

**PLANNING AND DESIGN CRITERIA
FOR THE ACQUISITION & DEVELOPMENT OF
ORTHODOX MISSIONS & PARISH BUILDINGS**

**ANTIOCHIAN ORTHODOX CHRISTIAN ARCHDIOCESE
HIS EMINENCE METROPOLITAN JOSEPH**

Rev. Deacon James Bryant AIA Architect
www.jamesbryantarch.com
jebryant@frontier.com

©2017

TABLE OF CONTENTS

INTRODUCTION

A. PROPERTY ACQUISITION	4
1. Determining How Much Land to Acquire	
2. Planning and Zoning	
3. Making An Offer On Property	
4. Timing – How Long Will It Take to Secure Entitlements	
B. FEASIBILITY STUDY	6
1. Financial	
2. Environmental	
3. Biological	
4. Geotechnical	
5. Traffic	
6. Site Development	
C. GUIDELINES FOR BUILDING DESIGN	9
The Temple	
1. Sanctuary	
2. Solea	
3. Nave	
4. Narthex	
Social Hall, Education, Administrative, Storage	
D. SPACE PLANNING ANALYSIS	12
E. THOUGHTS ON TEMPORARY SPACE AND AESTHETICS	14
F. ILLUSTRATIONS	15

INTRODUCTION

Establishing or expanding mission and parish facilities encompasses many variables. The purpose of this paper is to provide a path for the acquisition and development of property and buildings, and a framework for decision making.

The first section, A. PROPERTY ACQUISITION, charts a path and a timeline from purchasing a property to building occupancy.

The second section, B. FEASIBILITY STUDY, outlines the measures that should be undertaken in the process of qualifying a property, the probable items that municipalities typically require, and potential costs. It is not an exhaustive list, and additional items may be required by various municipalities.

The third section, C. GUIDELINES FOR BUILDING DESIGN, outlines the essential elements for the design of the temple, social hall, education, administrative, and ancillary facilities.

Tied to C is D. SPACE PLANNING ANALYSIS, a methodology for calculating the total area needed to house a mission or parish.

Section E. TEMPORARY SPACE AND AESTHETICS provides some guidance regarding transitional space and the aesthetics of Orthodox Church design.

Section F. ILLUSTRATIONS, provides some examples of various approaches to temple design, including starting small and how to expand in the future.

PLANNING AND DESIGN CRITERIA FOR THE ACQUISITION & DEVELOPMENT OF ORTHODOX MISSION & PARISH BUILDINGS

A. PROPERTY ACQUISITION

1. Determining How Much Land to Acquire

First, it must be determined the number of people to be housed in the new facility upon completion of all phases – i.e., how many parishioners are to be accommodated. Elements that need be considered are the sizes of the temple proper, the parish hall & kitchen, education (classrooms), bookstore, administration, restrooms, storage. The total area required may be computed by conducting a Space Planning Analysis, an example of which is in Section D. These and other items are discussed in detail below.

Second, based on the size of the parish upon completion, the number of parking spaces must be determined. A parking lot including the usual required landscaping, may be calculated at 350 sf per car. How many cars? The requirement varies from municipality to municipality and can be 1 space per 3 persons up to 1 space per 4 or 5 persons. Realistically, having designed numerous churches including Protestant, the ratio is closer to 1 space per 2.6 persons.

Third, the areas of required setbacks and any easements must be factored in.

Fourth, site coverage must be considered. Most often it is 35% of the gross area of the site that may be covered by impervious surfaces, including buildings, parking, and walks. This defines the building envelope, the total area available upon which to build.

Having determined the square footage required for a fully built out facility, matching that up with the potential building envelope on any given property will define how much property to start looking for and qualify. Whatever property is acquired must have enough room for the final build out if phasing is part of the over-all plan.

2. Planning and Zoning

In most zoning ordinances, churches are not listed as an outright permitted use, but are attached to several of the designated zones as a permitted use. This involves a Conditional Use Permit (CUP). It can be a lengthy process at best, generally with public hearings. It can take up to a year or more. Sometimes the CUP can be granted on an administrative basis without a public hearing in as little as six months. It is a process that can involve fencing along adjacent properties, particularly if they are residential, landscaping, and outdoor lighting.

There are many issues involved in the CUP process and in the course of gaining a building permit. They typically include site coverage, height limits, setbacks, traffic studies, the nature and composition of the existing site and off site infrastructure – utilities, fire flow, storm water retention, soil conditions, environmental constraints, sensitive areas, wetlands, topography, and in some cases steep slopes. A civil engineering firm can handle most of the elements. Traffic, soils, fire flow, sensitive areas and wetlands all will require separate consultants.

The CUP will require a Master Plan, the detail of which can vary with the jurisdiction. For this, a competent architecture firm must be retained who will coordinate the consultant team and guide it through the CUP

process. Generally, if the project is to be done in phases, there is a limit on time for the CUP plan to be completed. It is best to know that in advance, and apply for extensions to be attached to the CUP.

3. Making An Offer On Property

All offers should contain escape clauses, and obtain as much time as possible between making the offer and closing. Qualifying or escape clauses may consist of the following:

- Subject to a feasibility study, discussed in Section B for essential elements of a feasibility study.
- Approval of the architect
- Approval of the Parish Council
- Other buyer's contingencies or reservations

4. Timing – How long will it take to secure entitlements?

The property may be qualified during a feasibility study, and closing could be in 60 to 90 days. The next step is to do a Master Plan using the findings of the feasibility study, the space planning analysis, and, the checklist for the CUP application, and CUP requirements.

Factoring in the time to closing plus the time to complete the elements of the CUP, it could take anywhere from 9 months to a year and a half for the CUP. Site and architectural schematic design development could proceed concurrently if the granting of a CUP looks favorable. Upon receiving the CUP, completion of design development and construction documents could get underway.

How long will it take to complete construction documents? It depends of the size of the initial building, but generally speaking, 3 to 6 months for bid and permit documents. Add to this, the building permits can take 2 to 4 months depending on the work load of the building department.

The time to construct the new facility depends upon the size of the building together with the required site work. Minimum time might be 4 months. More likely 6 months to occupancy.

Here is a summary of the time it could take from writing an earnest money to the occupying the building:

- | | |
|--------------------------|-----------------|
| • Purchase & sale | 1.5 to 3 months |
| • CUP | 9 to 18 months |
| • Construction Documents | 3 to 6 months |
| • Construction | 4 to 6 months |

The shortest time lines from locating the property to occupancy would be 17.5 months.
The longest time could be 2.75 years or more.

An additional factor to consider is that sometimes the start of construction of a project is tabled until fund raising is able to meet the minimum needed to launch a project, and the parish has secured financing.

B. FEASIBILITY STUDY

A feasibility study should contain but not be limited to the following elements:

1. Financial
2. Environmental
3. Biological
4. Geotechnical
5. Civil Engineering
6. Traffic
7. Site Development Plans

Items 2-6 may be preliminarily assessed during the earnest money stage prior to closing. Item 7 should be undertaken in detail with the proper consultants after positive results are obtained in 2-6, and closing has occurred.

1. Financial

Purpose: Determine if the cost to acquire and develop the site is consistent with financial objectives and budget projections.

Potential Risk: Being obligated for something you can't afford.

Tasks: Identify all costs to acquire and develop the site.

- Land
- Site development costs
- Fees and mitigation costs – traffic, schools, parks, etc.
- Consultant Costs – architect, civil, geotech, environmental
- Construction cost including sales tax
- Permits
- Insurance
- Furniture & equipment

Identify available resources

- Existing land and structures
- Cash flow

2. Environmental

Purpose: Determine any presence of hazardous substances (including petroleum and asbestos); establish past and present uses of the site; establish known sources of contamination on or around the site; establish any sensitive areas on or adjacent to the site.

Potential Risk: If you purchase contaminated land – even unknowingly – you are responsible for cleaning it up. This could be very costly.

Tasks: Review chain of title.
Interview owners past & present and representatives of:

- Fire District
- Health Department

- Local governing entity – Department of Ecology
- Review existing environmental data bases.

Potential Fee: \$2,000 to \$3,000

3. Biological

Purpose: Identify protected species of flora and fauna and mandated buffers.

Potential Risk: The presence of protected species and the mandated buffers around their territories may render the site unsuitable for your development.

Tasks: Review existing relevant existing information

- Wetland maps
- Critical areas regulations

Visit site and identify

- Surface water situation, including wetlands
- Wildlife habitat
- Plant communities

Identify wetland or wildlife mitigation measures.

Potential Fee: \$2,000 to \$4,000

4. Geotechnical

Purpose: Identify subsurface conditions in the area.

Potential Risk: Some subsurface conditions may be unsuitable for development and some require a costly solution. For example, uncompacted fill material may exist from prior site development in the area.

Tasks: Review existing geological maps
Review applicable ordinances
Dig test pits
Evaluate site for

- Standard commercial construction
- Soil permeability
- Stormwater retention/discharge

Potential Fee: \$3,000 to \$6,000

5. Civil

Purpose: Identify presence or absence of utilities for the site. Identify suitability for stormwater retention/discharge. Identify suitability for septic system if sewer is not available.

Potential Risk: If the site is not already serviced by utilities, the cost of bringing them in must be computed.

Tasks: Review existing applicable codes

Identify existing utilities and field verify their location on site
Develop conceptual detention/retention plans
Ascertain downstream drainage impact

Potential Fee: \$1,500 to \$4,000

6. Traffic

Purpose: Identify constraints and opportunities for traffic mitigation.

Potential Risk: Clarifying potential traffic impacts to the existing street system with the municipality can uncover some required expensive traffic costs.

Task: Identify jurisdictional requirements
Identify impact of church traffic on peak hour volumes, present & future
Identify opportunities for negotiating mitigation measures
Estimate cost of mitigation i.e., new traffic signal, new turning lanes

Potential Fee: \$1,000 to \$6,000 for a full traffic study which may be a part of the CUP submittal

7. Site Development Plans

Purpose: Develop and justify site concepts

Potential Risks: Not verifying that the site can accommodate the building program may mean serious compromises later

Potential Fee: \$10,000 to \$30,000 depending upon information gathered as a result of items 2-6, the complexity of the site, and the building program requirements.

C. GUIDELINES FOR BUILDING DESIGN

TEMPLE

1. Sanctuary

First, we will consider the Sanctuary and its various elements. To accommodate all that must be incorporated properly will take a minimum of approximately 500 sf. If possible the floor should not be carpet, but a hard surface. The elements involved are:

- Iconostasis
- Apse
- Altar and Altar table – Minimum 42” x 42” x 42“ high, provide minimum 5’ clear around altar.
- Prothesis table – 48” long x 30” deep x 42” high with storage below, light above.
- Sacristy – 2 sinks, one draining to the ground. 36” high counters with storage space above and below.
- Vestry – Storage for clergy vestments, altar servers, guest clergy, liturgical colors for the various seasons of the church year.
- There must be ample storage for service books, candles, and incense.
- Lighting and HVAC controls, not in the altar area proper, but in the vestry or sacristy for access by parishioners not blessed to be in the altar.

An allowance of 550 sf should be made for the sanctuary.

2. Solea

Second, the solea is the transition area between the sanctuary and the nave. We will consider 3 steps between the sanctuary and the nave normative. Many churches have placed the first step from the sanctuary to the solea at the threshold of the deacon’s doors. This can be very awkward. It is also a code violation in that the first step should be the width of the door away from the door. Ideally a minimum distance of 42” in front of the iconostasis works best, both in terms of traffic flow for the entrances, and is enough room for the clergy to properly cense in front of the iconostasis without descending the first step.

There are two approaches to the design of the solea. The first is starting the first step 42” from the iconostasis. There must be enough room from the bottom of the solea in the nave and any seating for a coffin and the wedding table. The second is after coming down 2 steps, have a 10’ to 14’ deep area before the bottom step. This will accommodate a coffin and a wedding party.

The bishop’s throne and the infant baptismal will be placed on the solea.

An allowance of 225 sf should be made for the solea in addition the area of the nave.

These variations are shown in figures 1, 2 & 3. The first figure is the redesign of the solea in an existing temple. The first step was located at the threshold of the deacon’s doors, The second figure is the design and solea built within an existing warehouse building, It also shows how a restroom can be incorporated in the sacristy. The Romanian Church does not permit restroom facilities within the space of the temple.

Figure 3 is the redesign of the altar area and solea within an existing former Protestant church. There was plenty of room for a large solea.

3. Nave

The desired capacity of the nave determines the size or number of parishioners that may be accommodated. The calculating the capacity is set forth in the International Building Code (IBC) which governs most jurisdictions in the United States:

- Concentrated – chairs or pews: 7 sf divided into the net square footage = the number of persons
- Standing Space: 5 sf divided into the net square footage = the number of persons

For example: If we need to accommodate 150 people in the nave, then $7 \times 150 = 1,050$ net sf would be required with seating. For standing only, $5 \times 150 = 750$ sf would be needed. 7 is probably a more realistic figure for a parish that will not have pews or chairs but there will be seating provided on the periphery of the nave.

To this should be added space for the choir which should be included in the total count, space for a chanter's stand, and the bier. The analogians and candle stands will take up some additional space as well.

For adult baptisms if there is not to be a separate baptistry, consideration must be given as to where to place removeable tank.

4. Narthex

In order to accommodate all that the narthex should incorporate, it will be approximately the same size as the sanctuary or 550 sf. It should have the following elements:

- ADA toilet
- Cry room
- Coat storage
- Candles
- Offering box
- Information board with calendar, schedules, sign-up sheets for various functions, tracts
- Hierarch's pictures
- Window into the nave

To summarize:

Sanctuary	550 sf
Solea	225 sf
Nave	1,050 sf (150 people)
Narthex	<u>550 sf</u>
Total Area	2,375 sf

There are various ways to expand the capacity of this or a smaller worship space by adding apses on the north and south, and finishing a mezzanine. Figure 4 depicts a basic starter temple housing 130 worshipers. The mezzanine can be finished later bringing the capacity up to 184. Figure 5 depicts how the temple can be further expanded by adding apses to the north and south sides to accommodate 220 worshipers. The apses may be larger or smaller, and may be square, hexagonal, octagonal, or circular as shown.

SOCIAL HALL

Calculating the capacity: The IBC specifies 15 sf per person for an assembly room with tables and chairs. So to accommodate 150 we would need $15 \text{ sf} \times 150 = 2,250 \text{ sf}$. To this must be added ancillary functions:

- Kitchen
- Pantry
- Janitor closet
- Restrooms
- Book store area
- Flower storage & preparation

Allowing for a generous size kitchen, 750 sf would be adequate.

To summarize:

Main hall	2,250 sf
Ancillary functions	<u>750 sf</u>
Total Area	3,000 sf

EDUCATION

Often, the social hall doubles for Sunday school functions. Section D provides a template for calculating Sunday school functions as well as the functions of the social hall.

ADMINISTRATIVE

Incorporates a clergy office, administrative office containing copy machine, files, office supplies. Appendix B provides a template for calculating space needed.

STORAGE

Storage space needs vary with each parish of mission. An allowance for ample (more than you think you need) storage space should be made.

To summarize, for a parish of 184 the temple of 2,476 sf plus a social hall of 3,000 sf would require 5,476 sf, and with administrative functions up to 6,000 sf.

D. SPACE PLANNING ANALYSIS

<u>TYPE</u>	<u>SIZE</u>	<u>AREA</u>	<u>CHARACTERISTICS</u>
-------------	-------------	-------------	------------------------

Ideally the following areas will be on one floor:

Social Hall	36 x 60	2,169 SF	Dining, presentations, social events, wedding receptions. At 12 SF/person = 180, at 15 SF/person = 145
Kitchen	16 x 20	320 SF	Food prep & storage. Request made to have a counter + double wide counter (island) + aisle + double wide counter openable to hall for prep and food service
Pantry	6 x 8	48 SF	Food & utensil storage
Janitor Closet	4 x 5	20 SF	Cleaning supplies, service sink
Men's Rest Room	9 x 12	108 SF	
Women's Rest Room	9 x 16	144 SF	Couch or seating desirable
Elevator	7 x 8	56 SF	Need machine room (under stair)
Stair	9 x 16	144 SF	
TOTAL NET AREA		3,009 SF	
Circulation factor 12 %		361 SF	
TOTAL GROSS AREA		3,370 SF	

The following are stated space needs which may be combined with the above, be situated on a floor below the above, or portions may be incorporated into the existing lower floor:

Sunday School:

Classrooms	8 x 10 x 8	640 SF	Need for 8 class spaces, need not be separate rooms, but partitions and no doors would work. Spaces big enough for 10 to sit, storage bulletin board, white board, drying rack, need access to copy machine, sink
Common Area	15 x 15	225 SF	Need for common area/central Media Room gathering space with bulletin board, white board; table for 10; pull down screen

Storage	6 x 8	48 SF	Craft supplies, supplemental material, audio/visual, material/supplies, drama props, costumes, rack for hanging
---------	-------	-------	---

TOTAL NET AREA	913 SF
Circulation factor 12 %	110 SF
TOTAL GROSS AREA	1,023 SF

Other Functions:

Flower Room	6 x 6	36 SF	Refrigerator, counter space, storage space
-------------	-------	-------	--

Library*			20 lineal feet of shelf space
----------	--	--	-------------------------------

Bookstore*			25 lineal feet of shelf & display
------------	--	--	-----------------------------------

Mailboxes*			5 lineal feet
------------	--	--	---------------

Trash/Recycle Room	4 x 5	20 SF	Possible outside door
--------------------	-------	-------	-----------------------

TOTAL NET AREA	56 SF
Circulation factor 12%	7 SF
TOTAL GROSS AREA	63 SF

*Areas which could be adjunct to and use wall space of the Hall or Sunday School space.

Lower Floor of Addition:

Clergy Office	10 x 15	150 SF	Desk & credenza, computer, + 2 chairs, space with couch and side chairs, coffee table
---------------	---------	--------	---

Administrative Office	10 x 10	100 SF	Desk, computer, + 2 chairs, lockable file cabinets, copy machine, office supplies
-----------------------	---------	--------	---

Elevator	7 x 8	56 SF	
----------	-------	-------	--

Stair	9 x 16	144 SF	
-------	--------	--------	--

TOTAL NET AREA	450 SF
Circulation factor 12%	54 SF
TOTAL GROSS AREA	504 SF

TOTAL GROSS AREA SUMMARY	4,960 SF
GROSS FLOOR AREA OF EXISTING HALL	1,360 SF
NEW SPACE REQUIREMENT	3,600 SF

E. TEMPORARY SPACE AND AESTHETICS

Temporary and Transitional Space

Missions often occupy temporary space to get established. This can take the form of a storefront, space in a warehouse type building, or office park. These kinds of spaces usually do not have the capacity for expansion. Growth may be limited for a time due to facility size limitations. Problems can arise when a property is secured, payments are being made in addition to rent involved. It becomes imperative to move ahead with building plans and to occupy some aspect of the new facility. Once a master plan is established, the mission or parish can build in phases, and occupy a portion of a social hall for worship until the temple can be built. Another alternative is to build a small temple that can be expanded in the future, or with a large narthex that can be used for coffee hour and social functions, portions of which can be incorporated into a future social hall.

Buying a Property With a House on It

In the case where a property is acquired with enough land to accommodate a future parish, there may be a house or structure already there. It may not be suitable in terms of its condition, size, and location on the property. Conversion by the parish to either temporary or permanent use can be costly. Structural alterations are not the major concerns as a rule. Conforming to existing codes involve upgrading the energy efficiency, and a major factor is the fire department. Under the fire codes are fire rating, exit requirements, fire suppression (sprinklers), enough water for fire fighting.

fighting.

Other considerations are;

- Can it be used as a temporary worship facility. If so, what will it become after a temple is built?
- Is it to be initially a social hall to be expanded?
- Can it be converted or used a classroom?
- Can it serve as administrative offices?

The chapels of other non-Orthodox churches are often available, such as Catholic or Episcopal churches. Problems with these types of spaces is setting up and taking down the essential elements of worship for each service.

Aesthetics

Orthodox architecture has a rich heritage based on our theology and many national, historic, cultural, and regional expressions. Recent 20th and 21st century adaptations to a modernist idiom almost without exception fall short of the rich inheritance of the past. Using the rich vocabulary of Orthodox architecture, it is entirely possible to develop regional expressions of our own that fit well with the past and are in the context of the present.

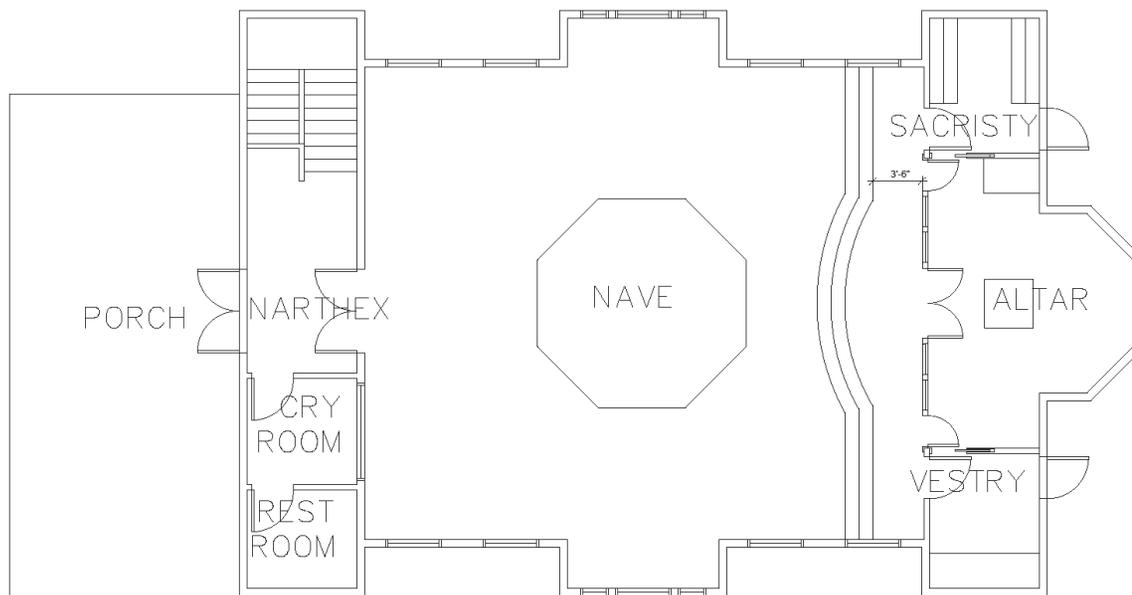


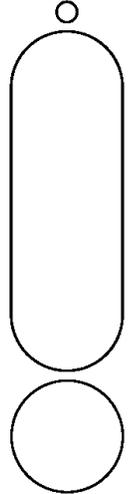
FIGURE 1

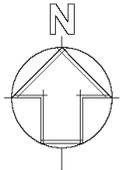
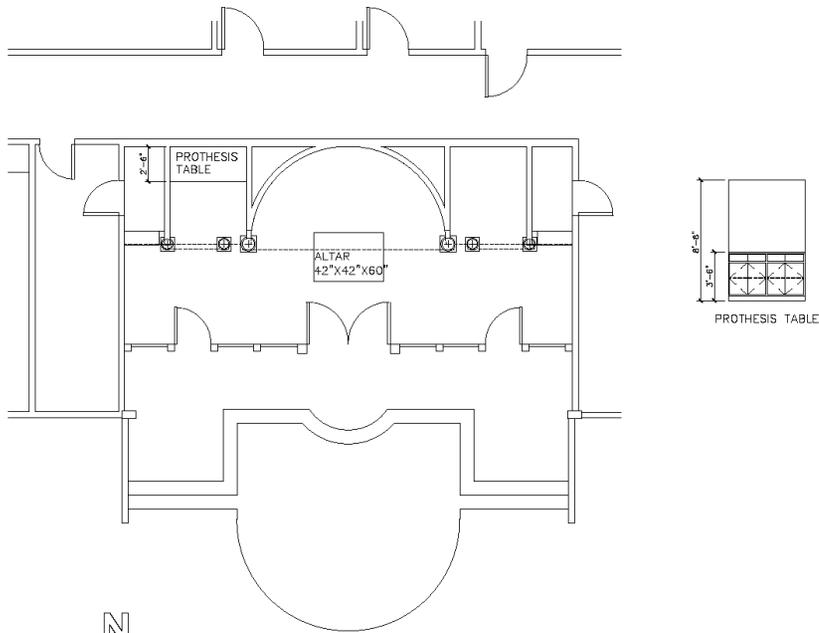
© THE JAMES BRYANT GROUP LLC
 ALL RIGHTS RESERVED. THIS DOCUMENT IS THE PROPERTY OF THE JAMES BRYANT GROUP LLC.



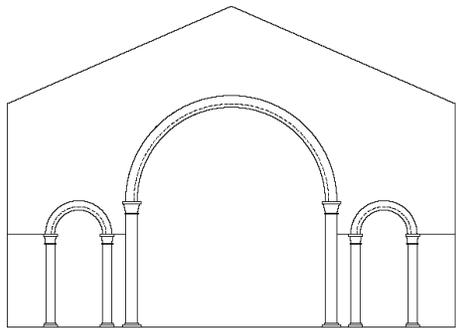
THE JAMES BRYANT GROUP LLC
 ARCHITECTS & ENGINEERS
 18265 121ST AVENUE NE KIRKLAND, WASHINGTON 98034 206-209-1933

SHEET TITLE
 PROPOSED MASTER PLAN - B
 DATE NO. _____
 REVISIONS

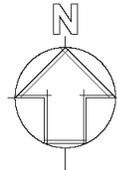
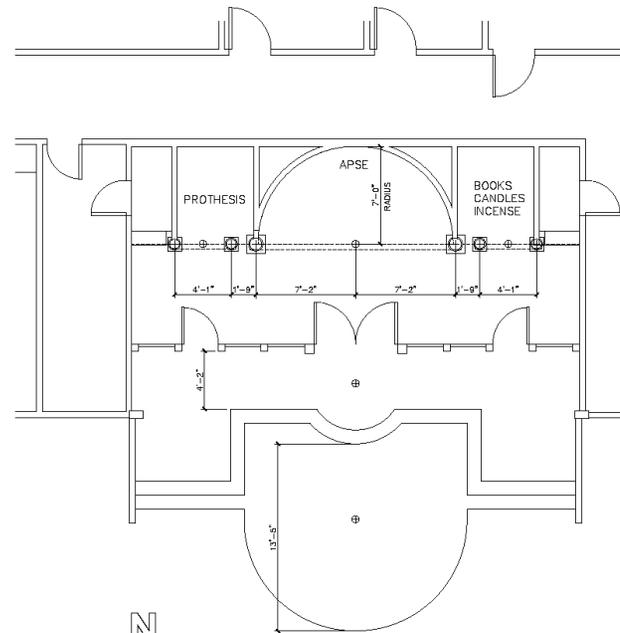




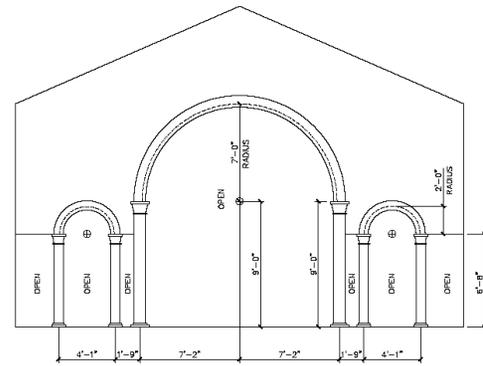
PROPOSED FLOOR PLAN
1/4" = 1'-0"



ELEVATION
1/4" = 1'-0"



PROPOSED FLOOR PLAN
1/4" = 1'-0"



ELEVATION
1/4" = 1'-0"

FIGURE 3

THE JAMES BRYANT GROUP LLC
ARCHITECTS PROJECT MANAGEMENT

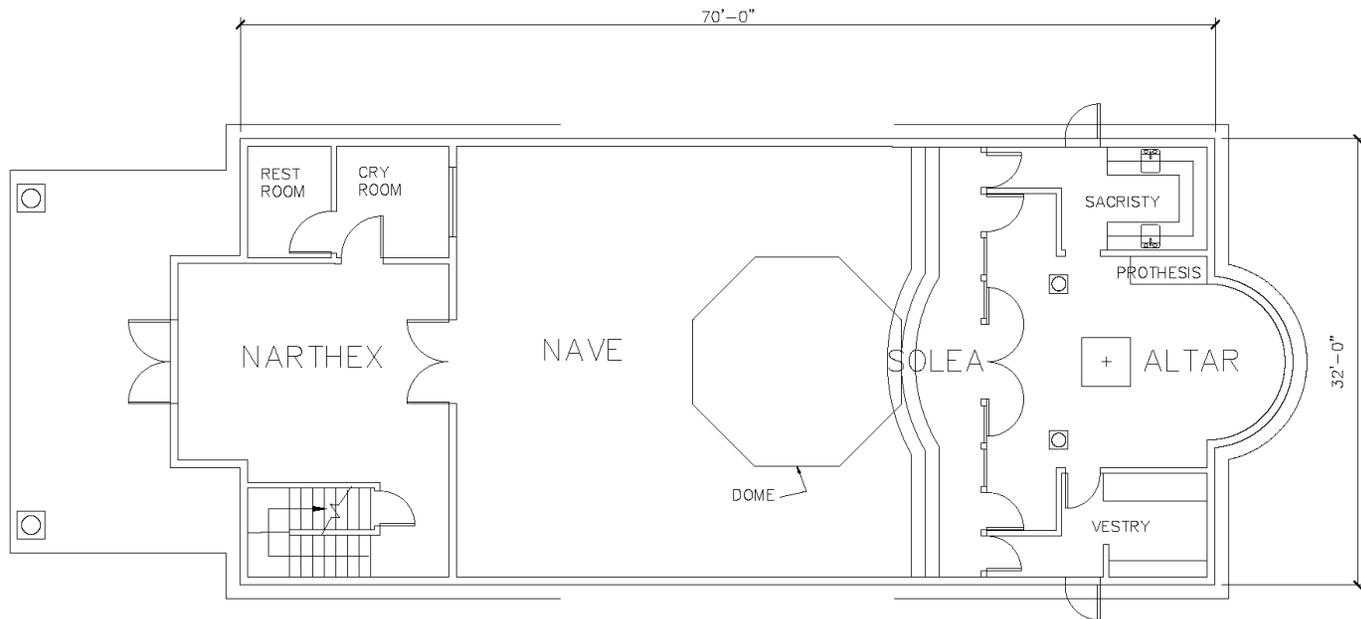


13025 121ST AVENUE NE KIRKLAND, WASHINGTON 98034 206-909-1933

SHEET TITLE

ISSUE DATE: 12-26-18
DESIGNER:
CHECKER:

ST. JAMES ORTHODOX CHURCH
725 MAZE BOULEVARD
MODESTO, CALIFORNIA



AREA SUMMARY

NARTHEX	480 SF	
NAVE	950 SF	136
ALTAR	702 SF (INCL. SACRISTY, VESTRY, SOLEA)	
MEZZANINE	270 SF (OVERFLOW - CHOIR)	38
TOTAL AREA	2476 SF	
TOTAL OCCUPANCY	NAVE PLUS MEZZANINE SF/7	184


FIRST FLOOR PLAN
 SCALE: 1/4" = 1'-0"
 © 2015 THE JAMES BRYANT GROUP LLC

FIGURE 4

© THE JAMES BRYANT GROUP LLC
 ALL RIGHTS RESERVED. NO PART OF THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF THE JAMES BRYANT GROUP LLC.



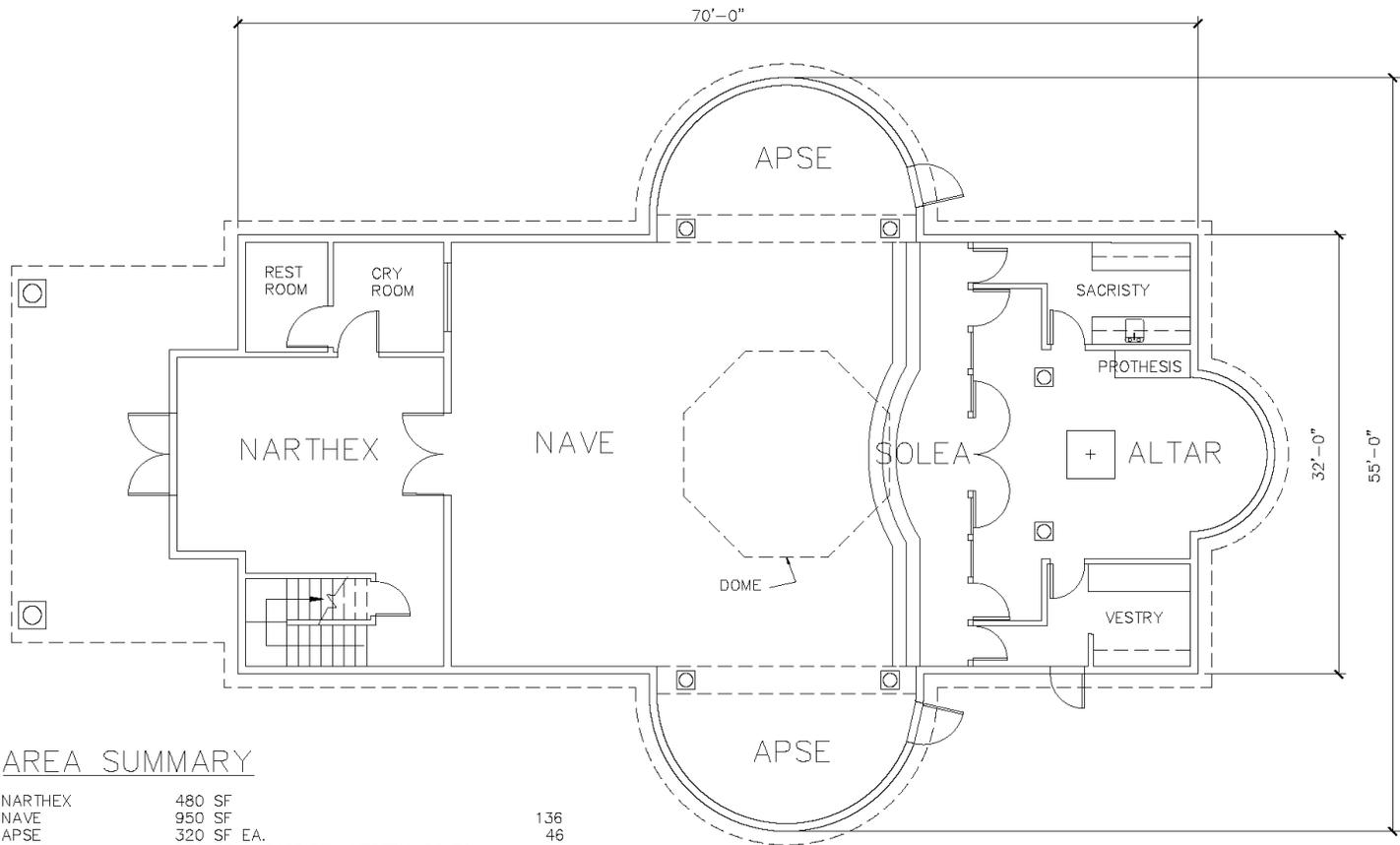
THE JAMES BRYANT GROUP LLC
 ARCHITECTS & ENGINEERS

 43825 121ST AVENUE NE KIRKLAND, WASHINGTON 98034 206-808-1933

SHEET TITLE
 PROPOSED PHASE TWO
 TEMPLE
 DATE: 09-28-15
 ISSUE DATE: 09-28-15

PROTOTYPE FLOOR PLAN
 ANTIOCHIAN ORTHODOX
 CHRISTIAN CHURCH

A23



AREA SUMMARY

NARTHEX	480 SF		
NAVE	950 SF	136	
APSE	320 SF EA.	46	
ALTAR	702 SF - SACRISTY, VESTRY, SOLEA		
MEZZANINE	270 SF	38	
TOTAL AREA	2772 SF		
TOTAL OCCUPANCY	NAVE, APSE, MEZZANINE SF/7	220	

FLOOR PLAN
 SCALE: 1/4" = 1'-0"
 © 2015 THE JAMES BRYANT GROUP LLC

FIGURE 5

© THE JAMES BRYANT GROUP LLC
 THIS DRAWING IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM THE JAMES BRYANT GROUP LLC



THE JAMES BRYANT GROUP LLC
 ARCHITECTS & ENGINEERS
 13925 121ST AVENUE NE AIRBLAND, WASHINGTON 98034 206-909-1033

SHEET TITLE
 PROTOTYPE FLOOR PLAN
 ISSUE DATE: 08-17-2015
 FOR US
 EXAMINER

PROTOTYPE FLOOR PLAN
 ANTIOCHIAN ORTHODOX
 CHRISTIAN CHURCH

A3.3