

## Impact Water Quality Monitoring for Dredging Activities at ESC CMP Vd

| Sampling Date | Tide | Station | Time     | Depth | Depth (m) | Current Direction | Current Velocity (m/s) | Water Temp (°C) | Salinity (ppt) | D.O. Saturation (%) | D.O. (mg/L) | Turbidity (NTU) | pH   | SS (mg/L) |
|---------------|------|---------|----------|-------|-----------|-------------------|------------------------|-----------------|----------------|---------------------|-------------|-----------------|------|-----------|
| 2016/02/15    | MF   | MW1     | 0.452824 | B     | 18.8      | 148.8             | 0.11                   | 16.36           | 29.88          | 92.81               | 7.58        | 3.33            | 8    | 6.20      |
| 2016/02/15    | MF   | MW1     | 0.453773 | M     | 10.7      | 91                | 0.4                    | 16.37           | 29.62          | 92.81               | 7.59        | 2.83            | 7.91 | 4.00      |
| 2016/02/15    | MF   | MW1     | 0.454444 | T     | 0.8       | 271.9             | 0.52                   | 16.37           | 29.16          | 92.6                | 7.6         | 2.23            | 7.87 | 7.10      |
| 2016/02/15    | MF   | MW1     | 0.455417 | B     | 19        | 67.7              | 0.11                   | 16.36           | 29.88          | 92.59               | 7.57        | 3.23            | 7.85 | 6.40      |
| 2016/02/15    | MF   | MW1     | 0.456181 | M     | 10.5      | 17.4              | 0.4                    | 16.36           | 29.72          | 92.79               | 7.59        | 2.83            | 7.84 | 4.10      |
| 2016/02/15    | MF   | MW1     | 0.456794 | T     | 1.1       | 268.5             | 0.53                   | 16.37           | 29.15          | 92.59               | 7.6         | 1.93            | 7.83 | 6.80      |
| 2016/02/15    | MF   | DS1     | 0.50912  | B     | 7         | 245.5             | 0.26                   | 16.85           | 27.67          | 94.73               | 7.77        | 7.23            | 7.91 | 8.20      |
| 2016/02/15    | MF   | DS1     | 0.509606 | M     | 4.5       | 290.1             | 0.18                   | 16.9            | 27.44          | 92.43               | 7.58        | 7.03            | 7.91 | 8.80      |
| 2016/02/15    | MF   | DS1     | 0.510127 | T     | 1.1       | 256.5             | 0.39                   | 16.88           | 26.26          | 94.72               | 7.83        | 3.33            | 7.92 | 4.70      |
| 2016/02/15    | MF   | DS1     | 0.510671 | B     | 6.8       | 160.6             | 0.76                   | 16.86           | 27.63          | 92.03               | 7.55        | 7.03            | 7.91 | 7.80      |
| 2016/02/15    | MF   | DS1     | 0.511169 | M     | 4.4       | 270               | 0.09                   | 16.9            | 27.44          | 91.73               | 7.53        | 6.73            | 7.92 | 8.70      |
| 2016/02/15    | MF   | DS1     | 0.51169  | T     | 1.2       | 128.7             | 0.58                   | 16.85           | 26.15          | 94.81               | 7.85        | 3.13            | 7.93 | 4.90      |
| 2016/02/15    | MF   | DS2     | 0.516181 | B     | 6.8       | 140.6             | 0.42                   | 16.92           | 27.06          | 94.58               | 7.78        | 5.13            | 7.92 | 12.30     |
| 2016/02/15    | MF   | DS2     | 0.516713 | M     | 4.5       | 312.2             | 0.93                   | 16.93           | 27.08          | 92.69               | 7.62        | 6.63            | 7.92 | 8.40      |
| 2016/02/15    | MF   | DS2     | 0.517014 | T     | 1.1       | 96.4              | 0.53                   | 16.95           | 26.92          | 92.88               | 7.64        | 8.43            | 7.92 | 6.30      |
| 2016/02/15    | MF   | DS2     | 0.518553 | B     | 6.6       | 26.1              | 0.42                   | 16.9            | 27.37          | 91.68               | 7.53        | 7.33            | 7.92 | 12.30     |
| 2016/02/15    | MF   | DS2     | 0.519051 | M     | 4.6       | 121.6             | 0.15                   | 16.91           | 27.32          | 91.68               | 7.53        | 6.63            | 7.93 | 8.10      |
| 2016/02/15    | MF   | DS2     | 0.519583 | T     | 1.1       | 192.5             | 0.18                   | 16.88           | 26.46          | 93.56               | 7.73        | 3.63            | 7.93 | 6.70      |
| 2016/02/15    | MF   | DS3     | 0.52294  | B     | 6.9       | 342.4             | 0.51                   | 16.95           | 26.81          | 93.64               | 7.71        | 4.43            | 7.91 | 4.80      |
| 2016/02/15    | MF   | DS3     | 0.523819 | M     | 4.4       | 295.6             | 0.31                   | 16.94           | 26.78          | 93.04               | 7.66        | 4.03            | 7.92 | 4.50      |
| 2016/02/15    | MF   | DS3     | 0.524352 | T     | 0.9       | 14.4              | 0.37                   | 16.82           | 25.84          | 94.82               | 7.87        | 2.93            | 7.93 | 6.60      |
| 2016/02/15    | MF   | DS3     | 0.524873 | B     | 6.8       | 308.5             | 0.26                   | 16.95           | 26.83          | 92.83               | 7.64        | 4.13            | 7.9  | 4.90      |
| 2016/02/15    | MF   | DS3     | 0.52537  | M     | 4.7       | 342.2             | 0.39                   | 16.95           | 26.53          | 93.03               | 7.67        | 3.83            | 7.91 | 4.60      |
| 2016/02/15    | MF   | DS3     | 0.525891 | T     | 0.8       | 334.6             | 0.4                    | 16.8            | 25.8           | 94.21               | 7.82        | 2.83            | 7.92 | 7.10      |
| 2016/02/15    | MF   | DS4     | 0.530139 | B     | 8.1       | 79.5              | 0.96                   | 16.5            | 28.36          | 93.49               | 7.69        | 21.23           | 7.92 | 18.50     |
| 2016/02/15    | MF   | DS4     | 0.530961 | M     | 5.2       | 314.3             | 0.77                   | 16.78           | 26.94          | 93.29               | 7.7         | 8.13            | 7.93 | 9.80      |
| 2016/02/15    | MF   | DS4     | 0.531505 | T     | 1.2       | 322.6             | 0.77                   | 16.82           | 25.48          | 95.57               | 7.95        | 3.03            | 7.93 | 3.60      |
| 2016/02/15    | MF   | DS4     | 0.53206  | B     | 8.2       | 96.7              | 0.83                   | 16.46           | 28.52          | 92.48               | 7.61        | 20.63           | 7.92 | 19.80     |
| 2016/02/15    | MF   | DS4     | 0.53265  | M     | 5         | 40.5              | 0.45                   | 16.78           | 26.93          | 93.08               | 7.68        | 8.63            | 7.93 | 10.60     |
| 2016/02/15    | MF   | DS4     | 0.533356 | T     | 1         | 326.8             | 0.88                   | 16.83           | 25.55          | 95.46               | 7.93        | 2.93            | 7.93 | 3.80      |
| 2016/02/15    | MF   | DS5     | 0.538924 | B     | 7.7       | 27.2              | 0.51                   | 16.27           | 29.18          | 93.33               | 7.67        | 24.53           | 7.95 | 21.50     |
| 2016/02/15    | MF   | DS5     | 0.539537 | M     | 5.1       | 333.5             | 1.18                   | 16.84           | 26.12          | 94.12               | 7.79        | 6.23            | 7.94 | 6.70      |
| 2016/02/15    | MF   | DS5     | 0.540058 | T     | 0.8       | 300.3             | 0.87                   | 16.83           | 25.45          | 94.12               | 7.83        | 5.93            | 7.94 | 4.00      |
| 2016/02/15    | MF   | DS5     | 0.540775 | B     | 7.8       | 313.1             | 0.24                   | 16.27           | 29.18          | 93.42               | 7.68        | 20.33           | 7.94 | 21.00     |
| 2016/02/15    | MF   | DS5     | 0.541435 | M     | 4.9       | 326.3             | 0.54                   | 16.83           | 25.88          | 94.51               | 7.84        | 5.03            | 7.94 | 6.90      |
| 2016/02/15    | MF   | DS5     | 0.54206  | T     | 1.1       | 36.1              | 0.86                   | 16.8            | 25.4           | 96.29               | 8.02        | 2.73            | 7.93 | 4.20      |
| 2016/02/15    | MF   | US1     | 0.552917 | B     | 6.9       | 150.5             | 0.1                    | 16.65           | 27.95          | 92.84               | 7.63        | 6.33            | 7.9  | 7.20      |
| 2016/02/15    | MF   | US1     | 0.553484 | M     | 4.6       | 221.2             | 0.27                   | 16.62           | 27.75          | 93.04               | 7.66        | 4.73            | 7.9  | 5.10      |
| 2016/02/15    | MF   | US1     | 0.554294 | T     | 1.2       | 226.9             | 0.56                   | 16.73           | 26.65          | 94.32               | 7.8         | 3.53            | 7.91 | 5.10      |
| 2016/02/15    | MF   | US1     | 0.554931 | B     | 7         | 189.2             | 0.14                   | 16.68           | 27.98          | 92.23               | 7.58        | 6.33            | 7.9  | 7.00      |
| 2016/02/15    | MF   | US1     | 0.555359 | M     | 4.4       | 256.2             | 0.35                   | 16.61           | 27.76          | 92.43               | 7.61        | 4.93            | 7.9  | 5.20      |
| 2016/02/15    | MF   | US1     | 0.555984 | T     | 1         | 267.8             | 0.6                    | 16.7            | 26.62          | 94.51               | 7.82        | 3.83            | 7.91 | 4.80      |
| 2016/02/15    | MF   | US2     | 0.558866 | B     | 8.2       | 240.1             | 0.65                   | 16.56           | 28.24          | 93.6                | 7.69        | 5.63            | 7.89 | 7.80      |
| 2016/02/15    | MF   | US2     | 0.559676 | M     | 5         | 301.1             | 0.13                   | 16.63           | 27.3           | 93.59               | 7.73        | 4.43            | 7.91 | 6.50      |
| 2016/02/15    | MF   | US2     | 0.560162 | T     | 0.9       | 145.6             | 0.38                   | 16.65           | 26.68          | 94.58               | 7.84        | 3.63            | 7.91 | 5.30      |
| 2016/02/15    | MF   | US2     | 0.560775 | B     | 8.1       | 282.3             | 0.25                   | 16.56           | 28.29          | 93.48               | 7.68        | 4.83            | 7.91 | 7.60      |
| 2016/02/15    | MF   | US2     | 0.561215 | M     | 5         | 329.9             | 0.38                   | 16.57           | 27.84          | 92.79               | 7.64        | 4.93            | 7.91 | 6.40      |
| 2016/02/15    | MF   | US2     | 0.561863 | T     | 1         | 333.5             | 0.24                   | 16.65           | 26.67          | 94.57               | 7.83        | 3.63            | 7.92 | 5.20      |
| 2016/02/15    | ME   | DS      | 0.733576 | M     | 5.1       | 33                | 0.83                   | 16.6            | 28.19          | 92.6                | 7.61        | 13.03           | 8.01 | 0.00      |
| 2016/02/15    | ME   | DS      | 0.734097 | M     | 4.8       | 57.1              | 0.73                   | 16.61           | 28.11          | 91.8                | 7.55        | 17.23           | 7.91 | 0.00      |
| 2016/02/15    | ME   | US      | 0.736806 | M     | 4         | 12.3              | 0.42                   | 16.68           | 27.87          | 92.76               | 7.62        | 6.33            | 7.77 | 0.00      |
| 2016/02/15    | ME   | US      | 0.737407 | M     | 4         | 47.9              | 0.41                   | 16.65           | 27.95          | 92.15               | 7.58        | 9.43            | 7.81 | 0.00      |
| 2016/02/15    | ME   | US2     | 0.742755 | B     | 7.1       | 250.3             | 0.17                   | 16.21           | 29.06          | 96.57               | 7.95        | 12.63           | 7.75 | 16.80     |
| 2016/02/15    | ME   | US2     | 0.743241 | M     | 4.6       | 309.6             | 0.45                   | 16.53           | 27.55          | 95.37               | 7.88        | 4.93            | 7.8  | 12.90     |
| 2016/02/15    | ME   | US2     | 0.74375  | T     | 1.1       | 179.2             | 0.69                   | 16.56           | 26.93          | 95.16               | 7.89        | 3.33            | 7.81 | 4.30      |
| 2016/02/15    | ME   | US2     | 0.744248 | B     | 7         | 317.3             | 0.72                   | 16.19           | 29.04          | 94.86               | 7.82        | 11.83           | 7.83 | 16.40     |
| 2016/02/15    | ME   | US2     | 0.744711 | M     | 4.6       | 157.1             | 0.64                   | 16.56           | 27.39          | 94.85               | 7.84        | 4.43            | 7.84 | 12.80     |
| 2016/02/15    | ME   | US2     | 0.745313 | T     | 1.1       | 209.5             | 0.12                   | 16.54           | 26.92          | 95.04               | 7.88        | 3.23            | 7.84 | 4.00      |

Impact Water Quality Monitoring for Dredging Activities at ESC CMP Vd

|            |    |     |          |   |      |       |      |       |       |       |      |       |      |       |
|------------|----|-----|----------|---|------|-------|------|-------|-------|-------|------|-------|------|-------|
| 2016/02/15 | ME | US1 | 0.751597 | B | 5.9  | 21.6  | 0.78 | 16.41 | 28.17 | 93.96 | 7.75 | 8.93  | 7.85 | 10.90 |
| 2016/02/15 | ME | US1 | 0.751991 | M | 4.1  | 131   | 0.85 | 16.6  | 27.45 | 94.06 | 7.76 | 4.23  | 7.84 | 9.00  |
| 2016/02/15 | ME | US1 | 0.7525   | T | 0.9  | 18.8  | 0.31 | 16.58 | 27.06 | 93.95 | 7.78 | 4.03  | 7.85 | 4.40  |
| 2016/02/15 | ME | US1 | 0.753056 | B | 6    | 103.2 | 0.61 | 16.32 | 28.77 | 93.74 | 7.72 | 14.93 | 7.85 | 10.80 |
| 2016/02/15 | ME | US1 | 0.753414 | M | 4    | 345.3 | 0.3  | 16.55 | 27.46 | 94.24 | 7.79 | 5.53  | 7.86 | 9.30  |
| 2016/02/15 | ME | US1 | 0.753912 | T | 1    | 130.3 | 0.37 | 16.59 | 27.05 | 94.43 | 7.81 | 3.03  | 7.85 | 4.40  |
| 2016/02/15 | ME | DS1 | 0.757535 | B | 6.9  | 83.5  | 0.62 | 16.6  | 28.03 | 94.58 | 7.78 | 16.13 | 7.74 | 5.20  |
| 2016/02/15 | ME | DS1 | 0.75809  | M | 4.7  | 177.2 | 1.25 | 16.63 | 27.84 | 92.98 | 7.65 | 9.93  | 7.79 | 6.00  |
| 2016/02/15 | ME | DS1 | 0.758646 | T | 0.9  | 83.5  | 0.33 | 16.6  | 27.37 | 93.57 | 7.73 | 3.03  | 7.81 | 5.70  |
| 2016/02/15 | ME | DS1 | 0.759178 | B | 6.9  | 323.5 | 0.18 | 16.6  | 28.09 | 92.27 | 7.59 | 20.03 | 7.82 | 5.10  |
| 2016/02/15 | ME | DS1 | 0.759838 | M | 4.5  | 87.8  | 0.38 | 16.63 | 27.64 | 92.66 | 7.63 | 7.23  | 7.83 | 5.70  |
| 2016/02/15 | ME | DS1 | 0.76037  | T | 1    | 14.1  | 0.47 | 16.59 | 27.42 | 93.54 | 7.72 | 3.53  | 7.84 | 5.70  |
| 2016/02/15 | ME | DS2 | 0.763634 | B | 7.9  | 113.6 | 0.74 | 16.61 | 28.16 | 93.1  | 7.65 | 6.93  | 7.75 | 5.20  |
| 2016/02/15 | ME | DS2 | 0.764363 | M | 4.8  | 84.8  | 0.19 | 16.65 | 27.77 | 92    | 7.57 | 7.83  | 7.8  | 3.20  |
| 2016/02/15 | ME | DS2 | 0.764977 | T | 1    | 183.9 | 0.13 | 16.53 | 27.3  | 93.68 | 7.75 | 3.33  | 7.82 | 5.50  |
| 2016/02/15 | ME | DS2 | 0.765544 | B | 8.1  | 65    | 0.96 | 16.61 | 28.15 | 91.69 | 7.53 | 8.33  | 7.82 | 5.40  |
| 2016/02/15 | ME | DS2 | 0.766053 | M | 5    | 140.5 | 0.28 | 16.64 | 27.7  | 91.88 | 7.57 | 9.63  | 7.83 | 3.20  |
| 2016/02/15 | ME | DS2 | 0.766713 | T | 1    | 133   | 0.92 | 16.57 | 27.37 | 93.36 | 7.71 | 3.53  | 7.84 | 5.60  |
| 2016/02/15 | ME | DS3 | 0.770243 | B | 6.7  | 105.3 | 0.16 | 16.58 | 28.21 | 92.52 | 7.6  | 3.43  | 7.79 | 6.10  |
| 2016/02/15 | ME | DS3 | 0.770995 | M | 4.4  | 78.1  | 0.64 | 16.61 | 27.86 | 92.21 | 7.59 | 3.43  | 7.82 | 5.70  |
| 2016/02/15 | ME | DS3 | 0.77162  | T | 0.9  | 131.4 | 0.89 | 16.58 | 27.41 | 93.1  | 7.69 | 4.43  | 7.83 | 4.90  |
| 2016/02/15 | ME | DS3 | 0.772095 | B | 6.9  | 341.5 | 0.41 | 16.58 | 28.35 | 91.6  | 7.52 | 4.23  | 7.83 | 6.20  |
| 2016/02/15 | ME | DS3 | 0.772535 | M | 4.4  | 51.8  | 0.59 | 16.61 | 27.8  | 91.99 | 7.58 | 4.63  | 7.84 | 5.80  |
| 2016/02/15 | ME | DS3 | 0.773032 | T | 1.1  | 349.6 | 0.23 | 16.55 | 27.34 | 93.08 | 7.7  | 4.23  | 7.85 | 4.80  |
| 2016/02/15 | ME | DS4 | 0.776227 | B | 6    | 69.3  | 0.74 | 16.54 | 28.48 | 94.62 | 7.77 | 4.43  | 7.75 | 15.80 |
| 2016/02/15 | ME | DS4 | 0.776863 | M | 3.7  | 83.2  | 1.04 | 16.55 | 27.87 | 93.03 | 7.67 | 3.73  | 7.82 | 5.50  |
| 2016/02/15 | ME | DS4 | 0.777442 | T | 1.1  | 153.5 | 0.54 | 16.57 | 27.38 | 93.42 | 7.72 | 4.03  | 7.84 | 4.90  |
| 2016/02/15 | ME | DS4 | 0.778021 | B | 5.8  | 142.2 | 0.25 | 16.54 | 28.52 | 91.42 | 7.51 | 4.13  | 7.84 | 16.20 |
| 2016/02/15 | ME | DS4 | 0.778519 | M | 4    | 108.1 | 0.91 | 16.57 | 28.01 | 92.11 | 7.58 | 3.73  | 7.84 | 5.60  |
| 2016/02/15 | ME | DS4 | 0.77897  | T | 1.1  | 329.6 | 0.74 | 16.58 | 27.42 | 92.9  | 7.67 | 4.13  | 7.85 | 4.60  |
| 2016/02/15 | ME | DS5 | 0.782824 | B | 8.9  | 283.6 | 0.21 | 16.49 | 28.87 | 91.36 | 7.49 | 3.53  | 7.8  | 15.70 |
| 2016/02/15 | ME | DS5 | 0.783299 | M | 5.6  | 121.4 | 0.27 | 16.55 | 28.15 | 92.05 | 7.57 | 2.83  | 7.82 | 9.20  |
| 2016/02/15 | ME | DS5 | 0.783762 | T | 1.1  | 90.1  | 0.51 | 16.55 | 27.45 | 92.04 | 7.6  | 2.83  | 7.84 | 5.10  |
| 2016/02/15 | ME | DS5 | 0.784456 | B | 9    | 90.7  | 0.86 | 16.49 | 28.9  | 90.84 | 7.45 | 3.53  | 7.83 | 15.20 |
| 2016/02/15 | ME | DS5 | 0.785    | M | 5.4  | 223.7 | 0.18 | 16.56 | 28.1  | 91.83 | 7.56 | 3.23  | 7.84 | 9.30  |
| 2016/02/15 | ME | DS5 | 0.785637 | T | 1.2  | 110.5 | 0.82 | 16.53 | 27.54 | 92.91 | 7.68 | 3.33  | 7.84 | 4.90  |
| 2016/02/15 | ME | MW1 | 0.81691  | B | 19   | 236.8 | 0.78 | 16.29 | 29.82 | 92.4  | 7.56 | 2.23  | 7.82 | 4.50  |
| 2016/02/15 | ME | MW1 | 0.817465 | M | 10.6 | 133.1 | 0.87 | 16.28 | 29.77 | 92.2  | 7.55 | 1.93  | 7.85 | 3.80  |
| 2016/02/15 | ME | MW1 | 0.818113 | T | 0.9  | 66.3  | 0.94 | 16.12 | 28.52 | 93.27 | 7.72 | 1.93  | 7.88 | 3.30  |
| 2016/02/15 | ME | MW1 | 0.818981 | B | 19.3 | 252.5 | 0.06 | 16.29 | 29.84 | 91.39 | 7.48 | 1.93  | 7.88 | 4.40  |
| 2016/02/15 | ME | MW1 | 0.819641 | M | 10.8 | 72.2  | 1.06 | 16.29 | 29.84 | 91.77 | 7.51 | 1.73  | 7.88 | 3.90  |
| 2016/02/15 | ME | MW1 | 0.820208 | T | 0.9  | 81.6  | 0.93 | 16.21 | 28.73 | 92.85 | 7.66 | 2.03  | 7.89 | 3.20  |