



# Governor Warner Mansion Assessment Report

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City of Farmington

DRAFT REPORT: AUGUST 17, 2020



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The objective of this assessment and report is to identify associated cost of maintaining this site over the next 10-20 years, with proposed outlook of phased improvements. The focus of the study is on preserving and protecting this asset, not changes to the building for programmatic and functional space design.

In the summer of 2020, OHM Advisors did a walkthrough and visual assessment of the Governor Warner Mansion. This assessment included the visual inspection of three buildings on the site – the main house, a gazebo, and a carriage house (exterior only). As part of this walkthrough, architectural, structural, mechanical, plumbing and electrical conditions as well as site conditions were noted. This report summarizes the findings and provides recommendations for repair, prioritization based on three tiers – 1-3 years (Short term); 3-10 years (Mid-term) and 10+ years (Long term); and an opinion of construction cost based on current market conditions.

The original house was constructed in 1867 as a 3-story Victorian structure with a 2-story north addition constructed in 1906. The house was inspected in 2015 in response to sizeable separation of the 1906 addition from the original 1867 structure. The foundation and part of the main floor frame of the addition were subsequently repaired to stabilize the foundation and keep further differential settlement to a minimum. The Gazebo is a separate open wood structure set atop a masonry foundation. The Carriage House is an all-wood 2-story structure on stone foundation.

The following cost breakdown summarizes the identified short-term; mid-term and long term opinion of construction cost investment. For a full breakdown of repairs and itemized construction repair cost, refer to page 27.

| <u>Phase</u>              | <u>Construction Cost Estimate</u> |
|---------------------------|-----------------------------------|
| Short Term Projects       | \$130,900                         |
| Mid Term Projects         | \$422,100                         |
| <u>Long Term Projects</u> | <u>\$81,900</u>                   |
| <b>Total</b>              | <b>\$616,200</b>                  |

# ASSESSMENT REPORT

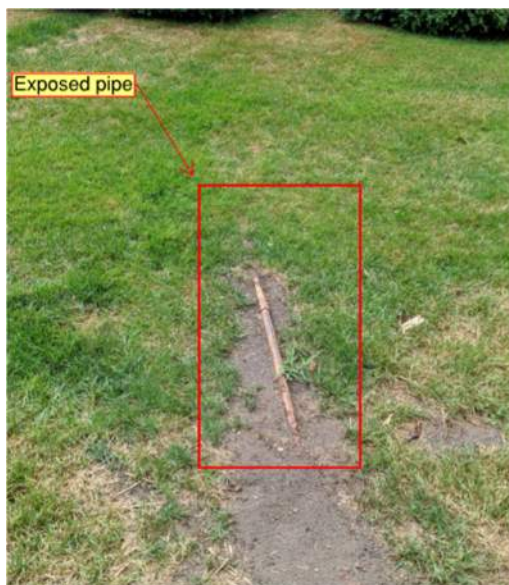
## ASSESSMENT AND RECOMMENDATIONS



The following observations were made with a recommended approach to repair and priority level:

### SITE

- 1.1 Exposed pipe: An exposed pipe was observed on the eastern side of the property. The pipe poses a tripping hazard and can also be damaged due to it being exposed. Recommendation: Inspect and rebury pipe. **Priority: Short-Term**
- 1.2 Deteriorated area on west side of mansion: A deteriorated area was observed on the western rear of the mansion near the Carriage House. The grade in this area is sloped toward the house, with an exposed opening leading to the crawl space for water to enter. Recommendation: Remove pavers, infill foundation and repair boards, provide sand infill subgrade and replace with new brick pavers. **Priority: Short-Term**

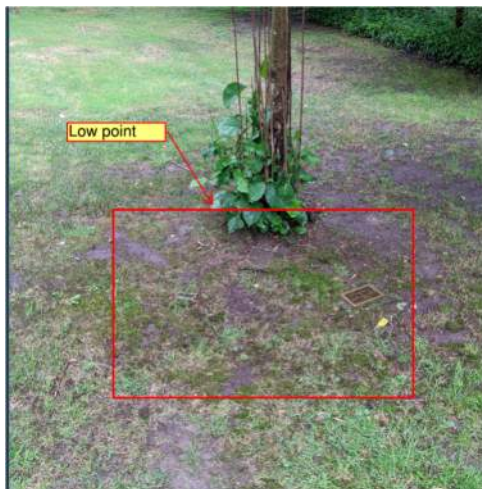


- 1.3 Rutting in brick pavers: Rutting observed in the brick paver drive on the west side of the mansion. This is likely due to vehicles parking or passing through frequently. Recommendation: Remove pavers, provide new subgrade consisting of aggregate base, sand setting bed and replace with new brick pavers. **Priority: Mid-Term**
- 1.4 Deteriorated Concrete Walk: Two slabs in the concrete sidewalk along Grand River Avenue are deteriorated and beginning to break off. Recommendation: Saw cut and remove deteriorated slab, and provide new 4" concrete sidewalk slab in place. **Priority: Short-Term**





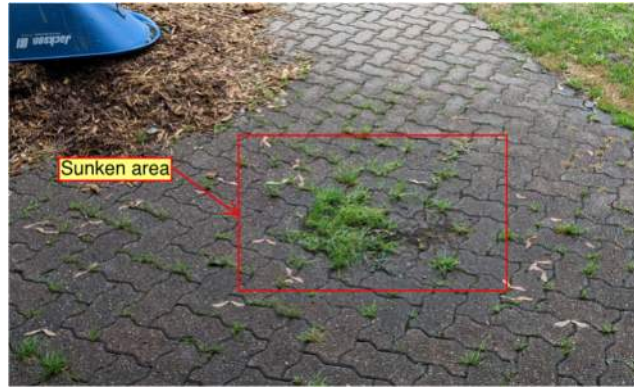
1.5 Low Point in front of memorial: A low point was observed in front of the tree memorial. The low point could be a possible tripping hazard. Recommendation: infill with additional soil. **Priority: Mid-Term**





1.6 Sunken Brick Paver Areas: Sunken brick paver areas were observed in the drive on the west side of the mansion. These depressions are areas where water has begun to pool, which will likely result in further deterioration. Recommendation: Remove pavers, provide new subgrade consisting of aggregate base, sand setting bed and replace with new brick pavers, blending in with surrounding existing pavers as feasibly possible. **Priority: Long-Term**

The following photos depict the damage:







## STRUCTURE/BUILDING ENVELOPE

### Main House

- 2.1 Front (North) Porch Stair - the right side of the wood stair base presents minor wood rot and failed trim, and the steel handrail is corroded. Recommendation: Remove and replace the wood sections in kind with pressure-treated lumber and galvanized fasteners. Paint the repair to match existing surrounding. Wire brush the handrail to remove rust and repair the rail using similar stock material. Paint the rail with a rust-inhibitive epoxy, color to match existing. **Priority: Short Term.**



*Rusted railing, wood sections rotted/failing, repair/paint.*

- 2.2 East Porch Column - This wood column presents two failures. First, the column base has settled, forcing the column to rotate down and out from the building. Observations without excavation here were limited, but the column base appeared to be set on a thin concrete pad rather than a footing. The shift has separated the many pieces of the wood column and forced it out of plumb allowing stair treads to settle out of level. Second, the top of the column has two holes and resulting wood rot from bird infestation. Recommendation: Remove and rebuild the column. Replace the failed or rotted components with like sections and materials. Remove the concrete pad and place a 12-inch sonotube concrete pier to 48" below grade for support of the repaired column. Repair the stair to a level condition, replace damaged stair structure, and repaint to match surrounding finishes. **Priority: Short Term**





*Column failure*



*Foundation unknown, concrete pad only visible*



*Provide new stair and footings*

2.3 East Porch Soffit - The wood soffit shows signs of water damage and some wood rot near the downspout. Recommendation: Remove and replace failed soffit with pressure-treated lumber of like sections and paint to match. Coordinate roof above sealant and flashing repairs with this repair. **Priority: Mid-Term.**



*Soffit repair, clean, replace rotted wood*





2.4 Addition Settlement and Separation - Work performed on the addition following the previous inspection in 2015 sought to stabilize the 1906 foundation against frost heave and settlement, but did not address the movements or separation between the two structures. This inspection found the original 1867 north footing and basement wall to be intact and without movement. Movement of the 1906 addition separated the addition from the original north brick face by approximately 2 inches at the top of the addition and warped the north brick wall out of plumb. This caused the second floor to slope away from the original building, force walls and doorways out of plumb and square, and create a gap at the interface of the addition with the original wall. These gaps are large and open to outside air and could result in varmint infestation. The gaps further indicate that the addition walls have lost any lateral support from connections with the brick wall. Recommendation: The following work should be performed by an experienced historical restoration contractor. Sever any remaining connectors between the building addition walls and the original brick north wall, and release anchors between the addition sill plate and foundations. Excavate as required to expose the addition wood frame base and hydraulically jack the frame back to a level, plumb, and square condition. Grout fill foundation gaps and reattach the addition walls to the original brick face. Any architectural finishes at the interface of the two buildings can then be repaired to original condition.

**Priority:**

**2.4a Jacking and subsequent repairs: Mid-term**

**2.4b Sealing and repair of described gaps: Short Term**



*Exterior Gap*



*Interior Gap*

2.5 Basement Hatch - The original wood basement hatch has rotted and deteriorated to failure. Indications are that the hatch is no longer used (the stair to the basement is intact but the interior door did not open), this hatch may fail under standing weight. Recommendation: remove and replace the door with painted wood similar to existing. **Priority: Short Term**

2.6 Stone Wall Joints -Basement walls consist of mortared stone. Observation found most visible walls to be intact and in good condition. Two minor joint failures were observed, at the south wall gardener entry and midway along the west wall. Recommendation: tool and mortar the joints. **Priority: Short Term**





*Basement Hatch*



*Foundation mortar repair*

- 2.7 Brick Chimneys – The two east side brick chimneys that project from the roof show signs of masonry joint failure. The north chimney has both joint and brick failure at the chimney cap. Recommendation: tuck point both chimneys and replace the top portion of the north chimney with new brick (attempt to match existing brick texture and color). **Priority: Short Term**
- 2.8 Brick Joints – Brick faces of the original building were painted and in general didn't show any signs of failures to brick or brick mortar joints. One failed mortar joint was observed on the building east side at second floor. Recommendation: point the failed joint and have a mason inspect the remainder of the brick faces for further joint repair. **Priority: Mid-Term**



*Tuckpointing/brick repair*



*Chimney repair*





## 2.9 Roofing

2.9a Original Building Shingled Roof: Roof sheathing was observed in the attic spaces of the original building. Water marks were observed but did not appear to be recent or active water spots. Shingled roof appears to be in good condition. Recommendation: Plan for end of service roof replacement **Priority: Long-term.**

2.9b. Porch Roof: Built-up roof system on porch shows wear and failure of sealant and flashings at balustrade posts. Recommendation: Replace sealants/flashings as part of regular roof inspection and maintenance program as necessary. Recommend raising electrical conduit off of roof as well. Plan for replacement of roof mid-term **Priority: Mid term.**



*Porch roof, raise electrical conduit*

2.9c Addition Roofing and Sheathing – Shingled: Roofing is conventional 3-tab asphalt shingle and appears worn. Roof sheathing consists of 1” thick plank. This sheathing presents some deflection but is intact. Recommendation: remove and replace the shingles with a new vapor barrier and a typical 25-year 3-tab asphalt shingle. **Priority: Mid-term**

2.9d Addition roofing – low slope: Additionally the built-up membrane roof appears worn and should be evaluated by roofing contractor. Recommendation: Replace roof with replacement of the above-mentioned shingled roof. **Priority: Mid-term**



*Replace shingled roof*



*Replace membrane roof.*





2.10 Porch Roof Balustrade: The balustrade appears in good condition; one cap was loose and should be glued back down. Recommendation: Clean the balustrade to remove surface blemishes and repair any loose fittings. **Priority: Short Term**



*Repair loose caps*



*Miscellaneous flashing repairs, clean PVC panels.*

2.11 Painting - Both the masonry and wood siding show wear of painted surfaces. Recommendation: Scrape wood siding paint and paint; masonry should be cleaned, grout inspected and repair if required, prepare surface for new paint if that is the aesthetic to be maintained. **Priority: Mid-term**

2.12 Window refurbishments: Windows were visually evaluated, hardware was not evaluated. One pane of glass was cracked on the North side of the building. During discussions, refurbishment of windows was discussed. Recommendation: review of pricing by a certified company who can provide proper refurbishment should be discussed as the scope of work is outside the scope of this assessment. **Priority: Mid-term**

#### Gazebo

2.20 Stairs - the Gazebo wood stair shows signs of local wood rot at its east end at grade. Recommendation: Remove the failed riser and replace with a pressure-treated like section. **Priority: Short term**





2.21 Roofing – the Gazebo roofing consists of cedar shake shingles. The shingles are weathered, moss-covered, and exposed edges have deteriorated. The roof frame appears intact. Recommendation: replace the shingles with like material and size. **Priority: Mid-term**



#### Carriage House

The Carriage House is a two-story wood frame structure with conventional shingle roof. The exterior appears intact, with the exterior east wall out of plumb.

2.30 Exterior painting is showing wear and has some areas that are starting to peel. Recommendation: Prepare and paint area that show wear as part of on-going maintenance for the building. Priority: Mid-term

2.31 Shingled roof appears to be in good condition and should be assessed periodically for on-going maintenance. Recommendation: Replacement of shingled roof should be considered as existing shingles meet life expectancy. Priority: Long term.



*Picture of carriage house paint siding showing wear*



## HAZARDOUS MATERIAL

3.1 Due to the age and construction, lead paint would be expected to be encountered within the paint layer profile. Care should be taken when any sanding or scraping of painted surfaces is completed. Based on visual inspection only, insulation on steam piping in the lower level outside the renovated mechanical room insulation material is presumed asbestos-containing material due to its age and appearance. It is recommended to have a sample tested. If positive for asbestos fibers it is recommended at a minimum that the insulation be labeled as such or abated by a licensed contractor.

Recommendation: Acquire lead and asbestos testing from certified firm for entire facility for use and reference on future work; Develop plan for remediation of found items.



*Steam piping - example of possible asbestos insulation*







## MECHANICAL

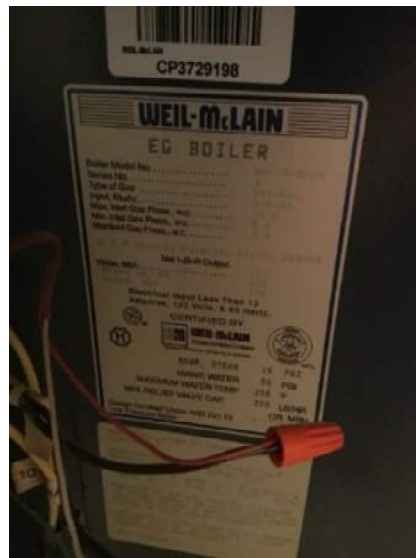
4.1 The main residence is heated with a gas-fired steam boiler. The boiler was replaced in 1999 and has a capacity of 203,000 btu/hr. The boiler uses an automatic damper and draft inductor for the flue. Both appeared to be in good operation. Michigan Boiler Division Rules; Rule 27 requires safeties on the boiler be inspected by a certified contractor yearly to obtain a boiler permit. There is no evidence of this CSD-1 inspection with a current date. The boiler permit is currently expired and must be made current. Recommendation: Re-certify permit. **Priority: Short Term**

4.2 Due to service life, the replacement of the boiler should be completed in the next 10 years. **Priority Mid-term.**

Controls for the heating consist of one thermostat on the main floor hallway.



*Steam Boiler*



*Boiler Tag*



*Boiler inspection certificate*



The steam distribution system is a two-pipe (steam and return) system with cast iron radiators throughout the residence.



*Cast Iron Radiator*



*AC evaporator and fan in attic*

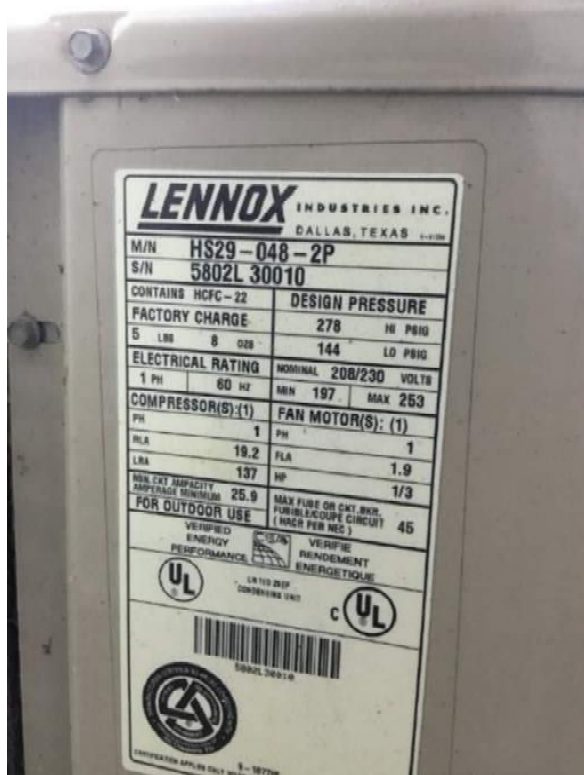
The second floor attic has an air conditioning unit serving the second floor only. The lineset is run through a downspout for concealment and the lineset is rubbing on the downspout. This will soon cause a hole and leak. The insulation has degraded resulting in a loss of efficiency. The unit uses refrigerant (R-22) that is rapidly being phased out due to environmental risks. This refrigerant is quickly rising in cost and therefore any leaks will be costly to fix. It is recommended that a bushing be added to stop abrasion to the lineset and insulation repaired. Replacement of the current unit is also recommended due to obsolete refrigerant.

4.3: Recommendation: AC Line-set Repairs: **Priority: short term**

4.4: Recommendation: AC unit replacement including condenser: **Priority: Mid-term**



Condenser



Condenser Tag information



Refrigerant line set rubbing



Degraded Refrigerant Line set Insulation





## PLUMBING

4.5 The domestic water service has been upgraded from galvanized to copper pipe. The internal domestic water distribution piping is also copper. The sanitary waste piping is cast iron. Both systems visually appear to be in good condition. Irrigation on the property exists and is isolated from the domestic water system by a backflow preventor. The inspection and testing on the backflow device is current. Recommendation: Backflow inspection needs to be completed annually.  
**Priority: Short term**



*Example of Copper Piping*



*Example of Cast Piping*



*Backflow Preventor*



*Backflow inspection*



4.6 Domestic water is heated by a gas-fired power vent water heater. The unit is a 38 gallon, 40,000 btu/hr tank style model. This heater appears to be the same vintage as the boiler. Recommendation: Replace water heater in the next 5 years due to service life. **Priority: Mid-term.**



*Gas fired water heater*

Fixtures (sinks, water closets, tubs, faucets) throughout the residence are past their service life and do not comply with current accessibility standards due to lack of grippable handles and plumbing wraps. This is simply noted for reference and not recommended for replacement due to the lack of public usage and intent on keeping historic value of the structure.



## ELECTRICAL

The building electrical service is fed from overhead utility poles. The service is 150A, single phase, 240V/120. There is one main distribution panel located in the basement with a main circuit breaker and 30 circuits, panel is in good condition. There were several locations wiring did not meet code requirements in the basement. Recommendation: these locations should be rewired according to code. There were several locations on the second floor where receptacles were not grounded. Recommendation: these ungrounded receptacles should be rewired and replaced with grounded receptacles.



*Example of inappropriate wiring found in basement*



*Example of inappropriate wiring found in basement*

5.1: Recommendation: Rewire basement wiring; **Priority: Short Term**



*ungrounded receptacle – second floor bedroom*



5.2: Recommendation: Install grounded receptacles; **Priority: Short Term**

Lighting throughout the site is generally in good condition. Front porch lighting appears to be new LED lighting. The remainder of exterior lighting is a mix of fluorescent and incandescent fixtures. Interior lighting is mainly incandescent. Lights would not turn on in the following rooms: Study, Parlor, Foyer and one Bedroom. Fixture housings were all in good condition. Lighting circuit wiring was not evaluated and recommend this should be further investigated to insure wiring is safe.





# ASSESSMENT REPORT

## ASSESSMENT GRAPHICS AND DRAWINGS

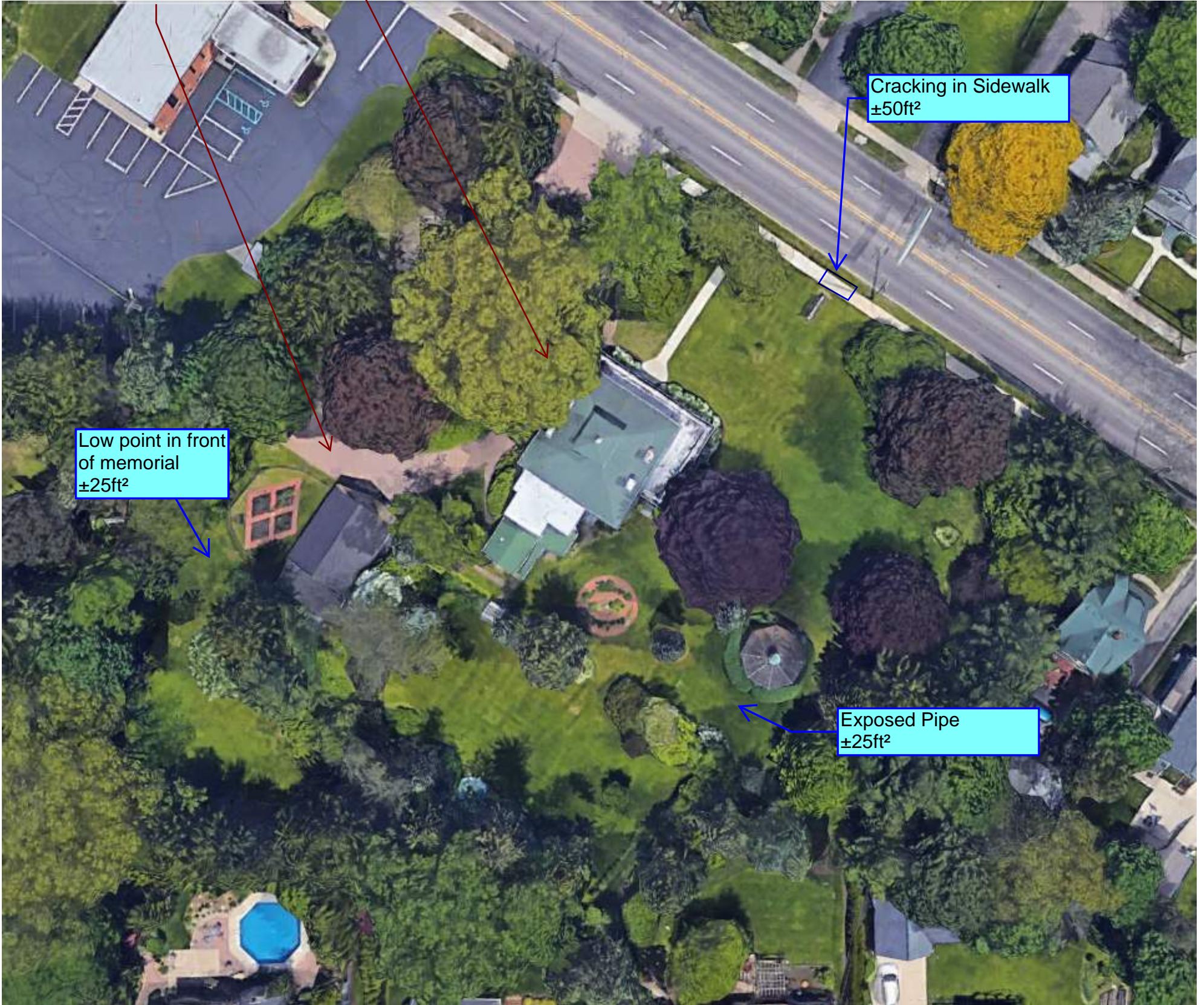
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RUTTS IN DRIVEWAY AT CANOPY ±800ft<sup>2</sup>

SUNKEN AREAS IN DRIVEWAY, 3 LOCATIONS ±75ft<sup>2</sup>

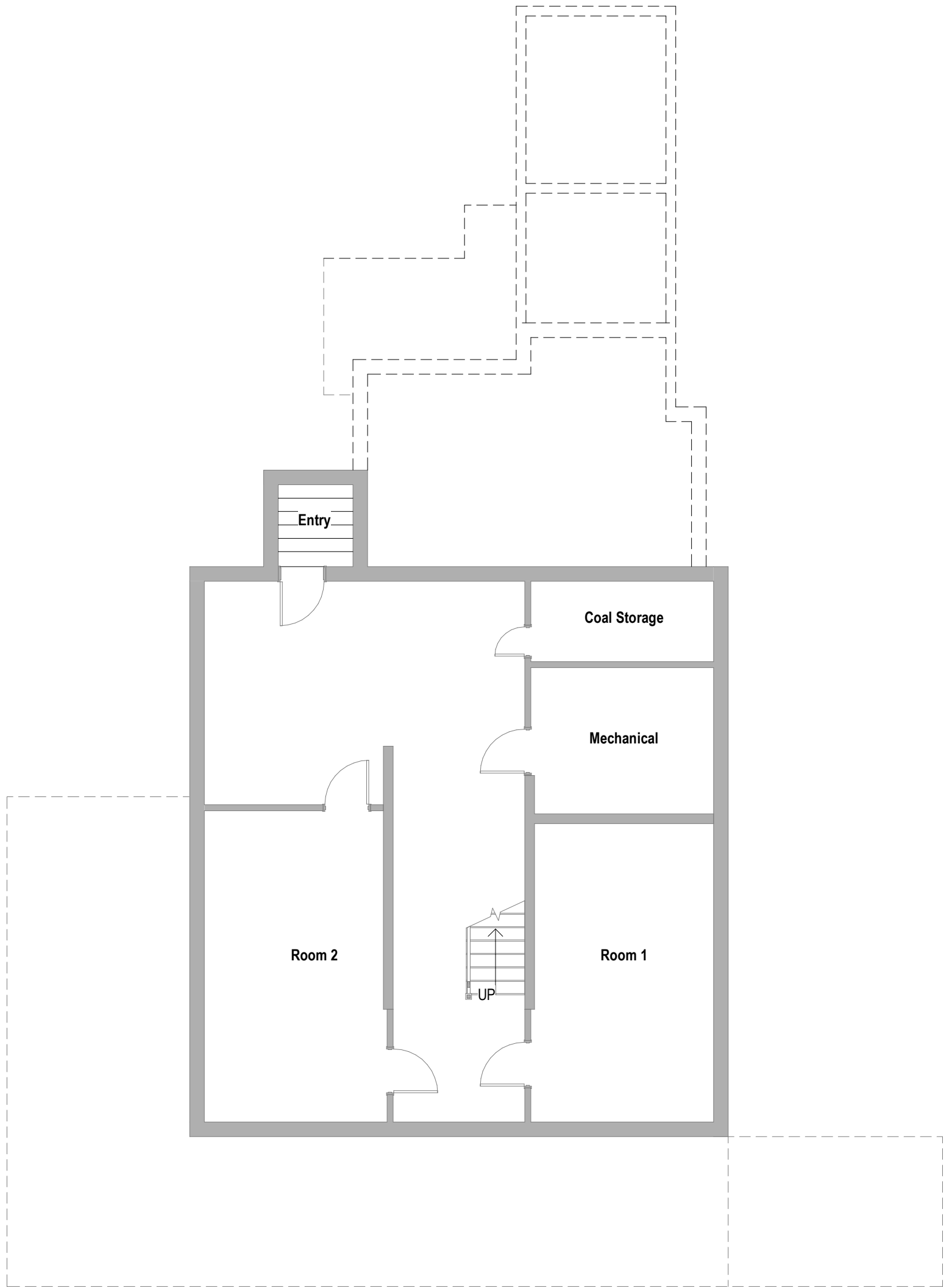


Cracking in Sidewalk ±50ft<sup>2</sup>

Low point in front of memorial ±25ft<sup>2</sup>

Exposed Pipe ±25ft<sup>2</sup>



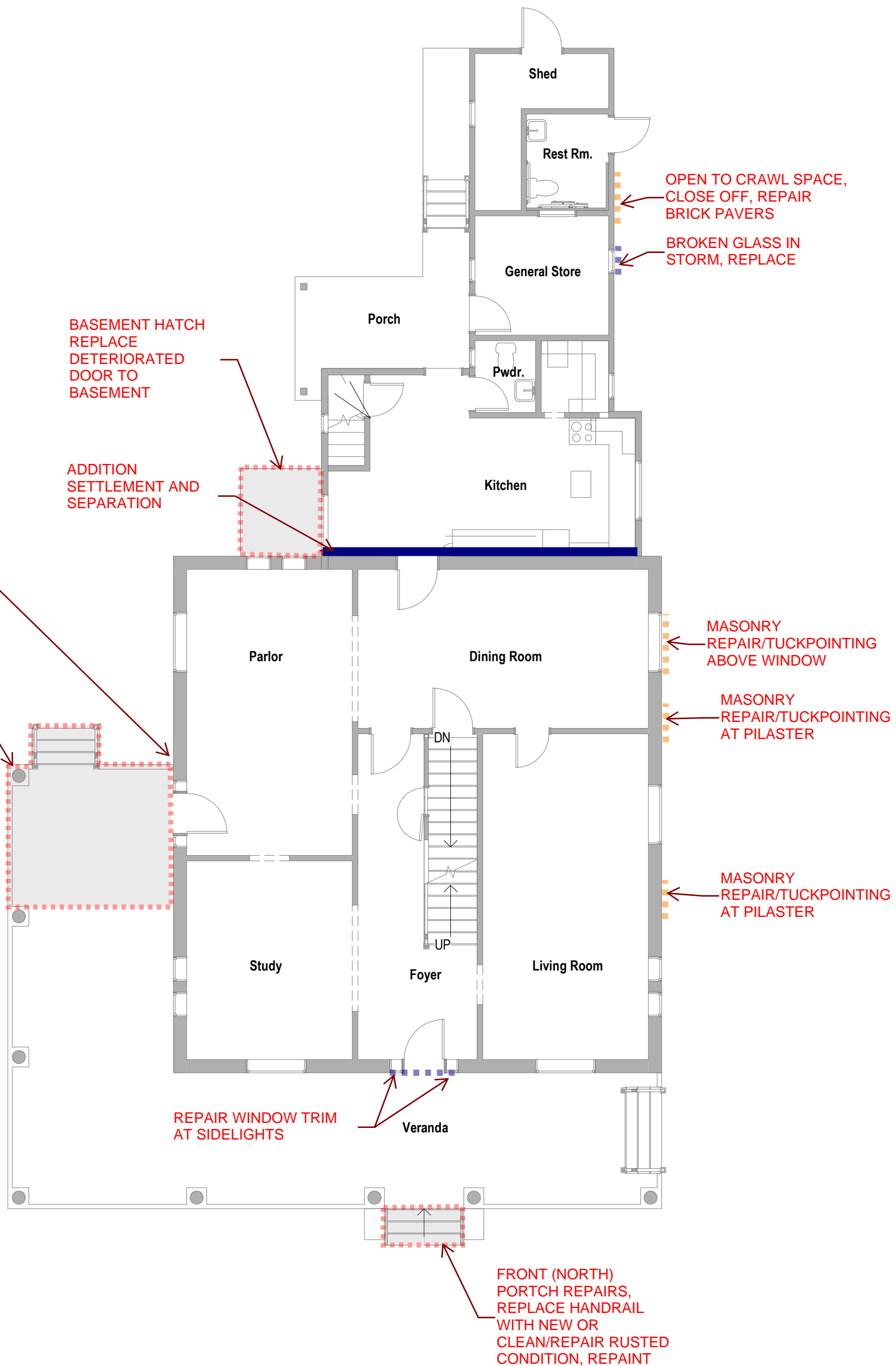


BASEMENT PLAN

GOVERNOR WARNER MANSION |



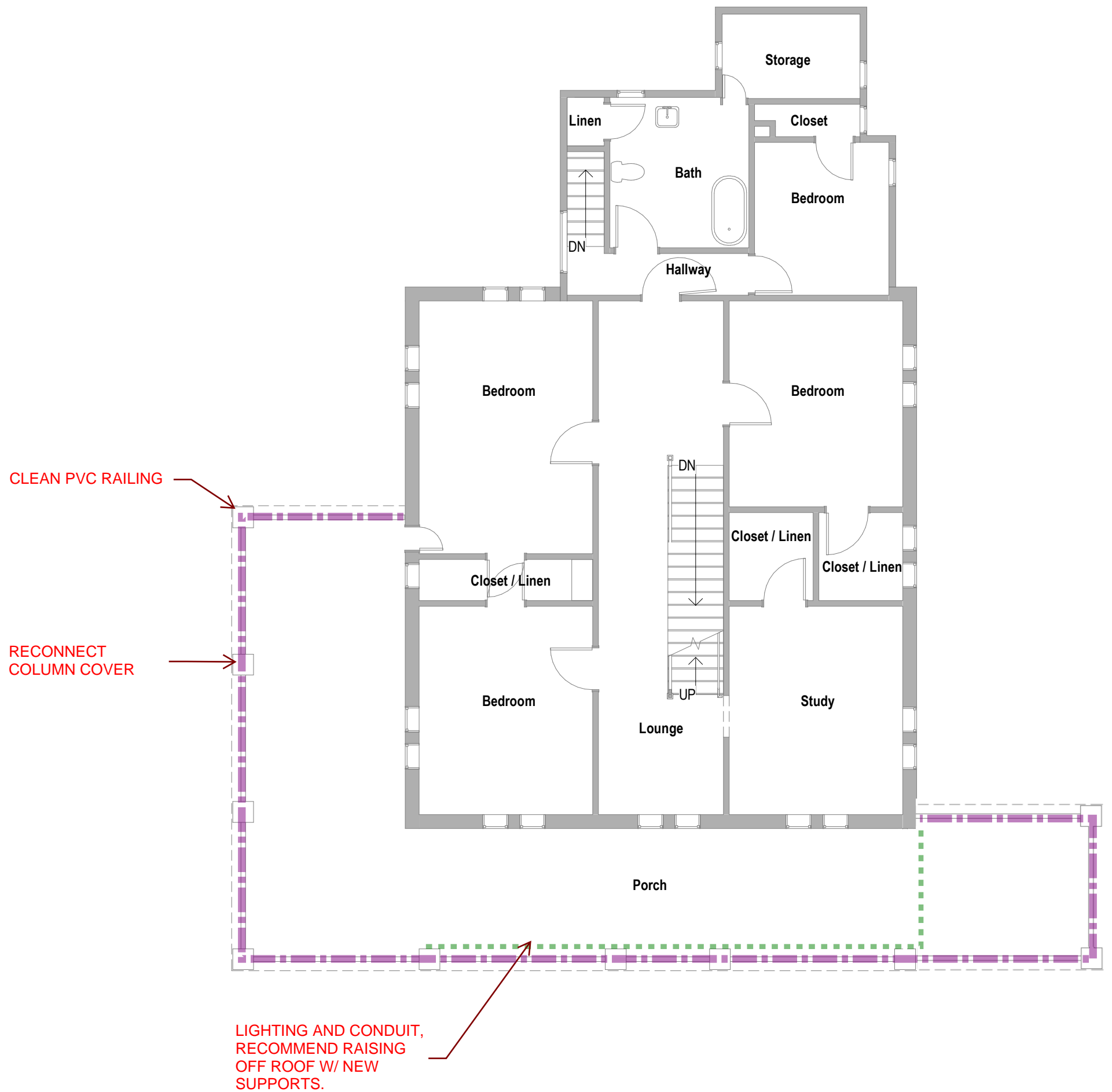




FIRST FLOOR PLAN

GOVERNOR WARNER MANSION |



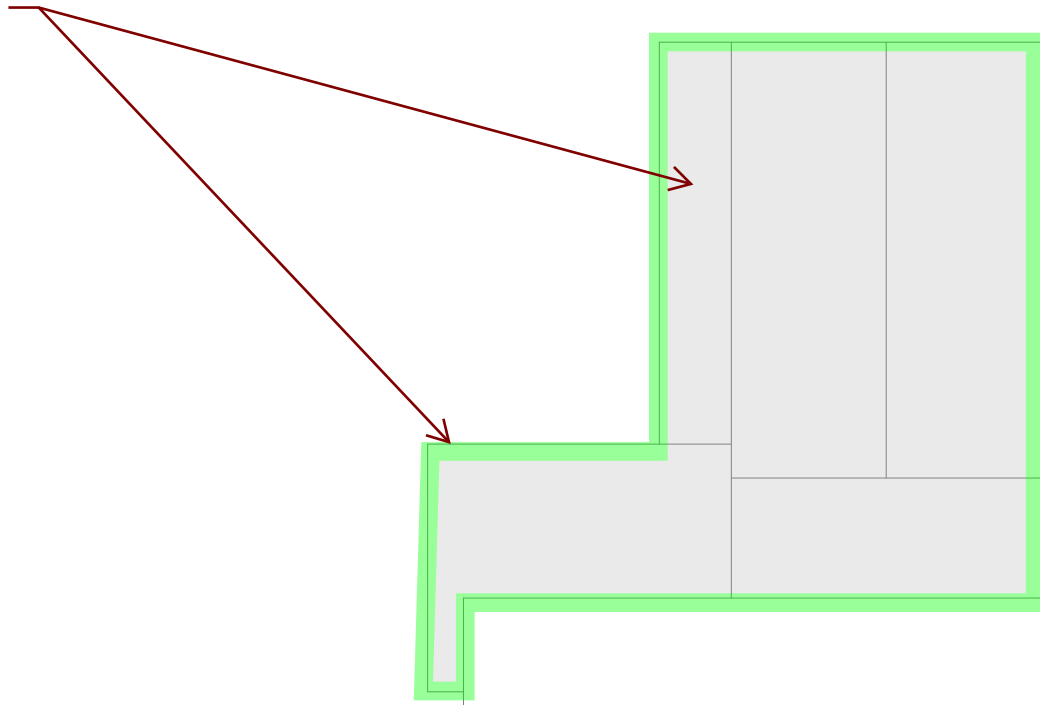


SECOND FLOOR PLAN

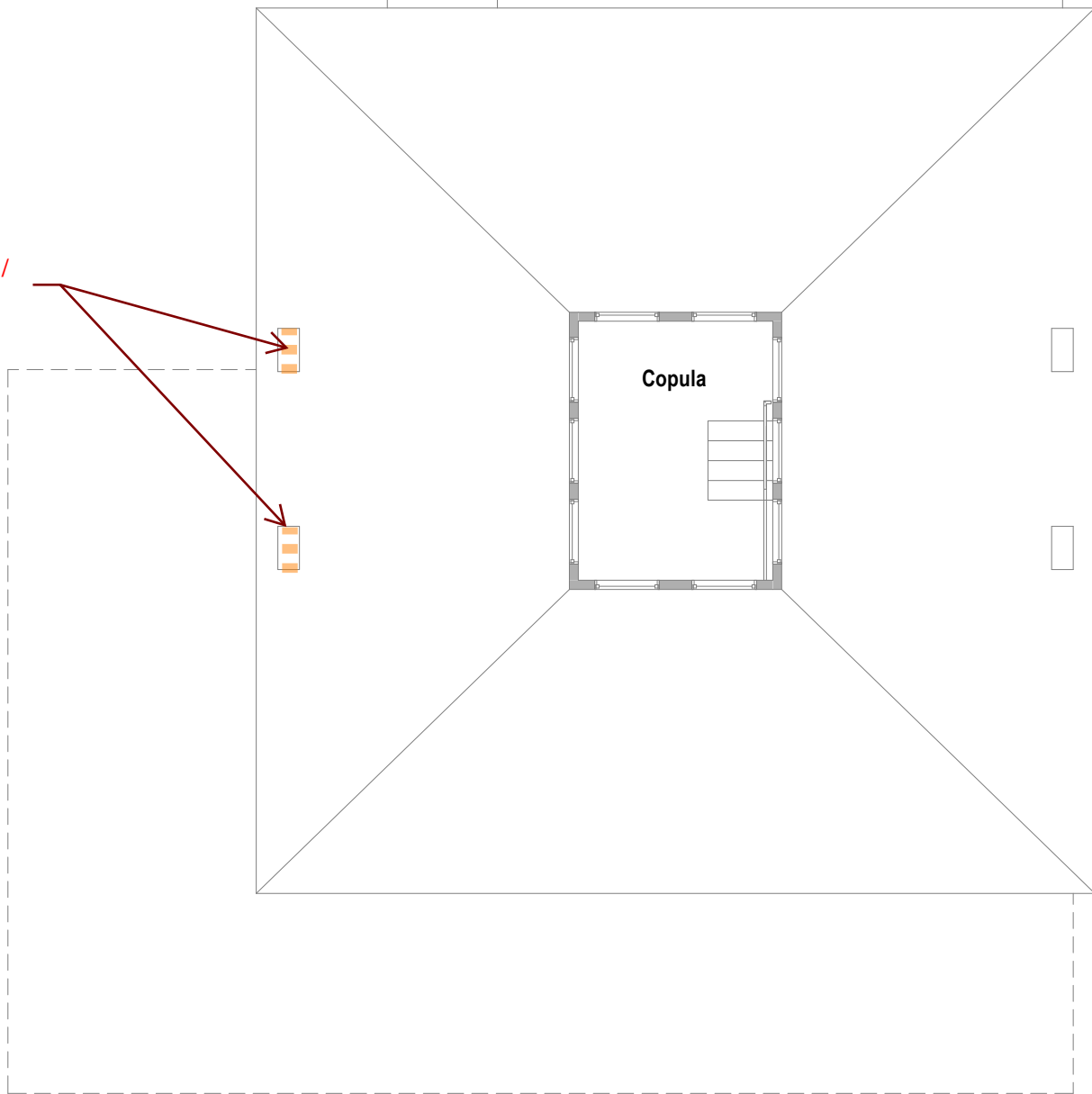
GOVERNOR WARNER MANSION |



ADDITION ROOF -  
REPLACE SHINGLES



REPAIR CHIMNEY CAP /  
TUCKPOINT MASONRY







## ASSESSMENT REPORT | OPINION OF PROBABLE COST

The following summary of work and Opinion of cost is based upon recommendations and current estimate for tasks only and doesn't include contractor profit, general conditions, phasing of work, design services, or contingency. Refer to following pages for further breakdown of cost based on priority level with these additional costs added for overall budget numbers.

| Item | Description                              | Opinion of Cost | Priority   |
|------|--|-----------------|------------|
| 1.0  | Site                                     |                 |            |
| 1.1  | Exposed Pipe                             | \$ 2,000        | Short Term |
| 1.2  | Deteriorated Area - West side of Mansion | \$ 4,000        | Short Term |
| 1.3  | Driveway - Rutting in Brick pavers       | \$ 10,000       | Mid-Term   |
| 1.4  | Deteriorated Walkway                     | \$ 5,000        | Short Term |
| 1.5  | Low point at Memorial                    | \$ 2,000        | Mid-Term   |
| 1.6  | Sunken Brick Pavers in Drive             | \$ 20,000       | Long Term  |
| 2.0  | Building Envelope/Structural             |                 |            |
| 2.1  | Front (North) Porch Stair                | \$ 8,000        | Short Term |
| 2.2  | East Port Column/Stair                   | \$ 20,000       | Short Term |
| 2.3  | East Porch Soffit                        | \$ 1,500        | Mid-Term   |
| 2.4  | Settlement and Separation                |                 |            |
| 2.4a | Jacking and Repairs                      | \$ 104,000      | Mid-term   |
| 2.4b | Sealing and Repair                       | \$ 8,000        | Short Term |
| 2.5  | Basement Hatch                           | \$ 2,000        | Short Term |
| 2.6  | Stone Wall Joints                        | \$ 1,500        | Short Term |
| 2.7  | Brick Chimneys                           | \$ 16,000       | Short Term |
| 2.8  | Brick Joints                             | \$ 20,000       | Mid-term   |
| 2.9  | Roofing                                  |                 |            |
| 2.9a | Original (Shingled)                      | \$ 10,000       | Long term  |
| 2.9b | Porch Roof (Low slope)                   | \$ 18,000       | Mid-term   |
| 2.9c | Addition (Shingled)                      | \$ 7,000        | Mid-term   |
| 2.9d | Addition (Low slope)                     | \$ 9,000        | Mid-term   |
| 2.10 | Porch Balustrade                         | \$ 4,000        | Short Term |
| 2.11 | Painting                                 | \$ 24,000       | Mid-term   |
| 2.12 | Window Refurbishment                     |                 | Mid-term   |
| 2.20 | Gazebo Stairs                            | \$ 1,500        | Short Term |
| 2.21 | Gazebo Roofing                           | \$ 10,000       | Mid-term   |
| 2.30 | Carriage House Painting                  | \$ 10,000       | Mid-term   |
| 2.31 | Carriage House Roofing                   | \$ 12,000       | Long term  |



| Item                    | Description                                  | Opinion of Cost | Priority   |
|-------------------------|--|-----------------|------------|
| 3.0 Hazardous Materials |  |                 |            |
| 3.1                     | Report Analysis                              |                 | Short Term |
| 4.0 Mechanical          |  |                 |            |
| 4.1                     | Update Boiler CSD-1 and state registration   | \$ 2,000        | Short Term |
| 4.2                     | Boiler Replacement                           | \$ 10,000       | Mid-Term   |
| 4.3                     | AC Line-set repairs                          | \$ 1,000        | Short Term |
| 4.4                     | AC unit replacement including condenser      | \$ 7,500        | Mid-Term   |
| 4.5                     | Backflow inspection and testing update       | \$ 2,000        | Short Term |
| 4.6                     | Water heater replacement                     | \$ 1,500        | Mid-Term   |
| 5.0 Electrical          |  |                 |            |
| 5.1                     | Basement wiring upgrades                     | \$ 2,000        | Short Term |
| 5.2                     | Install grounded receptacles on second floor | \$ 5,000        | Short Term |



## ASSESSMENT REPORT | PHASING RECOMMENDATIONS

The following phasing recommendations outline a Opinion of Probable Cost for work to be considered within each phase - Short Term, Mid-term and Long Term projects. The costs do not take into consideration multiple bid packages, additional phasing costs, and design services; however a higher contingency of 40% has been included as well as a 25% general conditions for general contractor and overhead and profit. Finally, a cost of construction adjustment cost percentage has been applied based on the average numbers of years for construction to be completed as another factor. Final budgets should be established when more definition of scope and quantities are established during the appropriate project timeline.

### Short Term Projects (1-3 years)

| Item                                    | Description                                  | Opinion of Cost | Priority   |
|---|--|-----------------|------------|
| <b>1.0 Site</b>                         |  |                 |            |
| 1.1                                     | Exposed Pipe                                 | \$ 2,000        | Short Term |
| 1.2                                     | Deteriorated Area - West side of Mansion     | \$ 4,000        | Short Term |
| 1.4                                     | Deteriorated Walkway                         | \$ 5,000        | Short Term |
| <b>2.0 Building Envelope/Structural</b> |  |                 |            |
| 2.1                                     | Front (North) Porch Stair                    | \$ 10,000       | Short Term |
| 2.2                                     | East Port Column/Stair                       | \$ 15,000       | Short Term |
| 2.4b                                    | Sealing and Repair                           | \$ 5,000        | Short Term |
| 2.5                                     | Basement Hatch                               | \$ 1,500        | Short Term |
| 2.6                                     | Stone Wall Joints                            | \$ 1,000        | Short Term |
| 2.7                                     | Brick Chimneys                               | \$ 16,000       | Short Term |
| 2.10                                    | Porch Balustrade                             | \$ 4,000        | Short Term |
| 2.20                                    | Gazebo Stairs                                | \$ 1,500        | Short Term |
| <b>3.0 Hazardous Materials</b>          |  |                 |            |
| 3.1                                     | Report Analysis                              |                 | Short Term |
| <b>4.0 Mechanical</b>                   |  |                 |            |
| 4.1                                     | Update Boiler CSD-1 and state registration   | \$ 2,000        | Short Term |
| 4.3                                     | AC Line-set repairs                          | \$ 1,000        | Short Term |
| 4.5                                     | Backflow inspection and testing update       | \$ 2,000        | Short Term |
| <b>5.0 Electrical</b>                   |  |                 |            |
| 5.1                                     | Basement wiring upgrades                     | \$ 2,000        | Short Term |
| 5.2                                     | Install grounded receptacles on second floor | \$ 5,000        | Short Term |

|                                     |                   |
|-------------------------------------|-------------------|
| Sub-Total                           | \$ 77,000         |
| Contingency (40%)                   | \$ 30,800.0       |
| General Conditions and Markup (25%) | \$ 19,250.0       |
| Average Yearly Cost Adjustment (5%) | \$ 3,850.00       |
| <b>Total</b>                        | <b>\$ 130,900</b> |





## Mid-Term Projects (4-10 years)

| Item                                    | Description                             | Opinion of Cost | Priority |
|---|---|-----------------|----------|
| <b>1.0 Site</b>                         |   |                 |          |
| 1.3                                     | Driveway - Rutting in Brick pavers      | \$ 10,000       | Mid-Term |
| 1.5                                     | Low point at Memorial                   | \$ 2,000        | Mid-Term |
| <b>2.0 Building Envelope/Structural</b> |   |                 |          |
| 2.3                                     | East Porch Soffit                       | \$ 1,500        | Mid-Term |
| 2.4                                     | Settlement and Separation               |                 |          |
| 2.4a                                    | Jacking and Repairs                     | \$ 104,000      | Mid-term |
| 2.8                                     | Brick Joints                            | \$ 20,000       | Mid-term |
| 2.9                                     | Roofing                                 |                 |          |
| 2.9b                                    | Porch Roof (Low slope)                  | \$ 18,000       | Mid-term |
| 2.9c                                    | Addition (Shingled)                     | \$ 7,000        | Mid-term |
| 2.9d                                    | Addition (Low slope)                    | \$ 9,000        | Mid-term |
| 2.11                                    | Painting                                | \$ 24,000       | Mid-term |
| 2.12                                    | Window Refurbishment                    |                 | Mid-term |
| 2.21                                    | Gazebo Roofing                          | \$ 10,000       | Mid-term |
| 2.30                                    | Carriage House Painting                 | \$ 10,000       | Mid-term |
| <b>4.0 Mechanical</b>                   |   |                 |          |
| 4.2                                     | Boiler Replacement                      | \$ 10,000       | Mid-Term |
| 4.4                                     | AC unit replacement including condenser | \$ 7,500        | Mid-Term |
| 4.6                                     | Water heater replacement                | \$ 1,500        | Mid-Term |

|                                      |                   |
|--------------------------------------|-------------------|
| Sub-Total                            | \$ 234,500        |
| Contingency (40%)                    | \$ 93,800.0       |
| General Conditions and Markup (25%)  | \$ 58,625.0       |
| Average Yearly Cost Adjustment (15%) | \$ 35,175.00      |
| <b>Total</b>                         | <b>\$ 422,100</b> |



## Long Term Projects (10+ years)

| Item | Description                  | Opinion of Cost | Priority  |
|------|------------------------------|-----------------|-----------|
| 1.0  | Site                         |                 |           |
| 1.6  | Sunken Brick Pavers in Drive | \$ 20,000       | Long Term |
| 2.0  | Building Envelope/Structural |                 |           |
| 2.9  | Roofing                      |                 |           |
| 2.9a | Original (Shingled)          | \$ 10,000       | Long term |
| 2.31 | Carriage House Roofing       | \$ 12,000       | Long term |

|                                      |              |
|--------------------------------------|--------------|
| Sub-Total                            | \$ 42,000    |
| Contingency (40%)                    | \$ 16,800.0  |
| General Conditions and Markup (25%)  | \$ 10,500.0  |
| Average Yearly Cost Adjustment (30%) | \$ 12,600.00 |
| Total                                | \$ 81,900    |