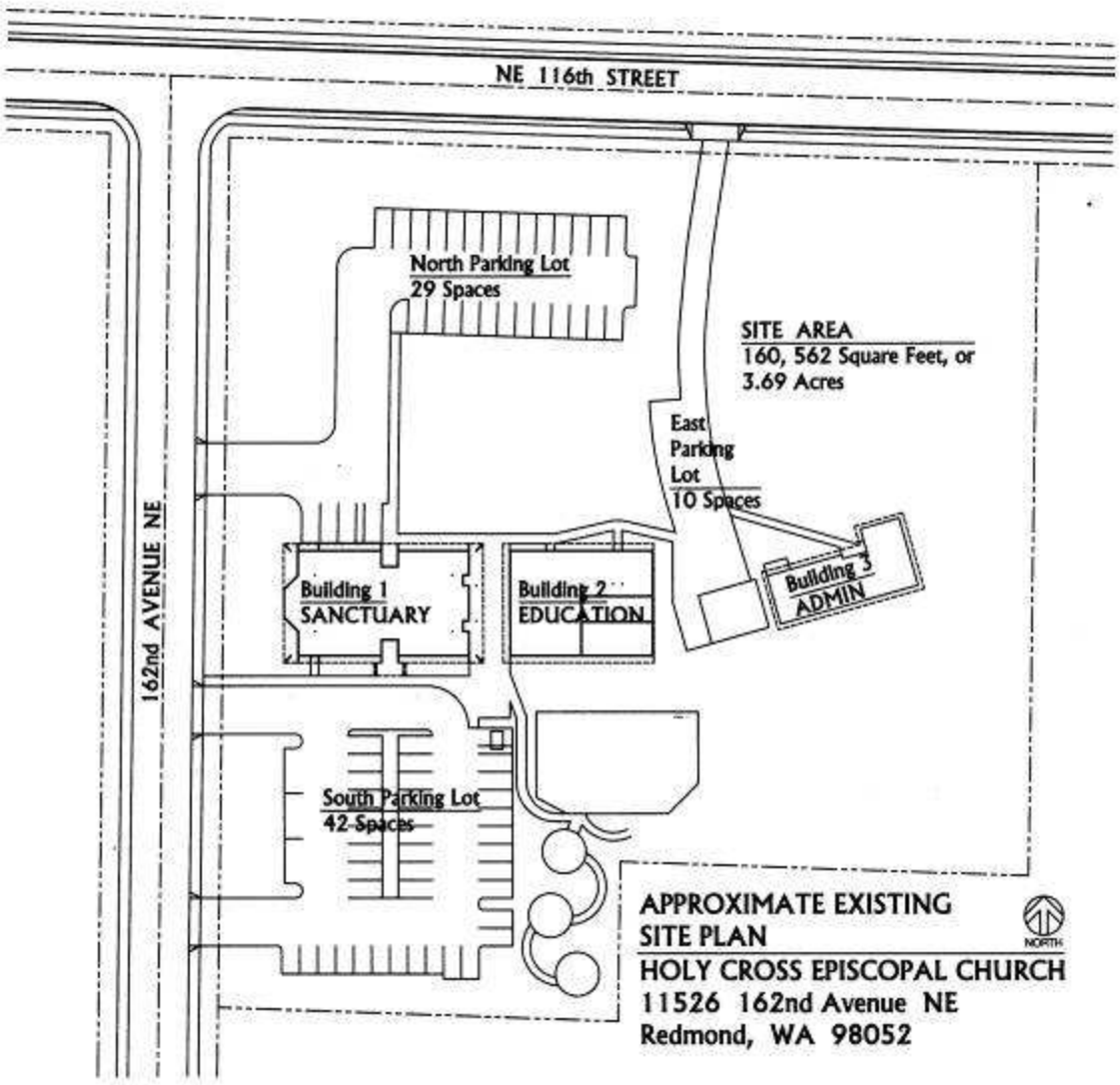
Campus and Facility Assessment Report

Holy Cross Episcopal Church
11526 162ND Avenue NE
Redmond, WA 98052
June 1, 2006



Building 1: Sanctuary

Year Built: 1981
Approximate square footage: 4,441 SF
Construction Type (per drawings): Type V-1-Hour (IBC Type V-A)
160 seat Sanctuary

General Maintenance *Building 1: Sanctuary*

General

- Well maintained

Roof

- Roof –originally shingles which were replaced with metal roof.
- Metal roof painted by Owner in 2004; some of the paint is bubbling and cracking off.
- Flashing was added to alleviate leaking at the skylight
- Could have a qualified testing agency perform a more detailed inspection of the roofing.

Exterior

- Exterior siding appears to be well maintained although several soft spots suggest there was a gap in maintenance. Recommend close evaluation / replacement of exterior siding with any major remodeling project. *(see picture)*

- Could have a qualified testing agency perform a more detailed inspection of the siding.
- In some areas, the landscape bark or sidewalk is less than 6 inches below siding, causing premature deterioration of siding.

Interior

- Well maintained

Compliance with Current Codes *Building 1: Sanctuary*

The existing structure can continue to be used in an "existing, non-conforming" status, but certain amounts of remodeling would require portions or the complete structure to be modified to current code compliance.

Structural

- Insufficient amount of wood shear walls for current code requirements especially in the east-west direction. *(see picture)*
- It was observed that the roof blocking to the exterior walls did not extend to the roof sheathing. This results in an incomplete lateral load path from the roof to the shear walls.
- The 4x4 porch posts along the east elevation have no post-to-beam connectors. This is a very marginal connection and could fail in an earthquake, resulting in possible collapse of the roof overhang above the exitways. Additionally, the 4x10 beams' existing splice cut connection have resulted in splits in two of the beams, further degrading the connection and load carrying capacity. *(see picture)*

Building

- Bathroom fixture count is inadequate, particularly for women, should have two fixtures for women, minimum for current Sanctuary capacity.

Barrier-free Accessibility

- Bathroom accessibility does not meet current standards; toilet stalls are too small.
- The Altar/Platform has two steps and no ramp *(see picture)*
- The Sacristy is two steps above the Sanctuary floor and has a narrow Hall. *(see picture)*

Fire

- Lack of complete fire blocking in walls.
- Non-sprinklered. Today almost any facility of public accommodation requires fire sprinklers, although some jurisdictions have a threshold of 10,000 SF before requiring sprinklers.
- Fire alarm: today a complete fire alarm system would be required

Kitchen

- Churches fall into a gray region between residential kitchens which have few code requirements and commercial kitchens which have stringent code requirements. This room is more appropriately called Food Preparation since it does not meet

commercial kitchen requirements. Commercial requirements would include an exhaust hood with fire suppression system and a grease trap interceptor.

Mechanical

- The mechanical system appears to be Heating only: No evidence of a Fresh Air / Ventilation component.

Electrical

- Kitchen lacks GFI (Ground Fault Indicator) circuits
- Lack of adequate power or separate circuits for appliances

Energy

- Glazing: although insulated double layer, appears to be early generation model. Today the airspace is larger, sometimes filled with gas and glass has coating (low-e) all of which result in a better (lower) u-value.

Photographs: Building 1: Sanctuary

Deteriorating Exterior Siding

Two Steps to Altar (No Ramp)

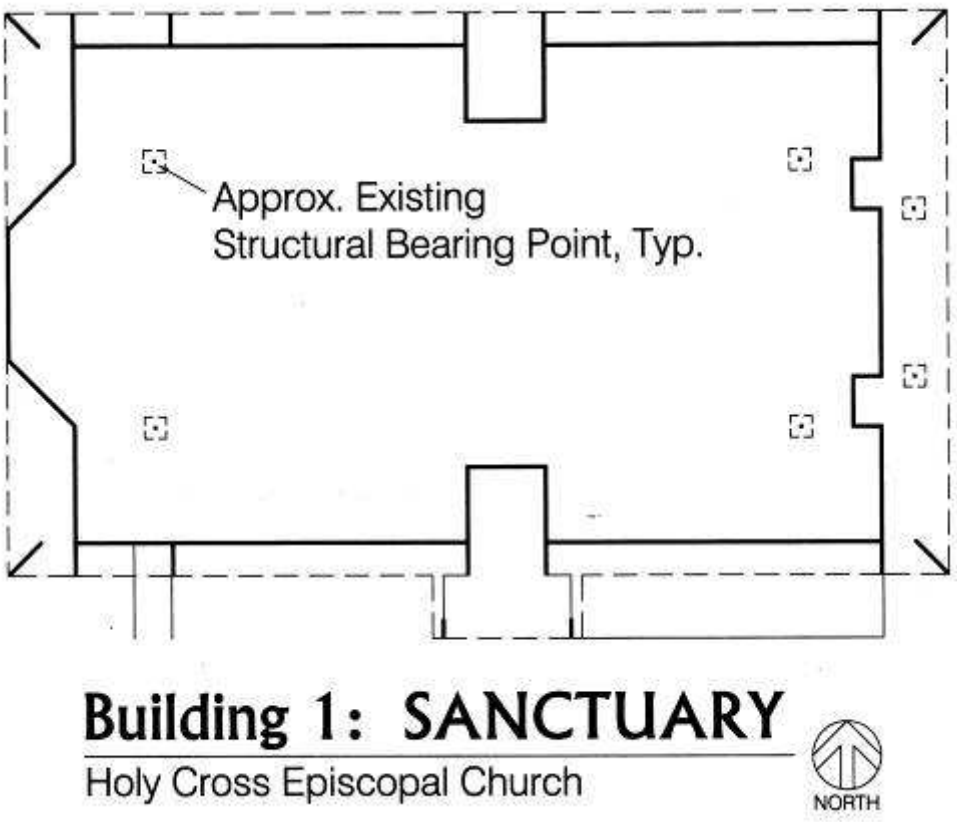
Lack of Seismic Connections

Cramped Sacristy (Not Barrier-free)

Weak Beam/Post Connection

Cramped Kitchen

Remodeling Concepts *Building 1: Sanctuary*



- The building has a simple one-story rectangular shape with long span beams and a minimum of interior bearing walls, allowing for many possibilities for remodeling and reconfiguring the space and opening it up. As with any older building, with a significant remodel, code upgrades will be required
- Kitchen (Food Preparation): the existing food preparation area is too small. A master plan should evaluate the food preparation needs and program a much larger Food Preparation Area (4x to 6x existing area) *(see picture)*
- Adding high exhaust ports, return air ducts and fresh air intakes to the mechanical system could improve comfort without the full addition of air conditioning.
- Electrical: the existing panels are full: (2) 200 amp panels = 400 amps total. Any significant new loads such as lighting, air conditioning, or kitchen/appliance power would require a new panel and possibly a new transformer. Load calculations would be required. Removing the unused 220 volt circuit in the kitchen could free up some capacity.

Summary *Building 1: Sanctuary*

- Good bones, in general, the building has been well maintained, good remodel potential, typical code updates for a 25 year old building

Building 2: Education

Year Built: 1986 (Phase 1); 1996 (Phase 2)
Approximate square footage: Phase 1: 1,908 SF,
Phase 2: First Floor: 1,890 SF, Second Floor: 637 SF
Total: 4,435 SF
Construction Type (per drawings): Type 5-N (IBC Type V-B, non-rated)

General Maintenance — *Building 2: Education*

General

- Generally well to good maintenance

Roof

- Phase 1 roof originally shingles (per drawings). Replaced with metal roofing when Phase 2 built.
- Metal roof painted by Owner in 2004. Some of the paint is bubbling and cracking off. *(see picture)*
- Could have a qualified testing agency perform a more detailed inspection of the roofing.
- Roof maintenance is only fair. This roof is under a grove of trees and much more tree debris is laying on the roof, suggesting it will have a shorter life span than the Sanctuary roof. The ridge vent is also clogged reducing ventilation of the attic. *(see pictures)*

Exterior

- Walls: generally good. Siding is much newer than Building 1: Sanctuary, so generally better condition but more instances of siding less than 6 inches to dirt which can lead to premature rotting. Also the east façade has no roof overhang so the siding is much more subject to the weather. *(see picture)*
- In some areas, the landscape bark or sidewalk is less than 6 inches below siding, causing premature deterioration of siding.
- Windows: some windows have lost their seal, thus fogged and lost insulation value.

Interior

- The interior, in general, is well maintained.
- Some of the sheet vinyl floors in the restrooms have developed significant gaps at the seams and may need replacement in the near future.

Compliance with Current Codes *Building 2: Education*

The existing structure can continue to be used in an "existing, non-conforming" status, but certain amounts of remodeling would require portions or the complete structure to be modified to current code compliance.

Structural

- Shear walls appear adequate for current conditions. Roof to wall connections appear adequate.

Barrier-free Accessibility

- The walkway to the northeast entry door is not barrier-free. The walkway needs to have a full 18 inches beyond the latch side of the door and be relatively flat. Also, the walkway has settled creating a significant trip hazard.
- Restrooms are spacious and appear to be in current compliance with Barrier-free codes
- The only access to the upper level class and office is via one stairway, thus access is not barrier-free. The current building code allows the upper level to be up to 3,000 SF without being barrier0free. The existing upper level is 637 SF.

Fire and Life Safety

- Building drawings indicate 1 hour construction for the corridors, but the doors do not appear to have the required 20 minute label and some doors have been modified with the addition of vision panels. This affects the rating of the doors and the glass should be wire glass.

Mechanical

- Does not appear to have a ventilation component to the heating system. The original building may have relied on operable windows to meet the vent part of the code.

Electrical

- The existing 150 amp panel is full. Any significant new loads such as air conditioning would require a new panel and possibly a new transformer (load calculations required).

Energy

- Windows: some windows have lost their seal, thus fogged and lost insulation value. *(see picture)*

Photographs: Building 2: Education

Cracked Paint at Metal Roof

Clogged Ridge Vent

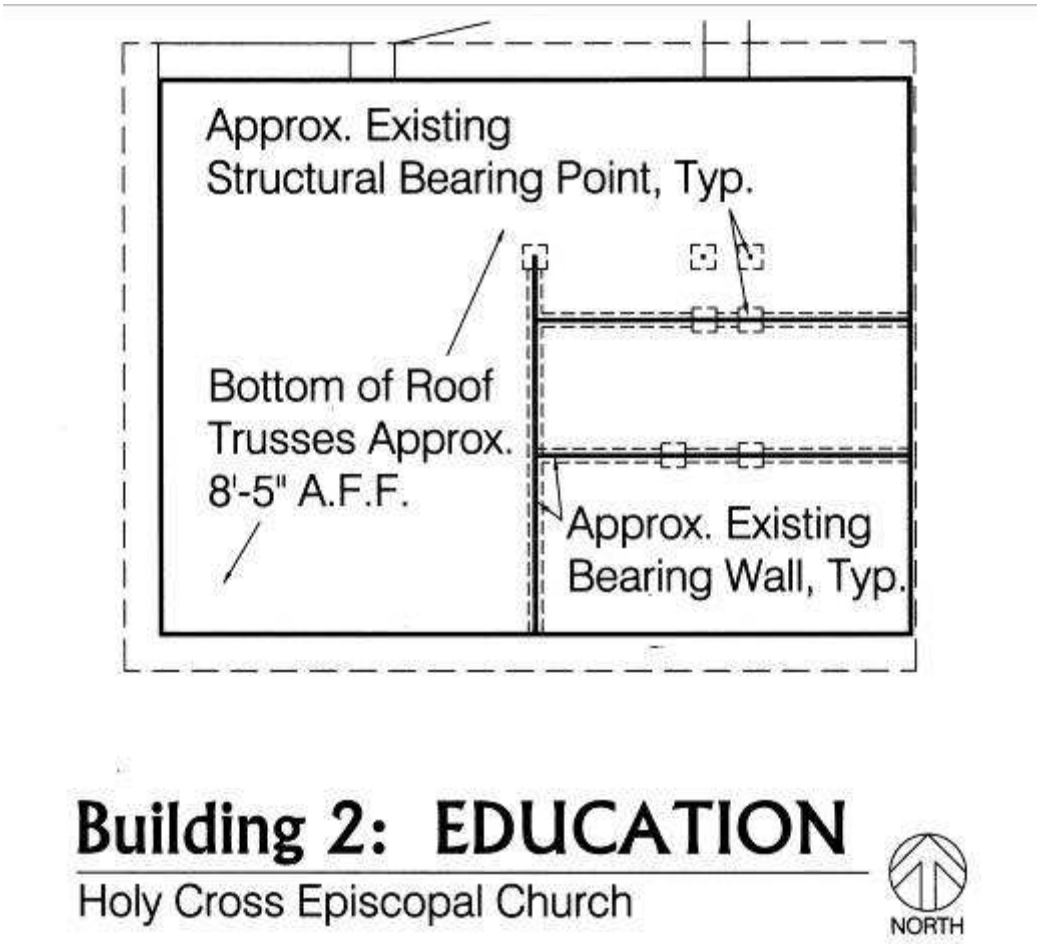
Tree Debris on Roof
Lack of Roof Overhang on East Side

Dangerous Walk

Barrier-free Restroom

Loss of Window Seal

Remodeling Concepts *Building 2: Education*



- This basic rectangular building with a small second story is not as simple to remodel and reconfigure as Building 1: Sanctuary. The roof system consists of pre-manufactured trusses with a bottom chord at about 9 feet thus limiting the height potential. The second floor and the fact that it is actually two buildings joined together means there are more bearing walls and bearing points to honor as remodeling occurs
- The strategy would be to study the floor plan with all non-bearing walls removed and develop a new more effective floor plan, most likely for education use with fewer and larger classrooms and wider hallways.
- A porch could be easily added to the north side
- Adding high exhaust ports, return air ducts and fresh air intakes to the mechanical system could improve comfort without the full addition of air conditioning.

Summary *Building 2: Education*

- Like Building 1: Sanctuary, this building also has good bones and has generally been well maintained. Remodeling potential is limited but available for Classroom type spaces. With some creative thinking might be able to open enough space for a Fellowship Area but the ceiling height would be limited.

Building 3: Administration

Year built: 1952 (per County Assessor Records)
Originally built as a Single Family Residence
Approximate SF: house: 1,486 SF garage: 288 SF
Construction Type: Type V-N (IBC Type V-B, non-rated)

General Maintenance *Building 3: Administration*

- Appears maintenance has been only fair on this house.
- The roofing material is an unusual textured product, apparently no longer available on the market. The disadvantage of the texture is that it accumulates tree debris thus accelerating its own deterioration.
- The house has a musty smell indicating that moisture has been in the crawl space. Two downspouts were missing in the front which could be one contribution to moisture in the crawl space. It was reported there is no drainage, no floor insulation and no vapor barrier on the ground in the crawl space. 3442

Compliance with Current Codes *Building 3: Administration*

The existing structure can continue to be used in an "existing, non-conforming" status, but certain amounts of remodeling would require portions or the complete structure to be modified to current code compliance.

- This structure was originally a single-family residence. The codes for single-family residences are very different from codes for commercial buildings.
- The restrooms do not meet the current barrier-free accessibility codes.
- Based the building's age, structurally, the building likely lacks bolts to the foundation.

Remodeling Concepts *Building 3: Administration*

- The current configuration is very inadequate for office use. The current use is one of toleration and accommodation.
- It is quite likely that some of the materials in the construction contain asbestos and lead and would require abatement for a remodel.

Summary *Building 3: Administration*

- With the structure's age, inadequacy for commercial (office and classroom) uses, and likely hazardous materials, it is recommended to take a band aid approach of fixing the facility as required until expansion plans allow abandoning the building.

Photograph: Building 3: Administration

Lack of Downspouts

Site

Area: 3.69 acres (160,562 SF)
Paved parking: South Lot: 43 stalls (less one for dumpster)
North Lot: 29 stalls
East (Office) Lot: paved area: approx. 10 stalls
Total: 82 stalls
Parking on grass: approx. 21 stalls

General Maintenance *Site*

- Exterior sidewalks: some cracking and signs of chemical degradation south of Sanctuary Building.
- The parking lot striping and symbols need to be re-painted
- Paving has collapsed near trees north of Sanctuary Building and around underground drainage structures. *(see picture)*

Compliance with Current Codes *Site*

The existing structure can continue to be used in an "existing, non-conforming" status, but certain amounts of remodeling would require portions or the complete structure to be modified to current code compliance.

Traffic

As the campus has grown over the years, four driveways have been created. The City will probably allow these driveways to remain but if the site were being comprehensively planned today, probably only two driveways would be allowed, one on each street.

Parking and Drainage

The East parking Lot (next to Building 3: Administration) does not appear to have a storm drainage system. Also, parking on grass is generally not allowed by the code.

Barrier-free

- One barrier-free stall in the south parking lot is being used for the dumpster. The adjacent barrier-free stall is not well marked and appears to be in general usage
- There are 2 designated barrier-free stalls in the north parking lot next to the Sanctuary. The current code requires 3 barrier-free stalls for a lot with a total of 51 to 75 parking stalls. One of the stalls needs to be a van stall
- There is not a designated barrier-free stall for Building 3 – Administration.

Photographs: Site

Settling Pavement near Trees

Settling Pavement around Drainage Structure

Master Plan Addition Concepts *Site*

Existing Conditions

- The location on the corner of two busy streets in an established and growing neighborhood is a very promising location for ministry. The site has a generally large area with just a slight slope down to the north
- The site has been well stewarded with the building in the middle and parking on both north and south sides. This does cause some confusion on where the main entry is. With the offices off in the house there is further confusion to approaching the campus.

Desired Design Opportunities

- Desire to increase the sanctuary from 160 seats to 350 – 400 seat range.
- Desire to have a multi-purpose space capable of worship, fellowship, dining, games and other activities.
- Desire for a central entrance point for all uses.
- Desire to have all administration functions together.
- The Preschool program is currently the desired size.

Zoning Code: Applicable Provisions

- Existing Zoning: R-4 (4 units per acre: Low – Moderate Density Residential Zone) (20C.30.15-050)
- Religious Facilities < 250 seats: Special Use: Administrative Review; once submitted documents are deemed complete, review time is typically 2 months (20C.30.20-030 – Land Uses Chart)
- Religious Facilities > 250 seats: Conditional Use: City Council Review; once submitted documents are deemed complete, review time is typically 4 – 6 months (20C.30.20-030 – Land Uses Chart)
- Minimum Building Setback: 20 feet (increase by 5 feet for each 1 foot of building height above 30 feet. (20D.170.40-140)
- Maximum Building Height: 50 feet inclusive of steeples, bell towers, crosses and other symbolic religious icons. (20D.170.40-140)
- Building Height: Average finished grade to the highest point of the structure (elevations at midpoint of each side. (20A.20.080)
- Maximum Lot coverage by Structures: 35% (20D.170.40-140)
- Maximum Lot Coverage by Impervious Surfaces: 75% (20D.170.40-140)
- Required Off-street Parking: Assembly: 1/5 fixed seats (20D.130.10-020(1). Seats are defined as 18 inches of pew length; with portable seating use 7 SF per person, total area exclusive of stage (20D.170.40-020
- Parking Space and Aisle Dimension: 9’ x 18’ stalls with 25’ wide drive aisle (20D.130.10-030)
- Compact Parking Stalls: up to 50% of total number: 8’ x 15’ (20D.130.10-030)
- Perimeter Landscaping: Parking Lot of 100 – 499 Stalls: Street Frontage: 10 Feet; Interior: 5 Feet (20D.80.10-070)

Additional Notes

- The City has installed a new sewer line in 116th and has a stub for the Holy Cross site. They are expecting, actually pressuring, the church to abandon the on-site septic systems serving Building 3 – Administration and to hook up the entire site to this new sewer line. Potential fees for the hook-up include:
  - Two latecomer Agreements: $32,000
  - Approximately 160 LF of installed pipe $12,000
  - Remaining piping $15,000
  - Approximate Total $59,000
- A portable classroom project was rejected unless this sewer hook-up work was accomplished.
- This utility fee must be considered part of the threshold costs of nearly any project that increases usable space.
- Parking: The Redmond Code requires 1 parking stall per 5 seats (or 7 SF) in Sanctuary. Studies have shown that the actual parking ratio for churches is 1 stall per 2 – 2.5 seats in the Sanctuary. With a goal of 350 – 400 seats in the Sanctuary, 140 to 200 parking stalls should be provided. The existing north and south lots provide 71 stalls so 69 – 129 stalls are needed. At 340 SF per stall (approx. rule of thumb including drive aisle spaces) 23,500 – 43,860 SF is needed.

Summary *Site*

The site is fairly compact at 3.69 acres. One denomination in the Puget Sound area typically tries to find no less than 4 acres for new church development. Another rule of thumb suggests one acre per 100-125 attendance *Planning and Building Church Facilities by Gwenn E. McCormick)

Although the code requires only one stall for each 5 seats in the Sanctuary, more realistic studies show that parking demand is 2 – 2.5 stalls per seat in the Sanctuary. There is not much sense in building a large sanctuary if the parking resources are inadequate. One study would be a survey of the current parking demand

Pine Lake Covenant Church is on 3.58 acres with 70% coverage allowed. Currently the site has a two-story building with 33,000 sf and a sanctuary that seats 390 (4,000 SF) or a Family Life Center (gym, 7,000 SF) that seats over 500. and parking for 189 stalls. The church currently has two services on Sunday mornings. The parking demand exceeds capacity consistently during the second service and many attendees are asked to park off-site. A key move for this church will be to obtain additional adjacent land to provide more parking.

Use of the site is going to require careful stewardship of the land resources. Typically churches do not resort to the high cost of structured parking garages until they are in dense urban locations (example: University Presbyterian Church in Seattle). It is more common to build a two or even three story facility and put the parking on grade. Flat sites severely limit the ability to develop two stories. Assembly, fellowship, gyms, and sanctuaries are large spaces that want to be easily accessible at grade with high lofty ceilings. It is unusual to then build classroom space or office space above the large assembly space. A rare exception is to put the sanctuary space upstairs with classrooms and offices below. One example of this is the Emerald City Bible Fellowship. One rationale for this design is that the church has a Monday through Friday ministry of job training and placement that occurs in the ground level spaces.

With the goal of doubling the sanctuary worship capacity to 350 – 400, the site plan should provide 140 to 200 parking spaces. The existing parking lots provide 7x spaces. So the Master Plan should plan on doubling the current parking area. In general, the single family lot 205 feet x 356 feet should be allocated to parking, and the required site retention and bioswales. The grassy area to the north of the existing buildings should be used for the building development.

Balanced Church Facility

For a **Balanced Church Facility** allowing for a Worship attendance of 350 – 400, the master plan should be for about 21,000 SF of building area apportioned approximately as follows:

Sanctuary / Fellowship / Multi-Purpose	4,500 SF
Education	10,000 SF
Administration	1,700 SF
Circulation and Support Spaces	4,800 SF
Approximate Total	**21,000 SF**

The existing square footage is approximately:

Building 1: Sanctuary	4,441 SF
Building 2: Education	4,435 SF
Approximate Total	8,876 SF

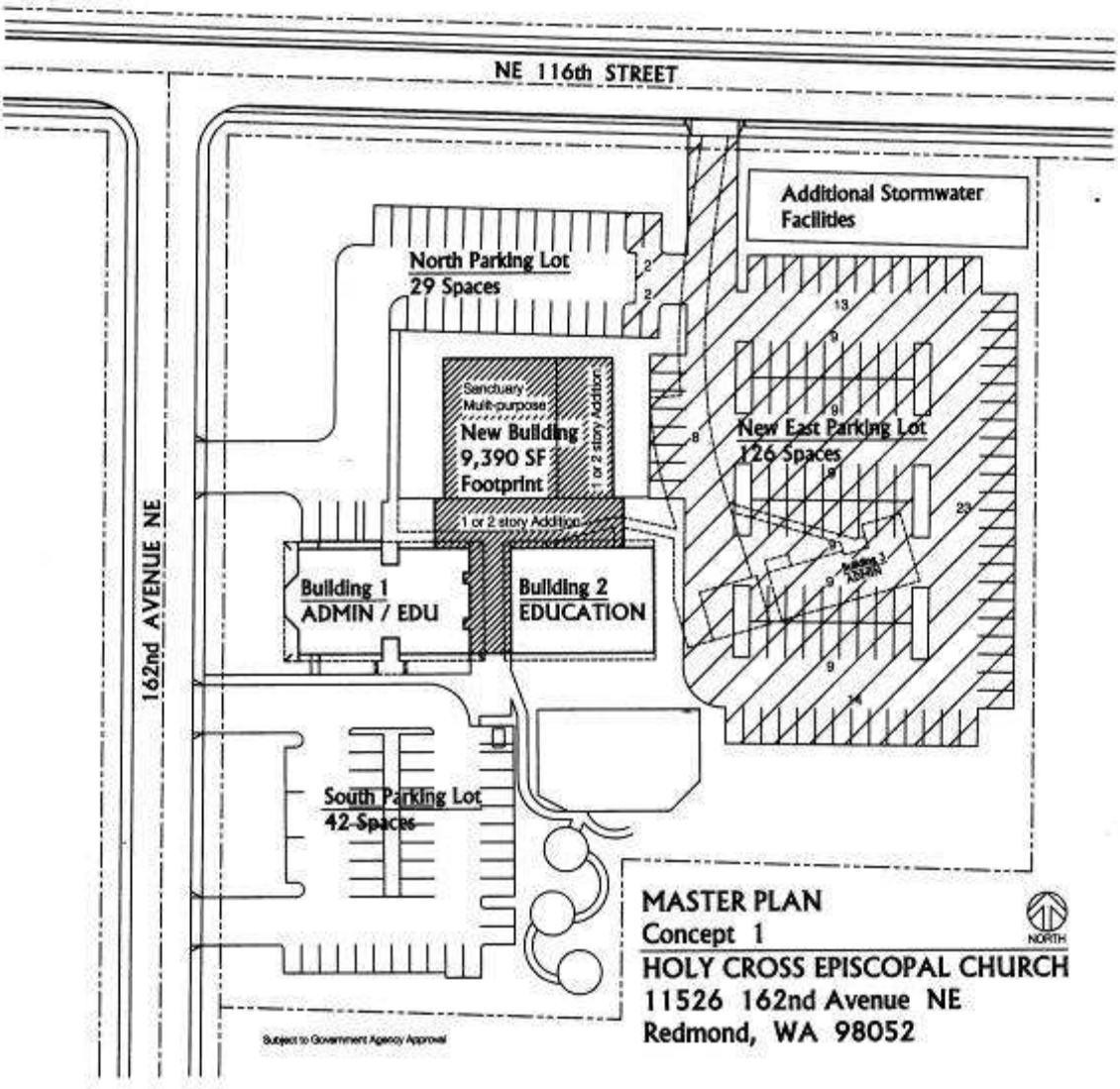
Two Likely Master Plan Options:

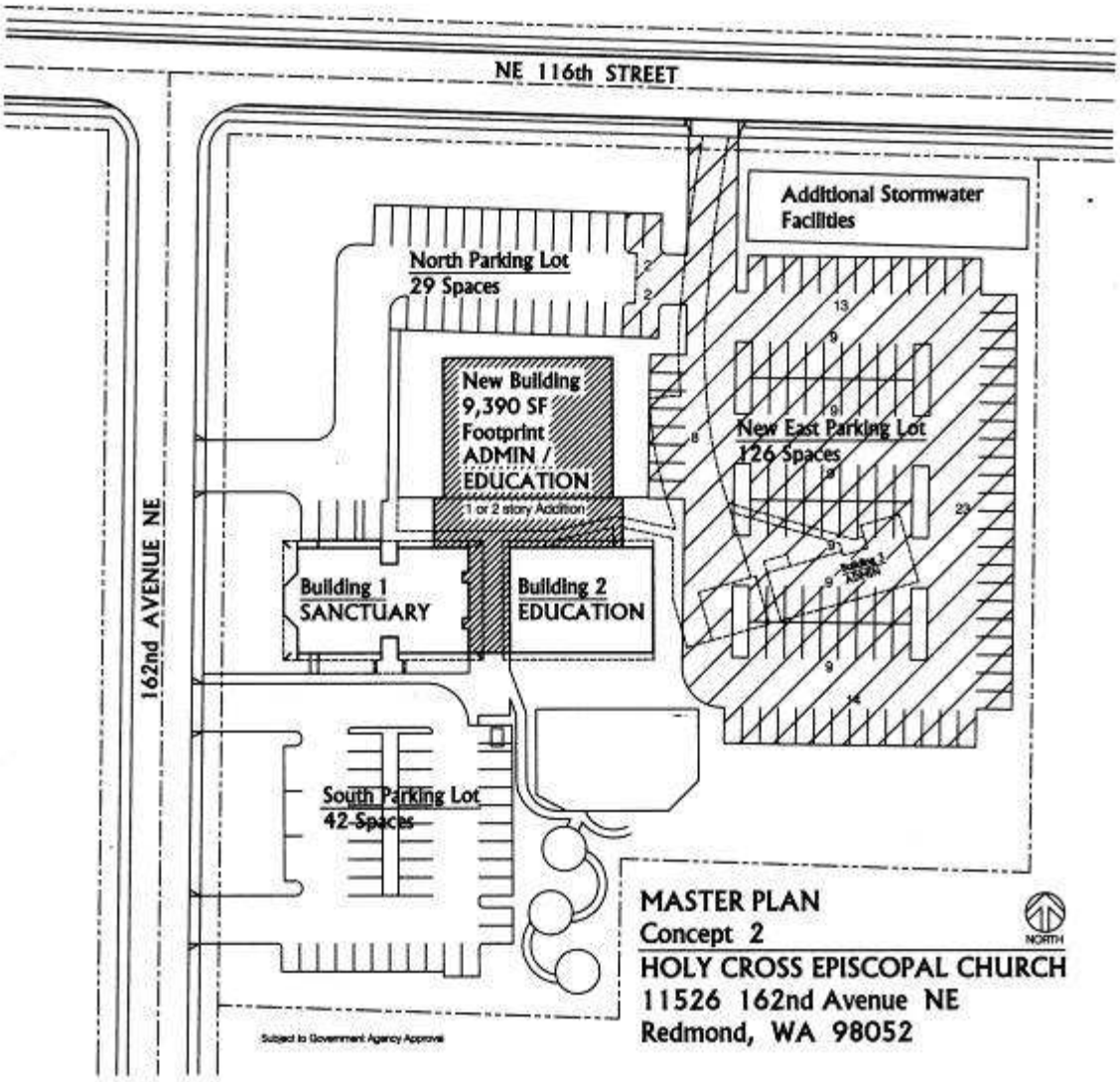
1. Building a new Sanctuary / Fellowship / Kitchen building, reconfigure the Education (Building 2), convert the Sanctuary (Building 1) to Office/Education
2. Enlarge Sanctuary to the whole Building 1, reconfigure the Education (Building 2), build a new two story Office/Education building

Approximate Site Coverage

	Existing	Master Plan
Parking	30,300 *note 1*	43,300
Walks	5,600	1,600 *note 3*
Buildings	10,600 *note 2*	9,390
Totals	46,500 SF	54,290 SF
	Grand Total	**100,790 SF**
Allowable (75% of total Site):		**120,422 SF**

Notes:
Note 1: Area of existing North and South Parking Lots only.
Note 2: Not Usable Building Area; includes the extensive existing overhangs
Note 3: Approximate area of new walks and plazas.


NE 116th STREET
162nd AVENUE NE
Additional Stormwater Facilities
North Parking Lot
29 Spaces
Sanctuary
Multi-purpose
New Building
9,390 SF
Footprint
1 or 2 story Addition
1 or 2 story Addition
New East Parking Lot
126 Spaces
Building 1
ADMIN / EDU
Building 2
EDUCATION
South Parking Lot
42 Spaces
Subject to Government Agency Approval
MASTER PLAN
Concept 1
NORTH
HOLY CROSS EPISCOPAL CHURCH
11526 162nd Avenue NE
Redmond, WA 98052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NORTH
HOLY CROSS EPISCOPAL CHURCH
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Variables:

Connect the buildings with interior space –

Advantage – all one campus, flows, easier control;
Disadvantage – have to upgrade all buildings with respect to Codes
(although any major remodel of space will generally trigger upgrades

Build Basement under Sanctuary Assembly Space

The existing buildings: Building 1: Sanctuary and Building 2: Education have a finished floor elevation of 258.00. The elevation of the lower parking lot ranges from 250 to 254. Typically church buildings have 12 feet floor to floor. If the Main Level were to continue at 258 then the Lower Level would need to be at 246, several feet below the parking lot and would generally be a Basement Level.

Build all new space except Sanctuary / Assembly space with 2 or 3 stories

Conclusion

The site appears to be adequate to support a church campus for a Worship Attendance size of 350 – 400 with careful stewardship of the site. Building 1: Sanctuary and Building 2: Education appear to be valuable as a part of an ultimate master plan. Building 3: Administration should be minimally maintained and should not be considered in a Long Range Master Plan.