Workshop Agenda

1. Call to Order
2. Pledge to the Flag and Moment of Silence
3. Welcome: Flagler County Board Chair
4. Presentation by Residents Regarding Coastal Protection Issues
5. State Constitutional Review Committee Update
6. Strategic Planning Process Discussion
7. Hurricane Matthew Project and Financial FEMA Update
8. Public Comment
9. Adjournment

While this is a workshop only and no decisions are expected to be made by any of the governmental bodies, if a person decides to appeal any matter that may be discussed for a future proceeding, a record of the workshop may be needed and, for such purposes, the person may need to ensure that a verbatim record of the workshop is made.
Special Meeting Agenda

1. Call to Order
2. Public Comment
3. Request the Board take actions as deemed necessary regarding issues discussed at the workshop this date.
4. Adjournment

Section 286.0105, Florida Statutes states that if a person decides to appeal any decision made by a board agency, or commission with respect to any matter considered at a meeting or hearing, he or she will need a record of the proceedings, and that, for such purpose, he may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.
TO: Board of County Commissioners
FROM: Craig M. Coffey, County Administrator
SUBJECT: Presentation by Residents regarding Coastal Protection Issues.
DATE: 5 January 2018

Normally we would not have a presentation from the public as a workshop item. However, Steve Davis and David Eckert have been looking at some of the challenges facing our coastline in recent times and what we may face moving forward. Mr. Davis, by trade, is an architect and has helped us organize the sea wall group in the Painter's Hill area. Mr. Eckert is a chemical engineer by trade and spearheaded the Hammock Dunes HOA FEMA protective dunes project post Hurricane Matthew.

Attached you will find a presentation they developed related to the research they have done. As a disclaimer, staff has not verified the information they are presenting, but found it interesting and thought provoking. Commissioner Hansen heard this presentation and asked that it be shared with the Board. The presentation should be about 30 minutes.
<table>
<thead>
<tr>
<th>Site</th>
<th>Post Irma Dune Condition</th>
<th>Pre- Matthew Dune Condition</th>
<th>Height Change 1972 - Irma</th>
<th>Matthew + Irma as % Run-Up Set-Up</th>
<th>Matthew + Irma 1972 to 1972, Post Matthew Change as % Irma Matthew 2007-2014</th>
<th>Matthew + Irma as % Irma 2014 to Irma 2017</th>
<th>Wave Run-Up 1yr Wave Set-Up Dune Top Dune Toe 11' Elevation Accretion and Recession</th>
<th>Matthew + Irma as % Irma 2014 to Irma 2017</th>
<th>Wave Run-Up 1yr Wave Set-Up Dune Top Dune Toe 11' Elevation Accretion and Recession</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>Marineland</td>
<td>14.5</td>
<td>14.5</td>
<td>15.0</td>
<td>16.0</td>
<td>1.5</td>
<td>-33.0</td>
<td>0%</td>
<td>4.3</td>
</tr>
<tr>
<td>R2</td>
<td>Marineland</td>
<td>15.0</td>
<td>15.0</td>
<td>15.0</td>
<td>15.0</td>
<td>-0.0</td>
<td>-17.0</td>
<td>0%</td>
<td>4.8</td>
</tr>
<tr>
<td>R3</td>
<td>Marineland</td>
<td>15.0</td>
<td>15.0</td>
<td>15.0</td>
<td>14.5</td>
<td>0.5</td>
<td>-87.0</td>
<td>29%</td>
<td>0.6</td>
</tr>
<tr>
<td>R4</td>
<td>Marineland</td>
<td>12.5</td>
<td>12.5</td>
<td>15.5</td>
<td>12.5</td>
<td>0.0</td>
<td>-58.0</td>
<td>38%</td>
<td>-1.9</td>
</tr>
<tr>
<td>R5</td>
<td>Marineland</td>
<td>11.5</td>
<td>13.5</td>
<td>13.0</td>
<td>13.0</td>
<td>-1.5</td>
<td>-47.0</td>
<td>49%</td>
<td>-2.9</td>
</tr>
<tr>
<td>R6</td>
<td>Marineland</td>
<td>12.5</td>
<td>12.0</td>
<td>13.0</td>
<td>12.0</td>
<td>0.5</td>
<td>-53.0</td>
<td>75%</td>
<td>-1.9</td>
</tr>
<tr>
<td>R7</td>
<td>Marineland</td>
<td>12.0</td>
<td>11.5</td>
<td>14.0</td>
<td>12.5</td>
<td>-0.5</td>
<td>-43.0</td>
<td>100%</td>
<td>-2.4</td>
</tr>
<tr>
<td>R8</td>
<td>Surf Club Condos</td>
<td>13.0</td>
<td>12.0</td>
<td>15.0</td>
<td>11.5</td>
<td>1.5</td>
<td>-42.0</td>
<td>76%</td>
<td>-1.4</td>
</tr>
<tr>
<td>R9</td>
<td>Surf Club Condos</td>
<td>13.0</td>
<td>13.0</td>
<td>13.5</td>
<td>12.0</td>
<td>1.0</td>
<td>-52.0</td>
<td>69%</td>
<td>-1.4</td>
</tr>
<tr>
<td>R10</td>
<td>Surf Club Condos</td>
<td>11.0</td>
<td>11.0</td>
<td>12.0</td>
<td>12.5</td>
<td>-1.5</td>
<td>-40.0</td>
<td>70%</td>
<td>-3.4</td>
</tr>
<tr>
<td>R11</td>
<td>Surf Club Condos</td>
<td>11.0</td>
<td>11.0</td>
<td>14.0</td>
<td>12.5</td>
<td>-1.5</td>
<td>-43.0</td>
<td>100%</td>
<td>-3.4</td>
</tr>
<tr>
<td>R12</td>
<td>Wash Oaks Park</td>
<td>11.0</td>
<td>10.0</td>
<td>13.0</td>
<td>12.0</td>
<td>-1.0</td>
<td>-47.0</td>
<td>111%</td>
<td>-3.4</td>
</tr>
<tr>
<td>R13</td>
<td>Wash Oaks Park</td>
<td>9.5</td>
<td>10.0</td>
<td>13.5</td>
<td>13.0</td>
<td>-3.5</td>
<td>-53.0</td>
<td>75%</td>
<td>-4.9</td>
</tr>
<tr>
<td>R14</td>
<td>Wash Oaks Park</td>
<td>7.0</td>
<td>11.0</td>
<td>9.5</td>
<td>12.0</td>
<td>-5.0</td>
<td>-59.0</td>
<td>64%</td>
<td>-7.4</td>
</tr>
<tr>
<td>R15</td>
<td>Wash Oaks Park</td>
<td>8.0</td>
<td>10.0</td>
<td>10.5</td>
<td>11.0</td>
<td>-3.0</td>
<td>-51.0</td>
<td>61%</td>
<td>-6.4</td>
</tr>
<tr>
<td>R16</td>
<td>Wash Oaks Park</td>
<td>13.0</td>
<td>13.0</td>
<td>12.5</td>
<td>11.0</td>
<td>2.0</td>
<td>-43.0</td>
<td>100%</td>
<td>-1.4</td>
</tr>
<tr>
<td>R17</td>
<td>Marineland Acres</td>
<td>13.0</td>
<td>12.5</td>
<td>14.0</td>
<td>9.0</td>
<td>4.0</td>
<td>-41.0</td>
<td>100%</td>
<td>-3.4</td>
</tr>
<tr>
<td>R18</td>
<td>Marineland Acres</td>
<td>12.0</td>
<td>8.0</td>
<td>13.0</td>
<td>11.5</td>
<td>0.5</td>
<td>-60.0</td>
<td>88%</td>
<td>-2.4</td>
</tr>
<tr>
<td>R19</td>
<td>Sea Colony</td>
<td>12.0</td>
<td>11.0</td>
<td>14.0</td>
<td>13.0</td>
<td>-1.0</td>
<td>-45.0</td>
<td>69%</td>
<td>-2.4</td>
</tr>
<tr>
<td>R20</td>
<td>Armand Beach</td>
<td>14.0</td>
<td>12.5</td>
<td>13.5</td>
<td>14.5</td>
<td>-0.5</td>
<td>-40.0</td>
<td>100%</td>
<td>-0.4</td>
</tr>
<tr>
<td>R21</td>
<td>Mala Compra Park</td>
<td>11.0</td>
<td>10.5</td>
<td>12.5</td>
<td>10.5</td>
<td>0.5</td>
<td>-45.0</td>
<td>100%</td>
<td>-3.4</td>
</tr>
<tr>
<td>R22</td>
<td>Mala Compra Park</td>
<td>11.0</td>
<td>11.0</td>
<td>14.0</td>
<td>14.0</td>
<td>-3.0</td>
<td>-40.0</td>
<td>100%</td>
<td>-3.4</td>
</tr>
<tr>
<td>R23</td>
<td>Mala Compra Park</td>
<td>10.0</td>
<td>9.0</td>
<td>12.5</td>
<td>15.5</td>
<td>-5.5</td>
<td>-52.0</td>
<td>63%</td>
<td>-4.4</td>
</tr>
<tr>
<td>R24</td>
<td>Mala Compra Park</td>
<td>11.0</td>
<td>10.0</td>
<td>13.0</td>
<td>17.5</td>
<td>-6.5</td>
<td>-38.0</td>
<td>56%</td>
<td>-3.4</td>
</tr>
<tr>
<td>R25</td>
<td>Ham Bch Golf Club</td>
<td>13.0</td>
<td>12.5</td>
<td>13.5</td>
<td>18.5</td>
<td>-5.5</td>
<td>-42.0</td>
<td>70%</td>
<td>-3.7</td>
</tr>
<tr>
<td>R26</td>
<td>Ham Bch Golf Club</td>
<td>12.5</td>
<td>12.0</td>
<td>14.0</td>
<td>16.5</td>
<td>-4.0</td>
<td>-29.0</td>
<td>50%</td>
<td>-1.4</td>
</tr>
<tr>
<td>R27</td>
<td>Ham Bch Golf Club</td>
<td>14.0</td>
<td>13.0</td>
<td>14.0</td>
<td>18.0</td>
<td>-4.0</td>
<td>-27.0</td>
<td>51%</td>
<td>-0.4</td>
</tr>
<tr>
<td>R28</td>
<td>Ham Bch Golf Club</td>
<td>14.5</td>
<td>14.0</td>
<td>17.0</td>
<td>17.0</td>
<td>-2.5</td>
<td>-33.0</td>
<td>92%</td>
<td>0.1</td>
</tr>
<tr>
<td>R29</td>
<td>Cinnamon Beach</td>
<td>19.0</td>
<td>18.5</td>
<td>19.5</td>
<td>17.5</td>
<td>1.5</td>
<td>-36.0</td>
<td>100%</td>
<td>4.6</td>
</tr>
<tr>
<td>R30</td>
<td>Cinnamon Beach</td>
<td>12.0</td>
<td>14.5</td>
<td>16.5</td>
<td>17.5</td>
<td>-5.0</td>
<td>-29.0</td>
<td>100%</td>
<td>-2.4</td>
</tr>
<tr>
<td>R31</td>
<td>Cinnamon Beach</td>
<td>12.0</td>
<td>14.0</td>
<td>18.0</td>
<td>19.0</td>
<td>-7.0</td>
<td>-21.0</td>
<td>100%</td>
<td>-2.4</td>
</tr>
<tr>
<td>R32</td>
<td>Ocean Hammock</td>
<td>14.0</td>
<td>15.5</td>
<td>18.5</td>
<td>18.0</td>
<td>-4.0</td>
<td>-29.0</td>
<td>67%</td>
<td>-0.4</td>
</tr>
<tr>
<td>R33</td>
<td>Ocean Hammock</td>
<td>16.5</td>
<td>16.5</td>
<td>16.5</td>
<td>16.0</td>
<td>0.5</td>
<td>-20.0</td>
<td>100%</td>
<td>2.1</td>
</tr>
<tr>
<td>R34</td>
<td>Ocean Hammock</td>
<td>17.0</td>
<td>19.0</td>
<td>19.0</td>
<td>18.5</td>
<td>-1.5</td>
<td>-5.0</td>
<td>340%</td>
<td>2.6</td>
</tr>
<tr>
<td>R35</td>
<td>Jungle Hut Park</td>
<td>14.0</td>
<td>15.5</td>
<td>16.5</td>
<td>16.5</td>
<td>-2.5</td>
<td>-16.0</td>
<td>100%</td>
<td>-0.4</td>
</tr>
<tr>
<td>Post Irma Dune Condition</td>
<td>Post Irma Height</td>
<td>Pre-Matthew Height</td>
<td>Height Change</td>
<td>Matthew Height</td>
<td>Matthew Height</td>
<td>Matthew + Irma as % Run-Up Set-Up</td>
<td>1972 to 1972 to Vs Vs</td>
<td>2yr Wave 10yr Wave</td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>------------------</td>
<td>-------------------</td>
<td>---------------</td>
<td>----------------</td>
<td>----------------</td>
<td>-----------------------------------</td>
<td>------------------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>less then 2' over elev 11' more than 2' dune hgt loss</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R36 Hammock Dunes</td>
<td>16.5</td>
<td>16.0</td>
<td>17.0</td>
<td>16.5</td>
<td>0.0</td>
<td>-17</td>
<td>-3</td>
<td>-14</td>
<td>-8</td>
</tr>
<tr>
<td>R37 Hammock Dunes</td>
<td>20.0</td>
<td>19.5</td>
<td>21.0</td>
<td>19.5</td>
<td>0.5</td>
<td>-22</td>
<td>-4</td>
<td>-18</td>
<td>-8</td>
</tr>
<tr>
<td>R38 Hammock Dunes</td>
<td>19.0</td>
<td>20.0</td>
<td>19.5</td>
<td>21.0</td>
<td>-2.0</td>
<td>-19</td>
<td>-2</td>
<td>-17</td>
<td>-7</td>
</tr>
<tr>
<td>R39 Hammock Dunes</td>
<td>23.0</td>
<td>20.0</td>
<td>20.0</td>
<td>20.0</td>
<td>3.0</td>
<td>-17</td>
<td>3</td>
<td>-20</td>
<td>0</td>
</tr>
<tr>
<td>R40 Hammock Dunes</td>
<td>22.0</td>
<td>20.5</td>
<td>20.5</td>
<td>21.0</td>
<td>1.0</td>
<td>-19</td>
<td>3</td>
<td>-22</td>
<td>10</td>
</tr>
<tr>
<td>R41 Hammock Dunes</td>
<td>22.0</td>
<td>22.0</td>
<td>22.0</td>
<td>22.0</td>
<td>0.0</td>
<td>-23</td>
<td>-4</td>
<td>-19</td>
<td>8</td>
</tr>
<tr>
<td>R42 Hammock Dunes</td>
<td>22.5</td>
<td>22.0</td>
<td>24.0</td>
<td>23.0</td>
<td>-0.5</td>
<td>-25</td>
<td>0</td>
<td>-25</td>
<td>5</td>
</tr>
<tr>
<td>R43 Hammock Dunes</td>
<td>23.0</td>
<td>22.5</td>
<td>22.5</td>
<td>23.0</td>
<td>0.0</td>
<td>-28</td>
<td>-4</td>
<td>-24</td>
<td>-12</td>
</tr>
<tr>
<td>R44 Hammock Dunes</td>
<td>21.5</td>
<td>21.0</td>
<td>22.0</td>
<td>21.5</td>
<td>0.0</td>
<td>-25</td>
<td>-3</td>
<td>-22</td>
<td>-25</td>
</tr>
<tr>
<td>R45 Hammock Dunes</td>
<td>21.0</td>
<td>21.0</td>
<td>22.5</td>
<td>21.5</td>
<td>-0.5</td>
<td>-26</td>
<td>-6</td>
<td>-20</td>
<td>0</td>
</tr>
<tr>
<td>R46 Hammock Dunes</td>
<td>20.0</td>
<td>19.0</td>
<td>20.0</td>
<td>19.5</td>
<td>0.5</td>
<td>-35</td>
<td>5</td>
<td>-40</td>
<td>-10</td>
</tr>
<tr>
<td>R47 Hammock Dunes</td>
<td>24.0</td>
<td>24.0</td>
<td>25.0</td>
<td>24.0</td>
<td>0.0</td>
<td>-29</td>
<td>-11</td>
<td>-18</td>
<td>10</td>
</tr>
<tr>
<td>avg</td>
<td>21.2</td>
<td>20.6</td>
<td>21.3</td>
<td>21.0</td>
<td>0.2</td>
<td>-23.8</td>
<td>-2.2</td>
<td>-21.6</td>
<td>-3.1</td>
</tr>
<tr>
<td>R48 Varn Park</td>
<td>25.0</td>
<td>22.5</td>
<td>23.0</td>
<td>22.5</td>
<td>2.5</td>
<td>-26</td>
<td>-10</td>
<td>-16</td>
<td>-8</td>
</tr>
<tr>
<td>R49 Varn Park</td>
<td>21.0</td>
<td>21.0</td>
<td>21.5</td>
<td>21.0</td>
<td>0.0</td>
<td>-29</td>
<td>-5</td>
<td>-24</td>
<td>-15</td>
</tr>
<tr>
<td>avg</td>
<td>23.0</td>
<td>21.8</td>
<td>22.3</td>
<td>21.8</td>
<td>1.3</td>
<td>-27.5</td>
<td>-7.5</td>
<td>-20.0</td>
<td>-11.5</td>
</tr>
<tr>
<td>R50 Painters Hill (north)</td>
<td>21.0</td>
<td>21.0</td>
<td>22.0</td>
<td>19.0</td>
<td>2.0</td>
<td>-35</td>
<td>-15</td>
<td>-20</td>
<td>-14</td>
</tr>
<tr>
<td>R51 Painters Hill (north)</td>
<td>20.0</td>
<td>20.0</td>
<td>22.0</td>
<td>20.0</td>
<td>0.0</td>
<td>-32</td>
<td>-11</td>
<td>-21</td>
<td>-25</td>
</tr>
<tr>
<td>R52 Painters Hill (north)</td>
<td>23.0</td>
<td>21.0</td>
<td>21.0</td>
<td>21.5</td>
<td>1.5</td>
<td>-18</td>
<td>-14</td>
<td>-4</td>
<td>-22</td>
</tr>
<tr>
<td>R53 Painters Hill (north)</td>
<td>21.0</td>
<td>20.0</td>
<td>20.0</td>
<td>19.0</td>
<td>2.0</td>
<td>-9</td>
<td>-4</td>
<td>-5</td>
<td>-23</td>
</tr>
<tr>
<td>R54 Painters Hill (north)</td>
<td>21.0</td>
<td>20.5</td>
<td>22.0</td>
<td>20.5</td>
<td>0.5</td>
<td>-33</td>
<td>-12</td>
<td>-21</td>
<td>-14</td>
</tr>
<tr>
<td>R55 Painters Hill (north)</td>
<td>20.0</td>
<td>21.5</td>
<td>22.0</td>
<td>21.5</td>
<td>-1.5</td>
<td>-34</td>
<td>-12</td>
<td>-22</td>
<td>-17</td>
</tr>
<tr>
<td>avg</td>
<td>21.0</td>
<td>20.7</td>
<td>21.5</td>
<td>20.3</td>
<td>0.8</td>
<td>-26.8</td>
<td>-11.3</td>
<td>-15.5</td>
<td>-19.2</td>
</tr>
<tr>
<td>R56 Paints Hill (seawall)</td>
<td>21.0</td>
<td>22.0</td>
<td>22.0</td>
<td>22.0</td>
<td>-1.0</td>
<td>-23</td>
<td>-2</td>
<td>-21</td>
<td>-16</td>
</tr>
<tr>
<td>R57 Paints Hill (seawall)</td>
<td>18.0</td>
<td>18.0</td>
<td>18.0</td>
<td>18.0</td>
<td>0.0</td>
<td>-32</td>
<td>-7</td>
<td>-25</td>
<td>-11</td>
</tr>
<tr>
<td>avg</td>
<td>19.5</td>
<td>20.0</td>
<td>20.0</td>
<td>20.0</td>
<td>-0.5</td>
<td>-27.5</td>
<td>-4.5</td>
<td>-23.0</td>
<td>-13.5</td>
</tr>
<tr>
<td>R58 Painters Hill</td>
<td>21.5</td>
<td>21.5</td>
<td>21.5</td>
<td>22.0</td>
<td>-0.5</td>
<td>-19</td>
<td>-3</td>
<td>-16</td>
<td>-8</td>
</tr>
<tr>
<td>R59 Painters Hill</td>
<td>23.0</td>
<td>18.5</td>
<td>18.5</td>
<td>17.0</td>
<td>6.0</td>
<td>-25</td>
<td>-7</td>
<td>-18</td>
<td>-9</td>
</tr>
<tr>
<td>R60 Painters Hill</td>
<td>17.0</td>
<td>16.5</td>
<td>16.0</td>
<td>16.0</td>
<td>1.0</td>
<td>-20</td>
<td>-2</td>
<td>-18</td>
<td>0</td>
</tr>
<tr>
<td>R61 Camptown RV</td>
<td>17.0</td>
<td>17.0</td>
<td>17.0</td>
<td>17.0</td>
<td>0.0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>R62 Camptown RV</td>
<td>17.0</td>
<td>17.0</td>
<td>17.0</td>
<td>17.0</td>
<td>0.0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>R63 Painters Hill (south)</td>
<td>19.0</td>
<td>19.5</td>
<td>19.5</td>
<td>19.0</td>
<td>0.0</td>
<td>-16</td>
<td>-2</td>
<td>-14</td>
<td>-16</td>
</tr>
<tr>
<td>R64 Painters Hill (south)</td>
<td>23.0</td>
<td>21.0</td>
<td>21.0</td>
<td>21.0</td>
<td>2.0</td>
<td>-8</td>
<td>0</td>
<td>-8</td>
<td>-19</td>
</tr>
<tr>
<td>R65 Painters Hill (south)</td>
<td>22.0</td>
<td>20.0</td>
<td>23.0</td>
<td>21.0</td>
<td>1.0</td>
<td>-12</td>
<td>-4</td>
<td>-8</td>
<td>-20</td>
</tr>
<tr>
<td>avg ex Camptown</td>
<td>20.9</td>
<td>19.5</td>
<td>19.9</td>
<td>19.3</td>
<td>1.6</td>
<td>-16.7</td>
<td>-3.0</td>
<td>-13.7</td>
<td>-12.0</td>
</tr>
</tbody>
</table>
### DEP 1972 to Irma Profile Summary

<table>
<thead>
<tr>
<th>Post Irma Dune Condition</th>
<th>Post &amp; Pre-Height Change 2007-2014</th>
<th>Height 1972 - 1972</th>
<th>Post Irma</th>
<th>Pre-Irma</th>
<th>Matthew</th>
<th>Matthew + Irma as % Set-Up vs Run-Up</th>
<th>Dune Top vs Dune Top</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Irma Height</td>
<td>Matthew Height</td>
<td>2014</td>
<td>1972</td>
<td>1972</td>
<td>Run-Up</td>
<td>10yr Wave</td>
<td>2yr Wave</td>
</tr>
<tr>
<td>R66 A1A</td>
<td>20.0 19.5</td>
<td>19.0 20.0 21.0</td>
<td>-19 -1</td>
<td>-18 -15</td>
<td>-34.0 56%</td>
<td>6.6 9.8</td>
<td></td>
</tr>
<tr>
<td>R67 A1A</td>
<td>21.0 20.0</td>
<td>20.0 21.0 20.0</td>
<td>-8 -5</td>
<td>-3 -8</td>
<td>-16.0 50%</td>
<td>6.6 10.8</td>
<td></td>
</tr>
<tr>
<td>R68 A1A</td>
<td>23.0 22.0</td>
<td>21.5 19.0 20.0</td>
<td>-8 -2</td>
<td>-6 -19</td>
<td>-27.0 30%</td>
<td>6.6 12.8</td>
<td></td>
</tr>
<tr>
<td>R69 A1A</td>
<td>21.0 21.0</td>
<td>21.0 20.0 20.0</td>
<td>-18 -8</td>
<td>-10 -25</td>
<td>-42.0 42%</td>
<td>6.6 10.8</td>
<td></td>
</tr>
<tr>
<td>R70 A1A</td>
<td>21.0 20.0</td>
<td>20.5 19.0 20.0</td>
<td>-15 -5</td>
<td>-10 -21</td>
<td>-36.0 42%</td>
<td>6.6 10.8</td>
<td></td>
</tr>
<tr>
<td>R71 A1A</td>
<td>21.0 20.5</td>
<td>21.0 19.0 20.0</td>
<td>-16 -4</td>
<td>-12 -32</td>
<td>-48.0 33%</td>
<td>6.6 10.8</td>
<td></td>
</tr>
<tr>
<td>R72 A1A</td>
<td>20.0 20.0</td>
<td>20.0 21.0 20.0</td>
<td>-10 -0</td>
<td>-10 -20</td>
<td>-30.0 33%</td>
<td>6.6 10.8</td>
<td></td>
</tr>
<tr>
<td>R73 A1A</td>
<td>20.5 20.5</td>
<td>20.5 20.0 20.0</td>
<td>-18 -2</td>
<td>-16 -27</td>
<td>-45.0 40%</td>
<td>6.6 10.8</td>
<td></td>
</tr>
<tr>
<td>R74 A1A</td>
<td>20.0 21.0</td>
<td>20.5 20.0 20.0</td>
<td>-11 0</td>
<td>-11 -14</td>
<td>-25.0 44%</td>
<td>6.6 10.8</td>
<td></td>
</tr>
<tr>
<td>R75 A1A</td>
<td>21.0 21.5</td>
<td>21.5 20.0 20.0</td>
<td>-13 -3</td>
<td>-10 -15</td>
<td>-28.0 46%</td>
<td>6.6 10.8</td>
<td></td>
</tr>
<tr>
<td>R76 A1A</td>
<td>21.0 20.0</td>
<td>21.0 18.5 2.5</td>
<td>-3 0</td>
<td>-3 -6</td>
<td>-9.0 33%</td>
<td>6.6 10.8</td>
<td></td>
</tr>
<tr>
<td>R77 A1A</td>
<td>20.0 18.0</td>
<td>18.0 18.0 2.0</td>
<td>-7 0</td>
<td>-7 -17</td>
<td>-24.0 29%</td>
<td>6.6 10.8</td>
<td></td>
</tr>
<tr>
<td>R78 A1A</td>
<td>19.0 17.5</td>
<td>17.0 16.5 2.5</td>
<td>-8 0</td>
<td>-8 -14</td>
<td>-22.0 36%</td>
<td>4.6 8.8</td>
<td></td>
</tr>
</tbody>
</table>

| avg                      | 20.7 20.1                         | 20.2 19.1 1.6     | -11.8 -2.3 | -9.5 -17.9 -29.8 40% | 6.3 10.5  |

| R79 A1A Flag Bch Pier    | 19.0 18.5                         | 18.5 18.0 1.0     | -8 6 -14  | -11 -19.0 42% | 4.6 8.8 |
| R80 A1A                  | 18.0 17.5                         | 18.0 17.0 1.0     | -2 0 -2   | 5 3.0 -67% | 3.6 7.8 |
| R81 A1A                  | 20.0 20.5                         | 19.5 18.5 1.5     | 2 -2 -4   | 10 12.0 17% 5.6 9.8 |
| R82 A1A                  | 18.5 18.0                         | 19.0 19.0 -0.5    | -3 -3 0   | 10 7.0 -43% | 4.1 8.3 |
| R83 A1A                  | 17.0 16.0                         | 18.0 19.0 -2.0    | -6 -3 -3  | 7 1.0 -600% | 2.6 6.8 |
| R84 A1A                  | 17.0 16.0                         | 17.5 18.5 -1.5    | -2 -10 8  | -4 -6.0 33% | 2.6 6.8 |
| R85 A1A                  | 18.0 17.5                         | 19.0 18.0 0.0     | -4 -6 2 -5 | -9 44% 3.6 7.8 |
| R86 A1A                  | 19.5 19.0                         | 19.5 19.0 0.5     | 2 -6 8 -4 | -2 -100% | 5.1 9.3 |
| R87 A1A                  | 18.0 18.0                         | 19.0 18.5 -0.5    | 12 -2 14  | 0 12.0 100% | 3.6 7.8 |
| R88 A1A                  | 19.0 20.0                         | 19.0 20.0 -1.0    | 9 -3 12   | -20 -11.0 -82% | 4.6 8.8 |
| R89 A1A                  | 19.5 19.5                         | 19.5 18.0 1.5     | -2 -4 2   | -10 -12.0 17% | 5.1 9.3 |
| R90 A1A                  | 19.0 19.5                         | 19.5 18.5 0.5     | -2 -4 2   | -20 -22.0 9% 4.6 8.8 |
| R91 A1A                  | 18.5 19.0                         | 19.0 19.0 -0.5    | 3 -2 5   | -20 -17.0 -18% | 4.1 8.3 |
| R92 A1A                  | 19.0 18.5                         | 18.5 18.0 1.0     | -13 -2 -11 | 2 -11.0 118% | 4.6 8.8 |
| R93 A1A                  | 20.5 19.5                         | 20.0 19.0 1.5     | -2 2 -4   | -16 -18.0 11% | 6.1 10.3 |
| R94 A1A Snack Jack       | 19.0 19.0                         | 19.0 18.0 1.0     | -20 -4 -16 | -25 -45.0 44% | 4.6 8.8 |

| avg                      | 18.7 18.5                         | 18.9 18.5 0.2     | -2.3 -2.7 | 0.4 -6.3 8.6 26% | 4.3 8.5 |

| R95 Gamble Rogers Pk     | 20.0 19.0                         | 19.0 18.5 1.5     | -4 -2 -2  | -15 -19.0 21% | 5.6 9.8 |
| R96 Gamble Rogers Pk     | 20.0 18.5                         | 20.0 17.0 3.0     | -12 -5 -7 | -8 -20.0 60% | 5.6 9.8 |
| R97 Gamble Rogers Pk     | 19.0 19.0                         | 19.0 18.5 0.5     | -4 -2 -2  | -12 -16.0 25% | 4.6 8.8 |
| R98 A1A                  | 20.5 19.5                         | 19.5 19.0 1.5     | -4 -2 -2  | 0 -4.0 100% | 6.1 10.3 |
| R99 A1A                  | 19.0 19.0                         | 19.0 19.0 0.0     | -11 -5 -6 | -15 -26.0 42% | 4.6 8.8 |
| R100 A1A                 | 17.0 17.0                         | 18.0 17.0 0.0     | -21 -3 -18 | -3 -34.0 62% | 2.6 6.8 |

| avg                      | 19.3 18.7                         | 19.1 18.2 1.1     | -9.3 -3.2 | -6.2 -10.5 -19.8 47% | 4.9 9.1 |
Prepared by Steven R. Davis

January 8, 2018
Beach Hazard Erosion Assessment
An update based on the 2014 Army Corp Study for Flagler County
Goals and Objectives

- Assess current beach/dune conditions
- Review 45 year erosion history (1972 to present)
- Review normally recurring storm event characteristics (tides, surge, wave set-up, wave run-up) (annually, 2yr, 5yr, 10yr, 50yr, 100yr, etc)
- Review 2014 Army Corps renourishment proposal
- Propose study and action alternatives
Terminology

- Top of Native Dune
- Dune Toe (Vegetation Line) 11.00’NAVD
- Beach Berm (Summer Profile)
- Beach Face (slope to water line)
- Water Level
- Sand Bar
- Winter (Storm) Profile
- Wave Run-up
**Collision Regime**

- Dune Scarp
- Storm Profile
- Storm Water Level
- MHHW Level
- Sand Bar

**Overwash Regime**

- Compromised Dune
- Storm Profile
- Storm Water Level
- MHHW Level
- Sand Bar
Terminology

- Top of Native Dune
- Dune Toe (Vegetation Line) 11.00’NAVD
- Wave Run-up
- Dune Toe Recession
- Eroded Profile
- Dune Height Reduction
The Dune/Beach Erosion Hazard varies widely over the 18 Miles of Flagler County Shoreline

Section 1  6.3 mi
Section 1a “no dunes”  Section 1b Transition

Section 2  5.2 mi
Section 2a 20’ dunes  Section 2b 18’ dunes

Section 3  6.5 mi
Section 3 A1A Frontage

Marineland to Jungle Hut  Hammock Dunes/Painters Hill  Flagler Beach A1A
MAJOR Dune Height Reduction 1972 to Irma; North Third of County
Flagler County July 1999 (DEP)
Shoreline Rate Change Estimates

Shoreline Change Rate Estimates
Flagler County
July 1999

Recession
Accretion

1  2  3

Flagler County Shoreline change rates (ft/yr)

Report No. BCS-99-02
Florida Department of Environmental Protection
Office of Beaches and Coastal Systems
12.3’ avg dune    Marineland
12.0’ avg dune    Surf Club Condos
9.7’ avg dune    Washington Oaks
12.8’ avg dune    Marineland Acres, Sea Colony, Armand Beach
10.8’ avg dune    Mala Compra Park
13.5’ avg dune    Hammock Beach Golf Course
14.3’ avg dune    Cinnamon Beach
15.4’ avg dune    Ocean Hammock
21.2’ avg dune    Hammock Dunes
19.5’ avg dune    Varn Park
21.0’ avg dune    Painters Hill (north)
19.5’ avg dune    Painters Hill (seawall)
20.9’ avg dune    Painters Hill (south)
20.7’ avg dune    A1A (north)
18.7’ avg dune    A1A (south)
19.3’ avg dune    Gamble Rogers A1A
Section 1a
Effectively “no dunes”
Marineland 2014 (pre-Matthew)

Dune Toe 11’ Elev Recession
- 1972 to 2016 (45 years) 13’ (0.29 ft/yr)
- Matthew 36’
- Irma 4’
Dune Toe 11’ Elev Recession

- 1972 to 2016 (45 years) 13’ (0.29 ft/yr)
- Matthew 36’
- Irma 4’

Total 1972-Irma 53’ (1.18 ft/yr)
Florida DEP Historical Profiles 1972 to 2017 (Post-Irma)

R10 Surf Club Condominiums – No Dune Remaining/Flood Prone

Beach Erosion Hazard Assessment
Flagler County Workshop

Post-Irma
Post-Matthew
1972
2007

$D_{elev}$ 11’ Equilibrium Profile
Dune Toe 11’ Elev Recession

- 1972 to 2016 (45 years) 21’ (0.47 ft/yr)
- Matthew 38’
- Irma 10’
- Total 1972-Irma 69’ (1.53 ft/yr)
Dune Toe 11’ Elev Recession

- 1972 to 2016 (45 years) 21’ (0.47 ft/yr)
- Matthew 38’
- Irma 10’
- Total 1972-Irma 69’ (1.53 ft/yr)
Florida DEP Historical Profiles 1972 to 2017 (Post-Irma)

R15 Washington Oaks – No Dune Remaining/Flood Prone

Beach Erosion Hazard Assessment
Flagler County Workshop

Post-Irma

Post-Matthew

2007

1972

D_{elev} 11’ Equilibrium Profile
Section 1b
Transition from “no dunes” to “compromised dunes”

Mala Compra  Hammock Beach Resort  Ocean Hammock

Cinnamon Beach
Florida DEP Historical Profiles 1972 to 2017 (Post-Irma)

R24 Mala Compra Park – No Dune Remaining/Flood Prone
Dune Toe 11’ Elev Recession

- 1972 to 2016 (45 years) 30’ (0.67 ft/yr)
- Matthew 30’
- Irma 8’

Total 1972-Irma 68’ (1.51 ft/yr)
Hammock Beach Ocean Course 17th Green
2017

Dune Toe 11’ Elev Recession

- 1972 to 2016 (45 years) 30’ (0.67 ft/yr)
- Matthew 30’
- Irma 8’

Total 1972-Irma 68’ (1.51 ft/yr)
Florida DEP Historical Profiles 1972 to 2017 (Post-Irma)

R25 Hammock Beach (18th tee) – Essentially No Dune/Flood Prone

Post-Irma

Post-Matthew

2007

1972

D_{elev} 11' Eq Profile
Florida DEP Historical Profiles 1972 to 2017 (Post-Irma)

R26 Hammock Beach (18th green) – Essentially No Dune/Flood Prone

Post-Irma
Post-Matthew

2007
1972

$D_t \text{elev} \ 11' \ Eq \ Profile$
Florida DEP Historical Profiles 1972 to 2017 (Post-Irma)

R27 Old Salt Park (16th Road) – Minor Dune Remaining/Major Storm Flood

Beach Erosion Hazard Assessment
Flagler County Workshop
Florida DEP Historical Profiles 1972 to 2017 (Post-Irma)
R30 Hammock Beach – Minor Dune Remaining/Major Storm Flood
Florida DEP Historical Profiles 1972 to 2017 (Post-Irma)

R31 Cinnamon Beach (south) – Minor Dune Remaining/Major Storm Flood

Post-Irma
Post-Matthew
1972
2007
D_{elev} 11' Equilibrium Profile
Ocean Hammock (Ocean Ridge Blvd, N End)
2014

Dune Toe 11’ Elev Recession
- 1972 to 2016 (45 years) 14’ (0.31 ft/yr)
- Matthew 19’
- Irma 10’
- Total 1972- Irma 43’ (0.96 ft/yr)
Dune Toe 11’ Elev Recession

- 1972 to 2016 (45 years) 14’ (0.31 ft/yr)
- Matthew 19’
- Irma 10’
- Total 1972-Irma 43’ (0.96 ft/yr)
Flagler County Workshop

Florida DEP Historical Profiles 1972 to 2017 (Post-Irma)

R32 Ocean Ridge Blvd (north end) – Some Dune Remaining
Flagler County Workshop

Florida DEP Historical Profiles 1972 to 2017 (Post-Irma)

R34 Ocean Ridge Blvd (south end) – Some Dune Remaining

Beach Erosion Hazard Assessment
Florida DEP Historical Profiles 1972 to 2017 (Post-Irma)

R35 Jungle Hut Park – Some Dune Remaining

Beach Erosion Hazard Assessment
Flagler County Workshop

Post-Irma
Post-Matthew
2007
1972
Dt_{elev} 11’ Equilibrium Profile
Section 2a
20’ dunes

Jungle Hut  Hammock Dunes  Varn Park
Dune Toe 11’ Elev Recession

- 1972 to 2016 (45 years) 8’ (0.18 ft/yr)
- Matthew 14’
- Irma 4’
- Total 1972-Irma 26’ (0.58 ft/yr)
Hammock Dunes Clubhouse (R37)
2017

Dune Toe 11’ Elev Recession
- 1972 to 2016 (45 years) 8’ (0.18 ft/yr)
- Matthew 14’
- Irma 4’
- Total 1972-Irma 26’ (0.58 ft/yr)
Flagler County Workshop

Florida DEP Historical Profiles 1972 to 2017 (Post-Irma)

R37 Hammock Dunes (Clubhouse) – Dune/Berm Width Restoration

Beach Erosion Hazard Assessment

Post-Irma

Post-Matthew

2007

1972

D_{elev} 11’ Equilibrium Profile
Hammock Dunes South End (R44) 2014

Dune Toe 11’ Elev Recession
- 1972 to 2016 (45 years) 25’ (0.56 ft/yr)
- Matthew 22’
- Irma 3’
- Total 1972-Irma 50’ (1.11 ft/yr)
Dune Toe 11’ Elev Recession

- 1972 to 2016 (45 years) 25’ (0.56 ft/yr)
- Matthew 22’
- Irma 3’
- Total 1972-Irma 50’ (1.11 ft/yr)
Florida DEP Historical Profiles 1972 to 2017 (Post-Irma)
R44 Hammock Dunes (south end) – Dune/Berm Width Restoration

Post-Irma
Post-Matthew
1972

$D_t^{eley} \ 11'$ Equilibrium Profile
Section 2b
18’ dunes

- Varn Park
- Painters Hill
- Beverly Beach
Dune Toe 11’ Elev Recession

- 1972 to 2016 (45 years) 15’ (0.33 ft/yr)
- Matthew 24’
- Irma 5’
- Total 1972- Irma 44’ (0.98 ft/yr)
Varn Park 2017

Dune Toe 11’ Elev Recession

- 1972 to 2016 (45 years) 15’ (0.33 ft/yr)
- Matthew 24’
- Irma 5’
- Total 1972-Irma 44’ (0.98 ft/yr)
Dune Toe 11’ Elev Recession

- 1972 to 2016 (45 years) 16’ (0.36 ft/yr)
- Matthew 21’
- Irma 2’
- Total 1972-Irma 39’ (0.87 ft/yr)
Dune Toe 11’ Elev Recession

- 1972 to 2016 (45 years) 16’ (0.36 ft/yr)
- Matthew 21’
- Irma 2’
- Total 1972-Irma 39’ (0.87 ft/yr)
Florida DEP Historical Profiles 1972 to 2017 (Post-Irma)

R55 Painters Hill (near seawall)
Section 3
A1A Frontage

Beverly Beach   Flagler Beach   Gamble Rogers
Florida DEP Historical Profiles 1972 to 2017 (Post-Irma)
R82 A1A Flagler Beach (south end)
Army Corps 2014 Study
Pre-Matthew/Irma Dune Beach Design Profile

US Army Corps of Engineers
2014 HSDR 10’ Dune Extension

Sand Volume Summary
- De 10’ Dune Extension: 5 cy/lf
- Bb Beach/Berm sand: 10 cy/lf
- Total Required Sand: 15 cy/lf

Diagram showing elevation profiles and sand volume calculations.
Flagler County Workshop

Army Corps 2014 Dune Beach Design Profile with Post-Matthew/Irma Dune Beach Eroded Profile

Matthew and Irma sand loss

<table>
<thead>
<tr>
<th>Sand Volume Summary</th>
<th>Volume (cy/lf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>De</td>
<td>5</td>
</tr>
<tr>
<td>Bb</td>
<td>10</td>
</tr>
<tr>
<td>M</td>
<td>16</td>
</tr>
<tr>
<td>I</td>
<td>4</td>
</tr>
<tr>
<td>Total Required Sand</td>
<td>35</td>
</tr>
</tbody>
</table>

Naval Academy District
Final Berm 1:10 slope after natural hydraulic replacement
35’ Berm Face Slope 1:5 to closure (-2 NAVD)
Hammock Dunes
Emergency Sand Project Profile

Hammock Dunes Emergency Sand
Two Phases Planned

Sand Volume Summary
A  Phase 1 (5’ Dune Extension)  6 cy/lf
B  Phase 2 (25’ Beach/Berm)  11 cy/lf
Total Required Sand  17 cy/lf
Flagler County Workshop

Flagler County
March 2017 Emergency Sand Project Profile

Flagler County Emergency Sand
20' Dune Extension

Sand Volume Summary
A  20' Dune Extension  10  cy/1k

Natural Dune Toe (Berm) Elevation 11.00 NAVD

Pre-Matthew Beach Profile
Post-Matthew Beach Profile
Post-Irma Beach Profile

20' Berm Face Slope 1:5 to closure on beach

NAV 0.00
NAV -2.00
Scarped Dune Collapse
the mechanism that took all the sand from our dunes

Wave Run-up attacks the base of the dune toe
Original Dune Profile (before erosion event)
Dune Erosion/Recession Event

Old Dune Profile

New Dune Toe

Old Dune Toe (Vegetation Line) 11.00’NAVD

Dune Extension Sand Slope to beach

Old Beach Profile

Water Level

Top of Reduced Height Dune

Wave Run-up

Eroded Beach Profile
Dune Extension Sand with NO Beach Berm Sand

- Dune Extension Sand
- New Dune Toe
- Old Dune Toe (Vegetation Line) 11.00’NAVD
- Dune Extension Sand Slope to beach
- Dune Extension Scarp
- Old Beach Profile
- Water Level
- Wave Run-up
- Top of Reduced Height Dune
- Dune Extension Sand Toe
Full Army Corps Dune Extension Sand **AND** Beach Berm Sand

- Eroded Dune Toe
- Restored Old Dune Toe (Vegetation Line) 11.00’NAVD
- Restored Old Beach Profile
- Water Level
- Wave Run-up
- Beach/Berm Sand
- Top of Reduced Height Dune

**Flagler County Workshop**

**Beach Erosion Hazard Assessment**
Emergency Sand Dune Toe Scarping Issue
Emergency Sand Dune Toe Scarping Issue

Beach Erosion Hazard Assessment
Flagler County Workshop

2
Emergency sand placed on the beach with the dune extension toe elevation lower than the natural dune toe elevation of 11.00’ NAVD will begin to scarp and erode immediately. Experience with Irma, Maria, Invest 99 and the October 2017 Nor’easters indicate that the sand may not even survive the next storm; but must be done NOW as much sand as possible, as soon as possible. We are exposed.
The Science of Hazard Assessment

The frictional interaction of wave with the seabed causes particle orbital circles to stretch as wave energy is dissipated. After the wave breaks, the remnant of the wave moves as a chaotic surf until it spreads onto the beach as swash.
This is a simplified “Extreme Wave RUN-UP” formula; adequate only for extreme.
This is a simplified “Extreme Wave SET-UP” formula; adequate only for extreme.
When “Extreme Wave SET-UP” reaches the dune toe elevation the regime shifts from swash zone run-up to the Collision Regime; and dune destruction proceeds rapidly.
Beach Erosion Hazard Assessment
Flagler County Workshop

Wave Data Sources

- NOAA Tide Surge Stations
- NOAA Buoys
- Army Corps WIS Stations
- NOAA Tide Stations
Beach Erosion Hazard Assessment

Flagler County Workshop

Storm Event Return Period Wave Height Information
## Wave RUN-UP & SET-UP Table at MHHW

<table>
<thead>
<tr>
<th></th>
<th>Assumed</th>
<th>Assumed</th>
<th>Water</th>
<th>Wave</th>
<th>Wave</th>
<th>Wave</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SigWH</td>
<td>Tide</td>
<td>Surge</td>
<td>Level</td>
<td>Setup</td>
<td>Setup</td>
</tr>
<tr>
<td></td>
<td>NAVD</td>
<td>FT</td>
<td>NAVD</td>
<td>NAVD</td>
<td>.30xSigWH</td>
<td>.70xSigWH</td>
</tr>
<tr>
<td>Matthew</td>
<td>30</td>
<td>2.7</td>
<td>3.0</td>
<td>5.7</td>
<td>9.0</td>
<td>14.7</td>
</tr>
<tr>
<td>Irma</td>
<td>22.5</td>
<td>2.7</td>
<td>3.0</td>
<td>5.7</td>
<td>6.8</td>
<td>12.5</td>
</tr>
<tr>
<td>100yr</td>
<td>22.9</td>
<td>2.7</td>
<td>3.0</td>
<td>5.7</td>
<td>6.9</td>
<td>12.6</td>
</tr>
<tr>
<td>50yr</td>
<td>21.4</td>
<td>2.7</td>
<td>2.5</td>
<td>5.2</td>
<td>6.4</td>
<td>11.6</td>
</tr>
<tr>
<td>10yr</td>
<td>18.4</td>
<td>2.7</td>
<td>2.0</td>
<td>4.7</td>
<td>5.5</td>
<td>10.2</td>
</tr>
<tr>
<td>5yr</td>
<td>17.1</td>
<td>2.7</td>
<td>1.5</td>
<td>4.2</td>
<td>5.1</td>
<td>9.3</td>
</tr>
<tr>
<td>2yr</td>
<td>15.3</td>
<td>2.7</td>
<td>1.0</td>
<td>3.7</td>
<td>4.6</td>
<td>8.3</td>
</tr>
<tr>
<td>1yr</td>
<td>13.8</td>
<td>2.7</td>
<td>0.8</td>
<td>3.5</td>
<td>4.1</td>
<td>7.6</td>
</tr>
<tr>
<td>5x/yr</td>
<td>10</td>
<td>2.7</td>
<td>0.5</td>
<td>3.2</td>
<td>3.0</td>
<td>6.2</td>
</tr>
</tbody>
</table>
Flagler County Surge & Dynamic Set-up Hydrograph

Maximum Wave Setup Water Level
- 16.7’ NGVD (16.0 NAVD) 500 year surge height
- 14.2’ NGVD (13.7 NAVD) Matthew surge height
- 12.4’ NGVD (11.4 NAVD) Irma surge height
- 11.8’ NGVD (11.1 NAVD) 100 year surge height
- 9.4’ NGVD (8.7 NAVD) 50 year surge height

FDEP Storm Surge,
Monte Carlo analysis including:
- Astronomical Tide
- Storm Surge
- Dynamic Wave Setup

FLDEP Painters Hill Hydrograph
The Hazard Assessment Stacking Diagram
Matthew Stacking Diagram

Maximum Runup (theoretical – without dune collision)  
25.9’ MSL (25.2’ NAVD)

Matthew 9.0’ Wave Setup (13.9’ MSL; 13.2’ NAVD)

Pre Matthew Beach Profile
Post Matthew Beach Profile
Ima Beach Profile

Matthew WATER LEVEL 4.9’ over MSL

2.6’ Surge

2.3’ Tide

Mean Sea Level (MSL)
Beach Erosion Hazard Assessment

Flagler County Workshop

Irma Stacking Diagram
Beach Erosion Hazard Assessment
Flagler County Workshop

Maria/Invest 99 Stacking Diagram

Maria/Invest 99L (10’ SigWH) Sep/Oct 2017
Section 1a
2 yr Storm (50% chance each year)
Section 1b
2 yr Storm (50% chance each year)
Section 2
2 yr Storm (50% chance each year)
Section 1a
10 yr Storm (10% chance each year)
Section 1b
10 yr Storm (10% chance each year)
Section 2
10 yr Storm (10% chance each year)
Section 1a
50 yr Storm (2% chance each year)
Section 1b
50 yr Storm (2% chance each year)
Section 2
50 yr Storm (2% chance each year)
Hazard Assessment Overview
Hammock Flooding Risk

Section 1a
(Marineland to Mala Compra)
Effectively “no dunes”

Section 1b
(Hammock Beach & Ocean Hammock)
“no dunes” to compromised dunes

Section 2 (Hammock Dunes)
20’ dunes (but need added depth)
Protected by high dunes and Jungle Hut Levee
The Crown Jewel of the Flagler County Tourism Industry is without significant dune protection.
Flagler County Workshop

Beach Erosion Hazard Assessment

Hundreds of $$$ Millions is threatened
Flagler County real estate value is high beachside and must be protected to assure the viability of Flagler County.
Flagler County needs State and Federal Government Help

and Coastal Engineering consulting services from a firm like
Flagler County Workshop

There are critical legislative hurdles for which we need state and federal assistance.
An example of a legislative hurdle:

Army Corps access requirements for Federal funds beach nourishment

The Army Corps requires public access points with parking and restrooms every one half mile. Meaning that Federal funds can be used in Miami and New Jersey where such access density makes sense; but not in Flagler County where we have exemplary access, but do not meet the standard.
Flagler County Workshop

Flagler County needs to enter a dredge project cycle and end the use of inland sand for emergency sand projects

- Emergency sand projects follow major storm erosion events
- Emergency projects have less than one year schedules
- Goal is to urgently reduce flooding risk (the current situation)
- Very urgent schedules force the use of inland source sand because a dredge project takes multiple years
Beach compatible sand is available in borrow areas near the shoreline of Flagler County.

- 2.5m cy, 5'-11' thick
- 1.7m cy, 5'-8' thick
- 1.3m cy, up to 18' thick
- 20.0m cy, 7'-14' thick
### Comparative Costs:

- **Inland Sand:**
  - 450,000 cubic yards (cy) at $48/cy = $21,600,000 for a temporary fix.

- **Dredged Sand:**
  - 3,000,000 cy at $12/cy = $36,000,000, major storm capable.

- **Renourishment Costs:**
  - **2nd Renourishment:**
    - 1,500,000 cy at $10/cy = $15,000,000.
  - **3rd Renourishment:**
    - 1,000,000 cy at $10/cy = $10,000,000.

### Dune Extension Project Summary and Overview

<table>
<thead>
<tr>
<th>Length (ft)</th>
<th>Upstand Elevation</th>
<th>Dune Height</th>
<th>Dune Slope</th>
<th>Barn Elevation</th>
<th>Barn Slope</th>
<th>Beach Erosion</th>
<th>Corps of 2014 SP</th>
<th>Engineers</th>
<th>Dune Elevation Loss</th>
<th>Land Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,320</td>
<td>Merrieland</td>
<td>R1-R2</td>
<td>9</td>
<td>14</td>
<td>1.5</td>
<td>6</td>
<td>n/a</td>
<td>13,704</td>
<td>35</td>
<td>79,640</td>
</tr>
<tr>
<td>2,284</td>
<td>River to sea</td>
<td>R1-R8</td>
<td>9</td>
<td>13</td>
<td>1.2</td>
<td>11</td>
<td>11</td>
<td>42,648</td>
<td>35</td>
<td>248,780</td>
</tr>
<tr>
<td>7,108</td>
<td>Surf Club Reach</td>
<td>R1-R11</td>
<td>9</td>
<td>13</td>
<td>1.2</td>
<td>11</td>
<td>11</td>
<td>30,512</td>
<td>35</td>
<td>133,450</td>
</tr>
<tr>
<td>3,014</td>
<td>Washington Oaks</td>
<td>R11-R16</td>
<td>9</td>
<td>13</td>
<td>1.2</td>
<td>11</td>
<td>11</td>
<td>18,584</td>
<td>35</td>
<td>81,305</td>
</tr>
<tr>
<td>3,233</td>
<td>Manseeland Acres</td>
<td>R16-R18</td>
<td>9</td>
<td>13</td>
<td>1.2</td>
<td>11</td>
<td>11</td>
<td>3,288</td>
<td>35</td>
<td>19,180</td>
</tr>
<tr>
<td>648</td>
<td>Bay Drive Park</td>
<td>R16-R19</td>
<td>9</td>
<td>13</td>
<td>1.2</td>
<td>11</td>
<td>11</td>
<td>13,454</td>
<td>35</td>
<td>59,000</td>
</tr>
<tr>
<td>1,688</td>
<td>Shoal Colony/Armond Beach</td>
<td>R16-R20</td>
<td>9</td>
<td>13</td>
<td>1.2</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>13,454</td>
<td>35</td>
</tr>
<tr>
<td>3,753</td>
<td>Mala Comina Park</td>
<td>R21-R24</td>
<td>10</td>
<td>14</td>
<td>1.2</td>
<td>11</td>
<td>11</td>
<td>22,518</td>
<td>35</td>
<td>131,355</td>
</tr>
<tr>
<td>4,267</td>
<td>Club at Ocean Hammock</td>
<td>R24-R29</td>
<td>13</td>
<td>17</td>
<td>1.2</td>
<td>11</td>
<td>11</td>
<td>37,576</td>
<td>35</td>
<td>164,396</td>
</tr>
<tr>
<td>20</td>
<td>18th Road Old Salt Park</td>
<td>R27</td>
<td>13</td>
<td>17</td>
<td>1.2</td>
<td>11</td>
<td>11</td>
<td>480</td>
<td>35</td>
<td>2,800</td>
</tr>
<tr>
<td>5,045</td>
<td>Ocean Hammock</td>
<td>R25-R35</td>
<td>13</td>
<td>17</td>
<td>1.2</td>
<td>11</td>
<td>11</td>
<td>55,450</td>
<td>35</td>
<td>197,575</td>
</tr>
<tr>
<td>274</td>
<td>Jungle Hut Access</td>
<td>R28</td>
<td>13</td>
<td>17</td>
<td>1.2</td>
<td>11</td>
<td>11</td>
<td>1,584</td>
<td>35</td>
<td>9,589</td>
</tr>
<tr>
<td>12,241</td>
<td>Hammock Dunes</td>
<td>R26-R30</td>
<td>13</td>
<td>21</td>
<td>1.2</td>
<td>11</td>
<td>11</td>
<td>123,410</td>
<td>35</td>
<td>421,035</td>
</tr>
<tr>
<td>1,353</td>
<td>Von Park</td>
<td>R45-R46</td>
<td>13</td>
<td>21</td>
<td>1.2</td>
<td>11</td>
<td>11</td>
<td>8,358</td>
<td>35</td>
<td>48,755</td>
</tr>
<tr>
<td>4,888</td>
<td>Beach A Painters H II (N)</td>
<td>R50-R56</td>
<td>16</td>
<td>19</td>
<td>1.2</td>
<td>11</td>
<td>11</td>
<td>36,888</td>
<td>35</td>
<td>174,610</td>
</tr>
<tr>
<td>1,204</td>
<td>Beach A Painters H II (Goose Bill)</td>
<td>R55-R57</td>
<td>16</td>
<td>19</td>
<td>1.2</td>
<td>11</td>
<td>3</td>
<td>4,562</td>
<td>35</td>
<td>49,786</td>
</tr>
<tr>
<td>3,555</td>
<td>Beach A Painters H III (G)</td>
<td>R57-R60</td>
<td>15</td>
<td>19</td>
<td>1.2</td>
<td>11</td>
<td>0</td>
<td>20,500</td>
<td>35</td>
<td>127,700</td>
</tr>
<tr>
<td>7,885</td>
<td>Beach B Esohick Campground</td>
<td>R60-R62</td>
<td>16</td>
<td>19</td>
<td>1.2</td>
<td>11</td>
<td>3</td>
<td>8,898</td>
<td>35</td>
<td>101,325</td>
</tr>
<tr>
<td>1,050</td>
<td>Beach B Esohick to Flagler Beach</td>
<td>R62-R65</td>
<td>16</td>
<td>19</td>
<td>1.2</td>
<td>11</td>
<td>10</td>
<td>11,600</td>
<td>35</td>
<td>50,740</td>
</tr>
<tr>
<td>12,670</td>
<td>Beach B N of Flagler Beach</td>
<td>R68-R60</td>
<td>15</td>
<td>19</td>
<td>1.2</td>
<td>11</td>
<td>n/a</td>
<td>35</td>
<td>443,450</td>
<td></td>
</tr>
<tr>
<td>13,130</td>
<td>Beach C Central Flagler Beach</td>
<td>R64-R64</td>
<td>17</td>
<td>19</td>
<td>1.2</td>
<td>11</td>
<td>n/a</td>
<td>35</td>
<td>456,300</td>
<td></td>
</tr>
<tr>
<td>6,030</td>
<td>Beach D South Flagler Beach</td>
<td>R68-R100</td>
<td>17</td>
<td>19</td>
<td>1.2</td>
<td>11</td>
<td>11</td>
<td>35</td>
<td>234,000</td>
<td></td>
</tr>
</tbody>
</table>

**Total CY:** 458,151
**Total CY:** 3,237,760
Plan of Action

• Place Emergency Sand ASAP!!! (2018)
• Develop Long-Term Coastal Engineering Plan and legislative/regulatory accommodation goals
• Develop a 2019 Dune/Beach Restoration Project exploring the potential for a dredge project
• Develop of 50 year Coastal Protection Plan with regular interval restoration projects with engineered mobilization triggers
Flagler County Workshop

Beach Erosion Hazard Assessment

Q & A
SUBJECT: Update on the Florida Constitution Revision Commission and its proposals that potentially affect Flagler County.

DATE OF MEETING: January 8, 2018

OVERVIEW/SUMMARY: The Florida Constitution Revision Commission (CRC) is a 37-member commission provided for in the State Constitution that reviews and proposes changes to the Florida Constitution. The CRC refers constitutional amendments directly to the ballot for a public vote, which makes the commission unique among the other states. Florida is the only state with a commission empowered to refer constitutional amendments to the ballot.

Of the 37 commissioners, all but one are appointed; the Florida Constitution provides for the automatic membership of the State Attorney General. Other members are appointed as follows:

- Governor appoints 15 commissioners, including the commission chair.
- President of the Senate appoints nine commissioners.
- Speaker of the House of Representatives appoints nine commissioners.
- Chief Justice of the state Supreme Court appoints three commissioners.

The CRC convenes every 20 years and the 2017-2018 Commission is the third of its kind in Florida history, following the enactment of the state constitution in 1968. The commission previously convened in 1977-1978 and 1997-1998. The current CRC was sworn in on March 20, 2017, and has until May 10, 2018, to hold public hearings, review proposals, and refer amendments to the ballot.

The CRC is required to file proposed amendments to the state constitution with the custodian of state records 180 days before the general election on November 6, 2018. Due to the passage of Amendment 3 in 2006, referred amendments will require a 60 percent vote of electors to be approved in 2018. Prior CRC-referred amendments in 1978 and 1998 required a simple majority vote of electors to be approved.

As of November 24, 2017, CRC commissioners had submitted 103 proposals and members of the public submitted 2,013 proposals - 782 filed online and 1,231 through other means, including email and mail. In 1978, the CRC referred eight constitutional amendments to the ballot, and voters rejected all of them. In 1998, the CRC referred nine constitutional amendments, and voters passed eight of nine.

Attached is a guide from the Partnership for Revising Florida’s Constitution that helps explain the process. For more in-depth information, visit the Florida Constitution Revision Committee website at https://www.flcrc.gov/.

This is an issue we need to watch this year because changing the State Constitution has a much more lasting impact than changing state laws.

FUNDING INFORMATION: N/A

DEPT./CONTACT/PHONE #: Administration, Craig Coffey (386) 313-4001

RECOMMENDATION: Request the Board approve the list of identified Florida Constitution Revision Commission proposals that potentially affect Flagler County.
ATTACHMENTS:
1. Florida Constitution Revision Commission – Flagler County Issues Brief
2. Florida Constitution Revision Commission Citizens’ Guide

Craig M. Coffey, County Administrator

5 JAN 2018

Date
Florida Constitution Revision Commission Positions
Flagler County Items of Concern

Priority

01. Home Rule Preemption Process (Support)
Proposal 61
- Creates a transparent process for the Legislature Preempt Home Rule Authority.
- Requires future Legislative Preemption of Home Rule Powers:
  - Considered only as a Stand-Alone Bill.
  - Heard in at least One Committee.
  - Given at least 48 hours Public Notice of the Hearing.
  - Needs 2/3 Vote to Pass.

02. Strengthening the State Mandates Process (Support)
Proposal 92
- Creates a more stringent process for the Legislature to pass an Unfunded Mandate on Cities and Counties.
- Requires the Legislature to:
  - Hold a Public Hearing and Fiscal Analysis on any proposed unfunded mandate.
  - 3/4 Vote of House and Senate to Pass an unfunded mandate.
  - Unfunded Mandate Expires after 8 Years.
    - Unless Reenacted by the Legislature.

03. Preempting the Regulation of Commerce, Trade, and Labor (Oppose)
Proposal 95
- Creates a New Broad Preemption Constitutional Provision.
- Provides local governments may only regulate Commerce, Trade, and Labor:
  - Occurring exclusively within the Entity’s own Boundaries.
  - May not Intrude upon or Impede across the Entity’s Boundaries.
Broad Interpretation: Would prohibit a Local Regulation of an activity taking place within a municipality, even if the municipality established a reasonable connection between the activity and its Citizens’ health, safety and welfare.

04. Eliminate a Charter County’s right to choose County Constitutional Officers (Oppose)
Proposal 13
- Will not allow a Chartered County the right to:
  - Abolish, transfer the duties of, or establish any Alternate Method of selection for County Constitutional Officers.
* While this proposal does not directly affect Flagler County now, it does affect our Local Home-Rule Authority for future decisions regarding this issue.

http://www.flaglercounty.org
General Government

05. Shell Proposals (Watch)
Proposal 77 & 84
- Affects several Constitutional Articles:
  Article VII - Finance and Taxation (Proposal 84)
  Article VIII - Local Government (Proposal 77)
- These are shell proposal to:
  o Make Technical Changes
  o Repeal Outdated or Obsolete Provisions
  o Modernize the Language
Local Concern: Changes are not provided.

06. Public Finance of Campaigns (Watch)
Proposal 56
- Removes the existing requirement that a method of Public Financing for campaigns for statewide office be established by law.
- Specifically prohibit the expenditure of any public funds on campaigns for State or Local Elections.

07. Voting and Elections (Watch)
Proposal 62
- Specifies registered qualified electors in Primary Elections:
  o No Party Affiliation.
    ▪ may vote for any political party.
  o Political Party Affiliation.
    ▪ may vote for that political party only.

08. Naming of Public Facilities (Watch)
Proposal 37
- Prohibits the naming of:
  o Public Buildings, Programs or Other Facilities after a County, Municipal, or State Elected Officials while still in office.
- Requires that any Law or Ordinance naming a:
  o Building, Facility, Tract of Land, or Program after a Former Elected Official may not contain provisions on any other subject.

http://www.flaglercounty.org
Finance and Tax

09. Reauthorizing Tax Exemptions (Support)
Proposal 63
- Constitutional Ad Valorem Tax Exemption adopted after Jan. 8, 2019, or the expansion of an existing constructional tax exemption.
  o Subject to repeal after 8 years unless readopted in a subsequent election.
- Such a tax exemption must include a provision requiring:
  o State's Chief Elections Officer to place a measure on the general election ballot, prior to the scheduled repeal date, asking Electors - Do they wish to retain the tax exemption or Let it stand repealed.
- If rejected, the tax exemption is repealed on January 1 immediately following the general election.

10. Voting Requirements for New Taxes (Support)
Proposal 72
- Provides no State Tax or Fee may be Imposed, Authorized, or Raised by the Legislature.
  o Exception - approved by 2/3 of House and Senate.
- Requires a Separate Bill that contains no other subject.
- This proposal does not apply to any tax or fee imposed by a County, Municipality, School board, or Special District.

Ethics

11. Lobbying Restrictions for State & Local Officials (Watch)
Proposal 39
- Establishes prohibitions on lobbying by State and Local Officials:
  o Following a term of office.
    ▪ 6 year period following.
  o Restrictions during a term of office.

Personnel

12. Vaping in Indoor Workplaces (Support)
Proposal 65
- Establishes a prohibition on the use of:
  o Vapor-generating Electronic Devices in enclosed indoor workplaces.
- Local Governments can adopt regulations that are more restrictive.
What is Florida’s Constitution Revision Commission?

The Constitution Revision Commission is a group of 37 people who will review and recommend changes to Florida’s Constitution, which provides for the commission in Article XI, Section 2.

Who serves on the CRC?

15 Appointed by the Governor
9 Appointed by the Speaker of the Florida House of Representatives
9 Appointed by the President of the Florida Senate
3 Appointed by the Chief Justice of the Florida Supreme Court
1 The Attorney General of Florida

Why is constitutional revision important?

Changing a constitution has a much more lasting impact than changing state laws. Florida’s Constitution Revision Commission is historic in that it occurs only once every 20 years. Those 37 commissioners will ultimately decide on proposed changes to the Florida Constitution that will make it to the ballot for a voter decision in 2018.
## Amending Constitutions

### Article XI of the Florida Constitution provides for 5 ways to amend the Constitution:

1. The Florida Legislature can propose changes through a Joint Resolution.
2. The Constitution Revision Commission can recommend changes.
3. The people have the power to amend the Florida Constitution through the initiative process.
4. Constitutional conventions are another means of recommending changes.
5. The Taxation and Budget Commission can recommend taxation and budgetary process changes.

### Article 5 of the U.S. Constitution provides for 2 ways to amend the U.S. Constitution:

1. Proposal by Congress with a two-thirds majority vote in both the House and Senate.
2. Constitutional convention called for by two-thirds of the state legislatures (never been used).

## Did You Know?

*Florida has more ways to amend its Constitution than any other state.*

## What does the Constitution Revision Commission do?

Every 20 years the Commission is appointed to:

- Examine the Florida Constitution
- Hold public hearings throughout the state
- Recommend changes to the Florida Constitution for voter consideration
The Role of Citizens

Make your voice heard! VOTE on the proposals on the 2018 ballot!

Citizen Involvement

VOTE on the proposals in November 2018.

- Attend and participate in public hearings.
- Suggest and monitor appointments to the CRC.
- Become educated on Florida’s constitution and amendment process.

Characteristics to Consider

The people of Florida should play a critical role in the appointment of commissioners to the CRC by suggesting appointees and monitoring the process. What characteristics are most important to you in selecting commissioners?

- Knowledgeable about government
- Forward thinking
- Reflective of Florida’s diverse culture
- From all walks of life
- Civic-minded

What would you add?
Keeping in Contact

Appointees to the Constitution Revision Commission will be responsible for reviewing and proposing changes to Florida’s Constitution. Individuals can have a voice in the appointment process by contacting the officials below.

15 Appointees  
**Office of the Governor of the State of Florida**  
The Capitol  
400 S. Monroe St.  
Tallahassee, FL 32399-0001  
flgov.com

9 Appointees  
**Office of the Florida Senate President**  
404 S. Monroe St.  
Tallahassee, FL 32399-1100  
flsenate.gov

3 Appointees  
**Office of the Chief Justice**  
Florida Supreme Court  
500 S. Duval St.  
Tallahassee, FL 32399-1925  
floridasupremecourt.org

9 Appointees  
**Office of the Speaker of the Florida House of Representatives**  
402 S. Monroe St.  
Tallahassee, FL 32399-1300  
myfloridahouse.gov

Florida’s Issues: Then & Now

In 1998, the CRC proposed nine amendments to the Florida Constitution. Florida voters passed eight proposals. What issues might Florida voters face in the future?

**PASSED IN 1998**

<table>
<thead>
<tr>
<th>Conservation</th>
<th>Restructuring the state Cabinet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firearms purchases</td>
<td>Technical revisions</td>
</tr>
<tr>
<td>Judicial selection</td>
<td>Basic rights</td>
</tr>
<tr>
<td>Election processes</td>
<td>Education</td>
</tr>
</tbody>
</table>

**FAILED IN 1998**

Local and municipal property tax exemptions and citizen access to local officials

Considerations for keeping up with a growing Sunshine State:

- Transportation
- Education
- Natural Resources
- Crime & Justice
- Representation
- Healthcare
- Youth, Elderly & the Underserved

What would you add?

In 1998, only a simple majority vote (more than 50%) was required for an amendment’s passage. As of 2006, at least 60% of the vote is required to pass.
This publication was created by:
The Florida Law Related Education Association, Inc.

For more information on the Constitution Revision Commission, please visit:
http://www.revisefl.com/
@ReviseFLCon
2017-2018 CONSTITUTION REVISION COMMISSION (CRC)

HOW A CRC PROPOSAL BECOMES LAW

A ROADMAP TO REVISING FLORIDA'S CONSTITUTION

PROPOSED CONSTITUTIONAL AMENDMENTS

PUBLIC PROPOSALS
- Submitted by:
  - Website
  - Public Hearings
  - Email
  - Mail

SEPTMBER 22, 2017
- Deadline being considered by CRC to submit public proposals

FULL COMMISSION
- Votes to consider Public Proposals (10 votes required)

COMMISSIONER PROPOSALS
- Proposals are reviewed and considered in the appropriate committee

STYLE & DRAFTING COMMITTEE
- Prepares proposals for the ballot

CRC FINAL VOTE ON PROPOSALS

CRC will consider public input on proposals prior to final vote, including public hearings

FLORIDA SECRETARY OF STATE
- CRC proposals must be filed by May 10, 2018 for ballot placement

FLORIDA VOTERS CONSIDER CRC PROPOSALS

2018 GENERAL ELECTION (NOVEMBER 6)

FLCRC.GOV
@FLORIDACRC

CRC proposals that secure at least 60% voter approval become law and officially revise the Florida Constitution.
SUBJECT: Discussion Strategic Plan 2018

DATE OF MEETING: January 8, 2018

OVERVIEW/SUMMARY: Staff is seeking input from the Commission regarding the development of a Strategic Plan prior to FY 2018/19 budget discussions. Strategic planning includes establishing goals, determining actions to achieve the goals and mobilizing resources to execute the actions. The strategic plan describes how goals will be achieved using resources. Staff initiated a discussion with the previous facilitators, FL Conflict Resolution Center (FCRC). The attached Scope of Work outlines the proposed process which includes initial interviews with each Commissioner, followed by four-hour sessions resulting in the final strategic plan at a cost of $17,465.

In the Spring of 2009, the Flagler County Commissioners developed the original Strategic Plan as part of a planning process initiated by the Commission. The plan provided strategic guidance and direction for Flagler County for a period of 2010 to 2015 and beyond. The planning process resulted in the development of a joint vision of the future for the County, along with agreed-upon goals and implementation strategies for the period of 2010-2015 and beyond, setting the pathway for the future.

The 2010 plan was updated in 2013 which revised some of the original strategic goals and objectives and provided for more refined objectives at a project level. Under the title of “Public Facilities and Public Services” there are fifteen (15) projects. “Recreation and Tourism” has twenty-six (26) projects. The project level objectives provided direction to staff as to devoting time and efforts to accelerate the further development of the priority objectives. Additionally, the identification of priorities allows staff to further develop projects as funding or other opportunities arise. The Commission maintained the original six (6) issues and modified some of the ten goals.

The Issues are as follows:
1. Diversified Economy, Increased Commercial and Industrial Tax Base, Sustainable Business Community
2. Effective Land Planning and Growth Management -- Comprehensive Plan and Land Development Regulations
3. Protecting the Environment, Preserving Our Natural Resources
4. Preserving Our Heritage
5. Social Services
6. Infrastructure and Public Services

FUNDING INFORMATION: Funds are included in the FY 2017-18 budget for the Strategic Plan in Fund Acct# 001-0100-511.31-10.

DEPT./CONTACT/PHONE #: Administration, Craig Coffey (386) 313-4001

ATTACHMENTS:
1. Flagler County Strategic Plan Scope of Work

Craig M. Coffey, County Administrator

Date 5 JAN 2018
MEMORANDUM

TO: Craig Coffey, County Administrator, Flagler County  
    Sally Sherman, Deputy County Administrator, Flagler County

FROM: Rafael A. Montalvo, FCRC

DATE: January 4, 2018

RE: Draft Scope for BOCC Strategic Planning Process

Hi Craig and Sally,

Hal and I very much enjoyed our conversation with you yesterday. Attached please find attached a proposal based on that discussion. We have tried to stay in the same ballpark as the 2009 proposal (the seats may be a little different.) As we discussed yesterday, IOG/UCF overhead is now 21%, and that is reflected here. The Center proposes to provide these services for a lump sum of $17,465, including travel and overhead, through the Florida Institute of Government at the University of Central Florida.

Please let me know if the proposal is satisfactory or if you would like any revisions. The best way to reach me this afternoon or tomorrow is by cell phone, at 386-801-2717.

Sincerely,

Rafael A. Montalvo, Affiliate Practitioner  
Central Florida Office, FCRC
Scope of Work

Initial Interviews (8 hours) – January 22, 2017

The Consortium will conduct a preliminary survey through in-person interviews with Commission members and senior staff to identify issues to be addressed in the retreat process, and to prepare starting point documents for the retreat.

Session I – February 5, 2018

- Organizational and team-building activities
- Trends and conditions - brief presentation and discussion
- Review of interview and survey results
- Initial discussion of vision, mission and values
- Initial identification and discussion of issues, including fiscal stability

Between sessions – Consortium staff will work with County staff to prepare a draft of the vision, mission and values based on Commission discussion, and background materials related to the issues identified by Commission members at Session I

Session II – February 19, 2018

- Review, refine and consensus-test draft vision, mission and values
- For each of the issues identified at Session I, including fiscal stability:
  - Review background information compiled by staff
  - Develop options for direction, including goals and objectives (short and long-term)
  - Initial consensus-testing of goals and objectives

Between sessions – Consortium will prepare a draft document reflecting Commission discussion and direction at Session II, and outlining draft goals and objectives.

Consortium staff will also meet with County senior and department staff to develop menus of potential short and long-term actions for each set of goals and objectives for Commission consideration at Session III. These meetings with County staff may be in workshop format.

Session III – March 19, 2018

- Confirm vision, mission and values
- Review, refine and consensus-test draft goals and objectives (long and short term).
- Initial discussion of prioritization among objectives.
- Initial discussion and consensus-testing of short and long-term action items.

Between sessions – Consortium will prepare a draft strategic plan, including action agendas, for Commission discussion and consideration at final meeting.
If needed, Consortium staff will also meet with County senior and department staff to further develop action agendas for goals and objectives.

**Session IV – April 9, 2018**

- Review, refine and consensus-test draft strategic plan and related documents, including:
  - Vision, mission and values
  - Goals and objectives (short and long-term), prioritized
  - Action items
- Discuss and agree on approaches to implementation.

**Final Reports – No later than** April 30, 2018

As requested by staff, the Consortium will prepare the following documents using the outcomes of the strategic planning process. The descriptions below are general. Consortium staff will coordinate intensively with County staff to ensure that the details of format and content for each of the documents meet county needs.

*Draft Flagler County Commission Strategic Plan* – This document will include all components of the strategic plan as developed in the Commission retreat process. (20 copies plus originals for further reproduction)

*Draft Implementation Plan* – This document will include the actions and activities to implement the strategic plan (short and long-term) developed in the retreat process. This material can be submitted as a stand-alone document, or as an appendix to the strategic plan, as preferred by County staff. (20 copies plus originals for further reproduction)

*Working Documents* – The Consortium will prepare agendas, worksheets and other supporting documents in advance of, and summaries after each session. A compilation of these documents will be delivered with the other documents outlined above. (5 copies plus originals.)
Costs

Initial Planning and Preparation $1600
   Interviews with Commission members (2 facilitators)
   Interviews with County staff
   Development of detailed process plan

Session I $2,400
   Preparation of supporting documents
   Facilitation of session discussions (2 facilitators)
   Drafting of summary report

Session II $2,400
   Preparation of supporting documents
   Facilitation of session discussions (2 facilitators)
   Drafting of summary report
   Meeting and coordination with County Staff

Session III $2,400
   Preparation of supporting documents
   Facilitation of session discussions (2 facilitators)
   Drafting of summary report
   Meeting and coordination with County Staff

Session IV $2,400
   Preparation of supporting documents
   Facilitation of session discussions (2 facilitators)
   Drafting of summary report
   Meeting and coordination with County Staff

Report Preparation and Production $1,600

Travel (5 trips from DeLand) $134
Travel (5 trips from Tallahassee) $1,500

Subtotal $14,434

University Overhead (21%) $3,031

TOTAL $17,465
TO: Board of County Commissioners

FROM: Craig M. Coffey, County Administrator

SUBJECT: Hurricane Matthew FEMA/FDEM Hurricane Update

DATE: 5 January 2018

Attached you will find a spreadsheet of all the County funding issues related to Hurricane Matthew. The spreadsheet covers monies we spent on response, debris, and a variety of other post-hurricane recovery issues, whether they were structures, roads, or hazardous trees, etc. The spreadsheet is organized into public assistance worksheets and provides details on the status of each project.

For the most part, we are finally in a good place in that the majority of our projects are written and are all at different stages within the process. The key is that they are in the process and moving along towards obligation. The funding has started to trickle in and some of the large amounts should be forthcoming within the next 60 days. As part of the workshop, an overview on each of projects in the spreadsheet will be provided.

On the FEMA side, we are sitting well and have mainly loose ends to wrap up with one major exception. The one major exception we have is with PPDR (Private Property Debris Removal). Our initial appeal was denied and we will be filing a second appeal by February 8th. We are currently organizing the document and will be seeking your support and that of our Federal legislative delegation on this issue. The PPDR is over a $536,381 issue for the County.

Our main issue primarily lies with the State, specifically with FDEM (Florida Department of Emergency Management). For us, the bottleneck has been there for the last 3 months. Once a project is obligated by FEMA, most of our interaction shifts to the State, where they were understaffed, inexperienced, and overwhelmed. However, I will say they have been making a lot of progress in their processes in recent months. While I believe there are still adjustments they need to make, to their credit it appears there is a process now and things are moving. They have added some outside assistance to facilitate with the backlog.

Attachment: FEMA/FDEM Worksheet
The document contains a table with various columns and rows, but the content is not clearly visible or legible in this view. It appears to be a project tracker or status report, possibly related to a specific project or set of tasks. The table includes columns such as Task Name, Escrow Amount, PW Title, Cost Breakout, and other data points that are typical for project management reports. The text is not legible enough to transcribe accurately.
<table>
<thead>
<tr>
<th>PM #</th>
<th>PM Title</th>
<th>Pmt</th>
<th>FY</th>
<th>FLAGLER COUNTY DR-4283 PROJECT TRACKER</th>
</tr>
</thead>
<tbody>
<tr>
<td>E 985</td>
<td>E98509</td>
<td>1</td>
<td>0</td>
<td>Road Island (12 sites)</td>
</tr>
<tr>
<td>E 992</td>
<td>E99211</td>
<td>1</td>
<td>0</td>
<td>Hammock Community Center</td>
</tr>
<tr>
<td>E 943</td>
<td>E94312</td>
<td>1</td>
<td>0</td>
<td>Flagler County Sheriff's Sub-Station</td>
</tr>
<tr>
<td>E 944</td>
<td>E94413</td>
<td>1</td>
<td>0</td>
<td>Flagler County Recreation Area (5 sites)</td>
</tr>
<tr>
<td>E 852</td>
<td>E85215</td>
<td>1</td>
<td>10</td>
<td>General Services Damaged Facilities-Insured</td>
</tr>
<tr>
<td>E 510</td>
<td>E51012</td>
<td>1</td>
<td>0</td>
<td>General Services Damaged Facilities-Non-Insured</td>
</tr>
<tr>
<td>E 477</td>
<td>E47718</td>
<td>1</td>
<td>0</td>
<td>UCC/Heath</td>
</tr>
<tr>
<td>F 840</td>
<td>F84015</td>
<td>1</td>
<td>78</td>
<td>County Owned Utilities (Water, Sewage, Beach, Energy Plants)</td>
</tr>
<tr>
<td>G 962</td>
<td>G96216</td>
<td>1</td>
<td>10</td>
<td>Park/pavilions</td>
</tr>
<tr>
<td>G 738</td>
<td>G73817</td>
<td>1</td>
<td>0</td>
<td>Beachfront Park ( döneminde)</td>
</tr>
<tr>
<td>G 745</td>
<td>G74518</td>
<td>1</td>
<td>0</td>
<td>Park Park (Sanctuary)</td>
</tr>
</tbody>
</table>