

**GATEWAY NORTH
WILDLIFE MANAGEMENT PLAN**

May 11, 1993

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GATEWAY NORTH WILDLIFE MANAGEMENT PLAN

1.0 INTRODUCTION

The Gateway North project is an approved Development of Regional Impact (DRI) located in northwest Manatee County. The project consists of approximately 1070 acres bordered to the north by Buckeye Road, to the south by Moccasin Wallow Road, and to the southeast by Interstate 75 (Figure 1). The project will be a mixed-use development containing single family, townhome, and multi-family dwellings; commercial space; office space; a school site; a recreation center; and a county park/habitat preserve.

Condition C.(1) of Manatee County Ordinance 92-30 (hereinafter referred to as Development Order) requires that the Developer prepare a plan in accordance with the management guidelines of the Florida Game and Fresh Water Fish Commission (FGFWFC) and receive administrative approval by the FGFWFC, the County, and the Environmental Action Commission (EAC). Specifically the plan shall:

"Address all listed species observed on site, or which are observed frequenting the site for nesting, feeding, or breeding, to include cranes and other wading birds. This plan shall also include information on upland and wetland preserve habitat protection and management, as well as information on site maintenance, fire frequency, wetland management and boundary protection. The plan shall identify the bound entity for implementation, management, and financial responsibility."

To this end, this report provides an overview of the distribution and abundance of the protected species on the project site; a description of the various habitat management and preservation areas; the types of habitat management necessary to provide suitable

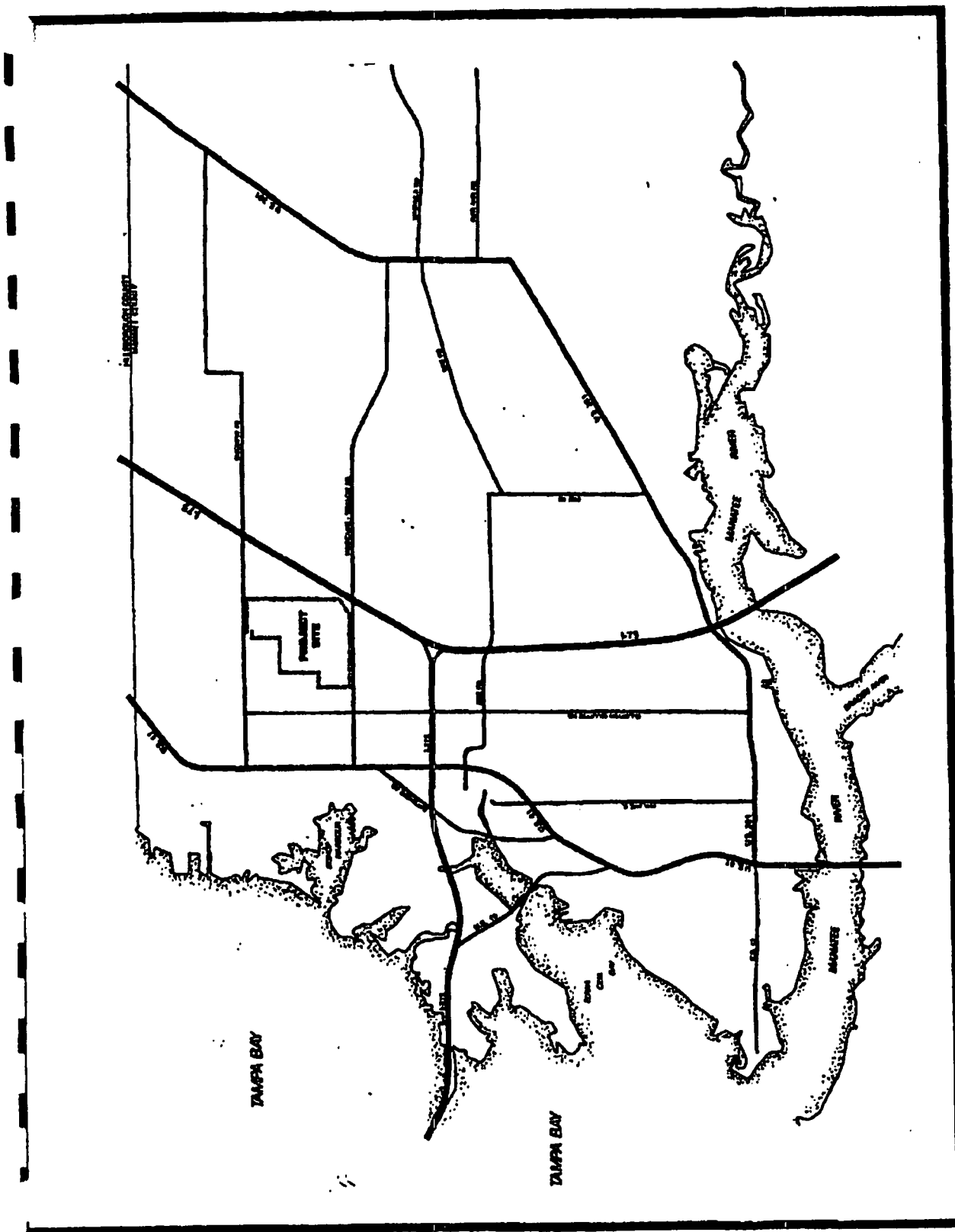


FIGURE 1. GATEWAY NORTH PROJECT LOCATION.

SOURCE: GATEWAY NORTH DEVELOPMENT OF REGIONAL IMPACT/APPLICATION FOR DEVELOPMENT APPROVAL.

conditions for protected species; the management techniques to be used to accomplish the objectives; and an outline of a monitoring program which will allow periodic analysis of the success of the management plan. The approvals required by Condition C. (1) of the Development Order are also requested.

2.0 SITE CHARACTERISTICS

The Gateway North site exhibits extensive improvements for agriculture including conversion to citrus groves (437 acres), pasture (299 acres), fallow crop land (34 acres) and fish farming (5 acres). The dominant natural systems include freshwater marsh and wet prairie wetlands (100 acres), mixed hardwood wetlands (44 acres), pine-mesic oak upland forests (30 acres), and disturbed mixed hardwood wetlands (28 acres). Figure 2, prepared for the Gateway North DRI Application for Development Approval (DRI/ADA) (Dames and Moore, 1990), identifies the extent and configuration of the various habitat types and land uses on the site. The acreage of the various habitat types or land uses, as categorized by the Florida Land Use, Cover and Forms Classification System (Department of Transportation, 1985) is provided in Table 1.

3.0 DISTRIBUTION AND ABUNDANCE OF PROTECTED SPECIES

The methodology presented below generally outlines the field procedures and evaluations used to identify and confirm the presence of animal species listed by the Florida Game and Freshwater Fish Commission (FGFWFC) and/or the U. S. Fish and Wildlife Service (USFWS) and plant species listed by the USFWS. The DRI/ADA wildlife sampling program was conducted in general accordance with the Florida Game and

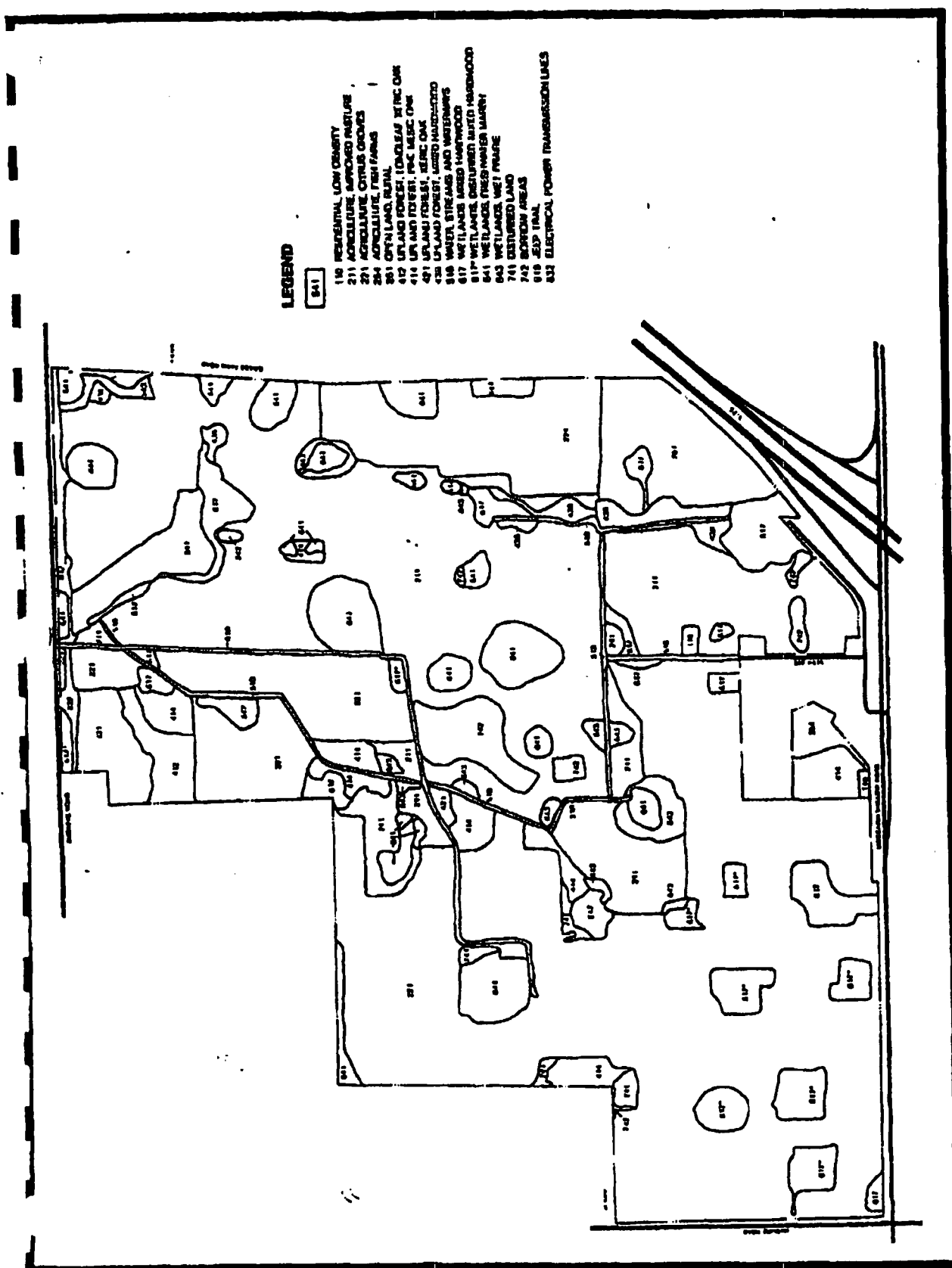


FIGURE 2. GATEWAY NORTH LAND USE AND EXISTING VEGETATIVE ASSOCIATIONS.

TABLE 1. EXISTING LAND USE AND COVER CLASSIFICATIONS FOR THE GATEWAY-NORTH SITE

Cover	Description	Acreage	% of Total Acreage
110	Residential, Low Density	1.7	0.2
211	Improved Pastures	298.8	27.9
221	Agricultural, Citrus Groves	437.1	40.9
254	Agricultural, Fish Farms	5.1	0.5
261	Open Land, Rural	33.8	3.2
412	Longleaf Pine-Xeric Oak	9.0	0.8
419	Pine-Mesic Oak	29.5	2.8
421	Xeric Oak	15.0	1.4
438	Mixed Hardwoods	12.4	1.2
510	Water, Streams & Waterways	9.6	0.9
617	Mixed Hardwood Wetland	44.3	4.1
617*	Disturbed Mixed Hardwood Wetlands	27.5	2.6
641	Freshwater Marsh	83.8	7.8
643	Wet Prairie	15.8	1.5
741	Disturbed Land	12.7	1.2
742	Borrow Areas	18.9	1.8
810	Jeep Trail	6.2	0.6
832	Electrical Power Transmission Lines	8.5	0.8
		1,069.8	100.0

Source: Gateway North Development of Regional Impact Application for Development Approval. September 1990.

Fresh Water Fish Commission's Wildlife Methodology Guidelines (FGFWFC, 1988). As described in the DRI/ADA (Dames and Moore, 1990).

"Surveys were performed to determine existing wildlife usage of the property. The previously discussed vegetative community mapping was reviewed to select representative areas of the various habitats and to concentrate efforts in areas of suitable habitat. In May 1990, approximately 130 man-hours were logged in the field performing the wildlife assessment. The surveys generally consisted of meandering pedestrian transects in all vegetative communities on the property."

3.1 Wetland Surveys

Marshes, wet prairies, mixed wetland hardwoods and borrow areas were included in the wetland surveys. Wetlands were surveyed during the morning and evening hours for four days. Due to recent drought conditions, most of the wetlands were dry. The investigation was concentrated at two sites, a freshwater marsh in the northeast and a borrow area in the central portion of the property. These two areas provided the most suitable forage habitat for wildlife utilizing on-site wetlands at the time of the surveys.

A follow-up survey was conducted in an effort to determine the presence of a reported Florida Sandhill Crane nest. A supplemental pedestrian survey of herbaceous wetland habitats was conducted to seek evidence of on-site nesting by Sandhill Cranes (Dames and Moore, 1991).

3.2 Upland Surveys

The upland wildlife surveys consisted primarily of linear and meandering pedestrian transects through areas of suitable habitat in May 1990. Meandering transects were used to maximize site coverage.

Because vegetative mapping indicated that potential Gopher Tortoise habitat occurred on site, the presence of Gopher Tortoise habitats was determined using pedestrian transect surveys through these habitat areas (Figure 3). The status of each burrow was recorded according to the following criteria: active - obvious tortoise tracks or shell scraping signs at the burrow entrance; inactive - no tracks or shell scrapings; burrow unoccluded by debris, but recent use apparent; abandoned - burrow covered with sticks, weeds, grass, burrow collapsed or dilapidated. A Gopher Tortoise population estimate was calculated according to methodology described by Auffenberg and Franz (1982).

3.3 Results

Six bird species observed on the site are listed by the FGFWFC and/or the USFWS; Wood Stork, Florida Sandhill Crane, Little Blue Heron, Tri-colored Heron, Snowy Egret, and Roseate Spoonbill. The Wood Stork is listed as Endangered by the FGFWFC and USFWS, the Florida Sandhill Crane is listed as Threatened by the FGFWFC, but is unlisted by the USFWS, and the Little Blue Heron, Tri-colored Heron, Snowy Egret and Roseate Spoonbill are all listed as Species of Special Concern by the FGFWFC and unlisted by the USFWS.

No endangered or threatened mammal, reptile, or amphibian species were observed on the site. However, one reptile, the Gopher Tortoise, and one mammal, the Sherman's Fox Squirrel, found on the site are listed as Species of Special Concern by the FGFWFC. A list of protected wildlife species observed on the site is provided in Table 2 and sighting locations are depicted on Figure 4.

No plant species listed by the U.S. Fish and Wildlife Service were found on the site.

GATEWAY NORTH WILDLIFE SURVEYS

GOPHER TORTOISE TRANSECTS

PEDESTRIAN TRANSECTS

AVIFAUNAL SURVEYS ★

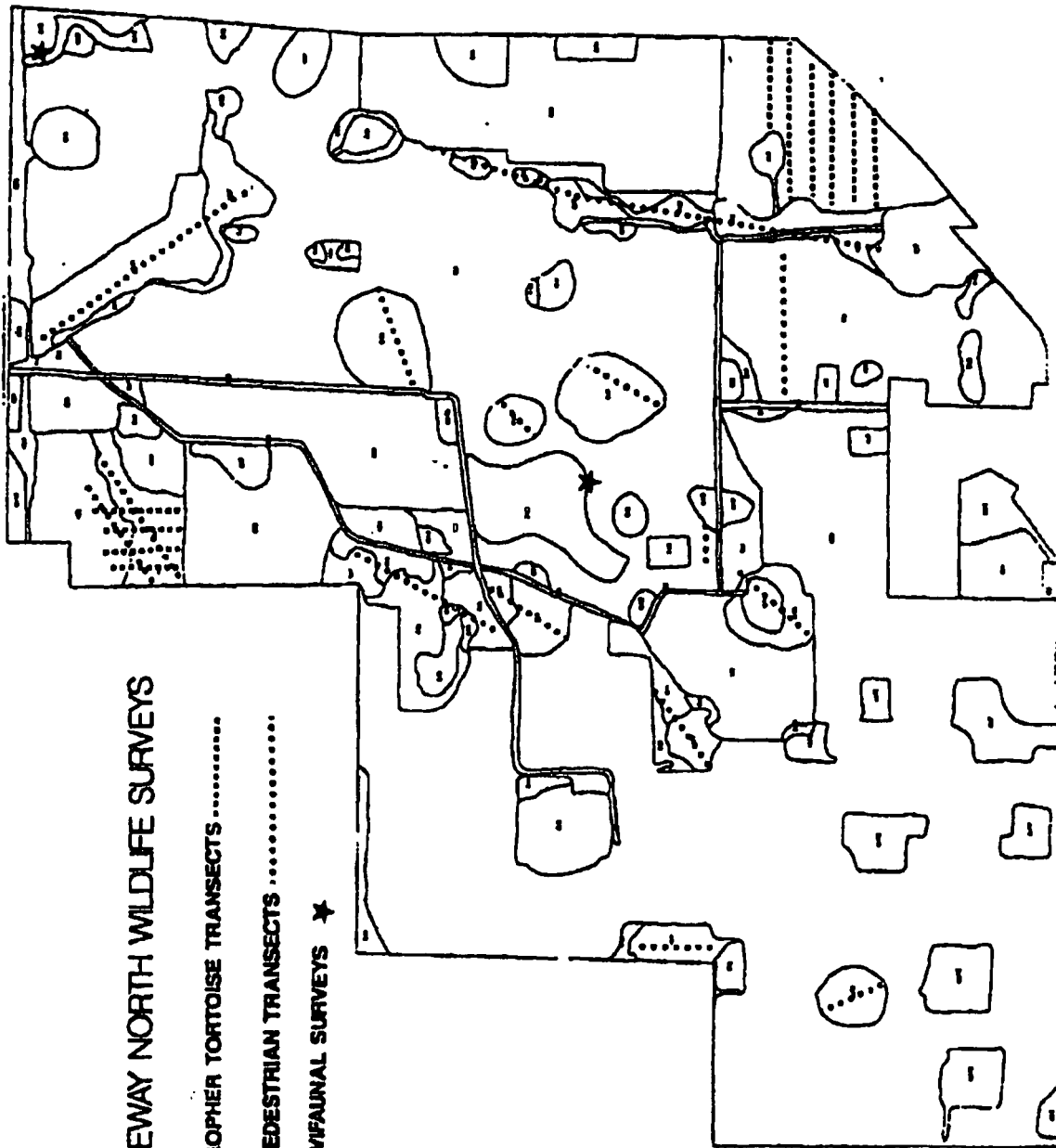


FIGURE 3. GATEWAY NORTH WILDLIFE SURVEYS.

SOURCE: GATEWAY NORTH DEVELOPMENT OF REGIONAL IMPACT SUFFICIENCY RESPONSE.

TABLE 2. PROTECTED WILDLIFE OBSERVED ON THE GATEWAY NORTH SITE

SPECIES	STATUS
Birds	
Wood Stork (<i>Mycteria americana</i>)	Endangered (FGFWFC ¹ , USFWS ²)
Florida Sandhill Crane (<i>Grus canadensis pratensis</i>)	Threatened (FGFWFC)
Little Blue Heron (<i>Egretta caerulea</i>)	Species of Special Concern (FGFWFC)
Snowy Egret (<i>E. thula</i>)	Species of Special Concern (FGFWFC)
Tri-colored Heron (<i>E. tricolor</i>)	Species of Special Concern (FGFWFC)
Roseate Spoonbill (<i>Ajaja ajaja</i>)	Species of Special Concern (FGFWFC)
Reptiles	
Gopher Tortoise (<i>Gopherus polyphemus</i>)	Species of Special Concern (FGFWFC)
Mammals	
Sherman's Fox Squirrel (<i>Sciurus niger shermani</i>)	Species of Special Concern (FGFWFC)

¹Florida Game and Fresh Water Fish Commission (Section 39-27.03-05, Florida Administrative Code).

²U.S. Fish and Wildlife Service (50 CFR 17.11).

Source: Official Lists of Endangered and Potentially Endangered Fauna and Flora in Florida. November 1, 1992.

GATEWAY NORTH LISTED SPECIES SIGHTINGS

- #1 SANDHILL CRANE (T)
- #2 WOODSTORK (B)
- #3 LITTLE BLUE HERON (SSC)
- #4 TRICOLORED HERON (SSC)
- #5 SNOWY EGRET (SSC)
- #6 ROSEATE SPOONBILL (SSC)
- #7 GOPHER TORTOISE (SSC)
- #8 SHERMANS FOX SQUIRREL (SSC)

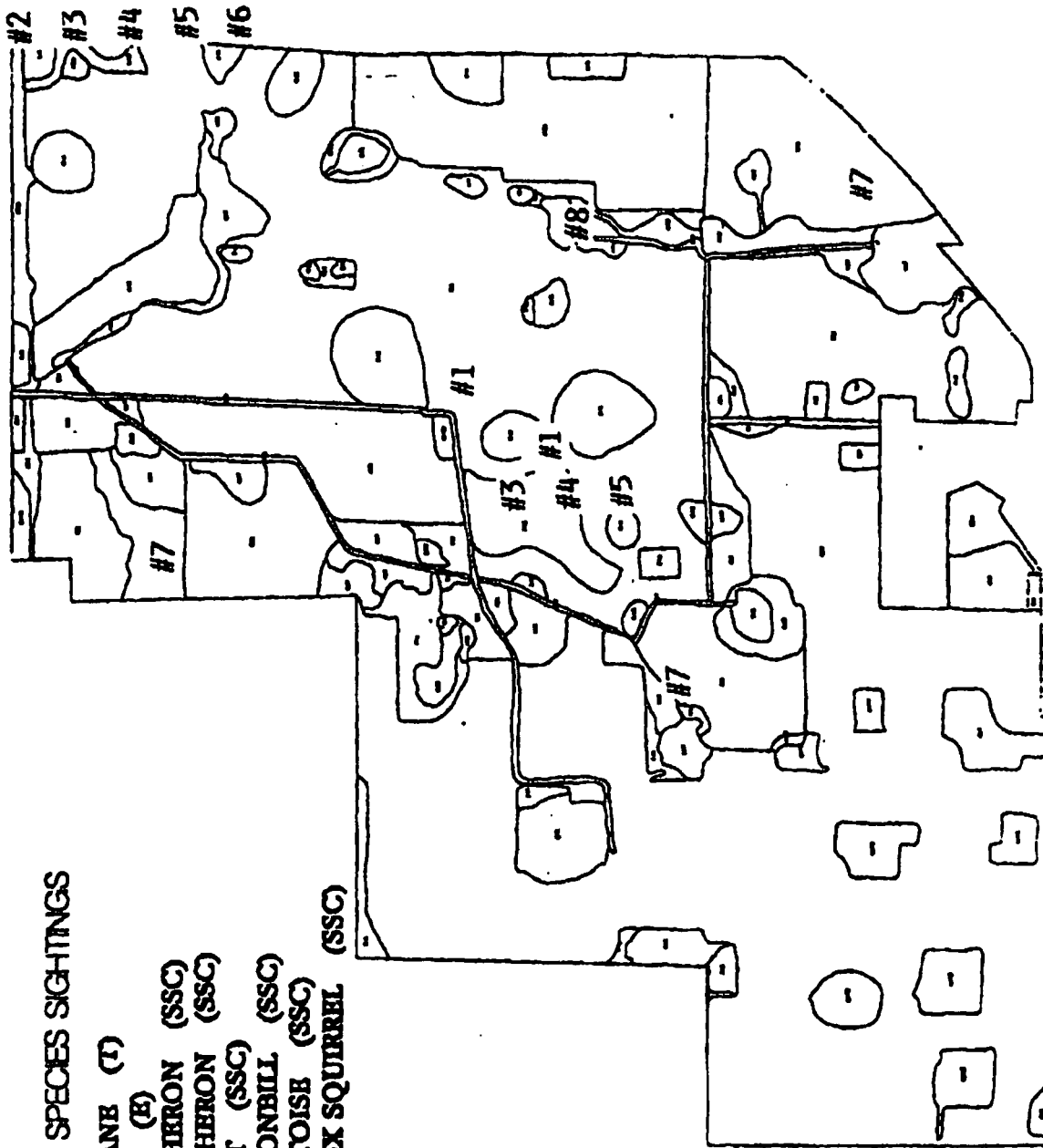


FIGURE 4. GATEWAY NORTH LISTED SPECIES SIGHTINGS.

SOURCE: GATEWAY NORTH DEVELOPMENT OF REGIONAL IMPACT SUFFICIENCY RESPONSE.

Wood Stork (Endangered): Wood Storks were observed feeding in one wetland on the site. These birds sometimes prefer to wade in shallow water where they feed primarily on fish and will frequent water filled ditches and shallow ponds. It is likely that this species seasonally utilizes the wetland resources on site for feeding. Wood Storks typically nest in large colonies, usually in cypress trees. Suitable nest area is not expectedly available on site and no nesting was observed.

Florida Sandhill Crane (Threatened): Florida Sandhill Cranes have been observed within the improved pasture near the large central freshwater marsh. Two adults and two young were observed in May 1990. No nests were observed during the surveys and no documentation of Florida Sandhill Crane nesting on site is available. The adult and young cranes observed in May 1990 may have nested elsewhere but feed on the site. The cranes observed are believed to be the Threatened Florida Sandhill Crane subspecies because of the presence of chicks.

Little Blue Heron, Tri-colored Heron, Snowy Egret, and Roseate Spoonbill (Species of Special Concern): These wading birds were not observed nesting on the site but were observed perching and wading within wetlands and the open water bodies.

Gopher Tortoise (Species of Special Concern): The survey of Gopher Tortoise habitat discovered two disjunct tortoise colonies and two isolated burrows. The first colony contained 11 active and 6 abandoned burrows in the longleaf pine/xeric oak habitat (FLUCFCS code 412) in the northwest corner of the parcel. Approximately 4 acres of the habitat had sufficiently thin understory to be acceptable to tortoises. The second colony contained 9 active and 1 abandoned burrows in improved pasture (FLUCFCS

code 211) comprising 5 acres. The isolated, active burrows were located 900 feet southwest, and 600 feet west-northwest, respectively, of the large borrow pit.

Using a conversion factor of 0.614 (Auffenberg and Franz, 1982), the composite number of active and inactive burrows yields estimated colony sizes of 7 and 6. Assuming each of the isolated burrows has one resident, the estimated total number of Gopher Tortoises on the parcel is 15. The estimated density of tortoises in the two colonies is 1.7 and 1.2 tortoises per acre, respectively.

Sherman's Fox Squirrel (*Sciurus niger shermani*): A single Sherman's Fox Squirrel was observed within a wetland adjacent to an upland mixed forest on the site. Sherman's Fox Squirrels typically prefer sandhills and longleaf pine/turkey oak associations and sand pine scrub. In the absence of these habitats Fox Squirrels prefer open pine/oak woodlands and mixed forests where they can build their tree nests and feed on nuts and seeds.

4.0 HABITAT CONSERVATION AND MANAGEMENT

The Gateway North development plan sets aside over 431 acres of habitat (Table 3). Both upland and wetland habitats will be preserved and additional wetland habitats will be created as compensation for impacts to wetlands and as open water bodies (Figure 5). Specific requirements of the protected species found on site are addressed below.

4.1 Wading Birds

The protected wading birds observed on site, the Wood Stork, Florida Sandhill Crane, Little Blue Heron, Snowy Egret, Tri-colored Heron, and Roseate Spoonbill will be

TABLE 3. WILDLIFE HABITAT PRESERVED AND CREATED, GATEWAY NORTH DEVELOPMENT OF REGIONAL IMPACT.

	<u>Acres</u>
<u>NATIVE HABITAT</u>	
<u>Upland</u>	
Park	
Upland Forest, Xeric Oak (421)	12.7
Upland Forest, Longleaf Pine/Xeric Oak (412)	8.1
Upland Forest, Pine Mesic Oak (414)	3.5
Wetland Buffers	.
<u>Wetland</u>	155.9
Total Native Habitat (excluding wetland buffers)	> 180.2
<u>CREATED HABITAT</u>	
Wetland	
Mitigation	26.5
Lake	72.9
Stormwater Lakes	151.6
Total Created Habitat (excluding wetland buffer)	<u>251.0</u>
Total Habitat Preserved and Created	> 431.2

* To be determined.

protected by providing sufficient wetland and open water habitat. Both wetland and open water habitats will receive net area increases in acreage.

These species will be accommodated by 155.9 acres of preserved wetland habitat, 26.5 acres of mitigation wetlands, and 224.5 acres of lake and stormwater ponds for foraging. In addition to the wetland acreage, a thirty-foot wide upland buffer will be maintained around preserved and created wetlands. Although there is no documentation that any of these species utilize the site for nesting, one of the proposed mitigation areas has been designed to replace sandhill crane nesting habitat which would be impacted by creation of the 72.9 acre lake. This mitigation area, which was required in the permit for the lake, is provided for recreation east of the lake and is expected to exceed the quality of the currently available nesting habitat for Florida Sandhill Cranes. This mitigation area was designed based upon FGFWFC Sandhill Crane Nesting Site Criteria.

4.2 Sherman's Fox Squirrel

The area where the Sherman's Fox Squirrel was observed on the site is upland forest/mixed hardwood (438) adjacent to mixed hardwood wetland (617). The preservation of this wetland and its associated upland buffer of mixed hardwoods habitat is expected to provide sufficient habitat for this species. This species may utilize the pine mesic oak habitat (414) to be preserved with the park/habitat preserve, as well.

4.3 Gopher Tortoise

The protection of the Gopher Tortoise on site will be accomplished through preservation, maintenance and management as appropriate, of a 24.3 acre upland park/habitat

preserve in the northwest corner of the project. A colony of tortoise currently resides in this area. The park is comprised of three upland land use types: xeric oak forest (421) (~ 12.7 acres), longleaf pine/xeric oak forest (412) (~ 8.1 acres), and pine mesic oak forest (414) (~ 3.5 acres). In accordance with the Development Order requirements, the upland park/habitat preserve will be conveyed to Manatee County prior to future development approvals.

The acreage of tortoise habitat and the number of individuals on site does not meet the threshold for habitat protection as discussed in "Ecology and Habitat Protection Needs of Gopher Tortoise (*Gopherus polyphemus*) Populations Found on Lands Slated for Large-Scale Development in Florida". (Cox, *et al.*, 1987). However, the proposed protection of the entire four (4) acres (44%) of occupied longleaf pine/xeric oak forest on site exceeds the 25% (2.25 acres) protection guideline for the nine acres (4 acres of pine/oak plus 5 acres of improved pasture) of occupied habitat occurring on the property. The proposed park/habitat preserve area, therefore satisfies the guidelines for the habitat protection option for obtaining a gopher tortoise "taking" permit (Hartman, 1992).

4.4 Habitat Management Techniques

The primary objective of management is to maintain native plant community characteristics which fulfill the habitat requirements of the protected species found on the site. No active management is proposed for preserved wetlands and wetland buffers. The wetland areas will be maintained by designing the project's surface water management system to maintain wetland hydroperiods.

Created wetlands will be maintained as required by the appropriate wetland regulatory agencies. Typical management includes removal of exotic and nuisance vegetation and replanting if the survival rate is unacceptably low. In addition, thirty foot wide upland buffers will be provided around created wetlands.

Both natural and created wetlands, with their associated buffers, will be recorded as conservation easements at the time of platting. As such, they will be subject to the protection afforded such areas by Manatee County regulations.

4.4.1 Park Site

The features that characterize Gopher Tortoise habitats are: the presence of well drained, sandy soils which allow easy burrowing; an abundance of herbaceous ground cover for food; and an open canopy and sparse shrub cover which allows sunlight to reach the surface of the ground (Cox, *et al.*, 1987). The park site/habitat preserve currently fully satisfies only the first (soils) condition. Because the site is overgrown with saw palmetto (*Serenoa repens*), muscadine grape (*Vitis* spp.), and oak (*Quercus* spp.) seedlings, saplings and runner plants, the herbaceous cover is low to moderate.

Techniques that shall be employed as appropriate to enhance and maintain the park area consist of mechanical treatment alone or in combination with prescribed burning. Because of the existing overgrown vegetative character of the park site and thick leaf litter layer (0 - 9"), an initial mechanical treatment could reduce the fuel load and make possible a prescribed burning plan. Prescribed burning could effectively lower the available fuel quantity, but is recommended only if it can be done in a manner that is safe and does not cause irreparable harm to the canopy. However, if in the future

controlled burning is deemed inappropriate because of smoke or fire safety concerns, mechanical treatment should provide satisfactory results for continuance and improvement of the tortoise habitat.

4.4.1.1 Prescribed Burning

Fire plays a major role in native communities such as the xeric oak, longleaf pine/xeric oak, and pine/mesic oak upland forests on the site. Fire is the dominant controlling agent of succession. Controlled burns have been successfully conducted in upland forests to prevent the buildup of ground fuel, which reduces the chance of catastrophic wildfires, and to release the nutrients bound in the organic material. Fire controls the hardwoods, allowing for regeneration of the forest.

In the absence of fire, the upland forest vegetation continually increases in height and cover, eventually eliminating all open spaces, causing a decrease in wildlife species dependent on herbaceous ground cover such as Gopher Tortoises (Cox, *et al.*, 1987). Burning stimulates an increase in the quantity and quality of many herbaceous plants that are important wildlife foods and creates openings in the canopy that will allow sunlight to penetrate to the ground. Saw palmetto can cover upland forest habitats to the exclusion of other species if not controlled. Fire controls saw palmetto, opening the canopy and allowing an increase in herbaceous species. Based on the condition of the park site, it appears that fire has been absent for some time.

Historically, summer fires initiated by lightning strikes during thunderstorms were common. Although summer burning is more consistent with the natural regime, adjustments to the season of burn may be altered to coincide with the mechanical

treatment techniques scheduled during periods of reduced Gopher Tortoise activity (See 4.4.1.2 below). Adjustments to the burning schedule may also be made based upon the results of vegetative monitoring.

All burning will be conducted by an experienced and licensed control-burn contractor. The burn plan will adhere to applicable regulatory guidelines and will be coordinated with the appropriate Manatee County Fire District and the State of Florida Division of Forestry. The burn plan will consider the following applicable criteria in determining the most appropriate weather and site conditions:

- fuel moisture
- temperature
- relative humidity
- wind speed
- rainfall three days prior to burn
- stagnation index

Firebreaks along the perimeter of the park will be double plowed where cleared breaks do not already exist to insure fire containment. Existing fire barriers and watering will be utilized where possible. Fire breaks will be established only if the park will be burned that year. The prescribed burn contractor will oversee the placement and construction of any fire breaks.

4.4.1.2 Mechanical Treatment and Light Burn

Mechanical treatment may include mowing, roller chopping, and web plowing. This treatment may suppress the encroachment of woody perennials in an effort to open the shrub layer and create more sandy and grassy areas. Mechanical treatment may be used to precede an initial burn to remove fuel.

All three mechanical treatment practices will be conducted only during periods of reduced Gopher Tortoise mobility, *i.e.*, when daytime temperatures are below 70°F (12°C) and between October and February to minimize disruption of courtship and reproductive activities of Gopher Tortoises.

When mechanical treatment is utilized as the method of management, a light burn will follow contingent upon approval from appropriate authorities.

Since the park site/habitat preserve appears to have been without fire, mechanical treatment of the habitats will precede the initial burning of the park. Roller chopping of the saw palmetto areas only will be conducted in an effort to open the shrub layer and create more sandy or grassy areas. This effort is expected to improve the quality of presently unoccupied areas as tortoise habitat.

4.4.1.3 Management Schedule

Initiation of active management of the park will precede or be concurrent with commencement of the development. The park will be burned (or mechanically treated) on a six-year cycle to suppress succession of ground cover in the upland forest.

5.0 MONITORING

The evaluation of the success of management efforts and the need for management treatment and/or schedule modification will be based upon the results of the following monitoring programs.

5.1 Vegetative Monitoring

Monitoring of the park/habitat preserve parcel will assess the vegetative features characteristic of suitable Gopher Tortoise habitat. Specifically, Gopher Tortoises attain their greatest densities where habitats are characterized by an abundance of herbaceous ground cover for food and an open canopy and sparse shrub cover which allows sunlight to reach the surface of the ground (Cox, *et al.*, 1987).

Vegetative monitoring of the park/habitat preserve habitats will include visual estimates of:

- 1) The average height of saw palmettos;
- 2) The cover of canopy (*i.e.*, with a dbh greater than 4") trees;
- 3) The cover of herbaceous vegetation less than six inches tall and bare ground.

A baseline survey of the three habitat types will also be conducted prior to initiation of management. Success evaluation monitoring will be performed in the spring following summer period burning or mechanical treatment, if applicable. Results of monitoring will be submitted to Manatee County and the FGFWFC within 60 days of the monitoring event. The park will be monitored again after six years.

6.0 ASSURANCE OF HABITAT PRESERVATION, MANAGEMENT AND MONITORING

Preservation and maintenance of wetland habitat and adjacent buffers will be assured through the Manatee County development approval process and conditions in

subsequent wetland permits. Wetland protection is also assured through the requirements of the project's Development Order.

Prior to further development approvals for the project site, the developer will transfer ownership of the park to Manatee County. The County will then assume all preservation, management and monitoring responsibilities and will become the responsible entity.

7.0 PROVISION AND ACCEPTANCE

7.1 Manatee County/Environmental Action Commission

With issuance of a letter of acceptance, a letter of no objection, or other written instrument, the Manatee County/Environmental Action Commission grants approval of the Wildlife Management Plan and acknowledges compliance with Condition C.(1) of the Development Order.

7.2 Florida Game and Fresh Water Fish Commission

With issuance of a letter of acceptance, a letter of no objection, or other written instrument indicating approval of the Gateway North Wildlife Management Plan, the Florida Game and Fresh Water Fish Commission certifies that the park/habitat preserve site identified in this plan provides adequate habitat protection for the Gopher Tortoise as required by Ch. 39-27.002(4) F.A.C. and agrees that upon written request of the owner, the Executive Director will grant such permits and/or approvals without time limitations as may be necessary to provide for the incidental taking of Gopher Tortoise on the remainder of the Gateway North DRI site.

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