group(s).
- Master Planning Team meetings to discuss the results of the interview process.

Data Analysis

Based on analysis of the information gathered, the Architect will develop performance and design criteria for the proposed project including, but not limited to: spatial requirements and relationships, structure placement, development phasing, vehicular and pedestrian circulation, parking facilities, site amenities and utility systems. We will then test the implications of potential solutions to the issues that were identified in the Information Gathering step, both technical and programmatic, for the proposed use of the facilities.

Though meetings for this step vary for each client and project, we propose the following for this phase:

- Meetings to review the Building Committee's and/or Team's feedback and design alternatives and further define the program and project goals.
- In-house consultation sessions with civil engineering consultant, to review storm water, utilities, and parking regulations.

Collective Documentation

The final step of the Pre-Design (Master Planning) process involves the development of the consensus design vision into a strategy for the project using feedback from the Building Committee and/or Team. The deliverables for this step are the final Master Plan Documents which are comprised of the following:

- A report including a summary of programming methodologies employed, value and goal statements, data analysis conclusions and planning requirements, as applicable.
- Conceptual building (block) plans showing area sizes and adjacencies
- Conceptual site and landscaping plans and exterior renderings that will be presented to the Client for preapproval and Congregation support.
- Recommendations of how to proceed with the project based upon this information and site conditions.
- A square foot cost estimate using historical and national data for similar building types.

Though meetings for this step vary for each client and project, we propose the following for this phase:

- Meetings with the Building Committee and/or Team to determine direction for the development of the Final Master Plan Document.
- Meetings with the Building Committee to review specific zoning considerations and design direction.
- A presentation of the Final Master Plan Document to the entire Congregation.

Submitted by:
Chip Desmone
AIA,NCARB, LEED-AP

Recommendations for Project Planning and Implementing a Renovation or Addition

Project Planning

Following the decision that a capital project is needed or planned, either by the Inspection Check List, or Manual for CHURCH BUILDING CARE and Related Operations, the following outline will provide the guidance to implement the project. It is highly recommended to consult with design professionals, architects and/or engineers, prior to planning your project. A phone call or visit with one of these professionals will provide valuable planning insight.

l. Programming/Planning

2. Scope of Work

3. Budget

4. Schedule·

5. Bidding Documents

6. Construction

7. Post Construction

1. Programming/Planning

Thoroughly outline the work to be done.

Prepare a detailed Program for each space or feature:

Room Name

Space-square footage

Space requirements-occupancy number

Support Features- i.e. power, lighting, A/V requirements, casework, storage, acoustics, etc.

Contracts:

Letter of Agreement

For some smaller projects, $0 to $250, 000,a letter of agreement defining the scope of the professionals work, fees, and schedule may be appropriate. The professional can assist your team making the right choice of contract documents for the size of your project.

Owner Architect Agreement:

For projects over $250,000 you may wish to consider an AIA Contract Document. The AIA Contract Documents are divided into families based on project type or delivery method. Documents in each family provide a consistent structure and text base to support the major relationships on a design and construction project. Confer with your design professional and/or legal counsel for selection of the best family of documents for your project.

Owner Contractor Agreements:

For smaller projects $0- $50,000, a letter of agreement defining the scope of the contractors work, fees, and schedule may be appropriate. The professional can assist your team making the right choice of contract documents for the size of your project.

For projects over $50,000, you may wish to consider an AIA Contract Document. The AIA Contract Documents are divided into families based on project type or delivery method. Documents in each family provide a consistent structure and text base to support the major relationships on a design and construction project. Confer with your design professional and/or legal counsel for selection of the best family of documents for your project.

Review if professional consultants may be required for your project:

Architect-programming, consultant team coordinator, code issues, plan approvals, building envelop/structure issues, master planning the site, project design-exterior and interiors, cost estimate

Civil Engineer- site utilities, survey, grading, topography, storm water, walks, drives Structural Engineer- building structure issues, roof support, structural framing, beams columns, trusses, walls, retaining walls

Mechanical Engineer- heating and air conditioning, ventilation, plumbing, fire suppression (sprinkler system), exhaust ventilation, hoods, and boilers

Electrical Engineer- power, outlets, circuitry, panels; lighting; data, lighting protection Audio Visual/ Acoustical Consultant-sound systems, screens, projection equipment, speakers, recording, assisted listening devices, video monitors

Food Service Equipment- serving kitchens, kitchen equipment

The above list is a brief outline of each consultant's services; having a brief conversation with the appropriate consultant is recommended at the initial planning of the project.

Consultants for the above services will review your specific issues and recommend appropriate consultants and scope of their services for no fees. Following a mutual understanding of the project scope, the consultant will submit a proposal, including fees, reimbursables and schedule for their proposed scope of services.

Code Review/Plan Approvals

Have a preliminary review of your project with Local Township /borough building officials prior to initiating the project. This can be a phone call or personnel visit to local officials, outlining the scope of the work of the project to determine what approvals may be required, the schedule for required submittals, and schedule of meetings required for approvals.

The above consultants may be required to submit sealed documents for plan approvals. These documents will then be submitted to local, or state authorities to gain plan and code review and approval. This may be required to obtain a building permit by your contractors, and required by local reviewing authorities. Early review of this issue is very important to prevent future delay of the project.

Projects involving building access and exiting, stairs, halls, corridors, exiting from a sanctuary, assembly areas and classrooms, relocating doors, or adding doors, interior or exterior, will require a local or state plan review and approval and review for Americans with Disabilities Act (ADA) issues.

Projects involving revisions to interior finishes, painting, carpeting, tile floors, wall/ceiling repairs will not usually require a plan review and approval. However, if the project involves moving walls which may impact exit travel or structural modifications, a building plan approval may be required. Contact your local community/borough officials early for a review of your project.

Renovations to restrooms, where plumbing fixtures/accessories are moved or added, including new or relocated toilet partitions, will require plan review and approval and careful ADA review for compliance with local codes and ADA requirements.

Additions to existing structures will typically require review and approval by local Planning Commissions for compliance with municipal planning codes. Check with your local officials. This review with the local officials will also determine if the project will be required to be submitted to the Zoning Hearing Board for their approval.

2. Scope of Work

Prepare a written outline of the scope of the work to be included in your project. Give consideration to all areas of the project and type of work to be included. Consider phasing of the work to maintain current church operations, including parking, walks, building entrances and exits, Sunday services and other church calendar of events.

3. Budget (See sample following in this section)

Prepare a detailed budget for your project breaking down all of the work by category:

Cost to remove all loose equipment, furnishings, storage, window treatments, musical instruments, organs, etc.

Demolition-This is the contract to remove existing construction to enable new work to proceed, disposal and hauling off site of removed items and construction materials.

Hazardous Materials- remove asbestos, lead based paint, lighting PCB's (typical materials). You may need to consult with a Hazardous Materials consultant to evaluate the project area including testing of materials.

Site Work- grading, backfill, drives, curbs, walks, pavement, site lighting, signage, fences, site utilities, water, gas, sanitary sewer, data, cable TV, phone cable, landscaping, patios

Storm Sewer- storm water detention, separation of sanitary and storm

Concrete- footings, foundations, floor slabs

Masonry- concrete masonry units, brick, stone

Steel- columns, beams, joists, trusses, steel stairs, handrails

Insulation- consult code requirements and restrictions

Windows /doors/hardware/folding doors

Finishes- floor materials, carpet, tile, paint, wall coverings Accessories-

toilet room accessories, window treatments, audio visual

Equipment-elevators, lifts,

Plumbing-pipes, toilets, lavatories, drinking fountains, kitchen equipment

Mechanical Equipment-air handlers, boilers, controls, air conditioning equip., ventilation

Fire Suppression Equipment-sprinkler heads

Electrical- main power supply, lighting, outlets, panels

Audio Visual /Data/ Phone-projection screens, projectors, digital equipment, recording, video conferencing

Security-cameras, door locks, monitors

Total construction Costs (including all above items)$$

Soft Costs: (costs associates with the project, excluding construction costs) $$ Architectural/

engineering fees

Insurance Costs

Financing Costs

Fixtures/ Furniture/ Equipment (items that are not attached to the building)

Kitchen Equipment

Technology Equipment-projectors, screens, speakers, sound system,

Moving Costs

Escalation

Total Project Costs:

Construction Costs+ Soft Costs

Consultation with Architects, Engineers, and contractors can assist with preparing these estimates.

4. Schedule: (See sample following in this section)

Prepare a realistic schedule for Planning, Design, and Construction:

Planning-

Assemble a committee of key decision makers:

Pastor, Chairman of Property Committee, Business Manager, 1-2 members of the congregation (selecting individuals in architecture, engineering, Finance, construction, etc.), 1-2 staff, those who will program and use the renovated spaces.

Allow 1-2 months for planning with this committee leading the effort. Seek comments and ideas from other church members, especially interested stakeholders in the area of the project to be developed. Example Fellowship Hall Expansion- focus groups of youth, young adults, seniors, and other facility users.

Design:

Allow 1-3 months to prepare design and construction documents, drawings and specifications. The time required to prepare the documents will depend on the size of

the project. Consult with your design professional, Architect, to evaluate the time required.

Project Plan approvals:

Allow 1-3 months. Consult early with the local code and planning officials. They will assist your team with lead times for submitting drawings, forms and appropriate fees. They will also highlight coordination with the borough for approval meetings at planning commissions, township/borough commissioners, and zoning hearing boards if required.

Construction:

This time frame can vary depending on the size of the project; consult with a contractor for evaluation of this time frame and assistance in preparing a construction schedule.

5. Bidding Documents

It is highly recommended that someone prepare documents that define the scope of your project. These documents can be as simple as a written narrative describing in outline form the scope of the contractors' work on which he can submit his bid. Try to be as thorough as possible. Think thru each stage of the work to enable you to define the entire scope.

For more complex projects it is recommended that you have a professional prepare drawings and specifications for bidding by multiple contractors. It is recommended that you seek a minimum of three bids from qualified contractors. You do not have to select the low bidder. However, if the contractors you have requested bids from are all equally good and come with recommendations from previous clients, it may be appropriate to select the low bid.

6. Construction

Contractors:

General contractor-general construction trades, concrete, masonry, wall framing, finishes, doors windows, roofing, manage sub-contractors

Plumbing contractor-piping, hot/cold water, plumbing fixtures, kitchen connections, interior storm /sanitary drainage

Mechanical contractor-heating ventilating, cooling/air conditioning, controls, smoke detectors

Electrical contractors-power, lighting, security, panel boards, outlets

Acoustical contractors-sound control,

Fire suppression contractors- sprinkler systems, fire extinguishers, kitchen hood fire suppression

Food service equipment contractors- kitchen equipment

Construction Work

During construction have weekly job meetings with your contractors to review progress, construction issues, questions, projected progress, and schedule. Design professionals will normally attend the construction meetings every two weeks or as agreed to in their contract.

Review contractor pay applications monthly. Verify that the work he is asking to be paid for has been completed. If agreed to in his contract, you may retain a portion of his application, 5%, to be paid when the job is finished.

At the completion of the project it is recommended that you do a final inspection check list, known as the "Punch List". This is a final review of the project to confirm the contractors have completed their work as outlined in the bid documents. The list is provided to the contractors to direct them to Finish the job and receive their final payment and retainage.

7. Post Construction

Archival Materials:

Maintain a file dedicated to building construction and maintenance care that includes building drawings, plans, details, specifications from all projects. Include shop drawings provided by the contractors during the construction phase, and maintenance manuals for all operating equipment, air handlers, boilers, chillers, condensers, and building finishes, etc.

Include files for programming documents, estimates, meeting reports, warranties, liability and property insurance, maintenance agreements, up-dated permits, occupancy permits from the township/borough; and state or local plan approvals. These approvals and occupancy permits are especially important for future projects, as they will be referenced and requested by the approving authorities.

Submitted By:

Douglas L Shuck,
Emeritus AIA

Buildings and Grounds Safety, Security, and Access Control

Safety, Security and Access Control are important considerations for all churches in light of recent incidents and current local and national issues. Our churches are used for many community programs Monday thru Saturday and for worship on Sundays. The culture of the Christian ministry is to be welcoming and open most of the days of week always extending an open hand inviting all to enter thru multiple entrances to participate in the scheduled programs.

The culture of the past is, today, coming under careful scrutiny and churches need to be aware of new criteria and protocol for safety, security and access.

The following Safety, Security, and Access Control sections are intended to raise the issues, especially for existing churches, and stimulate thinking on these subjects. This is not a comprehensive list of all considerations. There will be other considerations and unique situations which every church must consider as they work their way thru these topics, especially in today's culture and church location, and programming issues.

Every church should develop a "Church Emergency Response" manual and many of the identified sections here will influence thinking and development of that manual.

Safety

Safety begins upon entering the church grounds, driveway, parking lot, sidewalk or lawn.

1. Visibility to see clear access to entry doors and appropriate parking lots, walks, and handicapped entrances.
2. Lighting to see access to the church and parking lot with access from the lot to the church entrance.
3. Curb cuts designed for handicapped access.
4. Walkways that are in good repair with appropriate ramps and steps with handrails if required by local codes and nighttime lighting.
5. Landscaping, shrubs, trees, grass and paved areas that are well trimmed and maintained for visibility, and lighting, and do not obstruct walking or driving on the above named paths of travel.

Security

Security begins with the church doors and windows and any other penetrations of the church building, louvers, vents, low roofs, and sloping topography, that may allow entrance into the church.

1. Doors should be in good operable condition with appropriate closing and locking hardware. Windows in doors should be in good condition and secured in the frames with glazing or fixed hardware.
2. Lighting should be located at each door per code requirements.
3. Frames should be in good condition to support and secure the door
4. Windows should be in good condition, with good glass, glazing or fixed stops and locks or lockable if operable.

5. Securing Areas of the church while other areas are being used. Be careful in securing these areas as the secured areas must have access and exiting to meet code requirements, handicapped requirements (ADA), restrooms, doors swinging in the direction of exiting.
   A. Sanctuary
   B. Offices
   C. Fellowship Hall
   D. Gym
   E. Youth Wing and Activities
   F. Children's Areas, Nursery School, Day Care
   G. Chapel
   H. Parlor
   J. Other Special Programming Areas

Access Control

Door Numbering is recommended for quick identification of the proper door to access by first responders to the church, and additional emergency directions which may be required following an emergency call to them with an issue. There is recommended criterial for identifying doors: 1. Direction of numbering, clockwise 2. Size and color of number.

3. Placement of number.
4. Font style of number.

Access control is about determining which doors during the normal operating times of the church on a daily schedule:

1. Locked hardware with no unauthorized entrance, no security camera.
2. Locked hardware with a touch pad, key, or fob entrance hardware and security camera.
3. Locked hardware with a security camera and two way communication to a monitor who can electronically open the door after confirming approved access.
4. These are only a sample of the access control solutions and your church may have other programming issues that may require unique control options. The recommendation is that all exterior doors be locked and some with controlled access options to secure your property and safe guard your occupants.

This Access Control needs to be carefully studied and reviewed with appropriate members of the church, local first responders and code officials, prior to implementation, as it affects exiting and handicapped exiting (ADA) requirements.

Resources

Brotherhood Mutual Insurance Company, www.BrotherhoodMutual.com This insurance company offers a wealth of free information to help churches manage a wide range of risks, including threats to safety and security.

Center for Safe Schools, SafeSchools@csc.csiu.org (717) 763-1661 ext. 164 This organization provides information on identifying doors, exterior and interior.

Project Budget Format

Project Name
Date

Purchase Property or Building					
	Realtor		$	100.00	
	Attorney		$		
	Financing		$	-	
	Purchase		$	-	
Total Purchase			$	100.00	$ 100.00
Consultants					
	Architect		$	100.00	
	Survey		$	100.00	
	Civil Engineer/ site design issues		$	-	
	Landscape Architect, planting, walks, driveways, grading		$	-	
	Engineering	HVA/C	$	-	
		Plumbing	$	-	
		Fire Suppression	$	-	
		Electrical	$	-	
			$	-	
	Estimating		$	-	
	Food Service Equipment		$	-	
	Other Special Consultants		$	-	
Total Consultants			$	200.00	$ 200.00
Approving Authorities/Permits					
	Local city,township, burough, Fees		$	100.00	
	State Fees		$	-	
	Health Department (Kitchen/Food Service Area)		$	-	
Total Approvals			$	100.00	$ 100.00
Construction					
	General Contractor		$	100.00	
	Heating A/C Contractor		$	-	
	Plumbing Contractor		$	-	
	Fire Suppression Contractor		$	-	
	Electrical Contractor		$	-	

	Food Service Contractor	$ -		
	IT Equipment Contractor	$ -		
	Audio Visual Infrastructure	$ -		
	Security Infrastructure	$ -		
Total Construction		$ 100.00	$	100.00
Fixtures, Furniture, and Equipment				
	Shelving	$ 100.00		
	Furniture	$ -		
	Kitchen Appliances/Equipment	$ -		
	IT Equipment	$ -		
	Audio Visual Equipment	$ -		
	Security Equipment	$ -		
Total FFE		$ 100.00	$	100.00
Total Project Cost			$	600.00

General:
The above dollars are inserted for example only and for the owner to consider these budgeting categories and will be based on specific scope of their project.

Adjust the budget categories per the scope of the project, adding or deleting budget items and dollars as required.

Project Schedule Format

Project Name
Date

Project Planning and Design Schedule **Time**

Identification of the Project Scope

Write description of the project: 1 month

Consider the project and adjacent areas that may also be impacted by the work.
Example: Replacing an existing roof;
May require the following: New gutters and downspouts; Underground storm drainage; wood fascia and painting; New flashing at chimneys and vertical building projections thru the roof

Identify funding sources: 2 months

Annual budget
Special Campaign

Donors
Outside sources, grants, historic commissions, foundations
Etc.

Identify existing survey, site plans, drawings, specifications, which will be used to develop new documents. 1 month

If existing documents do not exist, you may need to consider having drawings of existing conditions, site survey, floor plans, roof plans, exterior views, ceiling plans, etc. created by and architect of others

Identify design team personnel resources: 1 month

Architect; Review scope of project to determine team and documents required.
Engineers
Civil Engineers
Surveys
Contractors
Estimators

Identify local, state, approving authorities: 1 month

Municipal; preliminary conference with officials to understand approvals and permits
Township
County
State

Prepare Project Contract Documents, drawings and specifications for bidding to contractors and plan approvals. 2 months

Project Plan approvals

Municipal,Township	1 month
County	1 month
State	1 month

(The approvals may all be happening concurrently; this is identified during preliminary conference)

Develop Project Budget (See Project Budget Format in this workbook)

This is prepared in coordination with your design team and contractor 1 month or contractors

Project Planning and Design Total Schedule 12 months

Project Construction Schedule	**Time**
Bidding project to contractors	2 months

Time for contractor bidding (generally allow 2-4 weeks, depending on scope of project) Review Bids; approval by Session or other church representatives.

Award contracts

Project Construction	3 months
Project Final Inspection and completion	0.5 month
Project Construction Total Schedule	5.5 months
Project Total Schedule	**17.5 months**

General:
The above times are inserted for example and for the owner to consider these planning issues and will be based on the project.

Adjust the schedule per the scope of the project, adding or deleting planning items and time frames as required.

Section E

APPENDIX

Photo ID: Westminster Presbyterian Church, Pittsburgh, PA

Roofing and Flashing Details Inspection Checklist

Courtesy of Burns and Scalo

Date: _____	Owner:_____	Phone: _____
Building Name: _____		Owner's Rep: _____
Address: _____		
Roof Level/Height:	Building Type:	Roof Type:
Roof Area (in square feet):	Arrival Time:	Inspector"
A, Interior Conditions [ ] Not Leaking [ ] Leaks During Heavy Rain [ ] Leaks During Blowing Rain [ ] Leaks Every Rain		
Deck Conditions: [ ] Good [ ] Acceptable [ ] Poor [ ] Severe		
List Locations of damaged or deteriorated decking:		
B. Exterior Conditions: [ ] Good [ ] Acceptable [ ] Poor [ ] Severe		
1. Deficient Masonry		
2. Missing Splash Block		
2.1 Damaged Splash Block		
3. Structural Problems		
4. Stains on Walls		
4.1 Efflorescence at parapets		
5. Deficient Caulking		
5.a.		
C. General Conditions/Appearance: [ ] Good [ ] Acceptable [ ] Poor [ ] Severe		
6. Debris		
7. Ponding Water		
8. Physical Damage to Roof		
9. Defective Walkways		

D. Perimeter Flashings [ ] Good [ ] Acceptable [ ] Poor [ ] Severe
10. Pinholes
11. Delamination
12. Baking
13. Thinning Elastoform
14. Tears
15. Open Lap
15.1 Lap Seal Metal
16. Termination
17. Bridging
18. Securement
19. Insufficient Lap Seal
19.1
Curb Flashings (Sleepers) [ ] Good [ ] Acceptable [ ] Poor [ ] Severe
20. Punctures
21. Delamination
22. Baking
23. Thinning Elastoform
24. Tears
25. Open Laps
26. Termination
27. Bridging
28. Securement
29. PVC Pipe
29.1

Additional Notes:

F. Roof Penetrations (drains/scuppers)] Good [ ] Acceptable [ ] Poor [ ] Severe (Pipe vents/Tall cones/Pitch pans)
30. Securement
31. Open seam
31.1 Open Lap
31.2 Open Lap
32. Physical Damage
33. Miss. Fastener
34. Missing MBF Cap
34.1 None-Conf Pipes
34.2. Non-Conf. Detail
34.3
35. Caulking/Lap Seal
36. Voids/Pitch Pan
37. Cuts/Tears
38. Def. Drain Basket
38.1 Def. Gravel Guard
39. Missing Water Block/Drain
40. Termination/Pipe Clamps
41. Missing Drain Bolt
41.1 Loose Drain Bolt
41.2 Damaged Drain Clamp
42. Plugged Drain
42.1 Scupper

Additional Notes:

G Field of Roof [ ] Good [ ] Acceptable [ ] Poor [ ] Severe
43. Seam Securement
44. Ridging
45. Surface Weathering
46. Surf Splits/Cracking
47. Chemical Contamination
48. Blister
49. Cuts/Tears
50. Deteriorated Felts
51. Open Seams
51.A Open Seams
51.A1 Open Laps
52. Ballast Distribution
53. Insul. Attach
54. Ballooning
55. Alligatoring
56. Tie-Off Failure
57. Slippage
58. Insul. Voids
58.A. Insul. Crush
59. Wet Insul.
H. Sheet Metal [ ] Good [ ] Acceptable [ ] Poor [ ] Severe
60. Open Joint
61. Attachment
62. Caulking
63. Physical damage
64. Rusting
65. Defective Splash Blocks
65.A.

Additional Notes:

I Miscellaneous Recommendations
66. 1 Damaged conduit/gas line
66.2 Ductwork
66.3 Damaged Equipment
67. Repair of _____ open joints on ductwork
67.1 Leaking Equipment
68. Raising existing _____conduit
68.1. Raising existing gasline
69. Obsolete curbs
69.1 Obsolete Tall Cones/Pipes
69.2 Non-conforming detai
69.3 Obsolete antenna
70. Pipe Supports
71. Walkway
72. Splash blocks
73. Scuppers
74. Drains
75. Drain Basket
76. Pavers for Ballast
77. Tree Trimming
78. Miscellaneous

Additional Notes:

ALLEGION

Fire Door Assembly Inspection Checklist

Beginning with the 2007 edition and continuing with subsequent editions, *NFPA 80 – Standard for Fire Doors and Other Opening Protectives* (Section 5.2 "Inspection and Testing") requires all fire door assemblies to be inspected not less than annually. In addition, the 2013 and 2016 editions mandate inspections after installation and after maintenance work.

When fire and life-safety codes reference one of these editions of the standard with regard to maintaining fire door assemblies, this requirement becomes effective and enforceable in jurisdictions where the code has been adopted. The Centers for Medicare and Medicaid Services (CMS) has adopted the 2012 edition of NFPA 101 – The Life Safety Code, which references the 2010 edition of NFPA 80. Inspections by the Joint Commission and other CMS-approved accrediting organizations are based on these publications. Therefore, health care facilities that are subject to inspections by the Joint Commission are required to provide documentation of their fire door assembly inspections.

Each fire door assembly must be inspected using the following criteria:

1. Labels are present and legible.*
2. No holes or breaks in the door or frame.
3. Glazing and glass kit / glass beads are intact and securely fastened.
4. Door, frame, and hardware are in proper working order.
5. No missing or broken parts.
6. Door clearances are within allowable limits.
7. Door closer / spring hinges are operational and the door is self-closing.
8. Coordinator ensures that door leaves close in proper sequence (pairs only).
9. Door is self-latching in the closed position.
10. Opening is not equipped with auxiliary hardware items which interfere with operation.
11. No field modifications have been performed that void the label.
12. Gasketing and edge seals, where required, are present, continuous, and of the proper type for a fire door.
13. Signage on door covers less than 5% of door face and is not attached with mechanical fasteners.*

For additional information about fire door assembly inspection requirements, visit iDigHardware.com/firedoor.

Lori Greene, DAHC/CDC, FDAI, CCPR
Manager - Codes & Resources, Allegion
Email: lori.greene@allegion.com
Website: iDigHardware.com

** Items 1 and 13 on the list of inspection criteria were added in the 2013 edition of NFPA 80.*

Detailed Checklist for Fire Door Assembly Inspection (FDAI) Insp. By: _____ Date: _____ Page #: ___

Opening #: _____ Rating: _____ Compliant?: Yes No

Opening Location: _____

Notes: _____

_____

_____

Operation
Door does not swing freely: ___
Door does not close properly: ___
Door does not latch reliably: ___
Coordinator does not work properly: ___
Electronic holder does not release: ___
Door rubs on: floor frame other door

Frame
Not securely anchored to wall: ___
Open holes / unused fastener holes: ___
Frame is misaligned: ___
Label missing: ___
Label illegible: ___
Non-compliant field modification: ___
Incorrect / broken / missing glass: ___
Broken / missing glazing bead: ___
Glazing bead incorrectly fastened: ___
Non-compliant glass light configuration: ___

Door
Incorrect Clearance: ___
Open holes / unused fastener holes: ___
Damaged / delaminated door: ___
Rust-through: ___
Label missing: ___
Label illegible: ___
Non-compliant field modification: ___
Incorrect / broken / missing glass: ___
Broken / missing glazing bead: ___
Glazing bead incorrectly fastened: ___
Non-compliant glass light configuration: ___
Non-compliant plant-ons: ___
Signage more than 5% of door: ___
Signage attached with screws: ___
Door not installed: ___

Hinges / Pivots
Incorrect type: ___
Missing hinge / pivot: ___
Missing / incorrect fasteners: ___
Not securely fastened: ___

Flush Bolts / Coordinator
Incorrect type: ___
Missing / damaged bolt(s): ___
Missing / damaged strike(s): ___
Coordinator not functioning properly: ___
Bolt does not engage strike: ___
Missing / incorrect fasteners: ___
Not securely fastened: ___

Lockset / Latchset
Missing / damaged lock/latchset: ___
Missing / damaged strike: ___
Non-compliant latch throw: ___
Non-listed latch: ___
Latch does not engage strike: ___
Missing / incorrect fasteners: ___
Not securely fastened: ___

Fire Exit Hardware
Missing / damaged device: ___
Missing / damaged strike: ___
Missing / damaged latch(es): ___
Non-listed device (dogging present): ___
Actuating portion less than half of door width: ___
Latch does not engage strike: ___
Missing / incorrect fasteners: ___
Not securely fastened: ___
Non-compliant mullion: ___

Door Closer
Missing / damaged closer: ___
Missing / damaged arm: ___
Missing / incorrect fasteners: ___
Not securely fastened: ___
Closer leaking: ___
Hold-open arm: ___

Other
Seals damaged, missing, or incorrect type: ___
Non-compliant protection plate: ___
Non-compliant signage: ___

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Architectural Hardware • Doors & Frames

Ed Danhires, A.H.C/C.D.C.
Fire Door Assembly Inspector
Sales
email: edanhires@agmauro.com

INSPECTION CHECKLIST

BUILDING NAME _____

Door Number	Fire-Rating	Door Location	Compliant
			☐ YES ☐ NO
Remarks:			

FRAME

- ☐ Loose Frame
- ☐ Damaged Frame
- ☐ Rust-through on Frame
- ☐ Missing Label
- ☐ Frame is Out of Alignment
- ☐ Incorrect Glass in Sidelight or Transom-light
- ☐ Broken Glass in Sidelight or Transom-light
- ☐ Missing Glazing Bead at Light(s)
- ☐ Missing Glazing Bead Screw(s)
- ☐ Improper Field Modification (Explain Modification)
- ☐ Incorrect Hardware Preparation (Explain)
- ☐ Unused Fastener Hole(s) in Frame
- ☐ Other _____

DOOR

- ☐ Missing Door(s)
- ☐ Missing Label
- ☐ Damaged Door(s) (e.g., Dented, Bent)
- ☐ Rust-through on Door(s)
- ☐ Delamination of Door Skin or Face
- ☐ Incorrect Glass in Light(s)
- ☐ Broken Glass in Light(s)
- ☐ Light(s) is/are Too Large

DOOR (cont.)

- ☐ Loose Light Kits
- ☐ Missing Light Kit Screw(s)
- ☐ Improper Field Modification (Explain Modification)
- ☐ Incorrect Hardware Preparation (Explain)
- ☐ Unused Fastener Hole(s) in Door(s)
- ☐ Improper Plant-ons
- ☐ Replace Door
- ☐ Other _____

OPERATIONAL TEST

- ☐ Door Does NOT Swing Freely
- ☐ Door Does NOT Close Completely
- ☐ Door Does NOT Securely Latch
- ☐ Electric Door Release Does NOT Allow Door to Close
- ☐ Door Bottom Drags Against Floor Material
- ☐ Door Rubs Against Frame
- ☐ Edges of Paired Doors Overlap
- ☐ Coordinator Does NOT Function Properly
- ☐ Other _____

HINGES/PIVOTS

- ☐ Missing Hinge(s)
- ☐ Incorrect Hinge(s)
- ☐ Loose Hinge(s)
- ☐ Missing Screw(s)
- ☐ Replace Hinge(s)
- ☐ Other _____

DOOR BOLTS

- ☐ Missing Top Flush Bolt
- ☐ Missing Bottom Flush Bolt
- ☐ Missing Strike (Top Bolt)
- ☐ Missing Strike (Bottom Bolt)
- ☐ Bottom Bolt does NOT Engage Strike
- ☐ Missing Bolt Head (Top)
- ☐ Missing Bolt Head (Bottom)
- ☐ Missing Rub Plate(s)
- ☐ Incorrect Type of Flush Bolt(s)
- ☐ Other _____

LOCKS

- ☐ Missing Lock
- ☐ Incorrect Latch Bolt Throw
- ☐ Non-fire Rated Latch Bolt
- ☐ Latch Bolt Binds
- ☐ Latch Bolt Missing
- ☐ Loose Lever(s) or Knob(s)
- ☐ Latch Bolt Does NOT Engage Strike
- ☐ Missing Strike Plate
- ☐ Missing Screw(s)
- ☐ Missing Flush Bolt
- ☐ Missing Flush Bolt Strike
- ☐ Other _____

FIRE EXIT HARDWARE

- ☐ Missing Fire Exit Device
- ☐ Missing Latch Bolt Assembly (Top)
- ☐ Missing Latch Bolt Assembly (Bottom)
- ☐ Missing Strike(s)
- ☐ Missing Vertical Rod (Top)
- ☐ Missing Vertical Rod (Bottom)
- ☐ Push Bar Does NOT Extend Halfway Across Door Width
- ☐ Non-fire Rated Panic Hardware (Dogging)
- ☐ Missing Lever or Knob

FIRE EXIT HARDWARE (cont.)

- ☐ Other _____

DOOR CLOSERS

- ☐ Missing Door Closer(s)
- ☐ Leaking Door Closer(s)
- ☐ Missing Arm(s)
- ☐ Broken Arm(s)
- ☐ Missing Closer(s)
- ☐ Does NOT Close Door Completely
- ☐ Missing Screw(s)
- ☐ Missing Drop and/or Adapter Plate(s)
- ☐ Hold-open Arm(s)
- ☐ Missing Coordinator
- ☐ Missing Carry Bar
- ☐ Broken Coordinator
- ☐ Broken Carry Bar
- ☐ Overhead Hold-open (Surface or Concealed)
- ☐ Other _____

MISCELLANEOUS

- ☐ Missing Threshold/ Saddle
- ☐ Incorrect Clearance (Top of Door to Frame)
- ☐ Incorrect Clearance (Hinge Edge to Frame)
- ☐ Incorrect Clearance (Lock Edge to Frame)
- ☐ Incorrect Clearance (Door Bottom to Floor)
- ☐ Incorrect Clearance (Between Doors)
- ☐ Missing Astragal
- ☐ Missing or Damaged Gasketing/Smoke Seal
- ☐ Kick-down Door Holder
- ☐ Door Wedge
- ☐ Door Stop with Hold Open (Manual)
- ☐ Protection Plate(s) too Large
- ☐ Protection Plate(s) Missing screw(s)
- ☐ Signage Too Large
- ☐ Signage, Screwed/Nailed to Door
- ☐ Other _____

FDAI℠
A Program of the
Door and Hardware Institute

FORM 4

Please use the following codes to identify problems on the door openings listed on other side of page.

FRAME

- F1 Loose Frame
- F2 Damaged Frame
- F3 Rust-through on Frame
- F4 Missing Label
- F5 Frame is Out of Alignment
- F6 Incorrect Glass in Sidelight or Transom-light
- F7 Broken Glass in Sidelight or Transom-light
- F8 Missing Glazing Bead at Light(s)
- F9 Missing Glazing Bead Screw(s)
- F10 Improper Field Modification (Explain Modification)
- F11 Incorrect Hardware Preparation (Explain)
- F12 Unused Fastener Hole(s) in Frame
- F13 Other _____

DOOR

- D1 Missing Door(s)
- D2 Missing Label
- D3 Damaged Door(s) (e.g., Dented, Bent)
- D4 Rust-through on Door(s)
- D5 Delamination of Door Skin or Face
- D6 Incorrect Glass in Light(s)
- D7 Broken Glass in Light(s)
- D8 Light(s) is/are Too Large
- D9 Loose Light Kits
- D10 Missing Light Kit Screw(s)
- D11 Improper Field Modification (Explain Modification)
- D12 Incorrect Hardware Preparation (Explain)

DOOR (cont.)

- D13 Unused Fastener Hole(s) in Door(s)
- D14 Improper Plant-ons
- D15 Replace Door
- D16 Other _____

OPERATIONAL TEST

- T1 Door Does NOT Swing Freely
- T2 Door Does NOT Close Completely
- T3 Door Does NOT Securely Latch
- T4 Electric Door Release Does NOT Allow Door to Close
- T5 Door Bottom Drags Against Floor Material
- T6 Door Rubs Against Frame
- T7 Edges of Paired Doors Overlap
- T8 Coordinator Does NOT Function Properly
- T9 Other _____

HINGES/PIVOTS

- H1 Missing Hinge(s)
- H2 Incorrect Hinge(s)
- H3 Loose Hinge(s)
- H4 Missing Screw(s)
- H5 Replace Hinge(s)
- H6 Other _____

DOOR BOLTS

- B1 Missing Top Flush Bolt
- B2 Missing Bottom Flush Bolt
- B3 Missing Strike (Top Bolt)
- B4 Missing Strike (Bottom Bolt)
- B5 Bottom Bolt does NOT Engage Strike
- B6 Missing Bolt Head (Top)
- B7 Missing Bolt Head (Bottom)
- B8 Missing Rub Plate(s)
- B9 Incorrect Type of Flush Bolt(s)
- B10 Other _____

LOCKS

- L1 Missing Lock
- L2 Incorrect Latch Bolt Throw
- L3 Non-fire Rated Latch Bolt
- L4 Latch Bolt Binds
- L5 Latch Bolt Missing
- L6 Loose Lever(s) or Knob(s)
- L7 Latch Bolt Does NOT Engage Strike
- L8 Missing Strike Plate
- L9 Missing Screw(s)
- L10 Missing Flush Bolt
- L11 Missing Flush Bolt Strike
- L12 Other _____

FIRE EXIT HARDWARE

- E1 Missing Fire Exit Device
- E2 Missing Latch Bolt Assembly (Top)
- E3 Missing Latch Bolt Assembly (Bottom)
- E4 Missing Strike(s)
- E5 Missing Vertical Rod (Top)
- E6 Missing Vertical Rod (Bottom)
- E7 Push Bar Does NOT Extend Halfway Across Door Width
- E8 Non-fire Rated Panic Hardware (Dogging)
- E9 Missing Lever or Knob
- E10 Missing Screw(s)
- E11 Missing Sex Nuts and Bolts
- E12 Mullion
- E13 Other _____

DOOR CLOSERS

- C1 Missing Door Closer(s)
- C2 Leaking Door Closer(s)
- C3 Missing Arm(s)
- C4 Broken Arm(s)
- C5 Missing Closer(s)
- C6 Does NOT Close Door Completely
- C7 Missing Screw(s)
- C8 Missing Drop and/or Adapter Plate(s)
- C9 Hold-open Arm(s)
- C10 Missing Coordinator
- C11 Missing Carry Bar
- C12 Broken Coordinator
- C13 Broken Carry Bar
- C14 Overhead Hold-open (Surface or Concealed)
- C15 Other _____

MISCELLANEOUS

- M1 Missing Threshold/ Saddle
- M2 Incorrect Clearance (Top of Door to Frame)
- M3 Incorrect Clearance (Hinge Edge to Frame)
- M4 Incorrect Clearance (Lock Edge to Frame)
- M5 Incorrect Clearance (Door Bottom to Floor)
- M6 Incorrect Clearance (Between Doors)
- M7 Missing Astragal
- M8 Missing or Damaged Gasketing/Smoke Seal
- M9 Kick-down Door Holder
- M10 Door Wedge
- M11 Door Stop with Hold Open (Manual)
- M12 Protection Plate(s) too Large
- M13 Protection Plate(s) Missing screw(s)
- M14 Signage Too Large
- M15 Signage, Screwed/ Nailed to Door
- M16 Other _____

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Architectural Hardware • Doors & Frames

Ed Danhires, A.H.C/C.D.C.
Fire Door Assembly Inspector
Sales

email: edanhires@agmauro.com

FDAI℠
A Program of the Door and Hardware Institute

STAINED GLASS MAINTENANCE

- Were your stained glass windows installed prior to 1950?
- Do your windows have exterior protective glass, acrylic or Lexan that obscures the stained glass?
- Do your windows have areas that have bowed, bulged or sagged?
- Do your windows have wood or steel frames that have not been regularly maintained and painted?
- Do your windows have operable panels (ventilators) that are difficult to open or close?

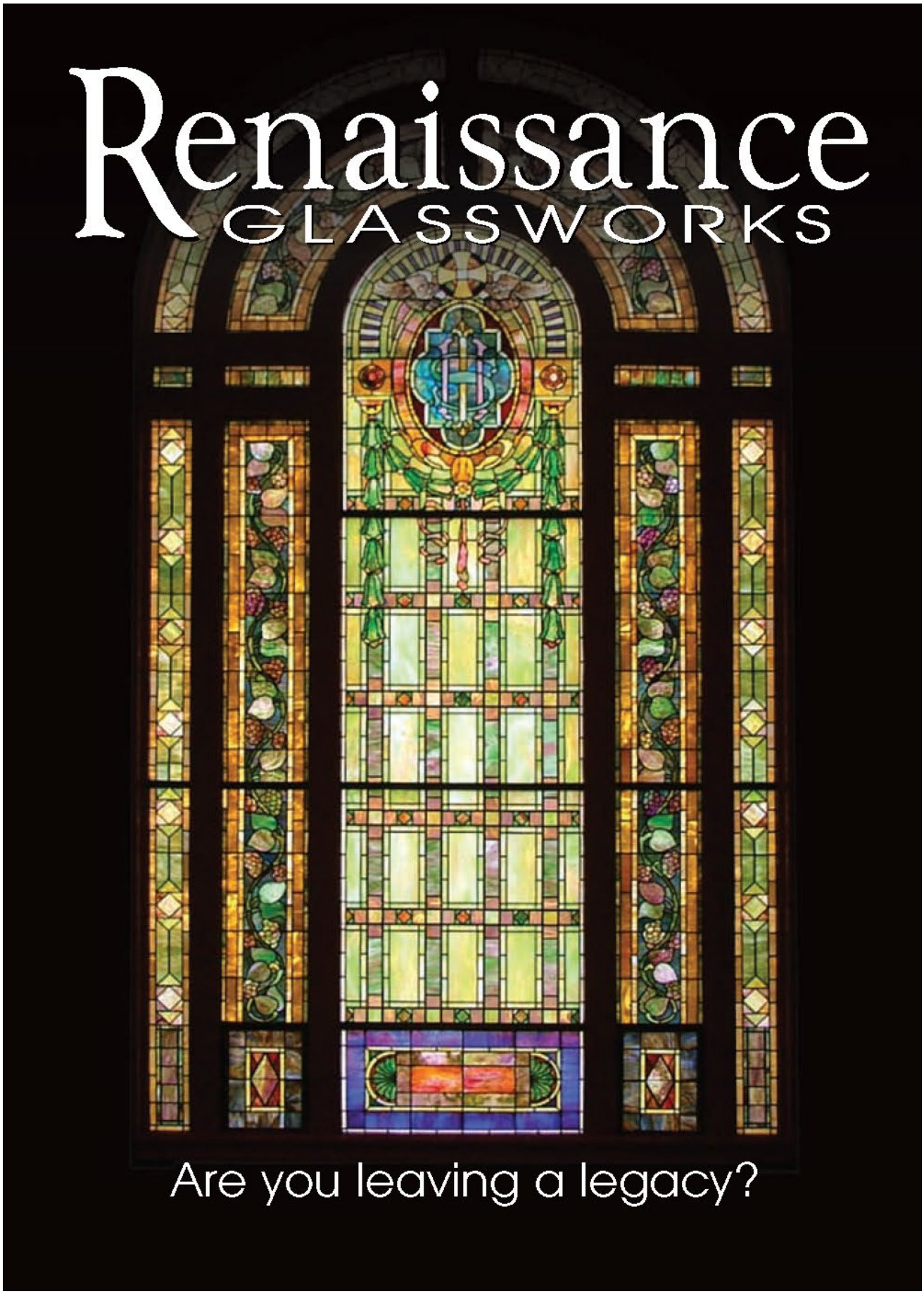
If you answered 'Yes' to any of these questions, you should consider a restoration program for your stained glass windows.

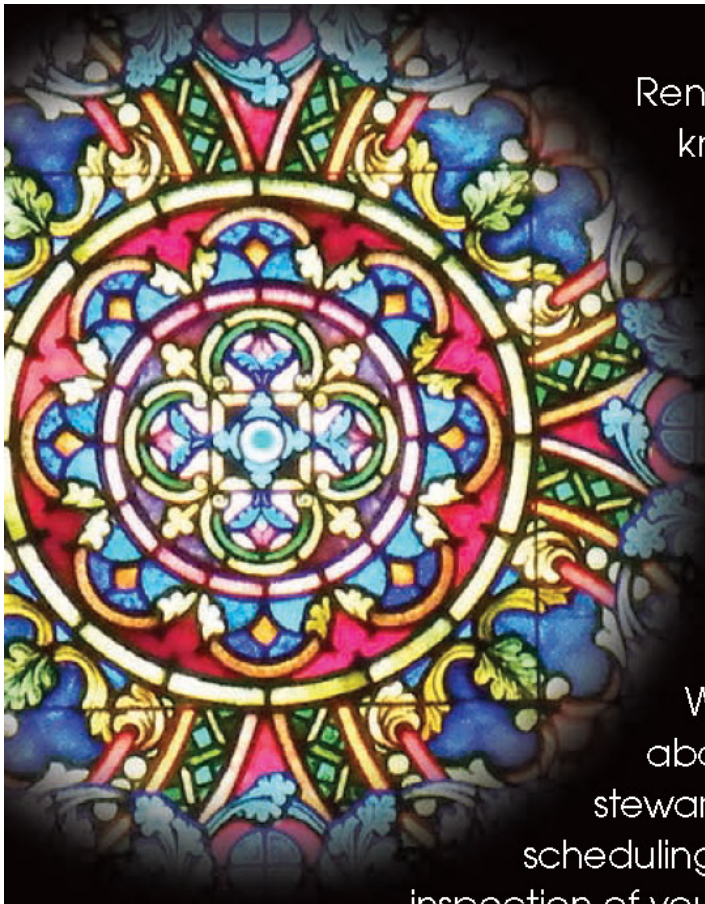
Start by requesting a free inspection, consultation and restoration proposal from a qualified full-service stained glass studio, one that has the resources and experiences to not only restore the stained glass but also its wood, stone or steel setting.

Ask the studio to prepare a budget that allows your church to perform the restoration work in phases, over years, based on logical window groupings.

Segment the budget into window-by-window pricing and allow families or individual donors from your church to "adopt" a window, or fund the restoration as a memorial. Most importantly, make the project and its importance clearly known to your entire church family and surrounding community.

Finally, get started! We have never started a phase by phase restoration project that we did not finish. You will be pleasantly surprised at the willingness of your church family to leave a legacy through stained glass.


Renaissance
GLASSWORKS
Are you leaving a legacy?



Renaissance Glassworks knows that stained glass is a valuable piece of the legacy you will leave to future generations of your church family.

We are a local studio devoted to restoring and preserving the stained glass of the tri-state area.

We invite you to learn more about the responsible stewardship of stained glass by scheduling a free, no-obligation inspection of your windows. We would like to help you develop a plan for your church that will insure that the glory of your stained glass will be enjoyed by many generations to come. We look forward to hearing from you.

H.B. Mertz *- President*

Expertise From Site to Studio

Scaffolding, Removal & Transport

Complete Stained Glass Services:

- Stained Glass Restoration
- Wood Restoration
- New Frames & Ventilators
- Storm & Vandalism Repair
- Protective Exterior Glass
- New Stained Glass

Documentation & Disassembly

Releading

"Renaissance Glassworks is a fantastic company to work with. It is not your usual client/contractor relationship - you become great friends with all of the personnel working for the company.
We would recommend them for any and all stained glass restoration projects."
Art Brandenburg and Gary May of Bethel Presbyterian Church, Bethel Park, PA.

Detail Cleaning

CLIMATECH INC.
Managing Indoor Climate
Through Technology.

200 Bilmar Drive
Pittsburgh, PA 15205
(412) 921-8000
Fax (412) 921-8119

Dear Eric,

Climatech is proud to present this guide to hydronic boiler and other heating equipment, especially as it pertains to church maintenance. While many of these steps can be completed by your in-house maintenance staff, we strongly recommend at least an annual inspection performed by a highly trained boiler service company, such as Climatech. This will guarantee reduced downtime from unexpected maintenance problems, safe boiler operation, extended boiler life, and maximum energy savings. Un-tuned boilers can increase energy usage by 30% or more annually.

Boilers come in two main varieties, with several styles of boilers under each type. This guide is intended for general use on items that are common to all boilers, and can be completed in many cases by your in-house personnel.

Some churches have steam boilers that create steam, which flows by natural gravity through a piping system to steam convectors of some type. The steam condenses after travelling through the convector, and returns to the boiler through the smaller return water piping, to begin the process over again. Any steam loss in through the system is replaced through a boiler feed valve to maintain the required water level within the boiler. Steam boilers can be identified by the large steam header at the top of the boiler, as well as by vented steam traps located at each radiator. It is important to implement a supervised water treatment system to maintain safety and to insure maximum boiler efficiency.

Other churches have hot water boiler systems. These systems operate at water temperatures that are lower than boiling, and therefore circulate hot water through various types of radiation convectors, rather than steam. Boiler pressure is critical, as it must be high enough to insure that the system is filled to the highest level, and yet not so full that it exceeds the boiler and safety relief valve ratings.

One other type of heating system that you may encounter is typical gas forced air of several different types. This system typically heats air through a heat exchanger. The product of combustion is vented to the outside through an existing chimney, or plastic flue piping if the furnaces are high efficiency. Air is forced over the other side of the heat exchanger by a fan and into a duct and diffuser system for proper air distribution.

We hope that this information helps to reduce your maintenance cost and provides a safer place of worship for your congregation. We are always available to answer your questions if you need help.

Sincerely,

Joseph P. Saltmar
Vice-President

Mike Valent
Service Division General Manager

CLIMATECH INC.
Managing Indoor Climate
Through Technology.

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General Requirements for a Safe and Efficient Boiler Room

1. Keep the boiler room clean and clear of all unnecessary items. The boiler room should not be considered an all-purpose storage area. The burner requires proper air circulation in order to prevent incomplete fuel combustion. Use boiler operating log sheets and keep written maintenance records. The boiler room is for the boiler!

2. Ensure that all personnel who operate or maintain the boiler room are properly trained on all equipment, controls, safety devices, and up-to-date operating procedures.

3. Before start-up, ensure that the boiler room is free of all potentially dangerous situations, like flammable materials, mechanical, or physical damage to the boiler or related equipment.

4. Clear intakes and exhaust vents; check for deterioration and possible leaks.

5. Ensure a thorough inspection by a properly qualifed inspection agency.

6. After any extensive repair or new installation of equipment, make sure a qualiied boiler inspector re-inspects the entire system.

7. Monitor all new equipment closely until safety and efficiency are demonstrated.

8. Use boiler operating log sheets, maintenance records, and manufacturer's recommendations to establish a preventive maintenance schedule based on operating conditions, past maintenance, repair, and replacement.

9. Establish a checklist for proper startup and shutdown of boilers and all related equipment according to manufacturer's recommendations.

10. Observe equipment extensively before allowing an automatically operating system to be used with minimal supervision.

11. Establish a periodic preventive maintenance and safety program that follows manufacturer's recommendations.

12. Check for any blockage of combustion air openings. We know from experience that an uninformed maintenance person uses cardboard to prevent cold air from entering the boiler room. This causes incomplete combustion and future safety issues.

13. Check all wiring in the system for overheating. Hardening or melting of insulation will certainly cause problems.

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Annual Maintenance Steam Boiler (Contractor Performed)

1. Blow Down Entire System Until Clean (Surface and Controls) _____
2. Test Operation of Safety Relief Valve _____
3. Insure That Pressure Relief Valve Is Piped Outdoors _____
4. Check and Adjust Boiler Safety Limit Controls (Record Settings) _____
5. Check and Adjust Operating Controls (Record Settings) _____
6. Visually Inspect Burner Operation (Adjust Primary Air) _____
7. Perform Pilot Turn Down Test, Record Flame Signal (where applicable)
8. Check for Proper Draft _____
9. Inspect Fire Side of Boiler Tubes _____
10. Inspect Burners (Submit Cleaning Recommendations If Needed) _____
11. Check Operation of Pilot Ignition System _____
12. Check and Clean Sightglass _____
13. Inspect and Test.Water Level Controls _____
14. Check Operation of Steam Specialties _____
15. Check for Adequate Combustion Air _____
16. Check and Lubricate Ventor Motors _____
17. Check for Leaks in Heat Exchanger _____
18. Check Operation of Water Treatment System _____
19. Record Gas Pressure at Manifold _____
20. Does Boiler Meet All Pa. State L & I Code Requirements? _____
21. Record The Following Stack Gas Readings (Power Burners only): _____
    - A. Oxygen: _____
    - B. Carbon Monoxide: _____
    - C. Stack Gas Temperature: _____
    - D. Draft Reading: _____
    - E. Carbon Dioxide: _____
    - F. Excess Air: _____
    - G. Combustion Efficiency: _____

Periodic Maintenance

These items should be addressed by the building's maintenance staff on a continual basis as needed:

1. Keep sight glasses clean. This allows for a clear view of the burner flame and any carbon build-up on the boiler's combustion chamber (as needed).
2. Blow Down Entire System Until Clean (Surface and Controls) Check oil circulation temperature at sidearm pre-heaters. Inlet temperature should be 110° F to 120° F, and outlet temperature should be 140° F to 150° F for No. 6 oil (daily).
3. Flush drain low water cut-offs (twice a week).
4. Conduct boiler bottom blowdown to clear sludge and sediment, control high water, and control chemical treatment concentrations (monthly or as needed).
5. Monitor the make-up water being added to the boiler and/or the boiler feed unit. Since the system operates via closed loop, an excess amount of fresh (untreated,

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6. oxygenated) water supply is detrimental to boiler components and is often a sign of a leak in the system.
7. Maintain a rigorous boiler chemical feedwater treatment program.
8. Maintain a boiler room log to record any problems and routine maintenance.
9. Check combustion, inspect burner controls, and visually inspect burner operation.
10. Conduct trap inspection program with replacement of trap elements in radiation convectors and steam traps.
11. Conduct pipe inspection program to ensure all pipes are pitched in the direction of steam source (one-pipe steam systems) or condensate drainage (two-pipe systems).
12. Be alert for unusual noises, improper gauge readings, leaks, signs of overheating, etc. This can make the operator aware of developing malfunction and initiate prompt corrective action that may prevent excessive repairs or unexpected down time
13. All piping connections to the system and its accessories must be maintained leak-proof because even a minor leak, if neglected, may soon become serious. This applies especially to the water gauge glass, water level control, piping, valve packing, and access door gaskets.
14. Check the condition of the refractory for significant damage or cracking.

Annual Maintenance Hot Water Boiler (Contractor Performed)

1. Drain Sediment from Lowest Point in System _____
2. Test Operation of Safety Relief Valve _____
3. Check and Adjust Boiler Safety Controls (Record Settings) _____
4. Check Outdoor Temperature Reset Control _____
5. Inspect Burner Operation (Adjust Primary Air) _____
6. Inspect Burners (Submit Cleaning Recommendations If Necessary) _____
7. Check for Proper Draft _____
8. Check for Leaks in Heat Exchanger _____
9. Check Operation of Pilot Ignition System _____
10. Perform Pilot Turn-Down Test. Record Flame Signal.(where applicable)
11. Check Operation of Automatic Fill Valve _____
12. Check Operation and Condition of Air Vents _____
13. Drain Expansion Tank _____
14. Check for adequate Combustion Air _____
15. Check and Lubricate Ventor Motor _____
16. Record Gas Pressure at Manifold _____
17. Record Entering Water Temperature _____
18. Record Leaving Water Temperature _____
19. Check and Oil Water Circulator Pump _____
20. Does Boiler Meet All Pa. L&I Code Requirements? _____
21. Record the Following Stack Gas Readings (Power Burners only) _____
    - A. Oxygen: _____
    - B. Carbon Monoxide: _____
    - C. Stack Gas Temperature: _____
    - D. Draft Reading: _____

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E. Carbon Dioxide: _____
F. Excess Air: _____
G. Combustion Efficiency: _____

Periodic Maintenance

These items should be addressed by the building's maintenance staff on a continual basis as needed:

1. Keep sight glasses clean. This allows for a clear view of the burner flame and any carbon build-up on the boiler's combustion chamber (as needed).
2. Since the system operates via closed loop, any amount of fresh (untreated, oxygenated) water entering the system is detrimental to boiler components and is often a sign of a leak in the system. Check for fresh water entering the system.
3. Maintain a boiler room log to record any problems and routine maintenance.
4. Check combustion, inspect burner controls, and visually inspect burner operation.
5. Be alert for unusual noises, improper gauge readings, leaks, signs of overheating, etc. This can make the operator aware of developing malfunction and initiate prompt corrective action that may prevent excessive repairs or unexpected down time
6. All piping connections to the system and its accessories must be maintained leak-proof because even a minor leak, if neglected, may soon become serious. This applies especially to the water gauge glass, water level control, piping, valve packing, and access door gaskets.
7. Check the condition of the refractory for significant damage or cracking.
8. Verify through the gauge glass that the boiler has the proper amount of water.
9. Check operation and lubricate hot water circulating pumps.
10. Check pumps for unusual coupling noise.

Annual Maintenance Gas Fired Forced Air System (Contractor Performed)

1. Check or Replace Filters As Required (record sizes) _____
2. Check Pulleys for Wear and Adjust Alignment _____
3. Check, Adjust, or Replace Belt (record size below) _____
4. Lubricate Indoor Blower and Motor Bearings (when applicable) _____
5. Check Condition of Heat Exchanger _____
6. Verify Proper Operation of Pilot Ignition System _____
7. Check and Record Flame Current _____
8. Check Manifold Gas Pressure _____
9. Visually Inspect for Oil and Refrigerant Leaks _____
10. Check Thermostat and Control Circuit Operation _____
11. Check Limit Controls and Safety Circuit Operation _____
12. Check Operation of Electronic Air Cleaner _____
13. Check Burner Operation _____
14. Clean Blower Motor Air Inlets _____

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15. Check Operation of Inducer Motor _____
16. Check and Record Blower Motor Current Draw (compare to rating) _____
17. Check Operation of Condensate Pump (if applicable) _____
18. Check for Proper Grounding of Furnace _____
19. Check for Presence of Carbon Monoxide _____
20. Clean Condensate Line _____
21. Check Flue Piping for Signs of Deterioration _____
22. Check and Record Temperature Rise Across Heat Exchanger _____
23. Check Condition of PVC Flue Piping for Deterioration and Proper Slope _____
24. Check PVC Flue Piping for Proper Support _____
25. Record Outdoor Temperature _____
26. Check and Tighten All Wiring Connections _____

Periodic Maintenance

1. Check or replace filters as required
2. Check Pulleys for wear
3. Check and adjust or replace belt
4. Lubricate blower motor and bearings where applicable
5. Visually inspect for oil leaks
6. Clean blower motor air inlets
7. Check flue piping for signs of deterioration
8. Visually check wiring connections and condition of wire insulation.

Lighting Guidelines

(from the Office of Energy Efficiency & Renewable Energy, US Department of Energy)

The light-emitting diode (LED) is today's most energy-efficient and rapidly-developing lighting technology. Quality LED light bulbs last longer, are more durable, and offer comparable or better light quality than other types of lighting. Check out the top 8 things you didn't know about LEDs to learn more.

Energy Savings

LED is a highly energy-efficient lighting technology, and has the potential to fundamentally change the future of lighting in the United States. Residential LEDs -- especially ENERGY STAR rated products -- use at least 75% less energy, and last up to 25 times longer, than incandescent lighting.

Widespread use of LED lighting has a large potential impact on energy savings in the United States. By 2035, the majority of lighting installations are anticipated to use LED technology, and energy savings from LED lighting could top 569 TWh annually by 2035, equal to the annual energy output of more than 92 1,000 MW power plants.

How LEDs are Different

LED lighting is very different from other lighting types such as incandescent and CFL. Key differences include:

- Light Source: LEDs are the size of a fleck of pepper, and can emit light in a range of colors. A mix of red, green, and blue LEDs is sometimes used to make white light.
- Direction: LEDs emit light in a specific direction, reducing the need for reflectors and diffusers that can trap light. This feature makes LEDs more efficient for many uses such as recessed downlights and task lighting. With other types of lighting, the light must be reflected to the desired direction and more than half of the light may never leave the fixture.
- Heat: LEDs emit very little heat. In comparison, incandescent bulbs release 90% of their energy as heat and CFLs release about 80% of their energy as heat.
- Lifetime: LED lighting products typically last much longer than other lighting types. A good quality LED bulb can last 3 to 5 times longer than a CFL and 30 times longer than an incandescent bulb.

LED Products

LED lighting is available in a wide variety of home and industrial products, and the list is growing every year. The rapid development of LED technology has resulted in increased product availability, improved manufacturing efficiency, and lower prices. Below are some of the most common types of LED products.

Industrial and Commercial Lighting

The high efficiency and directional nature of LEDs makes them ideal for many industrial uses. LEDs are increasingly common in street lights, parking garage lighting, walkway and other outdoor area lighting, refrigerated case lighting, modular lighting, and task lighting.

Under-Cabinet Lighting

Because LEDs are small and directional, they are ideal for lighting tight spaces such as countertops for cooking and reading recipes. Since there can be variation in light color and directionality, it is important to compare products to find the best fixture for your space.

Recessed Downlights

Recessed downlights are commonly used in residential kitchens, hallways, and bathrooms, and in a number of office and commercial settings. DOE estimates there are more than 600 million recessed downlights installed in U.S. homes and businesses.

LED Replacement Bulbs

With performance improvements and dropping prices, LED lamps can affordably and effectively replace 40, 60, 75, and even 100 Watt incandescent bulbs. It's important to read the Lighting Facts Label to make sure the product is the right brightness and color for its intended use and location.

LED Holiday Lights

LEDs consume far less electricity than incandescent bulbs, and decorative LED light strings such as Christmas tree lights are no different. Not only do LED holiday lights consume less electricity, they also have the following advantages:

- Safer: LEDs are much cooler than incandescent lights, reducing the risk of combustion or burnt fingers.
- Sturdier: LEDs are made with epoxy lenses, not glass, and are much more resistant to breakage.
- Longer lasting: The same LED string could still be in use 40 holiday seasons from now.
- Easier to install: Up to 25 strings of LEDs can be connected end-to-end without overloading a wall socket.

Food Service Equipment

Code Requirements and Approving Authorities:

- Check with the local health department and code officials for kitchen and current food service equipment requirements.
- NSF/ANSI requirements- helps develop sanitation and quality standards for foodservice equipment.
- Commercial UL listing or equivalent.

Food Service Equipment Consultants:

Consult with local food service equipment consultants to request a visit to your kitchen to provide an overview of your operation and recommendation on current equipment, possible design modifications, energy efficiency, and comments on code compliance. An FCSI (Foodservice Consultants Society International) accredited consultant does not procure or sell equipment, and can provide an unbiased, objective review of your kitchen, the existing equipment, and its operational effectiveness for supporting the services and type/number of meals you desire to offer. This consultant can also provide a list of equipment suppliers if new equipment is required or recommendations regarding the maintenance of existing equipment.

Sanitizing Requirements:

- Typically chemical type sanitizing via a three-compartment sink using 120-140 degree water
- Dishwashers (various types/sizes) with recommended built-in booster heater for hot water sanitizing (180 degree minimum). Can also utilize low-temperature units (140 degree minimum), relying on chemical sanitizing.

Cooking:

- Range top cooking (number of burners).
- Convection ovens (number of units).
- Combi-ovens (combination convection oven/steamer). Typically unnecessary for Church operations.
- Griddle (flat top unit). Primarily for breakfast service.
- Fryers (multiple types and capacities, with or without filtration system).

Cooking Hoods:

- Located above cooking equipment with required overhangs at front (12”) and sides (6”).
- Determine appropriate size and ventilation requirements, based upon cooking equipment positioned beneath.
- Fully encompassed by a Fire Suppression System (wet chemical type).

Holding:

Appropriately sized hot food holding cabinets (various types and capacities) and refrigerators positioned between the cooking battery and assembly area/serving line/serving counter.

Serving:

- Cafeteria style, via a serving line or serving counter with hot food wells, refrigerated cold pan and beverage station.
- Restaurant style via an assembly area with hot and cold food holding and beverages.

Information for this section provided by McFarland Kistler & Associates, Inc. - Food Service Equipment Consultants

Allegheny Refrigeration

(412)321-6626
1228 BRIGHTON RD.
PITTSBURGH, PA 15233

PERIODIC MAINTENANCE CHECKLIST

REACH IN REFRIGERATORS & FREEZERS:

- ✓ CHECK INTERIOR CABINET TEMPERATURE WITH A SEPARATE WORKING THERMOMETER
  - EXTERIOR THERMOMETERS CAN GIVE FALSE READINGS
- ✓ CHECK CABINET TO ENSURE THAT DOORS CLOSE PROPERLY
- ✓ CHECK DOOR GASKETS TO ENSURE THAT GASKETS ARE NOT RIPPED OR TORN
- ✓ CHECK CONDENSING UNIT TO ENSURE THAT FINS ON CONDENSOR ARE CLEAR
  - DIRTY CONDENSORS ARE THE LEADING CAUSE OF COMPRESSOR FAILURE
  - CONDENSORS SHOULD BE PERIODICALLY THUROUGHLY CLEANED WITH COMPRESSED CO2 AND A LIGHT DEGREASER
  - ALWAYS WIPE IN CONDENSOR IN THE DIRECTION OF THE FINS, DO NOT BEND FINS
  - WARNING!!! BEWARE OF MOVING PARTS OR FAN BLADES IN CONDENSOR AREA
- ✓ CHECK TO ENSURE THAT ALL FANS ARE OPERATING INSIDE OF CABINET
- ✓ CHECK BACK OF EVAPORATOR COIL TO ENSURE THAT THERE IS NO EXCESS BUILD UP.
- ✓ CHECK EVAPORATOR DRAIN TO ENSURE THAT THERE ARE NO OBSTRUCTIONS

ICE MACHINES:

- ✓ CHECK TO ENSURE EXTERNAL CONDENSOR IS CLEAR
  - CONDENSORS SHOULD BE PERIODICALLY THUROUGHLY CLEANED WITH COMPRESSED CO2 AND A LIGHT DEGREASER
  - ALWAYS WIPE IN CONDENSOR IN THE DIRECTION OF THE FINS, DO NOT BEND FINS
  - WARNING!!! BEWARE OF MOVING PARTS OR FAN BLADES IN CONDENSOR AREA
- ✓ REMOVE FRONT PANEL, CHECK CONDITION OF EVAPORATOR PLATE, IF PLATE IS CHIPPED, SEVERLY DISCOLORED, OR MULTIPLE METAL FINISHES SHOW, ICE MACHINE MAY BE IN NEED OF A NEW EVAPORATOR.
- ✓ SEE MACHINE OWNERS MANUAL FOR PROPER CLEANING PROCEDURES
  - ICE MAKERS SHOULD BE THROUGHLY CLEANED WITH NICKEL SAFE CLEANSER, OR BLEACH AT LEAST ONCE PER YEAR.
- ✓ CHECK ICE MACHINE FILTER, HEAVY DUTY WATER FILTER SHOULD BE INSTALLED AND CHANGED PER PRODUCTION OF ICE MAKER ONCE EVERY 6 – 12 MONTHS DEPENDING ON LOCAL WATER CONDITIONS.

- HARD AND UNFILTERED WATER IS THE LEADING CAUSE OF COMPONENT FAILURE ON ICE MAKERS

✓ CHECK ANY REMOVABLE AIR FILTERS TO ENSURE THAT THEY ARE CLEAN AND FUNCTIONING PROPERLY

WALK-IN COOLERS & FREEZERS:

✓ CHECK DOOR CLOSER TO ENSURE THAT CLOSER OPERATES PROPERLY AND PULLS DOOR SHUT FULLY.

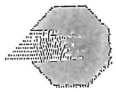
✓ CHECK GASKETS TO ENSURE THAT THEY ARE NOT RIPPED OR TORN.

✓ CHECK THRESHOLD TO ENSURE THERE ARE NO GAPS BETWEEN BOTTOM SWEEP GASKET AND DOOR THRESHOLD

✓ IF CONDENSING UNIT IS INSIDE, CHECK TO MAKE SURE THAT CONDENSOR IS CLEAR

- CONDENSORS SHOULD BE PERIODICALLY THUROUGHLY CLEANED WITH COMPRESSED CO2 AND A LIGHT DEGREASER
- ALWAYS WIPE IN CONDENSOR IN THE DIRECTION OF THE FINS, DO NOT BEND FINS
- WARNING!!! BEWARE OF MOVING PARTS OR FAN BLADES IN CONDENSOR AREA

✓ CHECK DRAINPAN IN EVAPORATOR TO ENSURE THAT DRAIN IS FREE AND CLEAR.



SONITROL®
VERIFIED ELECTRONIC SECURITY

Security Checklist

Conduct a thorough church crime prevention inspection. Use this checklist as a guideline for evaluating your overall Risk Management Program.

Organization	YES	NO
1. Is there an incident reporting system available to all the staff?	☐	☐
2. Is statistical information available concerning the scope of the problems at your church and in the community?	☐	☐
3. Has administration taken any preventative steps to anticipate problems?	☐	☐
4. Is there a good working relationship with local law enforcement?	☐	☐
5. Are there emergency procedures for incidents such as fires or bomb threats?	☐	☐

Existing Security Measures		
1. Is a staff member responsible for overall security procedures?	☐	☐
2. Are church employees made aware of security procedures?	☐	☐
3. Are vandalism costs made known to taxpayers?	☐	☐
4. Does local law enforcement help and advise on vandalism prevention?	☐	☐
5. Are staff members and church members encouraged to cooperate with the police?	☐	☐
6. Are local residents encouraged to report suspicious activity (Neighborhood Watch)?	☐	☐
7. Are specific persons designated to secure buildings following after-hours activity?	☐	☐
8. Is there a visitor procedure?	☐	☐
9. Do members and/or employees have I.D. cards?	☐	☐

Exterior Security		
1. Is there sufficient exterior lighting, especially in high-risk areas?	☐	☐
2. Is there good visibility of parking areas?	☐	☐
3. Are all window ledges, roof accesses, and other equipment that could be used for climbing or gaining entry properly secured?	☐	☐
4. Have steps been taken to restrict easy access to the roof, i.e., lower adjacent structures, compounds, walls and down pipes?	☐	☐

Perimeter Security

		YES	NO
1.	Is there a key control system, such as securable key cabinet?	☐	☐
2.	Are first floor windows properly secured?	☐	☐
3.	Are protective screens or window guards used?	☐	☐
4.	Have outside handles been removed from doors used primarily as exits?	☐	☐
5.	Can any door locks be reached by breaking out glass?	☐	☐
6.	Are doors constructed properly, with pry-proof frames?	☐	☐
7.	Are locks maintained and replaced when necessary?	☐	☐
8.	Are high-risk areas (shop, offices, etc.) sufficiently secured?	☐	☐

Interior Security

1.	Is church property permanently and distinctly marked?	☐	☐
2.	Has an inventory been made recently?	☐	☐
3.	Are church files locked in vandal-proof containers?	☐	☐
4.	Is valuable equipment (PCs, typewriters, A/V equipment) security bolted down or locked up when not in use?	☐	☐
5.	Is all money removed from cash registers after hours?	☐	☐

Intrusion/Access/Fire Alarms

1.	Do your facilities have an intrusion detection system?	☐	☐
2.	Do your facilities have an access control system?	☐	☐
3.	Does your church have a fire alarm system?	☐	☐
4.	Are they monitored on a 24-hour-a-day basis?	☐	☐
5.	Is there a sprinkler system in your building(s)?	☐	☐
6.	Are there smoke/heat detectors in your building(s)?	☐	☐
7.	Do you, as an administrator, understand the system's capabilities and limitations?	☐	☐
8.	Do members and staff understand the basics of the system, so as to prevent false alarms?	☐	☐
9.	Is the number of false alarms kept to two or less for any six-month period?	☐	☐
10.	Is there a clear procedure for alarm response?	☐	☐
11.	Is there a policy for consistent maintenance and testing of the system?	☐	☐
12.	Can selected areas of the church be "zoned" by the alarm system, indicating which area is being entered by an intruder?	☐	☐

Why Are Churches Going Solar?

Environmental Stewardship

Many churches recognize the fundamental responsibility they carry for protecting what God has created.

The physical structure itself is responsible for large energy demand, whether it is for heating/cooling, or electricity. The sourcing of this energy has traditionally come from fossil fuels with large carbon footprints, greenhouse gas and particulate matter emissions. The adverse impact on the living earth and human health has been significant.

Investing into energy conservation initiatives, such as updating windows and HVAC systems, increasing insulation, or replacing light bulbs with LED bulbs are standard first level actions churches can take to reduce their energy needs.

Solar has experienced a meteoric ascent in the energy field, especially over the last ten years in which the cost of going solar has dropped by over 70%. The source is free from all of the polluting factors associated with fossil fuels, unlimited in its resource, and offers a straight forward path towards impacting our environment.

Economic Impact

With the rapidly declining cost of going solar many regions throughout the country and especially in Pennsylvania will find the cost of solar energy is less than from traditional utility service. There is a onetime cost associated with purchasing the equipment for harvesting the sun's energy, after that is paid off a church can receive free energy for upwards of 40 years. Money that had been for years budgeted towards electricity expense can now be repurposed for other needs. In Western PA a solar system can be paid off within 5-12 years, depending on what financing and tax benefits that can be utilized.

Community Leadership

The church can use its position as a community leader to lead by example towards environmental stewardship and economic viability. After going solar it can become a hub a living education for solar energy.

How Can Solar Be Financed?

Cash – Cash is always king and offers the most direct and affordable way to go solar. However, most churches do not typically have the necessary cash reserves on hand. A church can undertake a capital fund-raising campaign, but this can take a degree of time and market conditions can change over that period. Another factor that applies to non-profit organizations like a church is the inability to take advantage tax strategies to lower the cost of going solar.

Solar Loan – There are financial entities that offer financing for solar projects at very competitive interest rates. The objective is to transfer a portion or all of the monthly expense already allocated towards electricity and apply it to a solar loan. Terms range from 10-20 years for a solar loan.

Line of Credit – Similar to a solar loan.

Power Purchase Agreement (PPA) – A PPA utilizes third-party investors to finance a solar system. This investor will provide the funding for and own the system. They will be responsible for any maintenance associated with the system. In return, the church agrees to buy all of the energy generated from the system at a predetermined rate per kWh. The length of a PPA agreement can run from7-25 years, which can be negotiated by each party. If the ultimate goal by the church is to eventually own the solar system it can be arranged to pay off the PPA at a prescribed period of time. If there is no goal for ownership the church can benefit from a long-term PPA contract with energy rates typically lower than what the utility would charge. The other advantage of a PPA is third party financing allows for those entities to take advantage of tax benefits, this lowering the cost of going solar and passing those savings on to the church.

What is the Process in Going Solar?

The process for a church to go solar can be somewhat involved, depending on many factors each church might be dealing with at the time. A truncated overview follows:

1. Determine the viability of the physical structure or land area for going solar.
2. Analyze current electric billing to determine energy consumption and rate history.
3. A preliminary solar system design can determine potential system size, energy output, and project cost.
4. Evaluate project financing strategies.
5. Evaluate potential solar installation companies and seek bids for the project.
6. Enjoy the benefits of many years of solar energy.
7. Share with your community.

This is where a solar consulting firm like Solbridge Energy Advisors can become extremely valuable. Having an experienced organization working side-by side, offering non-biased education and guidance can make the process of going solar much more organized and easier to understand.

For more information on going solar contact:

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Mt. Lebanon Episcopal church looks to the heavens for its electricity

St. Paul Episcopal Church in Mt. Lebanon is the first church in the area to “go solar.” The church’s array of 51 rooftop solar panels were dedicated and blessed with holy water at a recent “moving off the grid” ceremony.

The Right Rev. Dorsey W. M. McConnell, bishop of the Episcopal Diocese of Pittsburgh, and the Rev. Noah H. Evans, rector at St. Paul, dedicated the solar panels at the June 8 event.

The panels were activated at the end of March. For the first full month of use, the church saw a 70% reduction in the amount of purchased electricity. The church, which is a three-story building that is in use seven days a week, previously had a monthly electric bill of $1,000 to $1,300.

Some months, the panels could even make more electricity than the church uses, and generating rebates from the church’s electricity provider, Duquesne Light. So far, the church has received about $400 in reimbursements.

“It’s both environmental and economical,” said Rev. Evans about the solar panels.

He added that being good stewards of the environment and caring for creation are core values of the Episcopal Church. In the past few years, St. Paul has also converted its lighting to LED and installed more energy-efficient windows.

“This is a way we are living out our faith,” Rev. Evans said of the work that the church has done to reduce its carbon footprint.

During the day, the building is powered mainly by the solar panels — even on cloudy days. “At night we’re drawing from the electrical grid,” Rev. Evans said

He added that several St. Paul’s parishioners have installed solar panels on their homes after being inspired by the church’s solar panels.

“It’s something people are very proud of,” Rev. Evans said of the solar panels.

He added St. Paul has an environmental sustainability task force that “dreams about what’s next” for the church.

On tap this year is a joint meeting with the Unitarian Universalist Church of the South Hills and Bower Hill Presbyterian Church to talk about collaborating on environmental issues such as glass recycling.

Rev. Evans is no stranger to helping a church reduce its carbon footprint.

Previously he was rector at Grace Episcopal Church in Medford, Mass., near Boston.

Rev. Evans said in nine years the parish was able to reduce its carbon footprint by half through installing solar panels and LED lighting and other environmental upgrades.

The $48,000 local project was funded by a campaign supported by St. Paul parishioners. The panels were installed by Energy Independent Solutions of Pittsburgh, and the consultant on the project was Greg Winks of Solbridge Energy Advisors of Pittsburgh.

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