Appendix B
UMAM Assessment and Scoring Worksheets

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 429 Wekiva Parkway / SR 46 Realignment		W33, 33A, 34, 35, 36, 37 - Wekiva River - Lake and Seminole Counties

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
510 - Streams and Waterways 630 - Wetland Forested Mixed 644 - Floating Aquatics	R2UBH - Riverine, Lower Perennial, Unconsolidated Bottom, Permanently Flooded	Impact -shading by bridge and some temporary disturbance	6.5 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper St. John's River basin 03080101	Class III	OFW, AP, WSR, Wekiva River Protection Act

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

See Part II of report

Assessment area description

The Wekiva River is one of the few remaining near-pristine riverine systems in central Florida. Its headwaters begin at the confluence of Wekiwa Spring Run and Rock Spring Run. The Wekiva is a major tributary of the St. Johns River. Waters forming the upper reaches of the Wekiva River arise from both the Floridan aquifer in the form of clear, natural springs and from drainage of approximately 130 miles of watershed. The Little Wekiva River and Blackwater Creek are two major tributaries of the Wekiva. Blackwater Creek drains an additional 126 square miles of watershed into the lower reaches of the Wekiva, just upstream of the St. Johns River.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Wekiva Springs State Park, Lower Wekiva River Preserve State Park, Rock Springs Run State Park, Seminole State Forest, Black Bear Wilderness Preserve, Blackwater Creek, St. John's River, SR 46, Interstate 4, City of Orlando	Unique, the Wekiva River is one of the few remaining near-pristine riverine systems in central Florida. The springheads at Wekiwa Spring and Rock Springs are two of only a few areas in central Florida where the limestone rock of the Floridan Aquifer can be observed at the surface.
Functions	**Mitigation for previous permit/other historic use**
Wildlife habitat, ecological preserve, water supply, recreation.	No previous permit or mitigation requirements.
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	**Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)**
Florida black bear, raccoon, wading birds, resident and migratory avian species, turkey, raptors, nine-banded armadillo, white tailed deer, frogs, snakes, American alligator, freshwater fishes	Bluenose shiner (SSC), American alligator (SSC), limpkin (SSC), little blue heron (SSC), snowy egret (SSC), tricolored heron (SSC), white ibis (SSC), Southeastern American kestrel (T), bald eagle (E), least tern (T), Florida black bear (T), cardinal flower (T), hand fern (E).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

No species observed immediately adjacent to assessment area (SR 46 existing bridge).

Additional relevant factors:

Impact to the Wekiva River is anticipated only from bridge widening. This will cause additional shading of the river channel under and adjacent to bridge. Impact will be only a slight increase from existing bridge. This impact will be minimized by lengthening the bridge span. Portions of the forested floodplain under the widened bridge deck will be permanently devoid of tall trees.

Assessment conducted by:	Assessment date(s):
CH2MHILL Biologist: Steve Eakin	January 2007

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 429 Wekiva Parkway / SR 46 Realignment		W24, W25, W26, W27 and contiguous swamp outside of ROW- Lake County

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
641 - Freshwater Marshes 631 - Shrubby Wetland 617 - Mixed Wetland Hardwoods 630 - Wetland Forested Mixed	PFO1/3C - Palustrine, Forested, Broad-Leaved Deciduous, Broad-Leaved Evergreen, Seasonally Flooded; PEM1F - Palustrine, Emergent, Persistent, Semipermanently Flooded; PSS6/7 Palustrine, Shrub	Impact along road/ reference wetlands	0.97 acres Shrub and 0.56 acres Marsh. Forested areas are outside of ROW

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper St. Johns 03080101	Class III	No OFW

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

See Part II of report

Assessment area description

A wetland mosaic, dominated by mixed wetland tree species and pockets of emergent aquatic vegetation. Dominant species include *Acer rubrum* , *Liquidambar styraciflua* , *Magnolia virginiana* , *Persea palustris, Panicum hemitomon, Cephalanthus occidentalis* , and *Pontedaria cordata.* The wetland is located approximately 250 feet to the south of SR 46 in the Rock Springs Run State Preserve.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
SR 46, Rock Springs Run Preserve, Wekiva Springs State Park, Seminole State Forest, Wekiva River, City of Orlando	Not Unique

Functions	Mitigation for previous permit/other historic use
Wildlife habitat, water quality improvements, C02 sequestration	No previous permit or mitigation requirements. Landuse surrounding wetland is currently being mowed and maintained as improved pasture.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Florida black bear, raccoon, Eastern cottontail, wading birds, sandhill cranes, woodstorks, red winged blackbird, turkey, nine-banded armadillo, bald eagle, red-shouldered hawk, white tailed deer, common urban avian species such as the Northern cardinal, mockingbird, pileated woodpecker, red-headed woodpecker, red-bellied woodpecker, downy woodpecker, tufted-titmouse, American crow, migratory song birds, frogs.	Little Blue Heron (SSC), Snowy egret (SSC), Tricolored heron (SSC), Sandhill crane (T), Bald eagle (T), Wood stork (E), Florida Black bear (T)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Rooting from wild pigs, pig seen adjacent to wetland, northern cardinal, American crows, green tree frog.

Additional relevant factors:

Wetland is in an important wildlife corridor connecting Wekiva Springs State Park to the South and Seminole State Forest and the Ocala National Forest to the North.

Assessment conducted by:	Assessment date(s):
CH2MHILL Biologist: Steve Eakin	January 2007

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 429 Wekiva Parkway / SR 46 Realignment		Yankee Lake - Seminole County

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
523 - Lakes >10 acres, < 100 acres 611 Bay Swamps 630 Wetland Forested Mixed 641 Freshwater Marshes 644 Emergent Aquatic Vegetation	L1UBH - Lacustrine, Limnetic,Unconsolidated bottom, Permanently flooded PFO6F - Palustrine, Forested, Deciduous, Semipermanently flooded PFO6C - Palustrine, Forested, Deciduous, Seasonally flooded PEM1F - Palustrine, Emergent, Persistent, Semipermanently flooded	Reference Wetlands	between 50-100 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper St. Johns 03080101	Class III	No OFW

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

See Part II of report

Assessment area description

Yankee Lake is a lake/wetland complex comprised of open water, freshwater marshes, and forested wetlands, located north of SR 46 and east of the Wekiva River in Seminole County Florida. The wetland is bordered by SR 46 to the south and Yankee Lakes Regional Wastewater Treatment Facility Property on the West and North sides. Low Density, single family residential housing borders the wetland to the east.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Yankee Lakes Regional Wastewater Facility, Wekiva Springs State Park, Lower Wekiva River Preserve State Park, Rock Springs Run State Park, Seminole State Forest, Black Bear Wilderness Preserve, Blackwater Creek, St. John's River, SR 46, Interstate 4, City of Orlando	The Yankee Lake wetland is not unique in the regional landscape.

Functions	Mitigation for previous permit/other historic use
Flood water mitigation, water quality improvements, wildlife habitat, C02 sequestration, aesthetics	No previous permit or mitigation requirements. Landuse surrounding Yankee Lake is used as spray field application for the Yankee Lakes Regional Wastewater Treatment Facility and low density, single family residential housing.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Florida black bear, raccoon, wading birds, resident and migratory avian species, turkey, raptors, nine-banded armadillo, white tailed deer, frogs, snakes, American alligator, freshwater fishes, gopher tortoises and cohabitary species	Gopher tortoise (SSC), Eastern indigo snake (T), Gopher Frog (SSC), American alligator (SSC), Little Blue Heron (SSC), Snowy egret (SSC), Tricolored heron (SSC), Sandhill crane (T), Bald eagle (T), Wood stork (E), Florida mouse (SSC), Sherman's fox squirrel (SSC), Florida Black bear (T)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Approximately 7-10 wood ducks observed on multiple occasions, red-shouldered hawk, Great horned owl, coral snake, green tree frogs (calls)

Additional relevant factors:

Proximity of Wastewater spray field and RIBs (Rapid Infiltration Basins) may affect water levels and water quality in Yankee Lake although no signs of eutrophication or impact were observed.

Assessment conducted by:	Assessment date(s):
CH2MHILL Biologist: Steve Eakin	January 2007

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 429 Wekiva Parkway / SR 46 Realignment		W16 - Lake County

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
641 - Freshwater Marsh	PEMH - Palustrine, Emergent, Persistent, Permanently flooded	Impact to marsh along existing road	0.4 ac (5.3 ac marsh)

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper St. Johns 03080101	Class III	No OFW

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

See Part II of report

Assessment area description

Wetland is a freshwater marsh dominated by *Nymphae odorata* and *Panicum hemitomon*. The center of the wetland is the deepest and contains floating aquatic vegetation. The wetland is bordered by SR 46 immediately to the north, Rock Springs Run State Preserve to the east and south, and the undeveloped Neighborhood Lakes parcel to the west.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
SR 46, wildlife crossing under SR 46, Rock Springs Run State Preserve, Wekiva Springs State Park, Lower Wekiva River Preserve State Park, Seminole State Forest, City of Orlando	Not Unique

Functions	Mitigation for previous permit/other historic use
Water quality improvements, floodwater attenuation, wildlife habitat, C02 sequestration	No previous permit or mitigation requirements.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Florida black bear, raccoon, Eastern cottontail, wading birds, red winged blackbird, turkey, nine-banded armadillo, bald eagle, red-shouldered hawk, white tailed deer, scrub jays, burrowing owls, common urban avian species such as the Northern cardinal, mockingbird, pileated woodpecker, red-headed woodpecker, red-bellied woodpecker, downy woodpecker, tufted-titmouse, American crow, migratory song birds, frogs, gopher tortoises and cohabitary species, other various herpetological species.	Gopher tortoise (SSC), Eastern indigo snake (T), Gopher Frog (SSC), Florida Scrub Jay (T), Florida Burrowing Owl (SSC), Little Blue Heron (SSC), Snowy egret (SSC), Tricolored heron (SSC), Sandhill crane (T), Bald eagle (T), Wood stork (E), Florida mouse (SSC), Sherman's fox squirrel (SSC), Florida Black be

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Nearby Scrub Jay colonies are documented and tracked by Wekiva River State Park staff. None were observed at the time of the survey but they are known to exist in close proximity to the wetland. Burrowing Owls were observed on the adjacent Neighborhood Lakes parcel and have previously been documented.

Additional relevant factors:

Wetland is near one of two wildlife underpasses that connect Rock Springs Run State Preserve / Wekiva Springs State Park on the south side of SR 46 and Seminole State Forest on the north side of SR 46.

Assessment conducted by:	Assessment date(s):
CH2MHILL Biologist: Steve Eakin	January 2007

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 429 Wekiva Parkway / SR 46 Realignment		a spring run north of Boch Road - Orange County

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
510 - Streams and Waterways (minor springs) 643 - Wet Prairies	PEM1 - Palustrine, Emergent, Persistent, Saturated	Reference Wetlands	<10 ac

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper St. Johns 03080101	Class III	No OFW

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

See Part II of report

Assessment area description

A wet prairie wetland associated with a seasonally flowing minor spring run. The wetland is dominated by *Sambucus canadensis* , *Ludwigia peruviana* , and *Osmunda cinnamomea* . Land use surrounding the wetland and spring run include low density, single family residential dwellings and improved pastures.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
SR 437, Lake Lucie, Rock Springs Run Preserve, Wekiva Springs State Park, Seminole State Forest, Wekiva River, City of Orlando	Somewhat unique. Three other minor spring runs occur within close proximity to WO45.
Functions	**Mitigation for previous permit/other historic use**
Wildlife habitat and source of fresh water.	No previous permit or mitigation requirements.
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	**Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)**
Florida black bear, raccoon, Eastern cottontail, wading birds, sandhill cranes, woodstorks, red winged blackbird, turkey, nine-banded armadillo, bald eagle, red-shouldered hawk, white tailed deer, common urban avian species such as the Northern cardinal, mockingbird, pileated woodpecker, red-headed woodpecker, red-bellied woodpecker, downy woodpecker, tufted-titmouse, American crow, migratory song birds, frogs, gopher tortoises and cohabitary species, other various herpetological species.	Gopher tortoise (SSC), Eastern indigo snake (T), Gopher Frog (SSC), Little Blue Heron (SSC), Snowy egret (SSC), Tricolored heron (SSC), Sandhill crane (T), Bald eagle (T), Wood stork (E), Florida Black bear (T)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

none observed

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
CH2MHILL Biologist: Steve Eakin	January 2007

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 429 Wekiva Parkway / SR 46 Realignment		W48, W49, W50, W51 - Lake County

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
impact area: 534 Pond, 631 Wetland Shrub, 641 Freshwater Marshes reference wetlands outside of ROW 630 Wetland Forested Mixed 644 Emergent Aquatic Vegetation	PFO6C - Palustrine, Forested, Deciduous, Seasonally Flooded PEM1G - Palustrine, Emergent, Persistent, Intermittently Flooded PSS1 - Palustrine Scrub-Shrub, Broad-Leaved Deciduous, Various Water Regimes	Impact to shrubby wetland and marsh along existing road	<10 along roadway (a 65 acre wetland)

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper St. Johns 03080101	Class III	No OFW

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

See Part II of report

Assessment area description

A wetland mosaic, dominated by mixed wetland tree, shrub, and emergent species. Dominant species include *Acer rubrum* , *Liquidambar styraciflua* , *Salix caroliniana* , *Cephalanthus occidentalis* , *Panicum hemitomon* , and *Pontedaria cordata* . The wetland is bisected by the existing SR 46 near the junction with US 441. Land use surrounding the wetland includes single family and multiple dwelling condominiums.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
SR 46, US 441, Town of Mt. Dora, Rock Springs Run Preserve, Wekiva Springs State Park, Seminole State Forest, Wekiva River, City of Orlando	Not Unique

Functions	Mitigation for previous permit/other historic use
Wildlife habitat, water quality improvements, storm water attenuation, C02 sequestration, some recreation.	No previous permit or mitigation requirements.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Raccoon, Eastern cottontail, wading birds, sandhill cranes, woodstorks, red winged blackbird, turkey, nine-banded armadillo, bald eagle, red-shouldered hawk, common urban avian species such as the Northern cardinal, mockingbird, pileated woodpecker, red-headed woodpecker, red-bellied woodpecker, downy woodpecker, tufted-titmouse, American crow, migratory song birds, frogs, fishes.	Little Blue Heron (SSC), Snowy egret (SSC), Tricolored heron (SSC), Sandhill crane (T), Bald eagle (T), Wood stork (E)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Fish observed breaking the surface of the open water areas.

Additional relevant factors:

Wetland was previously impacted from the construction of SR 46. The wetland is still connected hydrologically but impacts to wildlife increased from vehicles and development of the surrounding uplands.

Assessment conducted by:	Assessment date(s):
CH2MHILL Biologist: Steve Eakin	January 2007

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 429 Wekiva Parkway / SR 46 Realignment		W55, W56 - Lake County

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
643 - Wet Prairie 644 - Emergent Aquatic Vegetation	PEM, and PUBH - Palustrine, Unconsolidated bottom, Permanently flooded	Impact to marsh along existing road	1.5 ac impact (5 ac wetland)

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper St. Johns 03080101	Class III	No OFW

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

See Part II of report

Assessment area description

A wetland, dominated by emergent aquatic vegetation within the central, deeper water portion and surrounded by wet prairie. Vegetation includes: *Nymphae odorata, Cephalanthus occidentalis* , and *Panicum hemitomon* . The wetland is located to the south of SR 46 and west of CR 437 in Lake County, FL. The wetland is located on undeveloped private property used for pine plantation and ATVs.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Sorrento Cemetery, SR 46, CR 437, Wolf Sink Preserve, U.S. 441, City of Mt. Dora, Rock Springs Run Preserve, Wekiva Springs State Park, Seminole State Forest, City of Orlando	Not Unique

Functions	Mitigation for previous permit/other historic use
Wildlife habitat, water quality improvements, C02 sequestration, recreation	No previous permit or mitigation requirements.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Raccoon, Eastern cottontail, wading birds, red winged blackbird, turkey, nine-banded armadillo, bald eagle, red-shouldered hawk, white tailed deer, common urban avian species such as the Northern cardinal, mockingbird, pileated woodpecker, red-headed woodpecker, red-bellied woodpecker, downy woodpecker, tufted-titmouse, American crow, migratory song birds, frogs, wetland fishes, gopher tortoises and cohabitary species, other various herpetological species.	Gopher tortoise (SSC), Eastern indigo snake (T), Gopher Frog (SSC), American alligator (SSC), Little Blue Heron (SSC), Snowy egret (SSC), Tricolored heron (SSC), Sandhill crane (T), Bald eagle (T), Wood stork (E), Florida mouse (SSC), Sherman's fox squirrel (SSC), Florida Black bear (T)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Wood ducks. Bull frog calling.

Additional relevant factors:

Wetland is both spring fed from a surface water spring entering the wetland from the south and fed from groundwater. When the wetland was first observed (2003) no surface water was present and the wetland appeared to be ephemeral. The wetland appears to have remained inundated since that time with seasonal rainfall returning to average conditions. The wetland is impacted from heavy ATV usage.

Assessment conducted by:	Assessment date(s):
CH2MHILL Biologist: Steve Eakin	January 2007

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 429 Wekiva Parkway / SR 46 Realignment		small isolated wetland outside ROW - Orange County

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
641 - Freshwater Marsh	PEM1G - Palustrine, Emergent, Persistent, Intermittently flooded	Reference Wetland	< 0.3 ac

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper St. Johns 03080101	Class III	No OFW

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

See Part II of report

Assessment area description

Wetland is a small isolated freshwater marsh dominated by *Salix caroliniana, Ludwigia peruviana, Typha sp* . and *Cephalanthus occidentalis* . The wetland is surrounded by pine plantation and improved pasture.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
SR 435, SR 46, Rock Springs Run State Preserve, Wekiva Springs State Park, Lower Wekiva River Preserve State Park, Seminole State Forest, City of Orlando	Not Unique

Functions	Mitigation for previous permit/other historic use
Water quality improvements, wildlife habitat, C02 sequestration	No previous permit or mitigation requirements.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Florida black bear, raccoon, Eastern cottontail, wading birds, red winged blackbird, turkey, nine-banded armadillo, bald eagle, red-shouldered hawk, white tailed deer, common urban avian species such as the Northern cardinal, mockingbird, pileated woodpecker, red-headed woodpecker, red-bellied woodpecker, downy woodpecker, tufted-titmouse, American crow, migratory song birds, frogs, wetland fishes, gopher tortoises and cohabitary species, other various herpetological species.	Gopher tortoise (SSC), Eastern indigo snake (T), Gopher Frog (SSC), Little Blue Heron (SSC), Snowy egret (SSC), Tricolored heron (SSC), Sandhill crane (T), Bald eagle (T), Wood stork (E), Florida mouse (SSC), Sherman's fox squirrel (SSC), Florida Black bear (T)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None observed but gopher tortoise burrows located in close proximity to the wetland.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
CH2MHILL Biologist: Steve Eakin	January 2007

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 429 Wekiva Parkway / SR 46 Realignment		W42 - Lake Sten - Seminole County

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
641 - Freshwater Marsh, Lake Sten	PUBH - Palustrine, Unconsolidated bottom, Permanently flooded	Impact	11 ac impact to a 15 ac wetland

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper St. Johns 03080101	Class III	No OFW

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

See Part II of report

Assessment area description

Lake Sten (FLUCFCS 644). A wetland, dominated by emergent aquatic vegetation, located to the northwest of the I-4 / SR 417 interchange, North of Orlando in Seminole County Florida. The wetland is bordered by International Parkway to the north and west. The littoral zone of the wetland is dominated by spatterdock (*Nuphar lutea*), American water lily (*Nymphae odorata*), and maidencane (*Panicum hemitomon*). An invasive exotic, primrose willow (*Ludwigia peruviana*) is established on the southwestern edge along International Parkway. Lake Sten is typical of these 644 wetland types, which lack a canopy or shrub layer and are often deep (2 – 4 feet) near the center. Cattle were observed within the wetland and adjacent uplands on the northeastern shore. Emergent vegetation within the littoral fringe of the wetland's northeastern shore is absent due the grazing of the cattle.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
International Parkway, Interstate 4, Trout Lake, Lake Monroe, Wekiwa Springs State Park, Seminole State Forest, Lake Jessup, and the City of Orlando.	The Lake Sten wetland is not unique in the regional landscape.

Functions	Mitigation for previous permit/other historic use
Flood water mitigation, water quality improvements, wildlife habitat, C02 sequestration, aesthetics	No previous permit or mitigation requirements. Landuse surrounding Lake Sten has historically and is currently being used for cattle grazing and citrus farming.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Raccoon, Eastern cottontail, wading birds, red winged blackbird, turkey, nine-banded armadillo, bald eagle, red-shouldered hawk, white tailed deer, common urban avian species such as the Northern cardinal, mockingbird, pileated woodpecker, red-headed woodpecker, red-bellied woodpecker, downy woodpecker, tufted-titmouse, American crow, migratory song birds, frogs, wetland fishes, gopher tortoises and cohabitary species, other various herpetological species.	Gopher tortoise (SSC), Eastern indigo snake (T), Gopher Frog (SSC), American alligator (SSC), Little Blue Heron (SSC), Snowy egret (SSC), Tricolored heron (SSC), Sandhill crane (T), Bald eagle (T), Wood stork (E), Florida mouse (SSC), Sherman's fox squirrel (SSC), Florida Black bear (T)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Raccoon tracks. Approximately 7 active Gopher Tortoise (SSC) burrows were observed within a 16 acre upland parcel immediately south of Lake Sten. The gopher tortoise is commensal with the listed species Indigo snake, gopher frog, and the Florida mouse.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
CH2MHILL Biologist: Steve Eakin	January 2007

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 429 Wekiva Parkway / SR 46 Realignment		W2 - Orange County

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
631 - Wetland Shrub	PSS1 - Palustrine Scrub-Shrub	Impact	<0.2 ac of a 0.7 ac wetland

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Upper St. Johns 03080101	Class III	No OFW

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

See Part II of report

Assessment area description

Wetland is a small isolated shrub wetland dominated by *Ludwigia peruviana, Salix caroliniana* , and *Cephalanthus occidentalis* . Surrounding land use includes property currently owned by Orange County. Signs indicate that the property is potentially hazardous but the cause was not listed. Evidence of earth moving and terracing of the slopes was present at the time of the survey. West of the wetland is a high density single family residential development and golf course. Other surrounding areas are moderate density single family residential homes and commercial plant nurseries.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
SR 435, SR 46, Rock Springs Run State Preserve, Wekiva Springs State Park, Lower Wekiva River Preserve State Park, Seminole State Forest, City of Orlando	Not Unique

Functions	Mitigation for previous permit/other historic use
Water quality improvements, wildlife habitat, C02 sequestration	No previous permit or mitigation requirements.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Florida black bear, raccoon, Eastern cottontail, wading birds, red winged blackbird, turkey, nine-banded armadillo, bald eagle, red-shouldered hawk, white tailed deer, common urban avian species such as the Northern cardinal, mockingbird, pileated woodpecker, red-headed woodpecker, red-bellied woodpecker, downy woodpecker, tufted-titmouse, American crow, migratory song birds, frogs, wetland fishes, gopher tortoises and cohabitary species, other various herpetological species.	Gopher tortoise (SSC), Eastern indigo snake (T), Gopher Frog (SSC), Little Blue Heron (SSC), Snowy egret (SSC), Tricolored heron (SSC), Sandhill crane (T), Bald eagle (T), Wood stork (E), Florida mouse (SSC), Sherman's fox squirrel (SSC), Florida Black bear (T)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None observed but gopher tortoise burrows located in close proximity to the wetland.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
CH2MHILL Biologist: Steve Eakin	January 2007

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 429 Wekiva Parkway / SR 46 Realignment		W33, 33A, 34, 35, 36, 37 - Wekiva River - Lake and Seminole Counties
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact -shading by bridge and some temporary disturbance	CH2M HILL Biologist Steve Eakin	January 2007

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: 9	with:
Adjacent wildlife habitats outside of assessment area include State Parks, State Preserves, State Forests, the St. John's River and land use types common to developing urban areas. These include residential areas, medium volume roadways, commercial areas, and other natural vegetation communities. The natural areas, particularly the State Parks and Preserves, provide excellent support for expected species. Wildlife access to habitats is not limited other than in areas that have been developed into residential areas along the river. The majority of the Wekiva River floodplain has been preserved. Surrounding uplands have been impacted by development and access to these areas outside of the Parks and Preserves has been reduced.		
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 10	with:
Aquatic environment appropriate for spring run river and associated wetland floodplain. Assessment area hydroperiod appropriate and not impacted by berms, levees, ditches, or nearby stormwater retention ponds. The Wekiva River is directly connect to the nearby St. John's River and Blackwater River downstream. Water inputs from groundwater, rainfall and incidental amounts of runoff from some impervious surfaces. Water quality appears to be unimpacted by surrounding land use. Floodplain wetland capable of providing flood water attenuation and water quality improvements.		
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 9	with:
Vegetation community: Littoral zone dominated by various floating aquatics and emergent vegetation. Forested floodplain wetland is diverse and dominated by *Taxodium distichum, Acer rubrum, Magnolia virginiana, Persea palustris, Juniperus virginiana, and Sabal palmetto.* Fire suppression is evident as are some effects of logging in the past.		

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres: 0.93	with:

If preservation as mitigation,
Preservation adjustment factor = N/A
Adjusted mitigation delta = N/A

For impact assessment areas
FL = delta x acres =

Delta = [with-current]

If mitigation
Time lag (t-factor) = N/A
Risk factor = N/A

For mitigation assessment areas
RFG = delta/(t-factor x risk)

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 429 Wekiva Parkway / SR 46 Realignment		W24, W25, W26, W27 and contiguous swamp outside of ROW Lake County
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact to shrubby wetland and marsh along existing road/ part outside ROW is Reference Wetlands	CH2M HILL Biologist Steve Eakin	January 2007

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: 8	with:	Adjacent wildlife habitats outside of assessment area include State Parks, State Preserves, State Forests, the Wekiva River and land use types common to areas developing from rural to urban. These include residential areas, medium volume roadways, commercial areas (nurseries), and other natural vegetation communities. The natural areas, particularly the State Parks and Preserves, provide excellent support for expected species. Howeve portions of Rock Springs Run Preserve surrounding the wetland are currently maintained as improved pasture and harvested for forage crops. Wildlife access to habitats is limited only on the north side of the wetland by SR 46. On the north side of SR 46, surrounding uplands have been impacted by development and access to these areas outside of the Parks and Preserves has been reduced. The wetland is located approximately 250 feet to the south of SR 46 in the Rock Springs Run State Preserve.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 10	with:	Aquatic environment appropriate for the seasonally flooded forested and emergent marsh wetland mosaic. Assessment area hydroperiod appropriate and not impacted by berms, levees, ditches, or nearby stormwater retention ponds. Water inputs from groundwater and rainfall. Water quality appears to be unimpacted by surrounding land use.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 9	with:	**Vegetation community**: The vegetation community has canopy, subcanopy, shrub, and herbaceous strata present where appropriate. Dominant species include *Acer rubrum, Liquidambar styraciflua, Magnolia virginiana, Persea palustris, Panicum hemitomon, Cephalanthus occidentalis, and Pontedaria cordata*. The wetland does exhibit signs of fire suppression and past logging as many of the canopy species are even aged and a somewhat dense shrub layer has developed.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres: 0.90	with:

If preservation as mitigation,
Preservation adjustment factor = N/A
Adjusted mitigation delta = N/A

For impact assessment areas
FL = delta x acres =

Delta = [with-current]

If mitigation
Time lag (t-factor) = N/A
Risk factor = N/A

For mitigation assessment areas
RFG = delta/(t-factor x risk)

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 429 Wekiva Parkway / SR 46 Realignment		Yankee Lake - Seminole County
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Reference Wetlands	CH2M HILL Biologist Steve Eakin	January 2007

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: 7	with:
Adjacent wildlife habitats outside of assessment area include State Parks, State Preserves, State Forests, the Wekiva River, and land use types common to areas developing from rural to urban. These include a Regional Wastewater Treatment Plant, residential areas, medium volume roadways, commercial areas (nurseries), and other natural vegetation communities. The natural areas, particularly the State Parks and Preserves, provide excellent support for expected species but access to these areas is somewhat limited from the east, west, and southern sides of the lake/wetland complex. The remaining upland areas continue to be developed outside of the Regional Wastewater Treatment Plant property.		
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 10	with:
Aquatic environment appropriate for the lake, seasonally flooded forested wetland, and emergent marsh wetland mosaic. Assessment area hydroperiod appropriate and not impacted by berms, levees, ditches, or nearby stormwater retention ponds. Water inputs from groundwater and rainfall. The Regional Wastewater Treatment Plant does have a spray field for land application and RIBs (Rapid Infiltration Basins) for disposal of treated effluent within an upland area adjacent to Yankee Lake. However on adverse effect from this landuse was observed.		
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 9	with:
Vegetation community: The vegetation community has canopy, subcanopy, shrub, and herbaceous strata present where appropriate. Some impacts form human disturbance to the plant communities within the forested portions of the wetland was observed. Dominant species include *Taxodium distichum* , *Liquidambar styraciflua, Magnolia virginiana, Acer rubrum, Persea palustris, Panicum hemitomon, Nymphae odorata, Pontedaria cordata, Typha sp., Cephalanthus occidentalis, and Myrica cerifera* .		

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.87	

If preservation as mitigation,
Preservation adjustment factor = N/A
Adjusted mitigation delta = N/A

For impact assessment areas
FL = delta x acres =

Delta = [with-current]

If mitigation
Time lag (t-factor) = N/A
Risk factor = N/A

For mitigation assessment areas
RFG = delta/(t-factor x risk)

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 429 Wekiva Parkway / SR 46 Realignment		W16 - Lake County
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact to marsh along existing road	CH2M HILL Biologist Steve Eakin	January 2007

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support w/o pres or current: 8 — with:	Adjacent wildlife habitats outside of assessment area include State Parks, State Preserves, State Forests, undeveloped improved pastures and land use types common to areas developing from rural to urban. These include residential areas, medium volume roadways, commercial areas (nurseries), and other natural vegetation communities. The natural areas, particularly the State Parks and Preserves, provide excellent support for expected species. However portions of the Neighborhood Lakes parcel located immediately to the west of the wetland, are maintained as improved pasture for grazing livestock. The wetland is located immediately adjacent to SR 46 on the south side limiting wildlife access from the north. However, a wildlife underpass is located nearby allowing wildlife to access Rock Springs Run Preserve from Seminole State Forest.
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 8 — with:	Aquatic environment appropriate for the emergent marsh wetland. Assessment area hydroperiod appropriate and not impacted by berms, levees, ditches, or nearby stormwater retention ponds. Water inputs from groundwater, rainfall, and some roadway runoff. Water quality appears to be unimpacted by surrounding land use.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 10 — with:	**Vegetation community**: The vegetation community was appropriate for the wetland type. The north side of the wetland was previously permanently impacted from the construction of SR 46. Dominant species include *Nymphae odorata, Panicum hemitomon, Baccharis sp., and Cephalanthus occidentalis.*

Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitigation,	For impact assessment areas
current or w/o pres: 0.87 — with:	Preservation adjustment factor = N/A	FL = delta x acres =
	Adjusted mitigation delta = N/A	

Delta = [with-current]	If mitigation	For mitigation assessment areas
	Time lag (t-factor) = N/A	RFG = delta/(t-factor x risk)
	Risk factor = N/A	

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 429 Wekiva Parkway / SR 46 Realignment		a spring run north of Boch Road - Orange County
Impact or Mitigation	Assessment conducted by:	Assessment date:
Reference Wetlands	CH2M HILL Biologist Steve Eakin	January 2007

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: 7	with:	Adjacent wildlife habitats outside of assessment area include woodland pastures, mixed hardwood and coniferous forested areas, mixed forested wetlands, other small spring runs, low density single family residential, and commercial (nurseries) properties. The natural areas provide moderate support for expected species. Access by some species is limited due to fences, roadways, and maintenance of pastures.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 10	with:	Aquatic environment appropriate for a minor, seasonally flowing, spring run. Assessment area hydroperiod appropriate enough to support wetland plant species. Water inputs from groundwater only. This type of surface water is susceptible to regional groundwater impacts. However these were not observed at the time of the survey.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 4	with:	**Vegetation community**: The vegetation community not diverse and was dominated by two wetland shrub species, *Sambucus canadensis* and the invasive *Ludwigia peruviana* . The canopy and subcanopy strata were notably absent from the wetland. Some remnant tree snags were present and indicate that at one time, the wetland area was likely forested. Areas immediately adjacent to and within the boundary of the wetland are regularly cleared, mowed, and maintained. The herbaceous layer of the wetland was sparse due to the dense shrub layer.

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres: 0.70	with:	

If preservation as mitigation,
Preservation adjustment factor = N/A
Adjusted mitigation delta = N/A

For impact assessment areas
FL = delta x acres =

Delta = [with-current]

If mitigation
Time lag (t-factor) = N/A
Risk factor = N/A

For mitigation assessment areas
RFG = delta/(t-factor x risk)

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 429 Wekiva Parkway / SR 46 Realignment		W48, W49, W50, W51 - Lake County
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact to shrubby wetland and marsh along existing road	CH2M HILL Biologist Steve Eakin	January 2007

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: 5	with:	Adjacent wildlife habitats outside of assessment area include improved pastures, other wetland shrub and emergent marsh, abandoned groves, and small parcels of mixed hardwood and conifer forests. The dominant land uses near the wetland include single family residential, multiple dwelling units, and active extractive areas. The wetland is bisected by SR 46. Wildlife access to habitats is limited by SR 46 and by improved pastures being converted to multiple family dwellings on the north side of the wetland boundary. On the south side of the wetland boundary, existing single family developments and extractive areas limit wildlife access. US 441 is approximately 1000 feet to the west of the wetland limiting access from the west.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 7	with:	Aquatic environment appropriate for the shrub, marsh, and emergent vegetation wetland mosaic. Assessment area hydroperiod appropriate and not impacted by berms, levees, ditches, or nearby stormwater retention ponds. However, the assessment area is at the lowest elevation in a small, closed watershed that has been heavily developed. The water environment in the wetland is highly susceptible to runoff from impervious surfaces within the watershed. Water inputs from groundwater and rainfall.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 9	with:	**Vegetation community**: The vegetation community was appropriate for the wetland types observed. Shrub and herbaceous layer were not diverse but typical of wetlands surveyed throughout the study area. The shrub layer was dominated by *Salix caroliniana* , *Myrica cerifera* , *Acer rubrum* , and *Baccharis sp* .. The herbaceous layer was dominated by *Panicum hemitomon* and *Nymphae odorata* . Some disturbance to the vegetation community was observed within the SR 46 ROW from routine maintenance and along the wetland boundary near residential areas.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres: 0.70	with:

If preservation as mitigation,
Preservation adjustment factor = N/A
Adjusted mitigation delta = N/A

For impact assessment areas
FL = delta x acres =

Delta = [with-current]

If mitigation
Time lag (t-factor) = N/A
Risk factor = N/A

For mitigation assessment areas
RFG = delta/(t-factor x risk)

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 429 Wekiva Parkway / SR 46 Realignment		W55, W56 Lake County
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact to marsh along existing road	CH2M HILL Biologist Steve Eakin	January 2007

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support w/o pres or current: 8 — with:	Adjacent wildlife habitats outside of assessment area include regenerating forested areas dominated by mixed oaks and pine, pine plantations, and improved pastures. The exotic species *Enterolobium contortisiliquum* was observed within the adjacent uplands. Other land uses include sparse, single family residential dwellings, commercial properties (nurseries), and a cemetery. Wildlife access to adjacent habitat areas is not limited from the assessment area. The surrounding upland forests are in a state of regeneration and were historically oak and longleaf pine tree farms. Heavy use by ATVs in the surrounding uplands and within the wetland were observed.
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 7 — with:	Aquatic environment somewhat appropriate for the wet prairie and emergent vegetation wetland type observed. The wetland is fed by a small ephemeral spring to the south which had been impacted from ATV use. The wetland is feed by groundwater and rainfall and susceptible to any regional groundwater impacts. On several occasions the wetland was observed to be dry during the dry season. Assessment area hydroperiod seems appropriate and not impacted by berms, levees, ditches, or nearby stormwater retention ponds.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 4 — with:	**Vegetation community**: The vegetation community was heavily impacted from ATV use appropriate for the wetland types observed. Canopy and shrub layer were appropriately absent from the wetland type and the herbaceous layer was sparse due to impacts. The herbaceous layer was dominated by *Panicum hemitomon*.

Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitigation,	For impact assessment areas
current or w/o pres: 0.63 — with:	Preservation adjustment factor = N/A	FL = delta x acres =
	Adjusted mitigation delta = N/A	

Delta = [with-current]	If mitigation	For mitigation assessment areas
	Time lag (t-factor) = N/A	RFG = delta/(t-factor x risk)
	Risk factor = N/A	

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 429 Wekiva Parkway / SR 46 Realignment		small isolated wetland outside ROW - Orange County
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Reference Wetland	CH2M HILL Biologist Steve Eakin	January 2007

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: 5	with:	Adjacent wildlife habitats outside of assessment area moderate to poor quality and include mixed hardwood and conifer forest parcels, pine plantations, mixed rangeland and utility corridors. Other land uses include sparse single family residential dwellings, commercial (nurseries) properties, and a medium use roadway (CR 435). Wildlife access is somewhat limited from the east by CR 435 and to the north by residential and commercial properties. The majority of the surrounding uplands are pine plantation which at times may undergo intense management periods reducing wildlife access and habitat with those areas.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 7	with:	Aquatic environment is somewhat appropriate for the shrub vegetation wetland type observed. The wetland is isolated within the watershed and inputs are from groundwater and rainfall. The water environment is highly susceptible to changes in land uses and management practices in the surrounding uplands. The wetland hydroperiod was appropriate for the wetland type.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 7	with:	**Vegetation community**: The vegetation community was very low in diversity and comprised only of a shrub layer. The wetland was dominated by *Salix caroliniana, Myrica cerifera* and *Ludwigia peruviana* . The wetland appears to be prone to a fluctuating water table which has selected for shrub species and kept a canopy and notable herbaceous layer from being developed.

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres: 0.63	with:	

If preservation as mitigation,
Preservation adjustment factor = N/A
Adjusted mitigation delta = N/A

For impact assessment areas
FL = delta x acres =

Delta = [with-current]

If mitigation
Time lag (t-factor) = N/A
Risk factor = N/A

For mitigation assessment areas
RFG = delta/(t-factor x risk)

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 429 Wekiva Parkway / SR 46 Realignment		W42 - Lake Sten - Seminole Co
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	CH2M HILL Biologist Steve Eakin	January 2007

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		w/o pres or current	with
.500(6)(a) Location and Landscape Support	Adjacent wildlife habitats outside of assessment area include land use types common to developing urban areas. These areas include professional services, residential areas, high and medium volume roadways, stormwater retention ponds, abandoned citrus groves, cattle grazing areas, and natural vegetation communities. Natural vegetation communities include areas of mixed oaks, slash pine, cabbage palm, and saw palmetto with poorly developed herbaceous layers and invasive exotic species present such as Caesars weed and camphor trees. These areas provide moderate to poor support for expected species. The abandoned citrus grove provides moderate habitat for the listed species gopher tortoise and other commensal species. Wildlife access to habitats limited to adjacent areas on eastern border by I-4 and the western and northern borders by International Parkway. These roadways provides no habitat value, increases noise, light, trash, and wildlife mortality. Hydrologic downstream benefits of the assessment area are not applicable.	4	
.500(6)(b)Water Environment (n/a for uplands)	Aquatic environment appropriate for wetland type. Wetland hydroperiod appropriate and not impacted by berms, levees, ditches, or nearby stormwater retention ponds. No hydrologic connection of surface water bodies. Water inputs from rainfall, groundwater, and roadway runoff. Water quality impacted by roadway runoff from the western edge and cattle grazing at the eastern and southern edges of the wetland. Cattle observed standing and grazing in wetland. Wetland capable of providing flood water attenuation and some water quality improvements in areas removed from roadway and cattle.	7	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	**Vegetation community**: Littoral zone dominated by *Panicum hemitomon* and the invasive exotic species *Ludwigia peruviana* . Deeper areas in Lake Sten dominated by floating aquatics *Nuphar lutea and Nymphae odorata* . Heavy impact to the northeastern edge of the wetland from cattle grazing. Wetland strata comprised of native and non-native species providing moderate value for wildlife habitat. Benefits to wildlife include foraging areas and nesting/nursery habitat for juvenile fish, amphibians, and birds. **Benthic Community**: Not directly investigated but water quality and quantity appear to be sufficient to maintain appropriate benthic community. No indicators of eutrophication observed. Cattle grazing would have some impact on benthic communities by removal of vegetation from the littoral zone and trampling of wetland substrate.	7	

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.6	

If preservation as mitigation,
Preservation adjustment factor = N/A
Adjusted mitigation delta = N/A

For impact assessment areas
FL = delta x acres =

Delta = [with-current]

If mitigation
Time lag (t-factor) = N/A
Risk factor = N/A

For mitigation assessment areas
RFG = delta/(t-factor x risk)

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
SR 429 Wekiva Parkway / SR 46 Realignment		W2
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	CH2M HILL Biologist Steve Eakin	January 2007

Scoring Guidance	**Optimal (10)**	**Moderate(7)**	**Minimal (4)**	**Not Present (0)**
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: 3	with:	Adjacent wildlife habitats outside of assessment area poor quality and include abandoned mining lands, regenerating pine flatwoods, mixed oak and conifer forest parcels, and some areas of xeric oaks. Other land uses include high density residential, both completed and under construction, golf courses, and single family residential parcels. Wildlife access to habitats is severely limited to the west due to high density residential areas. The abandoned mining lands surrounding the assessment area are fenced also limiting access.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 7	with:	Aquatic environment is somewhat appropriate for the shrub vegetation wetland type observed. The wetland is isolated within the watershed and inputs are from groundwater and rainfall. An underdetermined film was observed on the surface of the water within the wetland which could be associated with prior (mining) land uses). Wetland hydroperiod was appropriate for the wetland type.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 4	with:	**Vegetation community**: The vegetation community was very low in diversity and comprised only of a shrub layer. The wetland was dominated by *Salix caroliniana* and *Ludwigia peruviana* . It is undetermined whether the wetland type, shape, and size were changed from previous land uses (mining). Earth surrounding the wetland appears to have been moved at some point.

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres: 0.47	with:	

If preservation as mitigation,
Preservation adjustment factor = N/A
Adjusted mitigation delta = N/A

For impact assessment areas
FL = delta x acres =

Delta = [with-current]

If mitigation
Time lag (t-factor) = N/A
Risk factor = N/A

For mitigation assessment areas
RFG = delta/(t-factor x risk)