

Water Quality Matrix  
September 14, 2022

| Issue                     | Recommendation  | Cost                            | Owner   | Disposition  | Follow-up Action                     | Progress Expectation                              | Council Action? | Target for Council Action |                              |
|---------------------------|---|---------------------------------|---------|--|--------------------------------------|---|-----------------|---------------------------|------------------------------|
| <u>Internal Sediment</u>  | Sediment Removal - Dredging   | \$189,820,000                   | N/A     | Presumed Cost Prohibitive - Set                                | None                                 |   |                 |                           | Key                          |
| <u>Stormwater</u>         | a. Install shallow swale blocks to increase retention of runoff   | \$300/swale block               | Martin  | Implement  | Referred to Public Works Staff       | 25 swale-blocks at outfalls restored to date      | No              |                           | No Further Action Expected   |
| <u>Stormwater</u>         | b. Install denitrification beds beneath existing swales during maintenance or regrading projects                        | \$8400/100ft for media          | Gewirtz | Verify budget availability/Implement                           | Refer to Public Works Staff          | Prototype in design                               | No              |                           | Action Completed or Ongoing  |
| <u>Management</u>         | c. Continue current inlet filter system to assist in removing solids and debris from waterways                          | Included in current programming | Martin  | Continue current program/ lift moratorium on new installations | Public Works - Ongoing Program       | New vendor being sought, Suntime no longer exists | No              |                           | Preliminary Work in Progress |
| <u>Management</u>         | d. Consider stormwater management requirements for single-family homes such as rain gardens                             | Low                             | Gewirtz | Refer to: WAC, and Planning Board                              | Staff to produce prototype ordinance | Not approved by Planning Board or City Council    | Yes             |                           |                              |
| <u>Seepage Management</u> | Install denitrification beds adjacent to seawalls during repair or replacement; add to new seawalls during construction | \$27,000 per 100 ft of seawall  |         | Refer to WAC and Planning Board                                | Staff to produce prototype ordinance | Dismissed as cost-prohibitive                     |                 |                           |                              |

|                         |   |             |               |  |                                    |   |     |     |
|-------------------------|---|-------------|---------------|--|------------------------------------|---|-----|-----|
| <u>Reuse Irrigation</u> | a. Evaluate alternative methods for reuse disposal which do not increase loadings to groundwater or surface water                       | Unknown     | Poteet        | Commissioned Jakobs Engineering Report | Report Completed and Delivered     | Recommendations under study relative to Dr. Harper's report                                   | Yes | TBD |
|                         | b. Conduct routine inspection and repair of the reuse irrigation system to prevent areas of overspray                                   | Unknown     | Poteet/Martin | Utilities/Public Works Staff           | Begin Immediately                  | 1) Review of medians completed, adjustments ordered<br>2) Condo zone inspections 50% complete | No  |     |
|                         | c. Provide an educational program to inform residents about nutrients contained in reuse irrigation and potential water quality impacts | Unknown     | Poteet        | Staff/WAC                              |                                    | Materials in use  | No  |     |
| <u>Golf Course</u>      | a. Evaluate Potential reduction in irrigation rates<br>b. Reduce fertilizer applications to account for nutrients in irrigation         | Unknown/Low | Poteet        | Utilities Staff                        | Staff to work with NICC staff      | a. Completed<br>b. Completed  |     |     |
|                         | a. Locate and clean existing interconnecting culverts, if present   | Unkown      | Martin        |  | Staff to identify actual locations | Building inventory of how many and where they are   |     |     |

|                             |   |              |                  |                    |                             |   |     |     |
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| <u>Recirculation</u>        | b. Conduct a hydraulic study to identify optimum areas for interconnecting culverts to increase recirculation   | Unknown/high | Martin           |                    |                             | Recommending seeking State funding for hydraulic study      |     |     |
|                             | c. Install additional culverts, as necessary  | Unknown/high | Martin           |                    | In Design                   | TBD   |     |     |
| <u>Street Sweeping</u>      | City to Purchase regenerative air sweeper in 2022; increase sweeping to all city streets                        | Low          | Martin           | Public Works Staff | In 2021/2022 Adopted Budget | Purchase Order issued, delivery summer 2022                 | Yes |     |
| <u>Fertilizer Ordinance</u> | a. Assist retailers with educational signage regarding summer season ban  | Low          | Grigsby          | Staff/WAC          |                             | In Place by 05/2023   | No  |     |
|                             | b. Increase enforcement and revoke license from repeat offenders  | Low          | Code Enforcement | Staff/WAC/BAC      |                             | Targeted enforcement continues weekly                       | Yes | TBD |
|                             | c. Modify ordinance to require consideration of nutrients in reuse  | Low          | Grigsby          | Staff/WAC/BAC      |                             | Recommending eliminating as unenforceable through ordinance | Yes | TBD |
| <u>Public Education</u>     | a. Conduct public education program to inform residents of link between personal activities and water pollution |              | Grigsby          | Staff/WAC/BCRAC    |                             | In Development  | No  |     |

|                                 |   |             |         |                        |  |   |     |        |
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| <u>Public Education</u>         | b. Conduct a dedicated educational program regarding responsible fertilizer use   |             | Grigsby | Staff/WAC/BAC          |  | In Development  | No  |        |
| <u>Stormwater Utility</u>       | Adopt a Stormwater Utility to provide a dedicated funding source for water quality improvement projects   | Unknown/Low | McNees  | Staff/WAC              | Staff to identify appropriate party to present an overview to City Council | TBD   | Yes |        |
| <u>Regulatory Issues</u>        | The City should submit documentation for a 4e designation which would allow the City to control the process rather than DEP   | Low         | Martin  | Public Works Staff     | Work with DEP to outline process   | 4e process initiated  | TBD |        |
| <u>Water Quality Monitoring</u> | a. The City should continue the current monthly monitoring program to provide documentation on water quality improvements; improvements are recommended to enhance the existing program | Low         | Martin  | Public Works staff/WAC | In 2022/2023 Budget  | Adding additional offshore and upriver sampling for 2022/2023 | Yes | Feb-22 |
| <u>Water Quality Monitoring</u> | b. Contract with a qualified water quality consultant to conduct annual reviews of data and trends and provide guidance on implementation of water quality improvement projects         | Low         | Martin  | Public Works staff/WAC | Develop Proposal   | TBD   | Yes | TBD    |