DAWSON VAN ORDEN
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December 28, 2016

Corgan Associates, Inc.
20 East Greenway Plaza, Suite 410
Houston, TX 77046

Attn: Mr. Roger Basarich

Ref: Harris Center for mental Health and IDD (formerly known as MHMRA of Harris County)
612 Branard Street, Houston TX 77019

Mr. Basarich,

On December 15th & 16th, 2016, a representative from Dawson Van Orden visited the property at the above referenced address to perform a structural assessment of the five (5) existing structures. The purpose of this investigation is to identifying any major issues that would reduce the life of the structures over the next 25 years. Items include:

- Review of existing structural load bearing and lateral systems
- Review and identification of bracing and load bearing elements in the structures
- Evaluation of structural components for compliance to City of Houston construction codes
- Assessment and identification of structural components that have had their structural integrity compromised.
- Conclusions and recommendations that can be used by a general contractor for the purpose of establishing a budget for needed repairs

General Framing of Structures

The following is a map identifying the current labels of the each structure. These will also be the same that that are used for the remainder of this report.

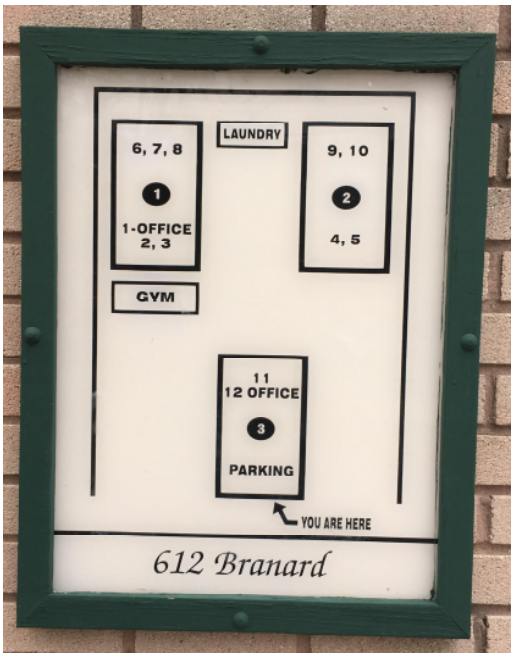

Photo 1 – Property Map

Vertical Load Supporting System

All of the structures are framed using 2x wood members for the walls, floor and or roof with the exception of Building 3. Both the Laundry and Gym structures are single story wood framed structures on top of a concrete foundation. Joists are 2x members spaced at approximately 16" on center and walls are 2x stud framing. The roof covering appears to be an asphalt cover and the interior sheathing for both buildings consist of gypsum board except in the Gym Building where both the North and South walls are brick veneer. The exact type of foundations for either building could not be completely verified. Typical practices for these types of structures for their given size are conventional reinforced or post tension shallow foundations. No post tension cable pockets were observed on the outside face of the foundations therefore removing that possibility from the list making the foundations most likely, conventional reinforced shallow foundations.

Buildings 1 and 2 are two story wood framed structures supported by a concrete foundation. The roofs are framed with 2x8 joist spaced at 16" on center running in the East-West direction. On the East side of Building 1 and the West side of Building 2, the joist cantilever out past the exterior wall approximately 4 feet to provide cover for the elevated walkway below. The length of this cantilever section for Building 1 is approximately 26 feet and is centered within the total length of the building. For Building 2, the cantilever section is roughly 30 feet. At several locations although not consistently, the main joist stops at the exterior wall and an additional joist is lapped to the side of it to create the cantilever. The floor joists consist of 2x10's spaced at 16" on center running East-West. To create the elevated walkway for entry into the second floor spaces, the floor joist also cantilever out past the exterior wall. The location of these joist are the same location as the cantilever roof joist. However unlike the roof framing, no floor joists were found to be lapped to the side of the main floor joist. The roof cover appears to be a TPO type of material and the interior walls have gypsum sheathing. Similar the Laundry Building and the Gym building, little information can be gathered to determine exactly what type of foundation is supporting the structures above. For these type of

structures in this region with their given size, typical practices suggest they could be supported by either shallow foundations; post tension or conventionally reinforced, or deep foundations utilizing straight shaft/belled piers. No post tension cable pockets were observed in either structure eliminating that option, thus leaving conventional reinforced shallow foundation or a deep foundation of piers.

Building 3 is unique compared to the other structures on site. The roof (2x8 at 16" on center) and floor joist (2x10 at 16" on center) running in the North-South direction are similar to the Buildings 1 and 2. The members also cantilever past the exterior wall on the north face to create the cantilever roof and elevated walkway in a similar fashion as previously discussed. The roof and interior finishes are also the same as Building 1 and 2. The uniqueness comes in the rest of the framing. Running continuously down the center of the structure in the North-South directions is a masonry wall that separates the space in two. The wall sits on a concrete curb 10" above the finish paving extends up to approximately 2 feet above the roof. The south perimeter wall is also built this way except it does not extend up past the roof. For this building, enclosed units make up the second floor only. The first floor on each side of the masonry separation wall is open and is being used for parking spaces. The floors are supported by 3-ply 2x12 beams resting on 3-1/2" OD steel pipe columns at each end. 2" OD tubes connect the top of one column to the bottom of the adjacent columns creating x-braces in the East-West direction and North-South direction (not along exterior). This will be further discussed in the Lateral Supporting Systems section of this report. For this structure the foundation could possibly be different than the other structures on site. Due to there being more concentrated loads as a result of the framing methods used, typical practices for this region would suggest that this structure is supported by a shallow foundation consisting of spread/strip footings or a deep foundation consisting of belled/straight shaft piers.

The stairs leading up to the second floor of the buildings are both steel framed although there are differences between the two. Both use wide flange members for the stair stringers but the mid-landing and railing are different. It is our understanding that the south set of stairs that service Building 3 were replaced at some point in the past due to deterioration of the original stairs. The north set of stairs servicing Buildings 1 and 2 utilize 10" deep steel channels for the stringers. How the stringers were supported at the finish paving level could not be determined visually but at the mid landings, they were welded to the mid landing steel framing. At the top of the stairs, the stringers were attached to the continuous elevated walkway fascia board with a clip angle and either bolts or lag screws. The mid landing of this stair is a steel flat plate system supported by 5x3 (LLV) perimeter angles, 2" x 2" interior angles and (4) 3-1/4" OD columns; one at each corner. Similar to the stringers, the attachment of the post to the foundation element below could not be visually verified. Baseplates are present but they appear to be only decorative with the post continuing below the finish paving. The stair treads are concrete panned filled and are welded to the stair stringer on each side. The railing consisted of 1-1/4" OD round pipe with vertical members welded to the side of the stringers.

The stairs providing access to Building 3 are similar to those to the north in many ways. The stringers are 10" and their connection to the elevated walkway and the mid landing steel are the same. That is where the similarity stops though. For this set of stairs, the stringers at the base level appear to be attached to the top of the paving using steel clip angles and concrete anchors. The stair treads are pre-cast concrete elements that are supported by clip angles welded to the face of the stringer. To resist movement as people walk up and down them, bolts from the concrete to the steel channels are provided. The stair mid landing is a flat plate system as well except for the perimeter supporting steel is 10" deep channels. (4) 2-1/4" OD pipe columns support the stair mid landing (1 at each corner) and

they appear to be secured to the top of paving with baseplates and 2 concrete anchors per post. The railing for this stair is 1" square tube members that are welded to the top of the stair stringer rather than the side.

Elevated Walkway railings are uniform between all three multi-level buildings. They consist of 1-1/4" OD vertical tubes at roughly 74" spacing's. The tubes are attached to the elevated deck with steel brackets and lag screws. Horizontal tubes of the same size the span between the verticals at roughly 16" and 32" above the finish elevated deck. To reach the code required 42" height, a knee wall has been assembled from flat 2x4 members and plywood and is bolted to the vertical/horizontal tube members with ¼" lag screws.

Lateral Load Supporting Systems

Typically for light framed structures such as the ones on this site, the walls are used for transferring the lateral force induced by the wind and exterior elements from the top of the structure to the bottom and into the foundation. This can be done by notching the studs and adding diagonal 2x's or by the fastening of the sheathing (interior or exterior). During DVO's visual inspection of the structures, no information was found to suggest that this is not true for these buildings with the exception of the bottom floor of Building 3. As previously stated for Building 3, x-braces are present in both directions at the bottom floor. These braces are what is being used to transfer the lateral loads from the 2nd floor to the foundation for this building.

General Condition of Structures

Foundations

All in all, the foundations for all structures appear to be in good shape and show no major signs of distress. Minor cracks and spalling of some corners were observed along the building perimeters but none appear to detrimental to the adequate support of the structures above. Two areas that need to be noted are the South-East and South-West corner of the building. At these locations, the gutter downspouts have been placed such that they are resting on top of the continuous concrete curb that supports the southern masonry wall (Photo 2 and 3). To this point, it is our opinion that no structural damage has been done to the concrete foundation or the adjacent steel x-brace. Over time, the rush of the water exiting downspouts has weathered the concrete to the point where top layer has been removed and the concrete aggregate is now exposed. The water has also most likely helped contributed the minor rusting of the steel x-brace and base plate. Along the east side of Building 2 there is some minor grading issues but that will be discussed later in this report in the "Recommendation" section.

Photo 2 – Southeast Corner of Building 3 Foundation

Photo 3 – Southwest Corner of Building 3 Foundation

Roof Cover and Framing

From an exterior standpoint, the roof system appears to have some minor issues. At the time of the visit by DVO, rain had not fallen for several days prior yet there was standing water on all two story building roofs. On top of Building 1 a depth of up to ½" was measured. Building 2 was similar while the depth standing water on Building 3 appeared to be greater. Closer inspection of the roof coverings confirmed that they are in moderate condition with few areas showing signs of deterioration. DVO ran preliminary calculations and found that the joist size and spacing is adequate to support the code minimum roof loads however the long term creep of the members from the dead load case is high (~ 1" in center of span in Bldg 1 and 2). Creep in an object is commonly explained as the tendency of an object to slowly permanently deform over time under a constant load. Although there are most likely other contributing factors, we believe this is the main reason as to why the roof has sagged over time and is now holding water days after a rain event.

The transition from the flashing to the roof covering along the perimeter of the buildings are in moderate condition as well although minor rusting of the steel flashing near the ponding location was observed. The transition of the covering to the mechanical equipment curbs are in good condition and show normal wear.

The underside of the roof was also observed during the assessment. After viewing the roof system from above, additional focus was placed on the ceiling areas below where the ponding was witnessed. It was found that the ceilings as a whole were all in good condition except under the roof ponding locations. With the exception of unit 11, minor cracking was observed. Unit 11 has recently been renovated so any the status of any previous sheetrock cracking is not known. It should also be noted that no water damaged was observed in these areas. At the request of DVO, a roughly 2 foot by 2 foot hole was cut in the ceiling of units #7, #8 and #9 where ceiling sheathing cracking has occurred in order to further investigate the roof joist. In all location, the joist and roof deck show no signs of deterioration and no signs that the water has penetrated the roof membrane. In several units there is moisture damage to the sheetrock surrounding the vents but this is below roof joist and therefore has not compromised the structural roof system.

Photo 4 – Sheetrock Damage at Unit Vents

In several locations along the exterior overhang in Buildings 1 and 2, the plastic soffit was removed for closer inspection. It was found that almost all of the plywood soffit sheathing was rotted and completely deteriorated. The joist however, only exhibit minor surface damage. The following photos is somewhat deceiving as the tar used in the roof assembly seeped down on the side of the joist. The soffit was not removed from Building 3 as there were no visual signs of damage from the exterior.

Photo 5 – Condition of Soffit on Underside of Roof Overhang

Photo 6 – Extended Roof Joist at Overhang

Similar to the 2 story structures, cracking can be seen in the ceiling sheathing in both the Laundry and Gym structures. In the Gym Building, the cracking can be classified as minor however the cracking in the Laundry building is severe. At the time of the site visit, no ponding water was visible on either roof. The Gym building exhibits no signs of anything outside of normal weathering. Likewise for the Laundry building but is should be noted that the location of the interior leg of the ladder coincides with location of the severe ceiling cracking on the underside of the roof joist. Neither building shows any signs of water damage on the underside of the roof.

One final observation worth noting is that along the rear (East side of Building 2) face of the structure, the grade has been eroded in a way that currently the water is running towards the structure in many places. There is a large PVC pipe that runs parallel to the structure and the elevation of the grade between the pipe and building foundation is lower than the soil on the opposite of the pipe thus creating an area for any water to pond in a rain event.

Floor and Elevated Walkway Framing

The floor assembly for Buildings 1, 2 and 3 are in good condition with no signs of cracking on the ceiling on the underside the first floor. In several areas, the unit floor material has been loosened over time but there are no signs that he floor sheathing has been damaged. One exception is at several window casings. In unit #6 in Building 1, water has infiltrated the window casing over time and has rotted bottom plate and small part of the floor decking. The bottom plate has since been replaced. The extent of the damage appears to stop there. The corrosion on the floor joist and the top plate below appears to be on the surface only.

Photo 7 – Floor Framing at Window Sill in Unit #6

Unlike the roof overhang, the soffit underneath the 2nd floor cantilevered walkway only consists of a perforated covering. This is to allow for proper drainage as water is able to penetrate through deck planks above. The condition of the joist themselves is fair. A protective coating has been previously applied to all the walkway members but the coating is extremely deteriorated. The joist themselves do not show any signs of rotting or further corrosion past the surface. The floor planks also are in moderate condition and show expected wear from continuous foot traffic on them.

Photo 8 – Framing of 2nd Floor Elevated Walkway

Building 3 1st Floor X-Bracing

All of the round steel columns, x-bracing members and base plates are covered with a white protective paint. Additional protection has also been provided over the column baseplate and the columns themselves. The thickness nor the exact type of material used could not be verified but is in good condition depending on their distance to the exterior perimeter of the building. The columns near the interior of the structure show no signs of damage or deterioration. However the perimeter columns show moderate to severe corrosion. Photo 9 demonstrates the typical condition of the columns although the others do not have as much column directly exposed. The condition of the bases of the columns at these locations could not be verified. The bases sitting on top of the curb on the interior could also not be verified due to the additional protective layer with the exception of two columns. At the Southeast and Southwest corners of the building, the base plates are exposed and they have had their protective layer removed. This is most likely due to the exposure to water exiting the gutter as previously discussed. For the condition of the columns and base plates at these corner locations, please see Photo 2 and 3. It is of our opinion no damage has been done specifically to the column base plates at this time at these locations. The overall condition of the x-bracing members is good. Only a couple of members exhibit light rusting but no major corrosion can be seen at this time.

Photo 9 – Corrosion of Column at Buiding 3

Exterior Veneer: Plastic Siding and Masonry

All in all, brick masonry makes up a majority of the exterior facade for the structures. The areas of siding are 1st and 2nd floor of the East face of Building 1 and West face of Building 2, the entire 2nd floor of Building 3 with the exception of the Southern face; the North and South faces of the Gym Building and all faces of the Laundry Building. The exterior face of the elevated railings and soffits for Buildings 1 and 2 also has a siding placed on them although it is of a different type that installed on the faces of the structures. The siding as a whole is in good condition. We did find some issues but they were only in a select few spots, one being above the door to Unit #3 in Building 1. At the time of our visit on the 15th, the siding appeared to be slightly pulled away from the building. We used this opportunity to further pull the siding away from the structure and investigate what was underneath along with its condition. What we found directly behind the panel was a layer of foam board insulation (approximately ¼" thick) and then vertical wood planks. Further investigation around the window frame leads us to believe that the siding was installed over the previous building façade. In regards the condition of material behind the siding, was that there were no signs of damage despite the siding not being fully attached at that location. Upon returning the next day, the siding was reapplied to the face of the building. The other areas where we found issues were at the Northwest corner of the Gym building and around the rear door to the Laundry room. At both of these locations, the corner transition piece has been damaged.

Overall the brick façade is in good condition as well and shows normal signs of wear. If looking up close, minor cracks in the grout can be seen in almost all the walls and in particular around the windows however we believe this to be normal for buildings of this age. Previous repairs in several areas are visible, most notably at the Southeast corner of Building 3 and the South face of Building 1. At the corner of Building 3, the face of the brick façade is offset several inches away from the face of

the concrete support below. This eccentricity of the weight above is most likely the cause for issues in this area.

Photo 10 – Spalling of Brick on Southeast corner of Building 3

It shall be noted that the majority of the lintels above the windows all showing signs of corrosion. No discoloring of the brick was apparent at the time of the visit meaning the corrosion is minimal. It shall also be noted that no control joints in the brick were observed on any building face. Current typical practices are to place control joist every 25 feet on center but depending on location of opening, that number may be revised. The main purpose of these joints is to allow the façade to expand and contract as it is exposed to variations in temperature and moisture. For these structures, we do not believe this is a major issue due the small size of the buildings however it has probably, at minimal, contributed to the formation of minor cracks along the wall.

Approximately halfway down the length of the central wall in Building 3 a major crack is apparent. The crack starts at the foundation and continues vertically with the crack width expanding as it gets further up the wall. The foundation shows no major signs of distress or any loss of structural integrity. Because of this and no other apparent damage to the surrounding structure, we do not believe this to be a major structural issue. We believe this is simply a product of the structures natural movement and settlement over time.

Photo 11 – Crack in Masonry Wall at Building 3

The exterior façade along the North face nor the West face of Building 1 could not be observed. The north face has overgrown shrubbuary present adjacent to the wall cutting off visual acces. Due to Buliding 1 sitting on the property line, the West face of the buliding is not accesible.

Steel Stairs

As a whole, the steel stairs are in moderate condition. For the rear stairs servicing Buildings 1 and 2, the welded connections exhibit rust in many locations. Some connections appear to be minor while others are more severe. This includes the connection of the railings to the stringers, the connection of treads to the stringers, the stringer connection to the mid landing as well as the mid landing assembly. The base of the supporting columns and lower stringer to the finish paving visually exhibits a great amount of corrosion. As previously discussed, the exact attachment to the foundation/supporting element below cannot be confirmed so the determination of the extent of damage is difficult at this time. The plate at the bottom of the mid landing support columns is severely deteriorated. The front stair servicing Building 3 is in better condition although minor rusting and corrosion on many of the same elements is still present. Although the exact material used for the railings could not be fully verified, the spacing of the vertical attachment members and their diameters are typical to what is commonly installed in accordance with the 2012 IBC codes. The height of the railing also meets the code minimum.

Photo 12 – Connection of Stair Stringer to Mid Landing

Photo 13 – Corrosion on the Underside of Rear Mid Landing

Photo 14 – Corrosion of Rear Stair Baseplate

Elevated Walkway Railings

The railings above the elevated walkway are in good condition. The 2x member making up the top railing is in disrepair for the majority of its length but the remaining areas show no signs of damage. The steel pipes and the interior of the wood framing are protected by a green paint that has adequately protected the members. Calculations using the minimum load requirements from the 2012 IBC show that the minimum embedment length of the lag screw through the vertical/horizontal pipes into the 2x wood framing needs to be 1.92" (assuming SYP lumber). The length of the lag screws could not be verified visually however with the 2x member only being 1-1/2" thick, it is probable that this minimum length has not been met. Below the deck the conditions of the framing members are dismal.

Photo15 – Deteriorated Connection Railing to Elevated Walkway Fascia

Approximately 50% of the steel clips used to attach the vertical railing memebers to the exterior are in disrepair. As seen in Photo 15, the paint protectant has not adequately held to up to the constant exposure to the elements and the steel is now corroding. Similar to the knee wall connection, the attachment anchors at the base could not be verified.

West Perimeter Concrete Wall

Along the West property line, south of the Gym Building, a continuous concrete retaining wall is located. The wall is approximately 8-1/2" thick and 82" tall. Multiple vertical and horizontal cracks are present in the wall along its length. The most notable crack is located roughly halfway down the walls 50 foot length. The width of the crack varies but is consistent from the bottom of the wall to the top and represents a complete shear failure in the wall. Similar to the brick façade, there is no expansion joint located along the wall. Typical practices today suggest that joints should be implemented every 25 to 40 feet. This allows the wall to be able to shift, move more freely when exposed to temperature variations as well as slight shifts created soil by movement, shrinking and heaving. The levelness of the wall was checked along its entirety using a bubble level and it was found that the wall is vertically flush throughout.

Photo 16 – Major Crack in West Peremeter Wall

Window Casings and Sills

At the brick façade locations all window casings appeared to be in moderate condition. The condition of the casings and sills at the siding locations varied greatly depending on their exposure to the elements. The casings that have been directly exposed to the weather are in moderate condition. Several of the existing wood casings are showing initial signs of cracking at the perimeter seals. The casing in the worst condition is the most southern window on the 2nd floor of Building 2. At this

location, the seals appear to be broken thus allowing potentially allowing water penetration from the exterior. Refer to Photo 17 for further reference. A previous investigation of the wood framing below the sill showed dry rot the bottom plate directly under the window in unit #6. The sill plate has sense been repaired. The casings and sills that are covered by the extended roof and or elevated walkway are in moderate condition most likely due to the minimal exposure to the elements.

Photo 17 – Major Crack in West Peremeter Wall

Recommendations for Improvements

Foundations

For the foundations, DVO recommends the downspouts at the South corners of Building 3 be relocated to in a manner to which the exiting water does not contact the existing concrete curb and runs away from the buildings foundation. This will insure that no accelerated weathering to the foundation elements will occur. The foundation exterior of the foundation should then be patched.

The re-grading of the soil at the rear of Building 2 shall be done immediately. Although difficult to see in Photo 18, the soil on the left side of the pipe sits at a lower elevation than the soil on the right. This creates an opportunity for water to flow toward the structure and more importantly allows an area for the water to pond around the perimeter of the structure. In summary, this could potentially create a non-uniform moisture profile around the perimeter which can be detrimental to the foundations structural integrity. The reason being that in this region of the country the typical soil makeup is clay which exhibits shrink/swell properties as the soils gains and loses moisture. Thus non uniform moisture can create variance in shrinking and swelling of the surrounding soil and ultimately can create uneven forces that can damage the foundation system.

Photo 18 – East Perimeter of Building 2

Roof Cover and Framing

The ability of the water to pond on top of the two story units is a major issue. This might not have caused any structural issue to date but if left unchanged, it will in the future. As previously mentioned the roof joists appear to be undamaged and according to DVO's calculations, adequate to support the code required forces. Because of this, we believe there are multiple solutions available and therefore recommend consulting with a contractor to discuss the most cost efficient and effective solution. Once the solution is properly applied, the ceiling sheathing should be replaced at all locations where cracks are present.

Under the exterior overhang, we recommend that all of the soffit board should be removed and replaced for Buildings 1, 2 and 3. Furthermore, the continuous fascia along the perimeter of the overhang shall be further inspected and replaced if necessary. Most of the roof joists were found to be structurally sound. The ones that were not need to be replaced. DVO estimates that 75% of the joists are acceptable to be left as is.

Floor and Elevated Walkway Framing

At this time we do not believe that any action needs to be taken in regards to the interior floor framing. In unit #6, the existing penetration in the floor can also be resealed. We also recommend that the planks at the exterior elevated walkways have their current paint removed a new protective paint or sealant be applied. One side note is that while on site, DVO was informed that corrosion to structural members around the bathroom tub area on previously remodeled units was discovered. We believe this should be further investigated in the other units and action taken if found that any additional corrosion exists.

For the 2nd floor walkway, we recommend that all the soffit material be removed exposing the supporting framing. All the soffit panels shall be cleaned of debris prior to re installation. This will insure water can adequately pass through the assembly and help prevent any future corrosion and damage to the supporting framing. We recommend that all the existing protective coating for be removed from the framing members and a new coating be applied. To further the life of the floor planks on top of the joist, the same shall be done to those members as well.

Building 3 1st Floor X-Bracing

At the South corners, we recommend that the existing corrosion be removed from the column baseplates and a new protective coating be applied. If the owner desires, the additional protection that has been removed can then be reapplied. For the perimeter columns, it is recommended that all the additional protective material be removed from the columns along their entire height. Any corrosion that is present shall be removed and a new protective coating shall be applied. Similarly to the corners, if the additional protection is desired that shall also be reapplied. It should be noted that the depth or severity of the corrosion should be monitored during its removal. If too much of the column may need to be removed, the entire column may need to be replaced. We also recommend removing the additional protective layer from at least one interior column to further investigate if the any interior corrosion may be present under the exterior layer. Areas on the x-bracing members where light rust can be seen on the surface shall have those areas sanded down to the raw steel and have a protective coating applied.

Exterior Veneer: Plastic Siding and Masonry

For the siding, DVO recommends that a general "look over" be performed by a professional any repairs found should be made. The damaged transition areas at the North side of the Laundry room and the Northeast corner of the Gym room should be repaired to prevent any moisture and more importantly any deterioration from occurring behind the siding.

The minor cracking exhibited in the brick does not need to be repaired at this time. It should though be monitored in the future and repaired if desired by the owner if any crack becomes larger than desired. The façade serves no structural purpose and therefore can be classified as a serviceability item. To prevent any further corrosion on the steel lintels, DVO recommends that the existing paint removed and new paint be applied.

Steel Stairs

For the rear staircase servicing Building 1 and 2, further investigation needs to be completed to determine exactly what the existing support system is at its base. It is our understanding much of the existing paving will be removed in the courtyard area allowing for an opportunity for a proper investigation to take place.

To prevent any further damage to the steel for both stair cases, we recommend that all connections have the existing coating and corrosion be removed down to bear metal. A new protective coating shall then be reapplied. At approximately half the stringer to mid landing connections, the corrosion is

severe and therefore, we recommend that an additional clip be added prior to applying the new protective coating.

Elevated Walkway Railings

For the 2x knee wall, only minor repairs need to be made. Those repairs include completely replacing approximately 75% of the top railing, striping the paint off the remaining the other areas and repainting and replacing the siding along the front face of the railing at the Southwest corner of Building 2. As previously discussed, the current attachment of the knee wall does not appear to be adequate to support minimum code loads. Therefore additional brackets will need to be installed at the attachment location. Because of the tight spacing between the face of the railing, it is recommended that the wood exterior piece of the railing be removed for closer inspection of both the steel railing attachment brackets and their connection to the perimeter fascia board. We anticipate that half of the brackets and most of the anchors will need to be replaced. For the remaining half, the existing protective coating any corrosion will need to be removed and new protective coating will need to be reapplied. This also applies to the brackets that attach the railing to the side of the buildings.

West Perimeter Concrete Wall

Any repairs made to wall are should be considered for serviceability and aesthetical reasons. As previously discussed, the wall is straight along its entire length. Because of this, the existing cracks are due to a variety of reasons, none of which are structural failure. Similar to the roof ponding scenario, we recommend consulting with a general contractor to explore the most cost effective method of repair for the purpose of achieving the owner's final requests.

Window Casings and Sills

As previously discussed, the window casings that are subjected directly to the elements all show signs of cracking and deteriorations. We therefore recommend at these locations that all existing seals be removed and new sealing be applied. These locations include the most southern windows on the 1st and 2nd floor at Building 2 and the windows along the first floor of Building 1. For the remaining windows, no action is needed at this time however they should be checked periodically and fixed accordingly in the future.

Summary and Limitations

In summary, the overall conditions of the structures are good with the exception of the roof. Although the roof membrane is performing well and no major deterioration of the roof joist has occurred to this point, the presence of standing water is unacceptable and must be remedied to insure the extended life of the buildings. Also, despite several items not needing immediate repair, there are many that show typical weathering. These items should be observed on a periodic schedule to insure any potential problems can be properly identified and dealt with according if and when they arise.

We have done our best to investigate and comment on all the items that are important to the long term structural integrity of each building. The statements or comments as listed in this report are our

professional opinions as based on information gathered on site, information provided by the 2012 IBC Building Code, past experiences and engineering judgment. It must be understood that information gathered during our site visits in regards to the concealed construction represent only a small part of the total building construction and some unforeseen issues may still be present.

Observation and recommendation for improvements are limited to Building Envelope (windows and walls) and Structural (foundation and framing) and does not include surveying such items as Americans with Disabilities Act (ADA) compliance, Texas Accessibility Standards compliance, Environmental, Building Site (Topography, drainage, retaining walls, paving, curbing, lighting), Roofing Systems, Mechanical (Heating, Ventilation, and Air Conditioning), Plumbing, Electrical, Vertical Trans (Elevators and escalators), Life Safety, Code Compliance, Air Quality (Fire Codes, Accessibility, Water intrusion, Mold), or Infrared Thermography (for energy loss, air leakage, roofing and building envelope moisture intrusion).

Preparing replacement costs for improvements are excluded. We understand Harris Center for Mental Health and IDD (formerly known as MHMRA of Harris County) will procure cost consultant or pre-construction development services from third-party to determination replacement costs <value> for improvements noted herein.

Part of our scope of work includes answering questions to recommendation for improvement questions and attending a replacement cost meeting to review scope of work on your behalf. Please let me know when it is convenient to meet. If you have any questions or require additional information, please feel free to give me a call.

Thank you for the opportunity to work with you on this project!

Very truly yours,

Jonathan R. Edwards, P.E.
Structural Department Leader
Dawson Van Orden