



Construction Guidelines



*Unless The Lord Build The House,
They Labor In Vain Who Build It*
Psalm 127



Archdiocese of Chicago
Construction Guidelines Revised 2005 (Partial, 2013)

ARCHDIOECESIS OF CHICAGO

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This document is intended to give parishes a guideline to assist and help them through the joys, trials and perils of a construction project. These guides combine experience, Archdiocesan Policies and government regulations into a system that can remove some of the guesswork from the process. It is also intended to help instruct lay committees in the various nuances of planning, design, Archdiocesan policies and construction. Book V, (**“The Temporal Goods of the Church”**), forms the basis for all Parish Capital Projects and excerpts are reprinted within this text.

Book V “The Temporal Goods of the Church”

§700 CAPITAL PROJECTS FOR PARISHES

One of the greatest challenges facing pastors is the organization and administration of the parish. Particularly challenging is the maintenance, renovation, and occasional expansion of parish facilities. Because buildings are part of the "background" infrastructure of the parish, their presence and upkeep can often be taken for granted and become a low priority for funding. Therefore, it is critical that the pastor carefully oversee day-to-day operation and maintenance of the facilities and manage capital projects as they arise.

§701 APPROVAL REQUIREMENTS FOR CAPITAL IMPROVEMENT PROJECTS

(CONSTRUCTION PROJECTS)

§701.1. General Procedures

701.1. Policy Pastors shall notify the Archdiocesan Director of Finance, the Manager of the Facilities & Construction Office, or the Vicariate Administrative Consultant (VAC) of the need for a capital improvement project (construction project). Projects costing less than \$20,000 may be handled by the parish without notification unless such assistance is desired, **however, all projects must utilize the current form of the standard Archdiocesan contract.**

a) A "project" is the construction, renovation, purchase, demolition, or major repair of an enduring physical asset. Examples of a capital project include: building an addition on a school, tuckpointing a church, putting a new roof on a rectory, purchasing additional land for a parking lot, purchasing and installing a new church organ, upgrading electrical service in a convent, or renovating a church interior.



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- b) If a parish conducts a single fundraising campaign to pay for a wide variety of work, that work shall be considered a single project. If the work has separate funding sources, involves separate general contractors, and is spread over a long time frame, the work shall be considered as multiple projects.
- c) It is not acceptable to break work into smaller projects solely to avoid the appropriate approval processes.
- d) Once a pastor informs the Director of Finance or the Facilities and Construction Office of the need for a capital improvement project, the process for completing the project is guided by the following procedures, available from the Department of Finance:
 - 1) Policy on Construction Contracts (See §703 and §600)
 - 2) Construction Contract Award Procedure
 - 3) Capital Project Summary Form
- e) It is suggested that each Parish's Finance Council establish a Buildings and Maintenance Subcommittee. Active lay leadership in this area is encouraged in order to provide support to the pastor.
- f) Pastoral Center agencies and personnel available for consultation and assistance with completing capital projects include the Facilities and Construction Department, Department of Stewardship and Development, the Office for Divine Worship, Vicariate Administrative Consultants, the Office of Catholic Schools, the Office of Conciliation, and Department of Information Technology.

§701.3.1 Step 1: Planning

701.3.1. Policy The parish is responsible for recruiting and naming the project leader and the team overseeing the project. It is also the responsibility of the parish to select qualified vendors, including the architect and contractor.

Procedures

- a) Any planning should begin by defining objectives, analyzing requirements and identifying needs, developing alternatives (including resource requirements, risk and feasibility) and developing recommendations, including funding, initial budgets and case statement.
- b) For larger projects, planning should also include the hiring of an architect to lead the parish in the formulation of a master plan; clear criteria should be established to select an architect as well as a contractor. Thorough checking of references is required. In choosing an architect and contractor conflicts of interest are to be



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- avoided. It is the responsibility of the parish team to select all architects and contractors. **(Note: conflicts of interest may arise when the architect or contractor is a parishioner).**
- c) For larger projects, it is expected that the parish will consult with other Parishes in the Planning Cluster (if applicable), the appropriate Dean and Vicar, the Vicariate Administrative Consultant (VAC), the Department of Facilities and Construction, the Office of Divine Worship (if applicable) and the Development Department.
 - d) It is the responsibility of the appropriate Episcopal Vicar to authorize the interview of architects to develop a master plan.



PARISH NEEDS ASSESSMENT

What is the impetus for the start of a construction project?

There are many reasons a parish may want to expand its facilities and many ways these needs can be brought to the attention of the pastor. Some examples include:

- 1.) The start of a new parish on vacant land. This situation, although rare in our diocese, is in fact happening as areas populate this may become a more common condition.
- 2.) A parish in a changing environment. As areas that were once small farming communities with a worship space designed for a few people are now undergoing urbanization and need an expanded building program.
- 3.) The school board may see the need for more classrooms due to overcrowding or the addition of specialty rooms, i.e. computer or science labs.
- 4.) The addition of a preschool may best suit the needs of the parish.
- 5.) The liturgy committee may see the need for renovating the present worship space to bring it more in line with the teachings of Vatican II.
- 6.) The desire to provide full accessibility so all may have access to worship or to take an active part in the liturgy as lectors, servers, etc.
- 7.) The need for a space to come together as a community is a common thread in our parishes; many are adding a gathering space to the worship building to facilitate this need.
- 8.) The parish council may see a need for a parish center, parish office space, or a combination thereof.

Any or all of the above can provide the impetus to begin a dialogue to explore the various possibilities of and/or combinations of projects the parish may want to address. The most important area of expertise needed at this juncture is a MASTER PLANNER to develop not only the present needs but also to plan for the future. This most important step should be facilitated by a professional (see the sections under Master Planning and Architect for selection process). A master plan helps insure the best long-term use of a parish's land, helps avoid redoing or undoing expensive build-outs and may identify the need to acquire additional land.



STEERING COMMITTEE

Once needs are established, a steering committee should be formed to analyze not only the desires but the financial capability of the parish to proceed with plans for expansion or renovation. Ideally the committee should have representation from the parish council, the finance council, the school board, the liturgy committee, and the stewardship / development committee. This group is charged with the task of selecting the Master Planner, discerning the reality of the needs presented in light of the financial capability of the parish to pay for these additions and the parish's capability to pay for the maintenance of these structures once completed. Important considerations for the committee to discuss would be:

Is the project really needed?

If more than one project is proposed, what has the highest priority?

What can the parish afford?

Is fund raising a possibility?

If so, how much and over what time frame?

What is the possibility of phasing the various projects as funds becomes available?

These questions can be debated and conclusions drawn as a prelude to presentation in a formal Master Plan document to the parish and then to the local Vicar for approval. This document is also the basis for the initial program to start the architectural design phase of the project. The Archdiocesan Finance Department, the Director of Finance, the Facilities and Construction Department and the Vicariate Administrative Consultant are available to meet with the committees to give advice, discuss finances, explain policy, and to explain the duties and interactions of the various parties needed to complete a project.

The parish will be required to commit some limited funding for this phase to pay for a master plan mainly for the services of the planner.

PRELIMINARY APPROVAL

The findings of the steering committee are presented to the local Vicar for his approval. Normally this approval allows the parish to start the architectural design phase. If a single maintenance project is anticipated, the parish may skip the master planning, however, it is not recommended.

It is also necessary to establish communication with the parish as a whole. This is not only to have everyone informed as to what the parish is planning, but also to have the parish take ownership of the project. The committee has already consulted with the various parish



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committees and councils and a master plan has been formulated. Aside from the bulletin announcements informing the parish of the planning process, now is a good time to hold town hall meetings to get input from the parish in general. Be sure to inform everyone that this is a master plan and only has approval to move to the next phase usually the architectural design phase. This type of communication will be repeated throughout the design phases. During the construction phase, regular bulletin articles and other forms of communication should be used.

At this point the steering committee has completed its task.

THE BUILDING COMMITTEE

A building committee should be formed to continue the process as it enters the Architectural Plan and/or Design Phase. The committee should be formed with a variety of personalities. It is not necessary to have all architects, contractors or tradesmen; well-intentioned non-construction related people have been invaluable on this committee in other parishes. The task of this group will be to help make decisions regarding the selection of the architect, contractor and other specialized consultants needed to complete the project. They will make decisions regarding the architectural design. Prospective members should be made aware of the time involved. On a major project, i.e., new church, school etc., the committee will be in session for as many as two years. The frequency of meetings will vary as the project progresses. During the design phase, sessions may be necessary biweekly. Later during the construction phase this would be reduced to at most monthly except for the volunteer that can attend the weekly job site meetings. The Archdiocese's Department of Facilities and Construction is available to meet with the Parish committee to explain the policies of the Archdiocese and the design and construction process. They are also available for consultation on an as needed basis during the design phases. During the construction phase a representative of that department will attend weekly job site meetings.

THE DEVELOPMENT COMMITTEE

A funding committee should be initiated to begin exploring the various methods of financing the project. The Archdiocese's Office of Stewardship and Development should be contacted to assist with this phase of the project. It is important for the funding part of the project to move in tandem with the design. A parish can only build what it can afford and parishioners' pledges are a sure sign of their support for the scope of a particular project.

THE COMMUNICATIONS COMMITTEE

The task of this group is to keep the parish informed of the progress of the project. This can be accomplished through the weekly bulletin and through meetings with the various parish committees and councils. The committee manages communication for the duration of the project.



SPECIALIZED COMMITTEES / SUB-COMMITTEES

Depending on the structure to be built a variety of specialized or sub-committees will be needed to tackle specialized tasks and recommend action to the Building Committee. Among those are:

LITURGICAL COMMITTEE

Task: to assist in the development of the liturgical aspects of design and to work with the architect and building committee during the design phase of the project. This committee's main task is one of education. They are commissioned to inform the laity of the teachings of Vatican II and the National Conference of Catholic Bishops. These lessons may take the form of small group sessions or Parish town hall meetings. The Liturgical Committee should rely heavily on the direction of the Pastor supported by the Associate Pastor (when available) and the Director of Religious Education. In any renovation of an existing worship space, or in the constructing of a new church, the parish liturgy committee has a very important role. The tasks of this committee are several:

- 1.) Assisting with the needs assessment of all components related to the liturgical activity of the parish.
- 2.) Review of all design features that affect the celebration of the liturgy.
- 3.) Seek and select qualified artists and craftpersons who will be commissioned for those liturgical furnishings and appointments that are required.
- 4.) Provide educational opportunities for the parish in the areas of the liturgical tradition, theology and practice of the Church.
- 5.) Plan and prepare liturgical celebrations for the various stages of the project, especially the Rite of Dedication.
- 6.) Work closely with the pastoral leadership, building committee and the Liturgical Consultant, if one is involved with the project.

A number of subcommittees might also be established, e.g. Music, Sacred Art, Prayer Support, Ministry Formation.

The resources of the Office for Divine Worship are available to the parish for all projects; this includes the Archdiocesan Commission on Church Art and Architecture, which reviews all design proposals.

In addition, some parishes have found it useful to hire a Liturgical Consultant. A Liturgical Consultant is often a priest or other religious who is hired to assist in parish education and liturgical design discussions. Liturgical Consultant's quote a fee, which can often amount to 1-3% of a project's cost. Just as with any professional a committee considers hiring,



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references should be checked and fees negotiated to fit the scope of services and value added to a project.

This consultant may assist in the design or selection of art, furnishings, etc.

Most liturgical consultants are not licensed to practice architecture and therefore should not interfere with the design of the professional unless the design violates the following Policies or Guidelines:

1. Office of Divine Worship
2. Commission on Church Art and Architecture Archdiocese of Chicago
3. Guidelines for the Building and Renovation of Church – Published by the Office of Divine Worship
4. Built of Living Stones – Published by NC CB

Policies and procedures to assist parishes and other diocesan communities who are engaged in building or renovation projects, in their discussions with, and presentations to, the Office for Divine Worship.

Capital Projects and Liturgical Space

Preamble

The building or renovating of a place of worship is a unique opportunity for the renewal of faith and liturgical life of any Catholic community. The building or renovation of a church or chapel is more than an architectural solution to a spatial need, or an exercise in building maintenance. Accordingly, every building or renovation project must include a component of education and formation related to the church's liturgical tradition and the needs of the reformed liturgy. For new construction and for projects involving a major renovation, the parish or other community should consider engaging the services of a liturgical consultant. These policies and procedures are intended to assist parishes and other faith communities in the construction of new churches or chapels, and in the renovation, restoration, and care of existing churches and chapels in the archdiocese.

Policy

The Office for Divine Worship is to be contacted on all new construction projects and on all renovation and restoration projects that involve any change, modification, or addition to the church or chapel, regardless of the cost involved. In accordance with the mandate of the Cardinal, the Diocesan Commission on Church Art and Architecture reviews and approves all design proposals for new construction and for most renovation projects. All new construction and most renovation projects are subject to the following procedures.



Procedures

Initial contact

It is essential that the parish or community contact the Office for Divine Worship during the preliminary discussion stage of a project. Normally this initial contact is with the Director of the Department of Environment and Art.

This meeting includes a discussion of the reasons for and the anticipated scope of the project: liturgical considerations and/or implications of the project; a possible project schedule; initial plans for the liturgical formation of the parish; and professionals needed for the project.

The parish has the option to make a presentation to the commission at this time; the commission may also request such a presentation.

(Refer to Diocesan Policies and Procedures, Book - *The Temporal Goods of the Church* - §700.1.f)

Policy

At the completion of a preliminary design the parish or community will meet with the Diocesan Commission on Church Art and Architecture so that the commission may review the design proposal and provide comments and suggestions on the liturgical aspects of the design.

Procedures

Submission of the preliminary (schematic) design

This meeting is an opportunity for the commission and the parish or community representatives to review and discuss the components of the proposed schematic design of the building or renovation project. The pastor/chaplain, representatives of the appropriate parish/community committees, the liturgical consultant, the project architect (or the design firm), are expected to be present for this meeting.

The presentation includes: a statement describing the need or vision that initiated the design process; a description of the design process to date; information on the extent of the involvement of the parish or the community in the project, (e.g. the education formation process); any information concerning furnishings, artifacts or design details that are historically significant; any additional information or resources related to the status of the project. For a renovation project, copies of the existing floor plan and of the proposed design and photos of those areas affected by the proposed renovation are included in the presentation. For all projects, a list of furnishings that are being newly designed or refurbished, the names of consultants and designers that have been engaged, preliminary information on materials and finishes, and a project schedule are submitted

The intent of this meeting is to carefully review all those aspects of the project that relate to the liturgical dimension of the project. If there are no serious concerns, the parish or



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community will receive approval in principle from the commission. This approval is given in a letter *from ODW to the parish*; a copy of the letter is sent to the Episcopal Vicar. If the project includes architectural drawings the parish or community must present these to the Cardinal before proceeding with the design development stage of the project.

(Refer to Diocesan Policies and Procedures, Book V - *The Temporal Goods of the Church* - #701.3.2.d).

Policy

When the project working drawings are complete, and prior to the signing of any contracts, the parish or community meets with the Diocesan Commission on Church Art and Architecture for final review and approval of the proposed design.

Procedures

Final Submission

This discussion between the parish or the community, and the commission takes place at the completion of the design development stage.

This presentation describes the design changes, if any, that have occurred since the previous submission.

When available, the designs of the principal furnishings and art pieces are presented at this meeting- If these designs are not complete, they are presented at a later date.

If there are no outstanding concerns, the parish receives approval for the design so that the project may proceed to the bidding stage and construction. This approval is preliminary to the required approvals from the diocesan finance and construction departments. This approval is given in a letter to the parish from ODW; a copy of the letter is sent to the Episcopal Vicar.

(Refer to Diocesan Policies and Procedures, *Book V - The Temporal Goods of the Church*, #701.3.2.d).

Important Note:

A chapel refers to all public places of worship in the archdiocese where liturgy is usually celebrated. These would include chapels in educational institutions, health care settings and retreat centers. It does not include chapels in the residences of religious communities.



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MUSIC COMMITTEE

Task: To assist in decisions regarding sound systems, acoustics, liturgy, choir areas etc.

FURNISHINGS COMMITTEE

Task: To assist in the selection of furniture, sporting equipment, classroom furnishings etc.

FINANCIAL COMMITMENT

Parallel to the planning and Committee activities, it is important to understand the phases of approval and level of financial commitment a parish must make at the various stages of a project. Once the local Vicar has given preliminary approval for the project, the pastor should contact the Director of Finance of the Archdiocese for approval to begin the master planning and/or architectural design phase. The parish should be aware that a financial commitment is made to pay for these services. Depending on which professional is commissioned the cost of master planning can range from \$10,000 to \$90,000. Some architects will deduct this fee from their professional service fee if they are awarded the Architectural Design Commission. Naturally these fees have a wide range of cost depending on the needs of the parish and the professional selected. The architect's fees will also vary depending on the size (dollar volume) and complexity of the project. Once an architect is selected, the parish should enter into a contract with that architect using the Archdiocesan standard form of contract. Contractually, assuming a \$2,000,000 project and an architect's fee of \$160,000 the parish is committed to 10% of that amount or \$16,000 for schematic design.



MASTER PLANNING

What is a Master Plan?

It is a comprehensive inventory of a parish's physical assets with detailed projections for future activity. It always starts with an analysis of the past and present to identify the parish's needs and to develop a blueprint for growth. Architects, being neutral facilitators, can be of great assistance, helping to create a Master Plan that could result in a new building or an addition that will serve the parish now and for years to come.

Architects begin by making a complete evaluation of the existing buildings, the site and their uses. This is done for several reasons:

Are the buildings being utilized to the fullest extent?

Do they meet building and life/safety codes?

Are they in need of repair?

In what areas do they need to be expanded?

The architect meets with each parish organization and the parish staff. Architects experienced in the Master Planning process will have developed questionnaires to be used in these interviews. These questions and answers will help quantify the activities of each group. The process tries to take into account every facet of church life, and would include the amount of space each group uses, the frequency of their meetings, the activities that take place, the furniture used and many more areas of concern. The purpose is to get an overview of what the parish leadership desires. The interviews do not stop with the parish leadership, but extend to parishioner surveys as well. A series of town hall meetings are held with various groups to generate feedback. This information allows the architect to apply their expertise to design new space with sensitivity to the parish needs or to create flexible designs that can be adapted to suit multiple uses.

The Master Plan is an exercise in soul searching. It stimulates discussion, sets expectations for analysis and elevates vision. When completed, it tells the parish what it is able to accomplish and also what it may not be able to accomplish. The parish will find itself asking:

What is our purpose?

Are we meeting the needs of the people?

Finally, by helping the parish identify its needs, the Master Plan process makes the parish more aware of how they interact with the physical buildings, making them better caretakers of the final product.



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A good plan should offer options. The architect should present plans that take into account the existing building, the site, zoning regulations, parking, traffic and the parish budget, while addressing the functional capability and aesthetic style that best suits the parish. Consideration should also be given to the maintenance and operating cost of the new building. The plan may suggest that the proposed additions be constructed in phases as monies become available, or in flexible designs that can be adapted to suit multiple uses.



THE ARCHITECT

Why hire an Architect?

Very simply he/she is the design professional, with the educational background, training, experience and vision to guide the building committee through the maze of the construction process. It is the task of the architectural firm to listen to ideas, wants, needs, hopes and visions as well as to prepare for approval the conceptual image of the building. This is not limited to four walls, a roof, and a mechanical system, but to the total environ of the structure and how it will relate to the functionality of parish life.

The next logical question is:

How do we go about hiring our Architect?

There are many factors to consider: reputation, style of design, size of staff, involvement of the firms principles, experience in the type of structure or building desired, and lastly the chemistry between the building committee and the day-to-day contact person from the architectural firm.

The selection of an architectural firm is a three-step process:

Step One Prepare a Request for Qualification letter (RFQ). This letter should be sent to a minimum of ten firms. The Archdiocese has a list of architectural firms, but it does not endorse in any way their qualifications. It only states that they have a license to practice and carry \$1,000,000 of professional liability insurance. The committee members may know of other firms, but should be cautious of the possibility of a **conflict of interest**. Once the various firms have been identified, an RFQ should be drafted and should contain at least the following:

1. Is the Architect is interested in the project. It's possible that the timing of the project and the workload of the architect are in conflict and they may be unable to give the service that the project deserves. It is better to know upfront than to be disappointed later.
2. Short description of the project.
3. The budget, this will allow the Architect to know if the Parish is able to accomplish its goals.
4. Request references especially any projects within the diocese or of any other church related work.

Step Two Thoroughly check the references given in the RFQ response. Phone calls to previous clients should give an insight into the firms working relationship with the other clients. Questions that should be asked during the reference check could include:



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How was the interaction between yourself and the architect?

Did they listen to your comments, or did they insist that theirs was the only way?

Did the person you interviewed delegate the project to someone else?

How did they solve problems?

How did they handle the construction phase?

Was the project on budget?

Was the project on time?

How many extra costs were encountered?

What is your overall opinion of the project?

Would you hire that firm again?

What is your biggest regret about hiring that architect?

What is your biggest positive about hiring that architect?

These are a sampling of common questions asked during a reference check. The purpose is to learn enough about the particular firm to decide whether or not the building committee should move to the next step with them. Once all references have been checked, the committee should discuss each firm and select the ones they would like to interview.

Step Three Interview the architects culled from the RFQ list.

Why an interview?

At this stage the professional qualifications should not be in doubt. The building committee will be working with this company for the duration of the project and there must be chemistry between the committee and the architect. From the interview committee members can learn:

How the team the architect has put together would approach the project.

How the architect would gather information, establish priorities and make decisions.

The committee should interview at least four or five companies. At least one hour should be set aside for each interview. With a break in between, three firms can be interviewed in an evening. The architect will start the process with a presentation of his/her firm's past



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projects and staff size; usually a slide presentation will show examples of his/her work. The architect should introduce the proposed team for the project and explain how their particular firm approaches a project and how the team functions in the process. The remaining time should be spent in a question and answer session. Remember that the purpose is to get a feel for the chemistry between the committee and the architect.

Some architects have a distinctive style in their design. This can be seen during the slide presentation of previous work. If the architect exhibits a particular style of design and it does not suit the taste of the committee, **do not** hire that firm.

What questions should be asked? First and foremost, any question that comes to your mind should be asked, the purpose is to determine chemistry. Do not get into questions about a specific detail, the architect should not come with preconceived ideas about what the parish wants. A basic question, is to ask the architect to walk through a project, emphasizing how his/her team will interact with the committee. Many more questions will feed off of this approach.

On what should the final decision be based?

KEY ISSUES

CHEMISTRY:

How does the committee feel the give and take needed during the design process will work with the candidates interviewed?

Did any of the candidates listen to your needs better than others?

Who was most comfortable talking about or listening to your vision of needs?

Will the architect be cost conscious and respectful of your budget limitations?

DESIGN APPROACH:

During the interview, which candidate had the approach to design that most meets your needs.

Did you like their decision making process, did you like their procedure for gathering information from you?

STYLE:

Did you find a candidate with a style of architecture you particularly liked?

Or disliked?



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REFERENCES:

Did any one candidate have references that made that firm better than the others?

RESOURCES:

Does the architect have adequate people to devote to your project?

These are the issues to be debated by the committee and should lead to consensus among the committee members. If consensus is not reached, a second interview with the committees final two or three candidates is recommended.

FEES:

Unfortunately, architects do not have a standard fee. Fees for professional services vary depending on the construction cost, complexity of the project and number of specialized consultants needed. The Archdiocese has elected to only accept fixed fees from architects. These should be negotiated prior to the selection being final. These fees are delineated in the Archdiocese's contract between the Parish, the Archdiocese and the Architect. The content of this contract can not be altered. Reimbursable expenses are limited to the cost of printing for construction. All reimbursable expenses should be negotiated prior to selection and signing the contract. Generally fees will be based on a sliding scale of construction cost i.e. the smaller the project the higher the percentage fee. The range of percentage fees varies from 12% for very small projects to 5% for very large projects. The more complex the project the higher the fee. The average fee for a new church is about 8% of the construction cost. These fees include in addition to the architect's fee, the cost of the architect's consultants i.e. structural engineer, mechanical engineer, electrical engineer, plumbing engineer, civil engineer, and fire protection engineer. The need for other specialists' i.e. liturgical consultant, accoustician, etc., will raise the architects' fee. (Note in some cases parishes only consult Liturgical Consultants for a specific question. In these cases they are sub-contractors of the architect, in other cases a liturgical consultant is hired for a broader range of services in which case the parish contracts directly with the liturgical consultants).

See Built of Living Stones #199 and #200



THE CONTRACTOR

There are several methods of selecting a contractor for the project. All methods are used and all methods have pluses and minuses. The most common methods are General Bidding, Construction Management, Design/Build, and a combination of Construction Management, Design / Build and General Bidding for which we use the term Preselected Contractor.

The following are common methods of construction contracting with the pluses and minuses that go along with each.

A. GENERAL BIDDING: This form of contractor selection was the most common method used in the past.

A select group of general contractors are contacted to bid a project from completed construction documents. Projects are also advertised in trade publications so any contractor could have access to the construction documents and prepare a bid. Bids are generally sealed and delivered to the architects' office at a specified date and time. The bids are opened and the pricing reviewed. The lowest Qualified bidder is awarded the contract. Although this appears to result in the lowest possible price there are many drawbacks to the system. Unless the contractors are limited to the owner's select list; any contractor could be the successful bidder. The low bid could be over budget. The best contractor may not be the lowest price on that given day. The low bid can be drastically offset by the cost of inferior construction, construction delays, and exposure to the cost of change orders. This low price may not prove to be the best price in the long run.

B. CONSTRUCTION MANAGEMENT: This method possesses one excellent point, the contractor works with the committee and the architect during the design phase, enabling the project cost to be monitored during the design phase and not at the end of the project. The downside: no guaranteed price, the owner takes on the responsibility of contracting directly with all the subcontractors, eliminating one layer of liability protection.

C. DESIGN/BUILD: This form of contracting is also called turnkey construction. The contractor is responsible for both the architecture and the construction. For certain types of buildings this is an ideal method. The owner knows the cost at the beginning, and if the building is simple he also knows what the finished product will look like. The problems with this method are numerous, starting with the fact that church buildings are not simple. With the architect working for the contractor, the owner's input into the design is limited, and last but very important is the lack of control over the architect and the contractor.

D. PRESELECTED CONTRACTOR: This method combines the best qualities of construction management and general bidding. The contractor is brought on board at the onset of design and becomes a member of the team. During the design phase the contractor's responsibilities include:



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- 1.) Attending design meetings.
- 2.) Estimating cost at the end of schematic design, at the end of design development, at 50% completion of construction documents and at the conclusion of construction documents.
- 3.) Scheduling.
- 4.) Value engineering.
- 5.) Value analysis, material and systems evaluation.
- 6.) Constructability review.
- 7.) Development of a guaranteed maximum price. All pricing is open book so the committee is always aware of the status of the budget.

The committee has the final say in the selection of subcontractors. In the subcontracting process the competitiveness remains because 100% of the project will be bid competitively to subcontractors. (We recommend a minimum of 5 bids per major trade and 3 for others). Selecting the contractor in the design phase of a project brings all three parties, owner, architect and contractor into the project with equal knowledge and commitment. Each member of the team is free to lend his particular expertise to the total project. Communications between design and construction personnel are facilitated resulting in more effective transformation of design concepts into construction reality. Creative design and construction solutions can be developed by the architect and contractor as they pursue a common goal. These projects tend to be less adversarial than low bid projects. The owner/contractor contract is a lump sum with open book values. Any savings from these values are split between the owner and contractor with a minimum of 80% going to the owner. This contractor is selected in a manner similar to the architect, that is, through references and the interview process. Using this method the best-qualified contractor is selected and the parish gets a building that will be a long-lived asset to the community.

All contracts are subject to the Archdiocesan policies as stated in Book V “The Temporal Goods of the Church”.

§704 CONSTRUCTION CONTRACTS

§704 pertains to all construction contracts at the Archdiocese of Chicago, including new construction, major repairs, purchases of HVAC and similar equipment and major maintenance of Archdiocesan buildings. Construction, repairs and maintenance that are undertaken by the parish’s of the institution’s own employees are not subject to these policies.



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Contracts shall be used for all jobs, even those under \$20,000, in order to ensure that performance and liability are properly attributed.

§704.1 Construction Contracts Under \$20,000

§704.1 Policy Construction contracts under \$20,000 shall be signed by the Pastor. (see Policy 601.1.)

§704.2 Construction Contracts \$20,000 and Over

§704.2 Policy Construction contracts \$20,000 and over shall be signed by the Pastor and the Director of Finance, or, in the Director's absence, the Moderator of the Curia. (see Policy 602.1.)

§704.3 Promotion of Rights of Workers

§704.3.1. Policy To the extent that unions in the Chicago area seek to guarantee rights including just compensation, medical insurance, disability insurance, workers' compensation, and safe working conditions, the Archdiocese shall support them. Accordingly, in normal circumstances, union contractors shall be used. To the extent that other contractors provide similar wages and benefits to those mentioned above, such contractors shall not be excluded from consideration, except as noted in Policy 704.3.3.

§704.3.2. Policy When the interest and needs of the parish or institution clearly point to the need of making exceptions to Policy 704.3.1, the policy of dispensations from policy shall be used. (See §400, Book I) Such dispensation shall be exercised, however, in light of the Church's teaching on labor, the premise upon which the policy is based.

Procedure

Situations that warrant exception to §704.3.1. must be documented in writing as part of the project approval process described in §701. Rationale for an exception to §704.3.1. must be clearly articulated in the project proposal.

704.3.3 Policy For projects over \$300,000, all contracts shall be union contracts.



§705 USE OF VOLUNTEERS

705.1 Policy No parish shall use volunteers to perform hazardous activities, including, but not limited to, the climbing of ladders and scaffolds, performing trade work (e.g. electrical, structural renovations, roofing work, etc.) or any other service that may place the volunteer, parishioners, or the physical property of the Archdiocese of Chicago in harms way.

Procedure

Parishes shall use qualified, approved contractors for hazardous activities, utilizing the established *Contract for Construction Services* available from the Department of Facilities and Construction.

§706 EQUAL OPPORTUNITY

706.1 Policy The Archdiocese of Chicago shall support the principal of equal opportunity without regard to race, national origin, or gender through its choice of vendors and contractors.

Questions and Concerns:

1. Our parish has many dedicated parishioners' that are tradesmen. Why can't we build this with our own talent and act as our own General Contractor using volunteers and sub-contracting ourselves?

This appears to be an ideal situation and would save the parish many dollars. On the surface many benefits seem to appear:

- a. The parishioners are working together, fostering relationships needed to unify a parish.
- b. Reducing the cost of the project. At first glance there appears to be a positive for the parish to engage in this scenario. In reality the risk involved both physically and financially do not make this a wise choice. Construction is a dangerous business, injury to personnel is common place. In a professional setting the workers are insured under the state's Workman's Compensation Act supplied by their employer. Medical expenses and lost wages are covered under employer insurance. Volunteer labor is not insured under the Archdiocese's (parishes') insurance coverage.

If a person were injured who would accept the financial responsibility for this person and the family?

Who is responsible for the myriad of insurance needed in today's litigious society?



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Catholic Social Teaching is adamant about justice in the work place. Our work process and our relationship with vendors should reflect the best we know in our Faith.

2. Is your parish willing to accept the financial responsibility?

If the parish were to act as its own general contractor and issue contracts to various sub-contractors, it also assumes all the financial responsibility for these contracts.

Because each sub is now a prime contract to the owner, the owner is responsible for the financial chain of payments not only to the sub-contractor, but to his vendors as well. The courts are packed with cases involving “liens”, bankruptcies, claims for extra monies, etc.

3. Is your parish willing to accept the financial risk involved?

Many cases of volunteer injuries, liens and claims for extras are documented in archdiocese files. Claims totaling millions of dollars have been and are still being paid by the self funded archdiocesan insurance program (i.e. by you the parishes).

Recognizing the dollar value compared to the risk involved, the Best Practices Policy of the Archdiocese does not allow these types of construction projects. In fact, the recommended protection is to have one contract between the General Contractor, Parish and the Archdiocese and have that Contractor be responsible for all other contractors, suppliers, and vendors. Since the policy was adopted and in the parishes that followed this policy, the Archdiocese / Parish has not paid an injury claim, mechanics lien claim, unapproved extra claim or the attorney’s fee that accompany the claims.



“If one of you decides to build a tower, will he not first sit down and calculate the outlay to see if he has enough money to complete the project? He will do that for fear of laying the foundation and then not being able to complete the work; for all who saw it would jeer at him, saying “that man began to build what he could not finish.”

Luke 14 (28-30)

BUDGET AND FINANCING

Solving the budget versus financing problem is like solving simultaneous equations. There are many variables and many solutions. If the planning has produced a number of needs, the master plan can prioritize the needs to conform to the financing available.

The budget is a four-part number:

First: Professional fees, permit costs, and other soft costs that are the owners’ responsibility. These are up front expenditures and are needed for the architect to proceed with design. Examples of soft construction cost are the cost of soil borings, boundary, topographical, and utility surveys, zoning fees, including attorney’s cost, environmental studies, etc.

Second: The actual cost of construction, i.e. the bricks and mortar cost.

Third: The cost of furnishings.

Fourth: A minimum 5% contingency cost. This money will cover unforeseen conditions. These conditions exist on all projects, even new construction. Soil conditions in this area can vary greatly in a relatively short distance. When remodeling, existing conditions can not always be easily ascertained, therefore it is advisable to raise the percentage when major remodeling is the project of choice.

The rules for financing of a project are spelled out in Book V, “The Temporal Goods of the Church”, Section 703, which is repeated below:

§703 FUNDING REQUIREMENTS FOR CAPITAL EXPENDITURES

§703.1. Source of Funding

703.1. Policy The cost of all capital expenditures shall come from a combination of parish savings, special parish fundraising efforts, capital grants and debt. Capital requirements if deemed a "life/safety" issue by the Facilities and Construction staff, according to Policy 701.3, shall not be subject to the fund raising requirement due to the concern for life/safety issues. However, any amounts loaned to a parish or institution for such needs through a Capital Project or New Construction Loan shall be repaid.



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Procedures

- a) The maximum loan amount to be approved is predicated on the ability of the Parish to repay the loan over a reasonable period of time without endangering the ministry of the parish.
- b) Parishes and agencies may not borrow money from any third-party person or institution. All loans must be arranged through the Director of Finance.
- c) If a loan is used to finance a project larger than \$200,000, the amount of debt and the terms of the loan (including repayment period, interest rate, and monthly payments) shall be set by the Archdiocesan Capital Projects Committee as part of the project review with the parish. In the case of projects under \$200,000, the terms will be set by the Director of Finance, after receiving the recommendations of the VAC and Parish Operations Manager.
- d) Parishes may obtain additional information on loan procedures from Parish Operations.

§703.2. Percentage of Funding Required

§703.2. Policy In order to minimize the total financing charges associated with a project and to ensure the project can be completed with minimal impact on the ministry of the parish, 90% of a project's cost (in the form of fundraising, grants, or saving balances) must be pledged before actual work on a project may begin. Of the project's total cost, 67% must represent cash on deposit with the Pastoral Center.

Procedures

- a) Exceptions predicated on §703.1 (a) may be approved by the Capital Projects Committee.
- b) To the extent savings are involved, the funds will be segregated in capital account(s) in the parish's name in the Archdiocesan Bank.



APPROVALS

§701.3.2 Step 2: Approval of project design and financing

701.3.2. Policy Once appropriate consultations have been completed, the project shall be presented in a detailed plan to the Archdiocesan Capital Project Committee. This project plan must have the endorsement of the parish's Episcopal Vicar in cases where the contract is greater than \$100,000. (See §701.2)

Procedures

- a) Parishes are to initiate Step 2 by starting fundraising efforts for the project, preparing a detailed plan (including a budget and schedule), preparing schematic design, and engaging in liturgical formation and education for parishioners.
- b) During the project design phase, the parish community is to be kept informed of the progress of the project, emphasizing the spiritual/liturgical nature of the project.
- c) As fund-raising progresses, parishes should review the size and scope of a project in order to stay within budget requirements.
- d) The project team should consult with and receive the necessary approvals from the Facilities and Construction Department. If the project involves or impacts a worship space, the project team shall also consult and receive approval from the Archdiocesan Commission on Church Art and Architecture. (This Commission operates under the auspices of the office for Divine Worship).

§701.3.3. Step 3: Project Execution

§701.3.3 Policy If project overruns which exceed the limits set during financing approval become evident, the project shall stop until corrective measures are agreed upon between the parish, the appropriate Episcopal Vicar, and the Archdiocesan Capital Project Committee.

Procedures

- a) During the Project Execution phase, parishes must sign all contracts in accordance with existing policies, approve payments, issue progress reports, and continue liturgical formation and education.
- b) For large projects, the Facilities and Construction Department must assign one person to attend weekly project meetings with the architect, general contractor and the parish to review project status and issues.



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- c) Parishes should be aware that project overruns can stem from increases in cost or shortfalls in fundraising.

§701.3.4 Step 4: Project close-out (Final Report)

§701.3.4 Policy A copy of the final report and project accounting shall be sent to the Archdiocesan Capital Project Committee and shall include sections describing total project revenue and expenditures versus budget, a review of the work product versus the project objective, and commentary on key lessons learned.

§702 Life/Safety Issues

§702.1 Policy The Department of Financial Services shall be contracted immediately when projects involve “life/safety” issues.

Procedures

- a) "Life/Safety" issues are addressed on a case-by-case basis by the Facilities and Construction Department and the Director of Finance.
- b) Examples of life/safety issues are: lack of a proper fire alarm system in a school, open electrical panels, improper wiring, improper gas ventilation in boiler rooms, no heat in the winter, loose material that may fall from the face of a building onto a pedestrian area, structural failure of building components, etc.



CAPITAL PROJECT SUMMARY (CPS) PROCEDURE & GUIDELINES

CPS Purpose

The purpose of the CPS is to:

1. Define a construction project, real estate acquisition or a major purchase.
2. Identify the means of funding.
3. Give authorization to enter into formal contracts which will be signed by the Director of Finance. (Refer to Book V, Policy 700 for more information on Capital Project Procedures).

When is a CPS Needed?

The Parish will contact the Vicariate Administrative Consultant (VAC), or the Facilities and Construction Department or the Real Estate Department to initiate a Capital Project. Facilities and construction will request a CPS in writing from the appropriate VAC when a Project is:

1. Over \$20,000 in total cost.
2. Any project or portion thereof funded by a grant or loan.
3. Affected by a change order that will increase the cost of the project over the initial CPS. All CPS's must have a contingency built in and must be executed prior to issuing a change order.

How are Projects Approved?

The VAC will meet with the Pastor to discuss how the project will be funded and to review the CPS, making sure that the Funding Requirements (refer to policy 703) are met, and if necessary determine an estimated realistic loan repayment plan. When it is indicated that the source of funds is from savings, the funds must be on deposit in the Parish's Archdiocesan Bank account. The signed CPS gives the Pastor and the Pastoral Center authorization to withdraw funds to pay duly authorized invoices (invoices which for all projects over \$20,000 are signed by both the Pastor and Facilities & Construction Department) related to the project. At the time of CPS approval the amount of the total project cost deposited in the Parish Building Fund Account will be locked in. If funds are within a CD those funds will be transferred to the Parish Building Fund when the CD matures. If the total project cost exceeds \$100,000 the VAC will request that the Vicar also sign the CPS. In addition, if the project includes church renovation, no matter the level of spending, the VAC will forward the CPS to the Office of Divine Worship for signature, otherwise a copy of the letter sent to the Parish by ODW will be attached. If the project includes a major computer



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Hardware/Software purchase the VAC will forward the CPS to the Information Technology Department for signature.

Tracking of the CPS Form will be done within the Vicariate Administrative Consultants Office using a detail log. The VAC office will forward the CPS to the Parish Operations Manager for signature verifying the Financial Summary and if necessary approval of the loan repayment plan. The CPS will be returned to the VAC office. The VAC office will forward the CPS to Facilities & Construction Department. The responsible Facilities & Construction Manager will review the project, sign the form reflecting the department is involved. A project manager will be assigned to the Parish (and provide an estimated completion date). The CPS will be returned to the VAC Department.

The Director of Finance will then sign the CPS for approval. NOTE: If the project exceeds \$200,000 it will need review and approval by the Capital Project Committee.

Approval Notification

The CPS will be returned to the VAC Department. The VAC will notify the Pastor of the project approval along with the Manager of Facilities & Construction. If there is involvement with the Development Office for fundraising the Development Office Director will receive copies of the Notification of Project Approval along with a copy of the CPS.

If a loan for a construction project over \$200,000 has been approved the interest rate will be locked when the construction time table is set and approved by the Archdiocesan Capital Project Committee. For construction projects less than \$200,000 the interest rate will be locked in at the time of CPS approval. All communications including an amortization schedule from this point forward regarding source of funds to the Parish will be the responsibility of the Parish Operations Department.



CONTRACTING

The Archdiocese has developed a set of contracts and related documents for construction projects. These are the **only** contracts that can be used for construction projects. There are several benefits from using standard contract forms including:

1. The forms have gone through legal review up front, so each project does not incur cost (time and money) to separately negotiate and review contract language.
2. The contracts clearly define contractor and architect responsibilities and deliveries.
3. Insurance, liability and indemnification issues are clearly defined and assigned.

While the contract form is standard, the contract must be customized for each project to define specifics such a scope of work, price and project timeline.

Contract Execution

All Contracts are signed by three parties: the Pastor, the Contractor and the Director of Finance:

1. The Contract will be prepared by the Facilities and Construction Department and all copies will be forwarded to the Pastor for approval and signature.
2. The Pastor will then forward all copies to the Contractor for signature. The Contractor will forward all copies to the Facilities and Construction Department.
3. The Director of Finance will sign the Contract.



CONSTRUCTION PROJECT ADMINISTRATION

Management of the construction process takes place at a weekly job site meeting. The following describes the agenda:

WEEKLY CONSTRUCTION MEETING

The contract between the Archdiocese / Parish and the Architect and the Contractor are very specific, in that weekly meetings with all parties be held at the construction site.

The purpose is multifold, all responsible parties are meeting as one unit, discussion regarding pay request, unforeseen conditions, changes in the design, scheduling etc., are discussed and decisions are made. With all parties in attendance, project delays for decision, signature etc., are kept to a minimum. The parish representative can then take the information to the Communication Committee who will relay the progress of the project to the parish as a whole.

Typical Weekly Construction Meeting

Attendees:

Architect
Contractor
Facilities and Construction Project Manager
Representative of Parish
Pastor if Available

Agenda:

1. Review / correct or accept the minutes form the last meeting.
2. Review and discuss proposed change orders (PCO). *Log must be kept*
3. Approve or deny proposed change orders.
4. Review and discuss request for information (RFI). *Log must be kept*
5. Review and discuss allowance log.
6. Review shop drawing log.
7. Review and discuss job progress of last week
8. Review and discuss scheduling:
 - a. Two weeks ahead.
 - b. Overall schedule
9. Walk the job with the architect, contractor and the parish representative.
10. Monthly:
 - a. Review, discuss and approve proposed pay request
 - b. Check trailing waivers from previous month's draw.
 - c. Update overall project schedule.
 - d. Review allowance log
 - e. Review contingency log



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11. Final Payout and Project Close Out
 - a. See Page 34
12. Final Payout
 - a. Issued only after Project Close Out items are completed.

Warning: The construction site is off limits to parishioners and parish personnel. Injuries are common place even with experienced construction personnel, non-professional, good intentioned people are not allowed access to the construction site. Naturally, there are exceptions to the rule. Where these exceptions are granted by the contractor all liability for safety will, transfer from the contractor to the Parish. Most notable exceptions are cornerstone laying, signing of a worship space floor prior to final finish, parent, teacher preview of a new school building, etc. The parish should contact the Archdiocesan Department of Insurance prior to scheduling any open event at the construction site. This department can arrange insurance coverage and the certificate exchange with the contractor. Again, Best Practice Policies are in place to benefit the entire body of the Archdiocese of Chicago.

Making Payments on a Project

All Payments to Contractors, Architects, and Suppliers are made through the Archdiocesan Bank. Payment requests for all projects over \$20,000.00 must use the current Construction Payout Request form signed by the Pastor. The appropriate waivers must accompany the request. Facilities and Construction will process the request for payment. The request will be processed to the vendor within 7 working days. Payments are only processed based on properly signed and documented requests.

Payment shall not be made to the contractor without the Contractor's Application for Payment and Architects Certificate for Payment (where appropriate) duly completed and certified.

The Finance Department will track all authorized payouts.

A copy of the check will be sent to the Parish.

Notice of Project Completion by the Facilities and Construction Department will be forwarded to the Parish Operations Department and Insurance Department.

Final Closeout Items

1. Punch List completed and accepted by the Architect and Parish
2. As built drawings
3. Architects' substantial completion form
4. Certificate of occupancy
5. Equipment training
6. Warranty (operational manuals)
7. Final Wavers



Mechanical Guidelines





MAINTENANCE PROJECTS

The average age of a diocesan building is about seventy years. Many of these buildings have fallen into disrepair due to lack of routine maintenance. The Archdiocese / Parishes are spending an average of \$20,000,000 annually for repairs. The most common needs are roofs, tuckpointing, boilers, and windows. The Facilities and Construction department is available for inspecting buildings, noting deficiencies, and writing reports with remedies and cost estimates for the repairs. These inspections are both visual and based on interviews with parish personnel. The estimates are order of magnitude estimates and should be verified by bidding to contractors. The department is available to write specifications, assist with the bidding process and write contracts. Payments to contractors are also handled through this department.

Approval for these type of projects depends on the dollar amount of the contract. For projects under \$20,000 the parish may use the appropriate Archdiocesan contract, which may be signed by the pastor. This assumes the parish has the ability to pay the contractor direct. For projects from \$20,000 to \$200,000 the Director of Finance has the authority to approve the project. Projects over \$100,000.00 must be approved by the respective Episcopal Vicar. Projects over \$200,000 must be approved by the Capital Projects Committee. Contracts will be drafted by the Facilities and Construction Department for signature by the Pastor, Contractor and Director of Finance. Payments are made through the Facilities and Construction Department.

The Facilities and Construction Department has developed an inspection manual for parish use. This manual guides a parish through a systematic inspection of all areas of parish property, and provides space for recording the inspections, noting deficiencies and recording repairs.

The department also recommends that the parish enter into a maintenance contract for boiler, air conditioning, and heating systems. This assures that at least four times a year this equipment is inspected by a qualified company. This company will also shut down equipment at the proper time and provide start up service at the proper time. A sample of this contract is available from the Facilities and Construction department.

It is highly recommended that each Parish have a reserve study completed for each of its buildings. This study should be two part, delineating short term (5 year) and long term 15 year maintenance expenses. The study will give the life expectancy of the various materials that make up a structural and a cost to replace or repair these materials as their life cycle ends. The bottom lines of the schedule will give the Parish the dollar amount needed to save annually to meet the cost of future repairs or replacement of various materials.

Properly maintained buildings and equipment improve performance and save money over time.



STEEL BOILERS

1. Thoroughly wash and clean out boiler / s once each year
 - a. Open the access doors on the boiler/s, punch the tubes and clean the combustion chambers. Remove the handhole and manhole plates, flush loose mud and scale from drums and/or water legs of the boiler/s and reinstall the handhole and manhole plates with new gaskets. Dismantle the heads of the low water cut-offs and open the crosses in adjacent water column piping flush the bowls and piping. Reassemble the low water cut-offs with new head gaskets and close the water column piping. Fill and check boiler/s and dose access doors.
2. Furnish and install in the boiler/s during the annual washing required quantity of water conditioner.
 - a. Test condition of water and control treatment.
 - b. Insert required quantity of water conditioner three (3) times per year.
3. Thoroughly inspect the boiler/s a minimum of three (3) times per year.
 - a. A detailed internal and external inspection will be made annually when the boiler/s is down for washing and cleaning, and a quotation submitted for any repairs required at this time.
 - b. An external inspection will be made at least twice more during the year, making a total of three (3) inspections.



CAST IRON BOILERS

1. Thoroughly wash and clean out boiler/s once each year.
 - a. Clean the flue passes, clean the burner/so Remove the access plugs and/or caps, flush loose mud and scale from boiler sections and reinstall the nipples and caps. Dismantle the heads of the low water cut-offs and open the crosses in adjacent water column piping, flush the bowls and piping. Reassemble the low water cut-offs with new head gaskets and close the water column piping. Fill and check boiler/s and close access doors.
2. Furnish and install in the boiler/s during the annual washing required quantity of water conditioner.
 - b. Test condition of water and control treatment.
 - c. Insert required quantity of water conditioner three (3) times per year.
3. Thoroughly inspect the boiler/s a minimum of three (3) times per year.
 - a. A detailed internal and external inspection will be made annually when the boiler/s is down for washing and cleaning, and a quotation submitted for any repairs required at this time.
 - b. An external inspection will be made at least twice more during the year, making a total of three (3) inspections.



CONDENSATE RETURN PUMPS

1. Thoroughly wash and clean out the receiver tank/s once each year.
 - a. Remove the drain valve, flush loose mud and scale from bottom of tank/s. Reinstall drain valve. Test the float switch and pumps/s operation. Check amp draw on pump/s.
 - b. An external inspection will be made at least twice more during the year, making a total of three (3) inspections.

VACUUM RETURN PUMP

1. Thoroughly wash and clean out the receiver tank/s and hurling tank/s once each year.
 - a. Remove the drain valves and plugs from tank/s, flush loose mud and scale from bottom of tank/so Reinstall drain valves and plugs. Clean the gauge glass. Test the float switches and valves. Check the air pumps and condensate pumps operation and amp draw on pump/s.
 - b. An external inspection will be made at least twice more during the year, making a total of three (3) inspections.

MAKE UP WATER SYSTEM

1. Thoroughly wash and clean out the receiver tank/s once each year.
 - a. Remove the drain valve, flush loose mud and scale from bottom tank. Reinstall drain valve, clean the gauge glass and test the automatic fill valve. Check the make-up pump/s operation. Check amp draw on pump/s.
 - b. An external inspection will be made at least twice more during the year, making a total of three (3) inspections.
 - c. Check the operation of the water control valve/s to assure proper opening and shut off.



GAS BURNERS

1. Clean and adjust burner/s once each year.
 - a. Clean the blower wheel, pilot assembly and safety controls.
 - b. Conduct a combination gas analysis of the burner/s and adjust the burner/s for the most efficient and clean combustion and the proper firing rate.

AIR HANDLERS

1. Inspect filters quarterly.
2. Check motor amperage draw.
3. Conduct an external inspection semi-annually.

UNIT VENTILATORS

1. Check unit operation (fans & control valves).
2. Check, clean air intake annually.
3. Conduct an external inspection.
4. Inspect filters quarterly.

HEATING & COOLING PUMPS

1. Check pump operation.
2. Check motor amperage draw.
3. Conduct and external inspection



HEAT EXCHANGERS

1. Check shut-off valves for proper operation
2. Check steam trap assembly for proper operation
3. If waterside pressure gauges are not available, test the tube bundle every three (3) years.
4. Conduct an external inspection.

COOLING TOWER & PUMP

1. Clean tower annually.
2. Flush basin.
3. Check for bacteria growth.
4. Check fan operation.
5. Check motor amperage draw.
6. Check pump operation.
7. Check pump motor amperage draw.
8. Conduct external inspection of tower and pump.

MISCELLANEOUS EQUIPMENT

1. Check for proper pump or fan operation.
2. Review belt condition semi-annually.
3. Conduct an external inspection quarterly.
4. Check motor amperage draw.
5. Check float operation on sump and sanitary ejector pumps.
6. Clean sump and sanitary sump pits annually.