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Master Plan Background

In 1993, the Florida Legislature promulgated special procedures by which the Board of Regents, (BOR) was to prepare and adopt campus master plans at five-year intervals for each institution within the State University System (SUS). The Board of Regents was disbanded in 2002. Each University within the State system is now governed by a Board of Trustees that answers to a Board of Governors. The Board of Trustees (BOT) consists of appointed members who oversee each institution individually. FAU has made the decision to continue to follow the format of the SUS for Master Planning. This update will remove all further references to the BOR from this Master Plan. This master plan will be the first plan written for the newly acquired HBOI Campus.

These special campus planning and development authorization processes for the State’s public universities were codified in Section 240.155, Florida Statutes (F.S.). The need for these procedures was based on the recognition that, while universities contribute substantially to their host communities in the areas of education, research, culture, and commerce, at the same time the campus activities create significant demands on community services, infrastructure, and natural resources. Section 240.155 was repealed with the dissolution of the BOR. Section 1013.30, F.S. is the current Statute that outlines the guidelines for University Campus master plans and campus development agreements.

The resulting master plans will clearly define the physical growth projected by the institutions, ensure intergovernmental coordination between the universities and host communities, and provide a basis upon which to appropriately assess and mitigate the impacts of future growth and development of each entity upon the other.

The master planning process at FAU is divided into two major parts: preparation of the draft master plan, and the statewide review process leading to the adopted master plan. The preparation of the master plan followed the State University System’s Guideline for the Comprehensive Campus Master Plan System, updated January 1994, and occurred over four phases as previously established by the BOR.

The first phase, Inventory and Analysis, consisted of the master planning consultants working closely with the University staff to gather and analyze considerable information about the University’s programs, projected enrollments, facilities and grounds, and the host community conditions and needs.

The second phase, Concept Design, involved intense on campus work sessions and design charrettes to develop a variety of scenarios from which the recommended scheme was derived. There was also a public input meeting with the HBOI staff.

The third phase, the Preliminary Master Plan, took the recommended concept and developed it into the detailed plan along with preliminary goals, objectives, and policies. Again, extensive campus work sessions and design charrettes were conducted with University representatives to develop the information and ideas.

The fourth phase, the Final Master Plan, was split into two segments. The first segment led to the preparation of the draft plan that was submitted for review by state, regional, and local governments and agencies and the general public. The second segment was the publishing of the final approved plan after the review process.

This public review process is the second major part of the planning process. Two public hearings are conducted by the University. Comments received from the hearings are reviewed and acted upon as
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appropriate. In addition to the hearings, the various affected government entities and agencies review the Plan and give comments to the University.

The Final Master Plan was then to be adopted by the University as the official guide to development of the University for the next five years. Annual amendments will be possible under procedures in the statutes to allow the University to respond to changing conditions, both internal and external.

The **FLORIDA ATLANTIC UNIVERSITY MASTER PLAN** for the HBOI Campus consists of two volumes. Volume 1 contains the official Master Plan. This document contains a narrative and graphic description of the Master Plan plus the goals, objectives, and policies required by the State University System’s **Guideline for the Comprehensive Campus Master Plan System**.

Volume I, Goals, Objectives, and Policies, is organized per the requirements set forth in the State Statutes. There are several required elements such as future land use, intergovernmental coordination, capital improvements, recreation and open space, general infrastructure, housing, and conversation. Transportation is a key element as the traffic generated by campus growth is what most visibly impacts the host community. In addition to the required information, the plans contain supplemental elements such as the academic mission, academic program, utilities, architectural guidelines, landscape guidelines, facilities maintenance, and coastal management. Each element contains information that has been carefully documented and reviewed by the University and appropriate consulting agencies.

Volume 2, called Supporting Data, contains background information to the Campus Master Plan. It is considered a supplementary document and is not officially adopted as part of the Master Plan. This information consists primarily of the data and analysis documentation for all the Elements found in Volume 1.

The master plan is designed for a **10 year** development plan and is divided into the following phases:

1. Years 1-3
2. Years 3-5
3. Years 5-10

These phases began on July 1, 2009 and will continue through July 1, 2019

**HBOI Campus Background**

Florida Atlantic University is a regional, comprehensive, doctorate-granting institution serving seven counties in Southeast Florida. The service area includes Palm Beach County where the main campus is located in Boca Raton, and the counties of Broward, Martin, St. Lucie, Indian River, Okeechobee, and Hendry. FAU has several branch campuses where facilities are co-located with Community Colleges and State Colleges. An Honors College is located at Jupiter, and two research marine science and ocean engineering campuses at SeaTech (Dania Beach) and Harbor Branch (Ft Pierce). Established in 2007 when Harbor Branch became a research institute of Florida Atlantic University, paving the way to expand opportunities in ocean technology, coastal and deep sea exploration and research, marine biotechnology, aquaculture, ocean and human health, and marine science education. The research site was founded in the 1960’s as the shared vision of founder J. Seward Johnson, Sr. and inventor Edwin Link to explore, protect and wisely use the oceans’ resources, which shaped the work at Harbor Branch Oceanographic Institute.
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The FAU facilities consist of approximately 147 acres of land obtained from the 413 acre parcel owned by the Harbor Branch Foundation. The land consists of five parcels of land. The west parcel located between US Highway One and Old Dixie Highway consisting of approximately 42.44 acres, the east parcel of land around the existing channel consisting of approximately 74.01 acres, the far east parcel consisting of the small boat marina of approximately 6.66 acres, the south aquaculture parcel consisting of approximately 19.50 acres and the small aquaculture parcel to the northwest of aquaculture that consist of 3.94 acres.

Master Plan Overview

The Master Plan Graphic, Figure MP.1 shows diagrammatically how the campus will be developed in accordance with the planning parameters of the selected concept design. The concept builds upon the existing secure east campus and the existing HBOI Channel as the main organizer and the existing Link Building as the administrative node at the west end of the channel.

The Master Plan graphic portrays the FAU Campus after the 10-year plus build-out. The long range vision shown in the graphic is the goal toward which the immediate steps in the FAU Master Plan will lead. Figure MP.1 graphically illustrates the phasing of the Master Plan in accordance with the 5 year Capital Improvement Schedule. The plan maintains the campus security on the east parcel (east of Old Dixie Highway) but links the east and west campus with improvements to the west campus entrance on U.S. Highway One and by developing pedestrian connections between the east and west campuses. The east campus will be developed into a series of nodes approximately a quarter mile apart connected by a boardwalk.

The campus will be zoned into three distinct zones, two on the east campus near the HBOI Channel and Aquaculture, and the west campus. The west campus will consist of support areas including the campus housing, the St Lucie School District’s Marine Oceanographic Academy (MOA) located on nine acres leased from FAU, the existing Marine Science Building, the hurricane shelter used for storage, and the Ocean Discovery Center (visitor center).

Campus Perimeter/Access

The Master Plan calls for redevelopment of the main entrance on U.S. Highway One with the incorporation of landscape and signage improvements, pedestrian/bike paths from U.S. Highway One to the east campus. The plan also calls for roadway improvements and reconfiguration at the intersection with Old Dixie Highway including a new gatehouse and improvements to better traffic flow at the existing FEC railroad crossing, and finally a roadway system with parking nodes to remove traffic from the campus core and locating parking to the perimeter. The west campus will continue to be an open campus and the east campus will continue to be a secure campus. The creation of pedestrian friendly green areas along the existing HBOI channel with the development of a pedestrian boardwalk will link the building nodes with a linear path. Larger pedestrian spaces will be developed at the nodes (clustering of buildings). The development of the nodes and the buildings will be located outside of the defined wetland and wetland buffer protection areas.

Traffic

The west campus will be served from the existing connector boulevard between U.S. Highway One and Old Dixie Highway and the two existing curb cuts on Old Dixie Highway. The north curb cut will serve the existing hurricane shelter (storage) and the new MOA location and the south curb cut will serve the existing Marine Science Building.
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Access to the east campus will be maintained at the existing location on Old Dixie Highway at the existing FEC railroad crossing. Realignment of the road at the west side of the intersection and improvements on the east side of Old Dixie Highway including better circulation with a new gatehouse, security gates, and signage are developed in the plan. A new road should be developed to the aquaculture site along the west side of the wetlands to allow for the reestablishment of the central wetlands area.

The inner traffic road system is typically designed to serve the campus as an attractive, low speed road that provided efficient vehicular and service circulation around the campus. It will provide access to all parking areas. Parking areas will be located along the road system and be heavily landscaped with native landscaping and the use of environmentally friendly materials and provide safe and convenient pedestrian connections to the campus nodes.

Pedestrian System Development

The current campus does not have strong pedestrian connections. The Master Plan will create a pedestrian system that will line the HBOI channel and connect to the west campus and to U.S. Highway One. The pathway system will be an organic configuration with several different materials. The system will provide for the framework of a variety of collaborative and walking trails developed around a nautical theme.

Campus Nodes

The existing HBOI campus does not have well defined courtyards or outdoor spaces. There are no gathering spaces on campus except for the outdoor screened dining area on the west side of the Link Building and the patio on the north side of the Johnson Education Building. The Master Plan recommends that campus nodes be developed around the channel on approximately one quarter mile distances. These nodes would be developed as part of new building projects. Graphics for the character of these spaces are shown in this document. Each node will be connected by the boardwalk and organic campus pedestrian paths. The nodes can be paved and/or landscaped. They should be illuminated for nighttime use and should provide seating spaces for student and faculty gatherings.

Proposed Buildings

The new laboratory II building and the renovation of the Link Building are the first new project is slated for construction during the process and/or upon approval of the master plan. These projects will form the basis of the first campus node at the west end of the channel. These projects should include pedestrian connections to the existing Johnson Education Center to the east and to Old Dixie Highway on the west.

Also in the first phase, St Lucie School District will relocate the Marine Oceanographic Academy (MOA) to the west campus with a modular school just north of the existing Marine Science Building. This project should include adequate parking and the completion of the sidewalk and pedestrian path to the traffic light at Old Dixie Highway to the south.

The second phase would include up to two additional research/education buildings which could begin the next node to the east of the existing Johnson Education Center. It would also include the relocation of the facilities building to the north side of the channel.
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The north side of the channel will be developed as a higher security area with the possibility of research partners locating their facilities in this area. This area will be reserved for the ship and other potential research ship partnerships.

Open Space

One of the main organizing elements on the campus will be the creation of open space. The existing HBOI channel with its adjoining boardwalks will act as the “campus green” commonly found on most university campuses. This space will set the organizational planning for the future building nodes that will develop around the channel.

Other primary open space on the campus will be the wetlands, that are primarily outside of the formal part of campus but bisect the campus from the southern Aquaculture campus. The wetland buffer zone which is north and south of the channel will be preserved as natural environmental areas to reflect the environmental importance of the HBOI campus. The existing paths through the center of the southern wetlands should be restored to their natural setting. A pedestrian nature trail and boardwalk should be developed along the center path to connect the channel to the aquaculture area.

Storm Water

Existing drainage facilities and the South Florida Water Management District (SFWMD) permit have been investigated and are shown on Figures 9.1.1 through 9.1.5. There are areas of surface flooding that have been identified. The proposed drainage system will be in accordance with the existing SFWMD permit criteria. FAU will update the existing conceptual SFWMD permit to address the proposed master plan, but the overall criteria will remain the same. In addition, areas of surface flooding have been identified and design of remediation efforts to address this flooding will be incorporated into the proposed drainage facilities.

Potable Water

Existing potable water facilities have been investigated and are shown on Figures 9.2.1 through 9.2.4. The existing on-site water treatment plant is scheduled to be expanded in 2009. This expansion will accommodate future development for phases 1 and 2. Phase 3 development is dependent on future extension of water distribution facilities by St. Lucie County to the campus for connection. Design of proposed water facilities will meet Florida Department of Environmental Protection (FDEP) criteria.

Fire

Existing fire facilities have been investigated and are shown on Figures 9.3.1 through 9.3.4. The existing fire system is supplied by the existing lake systems and pumped to create a wet pipe system. The Post-Doc Apartments and Aquaculture do not have fire service. The existing fire pumps are adequately sized for future development of phases 1 and 2 within the East campus. Phase 3 development and future development adjacent to Post–Doc Apartment and Aquaculture are dependent on expansion of the fire pump systems or additional fire supply for adjacent lakes or future extension of water distribution facilities by St. Lucie County to the campus for connection. Design of proposed water facilities will meet Florida Department of Environmental Protection (FDEP) and St. Lucie County Fire Rescue criteria.

Sanitary Sewer

Existing sanitary sewer collection facilities have been investigated and are shown on Figures 9.4.1 through 9.4.5. The existing campus waste water treatment plant has an Administrative Order from
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the FDEP and FAU is required to connect the campus sanitary sewer system to the St. Lucie County system constructed adjacent to campus upon availability by St. Lucie County. The Post-Doc Waste Water Treatment Plant has adequate capacity and is in very good condition. Connection of the Post-Doc system is dependent on contributing flows and available funding. The existing pipe network is adequately sized for future development. Additional lift stations and lift station expansions will be required to accommodate future expansions. Future sanitary sewer development will be in accordance with FDEP and St. Lucie County criteria.

Solid Waste

Solid waste and recycling are accommodated through an existing agreement with Treasure Coast Refuse. Solid waste and recycling is transferred to the St. Lucie Solid Waste Facility on Glades Road. The facility has adequate capacity for the next 30 years and can accommodate the future development of this campus.

Transportation

Existing Transportation Network

The FAU Harbor Branch Campus is located in unincorporated northern St. Lucie County, Florida. It is anticipated that the majority of students and faculty attending this campus will reside in either St. Lucie County or Indian River County. The Harbor Branch Campus is bounded generally by U.S. Highway 1 to the west, the Indian River to the east, and vacant lands to both the north and the south. I-95 is located approximately six miles to the west.

The only direct vehicular access point from the East campus to the Harbor Branch Campus is via the intersection of Harbor Branch Road & Old Dixie Highway.

Transit

The Treasure Coast Connector is the public transportation program that serves northern St. Lucie County and the City of Fort Pierce. The routes that are offered by the Treasure Coast Connector travel through downtown Fort Pierce as well as along State Road 70 towards western Fort Pierce. None of the routes contain any bus stops within four miles of the Harbor Branch Campus. As part of the Master Plan's Goals, Objectives, and Policies (GOP's), transit connectivity will be further evaluated.

Traffic Circulation

Vehicular traffic circulation on campus will be provided through an internal roadway system that connects primary parking areas. The internal roadways will primarily serve intra-campus movements and quick conveyance of traffic to and from the external roadway accesses.

Improved pedestrian and bicycle circulation routes on campus will be provided through additional sidewalk and pathway connection between campus buildings. The University envisions an internal campus roadway network as a low speed, low capacity facility which facilitates the safe movement of automobiles, transit vehicles, bicycles and pedestrians. GOPs supporting specific bicycle and pedestrian pathways and supporting facilities will be provided. With an orientation towards research employees and commuter students, the FAU Harbor Branch Campus has potential for single-
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occupant travel reduction due to alternative transportation demand techniques and multi-modal options.

Parking

Harbor Branch’s parking supply will be designed to accommodate its anticipated demand. Therefore, no off-campus parking requirements are currently anticipated. Parking lots at the campus are designed in a manner that permits movement from the most remote parking areas to primary academic and administrative buildings in approximately an eight to ten minute walk, with most parking areas being less than a five minute walk to the desired building. Parking areas are designed to surround the campus core area and separate pedestrian movements occurring between academic and administrative buildings from vehicular movements related to parking and campus ingress and egress. As part of the Master Plan’s GOPs, the Campus will target a parking space to enrolled student ratio of 0.80:1 for branch campus students.

Recreation and Open Space

As the Harbor Branch research site grows, providing adequate recreation and open space is an important consideration. While students and faculty will continue to take advantage of off campus community recreation offerings, the facilities on campus should grow in conjunction with the student population. On campus recreation and open space development will include the upgrading and relocation of existing facilities as well as introducing new opportunities such as a multi-purpose trail network, improvements to water-based and informal active recreation facilities, and casual open spaces for studying, gathering, and socializing.

Landscape Design Guidelines

The University will use landscaping to create a sense of place and to visually exemplify educational experiences. The University will implement sustainable design principles, including the creation of easy-to-manage meadows, planted with Florida native plant material and a fresh approach to landscape design and maintenance. Signature landscape treatments which utilize native materials will be established to enhance the sense of place of this campus’ unique location.

Campus landscaping treatments will feature sustainable design principles and Florida friendly plant material with low maintenance and watering requirements. In addition, rare, threatened or endangered plant species shall be preserved and maintained using ecologically and economically sustainable practices. Hardscape treatments will enhance and support the overall campus design theme and reflect a sense of sustainability in their placement and composition.

Coastal

Campus land uses as delineated in the plan consist of four major categories; academic with supporting uses; wetland streams and waterways; coastal scrub and sand pine natural areas; and disturbed undeveloped land. The academic zone sits at the center of the campus with wetlands and waterways bordering the northern, eastern and southern sides. Disturbed undeveloped land occurs along the southern half and edges of the campus. Coastal scrub and sand pine areas exist west of the main campus and contain many unique natural features.

Natural areas and wetlands will remain intact for the bulk of the planning horizon. With this requirement taken into account, the Master Plan has embraced the maintenance of these areas indefinitely as valuable open space for the Campus.
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The species found within the scrub and pine area are protected and require special consideration. The areas may be utilized for pedestrian paths and quiet gathering spaces.

The existing waterways, lakes and canals serve as stormwater retention and conveyance for the property. In addition these systems serve as potential habitat for listed species including alligator, wood stork and wading birds. Mangrove swamp areas and hardwood wetland areas also provide passive recreation and conservation uses for the University. While the lakes perform a utilitarian function, they also serve as valuable open space providing a place for reflection and a route for pedestrian pathways.

Native communities identified within the campus can provide opportunities for environmental research and education, as well as carefully planned passive recreational facilities such as observation areas, walking paths and interpretive areas.

Plan Framework for Coastal Management

The purpose of this element is to provide for the protection of residents and property on the campus or that portion of the campus within the coastal area of the host community, and to limit expenditures, and where appropriate, restrict development, in those areas subject to destruction by natural disaster within the coastal high hazard area.

NOTE: While most of the 147-acre Florida Atlantic University/HBOI campus is located along the Indian River Lagoon, and in the coastal zone, only a portion of the site is located in the coastal high hazard area.

Background and Existing Site Conditions

Initial development of the property began in the late 1950’s. The Linkport channel was excavated from uplands and the spoil material was placed on the adjacent land, and it was also used to construct the two jetties which project out into the Indian River Lagoon toward the Intracoastal Waterway (ICW).

The existing shoreline can be characterized by one of four conditions, Natural Mangrove Fringe, Natural Beach, Armored Rip-rap or Seawall. The Natural Mangrove Fringe predominantly consisted of Red Mangroves with little exotic, nuisance vegetation. The only other area that appears to be not improved by some form of stabilization is a natural beach area located where the north jetty connects to the mainland. The remaining shoreline of the site is improved with various seawall design sections.

Since the site is located on the Indian River Lagoon and not on the Atlantic Ocean, there are no existing beach and dune systems, in the traditional sense with regard to this element, on the University property. There are no apparent records which document erosion or accretion trends.

Based upon review of readily available historic aerial images from the Florida Department of Transportation Surveying and Mapping Office, the historical photography suggests that the natural shoreline (mean high water line) has been relatively stable since 1958 (Figure 18.4.1 and 18.4.2). There is evidence of filling along the edge of the unimproved road on the jetties, and through verbal communication, filling has occurred on the jetties after they have been overtopped. It does not appear that the facility’s presence has caused any erosion impacts to the shoreline.
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The majority of the natural shoreline is in conservation, and there are apparent mangrove plantings occurring along portions of the shoreline. There does not appear to be a need for additional beach protection or enhancement measures for the property.

Future operations and development activities should consider maintaining the conservation areas, monitoring the shoreline erosion and erosion control measures should be considered in areas where apparent erosion occurs.

The existing shoreline uses appear to be programmed into different functional activities to minimize the potential for conflicts. The shoreline area appears to be limited to water dependent activities.

Future operations and development activities should consider the need for future maintenance of waterfront facilities and the need for future dredging/spoil management. The activities should consider the potential for impacts (direct, secondary and cumulative) to the existing estuarine environment. Proposed activities should be sequenced to avoid and minimize the potential for adverse environmental consequences associated with proposed activities; and mitigation of unavoidable impacts which are likely to occur as a result of development should provide a net environmental benefit.

Coastal Structures

The waterfront facilities have been generally maintained over time, in the same footprint and condition as the original construction. Seawall rehabilitation and a number of seawall repairs have taken place over the years.

Future operations and development activities should include a monitoring of regulatory changes that may affect the facility’s coastal features and include the monitoring and maintenance of all shorelines and coastal structures.

Coastal High Hazard Area and Flooding

According to the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA), a portion of the Institute is located within Flood Zones VE, AE, and X. Based upon review of the St. Lucie County definition of Coastal High Hazard, the portion of the University property located within Flood Zone VE is designated as a special hazard area.

While a large portion of the site is within the 100 year floodplain, as determined by FEMA, a portion of the site has been designated as a coastal high hazard area. This is equivalent to that area designated as Flood Zone VE, which is seaward of the coastal high hazard line as depicted in the Coastal High Hazard Map, Figure 18.2.

Areas within the 100 year floodplain are subject to flooding and storm surge during hurricanes and tropical storms. In addition to buildings, infrastructure subject to potential flood damage include, HVAC systems, propane tanks, generators, above ground fuel storage tanks, electrical systems including transformers, sanitary lift stations and various mechanical systems (Figures 18.3.1 through 18.3.3). The facility acknowledges that the infrastructure associated with the south Aquaculture area may be subject to significant damage during significant storm events.

A portion of the property has been designated as a COBRA zone as depicted on Figure 18.2. In this area, the development and extension of utility services is prohibited. Additionally, federal flood insurance is not available to infrastructure located in this area.
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To the extent practicable, future operations and development activities should be located outside of the coastal high hazard area and COBRA zone. Infrastructure located within these areas should be maintained in functional order, otherwise they may no longer be vested improvements.

Emergency Management Plan/Hurricane Preparedness Plan

The University maintains a plan entitled “Continuity of Operations Plan” which functions as the facility’s emergency management/hurricane preparedness plan. The “Continuity of Operations Plan” was last revised in August, 2008. The facility’s existing plan appears to be thorough and substantially in conformance with the FEMA guidelines.

Point and Non-point Source Pollution

Known point source and potential non-point sources of pollution exist onsite, which have a potential to discharge to the adjacent coastal waters. Point source locations typically consist of stormwater outfalls and outfall pipes that may or may not exist on site associated with wastewater discharge from the package plants and reverse osmosis/filtration systems. Potential non-point pollution sources include potentially untreated stormwater runoff from adjacent roads and outdoor work areas.

The University should develop and maintain a Stormwater Pollution Prevention Plan for the property. Future operations and development activities should consider providing stormwater management and industrial wastewater management BMP’s and implementing the BMP’s of the DEP’s Clean Marina Program and Clean Boatyards program.

Public Access Facilities

Based upon personal interviews, the only areas designated for public access are the Visitors Center and Johnson Education Center Auditorium. All other facilities are limited to controlled access to those authorized to use the facility.

Phasing

The following table describes the phasing for important milestones.

Master Plan Schedule

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<th>Item No.</th>
<th>Project Description</th>
<th>Phase</th>
<th>Funding</th>
<th>Program Comments</th>
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<td>Demolition of Library</td>
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<td>Demolition of Larizza Aquaculture</td>
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