2008 Permit

# SALTWATER AND TRANSITION ZONES
# WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Norview Marina.
Receiving Stream: Broad Creek

Permit No.: VA0087611

Version: OWP Guidance Memo 00-2011 (8/24/00)

## Stream Information

| | | |
|---|---|---|
| Mean Hardness (as CaCO3) = | NA | mg/l |
| 90th % Temperature (Annual) = | 28.1 | (° C) |
| 90th % Temperature (Winter) = | NA-no tieri | (° C) |
| 90th % Maximum pH = | 8.1 | |
| 10th % Maximum pH = | 7.4 | |
| Tier Designation (1 or 2) = | 1 | |
| Early Life Stages Present Y/N = | Y | |
| Tidal Zone = | 1 | (1 = saltwater, 2 = transition zone) |
| Mean Salinity = | 15.8 | (g/kg) |

## Mixing Information

| | |
|---|---|
| Design Flow (MGD) | 0.2 |
| Acute WLA multiplier | 2 |
| Chronic WLA multiplier | 50 |
| Human health WLA multiplier | 50 |

## Effluent Information

| | | |
|---|---|---|
| Mean Hardness (as CaCO3) = | NA | mg/L |
| 90 % Temperature (Annual) = | 28.1 | (° C) |
| 90 % Temperature (Winter) = | NA-not tiere | (° C) |
| 90 % Maximum pH = | 8.1 | SU |
| 10 % Maximum pH = | NA | SU |
| Discharge Flow = | 0.2 | MGD |

| Parameter | Background | Water Quality Criteria | | | Wasteload Allocations | | | Antidegradation Baseline | | | Antidegradation Allocations | | | **Most Limiting Allocations** | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (ug/l unless noted) | Conc. | Acute | Chronic | HH | Acute | Chronic | HH | Acute | Chronic | HH | Acute | Chronic | HH | **Acute** | **Chronic** | **HH** |
| Acenapthene | 0 | -- | -- | 2.7E+03 | -- | -- | 1.4E+05 | -- | -- | -- | -- | -- | -- | -- | -- | **1.4E+05** |
| Acrolein | | -- | -- | 7.8E+02 | -- | -- | 3.9E+04 | -- | -- | -- | -- | -- | -- | -- | -- | **3.9E+04** |
| Acrylonitrile[c] | | -- | -- | 6.6E+00 | -- | -- | 3.3E+02 | -- | -- | -- | -- | -- | -- | -- | -- | **3.3E+02** |
| Aldrin [c] | 0 | 1.3E+00 | -- | 1.4E-03 | 2.6E+00 | -- | 7.0E-02 | -- | -- | -- | -- | -- | -- | **2.6E+00** | -- | **7.0E-02** |
| Ammonia-N (mg/l) - Annual | 0 | 2.4E+00 | 3.8E-01 | -- | 4.8E+00 | 1.9E+01 | -- | -- | -- | -- | -- | -- | -- | **4.8E+00** | **1.9E+01** | -- |
| Ammonia-N (mg/l) - Winter | 0 | ####### | ####### | -- | #VALUE! | #VALUE! | -- | -- | -- | -- | -- | -- | -- | **#VALUE!** | **#VALUE!** | -- |
| Anthracene | 0 | -- | -- | 1.1E+05 | -- | -- | 5.5E+06 | -- | -- | -- | -- | -- | -- | -- | -- | **5.5E+06** |
| Antimony | 0 | -- | -- | 4.3E+03 | -- | -- | 2.2E+05 | -- | -- | -- | -- | -- | -- | -- | -- | **2.2E+05** |
| Arsenic | 0 | 6.9E+01 | 3.6E+01 | -- | 1.4E+02 | 1.8E+03 | -- | -- | -- | -- | -- | -- | -- | **1.4E+02** | **1.8E+03** | -- |
| Benzene [c] | 0 | -- | -- | 7.1E+02 | -- | -- | 3.6E+04 | -- | -- | -- | -- | -- | -- | -- | -- | **3.6E+04** |
| Benzidine[c] | | -- | -- | 5.4E-03 | -- | -- | 2.7E-01 | -- | -- | -- | -- | -- | -- | -- | -- | **2.7E-01** |
| Benzo (a) anthracene [c] | 0 | -- | -- | 4.9E-01 | -- | -- | 2.5E+01 | -- | -- | -- | -- | -- | -- | -- | -- | **2.5E+01** |
| Benzo (b) fluoranthene [c] | 0 | -- | -- | 4.9E-01 | -- | -- | 2.5E+01 | -- | -- | -- | -- | -- | -- | -- | -- | **2.5E+01** |
| Benzo (k) fluoranthene [c] | 0 | -- | -- | 4.9E-01 | -- | -- | 2.5E+01 | -- | -- | -- | -- | -- | -- | -- | -- | **2.5E+01** |
| Benzo (a) pyrene [c] | 0 | -- | -- | 4.9E-01 | -- | -- | 2.5E+01 | -- | -- | -- | -- | -- | -- | -- | -- | **2.5E+01** |
| Bis2-Chloroethyl Ether | | -- | -- | 1.4E+01 | -- | -- | 7.0E+02 | -- | -- | -- | -- | -- | -- | -- | -- | **7.0E+02** |
| Bis2-Chloroisopropyl Ether | | -- | -- | 1.7E+05 | -- | -- | 8.5E+06 | -- | -- | -- | -- | -- | -- | -- | -- | **8.5E+06** |
| Bromoform [c] | 0 | -- | -- | 3.6E+03 | -- | -- | 1.8E+05 | -- | -- | -- | -- | -- | -- | -- | -- | **1.8E+05** |
| Butylbenzylphthalate | 0 | -- | -- | 5.2E+03 | -- | -- | 2.6E+05 | -- | -- | -- | -- | -- | -- | -- | -- | **2.6E+05** |
| Cadmium | 0 | 4.0E+01 | 8.8E+00 | -- | 8.0E+01 | 4.4E+02 | -- | -- | -- | -- | -- | -- | -- | **8.0E+01** | **4.4E+02** | -- |
| Carbon Tetrachloride [c] | 0 | -- | -- | 4.4E+01 | -- | -- | 2.2E+03 | -- | -- | -- | -- | -- | -- | -- | -- | **2.2E+03** |
| Chlordane [c] | 0 | 9.0E-02 | 4.0E-03 | 2.2E-02 | 1.8E-01 | 2.0E-01 | 1.1E+00 | -- | -- | -- | -- | -- | -- | **1.8E-01** | **2.0E-01** | **1.1E+00** |
| TRC | 0 | | | -- | | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorine Prod. Oxidant | 0 | 1.3E+01 | 7.5E+00 | -- | 2.6E+01 | 3.8E+02 | -- | -- | -- | -- | -- | -- | -- | **2.6E+01** | **3.8E+02** | -- |

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Facility = Norview Marina
Chemical = ammonia
Chronic averaging period = 30
WLAa = 4.8
WLAc = 19
Q.L. = 0.2
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

# observations = 1
Expected Value = 9
Variance = 29.16
C.V. = 0.6
97th percentile daily values = 21.9007
97th percentile 4 day average = 14.9741
97th percentile 30 day average= 10.8544
# < Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity
Maximum Daily Limit = 4.8
Average Weekly limit = 4.8
Average Monthly LImit = 4.8

The data are:

9.0

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Facility = Norview Marina
Chemical = Chlorine
Chronic averaging period = 4
WLAa = 26
WLAc = 380
Q.L. = 100
# samples/mo. = 30
# samples/wk. = 8

Summary of Statistics:

# observations = 1
Expected Value = 20000
Variance = 1440000
C.V. = 0.6
97th percentile daily values = 48668.3
97th percentile 4 day average = 33275.8
97th percentile 30 day average= 24121.0
# < Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity
Maximum Daily Limit = 26
Average Weekly limit = 15.5091322334578
Average Monthly LImit = 12.8861502605597

The data are:

20000