1. NAME OF PROPERTY

Historic Name: First Presbyterian Church

Other Name/Site Number:

2. LOCATION

Street & Number: 1101 Bedford Street Not for publication:

City/Town: Stamford Vicinity: Stamford

State: Connecticut County: Fairfield Code: 001 Zip Code: 06905

3. CLASSIFICATION

Ownership of Property	Category of Property
Private: X	Building(s): X
Public-Local:	District:
Public-State:	Site:
Publics-Federal:	Structure:
	Object:

Number of Resources within Property

Contributing	Noncontributing
Buildings 2	Buildings
Sites 1	Sites
Structures 1	Structures 1
Objects	Objects
Total 4	Total 1

Number of Contributing Resources Previously Listed in the National Register:

Name of Related Multiple Property Listing: n/a

Designated a National Historic Landmark by the Secretary of the Interior
January 13, 2021

4. STATE/FEDERAL AGENCY CERTIFICATION

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this ____ nomination ____ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ____ meets ____ does not meet the National Register Criteria.

Signature of Certifying Official Date

State or Federal Agency and Bureau

In my opinion, the property ____ meets ____ does not meet the National Register criteria.

Signature of Commenting or Other Official Date

State or Federal Agency and Bureau

5. NATIONAL PARK SERVICE CERTIFICATION

I hereby certify that this property is:

___ Entered in the National Register
___ Determined eligible for the National Register
___ Determined not eligible for the National Register
___ Removed from the National Register
___ Other (explain): _____

Signature of Keeper Date of Action

6. FUNCTION OR USE

Historic: Religion Sub: Religious facility

Current: Religion Sub: Religious facility

7. DESCRIPTION

ARCHITECTURAL CLASSIFICATION: Modern Movement: New Academicism, Post-WWII suburban church

MATERIALS:
Foundation: Concrete
Walls: Concrete, stone, slate
Roof: Slate, built-up asphalt, modified bitumen
Other: dalle de verre, plate glass, wood mullions

Describe Present and Historic Physical Appearance

Site and Location

First Presbyterian Church is located in the City of Stamford, Connecticut, a few blocks north of the present central business district. The property fronts on Bedford Street to its west and is bounded by adjacent lots to its north and south. The original property extended eastward to Morgan Street. In 2014 the Church sold the Morgan Street frontage, an area used as a church parking lot, for multi-family residential development. The sale reduced the size of the property from 9.7 acres to its present 6.6 acres.

Bedford Street, a major north-south thoroughfare originating in the seventeenth century, is today a principal northbound corridor connecting the central business district (cbd) with Stamford's northern suburbs.[1] Bedford Street in the vicinity of the church runs along the eastern edge of the Rippowam River valley. To its north, Bedford Street converges with Summer Street, its corresponding southbound corridor, at Bull's Head, a major crossroads. Opposite the church, the land west of Bedford Street below Bull's Head is relatively flat. This area was platted in the nineteenth century in a regular street grid orthogonally aligned with Bedford Street's general orientation. This area opposite the property was developed with single- and multi-family frame housing in the late nineteenth and early twentieth centuries, much of which remains standing today. The rugged, sloping land east of Bedford Street rises for two blocks to the summit of a north-south ridge called Strawberry Hill. Running along the summit is Strawberry Hill Avenue, a secondary north-south corridor from the cbd to the city's northeastern residential suburbs. Early eighteenth century agricultural use on the top of the ridge was superseded in the late nineteenth century by residential subdivision into large lots for Gilded Age mansions. Beginning in the 1920s, the mansions were replaced by academic institutions and lowrise garden apartments, and after World War II, a hospital and high-rise apartments. The church property is at the base of Strawberry' Hill's slope that was first platted and developed after World War II. Morgan Street and First Presbyterian's north and south boundaries conform to the informal post-World War II grid in this area orthogonally aligned with Strawberry Hill Avenue.

The property's trapezoidal-shaped parcel results from the non-parallel alignments of Bedford Street and Strawberry Hill Avenue. It is rugged in character, featuring an exposed ledge outcropping along its northern edge and a broad sweeping swale contoured from former wetland toward its southwest corner. The prevailing grade descends more gently from the ledge towards the east and southeast to its lowest point along Morgan Street. The **Sanctuary**, a monumental neo-Expressionist building stands at the site's highest elevation, near the crest of the ledge. Across the entrance drive from the sanctuary is the soaring **Carillon-tower**, a major feature of Stamford's skyline. Meandering away from the sanctuary in a southeasterly direction and descending the sloping grade is the minimalist-Modern **Parish Unit** containing office, meeting, and classroom spaces, including the Chapel and Fellowship Hall. The Parish unit components are linked to each other and the Sanctuary by one-story curtain wall hyphens.

The entire First Presbyterian Church campus is accessed by a semi-circular drive that enters from and exits to Bedford Street. The one-way drive loops around the swale, climbing the grade as it approaches the main entrance to the Sanctuary, the base of the carillon tower, and entrances to the Parish Unit's office areas. A secondary drive off the loop prior to reaching the sanctuary leads to a parking area and Fellowship Hall, a large meeting room that terminates the parish unit one level below the office level. Basement level classrooms at the rear are accessed by a drive from Morgan Street.

Although the adjacent parcels abutting the site have been developed since 1958, the site still maintains its original open, suburban character, an unusual expanse of open space this close to downtown. When the

[1] The road connecting the center of Stamford's original seventeenth century settlement to Bedford, NY located to the northwest.

Sanctuary and Parish unit were built the garden apartment complexes across Morgan Street to the east were already in place. The lots immediately south and north of the church property were developed soon after the church, respectively, with a two-story branch bank (1962) to the southwest across Bedford Street, and a U-shaped, thirteen-story high-rise apartment building (1963) to the north. Both of these architecturally simple, mid-century Modern buildings are sited at great distance from the church complex and do not visually intrude upon its original setting. Likewise, the new six-story contemporary building behind the church is consistent in scale with the earlier garden apartments to its east and does not impact the view of the complex from Bedford Street.

Contributing Resources

Sanctuary (contributing building), Wallace K. Harrison, architect, Felix Samuely, structural engineer, Bolt Beranek & Newman, acoustical engineer, Gabriel Loire, *dalle de verre* (1958)

Exterior

The Sanctuary building, also called the "Fish Church" due to its unusual design, is a large, single-story, reinforced thin-shell concrete structure surfaced in dark grey slate around large expanses of exposed precast concrete panels holding multi-colored *dalle de verre* (thick chunks of glass set in mortar). The building's unusual form results from an extraordinary integration of modern liturgical, technological, and aesthetic considerations with Harrison's analysis and abstraction of French Gothic building tradition. The sanctuary presents itself to the street along its long south elevation as a large, asymmetrical polyhedral composition, but the building's essential massing is simpler and more strongly axial than this principal vantage suggests. The outward form derives from a compound hip roof mass placed directly on the ground. This roof mass has been manipulated by elongating or compressing the cross axes at several points and correspondingly raising or lowering the ridgeline. The resulting plan is symmetrical along the long 234 feet principal east-west axis aligned below the main ridge. The hip massing deformations align along four prominent cross axes of variable length. The deformations produce a prominent asymmetrical jagged roof profile, which rises and falls above inwardly inclined wall and roof planes. The wall and roof planes meet in folded joints aligned with the ridge deformations, bulging outward where it rises, and pinching inward where it descends. The resulting floor plan is in the shape of a nine-sided concave polygon symmetrically centered on the main axis. From the base of the narrow west wall the plan expands to its widest girth in the nave below the ridge peak, contracts to its narrowest width at the narthex portal, and then fans out again to the base of the east wall. The resemblance of the plan and massing to a fish, an early Christian symbol, was accidental according to Harrison, but earned the church its nickname before it was completed.

The Sanctuary is constructed of 152 solid and glazed precast concrete panels. The panels are of varying triangular and quadrangular shapes built over a first-floor slab. The larger solid panels are eight-inch thick and incline inwardly at opposing angles between 74 and 78 degrees. All solid precast panels are surfaced with dark grey slate. The smaller glazed "claustra" panels are grouped in large assemblages within the larger inclined folded plates of the north, south, and east shell walls. The claustra panels are cast with large triangular and quadrilateral voids and assembled as tighter inclined folded plates. These panels are cast in a regular repeating pattern with primary horizontal cross ties connected by prominent secondary diagonal braces and networks of delicate tertiary diagonals, verticals, and/or horizontals. The cross ties graduate in width, enlarging from ground toward roof. The ties are aligned, forming vigorous continuous bands across the claustra walls and emphasizing their faceted contour. The ties are perforated by circular voids, the only non-linear form found on the exterior. The voids in these claustra panels are glazed with one-inch thick, hand-faceted *dalle de verre* set flush with the

exterior surface.[2] The original glazing is set in a Portland cement matrix. The glazing panels of the east wall and south wall below the sky-facing panels were replaced in 1986 and 1987 respectively, replicating the original design based on rubbings. The replacement claustra panels were cast with an epoxy-modified cement matrix. The claustra panels of the north wall are original. The concrete of the original claustra panels is finished with layers of elastomeric coatings. Replacement claustra panels are finished with clear silicone.

All precast solid and claustra panels are connected by protruding rebar fitted into adjoining units. This shell assembly, which is not capable of supporting itself, is reinforced with cast-in-place concrete "seams." The seams project as eight-inch rectilinear edged ribs on the interior. Referred to at the time of its construction by structural engineer Samuely as "space construction," this system is regarded today as a reinforced thin shell because of these seam-ribs.

The solid panels of the lower, sloping hip wall comprise the sanctuary's inwardly inclining walls. These are clad in large random width slates set in an unusual staggered and lapped pattern that emphasizes texture and shadow play. The horizontal lap edges of each course meander up and down across the elevation within a range of approximately one inch. The slates are also set with non-traditional one and a half inch vertical laps, with each unit underlapping its adjacent right unit and overlapping its left unit. Wall slates are twenty-four inches in length and range in width from twelve to sixteen inches wide. The solid panels of the upper hip form the roof. Here the roof slates are set in a traditional regular pattern of smaller, ten-inch-wide slates with ten-inch exposures. As originally built, flashings at roof ridges, hip ridges and wall plate folds were concealed. Flashings along the main and hip roof ridges are currently flashed with exposed stainless steel installed in 2007. Secondary glazing raised four inches above the roof surface replaced above the sky-facing glazed panels in the roof in 2007. As built, the concrete surfaces of the glazed claustra roof panels were surfaced with an elastomeric coating and exposed to the weather.

The principal entrance to the sanctuary is on the south elevation east of center. The entrance is marked by a visually prominent sculptural concrete portal centered on the inward fold of the narthex. The sculpture is in the shape of a cross with an outward jagged edge representing the abstract form of the crucified Christ. The arms of the cross are expressed by a cantilevered hood projecting beyond the footprint. The hood shelters a rectilinear opening in the inclined wall. The post of the cross is expressed by a cheek wall dividing the opening into two doorways. The cheek wall supports the hood and extends above it. The two doorways are plumbed down from their lintels inside the inclined wall plane, and trimmed flush with steel bucks at the perimeter. The outswing, flush panel doors with clear finishes are in-kind replacements of original units. The portal, originally exposed as concrete, is now painted light grey.

A secondary original portal, primarily for egress, is located on the south elevation immediately west of the window panels. It is sheltered by a simple, rectilinear concrete portal. Unlike the primary portal, this door opening is plumbed up from the footprint, with its jambs and flat roof projecting outside the inclined wall plane. It is also painted light gray

Interior

Harrison's traditional division of the sanctuary's interior into a chancel, nave and narthex is a modern abstraction of a Gothic cathedral without historical reference to specific medieval details. The interior volume is open its full length at the ceiling and shaped to suggest a cathedral's spatial hierarchies. The functional divisions are defined traditionally by a lower choir loft-like balcony between narthex and nave, and elevation of the chancel floor above that of the nave. The spaces are linked by a formal processional primary axis. And more

[2] A technique of structural stained glass developed in France in the1930s and popular in the mid-twentieth century, see below.

subtly, the clear expression of structure of the thin shell envelope suggests the central constructional idea of the Gothic cathedral.

The narthex is entered through the south portal, off-axis at the sanctuary's narrowest height and width. The dark space is lighted near this entrance by an opposing portal leading to an enclosed clear glazed passage to the parish unit. To the east, the narthex ceiling rises and broadens toward a large wall glazed with polychromatic *dalle de verre*. Apart from the glazing, the major feature in the narthex is a long flight of playful concrete stairs suggestive of an archaic feature. Cast in place against the south wall, the stairs are loaded from the room's east end and lead to a balcony dividing the narthex and nave. The stairs have a concrete parapet at rail height along their outer edge. This outer edge is parallel to the sanctuary's long axis enclosing the north edge of the flight. This arrangement results in an incremental narrowing of tread widths and convergence with the inwardly inclining south wall as one ascends. The cast-in-place concrete balcony itself is detailed as a bridge spanning the nave's north and south walls.

Visible beyond the loft, the nave's sweeping angled volume suggests a massive Gothic ceiling vault pierced by window walls of colored glass that reach for the ridge. Below the balcony centered on the main axis are original paired wood doors with large clear glazed panels leading to the nave. From this point, looking toward the chancel, the volume first widens and rises to the roof apex before narrowing and descending above the chancel.

During construction, Harrison took credit for the "design" of the windows, a claim ascribed to Gabriel Loire's French studio in posthumous monographs. The "disagreement," if it can be called that (it was never raised in public during their lifetimes), likely results from subtle differences in language. Harrison was clearly responsible for conceiving the overall idea of abstract compositions with representational and color gradation, conveying major themes of Christianity: the crucifixion in the nave's north wall across from the resurrection in the south, and Christ's teachings in the east wall of the narthex. He also appears to have sketched the internal grilles of the claustra panels. But it is unlikely that Harrison had the time or concentration to position the more than 20,000 pieces of one-inch thick, hand-cut glass within the grilles. Loire, on the other hand, was experienced in working at this scale, and prepared the detailed maquettes for Harrison's review. Thus, it is reasonable to credit both men with the design in a feat of exceptional collaboration. The original Atelier Loire glass panels fabricated in Chartres remain complete in the north nave walls. The glass and panels in the south nave wall and east narthex wall date from the 1986 intervention. The replacement glass and panels derive from rubbings and closely match the shape, coloration, and faceting of the originals. All original and new glazing in the roof claustra panels is cast as safety glass with internal wire reinforcement.

The crucifixion theme in the nave's north claustra wall is conveyed by the dark coloration of the predominantly deep blues and purple of the glass and the fragmented references to the story it depicts. The composition is centered on a midnight blue mound-shaped representation of the hill of Golgotha from which three white crosses rise. The center cross is identified as Christ's by the letters INRI. The towers of Jerusalem are depicted as glowing in purplish light in the distance to the upper left, and the right side of the composition is dominated by a red band representing the rending of the temple's veil upon Christ's death. A large outstretched hand at the composition's lower left indicates a soldier casting lots for Christ's garments.

The coloration of the resurrection-themed south claustra wall is brighter, featuring greater use of gold, amber, and white glass. The composition is centered on another midnight blue mound, here representing the open tomb next to a vibrant red field depicting sunrise. Lines of white lightning emanate from the tomb, spreading out along the upper reaches of the composition and illuminating representations of Jerusalem's towers in a golden glare.

The sanctuary retains its original pews and branched pendant fixtures in the nave. The pendants have cylindrical canister down lights suspended from thin steel rods with branches arranged in an asymmetrical pattern. In the chancel, the original table and pulpit remain in place. The pulpit has been modified by removal of an original sound deflecting hood and the organ has been replaced.

Parish Unit, (contributing building) Willis Mills for Sherwood Smith and Mills, architect, Gabriel Loire, *dalle de verre*, (1954–1957)

Exterior

The 30,000 square feet parish unit is a minimalist-Modern, split-level building connected to the Sanctuary.[3] It houses First Presbyterian's administrative, educational, and meeting spaces, including a chapel and library.

The exterior appearance of the parish unit is subordinate in scale and massing to the Sanctuary. Sited on sloping terrain, which gradually falls away to the southeast from the sanctuary, the parish unit has four sections arranged along a meandering plan. There is a hierarchical distinction between primary and secondary elevations expressed in composition and use of materials. Primary elevations visible from Bedford Street are composed with predominant expanses of floor-to-ceiling glazed curtain walls with wood mullions interspersed or bracketed by piers and wall areas of identical stonework. All stone is variegated grey quarry-faced set in random ashlar coursing. Some of the stone in the parish unit and adjacent stone walls was re-purposed from the 1884 Presbyterian church. Secondary rear elevations are constructed of cement block piers or walls with double-hung sash above plywood spandrels. The Parish Unit has a long, flat-roofed, center core bracketed at its ends by distinctive sloped-ridge gabled roofs of Fellowship Hall and choir room. Where visible from the street, the grade is partially terraced to present the Parish Unit as a one-story, flat-roofed building set back from the Sanctuary. On secondary elevations, the building stands above the prevailing grade. The Parish Unit is not visible in its entirety from any single vantage due to the prominent position of the Sanctuary and the site's topography and tree screening along the property's west and north edges.

The Sanctuary connects with the Parish Unit at the base of the Sanctuary's north elevation through an enclosed hyphen passage. The passage is on axis with the main sanctuary entrance at the south portal of the narthex. At the narthex doorway the hyphen connects with an enclosed passage running partially along the external base of the Sanctuary's north wall, which leads to the Choir wing. Both sides of the hyphen, the entire north wall of the choir passage, and west end of the choir passage's south wall are enclosed with wood-framed curtain walls below flat roofs with overhanging eaves. The floor-to-ceiling curtain walls have a tripartite division, with eight-foot wide sheets of clear glass flanked by four-foot wide sidelights.

The hyphen connects at a right angle to an L-shaped plan section of the Parish Unit containing church offices, classrooms, and meeting rooms. These are arranged along a single-loaded corridor overlooking the Sanctuary and partially enclose a courtyard in a manner suggesting a cloister. The "cloister wing" is one story above basement, with a flat roof and deep projecting eaves. The basement is entirely below grade on its south and west elevations facing the Sanctuary, and partially above grade on its north and east rear elevations. The Sanctuary-facing elevations of the cloister wing continue the wood framed curtain walls used in the hyphen, but are here divided by stone piers, which are also exposed on the interior. Sidelights have original inswing hopper vents at their base. The curtain wall is continuous except for a solid stone bay screening an interior fire-door on the west elevation at its north end. The curtain wall rhythm continues on the rear elevations, where double-hung windows above plywood spandrels with wood mullions are divided by cement block piers.

[3] Although the connection to the Sanctuary is substantial and, therefore, all one building, the differences in design and configurations are such that the complex is easier to understand as two buildings.

Windows on the south elevation of the Chapel wing, visible from Bedford Street, are divided by stone piers matching the cloister piers. The basement is exposed above grade on the elevations of the Chapel wing and rear elevations of the cloister wings. In the Chapel wing, the basement is screened by open-work cement blocks on its south elevation visible from Bedford Street. On rear elevations in all three wings, piers dividing the windows are solid cement block. Basement level windows and an exterior doorway are exposed behind areaways.

The Cloister wing corridor leads to a lobby at its southeast end where it adjoins a wider section of the Parish Unit, containing the chapel, library, and a large meeting room above the central boiler room. The chapel has a large *dalle de verre* skylight at its east end which is not visible on the exterior. The otherwise windowless chapel is expressed on the exterior by the use of solid stone on its west and south elevations and angled position of its south wall. The windows of the library and meeting room are divided by stone piers but otherwise similar to that of the cloister wing's rear windows.

Fellowship Hall terminates the far southeastern end of the Parish Unit, built on a slab below the grade of the center core's ground floor level. It is a large open volume, multi-purpose room, two stories in height, rising from a five-sided polygonal plan. The hall is flanked by smaller one-story circulation and kitchen wings set back from its principal south-facing elevation. The hall and its wings are massed below a distinctive end-gable roof that has a downward pitched ridge away from the front eaves. The gabled south elevation below projects outwardly as a symmetrical two-sided folded plane. It is centered on a full-height glass curtain wall flanked by solid stone wall expanses with battered end-profiles. The curtain wall is predominantly glazed with clear glass interspersed with tinted glass of rose, amber, and turquoise. The roof's deep projecting raking eaves above the south elevation are angled to follow its folded planes. Fellowship Hall connects internally to the Chapel wing by a flight of stairs at its northwest corner. Its principal entrance is at the south end of the west elevation through paired doors flanked by large clear-glazed sidelights.

The Choir wing terminates the west end of the Parish Unit. Although it is not prominently visible from a public vantage, the backward sloping, end-gable massing of its main block mimics that of Fellowship Hall. Constructed of cement block painted white, it houses a large choir room under the gable and a smaller sacristy and mechanical space to its east under a flat roof extending from the Choir's east wall. The Choir room is enclosed by a glazed curtain wall at the north. The wall is set back deeply from the eaves, forming a sheltered porch with a concrete slab floor. The adjoining flat-roofed sacristy-mechanical area has small glazed and louvered transom openings on the north elevation.

Interior

Apart from minor partition changes to accommodate barrier-free rest rooms, the Parish Unit's interior plan is unchanged from its original layout. The basement and ground floor levels are connected by two stairwells with scissor stairs in the cloister and chapel wing. At the ground floor, the cloister wing's single-loaded corridor joins the Chapel wing's double-loaded corridor in an entrance lobby outside the Chapel. The corridor continues to the single flight of stairs down to Fellowship Hall at the east end of the chapel wing. Apart from the polygonal plans of the Chapel lobby and Fellowship Hall, all other interior spaces are rectilinear in plan.

The Chapel is rectilinear in plan but the room's slight rotation off the building's grid is evident in the fan shaped plan of the adjacent lobby. The chapel's focal element is a triangular *dalle de verre* skylight placed at a shallow angle above the table at the chapel's east end. The skylight has ten panels with predominant light blue and gold glass. Executed by the Atelier Loire after a design by artist Matthew Wysocki of New Haven, the theme of the window is creation. The composition is abstract with suggested representations of the hand of God, two plants, a flying bird, the stars of heaven, and a crown symbolizing Christ's sacrifice. The table and lectern are raised one step above the main floor in front of the east wall, which is finished with native quarry-faced ashlar

interspersed with fieldstone in random ashlar coursing. The floor is paved with dark grey slate in a random pattern. The west wall is finished with a clear-finished hardwood grille. The remaining walls and ceiling are smooth plaster. The chapel is entered from the adjoining lobby through two openings with paired doors. The flush panel hardwood veneer doors have matching wood turned and offset pulls, and each has four small translucent glazed Latin crosses. In the chapel lobby, the wall shared with the chapel displays embedded stones from places important in the history of Christianity. The stones are incised with the names of the places where they were collected by former pastor Rev. Stuart and were installed at the time of construction. Apart from replacement of original sconces with new units in the original locations, and replacement of furnishings, the chapel is identical to its original appearance.

Fellowship Hall is a large multi-purpose room with a proscenium stage at its north end that is used for recreation, meetings, and large gatherings of up to 400 persons. Its symmetrical fan-shaped plan widens dramatically from thirty feet to seventy-eight feet in width over its eighty-five-foot length from the raised stage at the north end. The room's most distinctive feature is its ceiling, which fully exposes its diagrid structure, a network of steel I-beams forming triangles of different sizes symmetrically arranged below the gable roof ridgeline. The steel frame carries rectangular precast panel roof decking, which is exposed as the ceiling finish. It is supported by a steel column at the center of the folded curtain wall on the south wall, and buttresses concealed within the adjacent one-story wings. The system, experimental in 1956 when it was designed, allows a span at its widest point uninterrupted by columns. The perimeter walls are constructed of cement block, which is painted and exposed as the finish on the east and west walls. The thrusting stage and proscenium project into the room from the north wall, mirroring the folded-plane shape of the south curtain wall. The north and south walls are paneled with 4 x 8-foot sheets of clear-finished, hardwood veneer plywood. The same paneling is also used as four-foot high wainscoting and a narrow belt course above on the east and west walls and is carried out into the adjacent entrance lobby and cloak room areas in the smaller wing west of the hall. Elsewhere in the lobby suite as well as the kitchen and serving unit in wing east of the hall, the walls are finished with exposed cement block. Outside the hall, the ceilings are finished with surface-mounted acoustical tile, and floors in all areas are finished with original grey vinyl-asbestos (VAT). The lobby retains its original metal pendant light fixture, but the existing lighting in the hall and kitchen areas are replacements.

The remaining finished rooms in the parish unit use the same materials present in Fellowship Hall. The north wall of the Chapel wing corridor, north wall of the adjacent lounge, and south wall of the choir passage where it adjoins the Sanctuary wall are finished with clear-finished hardwood veneer plywood. Painted cement block is exposed as the finish in the cloister wing inner corridor walls and exterior walls in all other spaces. Interior partitions dividing the offices, classrooms, meeting rooms, and the library are finished with plaster or gypsum board. Nearly all ceilings are finished with original surface-mounted acoustical tile, and floors are surfaced with original VAT or replacement wood finishes, some of which are covered by carpet. Toilets have been renovated for universal access. Original baseboard convection hot water heaters remain in use in most rooms.

The Walter Maguire Carillon Tower (contributing structure), Wallace K. Harrison, architect, Aamann & Whitney, structural engineer (1968)

The Walter Maguire Carillon Tower is a highly visible feature, locating the church within the city from several important remote vantages. The siting places it directly on axis with the long view north from Atlantic Street (the major street downtown that becomes Bedford Street). Its height gives it great prominence from other more remote vantages across Stamford's hilly terrain, including Bull's Head to the north, Norton and Clark's Hills to the east, and Hubbard Heights to the west.

The minimalist Modern carillon tower is a 260 foot tall free-standing concrete structure anchored to a 550 ton concrete base paved with thermal-finished Deer Isle granite. The tower houses two open bell chambers

sandwiching an enclosed clavier cabin at its upper reaches. The tower is conceived as a skeletal abstraction of a two-stage French Gothic cathedral spire. The bell chambers and clavier cabin are contained within the lower stage, which is square in plan. The lower stage consists of four inwardly inclined thirty-three and a half inch square concrete piers tied at three intervals by open concrete girt-and-ring cross-bracing and at four intervals by the solid concrete slabs of the floors and roofs of the bell chambers. The lower stage piers terminate with inward facing chamfers. The smaller, tapered, octagonal plan upper stage consists of eight inwardly inclined square piers which project above the lower stage and join as a solid mass at the pinnacle. The upper stage originates on the roof of the upper bell chamber, piercing the lower stage's ring bracing before terminating in a small metal cross at its highest point.

The bell chambers and clavier room are reached from the ground by a flight of precast spiral stairs centered within the lower stage. The stairs ascend counter clockwise, equipped with a continuous open pipe railing. The railing is attached to the outer edge of each tread by a single pipe baluster. The stairs and railing are fully enclosed from the ground up within a cage that is octagonal in plan. The cage is constructed of vertical, tightly spaced cylindrical steel bar stock kept in alignment by piercing steel angle stock placed horizontally at approximately four-foot intervals. The railing and cage steel is painted grey. The cage in turn is fully enclosed by a wood screen constructed of nominal dimension weathered gray teak. The screen enclosure is octagonal in plan and pulvinates six times between the ground and lower bell chamber. The vertical members and primary cross ties at the intersections of the screen's folds are framed with 4 x 6-inch lumber. Secondary 2 x 6 inch horizontal and vertical intermediate ties and jack posts are used randomly but sparingly throughout the screen.

The bell chambers are screened by large-scale open rectilinear grids of 4 x 6-inch teak. The roof of the lower bell chamber and floor of the upper bell chamber are, respectively, the floor and ceiling of the recessed clavier cabin. This enclosed space is octagonal in plan and clad with teak boards. There is a large single-light window. It houses the carillon's original teakwood console of "Bigelow Standard" design.

The carillon is a fifty-six bell instrument.[4] Twenty-two of the existing bells were part of the Nestle instrument with bells cast in 1947 by Gillett and Johnston of Croydon, England.[5] The other existing thirty-six bells were cast by Les Fils de Georges Paccard of Annecy-le-Vieux, France[6] in 1967. The largest eleven bells are housed in the lower bell chamber. The forty-five smaller bells are housed in the upper bell chamber. In addition to the mechanical carillon action, the twenty largest bells were playable electrically from the organ until the system was damaged by lightening in 1991 and discontinued. An automatic clock-controlled mechanism plays bells on the hours and quarter hours. The bells are audible within one-and-one-half miles with favorable wind.

Harrison's tower and the carillon designed and assembled by Dr. Arthur Lynds Bigelow possess an exceptional degree of integrity. The only changes to the resource since its completion have been caulking of hairline cracks in the lower stage piers in 1997 and addition of sound isolation material to reduce vibration in the bearings and seats of the bell carriages, and replacement of two hammers, performed by the I.T. Verdin Co. of Cincinnati in 1981.

[4] A detailed history of this instrument is in the *GCNA* [Guild of Carilloneurs in North America] *Bulletin*, 1982.

[5] Of the missing Gillet and Johnston bells, two were stolen and twelve were transferred to New Skete Monastery, Cambridge, NY by 1968. The foundry, established in 1844 and active until 1957, produced many notable twentieth century carillons in the United States including the Laura Spellman Rockefeller memorial carillons at Riverside Church, New York City (1925 and 1931) and University of Chicago (1932), http://www.towerbells.org/data/IXfoundryGillettJohnston.html.

[6] The foundry, established in 1796, was also active in North America after World War I through the present, and was a foundry preferred by Bigelow, http://www.towerbells.org/data/IXfoundryPaccard.html#HISTORY.

Landscape, (contributing site) Bryan J. Lynch, landscape architect (1958)

The 1958 landscape design was subtle and conservative, incorporating much of the site's existing natural topography and some pre-existing flora. Site work included terracing between the buildings, introducing vehicular drives following the site's contours, and minimal regrading in the gently sloping area behind the buildings for parking. Viewed from the primary Bedford Street vantage, the overall setting projected a natural, pastoral public image, utilizing the prevailing grade and buildings to screen the parking lot areas from view. Apart from the loss of the parking lot along Morgan Street, the plan and character of the original landscape design are very well preserved, and the landscape contributes to the property's significance.

Most of the site's rolling topography toward the south and west of the buildings was conceived and planted as a lawn punctuated by isolated native sugar maple trees. Here a semi-circular approach drive enters the southwest corner from Bedford Street, providing ever-changing vantages of the Sanctuary as it climbs and curves toward the front sanctuary's entrance before descending and exiting to the street near the center of the western edge. A second internal drive forks from the circular drive near the southwest corner of Fellowship Hall providing drop-off access to its lobby before curving northeast toward the site's rear parking lots. These parking lots, sold for residential development in 2013, required the relocation of parking to a new smaller area south of Fellowship Hall. Formerly planted with grass, the new parking area is accessed from the original parking drive, now shortened in length. Another small staff parking area behind the parish unit near the site's northeast corner is original to the 1958 plan. Separate from the other rear parking lots with its own access drive off Morgan Street, it remains in use today.

The exterior open space between the sanctuary and parish unit is a flat terrace of uniform grade planted with grass. The hyphen passage connecting the sanctuary and parish unit divides the terrace into a small informal rock garden to the west and a "cloister" to the east. The rock garden has an asymmetrical plan edged by natural and built features, enclosed by the hyphen, choir passage, an outcrop of natural ledge topped by a copse of volunteer trees, and a short fence. Accessed from the hyphen and choir room, the garden is oriented for viewing from within the curtain wall-glazed passages. The west garden maintains its original character, incorporating minor additions of memorial shrubs and small monuments subsequent to 1958. The cloister terrace is on grade with the rock garden and hyphen and retained along its southerly edge by a stone wall and the walls of the sanctuary narthex. The cloister is generally rectilinear in plan, enclosed on the other three sides by the glazed curtain walls of two wings of the parish unit and the hyphen. The area is accessed from the sidewalk along the main vehicular drive up a short flight of concrete steps through a gap between the narthex and stone walls. Paved paths lead from this point toward two entrances at the extremities of the parish unit near the hyphen and chapel. Centered on the cloister lawn is a Celtic cross (Feature F). Carved from Barre granite and erected in 1958, the cross was given by the young people of First Presbyterian in memory of those who died for their country in World War II.

Apart from lightly thinned hedgerows along the north and south lot lines, the site was largely open upon completion as it remains today. Trees within the site were used sparingly, retained from pre-existing volunteers. These included a thin grove of ten maples grouped on the main lawn, scattered trees at the edge of the drive near the Sanctuary and parking lots, a lone maple near the southwest corner of the Sanctuary, and a conifer between the drive and cloister retaining wall. This open character has been retained over time by pruning and replacement of trees near their original locations.

The landscape also includes features that were planned for the site prior to the period of significance but were not included in Harrison and Mills' master plan or within Lynch's landscape plan. The **Stamford Historical Wall** (non-contributing, 1966) is a stone wall constructed along the Bedford Street edge of the main lawn between the approach drive's curb cuts. Dr. George Stewart, the pastor, conceived of a wall in 1935 to feature

inset tablet stones incised with lettering describing important persons and events in national and local history. He acquired the tablets during his tenure, but the wall was not constructed until 1966. It is constructed of native quarry-faced fieldstone in random ashlar coursing constructed in two sections. Seventy-four dressed tablet stones of Barre granite are set within the wall facing the church grounds and arranged chronologically. Related to the historical wall in concept is the **Memorial Walk** (non-contributing, 1970), a sidewalk along the drive leading to the front entrance of the sanctuary. The concrete walk is paved with 106 inset tablet stones of Barre Granite incised with the names and dates of individuals including biblical figures, theologians, politicians, artists, pioneers, and others who "helped change the focus and direction of the Christian Church."[7] The walk was also planned in the 1940s by Dr. Stewart, with names selected in consultation with the noted Protestant church historian Roland Herbert Bainton.[8] The walk is largely intact as installed in 1970 and expanded with three additional tablets in 1977. Both the wall and walk were built by DeLuca Construction.

Parking Lot, circa 2015, noncontributing structure

Located on the south side of Fellowship Hall, this parking lot is on the site of an open grass lawn and an access drive to Morgan Street behind the First Presbyterian Church. That land was sold off for an apartment house.

Integrity

The property has a high degree of integrity. First Presbyterian Church has kept the buildings and grounds in continuous use and good repair in its first sixty years. The experimental nature of the sanctuary's construction and massing, however, has been problematic from the start, and has required major repairs to address material failure and moisture infiltration not resulting from poor maintenance.

In 1959, the Buildings and Grounds Committee observed concrete erosion in the joints between the precast panels. Consultants retained by Harrison determined that the matrix was at fault, and the problem was corrected at the architect's expense.

After the severe winter of 1976–77 moisture infiltration through the base of the Sanctuary walls was observed. The problem was resolved by drainage improvements and waterproofing measures recommended by Harrison and his consultants. A trench was introduced around the south and east edges of the slab. Exposed cracks were patched with epoxy, and the exposed concrete surfaces were treated with a waterproof coating not available in 1958. A retaining wall was built within the trench, and the trench was filled with crushed stone to direct water away from the slab. Based on subsequent investigations, acrylic coatings appear to have been added to exposed precast panels above grade.

After Harrison's death in 1981, extensive leakage through the *dalle de verre* panels on the south wall, disintegration of the glass in the area, and surface staining moved the Church to take action. An analysis of underlying causes concluded that the problems were caused by insufficient relief for movement under dynamic thermal loading and trapped moisture behind a build-up of acrylic waterproof coatings.[9] The decision was made

[7] Ann Barton, *First Presbyterian Church* [commemorating the 40th anniversary of the completion of the sanctuary], Stamford, CT, 1998, 40.

[8] Bainton (1894–1984) author of *Here I Stand: A Life of Martin Luther* (1950), which sold over one million copies and remains in print, was elected as a fellow of the of the American Academy of Arts and Sciences in 1954.

[9] Specifically, the *dalle de verre* panels set in grout directly against the precast tracery had insufficient relief for thermal dynamic loading; the southern precast panel aggregate contained silicon dioxide which when saturated had a deleterious alkaline reaction; calcium chloride (to accelerate setting) was found in some panels which when saturated weakens strength and causes rebar corrosion; no air entrainment additives (used to increase density) were found in the precast panels; three heavy failed applications of acrylic coatings repelled subsequent coatings and trapped moisture against precast surfaces causing staining; the battered wall planes held water on the façade for greater duration than would a vertical plane; and lack of air movement within the sanctuary attracted

to replace the *dalle de verre* in the south and east walls. Rubbings notated with colors of all the panels were made prior to extraction. The panels were reproduced by Rohlf's Stained Glass Studio from the rubbings with new American-made glass matching the original colors set in a casting matrix modified with epoxy for greater plasticity. The new panels were cast with deeper reglets to accommodate 3/8 inch of additional sealant abutting the precast panels. Prior to reinstallation, existing coatings were sandblasted off the precast surfaces, which were field patched and coated with a penetrating clear oligomeric alkoxysilane sealer. The new replacement panels were installed into the original precast openings against poly-isobutylene tape and on neoprene blocks, secured, and sealed with silicone sealant. Aggregate was applied over the sealant beads to match with the texture of the adjacent precast panel. The project was completed in 1987.

Moisture infiltration in the sanctuary recurred in 2005 prompting a second major waterproofing effort completed in 2007. The scope of this project included removal of all previous coatings from all precast concrete surfaces, including the front portal. All spalls and cracks were patched, all joints resealed, and all precast surfaces recoated with elastomeric coating. All metal flashings were replaced using continuous metal cleats to prevent wind-driven rain from leaking into the building. A waterproof membrane underlayment was installed at roof edges, ridges, hips, and valleys. New secondary glazing in raised metal frames was introduced over all sky-facing *dalle de verre* panels on the roof. The work also included replacement of roof membranes in the Choir Room, Sacristy/Utility Room and Passage adjoining the Sanctuary with EPDM and introducing sealant into cracks in the carillon tower.

The sale of the Morgan Street frontage provided First Presbyterian with funds to address the needs of the parish unit. In 2015, the original 1957 oil-fired boilers were replaced with a gas-fired heating system, and new hot water lines were extended to the choir room area. In addition, the Parish Unit's roofing was replaced. Introduction of air conditioning into the sanctuary is planned for 2016.

The Highland Green Foundation, founded in 2011, is a separate 501(c) (3) nonprofit organization comparable to a friend's group to assist the congregation with the stewardship of the sanctuary. HGF is preparing a comprehensive conservation plan for the sanctuary and carillon tower in 2016 funded in part with grants from the Connecticut Trust for Historic Preservation, and Getty Trust.

condensation under certain weather conditions.

8. STATEMENT OF SIGNIFICANCE

Certifying official has considered the significance of this property in relation to other properties:
Nationally: X Statewide:__ Locally:__

Applicable National Register Criteria:	A__ B__ C_X_ D
Criteria Considerations (Exceptions):	A__ B__ C__ D__ E__ F__ G_X_
NHL Criteria:	4
NHL Criteria Exception:	1
NHL Theme(s):	III. Expressing Cultural Values 5. architecture
Areas of Significance:	Architecture, Engineering
Period(s) of Significance:	1956–1968
Significant Dates:	1956, 1957, 1958, 1968
Significant Person(s):	n/a
Cultural Affiliation:	n/a
Architect/Builder:	Wallace K. Harrison, architect Felix Samuely, structural engineer Elbert Conover, church building consultant Gabriel Loire, *dalle de verre* DeLuca Construction, builder
Historic Contexts:	XVI. Architecture Z. Mid-Century Modern

State Significance of Property, and Justify Criteria, Criteria Considerations, and Areas and Periods of Significance Noted Above.

Statement of Significance

First Presbyterian's sanctuary, parish unit, and carillon tower are eligible under NHL Criterion 4. The property is a singular work by Wallace K. Harrison (1895–1981), a major American Modern architect. Well known for large innovative buildings and complexes that introduced significant, replicable innovations in planning and construction technology to American architecture, the sanctuary is the best known and most influential of his smaller projects, which additionally demonstrate his personal approach to Modern movement design, in this case neo-Expressionist. The Sanctuary (1952-58) exemplifies Harrison's skill in leading collaborative design, which was a key to his success in projects of all scales. The sanctuary's use of *dalle de verre* stained glass (thick chunks of glass set in mortar) was the largest and most publicized installation in North America at its time and popularized the material during the postwar building boom at mid-century. It was the product of a remarkable collaboration between Harrison and Gabriel Loire (1904–1996), a major figure in the revival and international diffusion of the ancient glazing system in the post-World War II era. The sanctuary is an early and widely publicized example of both a thin shell constructed of precast concrete and demonstration of inclined folded plates in a non-industrial American building.

The First Presbyterian Church complex, including the connecting parish unit with cloister, chapel, and fellowship hall, was a close collaboration between the architect and structural engineer Felix James Samuely (1902–1959), Gabriel Loire, acoustical consultants Bolt Beranek & Newman, and Willis Mills (1907–1995), architect of the attached parish unit. This collaboration is characteristic of Harrison's successful working relationships throughout his career. The resulting sanctuary, freestanding carillon tower (1968), designed by Harrison, and parish unit (1956) are carefully integrated as an ensemble, and exemplify Harrison's strength as a master planner. Additionally, the suburban complex exemplifies national trends in post-World War II American culture for its close association with Elbert Moore Conover (1885–1952), a leading voice who advocated for church development outside urban centers and who served as a pre-development church building consultant. The soaring carillon brackets Harrison's accomplishments in creating iconic sculptural structures beginning with the Trylon and Perisphere at the 1939 World's Fair. The property has a high degree of integrity. As a religious property deriving its primary national significance from architectural and artistic distinction, the property qualifies for NHL Criteria Exception 1.

Wallace K. Harrison and Modern Architecture

Harrison reshaped the built environment of American cities during the middle half of the twentieth century with unrivalled accomplishments in large scale "urban renewal" projects (before it was known as such); advancements in high-rise glass curtain walls and metal claddings in skyscrapers; the development of pre-fabricated building components; and practical pioneering demonstrations of thin shell construction. He rose to a singular leadership position in his field because of his design talent, collaborative abilities, and the earned confidence of a wealthy patron, Nelson Rockefeller. Although Harrison's contributions were celebrated in his lifetime and summarized in a posthumous monograph,[10] his legacy has been underappreciated by architectural historians until recently,[11] with the revival of interest in mid-century Modern design and by architects and researchers engaged in restoring his buildings.

[10] The Statement of Significance incorporates content concerning Harrison from Victoria Newhouse, *Wallace K. Harrison, Architect* (New York: Rizzoli, 1989). The monograph includes research derived from interviews with Harrison.

[11] Some architectural historians in this period unfairly dismissed Harrison's association with the Rockefeller family as nepotism, and found it difficult to pigeon-hole his distinctive, non-ideological approach to Modern design. In addition, lingering controversy

Within his body of work, First Presbyterian represents the architect's fullest integration of new technology with a Modern design grounded in historicism. Harrison's career bridges the emergence of the Modern movement in American architecture after World War I, its flourishing at mid-century, and its Post-Modern reaction toward the century's end. Harrison's experience as largely self-taught and trained through architectural apprenticeships in the Beaux-Arts tradition, grounded his work in neoclassical and neo-Gothic traditions at a time when rapidly changing building technology demanded new forms of architectural expression. First Presbyterian exemplifies Harrison's consistent innovative use of building materials and systems and mastery of a broad range of Modern expression.

Harrison's interest in construction and historicism were shaped during his early career prior to 1929. Born to modest means in Worcester, Massachusetts, his teenage interest in building construction led him to obtain an apprenticeship at age fourteen with O. W. Norcross, a major contracting firm in the Northeast. From 1913 to 1916, he was a junior draftsman with Frost & Chamberlain, an architectural firm in Worcester, where he worked on detailing reinforced-concrete industrial buildings, while attending night classes in structures at Worcester Polytechnic Institute and Saturday afternoon Beaux-Arts design ateliers of the Boston Architectural Society. Having absorbed much about architectural business practice in the process, Harrison relocated to New York City in 1916 seeking greater opportunity. Without professional introductions or formal academic credentials, Harrison managed to convince partner William Kendall of McKim, Mead & White to offer him a job without pay as an illustrator for a book by another partner, Teunis Van der Bent.[12] After succeeding at this task, Harrison joined a staff of nearly a hundred draftsmen of the era's leading architectural firm, where he remained until 1921. At the encouragement of his colleagues, Harrison also joined the private atelier of Harvey Wiley Corbett (1873–1954), a Beaux-Arts trained architect and early proponent of skyscrapers and modern design,[13] with whom the younger architect would later enter into partnership. Harrison worked steadily on McKim, Mead & White's large-scale neoclassical buildings, with time off for enlistment in the navy during World War I, before a brief and unhappy enrollment as an *aspirant* in the École des Beaux-Arts in 1920.[14]

Returning to New York, Harrison's first experience with neo-Gothic was working as a freelancer on Raymond Hood's winning entry for the Chicago Tribune Building (1922), an internationally important competition that foreshadowed subsequent trends in skyscraper massing and modern design. That year, he joined the office of Bertram Grosvenor Goodhue (1869–1924), a stylistic innovator known for his work in redefining Gothic and classical traditions.[15] A Rotch scholarship to travel through Europe and the Near East for two years interrupted his work in Goodhue's firm. While abroad he studied and recorded classical, Romanesque, and Gothic monuments in Italy and France, including Chartres, and was introduced to thin-shell construction in North Africa. On his return to New York in 1923, Harrison worked on two important Goodhue commissions, the National Academy of Sciences in Washington (1924) and Nebraska State Capitol (1924). Both buildings were nominally within the classical tradition without specific historical reference.[16] Harrison left the firm in 1924 soon after Goodhue's untimely death, trying his hand at several enterprises, including a short-lived partnership

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over his last major project, the South Mall development, which birthed the historic preservation movement in Albany, may have diminished his legacy.

[12] Probably Teunis J. van der Bent, *The Problems of Hygiene in Man's Dwellings: A Textbook for Students of Architecture, Household Arts, Practical Arts and Hygiene of Private and Institutional Dwellings, A Guide for Architects, Superintendents and Managers of Various Types of Institutions.* New York: The Architectural Book Publishing Co., [c1920].

[13] Obituary, *New York Times*, April 22, 1954, p. 22. Corbett published his first article on tall buildings in 1921. "Planning High Buildings on Narrow Streets," *American Architect* 119:2369, (June 8, 1921): 603–618. Corbett was a mentor to both Harrison and Louis Skidmore (1897-1962), founding partner of Skidmore Owings & Merrill.

[14] He attended the Parisian atelier of Gustave Umbdenstock.

[15] Goodhue had trained through apprenticeships in the offices of Renwick, Aspinwall & Russell in New York and Cram and Wentworth in Boston, both noted for church and institutional work in the Gothic tradition.

[16] The National Academy employed a rectilinear form suggestive of Greek classicism. The Nebraska State Capitol, a skyscraper respected classical hierarchy without explicit reference to orders or details.

with a fellow draftsman from Goodhue's office; freelancing for Corbett and Hood; a short tenure for the New York City Board of Education supervising public school construction; and beginning a brief tenure teaching architecture at Columbia University in 1926. In January 1927, Harrison was offered a partnership with Helmle and Corbett to help complete two high-rise commissions before the firm was awarded its most famous commission,[17] parts of the design of Rockefeller Center (1929–1939) in New York, along with several other firms including Hood and Fouilhoux.

The large-scale Rockefeller Center project occupied much of Harrison's time over the next six years and provided him an opportunity to grow as a designer and master planner. His role in planning Radio City Music Hall awakened in him a lifelong interest in the science of acoustics. Ultimately, through his business connections and abilities in reaching consensus among the collaborators, the project made him an indispensable architectural advisor to John D. Rockefeller Jr., and his son, Nelson A. Rockefeller. His close relationships with such powerful patrons led to many important commissions through his remaining career but earned him the envy of some of his contemporaries.

Harrison left partnership with Corbett in 1935 to form Harrison & Fouilhoux with J. Andre Fouilhoux (1875–1945), the former partner of the deceased Raymond Hood.[18] Max Abramovitz, a young architect who had joined Harrison's staff in 1932 and would later become a partner, moved with Harrison. The new partnership meant a distancing from the yet to be completed Rockefeller Center in the lean years of the Depression, but the firm obtained residential commissions from the Rockefellers and others before making its mark with the iconic design of the Theme Center at the 1939 New York Worlds' Fair. Better known as the Trylon and Perisphere, the pair of temporary sculptural structures became central to the fair's identity. When Abramovitz solved the problem of providing access to the perisphere by means of a helical ramp, Harrison made him a partner. Soon after, Harrison and Abramovitz enlisted in the war, leaving Fouilhoux to run the practice alone until his death in 1945. From then on the firm became Harrison & Abramovitz.

Harrison & Abramovitz rose to the top tier of American architectural practices immediately after the war when Harrison was approached by New York developer William Zeckendorf to work on an ambitious urban development conceived to surpass Rockefeller Center – "a city within a city." Tentatively called "X City," it was to be built on the future site of the United Nations headquarters. Harrison's 1946 X City schemes depicted ranks of skyscrapers with unprecedented expanses of glazed curtain walls. Concurrently, when sites outside of Manhattan for the new post-war international institution proved elusive, Harrison played an important behind-the-scenes role in the transfer of the proposed X City site to the United Nations through John D. Rockefeller Jr. In 1947, at the end of this process, Harrison was appointed Director of Planning for United Nations Permanent Headquarters, in charge of modifying the Harrison & Abramovitz X City site plan concept, and coordinating a team of international architects, including Abramovitz, who was assigned to designing buildings or to an advisory role.

Keeping the vision focused among competing architectural egos proved to be as important to Harrison's reputation as was his controversial insistence on realizing a continuous glass curtain wall in the Secretariat, the complex' major building. A high-rise glass wall with perimeter structural and mechanical systems carefully integrated behind it had been imagined by architects for two decades but never realized. Harrison guided the collaborators to resolve the technological issues of thermal insulation and wind loads. This effort involved overcoming the internal objections of Le Corbusier, the most accomplished advisor,[19] as well as outside critics

[17] The Pennsylvania Power & Light Co. Building in Allentown, PA (1928) and Riverside (Roerich) Museum and Master Apartments in New York (1929).

[18] After reorganizations of the firm as Corbett, Harrison & MacMurray.

[19] Le Corbusier preferred a skin with *brise-soleil*.

objecting to the curtain wall's appropriateness.[20] Harrison saw the thirty-nine story curtain wall as essential to providing an efficient and humane workplace in a building with a large footprint.[21] Other architects and critics[22] saw the Secretariat as marking a radical turning point for American architecture, as summarized by Newhouse:

> If it were not for the marble framing of the Secretariat's northern and southern flanks, the building would be recognized as the first glass wall skyscraper….A year after the Secretariat was completed, Gordon Bunshaft produced the first all-glass-walled Lever House on Park Avenue and Fifty Fourth Street. Within five years glass towers were rising across the United States and around the world. The building…became one of the most influential progenitors of American technology at the service of bureaucratic efficiency, and a true symbol of Western civilization at mid-century.[23]

Harrison's leading roles in Rockefeller Center, the United Nations Headquarters, and other high visibility projects "made his name virtually synonymous with the tall office tower" on the eve of First Presbyterian.[24] Another important commission was the Alcoa Building (1950), the first aluminum clad skyscraper. Most of this work enjoyed greater fame than Harrison, as *Time* noted in the September 22, 1952, issue, which featured him on the cover:

> The world has forgotten the name of Cheops' architect, but his pyramid still stands. Few outside his own profession have ever heard of Wallace K. Harrison, one of the pyramid builders of today. But in the past 30 years, Architect Harrison has directed the construction of $700 million worth of modern wonders. Last week Wallace Harrison was putting the finishing touches to his latest group of landmarks: the new U.N. buildings, on which, as boss architect, Harrison has spent five years and $67.5 million.

The rise of the skyscraper increased the size of American architectural offices capable of their design. At mid-century, Harrison & Abramovitz and Skidmore, Owings & Merrill emerged as the two biggest offices organized to execute large scale projects with speed and competence. Harrison was instrumental in reorganizing the practice of architecture with regard to large scale projects by organizing the office efficiently around specializations. Henry-Russell Hitchcock observed that this new approach to collaborative teamwork, originating with Harrison at Rockefeller Center, redefined the nature of the responsibility of the designer in the process.[25] At Harrison & Abramovitz, both partners conceptualized projects in broad strokes that would be detailed and revised with efficiency. What started as a relationship between architect and draftsman, mentor, and protégé had evolved to one between peer designers by 1951, with Abramovitz assuming independent design responsibility for a growing portfolio of his own projects after 1951.

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[20] Architect William Delano declared that "buildings of glass look neither stable or dignified. And they certainly do not have a monumental appearance." quoted in Gertrude Samuels, "What Kind of Capitol for the UN?" *New York Times Magazine*, April 20, 1947, 57. Frank Lloyd Wright called the Secretariat "…a glorification of negation. A deadpan box with no expression of the nature of what transpires within the building." Quoted in *New York Times*, July 24, 1949. Both quotes in Newhouse, *Harrison*, 143.

[21] As he was quoted: "The basic problem…is not to try to symbolize the UN in some highly imaginative design, but to construct a capitol where the world representatives can work efficiently and in comfort." *New York Times*, January 7, 1947, quoted in Newhouse, *Harrison,* 142.

[22] Statements of praise from Philip Johnson, Lewis Mumford and others on the radical and progressive nature of the Secretariat's curtain wall are quoted in Newhouse, 142–143.

[23] Ibid., 143.

[24] Ibid., 284.

[25] "At best, even when a particular designer's name is associated with a particular building, as is that of Gordon Bunshaft of Skidmore, Owings & Merrill with Lever House his responsibility is very different from Wright's for the Price Tower." Henry-Russell Hitchcock, *Architecture: Nineteenth and Twentieth Centuries*, 3rd ed. (Baltimore, MD: Penguin Books, 1971), 547-548.

With Harrison preoccupied by the United Nations Headquarters, Abramovitz shouldered the increased workload. He had earned the trust of the firm's previous clients and was attracting new clients to the firm. By 1951, Abramovitz' portfolio of the firm's projects completed independently of Harrison included: buildings at his alma mater, the University of Illinois Champaign-Urbana,[26] and Brandeis University in Waltham, Massachusetts,[27] where he succeeded Eero Saarinan as campus master planner. After 1951 the two partners collaborated on few major projects, including the U.S. Embassy in Havana, Cuba (1952); the headquarters for the Central Intelligence Agency in Langley, Virginia (1961, with Frederick R. King); and the Sixth Avenue extension to Rockefeller Center (1973–74). Otherwise, the two partners shared staff and office space, but worked independently within the firm.

Harrison would again become preoccupied in 1960 with two major projects. As master planner for Lincoln Center for the Performing Arts in New York, Harrison was also responsible for designing the Metropolitan Opera House (completed 1966) and Abramovitz was assigned the adjacent Philharmonic Hall and garage complex/central plant (both completed 1962). Concurrent with Lincoln Center, Harrison began working on his last major project, the South Mall (1960–1975), a major state governmental building complex adjacent to the New York State Capitol in Albany. His fifteen year relationship with the controversial project, envisioned by then Governor Nelson Rockefeller on a scale to rival Oscar Niemeyer's government complex in Brasilia (1956–60), soured Harrison's relationship with his former friend and patron and tarnished his legacy among the first generation of architectural historians of the Modern movement. His absence from the New York City office also alienated the aging architect's relationship with Abramovitz. In 1976, Harrison dissolved the partnership, becoming a sole practitioner with a small office in Rockefeller Center. In his last years, Harrison observed that his long relationship with Abramovitz "…was like the competition between Ghiberti and Brunelleschi for the dome of the Florence cathedral."[28] Harrison's last commission was the Pershing Memorial in Washington, DC, completed in 1983 after his death.

Harrison's accomplishments left an indelible imprint on American Modern architecture. His life work bridges the pre-Modern era, when emerging building technologies met Beaux-Arts classicism, through the mid-century flourishing of Modernism, and demonstrates, as a whole, a continuous interest in advancing building technology with a flexible, open-minded and non-doctrinaire approach to Modern design, as summarized by Newhouse in concluding her monograph:

> Disappointments at the end were slight compared with the extraordinary triumphs of preceding years. Friends, connections, monumental commissions—all seemed to have come naturally. If he was frustrated by design compromises made for the sake of expediency, there was consolation in the knowledge that some of his schemes were prophetic in concept and that he had made major contributions to building technology. While Harrison is firmly established as a modernist, with the climax of his career coming during the building boom of the 1950s and 60's, his long and colorful professional life reflected the dramatic changes of his time; from the conventional classicism to which he was introduced at McKim, Mead & White to the eclecticism of the Goodhue office, the art deco modernism of Corbett, and finally the powerful personal modernism of his work from the United Nations headquarters on. With the Secretariat's glass curtain walls Harrison provided an image that was to characterize large scale architecture in the second half of the twentieth century. Through all he greeted each new challenge with

[26] Benjamin M. Frankel Memorial (1951).
[27] The Adolph Ullman Amphitheater (1951).
[28] Newhouse, *Harrison*, 274, from interviews with Harrison in 1980 and 1981 on dates cited in fn. 1, 315.

> imagination and flexibility, but also with the patience and courtesy we now associate with an earlier, more gracious time.[29]

Wallace K. Harrison and First Presbyterian Church

When First Presbyterian awarded Harrison the sanctuary commission, his reputation in planning and construction innovation was greater than his fame as a designer. Contemporary critics and historians recognized his work to be within the International Style, but not the purest expression of its underlying ideals or principles. Charles Jencks, for example, dubbed Harrison a "transcendental pragmatist" for the way he "manipulated with integrity" the International Style in the Alcoa building (1955) within a "tough commercial world that has to be mastered by speed and pragmatism."[30] Harrison reinforced this perception in describing his priorities as an architect:

> When you leave the drawing board and start getting your hands dirty, you stop thinking about buildings as a challenge to create absolute art. You're happy to settle for good buildings that get built, and hope that they will lead to progressively better buildings.[31]

But Harrison's personal approach to Modern movement design is more evident in smaller projects like First Presbyterian, as Newhouse observed:

> It is not always in his world-famous commissions that Harrison's design ability appears to best advantage. Many of his smaller achievements testify to a more intriguing, more complex talent, and he himself readily admitted his preference for small scale work. When asked in the midst of his enormous undertaking at Lincoln Center whether he enjoyed coordinating big projects, he responded with his usual frankness: "I hate it. But I've had to do it because I've had to make a living….I get more fun out of designing a small thing than a big one. Architecture is something small—something you can touch with your fingers."[32]

Master-planning large projects with complex, often stressful interactions among clients, peers, and subordinates, required compromise and left little room for Harrison's personal touch. After his ascent to the top tier of American architects, the size and number of such commissions left Harrison with less time for smaller projects that engaged him more intimately in the details. Newhouse observed two distinct approaches to Modern design present in Harrison's work. His large-scale post-war projects, which were significant in changing the American urban skyline and corporate identity, fell within the mainstream of the International Style. His smaller projects, however, broke with orthodox Modern principles by intentionally incorporating historicism.

> Harrison tempered modernism with historical allusion throughout his career, making it almost impossible to guess what his solution would be for any given problem. His work reflects his personality. The large functional buildings correspond to the public image of Harrison, the master builder. The smaller works correspond to the private Harrison, a personal, historically conscious designer of remarkable fertility; they are original and sometimes prophetic.[33]

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[29] Ibid., 287.

[30] Charles Jencks, *Modern Movements in Architecture*. 2nd ed. (New York: Penguin, 1985), 199–200.

[31] Quoted in Cranston Jones, *Architecture Today and Tomorrow* (New York: McGraw Hill, 1961), 108.

[32] Newhouse, *Harrison*, 166. Harrison's quote is from Helen Dudar, "The Road to Success, Five Famous Men Take You Along," *The New York Post Daily Magazine* (December 4, 1962), 37.

[33] Newhouse, *Harrison*, 57. Harrison's historicism is also evident in pre-War projects as well, including the Rockefeller Apartments in New York (1936) where he applied cantilevered semicircular bays referencing the street's existing rowhouses (Newhouse, 69–71), and private homes for his brothers-in-law, a Greek-revival house for Albert Milton in Washington, CT (1936) a

Examples of Harrison's historically conscious Modern design include the Alfred H. Caspary Auditorium, Rockefeller University, New York (1958), inspired by a Greek amphitheater in plan and a tile-clad mosque dome in volume and finish;[34] his own summer retreat in Seal Harbor, Maine (1960), expressing a New England saltbox;[35] the Italian Renaissance inspired Hopkins Center, Dartmouth College, Hanover, New Hampshire (1962);[36] and the neoclassical arcaded front elevation of the Metropolitan Opera House, Lincoln Center, New York (1959–61).[37] Noting Lincoln Center's axial organization, architectural historian William Jordy observed that it signaled an important change in American architecture:

> So Lincoln Center brings the tradition of American Beaux-Arts full circle, back to the Court of Honor at the Columbian Exposition of 1892. Or, a circle within a circle: if Rockefeller Center had marked the arc from Beaux-Arts to modern, so the later Center marks the arc from modern back to Beaux-Arts, with Wallace Harrison among the principal participants in both enterprises.[38]

Harrison's historicism was a continuation of traditional principles, suggestive and respectful of the past but not imitative of its forms. To him, designing in the present embraced abstracting and distilling these traditional principles and applying them to new materials and systems. Harrison wrote:

> Frank Lloyd Wright in a recent book on architecture has stated that he believes there has been no architecture since the days of the Persians. While many men more competent than I have, in recent years, made statements as strong as this, it is difficult for me to agree that all man has done in the intervening years is valueless. There is a quality of architecture which cannot be described in words and, if you bear with the lack of an exact definition, I will call it 'the essence of architecture.[39]

"I do not believe that there is anything in architecture which is modern or old fashioned," stated Harrison elsewhere during remarks about First Presbyterian.

> I believe only that buildings are good or bad. This church is, I hope, a step forward in the development of architecture in using new materials and new construction methods to create a place of worship with some of the splendor of colored light found in the great Gothic cathedrals.[40]

Harrison's extensive use of stained glass at First Presbyterian was only part of the Gothic essence he conveyed in the project. The sanctuary's division into narthex nave and chancel arranged with a symmetrical, axial, and formal processional plan departed from postwar European trends, which blurred such traditional distinctions

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modern house with traditional vernacular chimney, balcony and stucco references for David Milton in Bermuda (1936). (Newhouse, 66–67).

[34] Newhouse, *Harrison,* 177–179, the dome resulted from a visit to Iran in 1954 to study plans for an IBEC housing project; its proportions were developed in collaboration with Bolt Beranek & Newman.

[35] Ibid., 172–74. The modern cottage exaggerated the lines of a traditional New England saltbox roof down to the ground.

[36] Ibid., 210–11. The building's exterior explicitly alluded to the fourteenth century Loggia del Lanzi in Florence featuring a thin shell concrete vaulted roof system designed by structural engineers Paul Weidlinger and Mario Salvidori.

[37] Ibid., 186–221. Harrison's initial 1955 concepts for the opera house featured a circular colonnade, which evolved through numerous sketches and revisions into an arcade wrapping the building prior to its reduction to the front elevation as built.

[38] William H. Jordy, *American Buildings and Their Architects Volume 5: The Impact of European Modernism in the Mid-Twentieth Century*. (New York, Oxford University Press, 1972).

[39] [W. K. Harrison], "Introduction", typescript of slide presentation at First Presbyterian, n.d., likely ca. 1955. [WKH papers, Avery Library, Columbia University, New York, NY]

[40] "W.K. Harrison's statement for the Museum of Modern Art, 2/15/59," typescript. [WKH papers, Avery Library, Columbia University, New York, NY].

and embraced informality. Harrison's historicism is also evident in his desire to realize the lofty weightlessness of Gothic vaulting in an experimental structural system. As such, First Presbyterian's sanctuary is Harrison's most explicit and comprehensively integrated example of his historically conscious Modernism, which ranged "far from the International Style he employed for his larger projects."[41] Among these important buildings, First Presbyterian is his only work alluding to Gothic architecture.

The central ideas of the sanctuary, developed over the course of a year, took First Presbyterian's building committee by surprise when Harrison presented his first scheme in September 1953. Moreover, Rev. Campbell's initial response was that Gothicism suggested a transcendence inconsistent with Presbyterian doctrine. This kind of client redirection was similar to the way he had disrupted expectations for the 1939 World's Fair Theme Center. His winning competition entry of a series of tent-like pavilions was nothing like the iconic Trylon and Perisphere that was built. Upon award of that commission, he immediately put aside the tent idea and began re-visioning, inspired by St. Mark's in Venice. According to Newhouse:

> For him the essence of a fair was festivity, and he tried to think of buildings of the past that had projected an air of gaiety and that at the same time lend themselves to expressing modern ideals and modern methods. "We found ourselves constantly referring to the domes and campaniles of Venice, perhaps because the flat country and water of the Fairgrounds are very like that of the site of Venice, and in addition the sky color of New York is practically the same."[42]

With the Theme Center, Harrison's change of direction was strategic, for he knew that a more daring entry would not have been selected at the outset by a committee dominated by conservative architects. But it was also in character with Harrison's impulsive and intuitive design approach manifested throughout his career, according to Harmon Goldstone, one of the draftsmen who worked on the Theme Center:

> Wally is a teacher, he loves to upset preconceived ideas and he is disconcerting in that he has no preconceptions about anything. He's absolutely unpredictable: he never knows how he'll react to the next moment in life. It's an attitude that keeps him young…but at the same time is very undisciplined… We were worried because the [the World's Fair] design board consisted of establishment architects and the sphere and triangle were far out. But Wally was a consummate diplomat; he had begun to bring each member of the board to the office one at a time…and made each one of them feel as if they were participating in our team effort…When Wally presented the design to the board, they'd already bought it one at a time.[43]

Harrison's initial sanctuary scheme was as radically unconventional in 1953 as the Theme Center had been twenty-five years earlier.[44] Following a trip to Europe in the spring, Harrison maintained that the sanctuary was inspired by the ambitious and dominant use of stained glass at St. Chappelle in Paris where the glass seems to reach for the sky. Yet the initial presentation looked nothing like a Gothic cathedral. The exterior rendering depicts an extensively glazed, steel-framed diagrid envelope assembled in folded planes atop a rubble stone base. On the interior, over-scaled, representational Gothic groin vaults float above a nave bathed in colored

[41] Newhouse, *Harrison,* 57.

[42] Ibid., 81–82. The Harrison quote is from "The Theme Building," *Rockefeller Center Weekly* (30 April 1937).

[43] Newhouse's interview with Harmon Goldstone, July 7, 1981, quoted 85 and 89. Goldstone was the first Chairman of the New York City Landmarks Preservation Commission in 1967.

[44] The Theme Center and 1953 sanctuary scheme also share Harrison's fascination with Russian precedents. The former's composition was suggested in the constructivist drawings in visionary architect Jacob Tchernikhov's *Construction des forms d'architecture et des machines* (Leningrad, 1931). The hyperboloid steel diagrid structure used in the 1953 scheme was first developed by engineer Vladimir G. Sukhov (1853–1939) in 1896. The system was used into the Soviet era for transmission lines and other utilitarian structures and published in London in "The Nijni-Novgorod exhibition: Water tower, room under construction, springing of 91 feet span," *The Engineer*, 19:3, 1897, 292–294.

light. The nave is axially planned along a formal center aisle leading to a lancet arched chancel. The volume enlarges, widening and rising away from a low-ceilinged chancel toward the nave.[45] In his presentation, Harrison distilled the sanctuary's central idea to the building committee with a single question: "Have you ever thought what it would be like to live inside a giant sapphire?"[46] Putting aside his theological reservations, Reverend Campbell found it to be "startlingly beautiful…in the shape of a modified megaphone; [Harrison] knew it wasn't practical, but he wanted to show the possibilities of what might be accomplished."[47] There were also concerns about the cost of the scheme which coincided with the launch of the capital campaign.[48] Like the World's Fair, the building committee approved proceeding with the concept on condition that it be built within a fixed budget, in the case of the sanctuary, capped at $800,000.

Harrison substantially revised the 1953 scheme by July 1954 to address the theological concerns and attempt to reduce the cost without departing from the initial general plan, a volumetric concept opened by inclined folded planes, and Gothic sensibility. Instead of copying the forms of Gothicism, Harrison reinterpreted it through abstraction, exploring new materials and systems similar to the manner of the French rationalist tradition of Viollet-le-Duc and Auguste Perret.[49] For example, the steel-framed diagrid space-frame was replaced by a reinforced thin shell of precast concrete, retaining the idea of a structural vault but omitting literal details such as lancet arches and ribbed groin vaults.[50] In this manner, Harrison interpreted other principles and effects he observed in Gothic cathedrals such as integral expressed structure, verticality, and abundant light.

Acoustics, a priority at First Presbyterian due to the emphasis on spoken word and organ music in services, was the primary requirement of the interior plan and volume. It had informed the 1953 scheme more than anything else. Harrison said in an interview:

> ….We wanted the acoustics as near perfect as possible. The acoustical people I brought in, Bolt, Beranek and Newman of M.I.T., didn't want any obstructions to the smooth flow of sound. A square arrangement wouldn't do. We had to modify and re-modify….Finally we arrived at the shape of an elongated megaphone to spread the sound toward the rear. That determined the shape. The fish symbolism was discovered later. When you are finally done, people will always rationalize.[51]

Bolt Beranek & Lewis were at the leading edge of the new field of acoustical engineering, which emerged in response to the unconventional volumes made possible by new construction materials.[52] The firm was most frequently retained in their early projects to redress problems resulting from unusual shapes and surfaces. Such

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[45] *Architectural Forum*, 99, no. 6 (December 1953): 92–94.

[46] Quoted in Newhouse, *Harrison*, 167.

[47] Ibid., 167.

[48] The Church retained Ketcham, Inc., a New York public relations firm, in February 1953 to assist in fundraising. The campaign launched in the fall with a series of dinners and dedication of the Bedford Street site in November.

[49] Especially Perret's Notre Dame du Raincy (1923). See Karla Britton, *Auguste Perret*, London: Phaidon, 2001, 76-96. In notes for a talk given in 1954, Harrison acknowledged Perret's seminal role in Modernism. [Wallace K. Harrison], "Talk at the Presbyterian Church, New York City – January 5, 1954," typescript, p. 1. [WKH papers, Avery Library]. Barton, *First Presbyterian Church,* 10.

[50] The 1953 scheme's Gothic vaulting is so out of character with Harrison's work in its representation of historic detail to suggest that it was intended to illustrate an architectural point rather than present something to be built.

[51] Quoted in Wolf Von Eckhardt, "A Lay Report on Harrison's Stamford Church: The Final Question," *Journal of the AIA* (June 1959).

[52] The firm was founded in 1948 by electrical engineer Leo Beranek and physicist Richard Bolt, professors at the Massachusetts Institute of Technology (MIT), when Harrison brought them in to advise on the United Nations General Assembly Hall. Bolt's former student, Robert Newman, an architect, joined soon after. Bolt, Beranek & Newman's subsequent commissions included MIT's Kresge Auditorium (1954), Tanglewood's Koussevitzky Music Shed in Lenox, Massachusetts (1959), Lincoln Center's Philharmonic Hall (1962), the Cultural Center of the Philippines (1969), and Baltimore's Joseph Meyerhoff Symphony Hall (1978). The firm diversified beyond acoustics in the late 1950s and became pioneers in information technology.

was the case with Eero Saarinen's Kresge Auditorium, a space with a compressed stage that fanned out into a seating area with a higher ceiling. There the problem was modulating over-amplification from the stage, which was not conducive to large orchestral performances. Kresge's problem may have provided the empirical solution for First Presbyterian's volume, which adapted the fan-shaped megaphone massing to amplify the spoken word and organ from the chancel. In any event, Harrison's consultation with the firm prior to developing the plan was a departure from the firm's usual experience.[53] It was a pragmatic commitment on Harrison's part for the sanctuary's form to follow its function. The acoustical consultants revisited the sanctuary upon its completion. They found the sound projected well when the pews were full but recommended additional deflecting above the pulpit to eliminate excess reverberation when the space was partially empty. Harrison followed up by designing a marble sounding board in the shape of an open Bible above the pulpit to correct the problem.[54]

> When we finally had the floor plan, came the question: what cover?...We had to solve the problem in the cheapest way. There's no sense kidding yourself. No one in recent times has ever said: 'Let's build a monument to God, we don't care what it costs.'[55]

Theologically, Rev. Campbell wanted the sanctuary to convey a Presbyterianism that "addressed a God who was as much a part of everyday life as he was a transcendental being."[56] Harrison suggested "everyday life" in concrete, a vernacular, cost-efficient contemporary building material finding favor in experimental applications in Europe and the United States by leading designers such as Frank Lloyd Wright, Charles-Edouard Jeanneret (aka Le Corbusier), and Pier Luigi Nervi at mid-century.[57] Although not yet widely used as an exposed interior finish in liturgical settings in the United States, concrete had a long precedent in church design in Europe since 1923 and was well-suited to Gothic expression.[58] Harrison looked to precast concrete, a material that he knew well for its economy from prior experience. In 1939, Harrison had organized the Yale-Life Conference on pre-fabrication in residential construction as an associate professor of architecture at Yale. The conference featured new materials, including precast concrete, which showed promise to meet the growing demand of low cost housing in American cities as well as Latin America, where he first visited with Nelson Rockefeller that year.[59] Harrison was particularly impressed by methods of pouring concrete roadbeds he observed in Venezuela and

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[53] "Often, after the architect has conceived something unique and impressive, he engages an acoustical consultant with the statement 'Can you add some things to the design to give it great acoustics?' But there is one acoustical principle that is inviolate: Every hall that looks different sounds different. If you make a violin square or triangular it won't sound like a Stradivarius." "Leo Beranek: An Interview Conducted by Michael Geselowitz" IEEE History Center, 30 August 2005, Interview #454 for the IEEE History Center, The Institute of Electrical and Electronics Engineers, Inc. http://ethw.org/Oral-History:Leo_Beranek_(2005)#Short_History_of_Acoustical_Design_Consulting.

[54] Newhouse, *Harrison*, 171–172. Clergy later found the enclosed pulpit to be physically restrictive and it was removed following Harrison's death.

[55] WKH quoted in Von Eckhardt, The Final Question: A Lay Report on Harrison's Stamford Church," *AIA Journal,* June, 1959.

[56] Quoted in Newhouse, *Harrison,* 169.

[57] Harrison and Campbell's acceptance of exposed concrete as the sanctuary's interior finish appears to have been influenced or justified by the theory of "symbolic transformation" in the writings of American philosopher and educator Susanne K. Langer (1895–1985). In notes for a talk he gave on "The Essence of Architecture," Harrison concluded by quoting her book *Feeling and Form* (1953). "'…..Within the sanctuary the cultural domain is epitomized by the most economical and concentrated architectural means—a holy world, that one cannot live in because it is too pure and moving, but that one enters from conscious communion with God and man.' Unquote. Perhaps—through our religious Architecture will man and architects find the essence we all look for. Perhaps." [Wallace K. Harrison], "Extract, from 'Feeling and Form' #3," typescript with notations by hand, no date. [WKH papers, Avery Library]. The notes may have been an alternate conclusion for a talk Harrison gave at the Presbyterian Church, New York City on January 5, 1954. Barton*, First Presbyterian Church,* 10.

[58] The use of concrete at Notre Dame du Raincy (1923) outside Paris "….signalized a radical break with all preceding ecclesiastic building….architect "Auguste Perret (1874–1954) was primarily responsible for establishing contemporary church architecture…." G. E. Kidder Smith, *The New Churches of Europe* (New York: Holt, Rinehart and Winston, 1963), 9.

[59] During the war, Harrison also assumed directorship of the Office of Inter-American Affairs, part of FDR's broader Good Neighbor policy to promote American culture in Latin America to prevent an alliance with the axis powers.

saw greater potential for the technology. After the war, he experimented with it by designing and constructing cost-efficient housing built from precast panels on the grounds of his home in Huntington Long Island. Built to FHA standards, the housing was capable of being constructed within twenty-four hours using a technology already familiar in Latin America. Harrison's results persuaded Rockefeller to form a subsidiary within the International Basic Economy Commission (IBEC) in 1947 to produce the houses under Harrison's patent. In 1948, the IBEC houses were tested in a 204-duplex unit FHA development in Norfolk, Virginia, built under budget and earning a modest profit for the IBEC Housing Corporation.[60]

To build the sanctuary's larger volume, Harrison would need a lighter precast system than the one used in the IBEC housing. He looked to Europe where postwar material shortages and austere economic conditions were necessitating innovations in thin shell concrete construction. It seemed a good match for his ambitions in Stamford:

> … I wanted a structure as clear and honest as Gothic. I groped and fussed a year or two. But I don't think, right off, you should ever know too clearly where you are going…I was intrigued with folded concrete. It would span the space without supports. At the time nothing of the kind had been done in this country. We didn't have the engineers and I had to get Felix Samuely, a British engineer, who had done two or three of these things in England. He took two trips here and I went over twice on this job.[61]

Harrison had first met with Samuely about First Presbyterian in London in early 1953 on a trip that included visits to several French cathedrals, including Chartres and the remnant choir at Beauvais.[62] Although concrete folded plates had been used in thin-shell industrial buildings in Europe since 1921,[63] the structural system was uncommon in non-utilitarian structures until postwar conditions encouraged its application elsewhere. Samuely (1902–1959),[64] a pioneer in "skin structures,"[65] was the first engineer to introduce folded plate roofs, which freed the space below of columns, into small commercial and institutional buildings in England.[66] At Woodberry Down School in London (1955), for example, Samuely floated the largest of his folded plate roofs above a steel-framed window wall in two gymnasiums. Samuely, along with Nervi and others, was one of the early engineers to expand "space-frame" construction—thin shell plates and vaults reinforced by triangular or square grids—beyond industrial buildings.[67] Samuely had developed an economical method to combine precast panels

[60] For a full description of the IBEC houses see Newhouse, *Harrison,* 77-79. Nelson Rockefeller established IBEC in 1947 as a for-profit business offshoot of the non-profit philanthropic American International Association for Economic and Social Development (AIA) he had established the previous year. The AIA worked closely with local governments in underdeveloped countries to help combat poverty, disease, and illiteracy by disseminating technical and managerial expertise and equipment to develop programs that could eventually be supported and managed locally. The AIA was active primarily in rural rehabilitation and agricultural development. IBEC focused on developing the "basic economies" of underdeveloped countries and thus encouraged others in those countries to establish competitive businesses. By 1971, IBEC had established almost 200 separate companies in thirty-three countries, including businesses involved in middle-income housing and developed a method of producing low-cost poured concrete homes in Puerto Rico, Chile, Peru, Mexico, Iraq, and Iran. "IBEC Archives, `1945–1977" and *The IBEC System of Low-Cost Housing Construction*, Reel AV 1093 (Moving Images), Nelson A. Rockefeller personal papers, AIA-IBEC, Subseries 1, Audio-Visual Materials [Rockefeller Archive Center, Sleepy Hollow, NY].

[61] WKH quoted in Von Eckhardt, "Final Question."

[62] Newhouse, *Harrison,* 167.

[63] The earliest known use of a concrete folded plate shell is thought to have been Eugen Fressinet's cast-in-place, barrel vaulted dirigible hangar at Orly Aeroport airport in Paris (1921).

[64] Born in Vienna, he studied and practiced in Berlin before emigrating to England in 1933 where he remained until his death.

[65] Felix Samuely, "Skin structures and shell roofs," *Architectural Design.* September 1952, 242–56.

[66] E.g., Simpson's Store, Piccadilly, London and the De la Warr Pavilion, Boxhill.

[67] Felix Samuely, "Space Frame Defined," *Architectural Forum:* 98 (February 1953): 152–53. Eero Saarinen's American Embassy in London (1957-1960), one of the earliest applications in a federal building, was subsequent to First Presbyterian.

with cast in place reinforcement by 1952,[68] which was subsequently used by both Harrison at First Presbyterian and Saarinen at the American Embassy in London (1957–60). In the sanctuary, Samuely and Harrison pushed these structural principles further, to additionally strengthen the shell overall by inclining the folded plates inwardly. Upon his return from Europe, Harrison experimented with precast panels at his home to determine the angle and effort involved to construct a mock-up section of the inclined folded plate shell.[69] Harrison had the precast mock-up panels manufactured on Long Island by one of the earliest licensees of the Dutch-patented Schokbeton system in the United States.[70] Convinced that it was feasible, Samuely designed the space frame to support the panels in 1954. Located entirely on the interior, the reinforcement suggested the liernes of a Gothic groin vault. Samuely subsequently demonstrated the inclined folded plate in his virtuoso masterpiece, the Federation of British Industries Pavilion at the 1958 Brussels Universal and International Exhibition, which was derivative of the sanctuary. The pavilion, embassy, and "a church in Connecticut constructed entirely in pre-cast concrete" were listed as his major accomplishments in his obituary.[71] Harrison praised Samuely's First Presbyterian work in a statement he read at the Museum of Modern Art in 1959:

> If we had used ordinary methods of building as steel or concrete beams, these beams would have had to be over 28" deep and the airy splendor we were trying to achieve would have been lost. With the help of Felix Samuely, a leading structural engineer of London, who understands thoroughly how to build using flat slabs of reinforced concrete, we fixed upon a design of folded slabs which serve dually as skeleton and skin of the church.[72]

Samuely's structural design for First Presbyterian proved to be successful and remains completely intact without any subsequent intervention to the present day.

All of these ideas coalesced in the July 1954 sanctuary scheme forwarded to First Presbyterian for approval. As depicted in an elevation published in the local newspaper, the sanctuary had attained its general form as eventually built. After a preliminary review, there was strong support for the sanctuary concept, but Harrison had omitted the carillon tower in the scheme and was instructed to revise the drawing to include it. He was not pleased by this, but complied with the request. The revised drawing depicted a lantern-like tower with strong diagonal members straddling the narthex ridge at its lowest point. Harrison was not present at a meeting on July 6 when church leadership met to consider proceeding with the concept. Neither the client nor architect liked the tower solution. As reported by one of the elders who quoted his conversation with the architect:

> I [Harrison] was asked to make a tower for around $75,000 to $100,000 and stick it on the church. I had 72 hours for the job. It was unstudied, entirely unrelated to the building, and absolutely not what we want. We haven't any idea on the tower.[73]

Despite strong interest in the carillon within the congregation, First Presbyterian authorized Harrison to prepare construction drawings for the sanctuary without the tower within a budget of $1,250,000.[74]

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[68] Felix Samuely, "Space Frames and Stressed Skin Construction," *Journal of the Royal Institute of British Architects* 3rd series, 59 (1952): 166–78.

[69] Newhouse, *Harrison*, 169.

[70] The patented molding and vibration technique was developed to regulate precise density and composition of precast units. Theodore H. M. Prudon, *Preservation of Modern Architecture* (New York: John Wiley & Sons, 2008), 90.

[71] Obituary, *The Engineer*, January 30, 1959.

[72] "W.K. Harrison's statement for the Museum of Modern Art, 2/15/59," typescript. [WKH papers, Avery Library, Columbia University, New York, NY].

[73] Transcription of Harrison's phone conversation with congregation member John Bainbridge as reported in David Anderson, "'Modern' Church Due in Stamford," *New York Times*, July 7, 1954.

[74] David Anderson, "Glass is Stressed in Church Design," *New York Times*, July 5, 1954.

The sanctuary glazing was the last detail to be worked out. Harrison made a second trip to Europe in 1956 in search of inspiration for the colored glass that would create the sanctuary's major visual impression of being inside a sapphire and reinforce the Gothic sensibility. Of this he offered:

> …when you've plodded through it all methodically from the beginning—the human needs, the floor plan, the economics, the structure—you still must get an emotional reaction. The answer is to merge art and architecture. At Stamford we did it by bringing in color and the stained-glass design…I went to Europe to get away from this thing and perhaps find an inspiration. In Paris I saw two things: Leger's stained-glass windows[75] and the Sainte Chapelle…. I wanted to follow Fernand Leger's concept of contrast: round against flats, contrast in colors. I wanted the narthex dark, the nave light, and the chancel dim again because I wanted to make light and color an integral part of the structure. We have lost the fundamental effect of architecture on the pupil of the eye which the Egyptians mastered….In the Sainte Chapelle I thought: We could carry the stained glass even higher….[76]

The artist Fernand Leger, with whom Harrison had collaborated on the United Nations headquarters and other projects, appears to have suggested the use of *dalle de verre*—slab glass set within cement—as an economical means to attain the interior aesthetic impact Harrison sought. The ancient Mid-Eastern method of setting chunks of clear or colored glass within grilled screen panels of cutwork stone or cast concrete —called *claustra* in French—had first been revived in art salons in Paris in 1929 and introduced in liturgical settings that same year in rebuilding war-damaged cemetery chapels in France.[77] *Dalle de verre* gained greater acceptance after World War II both in rebuilding damaged and replacement houses of worship in Europe such as Le Corbusier's limited use in his celebrated Notre Dame du Haut (1950–1955) in Ronchamp, Haute-Saone, France. The glass was also used in more extensive applications in new facilities for French missionary religious orders in former European colonies in North Africa and Latin America.

Leger recommended Gabriel Loire for the project.[78] Loire, a stained glass artisan who began his career working with traditional leaded glass in the Atelier Lorin headed by his father-in-law, was one of the central figures in reviving the technique in France and spreading it globally. After a hiatus during the World War II,[79] Loire re-emerged in peacetime, founding his own atelier outside Chartres, and quickly attracting increasingly larger commissions. Mills first visited Atelier Loire outside Chartres in August 1954 to discuss the project.[80] By then, Loire had completed major large-scale commissions in Notre-Dame-de-Lourdes in Santiago, Chile (1948), and Notre Dame de Consolation in Hyeres, France (1952–53).

First Presbyterian was Loire's second North American commission,[81] but introduced *dalle de verre* and his work to the United States for the first time. It was the largest and most challenging commission, logistically and technically, in his studio to that date. The design was worked out largely through the mail, with Harrison and Rev. Campbell determining the theme and preference of the palette, Harrison responsible for detailing the claustra grillwork and sketching ideas for representational suggestions and abstract patterns, and Loire realizing

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[75] At Audincourt.

[76] WKH quoted in Von Eckhardt, "Final Question".

[77] Chappelle Saint-Aignan, Cimetiere de Grivesnes (1929), reconstructed by architect Louis Duthoit, is the earlies documented use of *dalle de verre* in a liturgical setting. The geometric glass was designed and made by Atelier Gaudin the same year Gaudin reintroduced the form in a Paris salon exhibition of his first *dalle de verre* composition, *Afrique*.

[78] Newhouse, *Harrison,* 169.

[79] Loire left the Atelier Lorin after his father-in-law's retirement, honoring a 10-year non-compete agreement he had made as an apprentice. During this time he earned a living as a graphic designer and assisted the French resistance by producing patriotic images of French saints.

[80] G. Loire to W. Mills, carbon typescript, about meeting, August 2, 1954 [Atelier Loire archives, Leves, Fr.].

[81] His first was a window in Montreal.

the ideas in glass. The program marked a turning point for Loire toward greater abstraction in composition evident in major international works including the Kaiser Wilhelm Memorial Church in Berlin (1960), the Symphony Tower of Joy for Children in Hakone, Japan (1973–76), and Philip Johnson's Thanksgiving Chapel in Dallas (1976). The wide publicity attending the sanctuary's completion quickly popularized the material for its economy and aesthetic impact, leading to subsequent commissions for Loire throughout the United States and the embrace of the technique by American studios. Harrison featured the material in one subsequent project, the Hall of Science at the 1964 World's Fair in New York.

Harrison brought to First Presbyterian the same collaborative approach that yielded him success in large scale projects.[82] It allowed a more intimate collaboration with peers to create an exceptional building that pushed the limits of construction technology and bent the norms of the International Style. Harrison succeeded in re-interpreting Gothicism in a universal manner in a building without a single curve or right angle. G. E. Kidder Smith summarized the sanctuary's place within American liturgical design.

> First Presbyterian is one of the great churches of our time: moreover, it stands for the tradition of non-tradition which marked those distinct and glorious steps of Christian architecture from Early Christian and the Byzantine, to Romanesque, the Gothic, the Renaissance, the Baroque and the Colonial, each of which searched for architectural answers reflective of its own ethos and each of which was unabashedly "modern" for its time…If the exterior of First Presbyterian presents an unusual, even puzzling, appearance, when one enters the nave a whole new world—a world of fascinating, mercurial colors—materializes…The glass which appears smooth and unexciting outside, is faceted within and as one proceeds up the aisle, particularly on a bright day, the sun makes a private spotlight of each of the 22,000 1 inch thick prisms… The panels, tied into the structure, hence have a supportive role: "skin" and skeleton meld…[83]

First Presbyterian, Elbert Moore Conover and the Post-War Suburban Church

First Presbyterian is an outstanding example of a suburban religious campus built during the post-World War II ecclesiastical building boom that lasted through the 1960s.[84] The rapid growth of the suburbs stimulated the development of new facilities accessible to automobiles with greater up-to-date program space for education and other activities. The First Presbyterian campus was planned according to principles espoused by Elbert Moore Conover, an influential proponent of the property type. Conover served as First Presbyterian's church building consultant prior to his death in 1952.

Conover (1885–1952), was an ordained Methodist minister known among Protestant denominations as an authority on church planning and construction through his writings[85] and consulting work as executive director of the Interdenominational Bureau of Architecture (IBA).[86] Conover understood that the country was in the

[82] Harrison received the AIA Gold Medal in 1964 for "his tact, patience and skill as an organizer and designer." Charles M. Nes, President, AIA quoted in Wolf Von Eckardt, "Institute of Architects to Award Gold Medal to Wallace Harrison," Washington Post, 1964, clipping. [WKH papers, Avery Library]

[83] G. E. Kidder Smith, *The Beacon Guide to New England Houses of Worship: An Architectural Companion* (Boston: Beacon Press, 1989), 32–33.

[84] The context of this boom is well described in Anne E. Biebel et al, "First Unitarian Society Meeting House, Shorewood Hills, WI, National Historic Landmark Nomination," August 18, 2004.

[85] Conover's books included: *Building the House of God,* Nashville: Methodist Book Concern*,* 1928*; Building for Worship*, New York: Interdenominational Bureau of Architecture, 1945, 1952; *The Church Building Guide*, New York: Interdenominational Bureau of Architecture*,* 1946; *The Church Builder*, New York: Interdenominational Bureau of Architecture, 1948; and *Church Building Finance*, New York: Interdenominational Bureau of Architecture*,* 1945.

[86] "The Interdenominational Bureau of Architecture was established in 1934 by executives representing 25 Protestant denominations. Its function is to give counsel and guidance to local churches and to promote better church architecture through institutes, conferences and literature. Frequently the Bureau is in a consulting relationship with enterprises whose total current values

midst of a building boom,[87] and accordingly advised clergy and congregation members unfamiliar with construction on practical matters and fundamental design principles, encouraging them to treat new sanctuaries as works of architecture.[88] He saw a new church, comprised of its sanctuary and support spaces, as an instrument of evangelism, by which he meant cultivating and stabilizing faith in the congregation through worship and education.[89] To accomplish this, he urged First Presbyterian to abandon its downtown location and relocate to the new site. "Downtown churches without sufficient parking rapidly decline," he advised the Church.[90] "It is very important to secure an adequate plot of ground. Many communities will not grant a building permit for the erection or enlargement of a church unless the church owns ground for parking the automobiles of the congregation. This requirement is rapidly being adopted throughout the country. A church building should be spread out with outside light for all rooms….this requires adequate space."[91]

First Presbyterian was part of a national building boom of suburban houses of worship prompted by the coalescence of economic and demographic conditions and religious sentiment that pervaded the country following the war. In Stamford, where mainline Christian and Jewish congregations were clustered downtown, the increased use of automobiles and rapidly developing housing outside its urban center combined to disperse congregations to new suburbs and create new parking demands on church sites. Constricted by space and high urban land values, churches and synagogues followed their congregations to cheaper land nearer the suburbs, developing new campuses with abundant parking and expanded facilities to house recreational, educational, and other family services previously available downtown.[92] The building boom was also precipitated by a revival of religion imbued with a heightened sense of nationalism.[93] "Religion became a means of affirming the 'American way of life,' which was important during the Cold War era because the Soviet Union and its communist allies were avowed atheists."[94] This affirmation is clearly expressed at First Presbyterian in the

run into many millions of dollars. The Church Building Committee, composed of denominational executives, meets twice yearly to discuss church building problems and exchange ideas respecting counsel to local churches on church building finance and the guidance needed in advance of planning projects." Conover, *Church Builder* (1948), 26.

[87] In 1948, he predicted "A thousand million dollars' worth of new American Protestant church buildings and improvements will be planned during the period of a few years. Conover, *Church Builder*, 7.

[88] "Conover probably influenced more church buildings than any other twentieth-century figure," wrote James F. White, "Change in American Church Architecture," *Ecclesiology Today: Journal of the Ecclesiological Society, successor to the Cambridge Camden Society of 1839*, Issue 26, September 2000, 9. Conover is the namesake and first recipient posthumously of an AIA award to non-architects influential in creating sacred space.

[89] Conover, *Church Builder*, 19.

[90] Quoted in Barton, *Presbyterian Church,* 6.

[91] Conover, *Church Builder*, 17.

[92] Biebel notes that between 1948 and 1958 eleven million of the thirteen million new houses constructed were built in suburban locations, encouraged in large part by low-cost financing from the Federal Housing Administration to meet the needs of returning war veterans and other Americans. "By1954 there were some forty-seven million registered passenger vehicles in the United States. The Interstate Highway Act of 1956 facilitated the expansion of highways as well as interurban and suburban roads." Construction statistics are from Gibson Winter, *The Suburban Captivity of the Churches* (Garden City, New Jersey: Doubleday & Co., 1961), 15–17. For postwar demographics and society, see Richard Horn, *Fifties Style* (New York: Friedman/Fairfax Publishers), 12; and William L. O'Neil, "Moving to the Suburbs on the GI Bill," in Stuart A. Kallen, ed., *The 1950s* (San Diego: Greenhaven Press, 2000), 139-40. For the FHA, see Gwendolyn Wright, *Building the Dream: A Social History of Housing in America* (Cambridge: MIT Press, 1983), 240-48. By 1960, "60 million Americans one third of the population were living in newly built suburbs that were virtually nonexistent in 1950." Kallen, *1950s,* 138–39, 142.

[93] Biebel notes that "By 1950, regular church attendance was up to 55% within the entire US population. During the mid-fifties this trend was noted in scholarly and professional journals, as well as the popular press. Books were published on the phenomenon and how it affected aspects of the national identity and popular culture. In 1954, the phrase 'under God' was added to the pledge of allegiance and 'In God We Trust' became the national motto. In 1957, when asked the question 'What is your religion?' 96 percent of Americans cited a specific affiliation. Church attendance promulgated peace of mind in an 'age of anxiety.'" Sydney D. Ahlstrom, *A Religious History of the American People* (New Haven: Yale University Press, 1972), 949–63.

[94] Ibid.

Stamford Historical Wall and the Church History Walk, two features that were planned in 1948 prior to Harrison's sanctuary and executed after its completion.

The building boom provided new opportunities to architects and intrepid congregations to depart from traditional expressions of sacred space.[95] "One in four churches constructed during the post-war period did not make use of architectural form traditionally associated with ecclesiastic design, but instead were built in a 'modern' idiom. This trend was evident in all denominations, as reported by *Time* magazine in 1955."[96] First Presbyterian was among the vanguard of a group of widely publicized Modern sanctuaries designed by prominent architects, beginning with First Christian Church in Columbus, IN (1942), by Eliel Saarinen. Other major examples preceding or contemporary with First Presbyterian include: Eliel and Eero Saarinen's Christ Church Lutheran, Minneapolis, MN (1948–49); Frank Lloyd Wright's First Unitarian Meeting House, Shorewood Hills, WI (1947–51), and Beth Sholom Synagogue, Elkins Park, PA (1954–59); Lloyd Wright's Wayfarers Chapel, Rancho Palos Verdes, CA (1949-51); and Eero Saarinen's North Christian Church in Columbus, OH (1959–1962). (All except for Wayfarers Chapel are NHLs.) Also in this group is United States Air Force Academy Cadet Chapel, Colorado Springs, CO (Walter Netsch for Skidmore, Owings and Merrill; 1959–62; contributing building to the United States Air Force Academy, Cadet Area NHL District). While these sanctuaries varied in material and form, they shared some similarities. In particular, Beth Sholom, North Christian, Wayfarer and First Presbyterian strive to convey divine presence with natural light in place of traditional religious symbols. Beth Sholom and First Presbyterian additionally shared parallel extended periods of design development resulting in expressionistic outward forms.[97] Harrison's final scheme for the carillon tower may have been informed by Saarinen's North Church spire. This group established new precedents by introducing new systems and materials, such as the First Presbyterian's folded plates and use of more common surface materials like precast concrete as finishes. Locally, all of Stamford's new suburban religious properties subsequent to First Presbyterian were more Modern than traditional in exterior appearance and spirit.

Design, Construction, and Stewardship of First Presbyterian Church
Site Acquisition and Decision to Relocate (1942–1952)

First Presbyterian Church had been a well-established presence in Stamford's central business district (cbd) for ninety-nine years when the congregation voted to relocate in 1952. The cbd had grown slowly around the original site of the Congregational meeting house (present day intersection of Atlantic Street and Main Streets) after initial settlement in 1641. First Presbyterian was officially organized on February 25, 1853, soon after the railroad arrived in Stamford, under the Third Presbytery of New York. Within two years the small congregation acquired the lot north of Broad Street between Summer and Bedford streets and erected a modest frame church two blocks north of the Congregational Church. First Presbyterian grew steadily during its first century, initially keeping pace with the new residential neighborhoods developed adjacent to Stamford's commercial center. In 1884, First Presbyterian built a larger eclectic Romanesque and Byzantine revival masonry sanctuary for its 295 member congregation. It was designed by architect Josiah Cleaveland Cady with a prominent belfry on the site of the original church, which had been destroyed by fire. Over the next half century, a residential neighborhood of comfortable single-family homes along Bedford and Summer Streets developed north of the church, while earlier residences south of the church were replaced by commercial structures. In 1911, this intensification and

[95] The desire to introduce modernism into ecclesiastical design pre-dated the war in some architectural circles. "How is it possible that two ages so wholly opposed in spirit and in outward form as the Medieval and Modern can produce ecclesiastical architectures that are identical in character?... ....a true church, and in fact all true architecture, is actually timeless" wrote Joseph Hudnut, Dean of Harvard's Graduate School of Architecture who brought Gropius and Breuer to the U.S. Joseph Hudnut, "The Modern Spirit Enters Contemporary Church Architecture," *American Architect* (December 1932): 12–17.

[96] Biebel et al, "First Unitarian Society", 19.

[97] Harrison was doubtlessly aware of his competitor's project but was silent on the subject in the public record. Rabbi Mortimer Cohen, Reverend Campbell's counterpart in the suburban Philadelphia project, however, kept a published image of First Presbyterian taped to his office wall during the synagogue's design and construction.

outward expansion of the cbd prompted First Congregational's relocation from its original central location to a new church two blocks north of First Presbyterian, then the northern fringe of the commercial center. By the 1930s, commercial development fully enveloped First Presbyterian, reaching First Congregational to its north.

In 1942, under the pastorship of Rev. Dr. George Stewart, the congregation purchased the site of the present building, three blocks north of First Congregational on Bedford Street. The acquisition was ostensibly an investment, for the underdeveloped east side of Bedford Street showed potential for the next wave of downtown development northward. The church's new parcel, then a ragged, undeveloped 9.7 acre parcel previously used as pasture, cost $15,000.[98] Although the congregation had yet to develop a plan to relocate, Rev. Stewart obtained a rendering from architect Frederick Rhinelander King[99] for a new masonry "Byzantine style sanctuary," but no formal consideration to develop the site was made by the congregation during his tenure,[100] and the land was leased to the City for use as an undeveloped open space accessible for public use.[101]

The congregation grew steadily in tandem with Stamford's population in the early years of the tenure of Dr. Stewart's successor, Rev. Donald F. Campbell's beginning in 1945. Approximately 100 new members were joining per year by 1951, and Stamford's master plan projected a doubling of its population over the next two decades. Based on those rates, the congregation projected enrollment in the church school to reach 850 and general membership to near 3,000 by the early 1970s. On August 5, 1951, the congregation appointed a Planning Committee of fifteen congregational members plus pastoral leadership. Their charge was to conduct a cost benefit analysis comparing renovating the existing church to developing the Bedford Street site. Based on an estimated $800,000 construction budget for a new church, the cost difference was $26,000 in favor of renovation.[102] But other factors resulting from growth projections favored a new church. "The downtown location, so desirable in the congregation's early years, lost its luster when the automobile brought families from further away," reported a church history in 1998. "Parking at the Broad Street site was understandably limited and there was no space for expansion. Nor was there room for a much-needed new church school."[103] Unanimously, the Planning Committee concluded "It would seem that the choice is obvious when the approximate amount required to put our present church into condition for the next twenty years would build a church."[104] The Planning Committee completed its charge on April 22, 1952. Two weeks later, the congregation approved the committee's recommendation for Session to appoint a Building Committee to select an architect and raise funds, with major decisions subject to approval by Session, the Board of Trustees, and the congregation.[105]

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[98] Barton, *Presbyterian Church,* 4.

[99] Frederic Rhinelander King (1887–1972), was then a partner in the firm of Wyeth, King and Johnson who had recently completed renovations of the Dean's office and residence at the Cathedral of St. John the Divine in New York. His other church work included Seaman's Church, Providence (1930), Church of the Epiphany, NYC (1939). A graduate of Harvard College who had attended the École des Beaux-Arts, Paris, King had met Harrison when the two worked in the office of McKim, Mead & White before the First World War. King, a Harvard classmate of CIA Director Allen Dulles, helped Harrison & Abramovitz earn several important commissions including the U.S. Embassy offices in Rio de Janero and Havana (1952), and later the new CIA Agency Building in Langley, VA (1961), in which King collaborated. He was also Edith Wharton's cousin and executor of her American estate, http://content.aia.org/sites/default/files/2018-09/Bowker_1962_K.pdf.

[100] Barton, *Presbyterian Church,* 8.

[101] "Church Asks City to End Lease on Bedford Street Tract," *Stamford Advocate*, January 26, 1953, 1, 6.

[102] The cost of renovating the existing church to accommodate twenty years growth was estimated at $412,000. Construction of the new church to accommodate fifty years growth was projected to be funded by the sale of the Broad Street property for $362,000, its appraised value less $8,000 demolition cost. Barton*, Presbyterian Church,* 6 and 7.

[103] Ibid., 4.

[104] Quoted in Barton, 7–8.

[105] "Presbyterians Hear Report on Building Plan," *Stamford Advocate*, May 6, 1952; "Presbyterians Plan New Church on Bedford Street," *Stamford Advocate*, May 8, 1952, 1–2.

Planning and Selecting the Architect (1952)

The Building Committee, chaired by Walter N. Maguire, a prominent local attorney, met for the first time on July 7, 1952. The committee identified its initial scope to be preparing a church layout in conjunction with an architect, determining construction costs, fundraising, and sale of the Broad Street property. Heeding suggestions from outside advisors, the committee made measurable progress over the next two months. The committee engaged Conover as a church building consultant who provided a list of fifteen architectural firms who met his recommended criteria of experience in church design and construction and location within reasonable proximity to Stamford, and also recommended retaining a professional fundraiser. Concurrently, the local architectural firm of Sherwood Mills & Smith solicited the committee to be considered for architectural services.[106] The young firm did not have experience with churches, but was invited to consult on the project in collaboration with an experienced firm to be selected from Conover's list.

The new building's program reached sufficient definition by late summer for the committee to abandon King's earlier architectural concept on grounds of inadequate space. The committee was also cost conscious, recommending against the use of exterior stone as shown in King's scheme for reasons of cost. The committee's silence at this point on other aspects of what the new church would look like was in keeping with its church building consultant's advice. In his writing, Conover stressed the importance of the church's exterior appearance to the congregation and greater community without showing preference among modes of expression.

> Church architecture must express religious truth. It must show in its texture the growing life of its time and the lasting details of the past. No one style of architecture is required for an effective exterior design. Great expressions in any style architecture adhere to fundamental principles of design.[107]

Conover's follow-up advice to the committee on putting this guideline into practice was to educate itself in the basics of architectural design to the point where participants could "distinguish between passing fads and

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[106] Architect Willis N. Mills, Sr. (1907–1995), designed and built one of the first Modern-influenced houses near Stamford in New Canaan, known today as Mills House 1 (1939). "In the post-World War II period an informal network of Modern architects later known as the 'Harvard Five'— Marcel Breuer, Landis Gores, John Johansen, Eliot Noyes, and Philip Johnson—moved to the bucolic town of New Canaan and established what would become a center of experimental Modern residential design….New Canaan offered acres of former farmland ripe for house sites. In this context, the Harvard Five, along with other Modern architects like Willis N. Mills and Victor Christ-Janer, began advertising their architectural services through the construction of their own Modern homes. The completion of Philip Johnson's Glass House in 1949 caused an immediate nationwide sensation and the architects capitalized on the attention by participating in a series of Modern House tours that showcased their work. By the end of 1952, over thirty Modern houses had been constructed throughout New Canaan. The tours attracted a second wave of architects and by the end of the 1970s, over one hundred Modern houses had been constructed in New Canaan." Building Conservation Associates, *New Canaan Mid-Century Modern Houses*. Hartford, CT: CT Commission on Culture and Tourism, 2008, 3; Mills entered partnership with Thorme Sherwood (1910–1994) and Lester W. Smith (1909–1993) in 1946 after the three served in World War II. Based in Stamford, Sherwood, Mills & Smith became one of the largest firms in the area, growing to a staff of more than fifty, designing buildings, interiors, and furniture. The firm's most notable works include Mills House 2 (1956) in New Canaan; the Mutual Insurance Company of Hartford (1959) in Hartford, praised by the American Institute of Architects for its integration of sculptured wall panels designed by Constantino Nivola (1911–1988); 777 Summer Street (1961), an office building in Stamford; and St. Mark's Episcopal Church (1962) in New Canaan. Source: http://www.preservationnation.org/travel-and-sites/sites/northeast-region/new-canaan-ct/architects/sherwood-mills-smith.html; Barton, *Presbyterian Church*.

[107] Conover, *Church Builder,* 28. "The Church makes one of its most important contributions to the religious and cultural experience of the community through the exterior appearance of the church building….Church architecture has affected the lives of myriads of people who have never entered the portals of a church. Wholly apart from the activities of the church program, the physical existence of the church structure re-enforces religious life in the community. The church building must be distinctive and easily recognizable as a place of divine worship."

functionally sound designs that will not become wearisome." Beyond that, Conover advised deferring to the architect in matters of design:

> After the floor plans have been fairly well developed the architect should present exterior sketches, but it remains for the people to reject or adopt the architect's exterior design. If they are intelligent and sincere in their responses and criticisms, they may assist the architect in achieving the design most suitable for their church. However, wise churchmen having engaged the architect to design a church will trust his superior experience and knowledge….Don't tie the architect's hands and stifle his creative ability by telling him before he begins his work that the church must be designed in any certain "style." Let him be entirely free in the matter of exterior design until he has offered his proposed solutions for the design problem.[108]

The building committee appears to have adhered closely to Conover's advice on exterior appearance. On September 7 the committee voted to retain the New York architectural firm of Ferrenz & Taylor,[109] selected from Conover's list, to prepare alternate sketches. Although a majority of the committee and congregation were in favor of a neo-Georgian study presented by the architects,[110] committee member Emma Light saw the new church as an opportunity for Modern expression. Fellow member Benton Grant warmed to Light's vision after visiting a new church by Alden Dow in Midland, Michigan during a business trip.[111] Light and Grant persuaded the others to pause moving forward with Ferrenz & Taylor's neo-Georgian sketch. The committee reached out to three other firms experienced with Modern design. As recalled later by Rev. Campbell, the intent was to find a "top drawer architect."[112]

On October 19, 1952, First Presbyterian awarded the alternative design study for the sanctuary, the building's primary feature, to Harrison & Abramovitz following an interview with Harrison. In concert with Harrison's task, studying the remainder of the building, to be called the parish unit, was assigned to Willis Mills of Sherwood, Mills and Smith. Harrison impressed the members of the congregation and Sherwood at his initial interview meeting. Rev. Campbell later recalled that Harrison had "expressed his interest in getting to know me and our theology. He wanted to go to Europe to look at churches there. Wally didn't know what he would do, but he was honest about it. He was the only one without preconceived ideas for the project."[113] Harrison conveyed his awe of the commission in a talk he delivered to a Presbyterian congregation in New York on January 5, 1954. "The essence of architecture cannot be communicated by words. An hour in Chartres is worth a life time of books….We are born in Architecture. We live, love, and die, if fortunate, in Architecture. We even are presumptuous [sic] enough to build structures and call them Churches."[114]

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[108] Ibid., 28–33, passim.

[109] George Hils Ferrenz (1904–1989) and William J. Taylor (1912–1992) formed their partnership in 1945 after working in the office of Eggers and Higgins and continuing as chief and assistant architects of the Kellex Corp. for the Atom Bomb Project, Oak Ridge, Tennessee (1943–1945). The firm's primary work prior to 1952 was schools and hospitals. Source: AIA Directory, 1962, http://content.aia.org/sites/default/files/2018-09/Bowker_1962_T.pdf. http://content.aia.org/sites/default/files/2018-09/Bowker_1962_F.pdf.

[110] The architects may have taken into account the new neo-Georgian St. John's Lutheran Church (1953) then in construction on a large parcel over a mile to the north on New Field Avenue, the extension of Strawberry Hill, for another recently relocated downtown congregation.

[111] According to oral tradition, the Dow church is thought to be St. John's Lutheran, completed in 1954.

[112] Interview with Dr. Donald F. Campbell on 10 February 1982 by architectural historian Victoria Newhouse quoted in her *Wallace K. Harrison*, *Architect*, 167.

[113] Quoted in Newhouse, *Harrison,* 167.

[114] [Wallace K. Harrison], "Talk at the Presbyterian Church, New York City – January 5, 1954," typescript. [WKH papers, Avery Library].

Design and Construction (1952–1958)

News of the new church and selection of Harrison was made public in early 1953.[115] Harrison began the design process with a thorough inspection of the rugged site, recommending placing the sanctuary on an elevated slope just south of the ledge outcropping at the property's highest point "to avoid costly blasting and to preserve the aesthetic integrity of the plot."[116] Early in the process he and Mills agreed that the parish unit should be subordinate to the sanctuary, low in height and subdued in expression. Except for coordination of master planning, repeated details, and the logistics of obtaining the *dalle de verre*, the sanctuary and parish unit were "designed and constructed in complete autonomy."[117]

Harrison's first sanctuary concept with a site plan, including a programmatic diagram of Mills' parish unit, was presented to the congregation in mid-October 1953 soon after the launch of the building's $560,000 capital campaign.[118] During the next nine months Harrison abandoned the steel diagrid concept in favor of the folded plate solution of precast panels with *dalle de verre*.[119] Harrison tested a mock-up of the inclined folded-plate assembly on the grounds of his Long Island home to ascertain the system's feasibility before recommending it. In early July 1954, the church leadership authorized Harrison and Mills to proceed to construction drawings for the sanctuary and parish unit. Mills visited the Atelier Loire the following month to discuss the project for the first time.

The construction schedule was sequenced to complete the parish unit for partial use prior to the completion of the sanctuary. Construction documents for the parish unit were approved in early January 1955 and issued to ten firms for bid on March 1, 1955.[120] The general contract was awarded to DeLuca Construction of Stamford, with a groundbreaking ceremony held on April 24. Loire submitted a separate proposal for the sanctuary and chapel skylight glass,[121] which was not part of the general contract. Mills authorized Loire to proceed with the chapel skylight, a small project for the studio, but one that took seven months to execute, from Loire's receipt of Mills' drawing of the window's structure in September 1955 to its installation in April 1956. The process entailed Loire generating maquettes for Mills' approval, DeLuca shipping plywood templates made in-situ to France, and Loire fabricating and shipping the cast panels by sea to New York.[122] The chapel skylight provided Harrison and Mills with an opportunity to test the timing and quality of what would be the largest line item in the sanctuary's cost.

The sanctuary general contract was awarded to DeLuca in mid-November even though the final massing above the slab [Fig. 5] would not be finalized until the following January.[123] A groundbreaking ceremony for the sanctuary was held on November 24, 1955, with Fellowship Hall's impressive steel star beam frame, recently

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[115] "Church Asks City to End Lease on Bedford Street Tract," *Stamford Advocate*, January 26, 1953, 1, 6. "Presbyterians Name Architects for New Edifice," *Stamford Advocate*, February 5, 1953.

[116] Barton, *Presbyterian Church,* 10.

[117] Ibid., 9.

[118] "Presbyterians Set to Start Fund Drive for New Church," *Stamford Advocate*, September 24, 1953; "Presbyterians to Have Church of Unusual Design," *Stamford Advocate*, October 17, 1953.

[119] K. C. McCormick, "Presbyterians to Act on Revised Church Design," *Stamford Advocate*, June 28, 1954, 1, 13; David Anderson, "Glass is Stressed in Church Design," *New York Times*, July 5, 1954. "Presbyterians Approve Revised Building Plans," *Stamford Advocate*, July 7, 1954, p. 1; David Anderson, "'Modern' Church Due in Stamford," *New York Times*, July 7, 1954.

[120] "Plans for Auxiliary Buildings of New Presbyterian Church Approved," *Stamford Advocate*, 1/4/55.

[121] $504,000 for fabricating the glazed panels and $90,000 for crating, shipping and insurance. G. Loire to W. Mills, carbon typescript, proposal, February 7, 1955 [Atelier Loire archives, Leves, Fr.]

[122] W. Mills to G. Loire, typescript, corrections to maquettes, October 3, 1954; W. Mills to G. Loire to DeLuca Construction, carbon typescript acknowledging payment, [Atelier Loire archives, Leves, Fr.]

[123] "Presbyterians Approve Contract for New Church," *Stamford Advocate*, November 18,1955; "Presbyterians to Start Work on New Sanctuary," *Stamford Advocate*, January 9, 1956.

erected, serving as the backdrop.[124] Fellowship Hall was completed and furnished for its first service on September 9, 1956. In covering the first occupancy of the new complex, a reporter for the local newspaper updated readers on what to expect next:

> The appearance of the building as it goes up will have equal dramatic suspense for builder, church member and general public, for no two-dimensional pictorial rendering of its final appearance has been felt adequate—only the blueprints, which never look the same to the public. In a week or two, however, the public will see large concrete sections erected—precast in Long Island, and as the church goes up much of its walls will be stained glass windows on a greatly magnified scale.[125]

In November, the first four precast panels made by Precast Building Section Inc. were trucked to Stamford and carefully hoisted in place, tilted, fitted, and shored with traditional wood scaffolding.[126] The precast work needed to be in place to accurately template the voids for the glazed claustra panels. Within this timeframe, Harrison travelled to Europe again, this time to visit newly installed *dalle de verre* in the church at Sacre-Couer at Audincourt and "examples of the abstract designs Loire had produced."[127] Harrison also met with Loire briefly at the end of the trip.[128] Satisfied with the results, Harrison mailed the contract for the sanctuary windows to Loire on May 31, 1956, aiming for installation in March, 1957.[129] The windows were installed by an American subcontractor retained by Loire. The sanctuary envelope was closed in by late November, 1957, when the cornerstone relocated from the Broad Street church was set in the new building.[130]

Critical Reception (1958–1960)

The unusual sanctuary, dedicated on March 9, 1958, received instant national exposure and critical acclaim in popular and professional publications.[131] *Architectural Forum* praised its "blend of modern technology and medieval mysticism…its brilliant use of glass, and its constantly revealing shapes and symbolisms" resulting in "a church not easily labeled-nor easily forgotten."[132] *Progressive Architecture* hailed the "wondrous sanctuary magnificently illuminated by polychromatic stained-glass panels placed in a tremendous shell formed of inclined triangular facets and quadrangular panels" of "the spectacular new First Presbyterian Church" as a "remarkable structural design...unique in contemporary church construction" exemplifying "the highest order of collaboration between architect, structural engineer, and builder."[133] Critic Wolf Von Eckhardt revisited the site

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[124] "Beams of Presbyterian Structure Welded in Place" *Stamford Advocate*, November 16, 1955; "Presbyterians to Hold Ceremony of Ground-Breaking," *Stamford Advocate*, November 23, 1955.

[125] K. C. McCormick, "Presbyterians to Occupy New Building on Sunday," *Stamford Advocate*, September 6, 1956; "Presbyterians Attend Services in New Buildings," Stamford *Advocate*, September 10, 1956.

[126] "Church's Paneled Sanctuary Begins to Rise," *Stamford Advocate*, November 9, 1956.

[127] Newhouse, *Harrison*, 169. In addition to the Leger mosaic and glass, the church features a curving abstract *dalle de verre* chapel wall designed and fabricated by Jean Bazaine the previous year. Newhouse cites Harrison as visiting a Loire project in Visp, near Zermatt, Switzerland, which is absent from the authoritative inventory of Loire's work compiled by Natalie Loire, his granddaughter, in Charles W. Pratt and Joan C. Pratt, *Gabriel Loire: Les Vitraux/Stained Glass.* Centre International du Vitrail, Chartres, 1996, 186-218.

[128] G. Loire, manuscript, notes on meeting with WKH, n.d., [1956] [Atelier Loire archives, Leves, Fr.]

[129] W. Harrison to G. Loire, typescript, transmittal of contract, May 31, 1956; Harrison & Abramovitz to G. Loire, typescript, reporting arrival of first seven crates in US, December 26, 1956; Harrison & Abramovitz to G. Loire, typescript, reporting arrival of shipment of glass in US, January 30, 1957 [Atelier Loire archives, Leves, Fr.]

[130] "Presbyterians Hold Ceremony at New Church," *Stamford Advocate*, November 24, 1957.

[131] "A Lofty Luminous Form, *Life*, March 31, 1958, 90-91; "P/A News Survey: Precast-concrete facets enclose piscine-form sanctuary," *Progressive Architecture*, April 1958, 105.

[132] "A Brilliant Canopy for Worship," *Architectural Forum*, April 1958, 107.

[133] "P/A News Survey: Precast-concrete facets enclose piscine-form sanctuary," *Progressive Architecture*, April 1958, 105.

a year after its opening to find it more stirring and profound than he had previously observed.[134] The building's celebrity attracted over 300,000 visitors between 1958 and 1968 as recorded in the guest book.

The Museum of Modern Art featured First Presbyterian in its important 1959 exhibition, *Architecture and Imagery – Four New Buildings* along with Eero Saarinen's TWA Terminal in New York City, Jørn Utzon's Opera House in Sydney, Australia, and Guillaume Gillet's Notre Dame Church in Royan, France. The exhibition highlighted examples of Modern architecture that stood apart from the "overriding uniformity" found in most buildings planned from grids and built with rectangular windows, wall panels and structural frames. "An apartment house… should not look like an office building, and a church should not look like a gymnasium," noted the exhibition catalog. The featured buildings evoked "images of natural or man-made objects," intentional or not, "…to express emphatically some distinguishing aspect of the buildings function or location."[135] In her review of the exhibit Ada Louise Huxtable noted Harrison's church as "an exciting edifice" and hailed the group as "striking and controversial examples of a significant new direction in architectural design …custom made structure in the midst of machine-made conformity….belligerently personal in an impersonal world."[136] First Presbyterian was the only example from the MOMA exhibit to be included in Huxtable's own selection of "Ten Buildings That Say Today" published later that year.[137]

Walter N. Maguire Carillon Tower (1962–1968)

The carillon tower was part of the original building program, but its design and construction were postponed indefinitely in July 1954 because of cost. First Presbyterian had received a gift of a thirty-six-bell carillon from the Nestle Corporation in 1948 and installed it in a temporary tower downtown on the site of the old church. It remained there until October 1956 when the Broad Street church was sold and the bells were relocated to temporary storage on the new site.[138]

Harrison's two unexecuted schemes for the carillon tower proposed prior to 1958 were unsatisfactory to both architect and client. The first scheme of 1953 related to the abandoned diagrid sanctuary depicted a free-standing faceted, pulvinated form. As described at the time, it "will probably be steel and glass on a steel and reinforced concrete frame, the same type of construction as church. Glass in tower, however, may not be stained. Tower will be about 140' high, 25'square at base."[139] Focused on the sanctuary, Harrison omitted the tower from the revised 1954 precast sanctuary to the displeasure of the building committee before reluctantly adding an engaged tower while recommending against its approval. According to the *New York Times*, there was an understanding that Harrison "will come up with something far better when he gets around to it" for the carillon.[140]

Following completion of the church, the carillon tower remained a priority with Walter N. Maguire, the building committee chair and many others in the congregation. When Harrison returned to the project, the tower

[134] Wolf Von Eckhardt, "The Final Question: A Lay Report on Harrison's Stamford Church," *AIA Journal* 31 (June 1959): 38–39.

[135] Arthur Drexler and Wilder Green, *Four New Buildings, Architecture and Imagery: Museum of Modern Art Bulletin*: 26: 2, 1959.

[136] Ada Louise Huxtable, "Four Model Buildings Under Museum Review: Experimental Styles in Architecture at the Museum of Modern Art," *New York Times,* February 15, 1959.

[137] Ada Louise Huxtable, "Ten Buildings That Say Today" *New York Times*, May 24, 1959, 10, 34, 35. Her selection included the Pirelli Tower in Milan and Rome Sports Arena by Pier Luigi Nervi, American Embassy in New Delhi by Edward Durrell Stone, Iglesia Navarte in Mexico City by Felix Candela, the Guggenheim Museum in New York by Frank Lloyd Wright, the Yale Hockey Stadium in New Haven by Eero Saarinen, the Mutual Fire Insurance Building outside Hartford by Sherwood Mills & Smith, the Seagram Building in new York by Mies van der Rohe and Philip Johnson, and the American Concrete Institute in Detroit by Yamasaki & Leinweber.

[138] "Sale of Church Being Delayed By Presbyterians," *Stamford Advocate*, February 10, 1956.

[139] Clipping from unidentified publication, c1953 [WKH papers, Avery Library].

[140] David Anderson, "Glass is Stressed in Church Design," *New York Times*, July 5, 1954.

returned to a free-standing structure sited where intended in 1953. Harrison and Maguire appear to have moved toward a simpler concept suggesting a two-stage steeple. Undated presentation drawings depict four inward inclined piers surmounted by a slender kite-shaped spire. The lower stage, carrying the bells, is heavily screened by a random grid of structural cross ties and short vertical members.[141] In October 1962, Maguire sent Harrison a published photograph of *Primordial Figure* (1947–48), a work by American sculptor Richard Lippold (1915–2002) recently acquired by the Whitney Museum of American Art.[142] Fastened to the page was a note: "The attached suggests lines that might be incorporated into the tower design. WNM" The sculpture was a delicate six-sided, pulvinated form similar to the shape of the 1953 tower scheme outlined in wire. Harrison sketched out several sheets of rough ideas [Fig. 11c] exploring the Lippold form to the outer tower profile as well as to an interior core within his earlier four-pier concept.[143] The later was further simplified to the solution depicted in the construction drawings generated in January, 1966.[144] Construction of the tower started in 1967. It was dedicated in June 1968.[145]

Ammann & Whitney were the tower's structural engineers. Best known for pioneering bridge design, they had also been part of Harrison's team at Lincoln Center. Dr. Arthur Lynds Bigelow (1910–1967), a published authority on carillons and Bellmaster at Princeton University, designed First Presbyterian's new instrument as one of his last projects. [146]

Conclusion

First Presbyterian Church is nationally significant as one of the most important works by renowned architect

Wallace K. Harrison. The property's high-profile design introduced new inclined folded plate precast concrete and *dalle de verre* technologies to American ecclesiastical buildings. The sanctuary interior continues to provide religious and secular visitors with a unique, deeply moving architectural experience. In the words of one scholar, "First Presbyterian is one of the great churches of our time: moreover, it stands for that tradition of nontradition which marked those distinct and glorious steps of Christian architecture from Early Christian and the Byzantine, to the Romanesque, the Gothic, the Renaissance, the Baroque, and the Colonial, each of which searched for architectural answers reflective of its own ethos and each of which was unabashedly 'modern' for its time."[147]

[141] Harrison and Abramovitz,, "Job D7T, Bell Tower Elevation," nd. [1981.001.01405, 1981.001.01407, 1981.001.01408, WKH papers, Avery Library].

[142] Walter N. Maguire, "Oct 8 62 Presb Church Bldg," typescript fastened to magazine clipping [WKH papers, Avery Library]. Lippold's work included geometric wire sculptures and site-specific installations. His *Orpheus and Apollo* (1962), commissioned by Harrison's partner Max Abramovitz for the lobby of Avery Fisher Hall, was being installed at the time of Maguire's note.

[143] [Wallace K. Harrison], [bell tower sketches in pen and marker]," nd. [1989.003..00281 through 1989.003.00289, WKH papers, Avery Library].

[144] Harrison and Abramovitz, Architects, "Elevations-Sections-Plans, First Presbyterian Church Carrillon Tower, Stamford – Connecticut," Sheet 2, January 28, 1966. [WKH papers, Avery Library]

[145] "Maguire Carillon Tower Dedication Set Tomorrow at 1st Presbyterian Church," *Stamford Advocate*, June 15, 1968.

[146] *Service Dedication: Maguire Memorial Carillon Tower, First Presbyterian Church, Stamford, CT, June 16, 1968,* brochure, privately printed, 1968*;* Barton, *Presbyterian Church*, 46–50.

[147] G. E. Kidder, *The Beacon Guide to New England Houses of Worship* (Boston: Beacon Press, 1989), 32.

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Previous documentation on file (NPS):

__ Preliminary Determination of Individual Listing (36 CFR 67) has been requested.
__ Previously Listed in the National Register.
__ Previously Determined Eligible by the National Register.
__ Designated a National Historic Landmark.
__ Recorded by Historic American Buildings Survey: #
__ Recorded by Historic American Engineering Record: #

Primary Location of Additional Data:

__ State Historic Preservation Office
__ Other State Agency
__ Federal Agency
__ Local Government
_X_ University: Avery Library, Columbia University, New York, New York
__ Other (Specify Repository):

10. GEOGRAPHICAL REFERENCES

Acreage of Property: 6.5804 acres

UTM References:	Zone	Easting	Northing
1	18	622780	4546810

Verbal Boundary Description: The boundary corresponds to the City of Stamford tax parcel 9464, block 115, lot 223–A. The irregular polygonal-shaped parcel measures about 741 feet long on a gently curved line following Bedford Street along its west edge, 280 feet on a straight line along its south edge, 625 feet in cumulative length on a staggered line along its east edge, and 539 feet long on a straight line along its north edge.

Boundary Justification: The boundaries include the resources that have historically been part of the First Presbyterian Church and which maintain historic integrity. A portion of the historic lot to the northeast of the church is not included because of redevelopment of that parcel in 2014.

11. FORM PREPARED BY

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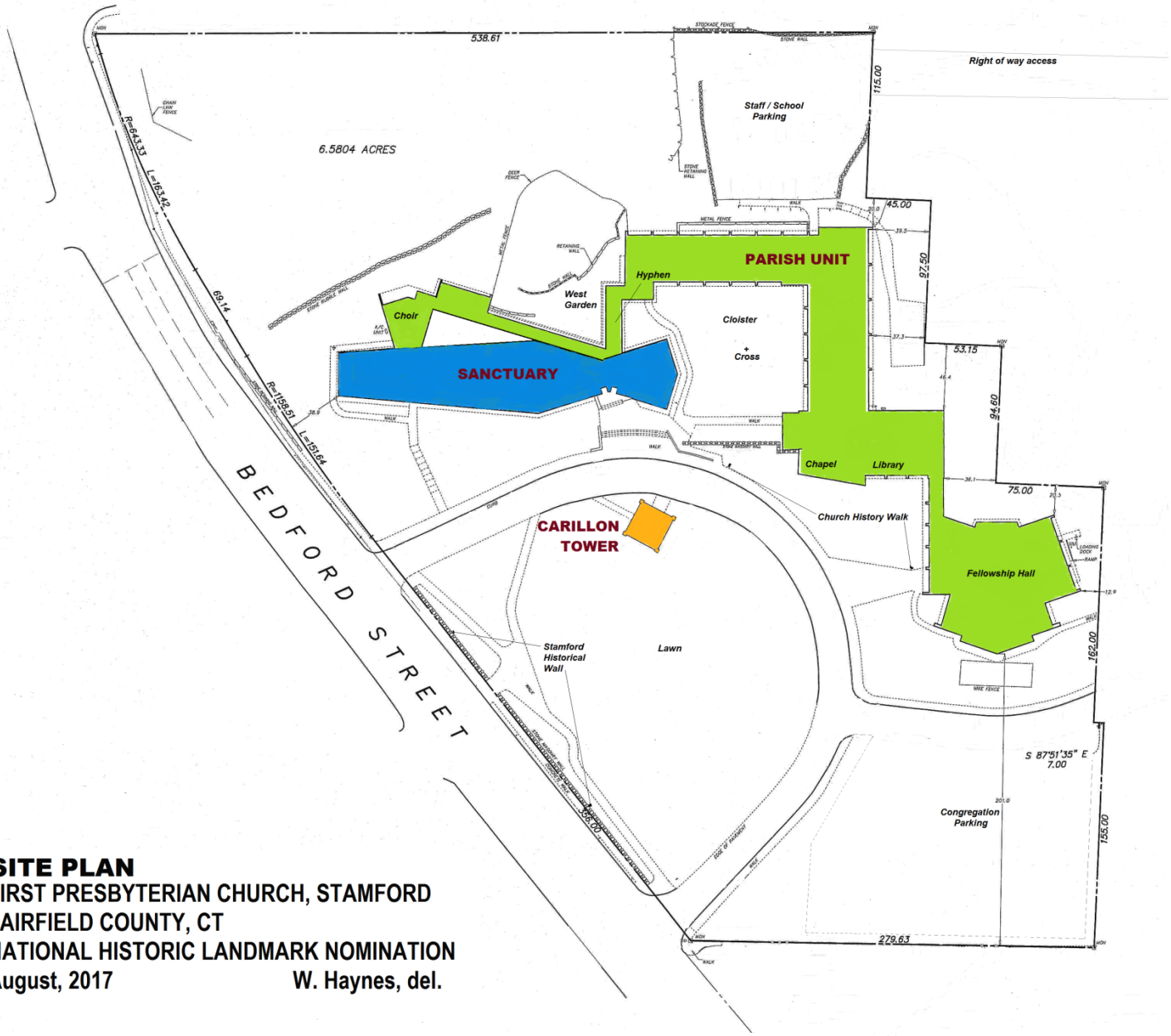
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NATIONAL HISTORIC LANDMARKS SURVEY
January 13, 2021

First Presbyterian Church
Stamford, Connecticut
USGS Map



Stamford Quadrangle
7.5 Minute Series
1:24,000
Datum: NAD83



SITE PLAN
FIRST PRESBYTERIAN CHURCH, STAMFORD
FAIRFIELD COUNTY, CT
NATIONAL HISTORIC LANDMARK NOMINATION
August, 2017 W. Haynes, del.

Source: Rocco V. D'Andrea, Inc., "Subdivision Map of Property at 1101 Bedford Street in Stamford, CT for First Presbyterian Church of Stamford," rev. to Feb. 17, 2017.

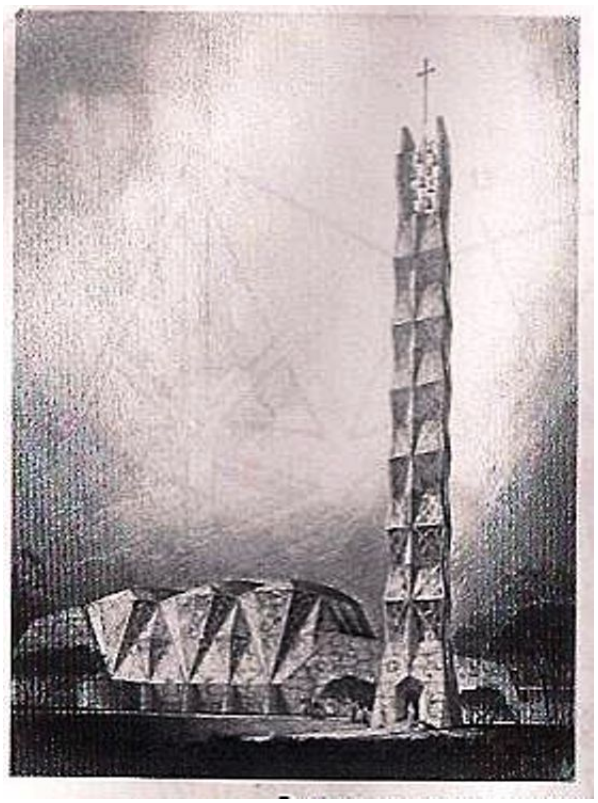


Figure 1: First Presbyterian Church, City of Stamford, Fairfield County, Connecticut
Sanctuary and carillon tower, unbuilt 1953 scheme, exterior view toward NW
Harrison & Abramovitz, published *Architectural Forum* 99, no. 6 (December 1953): 92–94.
Courtesy Wallace K. Harrison Papers, Avery Library, Columbia University

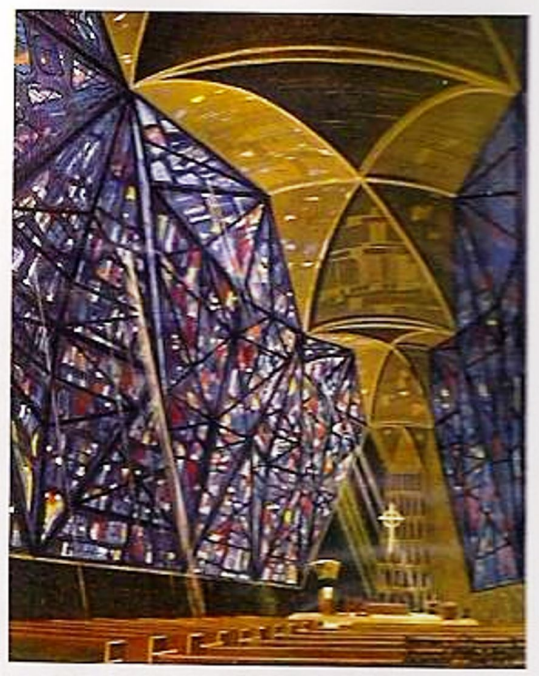


Figure 2: First Presbyterian Church, City of Stamford, Fairfield County, Connecticut
Sanctuary, unbuilt 1953 scheme, interior view toward SW from rear of nave to chancel
Harrison & Abramovitz, published *Architectural Forum* 99, no. 6 (December 1953): 92–94.
Courtesy Wallace K. Harrison Papers, Avery Library, Columbia University

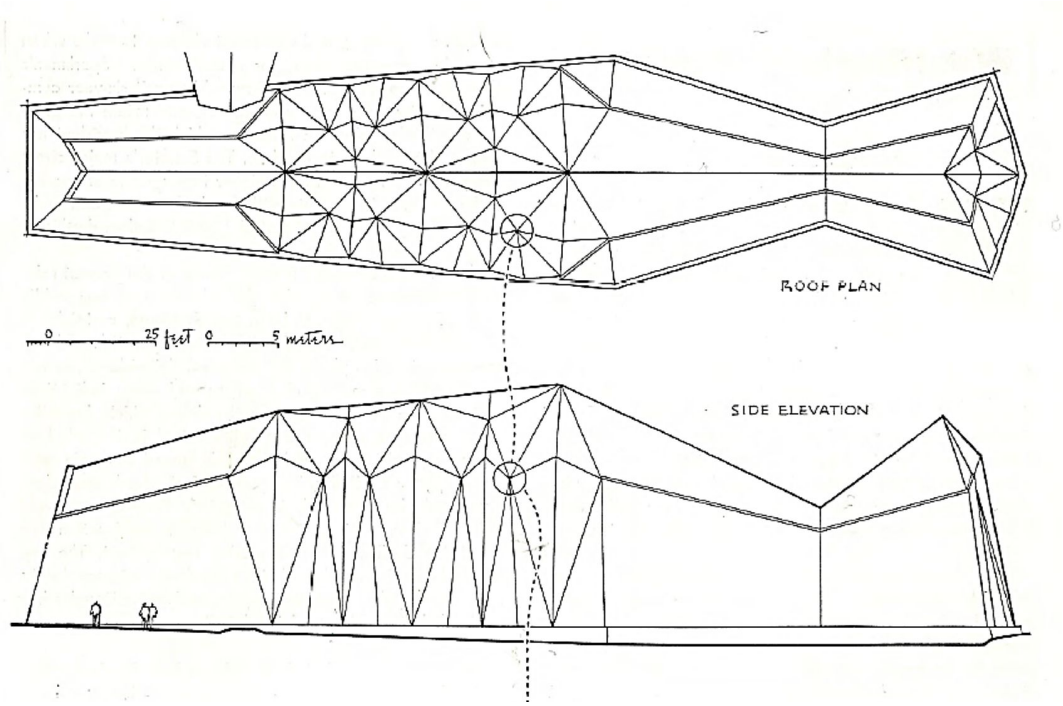


Figure 3: First Presbyterian Church Sanctuary, roof plan and side (south) elevation, sketch of final design without portal published in "P/A News Survey: Precast-concrete facets enclose piscine-form sanctuary," *Progressive Architecture* (April 1958): 107. Courtesy Wallace K. Harrison Papers, Avery Library, Columbia University

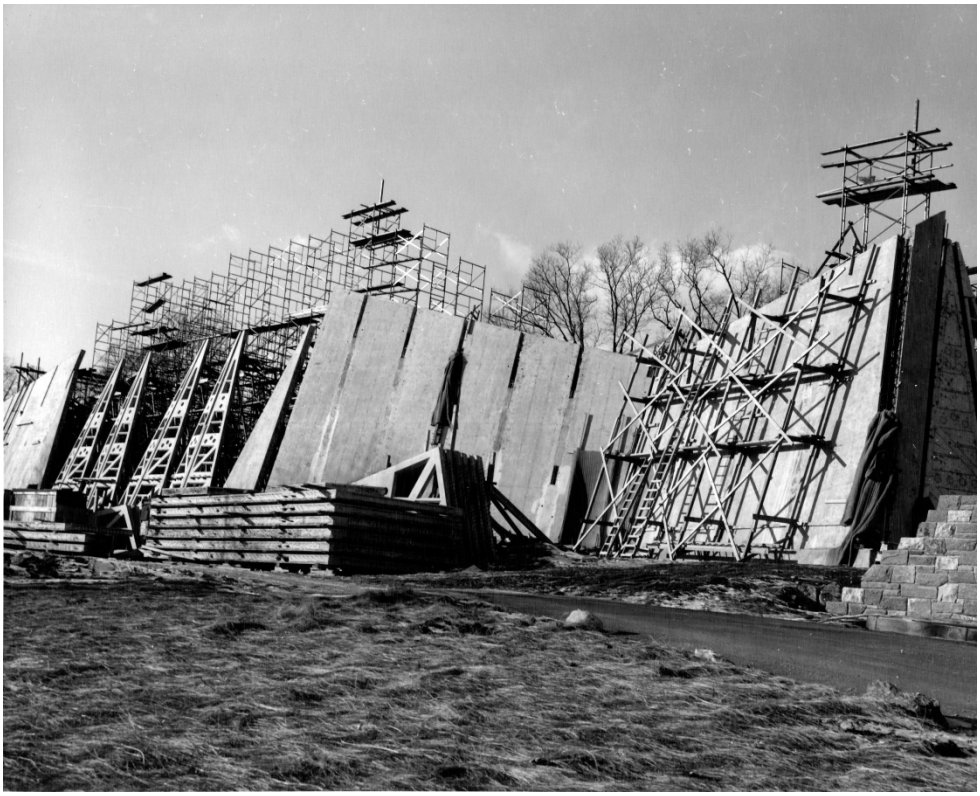


Figure 4: Sanctuary, south elevation, claustra panels under construction, camera facing NW
Photograph DeLuca Construction, 1957
Courtesy DeLuca Construction, Stamford, Connecticut



Figure 5: Sanctuary and parish unit (before tower construction), aerial view toward N
Photograph DeLuca Construction, May 1966
Courtesy DeLuca Construction, Stamford, Connecticut



Figure 6: Sanctuary, south and east elevations, camera facing NW
Photographer Robert Gregson, ca. 2013



Figure 7: Sanctuary, south elevations, entrance portal, camera facing N
Photographer Wes Haynes, 2016



Figure 8: Sanctuary, detail of claustra wall, south elevation, view up and toward NE
Photographer Robert Gregson, ca. 2013

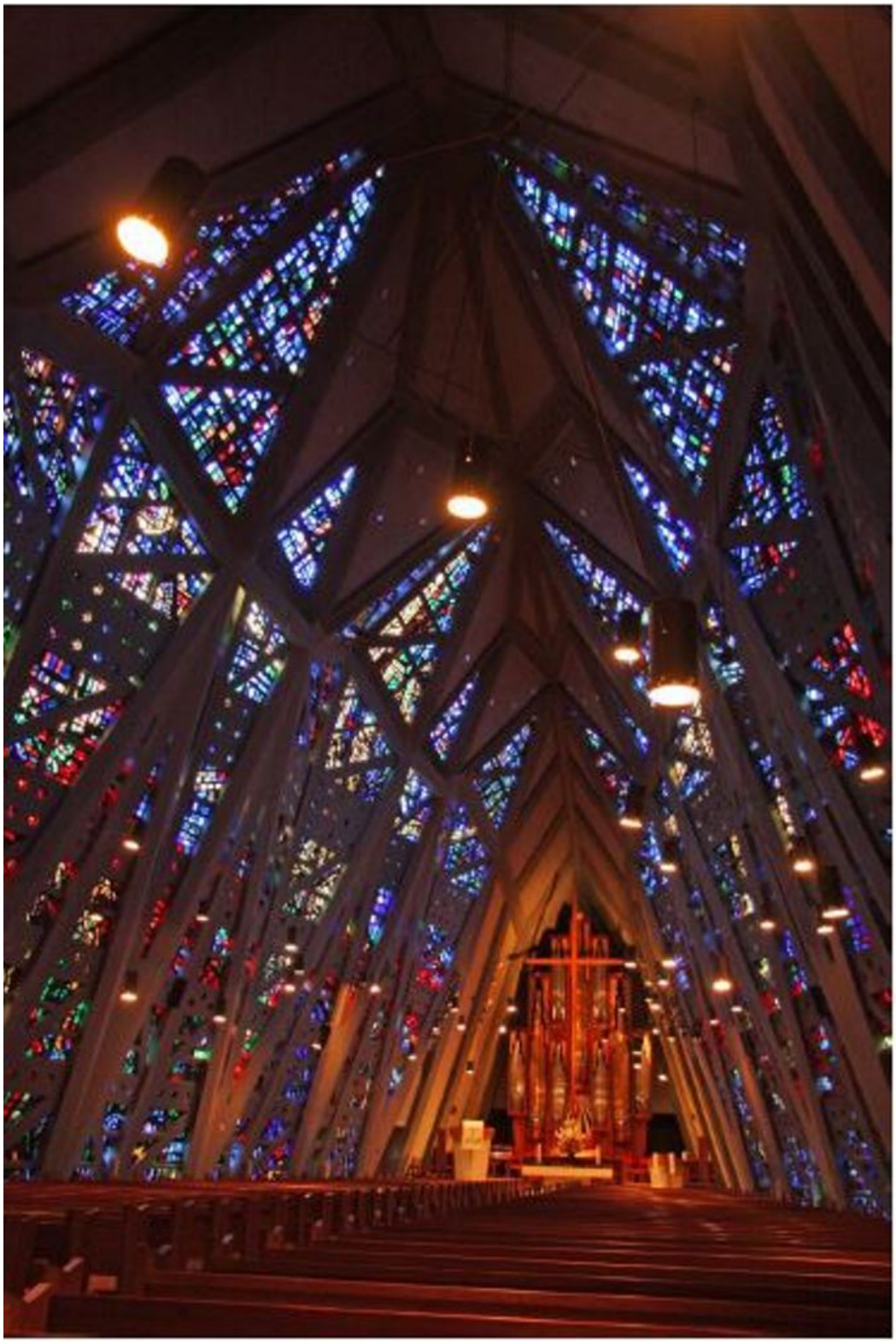


Figure 9: Sanctuary, interior, camera facing SW through nave to chancel
Photographer Robert Gregson, ca. 2013

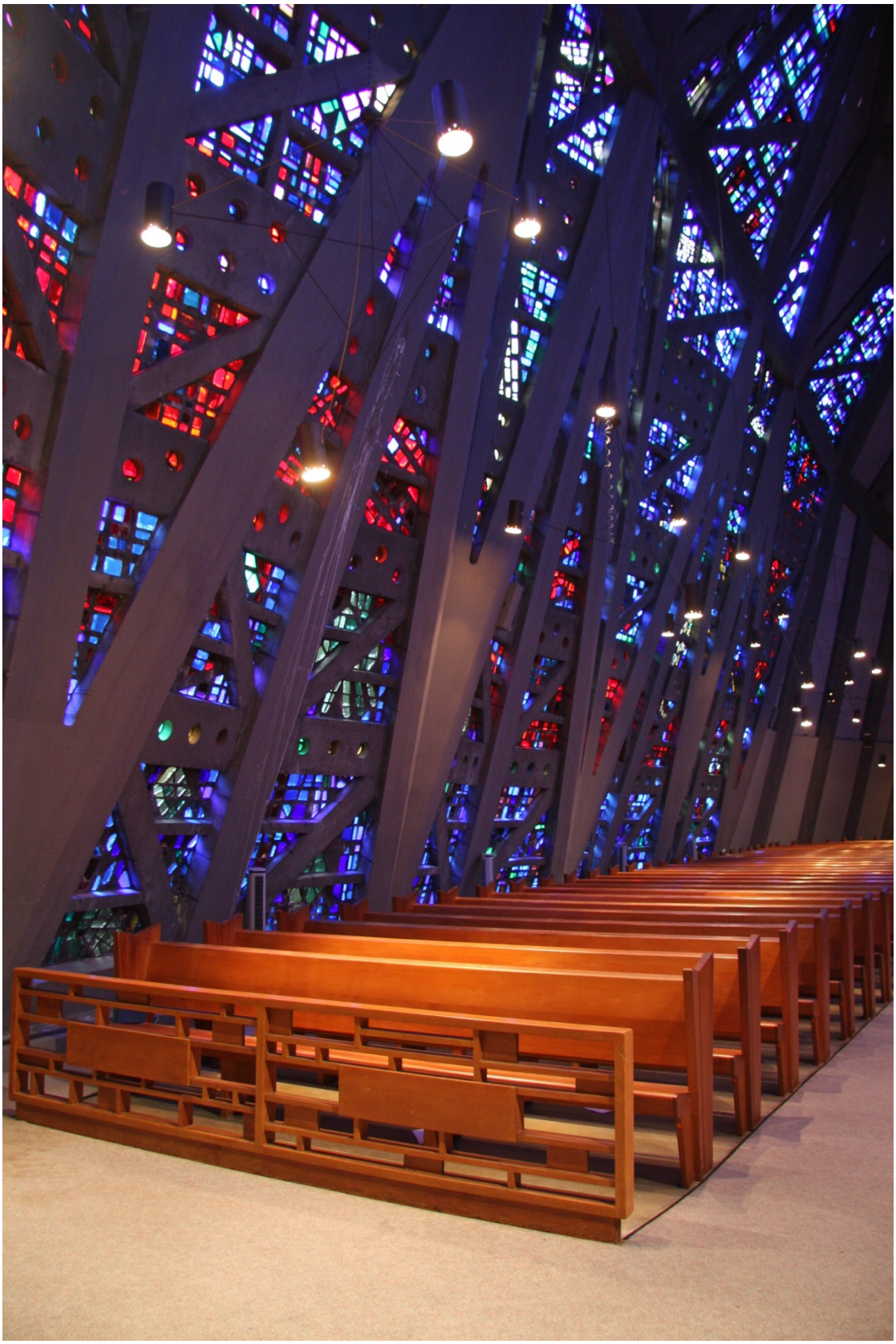


Figure 10: Sanctuary, interior, detail S claustra wall, view from center aisle toward SW
Photographer Robert Gregson, ca. 2013



Figure 11 (L): Sanctuary detail of original *dalle de verre* in north claustra wall
Photographer Jane Love, 2016



Figure 12 (R): Sanctuary detail of *dalle de verre* in east claustra wall showing drawing of Christ by Harrison
Photographer Robert Gregson, ca. 2013.

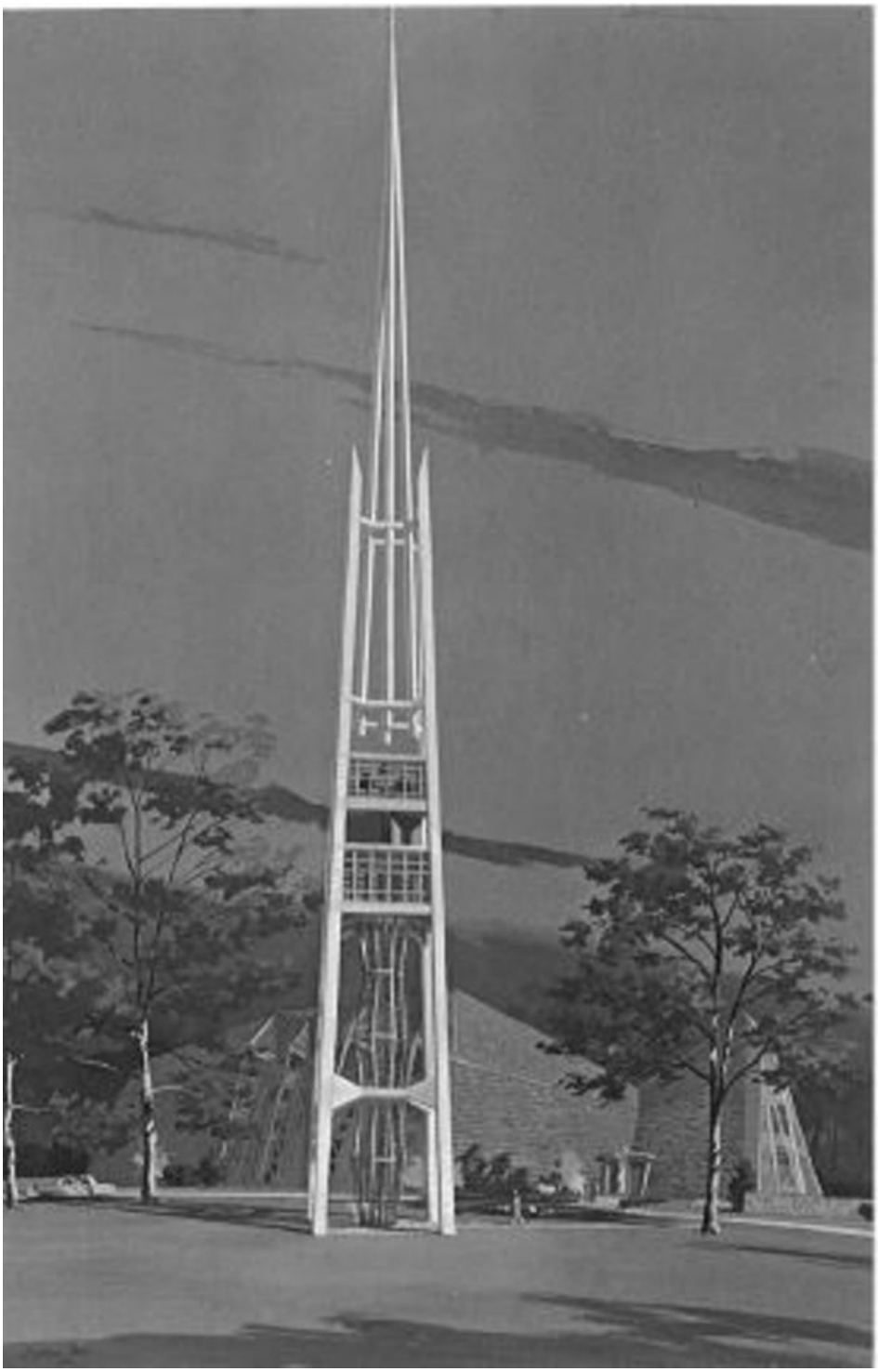


Figure 13: Carillon tower, architect's presentation drawing, view toward N
Harrison & Abramovitz, delineator, ca. 1966
Courtesy Wallace K. Harrison Papers, Avery Library, Columbia University



Figure 14: Sanctuary, east elevation and carillon tower, camera facing SW from cloister
Photographer Robert Gregson, ca. 2013



Figure 15: Sanctuary, East elevations; parish unit, south elevations of cloister wing and east elevation of hyphen passage, camera facing W within cloister
Photographer Wes Haynes, 2016



Figure 16: South and west elevations of parish unit cloister wings, camera facing NE within cloister
Photographer Wes Haynes, 2016



Figure 17: South elevation of Fellowship Hall, camera facing N from parking lot
Photographer Wes Haynes, 2016



Figure 19: Parish unit, interior of hyphen passage, camera facing N from sanctuary narthex
Photographer Wes Haynes, 2016



Figure 20: Parish unit, interior of chapel, view toward east
Photographer Wes Haynes, 2016



Figure 21: Parish unit, interior of Fellowship Hall, camera facing NW
Photographer Wes Haynes, 2016