30 HACKAMORE LANE, BELL CANYON

Preliminary assessment of roof related repairs and recommendations for repairs

The purpose of this report is to provide a detailed scope of work based on the current conditions, and after taking measurements. It is obvious that the exterior is in need of repair, but it would be difficult to get accurate pricing unless the scope of work is specified in detail and for each location.

Fascia Boards

During the re-roofing the existing and exposed, (Exposed from top) roof eaves will be cut back by the roofing company. Areas without fascia boards are straight forward and will require no additional work if there will be no damage observed at those areas.

About 467 linear feet of the gable ends have 4x fascia boards.

The scope of the work includes the shortening of these overhangs and for that the existing fascia boards need to be removed regardless of if they are damaged or not. They are attached to the fly rafters by inverted joist hangers. These are nailed off. Reusing these are not recommended and they are relatively inexpensive. After the existing roofing materials will be stripped off and the roof sheathing and/or T&G will be exposed damaged sections will be replaced by the roofing contractor. At or around this phase of the roofing project the shortening of the overhangs will take place. The existing fascia boards will be removed and only after that the fly joists will be cut back. These fascia boards are heavy, long and cannot be cut away together and in one piece with the rafters due to their size and weight. While these fascia boards might look acceptable from ground level, they are not worth reinstalling. (See attached closeup pictures on pages 2 and 3) Some of them have dry-rot, fungi and termite damage and some others are cracked and twisted. None of them were properly primed and painted to protect them from the elements. During previous paintjobs these boards were repaired, (caulked and patched with Bondo) but these repairs are failing, and the boards are getting worse.

There are a total of 16 pieces of Fascia boards that need to be replaced varying from 15' to close to 34' in length. Some of them are crafted from multiple sections. After the roofline is shortened, new rough sawn fascia boards would be installed. To maintain the historic look of the structure, finished (smooth) lumber is not suggested. At the NW corner of the building one fascia board was replaced previously by using finished lumber and difference is noticeable. It also has rounded edges instead of sharp edges.

During the installation of the new fascia boards new heavy duty joist hangers will be installed in a reversed position to match the existing installation and per the requirements of the manufacturer.

Oil-base primer will be used on all sides and cuts to seal the lumber. One coat of Dunn-Edwards "Evershield" will be used as a topcoat to provide a subtle look until an exterior paintjob will be scheduled for the building and to provide protection for the time being. (Match colors as needed.)

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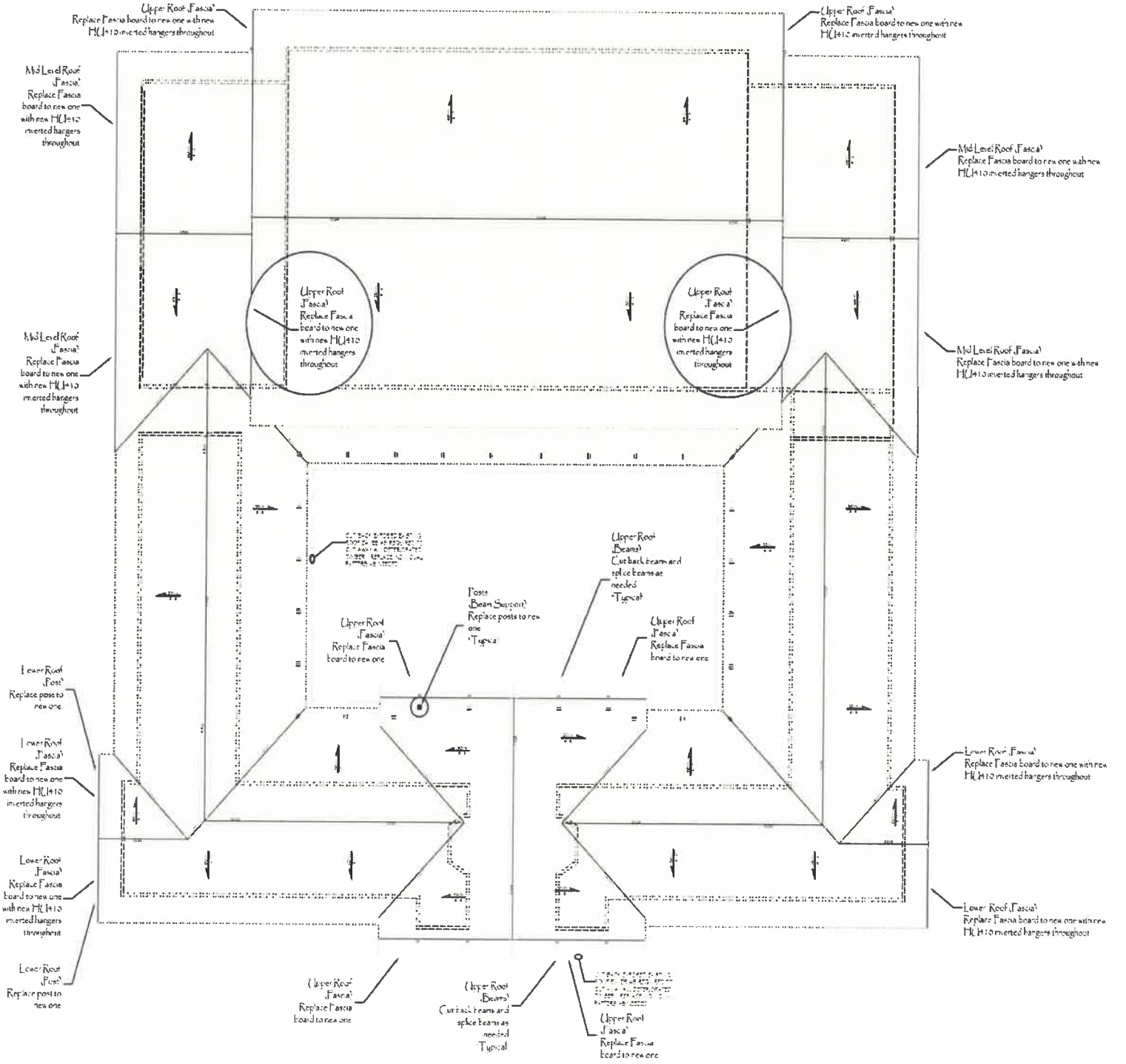
Locations where fascia boards need replacement.



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This picture shows the HU410 inverted hanger installation

Note all pictures with dry rot. The extent of the owl is inside the wood is proportional to the damage.

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The paint no longer provides protection

Previous repairs on cracks are deteriorating

Roof Beams

Almost all exposed locations have water damage. By cutting off the damaged ends of the roof beams will preserve the remaining runs and save cost by eliminating the need for full replacements. All discussed locations have been inspected up close and throughout. The only areas that could not be inspected at this time are the top of these beams and the mating surfaces with seat cuts. The top of wood surfaces, where T&G meets the beam tend to take on water and susceptible to dry rot. These types of damage would be hard to identify before work begins.

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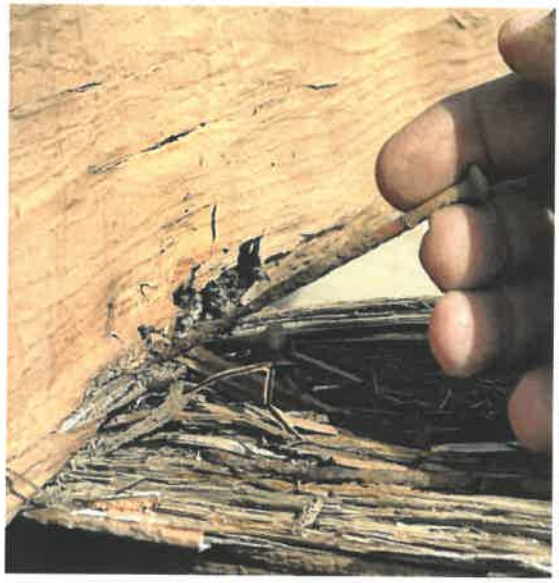


Toenailing is no longer keep members attached. If these fasteners are not already corroded away, they can be pulled out by hand.

Roof Beams (Continued)

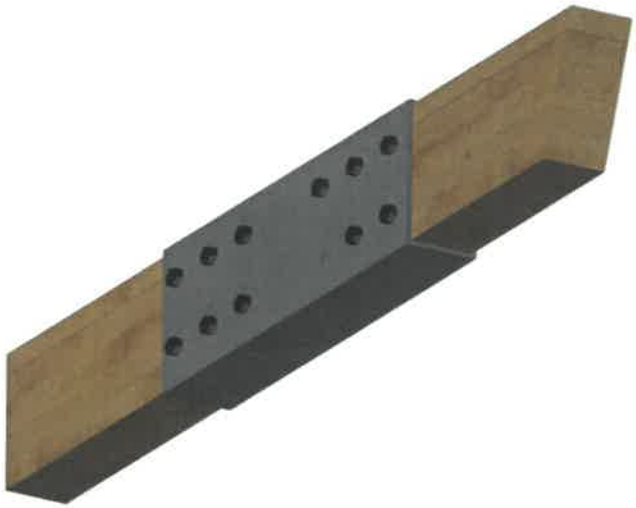
To keep a uniformed look, all beams need to be shortened evenly. The governing length will be decided on site and during the work to ensure that all damaged sections would be removed. It appears that this will be around 2' – 3' on each beam. Cuts will be treated with "Copper-Green" wood preserver. As stated previously, we are trying to reduce the necessary work by having to replace the entire runs of the beams which would require additional shoring and work. From the inside of the soffit area of the gym I was able to see that these go back about 6'- 7'. The new beam then would need to be connected through the wall and to the double top plates, end of members and blocks, rafters as well as the sheathing boards under the existing stucco as well as around the beam. (Stucco repair, waterproofing, working inside a confined space, additional shoring, etc....)

Roof beams inside the attic space

Roof Beams (Continued)

The second-best option IMO is to replace the end of the beams with new lumber using a custom fabricated steel sleeve. It is a hinge connector type hardware that is used to couple two pieces of lumber at the ends. There is no manufacturer who makes them in this size, and they are not very aesthetic either. These would be fastened with large through-bolts at the end of each lumber and the new fascia boards would sit on the new sections. (We could add beam seats if needed, but I think these splices would fall behind the Fascia boards) The beveled and exposed tips of the new work would be covered with a copper cap to shield from water and the sun.

Projected look on the courtyard side where the replacement would fall on the post.



Similar approach but without bracket on the bottom at the parking lot side.

Posts

Most of the 6x posts that are supporting the overhang in the courtyard are also damaged. Either the post base has corroded away or in the process of doing that or the lumber has dry rot and disintegrated, cracked and bolts are too close to the sides. Pictures are shown in numerical order from left to right and from top to bottom. (See floorplan for locations)

Location 1

Location 2

Location 2

Location 4

Location 5

Location 6

Location 7

Location 8

Location 9

Location 10

Location 11

Location 12

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Location 13

Location 14

Location 15

Location 16

Location 17

Location 18

Location 19

Location 20

Location 21

Location 22

Location 23

Location 24

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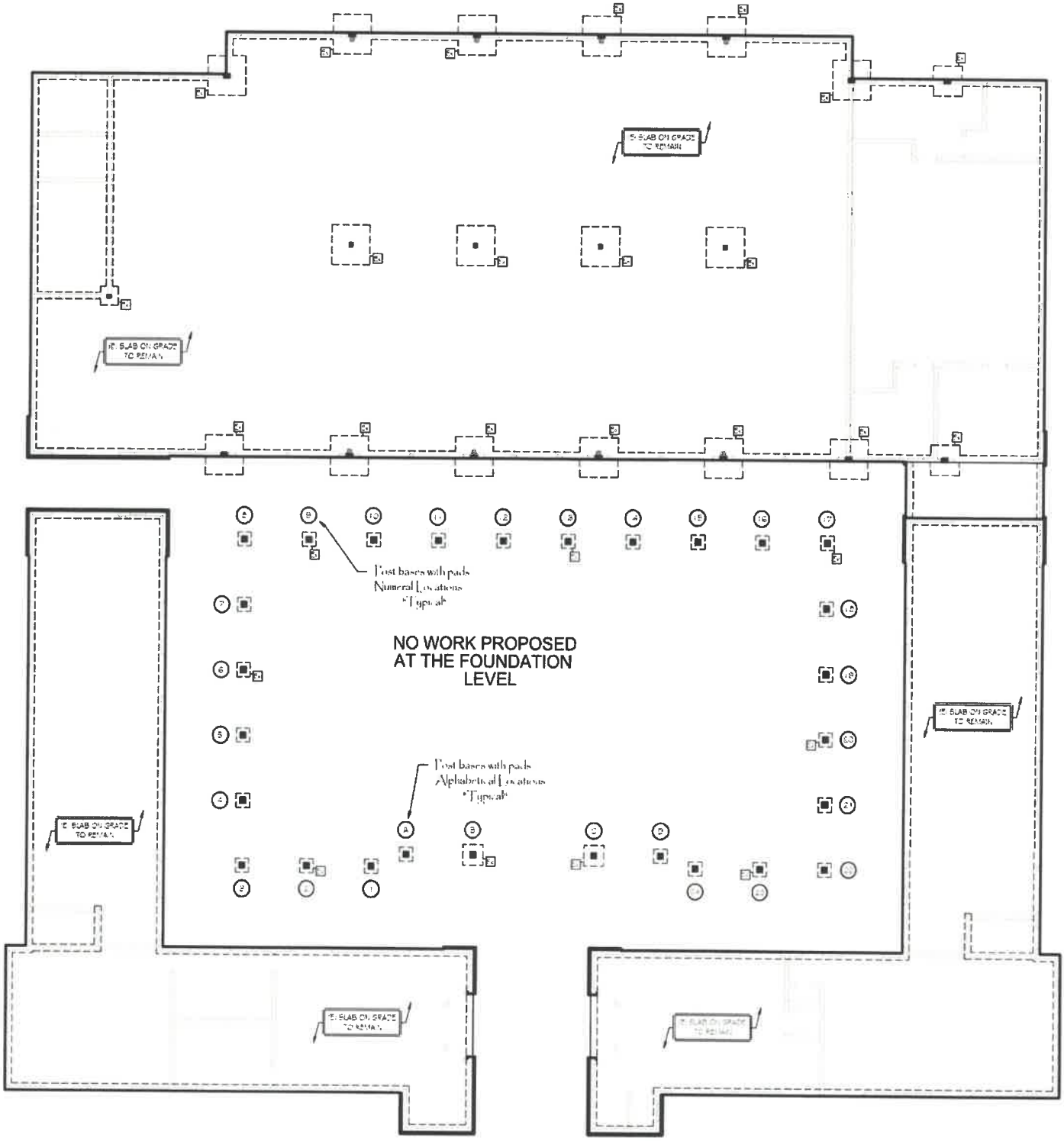
Locations for post repairs.



Only 7 locations seem to be in acceptable shape. Mainly the ones with "spacers" although one of them is still missing one side of the post base. Some of them are crushed, some do not have sideway support. Lumber needs to be away from the concrete and supported by a post base that is intact. It is a high traffic area for residents and addressing most of the posts but not all would create an unpleasant appearance. Cutting back on these posts would not be ideal. The bolt holes need to be a at a certain distance from the bottom of the cut to meet allowable loads. Almost all of them have damage to a different extent at the bottom and would need to be trimmed, but this is not clearly visible. Repairing them individually will not provide an aesthetic look as they all would look somewhat different as well. Since they are relatively short pieces, (6' –11" to 7' - 2") it would be a good idea to replace all of them. They are connected only with a pair of A35 framing angles which is pretty much as basic as it gets. Stuart would be able to substantiate if these types of repairs are sufficient and it would be best if we would ask him to verify load calculations.

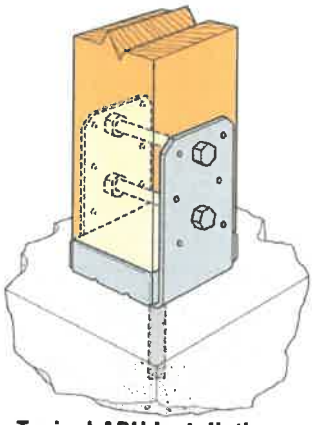
The plans show a 2'-0" x 2'-0" x 1'-0" pad under each post along the breezeway and 3'-0" x 3'-0" x 1'-6" for 4 of the main entrance ones. I have verified this by drilling into one of them.

Based on this we can do one of two things.

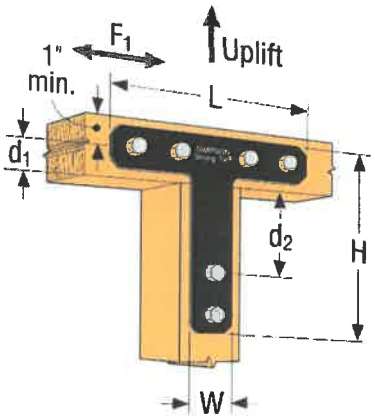
Scope of work: **Option 1**

Shore up support beams resting on posts during repair. Remove post and framing angles at top. Cut off and grind off the remnants of the post bases. Set new adjustable retrofit ABU5-5 post base. Drill into existing slab/pad. Clean holes, blow out and brush to eliminate dust. Set new 5/8" epoxy anchors in ground. Install galvanized bolts and nuts through posts. (Epoxy anchors unaffected by dampness while wedge type anchors will corrode eventually). Install new columns, treat bottom ends and sides of the bottom part with "Copper-Green" to extend the life expectancy of the new work.

Install new 1212HTPC "beam to column ties" on one side of each connection with galvanized bolts and nuts per specs. (Optional, instead of the A35)



Typical ABU Installation



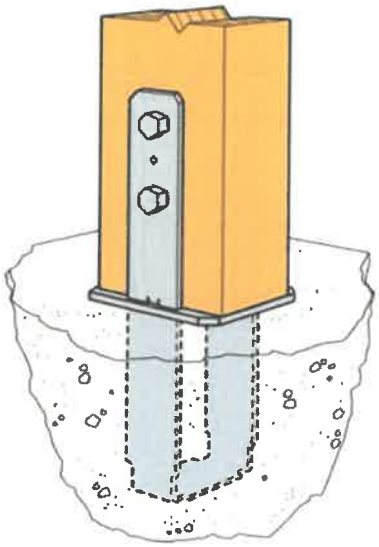
Scope of work: **Option 2**

Shore up support beams resting on posts during repair. Remove post and upper framing angles, cut off post bases to gain access for core drilling. Remove remnants of old post bases by core drilling the center of the pad. It is faster, more cost effective and less intrusive than having to demo out the entire 24" x 24" pad which would leave large sections of visible signs of repair work around each post. Set new CB66PC or CB66 column bases with CPS6 standoff bases to keep columns high enough to minimize water intrusion. Pour and finish high strength 4000psi concrete in holes. The 11'-12" hole diameter will provide the required 3" side cover for full load. Install new columns with galvanized through-bolts, treat bottom ends and sides of the bottom part with "Copper-Green" to extend the life expectancy of the new work.

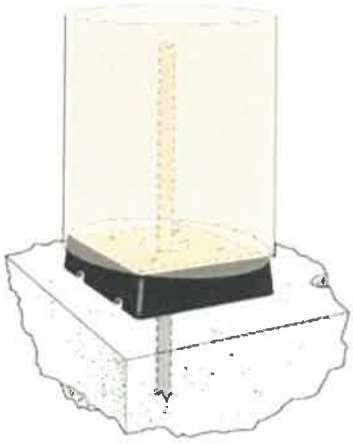
Install new 1212HTPC beam to column ties on one side of each connection with galvanized bolts and nuts per specs. (Optional, instead of the A35)

Images of the concept of option 2

Typical core drilling



Typical installation of CB66



CPS6 keeps wood members off the ground

CPS6

Additional 4 posts for the main entrance

These 4 longer posts would require a similar approach then the ones would be used for the breezeway posts. However, at these locations I would not feel comfortable using "Option 1" since these are taller, more spread out and support larger loads. I think Here need to install in-ground post bases even if it means replacing the pads. (See pictures next page)

Continued next page

Additional posts for NE corner, lower roof.

There are two 4x4 posts supporting the lower roof overhang at the NE corner of the complex.

In addition, the support beams are also damaged past the fascia boards and need to be either replaced or repaired by splicing as discussed earlier for the main entrance area. One of the pads shows signs of cracks.

Continued next page

Temporary shoring

Temporary shoring will be needed at all locations where posts or beams will be replaced and/repaired to transfer loads from the members during construction.

Related Electrical work

Existing electrical distribution needs to be removed, relocated or modified at some of these and some other additional locations where fascia board replacement and shortening of the overhang will take place even where fascia boards are not being replaced. EMT and flexible liquid tight conduits, fixtures and installations would need to be temporarily disconnected. After the framing is done, run conduits, pull and splice wires as needed to reestablish service for each location. Installing new LED fixtures and lighting control is recommended

Typical locations of electrical work that need to be relocated or modified for the roofing project.

End of report

Scope of additional work:

Fascia Boards

At each location 1 through 16 (See plans for details under "FB" 1-16)

Remove and dispose of existing fascia boards, cut back all fly rafters, install new heavy-duty hangers, cut new fascia board to size, prime and paint on one coat on all sides and cuts, install and secure new fascia boards. All labor, materials, equipment and cleanup.

See pricing per location

Roof Beams

At each location, 1 through 8 **and** A through D (See plans for details under "RB")

Temporary shoring of roof structure as needed to transfer loads during the removal and placement of new work. Removal and disposal of old materials. Cut back existing roof beams as needed, and equally. Install custom steel sleeves. Prime and paint steel and wood as needed. Drill through lumber at each hole and install grade 8 black, plain, high strength bolts, washers and nuts to lock everything together. Set roof back on new assembly. At locations A, B, C and D the sleeves will have column cap straps to pick up and tie the sleeve together with the post below. All exposed beam ends that pass the roofline will receive copper cap for additional protection. All labor, materials, equipment and cleanup.

See pricing per location

Post repairs (Entrance)

At each location, A through F (See plans for details under "PR")

Temporary shoring of roof structure as needed to transfer loads during the removal and placement of new work. Removal and disposal of old materials. Demo out existing 3'- 0" x 3'- 0" x 1'- 6" post bases. Set and tie new rebar in holes. Set CB66 post bases, pour and finish 4000psi high strength concrete in each hole. Cut new rough sawn posts to size, treat the bottom of each with copper-green wood preservative, prime and paint all sides before installation. Install and secure new post with exterior grade hot dipped galvanized 5/8" bolts, washers and nuts as needed. Install new CPS6 plastic spacers between bottom of treated bases of the posts and the top of the steel post bases, (which are flush with the ground) to keep all lumber from being in direct contact with the ground and to minimize water intake and lengthening the life of the new work. All labor, materials, equipment and cleanup.

See pricing per location

Post repairs (Courtyard)

At each location, 1 through 24 (See plans for details under numerical)

Temporary shoring of roof structure as needed to transfer loads during the removal and placement of new work. Removal and disposal of old materials. Cut back remnants of post bases, grind off stubs, wet core drill center of existing pads, collect sludge, wash off and keep clean adjacent areas. Set new CB66 post bases, pour and finish 4000psi high strength concrete in each hole. Cut new rough sawn posts to size, treat the bottom of each with copper-green wood preservative, prime and paint all sides before installation. Install and secure new post with exterior grade hot dipped galvanized 5/8" bolts, washers and nuts as needed. Install new CPS6 plastic spacers between bottom of treated bases of the posts and the top of the steel post bases, (which are flush with the ground) to keep all lumber from being in direct contact with the ground and to minimize water intake and lengthening the life of the new work. All labor, materials, equipment and cleanup.

See pricing per location

Any and all work that is not indicated above is not a part. All repairs would take place on the outside of exterior walls. Any additional damage detected during restorations could alter the repair process.

All work includes blocking off pedestrian and vehicular traffic as needed at each location with safety cones, caution tape and signage for the shortest duration possible. Daily and overnight closures are expected. Work at high traffic areas will be coordinated with the HOA to allow scheduled deliveries and trash pickups to be unaffected. Daily cleanup to keep worksites safe and professional such as water runoffs, concrete, wood, trash, etc....All necessary equipment as needed, owned or rented.

Building materials to be neatly stored on site near locations being worked at, cordoned off, covered and safe at all times.

Continued next page

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Total cost of repairs per location. See detailed descriptions above.

Fascias	Cost	Roof Beams	Cost	Post Repairs	Cost
FB 1		RB 1		PR A	
FB 2		RB 2		PR B	
FB 3		RB 3		PR C	
FB 4		RB 4		PR D	
FB 5		RB 5		PR E	
FB 6		RB 6		PR F	
FB 7		RB 7			
FB 8		RB 8			
FB 9					
FB 10					
FB 11					
FB 12		RB A			
FB 13		RB B			
FB 14		RB C			
FB 15		RB D			
FB 16					

Post Repairs (Courtyard)

Project total cost:

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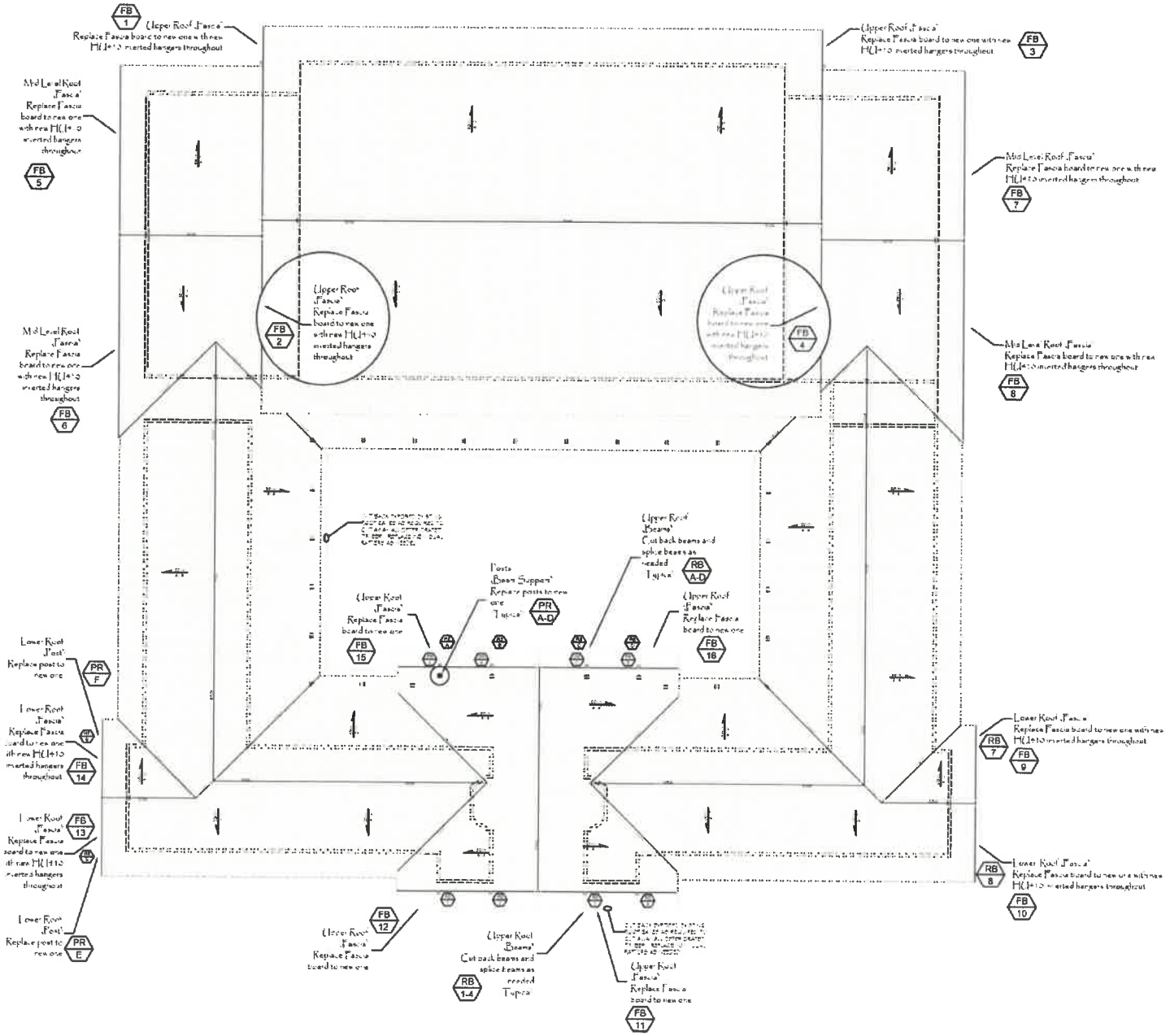
Types of repairs and their locations



Types of repairs and their locations (Next page)