

14. WATER

- A. Describe the existing hydrologic conditions (both ground and surface water) on and abutting the site, including identification and discussion of any potential aquifer recharge areas. Please identify and describe any Outstanding Florida Waters, Wild and Scenic Rivers, Florida Aquatic Preserves or Florida Class I or II Waters that occur within, abutting or downstream of the site.**

The site is located in an area that has been the subject of previous development and intense urbanization and therefore most of the site is drained pursuant to the stormwater management features that have been constructed as part of the urbanization process. Generally, the project site consists of previously constructed roadways, residential lots and commercial or industrial developed lands with stormwater swales, gutters and underground pipes and culverts. The only surface water area within the limits of the project site is the North Fork of the New River that is a tidal river. This river is located generally offsite in the extreme northeast corner of the project area and has a mean surface elevation of approximately 0.0 NGVD (National Geodetic Vertical Datum). This river has an estimated mean tide range of **2.5** feet in the area of the project and is completely isolated from the project by berms that are designed to contain all of the site stormwater within the project for treatment prior to discharge according to state and local permits. The ground water in the area generally flows to the river due to the natural gradient in this area and elevations of the ground water are generally in the range of approximately 0 NGVD. No (Outstanding Florida Waters) OFWs, Wild and Scenic Rivers, Aquatic Preserves or Florida Class I or II waters are found within, downstream or abutting the project.

- B. Describe, in terms of appropriate water quality parameters, the existing ground and surface water quality conditions on and abutting the site. (The appropriate parameters and methodology should be agreed to by the regional planning council and other reviewing agencies at the preapplication conference stage.)**

The surface water quality parameters are shown in the attached most recent Broward County Ambient Water Quality Monitoring Report (dated "Sample Year 2008". The report contains surface water monitoring data from Ambient Water Quality Monitoring Station Number 16, which is located approximately 3,500 feet upstream at the Broward Boulevard Bridge over the North Fork of the New River. The Broward County report is included in Appendix 14-1.

- C. Describe the measures which will be used to mitigate (or avoid where possible) potential adverse effects upon ground and surface water quality, including any resources identified in Sub question A.**

The project will employ the most stringent stormwater management and erosion control features as part of the permanent development and the temporary construction activities on the site. These features will include, but not necessarily be limited to, swales, vegetated berms and strips, sediment basins and chambers, turbidity and silt fences, grassing of erodible earth and installation of significantly more landscape vegetation than the minimum requirements. The temporary erosion control features will be installed before site clearing activities and maintained in good serviceable working order until all erodible earth in the drainage area is protected. All permanent grassing items, site vegetation and other erosion control measures associated with the project will be maintained in serviceable condition during the life of the project to minimize erosion and offsite sedimentation resulting from the project.

**Appendix 14-1
Broward County
Ambient Water Quality
Monitoring Report**

Riverbend DRI Broward County Surface Water Quality - New River

BROWARD COUNTY SURFACE WATER DATA
SAMPLE YEAR = 2008

Data Qualifier Codes (DQC) - Definitions:

- B** = Results based on colony counts outside the ideal range
- M** = Presence verified but not quantified - Estimated Value
- U** = Not Detected
- T** = Result is greater than the MDL but less than the practical quantitation limit
- DQC** = Estimated value - sample exceeded holding time
- V** = Indicates analyte detected in both sample and method blank
- L** = Too numerous to count
- J** = Estimated value
- Q** = Estimated value - sample exceeded holding time

Site #	Sample #	Date	Time	Parameter	DQC	Data	Units	MDL	POI
#16 NORTH FORK BROWARD BLVD	08N96516	2/18/2008	10:30	Fecal Coliform		2100	#/100	1.8	7
#16 NORTH FORK BROWARD BLVD	08N96516	2/18/2008	10:30	Total Organic Carbon (TOC)		11.1	mg/L	0.5	2
#16 NORTH FORK BROWARD BLVD	08N96516	2/18/2008	10:30	Specific conductivity		5120	umho/cm	1	4
#16 NORTH FORK BROWARD BLVD	08N96516	2/18/2008	10:30	Dissolved oxygen (DO)		4.27	mg/L	0.05	0.2
#16 NORTH FORK BROWARD BLVD	08N96516	2/18/2008	10:30	Flow Direction		S	N/A		
#16 NORTH FORK BROWARD BLVD	08N96516	2/18/2008	10:30	pH		7.25	units	0	0
#16 NORTH FORK BROWARD BLVD	08N96516	2/18/2008	10:30	Salinity		2.49	ppth	0.025	0.1
#16 NORTH FORK BROWARD BLVD	08N96516	2/18/2008	10:30	Temperature, water		25.0	deg C	0	0
#16 NORTH FORK BROWARD BLVD	08N96516	2/18/2008	10:30	Nitrogen, Nitrate(NO3) as N		0.234	mg/L	0.007	0.028
#16 NORTH FORK BROWARD BLVD	08N96516	2/18/2008	10:30	Nitrogen, ammonia (NH3) + ammonium (NH4)		0.258	mg/L	0.015	0.06
#16 NORTH FORK BROWARD BLVD	08N96516	2/18/2008	10:30	Organic Nitrogen		1.41	mg/L	0.102	0.408
#16 NORTH FORK BROWARD BLVD	08N96516	2/18/2008	10:30	Phosphorus, orthophosphate as P		0.0740	mg/L	0.00263	0.0105
#16 NORTH FORK BROWARD BLVD	08N96516	2/18/2008	10:30	Nitrogen, Kjeldahl		1.67	mg/L	0.102	0.408
#16 NORTH FORK BROWARD BLVD	08N96516	2/18/2008	10:30	Phosphorus as P		0.0990	mg/L	0.009	0.036
#16 NORTH FORK BROWARD BLVD	08N96516	2/18/2008	10:30	Total Nitrogen		1.90	mg/L	0.107	0.428
#16 NORTH FORK BROWARD BLVD	08N96516	2/18/2008	10:30	Turbidity		3.10	NTU	0.1	0.4
#16 NORTH FORK BROWARD BLVD	08N96516	2/18/2008	10:30	Phaeophytin-a		5.49	mg/m3	0.955	3.82
#16 NORTH FORK BROWARD BLVD	08N96516	2/18/2008	10:30	ChloroA/PhaeA Ratio		1.86	N/A	0	0
#16 NORTH FORK BROWARD BLVD	08N96516	2/18/2008	10:30	Chlorophyll a, corrected for pheophytin		10.2	mg/m3	0.955	3.82
#16 NORTH FORK BROWARD BLVD	08N96516	2/18/2008	10:30	Flow Velocity		SLO	N/A		
#17 PLANTATION CANAL @ S-33	08N96517	2/18/2008	11:40	Fecal Coliform		240	#/100	1.8	7
#17 PLANTATION CANAL @ S-33	08N96517	2/18/2008	11:40	Total Organic Carbon (TOC)		12.2	mg/L	0.5	2
#17 PLANTATION CANAL @ S-33	08N96517	2/18/2008	11:40	Specific conductivity		447	umho/cm	1	4
#17 PLANTATION CANAL @ S-33	08N96517	2/18/2008	11:40	Dissolved oxygen (DO)		9.43	mg/L	0.05	0.2
#17 PLANTATION CANAL @ S-33	08N96517	2/18/2008	11:40	Flow Direction		N/A	N/A		
#17 PLANTATION CANAL @ S-33	08N96517	2/18/2008	11:40	pH		8.28	units	0	0
#17 PLANTATION CANAL @ S-33	08N96517	2/18/2008	11:40	Salinity		U <0.0250	ppth	0.025	0.1
#17 PLANTATION CANAL @ S-33	08N96517	2/18/2008	11:40	Temperature, water		23.7	deg C	0	0
#17 PLANTATION CANAL @ S-33	08N96517	2/18/2008	11:40	Nitrogen, Nitrite(NO2)+Nitrate(NO3) as N		M 0.0180	mg/L	0.007	0.028
#17 PLANTATION CANAL @ S-33	08N96517	2/18/2008	11:40	Nitrogen, ammonia (NH3) + ammonium (NH4)		T <0.0240	mg/L	0.024	0.096
#17 PLANTATION CANAL @ S-33	08N96517	2/18/2008	11:40	Organic Nitrogen		0.830	mg/L	0.102	0.408
#17 PLANTATION CANAL @ S-33	08N96517	2/18/2008	11:40	Phosphorus, orthophosphate as P		M 0.00600	mg/L	0.00263	0.0105
#17 PLANTATION CANAL @ S-33	08N96517	2/18/2008	11:40	Nitrogen, Kjeldahl		0.832	mg/L	0.102	0.408
#17 PLANTATION CANAL @ S-33	08N96517	2/18/2008	11:40	Phosphorus as P		M 0.0330	mg/L	0.009	0.036
#17 PLANTATION CANAL @ S-33	08N96517	2/18/2008	11:40	Total Nitrogen		0.850	mg/L	0.107	0.428
#17 PLANTATION CANAL @ S-33	08N96517	2/18/2008	11:40	Turbidity		1.40	NTU	0.1	0.4

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#17 PLANTATION CANAL @ S-33	08N96517	2/18/2008	11:40	Pheophytin-a	5.52	mg/m3	0.955	3.82
#17 PLANTATION CANAL @ S-33	08N96517	2/18/2008	11:40	ChloroA/PheoA Ratio	1.09	N/A	0	0
#17 PLANTATION CANAL @ S-33	08N96517	2/18/2008	11:40	Chlorophyll a, corrected for pheophytin	5.99	mg/m3	0.955	3.82
#17 PLANTATION CANAL @ S-33	08N96517	2/18/2008	11:40	Flow Velocity	NONE	N/A		
#64 N. FORK AT SISTRUNK	08N96564	2/18/2008	11:10	Fecal Coliform	970	#/100	1.8	7
#64 N. FORK AT SISTRUNK	08N96564	2/18/2008	11:10	Total Organic Carbon (TOC)	10.4	mg/L	0.5	2
#64 N. FORK AT SISTRUNK	08N96564	2/18/2008	11:10	Specific conductivity	561	umho/cm	1	4
#64 N. FORK AT SISTRUNK	08N96564	2/18/2008	11:10	Dissolved oxygen (DO)	3.79	mg/L	0.05	0.2
#64 N. FORK AT SISTRUNK	08N96564	2/18/2008	11:10	Flow Direction	S	N/A		
#64 N. FORK AT SISTRUNK	08N96564	2/18/2008	11:10	pH	7.31	units	0	0
#64 N. FORK AT SISTRUNK	08N96564	2/18/2008	11:10	Salinity	U <0.0250	ppt	0.025	0.1
#64 N. FORK AT SISTRUNK	08N96564	2/18/2008	11:10	Temperature, water	24.4	deg C	0	0
#64 N. FORK AT SISTRUNK	08N96564	2/18/2008	11:10	Nitrogen, Nitrite(NO2)+Nitrate(NO3) as N	0.234	mg/L	0.007	0.028
#64 N. FORK AT SISTRUNK	08N96564	2/18/2008	11:10	Nitrogen, ammonia (NH3) + ammonium (NH4)	0.194	mg/L	0.015	0.06
#64 N. FORK AT SISTRUNK	08N96564	2/18/2008	11:10	Organic Nitrogen	0.710	mg/L	0.102	0.408
#64 N. FORK AT SISTRUNK	08N96564	2/18/2008	11:10	Phosphorus, orthophosphate as P	0.0350	mg/L	0.00263	0.0105
#64 N. FORK AT SISTRUNK	08N96564	2/18/2008	11:10	Nitrogen, Kjeldahl	0.904	mg/L	0.102	0.408
#64 N. FORK AT SISTRUNK	08N96564	2/18/2008	11:10	Phosphorus as P	0.0700	mg/L	0.009	0.036
#64 N. FORK AT SISTRUNK	08N96564	2/18/2008	11:10	Total Nitrogen	1.14	mg/L	0.107	0.428
#64 N. FORK AT SISTRUNK	08N96564	2/18/2008	11:10	Turbidity	3.60	NTU	0.1	0.4
#64 N. FORK AT SISTRUNK	08N96564	2/18/2008	11:10	Pheophytin-a	3.98	mg/m3	0.955	3.82
#64 N. FORK AT SISTRUNK	08N96564	2/18/2008	11:10	ChloroA/PheoA Ratio	3.12	N/A	0	0
#64 N. FORK AT SISTRUNK	08N96564	2/18/2008	11:10	Chlorophyll a, corrected for pheophytin	11.9	mg/m3	0.955	3.82
#64 N. FORK AT SISTRUNK	08N96564	2/18/2008	11:10	Flow Velocity	SLO	N/A		