

SECTION 4.0

ENVIRONMENTAL CONSEQUENCES

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4.1 INTRODUCTION

This section describes the environmental consequences that would result from the development of the alternatives. The analysis presented in this section has been prepared in accordance with the Council on Environmental Quality's (CEQ) National Environmental Policy Act (NEPA) Regulations Section 1502.16. The direct environmental effects of each alternative are provided under the resource headings described in **Section 3** and listed below. This section also provides analysis of growth-inducing and indirect effects in **Section 4.14**, as well as cumulative effects (**Section 4.15**) and unavoidable adverse effects (**Section 4.16**).

Section	Resource Area/Issue
4.2	Geology and Soils
4.3	Water Resources
4.4	Air Quality
4.5	Biological Resources
4.6	Cultural and Paleontological Resources
4.7	Socioeconomics Conditions and Environmental Justice
4.8	Transportation/Traffic
4.9	Land Use and Planning
4.10	Utilities and Public Services
4.11	Noise
4.12	Hazards and Hazardous Materials
4.13	Aesthetics
4.14	Indirect and Growth-Inducing Effects
4.15	Cumulative Effects
4.16	Unavoidable Adverse Effects

4.1.1 DETERMINATION OF SIGNIFICANCE

Specific significance criteria for each issue area are identified in **Section 3** of this Environmental Impact Statement (EIS). CEQ regulations (40 CFR Section 1508.27) define significance of effects in terms of context and intensity.

Significance criteria are more precisely defined in standard practices, environmental compliance criteria, or in the statutes or ordinances of the jurisdictional entities. Thus, the Bureau of Indian Affairs' (BIA) determination of significance of impacts may be accomplished with the assistance of governmental

entities that have jurisdiction or special expertise for each resource. Further, BIA may use the standard practices and criteria already established by those entities prior to the preparation of this EIS.

4.1.2 JURISDICTION AND SPECIAL EXPERTISE

Consistent with 40 CFR 1508.15 and 1508.26, the BIA identified several parties having jurisdiction by law to approve, veto, or finance all or part of the proposal and/or special expertise regarding the project alternatives. These entities may assist the BIA in the determination of significant impacts for the alternatives for areas within their jurisdiction and/or area of special expertise. These agencies have either agreed to serve as NEPA cooperating agencies, to comment on the Draft EIS or to otherwise provide consultation in the analysis process. Cooperating agencies are identified in **Section 1.3** of this EIS.

4.2 GEOLOGY AND SOILS

This section identifies the direct effects to geology and soils that would result from development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.2**. Indirect and cumulative effects are identified in **Section 4.13** and **Section 4.14**, respectively. Measures to mitigate for any potentially adverse effects identified in this section are presented in **Section 5.2**.

4.2.1 ALTERNATIVE A – PROPOSED PROJECT

TOPOGRAPHY

The topography of the project site is flat and Alternative A would involve minimal grading. The only features on the site that would be altered by earthwork would be the reconfiguration of on-site stormwater retention ponds. The grading plan for Alternative A is included in **Appendix B**. Grading would consist primarily of excavating soil for the construction of Alternative A and placing this fill within the existing ponds on Tract H. The development of an off-site retention pond would result in the excavation of approximately 55,298 cubic yards (cy) of soil. Approximately 93,120 cy of soil would be required to fill the existing retention basins within the project site. This would result in the need to import a total of approximately 37,822 cy of soil.

Construction of Alternative A, consistent with the City of Coconut Creek (City) approved PMDD, would affect no major topographic features on the project site; therefore, development of Alternative A would result in a less-than-significant effect on topography. No mitigation is required.

Sub-Alternative A-1

Sub-Alternative A-1 would involve clearing and grading. Topographic features of the site would be altered by earthwork. Approximately 74,771 cy of soil is required to fill a portion of existing retention basins. However, under Sub-Alternative A-1, underground attenuation basins would be developed within the northern portion of the project site. Excavated soil from the construction of this basin would be used as fill on other portions of the project site. This would result in balanced cut and fill. The Grading Plan for Sub-Alternative A-1 is included in **Appendix B**.

Due to the flat nature, the topographic features of the project site would be preserved. Development of Sub-Alternative A-1 would result in a less-than-significant impact on topography. No mitigation is required.

SOILS/GEOLOGY

Although the project site has a low potential for erosion based on soil type and minimal slope gradients, construction of Alternative A could cause erosion during clearing, grading, trenching, and backfilling. **Section 3.2**, Geology and Soils, describes the soil types for each of the soil units on the site.

Sediment and erosion discharge into navigable (surface) waters of the U.S. is prohibited by the Federal Clean Water Act (CWA) (1972, with modifications in 1977, 1981, and 1987), which establishes water quality goals for sediment control and erosion prevention. The Tribe has received authorization from the USEPA to be treated as a State for the purpose of establishing and enforcing water quality standards on its

reservations under the authority of Section 518(e) of the Clean Water Act. Accordingly, Section 303 of the Clean Water Act provides the Tribe the authority to adopt and modify water quality standards, which are applicable to control both point and nonpoint sources of pollutants. One of the mechanisms for achieving the goals of the CWA is the National Pollutant Discharge Elimination System (NPDES) permit program, administered by the United States Environmental Protection Agency (USEPA). As part of the NPDES General Construction permit, a site specific Stormwater Pollution Prevention Plan (SWPPP) must be developed. The SWPPP must make provisions for (1) erosion prevention and sediment control; and (2) control of other potential pollutants. Development of Alternative A would require a NPDES permit from the USEPA and a SWPPP (see **Table 1-1**). With incorporation of the best management practices (BMPs) within the site SWPPP, effects from implementation of Alternative A on soils and geology would be minimal and, therefore, less than significant.

Sub-Alternative A-1

Sub-Alternative A-1 could adversely affect soils due to erosion during construction, operation, and maintenance activities. Such activities include clearing, grading, trenching, and backfilling. As with Alternative A, Sub-Alternative A-1 would also require a NPDES permit from the USEPA for sediment control and erosion prevention into navigable (surface) waters of the U.S. As part of the General Construction NPDES permit, a SWPPP must be developed and include provisions for (1) erosion prevention and sediment control; and (2) control of other potential pollutants. Developing Sub-Alternative A-1 would have minimal effects on soils and geology and would, therefore, result in less than significant impacts to soils and geology with the incorporation of BMPs within the SWPPP.

LIQUEFACTION

Due to the very low susceptibility of the underlying soils in the area to liquefaction, potential impacts would be less than significant.

SEISMICITY

Seismicity would not significantly alter the design or affect development of Alternative A because of the low liquefaction and acceleration characteristics of the site (FDEP, 2011). Given that no known fault traces cross the area, the potential for surface rupturing along an on-site fault trace is low and is not a constraint for Alternative A. Impacts from seismicity under Alternative A are less-than-significant. No mitigation is required.

Sub-Alternative A-1

The on-site geological conditions for Sub-Alternative A-1 are the same as for Alternative A. Therefore, project-related impacts from seismicity with implementation of Sub-Alternative A-1 would also be less than significant. No mitigation is required.

MINERAL RESOURCES

The grading required for constructing Alternative A would not adversely affect any known or recorded mineral resources. Alterations in land use would not result in a loss of economically viable aggregate rock or diminish the extraction of important ores or minerals. Because there are no known or mapped mineral resources within the project site, development and use of the land would not affect such

resources. Project-related impacts to mineral resources under Alternative A are considered less than significant. No mitigation is required.

Sub-Alternative A-1

Mineral resources associated with Sub-Alternative A-1 are the same as for Alternative A. Therefore, project-related impacts to mineral resources with implementation of Sub-Alternative A-1 would be less than significant.

4.2.2 ALTERNATIVE B – REDUCED INTENSITY ALTERNATIVE

TOPOGRAPHY

Alternative B would involve minimal clearing and grading. Approximately 64,594 cy of soil would be required to fill a portion of existing retention basins within the project site. However, under Alternative B, underground attenuation basins would be developed within previously developed areas to the north of the project site. These underground attenuation basins would be located on STOF property currently developed as a parking structure, paved parking areas, and internal roadways. Excavated soil from the construction of this basin would be used as fill on other portions of the project site. This would result in balanced cut and fill. The Grading Plan for Alternative B is included in **Appendix B**.

Due to the flat nature, the topographic features of the project site would be preserved. Development of Alternative B would result in a less-than-significant impact on topography. No mitigation is required.

SOILS/GEOLOGY

Alternative B could adversely affect soils due to erosion during construction, operation, and maintenance activities. Such activities include clearing, grading, trenching, and backfilling. As with Alternative A, Alternative B would require a NPDES permit from the USEPA for sediment control and erosion prevention into navigable (surface) waters of the U.S. As part of the General Construction NPDES permit, a SWPPP must be developed and include provisions for (1) erosion prevention and sediment control; and (2) control of other potential pollutants. With incorporation of the BMPs within the site specific SWPPP, effects from implementation of Alternative B on soils and geology would be minimal and, therefore, less than significant.

SEISMICITY

The on-site geological conditions for Alternative B are the same as for Alternative A. Therefore, project-related impacts from seismicity with implementation of Alternative B would also be less than significant. No mitigation is required.

MINERAL RESOURCES

Mineral resources associated with Alternative B are the same as for Alternative A. Therefore, project-related impacts to mineral resources with implementation of Alternative B would be less than significant.

4.2.3 ALTERNATIVE C – NO ACTION BY FEDERAL GOVERNMENT

TOPOGRAPHY

Alternative C, as approved under the City PMDD, would involve minimal clearing and grading in a similar scope and size as that discussed under Alternative A above. The Grading Plan for Alternative C is included in **Appendix B**.

Due to the flat nature, the topographic features of the project site would be preserved. Development of Alternative C would result in a less-than-significant impact on topography. No mitigation is required.

Sub-Alternative C-1

No development would occur under Sub-Alternative C-1. The project site would remain in its current state and no construction activities are assumed to occur. The topography of the site would remain the same and no potential impacts would occur. No mitigation is necessary.

SOILS/GEOLOGY

Alternative C could impact soils due to erosion during construction, operation, and maintenance activities. Such activities include clearing, grading, trenching, and backfilling. The project site has a low erosion potential based on soil type and minimal slope gradients. **Table 3.2-1** in **Section 3.2**, Geology and Soils describes the soil types for each of the soil units on the site.

An NPDES permit, similar to that discussed under Alternative A, would be required during the construction phase of Alternative C. However, as the project site would not be taken into federal trust under Alternative C, the NPDES permit would be administered by the Florida Department of Environmental Protection (FDEP). Additionally an Environmental Resource Permit (ERP) would be required through the FDEP during construction activities that would potentially contribute to water pollution. With incorporation of the BMPs within the NPDES and ERP permits, effects from implementation of Alternative C on soils and geology would be minimal and, therefore, less than significant.

Sub-Alternative C-1

As no new development would occur under Sub-Alternative C-1, no construction would occur on the project site and no potential impacts to soils/geology would occur. No mitigation is necessary.

SEISMICITY

The on-site geological conditions for Alternative C are the same as for Alternatives A and B. Therefore, project-related impacts from seismicity with implementation of Alternative C would also be less than significant. No mitigation is required.

Sub-Alternative C-1

As no new development would occur under Sub-Alternative C-1, no potential impacts from seismicity would occur. No mitigation is necessary.

MINERAL RESOURCES

Mineral resources associated with Alternative C are the same as for Alternatives A and B. Therefore, project-related impacts to mineral resources with implementation of Alternative C would be less than significant. No mitigation is required.

Sub-Alternative C-1

As no new development would occur under Sub-Alternative C-1, no construction would occur on the project site and no potential impacts to mineral resources would occur. No mitigation is necessary.

4.3 WATER RESOURCES

This section discusses potential impacts on water resources associated with the various alternatives. Potential impacts to municipal water supply and distribution are discussed in **Section 4.10**, Utilities and Public Services.

4.3.1 ALTERNATIVE A – PROPOSED PROJECT

SURFACE WATER

Stormwater and Flooding

Development of the resort facilities, filling retention pond 7 on Tract G, and filling part of existing retention ponds 4 and 5 on Tract D would increase impervious surfaces on-site and result in increased runoff during rain events. Recent on-site development of an additional 1.99-acre retention basin (Retention Pond 6 on Tract B) increased stormwater retention on STOF property above the South Florida Water Management District (SFWMD) Master Drainage Permit (No. 06-00551-S) requirement of 12.95-acres. However, future Alternative A development and project modification of on-site retention facilities would not completely offset the total increase in impervious surface under Alternative A. The seven on-site retention ponds (**Figure 1-3**) comprise a total of 14.94 acres¹. As shown in **Table 4.3-1** below, there would be a shortage of approximately 1.77 acres of SFWMD Master Drainage Permit required stormwater retention ponds under Alternative A². Because there is insufficient space on-site to construct new retention ponds, STOF would develop an off-site retention pond on either an adjacent parcel within the Johns Family Property or a parcel currently owned by the STOF in order to completely offset the increase in impervious surfaces. Developing the new retention pond on the Johns Family Property is the preferred option and placing the pond on the Tribe's property would only be considered if developing the other site does not prove practical. This new pond is described in detail in **Section 4.14, Indirect and Growth Inducing Effects**.

The project site (bound by farm lands and minimal development to the north, Sample Road to the south, SR-7/US 441 on the west and Banks Road on the east) lies within the northwest drainage sub-basin (NW Basin) of the much larger (8,370 acres) Cocomar Water Control District (CWCD) watershed (Keith and Schnars, 2011). Because the project site is located within the NW Basin, the natural flow direction is to the north into the C-5 Canal, with ultimate discharge into the Hillsboro Canal. Per the existing Master Drainage Permit, because there are no existing connections to the NW Basin, stormwater from the project site currently flows southward into the C-14 Canal and southwest drainage sub-basin (SW Basin) through a series of closed pipes, open swales, and weirs that connect the man-made retention ponds with the C-14 Canal. Under Alternative A, this connection to the NW Basin would be established at the connection point to the C-5 Canal to the northeast on the adjacent Johns Family Trust property. From this connection point, stormwater would be redirected to the north, with ultimate discharge into the Hillsboro Canal.

¹ The Drainage Analysis (**Appendix B**) addresses all of the regulated stormwater retention basins within the area proposed for development under the Commerce Center of Coconut Creek Development of Regional Impact; including a 1.13 acre basin located northeast of the Project Site.

² This estimated loss of retention capacity is preliminary and will be finalized during the design process. Please note that Appendix C and Section 4.14.1 state that the off-site retention pond would be 2.1 acres; this is based on an earlier version of the planning level conceptual design.

Under Alternative A, the link to the NW Basin would be constructed as an off-site improvement. This connection is described in detail in **Section 4.14**.

TABLE 4.3-1
EXISTING RETENTION PONDS AND ALTERNATIVE A RETENTION PONDS

Retention Pond	Existing Size (Acres)	Alternative A Size (Acres)
Retention Pond 1	2.55	2.55
Retention Pond 2	2.36	2.36
Retention Pond 3	2.22	2.22
Retention Pond 4	2.43	1.50
Retention Pond 5	2.01	0.56
Retention Pond 6	1.99*	1.99
Retention Pond 7	1.39	0.00
TOTAL	14.94**	11.17

SOURCE: AES, 2011
 NOTE: *Retention Pond 6 has been developed on the project site to increase retention acreage above the permitted requirement of 12.95 acres.
 **Required SFWMD acreage on site is 12.95.

All parcels within the 105-acre Commerce Center of Coconut Creek, including STOF fee and trust property, are regulated by a single Master Drainage Permit (Master Permit No 06-00551-S). The Master Permit is a conceptual permit that allocates the amount of building, pervious, impervious, and retention pond area among the parcels. In order to develop their property, permittees must either show compliance with the conditions of the Master Permit or compensatory storage ensuring no adverse impact to other entities. As discussed in **Appendix B**, water quality is enhanced through detention and settling in the retention ponds. The ponds provide storage for storm events equivalent to or less than the 10-year peak discharge for 24-hour duration. The 10-year event is chosen as the design event because this is the normal design criterion for local storm drain systems.

To reduce the potential for the project to increase surface runoff, construction of impervious surfaces would be minimized to the greatest extent feasible. Where feasible, all areas outside of buildings, roads, and parking lots will be kept as permeable surfaces. On-site stormwater retention capacities are also maximized under Alternative A. Storm water runoff rates for a 10-year, 24 hour event for Alternative A would increase to 27.3 cfs compared with the existing runoff rate of 5.75 cfs (**Appendix B**). **Table 4.3-2** is a list of storm events and their associative discharge for this alternative. As described in Section 3.3, the 3-inch notched weir restricts allowable discharge to accommodate a 25-year storm event. If runoff exceeds the 25-year storm event, water backs up behind the weir and does not leave the site. This analysis assumes full build-out of the current Planned MainStreet Development District (PMDD) with the assumption that all STOF owned lands are brought into Trust.

The design criteria for any development within the project area must meet the minimum standards for the NW Basin in terms of pretreatment, water quality, stormwater quantity, and on-site storage. Stormwater pretreatment is required prior to discharge into the drainage basin. Pretreatment is required for all developed areas excluding building, lake, and water management areas. Pretreatment consists of either exfiltration trenches or dry retention areas. In addition to pre-treatment, runoff must be detained prior to off-site discharge in order to allow suspended sediments to settle out of the water column. Water quality

for the project site is met by detaining storm event drainage within the on-site retention ponds to allow sediment to drop from the water column. The proposed redesign of stormwater retention ponds would not completely offset the loss of on-site storage; to mitigate the resulting storage deficit, an off-site retention pond be constructed within the NW Basin to provide compensatory storage. Additional information about the off-site retention pond is provided in **Section 4.14**.

TABLE 4.3-2
ALTERNATIVE A RESULTS OF DESIGN STORM EVENT AND DISCHARGE

Design storm event	Discharge (CFS)
10-year, 1 day	27.3
25-year, 3 day	35.3
100-year, 3 day	0
SOURCE: Keith and Schnars, P.A. 2011.	

The current Master Drainage Permit (Master Permit # 06-00551-S) for the project site is in compliance with all minimum standards for the Cocomar Basin. Once a physical connection is made to the NW Basin, the temporary connection to the SW Basin will be maintained and/or redesigned to provide greater flexibility and capacity for the stormwater control system. Mitigation is provided in **Section 5.2.2** regarding maintenance of this drainage connection through consultation with the CWCD and the SFWMD.

Alternative A includes improvements to the local stormwater control system, adequate mitigation for the loss of impervious surface, and adequate measures to ensure water quality of stormwater runoff. Alternative A would, therefore, not result in a significant adverse impact to stormwater or surface water.

Federal Emergency Management Agency (FEMA) Executive Order 11988 addresses floodplain management and requires Federal agencies to evaluate potential effects of any actions it may take in a floodplain. Based on the current FEMA FIRM (Map number 12011C0115 F), the site is located in Zone X, an area determined to be outside both the 100-year and 500-year floodplains; therefore, the site has a moderate to low risk of flooding. Even if a flood does occur, the Proposed Project would have adequately-sized retention ponds to accommodate flood waters. The connection to the Hillsboro Canal in the Northwest Cocomar Basin would also improve stormwater flows as compared with the current conditions. As a result, no impacts from flooding are expected to occur as a result of the Proposed Project.

Sub-Alternative A-1

Similar to Alternative A, development of the resort facilities, and filling a portion of the retention pond on Tract D under Sub-Alternative A-1 would increase impervious surfaces on-site and generate greater quantities of runoff during rain events. To assess the potential drainage effects of Sub-Alternative A-1, a drainage study was completed for the project site to understand drainage characteristics and ensure post-project runoff would not exceed pre-project conditions. Because the Proposed Action is a fee-to-trust project, the USEPA and STOF, per delegated authority, have jurisdiction over on-site water and wastewater services; after the trust application has been approved, the STOF would not be subject to state requirements except by agreement.

Impacts to surface water, including stormwater runoff as a result of Sub-Alternative A-1, would be similar to those of Alternative A as both alternatives are similar in design and size. However, there are differences between the two. Sub-Alternative A-1 does not include cooperation or approval from the local government and represents a “modified” build out, where the STOF would provide stormwater treatment services on-site.

Without local cooperation, expanding off-site water storage may not be a viable option and all stormwater storage must therefore be located on-site. To accomplish this while preserving adequate drainage capacity, additional compensatory storage for excess stormwater would be built under the parking garage. This compensatory storage would off-set the 1.77 acres of reduced stormwater retention capacity identified in **Table 4.3-3** below. This scenario also calls for stormwater to continue flowing into, and be regulated by, the temporary connection via canals into the SW Basin. Therefore, Sub-Alternative A-1 would comply with the existing terms of the Commerce Center of Coconut Creek Master Drainage Permit and potential effects to drainage systems would be less than significant. Implementation of Sub-Alternative A-1 would cause discharge to be regulated by the existing control structure to the SW Basin, as mentioned in **Section 3.3**. As described in **Section 3.3**, the 3-inch notched weir restricts allowable discharge to accommodate a 25-year storm event. If runoff exceeds the 25-year storm event, water backs up behind the weir and does not leave the site. **Table 4.3-4** lists storm events and their associative discharge for this alternative.

TABLE 4.3-3
EXISTING RETENTION PONDS AND SUB-ALTERNATIVE A-1 RETENTION PONDS

Retention Pond	Existing Size (Acres)	Alternative A Size (Acres)
Retention Pond 1	2.55	2.55
Retention Pond 2	2.36	2.36
Retention Pond 3	2.22	2.22
Retention Pond 4	2.43	1.50
Retention Pond 5	2.01	0.56
Retention Pond 6	1.99*	1.99
Retention Pond 7	1.39	0.00
TOTAL	14.94**	11.17

SOURCE: AES, 2011

NOTE: *Retention Pond 6 has been developed on the project site to increase retention acreage above the permitted requirement of 12.95 acres.

**Required SFWMD acreage on site is 12.95

TABLE 4.3-4
SUB-ALTERNATIVE A-1 RESULTS OF DESIGN STORM EVENT AND DISCHARGE

Design storm event	Discharge (CFS)
10-year, 1 day	3.7
25-year, 3 day	4.3
100-year, 3 day	0

SOURCE: Keith and Schnars, P.A. 2011.

Preservation of on-site retention ponds, construction of underground stormwater attenuation facilities, and continued use of the temporary drainage connection to the SW Basin, would provide adequate water quality treatment and reduce potential adverse effects of stormwater runoff water quality to a less-than-significant level. As well, Sub-Alternative A-1 would be in compliance with the NPDES Stormwater Permit Program, as described above, which would eliminate harmful point source pollution from entering into the water supply.

As mentioned previously, Sub-Alternative A-1 represents a modified build out of Alternative A. Since the project is located in a zone determined to be outside both the 100-year and 500-year floodplains, this project also has a moderate to low flooding risk. Even if a flood does occur, Sub-Alternative A-1 would have appropriately sized retention ponds for all water, connection to the Southwestern Cocomar Basin, as well as new underground stormwater storage facilities to assist in detaining overflow.

Construction Effects

Construction activities under Alternative A would result in ground disturbances that could lead to a slight increase in erosion. Erosion can increase sediment discharge to surface waters during storm events thereby degrading downstream water quality. Project construction could discharge other construction-related materials (concrete washings, oil, trash, sediments, and grease) onto the ground and then into nearby surface waters during storm events. Fertilizers used in landscaped areas could also result in impacts to water quality if allowed to enter nearby surface waters. These discharges of pollutants to surface waters from construction activities and accidents are a potentially significant impact.

All construction activities on the project site would be regulated by an USEPA issued NPDES permit. To receive project authorization, a Notice of Intent (NOI) must be submitted to the USEPA. In accordance with the requirements of the permit, STOF would prepare a Stormwater Pollution Prevention Plan (SWPPP) and implement measures to control discharge of pollutants into stormwater. This plan would be kept on-site and available for review by the USEPA. The SWPPP would also include an inspection and monitoring section consistent with the requirements of the NPDES program. The plan would incorporate appropriate BMPs to prevent erosion and subsequent surface water degradation during construction activities. The SWPPP would show drainage patterns, approximate slopes after major grading activities, areas of soil disturbance, location of major structural and non-structural controls, outline of areas that are not to be disturbed, location of expected stabilization practices, and locations where stormwater may discharge to surface water sources. The SWPPP will incorporate Best Management Practices (BMPs) to be implemented during construction, as well as operation, to address stormwater runoff quality and rates, as well as dewatering provisions. These measures would include silt fences, wheel washing, fiber rolls, vegetated swales, and construction area entrances and exits stabilized with crush aggregate. A list of recommended measures appears in **Section 5.0**. With the incorporation of these measures, construction activities would not result in a significant effect to water quality.

Although the Proposed Project is in a region characterized by a humid subtropical climate, stormwater control measures would be adequate to treat and dissipate water from the construction site during the rainy summer season. Therefore, the Proposed Project would not adversely impact the quality of surface waters during construction.

Sub-Alternative A-1

Sub-Alternative A-1 has been designed to control construction stormwater pollution and protect surface water quality through a combination of on-site planning and treatment BMPs.

Construction activities on the project site are regulated by the NPDES stormwater program and require a permit as described above for Alternative A. Likely BMPs include the use of silt fences, fiber rolls, vegetated swales, and construction area entrances and exits stabilized with crush aggregate. A list of recommended measures appears in **Section 5.0**. As a result, construction debris from Sub-Alternative A-1 would not significantly impact water quality.

Stormwater drainage facilities and underground stormwater attenuation units would adequately dissipate stormwater during the summery rainy season. Incorporating appropriate BMP measures would also ensure that construction activities would not result in significant impacts to water quality.

Wastewater

The STOF and the City of Coconut Creek (City) entered into a Municipal Service Provider Agreement (MSPA) in 1999 that affirms that the City shall provide wastewater services on any and all trust property within the service area of the City. This Agreement has been amended to accommodate periodic increases in demand for water and wastewater services as the Tribe develops the project site and Tract 65. Additionally, STOF and the City entered into the Mitigation Agreement in January 2011 for the City to provide Alternative A with wastewater service. The existing adjacent casino operates under the MSPA to send wastewater to the City of Coconut Creek collection system. The Proposed Project would have a separate conveyance system and would not tie into the existing casino wastewater pipe infrastructure. Alternative A would generate an average wastewater flow of 297,000 gallons per day (gpd). Adding a 15% contingency, the total design wastewater flow would be 342,000 gpd. The design for a peak-day demand would be 1,197,000 gallons (**Appendix C**). Wastewater generated from the Proposed Project would be treated through existing and amended City agreements with Broward County per the 2011 Mitigation Agreement and would not have a significant impact on water resources.

Sub-Alternative A-1

Whereas Alternative A conveys all of its wastewater to the City treatment system, Sub-Alternative A-1 would treat wastewater on-site through the development of a Tribal wastewater treatment plant (WWTP). The projected wastewater Average Weekday Flow for Sub-Alternative A-1 is 308,000 gpd. Adding a 15 percent contingency, the total design wastewater flow would be 354,000 gpd. The design for peak weekend flow would be 708,000 gpd³ (HydroScience Engineers, 2011). As the quality of wastewater influent from hotel and entertainment facilities differs in quality from domestic sewage, the design for an on-site WWTP would include specialized tertiary level wastewater treatment. The WWTP would include the use of a membrane bioreactor treatment process (MBR) (HydroScience Engineers, 2011). The on-site WWTP would also include an emergency storage basin in the event of an exceedingly high influent flow or for use during routine maintenance, systems repair, or mechanical failure. If an on-site wastewater treatment facility is to be developed, liquid chlorine, or an equivalent, would be used as a disinfectant.

³ Constructing a WWTP on-site allows for a smaller peak design flow under Sub-Alternative A-1 due to proximity of the WWTP to the facility and the short length of pipes (**Appendix C**).

Under Sub-Alternative A-1, tertiary treated wastewater would be discharged by deep well injection. An injection well approximately 2,500 feet deep would be located near the proposed wastewater treatment facilities. The depth of the injection well would place the well outfall below the shallow Biscayne Aquifer, a thick layer of clay/semi-impervious material, and the deeper Florida Aquifer. There are 184 Class I injection wells permitted by the FDEP (FDEP, 2003) and injection wells are the most common form of wastewater disposal in Florida (HydroScience Engineers, 2011) (**Appendix C**). Treated effluent injection wells must be located in areas where the receiving geological formations are sufficiently permeable, porous, homogeneous, and thick enough to receive the fluids at the proposed injection rate without requiring excessive pressure. The receiving geological formations must be large enough to prevent pressure buildup and there must be a low-permeability confining zone to prevent vertical migration of injected fluids. Injection wells must also be designed to prevent fluids from entering underground sources of drinking water and designs must include at least two layers of concentric casing and cement around the injection pipe and the outer (or surface) casing must be cemented to the surface. Class I deep injection wells must provide multiple operational safeguards to ensure the injected wastewater is fully confined, including maintaining pressures that will not initiate new fractures or propagate existing fractures and continuous monitoring and recording (USEPA, 2011b). The injection well would be located approximately 1,000 feet away from the domestic water production well. If Sub-Alternative A-1 were implemented, wastewater would be treated safely on-site and discharged in an approved manner. If the injection method were selected for disposing treated wastewater, STOF would obtain all necessary USEPA permits and approvals to ensure that no significant impacts related to wastewater would occur. Recommended measures appear in **Section 5.2.2**. With the incorporation of these measures, wastewater disposal activities would not result in a significant effect to water quality.

Reclaimed Water

Reclaimed water is treated wastewater that has received disinfection and treatment to at least a secondary-level. Secondary-level treatment includes the removal of suspended solids and the use of biological decomposition to reduce complex organic material into simpler forms. The water is then separated from the remaining organic material, and is disinfected and discharged, reused, or subjected to advanced treatment. Advanced treatment removes other solids, nutrients, and other chemicals using biological, chemical, or physical processes.

The North Regional Wastewater Treatment Plant includes a reclaimed water treatment facility (Hydroscience Engineers, 2011) (**Appendix C**). The facility has a current capacity of 10 million gpd. Also, the Proposed Project is located within the PMDD which could extend reclaimed water lines to the project site (Hydroscience Engineers, 2011). Additionally, the landscape irrigation water lines and cooling towers could be converted to connect to reclaimed water lines. Any use of reclaimed water would substantially reduce the demand for potable water and help conserve and protect water resources. Using reclaimed water would be a beneficial effect of the project and would not cause any significant adverse impact to water resources. Mitigation appears in **Section 5.2.8** to address the expansion of City reclaimed water infrastructure to the project site.

Sub-Alternative A-1

Sub-Alternative A-1 would maximize the use of reclaimed water in order to minimize potable water use and the quantity of treated wastewater injected into the deep injection wells. In addition to reducing costs, this would also reduce potential effects to the Biscayne Aquifer. The USEPA regulates the use of

reclaimed water on Trust land. For Sub-Alternative A-1, all reclaimed wastewater would receive advance treatment at the on-site WWTP prior to use.

Any use of reclaimed water would reduce the demand for potable water substantially and help conserve and protect water resources. Using reclaimed water would be a beneficial effect of the project and would not cause any significant adverse impact to water resources.

GROUNDWATER

Development of Alternative A would not require the use of on-site groundwater supplies as water would be provided pursuant to a series of service agreements with the City as discussed previously and in **Section 4.10**, Utilities and Public Services. Therefore, no adverse impacts would occur to on-site groundwater supplies or private wells surrounding the project site.

The use of reclaimed water at the project site would not adversely affect groundwater quality. Recycled water is treated prior to use, and water that infiltrates into the ground is then filtered by the soil environment prior to reaching the groundwater. Therefore, operation of Alternative A would have a less-than-significant effect on groundwater quality due to use of reclaimed water. No mitigation is required.

If not treated properly prior to discharge, surface water runoff during construction has the potential to adversely affect groundwater quality. However, the SWPPP BMPs outlined above, including the use of silt fences, fiber rolls, and vegetated swales, would ensure stormwater quality and help protect groundwater during construction.

Alternative A would maintain the quantity of surface water infiltrating into the groundwater by constructing two new retention ponds, one on-site (the recently constructed Retention Pond 6) and one off-site. The new ponds would mitigate for the increase in impervious surface and filling existing retention ponds and the Proposed Project would not result in a significant impact to groundwater.

Sub-Alternative A-1

Under Sub-Alternative A-1, the hotel/resort facility would obtain water via two on-site groundwater wells. Based on the performance of other local groundwater wells, it is expected that one well would be capable of providing the necessary capacity for the entire project; however, two wells would be constructed to ensure reliability in case one well is temporarily not operational. The USEPA has designated the Biscayne Aquifer as a sole source aquifer, meaning that this aquifer is the only viable groundwater source in the area (**Appendix C**). Therefore, a key design requirement for water supply under Sub-Alternative A-1 is that the wells must minimize impacts to neighboring wells and avoid overdraft of the Biscayne Aquifer (**Appendix C**). Please see **Section 3.3** for general information about Florida's groundwater resources, including the Biscayne Aquifer and regional groundwater well users.

Initial analysis indicates adequate groundwater would be available from on-site wells (**Appendix C**). The 2006 South Florida Water Management District (SFWMD) study also indicated adequate groundwater supplies within the project vicinity (SFWMD, 2006). Broward County groundwater well fields, which supply water to multiple jurisdictions within the County, are not located in the vicinity of the project site (Karda, 2011). The Broward County Northwest well field, the nearest municipal groundwater supply system, is located approximately 7,500 feet northwest of the project site. No municipal groundwater

supply systems or private well users (domestic or irrigation) have been identified at a location closer than the Broward County Northwest well field. In 2001, the Broward County Department of Planning created a drawdown model depicting cones of depression surrounding existing and proposed groundwater supply wells in Broward County (Broward County, 2001). This drawdown analysis was created to determine potential groundwater quality impacts from surrounding locations of hazardous material contamination and the potential for migration of this contaminated groundwater through well drawdown.

Comparing proposed project pumping of approximately 552,000 gallons per peak day to Broward County Northwest well field pump rates and identified drawdown distances, it is assumed that the potential drawdown of groundwater surrounding the project site would not be significant.

Therefore, drawdown of the water table at the closest identified groundwater wells is not likely to result from groundwater pumping on the project site due to the distance between the sites, project pumping rates, the high rate of groundwater transmissivity, and the large amount of available groundwater within the underlying Biscayne Aquifer.

The off-site drawdown effect of project pumping of approximately 552,000 gallons per peak day under Sub-Alternative A-1 would be concentrated around the proposed groundwater well location so that potential drawdown would be insignificant to off-site well users. A less than significant impact would occur.

On-site pumping could create a potentially significant adverse effect on the 16.25 acre Palustrine wetland located on the Johns Family Trust property (approximately 3,000 feet to the northeast of the proposed well site). However, this wetland is directly connected to the CWCD SW Basin through the existing drainage system included within the Johns Family Trust property. This wetland feature is artificially controlled by the CWCD with water surface elevations between 13 feet NGVD and 11 feet NGVD (SFRPC, 2010). Therefore, because the surface water elevation within the wetland feature is actively controlled and the large amount of surface water present within the drainage systems, the potential for adverse effects to the Palustrine wetland from project pumping are less than significant. Additional design and monitoring requirements would ensure that the on-site wells would not lower the water table at the wetland.

Mitigation has been provided in **Section 5.2.2** to reduce potential impacts from groundwater drawdown and further reduce the potential for off-site effects. These measures include developing a test well prior to construction and groundwater monitoring as outlined in the Seminole Water Rights Compact. Compliance with the Seminole Water Rights Compact is included in **Section 5.2.2**.

The Water and Wastewater Feasibility Study (**Appendix C**), also recommends constructing a test well to ensure that on-site production wells do not affect neighboring wells. Recommended measures appear in **Section 5.2.2**. With the incorporation of these measures the on-site water supply systems would not result in a significant effect to groundwater.

If it is not possible to obtain water from the City through the existing agreements and if on-site wells cannot provide sufficient quantities of potable water, STOF would investigate the possibility of obtaining water from off-site sources in order to construct and operate Sub-Alternative A-1. An optional mitigation

measure within **Section 5.2.8** has been developed to address this possibility. This water supply option is discussed in further detail in **Section 4.14** as an indirect, off-site impact.

4.3.2 ALTERNATIVE B – REDUCED INTENSITY ALTERNATIVE

SURFACE WATER

Alternative B represents a “reduced intensity build-out” from Alternative A. Tracts G and H would not be brought into Trust and development of the other parcels would occur without cooperation from the City of Coconut Creek. Impacts to surface water, including construction impacts, stormwater runoff, wastewater, and reclaimed water as a result of the development of Alternative B would, therefore, be similar to, but less than, those of Alternative A or Sub-Alternative A-1. Developing Alternative B would reduce on-site stormwater retention by 2.39 acres, as shown in **Table 4.3-5** below. This reduction would be off-set by development of underground stormwater attenuation vaults. As with Alternative A, with the incorporation of the mitigation measures listed in **Section 5.2.2**, construction activities would not result in a significant effect to water quality. Because Tracts G and H would not be brought into trust under Alternative B, the retention ponds located on those tracts (retention ponds 1, 2, 3, and 7) would not be part of the project impacts and developing underground stormwater attenuation vaults would be off-site mitigation. Refer to **Section 4.14** for a discussion Indirect and Growth Inducing Effects.

TABLE 4.3-5
ALTERNATIVE B RETENTION PONDS

Retention Pond	Existing Size (Acres)	Alternative B
Retention Pond 4	2.43	1.50
Retention Pond 5	2.01	0.56
Retention Pond 6	1.99	1.99
TOTAL	6.43	4.04
SOURCE: AES, 2011		

GROUNDWATER

As with Sub-Alternative A-1, water supply and wastewater treatment would be developed on-site for Alternative B. Because wastewater would be treated on-site at a WWTP to a tertiary level to remove biosolids and inactivate bacteria and viruses, the quality of treated wastewater from the wastewater treatment plant would be comparable to or higher than the existing groundwater quality (HydroScience Engineers, 2011) (**Appendix C**). Additionally, recycled water that infiltrates into the ground would be sufficiently filtered by the soil prior to reaching the nearest groundwater aquifer used by nearby wells. Therefore, operation of Alternative B would have a less-than-significant effect on groundwater quality. As with Sub-Alternative A-, mitigation measures are presented in **Section 5.2.2** to ensure impacts to groundwater quality from treated wastewater disposal remain less than significant.

As described under Sub-Alternative A-1, the development of an on-site water supply system under Alternative B would result in less than significant impacts to groundwater levels and neighboring groundwater users. Similar to Sub-Alternative A-1, Alternative B also has potentially significant adverse impacts to the 16.25 acre Palustrine wetland located on the Johns Family Trust property. Mitigation has been provided in **Section 5.2.2** to further prevent groundwater impacts to off-site neighboring well users

and the wetland. If the Tribe cannot obtain water from the City per existing agreements and if on-site wells cannot provide sufficient quantities of potable water, STOF would investigate the possibility of obtaining water from off-site sources in order to construct and operate Alternative B. An optional mitigation measure within **Section 5.2.8** has been developed to address this possibility. This water supply option is discussed in further detail in **Section 4.14** as an indirect, off-site impact.

4.3.3 ALTERNATIVE C –NO ACTION BY FEDERAL GOVERNMENT

SURFACE WATER

Development of Alternative C would be similar Alternative A, with the exception that federal government would not bring the STOF properties into Trust, the site would remain under the jurisdiction of state and local governments, including the Florida Department of Environmental Protection for a NPDES permit and City PMDD approvals. In order to develop the site, the STOF would need to comply with local regulations and zoning requirements, and obtain all necessary development and construction permits. Impacts related to flooding, construction, stormwater quality, and reclaimed water would be the same as described under Alternative A.

Similar to Alternative A, Alternative C requires filling of one retention pond, partial filling of two others, and creation of a new retention pond on Tract B (the pond was constructed in 2011 as part of the City-approved Phase II). To mitigate the resulting storage deficit, an off-site retention pond be constructed within the Cocomar Northwestern Basin to provide compensatory storage. The environmental effects of developing this off-site retention pond are addressed as an indirect impact in **Section 4.14**. Additionally, the increase in impervious surfaces under Alternative C would increase overland flow of surface water.

As all potable water, wastewater, and reclaimed water would be supplied by the City of Coconut Creek through existing agreements, no mitigation is required.

Sub-Alternative C-1

No new development is proposed under Sub-Alternative C-1. Under this alternative, there would be no effect to surface water, stormwater, construction impacts, flooding, wastewater, or reclaimed water in the project area.

GROUNDWATER

Development of Alternative C would not require the use of on-site groundwater supplies as water would be provided pursuant to a services agreement with the City of Coconut Creek. Therefore, adverse impacts to on-site groundwater supplies and private wells would not occur.

Surface water runoff has the potential to negatively impact groundwater quality if not treated properly prior to discharge. However, as described above under Alternative A, incorporation of retention ponds and vegetated swales would provide additional filtering of runoff prior to release. Therefore, surface water runoff is not expected to have an adverse impact on groundwater quality. Mitigation measures are presented in **Section 5.0** to ensure impacts to groundwater quality from stormwater discharge remain less than significant.

Sub-Alternative C-1

Because existing land uses would remain under this alternative, no change in impact to groundwater would occur.

4.4 AIR QUALITY

This section identifies the direct effects to air quality that would result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.4**. Indirect and cumulative effects are identified in **Section 4.14** and **Section 4.15**, respectively. Measures to mitigate for adverse effects identified in this section are presented in **Section 5.2.3**.

4.4.1 METHODOLOGY

Development and operation of some of the alternatives would emit criteria pollutants, hazardous air pollutants (HAPs), and greenhouse gases (GHGs). During construction, criteria pollutants, HAP and GHG emissions from earth-moving activities, diesel-fueled trucks, and construction equipment would occur. During operation criteria pollutants, HAP and GHG emissions from patron, worker, delivery vehicles, and onsite stationary sources (boilers) would occur. This section presents the methodology used to assess the affected environment and to evaluate the potential air quality effects of the alternatives.

CONSTRUCTION ANALYSIS

Construction would entail mass earthwork, fine grading, building construction, and road construction. A mixture of scrapers, excavators, graders, trucks, cranes, paves, and rollers would be used to complete each phase. Effects on air quality during construction were evaluated by estimating the amount of pollutants that would be emitted over the duration of the construction period. Windblown and exhaust particulate matter is the primary pollutant of concern resulting from earth-moving activities.

Volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide (SO₂), carbon monoxide (CO), and particulate matter 10 and 2.5 microns in size (PM₁₀ and PM_{2.5}) emissions from the construction of the alternatives would primarily be produced by diesel-fueled equipment use. The majority of these emissions would be from on and off-road truck use at the project site. Emissions from diesel-fueled trucks and construction equipment were calculated using United States Environmental Protection Agency (USEPA) approved emission factors from 2007 Off-Road air quality model (USEPA, 2007). A detailed list of the proposed equipment and emissions resulting from the equipment is located in the Air Quality Modeling Calculations (**Appendix D**).

The majority of the respirable PM₁₀ emissions would result from the fugitive dust generated during earth-moving activities, such as site grading. Air quality model Emission Factor (EMFAC) 2007 emission factors were used to estimate PM₁₀ project related emissions (EMFAC, 2007) from fugitive dust. EMFAC's PM₁₀ emissions factor is 0.0191 tons per acre-day and the PM_{2.5} emissions factor is based on 28 percent of the PM₁₀'s emission factor. Actual particulate matter emissions from dust generation can vary day-to-day, depending on level of activity, specific operations, mitigation measures, and weather conditions. Emissions were estimated assuming that construction would begin in 2012 and continue at an average rate of 22 days per month for each alternative. For this analysis grading for Alternative A is estimated to last 9 months. Alternatives A, B, and C total construction durations were estimated to be 60 months, 36 months, and 0 to 60 months, respectively. Construction may be spread over a period of up to 60 months, but emissions were calculated for a more compressed schedule in order to provide a

conservative estimate of potential impacts to air quality. Emissions results are summarized below and included in **Appendix D**.

OPERATIONAL ANALYSIS

Emission factors in grams per vehicle miles traveled (g/vmt) were estimated for patron vehicles during January and July (winter and summer) and evaluated using USEPA's model MOBILE6.2 (USEPA, 2003). MOBILE6.2 calculates emission factors for gasoline-fueled and diesel-fueled light-duty vehicles, trucks, heavy-duty vehicles, and motorcycles. The model accounts for progressively more stringent tailpipe emission standards over the vehicle model years evaluated. MOBILE6.2 model input data is site specific and the output data is provided in **Appendix D**.

Mobile Source Emissions

Emissions of PM₁₀, PM_{2.5}, NO_x, SO₂, CO, VOC, and CO₂ from vehicles traveling to, from, and within the alternative project sites were calculated for each alternative. Calculations were based on emission factors derived from the USEPA's MOBILE6.2 air quality model (USEPA, 2003) and peak hour trips generated by the Proposed Project are presented in the Traffic Planning Study (TPS) (**Appendix E**). Trip generation methodology is also presented in the TPS. It is assumed for this analysis that peak hour project-related trips represent 10 percent of the daily total trips. Project-related peak hour trips generated for Alternatives A, C, and Sub Alternative A-1 is 477; therefore, daily trips are estimated at 4,770 and yearly trips at 1,741,050. Implementation of Alternative B would result in 1,525,700 trips per year. Yearly trips were distributed according to the trip distribution outlined in the TPS in **Appendix E**. Vehicle miles traveled were estimated based on the trip distribution and is shown in Table 1 of **Appendix D**. Emissions factors for SO₂ were derived from the USEPA's AP 42 and used to estimate project related SO₂ emissions (USEPA, 1995).

Stationary Source Emissions

For each of the project alternatives, natural gas would be used as fuel for hot water boilers, space heating, domestic water heaters, steam boilers for food service, cooking equipment, laundry equipment, and swimming pool heaters. Based on recreational facilities of similar or greater size, annual gas usage for Alternative A and Sub-Alternative A-1 is estimated at 300 million standard cubic feet (MMscf), Alternative B is estimated at 240 MMscf, and Alternative C and Sub-Alternative C-1 is estimated to be between 0 and 300 MMscf of natural gas use. Emissions from natural gas combustion are calculated using emission factors from AP-42 (USEPA, 1995) and are provided in Tables 8a, b, and c of **Appendix D**.

FEDERAL GENERAL CONFORMITY

Conformity regulations apply to Federal actions that would cause emissions of criteria air pollutants above certain levels to occur in locations designated as non-attainment or maintenance areas for the emitted pollutants. As discussed in **Section 3.4** the project site is located in an area that is classified as attainment or unclassifiable for all National Ambient Air Quality Standards (NAAQS), therefore a federal general conformity determination analysis is not required for the proposed alternatives.

CLIMATE CHANGE

The Council on Environmental Quality (CEQ) recently provided guidance on integrating analysis of GHGs in National Environmental Policy Act (NEPA) documents (see **Section 3.4**). As directed by the CEQ Guidance, this Environmental Impact Statement (EIS) considers whether project emissions have individual or cumulative effects on climate change. Given the global nature of climate change impacts, individual project impacts are most appropriately addressed in terms of the incremental contribution to a global cumulative impact (provided in **Section 4.15**). This approach is consistent with the view articulated by the *Intergovernmental Panel on Climate (IPCC) Change Fourth Assessment Report* (IPCC, 2007). Therefore, refer to **Section 4.15** for a discussion and analysis of cumulative impacts related to climate change.

4.4.2 ALTERNATIVE A

CONSTRUCTION EMISSIONS

Construction of Alternative A would emit PM (PM10, and PM2.5), NO_x, SO₂, CO, VOC, GHGs, and Hazardous air pollutants (HAPs) from the use of construction equipment and grading activities. Emissions from construction equipment have the potential to increase the concentration of HAPs in the close vicinity (within approximately 500 feet) of the construction site, if control measures are not implemented.

Construction of Alternative A is anticipated to begin in 2012 and be complete by 2020. The pace of construction would be dependent upon the strength of the national economy and the gaming market, as well as availability of funds for construction. Construction is anticipated to last 60 months. Construction is assumed to occur 8-hours a day, 5 days a week. The construction emission totals for Alternative A are shown in **Table 4.4-1**.

The project site is in a region of attainment for all criteria pollutants; therefore, in accordance with 40 CFR 93, construction of the proposed project would not cause an exceedance of National Ambient Air Quality Standards (NAAQS). Best management practices (BMPs) provided in **Section 5.2.3** would minimize construction related emissions of criteria pollutants. BMPs provided in **Section 5.2.3** would also reduce HAPs emissions from construction equipment avoiding potentially adverse effects to nearby sensitive receptors. Therefore, construction of Alternative A would not result in significant adverse effects associated with the regional air quality environment.

Sub-Alternative A-1

Potential construction emissions and construction timelines would be the same for Sub-Alternative A-1 as Alternative A described above due to the similar development footprint and the minimal additions in development components (Water/Wastewater Treatment facility and Police/Fire Station). The project site is in a region of attainment for all criteria pollutants; therefore, in accordance with 40 CFR 93, construction of the proposed project would not cause an exceedance of National Ambient Air Quality Standards (NAAQS).

TABLE 4.4-1
ANNUAL CONSTRUCTION EMISSIONS – ALTERNATIVES A AND C

Construction Stage	Criteria Pollutants					
	VOC	NOx	CO	SOx	PM ₁₀	PM _{2.5}
	tons per year					
Grading	1.59	22.17	6.96	3.00	55.66	16.59
Building	5.00	16.84	12.33	5.54	1.58	1.72
Paving	0.75	4.38	6.42	0.11	0.12	0.11
Architectural Coating	34.46	0.00	0.00	0.00	0.00	0.00
Total Emissions	41.80	43.38	25.7	8.65	57.36	18.43
Conformity de minimus Levels	N/A	N/A	N/A	N/A	N/A	N/A
<i>Exceedance of Levels</i>	N/A	N/A	N/A	N/A	N/A	N/A
SOURCE: Mobile6.2, 2003.						

Emissions for Sub-Alternative A-1 are shown in **Table 4.4-2**.

TABLE 4.4-2
ANNUAL CONSTRUCTION EMISSIONS – SUB-ALTERNATIVE A-1

Construction Stage	Criteria Pollutants					
	VOC	NOx	CO	SOx	PM ₁₀	PM _{2.5}
	tons per year					
Grading	1.59	22.17	6.96	3.00	55.66	16.59
Building	5.00	16.84	12.33	5.54	1.58	1.72
Paving	0.75	4.38	6.42	0.11	0.12	0.11
Architectural Coating	34.46	0.00	0.00	0.00	0.00	0.00
Total Emissions	41.80	43.38	25.7	8.65	57.36	18.43
Conformity de minimus Levels	N/A	N/A	N/A	N/A	N/A	N/A
<i>Exceedance of Levels</i>	N/A	N/A	N/A	N/A	N/A	N/A
SOURCE: Mobile6.2, 2003.						

BMPs provided in **Section 5.2.3** would also reduce HAPs emissions from construction equipment avoiding potentially adverse effects to nearby sensitive receptors. Therefore, construction of Sub-Alternative A-1 would not result in significant adverse effects associated with the regional air quality environment.

OPERATIONAL VEHICLE AND AREA EMISSIONS

Buildout of Alternative A would result in the generation of mobile emissions from patron, employee, and delivery vehicles, as well as stationary emissions from combustion of natural gas in boilers and other equipment on the project site. Estimated mobile and stationary emissions from operation of Alternative A are provided in **Table 4.4-3**. Detailed calculations of vehicle and area emissions are included as **Appendix D**.

TABLE 4.4-3
OPERATION EMISSIONS - ALTERNATIVES A AND C

Sources	Criteria Pollutants					
	VOC	NOx	CO	SOx	PM ₁₀	PM _{2.5}
	tons per year					
Stationary	0.83	0.10	1.65	0.09	0.86	0.29
Mobile	9.5	9.6	131.1	0.2	0.6	0.3
Total Emissions	10.33	9.70	132.75	0.29	1.46	0.59
Conformity <i>de minimus</i> Levels	N/A	N/A	N/A	N/A	N/A	N/A
<i>Exceedance of Levels</i>	N/A	N/A	N/A	N/A	N/A	N/A
N/A = Not Applicable; de minimus levels are not applicable due to attainment status (Refer to Section 3.4). SOURCE: Mobile6.2, 2003.						

The project site is in a region of attainment for all criteria pollutants. Under the federal Clean Air Act 40 CFR Part 93, if a region is in attainment for all criteria pollutants, then the region meets the NAAQS and there are no *de minimus levels* or “thresholds” for a project’s emissions. Mitigation provided in **Section 5.2.3** would minimize criteria air pollutant emissions from operation of Alternative A. With mitigation measures to minimize emissions of criteria pollutants, Alternative A would not result in significant adverse effects associated with the regional air quality environment.

Sub-Alternative A-1

Emissions during operation of the hotel/resort would be the same for Sub-Alternative A-1 as Alternative A described above. The addition of an on-site Tribal fire/police station and water/wastewater treatment facility would not create operational emissions above Alternative A due to the similar patron numbers and the nominal increase in employees. Operational emissions for Sub-Alternative A-1 are shown above in **Table 4.4-4**.

TABLE 4.4-4
OPERATION EMISSIONS – SUB-ALTERNATIVE A-1

Sources	Criteria Pollutants					
	VOC	NOx	CO	SOx	PM ₁₀	PM _{2.5}
	tons per year					
Stationary	0.83	0.10	1.65	0.09	0.86	0.29
Mobile	9.5	9.6	131.1	0.2	0.6	0.3
Total Emissions	10.33	9.70	132.75	0.29	1.46	0.59
Conformity <i>de minimus</i> Levels	N/A	N/A	N/A	N/A	N/A	N/A
<i>Exceedance of Levels</i>	N/A	N/A	N/A	N/A	N/A	N/A
N/A = Not Applicable; de minimus levels are not applicable due to attainment status (Refer to Section 3.4). SOURCE: Mobile6.2, 2003.						

The project site is in a region of attainment for all criteria pollutants. Under the federal Clean Air Act 40 CFR Part 93, if a region is in attainment for all criteria pollutants, then the region meets the NAAQS and there are no *de minimus* levels or “thresholds” for a project’s emissions. Mitigation provided in **Section 5.2.3** would minimize criteria air pollutant emissions from operation of Sub-Alternative A-1. With mitigation measures to minimize emissions of criteria pollutants, Sub-Alternative A-1 would not result in significant adverse effects associated with the regional air quality environment.

GENERAL CONFORMITY DETERMINATION

As discussed in **Section 3.4** the project site is located in an area that is in attainment for all NAAQS; therefore, Alternative A would not be not subject to a conformity determination.

Sub-Alternative A-1

As with Alternative A described above, Sub-Alternative A-1 would not be subject to a general conformity determination.

4.4.3 ALTERNATIVE B

CONSTRUCTION EMISSIONS

Construction emissions for Alternative B were estimated using the same methodology used in Alternative A. Refer to **Section 4.4.2**. Alternative B construction is anticipated to begin in 2012 and last approximately 36 months. Construction emission totals for the Alternative B are shown in **Table 4.4-5**.

TABLE 4.4-5
ANNUAL CONSTRUCTION EMISSIONS – ALTERNATIVE B

Construction Stage	Criteria Pollutants					
	VOC	NOx	CO	SOx	PM ₁₀	PM _{2.5}
	tons per year					
Grading	1.58	22.16	6.85	3.00	1.47	1.42
Building	1.24	8.64	6.74	0.87	0.69	0.67
Paving	0.75	4.38	6.42	0.11	0.12	0.11
Architectural Coating	16.12	0.00	0.00	0.00	0.00	0.00
Total Emissions	19.70	35.17	20.01	3.98	2.28	2.20
Conformity de minimus Levels	N/A	N/A	N/A	N/A	N/A	N/A
<i>Exceedance of Levels</i>	N/A	N/A	N/A	N/A	N/A	N/A
SOURCE: Mobile 6.2, 2003.						

The project site is in a region of attainment for all criteria pollutants; therefore, in accordance with 40 CFR 93, construction of Alternative B would not cause an exceedance of NAAQS. BMPs, provided in **Section 5.2.3** would further reduce construction related emissions of criteria pollutants. BMPs provided in **Section 5.2.3** would also reduce HAP emissions from construction equipment. Therefore, Alternative B would not result in significant adverse effects associated with the regional air quality environment.

OPERATIONAL VEHICLE AND AREA EMISSIONS

Buildout of Alternative B would result in the generation of mobile emissions from patron, employee, and delivery vehicles, as well as stationary emissions from combustion of natural gas in boilers and other equipment on the project site. Estimated mobile and stationary emissions from operation of Alternative B are provided in **Table 4.4-6**. Detailed calculations of vehicle and area emissions are included as **Appendix D**.

TABLE 4.4-6
OPERATION EMISSIONS - ALTERNATIVE B

Sources	Criteria Pollutants					
	VOC	NOx	CO	SOx	PM ₁₀	PM _{2.5}
	tons per year					
Stationary	0.66	0.08	1.32	0.07	0.68	0.23
Mobile	8.3	8.5	114.9	0.01	0.50	0.30
Total Emissions	8.96	8.58	115.22	0.08	1.18	0.53
Conformity <i>de minimus</i> Levels	N/A	N/A	N/A	N/A	N/A	N/A
<i>Exceedance of Levels</i>	N/A	N/A	N/A	N/A	N/A	N/A
N/A = Not Applicable; de minimus levels are not applicable due to attainment status (Refer to Section 3.4). SOURCE: URBEMIS2007.						

The project site is in a region of attainment for all criteria pollutants. Under the federal Clean Air Act 40 CFR Part 93, if a region is in attainment for all criteria pollutants, then the region meets the NAAQS and there are no *de minimus levels* or “thresholds” for a project’s emissions. Mitigation provided in **Section 5.2.3** would minimize criteria air pollutant emissions from operation of Alternative B. With mitigation measures to minimize emissions of criteria pollutants, Alternative B would not result in significant adverse effects associated with the regional air quality environment.

GENERAL CONFORMITY DETERMINATION

As discussed in **Section 3.4** the project site is located in an area that is in attainment for all NAAQS; therefore, Alternative B is not subject to a conformity determination.

4.4.4 ALTERNATIVE C**CONSTRUCTION EMISSIONS**

Construction emissions for Alternative C would be the same as those described in **Section 4.4.2** and shown in **Table 4.4.1** above. If Alternative C were selected and the project site not brought into federal trust, construction and operation of the resort facility would need to comply with the State and local GHG regulations discussed in Section 3.4. It is not possible to quantify the effects of complying with these regulations and the emission estimates for Alternative C, therefore, the emissions estimates are assumed to be the same as Alternative A and Sub-Alternative A-1. BMPs, provided in **Section 5.2.3** would reduce construction related emissions of criteria pollutants and HAP emissions from construction equipment.

Therefore, construction of Alternative C would not result in significant adverse effects associated with the regional air quality environment.

Sub-Alternative C-1

Under Sub-Alternative C-1, no development would occur on the project site. The 45-acre site would not be developed further and no construction or operational mobile or stationary criteria pollutants or diesel particulate matter (DPM) emissions would be generated.

OPERATIONAL VEHICLE AND AREA EMISSIONS

Buildout of Alternative C would result in the generation of mobile emissions from patron, employee, and delivery vehicles, as well as stationary emissions from combustion of natural gas in boilers and other equipment on the project site. Estimated mobile and stationary emissions from operation of Alternative C are provided above in **Table 4.4-2**. Detailed calculations of vehicle and area emissions are included as **Appendix D**.

The project site is in a region of attainment for all criteria pollutants. Under the federal Clean Air Act 40 CFR Part 93, if a region is in attainment for all criteria pollutants, then the region meets the NAAQS and there are no *de minimums levels* or “thresholds” for a project’s emissions. Mitigation provided in **Section 5.2.3** would minimize criteria air pollutant emissions from operation of Alternative C. With mitigation measures to minimize emissions of criteria pollutants, Alternative C would not result in significant adverse effects associated with the regional air quality environment.

Sub-Alternative C-1

Under Sub-Alternative C-1, STOF is unable to reach agreement with the City and no development would occur on the project site. Under Sub-Alternative C-1, the 45-acre site would not be developed and no operational mobile or stationary criteria pollutants or DPM emissions would be generated.

GENERAL CONFORMITY DETERMINATION

As discussed in **Section 3.4** the project site is located in an area that is in attainment for all NAAQS; therefore, Alternative C would not be not subject to a conformity determination.

Sub-Alternative C-1

No development would occur on the project site under Sub-Alternative C-1. The 45-acre site would not be developed and no construction or operational mobile or stationary criteria pollutants or DPM emissions would be generated.

4.5 BIOLOGICAL RESOURCES

This section identifies the direct effects to biological resources that would result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.5**. Indirect and cumulative effects are identified in **Section 4.13** and **Section 4.14**, respectively. Measures to mitigate for any potentially adverse effects identified in this section are presented in **Section 5.2.4**.

4.5.1 ALTERNATIVE A – PROPOSED PROJECT WITH COCONUT CREEK AGREEMENT

POTENTIAL EFFECTS TO HABITATS

Table 4.5-1 provides a summary of the acreage of each habitat type that would be affected under Alternative A. As shown in this table, approximately 23 acres within the 45-acre project site would be affected by the development of Alternative A; the remaining 22 acres would remain in its current condition. Of the 23 acres potentially affected under Alternative A, the majority of the site (19 acres) is currently developed. These areas provide limited resources for wildlife and are currently subject to disturbance from activities within the existing developed areas or those activities on adjacent roads, parking lots, and onsite facilities. Therefore, implementation of the Proposed Project would not significantly affect habitats.

TABLE 4.5-1
ANTICIPATED EFFECTS TO HABITAT TYPES – ALTERNATIVE A

	Habitat Type	Acreage Affected	Percentage of Site Affected
Terrestrial Habitats	Developed	19.32	42.93
	Ruderal/Disturbed	1.74	3.86
Aquatic Habitats	Stormwater retention pond	2.19*	4.86
	Manmade seasonal wetland	0.23	0.51
	Total	23.48	52.16
NOTE: *Alternative A would impact 4.18 acres of existing retention ponds, however the recent establishment of a 1.99 acres retention pond (No. 6) has occurred on Tract B (Refer to Figure 1-3). Therefore, 4.18 acres – 1.99 acres = 2.19 acres of total impact to onsite retention ponds under Alternative A. SOURCE: AES, 2011			

Sub-Alternative A-1

Table 4.5-2 provides a summary of the acreage of each habitat type that would be affected under Sub-Alternative A-1. As shown in this table, Sub-Alternative A-1 would affect approximately 21 acres within the 45-acre project site. Similar to the impacts discussed for Alternative A above, the majority of the proposed development under Sub-Alternative A-1 (approximately 17 acres) would occur in existing developed areas. Thus, there would be minor impacts to wildlife habitat associated with the implementation of Sub-Alternative A-1. Therefore, implementation of Sub-Alternative A-1 would not significantly affect habitats.

Under Sub-Alternative A-1 there would be slightly less acreage impacted since the project development footprint for this alternative would be smaller than that designed for Alternative A. Accordingly, impacts to habitat types would be slightly less than those discussed under Alternative A (Refer to **Table 4.5-1**).

TABLE 4.5-2
ANTICIPATED EFFECTS TO HABITAT TYPES – SUB-ALTERNATIVE A-1

	Habitat Type	Acreage Affected	Percentage of Site Affected
Terrestrial Habitats	Developed	16.95	37.67
	Ruderal/Disturbed	1.54	3.42
Aquatic Habitats	Stormwater retention pond	1.99*	4.42
	Manmade seasonal wetland	0.23	0.51
	Total	20.71	46.02
Note: *Sub-Alternative A-1 would affect 3.98 acres of existing retention ponds, however the recent establishment of a 1.99 acres retention pond (No. 6) has occurred on Tract B (Refer to Figure 1-3). Therefore, 3.98 acres – 1.99 acres = 1.99 acres of total impact to onsite retention ponds under Sub-Alternative A-1. SOURCE: AES, 2011			

POTENTIAL EFFECTS TO WATERS OF THE U.S.

As stated in **Section 3.5**, and shown in the Biological Assessment (BA) for the project site, there were no jurisdictional waters of the U.S. identified during the September 15, 2010 onsite biological field survey (**Appendix A**). Therefore, implementation of the Proposed Project would not significantly affect waters of the U.S.

For potential impacts to off-site waters of the U.S., implementation of the minimization and avoidance measures identified in **Section 5.2.2** would mitigate for potential adverse effects to off-site waters of the U.S. from stormwater runoff during the construction and operational phases of the Proposed Project.

Sub-Alternative A-1

As indicated above under Alternative A and in **Section 3.5**, no potentially jurisdictional waters of the U.S. were identified onsite; therefore, no significant impacts to waters of the U.S. would occur.

Groundwater pumping under Sub-Alternative A-1 has the potential to lower the groundwater level at the 16.25 acre Palustrine wetland located approximately 3,000 feet to the northeast of the well location and this could adversely affect the wetland functions and biological resources associated with the wetland. However, the existing connection between the wetland feature and existing drainage structures is anticipated to be sufficient to compensate for potential drawdown effects caused by on-site pumping. A discussion of potential effects to the off-site wetland is included in **Section 4.3**. Implementation of the minimization and avoidance measures identified in **Section 5.2.2**, as well as **Section 5.2.4**, would mitigate for potential adverse effects to off-site waters of the U.S. and wetlands from stormwater runoff during construction and operational phases of Sub-Alternative A-1.

POTENTIAL EFFECTS TO WILDLIFE

Many species of wildlife will avoid areas with a high degree of human activity and forage over greater distances to avoid humans. Implementation of Alternative A would result in a substantial increase in human activity and structures on the project site, thereby potentially reducing the number of breeding and resting sites that are available for wildlife. However, based on the existing highly disturbed and low quality habitat types present onsite, and the current extent of surrounding development in the immediate vicinity, an increase in human activity and structures on the project site would not result in a substantial effect on local populations of wildlife. As noted in **Table 4.5-1** above, the majority of the proposed development under Alternative A would occur within existing developed areas onsite.

Suitable foraging and nesting habitat for the wood stork (*Mycteria americana*) is not present on the project site. No fish were observed within the onsite retention ponds during the September 2010 field survey. However, several wading birds were observed along the banks of the two northern retention ponds on the project site. These bird species included: little blue heron (*Egretta caerulea*), tricolored heron (*Egretta tricolor*), and snowy egret (*Egretta thula*). Under Alternatives A and B, these ponds would not be disturbed and would continue to be managed as today. Neither direct observation nor evidence of large mammals was observed onsite during the 2010 field survey.

Under Alternative A, impacts to wildlife would be less-than-significant due to the existing low quality, highly disturbed habitats onsite and the lack of suitable habitat for federally listed species.

Sub-Alternative A-1

Potential effects to wildlife would be similar to those described under Alternative A. The increase in human activity and number of structures on the project site associated with development of Sub-Alternative A-1, in addition to the existing high volume of human activity in the vicinity of the site would not have a major impact on local populations of wildlife. Thus, impacts to wildlife due to the implementation of Sub-Alternative A-1 would be less-than-significant. As noted in **Table 4.5-2** above, the majority of the proposed development under Sub-Alternative A-1 would occur within existing developed areas onsite.

Potential Effects to Federally-Listed Species and Critical Habitat

Based upon a review of the habitat requirements for federally listed species identified on the USFWS List of Federally Listed and Candidate Species for Broward County (**Appendix A**), the project site does not provide suitable habitat for any of the federally listed plants or wildlife species. Further, there is no critical habitat for federally listed species within the project site.

As discussed in **Section 3.5**, there is a low potential for the federally endangered wood stork to occur within the project site since there is not suitable nesting or foraging habitat present or previous sightings of this species onsite. Implementation of the avoidance measures presented in **Section 5.2.4** would ensure that preconstruction surveys of the project site for wood stork are conducted prior to the start of construction activities for the Proposed Project. These avoidance measures would reduce potential impacts to wood stork to a less-than-significant level. On August 15, 2011 the USFWS concurred with the Section 7 determination that the project “may affect, but is not likely to adversely affect” the wood stork and concluded that no additional action is required (**Appendix A**).

Sub-Alternative A-1

As stated above, there is no suitable habitat for federally listed species or designated critical habitat within the project site. Therefore, like Alternative A, potential effects to federally listed species and critical habitat due to implementation of Sub-Alternative A-1 would be less-than-significant. Implementation of the avoidance measures presented in **Section 5.2.4** would ensure that preconstruction surveys of the project site for wood stork are conducted prior to the start of construction activities for Sub-Alternative A-1. These avoidance measures would reduce potential impacts to wood stork to a less-than-significant level.

Potential Effects to Federally Listed Migratory Birds

The development of Alternative A would change habitats that could potentially support active migratory bird populations and their nests, which are protected by the federal Migratory Bird Treaty Act. Alternative A could affect active migratory bird nests if vegetation removal activities associated with project construction occur during the nesting season.

Permanent features associated with the facilities, such as night lighting, have the potential to impact migratory bird species. Certain lighting types, including pulsating and strobe lights, could potentially attract birds that could be injured or killed upon impact. Mitigation measures presented in **Section 5.2.4** would reduce this impact.

Sub-Alternative A-1

Sub-Alternative A-1 is similar to Alternative A in regards to potential impacts to migratory birds and their nests during construction of Sub-Alternative A-1. Also, permanent features associated with the facilities, such as night lighting, have the potential to impact migratory bird species. Certain lighting types, including pulsating and strobe lights, could potentially attract birds that could be injured or killed upon impact. Mitigation measures presented in **Section 5.2.4** would reduce this impact.

4.5.2 ALTERNATIVE B – REDUCED INTENSITY ALTERNATIVE

POTENTIAL EFFECTS TO HABITATS

Table 4.5-3 provides a summary of the acreage of each habitat type that would be affected under Alternative B. As shown in the table below, Alternative B would affect 20.75 acres within the site, similar to the development footprint of Sub-Alternative A-1. Similar to the impacts discussed for both Alternative A and Sub-Alternative A-1 above, the majority of the proposed development under Alternative B would occur in existing developed areas (approximately 17 acres). As with the two alternatives above, there would be minor impacts to wildlife habitat associated with the implementation of Alternative B.

Alternative B would have similar acreage impacted as that of Sub-Alternative A-1. Accordingly, impacts to habitat types under Alternative B would be slightly less than those discussed under Alternative A (Refer to **Table 4.5-1**).

TABLE 4.5-3
ANTICIPATED EFFECTS TO HABITAT TYPES – ALTERNATIVE B

Habitat Type		Acreeage Affected	Percentage of Site Affected
Terrestrial Habitats	Developed	17.22	38.26
	Ruderal/Disturbed	1.31	2.91
Aquatic Habitats	Stormwater retention pond	1.99*	4.42
	Manmade seasonal wetland	0.23	0.51
Total		20.75	46.10
NOTE: *Alternative B would impact 3.98 acres of existing retention ponds, however the recent establishment of a 1.99 acres retention pond (No. 6) has occurred on Tract B (Refer to Figure 1-3). Therefore, 3.98 acres – 1.99 acres = 1.99 acres of total impact to onsite retention ponds under Alternative B.			
SOURCE: AES, 2011			

POTENTIAL EFFECTS TO WATERS OF THE U.S.

As stated above under Alternative A and Sub-Alternative A-1, no potentially jurisdictional waters of the U.S. were identified onsite; therefore, no impacts to waters of the U.S. would occur. As discussed for Alternative A and Sub-Alternative A-1 above, implementation of the minimization and avoidance measures identified in **Section 5.2.2** and **Section 5.2.4** would mitigate for potential adverse effects to off-site waters of the U.S. from stormwater runoff during the construction and operational phase of Alternative B, as well as from groundwater pumping.

POTENTIAL EFFECTS TO WILDLIFE

Potential impacts to wildlife species would be similar to those described for Alternative A and Sub-Alternative A-1. Based on the existing highly developed, low quality habitat types within the project site and the extent of existing surrounding development in the immediate vicinity, an increase in human activity and structures on the project site would not cause a major effect on local populations of wildlife. Thus, impacts to wildlife due to the implementation of Alternative B would be less than significant. As noted in **Table 4.5-3** above, the majority of the proposed development under Alternative B would occur within existing developed areas onsite.

Potential Effects to Federally Listed Species and Critical Habitat

As stated above, there is no suitable habitat for federally listed species or designated critical habitat within the project site. Therefore, like Alternative A and Sub-Alternative A-1, potential effects to federally listed species and critical habitat due to implementation of Alternative B would be less than significant. Implementation of the avoidance measures presented in **Section 5.2.4** would ensure that preconstruction surveys of the project site for wood stork are conducted prior to the start of construction activities for Alternative B. These avoidance measures would reduce potential impacts to wood stork to a less-than-significant level.

Potential Effects to Federally Listed Migratory Birds

Consistent with Alternative A and Sub-Alternative A-1, Alternative B has the potential to impact migratory birds and their nests during the construction and operation phases. The mitigation measures presented in **Section 5.2.4** would reduce this impact.

4.5.3 ALTERNATIVE C – NO ACTION BY THE FEDERAL GOVERNMENT

POTENTIAL EFFECTS TO HABITAT

Any development under Alternative C would be required to adhere to local, state, and federal environmental regulations. Since the majority of the project site contains existing development and highly disturbed, ruderal areas, potential development of the site under Alternative C would not significantly impact wildlife habitat. Further, the project site is located in a highly developed area and does not contain or lie adjacent to designated critical habitat for federally listed species.

Sub-Alternative C-1

Under Sub-Alternative C-1, the STOF site would continue to be used in the same manner as today and the site would not be developed any further. There would be no potential effects to habitat if this sub-alternative were selected to occur.

POTENTIAL EFFECTS TO WATERS OF THE U.S.

As stated above, no potentially jurisdictional waters of the U.S. were identified onsite; therefore, no impacts to waters of the U.S. would occur. In addition, implementation of the minimization and avoidance measures identified in **Section 5.2.2** would mitigate for potential adverse effects to off-site waters of the U.S. from stormwater runoff during the construction and operational phases of Alternative C.

Sub-Alternative C-1

Sub-Alternative C-1 would have no potential effect to the waters of the U.S. The site would remain in its current condition and would not be developed or utilized with greater intensity.

POTENTIAL EFFECTS TO WILDLIFE

Based on the existing highly developed and low quality habitat types within the project site and the extent of existing surrounding development in the immediate vicinity, an increase in human activity and structures on the project site due to Alternative C would not cause a major effect on local populations of wildlife. Thus, impacts to wildlife due to the implementation of Alternative C would be less than significant.

Sub-Alternative C-1

Sub-Alternative C-1 would not have any effect on local populations of wildlife.

Potential Effects to Federally Listed Species and Critical Habitat

As stated above, there is no suitable habitat for federally listed species or designated critical habitat within the project site. Therefore, potential effects to federally listed species and critical habitat due to implementation of Alternative C would be less than significant. Implementation of the avoidance measures presented in **Section 5.2.4** would ensure that preconstruction surveys of the project site for wood stork are conducted prior to the start of construction activities for Alternative C. These avoidance measures would reduce potential impacts to wood stork to a less-than-significant level.

Potential Effects to Federally Listed Migratory Birds

Consistent with the project alternatives listed above, Alternative C has the potential to impact migratory birds and their nests during the construction and operational phases. The mitigation measures presented in **Section 5.2.4** would reduce this impact.

4.6 CULTURAL AND PALEONTOLOGICAL RESOURCES

This section identifies the direct effects to cultural resources that would result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.6**. Indirect and cumulative effects are identified in **Section 4.13** and **Section 4.14**, respectively. Measures to mitigate for any potentially adverse effects identified in this section are presented in **Section 5.2.5**.

4.6.1 ALTERNATIVE A –PROPOSED PROJECT

CULTURAL RESOURCES

No cultural resources sites have been recorded on the project site (Pepe, 2005). On December 29, 2005, the Florida Department of State, Division of Historic Resources provided concurrence that the finding that *No Cultural Resources eligible for listing in the National Register of Historic Places (NRHP) will be effected* is appropriate for the site (**Appendix F**). Therefore, development proposed under Alternative A would not affect known historic properties.

There is a slight possibility that previously unknown cultural resources may be encountered during ground disturbing activities. This would be a potentially significant impact. Mitigation measures are presented in **Section 5.2.5** for the treatment of unanticipated archaeological discoveries. Therefore, the project will not result in significant adverse effects to unknown archaeological resources.

Sub-Alternative A-1

As with Alternative A, a finding of *No Cultural Resources eligible for listing in the NRHP will be effected* has been concurred with by the Florida Department of State, Division of Historic Resources (**Appendix F**). Sub-Alternative A includes mitigation measures in **Section 5.2.5** for the treatment of unanticipated archaeological discoveries to reduce potential project impacts to a less than significant level.

PALEONTOLOGICAL RESOURCES

No paleontological resources have been reported or observed on or in the immediate vicinity of the project area. Therefore, no known paleontological resources would be affected under Alternative A.

There is a low possibility that previously unknown paleontological resources would be discovered during earthmoving activities. Mitigation measures are presented in **Section 5.2.5** for the treatment of unanticipated paleontological discoveries. Therefore, Alternative A would not result in significant adverse effects to previously unknown paleontological resources.

Sub-Alternative A-1

As with Alternative A, no paleontological resources have been reported or observed on or in the vicinity of the site. Therefore, no known paleontological resources would be affected under Sub-Alternative A-1. Mitigation measures are presented in **Section 5.2.5** for the treatment of unanticipated paleontological discoveries

4.6.2 ALTERNATIVE B - REDUCED INTENSITY ALTERNATIVE

CULTURAL RESOURCES

As with Alternative A, the Florida Department of State, Division of Historic Resources has concurred with the finding that *No Cultural Resources eligible for listing in the NRHP will be effected* by development of the project site (**Appendix F**). Alternative B includes mitigation measures in **Section 5.2.5** for the treatment of unanticipated archaeological discoveries to reduce potential project impacts to a less than significant level.

PALEONTOLOGICAL RESOURCES

As with Alternative A, no paleontological resources have been reported or observed on or in the vicinity of the site. Therefore, no known paleontological resources would be affected under Alternative B. Mitigation measures are presented in **Section 5.2.5** for the treatment of unanticipated paleontological discoveries during development of the Reduced Intensity Alternative.

4.6.3 ALTERNATIVE C – NO ACTION BY THE FEDERAL GOVERNMENT

CULTURAL RESOURCES

As with Alternative A, the Florida Department of State, Division of Historic Resources has concurred with the finding that *No Cultural Resources eligible for listing in the NRHP will be effected* by development of the project site (**Appendix F**). Alternative C includes mitigation measures in **Section 5.2.5** for the treatment of unanticipated archaeological discoveries to reduce potential project impacts to a less than significant level.

Sub-Alternative C-1

No new development is proposed under Sub-Alternative C-1. Under this alternative, there would be no impacts to cultural resources on the project site.

PALEONTOLOGICAL RESOURCES

As with Alternative A, no paleontological resources have been reported or observed on or in the vicinity of the site. Therefore, no known paleontological resources would be affected under Alternative C. Mitigation measures are presented in **Section 5.2.5** for the treatment of unanticipated paleontological discoveries during development of the No Federal Action development.

Sub-Alternative C-1

No new development is proposed under Sub-Alternative C-1. Under this alternative, there would be no impacts to paleontological resources on the project site.

4.7 SOCIOECONOMIC CONDITIONS AND ENVIRONMENTAL JUSTICE

This section identifies socioeconomic effects anticipated to result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.7**. Cumulative and specific indirect effects are identified in **Section 4.14** and **Section 4.15**, respectively. Measures to avoid, minimize, and mitigate for adverse effects identified in this section are presented in **Section 5.0**.

4.7.1 ASSESSMENT CRITERIA

SOCIOECONOMIC IMPACTS

To determine the potential effects of the alternatives associated with socioeconomic conditions, the economic effects of temporary construction and ongoing operational activities of each alternative were measured. Because socioeconomic effects would be most pronounced in the vicinity of the project site, the scope of analysis focuses on impacts to the site and surrounding Broward County. Impacts from construction would be a one-time occurrence, while those from operation would be generated continuously after opening. An adverse economic, fiscal, or social impact would occur if the project were to negatively alter the ability of government to perform at existing levels, or alter the ability of people to obtain public health and safety services. Much of the analysis presented herein relies on data presented in the *Fiscal and Economic Impact Analysis: Seminole Tribe of Florida, Seminole Casino Coconut Creek Expansion* (Economic Impact Study) included as **Appendix I** (Munilytics, 2007). The current economic levels are similar to those experienced in 2007 because the economy has improved since the lowest point of the economic recession; as such, the 2007 Economic Impact Study is appropriate to use as a basis for the current analysis.

ENVIRONMENTAL JUSTICE IMPACTS

An adverse environmental justice impact would result if any impact within the scope of this document disproportionately affected an identified low-income community, minority population, or Native American tribe. *Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses* provides the following direction on how to analyze the impacts of actions on low-income and minority populations:

Under NEPA, identification of a disproportionately high and adverse human health or environmental effect on a low-income population, minority population, or Indian tribe does not preclude a proposed agency action from going forward, nor does it necessarily compel a conclusion that a proposed action is environmentally unsatisfactory. Rather, the identification of such an effect should heighten agency attention to alternatives (including alternative sites), mitigation strategies, monitoring needs, and preferences expressed by the affected community or population (EPA, 1998).

4.7.2 ALTERNATIVE A – PROPOSED PROJECT

ECONOMIC EFFECTS

Expenditures on goods and services from the operation of Alternative A are calculated to generate a net annual total output of approximately \$107.7 million annually within Broward County (**Appendix I**). Indirect and induced economic output would be dispersed and distributed among a variety of different industries and businesses throughout the County. These economic effects would result from the increased customer patronage and spending at the project site that would be attributable to Alternative A. Alternative A is anticipated to increase daily customer patronage by approximately 1,450.

Operation of Alternative A would generate increased revenues for a variety of businesses in Broward County as a result of increased economic activities. Broward County businesses would in turn increase their spending, and labor demand, thereby further stimulating the local economy. This would be a beneficial impact for which no mitigation is required.

Sub-Alternative A-1

The direct economic effects for both construction and operation of Sub-Alternative A-1 are similar to those described for Alternative A, although under Sub-Alternative A-1 the Coconut Creek Agreement would not be implemented. As such, Sub-Alternative A-1 would include development of an on-site waste water treatment plant and onsite fire and police stations.

Similar to Alternative A, new spending from the operation of Sub-Alternative A-1 would be expected to generate a net total output of approximately \$107.7 million annually within the County. Operation of Sub-Alternative A-1 would generate increased revenues for a variety of businesses in Broward County as a result of increased economic activity in the region. Broward County businesses would in turn increase their spending, and labor demand, thereby further stimulating the local economy. This would be a beneficial impact. No mitigation is required.

Tax Revenues

Alternative A would result in a variety of fiscal impacts. Since tribes are sovereign nations, they do not pay corporate income taxes on revenue or property taxes on tribal land. Alternative A would increase demand for public services, resulting in increased costs for local governments to provide these services. Alternative A would include transferring six parcels into trust by the federal government for the Tribe. As discussed in **Section 3.7**, using 2015 assessment values (millage rates) and 2015 tax rates, the transfer of six parcels, from fee to trust would result in the loss of approximately \$1,928,086 from Broward County's property tax revenues¹. Once the property is brought into federal trust, property taxes would not be levied and property tax revenues would not accrue to Broward County or other agencies, departments, or jurisdictions as noted in Section 3.7.

Tax revenues would, however, be generated for federal, state and local governments from activities including secondary economic activity generated by activity on tribal land (i.e., the indirect and induced effects of the economic impact analysis). Local governments include Broward County, the City, and

¹ The assessed value of the fee-to-trust properties was updated and increased to \$56,399,960. These higher values reflect the value of the new parking garage.

other cities within Broward County that would experience increased economic activity as a result of Alternative A. The taxes on secondary economic activity include: corporate profits tax, income tax, sales tax, excise tax, property tax, and personal non-taxes, such as motor vehicle licensing fees, fishing/hunting license fees, other fees, and fines. Additionally, the state gaming compact and local agreements provide for revenue sharing between the Tribe and the State, as well as local governments as listed in **Section 5.2.6**. As stated in the Tribal-State Compact a portion of the payments to the State would be distributed to local agencies (including both counties and municipalities).

Under the Coconut Creek Fee to Trust Lands Mitigation Agreement (Agreement), the Tribe agrees to pay the City of Coconut Creek an additional \$2,750,000 annually to offset costs and expenses which the City will incur as a result of the lands being taken into trust as well as potential impacts of the proposed development. Additionally, STOF has committed in the Municipal Service Providers Agreement (MSPA) to make payments to the City of Coconut Creek in lieu of taxes for the ad valorem taxes as well as certain non-ad valorem assessment related to fire-rescue services (**Appendix G**). These annual payments would provide support for public services, community benefits, and utilities throughout the region. Potential effects due to the loss of state and federal tax revenues resulting from the operation as a sovereign nation on trust land would be offset by increased local, state and federal tax revenues resulting from construction and operation of Alternative A, and from revenue sharing programs per the tribal-state compact and local agreements as outlined in **Section 5.2.6**. Although the transfer of six parcels from fee to trust would reduce annual Broward County property tax revenue, the development of Alternative A, through secondary economic activity would result in a beneficial impact to the local economy in the City and Broward County.

Sub-Alternative A-1

Sub-Alternative A-1 would also result in a variety of fiscal impacts. Similar to Alternative A, under Sub-Alternative A-1 the Tribe would not pay corporate income taxes on revenue or property taxes on tribal land. Tax revenues would be generated for federal, state and local governments from the same activities discussed in Alternative A. Similar to Alternative A, Sub-Alternative A-1 would include transferring six parcels into trust by the federal government for the Tribe. The transfer of the parcels would result in a loss of approximately \$1,928,086 from Broward County's property tax revenues (using fiscal year 2015 property value and millage rate), which would reduce the amount of tax revenue available for the City of Coconut Creek and County to provide public services. Unlike Alternative A, under Sub-Alternative A-1, the Agreement and the MSPA would not be implemented and payments would not be made to the City of Coconut Creek to offset costs and expenses incurred by the City as a result of transferring six parcels into trust for the Tribe. However, under Sub-Alternative A-1, the Tribe would provide water treatment and fire and police services on the site; therefore, it would not be anticipated for the City of Coconut Creek to incur expenses related to water treatment, fire services, or police services. As such, the variable costs for the City to provide service to the site would decrease. With the anticipated increase in tax revenues from indirect activities as described under Alternative A, a significant adverse impact to tax revenues would not occur. No mitigation is required.

Substitution Effects

Potential substitution effects (the loss of customers at existing commercial businesses to the new business) of the project on existing offsite restaurant, recreation, and retail establishments must be

considered when attempting to determine the true magnitude of the impact of the development on the local economy.

The magnitude of the substitution effect can generally be expected to vary greatly by specific location and according to a number of variables. That is, how much of the project's revenue comes at the expense of other business establishments in the area depends on how many and what type of other establishments are within the same market area, disposable income levels of local residents and their spending habits, as well as other economic and psychological factors affecting the consumption decisions of local residents. According to a 2000 Harvard University study, worst-case substitution effects occurring in rural environments as a result of Native American mixed-use resorts have shown a substantial decrease in earnings at local restaurants and bars and an increase in earnings in other commercial sectors (Taylor et. al, 2000). Because the project site is not located in a rural area as defined by the U.S. Census Bureau, it may be inferred that if substitution occurs it would be less than in a rural environment.

The Seminole Coconut Creek Casino is similar to the existing Isle of Capri Casino & Racing Park in Pompano Beach, and adding the hotel and spa may make the Seminole property more attractive to some customers. However, the Isle of Capri has proposed a development that would be very similar to the Proposed Project. Both facilities currently have Class III gaming (slot machines and card games played against the house), and the owners of both facilities have filed applications with the appropriate agencies² to expand their gaming operations, and add hotel, retail, and entertainment space. Providing the expanded development proposed under both of these expansions, including the development of hotel accommodations, retail space, and entertainment venues would generate positive revenues, as well as enhancing revenues at the adjacent casino facilities. Gaming is a highly competitive market and these two existing gaming facilities will continue to compete for customers into the future and patrons will choose which facility provides the best overall experience. Potential cumulative substitution effects are discussed in **Section 4.15** below.

Additionally, potential substitution effects would be counteracted by the increased local economic activity generated by patrons of the development other than local residents. Specifically, as the hotel/resort development would draw non-residents to the area, the associated increase in new visitor demand for off-site recreation and entertainment venues, restaurants, and bars would make up for some area residents choosing to visit Alternative A rather than other local establishments. Thus, it is not anticipated that significant substitution effects would occur. No mitigation is required.

Sub-Alternative A-1

Potential substitution effects from the operation of Sub-Alternative A-1 would be the same as those described under Alternative A. It is not anticipated that significant substitution effects would occur. No mitigation is required.

² The Genting Group recently purchased the Miami Herald property in Miami and stated their intent to develop a \$3 billion resort/casino on the property. Because the Florida state legislature has not increased the number of gaming licenses and the Genting Group has not submitted a gaming license application, including this project in the environmental consequences section would be speculative and not appropriate under NEPA. Likewise, the Las Vegas Sands project in the Park West neighborhood of Miami has not yet proceeded to the point where it would be appropriate to include it in this analysis.

Impacts to Surrounding Property Values

Property value impacts to nearby homes situated near the project site could occur to the extent they are affected by any noise, traffic, shadow, lights, or glare generated by this alternative; however, given that an existing casino is in operation adjacent to the project site, these impacts would be minimal or nonexistent. It is unlikely that surrounding property owners would be aware of the proposed on-site wastewater treatment facility because it would be fully contained and have aerated basins. Therefore, it would not affect adjacent property values. Properties surrounding the project site may increase in value due to speculation for commercial growth. Additionally, increased economic activity may result in increased values for the land east of the project site. This would be a beneficial economic impact. No mitigation is required.

Sub-Alternative A-1

Impacts to property values would be similar to those described under Alternative A. Properties surrounding the project site may increase in value. This is a beneficial economic effect. No mitigation is required.

Summary of Economic Effects

Alternative A would generate substantial economic output for a variety of businesses in Broward County. Additionally, Alternative A would generate substantial tax revenues for state, County, and local governments. Potential effects due to the loss of state and federal tax revenues resulting from the operation as a sovereign nation on trust land would be offset by increased local, state and federal tax revenues resulting from construction and operation of Alternative A, and from revenue sharing programs per the tribal state compact and local agreements as listed in **Section 5.2.6**. Overall, Alternative A would result in a beneficial impact to the local economy in the City and Broward County. No mitigation is required.

Sub-Alternative A-1

Construction and operation of the Sub-Alternative A-1 would generate substantial economic output for a variety of businesses in Broward County. Additionally, Sub-Alternative A-1 would generate substantial tax revenues for state, County, and local governments. Overall, Sub-Alternative A-1 would result in a beneficial impact to the economy of the City and Broward County. Although the City would not receive the annual \$2,750,000 payment from STOF, the City would not incur the costs of providing services to the site.

EMPLOYMENT

Employment opportunities generated from the operation of Alternative A would include entry-level, mid-level, and management positions for both Tribal members and non-tribal members. Examples of employment opportunities typically offered by tribal resort facilities are listed in **Table 4.7-1**. Average salaries offered are expected to be consistent with, or greater than, those of other tribal facilities, and competitive in the local labor market. In November 2011, nearly 4,000 applicants attended a job fair to recruit staff for the 800 new positions associated with the Phase II expansion (SunSentinal, 2011). Based on the recent hiring event, it is likely that the local labor market can provide a sufficient number of

workers for the project and no new workers would need to move into the area to staff the hotel/spa positions.

TABLE 4.7-1
TYPICAL TRIBAL RESORT EMPLOYMENT OPPORTUNITIES

Resort Jobs		
Hotel management	Food & beverage operations	Financial services
Hotel facilities	Restaurant services	Support services
Hotel marketing	Culinary services	Security services
Housekeeping services	Human resources	Surveillance
Hotel administration	Entertainment operations	Hotel services
SOURCE: AES, 2011.		

The Economic Impact Study (**Appendix I**) was updated (**Update of Fiscal and Economic Analysis Report, Tables E and F, Appendix I**) to reflect current expectations for employment at the proposed facility based on experience at other, similar STOF facilities. The updated report concluded that operation activities associated with the Alternative A hotel/resort would generate an annual total of approximately 2,239 employment opportunities to be captured within Broward County³. Direct employment impacts were estimated to total approximately 1,294 full time equivalent (FTE) job opportunities (**Appendix I**). Indirect and induced employment opportunities were estimated to total 945 FTEs, and would be dispersed and distributed among a variety of different industries and businesses throughout Broward County. The generation of employment and associated wages during the operation of Alternative A would be a beneficial effect.

For the purposes of this analysis, it is assumed that the unemployment rate for Broward County will follow a similar trend to what has been projected for the U.S. as described in **Section 3.7**. The County experienced an unemployment rate of 4.7 percent in 2015 and a labor force of approximately 1,002,081 people (**Table 4.7-2**).

TABLE 4.7-2
BROWARD COUNTY LABOR MARKET

2015	
Labor Force	1,002,081
Unemployment (Rate)	47,119 (4.7%)
SOURCE: Bureau of Labor Statistics, AES Table 3.7-4.	

For reasons described above under *Economic Effects*, Alternative A is not expected to result in significant permanent job loss elsewhere due to substitution effects.

³ These figures do not include employment at the existing Coconut Creek Casino or employment associated with any future development or expansion of the casino.

Sub-Alternative A-1

Sub-Alternative A-1 would be expected to generate the same number of employment opportunities (1,886) within Broward County as Alternative A. Construction and operation of Sub-Alternative A-1 would generate substantial employment opportunities and wages that would be filled by the available labor force in Broward County. This would result in employment and wages for persons previously unemployed, increasing the ability of the population to provide themselves with health and safety services and contributing to the alleviation of poverty among lower income households. This is a beneficial economic effect. No mitigation is required.

Summary of Employment Effects

Construction and operation of Alternative A would generate substantial temporary and ongoing employment opportunities and wages that would be filled by the available labor force in Broward County. Given the projected unemployment rate, and the dynamics of the local labor market, Broward County is anticipated to be able to easily accommodate the increased demand for labor during the operation of Alternative A. This would result in employment and wages for persons previously unemployed and contribute to the alleviation of poverty among lower income households. This is a beneficial economic effect. No mitigation is required.

Sub-Alternative A-1

The employment effects of Sub-Alternative A-1 would be expected to be the same as those described above for Alternative A.

HOUSING

Based on the information presented in **Section 3.7.2**, in 2012, the Broward County housing market is projected to have 830,673 total units and 189,729 vacant units (**Table 4.7-3**). As shown in **Section 3.7.2**, there are also an estimated 43,440 housing units available for rent or purchase within 10 miles of the project site. Many of these units are located in communities where average housing prices are lower than the County average. Additionally, in order to avoid potential impacts to affordable housing, STOF has previously agreed to comply with the City of Coconut Creek Affordable Housing Program, Section 13-100 through 13-117 (**Appendix G, Ordinance No. 2011-005**).

TABLE 4.7-3
ESTIMATED 2012 HOUSING MARKET

	Housing Units
Total Units	830,673
Occupied Units	640,944
Vacant Units	189,729
% Vacant	22.8%
SOURCE: U.S. Census Bureau, 2000-2009; AES, 2011.	

As indicated in **Table 4.7-3**, more than enough vacant housing is anticipated to be available to accommodate any employees who might relocate to the area to accept a position at the project site. Due

to the unemployment rates and existing available labor force in Broward County it is not expected that new jobs would be filled by workers relocating to the area. Indirect and induced employment opportunities would be dispersed among a variety of different businesses in Broward County. Since these opportunities would be located at a variety of locations throughout Broward County, it is expected that employees would be located in the vicinity of these locations, and would not require relocation.

Based on regional housing stock projections, and current trends in Broward County housing market data, there are anticipated to be an adequate supply of vacant homes to support potential impacts to the regional labor market under Alternative A. Therefore, Alternative A would not stimulate regional housing development. A significant adverse impact to the housing market would not occur. No mitigation is required.

Sub-Alternative A-1

The 2012 County housing market as discussed under Alternative A would fulfill the demands for housing under Sub-Alternative A-1. This impact would be comparable to Alternative A. Sub-Alternative A-1 would not result in significant adverse effects to the housing market. No mitigation is required.

SOCIAL EFFECTS

Crime

Alternative A would introduce a large number of resort and spa patrons and employees into the community on a daily basis. As a result, under Alternative A, criminal incidents would be expected to increase in the project area, particularly at the project site, at the same rate as any other development of this size. Based on the experience at the Seminole Hollywood Hard Rock Hotel, it is estimated that the Seminole Coconut Creek Hotel and Spa would experience 175 police incidents per month, of which 70 incidents per month would go to court. Increased indirect tax revenues resulting from Alternative A and local agreements between the Tribe and the City of Coconut Creek would fund expansion of law enforcement services required to accommodate increased service demands (**Section 5.2.6**). Additionally, STOF have expressed a willingness to discuss compensation to Broward County for project-related costs to the County courts and judicial system, as well as regionalized public safety services. Thus, Alternative A would not result in significant adverse effects associated with crime. No mitigation is required. Potential impacts to law enforcement services are addressed in **Section 4.10**, Public Services.

Schools

Transferring the project site from fee to federal trust would reduce property tax revenues accruing to the Broward County Public Schools (BCPS); however, due to the unemployment rate and existing labor pool in Broward County, the construction and operation of Alternative A would not result in an increase in the number of kindergarten through 12th grade students enrolled in BCPS. The potential exists that a limited number of employees could relocate to the project area as a result of Alternative A, as noted in the *Housing* section above, these effects would be negligible. Additionally, given that any new students would be distributed across all grade levels between kindergarten and high school, any new students enrolling in BCPS as a result of the project would be a nominal impact on the district. Further, if Alternative A were to result in relocation of families to the area, BCPS would likely collect additional tax revenue from the families of new students and would use these taxes to hire additional teachers if necessary to meet additional demand. Therefore, any increased enrollment would have a nominal effect

on the ability of BCPS to provide education services at existing levels. Under the Coconut Creek Agreement, the Tribe agrees to pay the City of Coconut Creek \$2,750,000 annually in order to offset potential impacts of the proposed development. These annual payments would provide support for public services, community benefits, and utilities throughout the region.

Additionally, in accordance with the Agreement with the City of Coconut Creek, the Tribe shall make annual payments to an educational foundation or trust fund for the benefit of Coconut Creek residents, students of public schools located in Coconut Creek, and the children of employees of the City in order to fund educational programs for the benefit of the residents of Coconut Creek and public school students. With implementation of the Agreement, Alternative A would not result in adverse impacts to Broward County Public Schools. No mitigation is required.

Libraries and Parks

Effects to area libraries and parks could occur if the employees or patrons of Alternative A significantly increase the demand for these resources. Due to the limited number of employees expected to relocate to the project area, as noted in the *Housing* section above, it is expected that these effects would be negligible. Additionally, due to the resort/spa character of Alternative A, it is not anticipated that patrons would frequent local libraries or parks. Therefore, there would be a less than significant effect to libraries and parks. No mitigation is required.

Sub-Alternative A-1

Social effects and effects to community infrastructure would be similar for Sub-Alternative A-1 as those described for Alternative A. The anticipated new income and employment opportunities under Sub-Alternative A-1 would be a beneficial impact. However, unlike Alternative A, under Sub-Alternative A-1 the Coconut Creek Agreement would not be implemented and payments would not be made to the City of Coconut Creek to offset potential impacts as a result of development on the project site. However, with the anticipated increase in tax revenues from indirect activities as described under Alternative A, a significant adverse impact to social issues and community infrastructure would not occur. No mitigation is required.

EFFECTS TO THE SEMINOLE TRIBE OF FLORIDA

Alternative A would benefit the Tribe in at least two ways. First, it would generate new income to fund operation of the Tribal Government. This income would have a beneficial effect on Tribal attitudes, expectations, quality of life and culture by funding Tribal programs that serve Tribal members, including education, health care, housing, social services, and Tribally-sponsored cultural events, and by supporting Tribal self-sufficiency and self-determination. Second, Tribal members would have access to new jobs created on the project site, including highly-sought after management positions. Employment generated by this Alternative would not only allow Tribal members to enjoy a better standard of living, but would also provide an opportunity for some Tribal members to reduce or end their dependence on government funding. The creation of employment opportunities would benefit Tribal members as well as local taxpayers in general. This would be a beneficial impact.

Sub-Alternative A-1

The economic and social benefits to the Tribe of Sub-Alternative A-1 would be the same as described above for Alternative A.

ENVIRONMENTAL JUSTICE: MINORITY AND LOW-INCOME COMMUNITIES

Subsection 3.7.3 describes local populations near the project site that could be affected by development of Alternative A to determine if any minority or low-income populations exist. No low-income or minority communities, except for the Tribe itself, were identified in the vicinity of the project site. No residences would be acquired for the project. Additionally, the site is currently used for surface parking; development of the resort/spa would result in an increase in employment opportunities for the region beyond what is currently provided at the site, which would be a beneficial effect for the communities in the vicinity. Wages presented in the Economic Impact Study have been updated (Update of Fiscal and Economic Analysis Report, Table E, **Appendix I**). Wages at the new hotel/spa are estimated to average \$10.76 per hour for the 1,294 employees. Inclusive of benefits, this equates to compensation of approximately \$30,193 per year. This would be a positive impact for the low-income community because these positions, even the low wage positions, would increase the market demand for labor and the number of jobs available in the community. As discussed in Chapter 2, STOF has previously agreed to comply with the City Affordable Housing Program (Section 13-100 through 13-117). The annual payment to the City includes continuing funds to support Affordable Housing programs in the City. Effects to the Seminole Tribe are discussed above. Alternative A would not result in significant adverse effects to minority or low-income communities.

Sub-Alternative A-1

No minority or low-income communities were identified in the vicinity of the Project Site. Effects to the Seminole Tribe are discussed above. As such, Sub-Alternative A-1 would not result in significant adverse effects to minority or low-income communities.

4.7.3 ALTERNATIVE B – REDUCED INTENSITY ALTERNATIVE

ECONOMIC EFFECTS

The anticipated economic effects under Alternative B would be similar to but less than Alternative A since Alternative B is reduced in size and scope. Operation of Alternative B would generate increased revenues for a variety of businesses in Broward County as a result of increased economic activity in the region. Broward County businesses would in turn increase their spending, and labor demand, thereby further stimulating the local economy. These economic effects would result from an estimated 1,300 daily customer patrons attributable to Alternative B. This would be a beneficial impact. No mitigation is required.

Tax Revenues

Under Alternative B, the number of parcels transferred into trust for the Tribe would be reduced from six parcels to four. As such, the decrease in property tax revenues for local governments would be less than Alternative A since fewer parcels would be transferred into trust and removed from property tax rolls under Alternative B. The transfer of land into trust under Alternative B would result in a loss of approximately \$553,595 from Broward County's property tax revenues, which would reduce the amount

of tax revenue available for public agencies, including Broward County and the City of Coconut Creek, to provide public services. Under Alternative B, STOF would pay property taxes on the parcels that remain in fee ownership (Tracts G and H) and the site would generate an estimated \$1,374,491 per year in property tax revenues⁴. There is no fee to park at the parking garage or any of the on-site surface lots. Parking is an amenity and does not directly generate any revenue. Similar to Sub-Alternative A-1, under Alternative B, the Coconut Creek Agreement would not be implemented and payments would not be made to the City of Coconut Creek to offset costs and expenses incurred by the City as a result of transferring four parcels into trust for the Tribe. However, under Alternative B, the Tribe would provide water treatment and fire and police services on the site; therefore, the City of Coconut Creek would not incur expenses related to water treatment, fire services, or police services. Additionally, increased tax revenues would be generated for federal, state and local governments from activities including secondary economic activity generated by tribal gaming (i.e., the indirect and induced effects of the economic impact analysis).

Local governments include Broward County, the City of Coconut Creek, and other cities within Broward County that would experience economic activity as a result of Alternative B. The increased taxes on secondary economic activity include: corporate profits tax, income tax, sales tax, excise tax, property tax, and personal non-taxes, such as motor vehicle licensing fees, fishing/hunting license fees, other fees, and fines. Potential effects due to the loss of state and federal tax revenues resulting from the operation as a sovereign nation on trust land would be offset by increased local, state and federal tax revenues resulting from construction and operation of Alternative B. As such, Alternative B would not result in significant adverse effects to tax revenues. No mitigation is required.

Substitution Effects

Potential substitution effects from the operation of Alternative B would be similar to but less than those described under Alternative A since Alternative B is reduced in size and scope. It is not anticipated that significant substitution effects would occur. No mitigation is required.

Impacts to Surrounding Property Values

Impacts to property values would be similar to those described under Alternative A. Properties surrounding the project site may increase in value due to speculation for commercial growth. This is a beneficial impact. No mitigation is required.

Summary of Economic Effects

Construction and operation of the Alternative B would generate substantial economic output for a variety of businesses in Broward County. Additionally, Alternative B would generate substantial indirect tax revenues for state, County, and local governments. Overall, Alternative B would result in a beneficial impact to the Broward County economy.

⁴ Tax revenues are for fiscal year 2015. The assessed value of Tracts G & H increased to include the newly constructed parking garage.

EMPLOYMENT

The anticipated employment effect under Alternative B would be similar to but less than Alternative A since Alternative B is reduced in size and scope. Specifically, Alternative B would generate approximately 2,500 one-time construction related job opportunities. Resort operations would result in an annual total of approximately 1,546 FTE employment opportunities to be captured within Broward County⁵ (**Appendix I**). Direct employment impacts were estimated to total approximately 893 full time equivalent (FTE) job opportunities (**Appendix I**). Construction and operation of Alternative B would generate substantial employment opportunities and wages that would be primarily filled by the available labor force in Broward County. This would result in employment and wages for persons previously unemployed, increasing the ability of the population to provide themselves with health and safety services and contributing to the alleviation of poverty among lower income households. This would be a beneficial effect. No mitigation is required.

HOUSING

As discussed under Alternative A, the 2015 County housing market would fulfill the demands for housing under Alternative B. This impact would be comparable to but less than Alternative A since Alternative B is reduced in size and scope. Alternative B would not result in significant adverse effects to the housing market. No mitigation is required.

SOCIAL EFFECTS, EFFECTS TO THE SEMINOLE TRIBE OF FLORIDA, COMMUNITY INFRASTRUCTURE

Social effects, effects to the Seminole Tribe of Florida, and effects to community infrastructure are similar to but less than those described for Alternative A because Alternative B is reduced in size and scope. The new income and employment opportunities under Alternative B would be a beneficial impact for the Tribe, but less so than for Alternative A. Effects to schools and libraries and parks would be similar to, but less than those described under Alternative A because Alternative B is reduced in size and scope. This would be a less than significant impact. No mitigation is required.

ENVIRONMENTAL JUSTICE: MINORITY AND LOW-INCOME COMMUNITIES

No minority or low-income communities were identified in the vicinity of the Project Site, other than the Tribe itself. Effects to the Seminole Tribe are discussed above. As such, Alternative B would not result in significant adverse effects to minority or low-income communities. No mitigation is required.

4.7.4 ALTERNATIVE C – NO ACTION BY THE FEDERAL GOVERNMENT

ECONOMIC EFFECTS

The direct economic effects for both construction and operation of Alternative C are similar to those described for Alternative A. Under Alternative C, development of the project would proceed as proposed under Alternative A, including implementation of the Coconut Creek Agreement; however, the land would not be transferred into trust by the federal government.

⁵ These figures do not include employment at the existing Coconut Creek Casino or employment associated with any future development or expansion of the casino.

Similar to Alternative A, new spending from the operation of Alternative C would be expected to generate a net total output of approximately \$107.7 million annually within the County. Operation of Alternative C would generate increased revenues for a variety of businesses in Broward County as a result of increased economic activity in the region. Broward County businesses would in turn increase their spending, and labor demand, thereby further stimulating the local economy. This would be a beneficial economic effect. No mitigation is required.

Sub-Alternative C-1

Under Sub-Alternative C-1 development would not occur. Sub-Alternative C-1 assumes that existing uses on the project site would not change in the near term, although the property would be available for other future development. Under this sub-alternative, the BIA would not take any actions in furtherance of its obligation to promote tribal self-determination and economic development, and the Coconut Creek Agreement would not be implemented. None of the potentially beneficial or adverse economic effects identified for Alternatives A through C would occur.

Tax Revenues

Alternative C would result in a variety of fiscal impacts. Alternative C would increase demand for public services, resulting in increased costs for local governments to provide these services. Under Alternative C, land would not be transferred into trust for the Tribe. Therefore, the property would remain in fee title and would remain on the Broward County property tax rolls. Property tax collected by the County would increase with development and associated increase in value of the parcels. Broward County estimates that, at full build out, the Seminole Hotel and Spa would generate a total of \$2,077,798 in annual property tax revenues for the County (Broward County, Appendix N – Letter A3 – Comment A3-7). EIS **Appendix I** estimates that Alternative C would result in incremental annual tax revenue to the County, Broward County School Board, and other local agencies of \$1,860,000, \$2,364,000, and \$800,000, respectively (Table 4, **Appendix I**). In addition, additional tourist development taxes are estimated at \$1,577,000 per year. The anticipated increase in tax revenues from indirect activities as described under Alternative A, as well as the increase in property tax revenues, would be a beneficial impact. No mitigation is required.

Substitution Effects

Potential substitution effects from the operation of Alternative C would be the same as those described under Alternative A. It is not anticipated that significant substitution effects would occur. No mitigation is required.

Impacts to Surrounding Property Values

Impacts to property values would be similar to those described under Alternative A. Properties surrounding the project site may increase in value. This is a beneficial impact. No mitigation is required.

Summary of Economic Effects

Construction and operation of the Alternative C would generate substantial economic output for a variety of businesses in Broward County. Additionally, Alternative C would generate substantial tax revenues for state, County, and local governments. Overall, Alternative C would result in a beneficial impact to the Broward County economy.

EMPLOYMENT

Similar to Alternative A, Alternative C would be expected to generate approximately 2,239 employment opportunities within Broward County. Construction and operation of Alternative C would generate substantial employment opportunities and wages that would be primarily filled by the available labor force in Broward County. This would result in employment and wages for persons previously unemployed, increasing the ability of the population to provide themselves with health and safety services and contributing to the alleviation of poverty among lower income households. This is a beneficial economic effect. No mitigation is required.

Sub-Alternative C-1

Under Sub-Alternative C-1 development would not occur and employment would not change compared with current conditions.

HOUSING

The 2012 County housing market as discussed under Alternative A would fulfill the demands for housing under Alternative C. This impact would be comparable to Alternative A. Alternative C would not result in significant adverse effects to the housing market. No mitigation is required.

Sub-Alternative C-1

Under Sub-Alternative C-1 development would not occur and demand for housing would not change compared with current conditions.

SOCIAL EFFECTS, EFFECTS TO THE SEMINOLE TRIBE OF FLORIDA, COMMUNITY INFRASTRUCTURE

Social effects, effects to the Seminole Tribe of Florida, and effects to community infrastructure are similar to those described for Alternative A. The anticipated new income and employment opportunities under Alternative C would be a beneficial impact for the Tribe. Similar to Alternative A, under Alternative C the Coconut Creek Agreement would be implemented and payments would be made to the City of Coconut Creek to offset potential impacts as a result of development on the project site. As described in the Tax Revenues section above, STOF would make tax payments to local jurisdictions if the property remains in fee and these funds would be directly off-set by a reduction in revenues to the STOF. Although the tax is substantial in dollar terms, it would not result in a significant loss of revenue to STOF. A significant adverse impact to social issues and community infrastructure would not occur. No mitigation is required.

Sub-Alternative C-1

Under Sub-Alternative C-1 development would not occur. Sub-Alternative C-1 assumes that existing uses on the project site would not change in the near term, although the property would be available for other future development. Under this alternative, the BIA would not take any actions in furtherance of its obligation to promote tribal self-determination and economic development, and the Coconut Creek Agreement would not be implemented. None of the potentially beneficial or adverse social effects identified for Alternatives A through C would occur.

ENVIRONMENTAL JUSTICE: MINORITY AND LOW-INCOME COMMUNITIES

No minority or low-income communities were identified in the vicinity of the Project Site, other than the Tribe itself. Effects to the Seminole Tribe are discussed above. As such, Alternative C would not result in significant adverse effects to minority or low-income communities.

Sub-Alternative C-1

Under Sub-Alternative C-1 development would not occur. Sub-Alternative C-1 assumes that existing uses on the project site would not change in the near term, although the property would be available for other future development. Under this alternative, the BIA would not take any actions in furtherance of its obligation to promote tribal self-determination and economic development, and the Coconut Creek Agreement would not be implemented. None of the potentially beneficial or adverse effects identified for Alternatives A through C would occur.

4.8 TRANSPORTATION/CIRCULATION

This section identifies the direct effects to transportation and circulation that would result from development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.8**. Indirect effects associated with off-site construction and growth-inducement are identified in **Section 4.14**. Cumulative effects are identified in **Section 4.15**. Measures to avoid and, if necessary, mitigate for adverse effects are presented in **Section 5.2.7**.

4.8.1 ANALYSIS METHODOLOGY

The development of the Proposed Project would result in the addition of vehicle traffic to local intersections and roadways. A Transportation Planning Study (TPS) was prepared for inclusion into this Environmental Impact Statement (EIS), analyzing each development alternative. The TPS is provided in **Appendix E**. Appendix H of the TPS has been updated to reflect the new significance criteria. The subsequent surrounding roadway link analysis has been updated per comments received during the Draft EIS comment period. This section incorporates the results of the TPS and describes the number of trips that would be generated by each alternative's component and any potential adverse effect that would occur to area roadways and intersections within the TPS defined study area. Traffic effects resulting from the alternatives were analyzed using trip generation rates presented in the TPS. The trip generation rates were developed using nearby resort trip counts and rates provided in the Institute of Traffic Engineers *Trip Generation Manual 8th Edition* (ITE, 2009).

CONSULTATION

Multiple scoping discussions were held with the City of Coconut Creek (City), Broward County (County), and the Florida Department of Transportation (FDOT) to determine the appropriate study area and analysis methodologies for the TPS (**Appendix E**).

STUDY AREA

To assess changes in traffic conditions, 13 intersections, selected through consultation with the City, County, and FDOT, were evaluated for each project alternative. The preliminary study area was defined as the roadways bounded by Holmberg Road to the north Royal Palm Boulevard to the south, University Drive to the west and Powerline Road to the east (refer to figure 2.1 in **Appendix E**). Detailed descriptions of final study intersections and roadways are included in **Section 3.8** and **Appendix E**.

METHODOLOGIES

The methodology and assumptions used in the TPS are consistent with standard procedures and general guidelines applicable to traffic studies within the State of Florida. The methodology has been developed in accordance with the following documents:

- Chapter 380.06 of the Florida Statutes;
- The State of Florida Department of Community Affairs, Rule 9J-2.045, F.A.C., Transportation Uniform Standard Rule, Approved in 1994;
- The 2000 Highway Capacity Manual, Published by the Transportation Research Board;

- Project Traffic Forecasting Handbook, Topic No. 525-030-120, Published by the FDOT, October 2002;
- 2009 Quality/Level of Service Handbook, Published by the FDOT; and
- 2009 Florida Traffic Information CD-ROM, Published by the FDOT.

Assessment Criteria

The potential for adverse effects as a result of project related traffic was determined based on acceptable level of service (LOS) standards determined by the appropriate local jurisdictional agency. Consistent with current traffic engineering practices in Florida for large scale projects (DRIs), a roadway segment is determined to be significantly impacted by a proposed project only if both of the following criteria are met:

- The afternoon (PM) peak hour directional volume exceeds the adopted LOS D standard; and
- Regional roadway segments where project trips equal or exceed three percent of the adopted peak-hour directional maximum service volume.

However, the above significance criteria assume that the roadway is operating, without project traffic at a LOS D or better, which is not always the case. For this analysis if a roadway is operating at a LOS E or F without project traffic and the roadway with project traffic is improved such that it operates equal to or better than it did without project traffic, impacts are considered to be mitigated and would result in a less than significant impact.

Analysis Year and Final Study Area

Data for the 2011 existing year conditions analysis were collected within the study area during the spring of 2011. The Short-term (build-out year) and Long-term (cumulative) analyses were conducted for years 2020 and 2035, respectively.

In the State of Florida, developments of regional impact (DRI) are typically regulated under Chapter 380.06 of the Florida Statutes and defined as “any development which, because of its character, magnitude, or location, would have a substantial effect upon the health, safety, or welfare of citizens of more than one county”. Under this DRI process, study area limits are established by Rule 9J-2.045 to assure the regional peak-directional project trips equal or exceed five percent of the peak-directional adopted level of service (LOS) standard. However, based on comments received during the Draft EIS comment period, the five percent was revised based on a three percent threshold. This definition was applied to the roadways in the vicinity of the project site.

The regional roadway segments where project trips equal or exceed three (3) percent of the adopted peak-hour directional maximum service volume define the extent of the study area. The roadway segments that meet this criterion during the year 2020 are:

- Cullum Road between SR-7/US-441 and NW 54th Avenue; and
- NW 54th Avenue between Sample Road and Cullum Road.

Trip Generation Rates

The PM peak hour trips generated by each component of the Proposed Project were estimated using trip information from the existing Seminole Coconut Creek Casino, located adjacent to the Proposed Project, and trip information from the near-by Seminole Hard Rock Resort (a similar type and sized casino resort). The existing resort trip information was compared with the ITE manual trip generation rates to determine an appropriate trip rate for the Proposed Project. The trip generation rate methodology is provided in Section 3.4 of **Appendix E**. Project-related trips were assigned to various roadways in the project study area, Figures 3.3 of **Appendix E**.

An annual growth rate was applied along roadways in the final study area based on historic average annual daily trip volumes and based on the Southeast Florida Regional Planning Model volumes from the adopted base (2005) year and horizon (2035) year (**Appendix E**). Programmed and planned roadway improvements, provided in the TPS were added to the transportation network where and when appropriate (refer to Section 3.6 of **Appendix E**).

The projected vehicle trip generation during the PM peak hour resulting from Alternatives A, B, C, and Sub-Alternative A-1, is shown in **Table 4.8-1**. Trips generated under Alternative B would only be slightly less than the other alternatives shown in **Table 4.8-1** despite the fact that this alternative has 500 fewer hotel rooms because most trips are associated with the Casino and not the hotel or other ancillary activities. As no new development would occur on the project site under Sub-Alternative C-1, no new vehicle trip are assumed to occur.

TABLE 4.8-1
ALTERNATIVES PEAK HOUR TRIP GENERATION (PM PEAK)

Alternative	Trips Generated		
	In	Out	Total Trips
A	264	257	521
Sub A-1	264	257	521
B ¹	211	205	416
C	264	205	524

SOURCE: Keith and Schnars, 2012

Future Baseline Conditions

To assess project related impacts, future baseline traffic conditions were estimated for the Short-term year 2020, which corresponds to the timing of full build-out of the project alternatives (Alternative B build-out is 2018). 2020 No Project baseline traffic conditions were estimated by adding projected traffic growth from locally approved and/or reasonably foreseeable projects to existing traffic volumes (Keith and Schnars, 2012).

¹ Alternative B has more retail space than the other alternatives and this would nearly off-set the reduced traffic associated with the smaller, 500 room hotel.

Build-out year No Project background traffic volumes of each alternative are different due to differing land use intensities assumed to occur on both the project site and the adjacent Coconut Creek Casino site (Tract 65).

Roadway Segments

The No Project PM peak hour roadway segments that would operate below the adopted LOS D are listed below for Alternatives A, Sub-Alternative A-1, B, and C:

Alternatives A, Sub-A-1, and C (2020 Build-out)

- Sample Road between SR-7/US-441 and NW 54th Avenue (LOS F)
- Sample Road between NW 54th Avenue and Banks Road (LOS F)
- Sample Road between Banks Road and Lyons Road (LOS F)
- Lyons Road between Sample Road and Cullum Road (LOS F)
- Lyons Road between Cullum Road and Wiles Road (LOS F)

Alternative B (2018 Build-out)

- Sample Road between SR-7/US-441 and NW 54th Avenue (LOS F)
- Sample Road between NW 54th Avenue and Banks Road (LOS F)
- Sample Road between Banks Road and Lyons Road (LOS F)

Intersections

Build-out PM peak hour background 2020 intersection analysis results are provided in **Table 4.8-2** for Alternatives A, Sub-A-1, and C.

The operational analysis identified the intersections for each alternative where delays are equivalent to LOS E or F during the PM peak hour. The following intersections are estimated to operate at LOS E or F for each alternative during the background conditions:

Alternatives A, Sub-A-1, and C (2020 Build-out)

- Sample Road and NW 54th Avenue (115.1 seconds/vehicle, LOS F);
- Sample Road and Banks Road (92.8 seconds/vehicle, LOS F);
- Sample and Lyons Road (160.0 seconds/vehicle, LOS F);
- SR-7/US-441 and NW 40th Street (55.9 seconds/vehicle, LOS F);
- SR-7/US-441 and Cullum Road (76.1.8 seconds/vehicle, LOS E);
- SR-7/US-441 and Wiles Road (116.1.0 seconds/vehicle, LOS F);
- Lyons Road and Wiles Road (100.0 seconds/vehicle, LOS F)

TABLE 4.8-2
BUILDOUT YEAR PM PEAK HOUR CONDITIONS

Intersections	Build-out PM Peak Traffic	
	Delay	LOS
Sample Road and SR-7/US-441	29.02	C
Sample Road and South Service Road	15.1	C
Sample Road and NW 54 th Avenue	115.5	F
Sample Road and Banks Road	92.8	F
Sample Road and Lyons Road	160.0	F
SR-7/US-441 and NW 40 th Street	55.9	F
SR-7/US-441 and Cullum Road	76.1	E
SR-7/US-441 and Wiles Road	116.1	F
Lyons Road and Cullum Road	19.6	B
Lyons Road and Wiles Road	100.0	F
NW 54 th Avenue and South Access	NA	NA
NW 54 th Avenue and 40 th Street (EBR)	15.5	B
NW 54 th Avenue and Cullum Road	1.0	D
Banks Road and Cullum Road	0.62	B
Banks Road and Wiles Road (NB Approach)	20.5	C
SOURCE: Keith and Schnars, 2012		

The Alternative B, PM peak hour, 2018 build-out, background intersection analysis results are provided in **Table 4.8-3**.

The following intersections are estimated to operate at LOS E or F for Alternative B during the 2018 build-out background conditions:

Alternative B (2018 Build-out)

- Sample Road and NW 54th Avenue (90.4 seconds/vehicle, LOS F);
- Sample Road and Banks Road (56.3 seconds/vehicle, LOS E);
- Sample and Lyons Road (136.3 seconds/vehicle, LOS F);
- SR-7/US-441 and NW 40th Street (42.7 seconds/vehicle, LOS E)
- SR-7/US-441 and Wiles Road (81.0 seconds/vehicle, LOS F);

TABLE 4.8-3
ALTERNATIVE B BUILDOUT YEAR PM PEAK HOUR CONDITIONS

Intersections	Build-out PM Peak Traffic	
	Delay	LOS
Sample Road and SR-7/US-441	28.0	C
Sample Road and South Service Road	14.0	B
Sample Road and NW 54 th Avenue	90.4	F
Sample Road and Banks Road	56.3	E
Sample Road and Lyons Road	136.3	F
SR-7/US-441 and NW 40 th Street	42.7	E
SR-7/US-441 and Cullum Road	54.4	D
SR-7/US-441 and Wiles Road	101.9	F
Lyons Road and Cullum Road	19.2	B
Lyons Road and Wiles Road	81.0	F
NW 54 th Avenue and South Access	NA	NA
NW 54 th Avenue and 40 th Street (EBR)	12.0	B
NW 54 th Avenue and Cullum Road	0.72	B
Banks Road and Cullum Road	0.42	B
Banks Road and Wiles Road (NB Approach)	15.2	B
SOURCE: Keith and Schnars, 2012		

4.8.2 ALTERNATIVE A – PROPOSED PROJECT

SITE ACCESS

Site access under Alternative A will be provided by three existing driveways, along NW 54th Avenue north of the intersection of NW 54th Avenue and NW 40th Street, along SR-7/US-441, and along Sample Road. Several roadway improvements surrounding the project site have been previously proposed in various agreements between STOF and the City of Coconut Creek. The roadway improvements are provided in Section 7.2 of **Appendix E**. These improvements include all access intersections, which will be made to manage safe ingress and egress of traffic at the project site.

ALTERNATIVE A CONSTRUCTION TRAFFIC IMPACTS

Construction Impacts

Impacts resulting from the construction of Alternative A would be temporary in nature. Traffic impacts from construction activities for the Proposed Project would be concentrated on SR-7 /US-441 and Sample Road in the immediate vicinity of the project site, as construction activity would be

focused at the project site. Traffic-related construction impacts typically experienced may include traffic delays, one-way traffic control, temporary road closures, and traffic detours. At times, emergency services may experience a delay in response time to emergencies when traveling along SR-7/US-441 and Sample Road in the vicinity of the project site, and NW 54th Avenue adjacent to the project site.

The introduction of material delivery trucks on Sample Road and NW 54th Avenue and/or access roadway would disrupt traffic flow and require the appropriate signage and flagging to ensure safe operations. These safety conditions are included as mitigation measures in **Section 5.7**. Implementation of these measures would result in a less than significant impact to traffic during construction of the Proposed Project.

ROADWAY SEGMENTS

Using the significance criteria listed above in **Section 4.8.1**, only roadway segments with project trips equal to or exceeding three (3) percent of peak hour directional volumes along a failing roadway would be determined to be significantly impacted (**Appendix E**). Using this regional standard, the following roadway segment within the study area is shown to operate below the adopted LOS D during the PM peak hour, and is therefore deemed significantly impacted.

- NW 54th Avenue between NW 40th Street and Cullum Road

With the implementation of mitigation measures provided in **Section 5.2.7**, including intersection improvements, the impacts to NW 54th Avenue between NW 40th Street and Cullum Road would be reduced to a less than significant level. This improvement is not included in the PMDD or the DRI and would need to be designed, and approved by local and state authorities, prior to implementation. The STOF would assume the cost of funding this improvement.

INTERSECTIONS/ACCESS POINTS

Using appropriate regional significance criteria, only intersections located along a significantly impacted roadway (refer above) and direct site access points with failing LOS can be considered significantly impacted intersections (**Appendix E**). Using this standard there are three intersections within the study area (located along NW 54th Avenue between 40th Street and Cullum Road) which are considered significantly impacted by project-related traffic.

- NW 54th Avenue and Cullum Road;
- NW 54th Avenue and NW 40th Street; and
- NW 54th Avenue and North Site Access.

Also, one site access point, the West Access at SR-7/US-441 and NW 40th Street, is impacted due to operation at unacceptable LOS during Phase IV (2018).

The mitigation measures provided in **Section 5.7** would be implemented by build-out year 2020 or sooner if warranted by traffic conditions. These improvements would increase operating conditions at the failing intersections which operated above the acceptable LOS prior to project implementation. Additional mitigation measures have been provided in Section 5.7, as included within the PMDD to

improve traffic flow within the immediate vicinity of the project site. The STOF and City agreed upon improvements, provided in the PMDD, although not warranted based on the significance criteria included within Appendix E, shall be implemented for Alternative A.

Therefore, with mitigation, the operational transportation impacts from Alternative A would be less than significant with mitigation.

TRANSIT, BICYCLE, AND PEDESTRIAN FACILITIES

Pedestrians

Pedestrian facilities are available on both sides of most major roadways in the vicinity of the project site. The applicable design and construction standards for both Florida Department of Transportation (FDOT) and Broward County were the basis of the design and construction of these pedestrian facilities. Construction of additional pedestrian facilities would be designed and constructed in accordance with FDOT and Broward County standards. Pedestrian facilities in the vicinity of the project site have the capacity to accommodate any increase in project related pedestrian traffic. The 2035 Long Range Transportation Plan (LRTP) identifies two cost effective sidewalk projects within the vicinity of the project site. These improvements include; SR-7/US-441 between NW 40th Street connector and Cullum Road and West Sample Road between Turtle Creek Drive and Lyons Road. There are several bicycle facilities with the study area. The 2035 LRTP has identified a number of cost effective bicycle project to be construction in the vicinity of the project site (refer to Section 5.4.4 of **Appendix E**). The Proposed Project would not attract a large number of bicycles; therefore, it is anticipated that the current bicycle network would be sufficient to accommodate a minimal addition in bicycle traffic resulting from the Proposed Project.

Transit

Currently, the project vicinity is served by four Broward County Transit (BCT), one City of Margate Inner-City service route, and two City of Coconut Creek bus services routes. These buses provide alternate travel modes for residents in the City of Coconut Creek and surrounding communities, as well as Broward County (refer to Section 4.0 of **Appendix E** for additional route information). The BCT routes are Route 18, Route 31, Route 34, and Route 441 Breeze. City of Coconut Creek Route “N” provides direct service to the existing Coconut Creek Casino via Cullum Road and NW 54th Avenue.

The main element of Alternative A is a 1,000 room hotel which is a land use that does not rely heavily on public transportation. The Proposed Project does, however, have retail and dining elements which have greater potential for patrons to utilize public transportation. Based on a two percent (2%) share of PM transit trips, Alternative A is estimated to have 59 transit trips (**Appendix E**).

However, the project area is currently served by seven local buses, most of which provide service to the project every thirty minutes during the morning (AM) and PM peak periods. Due to the number of buses currently serving the project area and the assumed small increase in project-related riders, there would not be a significant impact to public transit with the implementation of the Proposed Project. This is a less than significant impact.

SUB-ALTERNATIVE A-1

Site Access

Access to the Sub-Alternative A-1 site will be provided via four existing driveways, two along NW 54th Avenue, one along Sample Road and one along SR-7/US-441. Similar to Alternative A, improvements surrounding the project site have been previously proposed during non-project related agreements between STOF and the City of Coconut Creek. However, because existing service agreements would not be operational under Sub-Alternative A-1, these improvements are not required for project approval. Therefore, mitigation measures have been added in Section 5.7 to facilitate adequate ingress and egress to the project site. These improvements include all access intersections, which will be made to manage safe ingress and egress of traffic at the project site.

Construction

Due to the similar size and scope of development under Sub-Alternative A-1, construction impacts for Sub-Alternative A-1 would be the same as those analyzed under Alternative A. Similar to Alternative A, mitigation measures provided in **Section 5.7**, would reduce temporary traffic impacts during construction to less than significant levels.

Roadway Segments

Due to the similar size and scope of development under Sub-Alternative A-1, potential impacts to local roadway segments under Sub-Alternative A-1 would be the same as those analyzed under Alternative A. Similar to Alternative A, mitigation measures provided in **Section 5.2.7**, would reduce impacts along NW 54th Avenue between NW 40th Street and Cullum Road to less than significant levels.

Intersections/Access Points

Similar to Alternative A, under Sub-Alternative A-1 there are two intersections within the study area which are considered significantly impacted by project-related traffic.

- NW 54th Avenue and Cullum Road;
- NW 54th Avenue and NW 40th Street; and
- NW 54th Avenue and North Site Access.

Similar to Alternative A, one site access point, the West Access at SR-7/US-441 and NW 40th Street, is additionally impacted due to operation at unacceptable LOS during Phase IV (2018) under Sub-Alternative A-1.

The mitigation measures provided in **Section 5.2.7** would be implemented by build-out year 2020 or sooner if warranted by traffic conditions. These improvements would increase operating conditions at the failing intersections which operated above the acceptable LOS prior to project implementation.

The operational transportation impacts from Sub-Alternative A-1 would, therefore, be considered less than significant with mitigation.

Transit, Bicycle, and Pedestrian Facilities

Pedestrian/bicycle/transit analyses for Sub-Alternative A-1 are the same as those analyzed under Alternative A. Less than significant impacts to transit, bicycle, and pedestrian facilities would occur.

4.8.3 ALTERNATIVE B – REDUCED INTENSITY ALTERNATIVE

SITE ACCESS

Access to the project site under Alternative B site will be provided by three existing driveways, one at NW 54th Avenue and recently vacated NW 40th Street, one along Sample Road and one along SR-7/US-441. Similar to Alternative A, improvements surrounding the project site have been proposed previously during non-project related agreements between STOF and the City of Coconut Creek. These improvements include all access intersections, which will be made to manage safe ingress and egress of traffic at the project site.

CONSTRUCTION

Due to the reduced size and scope of Alternative B, construction impacts would be less than those analyzed under Alternative A. Similar to Alternative A, mitigation measures provided in **Section 5.7** would reduce impacts along identified roadway segment to less than significant levels.

ROADWAY SEGMENTS

Due to the reduced size and scope of development under Alternative B, potential impacts to local roadway segments would be less than those analyzed under Alternative A. As identified in **Appendix E**, traffic levels estimated under Alternative B would not exceed local significance criteria for roadway segments. Therefore, no roadway segments were identified as being significantly impacted under Alternative B.

INTERSECTIONS/ACCESS POINTS

Under Alternative B, two project site access points would be significantly impacted by project-related traffic. The access points are as follows:

- NW 54th Avenue and NW 40th Street; and
- SR-7/US-441 and NW 40th Street Connector.

The mitigation measures provided in **Section 5.2.7** under Alternative B would be implemented by build-out year 2018 or sooner if warranted by traffic conditions. These improvements would increase operating conditions at the project site access points which operated above the acceptable LOS prior to project implementation.

Therefore, the operational transportation impacts from Alternative B would be considered less than significant with mitigation.

TRANSIT, BICYCLE, AND PEDESTRIAN FACILITIES***Pedestrians***

As stated under Alternative A, planned pedestrian improvements in the area include; SR-7/US-441 between NW 40th Street connector and Cullum Road and West Sample Road between Turtle Creek Drive and Lyons Road. The 2035 LRTP has identified a number of cost effective bicycle project to be construction in the vicinity of the project site (refer to Section 5.4.4 of **Appendix E**).

Alternative B would not attract a large number of bicycles; therefore, it is anticipated that the current bicycle network would be sufficient to accommodate a minimal addition in bicycle traffic resulting from Alternative B.

Transit

Using the same background data as provided under Alternative A, Alternative B is expected to generate 57 PM peak hour transit trips. As noted above, the project area is currently served by seven local buses, most of which provide service to the project vicinity every thirty minutes during the AM and PM peak periods. Due to the number of buses currently serving the project area and the assumed minor increase in project-related riders, there would not be a significant impact to public transit with the implementation of Alternative B. This is a less than significant impact.

4.8.4 ALTERNATIVE-C – NO ACTION BY FEDERAL GOVERNMENT

Due to the similar size and scope, Alternative C would have the same transportation impacts as identified under Alternative A. Refer to **Section 4.8.2** above. Mitigation measures are provided in **Section 5.2.7** to reduce impacts to a less than significant level.

The mitigation measures provided in **Section 5.2.7** would be implemented by build-out year 2020 or sooner if warranted by traffic conditions. These improvements would increase operating conditions at the failing intersections which operated above the acceptable LOS prior to project implementation. Addition mitigation measures have been provided, as included within the PMDD to improve traffic flow within the immediate vicinity of the project site. The improvements, although not warranted based off the significance criteria included within **Appendix E**, shall be implemented for Alternative C.

Therefore, the operational transportation impacts from Alternative C would be less than significant with mitigation.

Transit, Bicycle, and Pedestrian Facilities

Pedestrian/bicycle/transit analyses for Alternative C are the same as those analyzed under Alternative A. Less than significant impacts to transit, bicycle, and pedestrian facilities would occur.

SUB-ALTERNATIVE C-1 – NO DEVELOPMENT ALTERNATIVE

The traffic conditions under the No Development Alternative would remain the same as those described in the background without project conditions. No project related traffic would be added to the local intersections; therefore, no effects would occur under this alternative.

4.9 LAND USE AND PLANNING

This section identifies the direct effects to land use that would result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.9**. Indirect and cumulative effects are identified in **Section 4.13** and **Section 4.14**, respectively. Measures to mitigate for any potentially adverse effects identified in this section are presented in **Section 5.0**.

4.9.1 ASSESSMENT CRITERIA

Adverse effects would occur if development would be incompatible with adjacent designated land uses, thereby impeding effective local and regional planning efforts.

4.9.2 ALTERNATIVE A – PROPOSED PROJECT

LAND USE

Alternative A would result in approximately 45-acres of land being removed from the City of Coconut Creek's (City) land use jurisdiction and placed into federal trust for the Seminole Tribe of Florida (STOF) and the construction of an entertainment, conference, and hotel complex on land that is currently developed primarily for automobile parking. Once the property is taken into trust, federal or tribal land use regulations would be applicable. However, the STOF tribal government desires to work cooperatively with local and state authorities on land use matters. In furtherance of that goal, STOF has entered into a Mitigation Agreement with the City (**Appendix G**) in which they have agreed that any development of the new trust property will comply with the *Seminole Planned MainStreet Development District for the Seminole Tribe of Florida* (Seminole PMDD; **Appendix G**), other development approvals, and other rules and regulations applicable to the Coconut Creek Fee-to-Trust Lands (see **Section 2.2.2**).

Sub-Alternative A-1

Sub-Alternative A-1 would also remove approximately 45-acres of land from the jurisdiction of the City of Coconut Creek and place the land into federal trust. In addition to the construction of an entertainment, conference, and hotel complex included in Alternative A, Sub-Alternative A-1 would include the construction of on-site water/wastewater infrastructure and a police/fire station. Under Sub-Alternative A-1 it is assumed that the existing zoning and site plan approvals, permits and other service agreements between the City and STOF are not in force. Therefore, once the property is taken into trust, only federal or tribal land use regulations would be applicable.

Consistency with City of Coconut Creek Zoning and Land Use Plans

The project site is within the MainStreet Mixed-Use Transit (MS-T) sub-district of the MainStreet Regional Activity Center (RAC) Area and is zoned as a Planned MainStreet Development District (PMDD). As described in **Section 3.9.2**, the *MainStreet Design Standards* (City of Coconut Creek, 2008) supplement the City of Coconut Creek Land Development Code (LDC) and serve as an overall design framework for future projects within the MainStreet RAC Area. The Seminole PMDD establishes development standards specific to the project site. Since the development program within

the Seminole PMDD is very similar, if not identical, to Alternative A, the construction of Alternative A would be consistent with the area's planned mixed-use developments.

Sub-Alternative A-1

Although local zoning and land use designations would not apply to the project site once the property is taken into trust, the Tribal Government desires to work cooperatively with local and state authorities on land use matters. Sub-Alternative A-1 is similar to the development program within the Seminole PMDD with the exception of the construction of the on-site water/wastewater infrastructure and police/fire station. Development of Sub-Alternative A-1 would be generally consistent with local land use plans.

Effects to Existing and Planned Land Uses

Given the commercial nature of surrounding developments along State Route 7 (SR-7)/ U.S. Route 441 (US-441) and the planned commercial redevelopment within the MS-T sub-district, the construction of Alternative A would be consistent with nearby developments. However, development of Alternative A has the potential to result in adverse effects to surrounding land uses as discussed in detail in the other topical sections of this Environmental Impact Statement (EIS). Potential adverse effects may include, but are not limited to, air quality and noise effects from construction and operation (**Sections 4.4** and **4.11** respectively); congestion on local roads from increased traffic (**Section 4.8**); and alterations of the visual resources and aesthetics of the surrounding area (**Section 4.13**). Implementation of mitigation measures identified in **Section 5.0** would reduce any potentially adverse effects to less-than-significant levels. Alternative A would result in less-than-significant effects associated with land use conflicts.

Sub-Alternative A-1

Given the commercial nature of surrounding developments along SR 7/US 441 and the planned commercial redevelopment within the MS-T sub-district, the construction of Sub-Alternative A-1 would generally be consistent with nearby developments. Development of Sub-Alternative A-1, however, has the potential to result in adverse effects to surrounding land uses as discussed in detail in the other topical sections of this EIS. Adverse effects may include, but are not limited to, air quality and noise effects from construction and operation (**Sections 4.4** and **4.11** respectively); congestion on local roads from increased traffic (**Section 4.8**); and alterations of the visual resources and aesthetics of the surrounding area (**Section 4.13**). Implementation of mitigation measures identified in **Section 5.0** would reduce any potential adverse effects to less-than-significant levels. Sub-Alternative A-1 would result in less-than-significant effects associated with land use conflicts.

Agriculture

Alternative A would be constructed on land that is designated for commercial uses and currently contains parking lots for the Coconut Creek Casino; there are no farming operations on the site or infrastructure that would support land cultivation. Development of Alternative A would have no direct adverse effect on agriculture.

Sub-Alternative A-1

As discussed for Alternative A, the project site does not contain farmland and, therefore, development of Sub-Alternative A-1 would have no direct adverse effect on agriculture.

4.9.3 ALTERNATIVE B – REDUCED INTENSITY ALTERNATIVE

Alternative B would result in approximately 25 acres of land being removed from the City of Coconut Creek’s land use jurisdiction and placed into federal trust for the benefit of STOF. Alternative B would result in the construction of an entertainment, conference, and hotel complex, on-site water/wastewater, and a police/fire station similar to Sub-Alternative A-1. As with Sub-Alternative A-1, Alternative B assumes that the Mitigation Agreement is not in force. Therefore, once the property is taken into trust, the only applicable land use regulations would be federal or tribal.

CONSISTENCY WITH CITY OF COCONUT CREEK ZONING AND LAND USE PLANS

Although local zoning and land use designations would not apply to the project site once the property is taken into trust, the Tribal Government desires to work cooperatively with local and state authorities on land use matters. Alternative B is similar to the development program within the Seminole PMDD, with the exception of the construction of the on-site water/wastewater infrastructure and police/fire station and the location of the parking structure. As with Sub-Alternative A-1, development of Alternative B would be generally consistent with local land use plans. The reduced intensity development associated with Alternative B would, however, be less than envisioned in local land use plans and would result in under-utilization of the property.

EFFECTS TO EXISTING AND PLANNED LAND USES

Due to their similar land uses, adverse effects to land uses from development of Alternative B would be similar to those described for Sub-Alternative A-1 in **Section 4.9.2**. Similar to Sub-Alternative A-1, Alternative B would result in less-than-significant effects associated with land use conflicts.

AGRICULTURE

As discussed for Alternative A, the project site does not contain farmland and, therefore, development of Alternative B would have no direct adverse effects on agriculture.

4.9.4 ALTERNATIVE C – NO ACTION BY THE FEDERAL GOVERNMENT

LAND USE

Under Alternative C, the STOF would construct an entertainment, conference, and hotel complex in accordance with the Mitigation Agreement between the City of Coconut Creek and STOF (**Appendix G**) in which STOF has agreed that any development of the project site will comply with the approved Seminole PMDD (**Appendix G**), other development approvals, and other rules and regulations applicable to the project site (see **Section 2.2.2**). Alternative C would not result in any land being removed from the City of Coconut Creek land use jurisdiction.

Sub-Alternative C-1

Under this alternative, no land would be removed from the City of Coconut Creek land use jurisdiction and all current land uses would continue on the project site.

Consistency with City of Coconut Creek Zoning and Land Use Plans

As described under Alternative A, the Seminole PMDD establishes standards for current and future development on the project site. Since the development program within the Seminole PMDD is identical to Alternative C, the construction of Alternative C would be consistent with the area's planned mixed-use developments. Furthermore, all necessary permits and approvals from the City of Coconut Creek would be obtained prior to development of Alternative C. No significant land use impacts would occur.

Sub-Alternative C-1

As described in **Section 3.9**, the MainStreet Design Standards, as modified by the Seminole PMDD, establishes standards for current and future development on the project site. Because Sub-Alternative C-1 would not result in the construction of mixed-use complex in the RAC Area, it is inconsistent with the area's zoning designation and planned use. Furthermore, Sub-Alternative C-1 is inconsistent with policies within the Comprehensive Plan that encourage redevelopment and the maximization of innovative planning concepts. Underdevelopment would be inconsistent with land use plans and constitute a moderate impact to land use.

Effects to Existing and Planned Land Uses

The site plan for Alternative C is identical to Alternative A and, therefore, adverse effects to land uses which may result from the development of Alternative C would be identical to those described for Alternative A in **Section 4.9.1**. As with Alternative A, Alternative C would result in less than significant effects associated with land use conflicts.

Sub-Alternative C-1

Under Sub-Alternative C-1, there will be no change in the current land use of the project site. Therefore, none of the potentially adverse effects identified for Alternatives A through C would occur.

AGRICULTURE

As discussed for Alternative A, the project site does not contain farmland and, therefore, development of Alternative C would have no direct adverse effects on agriculture.

Sub-Alternative C-1

As discussed for Alternative A, the project site does not contain farmland. Therefore, the continuance of the existing uses under Sub-Alternative C-1 would have no direct adverse effects on agriculture.

4.10 UTILITIES AND PUBLIC SERVICES

This section identifies the potential for utilities and public services that would result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.10**. Cumulative and indirect effects are identified in **Section 4.15** and **Section 4.14**, respectively. Measures to mitigate for adverse effects identified in this section are presented in **Section 5.2.8**.

4.10.1 ALTERNATIVE A – PROPOSED PROJECT

WATER SUPPLY

The Seminole Tribe of Florida (STOF) has entered into a series of municipal service provider agreements, as well as the 2011 Mitigation Agreement, with the City of Coconut Creek (City) (**Appendix G**). In compliance with these agreements, City of Coconut Creek Water and Wastewater Utility (CCWWU) would supply water to the project site. STOF additionally plans to connect to CCWWU recycled water infrastructure once infrastructure is available in the vicinity of the project site.

Table 4.10-1 shows the water demand for Alternative A. The estimated average daily water demand for consumption, food preparation, sanitation, and other general water requirements for the resort facilities is approximately 390,000 gallons per day (gpd). The peak day water demand is estimated at 534,000 gpd and the peak hour demand is equivalent to 885,000 gpd (**Appendix C**). Based on empirical data from other resort facilities, peak day and peak hour demands usually occur during holiday weekends.

TABLE 4.10-1
ESTIMATED WATER DEMAND – ALTERNATIVE A

Criteria	Gallons per Day (gpd)
Average Daily Water Demand	390,000
Peak Day Demand	534,000
Peak Hour Demand	885,000
NOTES: Assumed peaking factor of 1.37 times the average daily flow and 2.27 times the average hourly flow.	
SOURCE: Appendix C; AES, 2011	

CCWWU currently has the supply and pressure capabilities to serve Alternative A (**Appendix C**). A project of similar size and scope to Alternative A (Alternative C – Planned MainStreet Development District (PMDD)) was included in the City of Coconut Creek’s future planning for water allocations from Broward County (**Appendix G**). No significant effects to public water supply distribution facilities would occur as a result of Alternative A. Mitigation regarding the potential future use of recycled water on the project site has been included within **Section 5.2.8**.

Sub-Alternative A-1

The components of Sub-Alternative A-1 are similar to those of Alternative A with the exception that Sub-Alternative A-1 would not include connections to City of Coconut Creek water supply and wastewater conveyance systems. Sub-Alternative A-1 water supply would be provided by the construction and

operation of on-site groundwater supply wells and an on-site water treatment facility. The on-site supply wells would access the relatively shallow Biscayne Aquifer at a depth of between 100 and 200 feet deep (HydroScience 2011) (Appendix C). Internal infrastructure would be plumbed into the facilities so that connection to off-site water service providers would not be required. Placing the project site into federal trust would remove the local permitting requirement for the development and operation of a groundwater supply well.

Review of Broward County groundwater supply data concluded that the closest active groundwater supply well to the project site is located approximately 7,500 feet away along the Sawgrass Expressway within the Broward County Northwest Well Field. The Northwest Well Field is one of two groundwater supply systems that provide water supply for customers and a majority of the municipalities within Broward County. Municipal groundwater providers the City of Coral Springs and the City of Margate use groundwater from well fields located approximately 7,600 feet west and 8,000 feet south of the project site, respectively.

Due to the development and operation of an on-site water supply system, no effects to off-site public water supply distribution facilities would occur as a result of Sub-Alternative A-1. However, in the event of a groundwater shortage or water quality issue that would prevent STOF from obtaining sufficient groundwater via an on-site water supply system, potentially significant impacts could occur including the inability to meet Sub-Alternative A-1 water consumption needs. Mitigation is provided in **Section 5.2.8** to ensure that an adequate water supply is available for the operation of Alternative A-1. If warranted, this mitigation measure would reduce potential impacts to a less-than-significant level.

WASTEWATER SERVICE

The average wastewater generation rates for Alternative A are estimated to be 342,000 gpd (including a 15 percent contingency), with a peak day-demand of 1,197,000 gallons (**Appendix C**). In accordance with the Municipal Service Provider Agreement (MSPA) (**Appendix G**) between STOF and the City, connection to the existing City wastewater collection system and treatment plant would be provided for the conveyance, treatment, and disposal of wastewater produced from the operation of Alternative A. Per existing CCWWU agreements with Broward County, wastewater would be conveyed via City of Coconut Creek sewer collection lines to the North Regional WWTP, a Broward County facility, which meets Federal and State treatment standards. Per the Mitigation Agreement between STOF and the City, no impacts to wastewater public service providers would occur.

Sub-Alternative A-1

Average day wastewater flow under Sub-Alternative A-1 would be 354,000 gpd, with peak daily flow estimated to be 708,000 gpd (**Appendix C**). Alternative A is anticipated to result in a 1,450 person per day increase in patronage (STOF 2016). The average and peak daily waste water flows are consistent with this patronage estimate. As STOF would utilize an on-site independent wastewater system under Sub-Alternative A-1 and not contribute additional wastewater flows to the City of Coconut Creek wastewater conveyance system or at the Broward County North Regional WWTP, no impacts to wastewater public service providers would occur. Domestic wastewater would be treated with a membrane bioreactor (MBR) process to a tertiary level. The MBR process is preferred for an on-site facility because of its compact footprint and capability to handle high peak flows. As described in **Section 4.3** above, treated wastewater would be disposed via a deep injection well. The depth of the

injection well would place the outfall below the shallow Biscayne Aquifer, a thick layer of clay/impervious material, and the deeper Florida Aquifer. The injection well would be located approximately 1,000 feet away from the domestic water production well. The injection well would be regulated by the Florida Department of Environmental Protection Underground Injection Control Program. Placing the project site into federal trust would remove the local permitting requirement for the development and operation of an injection well.

SOLID WASTE SERVICE

Construction

Construction of Alternative A would result in a temporary increase in solid waste generation. Potential solid waste streams from construction would include paper, wood, glass, aluminum, and plastics from packing materials; waste lumber; insulation; empty non-hazardous chemical containers; concrete; metal, including steel from welding/cutting operations; and electrical wiring. Alternative A is anticipated to create approximately 3,500 construction related jobs.

Construction waste that cannot be recycled would be collected by All Service Refuse, or a similar company, and disposed of at the Central Disposal Sanitary Landfill, which accepts construction and demolition materials. Construction solid waste impacts would be temporary and not significant given that the landfill has an adequate capacity to accommodate the amount of waste generated by the construction of Alternative A. Mitigation measures are presented in **Section 5.2.8** to further reduce the amount of construction and demolition materials disposed of at the landfill and ensure impacts remain less-than-significant.

Operation

STOF would continue contractual agreements with All Service Refuse, or a similar company, for solid waste collection service. Based on the generation rates of similar facilities it is estimated that Alternative A would generate approximately 9 tons of solid waste per day (**Table 4.10-2**). All waste would be brought to North Resource Recovery Plant for sorting and recycling. Non-recoverable waste would be incinerated and sent to the Central Disposal Sanitary Landfill for disposal. The landfill currently accepts approximately 1,500,000 tons per year, and has an anticipated remaining life of 14 years (Broward County, 2012).

TABLE 4.10-2
ESTIMATED SOLID WASTE DISPOSAL – ALTERNATIVES A AND A-1

Employment Category	Estimated Number of Jobs	Rate (Tons/employee/year)	Tons per year	Tons per day
Hotel	551	2.1	1,157	3.2
Food and Beverage	524	3.1	1,624	4.5
Miscellaneous	219	1.7	372	1.0
Total	1,294		3,153	8.7
SOURCE: AES, 2011 and 2016				

Waste generated under Alternative A would be handled appropriately through disposal at the facility described above. Landscaping and maintenance staff would pick up any trash left on the property.

Decorative receptacles for trash and recycling would be placed strategically throughout the property to discourage littering. A compactor would be used to reduce the volume of trash prior to transportation off site. The solid waste from Alternative A would represent approximately 3,153 tons per year or 0.2 percent of the Central Disposal Sanitary Landfill's annual average disposal amount. This increase in the waste stream would cause a negligible increase in disposal rates at the Central Disposal Sanitary Landfill (Waste Management, 2013). Alternative A would not result in a significant amount of solid waste being transported to the landfill. Mitigation measures are presented in **Section 5.2.8** to further reduce the amount of solid waste disposed of at the landfill and ensure impacts remain less-than-significant.

Sub-Alternative A-1

Construction

The construction of Sub-Alternative A-1 would result in a temporary increase in solid waste generation similar in composition and volume to that described under Alternative A. Waste that cannot be recycled would be ultimately disposed of at the Central Disposal Sanitary Landfill, which accepts construction and demolition materials. This impact would be temporary and not significant given that the landfill has an adequate capacity to accommodate the amount of construction waste generated by the construction of Sub-Alternative A-1. Mitigation measures are presented in **Section 5.2.8** to further reduce the amount of construction and demolition materials disposed of at the landfill and ensure impacts remain less-than-significant.

Operation

STOF would continue its contractual agreement with All Service Refuse, or a similar company, for solid waste collection service. As the proposed facilities under Alternative A and Sub-Alternative A-1 are similar in size and use, it is estimated that Sub-Alternative A-1 would generate the same amount of solid waste as Alternative A, or 8 tons per day (**Table 4.10-2**). Therefore, similar to Alternative A, Sub-Alternative A-1 would not result in a significant amount of solid waste being transported to the landfill. Methods of trash reduction are similar to those described under Alternative A. Mitigation measures to further reduce impacts from solid waste generation and ensure they remain less-than-significant are described in **Section 5.2.8**.

ELECTRICITY, NATURAL GAS, AND TELECOMMUNICATIONS

Construction

Construction on-site could damage underground utilities, leading to outages and/or serious injury; this would be a potentially significant impact. In 2010, STOF contacted utility providers with underground utilities in the immediate area within and surrounding the project site to inform them of potential underground construction work. Letters of response from Advanced Communication, AT&T, Comcast, Florida Power and Light (FPL), Level 3 Communications, and TECO Peoples Gas are provided in **Appendix K**. Mitigation measures are presented in **Section 5.2.8** to reduce impacts to a less-than-significant level during construction of Alternative A.

Operation

FPL is the electrical provider to the project site and currently operates a substation adjacent to the project site across NW 54th Street. FPL has indicated that it has extra generation capacity available for the Proposed Project at the local substation (**Appendix K**). FPL and STOF currently have a contractual

agreement to provide electrical utilities to the adjacent Coconut Creek Casino facility, and this service would additionally be provided at a standard service charge to the project site. If warranted, STOF would cover any costs of construction of the new transmission lines connecting the project site to existing electrical infrastructure. Because current FPL infrastructure has enough capacity to accommodate the estimated increase in usage under Alternative A, effects to electricity are less-than-significant.

There is the potential for excessive electrical usage and inefficiencies at the resort due to air leaks, heating and cooling waste, and inefficient lighting, appliances, and electrical equipment. **Section 5.2.8** presents mitigation measures and management practices related to energy conservation to ensure impacts remain less than significant. Additionally, STOF has committed in the Mitigation Agreement with the City of Coconut Creek (**Appendix H**) to develop the property consistent with local development codes, including the Florida Building Code. These measures would increase the electrical efficiency of the Proposed Project, ensuring that impacts remain less-than-significant.

Alternative A would utilize natural gas from Peoples Gas. Alternative A would require the construction of connections to an existing natural gas line running along NW 40th Street. As natural gas service is currently provided to facilities adjacent to the project site and sufficient capacity is available, the impact is less-than-significant.

Telephone services and cable services are currently provided to facilities adjacent to the project site. These utility providers have the technical capacity to supply Alternative A with adequate telecommunication services. Therefore, development of telephone and cable services on the project site would not be a significant impact as STOF intends to provide its portion of the necessary funding for the installation and operation of services. No significant effects to local service would occur.

Sub-Alternative A-1

Due to the similar size and scope of the development proposed under Sub-Alternative A-1, the impacts analyzed under Alternative A would be identical to those of Sub-Alternative A-1. A less-than-significant impact would occur to electrical, natural gas, and telecommunications providers. Section 5.2.8 presents mitigation measures and management practices related to energy conservation to ensure impacts remain less than significant.

PUBLIC HEALTH AND SAFETY

Law Enforcement

As with other facilities of similar size and scope, Alternative A would increase demands on law enforcement through increased patronage at the project site. The number of calls for service varies widely based on community crime rates, patronage, distance from an urban center, presence of tribal security, etc. Based on the experience at the Seminole Hollywood Hard Rock Hotel, it is estimated that the Seminole Coconut Creek Hotel and Spa would experience 175 police incidents per month, of which 70 incidents per month would be prosecuted in court. Based on the experience at the Seminole Hollywood Hard Rock Hotel, use of special law enforcement services, such as emergency helicopter, SWAT team or K-9 units, would be minimal during any given year. To address the potential of an increased need for police, prosecution, and court and jail services resulting from the development of Alternative A, STOF has committed to reimburse the City of Coconut Creek pursuant to the 2011 Mitigation Agreement (**Appendix G**). Additionally, STOF has expressed a willingness to discuss

compensation to Broward County for project-related costs to the County courts and judicial system. In accordance with the Mitigation Agreement, STOF would reimburse the Coconut Creek Police Department (CCPD) for reasonable direct and indirect costs incurred in conjunction with providing law enforcement services on the project site. Term and conditions of service are identified within the MSPA between STOF and the City (**Appendix G**). As the Seminole Tribal Police Department would provide first response services on the project site, the CCPD and the Seminole Tribal Police Department would routinely work together on criminal matters that occur on the trust property. Without funding, impacts to the CCPD would likely strain or exceed existing resources. However, impacts to law enforcement would be mitigated through the 2011 Mitigation Agreement, and thereby reduced to less-than-significant level. Mitigation measures to further ensure that impacts remain less-than-significant are identified in **Section 5.2.8**.

Criminal Jurisdiction

The State of Florida assumed partial jurisdiction over certain offenses occurring in Indian country pursuant to Florida Code Section 258.16. As a consequence, the trust acquisition would result in changes in criminal jurisdiction on the project site dependent on whether victims or the accused are Native American. However, it is expected that a great majority of future criminal matters resulting from the development of Alternative A would consist of crimes committed on the fee-to-trust property by non-Indians against other non-Indians. In these cases the State of Florida would continue to exercise criminal jurisdiction. The 2011 Mitigation Agreement between STOF and the City of Coconut Creek (**Appendix G**) make provisions to assist in both enforcement and prosecution in these cases. As stated above, STOF has expressed a willingness to discuss compensation to Broward County for project-related costs to the County courts and judicial system. Accordingly, changes in criminal jurisdiction would not be significant.

Sub-Alternative A-1

Under Sub-Alternative A-1, STOF would not enter into a public service agreement for the fee-to-trust lands with the City of Coconut Creek. Under this alternative, STOF would construct and operate an on-site Seminole Police Department substation, staffed by trained and accredited Seminole Police Department Officers. As stated in **Section 3.10**, the Seminole Police Department is a Bureau of Indian Affairs (BIA) certified police department.

Seminole Police Department personnel would act as the first responder for law enforcement issues at the resort to reduce impacts to off-reservation law enforcement agencies. Seminole Police Department personnel are also trained in CPR and first aid. Security personnel would carry two-way radios, with direct contact to the Seminole Fire Department, which would allow for a quick response time to on-site incidents and emergency-related calls. On-site security design measures include closed-circuit television surveillance of the entire facility, including restaurants, bars, and the nightclub.

Criminal jurisdiction on the project site would be similar to that describe above under Alternative A. However, with no agreements in place between the Seminole Police Department and the Coconut Creek Police Department potential impacts to law enforcement could occur. Mitigation measures to ensure impacts to law enforcement services remain less-than-significant are identified in **Section 5.2.8**.

Fire Protection and Emergency Medical Services

Construction Effects

Construction may introduce potential sources of fire to the project site. During construction, equipment and vehicles may accidentally spark and ignite vegetation. Equipment used during grading and construction activities may also create sparks which could ignite dry grass on the site. This risk, similar to those found at other construction sites, is potentially significant. Mitigation measures are presented in **Section 5.2.8** to address this potential impact and reduce the impacts to less-than-significant levels.

Operation Effects

Development of the resort facilities on the project site would create additional risks from fires and add to firefighting responsibilities in the area. Based on the experience at the Seminole Hollywood Hard Rock Hotel, the Seminole Coconut Creek Hotel and Spa would have approximately 175 fire incidents per year, of which 32 would require assistance from the City. The Hotel and Spa would also experience approximately 1,125 calls for emergency medical services per year. Of these, approximately six would require assistance from the City. Based on the experience at the Seminole Hollywood Hard Rock Hotel, use of special emergency services, such as County Medical Examiner or Coroner, would be minimal during any given year. Vegetation in and around the developed areas would be irrigated, thereby minimizing the risk of fire. Additionally, the timely detection of fires by trained employees, early intervention, and fire access roads would reduce the size and duration of fires. The resort facilities would be fitted with automatic fire sprinkler systems. The facilities would be constructed to meet adequate fire flow requirements and fire access points included within the 2008 Seminole Public Safety Plan (**Appendix G**). Fire hydrants shall be placed at 300 foot intervals around the project site per City of Coconut Creek requirements (**Appendix G**).

Alternative A would increase the number of visitors in the area, which would result in the need for increased fire protection and emergency medical services. STOF has committed in the Mitigation Agreement and the MSPA (**Appendix G**) to reimburse the Margate – Coconut Creek Fire Department (MCCFD) for costs relating to the provision of fire and emergency medical services. The STOF have expressed a willingness to discuss compensation to Broward County for project-related costs to the County fire and emergency medical services.

Based on the obligations assumed by STOF under the Mitigation Agreement, including developing emergency communications infrastructure on the hotel tower and creation of an Emergency Management Plan, as well as the capacity of existing fire and emergency medical service providers in the area, the impacts on fire and emergency services would be less than significant. Mitigation measures to ensure impacts to fire and emergency services remain less-than-significant are identified in **Section 5.2.8**.

Sub-Alternative A-1

Construction and operation on the project site would create risks from fires; these risks and precautions to reduce the risk of fire are similar to those discussed under Alternative A. As with Alternative A, fire suppression components on site would include fire sprinkler systems, and fire hydrants. To address the potential of an increased need for fire protection and emergency medical services resulting from the development of Sub-Alternative A-1, STOF will construct and operate an on-site Tribal Fire Station. The on-site Tribal Fire Station would be appropriately staffed and equipped to handle services on the project

site. The fire station would meet the reasonable requirements of the City, with STOF Fire Department responsible for staffing and maintaining the fire station. The STOF Fire Department would additionally provide first responder services to all calls for emergency medical service that originate on the project site.

However, with no agreements in place between the STOF and MCCFD potential impacts to fire protection and emergency service could occur. Mitigation measures to ensure impacts to fire protection and emergency service remain at a less-than-significant level are identified in **Section 5.2.8**.

4.10.2 ALTERNATIVE B – REDUCED INTENSITY ALTERNATIVE

WATER SUPPLY

Alternative B, as with Sub-Alternative A-1, would have water supplied via on-site wells and an on-site water treatment facility. Peak demand for Alternative B is estimated to be 259,000 gpd and maximum day-demand would be an estimated 355,000 gpd. Peak hour demand would be approximately 588,000 gallons (**Appendix C**).

Due to the internal water supply system and absence of neighboring municipal groundwater wells, no significant effects to public water supply facilities would occur as a result of Alternative B. However, in the event of a groundwater shortage or water quality issue that would prevent STOF from obtaining groundwater via the on-site water supply system, potentially significant impacts could occur including the inability to meet Alternative B water consumption needs. Mitigation is provided in **Section 5.2.8** to ensure that an adequate water supply is available for the operation of Alternative B, and for the necessary fire flows. If warranted, this mitigation would reduce potential impacts to a less-than-significant level.

WASTEWATER SERVICE

Operation of Alternative B is expected to generate an average of 217,000 gpd of wastewater with a peak generation rate of 434,000 gpd (**Appendix C**). The wastewater disposal system for Alternative B would be similar to that described above for Sub-Alternative A-1. As STOF would utilize an on-site independent wastewater system under Alternative B, no impacts to off-site public wastewater service providers would occur.

SOLID WASTE SERVICE

Construction

The construction of Alternative B would result in a temporary increase in solid waste generation similar in composition but slightly reduced in volume to Alternative A. Waste that cannot be recycled would be disposed of at the Central Disposal Sanitary Landfill, which accepts construction and demolition materials. This impact would be temporary and not significant given that the landfill has an adequate capacity to accommodate the increase in the amount of waste generated by the construction of Alternative B. Mitigation measures are presented in Section 5.2.8 to further reduce the amount of construction and demolition materials disposed of at the landfill and ensure impacts remain less-than-significant. Alternative B is anticipated to create approximately 2,500 construction related jobs.

Operation

STOF would continue its contractual agreement with All Service Refuse, or a similar company, for solid waste collection service. As the facilities of Alternative B are similar yet slightly reduced from those analyzed under Alternative A, it is conservatively estimated that Alternative B would generate the same amount of solid waste as Alternative A, or 9 tons per day (**Table 4.10-2**). Therefore, similar to Alternative A, Alternative B would not result in a significant amount of solid waste being transported to the landfill. Methods of trash reduction are similar to those described under Alternative A, and mitigation measures to further reduce impacts from solid waste generation and ensure they remain less-than-significant are described in **Section 5.2.8**. Alternative B is anticipated to result in a 1,300 patron per day increase.

ELECTRICITY, NATURAL GAS, AND TELECOMMUNICATIONS

Construction

Construction on site could damage underground utilities, leading to outages and/or serious injury. This impact is potentially significant. In 2010, STOF contacted utility providers with underground utilities in the immediate area within and surrounding the project site to inform them of potential underground construction work. Letters of response from Advanced Communication, AT&T, Comcast, Florida Power and Light (FPL), Level 3 Communications, and TECO Peoples Gas are provided in **Appendix K**. Mitigation measures are presented in **Section 5.2.8** to reduce impacts to a less-than-significant level during construction of Alternative B.

Operation

The same internal infrastructure improvements would be required as those listed for Alternative A, including new underground transmission lines. FPL and STOF would continue the contractual agreement currently in place for electrical service. Because current infrastructure has enough capacity to accommodate the usage increase, effects to electricity are less than significant. Mitigation measures are provided in **Section 5.2.8**, to further reduce impacts to less-than-significant levels.

Alternative B would utilize natural gas from Peoples Gas, requiring the construction of connections to an existing natural gas line running along NW 40th Street. As natural gas service is currently provided to facilities adjacent to the project site and sufficient capacity is available, the impact is less-than-significant.

Telephone services and cable services are currently provided to facilities adjacent to the project site. These utility providers have the technical capacity to supply Alternative B with adequate telecommunication services. Therefore, development of telephone and cable services on the project site would not be a significant impact as STOF intends to provide its portion of the necessary funding for the installation and operation of services. No significant effects to local service would occur.

PUBLIC HEALTH AND SAFETY

Law Enforcement

Potential impacts to law enforcement services under Alternative B would be identical to those analyzed under Sub-Alternative A-1. As indicated in **Section 2**, STOF intends to construct and operate an on-site law enforcement station staffed by BIA approved Seminole Tribal Police Department. As noted under Sub-Alternative A-1, criminal jurisdiction on the fee-to-trust property would continue to fall under the

jurisdiction of the State of Florida. Mitigation measures are included within **Section 5.2.8** to reduce potential impacts to a less-than-significant level.

Fire Protection and Emergency Medical Services

Construction and operation on the project site would create risks from fires; these risks and precautions to reduce the risk of fire are similar to those discussed under Alternative A. As with Alternative A, fire suppression components on site would include fire sprinkler systems and fire hydrants. To address the potential of an increased need for fire protection and emergency medical services resulting from the development of Alternative B, the STOF shall construct and operate an on-site Tribal Fire Department.

Impacts to fire protection and emergency services are similar to those discussed under Sub-Alternative A-1. Mitigation measures to ensure impacts to fire and emergency services remain less-than-significant are identified in **Section 5.2.8**.

4.10.3 ALTERNATIVE C – NO ACTION BY THE FEDERAL GOVERNMENT

WATER SUPPLY

The development of Alternative C would be similar to that proposed under Alternative A, however the development design and approval process would occur through the City of Coconut Creek. Initiation of these processes has occurred through the development of the PMDD. Water demand estimated for Alternative C would be similar to that described under Alternative A. Potential impacts to the CCWWU, including water supply capacity and infrastructure availability would be less than significant with the incorporation of specific cost reimbursement measures to the City as part of the PMDD approval conditions. Given that the PMDD would develop a resort facility on the project site, water demand would increase; however, as indicated under Alternative A, the CCWWU currently has capacity. Therefore, a less-than-significant impact would occur and no mitigation is recommended.

Sub-Alternative C-1

Under Sub-Alternative C-1, no land would be taken into trust and no tribal project would be constructed on the project site. No additional water supply would be necessary. A less-than-significant impact would result from Sub-Alternative C-1.

WASTEWATER SERVICE

The development of Alternative C would be similar to that proposed under Alternative A, however the development design and approval process would occur through the City of Coconut Creek. Initiation of these processes has occurred through the development of the PMDD. Wastewater flows estimated for Alternative C would be similar to that described under Alternative A. Potential impacts to the CCWWU and Broward County facilities, including wastewater treatment capacity and conveyance availability would be less than significant with the incorporation of specific cost reimbursement measures to the City as part of the PMDD approval conditions. Given that the PMDD would develop a resort facility on the project site, wastewater flows would increase; however, PMDD consultation and approval processes have indicated that there is capacity to convey and treat increased wastewater flows from the project site. Therefore, a less-than-significant impact would occur and no mitigation is recommended.

Sub-Alternative C-1

Under Sub-Alternative C-1, no land would be taken into trust and no tribal project would be constructed on the project site. No additional wastewater treatment or discharge would be required. A less-than-significant impact would result from Sub-Alternative C-1.

SOLID WASTE SERVICE

Construction activities and operation of the proposed development under Alternative C would generate a solid waste stream similar to those described for Alternative A. Methods for reducing the volume of trash are similar to those described under Alternative A and mitigation measures to further reduce impacts from solid waste generation, and ensure they remain less-than-significant, are described in **Section 5.2.8**.

Sub-Alternative C-1

Under Sub-Alternative C-1, no land would be taken into trust and no further development would be constructed on the project site. Sub-Alternative C-1 would not result in impacts to solid waste.

ELECTRICITY, NATURAL GAS, AND TELECOMMUNICATIONS

Construction

Construction on site could damage underground utilities, leading to outages and/or serious injury. Utility letters within **Appendix K** indicated consultation with companies that have underground utilities in the vicinity of the project site. As construction activities have the potential to adversely affect underground utilities, a potentially significant impact could occur. Mitigation measures identified in **Section 5.2.8**, it would reduce these impact to a less-than-significant level.

Operation

As described under Alternative A, electricity and telecommunications would be obtained from local private utility providers. STOF would pay fees, obtain required easements, and construct necessary infrastructure to supply the project with utility service. Potential impacts to energy and telecommunications services would be less-than-significant.

Sub-Alternative C-1

Under Sub-Alternative C-1, no land would be taken into trust and no Tribal project would be constructed. Sub-Alternative C-1 would not result in impacts to electricity, natural gas, or telecommunications.

PUBLIC HEALTH AND SAFETY

Law Enforcement

Alternative C could cause increased demands on law enforcement, prosecution, and court and jail services due to the presence of additional patrons and workers at the project site. However, potential impacts to law enforcement, including acceptable service ratios, response times and other police protection objectives would be less than significant with the incorporation of specific cost reimbursement measures to the City as part of the PMDD approval conditions. Given that the PMDD would increase patronage to the project site, law enforcement needs would increase; however, it is expected that the STOF would provide the funding necessary for increased service through state and local property taxes. Therefore, a less-than-significant impact would occur and no mitigation is recommended.

Sub-Alternative C-1

Under Sub-Alternative C-1, no land would be taken into trust and no Tribal project would be constructed. In the future, on-site development(s) would be subject to State and local public health regulations, inspections, Florida Building Codes, and fire codes. Sub-Alternative C-1 would not result in impacts to public health and safety.

Fire Protection and Emergency Medical Services

Construction and operation on the site would create additional risks from fires; these risks and precautions to reduce the risk of fire are similar to those described for Alternative A. Fire suppression components on site would be based upon approved PMDD standards and guidelines.

Fire protection for Alternative C would be provided by the MCCFD, which provides fire protection and emergency response to the City. Costs for fire protection and emergency response would be considered in the City's review of a specific land use permit for the PMDD and project approval conditions would include reimbursements to the City to cover these costs. Project components in the PMDD include the development of emergency communication infrastructure in the hotel tower, including antennas, repeaters, and other communication equipment. Given that the PMDD would increase patronage to the project site, fire protection needs would increase; however, it is expected that the STOF would provide the funding necessary for increased service through state and local property taxes. Therefore, a less-than-significant impact would occur and no mitigation is recommended.

Sub-Alternative C-1

Under Sub-Alternative C-1, no land would be taken into trust and no tribal project would be constructed. The No Action Alternative would not result in increased demands on law enforcement, fire protection, or emergency medical services.

4.11 NOISE

This section identifies the direct effects to noise that would result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.11**. Indirect and cumulative effects are identified in **Section 4.14** and **Section 4.15**, respectively. Measures to mitigate for adverse effects identified in this section are presented in **Section 5.2.9**.

METHODOLOGY

Noise effects from construction of the alternatives are based on the federal construction noise thresholds provided in **Section 3.11.1** (FHWA, 2006). Adverse noise-related effects could occur during construction, if project construction increases the ambient noise environment to greater than 78 decibels (dBA). The assessment of project operational effects is based on Federal Noise Abatement Criteria (NAC) standards used by the Federal Highway Administration (FHWA) (**Table 3.11-3**).

Adverse noise-related effects could occur during operation if project operation increases the ambient noise environment to greater than 72 decibels (dBA), equivalent noise level (Leq), or results in an audible increase in ambient noise level at sensitive receptors, including residential housing or educational institutions near the project site. See **Section 3.11** for a definition and locations of sensitive receptors. The assessment of vibration noise is based on the Federal Transportation Administration (FTA) standards of 0.5 Peak Particle Velocity (PPV) for structures and 0.1 PPV for annoyance of people (FTA, 2006).

4.11.1 ALTERNATIVE A

CONSTRUCTION NOISE

Grading and construction associated with Alternative A would be intermittent and temporary in nature. The closest receptors that would be exposed to noise during project construction are residences located approximately 1,400 feet southwest of the project site. Construction noise levels at and near the project site would fluctuate depending on the particular type, number, and duration of uses of various pieces of construction equipment. Construction-related material haul trips and worker trips have the potential to raise ambient noise levels along local routes, depending on the number of worker/haul trips made and types of vehicles used. All construction traffic and deliveries would access the project site via the State Route (SR)-7/US-441 access road or along NW 54th Avenue.

Construction of Alternative A would result in both construction workers trips and construction material trips. It is anticipated that a maximum of 537 one-way peak hour worker trips would occur during construction. Although construction trips would generally occur outside of the peak hour, it is assumed for this noise assessment that construction trips would occur during the peak traffic hour to provide a worst case scenario analysis. It is conservatively estimated that a maximum of 60 construction material hauling trips per day or 8 trips per hour would occur during construction. Because trucks are louder than passenger cars, a passenger car equivalence (PCE) multiplier of 8 cars per truck was used (TRB, 2000). Therefore, the total equivalent passenger car two-way trips per peak hour would be 1,202. Construction would generate the noise equivalent of 3,011 passenger trips (project-related traffic plus existing traffic) on SR-7/US-441 during peak hour (Keith and Schnars, 2012, **Appendix E**). The existing ambient noise level in the vicinity of the proposed project is estimated to be 70 dBA, Leq (refer to **Section 3.11**).

Construction trips would result in an estimated increase in the ambient noise level of approximately 2 dBA Leq (FHWA, 2006). This would result in an ambient noise level of 72 dBA, Leq, which is less than the FHWA construction noise threshold of 78 dBA, Leq (FHWA, 2006). Therefore, Alternative A would result in a less-than-significant adverse effect to the ambient noise level in the vicinity of the project during construction.

Construction of Alternative A would include ground clearing, excavation of existing pavement, erection of foundations and buildings, and finishing work. **Table 4.11-1** shows typical stationary point source noise levels at 50 feet during different construction stages.

TABLE 4.11-1
TYPICAL CONSTRUCTION NOISE LEVELS

Construction Phase	Noise Level at 50 feet (dBA Leq)
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89
SOURCE: FHWA, 2006	

Stationary point sources of noise attenuate (lessen) at a rate of 6-7.5 dBA per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions, topography and type of ground surfaces, noise barriers, etc.) (FHWA, 2006). An attenuation factor of 6.0 dBA per doubling of distance is appropriate given the flat topography and lack of ground cover on and in the vicinity of the project site. The maximum construction noise at the project site would be 89 dBA at 50 feet. Using an attenuation factor of 6.0 dBA Leq per doubling of distance, the maximum noise level at the nearest sensitive noise receptor, residences located approximately 1,400 feet southwest of the Project Site, would be approximately 60.5 dBA Leq. Sensitive receptors located further than 1,400 feet from the project site, such as the Monarch High School, located approximately 2,000 feet northeast from the edge of the project site would experience a maximum noise level less than 60.5 dBA, Leq. The maximum noise level at the nearest sensitive noise receptor and sensitive noise receptor at a distance greater than 1,400 feet would be less than the FHWA construction noise threshold of 78 dBA Leq (**Table 3.11-1**). Therefore, there would be a less-than-significant effect due to stationary construction noise.

Sub-Alternative A-1

Due to the similar size and scope, construction noise from Sub-Alternative A-1 would be the same as construction noise described above for Alternative A.

CONSTRUCTION VIBRATION

Construction activities under Alternative A would include the use of earthmoving equipment shown in **Table 4.11-2**, which can produce detectable or damaging levels of vibration at nearby sensitive land uses. Whether a vibration is detectable or damaging is primarily dependent on the distance between the source and the nearby sensitive land use. Generally, physical damage is only an issue when construction requires

the use of equipment with high vibration levels (i.e., compactors, large dozers, etc) and occurs within 25 feet of an existing structure. **Table 4.11-2** provides estimated vibration levels at 25 feet and 100 feet from construction activities. The predicted Peak Particle Velocity (PPV) levels are below the significance threshold of 0.5 PPV for structures and 0.1 PPV for annoyance of people (FTA, 2006). Therefore, vibration from construction of Alternative A would not result in significant effects to nearby structures and sensitive receptors.

TABLE 4.11-2
REFERENCE AND PREDICTED PPV FROM CONSTRUCTION

Equipment	Reference PPV at 25 feet	Predicted PPV at 1,400 feet
	Inches per Second	
Large bulldozer	0.089	0.000318
Excavator	0.089	0.000318
Pile Driver	0.644	0.002298
Vibratory Roller	0.210	0.000749
Compactor	0.170	0.000607
Scaper	0.089	0.000318
Loaded trucks	0.076	0.000271
Small bulldozer	0.003	0.000011
Note: PPV was predicted using the equation $PPV_{\text{predicted}} = PPV_{\text{ref}} * (D_{\text{ref}}/D_{\text{source}})^{1.4}$. SOURCE: FTA, 2006.		

Sub-Alternative A-1

Construction vibration associated with Sub-Alternative A-1 would be the same as described above for Alternative A.

OPERATIONAL NOISE

The following identifies potential impacts from operational-related noise sources, such as traffic, heating ventilation and air conditioning (HVAC) systems, material deliveries, and concentrated noises from the aboveground parking structure.

Traffic

The level of traffic noise depends on the volume of traffic, the speed of the traffic, and the number of trucks in the flow of the traffic. It is not anticipated that speed in the vicinity of the project site or the mix of trucks in the traffic would change during the operational phase; however, with the implementation of Alternative A traffic volumes would increase. Operation of the hotel/resort would not generate a large quantity of truck traffic.

The primary source of noise in the project area is generated by existing traffic on SR-7/US-441. As discussed in **Appendix E**, there are approximately 3,011 vehicles per peak hour (project-related traffic plus existing traffic) on SR-7/US-441 adjacent to the project site. Alternative A would add an estimated 477 vehicles per peak hour to area roadways, of which 43.4 percent or approximately 207 vehicles per peak hour would occur on SR-7/US-411 (**Appendix E**). The existing ambient noise level in the vicinity

of the project site is approximately 70 dBA, Leq. Under FHWA guidelines, operation trips would result in an increase in the existing ambient noise level of less than 1 dBA Leq, which would result in an ambient noise level of 71 dBA, Leq. This is less than the FHWA operational noise threshold of 72 dBA, Leq (refer to **Table 3.11-2**, Activity Category E, **Section 3.11**). Therefore, Alternative A would not result in a significant effect to the ambient noise level in the vicinity of the project during operation.

Sub-Alternative A-1

Traffic noise associated with Sub-Alternative A-1 would be the same as described above for Alternative A. The on-site domestic water production wells and wastewater treatment plant would be enclosed and insulated, and would not be audible to the public.

Other Noise Sources

Commercial uses would bring the possibility of noise due to operations of roof-mounted air handling units associated with building HVAC equipment, noise from loading docks, and noise from traffic within the parking structure. The noise levels produced by HVAC systems vary with the capacities of the units, as well as with individual unit design. In this case, HVAC systems on commercial buildings would be located at higher elevations than the surrounding residences, so that roof-mounted HVAC equipment has the potential to be heard at nearby sensitive noise receptors. However, given the distance to the nearest sensitive noise receptor (1,400 feet southwest), noise from roof mounted HVAC equipment would not be audible. Therefore, Alternative A HVAC noise would result in a less-than-significant noise effect.

Idling trucks at loading docks have the potential to emit noise of 80 dBA at 50 feet from the source (FHWA, 2006). The proposed loading docks would be located at least 1,400 feet from the nearest residences. Using the attenuation value of 6.0 (refer to construction discussion above) the ambient noise level at the nearest sensitive noise receptor would be 57.5 dBA, Leq, which is less than the threshold of 72 dBA, Leq (**Section 3.11**, **Table 3.11-2**). Therefore, Alternative A loading dock noise would not result in a significant effect.

Parking structure noise would be mainly due to slow moving and idling vehicles, opening and closing doors, and conversation. The noise level in the parking structure is dominated by slow moving vehicles; therefore, the ambient noise level in a parking structure would be approximately 60 dBA, which is less than the threshold of 72 dBA (FHWA, 2006). Therefore, Alternative A parking structure noise would not result in a significant adverse effect.

Alternative A does not include the development of an outdoor music venue, rather the development includes a 2,500 seat indoor entertainment venue. The development of the entertainment venue would not impact off-site sensitive receptors.

Sub-Alternative A-1

Vibration from construction of Sub-Alternative A-1 would be the same construction noise described above for Alternative A.

OPERATION VIBRATION

Commercial and hotel uses do not include sources of perceptible vibration. Therefore, operation of Alternative A would not result in significant effects from on-site operational vibration.

Sub-Alternative A-1

Operational vibration would be the same for Sub-Alternative A-1 as described above for Alternative A.

4.11.2 ALTERNATIVE B

CONSTRUCTION NOISE

Noise impacts resulting from grading and construction associated with Alternative B would be similar to Alternative A. During construction of Alternative B, a maximum of 443 one-way construction worker trips would occur per day. It is conservatively estimated that a maximum of 45 construction material hauling trips per day or 6 trips per peak hour would occur during the construction phase. The total equivalent passenger car trips assumed per peak hour would be 982. Construction trips would not double the existing traffic volume and would result in a less than 2 dBA Leq increase in the existing ambient noise level, which would result in an ambient noise level of 72 dBA, Leq, which is less than the FHWA construction noise threshold of 78 dBA, Leq (FHWA, 2006). Therefore, Alternative B would not result in a significant adverse effect to the ambient noise level in the vicinity of the project during construction.

Construction noise from Alternative B would be less than Alternative A because it is a smaller facility that would require less construction activity. The maximum noise level at the nearest sensitive noise receptor, single-family residences approximately 1,400 feet southwest of the project site, would be 60.5 dBA Leq during construction of Alternative A; therefore, during construction of Alternative B the maximum noise level at the nearest sensitive noise receptor would be less than 60.5 dBA, Leq. The maximum noise level at the nearest sensitive noise receptor would be less than the FHWA construction noise threshold of 78 dBA Leq (**Table 3.11-1**). Additionally the construction period would be shorter under Alternative B, so construction noise would occur over a shorter duration. Therefore, there would be a less than significant impact from construction noise.

CONSTRUCTION VIBRATION

Construction of Alternative B would result in less vibration effects than those analyzed under Alternative A. Refer to **Section 4.11.1**. Alternative B construction vibration would not result in significant adverse effects associated with the ambient noise environment.

OPERATIONAL NOISE

The following identifies potential impacts from project-related noise sources, such as traffic, heating ventilation and air conditioning (HVAC) systems, deliveries, and noise emitted from the on-site parking structure.

Traffic

It is not anticipated that speed in the vicinity of the project site or the mix of trucks in the traffic would change during the operational phase; however, with the development of Alternative B traffic volumes would increase.

The primary source of noise in the project area is generated by traffic on SR-7/US-441. As discussed in **Appendix E**, there are approximately 3,011 vehicles per peak hour on SR-7/US-441 adjacent to the project site. Alternative B would add an estimated 418 vehicles per peak hour to area roadways, of which 43.4 percent or approximately 182 vehicles per peak hour would occur on SR-7/US-411 (**Appendix E**). The existing ambient noise level in the vicinity of the project site is approximately 70 dBA, Leq. Operation trips would result in an increase in the existing ambient noise level of less than 2 dBA Leq, which would result in an ambient noise level of 72 dBA, Leq. This is less than the FHWA operational noise threshold of 72 dBA, Leq (refer to **Table 3.11-2**, Activity Category E, **Section 3.11**). Therefore, Alternative B would not result in a significant effect to the ambient noise level in the vicinity of the project during operation.

Other Noise Sources

Commercial uses would bring the possibility of noise due to operations of roof-mounted air handling units associated with building HVAC equipment, noise from loading docks, and noise associated with the parking structure. The noise levels produced by HVAC systems vary with the capacities of the units, as well as with individual unit design. In this case, HVAC systems on commercial buildings would be located at higher elevations than the surrounding residences, so that roof-mounted HVAC equipment has the potential to be heard at nearby sensitive noise receptors. However, given the distance to the nearest sensitive noise receptor (1,400 feet southwest), noise from roof mounted HVAC equipment would not be audible. Therefore, Alternative B HVAC noise would result in a less-than-significant noise effects.

Idling trucks at loading docks have the potential to emit noise of 80 dBA at 50 feet from the source (FHWA, 2006). Using the attenuation value of 6.0 (refer to construction discussion above) the ambient noise level at the nearest sensitive noise receptor would be 57.5 dBA, Leq, which is less than the threshold of 72 dBA, Leq (**Section 3.11**, **Table 3.11-2**). Therefore, Alternative B loading dock noise would not result in a significant effect.

Parking structure noise would be mainly due to slow moving and idling vehicles, opening and closing doors, and conversation. The noise level in the parking structure is dominated by slow moving vehicles; therefore, the ambient noise level in a parking structure would be approximately 60 dBA, which is less than the threshold of 72 dBA (FHWA, 2006). Therefore, Alternative B parking structure noise would not result in a significant adverse effect.

OPERATIONAL VIBRATION

Commercial and hotel uses do not include sources of perceptible vibration. Therefore, operation of Alternative B would not result in significant adverse effects associated with vibration.

4.11.3 ALTERNATIVE C

CONSTRUCTION NOISE

Grading and construction associated with Alternative C would be the same as described above for Alternative A. Construction noise would not result in a significant adverse effect to the ambient noise level in the vicinity of the project during construction.

CONSTRUCTION VIBRATION

Construction activities for Alternative C would be the same as described above for Alternative A. Construction vibration would be generated by earthmoving equipment as shown above in **Table 4.11-2**. Construction vibration under Alternative C would not result in significant adverse effects to nearby structures and sensitive receptors.

OPERATIONAL NOISE

Operational noise from Alternative C would be the same as construction noise described above for Alternative A.

Traffic

Traffic noise for Alternative C would be the same as traffic noise analyzed under Alternative A. Alternative C would not result in a significant adverse effect to the ambient noise level in the vicinity of the project during operation.

Other Noise Sources

Commercial uses associated with Alternative C would be the same as Alternative A; therefore, noise generated from these noise sources would be the same as those described under Alternative A. Alternative C noise would result in a less-than-significant adverse effects associated with the ambient noise environment.

CONSTRUCTION VIBRATION

Vibration from construction of Alternative C would be the same construction vibration described above for Alternative A.

OPERATIONAL VIBRATION

Commercial and hotel uses do not include sources of perceptible vibration. Therefore, operation of Alternative C would not result in significant adverse effects associated with vibration.

Sub-Alternative C-1

Under Sub-Alternative C-1, no development would occur on the project site. Under Sub-Alternative C-1, the 45-acre site would not be developed and no construction or operational mobile or stationary noise would be generated.

4.12 HAZARDOUS MATERIALS

This section identifies the potential for hazardous materials exposure that would result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.12**. Cumulative and indirect effects are identified in **Section 4.15** and **Section 4.14**, respectively. Measures to mitigate for adverse effects identified in this section are presented in **Section 5.2.10**.

4.12.1 ALTERNATIVE A – PROPOSED PROJECT

Construction

There is no reported hazardous materials contamination on the project site. Thus, known hazardous materials would not affect construction. There are no adjacent sites with hazardous materials uses or releases that would affect surface or subsurface conditions on the site. The possibility does exist that undiscovered contaminated soil and/or groundwater may be present on the site. Although not anticipated, construction personnel could encounter contamination during construction-related earth moving activities. This could pose a risk to human health and/or the environment. If encountered, the unanticipated discovery of contaminated soil or groundwater could have a potentially significant effect.

Hazardous materials used during construction would include substances such as gasoline, diesel fuel, motor oil, hydraulic fluid, solvents, cleaners, sealants, welding flux, various lubricants, paint, and paint thinner. These materials would be used for the operation and maintenance of equipment, and directly in the construction of the facilities. Fueling and oiling of construction equipment would be performed daily. The most likely possible incidents would involve the dripping of fuels, oil, and grease from construction equipment. The small quantities of fuel, oil, and grease that may drip would have relative low toxicity and concentrations. Typical construction management practices limit and often eliminate the potential for accidental releases. An accident involving a service or refueling truck would present the worst-case scenario for the release of a hazardous substance for this project. Depending on the relative hazard of the hazardous material, if a spill of significant quantity were to occur, the accidental release could pose a hazard to both construction employees and the environment. Accordingly, this is a potentially significant impact.

The site and construction do not pose any unusual risk and the potential for release of hazardous materials during construction of Alternative A would be typical for a large, commercial development. Mitigation is included in **Section 5.2.10** to reduce potentially significant impacts resulting from hazardous materials spills or releases during construction of Alternative A to less-than-significant levels.

Sub-Alternative A-1

Sub-Alternative A-1 is similar to Alternative A, with the exception that the development would include construction of an on-site water treatment plant, wastewater treatment plant (WWTP), and on-site police and fire stations. As discussed under Alternative A, there is no reported hazardous materials contamination on the project site, or on adjacent sites, that would affect surface or subsurface conditions on the site. As with Alternative A, the possibility exists that undiscovered contaminated soil and/or groundwater exists on the site. Although not anticipated, construction personnel could encounter contamination during construction-related earth moving activities. This could pose a risk to human health

and/or the environment. Refer to **Section 4.12.1** for a description of potentially significant effects resulting from construction activities. The unanticipated discovery of contaminated soil and/or groundwater could have a potentially significant effect.

Mitigation is included in **Section 5.2.10** to reduce potentially significant impacts resulting from hazardous materials spills or releases during construction of Sub-Alternative A-1 to a less-than-significant level.

Operation

The U.S. Department of Labor Occupational Safety and Health Administration (OSHA) regulations include provisions that require facilities to document the potential risk associated with the storage, use, and handling of toxic and flammable substances. OSHA regulations are codified in 29 CFR Parts 70-71, 2200-2205, and 2400.

During operation of the facilities under Alternative A, the majority of waste produced would be non-hazardous. The small quantities of hazardous materials that would be utilized include motor oil, hydraulic fluid, solvents, cleaners, lubricants, paint, and paint thinner. These materials would be utilized for the operation and maintenance of the project facilities. The amount and types of hazardous materials that would be generated are common to commercial sites and do not pose unusual storage, handling or disposal issues. If these materials are not stored, handled, or disposed of according to Federal and manufacturers' guidelines, a hazardous materials release could occur that would affect surface and subsurface conditions on the site.

The amount and types of hazardous materials that would be stored, used, and generated during the operation of Alternative A could have a potentially significant impact to the environment and public. Mitigation is included in **Section 5.2.10** to reduce potentially significant effects from the use of hazardous materials during the operation of Alternative A to a less-than-significant level. Additionally, STOF committed in the January 2011 Mitigation Agreement with the City of Coconut Creek to develop the property consistent with the approved design plans within the Planned MainStreet Development District (PMDD). The PMDD contains development standards for buildings and structures, and on-site fire prevention requirements (**Appendix G**). This would further ensure that potential impacts from release of hazardous materials under Alternative A are reduced to less-than-significant levels.

Sub-Alternative A-1

The type and amounts of hazardous materials that would be used, generated, and stored during the operation of Sub-Alternative A-1 would be similar to, yet slightly larger, than those of Alternative A.

The wastewater treatment plant proposed under Sub-Alternative A-1 would require delivery, storage, and use of hazardous materials, particularly the use of sodium hypochlorite (bleach) and citric acid (HydroScience, 2011). Sodium hypochlorite is used in wastewater treatment, in household laundry detergents, and in photochemical and pulp and paper industries. Ingesting sodium hypochlorite can cause severe gastrointestinal corrosion and inhalation can cause pulmonary edema. Citric acid is used in hair products and household cleaners, in printing, and machinery manufacturing industries.

For the proposed wastewater treatment plant, a weak (5% strength) solution of sodium hypochlorite would be used to clean or inhibit biogrowth. Sodium hypochlorite would be stored in 55-gallon drums,

within a chemical spill containment area inside the wastewater treatment plant building. A citric acid solution is periodically used to remove buildup of inorganic materials on the WWTP filters. Citric acid is purchased in dry form in 40-pound sacks. A 50-gallon mixing tank inside the WWTP would be used to prepare the liquid citric acid solution. Both the sodium hypochlorite and the citric acid would be pumped directly to a chemical dip tank when required for use.

Refer to **Section 4.12.1** for a description of potentially significant effects resulting from hazardous materials usage and storage during project operation. The terms of the STOF water right compact, existing tribal water code, rules to carry out the tribal water code, and the water compact criteria manual all address proper disposal of WWTP wastes. Mitigation is included in **Section 5.2.10** to reduce potentially significant effects from the use of hazardous materials during the operation of Sub-Alternative A-1 to a less-than-significant level.

4.12.2 ALTERNATIVE B – REDUCED INTENSITY ALTERNATIVE

Construction

As discussed under Alternative A, there is no reported hazardous materials contamination on the project site or on adjacent sites that would affect surface and/or subsurface conditions on the site. The possibility exists, however, that undiscovered contaminated soil and/or groundwater exists on the site. Although not anticipated, construction personnel could encounter contamination during construction-related earth moving activities. This could pose a risk to human health and/or the environment. Refer to **Section 4.12.1** for a description of potentially significant effects resulting from construction activities. The unanticipated discovery of contaminated soil and/or groundwater could have a potentially significant effect.

Mitigation is included in **Section 5.2.10** to reduce potentially significant impacts resulting from hazardous materials spills or releases during construction of Alternative B to a less-than-significant level.

Operation

Although the Alternative B resort complex is reduced in acreage and the number of hotel rooms is reduced to 500, the components are essentially the same as Sub-Alternative A-1. As with Sub-Alternative A-1, hazardous materials may be used, generated, and stored during the operation of Alternative B. Refer to **Section 4.12.1** for a description of potentially significant effects resulting from hazardous materials usage and storage during project operation. Mitigation is included in **Section 5.2.10** to reduce potentially significant effects from the use of hazardous materials during the operation of Alternative C to a less-than-significant level.

4.12.3 ALTERNATIVE C – NO ACTION BY THE FEDERAL GOVERNMENT

Construction

Similar to Alternative A, Alternative C would consist of development of the entire project, and as discussed under Alternative A, there is no reported hazardous materials contamination on the site. Thus, known hazardous materials would not affect construction. Additionally, there are no adjacent sites with hazardous materials involvement that would affect surface and/or subsurface conditions on the project site. As discussed under Alternative A, the possibility exists, however, that undiscovered contaminated

soil or groundwater exists on the site. Although not anticipated, construction personnel could encounter contamination during construction-related earth moving activities. This could pose a risk to human health and/or the environment. Refer to **Section 4.12.1** for a description of potentially significant effects resulting from construction activities. The unanticipated discovery of contaminated soil and/or groundwater could have a potentially significant effect.

Mitigation is included in **Section 5.2.10** to reduce potentially significant impacts resulting from hazardous materials spills or releases during construction of Alternative C to a less-than-significant level.

Sub-Alternative C-1

No development would occur under Sub-Alternative C-1. The project site would remain in its current state and no construction activities would occur. The project site would remain as buildings, landscaping, parking facilities, and stormwater retention basins.

Operation

Alternative C consists of the development of a resort complex similar in size and scope to that described under Alternative A. The use, generation, and storage of hazardous materials during operation of Alternative C is likely, although the impacts would be similar to other commercial/retail operations of this size and would not pose any unusual handling, storage, or disposal issues. The small quantities of hazardous materials that would be utilized include motor oil, hydraulic fluid, solvents, cleaners, lubricants, paint, and paint thinner. The amount and types of hazardous materials that would be generated are common to commercial sites and do not pose unusual storage, handling or disposal issues. If these materials are not stored, handled, or disposed of according to state, federal, and manufacturers' guidelines, a hazardous materials release could occur that would affect surface and subsurface conditions on the site.

The amount and types of hazardous materials that would be stored, used, and generated during the operation of Alternative C could have a potentially significant impact to the environment and public. Mitigation is included in **Section 5.2.10** to reduce potentially significant effects from the use of hazardous materials during the operation of Alternative C to less than significant. Additionally, the STOF has committed in the January 2011 Mitigation Agreement with the City of Coconut Creek to develop the property consistent with the approved PMDD. The PMDD contains development standards for buildings and structures, and on-site fire prevention requirements. This would further ensure that impacts from release of hazardous materials are reduced to a less-than-significant level.

Sub-Alternative C-1

Under Sub-Alternative C-1, the project site would remain in its current state and no new development activities would occur on the project site.

4.13 AESTHETICS

This section identifies the direct effects to visual resources that would result from the development of each alternative described in **Chapter 2.0**. Effects are measured against the environmental baseline presented in **Section 3.13**. Indirect and cumulative effects are identified in **Section 4.13** and **Section 4.14**, respectively. Measures to mitigate for any potentially adverse effects identified in this section are presented in **Section 5.2.11**.

4.13.1 ALTERNATIVE A – PROPOSED PROJECT WITH COCONUT CREEK AGREEMENTS

VISUAL IMPACTS

Development of Alternative A would encompass the majority of the proposed project site. Of the project components, the hotel would have the greatest potential for visual effects. The hotel would consist of a 20-story (approximately 260 feet in height, based on 13-feet per hotel floor) structure that is approximately 375 feet long and 200 feet wide. The building would be a combination of metal and glass, with a mixture of natural materials including wood and stone. The other components of the overall project would be no more than six-stories tall (approximately 66-feet in height, based on 11-feet per floor of structured parking on top of one floor of surface parking). The proposed hotel would have a façade similar in design to that of the existing Coconut Creek Casino, located on adjacent federal trust property. Appropriate landscaping would enhance the aesthetically pleasing design of the buildings.

The proposed project would avoid any physical impact to the Florida Power and Light (FPL) high-voltage electric transmission line running across the northern portion of Tracts G and H. Lighting would be provided during nighttime hours, and lighting of the hotel structure may increase the off-site visibility of the lights.

As part of the proposed project, the man-made wetland located on Tract D would be replaced with new stormwater retention ponds. On-site retention ponds are necessary to compensate for the loss of other on-site stormwater retention ponds. The relocation of the retention ponds would not constitute a significant impact to visual aesthetics.

To attract customers, the Seminole Tribe of Florida (STOF) will need to develop a modern and attractive facility. The proposed project may prove to be an aesthetic improvement over the existing surface level parking lot.

Shadow, Light and Glare

A significant effect from shadow would result if the proposed development were to cast a shadow on private residences or public areas for substantial portions of the day. However, there are no public recreation areas or residences in the immediate vicinity. The nearest buildings off site are the existing Coconut Creek Casino on Tract 65 and the car dealerships adjacent to the project site's southern boundary to the north of Sample Road. For the Proposed Project, the direction of the sunrise will vary from southeast to northeast throughout the year; the direction of shadow from the hotel will vary from northwest to southwest, accordingly. During certain times of the year, the hotel tower (approximately 260 feet in height) may briefly cast an early morning shadow over the adjacent properties, including the car dealerships to the south. The impacts of shadow from the development would be less than significant.

The development of Alternative A would introduce new sources of light into the area. To reduce the impacts from increased light sources, the following would be incorporated into the design of Alternative A: downcast lighting and low-pressure sodium bulbs would be used in the landscaped and parking areas to minimize off-site scatter; lighting fixtures would be an integral part of the overall design and strategically positioned to minimize any direct site lines or glare to the public; and exterior landscape and architectural lighting would be used to enhance the architecture of the buildings, accentuate their design, and provide for public safety. Exterior signage would be considered as part of the exterior architectural design and would enhance the buildings' architecture and the natural characteristics of the site by incorporating native materials in combination with architectural trim. Illuminated signs would be designed to blend with the light levels of the building and landscape lighting in both illumination levels and color characteristics. Through the use of downcast and directed lighting, low-pressure sodium bulbs, and strategically positioned lighting fixtures the impacts of lighting off-site would be minimized and less than significant. Mitigation is described further in **Section 5.2.11**.

COMMUNITY CHARACTER

The City of Coconut Creek (City) is an urban/suburban area and most of the land within the City is currently developed. The addition of a 1,000 room hotel, spa, expanded structured parking, and other project components would increase density in the City and develop an existing surface parking lot.

In compliance with the mitigation agreement with the City, STOF will provide landscaping on the project site and along the required roadway improvements (**Appendix G**).

The 20-story hotel structure would give viewers a new focus point and this may reduce the adverse aesthetic effect of the high-voltage electricity transmission corridor located north of the site. Due to the height of the building, the project may result in a perception that the community is developing and density is increasing. This could result in a slight change to perceived community character.

Development of the Seminole site and the Johns Family Trust site are anticipated and the proposed project would not adversely affect undeveloped land in the area. The proposed project would not adversely affect the aesthetic standard of the City; the City would remain modern and attractive and not suffer from poor upkeep or maintenance. Project related signage would not be obtrusive.

General plan documents for the area govern development and give an indication of the future goals for the area with regard to sense of place, quality of life, and general design. The City of Coconut Creek Comprehensive Plan is the document governing development of the project site (City of Coconut Creek, 2007). The area has been zoned as part of a Regional Activity Center and is anticipated to be developed with urban land uses. Additional development is called for in the current Comprehensive Plan and would not change or affect the community character.

Aesthetic goals listed in the City of Coconut Creek Comprehensive Plan and discussed in **Section 3.13, Aesthetics** are to preserve natural elements and blend development with the surrounding environment to the extent feasible. The Mitigation Agreement with the City of Coconut Creek ensures that development would occur according to certain City standards and expectations. The impact to community character would be less-than-significant.

EFFECTS ON VIEWPOINTS SURROUNDING THE PROJECT

In **Section 3.13**, the off-site viewpoints surrounding the project site are described according to analytical criteria expressing the strength of the viewing experience. Impacts to these viewpoints and associated viewsheds resulting from the build-out of the Proposed Project are identified below.

The project may not be seen from nearby sensitive receptors or the aesthetic impact diminished due to terrain, distance, and the natural curvature of the earth. **Figures 4.13-1** through **4.13-6** show views of the proposed 20-story hotel structure from the off-site locations identified in **Section 3.13**. The orange shading indicates areas that would be blocked from view by the hotel from the off-site viewpoints. Project features may also be fully or partially blocked by vegetation. Future development of the Coconut Creek Casino is addressed in the Cumulative Effects section (**Section 4.15**).

Viewpoint A

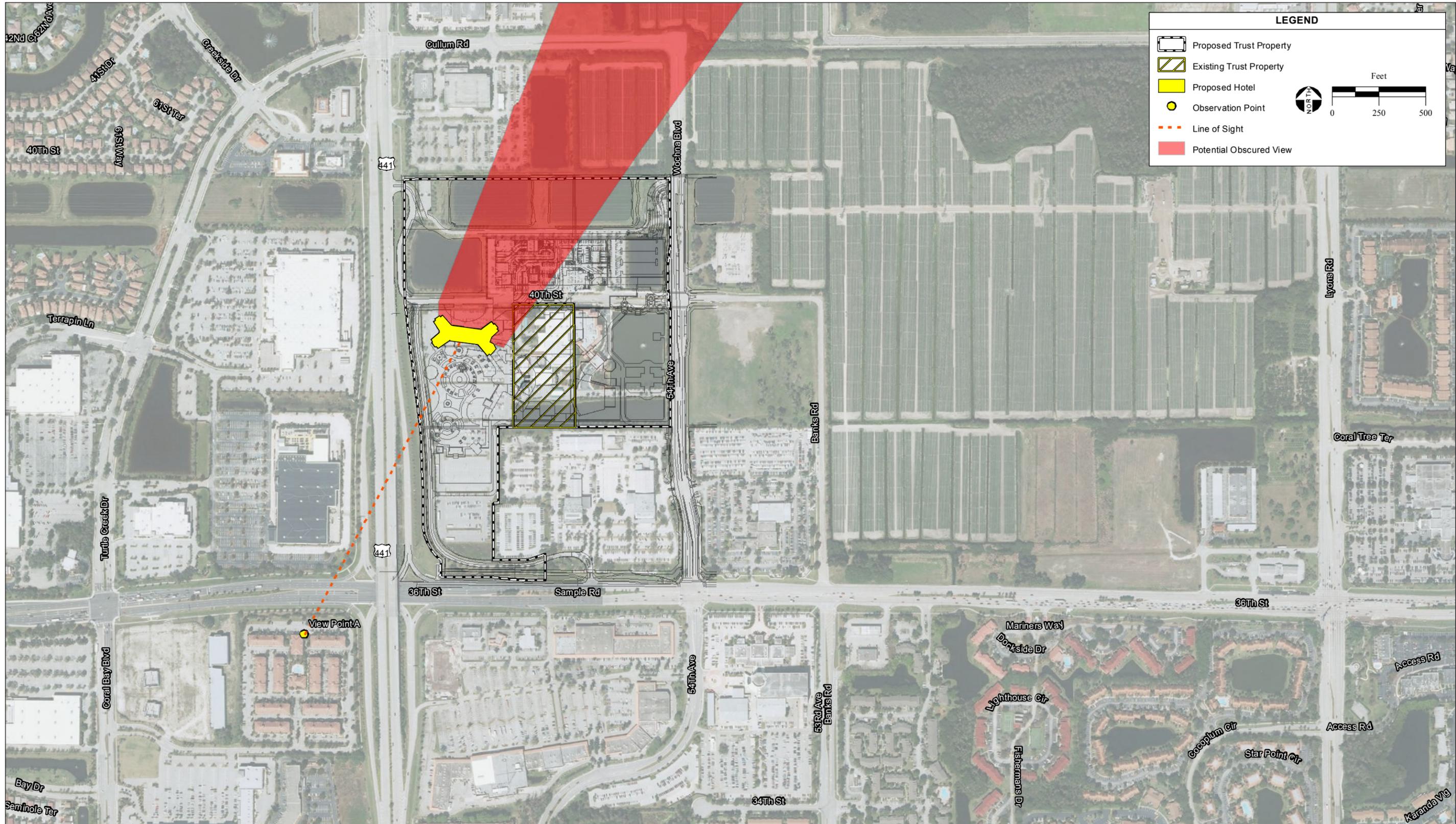
The apartment/condominium complex located west of State Route (SR)-7/US-441 and south of Sample Road (*Viewpoint A*) has distant and medium-range views of the project site. As shown on **Figure 4.13-1**, the project site is within the line-of-sight of a person standing at the apartment/condominium complex; the terrain and distance would not conceal the hotel structure. The proposed project is therefore likely to be a new feature in Viewshed A, although the Sample Street Overpass and landscaping vegetation would partially obstruct these views. As discussed in **Section 4.9**, Land Use, the visual change is consistent with the Regional Activity Center (RAC) zoning of the area. Additionally, STOF has agreed to develop the Proposed Project consistent with certain specified City zoning ordinances also described in more detail in **Section 4.9**, Land Use. Impacts to this viewpoint would be less than significant.

Viewpoint B

The planned hotel would be highly visible to drivers on SR-7/US-441 (*Viewpoint B*). Because of the proximity of the proposed project to the road and the lack of intervening visual features, the hotel would be a dominant feature of Viewpoint B directly west of the site and block a wide section of the viewshed (**Figure 4.13-2**). Views are of the west side of the casino-resort complex and include the main hotel building and main sign. These views are, however, of relatively short duration and not within the forward line of sight for drivers. Trees and other landscaping along SR-7/US-441 would provide some screening of the site. The shorter resort and spa buildings located south of the taller hotel would also provide a “stair-step” view of the project features that would reduce aesthetic impacts for travelers coming from the south on SR-7/US-441. Aesthetic impacts from this viewpoint are not expected to be significant.

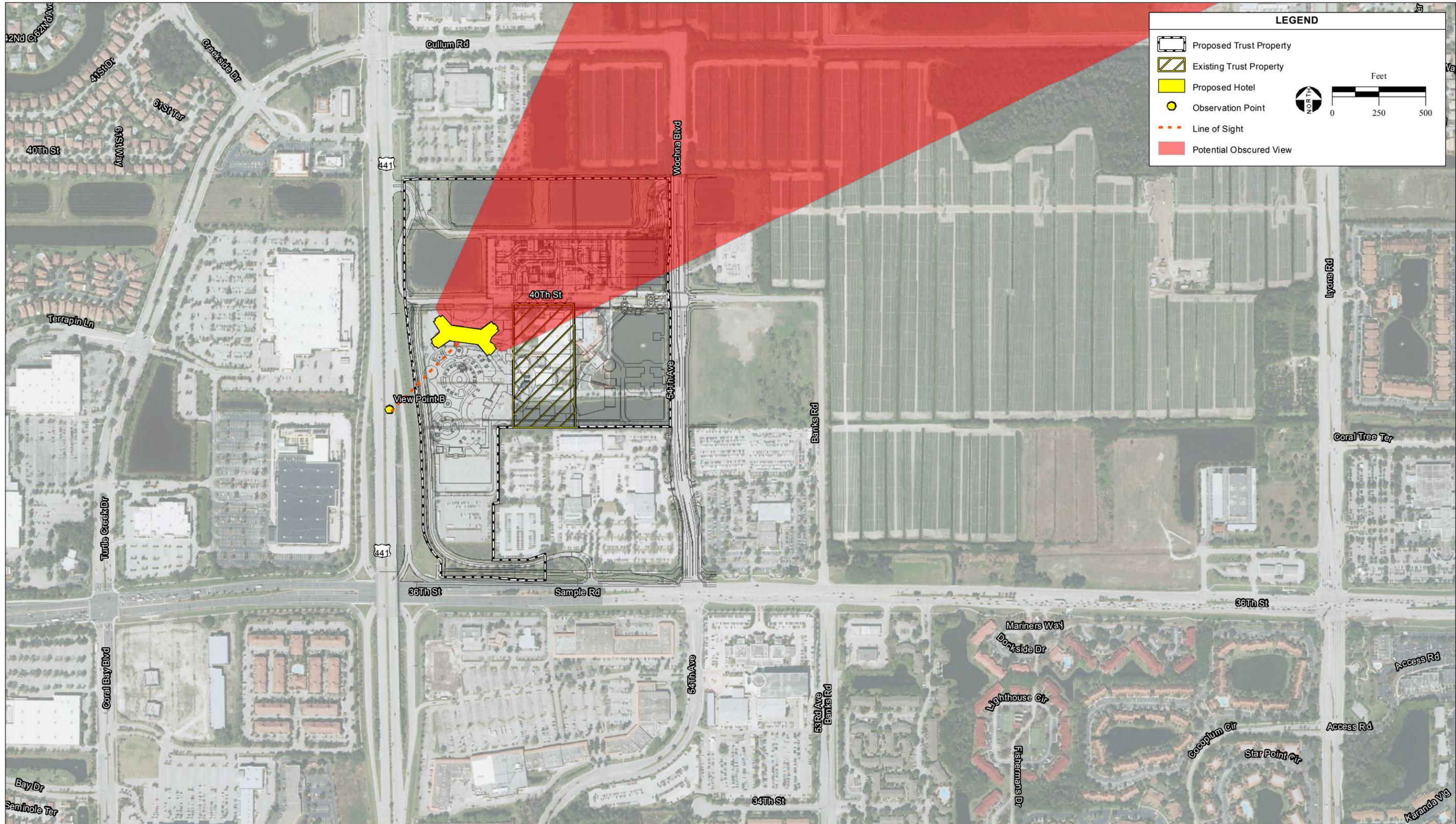
Viewpoint C

Although distance and terrain do not entirely conceal the proposed hotel structure (**Figure 4.13-3**), the proposed project would not have a substantial effect on the visual aesthetics from Viewpoint C. This viewpoint is approximately 2,500 feet away from the proposed project site and views are obstructed by vegetation and man-made features. Additionally, the area to the northwest of Viewpoint C is currently lighted during the evening and nighttime hours and increased lighting from the project site is not likely to result in any noticeable change.



SOURCE: Friedmutter Group, 6/2010; GoogleEarth aerial photograph, 12/14/2010; AES, 2011

Figure 4.13-1
Viewpoint A



SOURCE: Friedmutter Group, 6/2010; GoogleEarth aerial photograph, 12/14/2010; AES, 2011

Figure 4.13-2
Viewpoint B

Viewpoint D

Viewpoint D is characterized by commercial retail development on the west side of SR-7/US-441, man-made landscaping, and the high voltage electric transmission corridor to the north. As shown on **Figure 4.13-4**, the proposed hotel would not be visible from the residences located off Turtle Creek Drive due to the intervening commercial development. The proposed project would not represent a major alternation to the views from this point and would not result in more than a minor change in aesthetic quality for residents in the vicinity.

Viewpoint E

Viewpoint E is looking southwest from Monarch High School toward the project site. As described above in the viewshed analysis, the project site would not be visible from the school due to terrain and distance (**Figure 4.13-5**). Any potential views of the project site would be further obstructed by low-lying, naturally occurring shrubs. The high voltage electric transmission lines are also situated in the visual foreground between the school and the project site. Potential visual impacts at the high school would be further reduced because the school is oriented to the north, away from the proposed project site. The aesthetic impact from this viewpoint is not expected to be more than minor.

Viewpoint F

Viewpoint F is located on Lyons Road approximately one-mile east of the project site across the Johns Family Trust fields. The distance between the residences along Lyons Road and the proposed hotel site, as well as the existing landscaping vegetation would avoid any potential adverse affects to the aesthetics of the area. As shown on **Figure 4.13-6**, the Proposed Project would not become a significant feature of Viewshed F.

Visual impacts to surrounding sensitive receptors from the development of Alternative A would be considered less-than-significant. A mitigation measure is provided in **Section 5.2.11** to further reduce potential impacts.

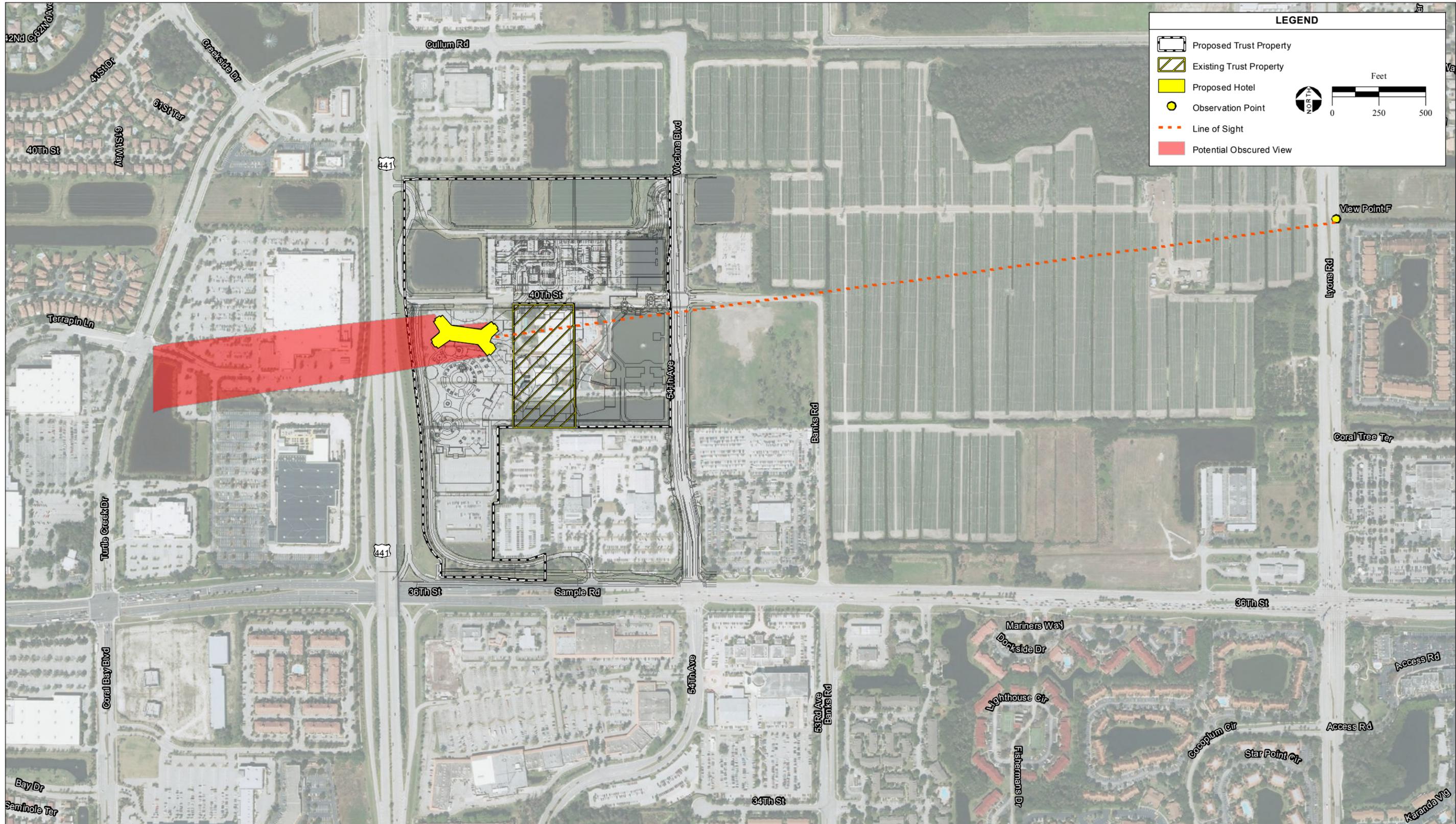
Sub-Alternative A-1

Most of the project components would be the same for Alternative A and Sub-Alternative A-1. The main difference is that for Sub-Alternative A-1, STOF would provide sanitary sewer and domestic water supplies on-site rather than hook up to the City facilities. To provide these services on-site, space for utilities and public services would be incorporated into the facility located on Tract B. The sanitary sewer and potable water facilities would be covered and designed to avoid aesthetic impacts. The other visual impacts and proposed mitigation measures would be the same for Alternative A and Sub-Alternative A-1.

4.13.2 ALTERNATIVE B – REDUCED INTENSITY ALTERNATIVE

VISUAL IMPACTS

The main visual features under Alternative B would be smaller than those under Alternative A. Refer to Alternative A for a more detailed discussion. Under this alternative, the hotel would be reduced from 1,000 rooms to 500 rooms and reduced from 20-stories to 10-stories. This would reduce the height of the building from approximately 260 feet to roughly 130 feet.



SOURCE: Friedmutter Group, 6/2010; GoogleEarth aerial photograph, 12/14/2010; AES, 2011

Figure 4.13-6
Viewpoint F

STOF would provide wastewater treatment plant on-site and the facility would remain located in the southwest corner of the site as described under Sub-Alternative A-1. A site plan for Alternative B appears as **Figure 2-6**. The design of Alternative B would follow the same design standards and building codes described above under Alternative A, and therefore potential impacts to surrounding sensitive receptors would be less-than-significant. Mitigation is provided in Section 5.2.11 to further reduce this less-than-significant impact.

Shadow, Light and Glare

No significant shadow impacts would occur from Alternative B. The hotel would be situated over 1,000 feet away from the nearest residence and the closest occupied structure is the commercial building located north of the project site on Cullum Street.

The development of Alternative B would introduce new sources of light and glare as described under Alternative A. Through the use of downcast and directed lighting, low-pressure sodium bulbs, and strategically positioned lighting fixtures, the impacts of lighting off site would be minimized and less than significant. The use of glass panels and reflective ornamental detailing in the project design could increase the glare to travelers on SR-7/US-441. This impact to shadow, light, and glare from the development of Alternative B would be less-than-significant. This less than significant impact would be further reduced with mitigation measures included in **Section 5.2.11**.

COMMUNITY CHARACTER

Effects to community character would be similar to those experienced under Alternative A. The impacts to community character would be less-than-significant.

EFFECTS ON VIEWPOINTS SURROUNDING THE PROJECT

The reduced height of the hotel would reduce the potential aesthetic effects to viewpoints surrounding the project. Aesthetic impact would also be less-than-significant under Alternative B.

Viewpoint A

Although the main visual element (the hotel) would be reduced in height under Alternative B, the 10-story hotel would still be visible from off-site viewpoints. The height of the hotel in Alternative B would be comparable to the existing on-site sign, although the mass would be much greater. The reduced height of the structure would have less of an aesthetic effect on the sensitive receptor viewpoints surrounding the Coconut Creek site and aesthetic impact would also be less-than-significant under this alternative.

Viewpoint B

As described under Alternative A, the hotel would be highly visible for travelers along SR-7/US-441, but these views would be for only a short duration. The 10-story hotel would present a smaller scale structure, compared with the 20-story structure, but the aesthetic difference would not be substantial for sensitive receptors.

Viewpoints C, D, E, and F

The aesthetic impact of the 10-story structure would be minimal at the other viewpoints. The hotel would be partially hidden behind landscaping and other buildings situated in the foreground.

4.13.3 ALTERNATIVE C – NO ACTION BY THE FEDERAL GOVERNMENT

Under Alternative C, the site would not be brought into federal trust and would remain in fee under local and state jurisdiction. If Alternative C is selected and no federal action is taken, the property could still be developed by the STOF in compliance with all local and state requirements. Under this scenario, the project development would be the same as that described above for Alternative A.

Sub-Alternative C-1

There would be no aesthetic impact from Sub-Alternative C-1 because no further development would occur.

4.14 INDIRECT AND GROWTH-INDUCING EFFECTS

The National Environmental Policy Act (NEPA) requires that an Environmental Impact Statement (EIS) analyze both the indirect and the “growth-inducing” effects of a proposed project (40 CFR Section 1502.16 [b], 40 CFR Section 1508.8 [b]).

“...indirect effects...are caused by the action and are later in time or farther removed in the distance, but are still reasonably foreseeable. Indirect effects may include ‘growth inducing effects’ and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on ...natural systems.”

Direct impacts, caused by the action and occurring at the same time and place as the action, have been discussed in **Sections 4.2** through **4.13** and cumulative impacts measured in conjunction with other reasonably foreseeable projects, whether past, present, or future, are addressed in **Section 4.15**.

The potential indirect effects of off-site stormwater retention improvements integral to development of Alternatives A and C are discussed below in **Section 4.14.1**. Off-site stormwater retention improvements are not required for Sub-Alternative A-1 or Alternative B as stormwater retention improvements would be developed on-site.

Traffic mitigation improvements integral to the development of Alternatives A, B, and C, as well as Sub-Alternative A-1, are also discussed as indirect impacts in **Section 4.14.2** below, as traffic improvements are distinctively separated in time and/or space from the proposed alternatives.

If an agreement between the Seminole Tribe of Florida (STOF) and the City of Coconut Creek (City) is not in place, STOF would provide utilities and public services on-site, as described under Sub-Alternative A-1 and Alternative B. If STOF is unable to produce potable water on-site of the quantity and quality required to meet project demands, it would investigate the possibility of connecting to existing municipal water supply infrastructure located either south of the site in the City of Margate or to the west in the City of Coral Springs. In the event that this water service connection is required, STOF would reach an agreement with an alternate water supplier and develop a utility connection from the project site to an existing water line. If STOF cannot obtain water from the City, alternate water purveyors (City of Margate / City of Coral Springs) would likely require a formal release from the City before they would contract with STOF to provide water to the site. This development could potentially result in off-site, indirect impacts that are assessed below in **Section 4.14.3**.

Growth inducing effects are also discussed independently in **Section 4.14.4** since they are a distinct subset of indirect effects.

In addition, off-site improvements would require obtaining approvals and permits from jurisdictional agencies, including the Florida Department of Transportation (FDOT), the South Florida Water Management District (SFWMD), and the Cocomar Water Control District (CWCD). Construction of these off-site mitigation measures would be subject to local permit approval prior to construction. Implementation of permitting requirements, as required per mitigation provided in **Section 5.2.2**, would reduce the potential for significant adverse effects from off-site construction projects.

4.14.1 INDIRECT EFFECTS FROM OFF-SITE STORMWATER RETENTION IMPROVEMENTS

For Alternatives A and C, the newly constructed Tract B stormwater retention pond does not provide sufficient capacity to mitigate for the loss of existing retention ponds on Tracts G and D. The stormwater retention system is described in more detail in **Sections 3.3** and **4.3** above, and in **Appendix C - Stormwater and Grading Report**. If either of these alternatives were selected, STOF would expand off-site stormwater retention capacity as mitigation for the shortage of on-site storage. Stormwater retention improvements would include establishing a connection to the CWCD Northwest (NW) Basin. Connection to the existing CWCD NW Basin conveyance system would most likely occur via a 60-inch diameter pipe running east of the site along the NW 40th Street right-of-way to Banks Road, and then extending north to Cullum Road where connection would be made to the C-5 Canal. The pipeline would be approximately 2,000 feet long. Given the undeveloped nature of the route, it is likely that the pipeline would be installed using a “cut-and-cover” method. Water conveyance from Cullum Road to the Hillsboro Canal would utilize the existing C-5 canal, pipe, and lake conveyance system. To fulfill stormwater retention requirements a new 2.1-acre retention pond¹ would be developed within the adjacent Johns Family Property to the east of the project site. The development of this retention pond would be constructed on an approximately 5-acre parcel to the east of the Florida Power and Light (FPL) property. However, if a development agreement between the STOF and representatives of the Johns Family is not feasible, an optional 2.1 acre retention pond would be constructed on a 4-acre undeveloped parcel located at the northwest corner of NW 74th Place and NW 48th Place. This property is currently owned by STOF. **Figure 4.14-1** shows locations for the stormwater connection and the new stormwater retention ponds (Option 1 – Johns Family, Option 2 – STOF 4-Acre). Developing the connection to the CWCD NW Basin and providing additional stormwater storage capacity would be necessary to ensure continued compliance with the CWCD Coconut Creek Commerce Center Master Drainage Permit.

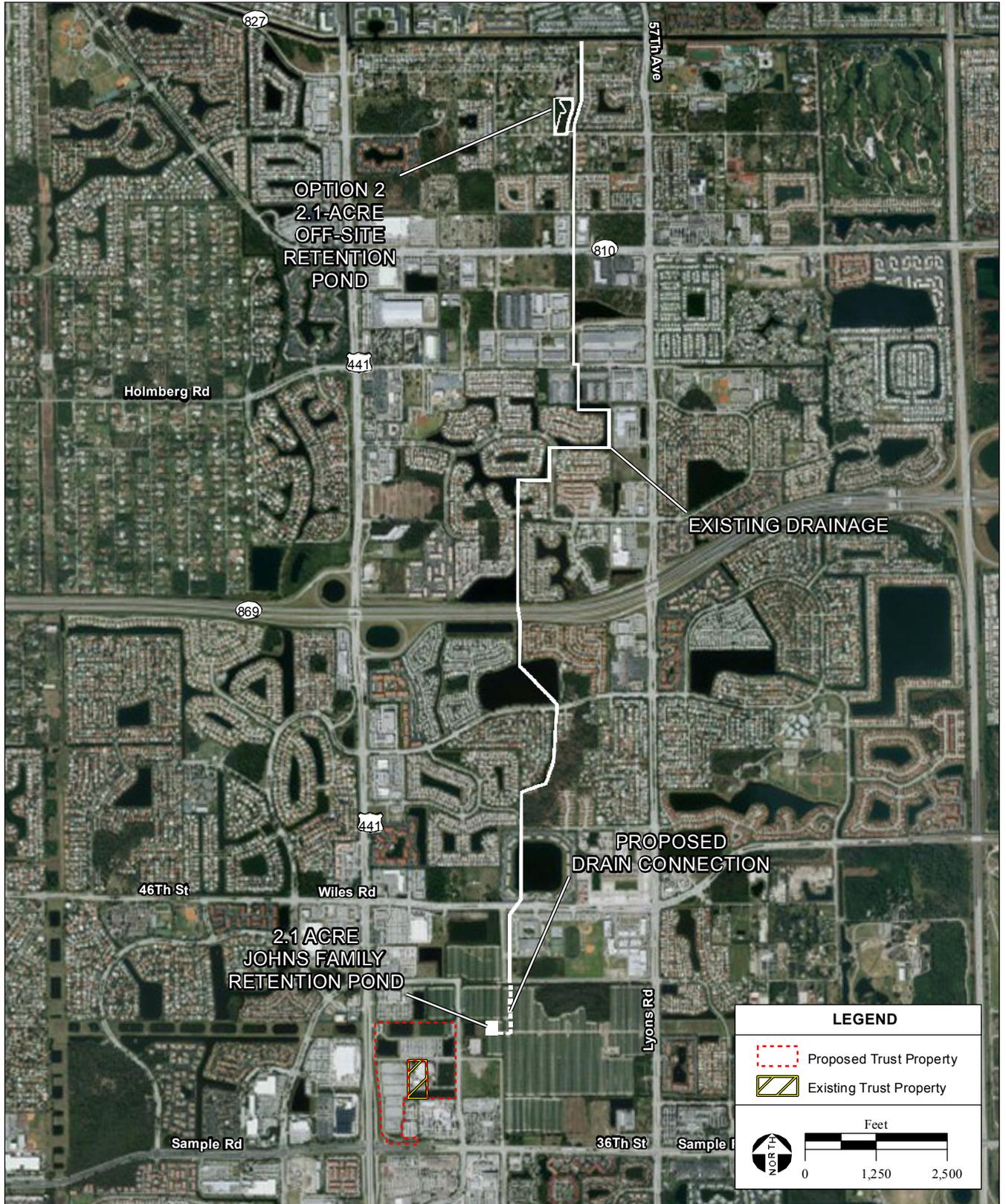
ALTERNATIVES A AND C

Geology and Soils

Constructing the pipeline connection from the project site to the existing CWCD conveyance system on the north side of Cullum Road would require short-term disturbance of soils to “cut-and cover” the 2,000 foot long pipeline. Given the high water table and the flat topography, the pipeline is expected to be placed as shallow as possible and this would minimize the potential for impacts to soils from off-site improvements. Geology would not be significantly affected by pipeline construction.

Construction on either of the off-site retention ponds would require soil removal from the off-site retention pond sites. The pond would be built as deep as possible to maximize storage capacity. Soil removed from the site would either be used to construct berms surrounding the pond or exported for fill at another construction site in the area. The quantity of soil extracted for construction of the off-site retention pond would not be significant. Retention ponds are common in the area and the proposed retention pond would not significantly affect geology of the area. Therefore, no significant indirect effects to geology and soils would occur as a result of off-site development of stormwater conveyance or retention under Alternatives A or C.

¹ This is a preliminary, planning level estimate of the retention pond size. The size of the off-site retention pond would be finalized during the survey/design phase of the project.



SOURCE: Keith and Schnars, P.A., 7/2011; Aerial Express Aerial Photograph, 2010; AES, 2011

Seminole Fee-to-Trust Project EIS / 210520 ■

Figure 4.14-1
 Alternative A - Off-Site Stormwater Connection
 and New Stormwater Retention Pond

Water Resources

Stormwater from the Coconut Creek Commerce Center area has drained to the “temporary” CWCD SW Basin for the past 20 years and connecting the site to the CWCD NW Basin would fulfill a long-standing goal to improve stormwater conveyance in the area. Creating a new, off-site retention pond would mitigate for the loss of capacity from the STOF site. To develop the retention pond, STOF would be required to obtain a National Pollutant Discharge Elimination System (NPDES) permit, including the incorporation of best management practices (BMPs) to address the quantity and quality of surface water runoff.

Therefore, developing the connection to the CWCD NW Basin and providing new, off-site stormwater retention capacity would provide a beneficial indirect effect to water resources under Alternative A or C.

Air Quality

The proposed CWCD NW Basin connection and retention pond would operate by gravity and water would not be pumped. Operation of the new off-site facilities would not burn fossil fuels and would not, therefore, result in any adverse affect to air quality. Construction of the new facilities would be short-term, limited in scope, and would take place within an attainment area, so air effects would not be significant.

Biological Resources

Developing the pipeline connection to the CWCD NW Basin would not result in a long-term adverse effect to biological resources. The pipeline route is located on or adjacent to highly disturbed areas that provide little or no beneficial habitat. Construction is also expected to be of limited duration and operation would have no affect on biological resources.

Construction of the new retention pond would require clearing, grubbing, and grading of 2.1 acres of a currently undeveloped site. As shown on **Figure 4.14-2**, the 5-acre Johns Family site is highly disturbed and current utilized for agricultural. The 4-acre STOF site is heavily treed and provides biological habitat. The 4-acre STOF property is designated as Pine Flatwoods and considered Conservation Land under the 2000 Safe Parks and Land Preservation program (Broward County, 2012). After construction of the retention pond is complete, the site would remain in an “undeveloped” state with open space, landscaping vegetation, and fresh water. The site would, however, be used for stormwater retention and managed to avoid plant succession or pond sedimentation. Developing the new stormwater retention pond would result in a change to the habitat that could potentially adversely affect species that currently utilize the site and benefit new species that would prefer the new pond habitat. Implementation of the mitigation measures presented in **Section 5.2.4** would ensure that preconstruction surveys of the proposed retention pond are conducted and appropriate consultation is initiated. Implementation of these measures would reduce potential impacts to special status species and waters of the U.S. to a less-than-significant level.

Potential indirect effects associated with the operation of the off-site stormwater retention pond would not significantly affect wildlife and habitats, state and federal special status species, migratory birds, and waters of the U.S. After construction is complete, the retention pond would not result in any substantial increase in noise, lighting, vehicular traffic, and other human activity in the vicinity of this



development. Accordingly, no significant indirect effects to biological resources would occur as a result of the development and operation of the off-site stormwater retention pond under Alternative A or C.

Cultural Resources

No prehistoric or historic-period cultural resources are known to occur within or adjacent to the STOF Site and the area has a low-probability for prehistoric cultural resources. Off-site construction of the drainage system connection or the retention pond under Alternative A or C could, however, impact previously unknown archaeological resources, as archaeological sites may be buried with no surface manifestation. Significant impacts to cultural resources could occur if sites were lost, damaged, or destroyed without appropriate recordation or data recovery as a result of the indirect effects of the Proposed Project or Alternative C. The mitigation measures identified in **Section 5.2.5** for would mitigate potential impacts to cultural resources to less-than-significant levels.

Therefore, no significant indirect effects to cultural resources would occur as a result of off-site stormwater development under Alternative A or C.

Socioeconomic Conditions

Developing the off-site stormwater retention improvements would generate a short-term economic benefit by creating construction jobs and demand for construction equipment and materials. This impact would, however, be short-lived and end shortly after construction is complete. Although it has not yet been budgeted, the construction cost of the off-site stormwater retention improvements would be small compared with the overall cost to develop the Proposed Project. Operation of the stormwater retention improvements would not significantly affect the economy of the area given its limited scope.

The area around the proposed stormwater retention pond is slated for commercial and residential development (Johns Family site) or used for low-density, single-family residences (STOF site). Developing the new stormwater retention pond would remove the property from future development and reduce the amount of land available for housing or other uses. This would not be a significant effect.

Transportation/Circulation

Construction of the stormwater conveyance pipeline and off-site retention pond would generate some short-term traffic as materials are brought to the work site, workers access the work site, and excavated soil is removed. Construction traffic would end shortly after construction is complete. Operation of the facilities would not generate significant traffic.

The off-site stormwater retention improvements would not have any significant effect on traffic circulation in the area. No significant indirect effects to transportation would occur as a result of off-site stormwater retention improvements under Alternative A or C.

Land Use

Indirect effects to land use would consist of conversion of an undeveloped site to a retention pond. After construction of the pipeline conveyance is complete, land under and around the pipeline would return to its previous uses and there would be no change to land use.

Development of Alternative A or C would not result in unplanned residential or commercial growth in the City or Broward County either directly or indirectly. Therefore, no significant indirect effects to land use would occur as a result of off-site stormwater retention improvements under Alternative A or C.

Public Utilities and Services

Water Supply

Domestic water supply is isolated from stormwater in order to avoid contamination of the potable water supply. Therefore, domestic water supplies would not be affected by either construction or operation of the off-site stormwater retention improvements. The proposed improvements would not change the demand for domestic water.

Wastewater

Wastewater would not be affected by the proposed off-site stormwater improvements for the same reasons stated above for domestic water; wastewater would be kept isolated from the stormwater conveyance system and the improvements would not increase the demand for wastewater services. Additionally, due to capacity limitations of the Hillsboro Canal, it would not be possible to dispose of treated wastewater from the project to the Hillsboro Canal or the conveyance system that drains into the canal.

Solid Waste

Construction of the off-site stormwater improvements may generate minor quantities of solid waste that would be disposed of at an approved landfill. Operation of the stormwater system would not generate solid waste.

Electricity, Natural Gas, and Telecommunications

Construction of the off-site stormwater conveyance pipeline and retention pond would not affect electrical system infrastructure, and operation would not require electricity.

Natural gas and telecommunications would not be affected by either construction or operation of the off-site stormwater system.

Law Enforcement

Law enforcement and fire and emergency services would not be affected as a result of construction or operation of the off-site stormwater retention improvements included as mitigation under Alternative A and C.

Therefore, no significant indirect effects to public utilities or services would occur as a result of expanding the off-site stormwater retention system under Alternative A or C.

Noise

Construction activity associated with development of the new stormwater retention pond is likely to generate noise that could affect nearby residents. Any impacts that may occur would be reduced through compliance with City and County regulations including the imposition of construction hours and

requirements for the installation of noise abatement equipment. Accordingly, no significant indirect noise impacts would occur as a result of off-site stormwater retention development under Alternative A or C.

Hazardous Materials

An inspection of aerial photographs of the proposed pipeline route did not find any indication of hazardous materials contamination, overlying or adjacent land uses prone to hazardous materials generation or contamination. The route includes the right-of-way for a local street and an active produce farm; neither activity would generate a high risk of hazardous materials releases. The Phase I Environmental Site Assessment conducted for the nearby Seminole Fee-to-Trust project did not find any previous known releases of contaminants (**Appendix H**).

The site of the proposed stormwater retention pond is undeveloped and there are no indications that there have been previous releases of hazardous materials.

However, during construction of the pipeline and retention pond, indirect effects could impact surface and subsurface conditions as a result of a release of a hazardous material. Compliance with appropriate State and Federal statutes, including the Resource Conservation and Recovery Act (RCRA), its provisions addressing disposal of hazardous waste, and its amendments addressing underground storage tanks, would ensure that future developments are protective of public health and safety. The mitigation measures identified in **Section 5.2.10** would mitigate potential impacts to hazardous materials.

Therefore, no significant indirect effects from hazardous materials would occur as a result of off-site stormwater conveyance and retention development under Alternative A or C.

Aesthetics

After construction, the connection to the existing stormwater conveyance system would be buried and not visible. It would, therefore, have no affect on aesthetics.

The proposed stormwater retention pond would be buffered from view by perimeter landscaping and would not include an elevated structure. The retention pond would not be visible from the public streets or the residences located west of the site. If the pond were visible from any vantage point, it would appear as a natural feature and would be consistent with the aesthetics of the surrounding area where retention ponds are common.

Therefore, no significant indirect effects to visual aesthetics or community character would occur as a result of the off-site stormwater retention pipeline and retention pond development under Alternative A or C.

4.14.2 INDIRECT EFFECTS FROM OFF-SITE TRAFFIC MITIGATION

This section analyzes the effects resulting from the construction of traffic improvements that are required as mitigation in **Section 5.2.7**. These off-site traffic mitigation measures are separate from and in addition to the off-site traffic mitigation measures included in the City of Coconut Creek/STOF agreement contained in **Appendix G**. Construction of these off-site intersection improvements could generate indirect impacts in several areas, which are discussed below.

IMPROVEMENTS

For Alternatives A and C, proposed intersection improvements are needed to reduce transportation impacts along NW 54th Avenue and at four intersections. Intersection improvements would occur at NW 54th Avenue / NW 40th Avenue, NW 54th Avenue and Cullum Road, the access point from the project to NW 54th Avenue and at the intersection of NW 40th Avenue and SR 7/US-441. For Alternative B, proposed intersection improvements are needed at NW 54th Avenue/NW 40th Avenue, specifically the northbound approach to SR-7 at the NW 40th Avenue connector. These improvements are described in more detail in **Sections 5.2.7**, and in **Appendix E**. The potential indirect effects of these improvements are discussed below.

INDIRECT EFFECTS

Geology and Soils

The construction of off-site roadway improvements would require minimal grading. At all intersections, changes to topography would be minimal due to the existing flat topography of the area; however, construction work could result in erosion of soils. With standard construction practices and specifications required by Broward County and the City of Coconut Creek, compliance with the State of Florida NPDES permit program, and implementation of applicable mitigation measures listed in **Section 5.2.1**, there would be no significant indirect effects to geology and soils as a result of off-site traffic mitigation under Alternative A, B, or C.

There are no known mineral deposits in the area and, therefore, the roadway improvements would not significantly affect the ability to extract minerals.

Water Resources

The development of roadway improvements for traffic mitigation could affect water resources due to construction activities and an increase in impervious surfaces. Potential effects include an increase in surface runoff and increased erosion, which could adversely affect surface water quality due to increases in sediment and roadway pollutants such as grease and oil. Construction of off-site roadway improvements would be required to comply with the NPDES General Construction Permit Program. To comply with the program, a Stormwater Pollution Prevention Plan (SWPPP) would be developed and implemented that would include soil erosion and sediment control practices to reduce the amount of exposed soil, prevent runoff from flowing across disturbed areas, slow runoff from the site, and remove sediment from the runoff.

The effects to runoff volumes resulting from the increase in impervious roadways would be minimal due to the limited extent of the improvements in comparison to the existing roadways. Some existing curb and gutters and stormwater drain inlets would be demolished and relocated along portions of the roadways to provide space for improvements. Curb and gutters, inlets, and other drainage facilities would be reconstructed to provide adequate facilities to direct stormwater runoff. With incorporation of these drainage features and compliance with the soil erosion and sediment control practices identified in the SWPPP, effects to water resources would be less than significant. Therefore, there would be no significant indirect effects to water resources as a result of off-site traffic mitigation under Alternative A, B, or C.

Air Quality

The scope of roadway improvements would not be of a size to create significant air quality effects. With the improved roadways, level of service (LOS) is improved, thereby reducing idling time. Construction generated dust and emissions would be controlled by BMPs mandated by the City, Broward County, and State of Florida. Accordingly, there would be no significant air quality impacts.

Biological Resources

As described in **Section 3.5**, areas in the vicinity of the project site are highly developed and contain little, if any, suitable habitat for federally listed species or designated critical habitat. The disturbance of land adjacent to improvement intersections is unlikely to result in significant impacts to biological resources. STOF would assist with the funding of mitigation measures included within **Section 5.2.4** to reduce the potential for impacts to biological resources. Therefore, there would be no indirect effects to biological resources as a result of off-site traffic mitigation under Alternative A, B, or C.

Cultural Resources

Though no cultural resources have been recorded within or adjacent to the project site, prehistoric Native Americans and Euro-American settlers are known to have occupied the general area. The development of off-site roadway improvements as a result of traffic mitigation could impact previously unknown archaeological resources. Significant impacts to cultural resources could occur if sites were lost, damaged, or destroyed without appropriate recordation or data recovery. While the area of roadway improvements and associated potential impacts would be small in size, the possibility remains that impacts could occur. The mitigation measures identified in **Section 5.2.5** for would mitigate potential impacts to cultural resources. Therefore, there would be no indirect effects to cultural resources as a result of off-site traffic mitigation under Alternative A, B, or C.

Socioeconomic Conditions

Off-site traffic improvements would result in short-term disturbances to traffic flows. Surrounding businesses and residences would remain accessible throughout construction. The area of roadway impacts would be of a limited size and would not create socioeconomic effects. The costs of these roadway improvements would be borne by STOF. Therefore, there would be no indirect effects to socioeconomic conditions as a result of off-site traffic mitigation under Alternative A, B, or C.

Transportation/Circulation

Off-site traffic improvements would be limited in scale and duration, resulting only in short-term disturbances to traffic flows. Therefore, there would be no indirect effects to the transportation and circulation network as a result of off-site traffic mitigation under Alternative A, B, or C.

Land Use

The areas of roadway improvements are located within existing City of Coconut Creek / Broward County right of ways. Therefore, there would be no indirect effects to land use as a result of off-site traffic mitigation under Alternative A, B, or C.

Public Services

Traffic improvements may require relocation of utilities located in the immediate vicinity of the intersections. These utilities include overhead electricity lines and telecommunication lines. Relocation of these lines could result in a temporary break in service to some businesses in the area. However, because these effects are common when upgrading and maintaining utility services, and because potential service breaks would be temporary, these effects would be less than significant. No effects to police, fire, or emergency medical services would occur as access to homes and businesses would be maintained during the construction period. Therefore, there would be no significant indirect effects to public services as a result of off-site traffic mitigation under Alternative A, B, or C.

Noise

Construction activities resulting from off-site intersection improvements may result in minor noise impacts as a result of Alternative A, B, or C. Broward County and City of Coconut Creek regulation through imposition of construction hours and requirements for installation of noise abatement equipment would control such impacts. Sensitive receptors are additionally located at distance from the two intersection improvement areas. Therefore, no significant indirect noise impacts would occur as a result of off-site traffic mitigation under Alternative A, B, or C.

Hazardous Materials

The intersection improvements and associated potential impact areas would be limited in size; therefore, the possible area for hazardous materials discovery is limited. While construction equipment may release diesel fuel, gasoline or hydraulic fluid, the initiation of response and clean-up measures required in Broward County / City of Coconut Creek would ensure that no significant indirect impacts from hazardous materials would occur as a result of off-site traffic mitigation under Alternative A, B, or C.

Aesthetics

With the modification of existing intersection, only minimal visual effects would occur. Intersection improvements would be made in areas that are already developed with roadway networks. Modified intersections would conform to modern design standards. Improvements would not result in significant removal or alteration of vegetation, topographic features, or key visual characteristics. Additionally, intersection improvements would not change surrounding land uses and would occur in areas with existing roadway networks. Therefore, no significant indirect effects to aesthetics or community character would occur as a result of off-site traffic mitigation under Alternative A, B, or C.

4.14.3 INDIRECT EFFECTS FROM OPTIONAL MITIGATION OF WATER SUPPLY IMPACTS

As described in **Section 4.10.2** and **Section 4.10.3**, water supply for Sub-Alternative A-1 and Alternative B would be provided by the construction and operation of on-site wells and an on-site water treatment facility. However, optional mitigation has been provided in **Section 5.2.8** in which STOF would investigate the possibility of connecting to a local municipal water distribution system in the event that a groundwater shortage or water quality issue prevents STOF from obtaining sufficient quantities of groundwater through an on-site water system. As detailed within the mitigation, if warranted, STOF would contract with either the City of Coral Springs, which is located immediately west of the project site across SR-7/US-441, or the City of Margate, which is located immediately south of the project site across Sample Road, to serve the project site through their respective municipal utilities with connections to be

provided to the project site at STOF's sole cost. Upon connection to either municipal utility system, STOF would pay all standard water connection charges, and STOF would additionally pay monthly service fees for water service based upon rates adopted by the respective municipality.

IMPROVEMENTS

The exact alignment of this potential optional mitigation is unknown at this time; however, the alignment would connect to the proposed internal water distribution system, cross under either Sample Road or SR-7/US - 441 via jack and bore drilling, and connect to the contracted municipal utility at a location agreed to by STOF and the respective municipality. All surfaces and roadways disturbed as a result of off-site water improvements under Sub-Alternative A-1 and Alternative B would be restored to pre-project conditions. The final design of the connection to either municipal utility system would be in conformance with the contracted municipality's relevant codes and development standards and all other applicable regulations. In addition, as part of the contract for use of services STOF would commit to implementing all applicable mitigation measures listed in **Section 5.0** to ensure minimal impacts from the construction of this potential mitigation.

INDIRECT EFFECTS

The following section describes potential effects associated with the construction of the optional infrastructure improvements described above required to serve Sub-Alternative A-1 and Alternative B.

Geology and Soils

The construction of utility improvements would require grading, excavation, trenching, laying of pipe, and the introduction of backfill material to construct the connection to existing water utilities. Potential impacts include an increased potential for soil erosion due to the additional earthwork needed to construct the improvements. Construction of utility improvements over one acre would be required to comply with the NPDES General Construction Permit Program. The proposed improvements would not change the topography or increase impervious surfaces.

With the implementation of standard construction practices and specifications required by the contracted municipality and the State of Florida NPDES permit program and the implementation of applicable mitigation measures listed within **Section 5.2.1**, there would be no significant indirect effects to geology and soils as a result of off-site water improvements under Sub-Alternative A-1 and Alternative B.

Water Resources

The development of utility improvements could affect water resources due to grading and construction activities. Potential construction effects include an increase in erosion, which could adversely affect surface water quality due to increases in sediment and pollutants such as grease and oil.

Construction of off-site utility improvements that exceed one acre of ground disturbance would be required to comply with the State of Florida NPDES General Construction Permit Program. To comply with the program, a SWPPP would be developed that would include soil erosion and sediment control practices to reduce the amount of exposed soil, prevent runoff from flowing across disturbed areas, slow runoff from the site, and remove sediment from the runoff.

With compliance with the soil erosion and sediment control practices identified in the SWPPP and the implementation of applicable mitigation measures listed within **Section 5.2.2**, effects to water resources as a result of off-site water improvements under Sub-Alternative A-1 and Alternative B would be less than significant.

Air Quality

Construction emissions would be negligible given the anticipated area of disturbance and temporary nature of construction activities. With compliance with the contracted municipality's relevant codes and development standards and all other applicable regulations construction and the implementation of applicable mitigation measures listed within **Section 5.2.3**, effects to air quality as a result of off-site water improvements under Sub-Alternative A-1 and Alternative B would be less than significant.

Biological Resources

As described in **Section 3.5**, areas in the vicinity of the project site are highly developed and contain little, if any, suitable habitat for federally listed species or designated critical habitat. Regardless, the proposed utility improvements would not result in a change in land use as connections would be located underground, and all surfaces would be restored to existing conditions after construction is completed. With the implementation of standard construction practices and specifications required by the contracted municipality and the implementation of applicable mitigation measures listed within **Section 5.2.4**, effects to biological resources as a result of off-site water improvements under Sub-Alternative A-1 and Alternative B would be less than significant.

Cultural Resources

It is possible that previously unknown cultural resources will be encountered during construction of off-site water improvements. The implementation of procedures for inadvertent discoveries under Section 106 of the National Historic Preservation Act (NHPA), which are listed as mitigation in **Section 5.2.5**, would prevent significant adverse effects.

Socioeconomic Conditions

The off-site water improvements would be installed at STOF's sole cost. There would be no indirect effects to socioeconomic conditions as a result of off-site water improvements under Sub-Alternative A-1 and Alternative B.

Transportation/Circulation

Should the off-site water improvements be aligned within road right-of-ways, construction would be limited in scale and duration, resulting only in short-term disturbances to traffic flows. Therefore, there would be no significant indirect effects to the transportation and circulation network as a result of the off-site water improvements under Sub-Alternative A-1 and Alternative B.

Land Use

The proposed utility improvements would not result in a change in land use as connections would be located underground, and all surfaces would be restored to existing conditions after construction is completed. Therefore, there would be no land use conflicts as a result of off-site water improvements under Sub-Alternative A-1 and Alternative B.

Public Services

As described above, upon connection to either municipal utility system, STOF would pay all standard water connection charges, as well as monthly service fees for water service based upon rates adopted by the respective municipality. Therefore, no significant indirect impacts to water/wastewater utilities would occur. No significant effects to police, fire, or emergency medical services would occur as access to homes and businesses would be maintained during the construction period. There would be no significant indirect effects to public services as a result of utility improvements under Sub-Alternative A-1 and Alternative B.

Noise

Construction activities and resulting from off-site utility improvements may result in minor temporary noise impacts. However, with compliance with the contracted municipality's relevant codes and development standards and all other applicable regulations construction and the implementation of applicable mitigation measures listed within **Section 5.2.9**, effects to the surrounding area as a result of off-site water improvements under Sub-Alternative A-1 and Alternative B would be less than significant.

Hazardous Materials

Construction of the proposed off-site utility improvements could result in hazardous materials effects. The accidental release of hazardous materials used during grading and construction activities could pose a hazard to construction employees, surrounding residents, and the environment. However, these hazards, which are common to construction activities, would be minimized with adherence to the contracted municipality's relevant codes and development standards and all other applicable regulations construction and the implementation of applicable mitigation measures listed within **Section 5.2.10**. Potential indirect hazardous materials impacts from the construction of the proposed off-site utility improvements are, therefore, less than significant.

Aesthetics

Construction related aesthetic impacts, including the use of heavy equipment, would be temporary in nature. After construction, the proposed pipeline would not be visible as it will be located underground; therefore, there will be no lasting effects to the surrounding vista as a result of off-site water improvements.

4.14.4 GROWTH-INDUCING EFFECTS

NEPA requires that an EIS analyze "growth inducing effects" (40 C.F.R. §1502.16 (b), 40 C.F.R. §1508.8 (b)). A growth inducing effect is defined as one that fosters economic or population growth, or the construction of additional housing. Growth inducement could result if a project established substantial new permanent employment opportunities (e.g., new commercial, industrial, or governmental enterprises) or if it would remove obstacles to population growth (e.g., expansion of a wastewater treatment plant that could allow more construction in the service area). Direct growth inducement is possible if a project contains a component that by definition would lead to "growth," such as the construction of new housing. None of the project alternatives include direct growth inducement. This section assesses the potential for indirect growth inducement for each development alternative.

ALTERNATIVE A – PROPOSED PROJECT

Alternative A would result in one-time employment opportunities from construction and permanent employment opportunities from operation of project components. These opportunities would result from direct as well as indirect and induced effects. Construction employment opportunities would be temporary in nature, and would not be anticipated to result in the permanent relocation of employees into the City of Coconut Creek or Broward County. Operational employment opportunities would potentially include employees that relocate to Broward County from outside of the County.

Section 4.7.1 determined that the employment impacts would result in an annual total of approximately 1,886 employment opportunities, including direct, indirect, and induced opportunities. Given the current availability of workers in the City of Coconut Creek / Broward County area, the majority of these positions are expected to be filled with people already residing within the region and would, therefore, not require new housing. As discussed in **Section 4.7.1**, there are anticipated to be approximately 189,729 vacant housing units in Broward County in 2012. Therefore, based on regional housing stock projections, and current trends in Broward County housing market data, there are anticipated to be more than enough vacant homes to support potential impacts to the regional labor market from employment opportunities under Alternative A. As such, Alternative A is not expected to stimulate regional housing development. A significant adverse growth-inducing impact to the housing market would not occur.

The potential for commercial growth resulting from the development of Alternative A would result from fiscal output generated throughout the City of Coconut Creek and Broward County. Under Alternative A, this output would be generated from direct, indirect, and induced economic activity. Construction and operation activities would result in direct output to the industries discussed in **Section 4.7.1**. Businesses in these sectors would generate growth in the form of indirect output resulting from expenditures on goods and services at other area businesses. In addition, employees from Alternative A would generate growth from induced output resulting from expenditures on goods and services at other area businesses. Indirect and induced output could stimulate further commercial growth; however, such demand would be diffused and distributed among a variety of different sectors and businesses in the City of Coconut Creek and Broward County. As such, significant regional commercial growth would not be anticipated to occur.

Development in Coconut Creek or other cities within Broward County would be subject to the constraints of their comprehensive plans, local ordinances, and other planning documents. New projects resulting from any induced effect would be subject to appropriate project-level environmental analysis. As discussed above, the minimal amount of commercial growth that may be induced by Alternative A would not result in significant adverse environmental effects.

Sub-Alternative A-1

Sub-Alternative A-1 would generate new employment opportunities that could result in additional housing and commercial demand. The number of employment opportunities generated under Sub-Alternative A-1 would be comparable to those generated under Alternative A. Similar to Alternative A, most positions are anticipated to be filled with people already residing within the region and would, therefore, not require new housing. The effect of housing and potential commercial growth would be comparable to Alternative A. Similar to Alternative A, based on regional housing stock projections, and current trends in Broward County housing market data, there are anticipated to easily be more than enough vacant homes to support potential impacts to the regional labor market under Sub-Alternative A-

1. As such, Sub-Alternative A-1 is not expected to stimulate regional housing development and significant regional commercial growth would not be anticipated to occur.

Development in Coconut Creek or other cities within Broward County would be subject to the constraints of general plans, local ordinances, and other planning documents. New projects resulting from any induced effect would be subject to appropriate project-level environmental analysis. As discussed above, the minimal amount of commercial growth that may be induced by Sub-Alternative A-1 would not result in significant adverse environmental effects.

ALTERNATIVE B – REDUCED INTENSITY ALTERNATIVE

Alternative B would generate new employment opportunities that could result in additional housing and commercial demand. The number of employment opportunities generated under Alternative B would be similar to Alternative A, but to a lesser extent since Alternative B is reduced in size and scope. Similar to Alternative A, the majority of these positions are anticipated to be filled with people already residing within the region and would, therefore, not require new housing. The effect of housing and potential commercial growth would be comparable but to a lesser extent than Alternative A, since Alternative B is reduced in size and scope. Similar to Alternative A, based on regional housing stock projections, and current trends in Broward County housing market data, there are anticipated to easily be more than enough vacant homes to support potential impacts to the regional labor market under Alternative B. As such, Alternative B is not expected to stimulate regional housing development and significant regional commercial growth would not be anticipated to occur.

Development in Coconut Creek or other cities within Broward County would be subject to the constraints of general plans, local ordinances, and other planning documents. New projects resulting from any induced effect would be subject to appropriate project-level environmental analysis. As discussed above, the minimal amount of commercial growth that may be induced by Alternative B would not result in significant adverse environmental effects.

ALTERNATIVE C – NO ACTION BY THE FEDERAL GOVERNMENT

Alternative C would generate new employment opportunities that could result in additional housing and commercial demand. The number of employment opportunities generated under Alternative C would be comparable to those generated under Alternative A. As with Alternative A, the majority of these positions are anticipated to be filled with people already residing within the region and would, therefore, not require new housing. The effect of housing and potential commercial growth would be comparable to Alternative A. Similar to Alternative A, based on regional housing stock projections, and current trends in Broward County housing market data, there are anticipated to easily be more than enough vacant homes to support potential impacts to the regional labor market under Alternative C. As such, Alternative C is not expected to stimulate regional housing development and a significant adverse impact to the housing market would not occur.

Development in Coconut Creek or other cities within Broward County would be subject to the constraints of general plans, local ordinances, and other planning documents. New projects resulting from any induced effect would be subject to appropriate project-level environmental analysis. As discussed above, the minimal impact to Broward County as a result of potential growth inducement would be less than significant.

Sub-Alternative C-1

Under the Sub-Alternative C-1, a change in the current land use of the Coconut Creek site is not reasonably foreseeable. None of the adverse or beneficial effects identified for the Proposed Project would be anticipated to occur.

4.15 CUMULATIVE EFFECTS

4.15.1 INTRODUCTION

Cumulative effects are defined as effects to the environment resulting from the incremental effect of the Proposed Action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

A cumulative effects analysis broadens the scope of analysis to include effects beyond those attributable solely to the implementation of the alternatives. The purpose of the cumulative effects analysis, as stated by the Council on Environmental Quality (CEQ) “is to ensure that federal decisions consider the full range of consequences” (CEQ, 1997:3). The process of analyzing cumulative effects, or impacts, requires consideration of cumulative effects issues in each of the traditional components of the Environmental Impact Statement (EIS), including scoping, describing the affected environment, and determining environmental consequences. The incorporation of cumulative effects analysis also aids in the development of alternatives and appropriate mitigation measures.

The cumulative effects analysis in this EIS expands, and in some cases reduces, the geographic and temporal borders to adequately analyze the effects of the project alternatives on specific resources, ecosystems, and human communities that occur incrementally in conjunction with other actions, projects and trends.

Growth and development trends drive the cumulative analysis and define the geographic borders and time frame of the analysis. The discussion of the cumulative environment includes a list of related actions and projects. Focus on specific actions or programs known or suspected to potentially result in significant impacts facilitates the cumulative impact analysis.

Resources identified as requiring specific attention within this EIS include traffic and the transportation network, land use, air quality, water resources, public facilities and services, and socio-economics. The cumulative environment is also relatively quantifiable for these primary resource areas, in both geographic and temporal terms, providing a general guide in establishing the affected environment for other resource areas, such as cultural resources or noise, that do not fall within specific jurisdictional or natural boundaries. As recommended by CEQ’s *Considering Cumulative Effects*, not all potential cumulative effects issues have been included in this EIS, only those that are considered to be relevant or consequential have been discussed in depth (CEQ, 1997:12).

The cumulative analysis begins with defining geographic borders and time frame of the analysis. Secondly, the cumulative environment is described in terms of expected growth as well as past, present, and future actions and projects that may affect the status of the resources, ecosystems, and human communities in the project area. The discussion of the cumulative environment includes a summary of projected growth and a list of related actions and projects.

GEOGRAPHIC SCOPE OF ANALYSIS

The geographic boundary for the cumulative analysis is generally defined as the City of Coconut Creek, the adjacent cities of Margate and Coral Springs, and extending into other parts of Broward County. This area is defined and utilized for the purpose of this cumulative effects analysis, in part due to the concerns voiced during the scoping process, the previously agreed upon City of Coconut Creek Planned Main Street Development District (PMDD) (**Appendix G**), and the commitments made in the Mitigation Agreement between the Seminole Tribe of Florida (STOF) and the City of Coconut Creek (**Appendix G**).

TEMPORAL EXTENT OF ANALYSIS

The time frame for the cumulative effects analysis generally extends to the year 2035. The temporal horizon of the traffic model included within the Southeast Florida Regional Planning Model is 2035. Beyond 2035, information on growth patterns and future development activities becomes scarce and speculative. Additionally, the masking of significant impacts by extension of the temporal limits reduces the usefulness of a more extended cumulative analysis. For many resources, information is unavailable to extend meaningful analysis to 2035; however, attempts have been made to provide all relevant information.

CUMULATIVE ENVIRONMENT

The cities of Coconut Creek, Margate, and Coral Springs, as well as the majority of Broward County, are already highly developed for residential and commercial activities. As a majority of area within Broward County is currently developed, future growth is expected to occur as the result of redevelopment and in-filling of undeveloped properties.

The analysis in this section expands the geographic and temporal borders to include the effects on specific resources, ecosystems, and human communities that occur incrementally in conjunction with other actions, projects, and trends. The purpose of cumulative effects analysis, as stated by the CEQ “is to ensure that Federal decisions consider the full range of consequences” (CEQ, 1997:3).

Associated projects evaluated in this section include the 430-acre City of Coconut Creek MainStreet Development. The MainStreet Development will be a mixed-use, downtown development in the center of the City of Coconut Creek, bound by Wiles Road to the north, Lyons Road to the east, Sample Road to the south, and State Road 7 to the west. The MainStreet development area is planned as a sustainable, mixed-use downtown environment that will serve as a local and regional destination. The MainStreet program includes over a million square feet of commercial development, 2,700 residential units, 1,300 hotel rooms, 300,000 square feet of community facilities, large open space and recreation components, and 15 acres of conservation. The Johns Family Trust owns 160 acres within the MainStreet Development area and is a major component of the MainStreet program. Development on the Johns Family Trust is slated to include mixed-use residential, commercial, and office components, as well as environmental mitigation measures including stormwater retention ponds and wetlands preservation. The status of affected resources is based upon the information provided in **Section 3** of this document, specific resource studies that have been undertaken for the alternatives, and additional review and analysis. Cumulative effects analysis is based on the assumed implementation of the policies outlined in City of Coconut Creek MainStreet Development.

This analysis also considers the potential cumulative effects of expanding the adjacent STOF Coconut Creek Casino on Tract 65 and the potential development of the proposed hotel/resort development on the Isle Casino & Racing Park facility in Pompano Beach. The Isle Casino Racing Pompano Park facility currently offers a variety of gaming opportunities, including slot machines, table games, and simulcasts of harness racing and Jai Alai (Isle of Capri, 2011). In 2010, the Pompano Beach City Commission approved a proposal by the Isle of Capri Casinos to expand the Isle Casino and Racing facility to include increased casino space, and the addition of hotel/residential housing units, a conference center, entertainment space, and retail space (CasinoGamingStock 2010).

LIST OF RELATED ACTIONS AND PROJECTS

Specific projects within the MainStreet Development area that have the greatest potential to result in cumulative impacts include expansion of the existing STOF Coconut Creek Casino on Tract 65 (**Figure 1-3**) to include additional gaming space and a hotel, and development of the Johns Family Trust property. The existing STOF Coconut Creek Casino components, planned future expansion of the casino on Tract 65, and total planned buildout are shown below in Table 4.15-1. The 160-acre Johns Family Trust property is currently in agricultural use and is located north of Sample Road and east of Banks Road (**Figure 3.13-3**). Development of Tract 65 has potential to generate cumulative effects due to its immediate proximity to the project site and the association between the Coconut Creek Casino and the proposed hotel/resort development. The Johns Family Trust property has potential to generate cumulative effects because of its proximity to the site, size, and current use.

Transportation Projects

- Extension of Cullum Road from NW 54th Street to Banks Road. The location of the Cullum Road extension is disturbed and appears to have previously been developed as a roadway and abandoned.
- Widening of NW 40th Street from NW 54th Street to Banks Road. Widening would occur on the existing right-of-way.

Development Projects

- Expansion of the gaming components within the STOF Coconut Creek Casino within Tract 65 and construction of a hotel tower (**Table 4.15-1**).
- Development of the Johns Family Trust property for mixed-uses.

ISLE CASINO AND RACING PARK EXPANSION

The City of Pompano Beach approved the Isle of Capri Racino Regional Activity Center (City of Pompano Beach 2010) which would allow the following expansion of uses on the 223 -acre Isle of Capri Racino site:

- 135 acres of commercial recreation uses,
- 27 acres of commercial uses,
- 26 acres of office, and
- 250 garden apartments and 1,050 mid-rise apartments (a total of 1,300 dwelling units on 42 acres).

TABLE 4.15-1
COCONUT CREEK CASINO (TRACT 65) EXISTING COMPONENTS AND FUTURE EXPANSION

Project Component	Existing (sf)	Future Expansion (sf)	Total Planned Buildout (sf)
Back of House	24,978	68,304	93,282
Cage	1,665	2,060	3,725
Casino	99,138	45,000	144,138
Bar / Lounge	10,299	(6,054)	4,245
Restaurants	11,206	6,700	17,906
Retail	1,516	(1,516)	----
Toilet	8,244	(924)	7,320
Convention Space	-	93,466	93,466
Hotel (rooms)	0	500	500

SOURCE: Friedmutter, 2010; AES, 2011.

SIGNIFICANCE OF CUMULATIVE IMPACTS

Some actions, which result in individually insignificant impacts, may have significant impacts when cumulative, synergistic or additive effects are considered. The significance of these effects is particularly evident when impacts pass a threshold, such as causing a jeopardy opinion with regard to endangered species or a nonconformity determination under the Federal Clean Air Act (CAA).

Growth itself is very perceptible and may be regarded by the public as an adverse impact or it may be viewed as a sign of economic and community progress. Generally, growth is simply a part of the cumulative environment rather than an effect or result. However, a shift to unplanned and unregulated growth could be considered a significant impact.

Because the Isle Casino and Racing Park facility is situated approximately four and a half miles away from the Seminole Coconut Creek facility point-to-point (and six and a half miles by road), cumulative effects to the natural environment are unlikely and not considered in this analysis. However, the two facilities are direct competitors in the recreation/gaming market and potential cumulative impacts to the social and economic environment are, therefore, reasonably foreseeable and considered in this analysis.

4.15.2 ALTERNATIVE A— PROPOSED PROJECT

The effects of the above noted projects, analyzed in conjunction with Alternative A, are presented below. Effects are described for each of the subject areas of the environment described in other portions of this EIS.

GEOLOGY AND SOILS

The level topography of the area substantially reduces the quantity of cut-and-fill needed to develop property and nearby properties. The high groundwater table also reduces the amount of sub-surface excavation. Therefore, no significant cumulative changes to the existing land-forms would result. Alternative A would not contribute to significant cumulative impacts.

Sub-Alternative A-1

Development of Sub-Alternative A-1 would have the same cumulative effects to geology and soils as Alternative A described above.

WATER RESOURCES

Cumulative effects to water resources may occur as the result of future developments in combination with Alternative A. Examples of potential effects include increased sedimentation, pollution, and stormwater runoff. Stormwater discharges from residential and commercial areas are of concern in managing surface water quality.

Although the MainStreet development is located within the northwest drainage sub-basin of the Cocomar Water Control District (CWCD) watershed, the projects included in the cumulative effects analysis drain to the south because of the lack of connection to the CWCD northwest drainage sub-basin (NW Basin). If Alternative A were developed, this connection would be established and drainage from the site would be redirected to the NW Basin. This improvement would benefit all of the projects considered under the cumulative effects analysis.

Tract 65 is currently developed and consists mainly of impervious surfaces. Stormwater retention is provided on-site at the retention pond located on the southern portion of Tract 65. Expansion of the casino and construction of the hotel on Tract 65 would require filling the existing stormwater retention ponds. The proposed on-site and off-site stormwater retention ponds associated with Alternative A would provide stormwater storage capacity to mitigate for the development of Tract 65 because the contiguous property owned by STOF is managed under the same general permit. Therefore, development of Alternative A would result in a cumulative beneficial effect for stormwater.

A watershed's runoff characteristics are altered when impervious surfaces replace natural vegetation. Changes in runoff characteristics may increase stream volumes, increase stream velocities, increase peak discharges, shorten the time to peak flows, and lessen groundwater contributions to stream base-flows during non-precipitation periods. The Johns Family Trust property is currently in agricultural use and includes only minimal impervious surfaces. If the property were developed for mixed-uses, the quantity of impervious surface would increase and possibly result in adverse cumulative effects to stormwater runoff. In order to avoid these cumulative effects, development on the Johns Family Trust property would provide stormwater retention to mitigate for the loss of impervious surface. Existing Coconut Creek development standards require construction of on-site stormwater retention, and the plans for developing the 160-acre Johns Family Trust property would comply with these development standards.

Construction and implementation of the proposed transportation and development projects may likewise affect water quality by increasing sedimentation and pollution, and increasing stormwater runoff. However, it is expected that the proposed transportation and development projects would include erosion control measures in compliance with the National Pollutant Discharge Elimination System (NPDES) permit program and CWCD regulations.

As noted above, the proposed transportation and development projects would include erosion control measures in compliance with the NPDES permit program administered by the Florida Department of Environmental Protection (FDEP), and would include Best Management Practices (BMPs) to protect

water quality. While urban/suburban areas may adversely affect surface water quality due to non-point source pollution, the design of Alternative A incorporates water quality protection features including development of retention ponds to store and clean stormwater runoff. Therefore, development of Alternative A would not result in or contribute to a significant cumulative water resource effect.

Sub-Alternative A-1

Development of Sub-Alternative A-1 would require on-site stormwater retention, as well as construction of domestic water wells and soil injection of treated wastewater. Sub-Alternative A-1 would not include constructing a link to the Northwest Cocomar Sub-basin and the Hillsboro Canal. Although the components are different from those described above for Alternative A, the expected impacts to water resources would be less-than-significant; Sub-Alternative A-1 would not be permitted if unmitigated cumulative impacts to water resources, including the Cypress wetland situated on the Johns Family Trust property, were significant.

The other projects included in the cumulative effects analysis would not benefit from development of the connection to the NW Basin and Hillsboro Canal and these projects would continue to drain to the south into the C-14 canal and the SW Basin. Development of the other projects would not result in a cumulative adverse effect to drainage because the CWCD manages this area as a unified system and project-related impacts to stormwater would be addressed by requirements for appropriate retention.

AIR QUALITY

Operational Vehicle and Area Emissions

Operation of Alternative A would result in the generation of mobile emissions from patron, employee, and delivery vehicles, as well as stationary source emissions from combustion of natural gas in boilers and other equipment used during operation. Emission estimates for the cumulative year 2035 are provided in **Table 4.15-2**. Detailed calculations of mobile and stationary source emissions are included in **Appendix D**. Mobile6.2 air quality model was used to estimate emissions in the year 2035. Increased gas mileage from trucks and vehicles in the future is accounted for in the Mobile6.2 air quality model. The increase in future gas mileage is attributed to improved fuel efficiency technology and stricter federal and state regulations.

TABLE 4.15-2
2035 OPERATION EMISSIONS - ALTERNATIVE A, C, AND SUB-ALTERNATIVE A-1

Sources	Criteria Pollutants					
	VOC	NOx	CO	SOx	PM ₁₀	PM _{2.5}
	tons per year					
Stationary Source	0.83	0.10	1.65	0.09	0.86	0.29
Mobile Source	7.9	6.0	122.4	0.2	0.6	0.3
Total Emissions	8.73	6.10	124.05	0.29	1.46	0.59
<i>Conformity de minimus Levels</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
<i>Exceedance of de minimus Levels</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
N/A = Not Applicable; de minimus levels are not applicable due to attainment status (refer to Section 3.4)						
SOURCE: Mobile6.2, 2003; AP-42, 1995.						

Past, present and future development projects contribute to a regions air quality conditions on a cumulative basis; therefore by its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself; result in nonattainment of the National Ambient Air Quality Standards (NAAQS). However, if a project's individual emissions contribute toward exceedance of the NAAQS, then the project's cumulative impact on air quality would be significant. In developing attainment designations for criteria pollutants, the United States Environmental Protection Agency (USEPA) considers the regions past, present and future emission levels. As stated in **Section 3.4** the project site and vicinity is currently in attainment for all criteria pollutants, therefore, air quality in the region is not cumulatively impacted. Thus, operation of the Proposed Project would not contribute to a significant cumulative effect to air quality.

Climate Change

Climate change is expected to result in global impacts, such as more erratic weather patterns, more frequent droughts, increased frequency in storms and tornados, and rising sea level. Climate change is also expected to cause regional and local impacts, such as erosion to beaches, loss of coastal wetlands, intrusion of salt water into water supplies, increased drought periods, and reduced water tables.

Development of Alternative A, as with any development of its size, would result in an increase in greenhouse gas emissions related to mobile sources (trips generated), area sources (components of the Proposed Project that directly emit greenhouse gas emissions (GHGs), and indirect sources related to electricity, wastewater processing, and water transport.

Methodology

Two recent federal court decisions (*Massachusetts v. Environmental Protection Agency*, U.S., 1275 S.Ct. 1438, 1462 [2007] and *Center for Biological Diversity v. National Highway Safety Administration*, 508 F.3d 508 [9th Cir. 2007]), Council on Environmental Quality (CEQ) draft Guidance, and slowly increasing scientific consensus have resulted in general guidance regarding appropriate GHG analysis (**Section 3.4**).

The approach used herein involves a combination of quantitative and qualitative analysis focusing on the project's impact on federal and state efforts to reduce cumulative GHG emissions. The following analysis is consistent with the CEQ's *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions*, released on February 18, 2010, which requires that a National Environmental Policy Act (NEPA) analysis of climate change quantify project-related GHG emissions and mitigate those emissions.

As noted in **Section 3.4**, global warming is a global issue that is not being caused by any single development project, but by global increases in atmospheric GHG concentrations. Thus, global warming is most effectively addressed on a global or regional level. Washington's global warming policies and legislation (most notably Executive Order (EO) 07-02 and Senate Bill (SB) 6001) are intended to be regional approaches to ensure that statewide emissions are reduced substantially in the future (to levels much lower than existing levels).

The Florida Climate Action Team (FCAT) in 2008 proposed a number of strategies and measures that will be utilized for the state to meet its emissions reduction targets outlined in EO 07-126. These proposed strategies are outlined in Florida's Energy and Climate Action Plan, Phase 1, 2007, released in

November 2007 and Phase 2 in 2008. This document provides reinforcement to the strategies outlined in the 2007 FCAT document and relates specifically to the way the strategies can be pursued. Most of the identified strategies focus on statewide action meant to curb emissions by changes in statewide planning or policies rather than changes to individual development projects. However, some of the strategies may be directly applicable to individual commercial developments. The project alternatives were reviewed to determine if they comply with all directly applicable strategies, thereby supporting the state's efforts to significantly reduce its cumulative contribution to global climate change (to levels recommended by the Intergovernmental Panel on Climate Change [IPCC]).

Carbon Dioxide Equivalent

Carbon dioxide equivalent (CO₂e) is a method by which GHGs other than CO₂ are converted to a CO₂-like emission value based on a heat-capturing ratio. As shown in **Table 4.15-3**, CO₂ is used as the base and is given a value of one. CH₄ has the ability to capture 21 times more heat than CO₂; therefore, CH₄ is given a CO₂e value of 21. Emissions are multiplied by the CO₂e value to achieve one GHG emission value. By providing a common measurement, CO₂e provides a means for presenting the relative overall effectiveness of emission reduction measures for various GHGs in reducing project contributions to global climate change.

TABLE 4.15-3
GREENHOUSE GAS CO₂ EQUIVALENT

Gas	CO ₂ e Value
CO ₂	1
CH ₄	21
N ₂ O	310
HFCs/PFCs ¹	6,500
SF ₆ ¹	23,900

Notes:
 1 - High-global warming potential pollutants
 CO₂e = Carbon dioxide equivalent, CH₄ = methane,
 N₂O = nitrous oxide,
 HFCs/PFCs = hydroflourocarbons/perflourocarbons,
 SF₆ = sulfur hexaflouride
 SOURCE: IPCC, 2007.

GHG Emission Estimates and Reduction Measures

USEPA Mobile6.2 and OFFROAD 2007 emissions modeling software were used to estimate area, construction, and mobile emissions. CH₄ and N₂O emissions from mobile sources were estimated using emission factors from the Local Government Operations Protocols (LGOP, 2008) and converted to CO₂e. Area source GHG emissions were estimated using AP-42 emissions factors. Indirect emissions, which include electricity use, water conveyance, and wastewater treatment, were estimated using LGOP emission factors. Annual construction emissions estimates were 10,974 metric tons (MT) of CO₂e and were amortized over 20 years and added to operational emissions. As shown in **Table 4.15-4**, Alternatives A would result in direct GHG emissions at 16,880 MT of CO₂e per year, and indirect emissions of 18,840 MT of CO₂e per year.

TABLE 4.15-4
ALTERNATIVE A PROJECT-RELATED GHG EMISSIONS

Alternative A	GHGs	CO ₂ e Emissions (ST)	Conversion Factor (ST/MT)	GHG Emissions in CO ₂ e (MT per year)
Direct				
Construction	CO ₂	549	0.91	500
Area	CO ₂	18,000	0.91	16,380
Subtotal				16,880
Indirect				
Mobile	CO ₂	11,997	0.91	10,917
Mobile	CH ₄ /N ₂ O	108	0.91	98
Electricity Usage	CO ₂			7,598.04
Electricity Usage	CH ₄ /N ₂ O			66.99
Water Conveyance	CO ₂			58.16
Water Conveyance	CH ₄ /N ₂ O			0.51
Wastewater Treatment	CO ₂			100.27
Wastewater Treatment	CH ₄ /N ₂ O			0.88
Subtotal				18,840
Total Project-Related GHG Emissions				35,720
ST = short tons; MT = metric tons; CO ₂ e = carbon dioxide equivalent SOURCE: OFFROAD, 2007, Mobile6.2, 2003; LGOP, 2008.				

Direct and indirect CO₂e emissions from Alternative A would be below the CEQ reporting standard of 25,000 MT of CO₂e per year. Indirect emissions are largely a result of mobile emissions from vehicles traveling to and from the site. As noted in **Section 3.4.1**, the federal government has recently enacted measures that would reduce emissions from mobile sources, the primary component of indirect GHG emissions associated with the project.

Additionally, as discussed in **Section 3.4**, Florida's reduction strategies would result in a reduction of statewide emissions, including direct and indirect emissions resulting from Alternative A, to levels below current background levels. Only two of the strategies that would ensure a statewide reduction in GHG emissions were determined to apply to Alternative A. The other strategies do not apply because they either apply to state entitlements, planning-level strategies, or industry specific incentives. As presented in **Table 4.15-5**, recommended mitigation measures in **Section 5.2.3** would ensure compliance with applicable Florida Climate Action Team GHG reduction strategies; therefore, Alternative A would not result in a significant effect associated with cumulative GHG emissions and climate change.

Sub-Alternative A-1

Development of Sub-Alternative A-1 would have the same cumulative effects to air quality as Alternative A described above.

TABLE 4.15-5
CONSISTENCY WITH STATE EMISSIONS REDUCTION STRATEGIES

FCAT Number	Goal	FCAT 2008 Strategy	Project Consistency
ADP- 5.1	3	Design buildings that are Leadership in Energy and Environmental Design certification.	The Tribe shall show consistency with the FCAT by implementing Migration Measure 5.2.3 C.
ADP-5.2	1	Require all new buildings to be elevated above potential flood depth, considering climate change.	The Tribe shall show consistency with the FCAT by implementing Migration Measure 5.2.3 D.
SOURCE: Florida's Climate Action Team, 2008.			

BIOLOGICAL RESOURCES

Cumulative biological resources effects would occur if Alternative A, in conjunction with other projects, would result in an adverse effect to State or federally listed species; contribute to a reduction in the number of a listed species, affecting the species long term sustainability; cause development that permanently disturbs a wildlife corridor; results in an effect to sensitive habitat that is of regional significance; or results in a conflict with regional conservation goals.

Wildlife and Habitats

As identified in **Section 4.5**, the majority of the development impacts from Alternative A are on previously disturbed marginal habitat, primarily manmade retention ponds and landscaping buffer. This habitat provides limited resources for wildlife and is inhabited by animal species accustomed to human disturbances. The adjacent Tract 65 is currently developed and the only habitat value is derived on Tract 65 is from the manmade stormwater retention pond. The Johns Family Trust property is used for agriculture and, therefore, frequently disturbed. The identified transportation development projects would not disturb any high-value habitat. The Cullum Road right-of-way between NW 54th Street to Banks Road appears to be used as an informal pedestrian access and provides some limited value habitat. The NW 40th Street road is paved. Cumulatively, it is anticipated that other projects in the area would be consistent with applicable habitat conservation goals or policies for Broward County. As disruption of a small amount of low quality habitat would not result in a significant effect to biological resources, no significant cumulative effects would occur from Alternative A.

Federally Listed Species

Alternative A would not involve direct effects to any federally listed species. Based on visual inspection of the other projects sites, it is unlikely that the other projects considered in the cumulative analysis would adversely affect federally listed species. Therefore, Alternative A would not result in significant cumulative effects to federally listed species.

Migratory Birds

Alternative A would not result in significant cumulative effects to nesting migratory birds. The other projects under consideration for the cumulative effects analysis do not occur on undisturbed or high value habitat. It is assumed that the development of other projects considered in the cumulative analysis will comply with the Migratory Bird Treaty Act of 1918, and as such would have no adverse effects on

migratory birds. Given the existing degraded condition of habitats adjacent to proposed development areas, and the level of human activity currently existing within the project vicinity, Alternative A would not result in significant cumulative effects to nesting migratory birds.

Waters of the U.S.

Project design ensures that Alternative A would have only minimal direct effects on any “waters of the U.S.” Adverse indirect effects to “waters of the U.S.” would be avoided by the implementation of project features designed to minimize impacts, control stormwater and wastewater discharges, and protect the quality of runoff water through conditions of the NPDES permit. Retention ponds are managed for stormwater retention and treatment (by allowing suspended solids to settle out of the water column) and do not provide valuable habitat for fish. Fisheries, therefore, are not present on-site. Therefore, Alternative A would not result in significant cumulative effects to “waters of the U.S.”

Sub-Alternative A-1

Cumulative effects to biological resources from development of Sub-Alternative A-1 would be the same as those described for Alternative A above.

CULTURAL RESOURCES

No significant cultural resources have been identified within the vicinity of the project site. The records search and archival research indicate that the cumulative study area is not in a sensitive region for prehistoric/pre-contact resources and historical resources. Based on this lack of sensitivity, Alternative A is unlikely to impact unknown buried archaeological resources. However, significant cumulative impacts to cultural resources could occur if such previously unknown sites were destroyed without appropriate mitigation. Procedures for addressing discovery of unknown cultural resources are specified in **Section 5.2.5** where Federal funding licensing or permitting requires compliance with the National Historic Preservation Act of 1966 (NHPA), and as appropriate, state historic preservation guidance.

As consultation with STOF is on-going, if any cultural sites or uses are reported in or adjacent to the project boundaries, Section 106 State Historic Preservation Officer (SHPO) consultation will be expanded to include that/those resources and uses in the record of decision (ROD). Accordingly, no significant cumulative impacts to cultural resources are expected.

Sub-Alternative A-1

Sub-Alternative A-1 would have the same cumulative effects to cultural resources as Alternative A described above.

SOCIOECONOMIC CONDITIONS

Cumulative socioeconomic effects could occur in the project area as the result of developments that affect the lifestyle and economic well being of residents. Alternative A would introduce new economic activity in the City and Broward County, which is a beneficial effect to the region. When considered with other growth in Broward County through 2035, there may be cumulative socioeconomic effects including impacts to the local labor market, housing availability, increased costs due to problem gambling, and impacts to local government. These effects would occur as the region’s economic and demographic

characteristics change, as the population grows, and specific industries expand or contract. Planning documents for Broward County and the City will continue to designate land uses for businesses, industry, and housing, as well as plan public services for anticipated growth in the region. Further, potential adverse socioeconomic effects of Alternative A would be avoided through compliance with existing state and local agreements described in **Appendices G and L**. Therefore, Alternative A would not contribute to significant cumulative socioeconomic effects.

Substitution Effect

The development of the proposed hotel/resort project may result in increased patronage to the existing Seminole Coconut Creek gaming facility. The existing facility adjacent to the project site faces competition from the Isle of Capri Isle Casino and Racing Park casino approximately six and a half miles southeast of the project site in Pompano Beach, Florida. It is anticipated that existing regional gaming facilities would continue to generate significantly positive cash flows. Moreover, any anticipated substitution effects are likely to diminish after the first year of the project's operation and once local residents experience the development and return to more typical spending patterns. Any increased patronage to the Coconut Creek Casino would be likely to expand the gaming market for the region as a whole. Additionally, as shown above in **Section 4.14.1**, the Isle of Capri has plans to expand gaming at the Isle Casino and Racing Park facility and add recreation and commercial uses, office space, and residences on the 223-acre Isle of Capri site. Thus, it is not anticipated that significant long-term substitution effects would occur. As stated in **Section 4.7**, the Genting Group and the Las Vegas Sands have expressed an interest in entering the South Florida gaming market and the Genting Group has purchased property in Miami 40 miles south of the Coconut Creek Casino. If either of these groups is able to obtain a gaming license from the State of Florida, both STOF and the Isle of Capri would experience increased competition. However, as more casinos are built in South Florida, the gaming market would expand as the area becomes more of a gaming destination similar to Atlantic City or Las Vegas. No mitigation is required.

Problem and Pathological Gambling

The development of the Proposed Project may result in increased patronage to the existing STOF Coconut Creek gaming facility, which may in turn result in an increased risk for problem and pathological gambling. Gambling, in one form or another, is now legal in every state except Hawaii and Utah. According to a National Gambling Impact Study Commission (NGISC) study, approximately 86 percent of Americans report having gambled at least once during their lifetimes and 63 percent of Americans report having gambled at least once during the previous year (NGISC, 1999). This estimate is based on participation in all forms of gambling including lotteries, poker, internet gambling, sports betting, and casino gambling.

The American Psychiatric Association (APA) describes pathological gambling as an impulse control disorder characterized by “persistent and recurrent maladaptive gambling behavior that disrupts personal, family, or vocational pursuits. The gambling pattern may be regular or episodic, and the course of the disorder is typically chronic” (NGISC, 1999). The APA has established ten criteria for diagnosis of a pathological and problem gambler, which include preoccupation, tolerance, withdrawal, escape, chasing, lying, loss of control, illegal acts, risked significant relationship, and financial bailout. At-risk gaming behaviors typically meet one or two of these criteria; problem gamblers typically meet three to four of

these criteria; and pathological gamblers typically meet at least five of these criteria. Collectively, both pathological and problem gambling are referred to as “problem gambling.”

The NGISC (1999) study noted that pathological gambling often occurs in conjunction with other behavioral problems, including substance abuse, mood disorders, and personality disorders. Even if it were possible to isolate the effects of problem gambling on people who suffer from co-morbidity, it is difficult to then isolate the effects of casino gambling from other forms of gambling. As discussed, casino gambling is only one form of gaming. In fact, the most prevalent forms of gambling are those found in most neighborhoods: scratch lottery cards, lotto, and video lottery terminals. Thus, problem gamblers are likely to already exist in most communities. However, there are several recent studies that suggest that the presence of a casino results in a higher rate of resident problem and pathological gamblers than in counties without a casino. At the national level, approximately 4 percent of the adult population is considered problem or pathological gamblers. According to Grinols et al. (2000), the Las Vegas community has a problem and pathological gambler population that is nearly six percent higher than in a non-casino community. Ricardo Gazel finds in his *Economic Impacts of Casino Gambling at the State and Local Level* (1998) article, that the incidence of problem and pathological gamblers can be between 1 to 4 percent higher in a casino community than for the general population, depending on the type of gambling that is prevalent. He finds that communities with a higher percentage of slot machines have a higher problem and pathological gambler differential than in areas with other types of gambling. Several studies suggest that these population differentials take effect for residents within a 50 mile radius of a casino, and increase to the above mentioned rates as the casino moves closer to the population. According to Welte et al. (2004), the probability of being a problem or pathological gambler roughly doubles for those living within ten miles of a casino compared with those who do not (7.2 percent and 3.1 percent, respectively).

Potential impacts to problem and pathological gambling resulting from patron increased associated with the Proposed Project would be offset by existing revenue sharing programs per the tribal-state compact and local agreements (**Appendices G and L**), as well as various mitigation measures required by the State Gaming Compact (**Appendix L**). Existing state compact requirements include: an annual donation to the Florida Council on Compulsive Gambling in an amount not less than \$250,000 per gaming facility, a comprehensive training and education program for every new employee to identify problem gamblers, information regarding problem gambling available within the facility, a voluntary exclusion program, among others. Potential cumulative impacts to problem gambling as a result of the proposed project would be less than significant.

Crime

The development of the proposed project may result in increased patronage to the existing STOF Coconut Creek gaming facility. There is a general belief that legalized gambling increases crime. However, this argument is based more on anecdotal evidence rather than empirical evidence. Casinos, by their nature, increase the volume of people entering a given area. Whenever large volumes of people are introduced into an area, the volume of crime would also be expected to increase. This is true of any large-scale development. Taken as a whole, literature on the relationship between casino gambling and crime rates suggests that communities with casinos are as safe as communities without casinos. The National Opinion Research Center (NORC, 1999) found that insufficient data exists to quantify or determine the relationship between casino gambling within a community and crime rates. Additionally, given that the

existing Seminole gaming facility is currently under operation, it is not anticipated that a disproportionate increase in crime would occur as a result of increased patronage at the casino. Increased local tax revenues, as described in **Section 4.7**, resulting from indirect and induced economic output from development of the project, existing local agreements between STOF and the City of Coconut Creek, and City/County tax revenue from cumulative projects would fund expansion of law enforcement services required to accommodate planned growth. Thus, the project would not result in significant adverse effects associated with crime. No mitigation is required.

Sub-Alternative A-1

Developing the hotel/resort on the project site and expanding the existing Coconut Creek Casino on Tract 65 would increase tax revenues with the local jurisdictions compared with the existing conditions. Developing the site would increase revenues and revenues are expected to be approximately the same as under Alternative A. Developing of the Johns Family Trust property would be expected to substantially increase tax revenues to local governments.

Potential impacts from expanded gaming would be the same under Sub-Alternative A-1 as described above for Alternative A. The project would not result in significant effects to social issues.

TRANSPORTATION

For the cumulative year (2035), the study area for Alternative A was extended to include the geographic area bounded by roads that serve as the primary boundary and/or access roadways to the project site. The cumulative traffic analysis also includes programmed development of the Johns Family Trust and Tract 65, as well as an assumed annual traffic growth rate. The 2035 study area is described as follows in shown in Figure 3.11 of **Appendix E**.

- North: Wiles Road between SR-7 and Lyons Road;
- East: Lyons Road between Sample Road and Wiles Road;
- South: Sample Road between SR-7 and Lyons Road; and
- West: SR-7 between Wiles Road and Sample Road.

Roadway Segments

The 2035 PM peak hour roadway segments that would operate below the adopted LOS D are provided below for Alternative A:

Alternative A

- Sample Road between SR-7 and NW 54th Avenue (LOS F)
- Sample Road between NW 54th Avenue and Banks Road (LOS F)
- Sample Road between Banks Road and Lyons Road (LOS F)
- Wiles Road between SR-7 and Banks Road (LOS F)
- Wiles Road between Banks Road and Lyons Road (LOS F)
- SR-7 between Sample Road and NW 40th Street (LOS E)
- SR-7 between NW 40th Street and Cullum Road (LOS F)

- SR-7 between Cullum Road and Wiles Road (LOS E)
- Lyons Road between Sample Road and Cullum Road (LOS F)
- Lyons Road between Cullum Road and Wiles Road (LOS F)

Intersections

2035 cumulative year PM peak hour background intersection analysis results are provided in **Table 4.15-6** for Alternative A.

TABLE 4.15-6
2035 YEAR PM PEAK HOUR CONDITIONS

Intersections	Build-out PM Peak Traffic	
	Delay	LOS
Sample Road and SR-7	30.1	C
Sample Road and SW Service road	23.1	C
Sample Road and NW 54 th Avenue	154.5	F
Sample Road and Banks Road	130.7	F
Sample Road and Lyons Road	219.5	F
SR-7 and NW 40 th Street	83.4	F
SR-7 and Cullum Road	95.6	F
SR-7 and Wiles Road	172.8	F
Lyons Road and Cullum Road	18.1	B
Lyons Road and Wiles Road	150.7	F
NW 54 th Avenue and S Access	NA	NA
NW 54 th Avenue and 40 th Street (EBR)	15.9	B
NW 54 th Avenue and Cullum Road	27.4	C
Banks Road and Cullum Road	0.62	B
Banks Road and Wiles Road (NB Approach)	26.2	C
SOURCE: Keith and Schnars, 2012		

The operational analysis identified the intersections where delays are equivalent to LOS E or F during the 2035 PM peak hour. The following intersections are estimated to operate at LOS E or F for each alternative during the background conditions:

Alternative A

- Sample Road and NW 54th Avenue (154.5 seconds/vehicle, LOS F);
- Sample Road and Banks Road (130.7 seconds/vehicle, LOS F);
- Sample and Lyons Road (219.5 seconds/vehicle, LOS F);
- SR-7 and NW 40th Street (83.4 seconds/vehicle, LOS F)
- SR-7 and Cullum Road (95.6 seconds/vehicle, LOS F);
- SR-7 and Wiles Road (172.8 seconds/vehicle, LOS F);
- Lyons Road and Wiles Road (150.7 seconds/vehicle, LOS F)

Using the updated significance criteria presented in TPA Appendix H provided in **Appendix E**, only roadway segments with project trips equal or exceeding three (3) percent of peak hour directional volumes along a failing roadway would be determined to be significantly impacted. Using this regional standard, the following roadway segment within the study area is shown to operate below the adopted LOS D during the PM peak hour, and is therefore deemed significantly impacted.

- NW 54th Avenue between NW 40th Street and Cullum Road

All other intersections and roadways are not considered significant because project traffic would represent less than three percent of the adopted standard.

With implementation of mitigation measures provided in **Section 5.2.7** cumulative impacts to intersections and site access points along NW 54th Avenue would be less-than-significant.

Sub-Alternative A-1

Cumulative transportation impacts would be the same under Sub-Alternative A-1 as described above for Alternative A. With the implementation of mitigation measures provided in **Section 5.2.7** cumulative impacts to intersections and site access points along NW 54th Avenue would be less than significant under Sub-Alternative A-1.

TRANSIT, BICYCLE, AND PEDESTRIAN FACILITIES

Pedestrian, bicycle, and transit facilities in the vicinity of the project site in the cumulative year 2035 would be similar to those analyzed in the buildout year 2020 (see **Section 4.8**). Impacts to pedestrian, bicycle, and transit facilities would be less-than-significant.

LAND USE

Cumulative land use impacts within the City and Broward County are expected to be minimal because all of the cumulative projects are included in the MainStreet Development District and impacts are accounted for in local land use planning documents. Development of Alternative A would not cause any unexpected growth or disruption of orderly development that would cause cumulative land use effects. The development of Alternative A in conjunction with the other development projects is expected to cause a slight increase the supply of and demand for housing within Broward County. Given the availability of housing in Broward County, the cumulative effects would not be significant.

The transportation projects considered in the cumulative effects analysis are not anticipated to significantly increase urbanization or development in the area. Therefore, there would be no significant cumulative effects to land use as a result of the Proposed Project.

Sub-Alternative A-1

Cumulative impacts to land use would be the same under Sub-Alternative A-1 as described above for Alternative A.

PUBLIC SERVICES

The MainStreet Development Plan addresses the long term supply of public services. Development of the project as considered under the cumulative effects analysis would not exceed the planned capacity of public services, including law enforcement services, fire protection services, emergency management, municipal water / wastewater, and utilities. There would, therefore, be no significant cumulative effects to public services from development of Alternative A in combination with the identified cumulative projects.

Sub-Alternative A-1

STOF would provide project-related public services on-site under Sub-Alternative A-1, and the other projects in the area would not “share the burden” of providing these services with STOF. Sub-Alternative A-1 would, therefore, reduce the economic efficiencies of providing public services to the other developments in the area.

NOISE

The following identifies potential impacts from project-related noise sources, such as traffic, heating ventilation and air conditioning (HVAC) systems, parking structure, and deliveries.

Traffic

Project-related traffic in the cumulative year 2035 would not significantly increase the ambient noise level over that of the year 2020 (refer to **Section 4.11**). Project-related traffic would not increase in the cumulative year; however, traffic on regional local and state roadways is anticipated to increase with regional population growth (Keith and Schnars, 2011). The contribution of the Proposed Project to the cumulative ambient noise level is anticipated to be less than 2 dBA, Leq (refer to **Section 4.11.2**), which would result in an ambient noise level of 72 dBA, Leq, which is equal to the Federal Noise Abatement Criteria (NAC) standards of 72 dBA, Leq. Therefore, the impact to the ambient noise level in the cumulative year 2035 is less than significant.

Other Noise Sources

Commercial uses in the cumulative year 2035 would bring the possibility of noise due to operations of roof-mounted air handling units associated with building HVAC equipment and other operational equipment. It is assumed that cumulative developments, similar to the Proposed Project, would place HVAC systems at higher elevations than the surrounding residences, so that roof-mounted HVAC equipment has the potential to be heard at nearby sensitive noise receptors. As residential units are not currently located in the immediate vicinity of the project site, HVAC noise would result in a less-than-significant adverse effects associated with the ambient noise environment. Other developments within the MainStreet development may include residential units and, if developed, these residences would be closer to the project site than the current sensitive receptor. New development is planned for the area and any residences would be constructed in an urbanizing environment. Any off-site noise from the hotel/resort and parking garage would be consistent with an urban environment and would not cause a significant adverse cumulative effect to noise levels.

Idling trucks at loading docks in the cumulative year 2035 have the potential to emit noise of 80 dBA at 50 feet from the source (FHWA, 2006). Using the attenuation value of 6.0 (refer to **Section 3.11**) the

ambient noise level at the nearest sensitive noise receptor would be 57.5 dBA, Leq, which is less than the NCA of 72 dBA, Leq (**Section 3.11, Table 3.11-2**). Therefore, loading dock noise would not result in a significant adverse effects associated with the ambient noise environment.

OPERATION VIBRATION

Commercial and hotel uses included under Alternative A do not include sources of perceptible vibration, nor do the cumulative projects identified earlier. Therefore, operation of Alternative A would not result in significant cumulative effects associated with vibration.

Sub-Alternative A-1

Cumulative noise impacts would be the same under Sub-Alternative A-1 as described above for Alternative A.

HAZARDOUS MATERIALS

There are no existing hazardous materials on the project site and no known sites within one-mile of the project site that could pose a threat to the environmental quality. Projects included in the cumulative effects analysis are not anticipated to include activities that would have a high potential to result in hazardous materials contamination. The other cumulative developments would be required to adhere to appropriate State and municipal regulations in the delivery, handling, and storage of hazardous materials, thereby reducing the risk of accidental exposure to the public's health and welfare. Mitigation measures presented in **Section 5.2.10** would decrease the impacts from any incidental spills that may occur on the project site to a less-than-significant level. Therefore, there are no significant cumulative hazardous materials issues associated with Alternative A.

Sub-Alternative A-1

Cumulative impacts to hazardous materials under Sub-Alternative A-1 would be similar to those described above for Alternative A, although operation of the on-site WWTP would generate a small quantity of hazardous material. Standard handling and disposal practices would negate potential impacts from hazardous materials associated with the on-site WWTP.

AESTHETICS

The Johns Family Trust site is currently used for agricultural purposes and any development on this site would be a substantial change in aesthetics. While development of the Johns Family Trust property would represent a shift from agricultural to mixed-use commercial development, it is consistent with the planned urbanization of the surrounding area. Development within the MainStreet Development would comply with the design standards outlined in the program. Projects considered under the cumulative effects analysis would, therefore, have an integrated look and would increase the aesthetic quality in the area. This cumulative effect to aesthetics would be less than significant.

Sub-Alternative A-1

Cumulative impacts to aesthetics would be the same under Sub-Alternative A-1 as described above for Alternative A.

4.15.3 ALTERNATIVE B – REDUCED INTENSITY ALTERNATIVE

GEOLOGY AND SOILS

The level topography of the project area substantially reduces the quantity of -and-fill required to develop the property and nearby properties. The high groundwater table also reduces the quantity of sub-surface excavation. Therefore, no significant changes to the existing land-forms would result and there would be no significant cumulative effect to the topography of the area under Alternative B.

WATER RESOURCES

Alternative B would require on-site provision of domestic water, as well as deep well injection of treated effluent produced at the on-site WWTP. Alternative B would have a smaller footprint than Alternative A and would not result in a significant cumulative effect on the water quality or characteristics when combined with cumulative conditions in the project area. Stormwater runoff would be held on-site and discharged to the C-14 canal at currently allowed rates. The other projects under consideration would not benefit from a link to the Hillsboro Canal to the north and would continue to have limited discharge to the C-14 canal. Proposed development would continue to meet CWCD permit conditions and cumulative effects to water resources would be less than significant.

AIR QUALITY

Operational Vehicle and Area Emissions

Operation of Alternative B would result in similar pollutants from similar sources those described under Alternative A. Emission estimates for Alternative B in the cumulative year 2035 are provided in **Table 4.15-7**. Detailed calculations of mobile and stationary source emissions are included in **Appendix D**. The methodology used to estimate Alternative B cumulative year emissions is the similar to Alternative A.

TABLE 4.15-7
2035 OPERATION EMISSIONS - ALTERNATIVE B

Sources	Criteria Pollutants					
	VOC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
	tons per year					
Stationary Source	0.383	0.294	5.605	0.0078	0.0274	0.0126
Mobile Source	6.90	5.20	107.20	0.10	0.50	0.20
Total Emissions	7.28	5.49	112.81	0.11	0.53	0.21
<i>Conformity de minimus Levels</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
<i>Exceedance of de minimus Levels</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>	<i>N/A</i>
N/A = Not Applicable; de minimus levels are not applicable due to attainment status (refer to Section 3.4) SOURCE: Mobile6.2, 2003; AP-42, 1995.						

As stated in **Section 3.4** the project site and vicinity are currently in attainment for all criteria pollutants, therefore, air quality in the region is not cumulatively impacted. Thus, operation of Alternative B would not contribute to a significant cumulative effect to air quality.

Climate Change

Development of Alternative B would result in an increase in greenhouse gas emissions similar to Alternative A. However, as stated under Alternative A, the development of the project site would not result in a significant effect associated with cumulative GHG emissions and climate change.

Methodology

The methodology used to determine climate change impacts for Alternative B is the same as Alternative A.

GHG Emission Estimates and Reduction Measures

Annual construction emissions estimates were 6,002 metric tons (MT) of CO₂e and were amortized over 20 years and added to operational emissions. As shown in **Table 4.15-8**, Alternatives B would result in direct GHG emissions at 13,377 MT of CO₂e per year, and indirect emissions of 16,738 MT of CO₂e per year.

TABLE 4.15-8
ALTERNATIVE B PROJECT-RELATED GHG EMISSIONS

Alternative B	GHGs	CO ₂ e Emissions (ST)	Conversion Factor (ST/MT)	GHG Emissions in CO ₂ e (MT per year)
Direct				
Construction	CO ₂	300	0.91	273
Area	CO ₂	14,400	0.91	13,104
Subtotal				13,377
Indirect				
Mobile	CO ₂	10,513	0.91	9,567
Mobile	CH ₄ /N ₂ O	94	0.91	86
Electricity Usage	CO ₂			5,783.58
Electricity Usage	CH ₄ /N ₂ O			51.00
Water Conveyance	CO ₂			1,229.14
Water Conveyance	CH ₄ /N ₂ O			0.11
Wastewater Treatment	CO ₂			21.19
Wastewater Treatment	CH ₄ /N ₂ O			0.19
Subtotal				16,738
Total Project-Related GHG Emissions				30,115
ST = short tons; MT = metric tons; CO ₂ e = carbon dioxide equivalent SOURCE: OFFROAD, 2007, Mobile6.2, 2003; LGOP, 2008.				

Direct and indirect CO₂e emissions from Alternative B would be below the CEQ reporting standard of 25,000 MT of CO₂e per year. Indirect emissions are largely a result of mobile emissions from vehicles traveling to and from the site. As noted in **Section 3.4.1**, the federal government has recently enacted measures that would reduce emissions from mobile sources, the primary component of the project's indirect GHG emissions.

Additionally, as discussed in **Section 3.4**, Florida's reduction strategies would result in a reduction of statewide emissions, including direct and indirect emissions resulting from Alternatives B, to levels below current background levels. Of the strategies that would ensure a statewide reduction in GHG emissions, only two were determined to apply to these alternatives. The other strategies do not apply to because they either apply to state entitlements, planning-level strategies, or industry specific incentives. As presented in **Table 4.15-9**, recommended mitigation measures in **Section 5.2.3** would ensure compliance with applicable Florida Climate Action Team GHG reduction strategies; therefore, Alternatives B not result in a significant effect associated with cumulative GHG emissions and climate change.

TABLE 4.15-9
CONSISTENCY WITH STATE EMISSIONS REDUCTION STRATEGIES

FCAT Number	Goal	FCAT 2008 Strategy	Project Consistency
ADP- 5.1	3	Design buildings that are Leadership in Energy and Environmental Design certification.	The Tribe shall show consistency with the FCAT by implementing Migration Measure 5.2.3 C.
ADP-5.2	1	Require all new buildings to be elevated above potential flood depth, considering climate change.	The Tribe shall show consistency with the FCAT by implementing Migration Measure 5.2.3 D.

SOURCE: Florida's Climate Action Team, 2008.

BIOLOGICAL RESOURCES

Standards of significance for cumulative impacts resulting from Alternative B are the same as those for Alternative A.

Wildlife and Habitats

All proposed construction would take place within areas previously converted to agricultural and commercial use. This reduces direct impacts to sensitive wildlife and habitats. Cumulatively, it is anticipated that the design of other projects in the area will be in accordance with local habitat conservation ordinances. As disruption of a small amount of low quality habitat would not result in a significant effect to biological resources, no significant cumulative effect would occur from Alternative B.

Federally Listed Species

Alternative B will not involve direct effects to any federally listed species. Provisions of permits issued under the Clean Water Act would ensure that impacts to aquatic species are adequately mitigated. It is assumed that the other projects considered in the cumulative analysis will comply with applicable State laws to pose less-than-significant effects on federally listed species. Therefore, Alternative B would not result in significant cumulative effects to federally listed species.

Migratory Birds

Alternative B would not result in significant effects to nesting migratory birds. It is assumed that the development of other projects in the vicinity will comply with the Migratory Bird Treaty Act of 1918, and

as such will have no adverse effects on migratory birds. Alternative B would not result in significant cumulative effects to nesting migratory birds.

Waters of the U.S.

Cumulative effects to the waters of the U.S. would be the same under Alternative B as described above for Alternative A. Therefore, Alternative B would not result in significant cumulative effects to “waters of the U.S.”

CULTURAL RESOURCES

Cumulative impacts to cultural resources under Alternative B would be the same as those described above for Alternative A because the development alternatives are situated on the same sites. Mitigation measures for potential impacts to unknown cultural resources are specified in **Section 5.2.5**. Other instances would require compliance with state regulations and requirements to consult with and notify the SHPO. Accordingly, there would be no significant cumulative impacts to cultural resources as a result of Alternative B.

SOCIOECONOMIC CONDITIONS

Although Tracts G and H would remain on the tax rolls and continue to be taxed, the other four parcels would be removed from the tax rolls. This transfer of property into federal trust would reduce tax revenues for the City that would not be mitigated by fees in lieu of taxes. The loss of tax revenues would be offset by increased economic activity on the site and in the City. Development of the other projects considered in this cumulative effects analysis would also generate tax revenues for the City. Cumulative socioeconomic effects under Alternative B would be positive and similar to those described under Alternative A, although revenues to the City would be less. Alternative B would not contribute to significant cumulative adverse socioeconomic effects. The State Gaming Compact (**Appendix L**) would remain in place under Alternative B.

TRANSPORTATION

Roadway Segments

The 2035 PM peak hour roadway segments that would operate below the adopted LOS D are provided below for Alternative B:

- Sample Road between SR-7 and NW 54th Avenue (LOS F)
- Sample Road between NW 54th Avenue and Banks Road (LOS F)
- Sample Road between Banks Road and Lyons Road (LOS F)
- Wiles Road between SR-7 and Banks Road (LOS F)
- Wiles Road between Banks Road and Lyons Road (LOS F)
- SR-7 between Sample Road and NW 40th Street (LOS E)
- SR-7 between NW 40th Street and Cullum Road (LOS F)
- SR-7 between Cullum Road and Wiles Road (LOS E)
- Lyons Road between Sample Road and Cullum Road (LOS F)
- Lyons Road between Cullum Road and Wiles Road (LOS F)

Intersections

The 2035 cumulative year PM peak hour background intersection analysis results are provided in **Table 4.15-10** for Alternative B.

TABLE 4.15-10
2035 YEAR PM PEAK HOUR CONDITIONS

Intersections	Build-out PM Peak Traffic	
	Delay	LOS
Sample Road and SR-7	30.3	C
Sample Road and SW Service road	26.8	D
Sample Road and NW 54 th Avenue	159.8	F
Sample Road and Banks Road	125.0	F
Sample Road and Lyons Road	214.8	F
SR-7 and NW 40 th Street	84.1	F
SR-7 and Cullum Road	97.1	F
SR-7 and Wiles Road	172.9	F
Lyons Road and Cullum Road	17.9	B
Lyons Road and Wiles Road	150.9	F
NW 54 th Avenue and S Access	NA	NA
NW 54 th Avenue and 40 th Street (EBR)	21.4	C
NW 54 th Avenue and North Access	13.4	B
NW 54 th Avenue and Cullum Road	1.0	D
Banks Road and Cullum Road	0.62	B
Banks Road and Wiles Road (NB Approach)	26.2	C
SOURCE: Keith and Schnars, 2012		

The operational analysis identified the intersections where delays are equivalent to LOS E or F during the 2035 PM peak hour. The following intersections are estimated to operate at LOS E or F for Alternative B during the background conditions:

- Sample Road and NW 54th Avenue (159.8 seconds/vehicle, LOS F);
- Sample Road and Banks Road (125.0 seconds/vehicle, LOS F);
- Sample and Lyons Road (214.8 seconds/vehicle, LOS F);
- SR-7 and NW 40th Street (84.1 seconds/vehicle, LOS F)
- SR-7 and Cullum Road (97.1 seconds/vehicle, LOS F);
- SR-7 and Wiles Road (172.9 seconds/vehicle, LOS F);
- Lyons Road and Wiles Road (151.0 seconds/vehicle, LOS F)

Using the same significance criteria described under Alternative A (**Appendix E**), only roadway segments with project trips equal or exceeding three (3) percent of peak hour directional volumes along a failing roadway would be determined to be significantly impacted. Using this regional standard, the no

roadway segment within the study area has been shown to operate below the adopted LOS D during the PM peak hour.

With the implementation of mitigation measures in the build-out year (2018), as provided in **Section 5.2.7**, cumulative impacts under Alternative B to intersections and site access points would be less-than-significant.

TRANSIT, BICYCLE, AND PEDESTRIAN FACILITIES

Pedestrian, bicycle, and transit facilities in the vicinity of the project site in the cumulative year 2035 would be similar to buildout year 2020. Impacts to pedestrian, bicycle, and transit facilities would be cumulatively less than significant.

LAND USE

Cumulative impacts to land use under Alternative B are similar to those described for Alternative A. The cumulative effect would be less than significant.

PUBLIC SERVICES

Cumulative impacts to public services as a result of Alternative B are similar to those described for Alternative A. Therefore, cumulative effects would be less than significant.

NOISE

Noise effects would be the less under Alternative B as described above for Alternative A; therefore, no cumulative noise impacts associated with Alternative B would occur.

HAZARDOUS MATERIALS

Alternative B would be built on the same site as Sub-Alternative A-1 described above and no hazardous materials spills are known to have occurred on the project site. Additionally, this alternative would not use significant quantities of hazardous materials and mitigation is presented in **Section 5.2.10** to decrease the impacts from any incidental spills that may occur during construction activities to a less-than-significant level. Therefore, there are no significant cumulative hazardous materials issues associated with this alternative.

AESTHETICS

The effects from Alternative B are similar in that they represent a shift from low-rise development to a more intensive high-rise development. Developments would encompass most of the site. Screening features would be integrated into the design of Alternative B, and landscaping would be used to enhance the visual character of the facilities and integrate natural elements. This cumulative effect would be less-than-significant.

4.15.4 ALTERNATIVE C – NO ACTION BY THE FEDERAL GOVERNMENT

GEOLOGY AND SOILS

Cut-and-fill quantities would be very similar to or the same as those described above for Alternative A. Cumulative effects to geology and soils would not, therefore, be significant under Alternative C.

WATER RESOURCES

Similar to Alternative A, the development of Alternative C would not have significant cumulative effects on the water quality and characteristics when combined with cumulative conditions in the project area. Cumulative effects to water resources would be less than significant.

AIR QUALITY

Operational Vehicle and Area Emissions

Operation of Alternative C would result in similar pollutants and similar emissions levels as Alternative A. As stated in **Section 3.4** the project site and vicinity is in attainment for all criteria pollutants, therefore, air quality in the region is not cumulatively impacted. Thus, Alternative C would not contribute to a significant cumulative effect to air quality.

Climate Change

Due to the similar size, location, and type of development, Alternative C and Alternative A would have identical emissions. As noted under Alternative A, a less-than-significant cumulative impact to climate change would occur.

BIOLOGICAL RESOURCES

Standards of significance for cumulative impacts resulting from Alternative C are the same as those for Alternative A.

Wildlife and Habitats

All proposed construction would take place within areas previously converted to agricultural and commercial use. This reduces direct impacts to sensitive wildlife and habitats. Cumulatively, it is anticipated that the design of other projects in the area will be in accordance with local habitat conservation ordinances. As disruption of a small amount of low quality habitat would not result in a significant effect to biological resources, no significant cumulative effect would occur from Alternative C.

Federally Listed Species

Alternative C will not involve direct effects to any federally listed species. It is assumed that the other projects considered in the cumulative analysis will comply with applicable State laws to pose less-than-significant effects on federally listed species. Therefore, Alternative C would not result in significant cumulative effects to federally listed species.

Migratory Birds

Alternative C would not result in significant effects to nesting migratory birds. It is assumed that the development of other projects in the vicinity will comply with the Migratory Bird Treaty Act of 1918, and as such will have no adverse effects on migratory birds. Alternative C would not result in significant cumulative effects to nesting migratory birds.

Waters of the U.S.

Unlike Alternative B, Alternative C does not involve the construction of an on-site wastewater treatment plant. Under this alternative the development would connect with the City of Coconut Creek sewer system. Therefore, Alternative C would not result in significant cumulative effects to “waters of the U.S.”

CULTURAL RESOURCES

Potential cumulative impacts for cultural resources issues would be the same as Alternative A. Mitigation for potential impacts to unknown cultural resources consist of following procedures specified in **Section 5.2.5** in instances where Federal funding licensing or permitting requires compliance with the NHPA. Other instances would require compliance with state regulations and requirements to consult with and/or notify the SHPO. Accordingly, there would be no significant cumulative impacts to cultural resources as a result of Alternative C.

SOCIOECONOMIC CONDITIONS

Cumulative socioeconomic effects under Alternative C would be similar to those described under Alternative A. Therefore, Alternative C would not contribute to significant cumulative socioeconomic effects.

TRANSPORTATION

Transportation impacts to roadways and intersection in the cumulative year 2035 under Alternative C would be the same as those analyzed under Alternative A. Refer to **Section 4.15.2**. Mitigation to reduce transportation impacts in the cumulative year to less than significant levels are provided in **Section 5.2.7**.

LAND USE

Cumulative impacts to land use under Alternative C are similar to those described for Alternatives A. The cumulative effect would be less-than-significant.

PUBLIC SERVICES

Cumulative impacts to all public services as a result of Alternative C are similar to those described for Alternative A. Therefore cumulative effects would be less than significant.

NOISE

Noise effects would be the same under Alternative C as described above for Alternative A; therefore, no cumulative noise impacts associated with Alternative C would occur.

HAZARDOUS MATERIALS

There are no existing hazardous materials on the project site. This alternative would not use significant quantities of hazardous materials and mitigation is presented in **Section 5.0** to decrease the impacts from any incidental spills that may occur during construction activities to a less-than-significant level. Therefore, there are no significant cumulative hazardous materials issues associated with this alternative.

AESTHETICS

The effects from Alternative C are similar in that they represent an intensification of development views of a developed area. Developments would encompass most of the site. Other developments would occur according to planned land use designations. While development on the Johns Family Trust property represents a shift from agricultural to mixed-use commercial development it is consistent with planned urbanization of the site and surrounding area and would follow applicable design, landscaping, sign, and lighting ordinances. This cumulative effect would be less-than-significant.

Sub – Alternative C – 1

Under Sub-Alternative C-1, the proposed development would not take place, the trust acquisition and reservation proclamation would not occur, and no project-related activities would occur in these areas. Therefore, the No Action Alternative would not result in adverse cumulative effects. However, under the No Action Alternative the Johns Family Trust development could still be developed in the short-term and is likely to be intensely developed within the planning horizon.