January 9, 2017

Mr. Kirk Stetson  
Manager of Facilities Planning and Construction  
Palm Beach State College  
4200 Congress Avenue – MS# 35  
Lake Worth, Fl. 33461

Re: Palm Beach State College Eissey Campus  
Burt Reynolds Student Center  
Roof Inspection & Recommendations

ROOF INSPECTION

On 1-6-2017, I visually inspected the roof with Mr. Paul Cassidy Chief Building Official. The existing structure is a Web Joist System, 26 gauge vented metal deck 4” of EPS insulation with a 2.5’ pour of light weight concrete. The slope is ¼” to ½” and is in the structure. The drainage is sufficient and I found no evidence of ponding water. The roof system existing is a 1-ply Peel & Stick WR Grace System. The surfacing is 3” to 4” of gravel ballast. Note the gravel is loose and not adhered. The Roof System information was collected from destructive testing performed by myself at an earlier site visit and blueprints provided. See Photo Documentation attached.

RE-ROOF RECOMMENDATIONS

1. PULL TESTS:

Pull Tests on the metal deck were performed by OMG on 5-15-2015 and provided to me by PBSC. While most of the testing was performed on the Lt. Wt. Concrete which showed it was in satisfactory condition, 3 Pull Test were performed on the metal decking. The pull tests on the metal decking illustrated that the deck could be fastened into with sufficient uplift. Note the fasteners will need to be a #15 Heavy Duty Type to achieve the necessary uplift. I suggest a registered testing company perform certified pull tests to confirm this per Building Code Protocol. The tests performed by OMG are preliminary testing only.

2. ROOF SYSTEM & APPLICATION:

Due to the GRM Single Ply existing being adhered to the LT. Wt. Conc. I suggest a Retrofit/Go-Over of the existing roof system. Removal of the membrane will cause considerable damage to the Lt. Wt. Conc. existing gravel can be vacuumed off the existing membrane. A .5” Dens Deck or Securock overlay board mechanically fastened over the existing membrane per Miami Dade NOA and Uplift Pressures.
The new roof membrane should be a high performance white reflective Kee or PVC membrane with a fleece backing adhered in a foam adhesive to the overlay board. I do suggest additionally mechanically fastening the perimeters and corners to wind design pressures. This system will require a moisture survey to identify any wet areas for removal. The removal of the wet areas can be included in the Bid with a Unit Cost for any additional wet areas. Note roofs are allowed to be recovered when less than 25% of the roof is dry. I believe the existing roof will be much less than 25%.

3. **ROOF PENETRATIONS AND SKYLIGHT:**

Exhaust fans should be replaced and brought up to code with tie-downs for wind list. The existing clerestory skylight should be removed and covered over or replaced. Flashings have numerous repairs and show areas of leakage.

4. **STRUCTURAL DECK ISSUES:**

Per Paul Cassidy the metal deck puddle welds are insufficient to meet current code. My suggesting to assist this issue is to enhance the perimeters and corners of the metal deck. This can be accomplished by trenching out the existing Lt. Wt. Conc. and mechanically fastening the deck with Tek screws into the web joist. The Lt. Wt. can then be infilled and the new roof system applied. Most roofs which sustain major damage occur on the perimeters and corners. This is where the highest wind vortex/pressure can pull off the structural deck. This would not be a complete solution however it would help immensely and be more cost efficient than a full deck replacement. An engineer would need to be hired to design this procedure.

5. **BUDGETS:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retrofit Re-Roof</td>
<td>$350,000.00</td>
</tr>
<tr>
<td>Skylight &amp; Exhaust Fans</td>
<td>$50,000.00</td>
</tr>
<tr>
<td>Deck Enhancement</td>
<td>$85,000.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$485,000.00</strong></td>
</tr>
</tbody>
</table>

Complete Deck Replacement: $800,000.00

This concludes my report, please let me know when we can schedule a meeting to discuss in detail its content.

Danny Stokes, CSI, CDT, RCI, CPRC
President/Senior Roof Consultant