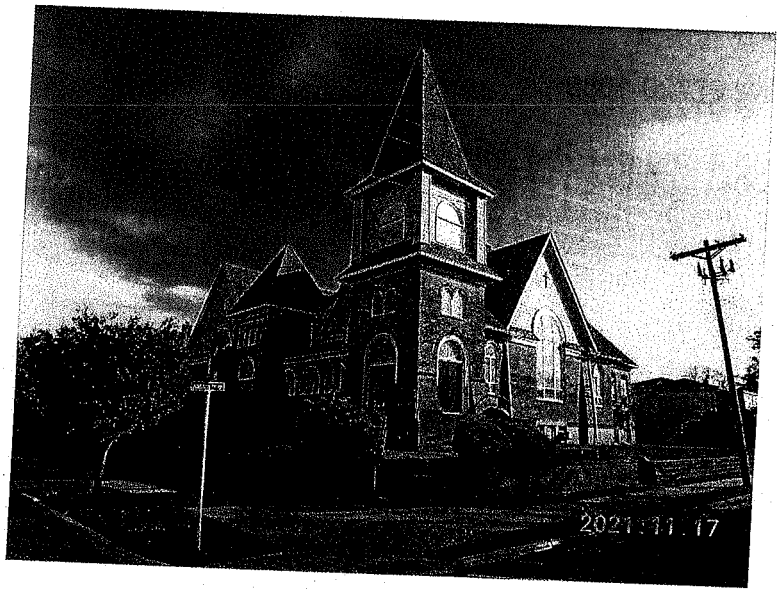
Structural Assessment

First United Methodist Church
319 LaReine Avenue
Bradley Beach, NJ 07720



OWNER
Borough of Bradley Beach
701 Main Street
Bradley Beach, NJ 07720-1089

Prepared by:
T&M Associates, Inc.
Middletown, NJ

February 2022

YOUR GOALS. OUR MISSION.

February 16, 2022

BRAD-00973

Kimberly M. Humphrey
Borough Administrator, QPA
Borough of Bradley Beach
701 Main Street
Bradley Beach, NJ 07720-1089

RE: Professional Engineering Services for the
Structural Assessment of the First United Methodist Church
319 LaReine Ave., Bradley Beach, NJ

Dear Ms. Humphrey:

In accordance with the terms of the referenced agreement, we are pleased to submit 1 copy of the Draft Structural Assessment Report.

The thoroughness and accuracy of all work on this project has been ensured by independent quality control by our senior technical and management staff.

Very truly yours,
T&M ASSOCIATES

MATTHEW WAGNER, PE
DEPARTMENT MANAGER

MW:jrg
Enclosures

T&M ASSOCIATES, 11 Tindall Road, Middletown, NJ 07748 P 732.671.6400 F 732.671.7365 W tandmassociates.com

EXECUTIVE SUMMARY

T&M Associates performed a structural assessment of the former First United Methodist Church at 319 LaReine Avenue in Bradley Beach, New Jersey from October to December of 2021. The purpose of the inspection was to determine the overall structural condition of the building and to identify structural deficiencies. Additionally, recommendations were developed to correct the structural deficiencies found. The survey included the church and the gymnasium but did not include the rectory building located at the northeast corner of the property.

The overall structural condition of the former First United Methodist Church at 319 LaReine Avenue is fair.

There are 8 Priority Repairs recommended at 21 locations, and 30 Routine Repairs recommended at 144 locations in this report.

The engineering assessment used to determine the overall condition rating, and to recommend repairs, was based on the deficiencies found at the time of the inspection.

This report contains conclusions concerning the causes of the noted deterioration and recommendations for rehabilitation of the structures. The repair procedures contained in the recommendation section of the report outline the general extent of the required rehabilitation work. The presentation of the conceptual repairs does not preclude the necessity of performing further investigation and preliminary design work for the purpose of establishing the complete scope of work and the final rehabilitation design.

Additionally, T&M inspected the connection between the gymnasium and the main building to determine if there will be any detrimental impacts or concerns with removing the gym structure and how it relates to the remaining building. A detailed statement, representative photos and sketches are included in Appendix B of this report.

The following page summarizes the estimated structural costs, organized by the respective CSI Division. These costs include all items listed as deficiencies in this report, as well as additional structural items required to support the other disciplines. Appendix A of this report breaks down the costs of each repair item, including an organized cost summary consistent with the repair item tables shown in Chapter 1 of this report. As a result of coordination with architectural, mechanical, electrical, and plumbing after the conclusion of the structural field inspection, some items noted as deficiencies herein will have no cost for repair as they are incidental and will be eliminated due to the proposed work of the other disciplines. For completeness and transparency, they were not removed from this report.

Note - Building Vacancy: Through T&M's investigation of the building, and in coordination with the International Masonry Institute (IMI) and Harrison-Hamnett, P.C., it should be noted that the continued vacancy of the building is concerning. The absence of internal building heat will exacerbate freeze/thaw cycles resulting in even further deterioration of structural building elements, most notably the foundation walls.

BOROUGH OF BRADLEY BEACH

STRUCTURAL ASSESSMENT - 319 LaREINE AVENUE (FIRST UNITED METHODIST CHURCH)

COST ESTIMATE SUMMARY (BY CSI DIVISION)

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	ITEM TOTAL	DIVISION TOTAL	
Division 02 - Existing Conditions						
Concrete Stairs - Remove	100	SF	$ 81	$ 8,100		R28
Chimney - Remove	90	CF	$ 69	$ 6,210		R30
Division Total					$ 14,310	
Division 03 - Concrete						
Timber Floor System - Remove & Install Slab	1,600	SF	$ 26	$ 41,600		P7
Concrete Floor Slab - Replace	750	SF	$ 26	$ 19,500		R10
Division Total					$ 61,100	
Division 04 - Masonry						
Brick Masonry Foundation Wall - Repair	250	LF	$ 300	$ 75,000		P1
Brick Masonry Pier - Rebuild	4	UN	$ 12,570	$ 50,280		P2
Brick Masonry Interior Load Bearing Wall - Repair & Repoint	10	SF	$ 111	$ 1,110		P3
Cinder Block Exterior Load Bearing Wall - Rebuild	2,350	SF	$ 45	$ 105,750		P4
Brick Masonry Load Bearing Wall - Repair & Repoint	900	SF	$ 68	$ 61,200		R1
Parge Coat over Brick Masonry Foundation Wall - Repair	5	SF	$ 229	$ 1,145		R2
Parge Coat over Cinder Block Exterior Wall - Repair	50	SF	$ 148	$ 7,400		R3
Brick Masonry Facade - Repoint	3,300	SF	$ 54	$ 178,200		R4
Brick Masonry Header - Reset & Repoint	35	SF	$ 147	$ 5,145		R5
Stone Masonry Window Sills - Reset & Repoint	70	LF	$ 181	$ 12,670		R6
Division Total					$ 497,900	
Division 05 - Metals						
Lintel - Install	4	LF	$ 505	$ 2,020		P8
Steel Framing - Clean and Paint	325	LF	$ 30	$ 9,750		R7
Steel Lintel - Clean and Paint	30	LF	$ 112	$ 3,360		R8
Lintel - Install	15	LF	$ 544	$ 8,160		R9
Timber Column - Replace	1	LS	$ 4,079	$ 4,079		R13
Division Total					$ 27,369	
Division 06 - Woods, Plastics, Composites						
Plaster with Wire Lathe over Timber Framed Exterior Walls - Rebuild	800	SF	$ 42.00	$ 33,600		P5
Timber Framing - Repair	450	SF	$ 109	$ 49,050		P6
Timber Framing - Replace	80	LF	$ 149	$ 11,920		R11
Timber Roof Beam - Repair	75	LF	$ 77	$ 5,775		R12
Timber Floor Planks - Replace	280	SF	$ 13	$ 3,640		R14
Skylight - Infill	2	UN	$ 3,123	$ 6,246		R24
Timber Stairs - Replace	1	LS	$ 5,880	$ 5,880		R29
Timber Roof Sheathing - Replace	2,220	SF	$ 3	$ 6,660		X1.1
Timber Fascia, Soffits, and Frieze Boards - Replace	650	LF	$ 3	$ 1,950		X2.1
Division Total					$ 124,721	
Division 07 - Thermal & Moisture Protection						
Open Building Envelope - Repair	15	SF	$ 141	$ 2,115		R19
Open Building Envelope - Seal Penetration	1	UN	$ 669	$ 669		R20
Sheet Metal Roof Return - Replace	2	UN	$ 7,500	$ 15,000		R23
Division Total					$ 17,784	
Division 08 - Openings						
Window and Window Frames - Replace	33	UN	$ 1,410	$ 46,530		R15
Window and Window Frame - Partial Infill & Replace	5	UN	$ 2,194	$ 10,970		R16
Stained Glass Windows - Restore	32	UN	$ 14,629	$ 468,128		R17
Doors and Door Frames - Replace & Restore	8	UN	$ 5,644	$ 45,152		R18
Division Total					$ 570,780	
Division 22 - Plumbing						
Roof Drain - Install Scuppers	2	UN	$ 1,926	$ 3,852		R22

ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	ITEM TOTAL	DIVISION TOTAL	
Division Total						
Division 32 - Exterior Improvements					$ 3,852	
Retaining Wall - Repoint	265	SF	$ 39	$ 10,335		R25
Retaining Wall - Rebuild	240	SF	$ 79	$ 18,960		R26
Concrete Sidewalk - Replace	40	SF	$ 130	$ 5,200		R27
Division Total					$ 34,495	
CONSTRUCTION BUDGET SUB-TOTAL					**$ 1,352,311**	
Division 1 General Requirements				12%	$ 162,277	
Bonds & Insurance				5%	$ 67,616	
Permits				5%	$ 67,616	
CONSTRUCTION BUDGET TOTAL					**$ 1,649,819**	
Other Costs						
Contingency				15%	$ 247,473	
Engineering				20%	$ 329,964	
				SubTotal	**$ 2,227,256**	
Escalation				1%	$ 22,273	
PROJECT BUDGET TOTAL					**$ 2,250,000**	

General Notes:

1. This estimate is an engineering opinion of costs and is not a cost warranty/guarantee.
2. The estimate doesn't include Overtime, Premium time or Police Fee.
3. This estimate is based on the findings recorded during field inspection.

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PLAN NORTH

TRUE NORTH

FIRST UNITED METHODIST CHURCH
BRADLEY BEACH, NJ

NO.	BY	REVISIONS	DATE

BOROUGH OF BRADLEY BEACH

319 LAREINE AVENUE - FUMC

STRUCTURAL ASSESSMENT

BRADLEY BEACH, MONMOUTH COUNTY, NEW JERSEY

LOCATION PLAN

T AND M
YOUR GOALS. OUR MISSION.
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DESIGNED BY	JRG	
CHECKED BY	SG	
DRAWN BY	DL	DRAWING
DATE	02/11/2022	LP-1
SCALE	AS NOTED	
PROJ. NO.	BRAD00973	

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SCOPE OF WORK AND INSPECTION PROCEDURE

Scope of Work

T&M Associates performed a structural assessment of the former First United Methodist Church at 319 LaReine Avenue in Bradley Beach, New Jersey from October to December of 2021. The purpose of the inspection was to determine the overall structural condition of the building and to identify structural deficiencies. Additionally, recommendations were developed to correct the structural deficiencies found. The survey included the church and the gymnasium but did not include the rectory building located at the northeast corner of the property.

The survey was completed in accordance with the following:

Structural Framing: 100% visual inspection of unobstructed structural building framing and foundations. Hands-on inspections are performed by the inspection team for elements that are determined to require closer observation.

Facade: 100% visual inspection of unobstructed structural and architectural facade elements that pose a safety risk or impediment to the continued functioning of the buildings' structural components. Hands-on inspections are performed by the inspection team for elements that are determined to require closer observation.

Roof: 100% visual inspection of the roof membrane and for detached/partially detached elements that pose a safety risk or impediment to the continued functioning of the buildings' structural components. Hands-on inspections are performed by the inspection team for elements that are determined to require closer observation.

Inspection Procedure

The following procedures and/or methods were used to complete the inspection:

- The structural assessment was conducted by a team of 2 inspectors, led by a team leader who is a Professional Engineer licensed in the State of New Jersey.
- The buildings' facades and roofs were examined using binoculars from vantage points at ground level and where applicable, from the buildings' lower roofs. Ladders were also used to obtain hands-on examinations where required.
- The interstitial space between the sanctuary ceilings and roof framing was accessed via the two towers along the northern side of the building. Within those towers were access points into the space which allowed for inspection of the underside of roof framing.
- The buildings' roofs were accessed via portable extension ladders. The gym roof was accessed from windows at the second level office space.
- Various probes were performed throughout the building with the assistance of a local contractor. The purpose of the probes was to determine existing construction and further observe areas of suspected deterioration. Locations included the gym cinder block wall, the church basement brick masonry foundation wall, the gym steel framing, the gym floor framing and slab, the stage timber stud walls, the Shepherd's Room timber stud wall, the lobby ceiling, and the pantry ceiling.
- Typical, hand-carried examination equipment utilized included hammers, screw drivers, 5x optical zoom digital cameras, 7x power binoculars, tape measures and flashlights. Deficiencies observed were photographed and recorded on inspection forms.
- Field notes were recorded on office-prepared inspection forms and drawings, which were based on drawings provided by the Borough of Bradley Beach and updated for current site conditions. Sketches were developed in the field as necessary. Photos were taken of significant and typical deficiencies, as well as representative views at the various inspection areas.

SCOPE OF WORK AND INSPECTION PROCEDURE (continued)

A. DEFINITIONS OF INSPECTION CATEGORIES

Hands-on Inspection	Close-up inspection from no farther away than arm's length where the member or element can be physically touched.
Visual Inspection	The inspection from a reasonable distance to a member or element where initial determination of the condition can be made.

B. DEFINITIONS OF DEFICIENCY CATEGORIES

Three categories of deficiencies are identified and defined as follows:

Priority	Conditions for which no immediate action may be required or for which immediate action has been completed, but further investigations, design and implementation of interim or long-term repairs should be undertaken on a priority basis (i.e., taking precedence over all other scheduled work).
Routine	Conditions requiring further investigation or remedial work, which can be undertaken as part of a scheduled maintenance program, other scheduled project, or routine facility maintenance, depending on the action required.
Finding with No Recommendation	Conditions of which the severity is not significant enough to warrant a repair, but rather should be monitored on cyclical basis to determine if the condition is progressing or remaining unchanged. Progression of the condition could warrant a Priority type condition.

C. RATING CRITERIA

Terms used to describe the condition of a building structural system or component are listed and defined below. When the term is applied to an overall structure or system, this does not indicate that all of the elements of the structure or system are in the same condition.

Excellent	"As New" Condition
Good	The structure system is sound and performing its function, although it shows signs of wear and may require some minor repairs, mostly routine.
Fair	The structure system is still performing adequately at this time, but needs "priority" and/or "routine" repair to prevent future deterioration and to restore it to good condition.
Poor	The structure system cannot be relied upon to continue to perform its original function without immediate and/or "priority" repair.

1.0 319 LaReine Avenue – First United Methodist Church

1.1 Building Description

319 LaReine Avenue, previously known as the First United Methodist Church, is located at the southeast corner of the intersection of LaReine Avenue and Madison Avenue in Bradley Beach, NJ. Constructed in 1900, the building generally consists of two large sanctuary rooms, two towers (vestibules), a gymnasium, and two stories of office type floor space. The 45 ft. tall building is rectangular shaped with overall plan dimensions of 125 ft. long by 100 ft. wide and contains 19,000 square feet of floor area. The building is currently unoccupied

It is understood that the Gymnasium portion of the building was built as an addition to the original church. Through review of historic aerials, it appears that the gym was built prior to the 1940s. However, its exact year of construction is unknown. The two-story office space structure appears to be an infill between the original church structure and the gymnasium addition and is assumed to be built at the time of the Gymnasium addition.

The roof construction over the original church structure, which includes the Main Sanctuary and Shepherd's Room, consists of 1" thick timber roof planks over timber roof beams. The roof beams are mostly 2x10s, but some other sizes exist. The roof type is a series of intersecting hips and gables with valleys. The arched and domed architectural ceilings over the Sanctuary and Shepherd's Room are supported by the roof framing, exterior walls, and interior columns of the Main Sanctuary. These ceilings create an interstitial space over majority of the church.

Generally, the exterior walls of the original church structure are 2x10 timber studs which bear on a timber sill plate mounted to the top of the brick masonry foundation walls. Timber plank sheathing runs across the exterior face of the studs with one wythe of brick masonry veneer against the planks. The interior wall finish of the exterior walls is plaster with wire lathe applied to timber furring strips secured to the studs.

The lower level of the original church structure has a concrete floor slab within the mechanical room, kitchen, and pantry areas. However, the concrete slab ends before Fellowship Hall. The floor system within Fellowship Hall is constructed directly on grade (soil). Additionally, the surface within the crawl space is soil as well.

For additional information regarding the brick masonry foundation walls and veneer see Appendix C.

Main Sanctuary

The Main Sanctuary, also known as "Sanctuary", is located at the northwest portion of the building. The floor is constructed in a manner which creates a parabolic shape, like a satellite dish. This creates a focal point at the altar for those seated in the pews. There is a large dome ceiling centered over the floor space.

The floor framing is 2x12 timber beams, sloping from north to south, spaced in a radial manner to create the floor shape. The floor beams are supported on brick masonry foundation walls, brick masonry interior load bearing walls, and built-up timber girders. The built-up girders consist of multiple plies of timber and are curved to match the curved shape of the dome ceiling over the Main Sanctuary above. This allows for the columns supporting the dome ceiling to bear on the timber girder. The timber girder is supported by round steel columns at the lower level and the exterior brick masonry foundation wall.

There is some interstitial floor space near the altar, which creates the step up to the altar and houses the organ components. There is interstitial space between the dome ceiling and the roof framing.

Shepherd's Room

The Shepherd's Room is located directly east of the Main Sanctuary at the northeast corner of the building. The floor is flat (horizontal), unlike the Main Sanctuary. There is an architectural ceiling consisting of a center dome and intersecting arches, like that of the Main Sanctuary.

The first floor of the office area is located between the north side of the gym and the south side of the Shepherd's Room. The second floor of the office area provides access to a balcony area over the southern end of the Shepherd's Room.

Below the Shepherd's Room is Fellowship Hall which contains a continuous architectural tin ceiling. The ceiling conceals the framing under the Shepherd's room. However, it is expected that the framing spans in the east to west direction and is supported on the east foundation wall, a girder near the centerline of Fellowship Hall (along Grid 3) and then on an interior brick masonry wall (along Grid 4). Although concealed by architectural finish, it is expected that a girder is supported by the columns within Fellowship Hall.

Gymnasium

The Gymnasium is located at the southern portion of the building. The gym floor exists at the same elevation as the lower level (basement) of the church, which is approximately 4 feet below existing grade.

The floor system consists of hardwood planks over 1" thick timber planks. The timber planks span across 2x3 timber stringers which are secured to cinder blocks supported by a 2.5" to 3" thick unreinforced concrete slab. The roof framing consists of timber planks over 2x10 timber roof beams supported by steel W-shape roof girders and exterior cinder block walls. The steel roof girders frame into steel W-shape columns. The exterior walls of the gymnasium are hollow unreinforced cinder block walls. Along the southern wall of the gym there is an extension for a stage area. This extension consists of 2x4 timber framed walls with timber plank sheathing and a plaster with wire mesh exterior finish.

Towers

The Bell Tower is located at the northwest corner of the building. The other tower, referred to as the East Tower herein, is located east of the Bell Tower and just west of the northwest corner of the Shepherd's Room. At the sanctuary level, both towers are connected by a hallway referred to as "Lobby" on the floor plans. Both towers provide access to the interstitial space over the Main Sanctuary and Shepherd's Room. The Bell Tower contains an additional level which houses the church bell.

Both the Bell Tower and the East Tower are constructed of timber stud wall framing (2x8's and 2x10's). The wall framing supports the second level floor framing for both towers and the upper floor framing of the Bell Tower. The roof framing is supported by the timber stud wall framing as well. The timber stud wall framing continues all the way down to the brick masonry foundation wall. The primary bearing locations for both towers are in the 4 corners of each tower, as there are doorway openings on all 4 sides of each tower at the sanctuary level.

1.2 Inspection Findings, Conclusions and Recommendations

Overall Condition
The overall structural condition of the former First United Methodist Church at 319 LaReine Avenue is fair.

There are 8 Priority Repairs recommended at 21 locations, and 30 Routine Repairs recommended at 144 locations. In addition, there is 1 Finding with No Recommendation at 1 location. All findings and repair recommendations are summarized in the following tables.

Appendix C of this report explains the existing conditions of the brick masonry foundation walls and brick masonry veneer in more detail. Costs were generated to repair these items in Appendix A. However, there are alternative solutions and approaches suggested in Appendix C to resolve these items effectively and efficiently.

Recommendations for the cinder block exterior walls of the Gymnasium are based on conversations with the extended team (architectural, mechanical, etc.) and the possibly future uses of the gymnasium roof space. The expectation is the roof structure of the Gymnasium will need to support a combination HVAC equipment and/or live load for occupiable roof areas (100 psf for Occupiable Roof Assembly Areas per IBC 2018 Table 1607.1).

Important Notes and Recommendations:
It is understood that the building has been vacant since approximately 2015. Through T&M's investigation of the building, and in coordination with the International Masonry Institute (IMI) and Harrison Hamnett, P.C., it should be noted that the continued vacancy of the building is concerning. The absence of internal building heat will exacerbate freeze/thaw cycles resulting in even further deterioration of structural building elements, most notably the foundation walls.

In addition to the building vacancy, the open holes in the building envelope, which allow water to actively infiltrate the structure, will contribute towards advancing the deterioration of structural building components. Specifically, the open holes in the roof and the damaged brick masonry piers are significant areas for allowing water to infiltrate the structure.

It is our recommendation these items (building heating, open holes in building envelope) should be addressed in the near term, even if the repair is temporary.

1.0 319 LaReine Avenue - First United Methodist Church
1.3 Priority Repair Recommendations
Table 1-1

REPAIR ITEM	LOCATION	DEFICIENCIES	RECOMMENDATIONS	DWG. NO. PHOTO NO.
1	Brick Masonry Foundation Wall Lower Level - Grids A/2-7, A-E/2, A-F/7, F/5-7	Various deficiencies associated with brick masonry foundation wall including softening and spalling of brick, deteriorated mortar joints, bulging and cracking exterior parge coat. (250 LF of Wall Total)	Replace damaged bricks and repoint mortar joints. Rebuild areas of significant deterioration. Repair exterior parge coat as required. (4 Locations)	Dwg. S-1 Photos 1.11 & 1.12
2	Brick Masonry Piers North Elevation - Grid 3-4: Ht. 9' ± - Grid 5: Ht. 6' ± - Grid 6: Ht. 8' ± West Elevation - Grid B-C: Ht. 5' ±	Severely damaged and unraveling brick masonry piers supporting veneer brick. Bricks are loose and mortar joints are deteriorated and missing. (4 Piers Total)	Remove and replace masonry piers. (4 Locations)	Dwg. S-5 Photos 1.13 & 1.14 Dwg. S-8
3	Brick Masonry Interior Wall Lower Level - Grid B/5	Partially detached and missing bricks at top of load bearing brick masonry wall supporting floor beams. (10 SF Total)	Replace missing bricks and repoint partially detached bricks. (1 Location)	Dwg. S-1 Photo 1.15

1.0 319 LaReine Avenue - First United Methodist Church
1.3 Priority Repair Recommendations
Table 1-1

REPAIR ITEM	LOCATION	DEFICIENCIES	RECOMMENDATIONS	DWG. NO. PHOTO NO.
4	Cinder Block Exterior Wall South Elevation - Grid 1-5: Ht. 0'-20' ± East Elevation - Grid F-H: Ht. 0'-20' ±	Severely damaged cinder block exterior wall including wide vertical cracking, spalling, and softening of blocks. The exterior parge coat is bulging and cracking resulting in deterioration of the outer face of the blocks. Cinder block wall is unreinforced hollow block. (2350 SF Total)	Remove existing walls, temporarily support roof framing and retained soiled, install new reinforced CMU walls (and footing if required). (2 Locations)	Dwg. S-6 Photos 1.17 & 1.18 Dwg. S-7 Photo 1.16
5	Timber Exterior Walls South Elevation - Grid 1-5: Ht. 3'-18' +/- East Elevation - Grid H-I: Ht. 3'-9' +/- West Elevation - Grid H-I: Ht. 3'-9' +/-	Deteriorated and rotting timber wall framing including cracking and bulging of plaster veneer with corrosion of wire lathe. (800 SF Total)	Remove deteriorated walls, including interior and exterior wall finishes. Rebuild walls with timber framing, insulation, and finishes. (3 Locations)	Dwg. S-6 Dwg. S-7 Photos 1.19 & 1.20 Dwg. S-8

1.0 319 LaReine Avenue - First United Methodist Church
1.3 Priority Repair Recommendations
Table 1-1

REPAIR ITEM	LOCATION	DEFICIENCIES	RECOMMENDATIONS	DWG. NO. PHOTO NO.
6	Timber Framing Lower Level - Grid A/6-7, A/7 Sanctuary Level - Grids A-B/4-5, A-B/6-7 Sanctuary Framing - Grid A/6-7	Severely deteriorated and rotting timber wall studs, sill plates, floor/roof beams, floor/roof planks, and door headers which support the tower floors and roofs. Damage to framing is due to active water infiltration with up to 100% section loss observed throughout the various framing elements. (450 SF Total)	Replace and/or sister framing members. (5 Locations)	Dwg. S-1 Photo 1.21 Dwg. S-2 Dwg. S-1 Photo 1.22
7	Timber Floor System Lower Level - Grid A-E/2-4	Timber floor stringers, which bear directly on soil, and timber subfloor are severely rotting with 100% section loss. (1600 SF Total)	Remove existing floor finish and framing. Install concrete slab with underslab perimeter drainage system with sump pump. (1 Location)	Dwg. S-1 Photos 1.23 & 1.24
8	Lintel Lower Level - Grid B/6	Opening cut into brick masonry load bearing wall with no lintel resulting in unsupported brick and floor framing above. (4 LF Total)	Install lintel. (1 Location)	Dwg. S-1 Photo 1.25

1.0 319 LaReine Avenue - First United Methodist Church
1.4 Routine Repair Recommendations
Table 1-2

REPAIR ITEM	LOCATION	DEFICIENCIES	RECOMMENDATIONS	DWG. NO. PHOTO NO.
1	Brick Masonry Wall Lower Level - Grids B/5-7, D-D.5/5-7	Various deficiencies associated with brick masonry load bearing wall consisting of: spalled and damaged bricks, deteriorated mortar joints. (900 SF Total)	Replace damaged bricks and repoint mortar joints. (2 Locations)	Dwg. S-1 Photo 1.26
2	Brick Masonry Foundation Wall East Elevation - Grid A: Ht. 1' ± - Grid C: Ht. 0' ± - Grid D-D.5: Ht. 2' ±	Spalled parge coat with deteriorating brick masonry foundation wall. (5 SF Total)	Replace bricks and repair parge coat. (3 Locations)	Dwg. S-7 Photo 1.27
3	Cinder Block Wall South Elevation - Grid 5-6: Ht. 6' ± West Elevation - Grid G-H: Ht. 6' ±	Spalled parge coat with deteriorating cinder block foundation wall. (50 SF Total)	Replace blocks and repair parge coat. (2 Locations)	Dwg. S-6 Photo 1.28 Dwg. S-8

1.0 319 LaReine Avenue - First United Methodist Church
1.4 Routine Repair Recommendations
Table 1-2

REPAIR ITEM	LOCATION	DEFICIENCIES	RECOMMENDATIONS	DWG. NO. PHOTO NO.
4	Brick Masonry Facade North Elevation - Grid 1-2: Ht. 4'-20' ± - Grid 2-7: Ht. 6'-30' ± - Grid 6-7: Ht. 6'-30' ± East Tower - West Elevation - Grid 4-5: Ht. 24' ± Bell Tower - East Elevation - Grid 6-7: Ht. 24' ± South Elevation - Grid 5-6: Ht. 6'-12' ± - Grid 6-7: Ht. 6'-20' ± East Elevation - Grid A-D.5: Ht. 4'-20' ± - Grid D.5-E: Ht. 4'-20' ± West Elevation - Grid A-B: Ht. 6'-30' ± - Grid F-H: Ht. 6'-20' ± - Grid B-F: Ht. 6'-20' ± North Elevation - Grid 5-6: Ht. 19' ±	Deteriorated mortar joints and joints filled with silicone or caulk in brick masonry facade. (3275 SF Total) Deteriorated joint on stone masonry parapet capstone. (30 LF Total)	Remove caulk and silicone and repoint mortar joints. (13 Locations)	Dwg. S-5 Dwg. S-6 Photo 1.29 Dwg. S-7 Dwg. S-8 Dwg. S-5

1.0 319 LaReine Avenue - First United Methodist Church
1.4 Routine Repair Recommendations
Table 1-2

REPAIR ITEM	LOCATION	DEFICIENCIES	RECOMMENDATIONS	DWG. NO. PHOTO NO.
5	Brick Masonry Header West Elevation - Grid D.5-E: Ht. 21' ± - Grid E-F (north): Ht. 20' ± - Grid E-F (south): Ht. 20' ±	Various deficiencies associated with brick masonry veneer headers over windows including steps cracks through mortar joints, deteriorating mortar joints and debonding of bricks with outward rotation. (35 SF Total)	Reset bricks and repoint mortar joints. (3 Locations)	Dwg. S-8 Photo 1.30
6	Window Sills North Elevation - Grid 3: Ht. 10' ± - Grid 4-5: Ht. 20' ± - Grid 5: Ht. 11' ± - Grid 5-6: Ht. 11' ± South Elevation - Grid 6-7: Ht. 12' ± West Elevation - Grid D: Ht. 12' ± - Grid D.5-E: Ht. 12' ± - Grid E-F (north): Ht. 12' ± - Grid E-F (south): Ht. 12' ±	Deteriorated joints for stone masonry window sills. Some sills experience backpitching. (70 LF Total)	Reset backpitched sills. Repoint joints. (9 Locations)	Dwg. S-5 Photo 1.31 Dwg. S-6 Dwg. S-8

1.0 319 LaReine Avenue - First United Methodist Church
1.4 Routine Repair Recommendations
Table 1-2

REPAIR ITEM	LOCATION	DEFICIENCIES	RECOMMENDATIONS	DWG. NO. PHOTO NO.
7	Steel Framing - Corrosion Lower Level - Grids F/2-5, H/2, H/4 Roof Framing - Grid F-H/2-5	Moderate corrosion of steel columns and beams. (325 LF Total)	Clean and paint steel. (4 Locations)	Dwg. S-1 Photo 1.32 Dwg. S-2
8	Lintel - Corrosion South Elevation - Grid 1-2: Ht. 14' ± - Grid 4-5: Ht. 14' ± East Elevation - Grid F-G: Ht. 12' ± - Grid G-H: Ht. 12' ±	Moderately to severely corroded steel lintels over window openings. (30 LF Total)	Replace corroded lintels. (4 Locations)	Dwg. S-6 Dwg. S-7 Photo 1.33
9	Lintel - Missing Lower Level - Grid D/6-7 East Elevation - Grid E-F (north): Ht. 13' ±, 23'± - Grid E-F (south): Ht. 13' ±, 23' ±	Missing lintels over masonry wall openings for windows or crawlspace. (20 LF Total)	Install lintels. (5 Locations)	Dwg. S-1 Dwg. S-7 Photo 1.34
10	Concrete Floor Slab Lower Level - Grid B-D/4-6	Cracked, damaged and missing concrete floor slab. (750 SF Total)	Replace floor slab. (1 Location)	Dwg. S-1 Photo 1.35

1.0 319 LaReine Avenue - First United Methodist Church
1.4 Routine Repair Recommendations
Table 1-2

REPAIR ITEM	LOCATION	DEFICIENCIES	RECOMMENDATIONS	DWG. NO. PHOTO NO.
11	Timber Framing Lower Level - Grid A/4-5 Sanctuary Framing - Grid B-D/5-7	Various deficiencies associated with the timber wall and floor framing consisting of: softening, splitting, and notching. (80 LF Total)	Replace timber members. (2 Locations)	Dwg. S-1 Photo 1.36
12	Timber Roof Beam Roof Framing - Grid B-C/4-5	Damaged and notched timber roof beams. (75 LF - 5 Beams Total)	Replace / sister roof beams. (1 Location)	Dwg. S-3 Photo 1.37
13	Timber Column Lower Level - Grid C-D/5	Atypical timber column supporting girder inconsistent with adjacent steel column.	Replace timber column with typical steel column. (1 Location)	Dwg. S-1 Photo 1.38
14	Timber Floor Planks Sanctuary Level - Grid B-C/5-7	Timber floor planks are softening and rotting due to water infiltration from roof. (280 SF Total)	Replace floor planks. (1 Location)	Dwg. S-2 Photo 1.39

1.0 319 LaReine Avenue - First United Methodist Church
1.4 Routine Repair Recommendations
Table 1-2

REPAIR ITEM	LOCATION	DEFICIENCIES	RECOMMENDATIONS	DWG. NO. PHOTO NO.
15	Windows North Elevation - Grid 2-3: Ht. 4' ± - Grid 3-4: Ht. 4' ± - Grid 5: Ht. 4' ± - Grid 5-6: Ht. 4' ± - Grid 6: Ht. 4' ± South Elevation - Grid 1: Ht. 21' ± - Grid 1-2. Ht. 13' ±, 21' ± - Grid 2-3: Ht. 22' ± - Grid 3: Ht. 22' ± - Grid 3-4: Ht. 22' ± - Grid 4-5: Ht. 13' ± - Grid 6: Ht. 6' ±, 20' ± East Elevation - Grid D.5-E: Ht. 6' ± - Grid E: Ht. 11' ±, 21'± - Grid E-F: Ht. 11' ±, 21' ± - Grid F-G: Ht. 9' ± - Grid G-H: Ht. 9' ± - Grid H-I: Ht. 3' ± West Elevation - Grid D: Ht. 5' ± - Grid E-F (north): Ht. 5' ± - Grid E-F (south): Ht. 5' ± - Grid H-I: Ht. 5' ±	Deteriorated window and timber window frame. (33 Windows Total)	Replace windows. (26 Locations)	Dwg. S-5 Dwg. S-6 Dwg. S-7 Photo 1.40 Dwg. S-8

Table 1-2

REPAIR ITEM	LOCATION	DEFICIENCIES	RECOMMENDATIONS	DWG. NO. PHOTO NO.
16	Windows East Elevation - Grid A-B: Ht. 3' ± - Grid B-C: Ht. 3' ± - Grid D: Ht. 2' ±	Deteriorated timber window frames due to sills being located near grade. (5 Windows Total)	Remove windows, partially infill wall openings to raise sill elevation, install new windows. (3 Locations)	Dwg. S-7 Photo 1.41
17	Stained Glass Sanctuary Level - Grids E/4-5, E-F/5-6, E-F/6-7 North Elevation - Grid 1-2: Ht. 17' ± - Grid 3: Ht. 15' ± - Grid 4-5: Ht. 23' ± - Grid 5: Ht. 13' ± - Grid 5-6: Ht. 13' ±, 25' ± - Grid 6: Ht. 13' ± - Grid 6-7: Ht. 23' ± South Elevation - Grid 6-7: Ht. 15' ± East Elevation - Grid B-C: Ht. 13' ± - Grid D: Ht. 15' ±	Various deficiencies associated with stained glass windows consisting of: missing stained glass pieces, deteriorated timber window frame and mullions, and warping / buckling of glass and lead. (32 Windows Total)	Restore stained glass windows and install aluminum frame with vented laminated glass for exterior protection. (14 Locations)	Dwg. S-2 Dwg. S-5 Photo 1.42 Dwg. S-6 Dwg. S-7

1.0 319 LaReine Avenue - First United Methodist Church
1.4 Routine Repair Recommendations
Table 1-2

REPAIR ITEM	LOCATION	DEFICIENCIES	RECOMMENDATIONS	DWG. NO. PHOTO NO.
17 (cont'd)	Stained Glass Windows West Elevation - Grid A-B: Ht. 23' ± - Grid B-C: Ht. 15' ± - Grid D: Ht. 15' ± - Grid D.5-E: Ht. 15' ± - Grid E-F (north): Ht. 15' ± - Grid E-F (south): Ht. 15' ± - Grid F-G (north): Ht. 9' ± - Grid F-G (south): Ht. 9' ± - Grid G: Ht. 20' ± - Grid G-H (north): Ht. 9' ± - Grid G-H (south): Ht. 9' ±	Various deficiencies associated with stained glass windows consisting of: missing stained glass pieces, deteriorated timber window frame and mullions, and warping / buckling of glass and lead.	Restore stained glass windows and install aluminum frame with vented laminated glass for exterior protection. (11 Locations)	Dwg. S-8
18	Doors North Elevation - Grid 1-2: Ht. 5' ± - Grid-2-3: Ht. 0' ± - Grid 4-5: Ht. 10' ± - Grid 6-7: Ht. 10' ± South Elevation - Grid 6-7: Ht. 10' ± West Elevation - Grid A-B: Ht. 10' ± - Grid B-C: Ht. 3' ± - Grid G: Ht. 5 ±	Deteriorated and rotted wood door and frame. Stained glass transoms requiring restoration. (8 Doors Total) (5 Stained Glass Transoms)	Replace doors and frames. Restore stained glass transoms. (8 Locations)	Dwg. S-5 Photo 1.43 Dwg. S-6 Dwg. S-8

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1.4 Routine Repair Recommendations
Table 1-2

REPAIR ITEM	LOCATION	DEFICIENCIES	RECOMMENDATIONS	DWG. NO. PHOTO NO.
19	Open Building Envelope - Wall South Elevation - Grid 1-2: Ht. 20' ±	Partially detached and missing vinyl siding resulting in water infiltration into the building. (15 SF Total)	Repair siding. (1 Location)	Dwg. S-6 Photo 1.44
20	Open Building Envelope - Roof Roof - Grid B/5	Unsealed penetration, or missing vent pipe cap, in roof.	Install cap or seal penetration. (1 Location)	Dwg. S-4 Photo 1.45
21	Open Building Envelope - Roof Roof - Grid A/6-7, A-B/6-7, C-D/5-6 - Grid H-I/2-4	Missing roof shingles exposing deteriorated timber roof planks with visible holes into building. (15 SF Total) Roof membrane is partially detached over stage area. (120 SF Total)	Replace roof shingles / membrane and deteriorated roof sheathing. (4 Locations)	Dwg. S-4 Photo 1.46

1.0 319 LaReine Avenue - First United Methodist Church
1.4 Routine Repair Recommendations
Table 1-2

REPAIR ITEM	LOCATION	DEFICIENCIES	RECOMMENDATIONS	DWG. NO. PHOTO NO.
22	Roof Drain Roof - Grids A/5, A/6-7	Clogged and undersized emergency scuppers.	Increase size of scupper openings in parapet to accommodate local rainfall demands. (2 Locations)	Dwg. S-4 Photo 1.47
23	Roof West Elevation - Grid G: Ht. 15' ±	Moderate corrosion of sheet metal roof on gable end returns with section loss. (20 SF Total)	Replace sheet metal roof. (1 Location)	Dwg. S-8 Photo 1.48
24	Skylights Roof - Grid G/2-3, G/3-4	Moderate corrosion of steel skylight frame with deteriorated sealant resulting in water infiltration. (2 Skylights Total)	Replace skylights or infill roof openings. (2 Locations)	Dwg. S-4 Photo 1.49
25	Retaining Wall Site - Grids A.0/3-4, A.0/4-8, A.0-B/8, G-I/8	Deteriorated mortar joints on masonry retaining wall. (265 SF Total)	Repoint mortar joints. (4 Locations)	Dwg. S-2 Photo 1.50

1.0 319 LaReine Avenue - First United Methodist Church
1.4 Routine Repair Recommendations
Table 1-2

REPAIR ITEM	LOCATION	DEFICIENCIES	RECOMMENDATIONS	DWG. NO. PHOTO NO.
26	Retaining Wall Site - Grids A.0-A/2-3, A.0-A/3, B-C/7-8, C/7-8, G/8	Various deficiencies associated with brick and CMU retaining walls consisting of: spalled parge coat with softening bricks and mortar joints, leaning wall up to 1-1/4", and detached sections of wall due to cracking of hollow CMU. (240 SF Total)	Replace retaining walls with fully grouted and reinforced CMU. (5 Locations)	Dwg. S-2 Photo 1.51
27	Concrete Sidewalk Site - Grids A.0-A/4-5, A-B/7-8, B-C/8, F-G/6-8	Cracked, spalled, and damaged concrete sidewalk. (350 SF Total)	Replace damaged sections of sidewalk. (4 Locations)	Dwg. S-2 Photo 1.52
28	Concrete Stairs Site - Grids A.0/4-5, A.0/7-8, A.0-A/2-3, A.0-A/4-5, A-B/7-8	Various deficiencies associated with concrete stairs consisting of: cracking, spalling, delamination, separation from sidewalls, and inconsistent riser height. (100 SF Total)	Replace damaged steps and repair spalls. (5 Locations)	Dwg. S-2 Photo 1.53

1.0 319 LaReine Avenue - First United Methodist Church
1.4 Routine Repair Recommendations
Table 1-2

REPAIR ITEM	LOCATION	DEFICIENCIES	RECOMMENDATIONS	DWG. NO. PHOTO NO.
29	Timber Stairs Site - Grid F-G/6	Timber staircase has features which are not code compliant including: open risers, no handrail, and spindles on the guard rail. Additionally, the treads and landing have a significant cross slope.	Replace stairs. (1 Location)	Dwg. S-2 Photo 1.54
30	Chimney Roof - Grid D.5-E/5	Cracking and separating of mortar joints and parge coat on brick masonry chimney. (275 SF Total)	Remove chimney. Coordinate resulting roof opening with future mechanical equipment. (1 Location)	Dwg. S-4 Photo 1.55

1.0 319 LaReine Avenue - First United Methodist Church
1.5 Findings with No Recommendations
Table 1-3

REPAIR ITEM	LOCATION	DEFICIENCIES	DWG. NO.
1	Concrete Wall East Elevation - Grid B: Elev. 10' ±	Outward lean of exterior wall. 2-1/2" measured over 15 vertical feet of wall at exterior face of wall. (1 Location)	Dwg. S-7

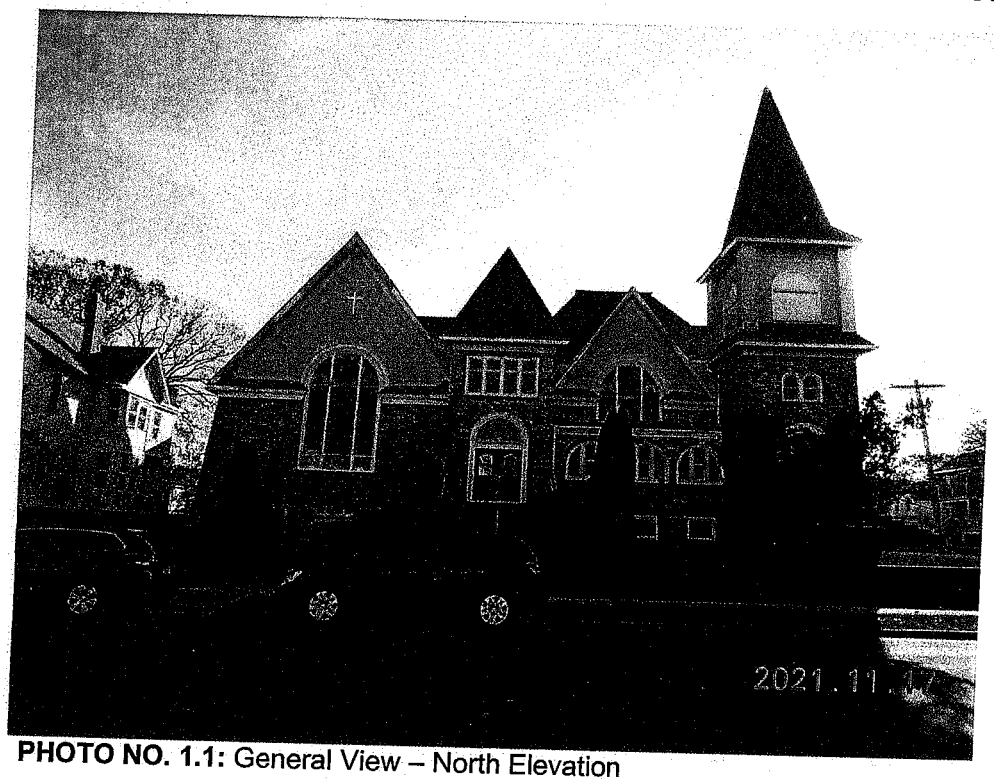


PHOTO NO. 1.1: General View – North Elevation

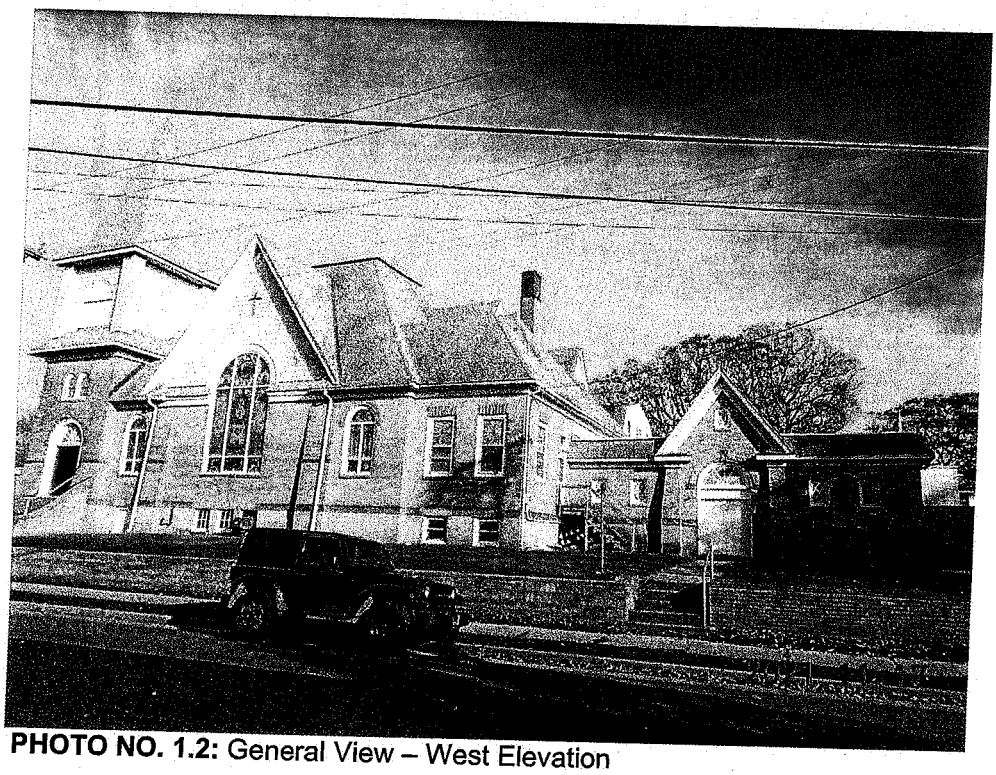


PHOTO NO. 1.2: General View – West Elevation

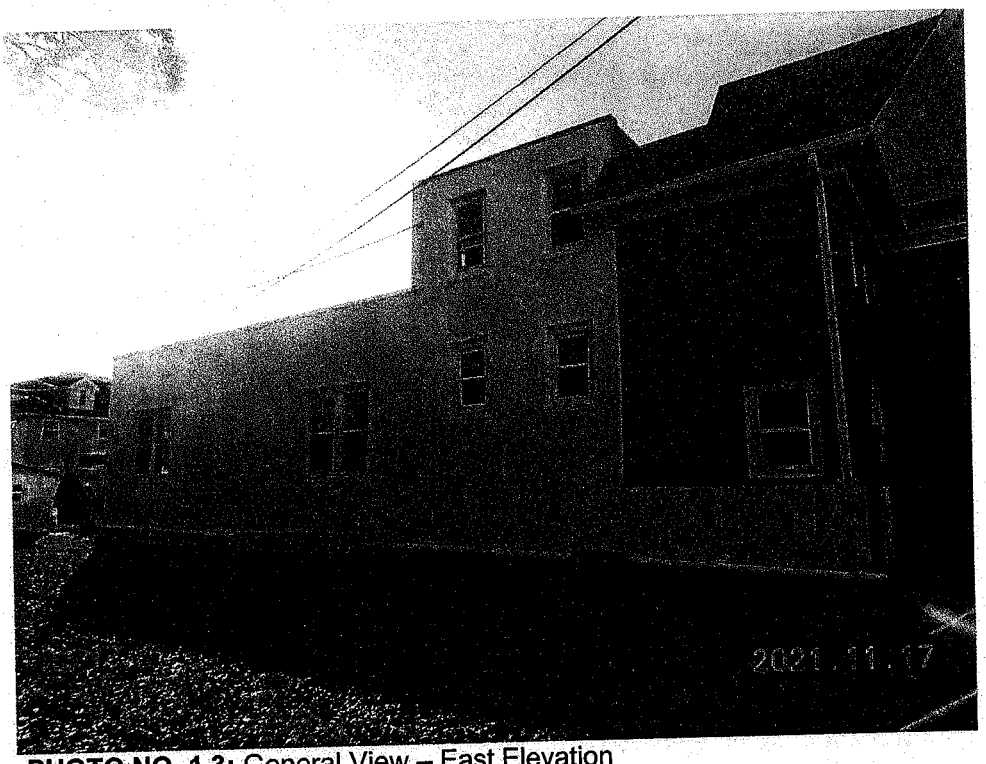


PHOTO NO. 1.3: General View – East Elevation

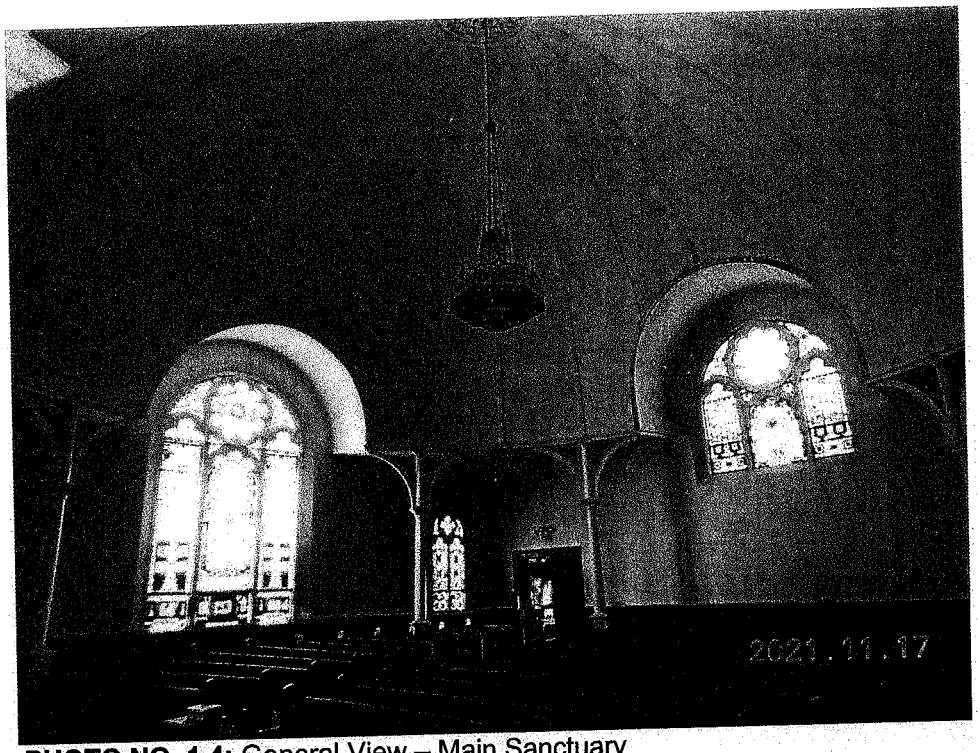


PHOTO NO. 1.4: General View – Main Sanctuary

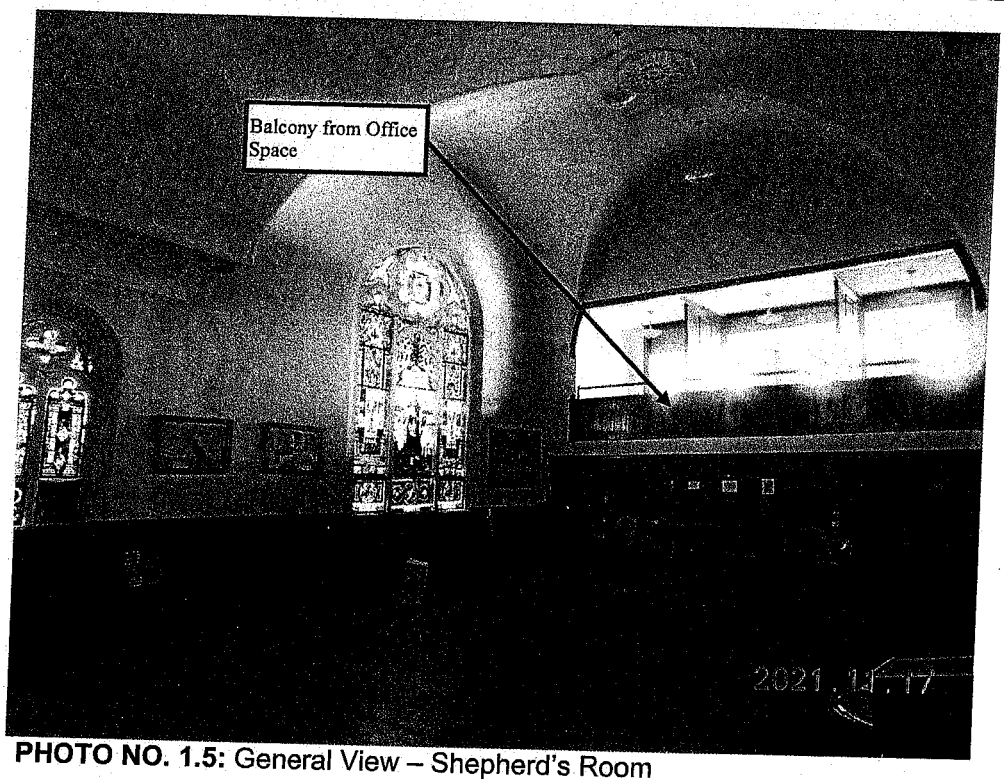


PHOTO NO. 1.5: General View – Shepherd's Room

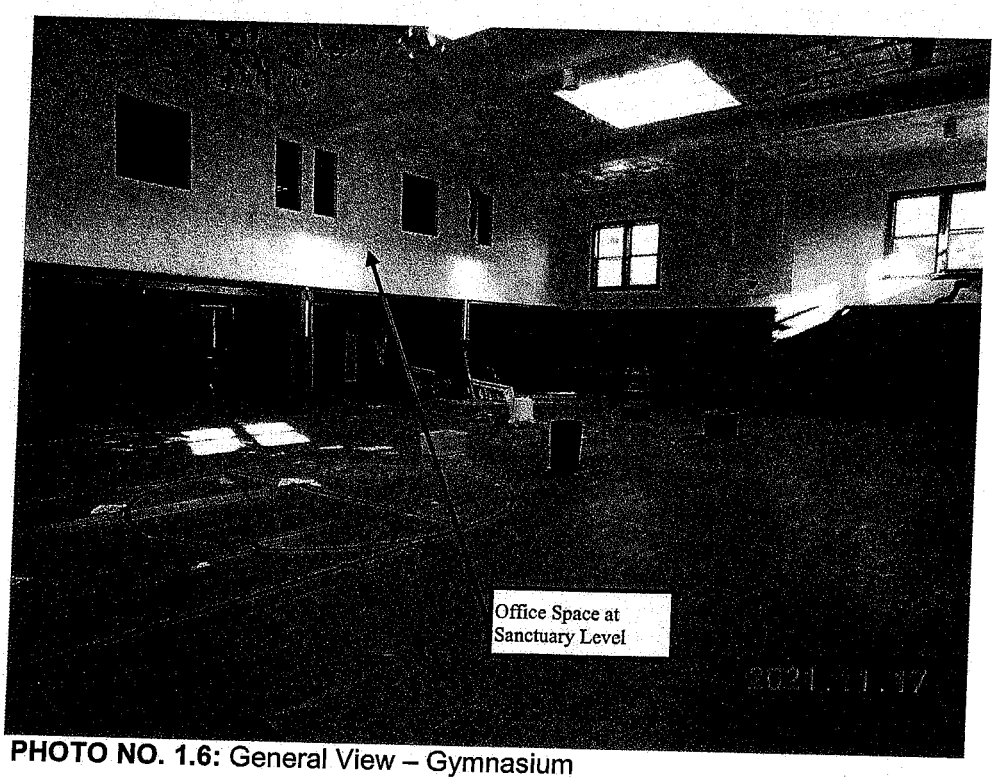


PHOTO NO. 1.6: General View – Gymnasium

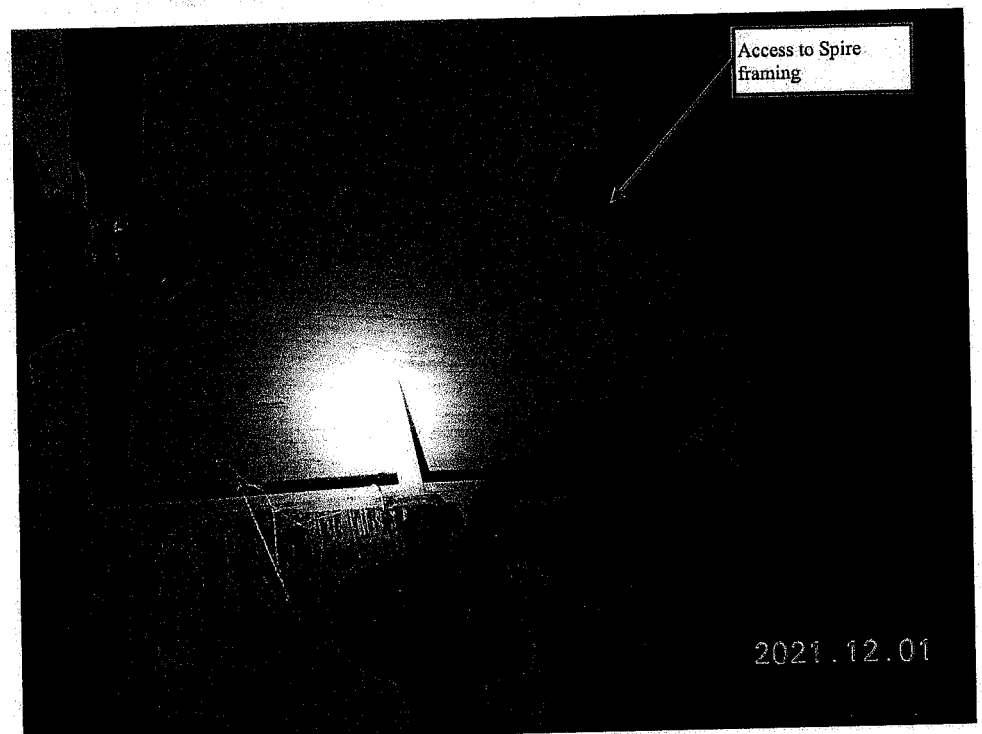


PHOTO NO. 1.7: General View – Upper Level of Bell Tower

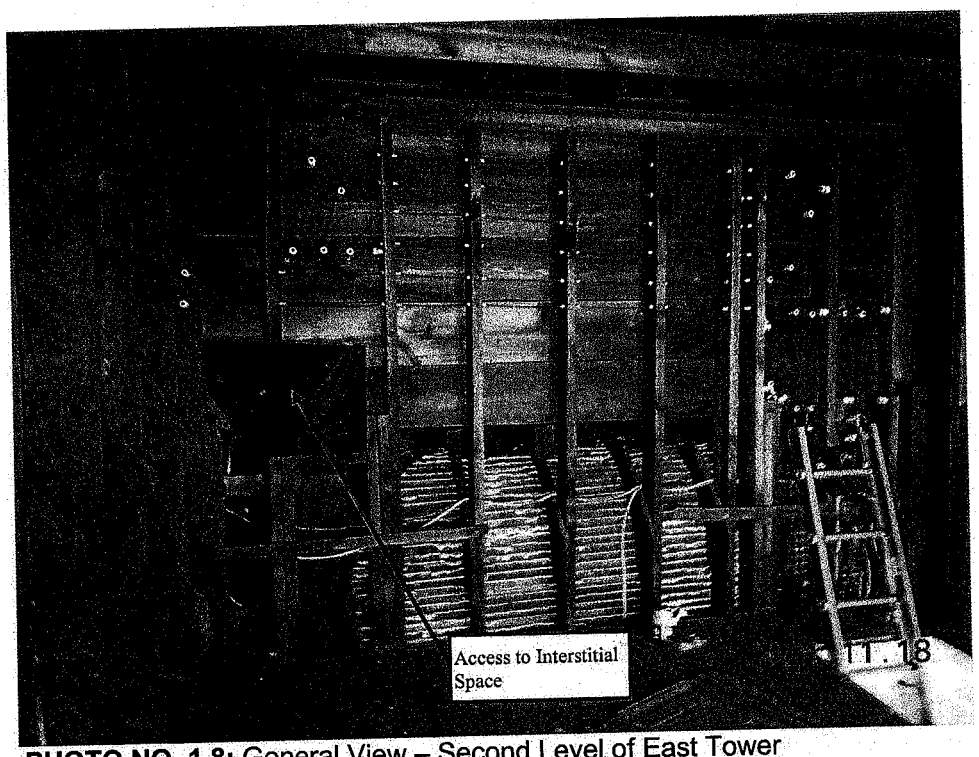


PHOTO NO. 1.8: General View – Second Level of East Tower

PHOTO NO. 1.9: General View – Interstitial space over Main Sanctuary

PHOTO NO. 1.10: General View – Roof over Gymnasium

PHOTO NO. 1.11: Priority Repair 1 – Softening and spalling brick masonry foundation with deteriorated mortar joints – Lower Level, Grid A/2-7

PHOTO NO. 1.12: Priority Repair 1 - Softening and spalling brick masonry foundation with deteriorated mortar joints and spalling parge coat – Lower Level, Grid A/2-7

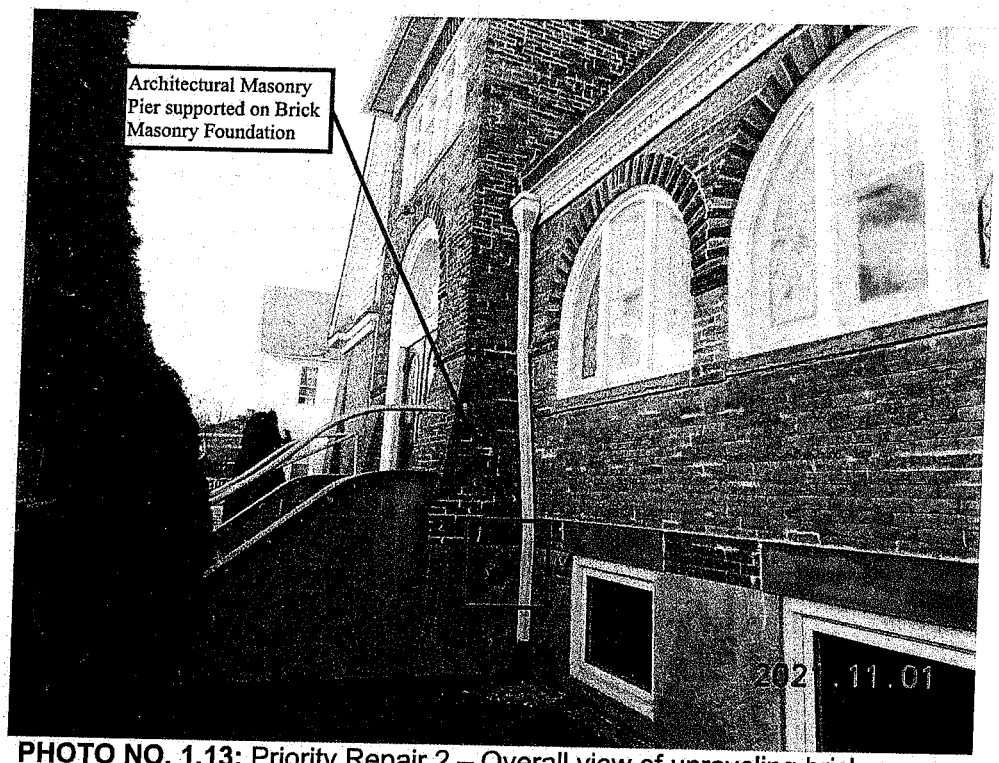


PHOTO NO. 1.13: Priority Repair 2 – Overall view of unraveling brick masonry piers with spalling parge coat, deteriorated / washed out mortar joints and softening clay bricks – North Elevation, Grid 5: El. 6' +/-

PHOTO NO. 1.14: Priority Repair 2 – Close-up view of severely damaged brick masonry piers. Note: condition of interior wythe bricks and mortar – North Elevation, Grid 5: El. 6' +/-

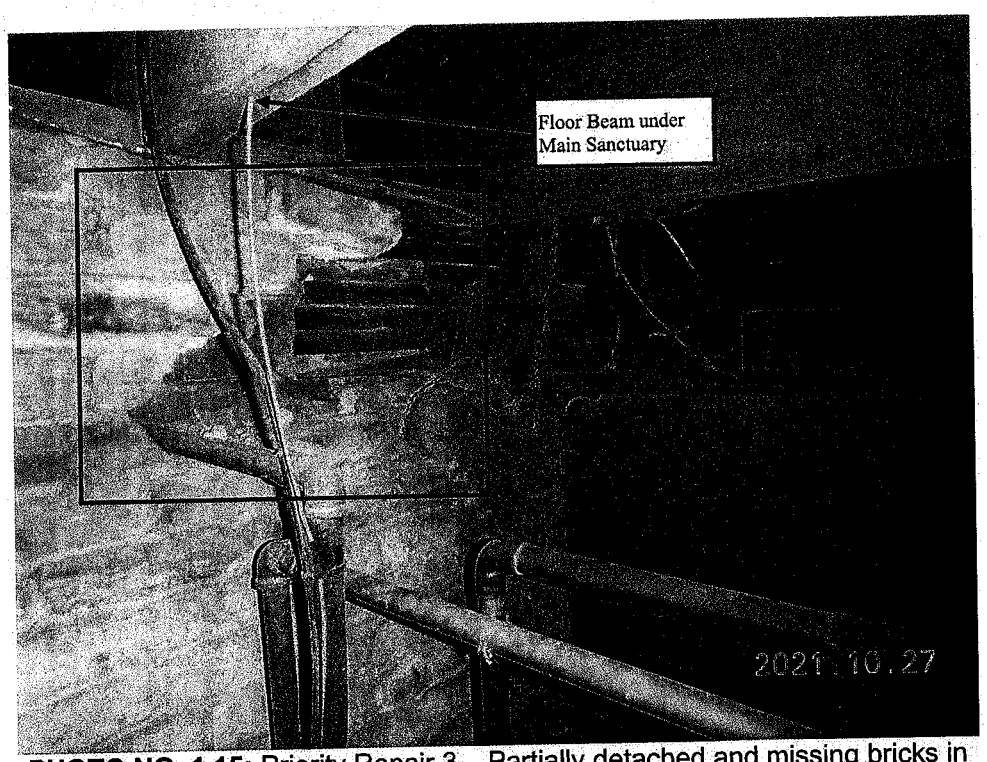


PHOTO NO. 1.15: Priority Repair 3 – Partially detached and missing bricks in load bearing interior wall – Lower Level, Grid B/5

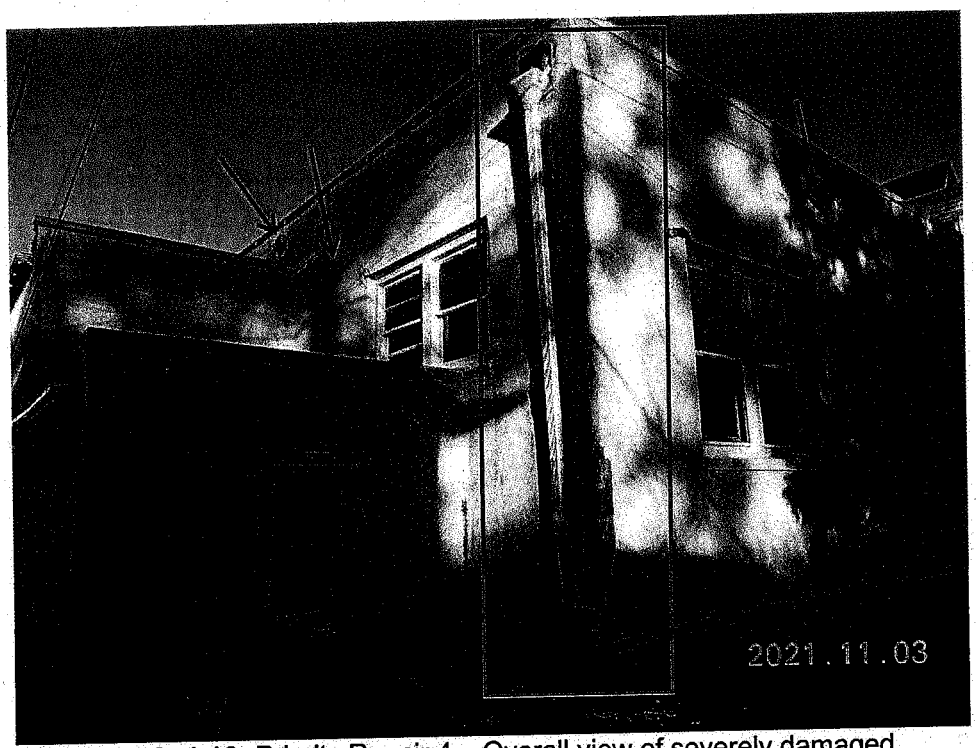


PHOTO NO. 1.16: Priority Repair 4 – Overall view of severely damaged cinder block exterior walls of the Gymnasium consisting of wide vertical cracking, spalling, and softening – South & East Elevations

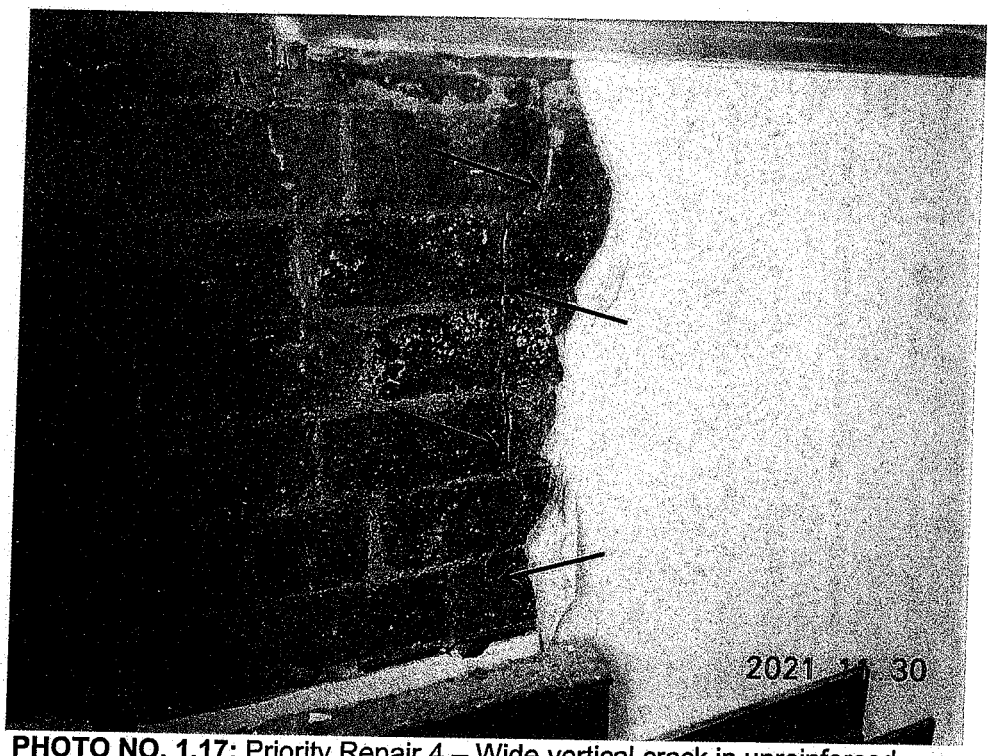


PHOTO NO. 1.17: Priority Repair 4 – Wide vertical crack in unreinforced cinder block wall of the Gymnasium – South Elevation, Grid 1-5: El. 0'-20'+/-

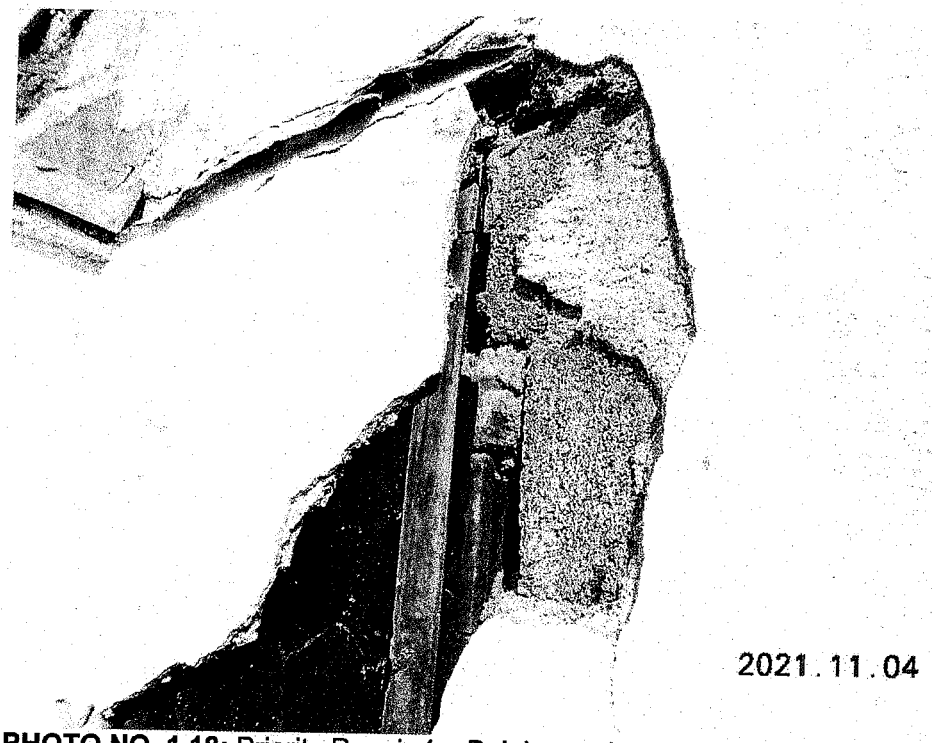


PHOTO NO. 1.18: Priority Repair 4 – Bulging and spalling of parge coat behind steel column position – South Elevation, Grid 1-5: El. 0'-20' +/-

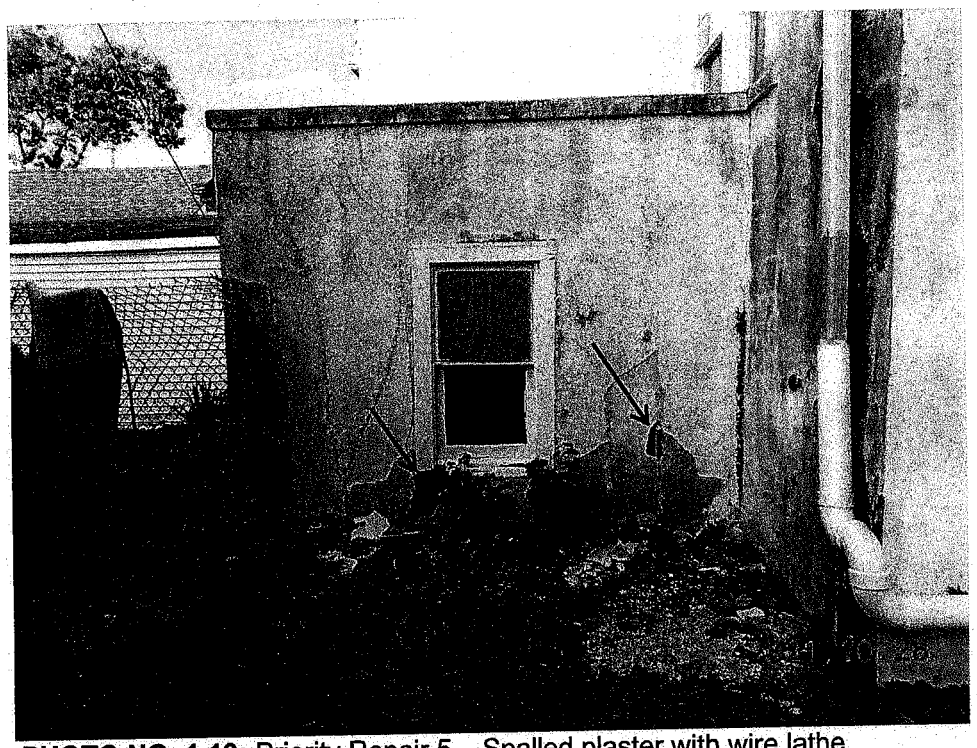


PHOTO NO. 1.19: Priority Repair 5 – Spalled plaster with wire lathe façade over rotting timber wall framing – East Elevation, Grid H-I: El. 6'+/-

PHOTO NO. 1.20: Priority Repair 5 – Close-up view of spalled plaster with wire lathe façade over rotting timber wall framing – East Elevation, Grid H-I: El. 6' +/-

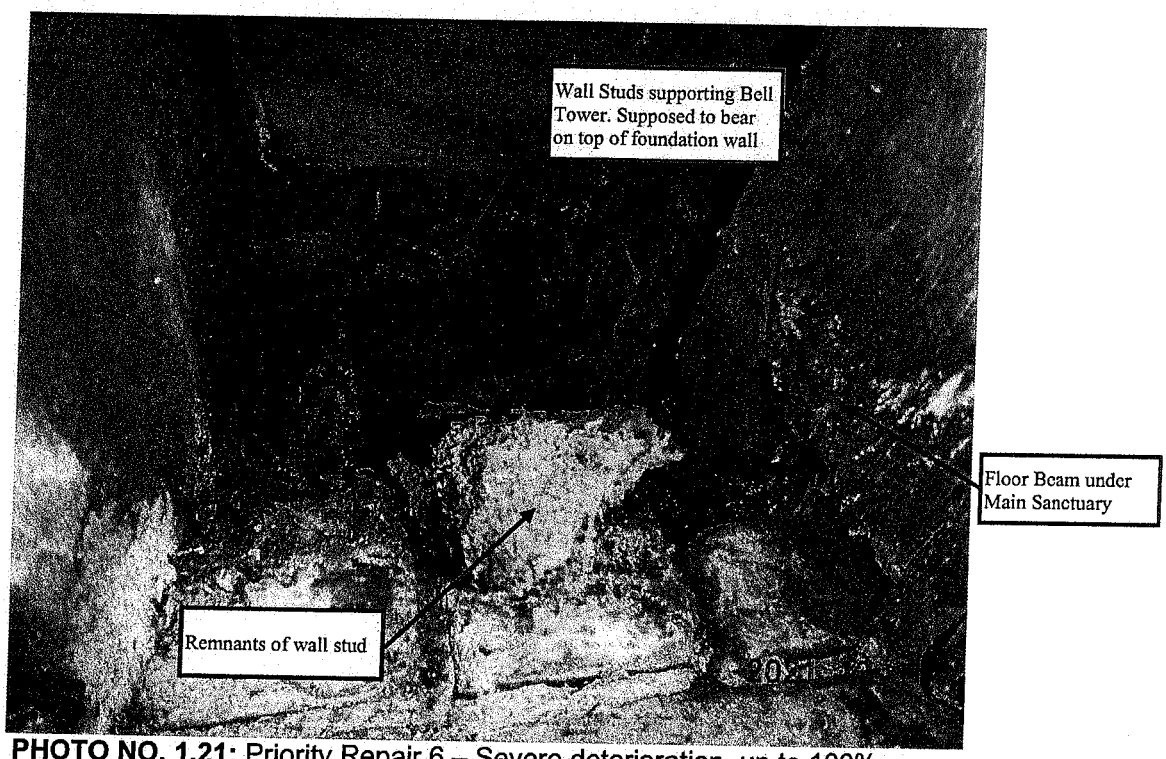


PHOTO NO. 1.21: Priority Repair 6 – Severe deterioration, up to 100% sections loss, at the base of timber wall studs supporting the Bell Tower and floor framing for lower level – Lower Level, Grid A/6-7

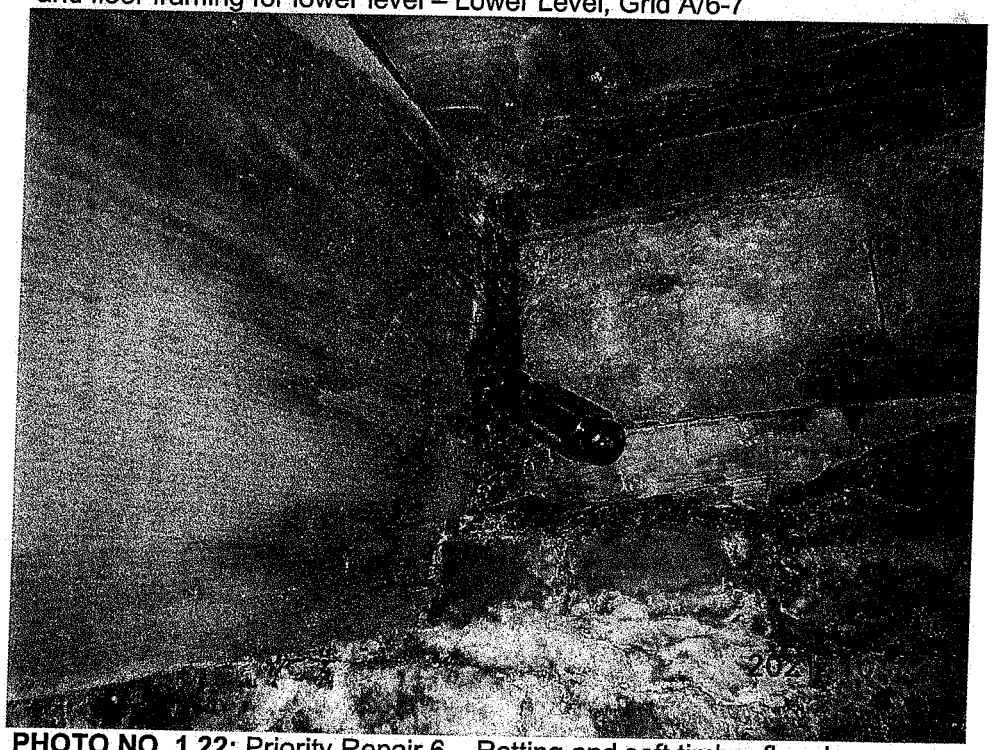


PHOTO NO. 1.22: Priority Repair 6 – Rotting and soft timber floor beam at bearing ends due to active water infiltration – Sanctuary Framing, Grid A/6-7

PHOTO NO. 1.23: Priority Repair 7 – Overall view of Fellowship Hall with failing floor system due to severely deteriorated timber stringers and subfloor – Lower Level, Grid A-E/2-4

PHOTO NO. 1.24: Priority Repair 7 – Overall view of Fellowship Hall with failing floor system due to severely deteriorated timber stringers and subfloor – Lower Level, Grid A-E/2-4

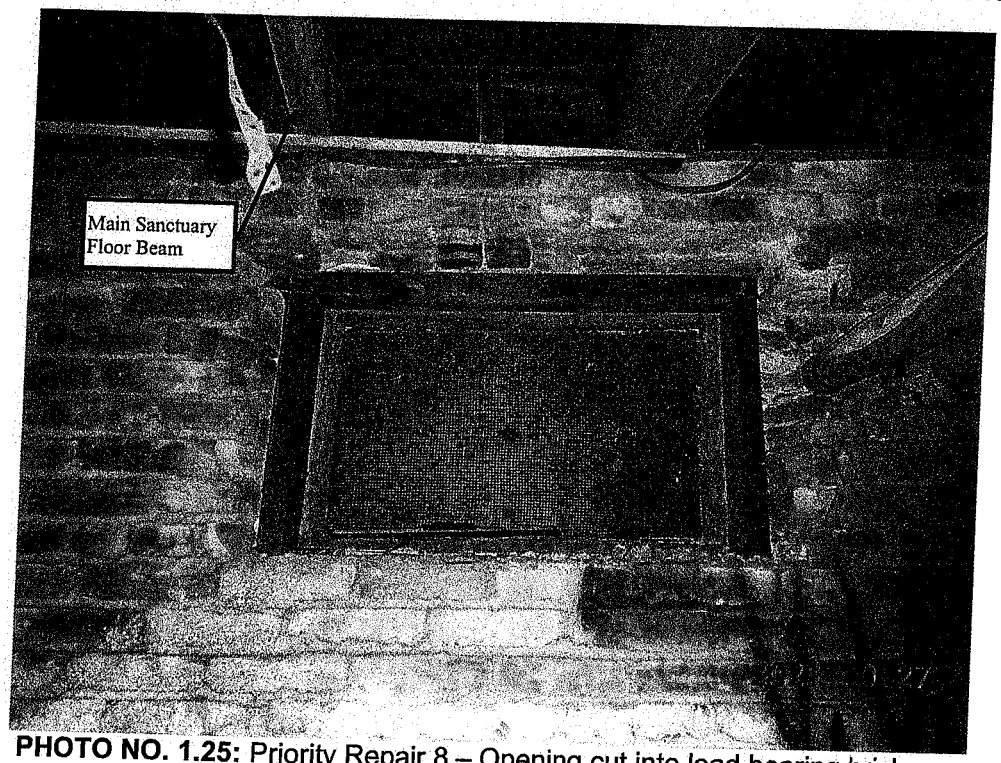


PHOTO NO. 1.25: Priority Repair 8 – Opening cut into load bearing brick masonry wall with no lintel – Lower Level, Grid B/6

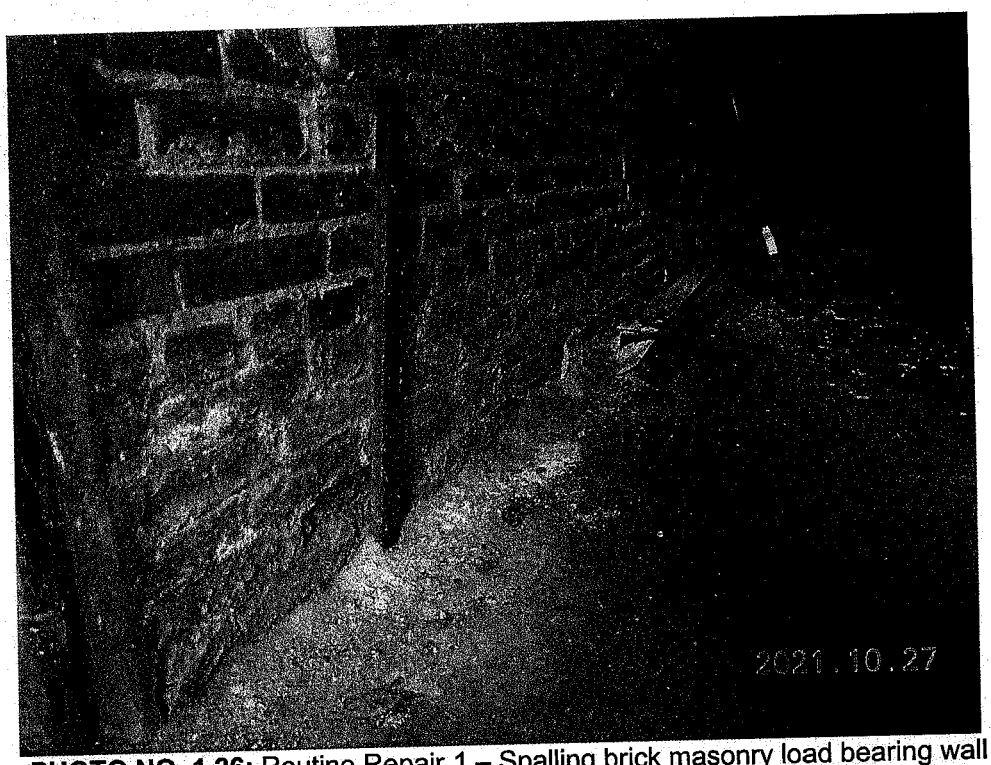


PHOTO NO. 1.26: Routine Repair 1 – Spalling brick masonry load bearing wall with deteriorated mortar joints – Lower Level, Grid B/5-7

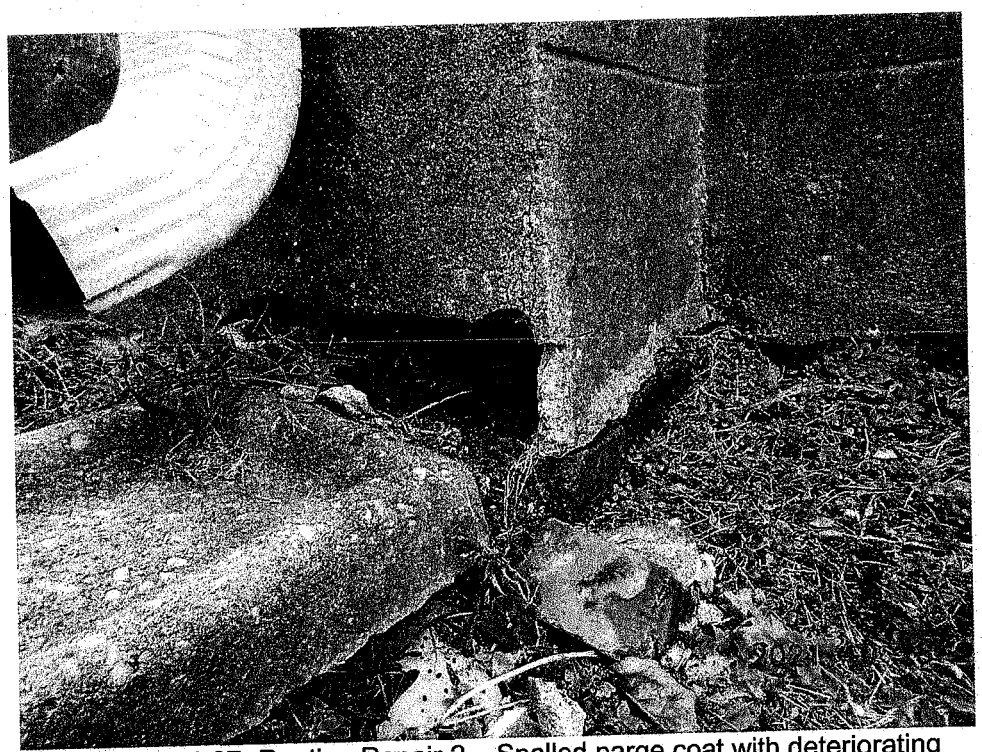


PHOTO NO. 1.27: Routine Repair 2 – Spalled parge coat with deteriorating brick masonry foundation wall – East Elevation, Grid C: Ht. 0' +/-

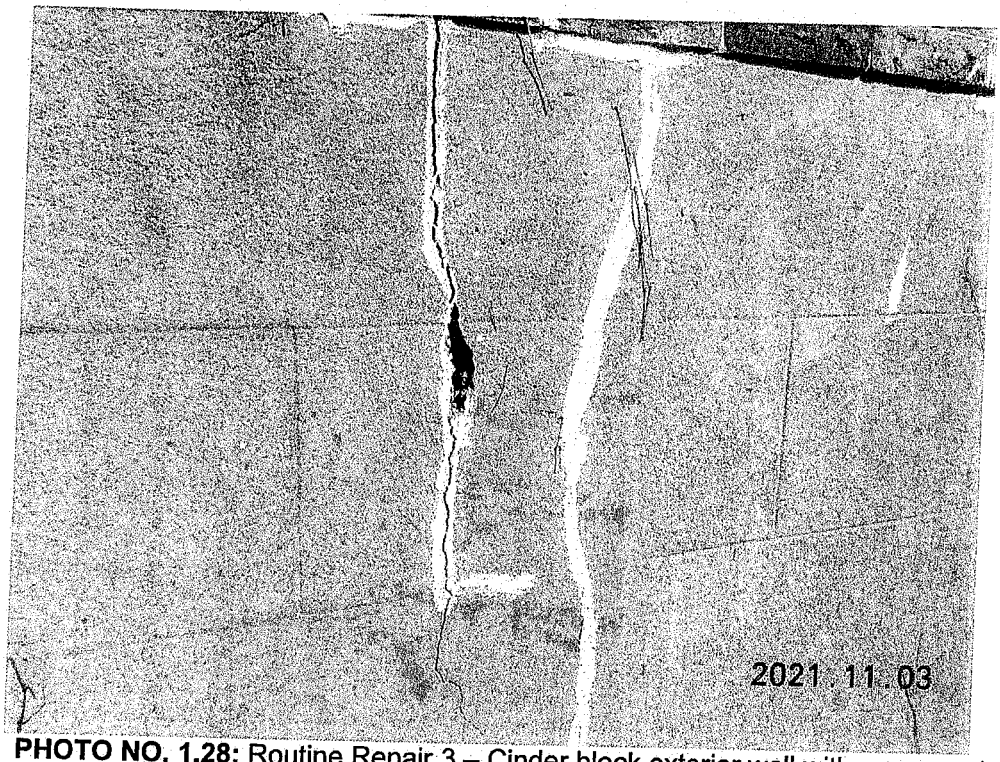


PHOTO NO. 1.28: Routine Repair 3 – Cinder block exterior wall with parge coat – South Elevation, Grid 5-6: Ht. 6' +/-

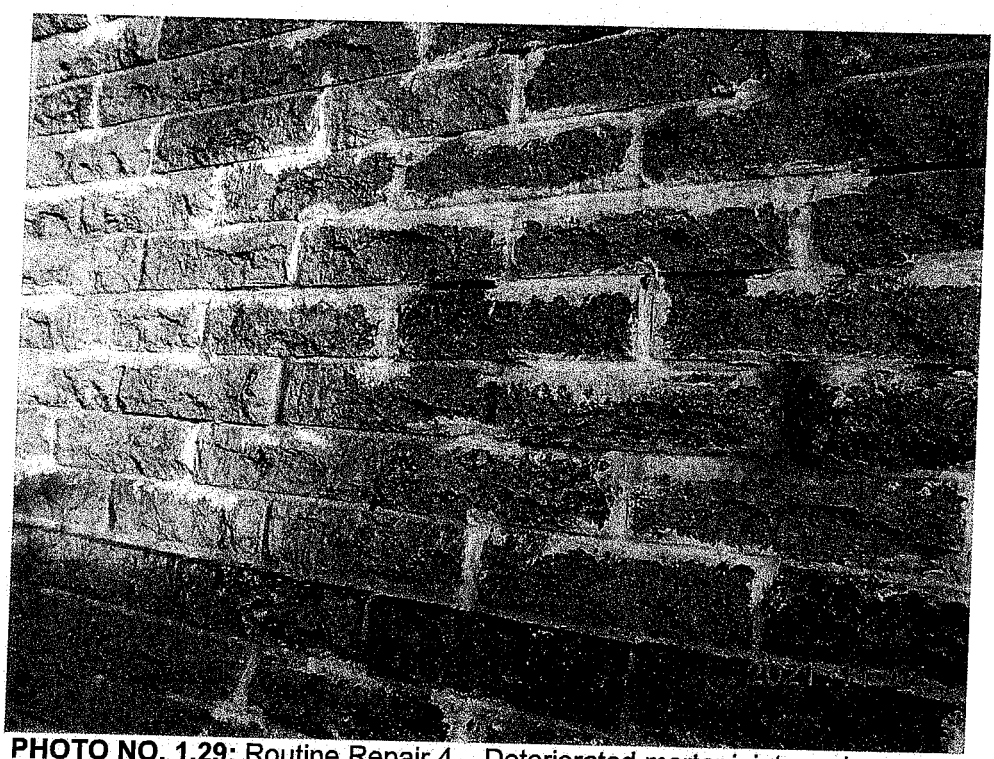


PHOTO NO. 1.29: Routine Repair 4 – Deteriorated mortar joints and joints filled with caulk and silicone in brick masonry facade – South Elevation, Grid 5-6: Ht. 6'-12' +/-

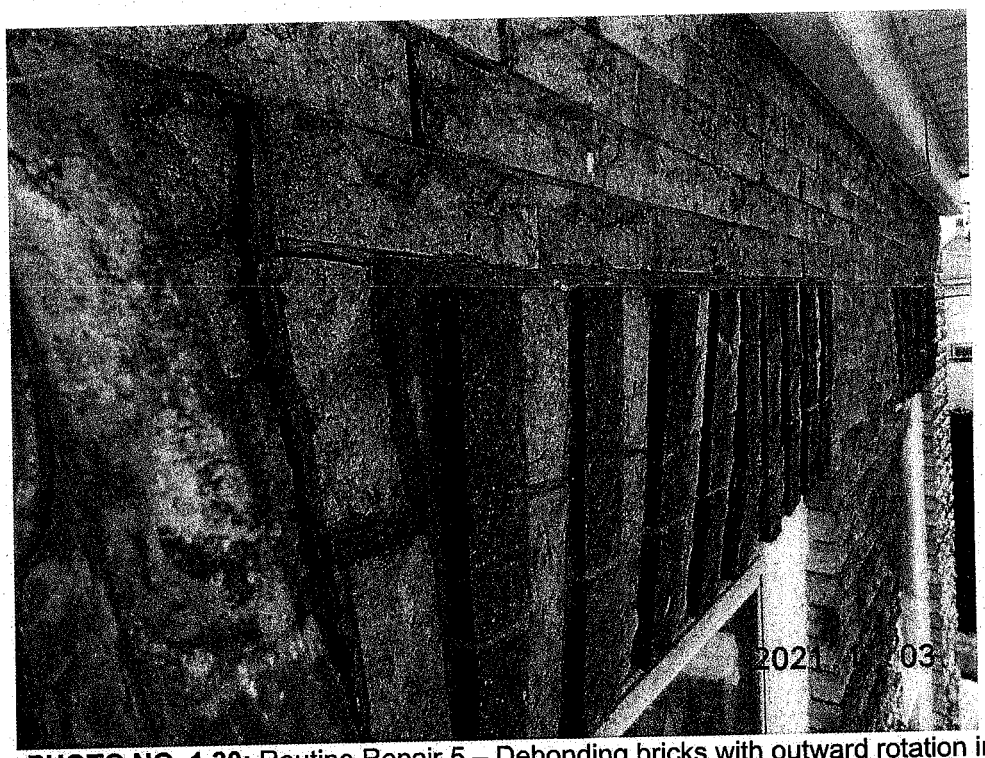


PHOTO NO. 1.30: Routine Repair 5 – Debonding bricks with outward rotation in brick masonry header – West Elevation, Grid E-F (north): Ht. 20' +/-

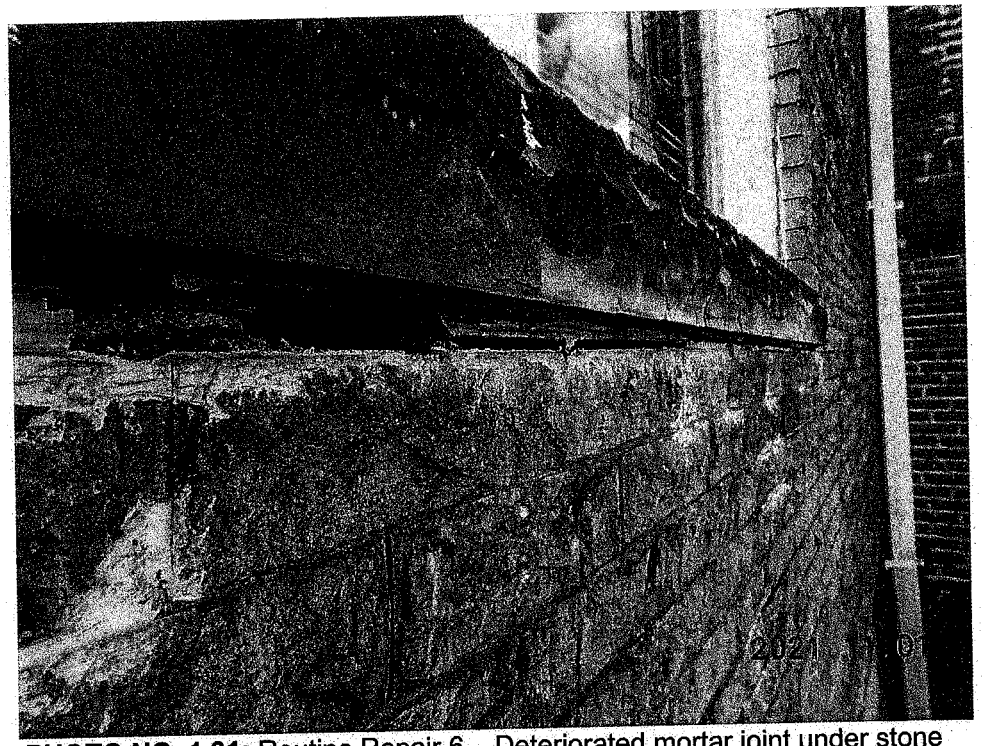


PHOTO NO. 1.31: Routine Repair 6 – Deteriorated mortar joint under stone masonry windowsill. Sill is back pitched. – North Elevation, Grid 3: Ht. 10'

PHOTO NO. 1.32: Routine Repair 7 – Moderate corrosion of steel column – Lower Level, Grid F/4

PHOTO NO. 1.33: Routine Repair 8 – Severe corrosion of steel lintel over window opening – East Elevation, Grid G-H: Ht. 12'

PHOTO NO. 1.34: Routine Repair 9 – Missing lintel over window opening resulting in unsupported brick masonry – East Elevation, Grid E-F (south): Ht. 13' +/-

PHOTO NO. 1.35: Routine Repair 10 – Cracked, damaged, and missing concrete floor slab – Lower Level, Grid B-D/4-6

PHOTO NO. 1.36: Routine Repair 11 – Splitting of timber floor beam under Main Sanctuary – Sanctuary Framing, Grid B-D/5-7

PHOTO NO. 1.37: Routine Repair 12 – Damaged and notched timber roof beams – Roof, Grid B-C/4-5

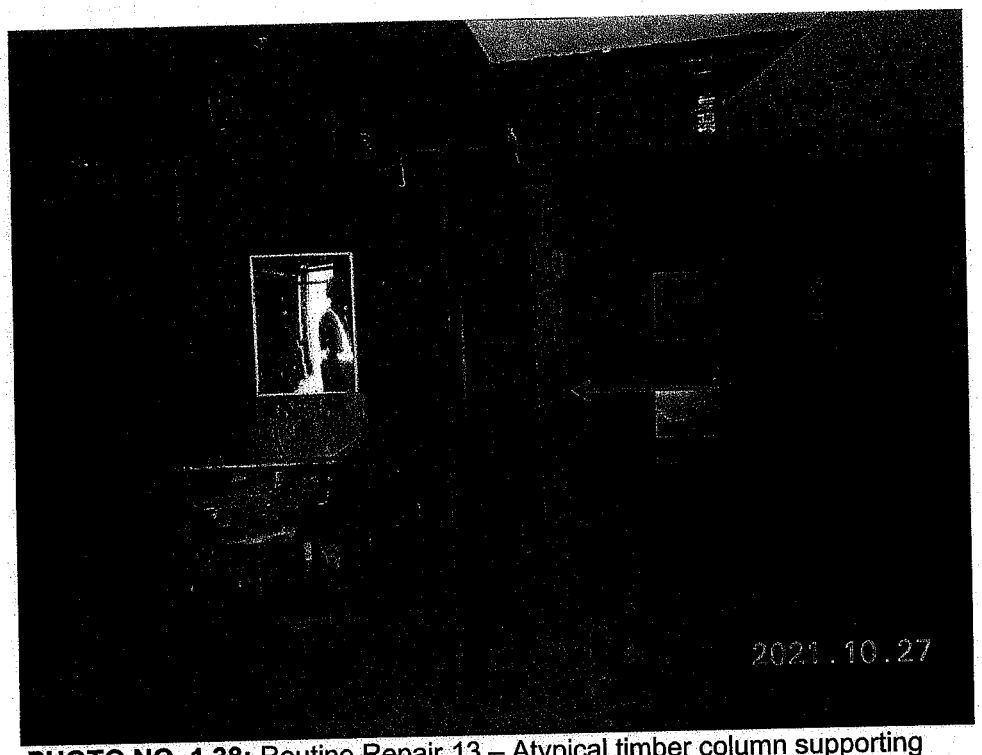


PHOTO NO. 1.38: Routine Repair 13 – Atypical timber column supporting girder inconsistent with adjacent steel column – Lower Level, Grid C-D/5

PHOTO NO. 1.39: Routine Repair 14 – Softening and rotting timber floor planks due to water infiltration from roof – Sanctuary Level, Grid B-C/5-7

PHOTO NO. 1.40: Routine Repair 15 – Deteriorated window and timber window frame – East Elevation, Grid H-I: Ht. 3' +/-

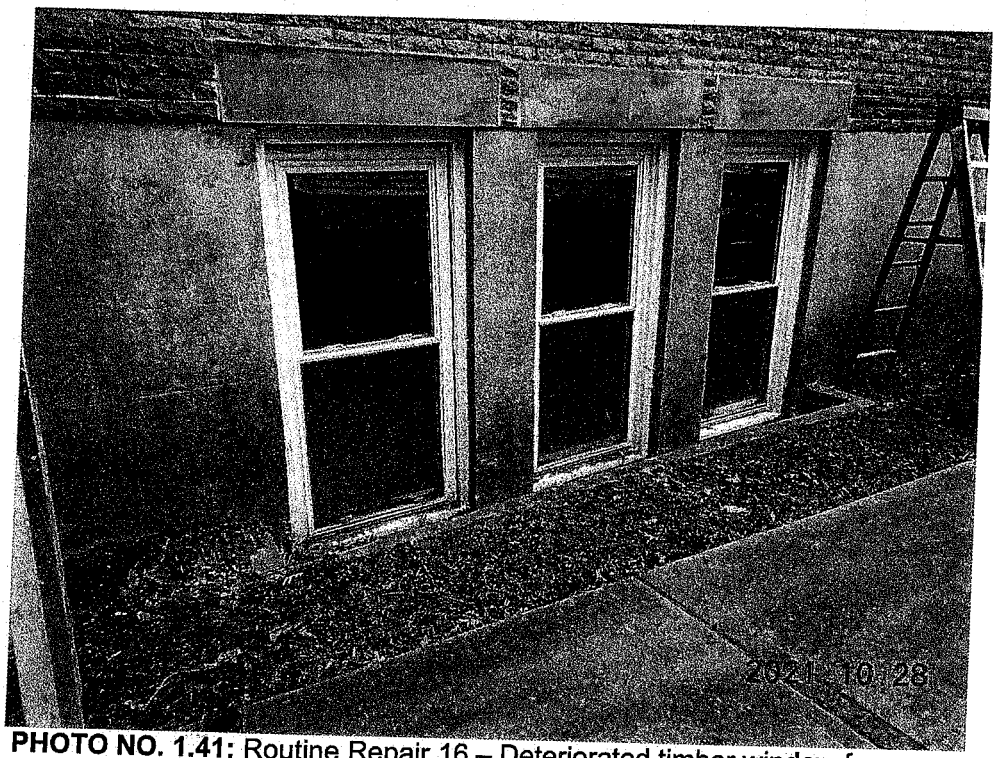


PHOTO NO. 1.41: Routine Repair 16 – Deteriorated timber window frames due to sills being located below grade – East Elevation, Grid D: Ht. 2' +/-

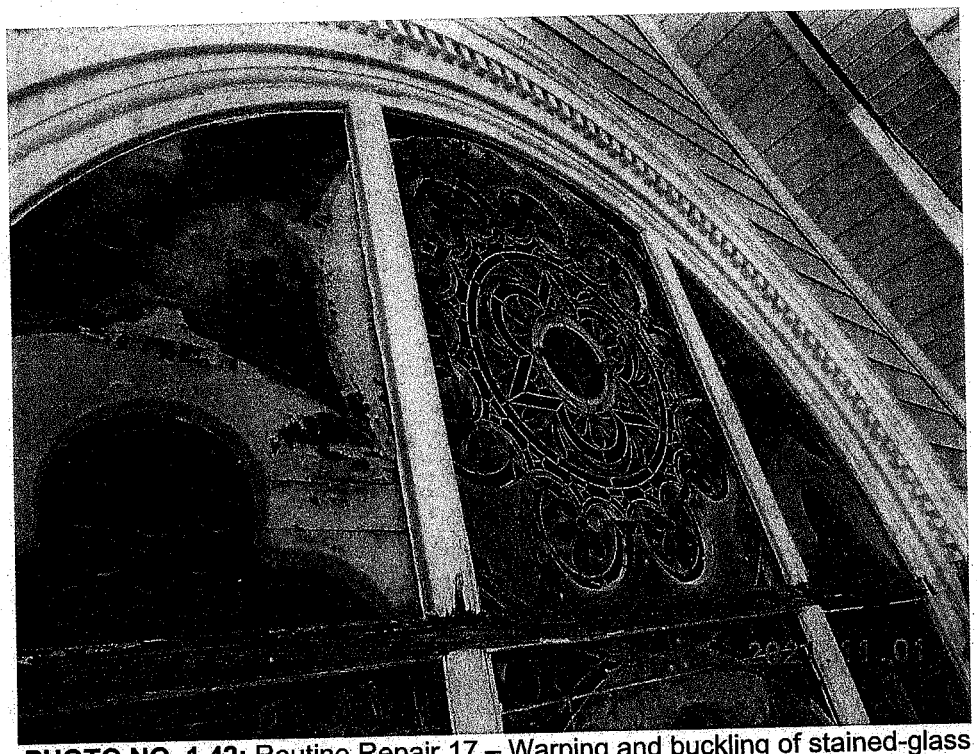


PHOTO NO. 1.42: Routine Repair 17 – Warping and buckling of stained-glass window with deteriorated timber frame – North Elevation, Grid 5-6: Ht. 25'

PHOTO NO. 1.43: Routine Repair 18 – Deteriorated timber door and frame – North Elevation, Grid 2-3: Ht. 0' +/-

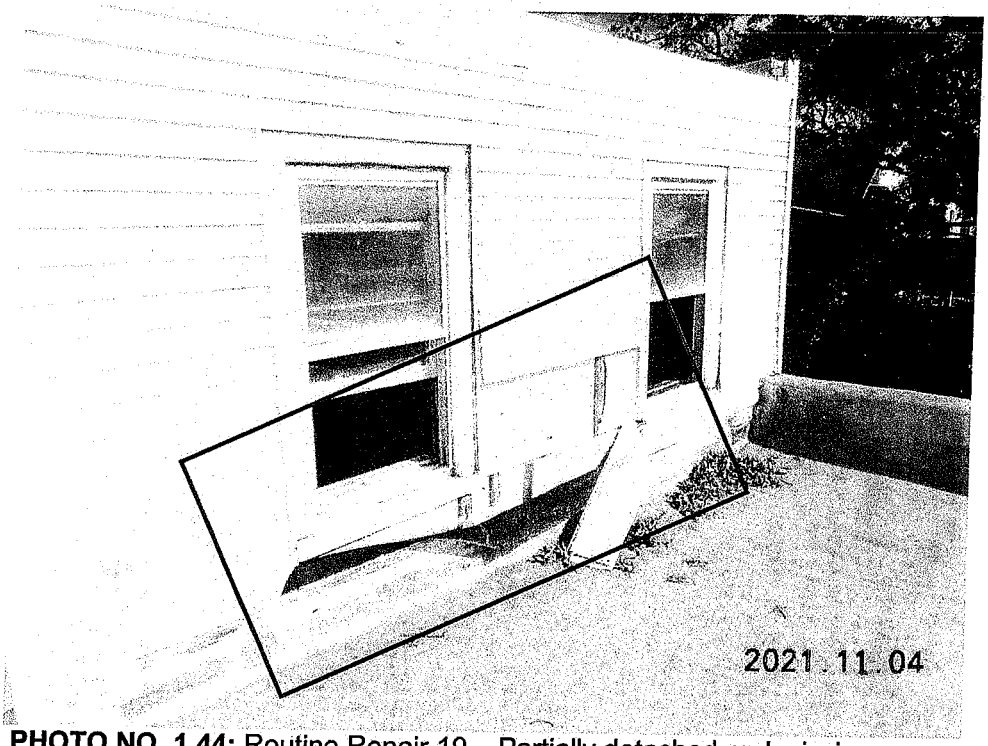


PHOTO NO. 1.44: Routine Repair 19 – Partially detached and missing vinyl siding – South Elevation, Grid 1-2: Ht. 20'+/-

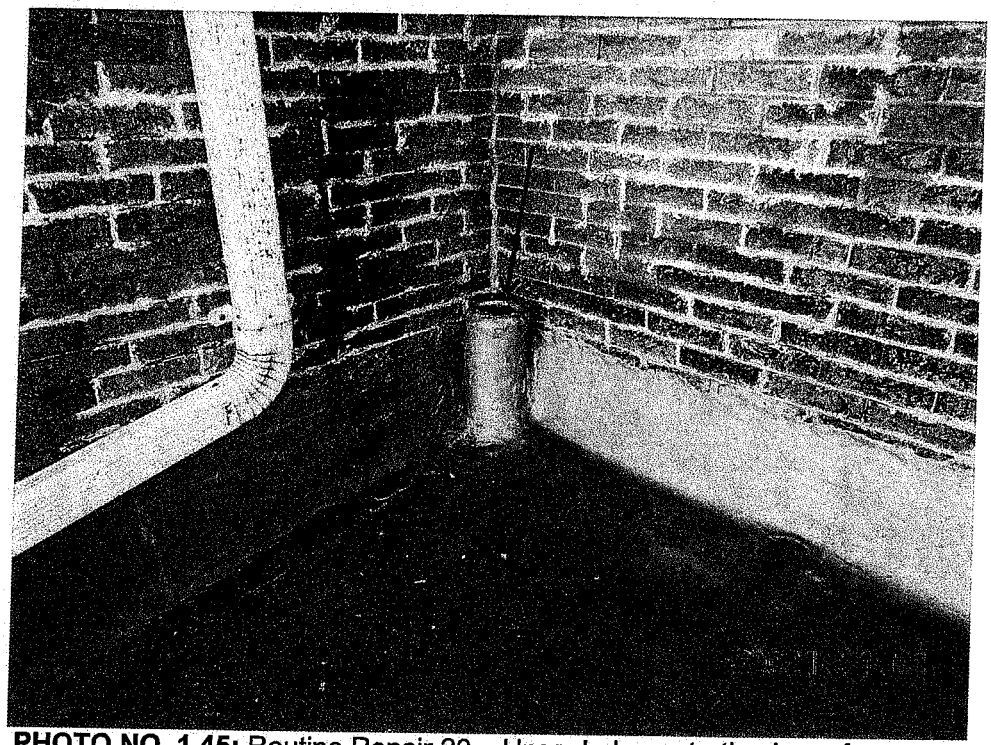


PHOTO NO. 1.45: Routine Repair 20 – Unsealed penetration in roof – Roof, Grid B/5

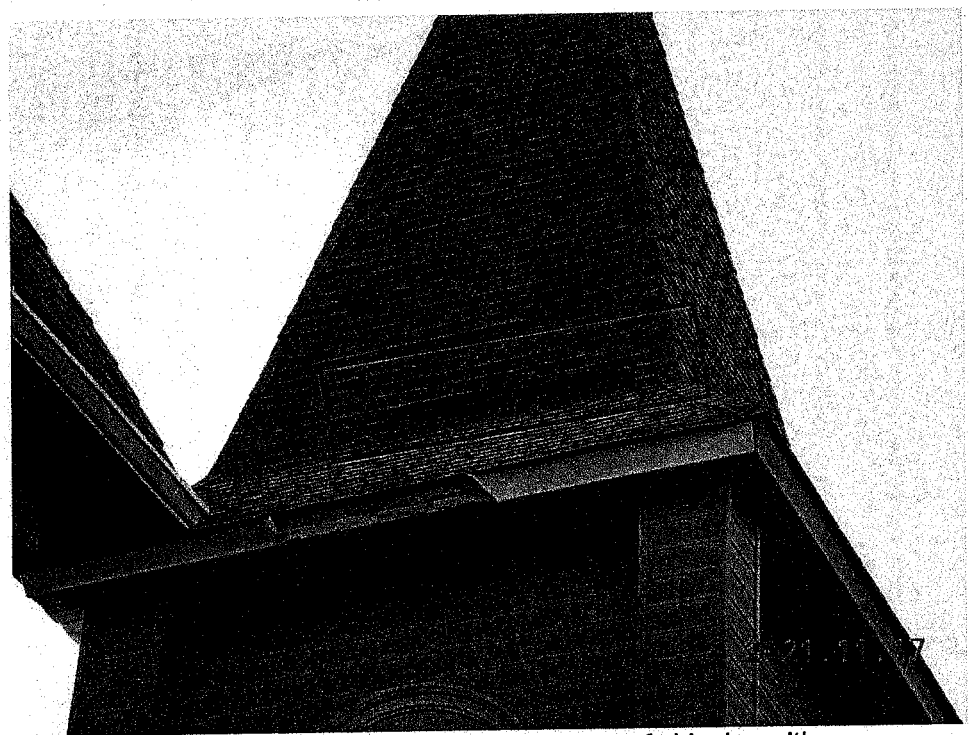


PHOTO NO. 1.46: Routine Repair 21 – Missing roof shingles with exposed and deteriorated timber roof planks. Note: open hole in roof resulting in active water infiltration – Roof, Grid A-B/6-7

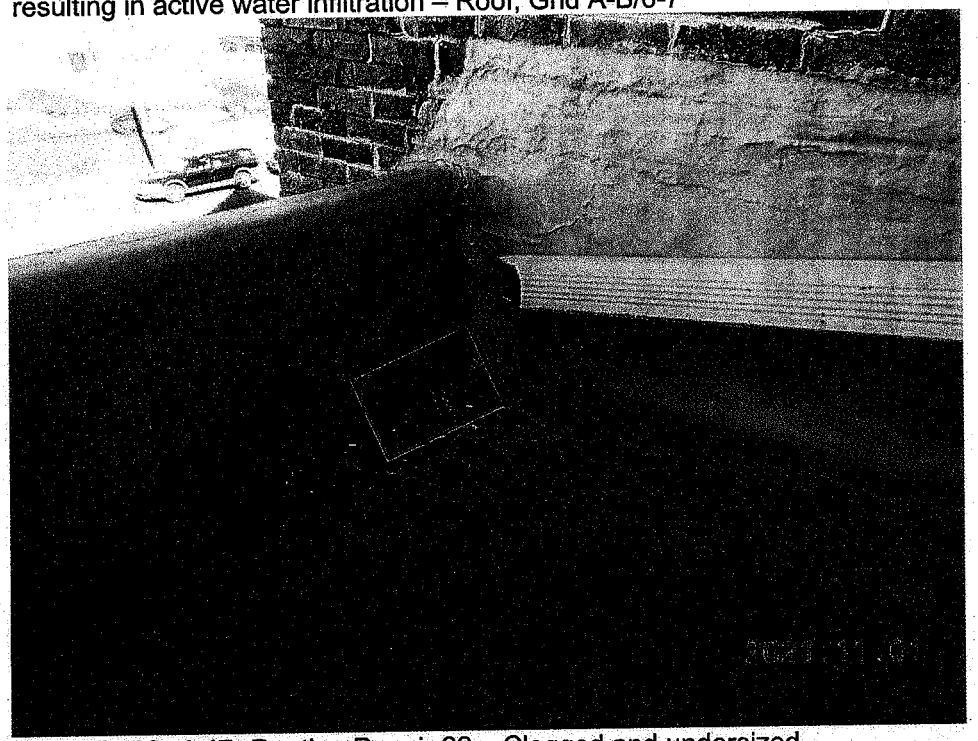


PHOTO NO. 1.47: Routine Repair 22 – Clogged and undersized emergency scuppers. Note: debris cleared during inspection prior to photo being taken – Roof, Grid A/5

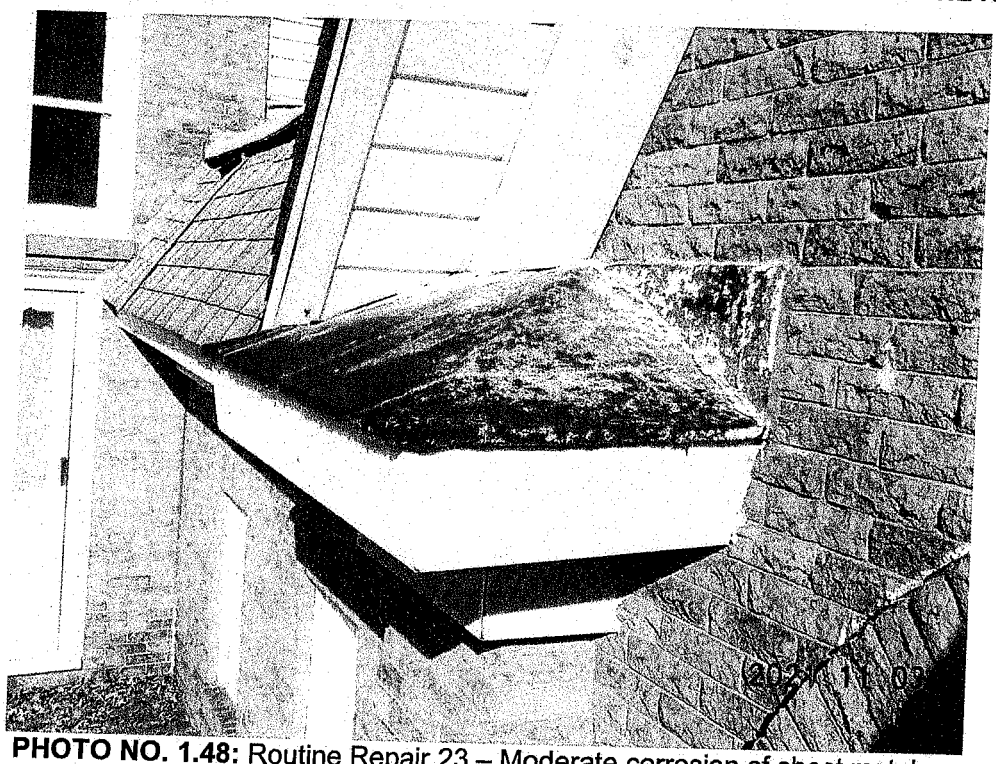


PHOTO NO. 1.48: Routine Repair 23 – Moderate corrosion of sheet metal roof gable end returns with section loss – West Elevation, Grid G: Ht. 15' +/-

PHOTO NO. 1.49: Routine Repair 24 – Moderate corrosion of steel skylight frame with deteriorated sealant resulting in water infiltration– Roof, Grid G/3-4

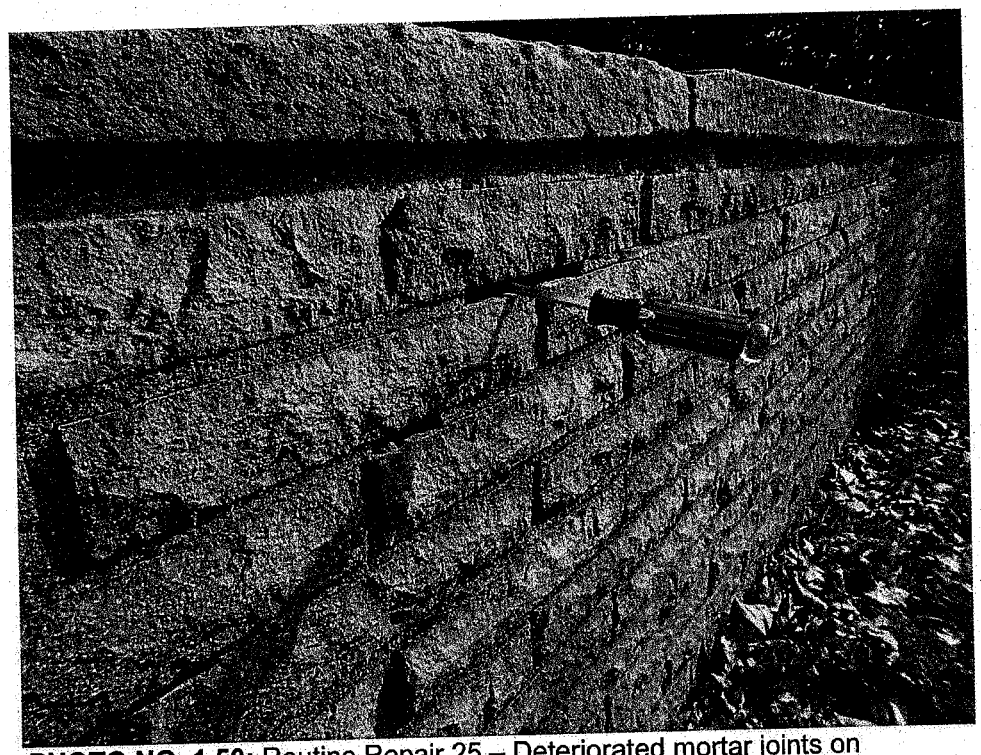


PHOTO NO. 1.50: Routine Repair 25 – Deteriorated mortar joints on masonry retaining wall – Site, Grid G-I/8

PHOTO NO. 1.51: Routine Repair 26 – Cracked and detached sections of brick masonry retaining wall – Site, Grid A.0-A/3

PHOTO NO. 1.52: Routine Repair 27 – Cracked and spalled concrete sidewalk – Site, Grid F-G/6-8

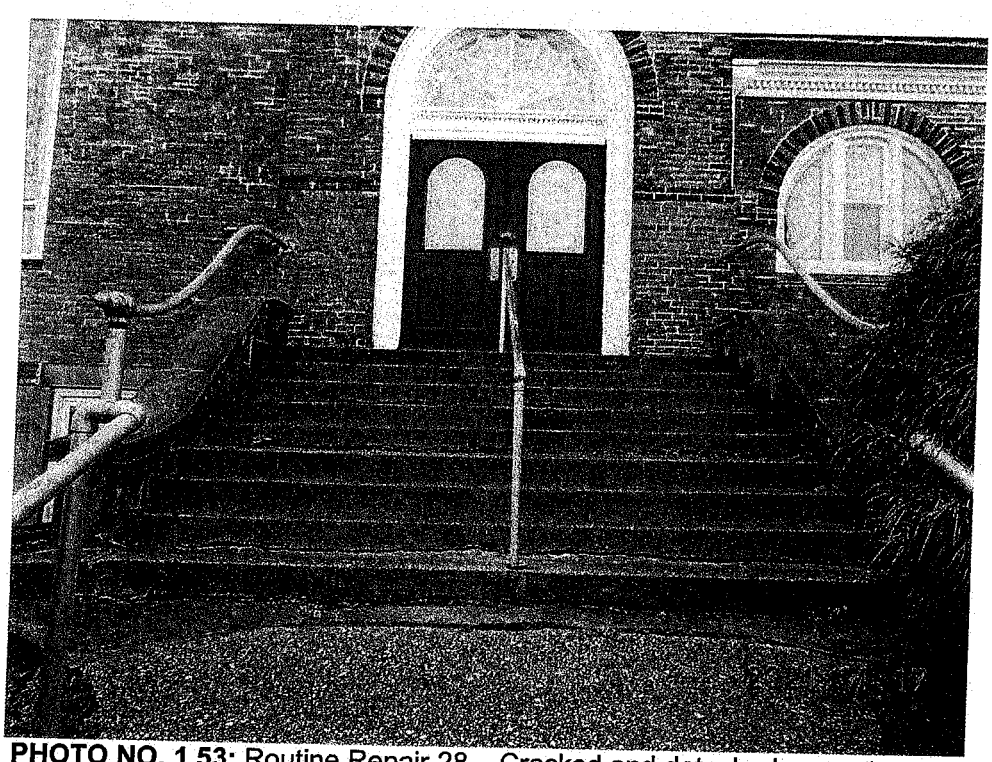


PHOTO NO. 1.53: Routine Repair 28 – Cracked and detached concrete stair treads – Site, Grid A.0-A/4-5

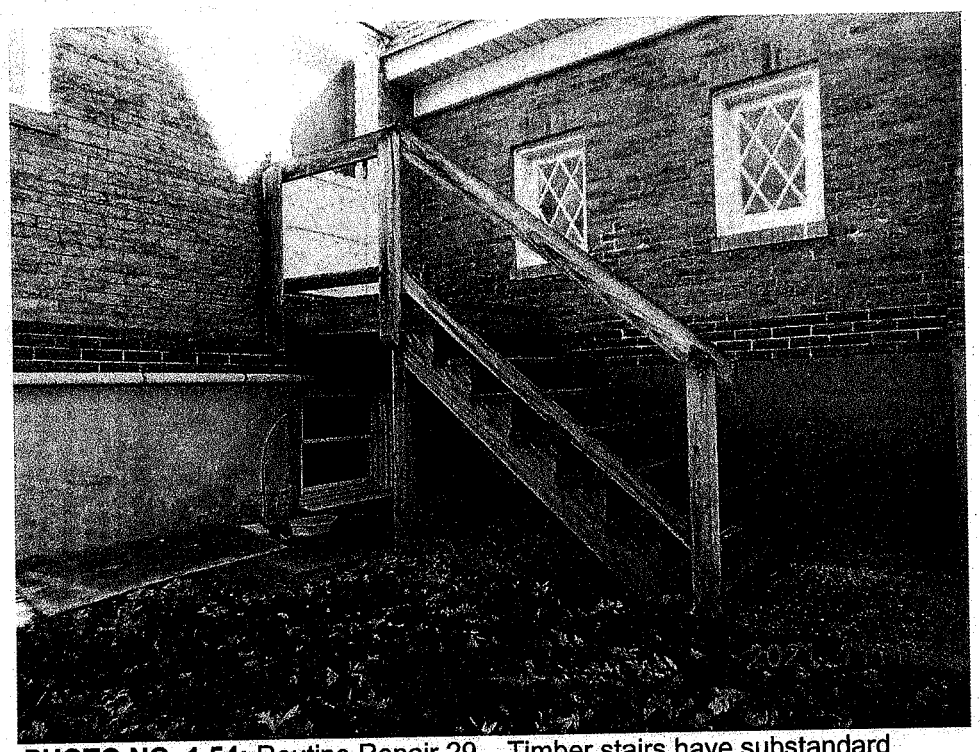


PHOTO NO. 1.54: Routine Repair 29 – Timber stairs have substandard guard/handrail – Site, Grid F-G/6

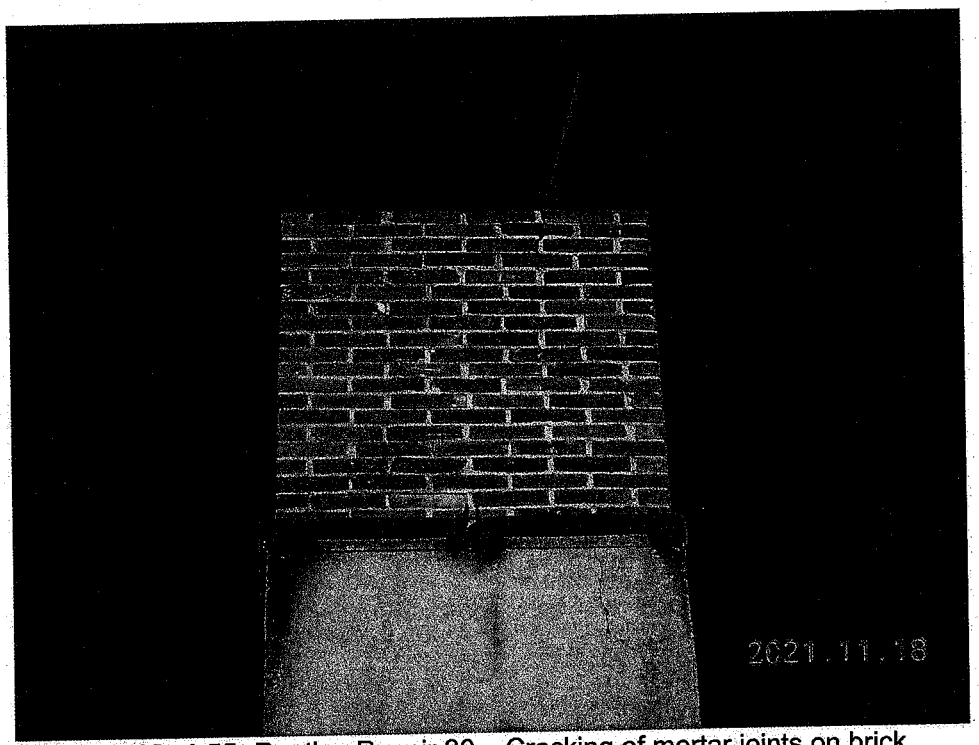
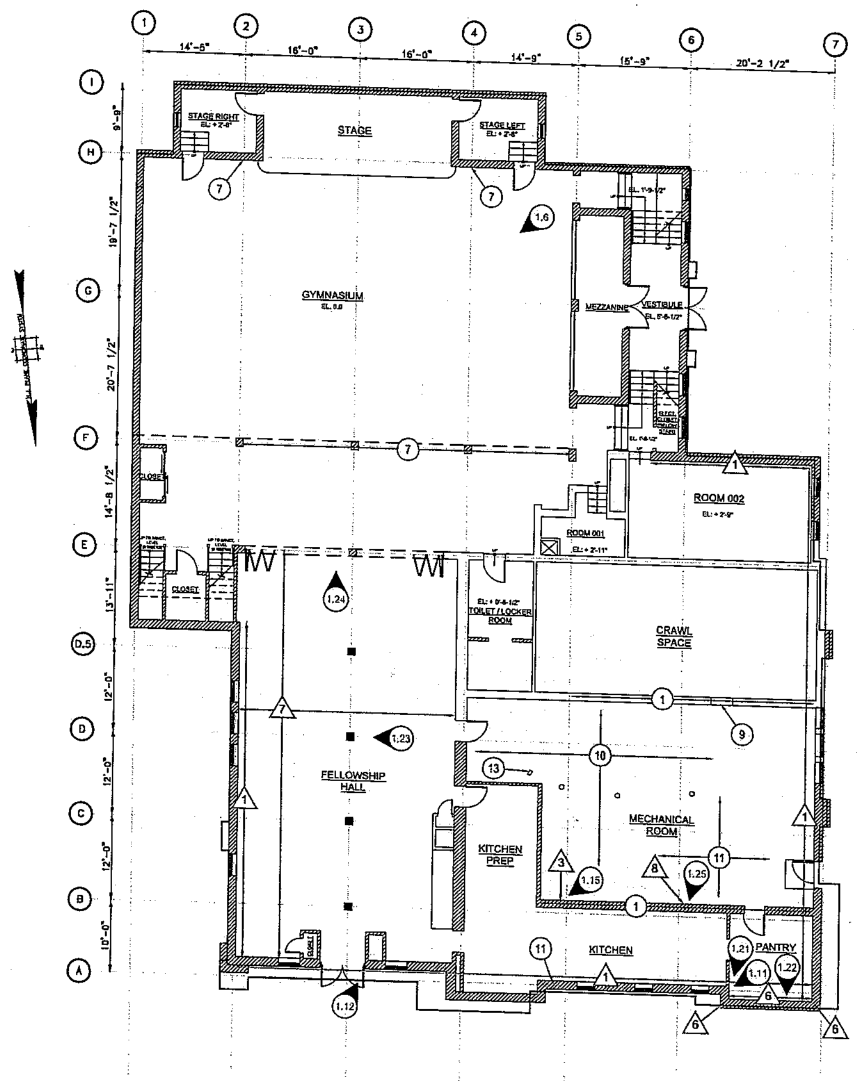


PHOTO NO. 1.55: Routine Repair 30 – Cracking of mortar joints on brick masonry chimney – Roof, Grid D.5-E/5



LOWER LEVEL
1/8" = 1'-0"

LEGEND

- PRIORITY REPAIR
- ROUTINE REPAIR
- COLUMN GRID
- PHOTO LOCATION (GENERAL & PRIORITY ONLY)

NO.	BY	REVISIONS	DATE

BOROUGH OF BRADLEY BEACH

319 LAREINE AVENUE - FUMC
STRUCTURAL ASSESSMENT

BRADLEY BEACH,
MONMOUTH COUNTY, NEW JERSEY

LOWER LEVEL FLOOR PLAN

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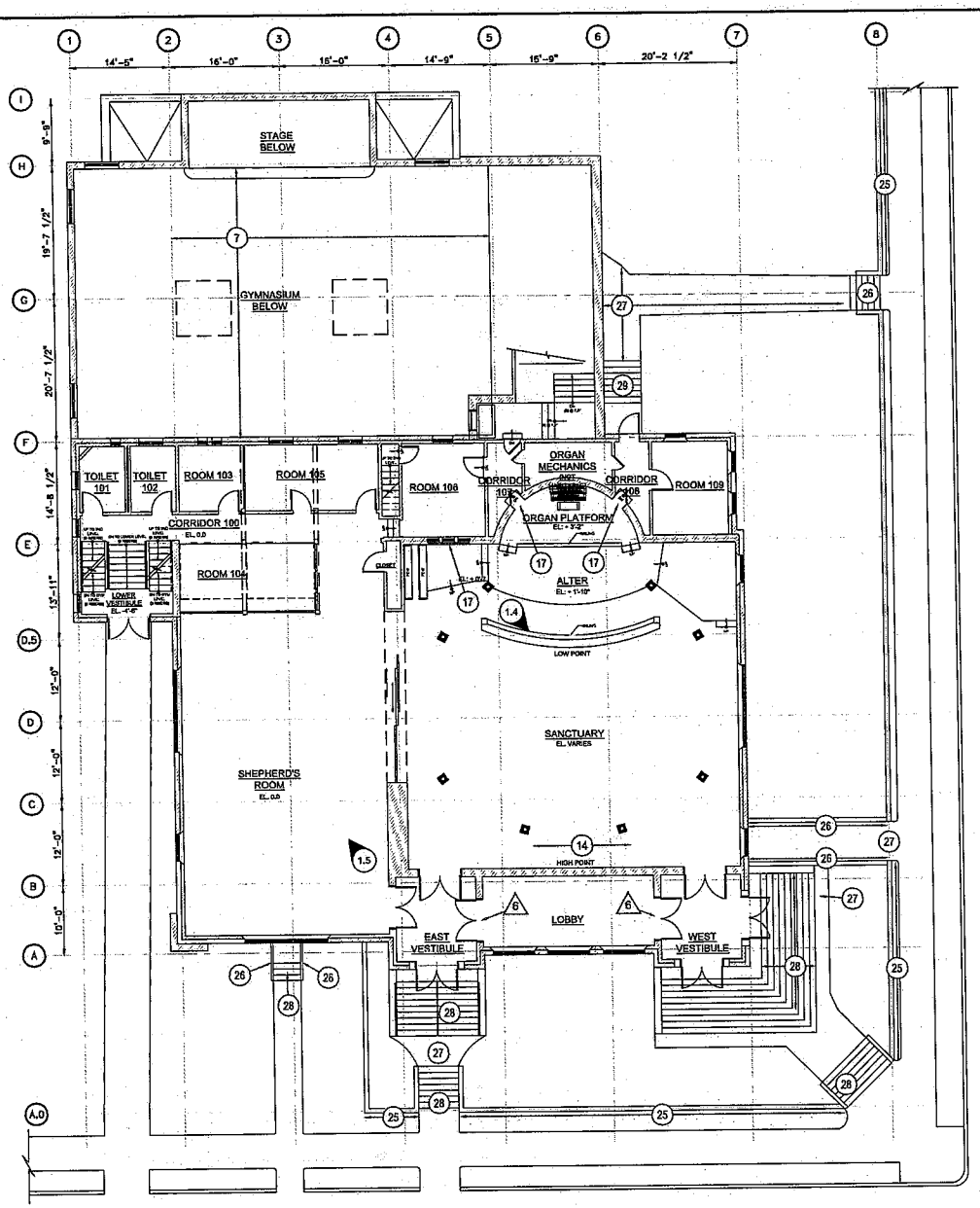
DESIGNED BY	JRQ
CHECKED BY	SO
DRAWN BY	JRQ
DATE	02/11/2022
SCALE	AS NOTED
PROJ. NO.	BRAD0073
DRAWING	S-1

PROJECT: FILE NAME: G:\Projects\BRAD\00073\Plans\S-1.dwg LAST EDIT: 02/15/2022 - 01:47:06 PM LOGIN: JQuird



LEGEND

- PRIORITY REPAIR
- ROUTINE REPAIR
- COLUMN GRID
- PHOTO LOCATION (GENERAL & PRIORITY ONLY)

BOROUGH OF BRADLEY BEACH
319 LAREINE AVENUE - FUMC
STRUCTURAL ASSESSMENT
BRADLEY BEACH
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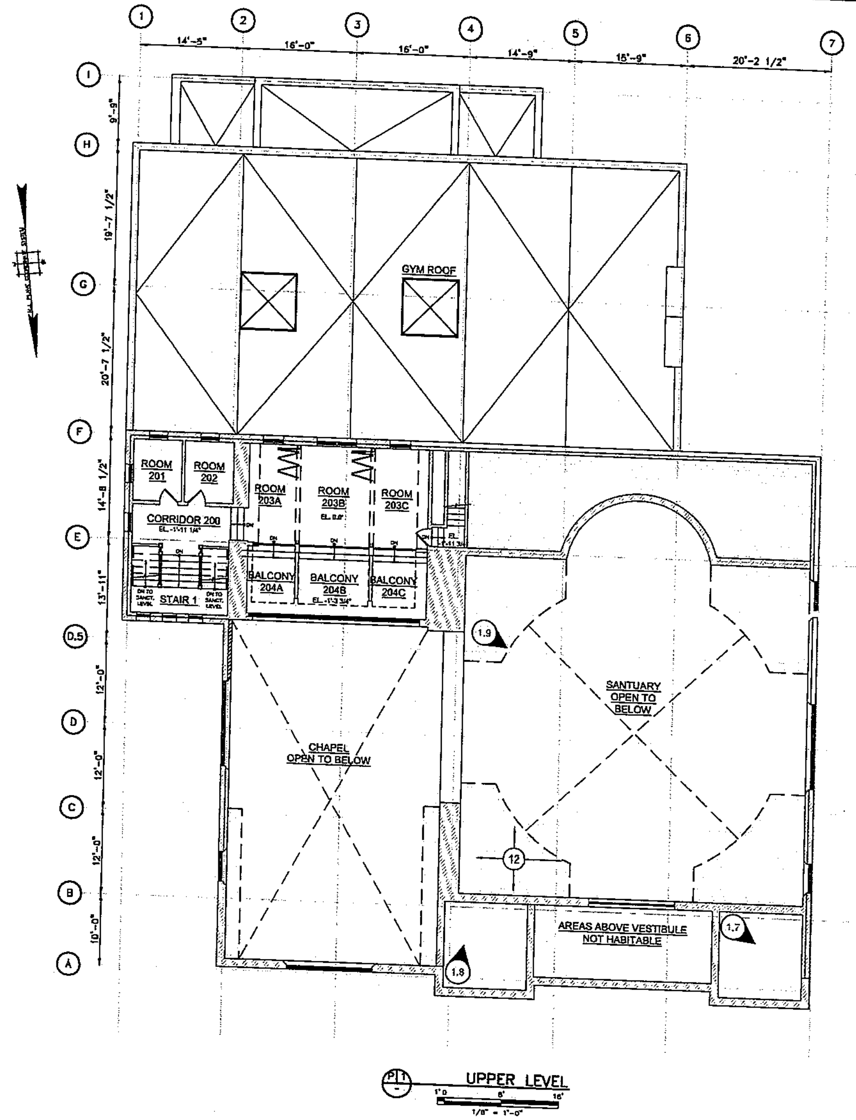
DESIGNED BY: JRG
CHECKED BY: SG
DRAWN BY: JRG
DATE: 02/15/2022
SCALE: AS NOTED
PROJ. NO.: BRAD00573
DRAWING: S-2

PROJECT: FILE NAME: G:\Projects\BRAD\00573\Plans\S-2.dwg LAST EDIT: 02/15/2022 - 01:47:19 PM LOGIN: JGreen



UPPER LEVEL
1/8" = 1'-0"

LEGEND

- ROUTINE REPAIR
- COLUMN GRID
- PHOTO LOCATION (GENERAL & PRIORITY ONLY)

BOROUGH OF BRADLEY BEACH
319 LAREINE AVENUE - FUMC
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BRADLEY BEACH, MONMOUTH COUNTY, NEW JERSEY

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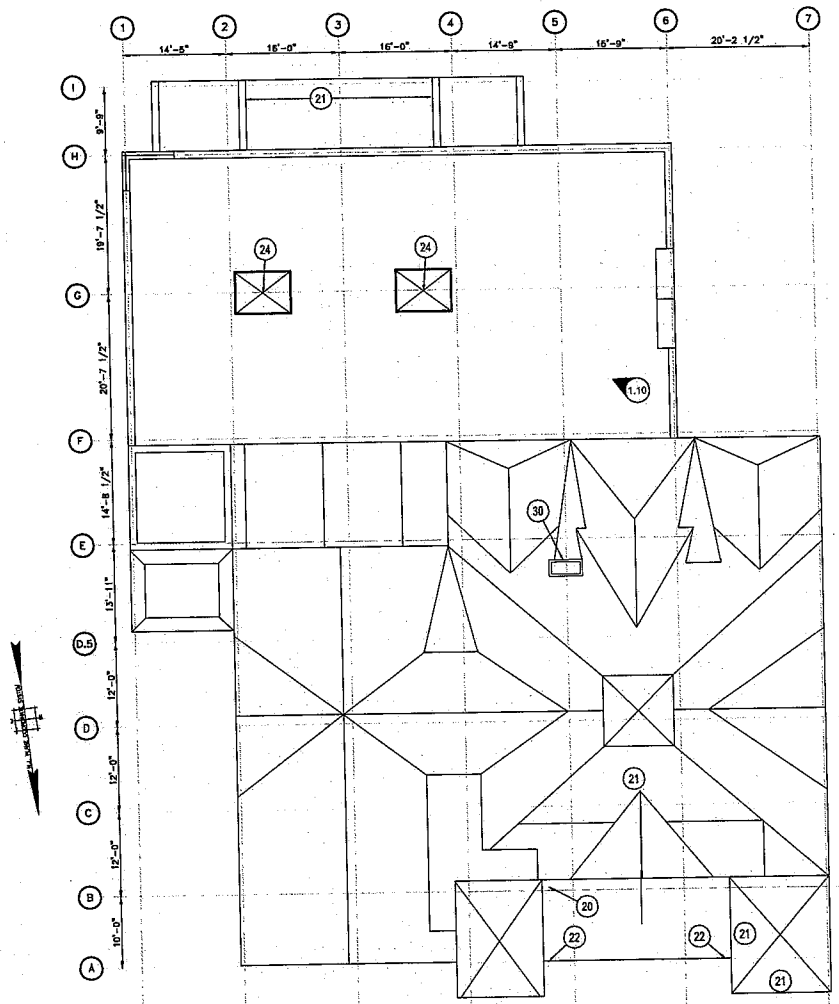
CHECKED BY	SD
DRAWN BY	JRG
DATE	02/11/2022
SCALE	AS NOTED
PROJ. NO.	BRAD00073
DRAWING	S-3

NO.	BY	REVISIONS	DATE

PROJECT: FILE NAME: C:\Projects\BRAD\00073\Plans\S-3.dwg LAST EDIT: 02/15/2022 - 01:47:14 PM LOGIN: JCoss



PT1 ROOF PLAN
1/8" = 1'-0"

LEGEND

- (#) ROUTINE REPAIR
- (#) COLUMN GRID
- (#) PHOTO LOCATION (GENERAL & PRIORITY ONLY)

BOROUGH OF BRADLEY BEACH
319 LARIENE AVENUE - FUMC
STRUCTURAL ASSESSMENT
BRADLEY BEACH, MONMOUTH COUNTY, NEW JERSEY

ROOF PLAN

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DESIGNED BY	JBG
CHECKED BY	BS
DRAWN BY	DL
DATE	02/11/2022
SCALE	AS NOTED
PROJ. NO.	BRAD0078
DRAWING	S-4

PROJECT: FILE NAME: C:\Projects\BRAD\0072\Plans\S-4.dwg LAST EDIT: 02/10/2022 - 01:47:18 PM LOGIN: JGass

1.1
EL. NORTH ELEVATION

LEGEND

- PRIORITY REPAIR
- ROUTINE REPAIR
- COLUMN GRID
- PHOTO LOCATION (GENERAL & PRIORITY ONLY)

PROJECT: FILE NAME: C:\Projects\BRADY\00973\Plans\S-5.dwg LAST EDIT: 02/15/2022 - 01:47:24 PM LOGIN: JGrau

NO.	BY	REVISIONS	DATE

BOROUGH OF BRADLEY BEACH
319 LAREINE AVENUE - FUMC
STRUCTURAL ASSESSMENT
BRADLEY BEACH,
MONMOUTH COUNTY, NEW JERSEY

NORTH ELEVATION

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CHECKED BY	SG
DRAWN BY	JRG
DATE	02/11/2022
SCALE	AS NOTED
PROJ. NO.	BRA000973
DRAWING	S-5

E12 SOUTH ELEVATION

LEGEND

- PRIORITY REPAIR
- ROUTINE REPAIR
- COLUMN GRID
- PHOTO LOCATION (GENERAL & PRIORITY ONLY)

BOROUGH OF BRADLEY BEACH
319 LAREINE AVENUE - FUMC
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BRADLEY BEACH, MONMOUTH COUNTY, NEW JERSEY

SOUTH ELEVATION

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DESIGNED BY JRG
CHECKED BY BO
DRAWN BY JRG
DATE 02/11/2022
SCALE AS NOTED
PROJ. NO. BRAD00973
DRAWING S-6

PROJECT: FILE NAME: C:\Projects\BRAD\00973\Plans\S-6.dwg LAST EDIT: 02/15/2022 - 01:47:28 PM LOGIN: JCoss

E3 EAST ELEVATION

LEGEND

- PRIORITY REPAIR
- ROUTINE REPAIR
- FINDING WITH NO RECOMMENDATION
- COLUMN GRID
- PHOTO LOCATION (GENERAL & PRIORITY ONLY)

BOROUGH OF BRADLEY BEACH
319 LAREINE AVENUE - FUMC
STRUCTURAL ASSESSMENT
BRADLEY BEACH,
MONMOUTH COUNTY, NEW JERSEY

EAST ELEVATION

NO.	BY	REVISIONS	DATE

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OHIO AND PENNSYLVANIA

DESIGNED BY	JRG	
CHECKED BY	SO	
DRAWN BY	JRG	DRAWING
DATE	02/11/2022	S-7
SCALE	AS NOTED	
PROJ. NO.	BRAD00973	

PROJECT: FILE NAME: G:\Projects\BRAD\00973\Plans\S-7.dwg LAST EDIT: 02/15/2022 - 01:47:32 PM LOCATE: JCoss0

E|4 WEST ELEVATION

LEGEND

- PRIORITY REPAIR
- ROUTINE REPAIR
- COLUMN GRID
- PHOTO LOCATION (GENERAL & PRIORITY ONLY)

BOROUGH OF BRADLEY BEACH

319 LAREINE AVENUE - FUMC
STRUCTURAL ASSESSMENT

BRADLEY BEACH,
MONMOUTH COUNTY, NEW JERSEY

WEST ELEVATION

NO.	BY	REVISIONS	DATE

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DESIGNED BY	JRG
CHECKED BY	SO
DRAWN BY	JRG
DATE	02/11/2022
SCALE	AS NOTED
PROJ. NO.	BRAD00073
DRAWING	S-8

PROJECT: FILE NAME: G:\Projects\BRAD\00073\Plans\S-8.dwg LAST EDIT: 02/15/2022 - 01:47:38 PM LOGIN: JCosso

APPENDIX A:
COST ESTIMATE

319 LaREINE AVENUE (FORMER FIRST UNITED METHODIST CHURCH) - REHABILITATION - STRUCTURAL ESTIMATE

Item #	Description	Quantity	Unit	Unit Price			Total Cost			Basis / Comments
				Material	Labor	Total	Material	Labor	Total	
P1	Brick Masonry Foundation Wall - Repair	250	LF	$75	$225	$300	$18,750	$56,250	$75,000	See Footnote 4
P2	Brick Masonry Pier - Rebuild	4	UN	$2,860	$9,710	$12,570	$11,440	$38,840	$50,280	
P3	Brick Masonry Interior Load Bearing Wall - Repair & Repoint	10	SF	$8	$103	$111	$80	$1,030	$1,110	
P4	Cinder Block Exterior Load Bearing Wall - Rebuild	2350	SF	$13	$32	$45	$30,550	$75,200	$105,750	
P5	Plaster with Wire Lathe over Timber Framed Exterior Walls - Rebuild	800	SF	$14	$28	$42	$11,200	$22,400	$33,600	
P6	Timber Framing - Repair	450	SF	$18	$91	$109	$8,100	$40,950	$49,050	
P7	Timber Floor System - Remove & Install Slab	1600	SF	$14	$12	$26	$22,400	$19,200	$41,600	
P8	Lintel - Install	4	LF	$40	$465	$505	$160	$1,860	$2,020	
R1	Brick Masonry Load Bearing Wall - Repair & Repoint	900	SF	$14	$54	$68	$12,600	$48,600	$61,200	
R2	Parge Coat over Brick Masonry Foundation Wall - Repair	5	SF	$49	$180	$229	$245	$900	$1,145	
R3	Parge Coat over Cinder Block Exterior Wall - Repair	50	SF	$5	$143	$148	$250	$7,150	$7,400	
R4	Brick Masonry Facade - Repoint	3,300	SF	$13	$41	$54	$42,900	$135,300	$178,200	
R5	Brick Masonry Header - Reset & Repoint	35	SF	$41	$106	$147	$1,435	$3,710	$5,145	
R6	Stone Masonry Window Sills - Reset & Repoint	70	LF	$10	$171	$181	$700	$11,970	$12,670	
R7	Steel Framing - Clean and Paint	325	LF	$12	$18	$30	$3,900	$5,850	$9,750	
R8	Steel Lintel - Clean and Paint	30	LF	$39	$73	$112	$1,170	$2,190	$3,360	
R9	Lintel - Install	15	LF	$49	$495	$544	$735	$7,425	$8,160	
R10	Concrete Floor Slab - Replace	750	SF	$3	$23	$26	$2,250	$17,250	$19,500	
R11	Timber Framing - Replace	80	LF	$48	$101	$149	$3,840	$8,080	$11,920	
R12	Timber Roof Beam - Repair	75	LF	$4	$73	$77	$300	$5,475	$5,775	
R13	Timber Column - Replace	1	LS	$732	$3,347	$4,079	$732	$3,347	$4,079	
R14	Timber Floor Planks - Replace	280	SF	$6	$7	$13	$1,680	$1,960	$3,640	
R15	Window and Window Frames - Replace	33	UN	$447	$963	$1,410	$14,751	$31,779	$46,530	
R16	Window and Window Frame - Partial Infill & Replace	5	UN	$325	$1,869	$2,194	$1,625	$9,345	$10,970	
R17	Stained Glass Windows - Restore	32	UN	$0	$14,629	$14,629	$0	$468,128	$468,128	J&R Lamb Studios Quote
R18	Doors and Door Frames - Replace & Restore	8	UN	$2,656	$2,988	$5,644	$21,248	$23,904	$45,152	Tru-Door / J&R Lamb
R19	Open Building Envelope - Repair	15	SF	$6	$135	$141	$90	$2,025	$2,115	
R20	Open Building Envelope - Seal Penetration	1	UN	$250	$419	$669	$250	$419	$669	
R21	Open Building Envelope - Roof	135	SF	$0	$0	$0	$0	$0	$0	See Footnote 1
R22	Roof Drain - Install Scuppers	2	UN	$83	$1,843	$1,926	$166	$3,686	$3,852	
R23	Sheet Metal Roof Return - Replace	2	UN	$3,750	$3,750	$7,500	$7,500	$7,500	$15,000	
R24	Skylight - Infill	2	UN	$417	$2,706	$3,123	$834	$5,412	$6,246	
R25	Retaining Wall - Repoint	265	SF	$8	$31	$39	$2,120	$8,215	$10,335	
R26	Retaining Wall - Rebuild	240	SF	$20	$59	$79	$4,800	$14,160	$18,960	
R27	Concrete Sidewalk - Replace	40	SY	$57	$73	$130	$2,280	$2,920	$5,200	
R28	Concrete Stairs - Remove	100	SF	$26	$55	$81	$2,600	$5,500	$8,100	See Footnote 3
R29	Timber Stairs - Replace	1	LS	$691	$5,189	$5,880	$691	$5,189	$5,880	
R30	Chimney - Remove	90	CF	$12	$57	$69	$1,080	$5,130	$6,210	
X1.1	Timber Roof Sheathing - Replace	2,220	SF	$3	$0	$3	$6,660	$0	$6,660	See Footnote 2
X2.1	Timber Fascia, Soffits, and Frieze Boards - Replace	650	LF	$3	$0	$3	$1,950	$0	$1,950	See Footnote 2

319 LaREINE AVENUE (FORMER FIRST UNITED METHODIST CHURCH) - REHABILITATION - STRUCTURAL ESTIMATE

Item #	Description	Quantity	Unit	Unit Price			Total Cost			Basis / Comments
				Material	Labor	Total	Material	Labor	Total	
TOTAL STRUCTURAL DIRECT COSTS							**$244,062**	**$1,108,249**	**$1,352,311**	
	Division 1 General Requirements					12%			$162,277	
	Bonds & Insurance					5%			$67,616	
	Permits					5%			$67,616	
TOTAL STRUCTURAL CONSTRUCTION COST									**$1,649,819**	
	Contingency					15%			$247,473	
	Engineering					20%			$329,964	
						Subtotal			**$2,227,256**	
	Escalation					1%			$22,273	
TOTAL STRUCTURAL PROJECT COST									**$2,249,529**	
TOTAL STRUCTURAL PROJECT COST (rounded)									**$2,250,000**	

1. No separate cost for this item. Costs for repairing this item are included in roof replacement (by others) and Item X1.1 for Timber Roof Sheathing - Repair.
2. Costs for material only is included. Labor associated to this effort is included in other items (i.e. roofing replacement).
3. Costs include demo only. Configurations will need to change to meet current code. Costs for install of new by others.
4. Total Cost is based on a collaborative assessment between T&M, DIG, and Harrison-Hamnet to determine a project allowance for foundation repair.

319 LaREINE AVENUE (FORMER FIRST UNITED METHODIST CHURCH) - REHABILITATION
Stuctural Estimate Notes

1	2021 RS Means Items 4th Quarter Data Used for Long Branch, NJ	
2	RS Means Items Engineer's Adjustment Factor =	1.1
3	RS Means Items Adjustment Factor For Specfic Laborer Rate per City Cost Index =	1.4

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
P1	Brick Masonry Foundation Wall - Repair	250	LF						
	Replace damaged brick, repoint mortar joints, rebuild select areas			$75	$225	$18,750	$56,250		Allowance of $75k - collab. btwn. DIG, T&M, HH
	SUBTOTAL COSTS					$18,750.00	$56,250.00	$75,000.00	
	Convert to an equivalent unit price		LF			$75.00	$225.00	$300.00	
	TOTAL UNIT PRICE		**LF**		**USE**	**$75.00**	**$225.00**	**$300.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
P2	Brick Masonry Pier - Rebuild	4	UN						RS Means
	Excavation:								Crew B12F
	312316130500								
	Excavating, trench or continuous footing, common earth, 3/4 C.Y. excavator, 6' to 10' deep, excludes sheeting or dewatering								Production Rate (UN/Day)
	Excavation, 7' deep	60	CY						2
	Equipment Operator, Med. Equip.	2	DAY		$1,108		$2,216		RS Means
	1 Laborer	2	DAY		$837		$1,673		RS Means
	1 Hydraulic Excavator	2	DAY		$798		$1,596		RS Means
	Shoring:								
	Screw Jack, 2 per location, & Cribbing	4	Jack	$1,062	$207	$4,246	$830		314113101000
	(3) 2x12 Temporary Girder	32	LF	$10.31		$330			Market Value
	Demo								
	024113301000								
	Minor site demolition, masonry walls, block, solid excluding hauling								Crew B5
	1 Building Laborer, Foreman	2	DAY		$861		$1,722		RS Means
	2 Building Laborers	2	DAY		$1,673		$3,346		RS Means
	Repair								
	Replace/Reset Brick, 8' High	260	SF	$26.40	$105.60	$6,864	$27,456		LRSA00038 Contract Prices - Inflation Adj.
	SUBTOTAL COSTS					$11,440	$38,839	$50,279	
	Convert to an equivalent unit price		UN			$2,860.00	$9,709.72	$12,569.72	
	TOTAL UNIT PRICE		**UN**		**USE**	**$2,860**	**$9,710**	**$12,570**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
P3	Brick Masonry Interior Load Bearing Wall - Repair & Repoint	10	SF						RS Means
	042113132050								
	Brick veneer masonry, red brick, full header every 6th course, truckload lots, 7.88/SF, 4" x 2-2/3" x 8", includes 3% brick and 25% mortar waste, excludes scaffolding, grout and reinforcing								
	LABOR:								
	1 Brick Layer	1	DAY		$1,021		$1,021		
	MATERIALS:			$7.81		$78.10			
	SUBTOTAL COSTS					$78.10	$1,021.33	$1,099.43	
	Convert to an equivalent unit price		SF			$7.81	$102.13	$109.94	
	TOTAL UNIT PRICE		**SF**		**USE**	**$8.00**	**$103.00**	**$111.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
P4	Cinder Block Exterior Load Bearing Wall - Rebuild	2350	SF						
	Shoring:								
	Screw Jack & Cribbing	4	Jack	$1,062	$207	$4,246	$830		314113101000
	(3) 2x12 Temporary Girder	40	LF	$10.31		$413			Market Value
	Excavation:								
	312316130500								Crew B12F
	Excavating, trench or continuous footing, common earth, 3/4 C.Y. excavator, 6' to 10' deep, excludes sheeting or dewatering								Production Rate (CY/Day)
	LABOR:								100
	Excavation, 7' deep	195	CY						
	1 Equipment Operator (Crane)	2	DAY		$1,162		$2,325		RS Means
	1 Laborer	2	DAY		$837		$1,673		RS Means
	1 Hydraulic Excavator	2	DAY		$798		$1,596		RS Means
	Demo:								
	024113301000								Crew B5
	Minor site demolition, masonry walls, block, solid excluding hauling								Production Rate (CF/Day)
	LABOR:								1800
	Existing Walls, 12" thk.	2350	CF						
	1 Building Laborer, Foreman	2	DAY		$861		$1,722		RS Means
	3 Building Laborers	2	DAY		$2,510		$5,019		RS Means
	Equipment Operator, Med. Equip.	2	DAY		$1,108		$2,216		RS Means
	Footing:								
	Continuous Strip Footing, 12" x 24", 4000 PSI, (3) #5 cont. LW, #4 SW	8	CY	$324.50	$330.00	$2,596	$2,640		SJTA00280 - Adjusted for Inflation

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
P4	Cinder Block Exterior Load Bearing Wall - Rebuild	2350	SF						
	Walls:								
	042210240300								
	Concrete block, exterior, normal weight, tolled joint one side, 2000 psi, 12" x 8" x 16", includes mortar and horizontal joint reinforcing every other course, excludes scaffolding, vertical reinforcing and grout								Crew D9 Production Rate (SF/Day)
	LABOR:								
	3 Building Laborer	10	DAY		$2,510		$25,096		250
	3 Bricklayer	10	DAY		$3,064		$30,640		RS Means
	MATERIALS:								RS Means
	CMU Walls	2350	SF	$7.08		$16,647.40			
	#4 Rebar	415	LBS	$1.30		$538.67			042210240300
	Grout	2350	SF	$2.07		$4,859.80			032111600702
									040516300350
	SUBTOTAL COSTS					$29,300.37	$73,756.40	$103,056.77	
	Convert to an equivalent unit price		SF			$12.47	$31.39	$43.85	
	TOTAL UNIT PRICE		**SF**		**USE**	**$13.00**	**$32.00**	**$45.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
P5	Plaster with Wire Lathe over Timber Framed Exterior Walls - Rebuild	800	SF						RS Means
	Rebuild does not include costs for new exterior and interior finishes (by Others)								
	Shoring:								
	Screw Jack, 2 per location, & Cribbing	6	Jack	$1,062	$207	$6,369	$1,244		314113101000
	(3) 2x12 Temporary Girder	75	LF	$10.31		$773			Home Depot
	Demo:								
	024113301000								Crew B5
	Minor site demolition, masonry walls, block, solid excluding hauling								Production Rate (SF/Day)
	LABOR:								400
	1 Building Laborer, Foreman	2	DAY		$861		$1,722		RS Means
	3 Building Laborers	2	DAY		$2,510		$5,019		RS Means
	Equipment Operator, Med. Equip.	2	DAY		$1,108		$2,216		RS Means
	Framing:								
	061110260605								
	Wood Framing, partitions, standard & better lumber, 2" x 4" studs, 16" o/c, 12' high, pneumatic nailed, includes single bottom plate and double top plate, excludes waste								
	MATERIALS:								
	2x4 Wall Framing, 12' high (+50% excess)	115	LF	$13.96		$1,605			RS Means
	Plywood Sheathing	800	SF	$2.60		$2,076			Market Value
	LABOR:								
	1 Building Laborer, Foreman	4	DAY		$861		$3,445		RS Means
	2 Carpenters	4	DAY		$2,065		$8,259		RS Means
	SUBTOTAL COSTS					$10,823.97	$21,906.13	$32,730.10	
	Convert to an equivalent unit price		SF			$13.53	$27.38	$40.91	
	TOTAL UNIT PRICE		**SF**		**USE**	**$14.00**	**$28.00**	**$42.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
P6	Timber Framing - Repair	450	SF						RS Means
	Number of Locations	5	UN						
	LABOR:								
	Shoring:								
	Screw Jack, 2 per location, & Cribbing	5	Jack	$1,062	$207	$5,308	$1,037		314113101000
	(3) 2x12 Temporary Girder	40	LF	$10.31		$413			Market Value
	Demo:								
	Remove Existing Finishes	300	SF		$5		$1,500		
	Existing Timber Floor Planks	150	SF		$5		$750		
	Remove & Install Timber:								
	2 Carpenters	10	DAY		$2,065		$20,648		
	2 Building Laborer	10	DAY		$1,673		$16,731		
	MATERIALS:								
	2x8 Pressure Treated	150	LF	$2.24		$336			Market Value
	2x12 Pressure Treated	150	LF	$3.44		$516			Market Value
	1" thk. Plywood Sheathing	300	SF	$2.60		$779			Market Value
	1" thk. Plywood Subfloor	150	SF	$2.60		$389			Market Value
	SUBTOTAL COSTS					$7,739.50	$40,665.76	$48,405.26	
	Convert to an equivalent unit price		SF			$17.20	$90.37	$107.57	
	TOTAL UNIT PRICE		**SF**		**USE**	**$18.00**	**$91.00**	**$109.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
P7	Timber Floor System - Remove & Install Slab	1600	SF						
	Removal:								
	LABOR:								
	1 Building Laborer, Foreman	1	DAY		$861		$861		RS Means
	2 Building Laborer	2	DAY		$1,673		$3,346		RS Means
	Equipment Operator, Med. Equip.	1	DAY		$1,108		$1,108		RS Means
	033053404700								
	Structural concrete, in place, slab on grade (3500 psi), 6" thick, includes forms (4 uses), Grade 60 rebar, concrete (Portland cement Type I), and placing, excludes finishing.								
	MATERIALS:								
	Concrete Slab	30	CY	$121.31		$3,639.24			RS Means
	4" layer of crushed stone	20	CY	$48.39		$967.78			RS Means
	Under slab insulation and vapor barrier	1	LS	$7,150.00		$7,150.00			SJTA00280 - Inflation Adj.
	Underdrain w/ sump	1	LS	$10,000		$10,000.00			*Incl. Labor
	LABOR:								
	2 Carpenters	2	DAY		$2,065		$4,130		
	2 Rodmen (Reinforcing)	2	DAY		$2,234		$4,467		
	2 Building Laborer	2	DAY		$1,673		$3,346		
	Cement Finisher	1	DAY		$958		$958		
	SUBTOTAL COSTS					$21,757.02	$18,216.35	$39,973.37	
	Convert to an equivalent unit price		SF			$13.60	$11.39	$24.98	
	TOTAL UNIT PRICE		**SF**		**USE**	**$14.00**	**$12.00**	**$26.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
P8	Lintel - Install	4	LF						
	051223452900								RS Means
	Lintel angle, structural, unpainted, 5"x3-1/2"x5/16" T, 10'-0" long, shop fabricated								Production Rate (LF/Day)
	LABOR:								
	1 Bricklayer	1	DAY	$0	$1,021	$0	$1,021		4
	1 Building Laborer	1	DAY	$0	$837	$0	$837		
	MATERIALS:								
	Steel Lintel	4	LF	$24.19		$96.75			051223452900, 10' long = $179.17/10' = $17.92/ft, add 35% for galv.
	Bricks, 2SF / LF of Lintel	8	SF	$7.81		$62.48			042113132050
	SUBTOTAL COSTS					$159.23	$1,857.86	$2,017.09	
	Convert to an equivalent unit price		LF			$39.81	$464.46	$504.27	
	TOTAL UNIT PRICE		**LF**		**USE**	**$40.00**	**$465.00**	**$505.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R1	Brick Masonry Load Bearing Wall - Repair & Repoint	900	SF						LRSA00038 Contract Prices - Inflation Adj.
	Assume 70% of area repoint								
	Assume 30% of area repair								
	Repoint	630	SF	$7.70	$30.80	$4,851.00	$19,404.00		
	Replace/Reset	270	SF	$26.40	$105.60	$7,128.00	$28,512.00		
	Scaffolding	1	LS	$500.00		$500.00			
	SUBTOTAL COSTS					$12,479.00	$47,916.00	$60,395.00	
	Convert to an equivalent unit price		SF			$13.87	$53.24	$67.11	
	TOTAL UNIT PRICE		**SF**		**USE**	**$14.00**	**$54.00**	**$68.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R2	Parge Coat over Brick Masonry Foundation Wall - Repair	5	SF						T&M Projects / Other
	Brick Replacement	5	SF	$26.40	$105.60		$528		LRSA00038 Contract Prices
	Parge Coat Repair, incl. remove of exist. and install of new								Production Rate (SF/Day)
	LABOR:								10
	1 Building Laborer	0.5	DAY		$837		$418		
	1 Cement Finisher	0.5	DAY		$958		$479		
	MATERIALS:								
	SikaTop-144, 5 Gallon	1	UN	$242.00		$242.00			EMI Supply
	SUBTOTAL COSTS					$242.00	$897.20	$1,139.20	
	Convert to an equivalent unit price		SF			$48.40	$179.44	$227.84	
	TOTAL UNIT PRICE		**SF**		**USE**	**$49.00**	**$180.00**	**$229.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R3	Parge Coat over Cinder Block Exterior Wall - Repair	50	SF						
	Block Replacement w/ CMU, assume 50% of total area	25	SF	$26.40	$105.60		$2,640		LRSA00038 Contract Prices
	Parge Coat Repair, incl. remove of exist. and install of new								Production Rate (SF/Day)
	LABOR:								20
	1 Building Laborer	2.5	DAY		$837		$2,091		
	1 Cement Finisher	2.5	DAY		$958		$2,395		
	MATERIALS:								
	SikaTop-144, 5 Gallon	1	UN	$242.00		$242.00			EMI Supply
	SUBTOTAL COSTS					$242.00	$7,126.02	$7,368.02	
	Convert to an equivalent unit price		SF			$4.84	$142.52	$147.36	
	TOTAL UNIT PRICE		**#REF!**		**USE**	**$5.00**	**$143.00**	**$148.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R4	Brick Masonry Facade - Repoint	3300	SF						RS Means & T&M Projects
	Area requiring silicone and caulk removal effort	1800	SF						
	Cleaning / Power Washing								Production Rate (SF/Day)
	2 Building Laborers	6	DAY		$837		$5,019		300
	Repointing								Production Rate (SF/Day)
	Typical Repointing	3300	SF	$7.70	$30.80	$25,410	$101,640		300
	+25% markup for speciality tools and skills required	25%		$1.93	$7.70	$6,353	$25,410		
	60 ft. Articulating Boom Lift	1	Month	$2,652		$2,652			
	Scaffolding	11	DAY	$500.00		$5,500.00			United Rentals
	SUBTOTAL COSTS					$39,915	$132,069	$171,984	
	Convert to an equivalent unit price		SF			$12.10	$40.02	$52.12	
	TOTAL UNIT PRICE		**SF**		**USE**	**$13.00**	**$41.00**	**$54.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R5	Brick Masonry Header - Reset & Repoint	35	SF						LRSA00038 Contract Prices - Inflation Adj.
	Replace/Reset	35	SF	$26.40	$105.60	$924.00	$3,696.00		
	Scaffolding	1	LS	$500.00		$500.00			
	SUBTOTAL COSTS					$1,424.00	$3,696.00	$5,120.00	
	Convert to an equivalent unit price		SF			$40.69	$105.60	$146.29	
	TOTAL UNIT PRICE		**SF**		**USE**	**$41.00**	**$106.00**	**$147.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R6	Stone Masonry Window Sills - Reset & Repoint	70	LF						T&M Projects
	Number of Sills	9	UN						
	Remove existing sill, clear out any remaining materials, shim surface to provide forward pitch, reset sill								Production Rate (UN/Day)
	1 Building Laborer	4.5	DAY		$837		$3,764		2
	1 Carpenter	4.5	DAY		$1,032		$4,646		
	OTHER:								
	Repoint - joint under sill	70	LF	$7.70	$30.80	$539	$2,156		LRSA00038 - Bid Price Avg. + Inflation
	Replace Joint Sealant - between window and sill	70	LF	$2.20	$19.80	$154	$1,386		
	SUBTOTAL COSTS					$693.00	$11,952.25	$12,645.25	
	Convert to an equivalent unit price		LF			$9.90	$170.75	$180.65	
	TOTAL UNIT PRICE		**LF**		**USE**	**$10.00**	**$171.00**	**$181.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R7	Steel Framing - Clean and Paint	325	LF						RS Means / T&M Projects
	050110516180								
	Metal cleaning, steel surface treatment 500-900 SF/Day, wire brush, power tools (SSPC-SP3)								
	Clean - Steel WF Members	3250	SF	$0.15	$1.77	$501	$5,756		4 LF Perimeter / LF of Steel
	Paint								
	2 Painters, Structural Steel	3	Day		$1,923		$5,769		
	Paint, 2 Coats, 100 SF/Gallon	32.5	GAL	$72		$2,348			TMUA00100 - Infl. Adj. (16%)
	Scaffolding	3	Day	$500		$1,500			
	SUBTOTAL COSTS					$3,847.58	$5,769.46	$9,617.04	
	Convert to an equivalent unit price		LF			$11.84	$17.75	$29.59	
	TOTAL UNIT PRICE		**LF**		**USE**	**$12.00**	**$18.00**	**$30.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R8	Steel Lintel - Clean and Paint	30	LF						
	050110516180								RS Means
	Metal cleaning, steel surface treatment 500-900 SF/Day, wire brush, power tools (SSPC-SP3)								
	Clean - Steel WF Members	150	SF	$0.15	$1.77	$23	$266		2 LF Perimeter / LF of Steel
	Paint								
	Painter, Structural Steel	2	Day		$962		$1,923		
	Paint, 2 Coats, 100 SF/Gallon	2	GAL	$72		$144			TMUA00100 - Infl. Adj. (16%)
	Scaffolding	2	Day	$500		$1,000			
	SUBTOTAL COSTS					$1,167.57	$2,188.80	$3,356.37	
	Convert to an equivalent unit price		LF			$38.92	$72.96	$111.88	
	TOTAL UNIT PRICE		**LF**		**USE**	**$39.00**	**$73.00**	**$112.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R9	Lintel - Install	15	LF						RS Means
	051223452900								
	Lintel angle, structural, unpainted, 5"x3-1/2"x5/16" T, 10'-0" long, shop fabricated								Production Rate (LF/Day)
	LABOR:								6
	1 Bricklayer	2.5	DAY		$1,021		$2,553		
	1 Building Laborer	2.5	DAY		$837		$2,091		
	1 Equip. Oper. (light)	2.5	DAY		$1,108		$2,770		
	MATERIALS:								
	Steel Lintel	15	LF	$17.92		$268.76			051223452900
	+35% for galvanized			$6.27		$94.06			
	Bricks, 2 SF / LF of Lintel	30	SF	$7.81		$234.30			042113132050
	Flashing, 2 SF / LF of Lintel	30	SF	$4.38		$131.34			076510100100
	SUBTOTAL COSTS					$728.46	$7,415.10	$8,143.56	
	Convert to an equivalent unit price		LF			$48.56	$494.34	$542.90	
	TOTAL UNIT PRICE		**LF**		**USE**	**$49.00**	**$495.00**	**$544.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R10	Concrete Floor Slab - Replace	750	SF						RS Means
	Removal:								
	LABOR:								
	1 Building Laborer, Foreman	1	DAY		$861		$861		
	2 Building Laborer	1	DAY		$1,673		$1,673		
	Equipment Operator, Med. Equip.	1	DAY		$1,108		$1,108		
	Install:								
	033053404700								
	Structural concrete, in place, slab on grade (3500 psi), 6" thick, includes forms (4 uses), Grade 60 rebar, concrete (Portland cement Type I), and placing, excludes finishing.								
	MATERIALS:								
	Concrete Slab	14	CY	$121.31		$1,698.31			
	4" layer of crushed stone	10	CY	$48.39		$483.89			
	LABOR:								
	2 Carpenters	2	DAY		$2,065		$4,130		
	2 Rodmen (Reinforcing)	2	DAY		$2,234		$4,467		
	2 Building Laborer	2	DAY		$1,673		$3,346		
	Cement Finisher	1	DAY		$958		$958		
	SUBTOTAL COSTS					$2,182.20	$16,543.30	$18,725.50	
	Convert to an equivalent unit price		SF			$2.91	$22.06	$24.97	
	TOTAL UNIT PRICE		**SF**		**USE**	**$3.00**	**$23.00**	**$26.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R11	Timber Framing - Replace	80	LF						
	Number of Locations	2	UN						
	LABOR:								
	Shoring:								
	Screw Jack, 2 per location, & Cribbing	2	Jack	$1,062	$207	$2,123	$415		314113101000
	(3) 2x12 Temporary Girder	25	LF	$10.31		$258			Home Depot
	Demo:								
	Remove Existing Finishes	300	SF		$5		$1,500		Assumption
	Existing Timber Floor Planks	150	SF		$5		$750		Assumption
	Remove & Install Timber:								
	1 Carpenters	2	DAY		$1,032		$2,065		RS Means
	2 Building Laborer	2	DAY		$1,673		$3,346		RS Means
	MATERIALS:								
	2x8 Pressure Treated, Sill	15	LF	$2.24		$34			Market Value
	2x12 Pressure Treated, Beam	65	LF	$3.44		$223			Market Value
	1" thk. Plywood Sheathing	300	SF	$2.60		$779			Market Value
	1" thk. Plywood Subfloor	150	SF	$2.60		$389			Market Value
	SUBTOTAL COSTS					$3,805.74	$8,075.70	$11,881.44	
	Convert to an equivalent unit price		LF			$47.57	$100.95	$148.52	
	TOTAL UNIT PRICE		**LF**		**USE**	**$48.00**	**$101.00**	**$149.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R12	Timber Roof Beam - Repair	75	LF						
	Number of Beams	5	UN						
	LABOR:								
	1 Carpenters	2	DAY		$1,032		$2,065		RS Means
	2 Building Laborer	2	DAY		$1,673		$3,346		RS Means
	MATERIALS:								
	2x12 Timber, 16 ft. each	80	LF	$3.44		$275			Market Value
	SUBTOTAL COSTS					$275.00	$5,410.94	$5,685.94	
	Convert to an equivalent unit price		LF			$3.67	$72.15	$75.81	
	TOTAL UNIT PRICE		**LF**		**USE**	**$4.00**	**$73.00**	**$77.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R13	Timber Column - Replace	1	LS						
	LABOR:								
	2 Building Laborers	2	DAY		$1,673		$3,346		RS Means
	MATERIALS:								
	Footing, 4' deep	1	UN	$512		$512			033053403800
	Steel Lally Column	1	UN	$220		$220			Market Value
	SUBTOTAL COSTS					$731.50	$3,346.11	$4,077.61	
	Convert to an equivalent unit price		LS			$731.50	$3,346.11	$4,077.61	
	TOTAL UNIT PRICE		**LS**		**USE**	**$732.00**	**$3,347.00**	**$4,079.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R14	Timber Floor Planks - Replace	280	SF						RS Means
	LABOR:								
	1 Building Laborer	1	DAY		$837		$837		RS Means
	1 Carpenters	1	DAY		$1,032		$1,032		RS Means
	MATERIALS:								
	Hardwood Flooring, 3/4" thk.	280	SF	$5.83		$1,632.40			Market Value
	SUBTOTAL COSTS					$1,632.40	$1,868.94	$3,501.34	
	Convert to an equivalent unit price		SF			$5.83	$6.67	$12.50	
	TOTAL UNIT PRICE		**SF**		**USE**	**$6.00**	**$7.00**	**$13.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R15	Window and Window Frames - Replace	33	UN						
	Total Perimeters of Windows	445	LF						
	LABOR:								Production Rate (UN/Day)
									2
	1 Carpenters	17	DAY		$1,032		$17,551		RS Means
	1 Building Laborer	17	DAY		$837		$14,221		RS Means
	MATERIALS:								
	Single Hung, 2'W x 4'H	3		$260		$780			Market Value
	Single Hung, 2.5'W x 4'H	3		$450		$1,350			Market Value
	Single Hung, 2.5'W x 5'H	4		$345		$1,380			Market Value
	Single Hung, 3'W x 3'H	2		$275		$550			Market Value
	Single Hung, 3'W x 5.5'H	10		$495		$4,950			Market Value
	Single Hung, 3.5'W x 4'H	4		$375		$1,500			Market Value
	Awning Window, 4'W x 3'H	7		$530		$3,710			Market Value
	2x4 Pressure Treated (+10%)	490	LF	$1.04		$507			Market Value
	SUBTOTAL COSTS					$14,727.15	$31,772.05	$46,499.20	
	Convert to an equivalent unit price		UN			$446.28	$962.79	$1,409.07	
	TOTAL UNIT PRICE		**UN**		**USE**	**$447.00**	**$963.00**	**$1,410.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R16	Window and Window Frame - Partial Infill & Replace	5	UN						
	Total Infill Area	32	SF						
	Total Perimeters of Windows	37.5	LF						
	LABOR:								
	Incl. demo, infill, new framing, window install								Production Rate (UN/Day)
	1 Carpenters	5	DAY		$1,032		$5,162		1
	1 Building Laborer	5	DAY		$837		$4,183		RS Means
									RS Means
	MATERIALS:								
	CMU for Infill	32	SF	$7.08		$226.69			
	Single Hung, 2.5'W x 3'H	3	UN	$450		$1,350.00			042210240300
	2x4 Pressure Treated (+10%)	42	LF	$1.04		$43			
									Market Value
	SUBTOTAL COSTS					$1,620.16	$9,344.72	$10,964.88	
	Convert to an equivalent unit price		UN			$324.03	$1,868.94	$2,192.98	
	TOTAL UNIT PRICE		**UN**		**USE**	**$325.00**	**$1,869.00**	**$2,194.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R17	Stained Glass Windows - Restore	32	UN						J&R Lamb Studios Quote
	Costs are per proposal prepared by J&R Lamb Studios on 12/3/2021. There was no specific breakout between material and labor. All costs included in labor herein.								
	LABOR:								Item
	Windows 2, 20, 30, 37, 39, 72, 75	1	LS		$347,716		$347,716		Large Decorative
	Windows 4, 7, 10, 12, 13, 14, 15, 16, 24, 25, 31, 32	1	LS		$35,396		$35,396		Tower
	Windows 42, 44, 51	1	LS		$20,370		$20,370		SE Corner, Plain
	Windows 8, 9, 11, 38, 40, 46, 47, 48	1	LS		$13,077		$13,077		Gym, Stairs
	Windows 17, 19, 22	1	LS		$24,994		$24,994		Vestibule
	Windows - Main Sanctuary	1	LS		$26,565		$26,565		Interior
	SUBTOTAL COSTS					$0.00	$468,118	$468,118.00	
	Convert to an equivalent unit price		UN			$0.00	$14,628.69	$14,628.69	
	TOTAL UNIT PRICE		**UN**		**USE**	**$0.00**	**$14,629.00**	**$14,629.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R18	Doors and Door Frames - Replace & Restore	8	UN						
	LABOR:								Production Rate (UN/Day)
	Stained Glass Transom Restoration	5	UN		$1,789		$8,945		1
									J&R Lamb Studios
	1 Carpenters	8	DAY		$1,032		$8,259		
	1 Building Laborer	8	DAY		$837		$6,692		RS Means
									RS Means
	MATERIALS:								
	Single Door (Config. 1)	2	UN	$1,462		$2,924			
	Double Door (Config. 2)	4	UN	$2,943		$11,772			Tru-Door
	Double Door (Config. 3)	2	UN	$3,274		$6,548			Tru-Door
									Tru-Door
	SUBTOTAL COSTS					$21,244.00	$23,896.55	$45,140.55	
	Convert to an equivalent unit price		UN			$2,655.50	$2,987.07	$5,642.57	
	TOTAL UNIT PRICE		**UN**		**USE**	**$2,656.00**	**$2,988.00**	**$5,644.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R19	Open Building Envelope - Repair	15	SF						
	Repair area of missing vinyl siding, incl. roof membrane repair								
	LABOR:								
	1 Roofer, Composition	1	DAY		$991		$991		RS Means
	1 Carpenters	1	DAY		$1,032		$1,032		RS Means
	MATERIALS:								
	Vinyl Siding	20	SF	$3.17		$63.36			Market Value
	1/2" thk. Insulation Foam Board	1	UN	$22		$22.00			Market Value
	SUBTOTAL COSTS					$85.36	$2,022.94	$2,108.30	
	Convert to an equivalent unit price		SF			$5.69	$134.86	$140.55	
	TOTAL UNIT PRICE		**SF**		**USE**	**$6.00**	**$135.00**	**$141.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R20	Open Building Envelope - Seal Penetration	1	UN						
	LABOR:								
	1 Building Laborer	0.5	DAY		$837		$418		RS Means
	MATERIALS:								
	Misc. Patching Materials	1	UN	$250.00		$250.00			Assumption
	SUBTOTAL COSTS					$250.00	$418.26	$668.26	
	Convert to an equivalent unit price		UN			$250.00	$418.26	$668.26	
	TOTAL UNIT PRICE		**UN**		**USE**	**$250.00**	**$419.00**	**$669.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R21	Open Building Envelope - Roof	135	SF						
	LABOR:								
	***No separate cost included for this item. Costs for addressing this repair included in roof replacement (by others) and item X1.1 - Timber Roof Sheathing - Replace.*								
	MATERIALS:								
	SUBTOTAL COSTS					$0.00	$0.00	$0.00	
	Convert to an equivalent unit price		SF			$0.00	$0.00	$0.00	
	TOTAL UNIT PRICE		**SF**		**USE**	**$0.00**	**$0.00**	**$0.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R22	Roof Drain - Install Scuppers	2	UN						RS Means
	8"x8" Emergency Scupper Install								
	LABOR:								
	1 Roofer, Composition	1	DAY		$991		$991		RS Means
	1 Building Laborer	2	DAY		$837		$1,673		RS Means
	1 Bricklayer	1	DAY		$1,021		$1,021		RS Means
	MATERIALS:								
	Flashing, 5 SF/Scupper	10	SF	$4.38		$44			076510100100
	Scupper, 8"x8"	2	UN	$60.50		$121			Market Value
	SUBTOTAL COSTS					$164.78	$3,684.91	$3,849.69	
	Convert to an equivalent unit price		UN			$82.39	$1,842.46	$1,924.85	
	TOTAL UNIT PRICE		**UN**		**USE**	**$83.00**	**$1,843.00**	**$1,926.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R23	Sheet Metal Roof Return - Replace	2	UN						DIGroup
	Includes roof replacement, soffit and fascia repair, and timber substrate repair								
	LABOR:			$3,750.00		$7,500.00			
	MATERIALS:				$3,750.00		$7,500.00		
	SUBTOTAL COSTS					$7,500.00	$7,500.00	$15,000.00	
	Convert to an equivalent unit price		UN			$3,750.00	$3,750.00	$7,500.00	
	TOTAL UNIT PRICE		**UN**		**USE**	**$3,750.00**	**$3,750.00**	**$7,500.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R24	Skylight - Infill	2	UN						
	LABOR:								
	Demo								Production Rate (UN/Day)
	2 Building Laborers	2	DAY		$1,673		$3,346		2
									RS Means
	Infill Framing								
	2 Carpenters	1	DAY		$2,065		$2,065		RS Means
	MATERIALS:								
	2x10, Roof Beams, 16 LF ea.	112	LF	$3.44		$385			Market Value
	1" thk. Plywood Sheathing	128	SF	$2.60		$332			Market Value
	Scaffolding	1	LS	$500.00		$500.00			
	**Costs for roofing excluded from this estimate. Roofing by others.*								
	SUBTOTAL COSTS					$832.20	$5,410.94	$6,243.14	
	Convert to an equivalent unit price		UN			$416.10	$2,705.47	$3,121.57	
	TOTAL UNIT PRICE		**UN**		**USE**	**$417.00**	**$2,706.00**	**$3,123.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R25	Retaining Wall - Repoint	265	SF						LRSA00038 Contract Prices - Inflation Adj.
	Repoint Brick Masonry, brick joints and captsone head and bed joints	265	SF	$7.70	$30.80	$2,040.50	$8,162.00		
	SUBTOTAL COSTS					$2,040.50	$8,162.00	$10,202.50	
	Convert to an equivalent unit price		SF			$7.70	$30.80	$38.50	
	TOTAL UNIT PRICE		**SF**		**USE**	**$8.00**	**$31.00**	**$39.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R26	Retaining Wall - Rebuild	240	SF						
	Number of Walls	6							
	LABOR:								
	Demo:								
	024113301000								
	Minor site demolition, masonry walls, block, solid excluding hauling								Crew B5
									Production Rate (Walls/Day)
	1 Building Laborer, Foreman	2	DAY						3
	2 Building Laborers	2	DAY		$861		$1,722		RS Means
	Equipment Operator, Med. Equip.	1	DAY		$1,673		$3,346		RS Means
					$1,108		$1,108		RS Means
	MATERIALS:								
	323213102900								
	Cast-in place retaining walls, reinforced concrete cantilever, 6' high, includes excavation, backfill & reinforcing	240	SF	$19.66	$32.48	$4,717.60	$7,795		RS Means
	SUBTOTAL COSTS								
	Convert to an equivalent unit price		SF			$4,717.60	$13,971.43	$18,689.03	
	TOTAL UNIT PRICE		**SF**		**USE**	$19.66	$58.21	$77.87	
						$20.00	**$59.00**	**$79.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R27	Concrete Sidewalk - Replace	40	SY						
	Minor site demolition, sidewalk, concrete, plain, 4" thick, remove, excludes hauling	40	SY	$1.39	$18	$55	$702		024113304100
	Install Concrete Sidewalk, 4" thick	40	SY	$55	$55	$2,200	$2,200		LRSA00038 Avg. Bid Prices - Inflation Adj.
	SUBTOTAL COSTS					$2,255.44	$2,902.24	$5,157.68	
	Convert to an equivalent unit price		SY			$56.39	$72.56	$128.94	
	TOTAL UNIT PRICE		**SY**		**USE**	**$57.00**	**$73.00**	**$130.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R28	Concrete Stairs - Remove	100	SF						
	LABOR:								
	Demo								
	Equipment Operator, Med. Equip.	1.5	DAY		$1,108		$1,662		Crew B13L
	1 Building Laborer, Foreman	1.5	DAY		$861		$1,292		RS Means
	2 Building Laborers	1.5	DAY		$1,673		$2,510		RS Means
									RS Means
	EQUIPMENT:								
	1 Hydraulic Excavator, 1.5 CY	1.5	DAY	$865.00		$1,297.49			
	1 Hydraulic Hammer, 5000 ft-lb	1.5	DAY	$802.47		$1,203.71			RS Means
									RS Means
	SUBTOTAL COSTS								
	Convert to an equivalent unit price		SF			$2,501.20	$5,463.61	$7,964.81	
	TOTAL UNIT PRICE		**SF**		**USE**	$25.01	$54.64	$79.65	
						$26.00	**$55.00**	**$81.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R29	Timber Stairs - Replace	1	LS						RS Means
	LABOR:								
	Demo								
	2 Building Laborers	0.5	DAY		$1,673		$837		RS Means
	Install								
	2 Carpenters	1.5	DAY		$2,065		$3,097		RS Means
	1 Building Laborers	1.5	DAY		$837		$1,255		RS Means
	MATERIALS:								
	2x10, Beams, Girder, Ledger	51	LF	$3.44		$175			Market Value
	2x12, Stair Stringers	32	LF	$2.61		$84			Market Value
	4x4, Posts	33	LF	$4.89		$161			Market Value
	2x4, Top & Btm rails	28	LF	$1.04		$29			Market Value
	Spindles (4" o/c)	42	UN	$2.34		$98			Market Value
	Decking	65	SF	$2.20		$143			Market Value
	SUBTOTAL COSTS					$690.40	$5,188.57	$5,878.97	
	Convert to an equivalent unit price		LS			$690.40	$5,188.57	$5,878.97	
	TOTAL UNIT PRICE		**LS**		**USE**	**$691.00**	**$5,189.00**	**$5,880.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
R30	Chimney - Remove	90	CF						RS Means
	Existing Chimney, 4" thk. Brick								
	024113301000								
	Minor site demolition, masonry walls, brick, solid excluding hauling								
	LABOR:								
	1 Building Laborer, Foreman	1.5	DAY		$861		$1,292		
	3 Building Laborers	1.5	DAY		$2,510		$3,764		
	Scaffolding	2	DAY	$500.00		$1,000.00			
	SUBTOTAL COSTS					$1,000.00	$5,056.13	$6,056.13	
	Convert to an equivalent unit price		CF			$11.11	$56.18	$67.29	
	TOTAL UNIT PRICE		**CF**		**USE**	**$12.00**	**$57.00**	**$69.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
X1.1	Timber Roof Sheathing - Replace	2220	SF						
	*Assume 15% of Total Roof Area (Total Roof Area = 14772 SF)								
	LABOR:								
	^No labor costs included here. Labor for this work part of membrane / shingle replacement								
	MATERIALS:								
	1" thk. Plywood			$2.60		$5,761.59			Market Value
	SUBTOTAL COSTS					$5,761.59	$0.00	$5,761.59	
	Convert to an equivalent unit price		SF			$2.60	$0.00	$2.60	
	TOTAL UNIT PRICE		**SF**		**USE**	**$3.00**	**$0.00**	**$3.00**	

REPAIR ITEM #	DESCRIPTION	QTY	UNIT	UNIT PRICE		TOTAL COST		TOTAL	BASIS
				MATERIALS	LABOR	MATERIALS	LABOR		
X2.1	Timber Fascia, Soffits, and Frieze Boards - Replace	650	LF						
	*Assume 20% of total LF for replacement (Total = 3240 LF)								
	LABOR:								
	MATERIALS:								
	2x8 Pressure Treated			$2.24		$1,455.92			Market Value
	SUBTOTAL COSTS					$1,455.92	$0.00	$1,455.92	
	Convert to an equivalent unit price		LF			$2.24	$0.00	$2.24	
	TOTAL UNIT PRICE		**LF**		**USE**	**$3.00**	**$0.00**	**$3.00**	

APPENDIX B:
CONNECTION BETWEEN GYMNASIUM AND CHURCH

B.1 Connection between Gymnasium and Church

During T&M's field inspection, an investigation was conducted to better understand how the addition of the gymnasium connects to the original church structure. It is believed that the gymnasium was not part of the original construction. It appears that the area referred to as the "office space" was also constructed at the time of the gym addition. This two-story office space structure infills the area between the gymnasium and the church. The first level of the office space structure begins at the sanctuary level. At the lower level, the gym floor passes under the office space and provides access directly into Fellowship Hall under the Shepherd's Room, as well as other miscellaneous rooms under the Main Sanctuary.

The gymnasium contains framing elements that differ from that of the church and provide some clear indications that it was not constructed at the same time. These elements include steel roof girders, steel columns, cinder block exterior walls, and painted plaster/parge coat facade.

Timber roof beams span across a set of (3) 20WF steel roof girders. At the east end, the roof beams bear on an exterior load bearing cinder block wall. At the west end, the roof beams bear on cinder block which is supported by a steel w-shape that frames out the opening for the gym mezzanine. The office space floors are primarily constructed of 2x10 timber framing which frame into built up timber girders. These girders bear on top of the 8WF steel beams spanning between the column positions in the east-west direction (along Grid F) at the sanctuary level. These 8WF steel beams also support cinder block walls above. These walls make up the southern wall of office space at the sanctuary level and are believed to support the second level floor and wall loads as well as the office space roof loads.
For purposes of understanding the structure, the area of focus was along Grid F. This line, which can be referred to as the line of demarcation, would serve as the southern exterior wall of the building if the gymnasium were to be demolished. The steel columns along Grid F support a portion of the gymnasium roof and the office space structure. To better understand this condition, photos have been included, as well as a section and detail view depicting key framing elements, on the following pages.

B.2 Structural Impact for Removal of Gymnasium

If the gymnasium were to be demolished, south of the line of demarcation, the following structural considerations would need to be taken:

- Significant earthwork would need to take place as the gymnasium floor is approximately 4 feet below existing grade (relative to grade at the east side of building). Either the area will need to receive fill, or the existing grade will need to be excavated and regraded.
- A portion of the south exterior wall would potentially be below grade, so it would need to be able to resist horizontal forces applied by soil infill.
- The remaining steel columns would need to be braced in the north to south direction, due to the removal of the steel roof girders and steel columns along column line H.

A possible bracing solution for the existing steel columns would be to install additional columns along the north side of the office space building and connect the columns with steel beams to restore the similar frame structure they were original constructed as. Additionally, an analysis could be carried out to determine the stress capacities of the columns as cantilevers. Either option will require additional engineering analysis, as well as possible design and construction costs for new members and/or reinforcement.

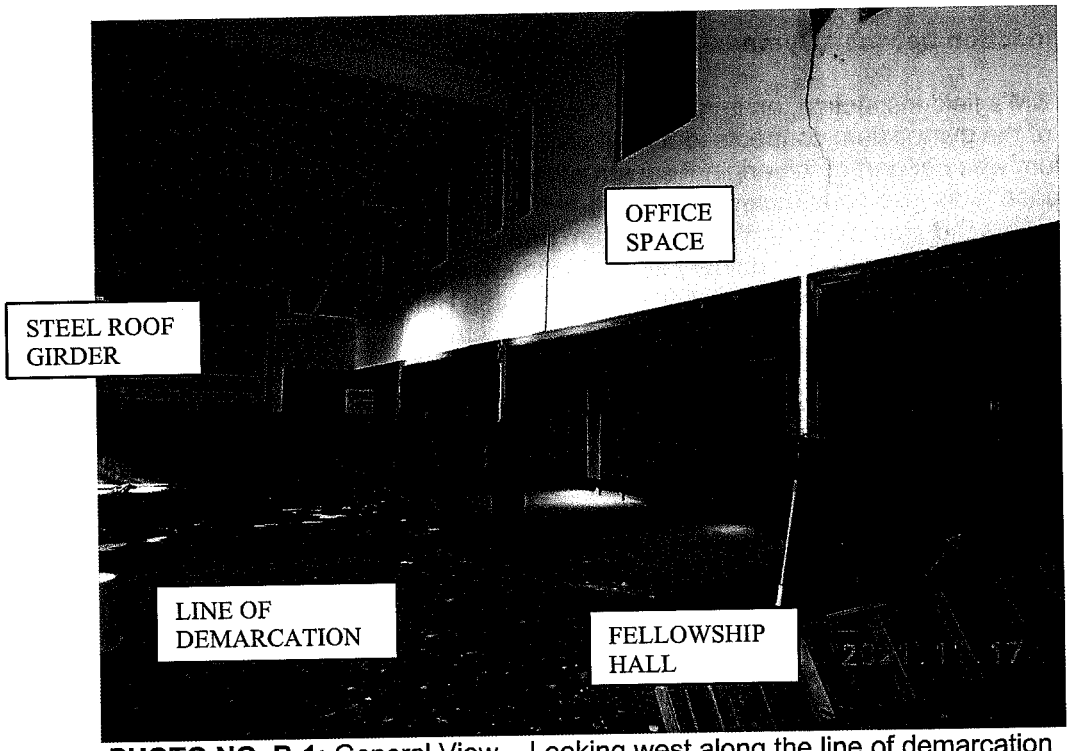


PHOTO NO. B-1: General View – Looking west along the line of demarcation from the gymnasium

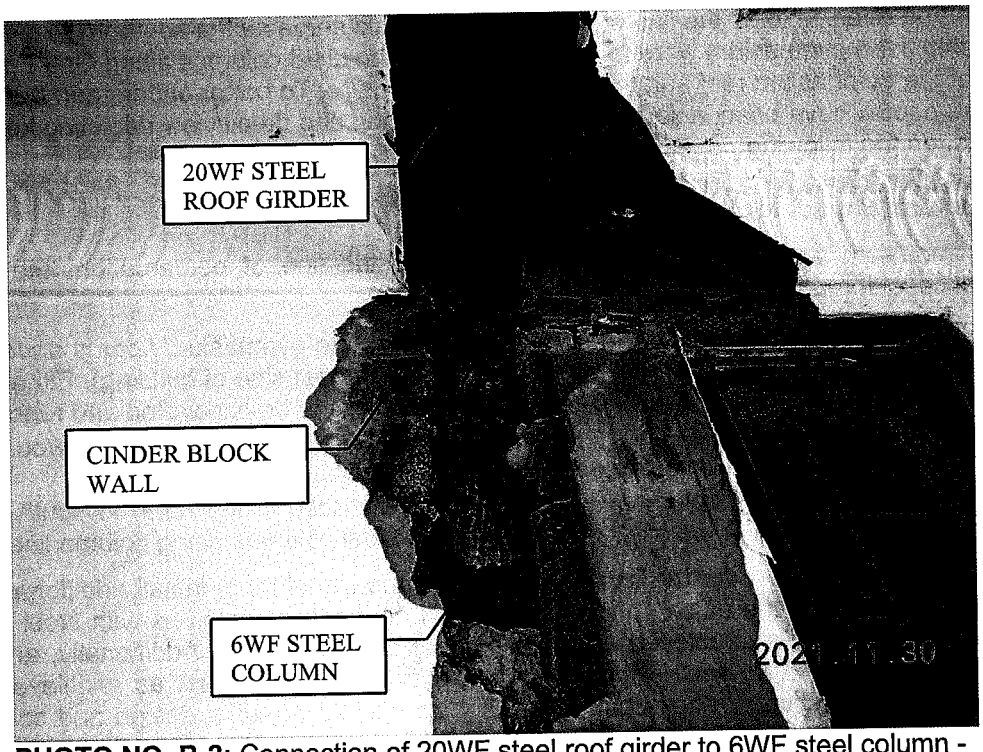


PHOTO NO. B-2: Connection of 20WF steel roof girder to 6WF steel column - Grid F/2

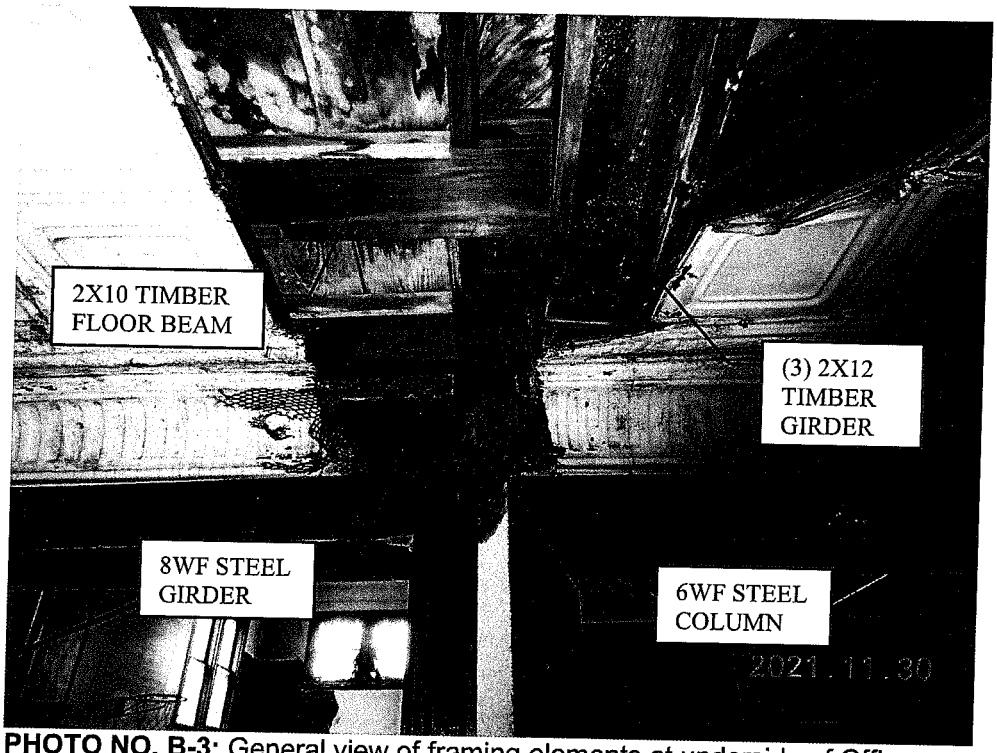


PHOTO NO. B-3: General view of framing elements at underside of Office Space First Floor (or Sanctuary Level) - Grid F/2

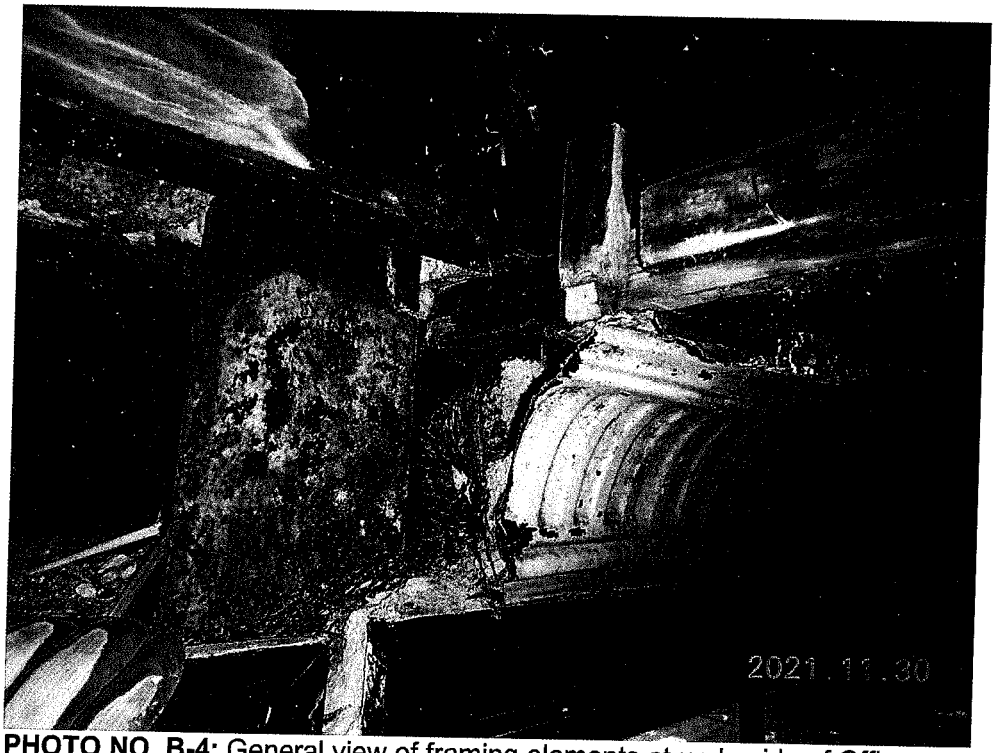
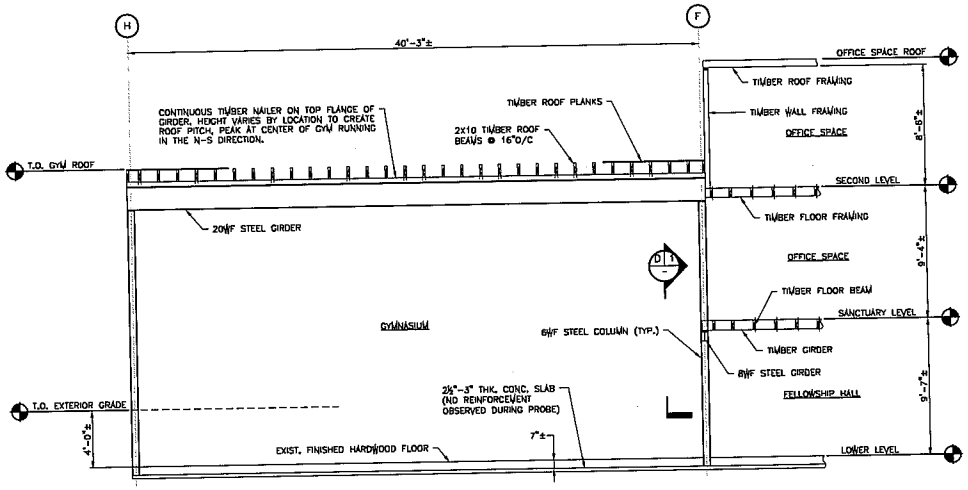
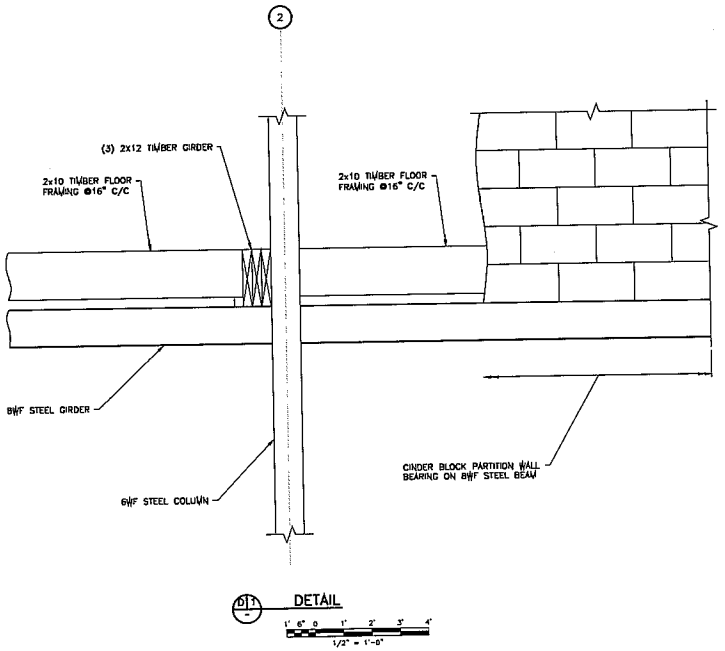


PHOTO NO. B-4: General view of framing elements at underside of Office Space First Floor (or Sanctuary Level) - Grid F/2



NOTE: MOST FINISHES NOT SHOWN TO CLEARLY DEPICT STRUCTURAL FRAMING MEMBERS.



NOTE: CINDER BLOCK WALL IS CONTINUOUS ALONG 8WF, BETWEEN COLUMN POSITIONS. EXTENTS NOT FULLY SHOWN TO CLEARLY DEPICT TIMBER AND STEEL FRAMING MEMBERS.

BOROUGH OF BRADLEY BEACH
319 LAREINE AVENUE - FUMC
STRUCTURAL ASSESSMENT
BRADLEY BEACH
MONMOUTH COUNTY, NEW JERSEY

GYMNASIUM TO OFFICE CONNECTION - DETAILS AND SECTIONS

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DESIGNED BY	JRG
CHECKED BY	SG
DRAWN BY	JRG
DATE	02/15/2022
SCALE	AS NOTED
PROJ. NO.	BRA000373
DRAWING	B-1

NO.	BY	REVISIONS	DATE

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APPENDIX C:
ADDITIONAL INFORMATION FOR REHABILITATION OF BRICK MASONRY ELEMENTS

APPENDIX C

ADDITIONAL INFORMATION FOR REHABILITATION OF BRICK MASONRY ELEMENTS

C.1 Brick Masonry Foundation Walls

Existing Conditions Summary

During T&M's field inspection, it was determined that the Church is built on red clay brick masonry foundation walls, which are 4 wythes thick. The observable area of foundation wall was limited to areas at the interior which were not covered by existing finishes (cabinetry, wall finish, etc.) and the portion of wall that extends above grade at the exterior. However, at the exterior the portion of foundation wall extending above grade is covered by a cementitious parge coating.

In addition to inspecting the exposed area of foundation wall, a wall probe was performed along the north foundation wall, at a location just above existing exterior grade. The goal of the probe was to confirm the construction of the wall and get a sample of the existing condition of interior wythes.

Deficiencies observed in the brick masonry walls include spalled bricks, deteriorated mortar joints, softened brick units, efflorescence on brick, and spalled parge coat. More specifically, the most severe areas revealed bricks that were severely spalled with washed out mortar joints resulting in detached and debonded bricks. This is due to active water infiltration. While visiting the site in late January, after an extended cold weather and snowfall period, ice was seen within the bricks at the interior. The other concerning condition is that the bricks were becoming soft, as seen in the following picture:

PHOTO NO. C-1: Close-up view at interior face of north foundation wall. Note: grooves carved into brick with flat head screwdriver due to soft condition of brick.

Additional Research

Part of T&M's research efforts included meeting with the International Masonry Institute (IMI) to discuss the conditions found during inspection. The conversation with the IMI included a brief history of red clay brick manufacturing, with highlights as to why these conditions may be occurring:

- Due to manufacturing processes and associated limitations of circa 1900, solid red clay bricks of this age tend to exhibit these conditions (softening, spalling, deterioration, etc.).
- The kiln firing processes before 1920 commonly had inconsistencies. Depending on the location of the bricks within the kiln some bricks were fired to a hotter temperature than others.
- Typically, the lesser fired bricks would be utilized for interior wythes of mass walls similar to this one. The reason being that the interior wythes were expected to remain dry and not be subject to weather.
- Additionally, it is possible that the bricks were compacted into forms by hand during manufacturing, which limited the amount of clay content per brick.

When solid clay bricks are not fired consistently and completely, a common result can be a soft core or center. This soft center is observable in the following photo:

PHOTO NO. C-2: Wall probe at north foundation wall. Note: color stratification in the brick circled above. The core has a different color than the exterior, which is reflective of the inconsistent kiln firing process mentioned above.

Recommendations

Based on the findings noted in the Repair Item Tables of Chapter 1 (Tables 1-1 & 1-2) and consultation with the IMI, T&M recommended that Harrison-Hamnett, P.C. be retained to perform an additional on-site evaluation of the foundation walls. The governing body accepted and approved this recommendation during its Executive Session meeting on January 25th, 2022. A structural report prepared by Harrison-Hamnett regarding the foundation walls and the repair approach is provided in Appendix D of this report. In summary, the recommendation would be to rebuild select areas (i.e., areas exhibiting advanced deterioration where the applied loads are more significant), while other more discrete areas will have existing damaged bricks removed and replaced with new units and mortar.

Additionally, it is necessary to determine the existing brick properties prior to any brick replacement at the foundation walls as bricks of similar compressive strength would need to be utilized. Modern "off-the-shelf" bricks would not be satisfactory as they would be much stronger than the existing bricks and lead to damage of the existing bricks in the future. Compatible mortar would also need to be selected. The mortar would need to have properties appropriate for structures of this age. Brick and mortar properties would need to be determined through testing.

An additional recommendation, made by the IMI, to preserve the condition of the foundation walls and prohibit more deterioration includes installing a perimeter drain and water barrier, if the exterior can be excavated.

As noted earlier in the report (Section 1.2), the collective team consisting of T&M, DIGroup, Harrison-Hamnett, and the IMI are very concerned about the lack of climate control within the building's interior due to the prolonged vacancy, as well as the openings in the building envelope allowing water infiltration. These two factors will continue to rapidly accelerate the deterioration of the masonry. Mitigation of the interior climate and water infiltration should be addressed as soon as possible.

C.2 Brick Masonry Facade

Existing Conditions Summary

The existing facade is constructed of a single wythe of brick masonry with a textured face (see photo below). The mortar joints of the brick masonry are very narrow (~1/8"); commonly referred to as "butter joints". Comparatively, modern brick masonry walls have approximately 3/8" wide mortar joints. Large areas of the existing brick masonry exhibit mortar joints which have been infilled with a clear silicone or white caulk which is inappropriate for this application. This was likely done in response to deteriorating mortar joints. There are also areas of deteriorating mortar joints without silicone or caulk infilled.

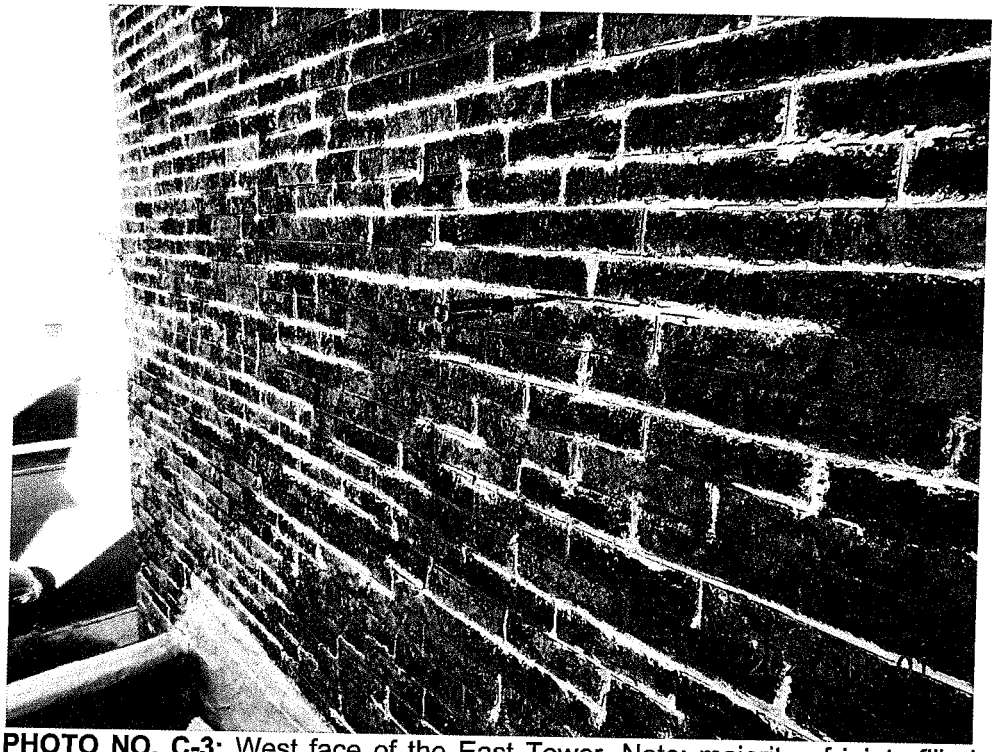

PHOTO NO. C-3: West face of the East Tower. Note: majority of joints filled with white caulk.

Recommendations

Through conversations with the IMI, the following was discussed and suggested:

The silicone and caulk need to be removed from the mortar joints prior to repointing. The caulk and silicone are compromising the breathability of the walls as there are no weep holes or cavity space behind the brick for water to escape. Out of the 3275 SF area recommended for repointing, 1800 SF contains either clear silicone or white caulk (approx. 55%).

Potential methods for removing the silicone and caulk include power-washing, scraping with wire-brush and hand tools, or applying a chemical-based product. It was suggested by the IMI that mock-up areas utilizing different removal methods be conducted prior to proceeding with the entire area of brick masonry facade designated for restoration. The mockup areas should be given an extended duration after completion to see if negative effects occur through weathering or aging, specifically with the chemical-cased products.

In addition to mocking up removal methods of silicone, different mortars should be tested. If residual silicone is left in place, certain mortars may not bond properly.

The repointing of the brick masonry will need to be conducted by contractors (brick masons) who are trained in repointing butter joints. Special tools need to be utilized to properly perform this work.

APPENDIX D:
HARRISON-HAMNETT, P.C. – STRUCTURAL REPORT FOR FOUNDATION WALLS

Harrison-Hamnett, P.C.

Consulting Structural Engineers

Principals
John N. Harrison, PE.
Donald M. Hamnett, PE
Mark W. Gaffney, PE
Forrest W. Harrison, PE

Senior Associates
Craig M. Block
William J. Bocchieri, PE
Richard C. Miller, PE
Richard S. Poli, PE
Steven J. Renaud, PE

Associates
Samantha Fioravanti, PE
Kent F. Harrison, PE
Ian W. Slatas, PE
Scott W. Hamnett

STRUCTURAL REPORT

To: Mr. Eric Nathansan
T and M

From: John N. Harrison, P.E.
Harrison-Hamnett, P.C.

Date: February 4, 2022

Re: Foundation Assessment
First United Methodist Church
Bradley Beach, New Jersey

As per your request, the writer visited the site to perform a structural condition survey on the foundation walls for the referenced project. The purpose of our work was to identify structural defects and determine the overall structural condition of the walls. It was also requested to provide probable remedial solutions to repair the defects.

The building's lowest floor level is approximately 4 feet below the outside grade elevation. The foundation walls extend to the first floor structure and are exposed above grade approximately 4 feet. This lower level is a finished space.

The existing foundation walls are multi-wyth brick masonry construction. The exterior exposed portion of the walls have a concrete-like parging with joints tooled into the parging for aesthetic reasons.

At the time of our visit, approximately 30 percent of the finishes had been removed from the foundation walls, exposing the brick.

Deficient Conditions Identified

1. There are approximately four locations where the exterior wyth of the brick wall, along with some inner portions, have failed. See Photographs 1, 2.

2. There is a major support location for the bell tower that is experiencing some distress and failure in the brick. See Photograph 3.

3. The interior face of some of the brick is quite soft, and the face has spalled. The mortar in these areas has some deterioration.

4. Basically, all of this damage is the result of water infiltration and the lack of heat and ventilation in the building. There are active roof leaks allowing water to infiltrate

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the building. This water will be absorbed in the brick, and, when it freezes, the force from expanding ice will spall the face of the brick. See Photograph 4.

Determinations and Summary

It is our opinion that the walls are mostly in good condition and will continue to provide adequate foundation support for the building.

The damaged areas shown in Photographs 1 and 2 will need to be rebuilt with new units.

Some of the areas of damaged brick and brick faces will need to be rebuilt by removing existing damaged brick and installing new units and mortar.

The water infiltration must be prevented. Continuing exposure to this water will damage the structure and these walls in what will seem like an exponential factor. Also, while in this stage, the temperature of the building will benefit from being kept at a minimum of 50 degrees F. This will require some type of heating system to be installed.

Once these remedial efforts are completed, the foundation walls will be more than sufficient to support the loads and will yield a solid foundation to support the new renovated building.

The anticipated costs for these remedial efforts will be relatively minor with respect to the estimated construction budget. These costs will not approach levels that would most likely not make the renovation efforts economically feasible.

If you have any questions, please do not hesitate to contact our office.

John N. Harrison, P.E.
N.J.P.E. #031198

enclosure

PHOTOGRAPHS

Photograph 1

Photograph 2

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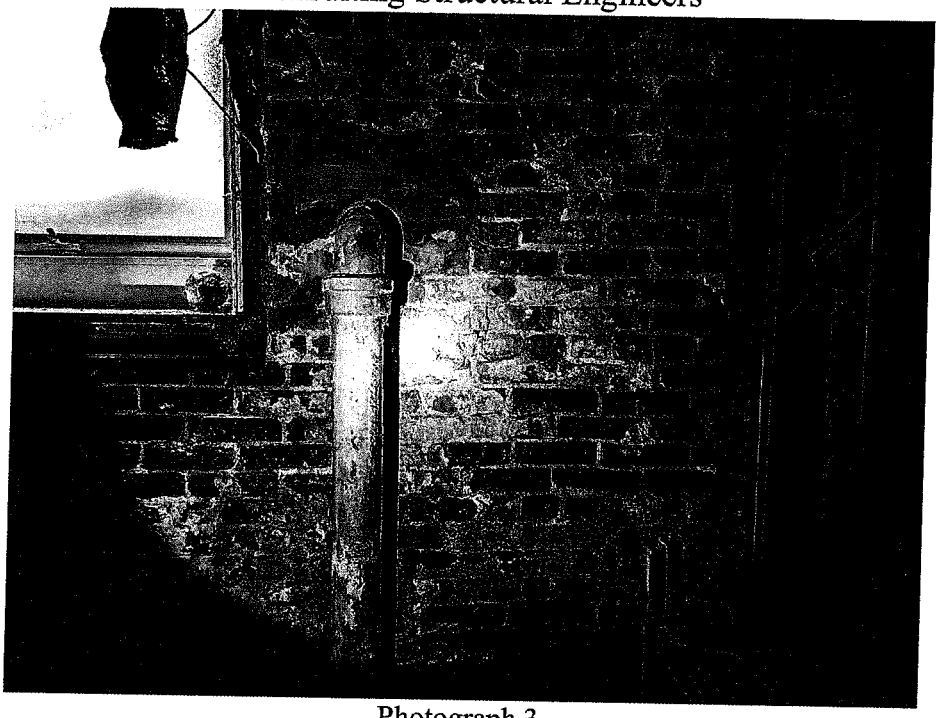
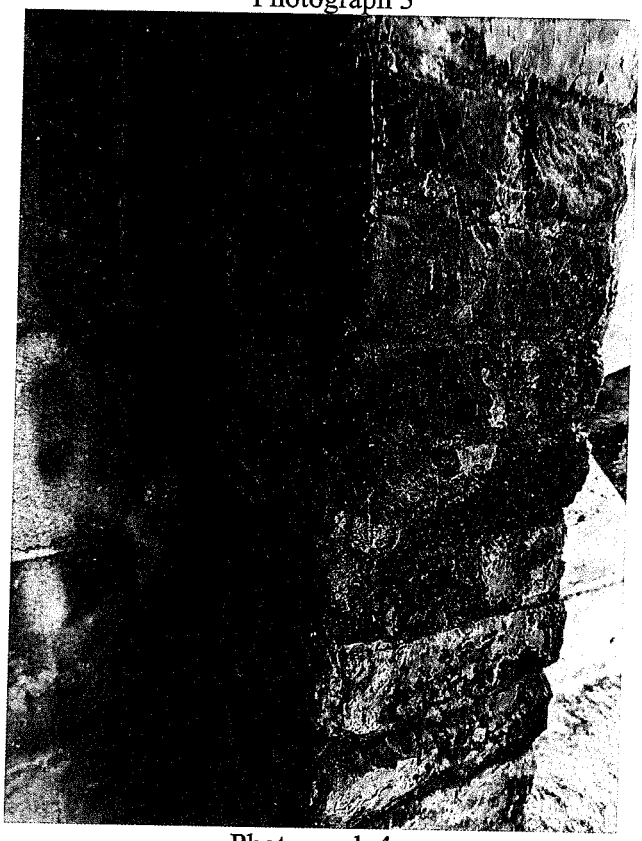


Photograph 3



Photograph 4

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